

SOUTH STREET (ROUTE 2) OVER MUDDY CREEK TRIBUTARY #2
BRIDGE #A9481 REPLACEMENT

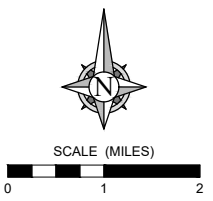
FOR
CITY OF HARRISONVILLE, MISSOURI

MoDOT BRIDGE
28' X 7.4' BOTTOMLESS ARCH

COST SHARE NUMBER: JKU0299
FEDERAL NUMBER STBG 2900 (411) FAF 2-1(43)



SECTION 4, T44N, R31W



COUNTY CASS COUNTY
ROUTE SOUTH STREET (ROUTE 2)
PROJECT BRIDGE REPLACEMENT
JOB NO. JKU0299/STBG 2900(411)FAF 2-1(43)

DESIGN DESIGNATION
AADT (2020) 3092
DESIGN AADT. (2040) 5000
AADT TRUCK 2%
DESIGN SPEED 35 MPH
D (DIRECTION) 50%

FUNCTIONAL CLASSIFICATION
MINOR ARTERIAL

LENGTH OF PROJECT
BEGINNING OF PROJECT 11+65.00, 1+00.00
END OF PROJECT 18+40.00, 2+65.79
APPARENT LENGTH 973 FEET
EQUATIONS & EXCEPTIONS -
TOTAL CORRECTIONS -
NET LENGTH OF PROJECT 0.13 MILES
STATE LENGTH 665 FEET
LOCAL LENGTH 308'-EASTWOOD RD

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MISSOURI
1-800-DIG-RITE or 811
www.motcall.com
CAUTION:
INFORMATION ON THIS DRAWING CONCERNING TYPE & LOCATION OF UNDERGROUND & OTHER UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE & LOCATION OF UNDERGROUND & OTHER UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

HARRISONVILLE CITY GOVERNMENT:
MAYOR: MIKE ZARING
CIVIL ENGINEER: CARL BROOKS
CITY ADMINISTRATOR: BRAD RATLIFF
CITY CLERK: DANIEL BARNETT
DIRECTOR OF PUBLIC WORKS: MATT CARVER

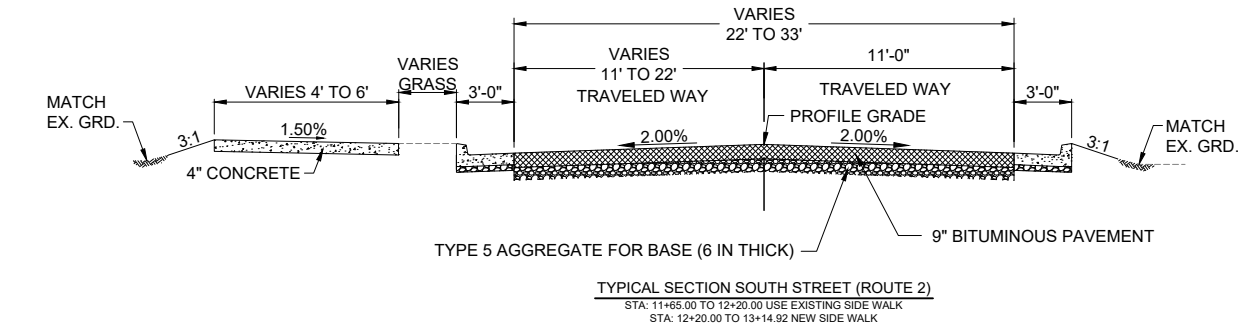
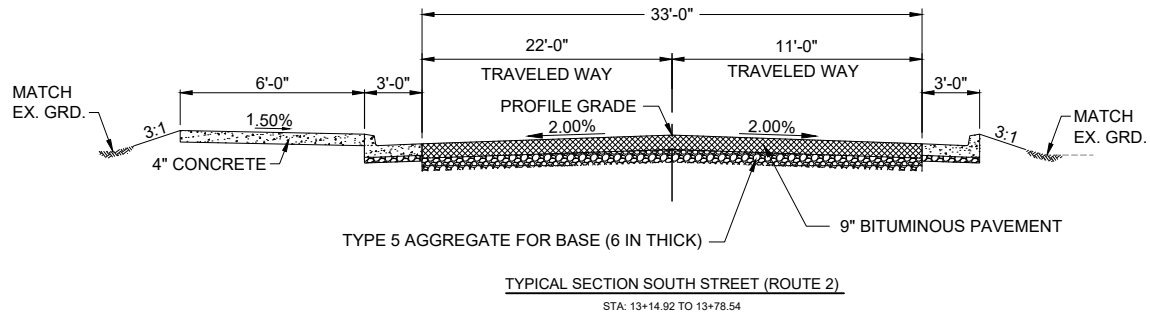
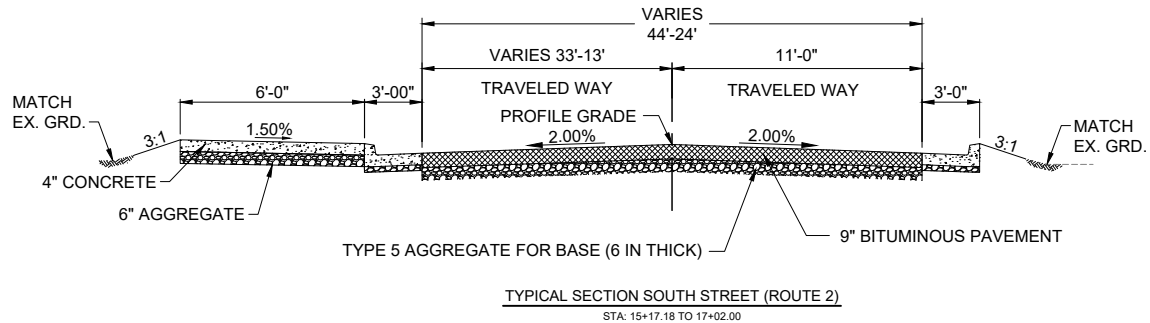
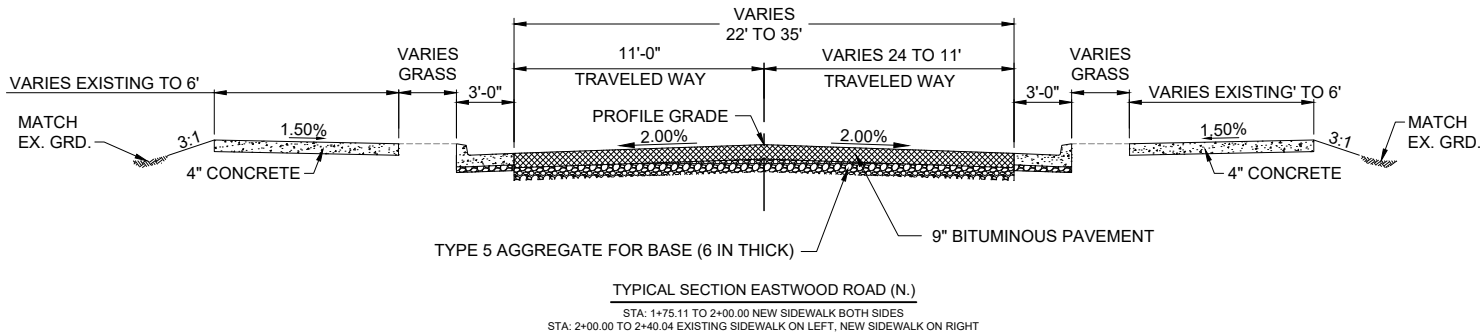
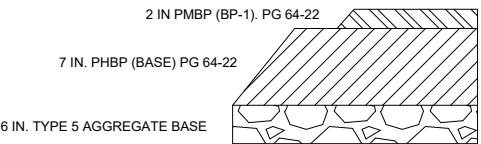
CITY
SUBMITTED & APPROVED BY:
CITY REPRESENTATIVE _____ DATE _____



DRAWING INFO.	
NO.	DESCRIPTION
D	ISSUE FOR A DATE REVIEW
E	ISSUE FOR CONSTRUCTION
F	REISSUE FOR A DATE REVIEW
G	ISSUE FOR BID
H	JOB NUMBER REVISION
REVISIONS	
BY	DATE
TSE	04-21-25
TSE	04-30-26
TSE	09-03-26
TSE	10-02-26
TSE	10-20-26
FIELD BOOK	
JOB NUMBER	
FED NUMBER	
STBG 2900(411)	

TITLE SHEET
MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK., BRIDGE #A9481 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

SHEET NUMBER
01
OF 32



ASPHALT FACTORS	
MATERIAL	TONS/CY
PMBP (BP-1), PG 64-22	1.950
PMBP (BASE), PG 64-22	1.950
TACK COAT APPLICATION RATE	
0.10 GAL/YD (UNDILUTED)	



REVISIONS		DRAWING INFO	
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D	ISSUE FOR A DATE REVIEW	TSE	04-21-26
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G	ISSUE FOR BID	TSE	10-02-26
H	JOB NUMBER REVISION	TSE	10-20-26
CHECKED BY: ANDERSON ENGINEERING, INC. 2012		JOB NUMBER: STBG 2004(11)	

(TS) TYPICAL SECTIONS
MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

SHEET NUMBER
02
OF 32

Description	Quantity	Unit
TEMPORARY SURFACING	50	C.Y.
CLEARING AND GRUBBING	3	ACRE
REMOVAL OF IMPROVEMENTS	1	L.S.
UNCLASSIFIED EXCAVATION	2583	C.Y.
EMBANKMENT IN PLACE	774	C.Y.
COMPACTING EMBANKMENT	2246	C.Y.
TYPE 5 AGGREGATE FOR BASE (4 IN THICK)	201	S.Y.
TYPE 5 AGGREGATE FOR BASE (6 IN THICK)	3438	S.Y.
GRAVEL (A) OR CRUSHED STONE (B)	38	TON
9 INCHES, BITUMINOUS PAVEMENT	2986.2	S.Y.
BITUMINOUS PAVEMENT MIXTURE PG64-22, (BP-1)	22	TON
SEWER {ADJUSTMENT RING SANITARY SEWER}	1	EACH
CHAIN LINK FENCE {RET. WALLS}	165	L.F.
CONCRETE CURB RAMP	29	S.Y.
TRUNCATED DOMES	53	S.F.
CONCRETE SIDEWALK, 4 IN.	177	S.Y.
MISC. {PERVIOUS PEDESTRIAN PATH}	201	S.Y.
CURB AND GUTTER TYPE B	1355	L.F.
MISC. {4'L x 2'D X 1.5H PRECAST CONCRETE BLOCK - WEIRS}	130	S.Y.
MISC. {FURNISHING AND PLACING TYPE 3 ROCK BLANKET}	20	TON
CURB INLET	7	EACH
CONSTRUCTION SIGNS	109	S.F.
CHANGEABLE MESSAGE SIGN	2	EACH
TYPE III MOVABLE BARRICADE	8	EACH
MOBILIZATION	1	L.S.
PREFORMED THERMOPLASTIC PAVEMENT MARKING, 24 IN. WHITE	84	L.F.
PREFORMED THERMOPLASTIC PAVEMENT MARKING, LEFT/RIGHT ARR	6	EACH
6 IN. WHITE CLASS 2 PAVEMENT MARKING PAINT (25-MIL, TYPE L BEA	113	L.F.
4 IN. WHITE CLASS 1 PAVEMENT MARKING PAINT (18-MIL, TYPE P BEA	263	L.F.
4 IN. YELLOW CLASS 1 PAVEMENT MARKING PAINT (18-MIL, TYPE P BE	2255	L.F.
MODIFIED COLDMILLING (DEPTH TRANSITIONS)	126	S.Y.
CONTRACTOR FURNISHED SURVEYING/ STAKING	1	L.S.
18 IN. PIPE GROUP A	600	L.F.
36 IN. PIPE GROUP A	49	L.F.
18 IN. OR ALLOWED SUBSTITUTE GROUP A FLARED END SECTION	2	EACH
36 IN. OR ALLOWED SUBSTITUTE GROUP A FLARED END SECTION	1	EACH
MULCHING	0.4	ACRE
MISC. {NATIVE PLANTINGS ALONG CREEK BANK}	125	S.Y.
SEEDING - COOL SEASON GRASSES	0.8	ACRE
CURB INLET CHECK	7	EACH
SEDIMENT REMOVAL	25	C.Y.
TEMPORARY SEEDING	0.8	ACRE
SILT FENCE	1800	L.F.
TYPE 1 TURF REINFORCEMENT MAT	600	S.Y.
MISC. {REMOVE AND REPLACE SCHOOL MONUMENT SIGN}	1	L.S.
MISC. {REMOVE/REPLACE CROSSWALK SIGN - EASTWOOD }	2	EACH
MISC. {REMOVE/REPLACE CROSSWALK SIGN/LIGHT - S. STREET}	2	EACH
CLASS B-2 CONCRETE	160	C.Y.
STEEL PLATE BOTTOMLESS ARCH 28"W x 7.4'H	1	L.S.
REINFORCING STEEL (EPOXY COATED)	18560	LBS
PROTECTIVE COATING - CONCRETE BENTS AND PIERS (EPOXY)	1	L.S.
POLYMER COATING WATERPROOFING - STEEL ARCH	300	S.Y.
TRANSPORTING AND ERECTING SUPERSTRUCTURE	1	L.S.
MISC. {DEWATERING}	1	L.S.

QUANTITIES SHOWN ON THESE PLANS ARE NOT GUARANTEED BY THE OWNER AND ARE USED SOLELY FOR THE PURPOSE OF COMPARING BIDS AND AWARDING THE CONTRACT, AND MAY OR MAY NOT REPRESENT THE ACTUAL QUANTITIES ON THE JOB, SEE SPECIFICATIONS.

ANY ITEMS NOT SHOWN IN BID TAB, SHALL BE CONSIDERED SUBSIDIARY TO OTHER ITEMS.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SUBMIT FORM 106, TO MISSOURI DEPARTMENT OF NATURAL RESOURCES, HISTORIC PRESERVATION PROGRAM FOR ANY BORROW AREAS TO BE USED ON THIS PROJECT.

ABBREVIATION TABLE

BC:	BACK OF CURB
CL:	CENTERLINE
CONT.	CONTINUOUS
C.P.	CONTROL POINT
EG:	EXISTING GRADE
EX:	EXISTING
FG:	FINISH GRADE
FL:	FLOW LINE
GL:	GUTTER LINE
MAX.	MAXIMUM
MIN.	MINIMUM
OFF:	OFFSET
PL:	PROPERTY LINE
PR:	PROPOSED
R/W:	RIGHT-OF-WAY
STA:	STATION
TBM:	TEMPORARY BENCHMARK
T.C.E.	TEMPORARY CONSTRUCTION EASEMENT
TEMP.	TEMPORARY
TYP.	TYPICAL

-----	EXISTING CONTOUR (MAJOR)	MB	EXISTING MAILBOX
-----	EXISTING CONTOUR (MINOR)	MI	EXISTING STORM INLET
-----	EXISTING FEATURE	GM	EXISTING GAS METER
-x-x-x-x-x-	EXISTING FENCE	GV	EXISTING GAS VALVE
-+-----+	EXISTING GUARDRAIL	WM	EXISTING WATER METER
-----	SECTION LINE	WV	EXISTING WATER VALVE
-----	EXISTING PROPERTY LINE	WH	EXISTING FIRE HYDRANT
-----	EXISTING EASEMENT	WW	EXISTING WATER WELL
-----	EXISTING STORM WATER	WS	EXISTING SANITARY MANHOLE
-----	EXISTING GAS LINE	WP	EXISTING POWER POLE
-----	EXISTING WATER LINE	WL	EXISTING LIGHT POLE
-----	EXISTING SANITARY SEWER	WA	EXISTING GUY WIRE ANCHOR
-----	EXISTING UNDERGROUND ELECTRIC	WE	EXISTING TELEPHONE PEDESTAL
-----	EXISTING OVERHEAD ELECTRIC	WS	EXISTING SIGN
-----	EXISTING UNDERGROUND TELEPHONE	WT	EXISTING TREE
-----	EXISTING OVERHEAD TELEPHONE	WU	CONTROL POINT
-----	EXISTING FIBER OPTIC	IBF	FOUND IRON BAR
-----	EXISTING UNDERGROUND CABLE TV	WB	EXISTING BENCHMARK
-----	EXISTING OVERHEAD CABLE TV		

NOTE:
DASHED OR SCREENED SYMBOL INDICATES EXISTING FEATURE.

LEGEND

(USED IN PLANS)

UTILITIES INFORMATION

SPIRE-GAS
RICHI GARCIA
3420 BROADWAY BLVD
HARRISONVILLE, MO
RICHI.GARCIA@SPIREENERGY.COM
816-507-0713

BRIGHTSPEED
TONJIA BALDWIN
625 CHERRY ST
COLUMBIA, MO 65201
980-376-1492

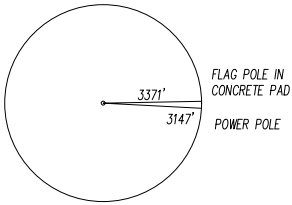
CITY OF HARRISONVILLE- ELECTRIC
BRENT STOCKSTILL
2108 ROYAL STREET
HARRISONVILLE, MO
BSTOCKSTILL@HARRISONVILLE.COM
816-564-4666

MoDOT KANSAS CITY DISTRICT
JORDAN SWING
650 MULBERRY ST,
KANSAS CITY MO 64101
JORDAN.SWING@MODOT.MO.GOV

CITY OF HARRISONVILLE-WATER/SEWER
MATT CARVER
201 W CHESTNUT STREET
HARRISONVILLE, MO
MCARVER@HARRISONVILLE.COM
816-745-6127

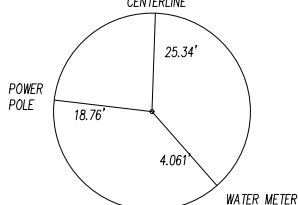
FIDELITY COMMUNICATIONS
573-237-2103
9503 HIGHWAY 100
NEW HAVEN, MO 63068

FOUND 1/2" BAR & CAP
SEC CORNER



NE CORNER SECTION 4, T44N, R31W
N: 903109.98 (GROUND)
E: 2829723.83 (GROUND)
N: 903109.9807' (GRID)
E: 2829723.8294' (GRID)

CONTROL POINT ONLY
1/2" REBAR



N: 902943.18 (GROUND)
E: 2832884.65 (GROUND)

N: 902943.1840' (GRID)
E: 2832884.6500' (GRID)

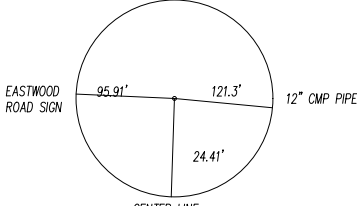
CONTROL POINT
3/8" BAR & CAP
CENTERLINE



N: 902938.80 (GROUND)
E: 2833181.79 (GROUND)

N: 902938.7993 (GRID)
E: 2833181.7870 (GRID)

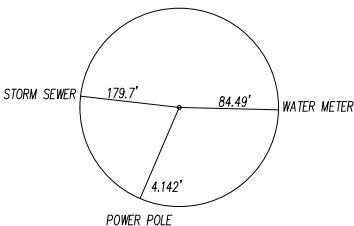
CONTROL POINT ONLY
BAR WITH CAP



N: 902985.40 (GROUND)
E: 2833245.23 (GROUND)

N: 902985.4040 (GRID)
E: 2833245.2270 (GRID)

BENCH MARK #1



N: 902981.3771
E: 2833459.3504
EL: 891.56'

HARRISONVILLE, SOUTH STREET CULVERT
REPLACEMENT
A/E PROJECT NO.23KC40007
GEOID 2017

HORIZONTAL DATUM
MISSOURI STATE PLANE COORDINATE SYSTEM, 1983
MISSOURI WEST ZONE, 2005 ADJUSTMENT

VERTICAL DATUM:
NAVD 83 W NGVD 88
CONTROL WAS ESTABLISHED VIA THE MISSOURI VRS
NETWORK

COMBINED ADJUSTMENT FACTOR: 0.9999842
(1/x=1.00000158)
POINTS AND LINE WORK ARE GROUND DISTANCES
SCALED ABOUT THE ORIGIN (0,0,0)

GENERAL NOTES:

DESIGN SPECIFICATIONS:
LATEST EDITION OF THE AASHTO ROADSIDE DESIGN GUIDE

CONSTRUCTION SPECIFICATIONS:
MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION

MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION

- EXISTING UTILITIES AND UNDERGROUND INSTALLATIONS HAVE BEEN LOCATED TO THE GREATEST EXTENT PRACTICAL THROUGH REVIEW OF CONSTRUCTION PLANS AND SURFACE OBSERVATIONS. THE CONTRACTOR SHALL FIELD VERIFY ALL HORIZONTAL AND VERTICAL LINES AND GRADES OF EXISTING UTILITIES PRIOR TO THE CONSTRUCTION OF IMPROVEMENTS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY UPON DISCOVERING A DISCREPANCY BETWEEN THE CONTRACT DRAWINGS AND ACTUAL FIELD CONDITIONS. CONTACT ONE CALL.
- THE CONTRACTOR MUST COORDINATE CONSTRUCTION WITH THE NECESSARY AUTHORITIES.
- NO WORK SHALL COMMENCE UNTIL ALL NECESSARY PERMITS ARE OBTAINED BY THE OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL LINE AND GRADE STAKES.
- CONTRACTOR SHALL REMOVE, PRESERVE, AND REPLACE ALL SIGNS, MAIL BOXES, FENCES, METAL FLAG POLE BASES AND THE LIKE, WITHIN THE LIMITS OF THE PROPOSED IMPROVEMENTS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.
- ALL TRAFFIC WAYS INCLUDING DRIVEWAYS, ALLEYWAYS, ETC., SHALL REMAIN ACCESSIBLE TO RESIDENTIAL AND EMERGENCY VEHICLES DURING PROJECT DURATION.
- ALL CONSTRUCTION AND EXCAVATION ACTIVITIES SHALL BE CONFINED TO EASEMENTS, ROAD RIGHT-OF-WAY, AND/OR WORK AREA LIMITS AS SHOWN ON DRAWINGS.
- CONTRACTOR SHALL RAISE OR LOWER ALL AFFECTED MANHOLE RIMS AND VALVE BOXES IN THE WORK AREA TO MATCH PROPOSED GRADE.
- ALL AREAS DISTURBED BY CONSTRUCTION ARE FIRST TO BE FINE GRADED AND THEN FOLLOWED BY SEED AND STRAW MULCH, UNLESS OTHERWISE NOTED, OVER, MIN. 4" TOPSOIL STOCKPILED FROM SITE OR HAULED IN AS REQUIRED.
- PROVIDE POSITIVE DRAINAGE FROM ALL IMPROVED AREAS, SO THAT RUNOFF DRAINS TO DRAIN WAYS.
- ALL CONTOURS AND SPOT ELEVATIONS SHOWN ARE FINISH GRADE.
- ANY DAMAGE TO EXISTING STRUCTURES, VEGETATION, OR IMPROVEMENTS RESULTING FROM NEW CONSTRUCTION ACTIVITIES SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- ALL SIDEWALKS AND ADA RAMPS SHALL BE IN ACCORDANCE WITH ADA REGULATIONS.
- CONTRACTOR TO PROTECT ANY STORM INLETS, THAT RECEIVE STORM WATER FROM THE AREA OF CONSTRUCTION, FROM SEDIMENT. EROSION CONTROL DEVICES SHALL BE MAINTAINED DURING THE WHOLE CONSTRUCTION PERIOD BY THE CONTRACTOR. ALL EROSION CONTROL DEVICES, NOT LISTED IN THE PLANS, SHALL BE INCIDENTAL TO CONSTRUCTION.
- ALL TRENCHES, WHICH LIE UNDER PROPOSED PAVEMENT, OR LIE WITHIN TWO FEET OF BACK OF CURB, SHALL BE BACKFILLED TO PAVEMENT SUB-GRADE WITH COMPACTED GRANULAR BACK FILL.
- TRENCHES SHALL BE COMPACTED TO 95% STANDARD PROCTOR WHEN PIPES ARE LAID IN FILL.
- ALL REMOVALS NECESSARY TO COMPLETE THE PROJECT AS SHOWN ON THE PLANS, SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
- ANY WORK INDICATED ON THE PLAN THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION ON THIS PROJECT.

**ANDERSON
ENGINEERING**
EMPLOYEE OWNED



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ANDERSON ENGINEERING CO. INC.



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NO.	DESCRIPTION	BY	DATE
D	ISSUE FOR A DATE REVIEW	TSE	04-21-25
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F	REISSUE FOR A-DATE REVIEW	TSE	09-03-26
G	ISSUE FOR BID	TSE	10-02-26
H	JOB NUMBER REVISION	TSE	10-20-26
CITY OF HARRISONVILLE, MO		STBC-26004(11)	

(QU) QUANTITIES & GENERAL NOTES

MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK., BRIDGE #A9481 REPLACEMENT

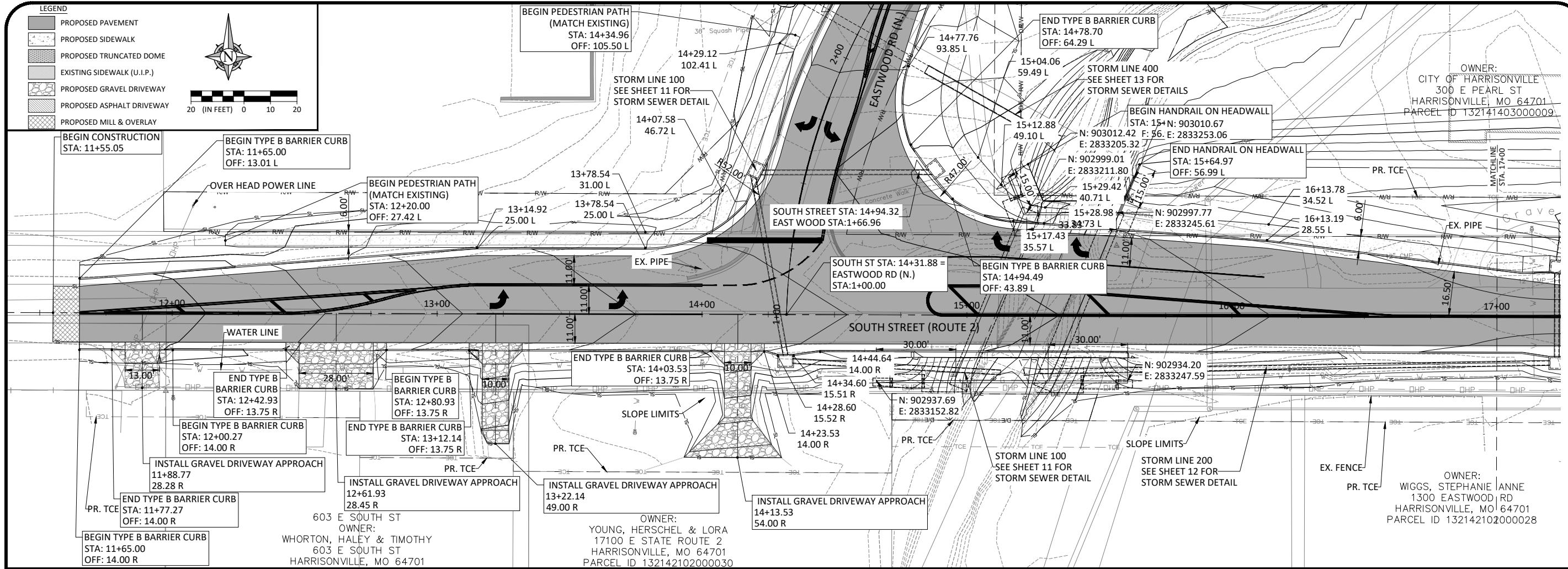
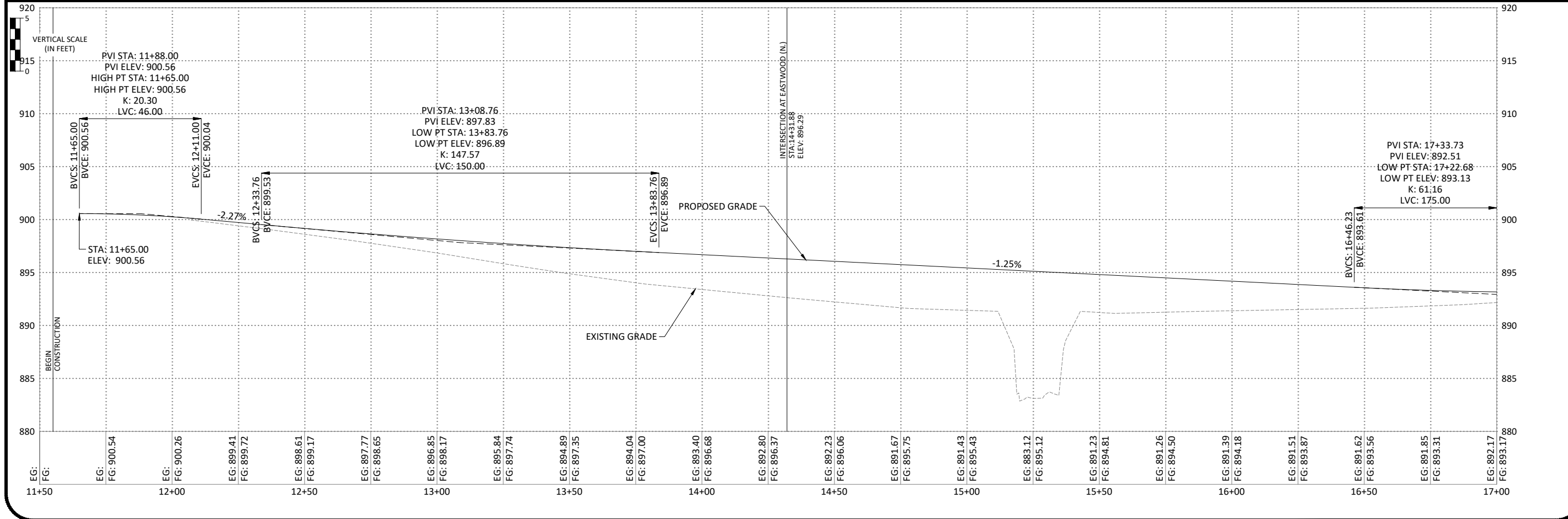
SEC4 T44N R31W

CITY OF HARRISONVILLE, MO

SHEET NUMBER

03

OF 32



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ANDERSON ENGINEERING.COM

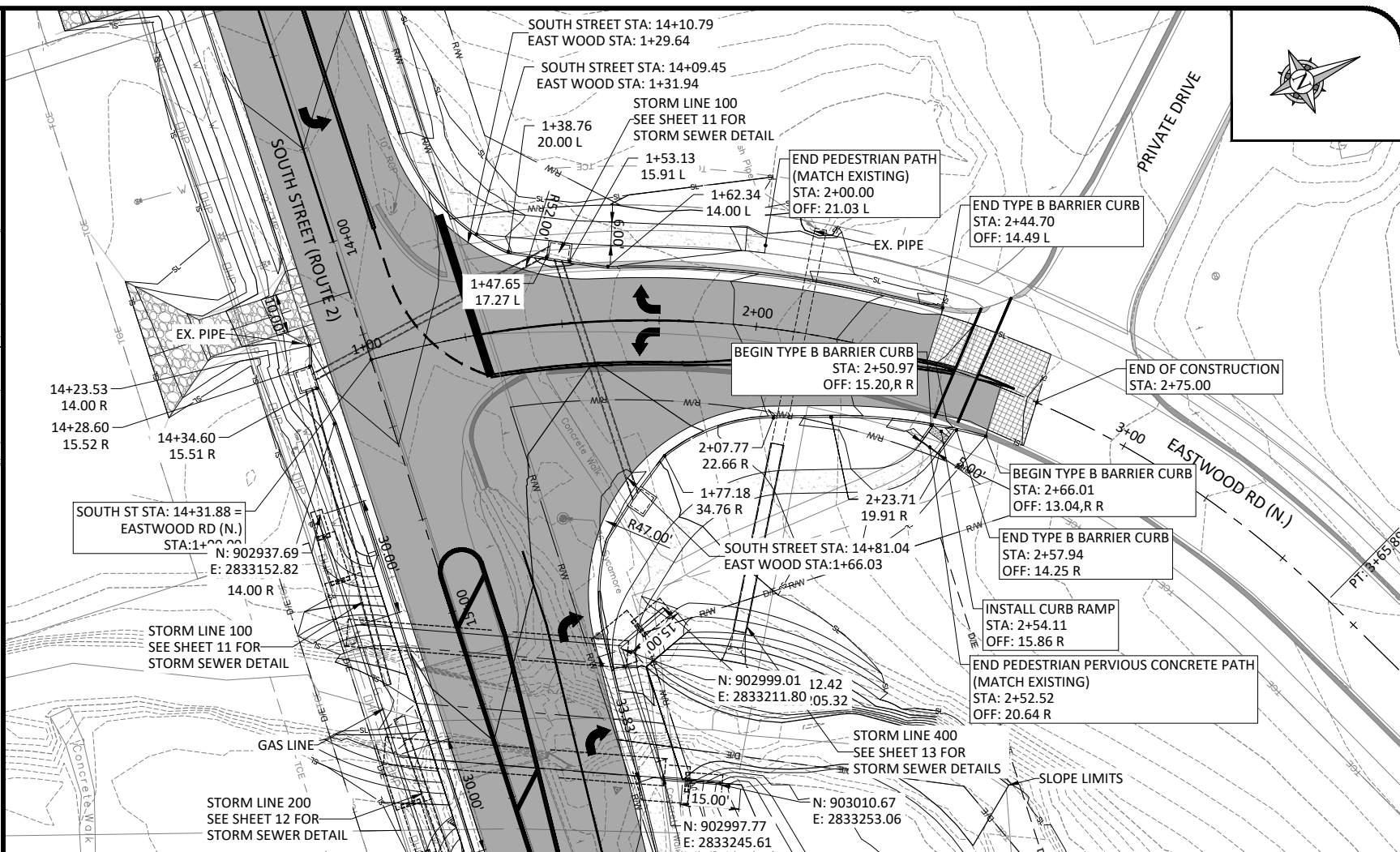
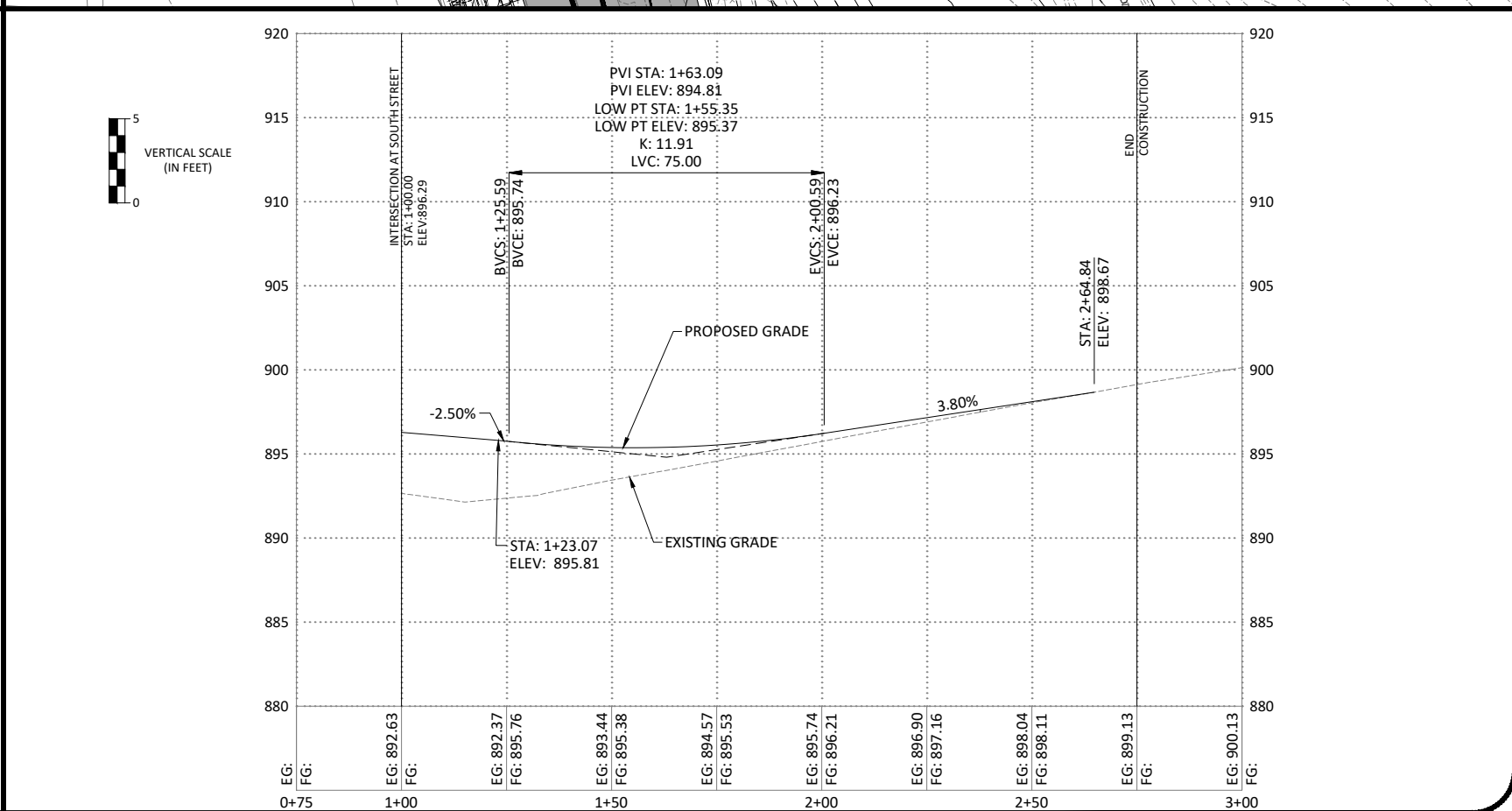
STATE OF MISSOURI
T. SCOTT EDGAR
NUMBER PE-2005021662
PROFESSIONAL ENGINEER

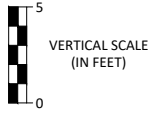
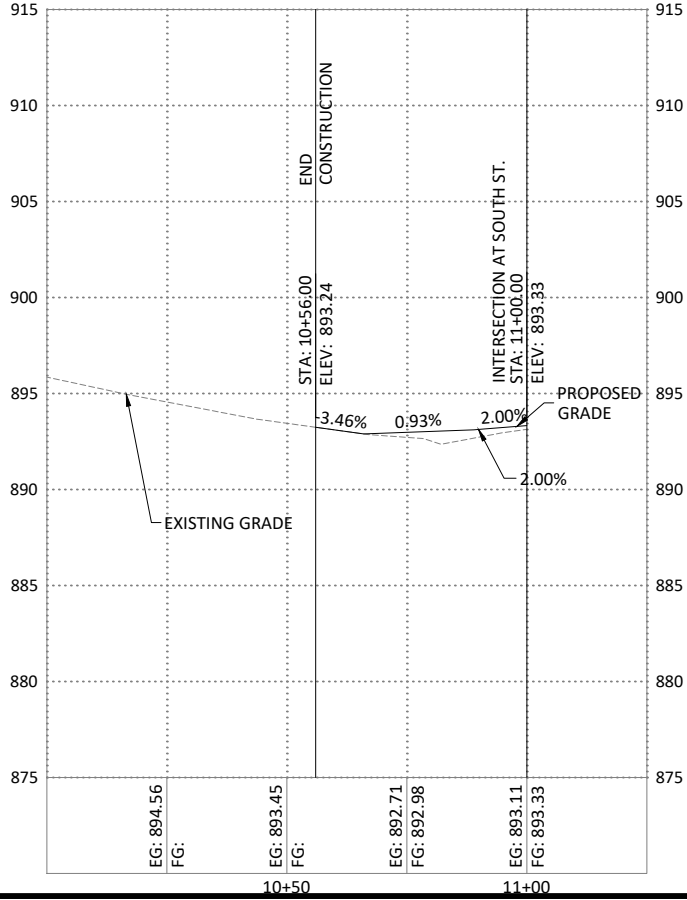
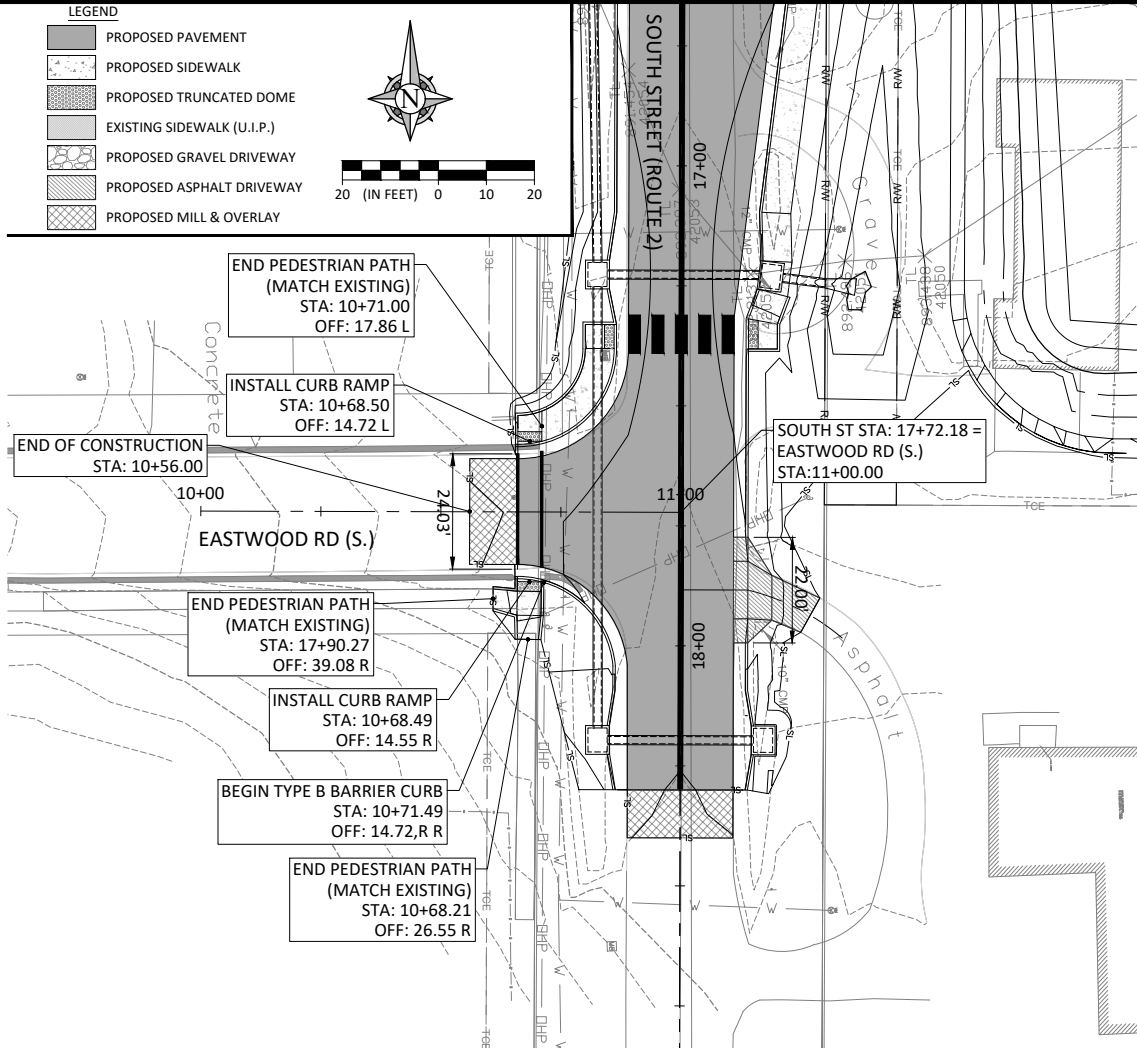
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		FIELD BY:	NDD
		CHECK BY:	
		DATE:	
		FIELD BOOK:	
		JOB NUMBER:	
		JOB NUMBER:	
		FED NUMBER:	STB-2604(11)

(PP) PLAN & PROFILE

MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

SHEET NUMBER
06
OF 32

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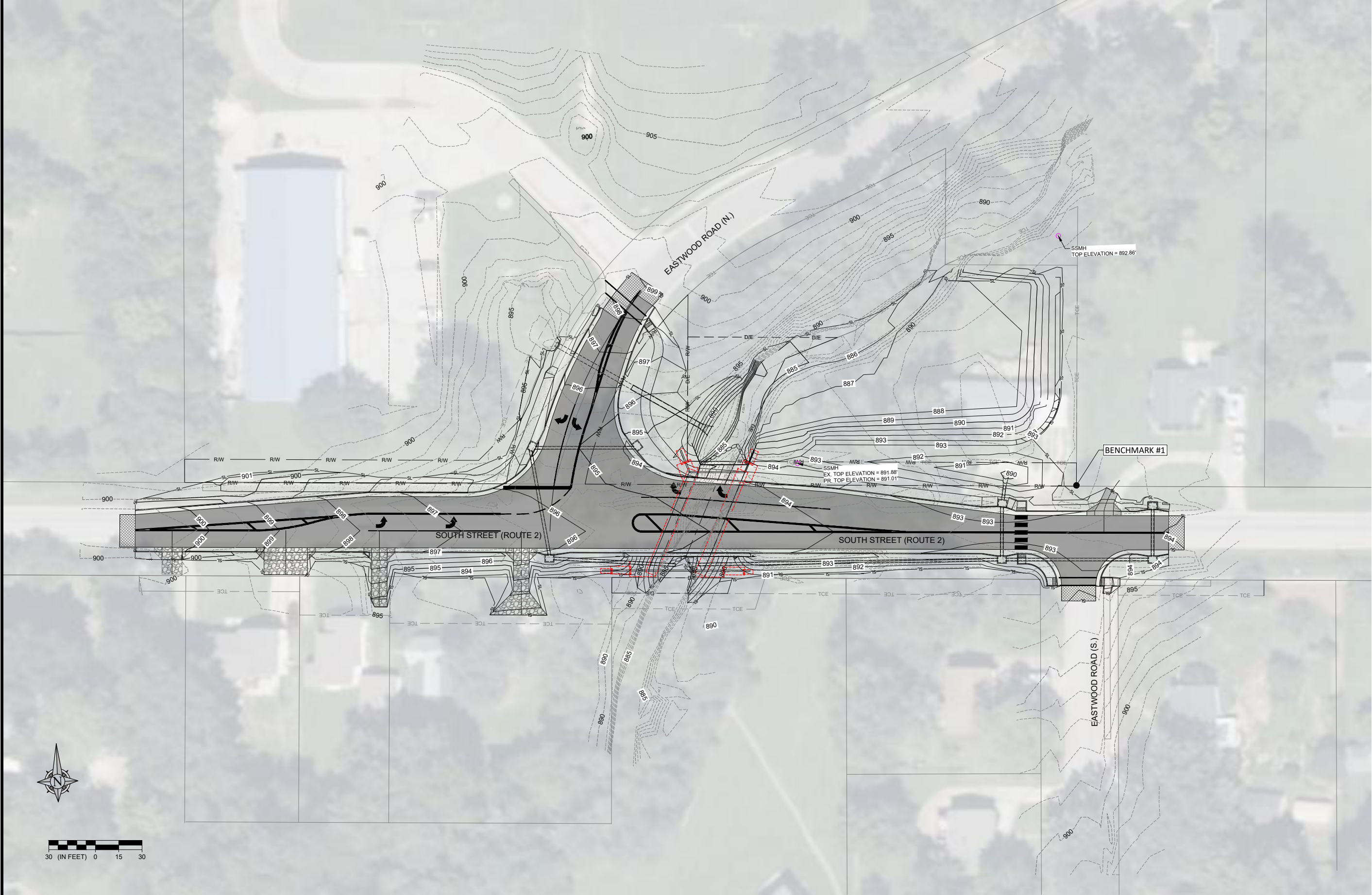


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(PP) PLAN & PROFILE

MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK., BRIDGE #A 9481 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

SHEET NUMBER
08
OF 32



Anderson Engineering

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ANDERSON ENGINEERING CO., INC.

STATE OF MISSOURI

T. SCOTT EDGAR
NUMBER
PE-2005021662

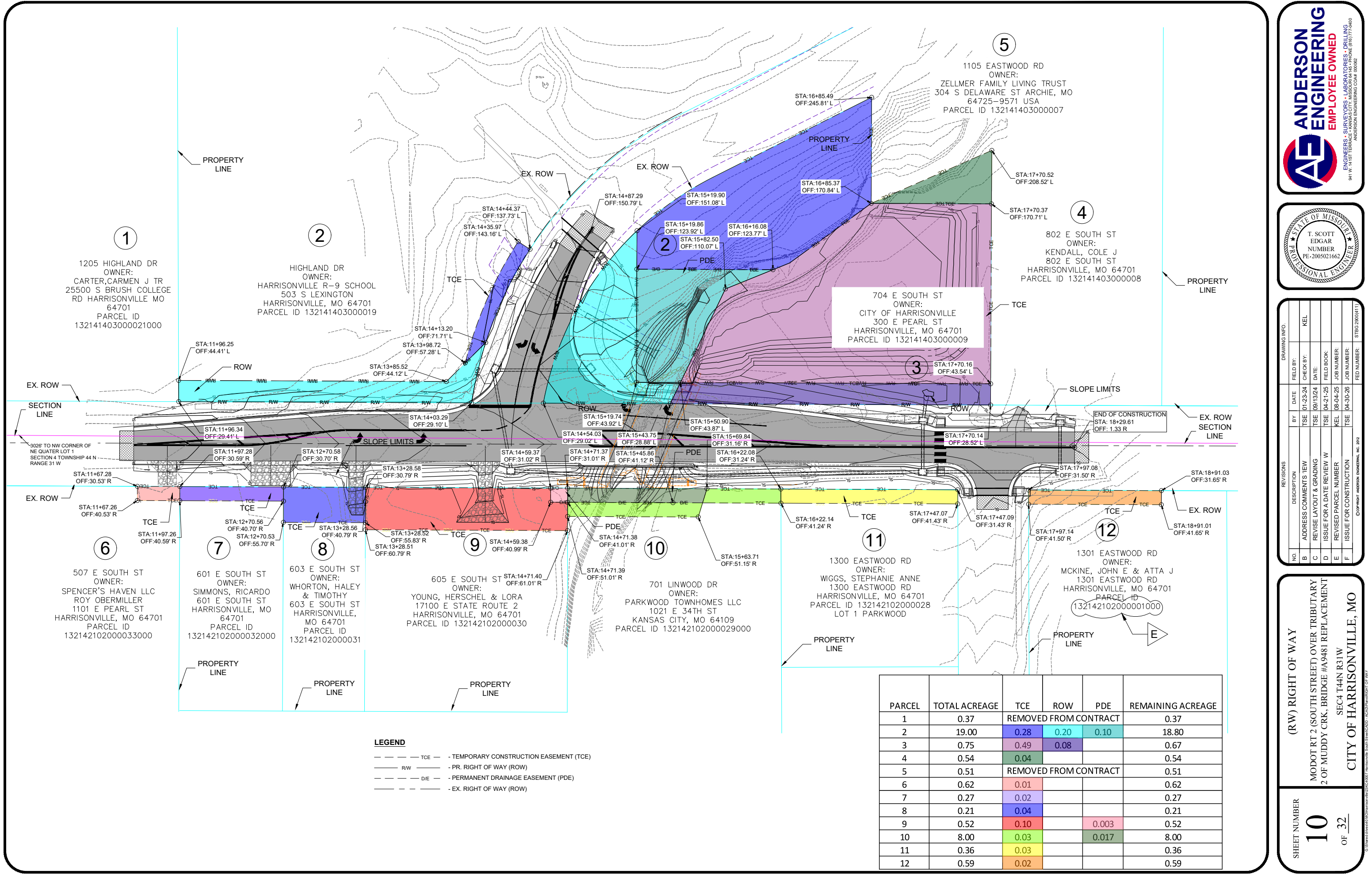
PROFESSIONAL ENGINEER

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G	ISSUE FOR BID	TSE	10-02-26	JOB NUMBER:	
H	JOB NUMBER REVISION	TSE	10-20-26	JOB NUMBER:	STB-2004(11)

(GP) GRADING PLAN

MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK. BRIDGE #A9481 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

SHEET NUMBER
09
OF 32



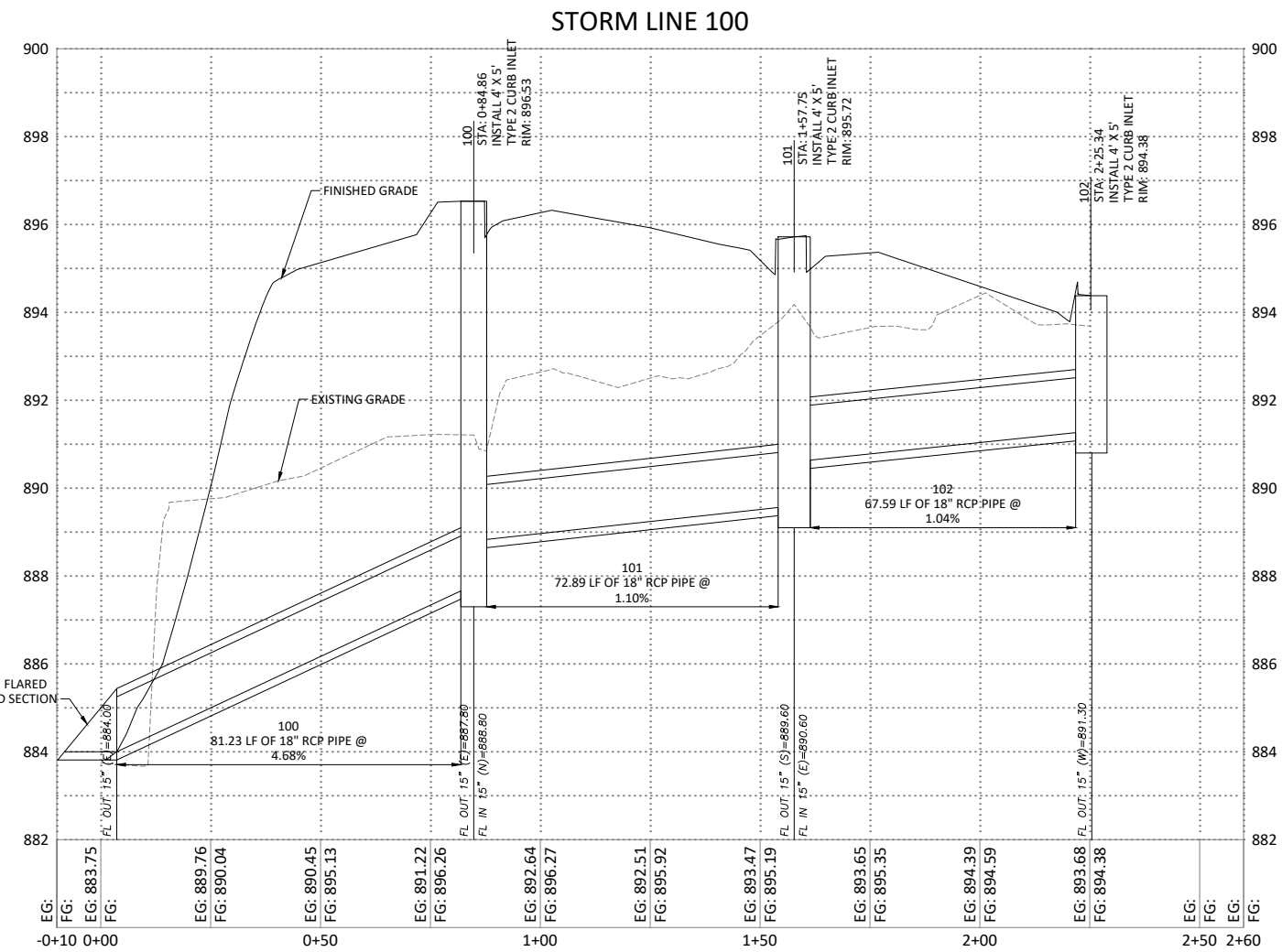
ANDERSON ENGINEERING
EMPLOYEE OWNED
ENGINEERS - SURVEYORS - LABORATORIES - DRILLING
941 W. 11ST TERRACE - KANSAS CITY, MISSOURI 64114 • PHONE (816) 777-5400
ANDERSON ENGINEERING CO. INC.

STATE OF MISSOURI
T. SCOTT EDGAR
NUMBER PE-2005021662
PROFESSIONAL ENGINEER

DRAWING INFO.		REVISIONS		NO.	
BY	DATE	DESCRIPTION	DATE	BY	DATE
TSE	01-23-24	ADDRESS COMMENTS NEW		KEL	
TSE	09/13/24	REVISE LAYOUT & GRADING			
TSE	04-21-25	ISSUE FOR A DATE REVIEW W			
KEL	08-04-25	REVISED PARCEL NUMBER			
TSE	04-30-26	ISSUE FOR CONSTRUCTION			

(RW) RIGHT OF WAY
MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

SHEET NUMBER
10
OF 32



REVISIONS			DRAWING INFO.	
NO.	DESCRIPTION	BY	DATE	FIELD BY:
D	ISSUE FOR A-DATE REVIEW	TSE	04-21-26	CHECK BY:
E	ISSUE FOR CONSTRUCTION	TSE	04-30-26	DATE:
F	RE-ISSUE FOR A-DATE REVIEW	TSE	09-03-26	FIELD BOOK:
G	ISSUE FOR BID	TSE	10-02-26	JOB NUMBER:
H	JOB NUMBER REVISION	TSE	10-20-26	JOB NUMBER:

STBG 2900(411)

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SHEET NUMBER

11

OF 32

(SW) STORM WATER PLAN & PROFILE

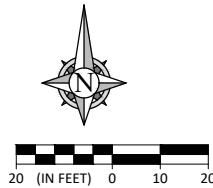
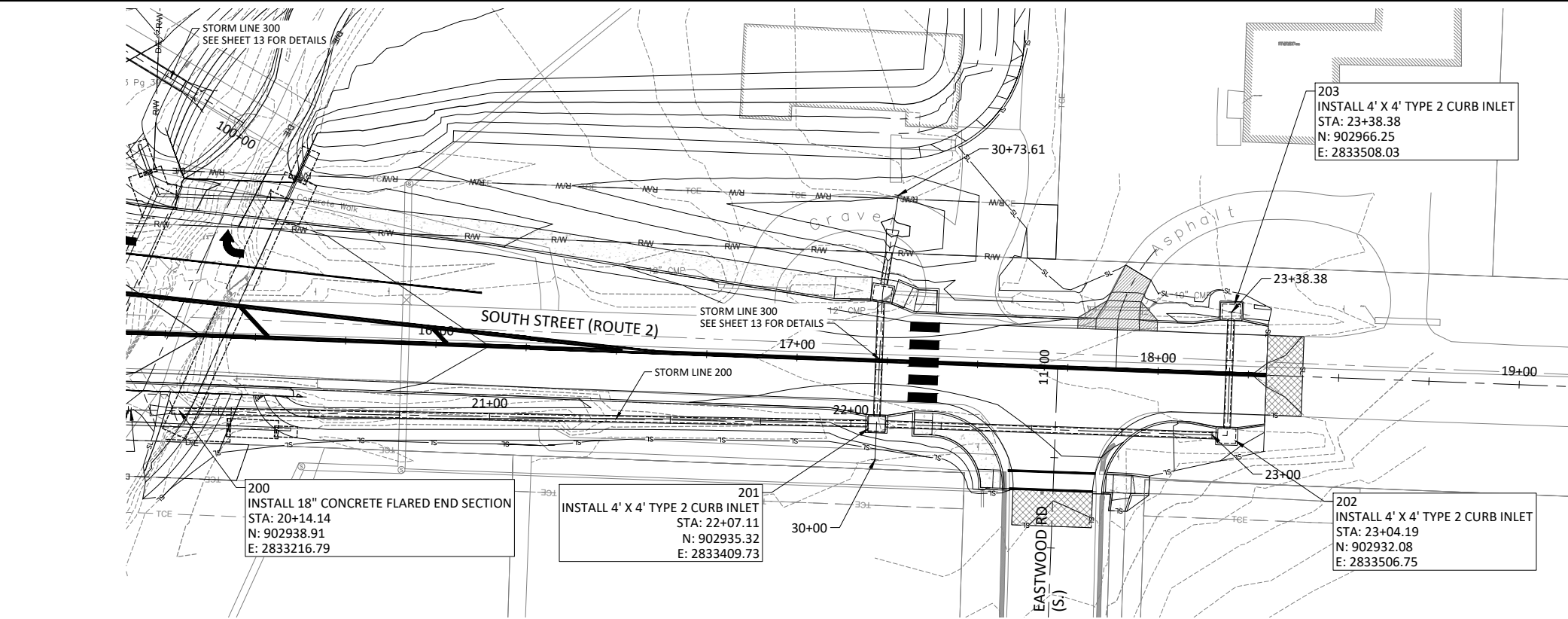
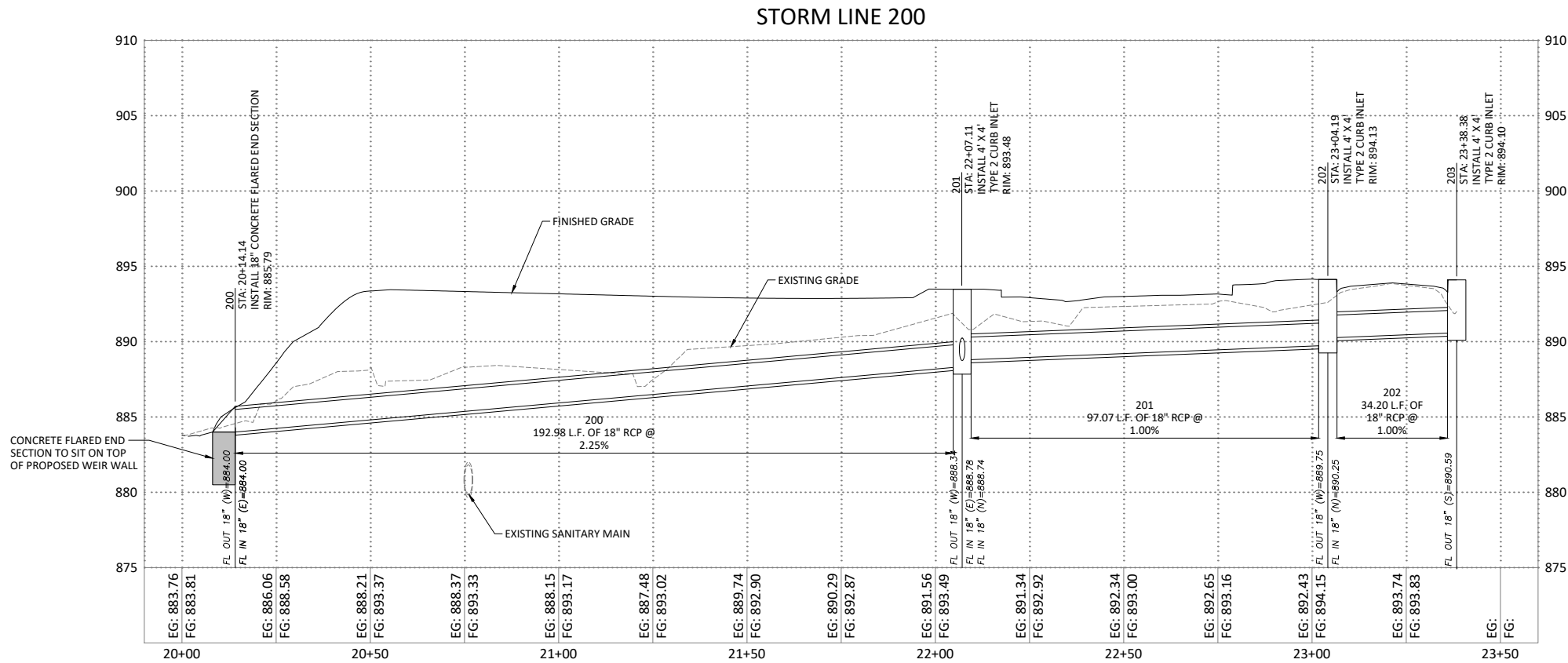
MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY

2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT

SEC4 T44N R31W

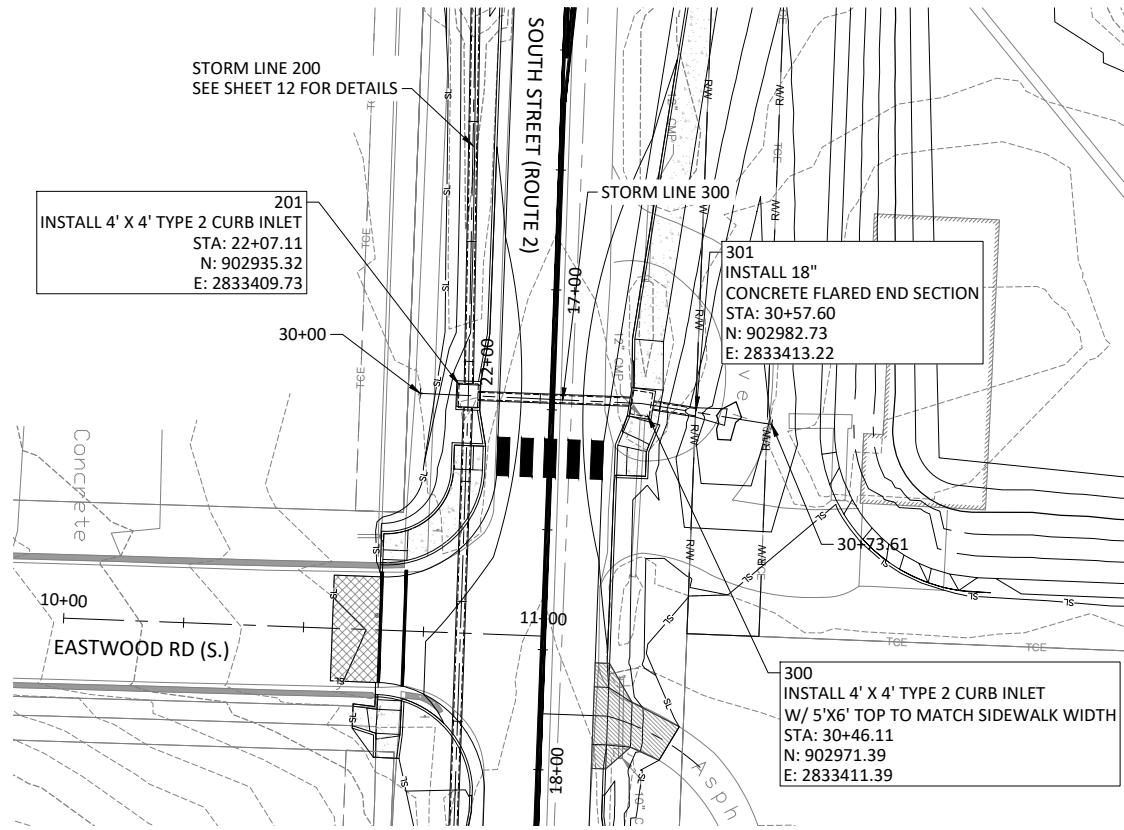
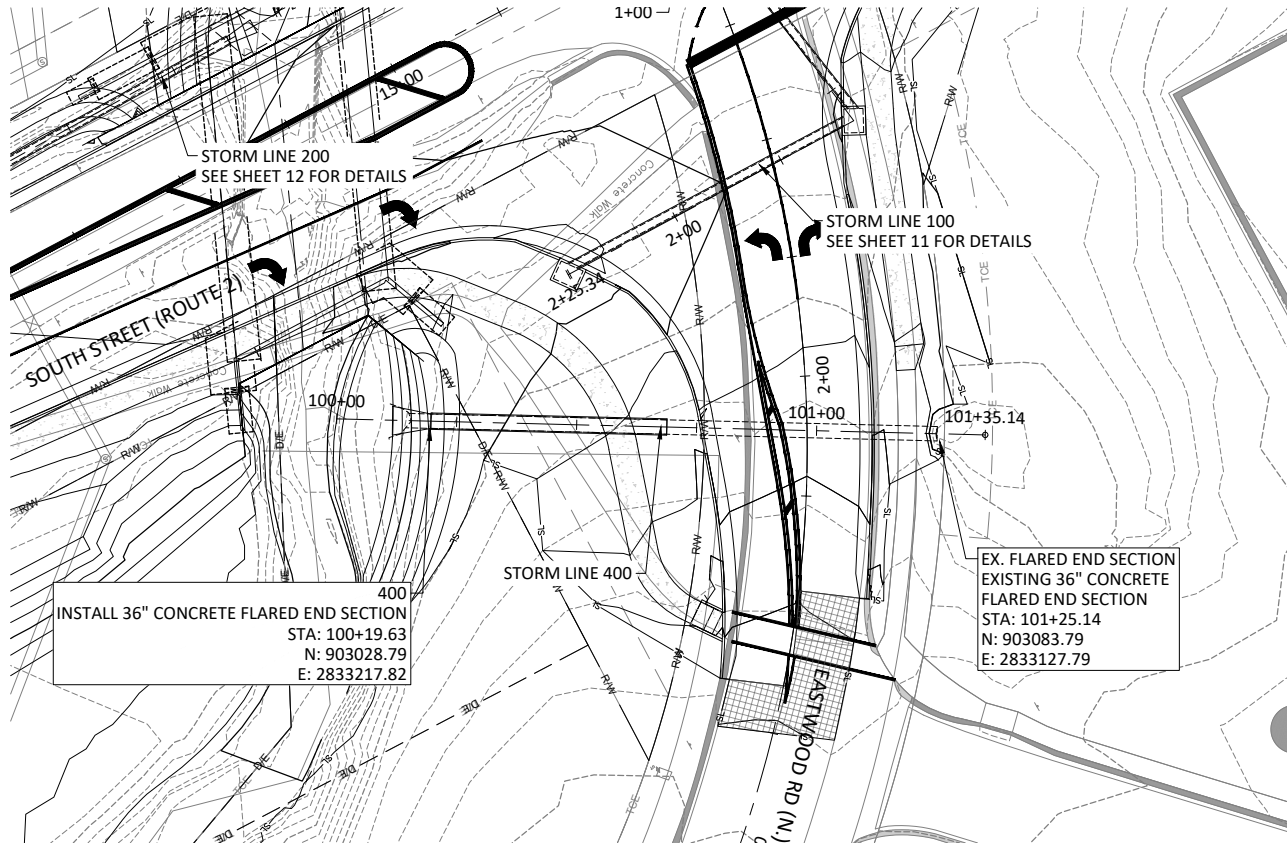
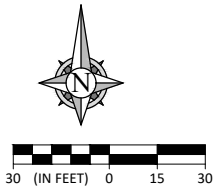
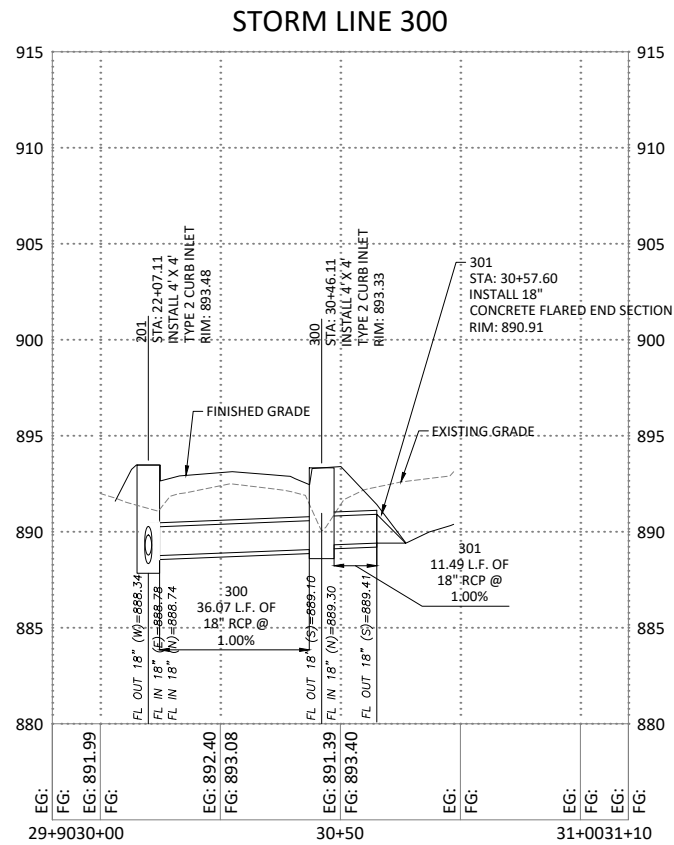
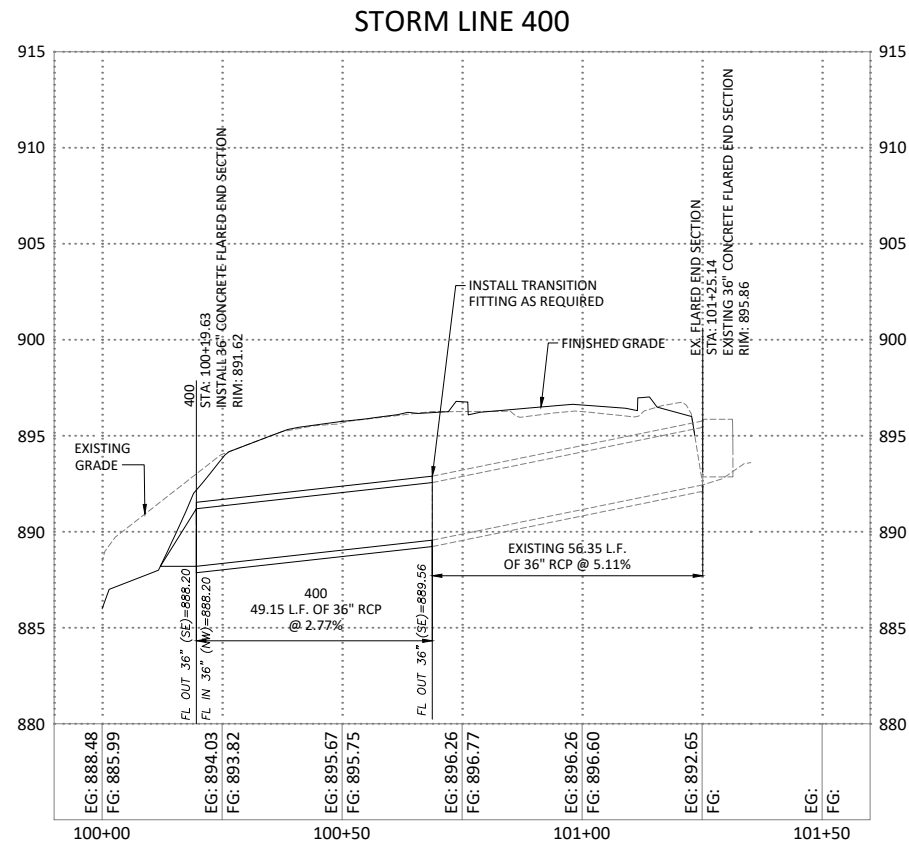
CITY OF HARRISONVILLE, MO





REVISIONS		DRAWING INFO			
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E	ISSUE FOR CONSTRUCTION	TSE	04-30-26	DATE:	
F	REISSUE FOR A DATE REVIEW	TSE	09-03-26	FIELD BOOK:	
G	ISSUE FOR BID	TSE	10-02-26	JOB NUMBER:	
H	JOB NUMBER REVISION	TSE	10-20-26	JOB NUMBER:	

(SW) STORM WATER PLAN & PROFILE
MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO



REVISIONS		DRAWING INFO.			
NO.	DESCRIPTION	BY	DATE	FIELD BY:	FIELD CHECK BY:
D	ISSUE FOR A DATE REVIEW	TSE	04-21-25		DNT
E	ISSUE FOR CONSTRUCTION	TSE	04-30-26		
F	REISSUE FOR A DATE REVIEW	TSE	09-03-26		
G	ISSUE FOR BID	TSE	10-02-26		
H	JOB NUMBER REVISION	TSE	10-20-26		

STB: 2604(11)
JOB NUMBER: 2604
FED NUMBER: 2604

(SW) STORM WATER PLAN & PROFILE
MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

HYDROLOGIC DATA
DRAINAGE AREA = 1.2 SQ. MI.
DESIGN FLOOD FREQUENCY = 25 YEARS
DESIGN FLOOD DISCHARGE = 576 CFS
DESIGN FLOOD (D.F.) ELEVATION = 891.24
BASE FLOOD (100-YEAR)
BASE FLOOD ELEVATION = 895
BASE FLOOD DISCHARGE = 840 CFS
ESTIMATED BACKWATER = 0.88 FT
FREEBOARD (25-YEAR)
FREEBOARD = 3.26 FT
ROADWAY OVERTOPPING
OVERTOPPING FLOOD DISCHARGE = 1,190 CFS
OVERTOPPING FLOOD FREQUENCY = 500 YEARS
OVERTOPPING FLOOD ELEVATION = 893.13

GENERAL NOTES:

DESIGN SPECIFICATIONS:

2020 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS (9TH ED.)
SEISMIC PERFORMANCE CATEGORY A
2019 AASHTO GUIDELINES FOR GEOMETRIC DESIGN

CONSTRUCTION SPECIFICATIONS:

MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION
MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION

DESIGN LOADING:

HS20-44
FUTURE WEARING SURFACE = 35 LB/SF
EARTH PRESSURE = 120 LB/CF
EQUIVALENT FLUID PRESSURE = 45 LB/CF

DESIGN UNIT STRESSES:

CLASS B-2 CONCRETE (SUBSTRUCTURE)
REINFORCING STEEL (GRADE 60)

REINFORCING STEEL:

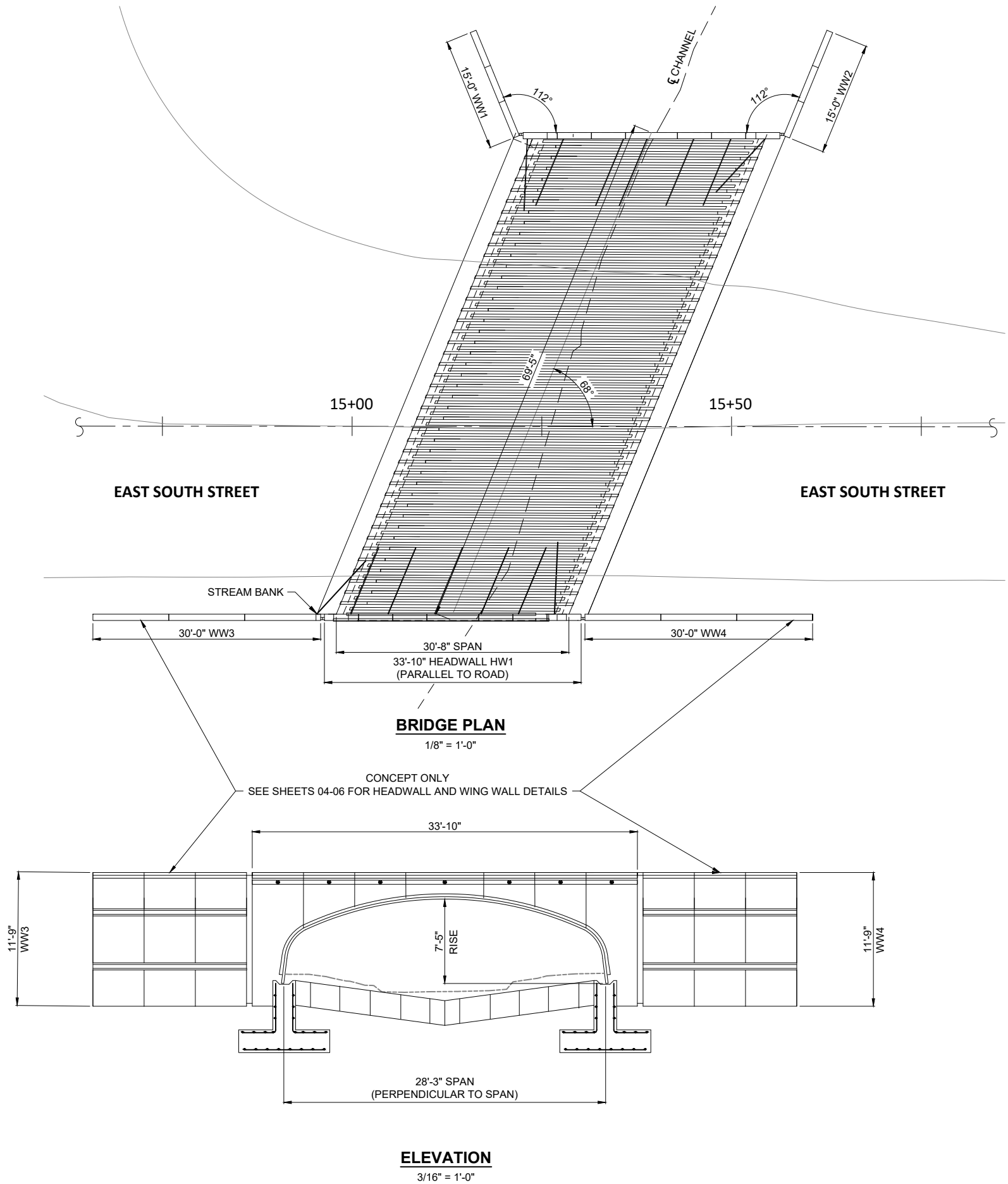
MINIMUM CLEARANCE TO THE REINFORCING STEEL
SHALL BE 1-1/2 INCHES, UNLESS OTHERWISE SHOWN.

TRAFFIC HANDLING:

STRUCTURE TO BE CLOSED DURING CONSTRUCTION. TRAFFIC
TO BE MAINTAINED ON OTHER ROUTES DURING CONSTRUCTION.
SEE ROADWAY PLANS FOR TRAFFIC CONTROL.

NOTE:

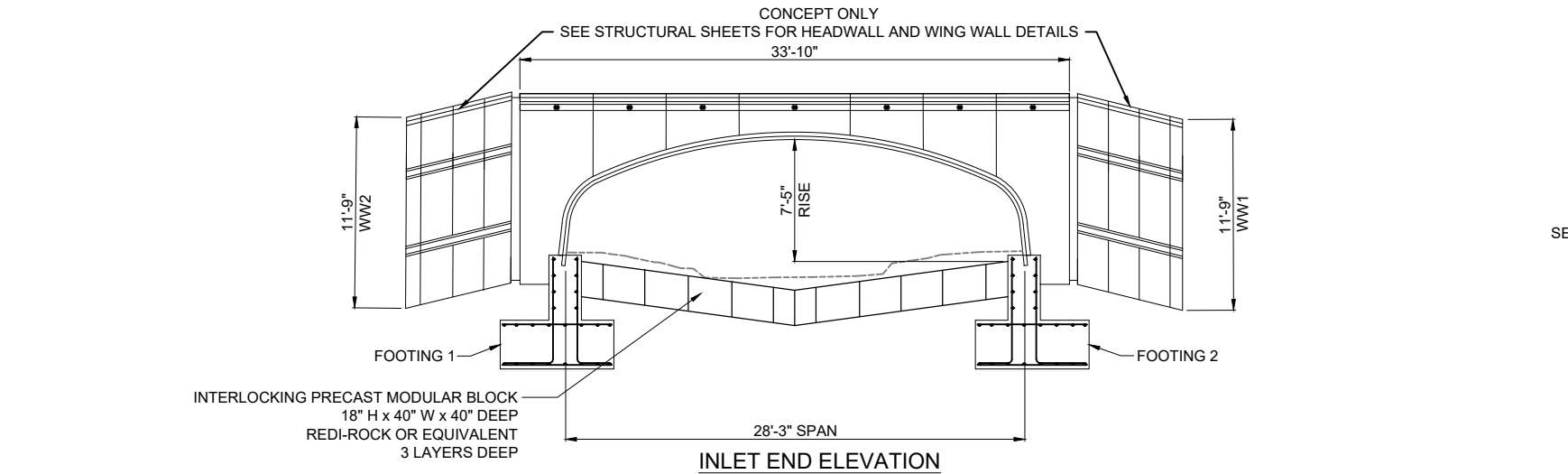
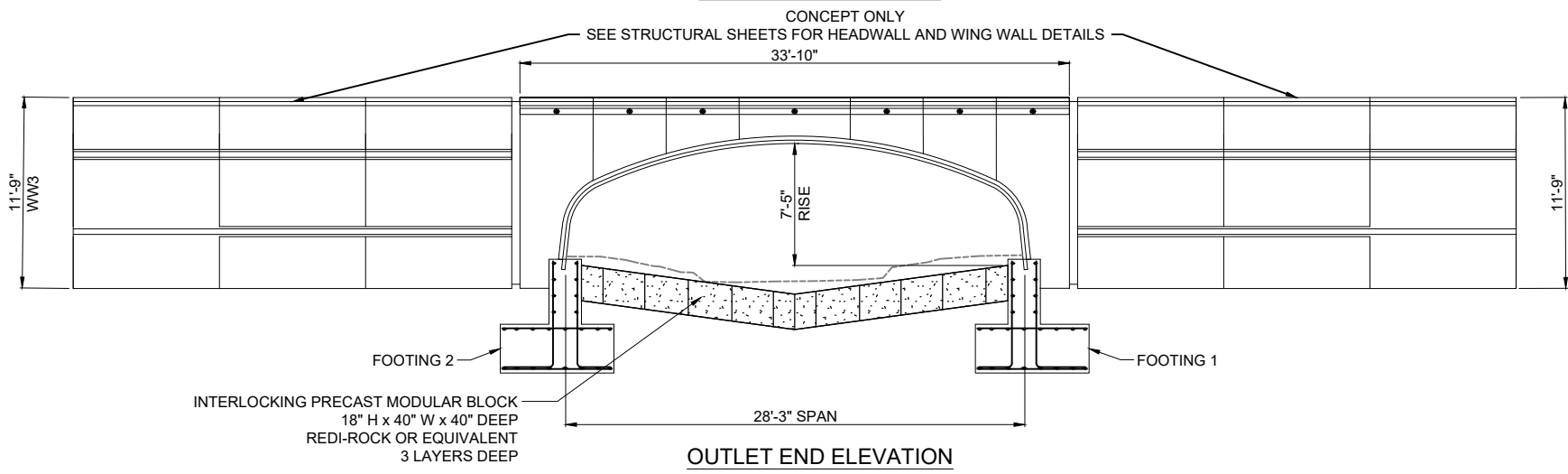
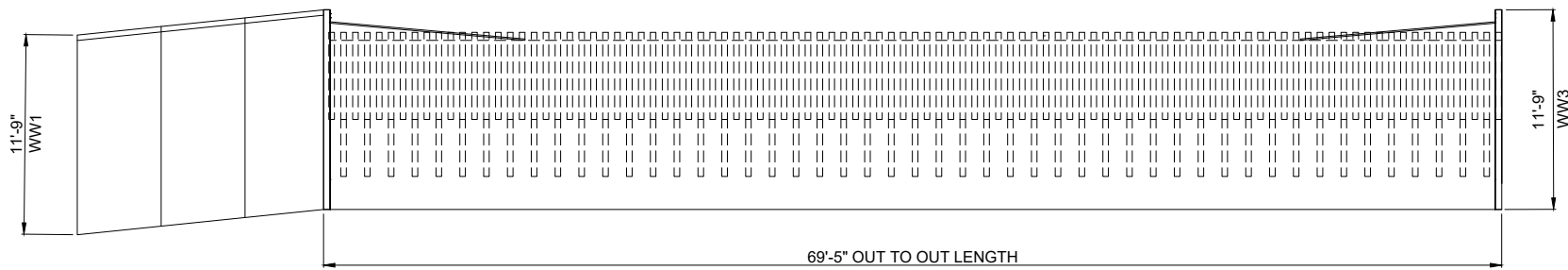
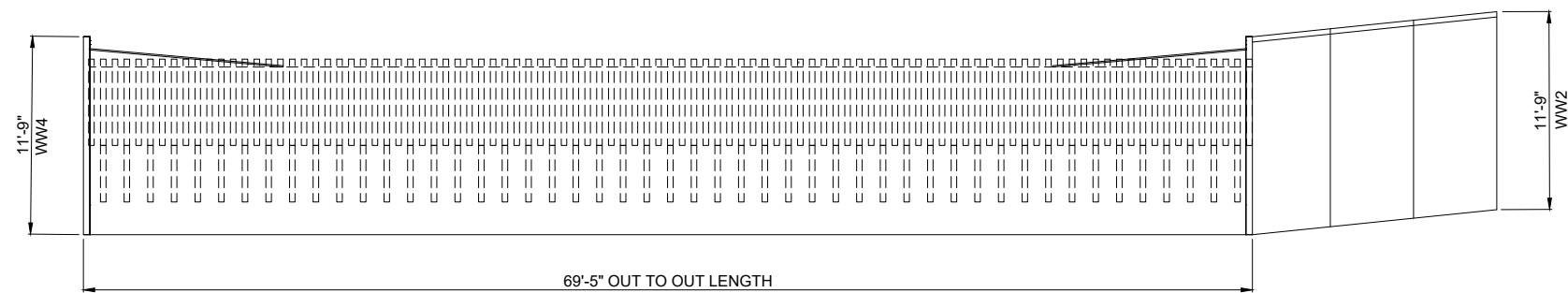
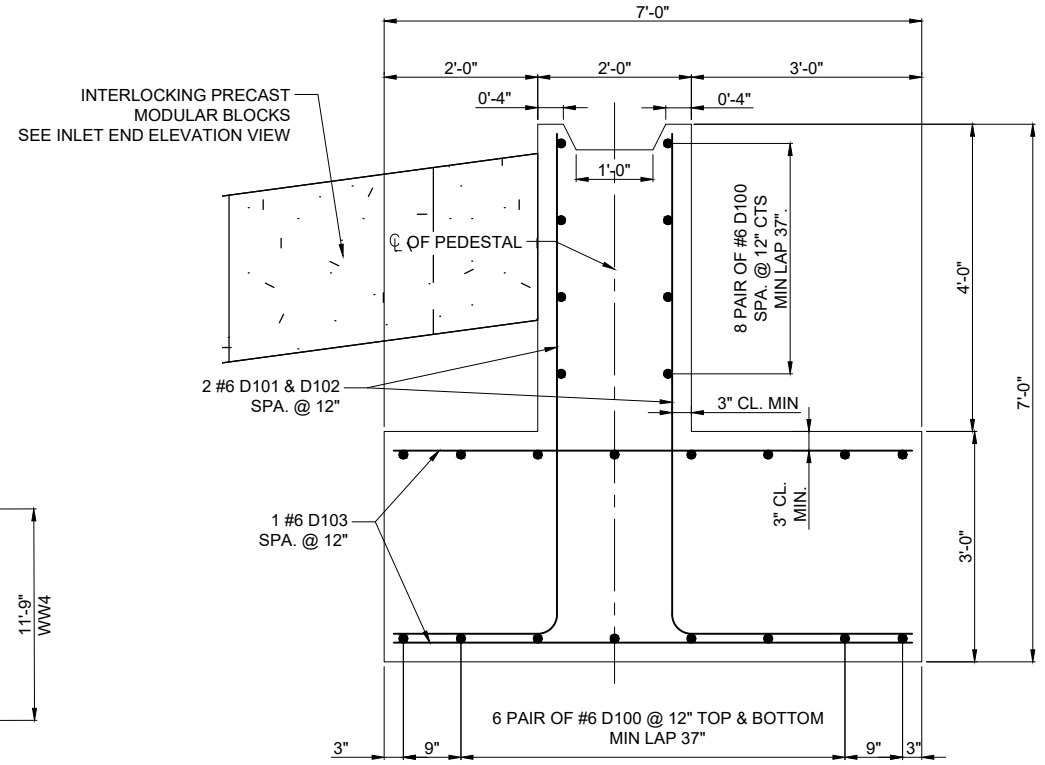
QUANTITIES SHOWN ON THESE PLANS ARE NOT
GUARANTEED BY THE OWNER AND ARE USED SOLELY FOR
THE PURPOSE OF COMPARING BIDS AND AWARDED THE
CONTRACT, AND MAY OR MAY NOT REPRESENT THE
ACTUAL QUANTITIES ON THE JOB, SEE SPECIFICATIONS.
ANY ITEMS NOT SHOWN IN BID TAB, SHALL BE CONSIDERED
SUBSIDIARY TO OTHER ITEMS.



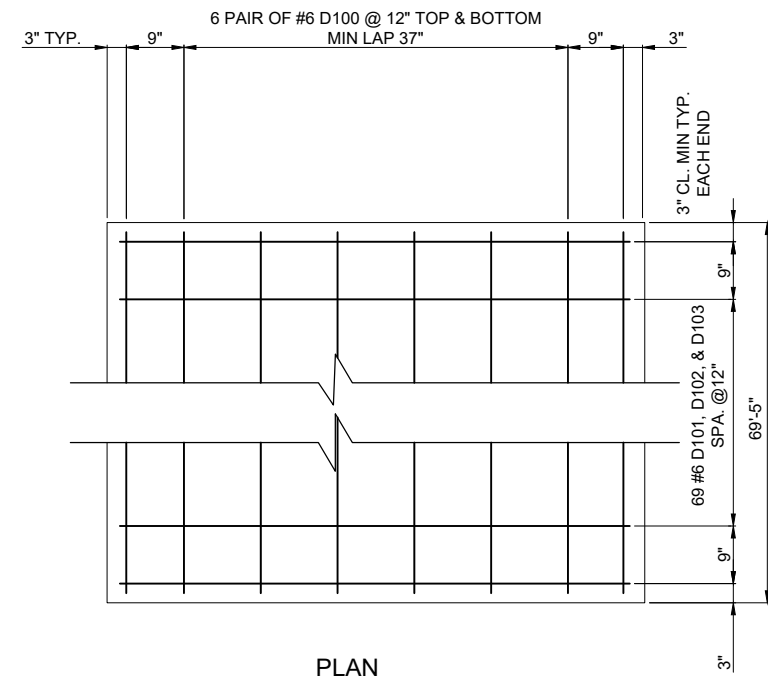
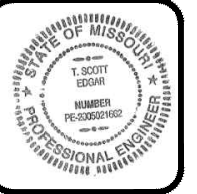
REVISIONS				DRAWING INFO.	
NO.	DESCRIPTION	BY	DATE	FIELD BY:	
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G	ISSUE FOR BID	TSE	10-02-26	JOB NUMBER:	
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(BP) BRIDGE PROFILE
SOUTH STREET (ROUTE 2) OVER MUDDY CREEK
CULVERT #1240 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

SHEET NUMBER
14
OF 32



SECTION

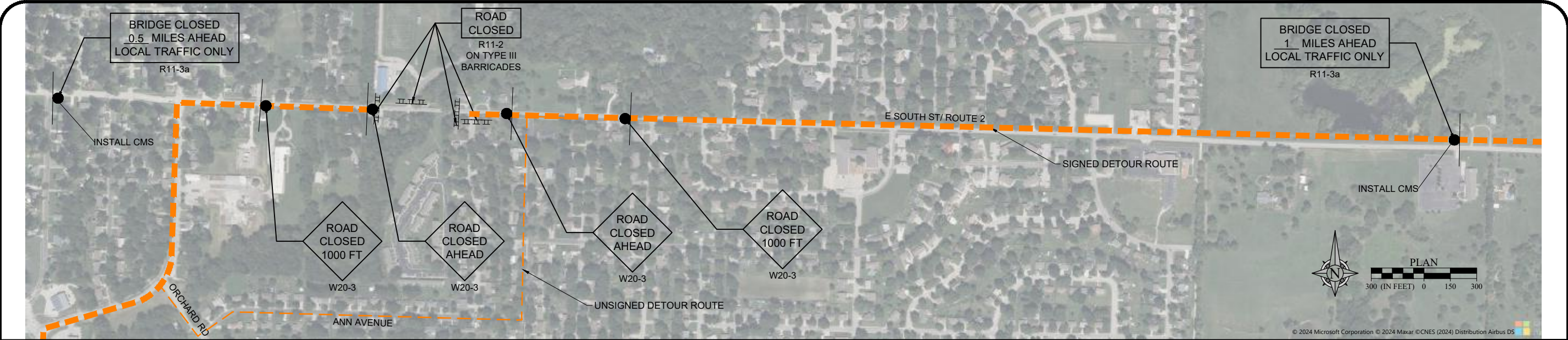
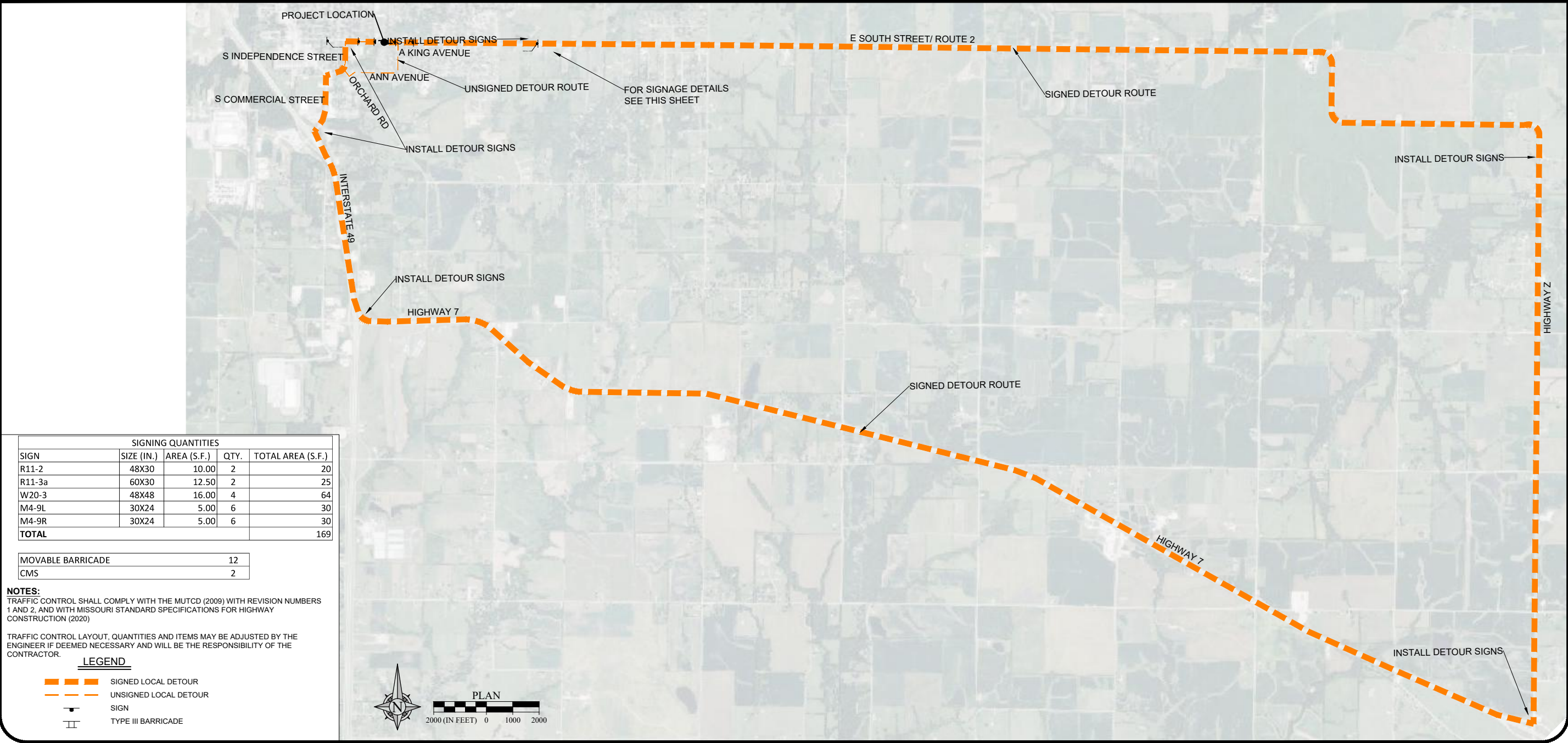


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E	E	ISSUE FOR CONSTRUCTION	TSE	04-30-26	DATE:
F	F	REISSUE FOR A-DATE REVIEW	TSE	09-03-26	FIELD BOOK:
G	G	ISSUE FOR BID	TSE	10-02-26	JOB NUMBER:

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BRIDGE PROFILE

SOUTH STREET (ROUTE 2) OVER MUDDY CREEK
CULVERT #1240 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO



SIGNING QUANTITIES				
SIGN	SIZE (IN.)	AREA (S.F.)	QTY.	TOTAL AREA (S.F.)
R11-2	48X30	10.00	2	20
R11-3a	60X30	12.50	2	25
W20-3	48X48	16.00	4	64
M4-9L	30X24	5.00	6	30
M4-9R	30X24	5.00	6	30
TOTAL				169

MOVABLE BARRICADE	12
CMS	2

NOTES:
TRAFFIC CONTROL SHALL COMPLY WITH THE MUTCD (2009) WITH REVISION NUMBERS 1 AND 2, AND WITH MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2020)

TRAFFIC CONTROL LAYOUT, QUANTITIES AND ITEMS MAY BE ADJUSTED BY THE ENGINEER IF DEEMED NECESSARY AND WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

LEGEND

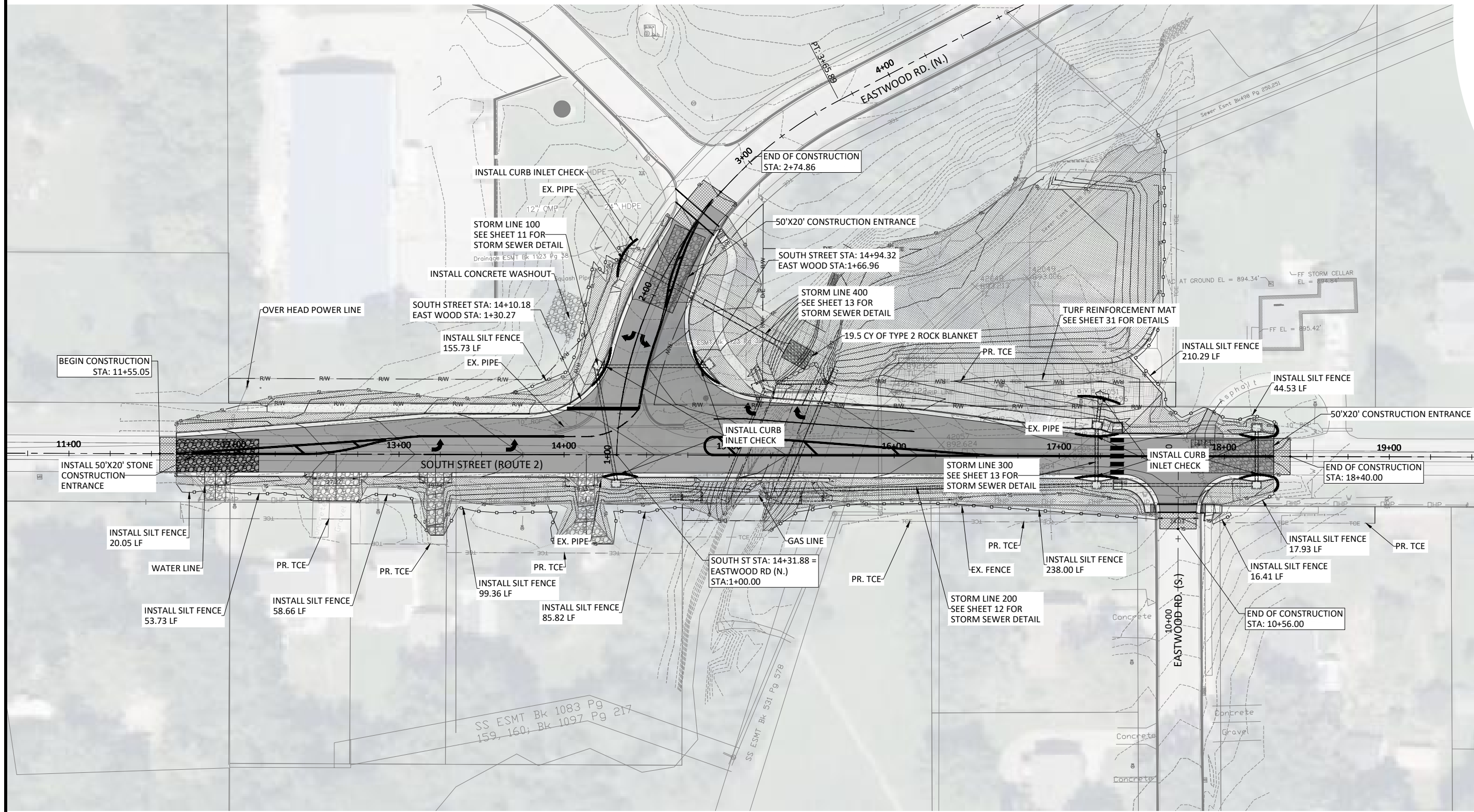
- SIGNED LOCAL DETOUR
- - - UNSIGNED LOCAL DETOUR
- SIGN
- TYPE III BARRICADE



REVISIONS		DRAWING INFO.	
NO.	DESCRIPTION	BY	DATE
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H	JOB NUMBER REVISION	TSE	10-20-26
REVISIONS		CHECKED BY:	KEL
REVISIONS		DATE:	
REVISIONS		FIELD BOOK:	
REVISIONS		JOB NUMBER:	
REVISIONS		JOB NUMBER:	STBC 2604(11)
REVISIONS		FED NUMBER:	

(TC) TRAFFIC CONTROL
MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

SHEET NUMBER
16
OF 32



(EC) EROSION CONTROL

MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT

SPEC 4 T44N R31W

CITY OF HARRISONVILLE, MO

SHEET NUMBER

17

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REVISIONS		DRAWING INFO.	
NO.	DESCRIPTION	BY	DATE
D	ISSUE FOR A DATE REVIEW	TSE	04-21-25
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G	ISSUE FOR BID	TSE	10-02-26
H	JOB NUMBER REVISION	TSE	10-20-26

FIELD BY:

CHECK BY:

DATE:

FIELD BOOK:

JOB NUMBER:

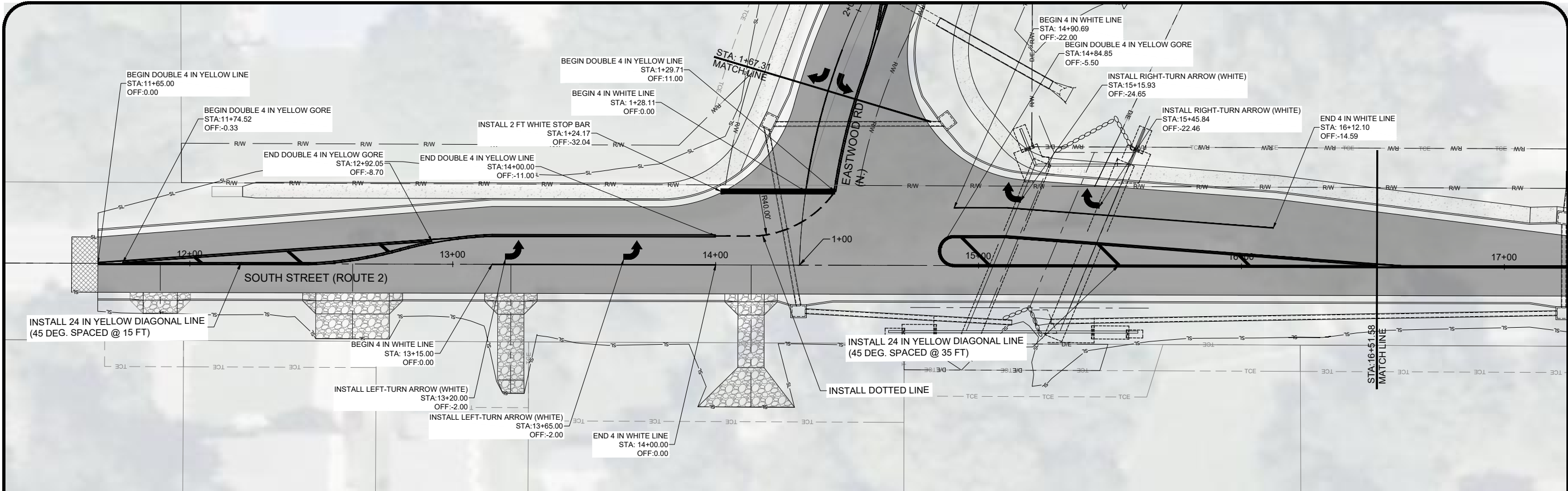
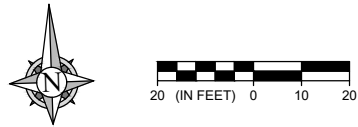
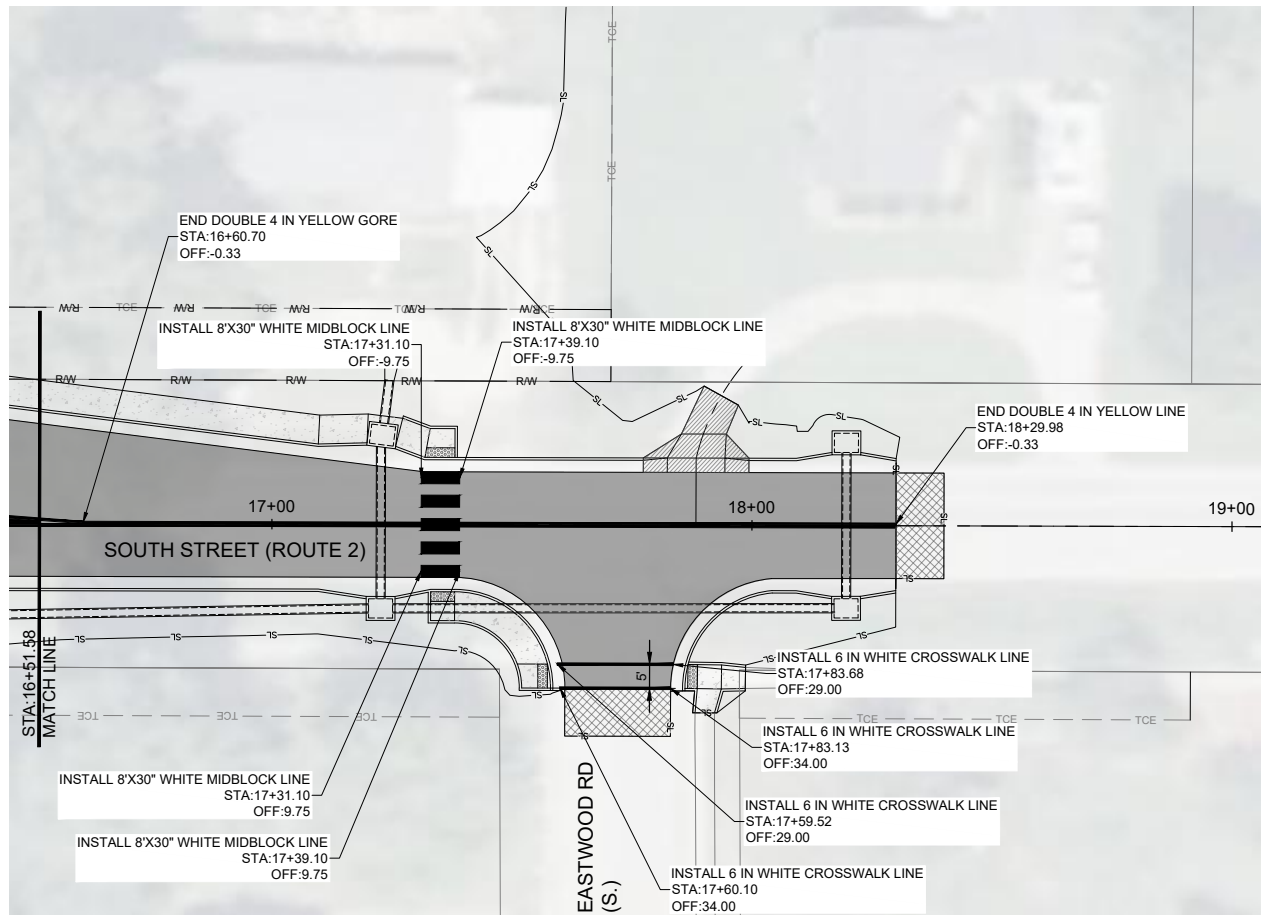
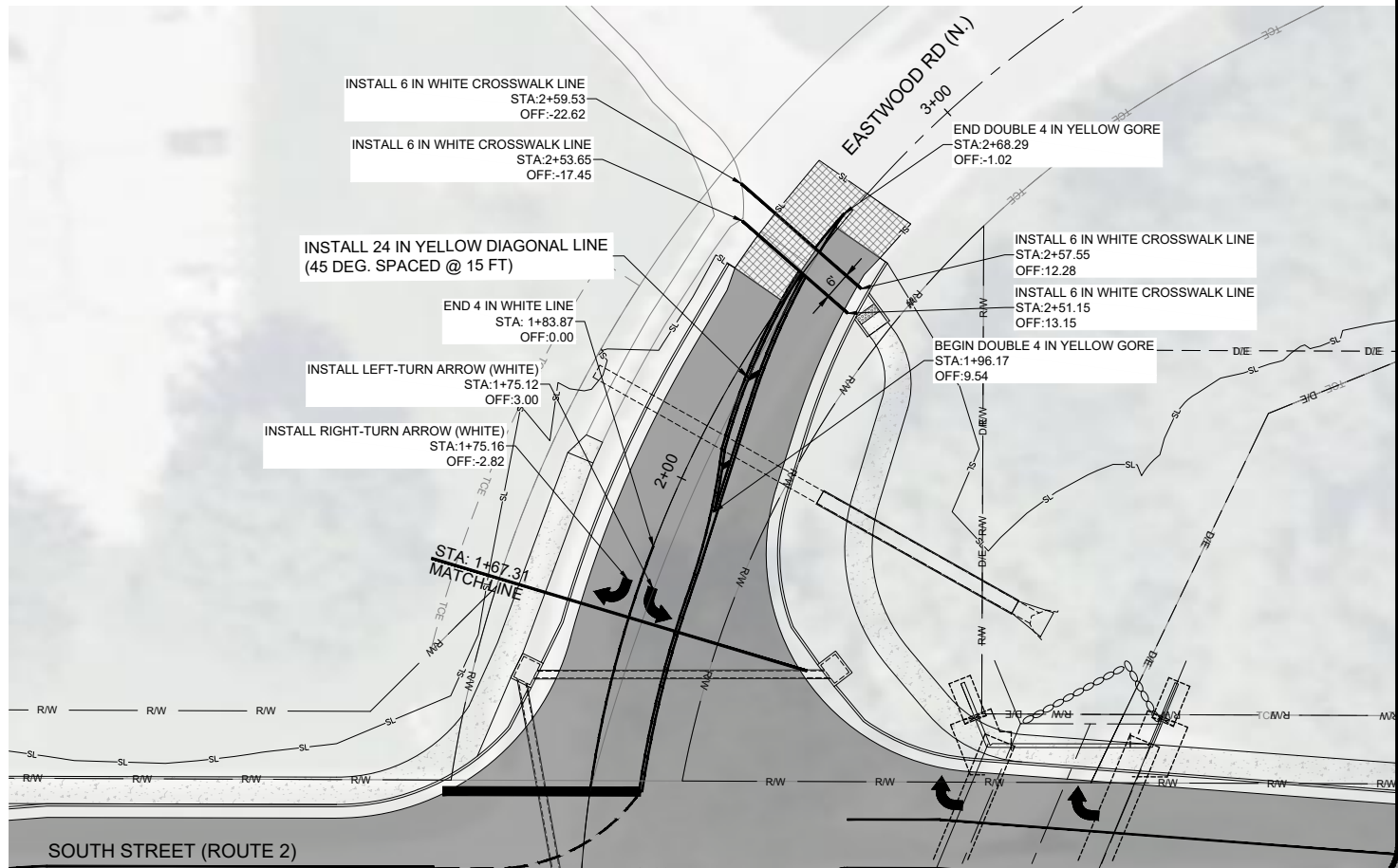
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STBC 2900(411)

FED NUMBER:

CITY OF HARRISONVILLE, MO 64081



REVISIONS		DRAWING INFO	
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E	ISSUE FOR CONSTRUCTION	TSE	04-30-26
F	REISSUE FOR A DATE REVIEW	TSE	09-03-26
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H	JOB NUMBER REVISION	TSE	10-20-26

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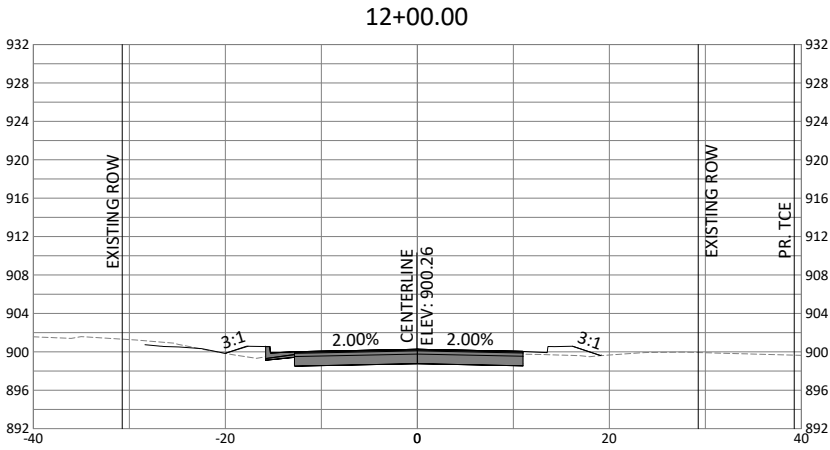
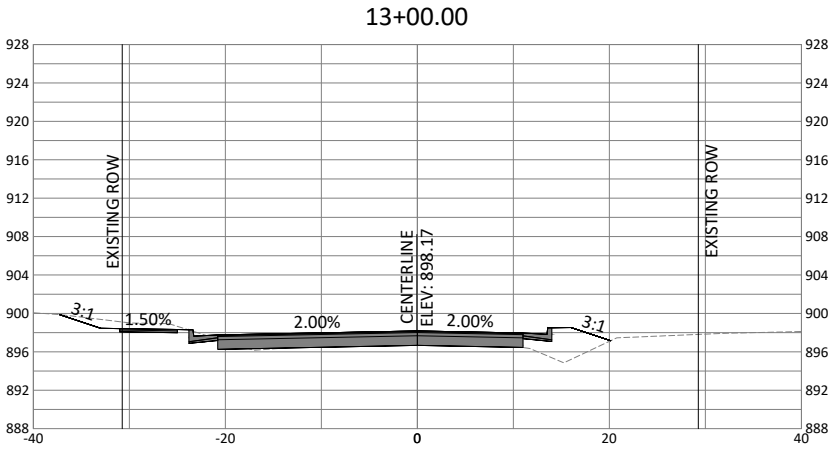
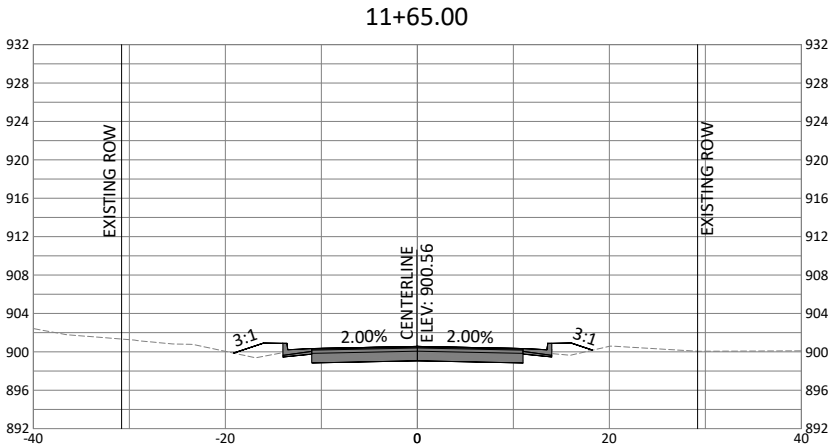
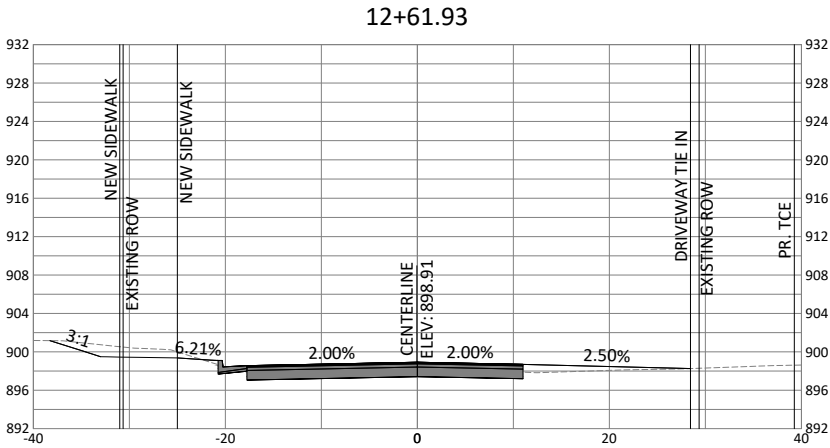
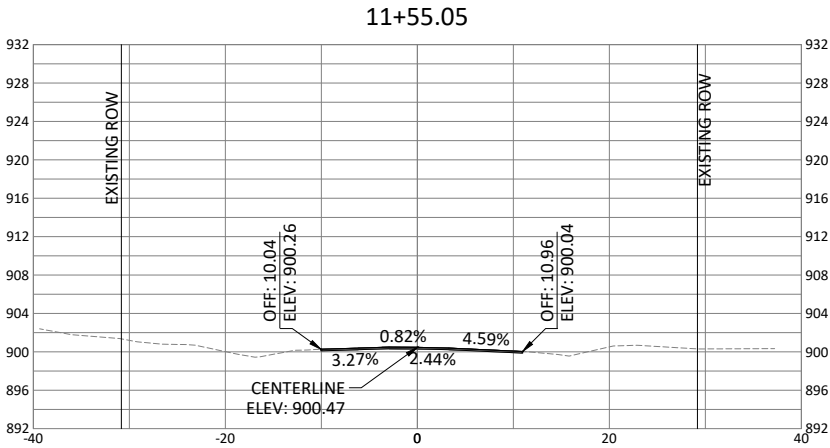
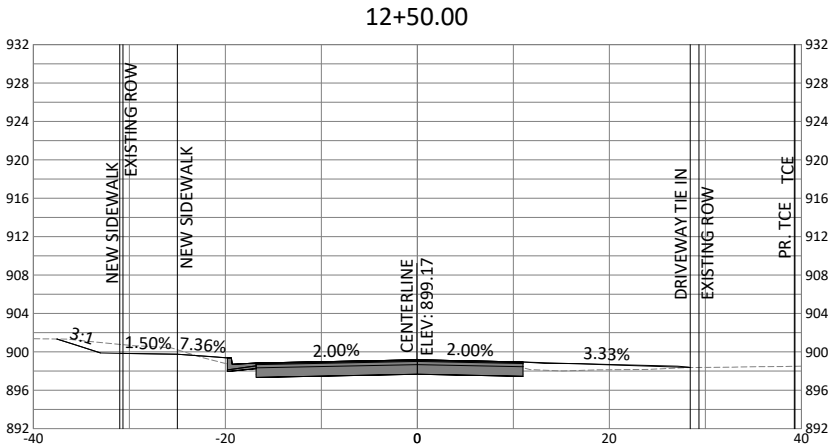
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MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT

SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

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19
OF 32

SOUTH STREET (ROUTE 2)



REVISIONS		DRAWING INFO.			
NO.	DESCRIPTION	BY	DATE	FIELD BY:	FIELD NO.
D	ISSUE FOR A DATE REVIEW	TSE	04-21-26	CHECK BY:	KEL
E	ISSUE FOR CONSTRUCTION	TSE	04-30-26	DATE:	
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STB-2004(11)

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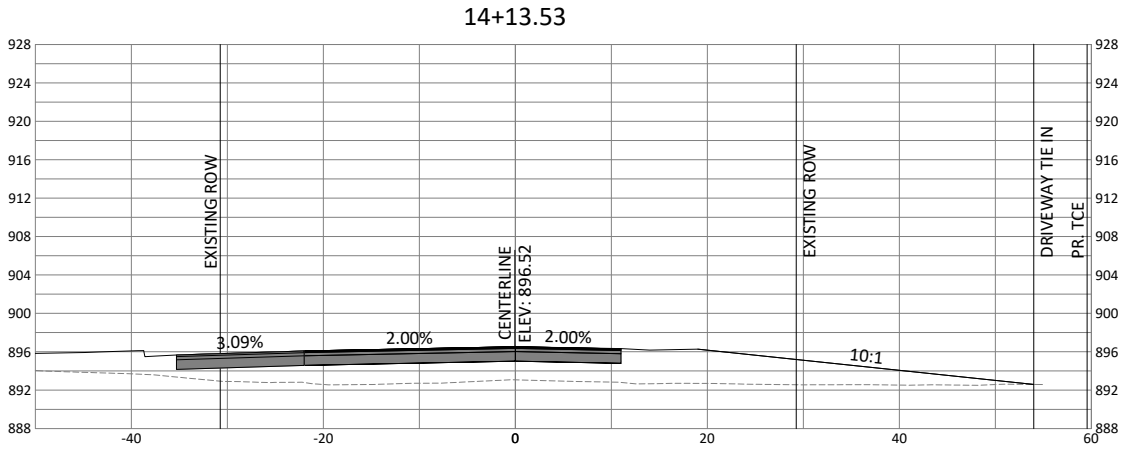
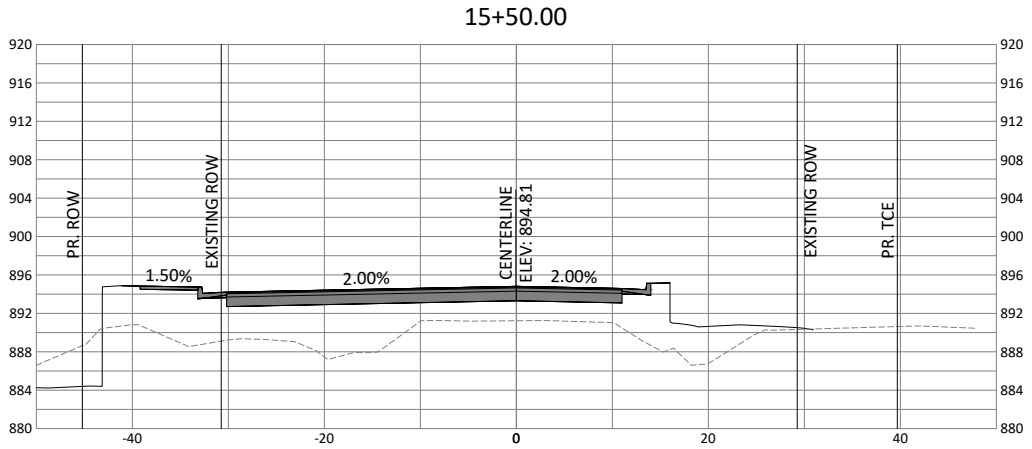
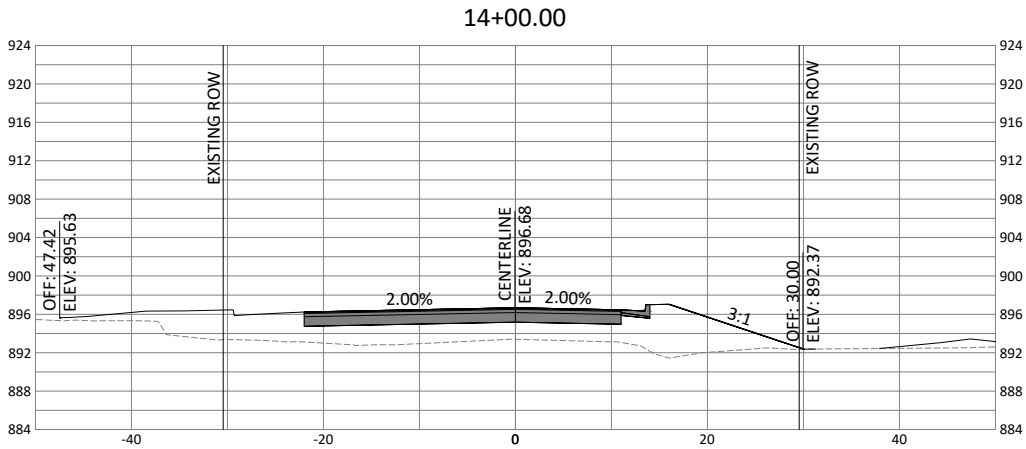
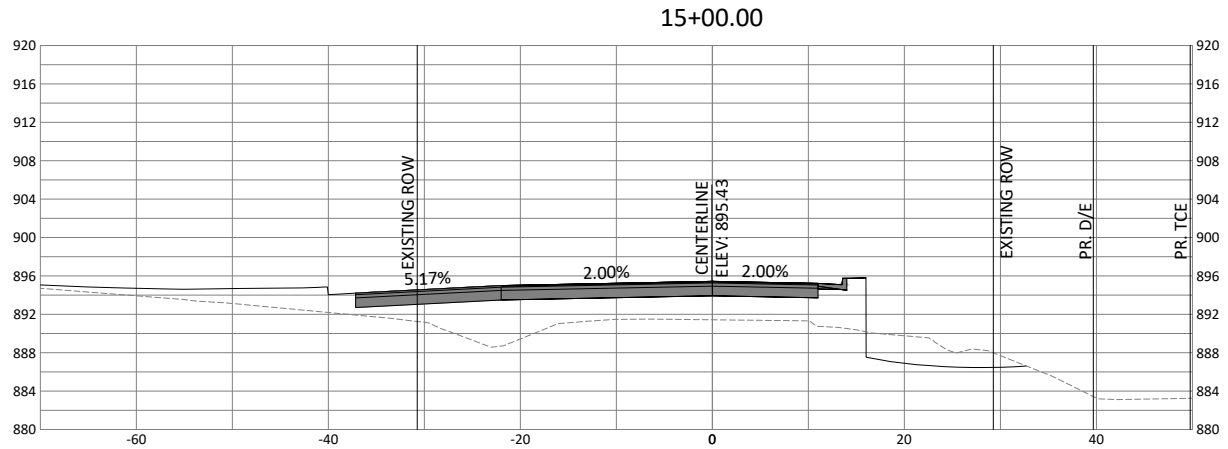
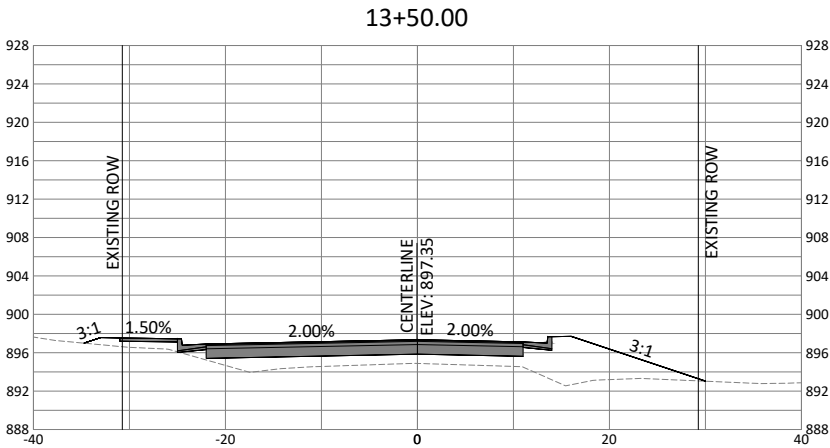
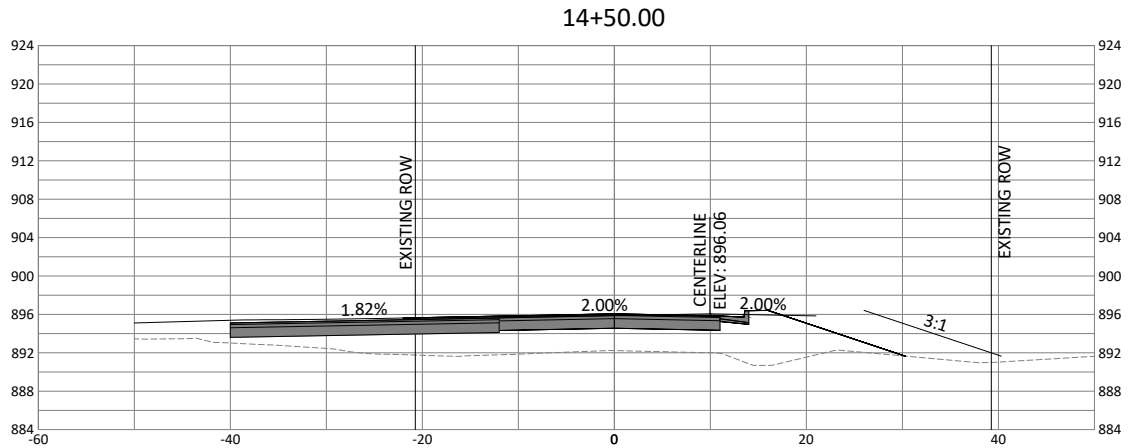
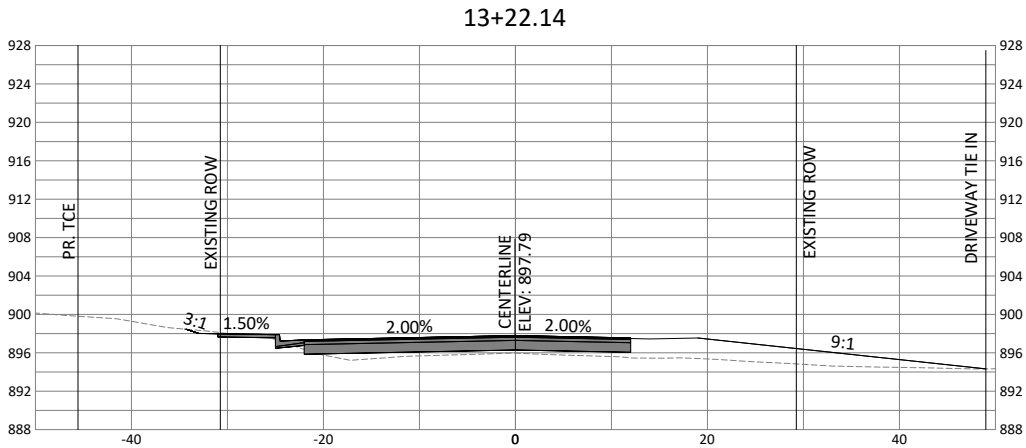
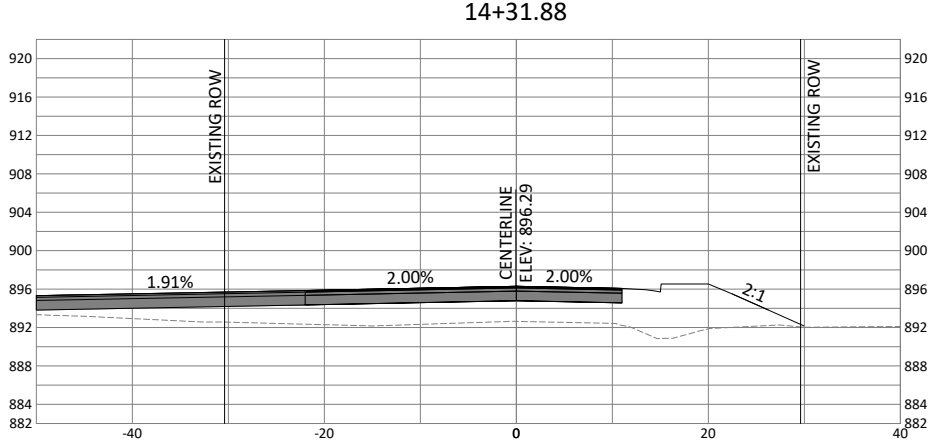
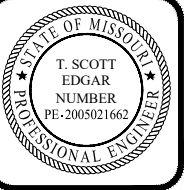
MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT

SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

SHEET NUMBER

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OF 32

SOUTH STREET (ROUTE 2)



REVISIONS		DRAWING INFO.	
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H	JOB NUMBER REVISION	TSE	10-20-26
CHECK BY:		FIELD BY:	
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DATE:		DATE:	
04-30-26		04-30-26	
FIELD BOOK:		JOB NUMBER:	
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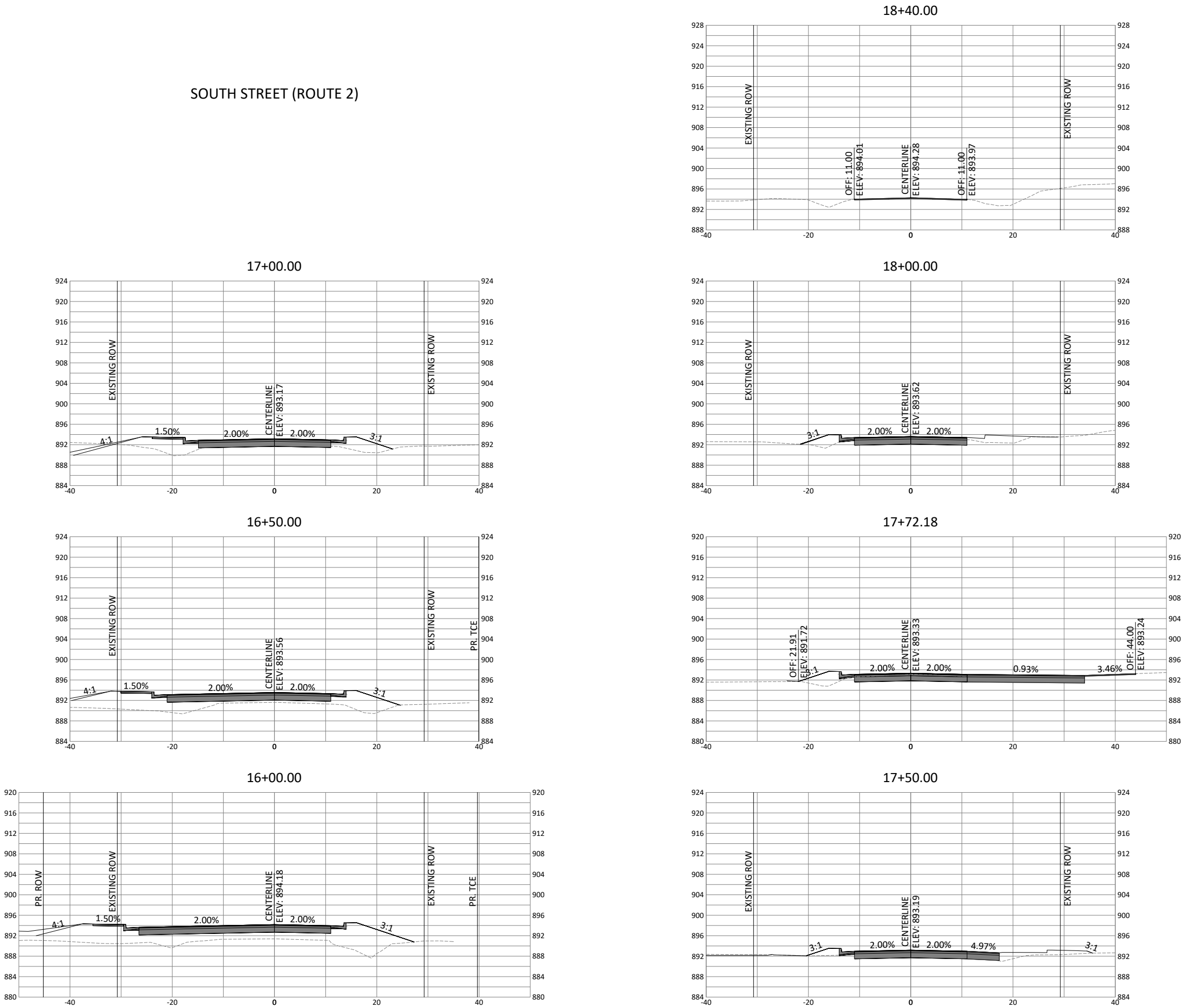
MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT

SEC 4 T44N R31W
CITY OF HARRISONVILLE, MO

SHEET NUMBER

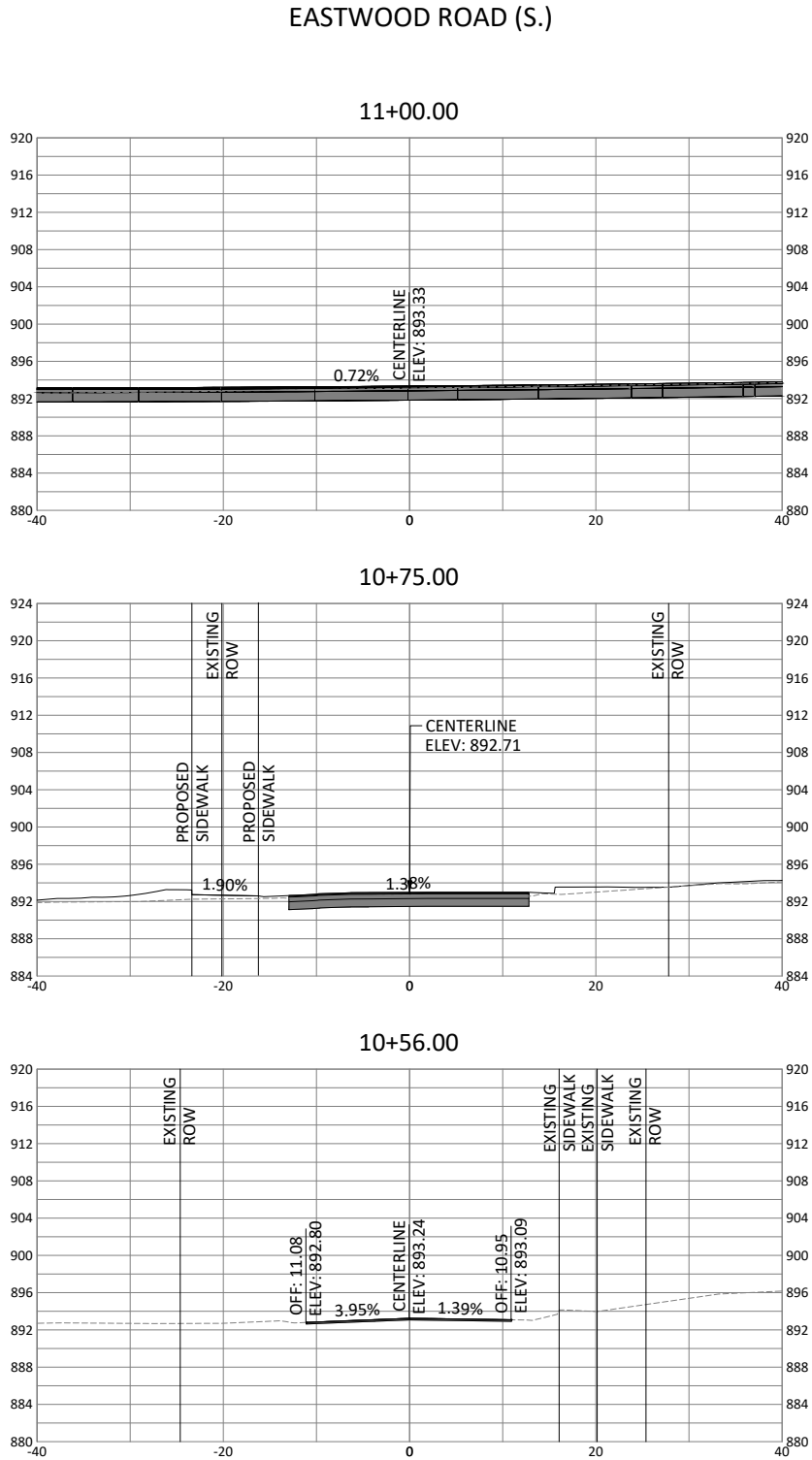
21
OF 32

SOUTH STREET (ROUTE 2)



REVISIONS		DRAWING INFO.			
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(XS) CROSS SECTIONS
MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
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CITY OF HARRISONVILLE, MO

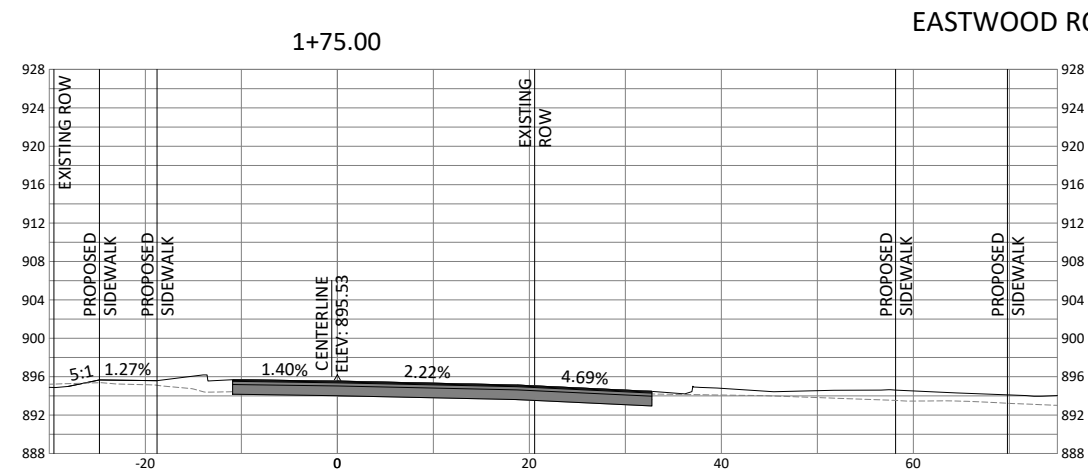
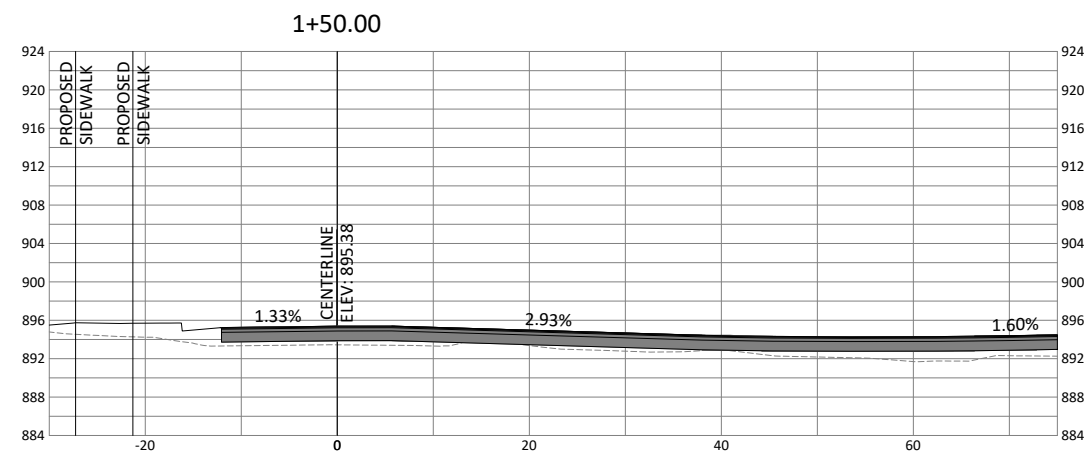
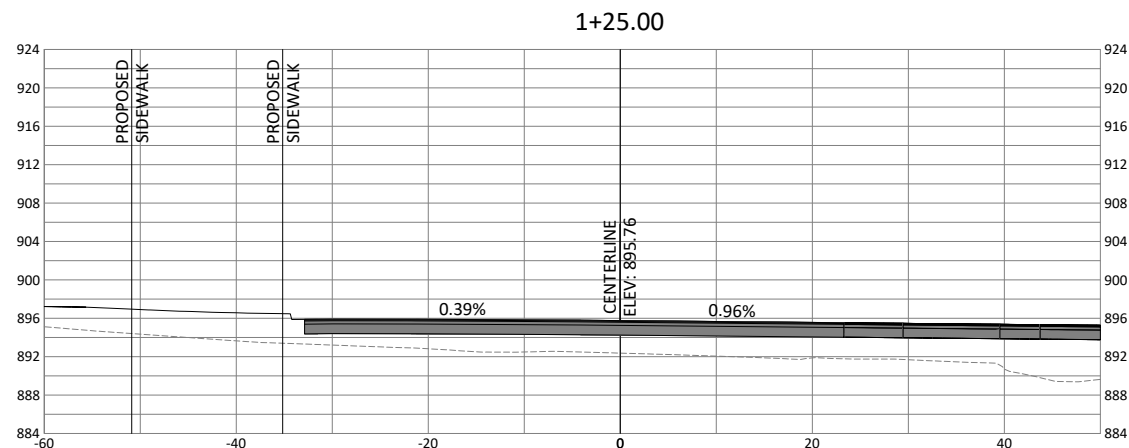
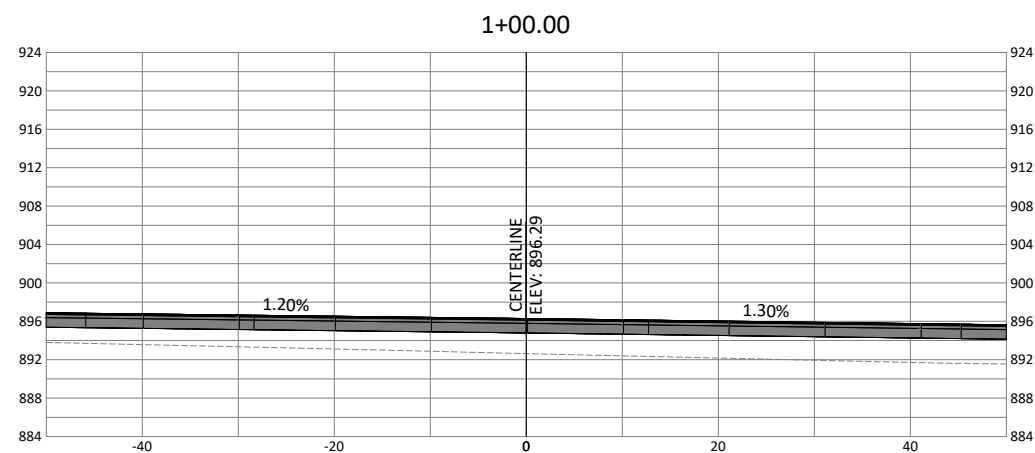
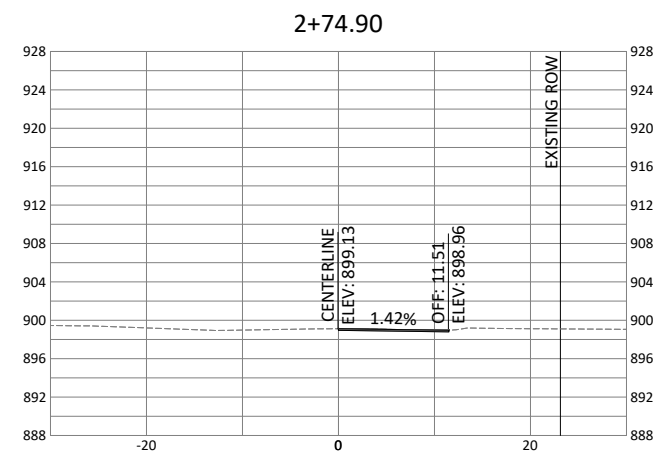
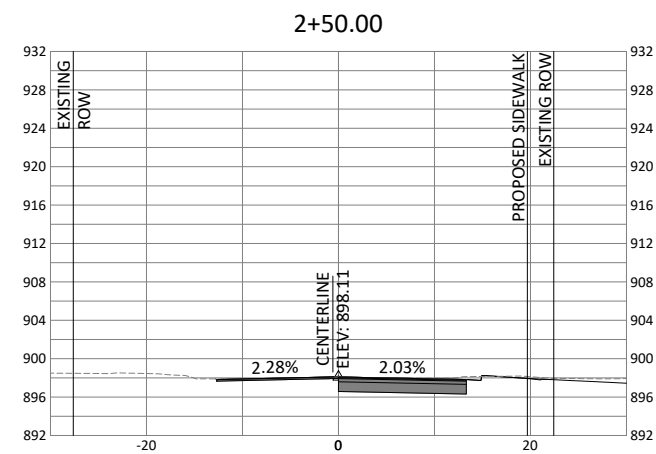
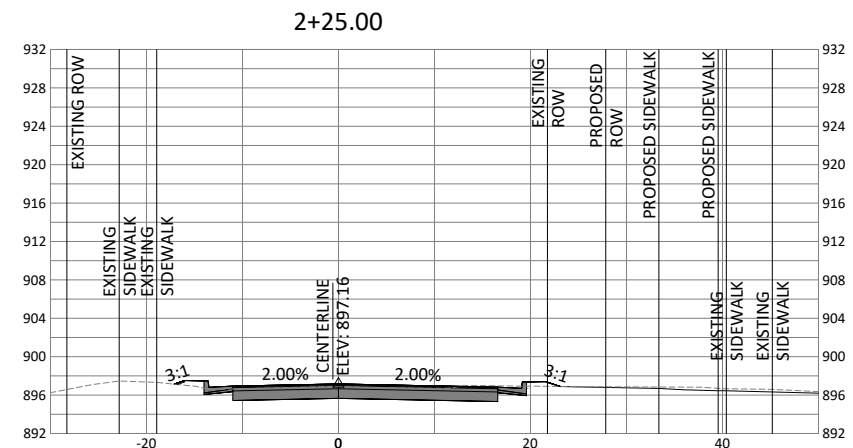
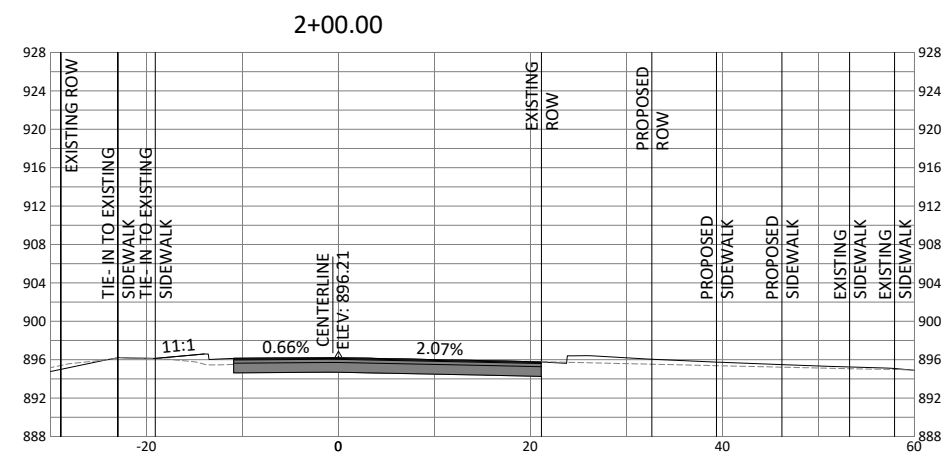


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NO.	DESCRIPTION	BY	DATE	FIELD BY:	
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E	ISSUE FOR CONSTRUCTION	TSE	04-30-26	DATE:	
F	REISSUE FOR A-DATE REVIEW	TSE	09-03-26	FIELD BOOK:	
G	ISSUE FOR BID	TSE	10-02-26	JOB NUMBER:	
H	JOB NUMBER REVISION	TSE	10-20-26	JOB NUMBER:	
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(XS) CROSS SECTIONS

MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT

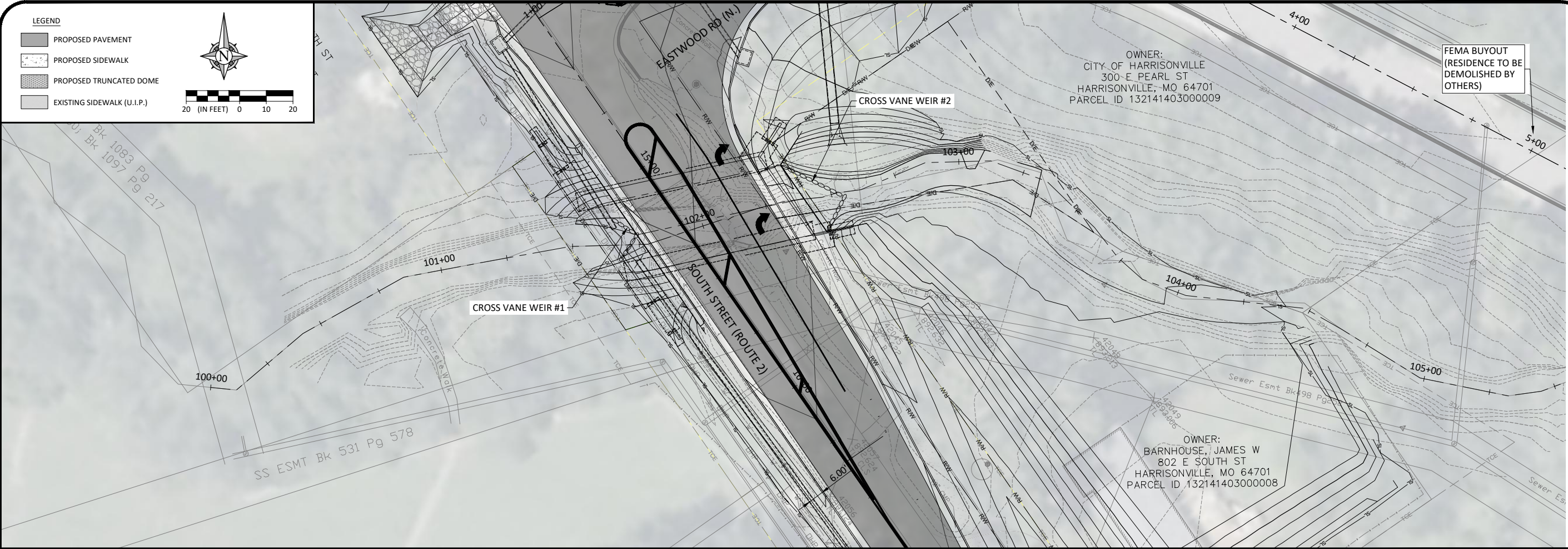
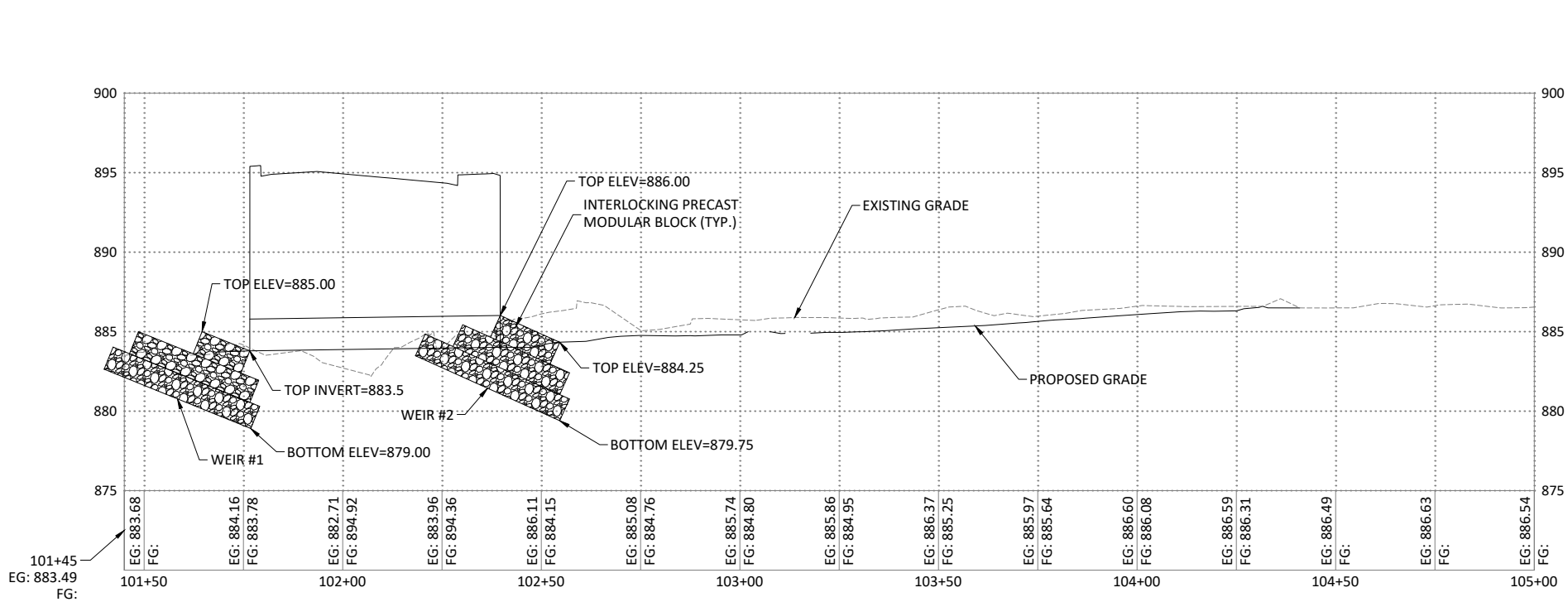
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO



REVISIONS				DRAWING INFO.	
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D	ISSUE FOR A DATE REVIEW	TSE	04-21-25	CHECK BY:	KEL
E	ISSUE FOR CONSTRUCTION	TSE	04-30-26	DATE:	
F	REISSUE FOR A-DATE REVIEW	TSE	09-03-26	FIELD BOOK:	
G	ISSUE FOR BID	TSE	10-02-26	JOB NUMBER:	
H	JOB NUMBER REVISION	TSE	10-20-26	JOB NUMBER:	
COMPANY ANDERSON BUILDINGS, INC. 2912					STBC 2200(411)

(XS) CROSS SECTIONS
MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

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OF 32



REVISIONS		DRAWING INFO.	
NO.	DESCRIPTION	BY	DATE
D	ISSUE FOR A DATE REVIEW	TSE	04-21-25
E	ISSUE FOR CONSTRUCTION	TSE	04-30-26
F	REISSUE FOR A-DATE REVIEW	TSE	09-03-26
G	ISSUE FOR BID	TSE	10-02-26
H	JOB NUMBER REVISION	TSE	10-20-26
NO.		FIELD BY:	FIELD DATE:
D		TSE	04-21-25
E		TSE	04-30-26
F		TSE	09-03-26
G		TSE	10-02-26
H		TSE	10-20-26
NO.		JOB NUMBER:	FED NUMBER:
D		STB 200X(11)	

(SP) STREAM PLAN & PROFILE

MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY

2 OF MUDDY CRK., BRIDGE #A 9481 REPLACEMENT

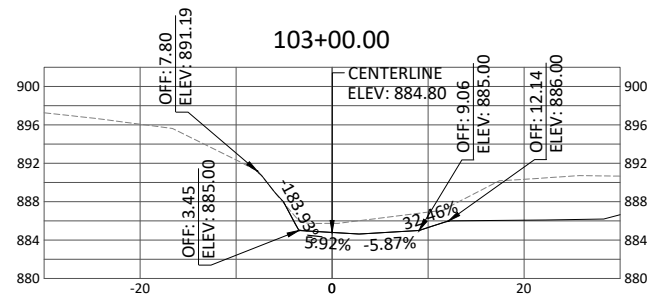
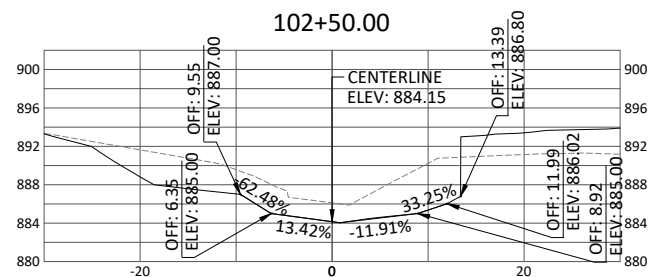
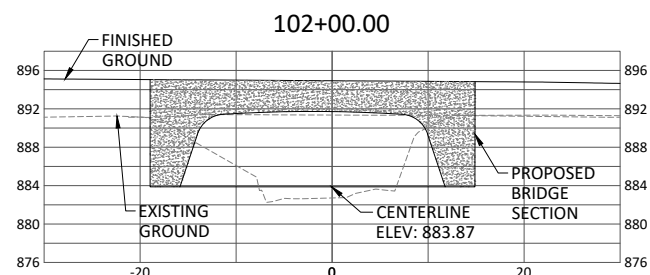
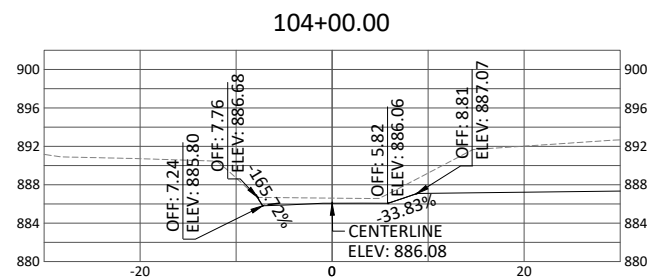
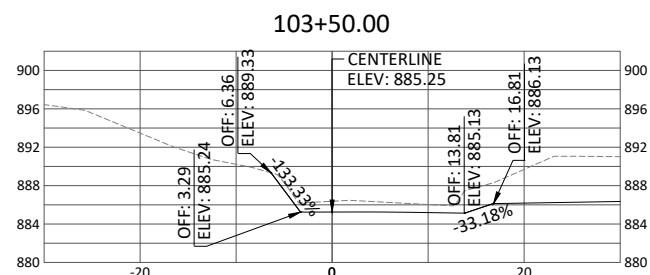
SEC4 T44N R31W

CITY OF HARRISONVILLE, MO

SHEET NUMBER

25

OF 32



REVISONS				DRAWING INFO.	
NO.	DESCRIPTION	BY	DATE	FIELD BY:	
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E	ISSUE FOR CONSTRUCTION	TSE	04-30-26	DATE:	
F	REISSUE FOR A-DATE REVIEW	TSE	09-03-26	FIELD BOOK:	
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H	JOB NUMBER REVISION	TSE	10-20-26	JOB NUMBER:	
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(SP) STREAM CROSS SECTIONS

MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT

SEC4 T44N R31W

CITY OF HARRISONVILLE, MO
 SELECTED FINANCIAL STATEMENTS
 FOR THE YEAR 2011

COBURN, ALAN M. *MANAGING THE FUTURE: Managing the Global Corporation in the 21st Century*. ACAD. OF MGMT. PRESS, 2000. 300 P. \$49.95. ISBN 0-08-058000-0.

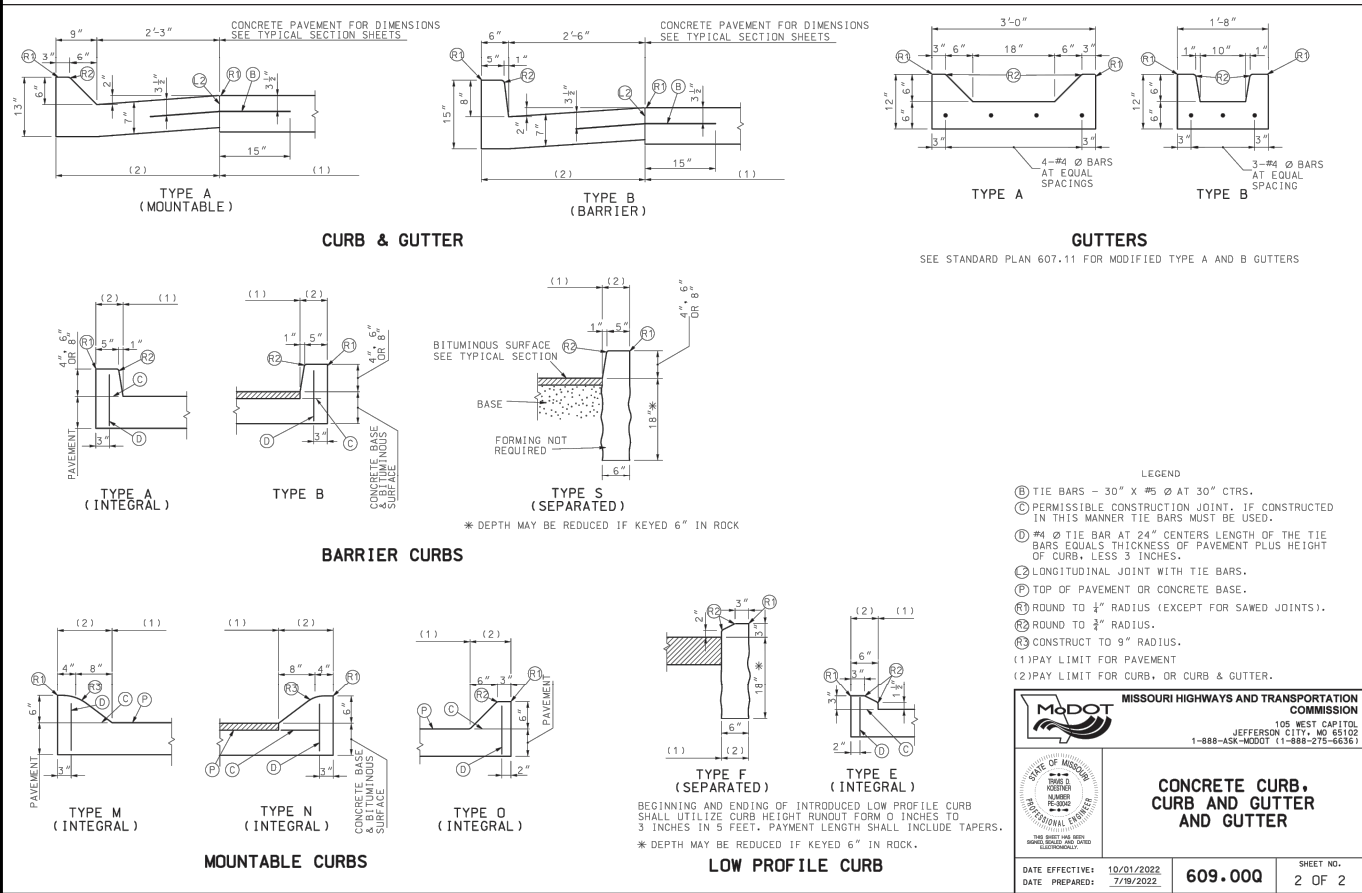
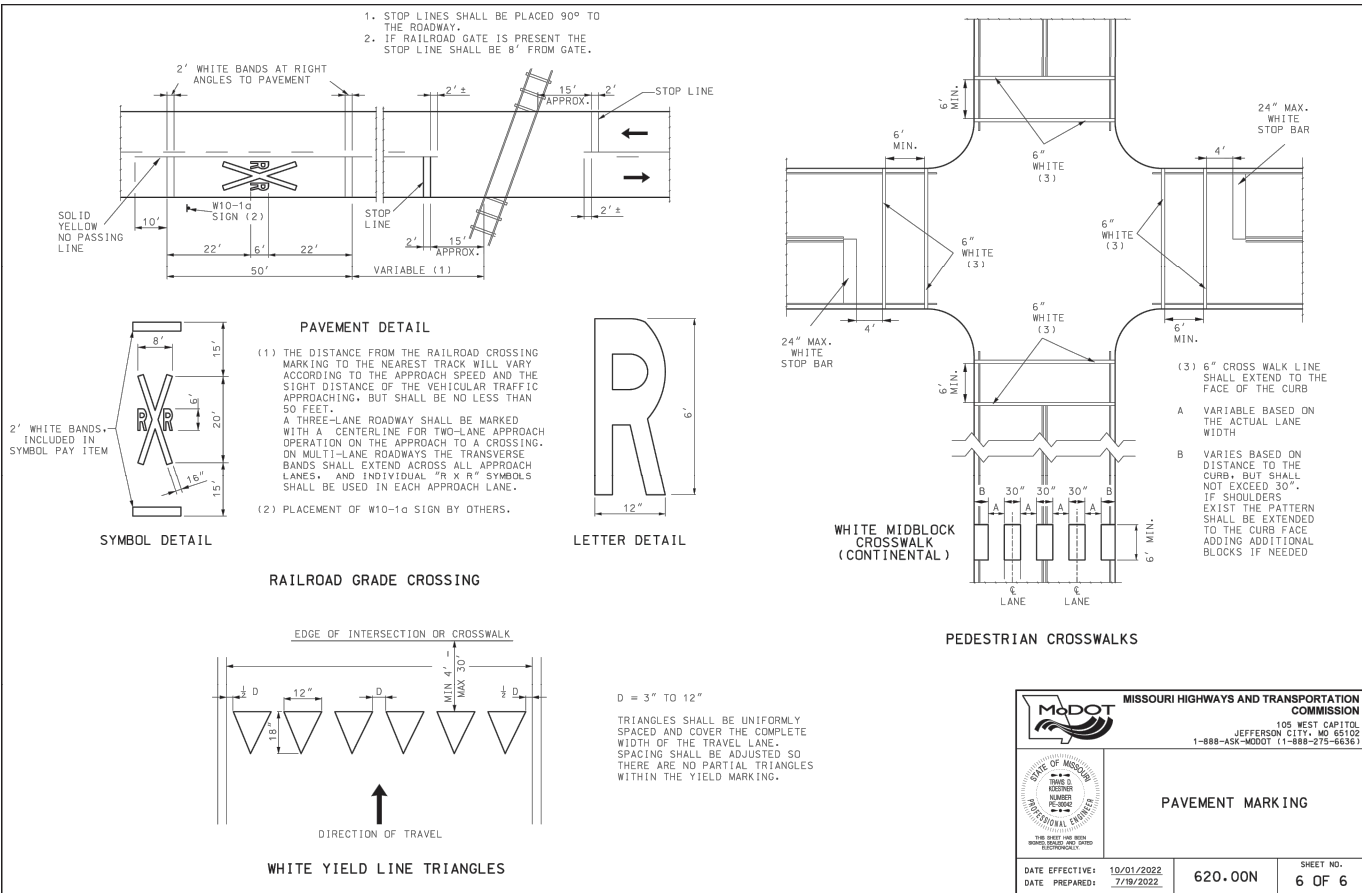


**ANDERSON
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T. SCOTT
EDGAR
NUMBER
PE-2005021662



NO.		REVISIONS		DRAWING INFO.	
NO.	DESCRIPTION	BY	DATE	FIELD BY:	DATE
D	ISSUE FOR A DATE REVIEW	TSE	04-21-25	CHECK BY:	DNT
E	ISSUE FOR CONSTRUCTION	TSE	04-30-26	DATE:	
F	REISSUE FOR A DATE REVIEW	TSE	09-03-26	FIELD BOOK:	
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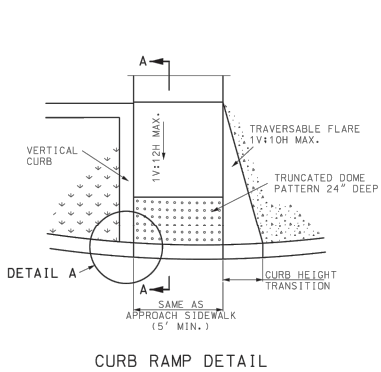
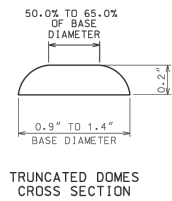
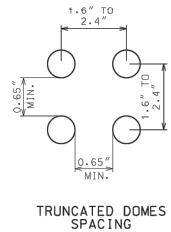
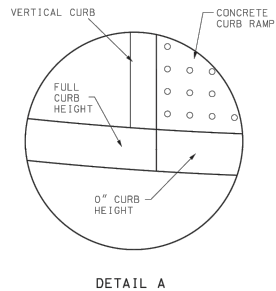
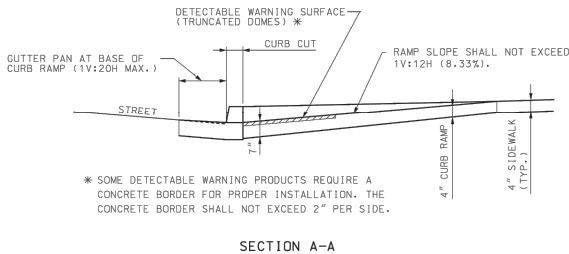
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STBG-25004(11)

(SD) STANDARD DETAILS

MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK., BRIDGE #A9481 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

SHEET NUMBER
28
OF 32



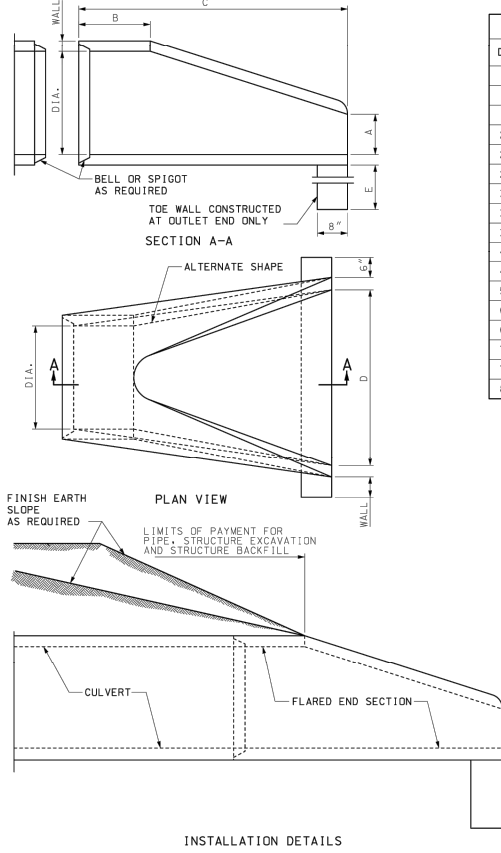
GENERAL NOTES:
ALL AREAS OF THE PEDESTRIAN ACCESS ROUTE MUST BE COMPLIANT WITH THE AMERICANS WITH DISABILITIES ACT - GUIDELINES FOR ACCESSIBLE PUBLIC RIGHTS OF WAY. EXCEPTIONS MUST BE APPROVED BY THE ENGINEER. ALL OTHER AREAS OF NON-COMPLIANCE SHALL BE REMOVED AND CORRECTED AT THE CONTRACTOR'S EXPENSE.
THE SURFACES OF PEDESTRIAN ACCESS ROUTES AND ELEMENTS, AND SPACES REQUIRED TO CONNECT TO PEDESTRIAN ACCESS ROUTES, SHALL BE FIRM, STABLE, SLIP RESISTANT, AND SHALL NOT POND WATER.
SIDEWALK, RAMP AND LANDING CROSS SLOPES SHALL BE 1.00% TO FACILITATE DRAINAGE (2.00% MAX.).
THE CROSS SLOPE OF THE CONTINUOUS PEDESTRIAN ACCESS ROUTE THROUGH ENTRANCES, ALLEYS, AND SIDE ROAD CONNECTIONS WITH STOP OR YIELD CONTROL SHALL BE 1.00% TO FACILITATE DRAINAGE (2.00% MAX.).
WHERE PEDESTRIAN ACCESS ROUTES ARE CONTAINED WITHIN PEDESTRIAN STREET CROSSINGS WITHOUT YIELD OR STOP CONTROL, THE CROSS SLOPE OF THE PEDESTRIAN ACCESS ROUTE SHALL BE 5.00% MAXIMUM.
WHERE PEDESTRIAN ACCESS ROUTES ARE CONTAINED WITHIN MIDBLOCK PEDESTRIAN STREET CROSSINGS, THE CROSS SLOPE OF THE PEDESTRIAN ACCESS ROUTE SHALL BE PERMITTED TO EQUAL THE STREET OR HIGHWAY GRADE.
30" X 48" CLEAR SPACE SHALL BE PROVIDED CENTERED ON THE PEDESTRIAN PUSH BUTTON.
BEYOND THE BOTTOM GRADE BREAK OF A CURB RAMP, A CLEAR SPACE 4' MINIMUM BY 4' MINIMUM SHALL BE PROVIDED WITHIN THE WIDTH OF THE PEDESTRIAN STREET CROSSING AND WHOLLY OUTSIDE THE PARALLEL VEHICLE TRAVEL LANE.
SIDE FLARES OF CURB RAMP, IN THE PATH OF PEDESTRIAN TRAVEL (TRAVERSABLE), SHALL NOT EXCEED A SLOPE OF 1V:10H. SIDE FLARES OUTSIDE THE PEDESTRIAN PATH (NONTRAVERSABLE) MAY BE VERTICAL.
TRANSITION FROM SIDEWALK OR CURB RAMP TO GUTTER TO ROADWAY SHALL BE FLUSH.
DETECTABLE WARNING SURFACES (TRUNCATED DOMES) SHALL BE PERFORMED AND INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS. STAMPED CONCRETE WILL NOT BE ACCEPTED.
THE DETECTABLE WARNING SURFACE SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT. TRUNCATED DOMES SHALL SPAN THE FULL WIDTH OF THE RAMP OR LANDING 24" DEEP.
DETECTABLE WARNING SURFACES SHALL BE ALIGNED PERPENDICULAR OR RADIAL TO THE BREAK BETWEEN THE RAMP, LANDING OR BLENDED TRANSITION, AND THE STREET.
WHERE THE BOTTOM GRADE BREAK OF A CURB RAMP IS LESS THAN 5' FROM THE BACK OF CURB, DETECTABLE WARNINGS SHALL BE LOCATED ON THE RAMP SURFACE AT THE BACK OF THE CURB, WHERE THE GRADE BREAK IS GREATER THAN 5' FROM THE BACK OF CURB, THE DETECTABLE WARNING SHALL BE LOCATED ON THE LOWER LANDING.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MDOT (1-888-275-6636)

DATE EFFECTIVE: 01/01/2023
DATE PREPARED: 10/6/2022

608.50A

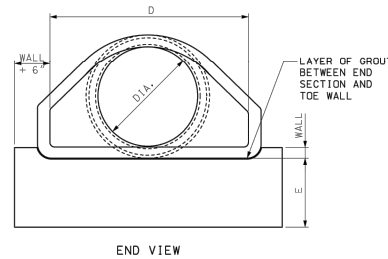
SHEET NO. 1 OF 4



DIMENSIONS					
DIA.	WALL	A	B MIN.	C MIN.	D E
12"	2"	4"	4'-0"	6'	2'-0"
15"	2 1/2"	6"	3'-10"	6'	2'-6"
18"	2 1/2"	9"	3'-10"	6'	3'-0"
21"	2 1/2"	9"	3'-2"	6'	3'-6"
24"	3"	9 1/2"	2'-6"	6'	4'-0"
27"	3 1/2"	10 1/2"	2'-1"	6'	4'-6"
30"	3 1/2"	1'-0"	1'-7"	6'	5'-0"
33"	3 1/2"	1'-2"	1'-7"	6'	5'-6"
36"	4"	1'-3"	2'-10"	8'	6'-0"
42"	4 1/2"	1'-9"	2'-11"	8'	6'-6"
48"	5"	2'-0"	2'-2"	8'	7'-0"
54"	5 1/2"	2'-3"	2'-11"	8'	7'-6"
60"	6"	2'-6"	3'-3"	8'	8'-0"
66"	6 1/2"	2'-0"	1'-9"	8'	8'-6"
72"	7"	2'-0"	2'-9"	10'	9'-0"
78"	7 1/2"	2'-3"	2'-3"	10'	9'-6"
84"	8"	2'-6"	2'-0"	10'	10'-0"

ADJOINING PIPE DIA.	BARREL SECTION REINFORCEMENT		FLARE SECTION REINFORCEMENT (ONE LAYER ONLY IN CENTER OF WALL)	
	CIRCULAR	ELLIPTICAL	AREA OF LONGITUDINAL SO. IN./ LIN. FT.	AREA OF TRANSVERSE SO. IN./ LIN. FT.
12"	0.07		0.048	0.048
15"	0.07		0.054	0.054
18"	0.07	0.07	0.060	0.060
21"	0.07	0.07	0.066	0.066
24"	0.07	0.07	0.072	0.072
27"	0.13	0.11	0.078	0.078
30"	0.14	0.12	0.084	0.084
33"	0.15	0.13	0.090	0.090
36"	0.12	0.09	0.096	0.096
42"	0.15	0.12	0.108	0.108
48"	0.18	0.14	0.120	0.120
54"	0.22	0.16	0.132	0.132
60"	0.25	0.19	0.144	0.144
66"	0.31	0.23	0.156	0.156
72"	0.35	0.21	0.170	0.170
78"	0.40	0.24	0.185	0.185
84"	0.46	0.28	0.205	0.205

GENERAL NOTES:
SLIGHT VARIATIONS IN BOTH SHAPE AND DIMENSIONS FROM THOSE SHOWN MAY BE ACCEPTED IF APPROVED BY THE ENGINEER.
NOT MORE THAN THREE LIFT HOLES MAY BE DRILLED OR CAST IN THE END SECTION FOR HANDLING AND LAYING.
LIFT LUGS OR BARS WILL BE PERMITTED IN PRECAST TOE WALLS.
TOE WALLS MAY BE CAST-IN-PLACE OR PRECAST.
STEEL FIBERS MAY BE USED IN LIEU OF REBAR OR COLD DRAWN STEEL WIRE AS PER SECTION 1032.3.4.

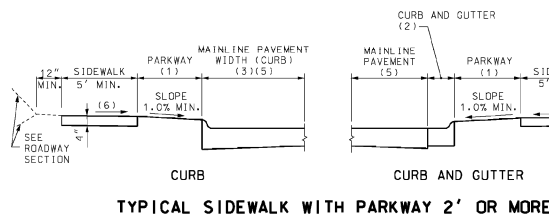
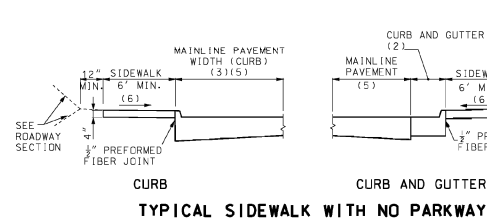
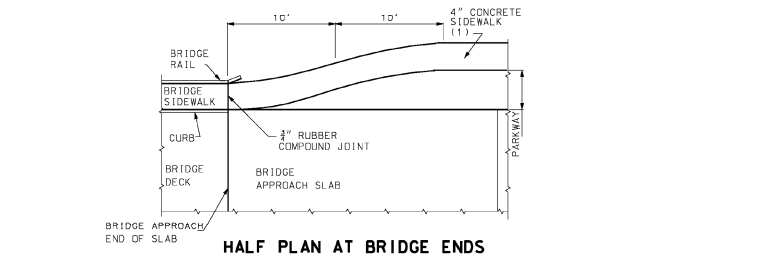
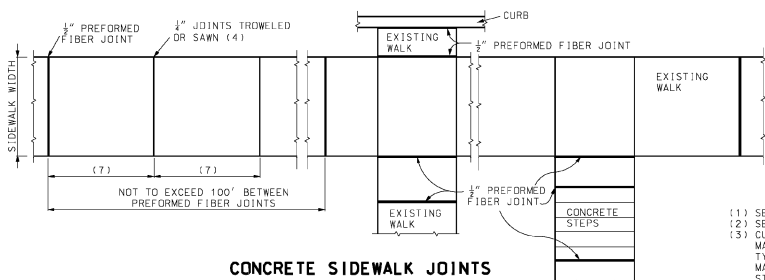


MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MDOT (1-888-275-6636)

DATE EFFECTIVE: 04/01/2016
DATE PREPARED: 2/11/2016

732.00S

SHEET NO. 1 OF 3



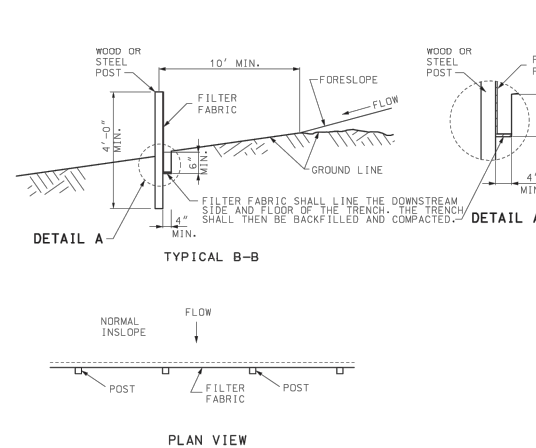
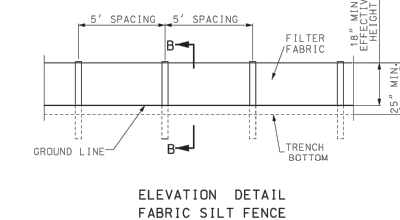
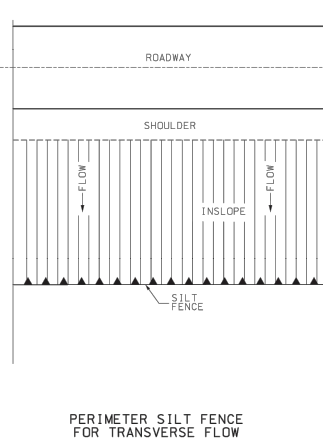
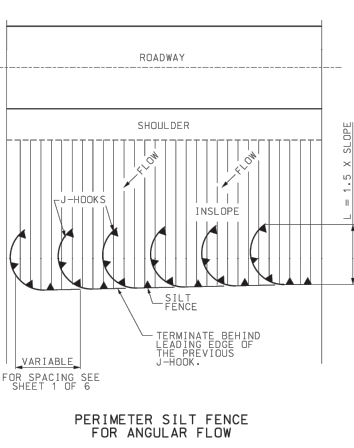
- (1) SEE PLANS FOR WIDTH
- (2) SEE STANDARD 608.00
- (3) CURB TO BE MONOLITHIC WITH PCC MAINLINE PAVEMENT. CURB TO BE TYPE 5 WITH ASPHALT CONCRETE MAINLINE PAVEMENT. SEE STANDARD PLAN 609.00.
- (4) MIN. 2" DEPTH JOINT.
- (5) SEE TYPICAL PAVEMENT SECTION
- (6) SLOPE 1.0% (2.0% MAX.)
- (7) SPACING EQUAL TO WIDTH OF WALK

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MDOT (1-888-275-6636)

DATE EFFECTIVE: 04/01/2015
DATE PREPARED: 2/20/2016

608.10P

SHEET NO. 1 OF 1



GENERAL NOTES:
USE SILT FENCE FOR FILL HEIGHTS GREATER OR EQUAL TO 10 FEET. ON ALL FILLS GREATER THAN 10 FEET HIGH, MID-SLOPE RUNS OF SILT FENCE SHOULD BE CONSIDERED.
FOR FABRIC SILT FENCE:
MINIMUM LONGITUDINAL SPLICE OVERLAP SHALL BE 2' WITH A POST AT EACH END.
SECURE FABRIC TO POSTS.
INSTEAD OF SILT FENCE ACROSS DRAINAGE DITCHES AND DRAINS, DITCH CHECKS SHALL BE USED AS SHOWN ON PLANS OR AS DIRECTED BY ENGINEER.
AT CULVERTS, PLACE SEDIMENT BARRIERS OVER THE TOP OF THE CULVERTS (NOT IN THE STREAM CHANNEL).

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MDOT (1-888-275-6636)

DATE EFFECTIVE: 01/01/2023
DATE PREPARED: 10/10/2022

806.10K

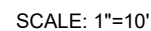
SHEET NO. 5 OF 6



DRAWING INFO.		REVISIONS	
NO.	DESCRIPTION	BY	DATE
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E	ISSUE FOR CONSTRUCTION	TSE	04-30-26
F	REISSUE FOR A DATE REVIEW	TSE	09-03-26
G	ISSUE FOR BID	TSE	10-02-26
H	JOB NUMBER REVISION	TSE	10-20-26

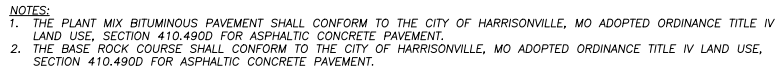
(SD) STANDARD DETAILS
MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

SHEET NUMBER
29
OF 32

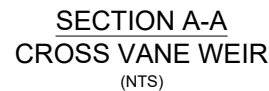
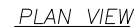




SCALE: N.T.S.



SCALE: N.T.S.



SCALE: N.T.S.

- NOTES:

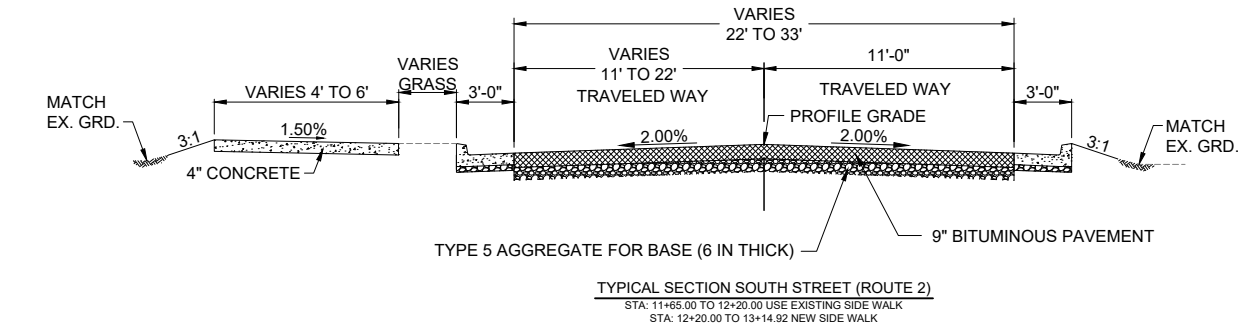
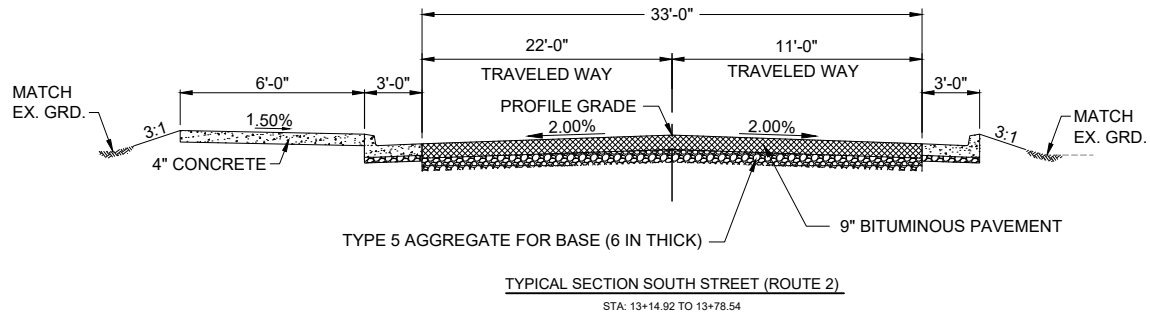
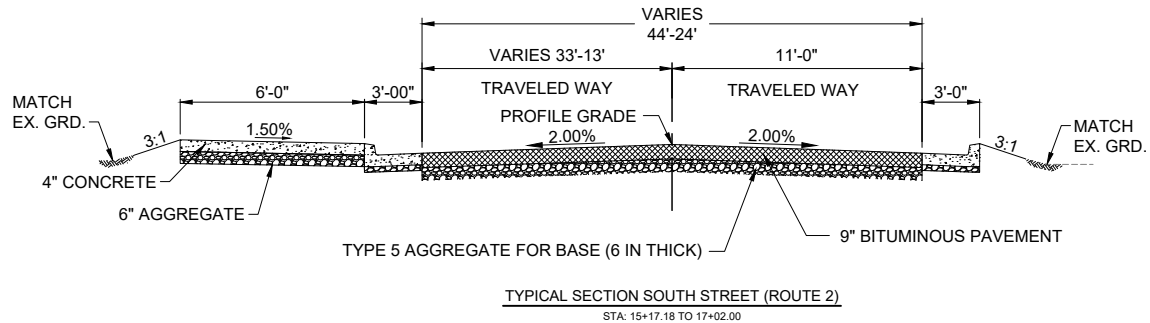
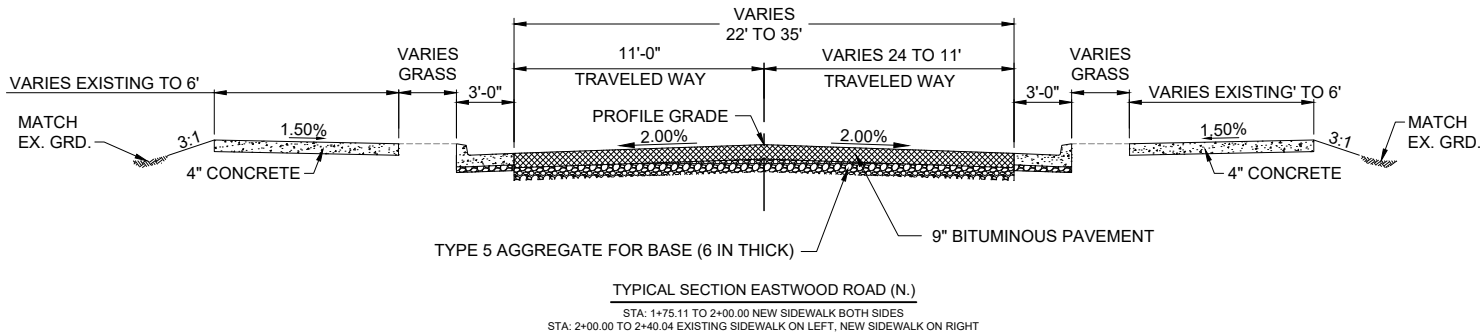
1. ALL CONCRETE SHALL BE 4000 psi.
2. INLET CONSTRUCTION NOTES SHALL LIST THE "L" DIMENSION FIRST, THE "W" DIMENSION SECOND, AND THE "H" DIMENSION THIRD.
3. FLOOR OF INLET SHALL HAVE A SHAPED CONCRETE INVERT TO PROVIDE FOR SMOOTH FLOW.
4. THE MINIMUM DIMENSION BETWEEN TOP OF PIPE AND TOP OF BOX SHALL BE 1'-6" (TYPICAL ALL WALLS)
5. ALL INGRADE INLETS SHALL CONFORM TO STREET GRADE. ALL INLETS IN SUMP SHALL BE LEVEL. BEVEL ALL EXPOSED EDGES WITH 3/4" TRIANGULAR MOLDING.
6. THE THROAT AND TRANSITION ARE SUBSIDIARY TO THE STRUCTURE.



TURF REINFORCEMENT MAT FOR CHANNEL INSTALLATION GENERAL NOTES

- | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------|---|----------|-------------------------|------|--|------------|--------------------------------------|------|--|------------|--------------------------------------|------|--|------------|--------------------------------|------|--|------------|--------------------------------|------|--|------------|--------------------------------|------|--|------------|--------------------------------|------|--|
| 1 | TURF REINFORCEMENT MATS ARE USED TO PERMANENTLY STABILIZE EROSIONS AND SWALES. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | EROSION CONTROL BLANKETS MAY BE USED TO TEMPORARILY STABILIZE EROSIONS AND SWALES. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | EROSION CONTROL BLANKETS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | EROSION CONTROL BLANKETS SHALL BE PLACED IN ACCORDANCE TO THE FOLLOWING: | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | <ul style="list-style-type: none"> STEP ONE: SOIL PREPARATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | THE CHANNEL SHOULD BE PREPARED TO A SMOOTH PROFILE AND RELATIVELY FREE FROM ALL WEEDS, CLODS, STONES, ROOTS, STICKS, TWIGS, GRASS, GULLING AND CHAINING. FILL ANY HOLES WITH SOIL. THE CHANNEL IS COMPACTED PROPERLY. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | STEP TWO: SEEDING | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | SEEDING WITHOUT MULCH SHOULD BE APPLIED TO THE AREA TO BE VEGETATED. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | STEP THREE: ANCHORING THE MATS | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | TURF REINFORCEMENT MATS SHALL BE ANCHORED AT THE BEGINNING OF THE CHANNEL. A SLASH WIDE 4-6 INCH DEEP TRENCH SHOULD BE EXCAVATED PERPENDICULAR TO THE DIRECTION OF ANCHORING ALONG THE ENTIRE LENGTH OF THE CHANNEL. ANCHORING MATS SHALL BE PLACED ON THE EXPOSED UPSTREAM END OF THE ANCHORING TRENCH STOPS OR STAKE ON THE COMPACTED SOIL. WITH CONTINUING ANCHORING OF THE MATS, THE TRENCH SHOULD BE EXCAVATED TO THE FULL DEPTH AND ANCHORING OF THE MATS SHOULD BE COMPLETED. COVER THE COMPACTED SOIL WITH THE REMAINING TOP SOIL OF THE CHANNEL AND END WITH ANCHORING OF THE MATS TO THE FULL DEPTH. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | DOWN SLOPE SHOULD BE ANCHORED AT 24-INCH INTERVALS. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | UP SLOPE SHOULD BE PLACED PERPENDICULAR TO THE FLOW DIRECTION ALONG THE ENTIRE WIDTH OF THE CHANNEL. AT 4' FOOT INTERVALS AND AT THE TERMINAL END OF THE CHANNEL, THE ANCHORING TRENCH SHOULD BE EXCAVATED 4-6 INCH DEEP TRENCH AS SHOWN. SECURE THE MATS TO THE EXPOSED SOIL WITH ANCHORING STOPS OR STAKE ON THE COMPACTED SOIL. WITH CONTINUING ANCHORING OF THE MATS, THE TRENCH SHOULD BE EXCAVATED TO THE FULL DEPTH AND ANCHORING OF THE MATS SHOULD BE COMPLETED. COVER THE COMPACTED SOIL WITH THE REMAINING TOP SOIL OF THE CHANNEL AND END WITH ANCHORING OF THE MATS TO THE FULL DEPTH. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | DOWN SLOPE TURF REINFORCEMENT MATS SHOULD BE PLACED ON THE UPSTREAM SLOPE OF THE CHANNEL. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | STEP FIVE: TURF REINFORCEMENT MAT COMPLETION ON THE SIDE SLOPES | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | DOWN SLOPE TURF REINFORCEMENT MATS SHOULD BE PLACED ON THE DOWN SLOPE AND SIDE SLOPES IN THE DIRECTION OF THE WATER FLOW. IF THE TURF REINFORCEMENT MAT IS INSTALLED DOWN SLOPE, THE MATS SHOULD BE ANCHORED TO THE EXPOSED SOIL WITH ANCHORING STOPS OR STAKE ON THE COMPACTED SOIL. WITH CONTINUING ANCHORING OF THE MATS, THE TRENCH SHOULD BE EXCAVATED TO THE FULL DEPTH AND ANCHORING OF THE MATS SHOULD BE COMPLETED. COVER THE COMPACTED SOIL WITH THE REMAINING TOP SOIL OF THE CHANNEL AND END WITH ANCHORING OF THE MATS TO THE FULL DEPTH. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | UP SLOPE TURF REINFORCEMENT MATS SHOULD BE PLACED ON THE UP SLOPE OF THE CHANNEL. IF THE TURF REINFORCEMENT MAT NEEDS TO BE SPICED, SPICE THE MATS IN THE DIRECTION OF THE WATER FLOW. IF THE TURF REINFORCEMENT MATS ARE PLACED ON THE UP SLOPE, THE MATS SHOULD BE ANCHORED TO THE EXPOSED SOIL WITH ANCHORING STOPS OR STAKE ON THE COMPACTED SOIL. WITH CONTINUING ANCHORING OF THE MATS, THE TRENCH SHOULD BE EXCAVATED TO THE FULL DEPTH AND ANCHORING OF THE MATS SHOULD BE COMPLETED. COVER THE COMPACTED SOIL WITH THE REMAINING TOP SOIL OF THE CHANNEL AND END WITH ANCHORING OF THE MATS TO THE FULL DEPTH. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | AS SHOWN. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | STEP SIX: TERMINAL END | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | DOWN SLOPE TURF REINFORCEMENT MAT AT THE TERMINAL END OF THE CHANNEL, WITH A CHECK SLASH WIDE 4-6 INCH DEEP TRENCH AS SHOWN. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | ONLY TURF REINFORCEMENT MATS LISTED ON THE QUALIFIED PRODUCTS LIST MAY BE USED. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | TURF REINFORCEMENT MATS FOR CHANNEL, INSTALLATION SHALL BE PAID FOR UNDER THE FOLLOWING: | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | <table border="0"> <tr> <td>80-0-0-0</td> <td>SEEDING (WITHOUT MULCH)</td> <td>UNIT</td> <td></td> </tr> <tr> <td>80-0-0-0-1</td> <td>CHROMY VETCH MATTING (WITHOUT MULCH)</td> <td>UNIT</td> <td></td> </tr> <tr> <td>80-0-0-0-2</td> <td>CHROMY VETCH MATTING (WITHOUT MULCH)</td> <td>UNIT</td> <td></td> </tr> <tr> <td>80-0-0-0-1</td> <td>TURF REINFORCEMENT MAT CLASS 1</td> <td>S.Y.</td> <td></td> </tr> <tr> <td>80-0-0-0-2</td> <td>TURF REINFORCEMENT MAT CLASS 1</td> <td>S.Y.</td> <td></td> </tr> <tr> <td>80-0-0-0-1</td> <td>TURF REINFORCEMENT MAT CLASS 1</td> <td>S.Y.</td> <td></td> </tr> <tr> <td>80-0-0-0-2</td> <td>TURF REINFORCEMENT MAT CLASS 1</td> <td>S.Y.</td> <td></td> </tr> </table> | 80-0-0-0 | SEEDING (WITHOUT MULCH) | UNIT | | 80-0-0-0-1 | CHROMY VETCH MATTING (WITHOUT MULCH) | UNIT | | 80-0-0-0-2 | CHROMY VETCH MATTING (WITHOUT MULCH) | UNIT | | 80-0-0-0-1 | TURF REINFORCEMENT MAT CLASS 1 | S.Y. | | 80-0-0-0-2 | TURF REINFORCEMENT MAT CLASS 1 | S.Y. | | 80-0-0-0-1 | TURF REINFORCEMENT MAT CLASS 1 | S.Y. | | 80-0-0-0-2 | TURF REINFORCEMENT MAT CLASS 1 | S.Y. | |
| 80-0-0-0 | SEEDING (WITHOUT MULCH) | UNIT | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 80-0-0-0-1 | CHROMY VETCH MATTING (WITHOUT MULCH) | UNIT | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 80-0-0-0-2 | CHROMY VETCH MATTING (WITHOUT MULCH) | UNIT | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 80-0-0-0-1 | TURF REINFORCEMENT MAT CLASS 1 | S.Y. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 80-0-0-0-2 | TURF REINFORCEMENT MAT CLASS 1 | S.Y. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 80-0-0-0-1 | TURF REINFORCEMENT MAT CLASS 1 | S.Y. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 80-0-0-0-2 | TURF REINFORCEMENT MAT CLASS 1 | S.Y. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | EROSION CONTROL BLANKETS SHALL BE PAID FOR ACCORDING TO THEIR RESPECTIVE ITEM. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | PERMANENT MULCH INCLUDES ALL MATERIALS AND LABORS NECESSARY FOR CONSTRUCTION AND MAINTENANCE OF TURF REINFORCEMENT MATS. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | TURF REINFORCEMENT MATS SHOULD NOT BE PLACED IN INTERMITTENT OR PERENNIAL STREAMS AND | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

REVISONS		DRAWING INFO.			
		BY	DATE	CHECK BY:	FIELD BY:
D	NO	TSE	04-21-26		DNT
E	ISSUE FOR A-DATE REVIEW	TSE	04-30-26	DATE:	
F	ISSUE FOR CONSTRUCTION	TSE	09-03-26	FIELD BOOK:	
G	REISSUE FOR A-DATE REVIEW	TSE	10-02-26	JOB NUMBER:	
H	ISSUE FOR BID	TSE	10-02-26	JOB NUMBER:	
	JOB NUMBER REVISION	TSE	10-20-26	JOB NUMBER:	
				FOR NUMBER:	STBC-29001441.1



2 IN PMBP (BP-1), PG 64-22	
7 IN. PHBP (BASE) PG 64-22	
6 IN. TYPE 5 AGGREGATE BASE	
ASPHALT FACTORS	
MATERIAL	TONS/CY
PMBP (BP-1), PG 64-22	1.950
PMBP (BASE), PG 64-22	1.950
TACK COAT APPLICATION RATE	
0.10 GAL/YD (UNDILUTED)	

REVISIONS		DRAWING INFO.	
NO.	DESCRIPTION	BY	DATE
D	ISSUE FOR A DATE REVIEW	TSE	04-21-26
E	ISSUE FOR CONSTRUCTION	TSE	04-30-26
F	REISSUE FOR A DATE REVIEW	TSE	09-03-26
G	ISSUE FOR BID	TSE	10-02-26
H	JOB NUMBER REVISION	TSE	10-20-26
CHECKED BY: ANDERSON ENGINEERING, INC. 2012		JOB NUMBER: STBG 2004(11)	

Description	Quantity	Unit
TEMPORARY SURFACING	50	C.Y.
CLEARING AND GRUBBING	3	ACRE
REMOVAL OF IMPROVEMENTS	1	L.S.
UNCLASSIFIED EXCAVATION	2583	C.Y.
EMBANKMENT IN PLACE	774	C.Y.
COMPACTING EMBANKMENT	2246	C.Y.
TYPE 5 AGGREGATE FOR BASE (4 IN THICK)	201	S.Y.
TYPE 5 AGGREGATE FOR BASE (6 IN THICK)	3438	S.Y.
GRAVEL (A) OR CRUSHED STONE (B)	38	TON
9 INCHES, BITUMINOUS PAVEMENT	2986.2	S.Y.
BITUMINOUS PAVEMENT MIXTURE PG64-22, (BP-1)	22	TON
SEWER {ADJUSTMENT RING SANITARY SEWER}	1	EACH
CHAIN LINK FENCE {RET. WALLS}	165	L.F.
CONCRETE CURB RAMP	29	S.Y.
TRUNCATED DOMES	53	S.F.
CONCRETE SIDEWALK, 4 IN.	177	S.Y.
MISC. {PERVIOUS PEDESTRIAN PATH}	201	S.Y.
CURB AND GUTTER TYPE B	1355	L.F.
MISC. {4'L x 2'D X 1.5H PRECAST CONCRETE BLOCK - WEIRS}	130	S.Y.
MISC. {FURNISHING AND PLACING TYPE 3 ROCK BLANKET}	20	TON
CURB INLET	7	EACH
CONSTRUCTION SIGNS	109	S.F.
CHANGEABLE MESSAGE SIGN	2	EACH
TYPE III MOVABLE BARRICADE	8	EACH
MOBILIZATION	1	L.S.
PREFORMED THERMOPLASTIC PAVEMENT MARKING, 24 IN. WHITE	84	L.F.
PREFORMED THERMOPLASTIC PAVEMENT MARKING, LEFT/RIGHT ARR	6	EACH
6 IN. WHITE CLASS 2 PAVEMENT MARKING PAINT (25-MIL, TYPE L BEA	113	L.F.
4 IN. WHITE CLASS 1 PAVEMENT MARKING PAINT (18-MIL, TYPE P BEA	263	L.F.
4 IN. YELLOW CLASS 1 PAVEMENT MARKING PAINT (18-MIL, TYPE P BE	2255	L.F.
MODIFIED COLDMILLING (DEPTH TRANSITIONS)	126	S.Y.
CONTRACTOR FURNISHED SURVEYING/ STAKING	1	L.S.
18 IN. PIPE GROUP A	600	L.F.
36 IN. PIPE GROUP A	49	L.F.
18 IN. OR ALLOWED SUBSTITUTE GROUP A FLARED END SECTION	2	EACH
36 IN. OR ALLOWED SUBSTITUTE GROUP A FLARED END SECTION	1	EACH
MULCHING	0.4	ACRE
MISC. {NATIVE PLANTINGS ALONG CREEK BANK}	125	S.Y.
SEEDING - COOL SEASON GRASSES	0.8	ACRE
CURB INLET CHECK	7	EACH
SEDIMENT REMOVAL	25	C.Y.
TEMPORARY SEEDING	0.8	ACRE
SILT FENCE	1800	L.F.
TYPE 1 TURF REINFORCEMENT MAT	600	S.Y.
MISC. {REMOVE AND REPLACE SCHOOL MONUMENT SIGN}	1	L.S.
MISC. {REMOVE/REPLACE CROSSWALK SIGN - EASTWOOD }	2	EACH
MISC. {REMOVE/REPLACE CROSSWALK SIGN/LIGHT - S. STREET}	2	EACH
CLASS B-2 CONCRETE	160	C.Y.
STEEL PLATE BOTTOMLESS ARCH 28"W x 7.4'H	1	L.S.
REINFORCING STEEL (EPOXY COATED)	18560	LBS
PROTECTIVE COATING - CONCRETE BENTS AND PIERS (EPOXY)	1	L.S.
POLYMER COATING WATERPROOFING -STEEL ARCH	300	S.Y.
TRANSPORTING AND ERECTING SUPERSTRUCTURE	1	L.S.
MISC. {DEWATERING}	1	L.S.

QUANTITIES SHOWN ON THESE PLANS ARE NOT GUARANTEED BY THE OWNER AND ARE USED SOLELY FOR THE PURPOSE OF COMPARING BIDS AND AWARDING THE CONTRACT, AND MAY OR MAY NOT REPRESENT THE ACTUAL QUANTITIES ON THE JOB, SEE SPECIFICATIONS.

ANY ITEMS NOT SHOWN IN BID TAB, SHALL BE CONSIDERED SUBSIDIARY TO OTHER ITEMS.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SUBMIT FORM 106, TO MISSOURI DEPARTMENT OF NATURAL RESOURCES, HISTORIC PRESERVATION PROGRAM FOR ANY BORROW AREAS TO BE USED ON THIS PROJECT.

ABBREVIATION TABLE

BC:	BACK OF CURB
CL:	CENTERLINE
CONT.	CONTINUOUS
C.P.	CONTROL POINT
EG:	EXISTING GRADE
EX:	EXISTING
FG:	FINISH GRADE
FL:	FLOW LINE
GL:	GUTTER LINE
MAX.	MAXIMUM
MIN.	MINIMUM
OFF:	OFFSET
PL:	PROPERTY LINE
PR:	PROPOSED
R/W:	RIGHT-OF-WAY
STA:	STATION
TBM:	TEMPORARY BENCHMARK
T.C.E.	TEMPORARY CONSTRUCTION EASEMENT
TEMP.	TEMPORARY
TYP.	TYPICAL

-----	EXISTING CONTOUR (MAJOR)	MB	EXISTING MAILBOX
-----	EXISTING CONTOUR (MINOR)	MI	EXISTING STORM INLET
-----	EXISTING FEATURE	GM	EXISTING GAS METER
-x-x-x-x-x-	EXISTING FENCE	GV	EXISTING GAS VALVE
-+-----+	EXISTING GUARDRAIL	WM	EXISTING WATER METER
-----	SECTION LINE	WV	EXISTING WATER VALVE
-----	EXISTING PROPERTY LINE	WH	EXISTING FIRE HYDRANT
-----	EXISTING EASEMENT	WW	EXISTING WATER WELL
-----	EXISTING STORM WATER	WS	EXISTING SANITARY MANHOLE
-----	EXISTING GAS LINE	WP	EXISTING POWER POLE
-----	EXISTING WATER LINE	WL	EXISTING LIGHT POLE
-----	EXISTING SANITARY SEWER	WA	EXISTING GUY WIRE ANCHOR
-----	EXISTING UNDERGROUND ELECTRIC	WE	EXISTING TELEPHONE PEDESTAL
-----	EXISTING OVERHEAD ELECTRIC	WS	EXISTING SIGN
-----	EXISTING UNDERGROUND TELEPHONE	WT	EXISTING TREE
-----	EXISTING OVERHEAD TELEPHONE	WU	CONTROL POINT
-----	EXISTING FIBER OPTIC	IBF	FOUND IRON BAR
-----	EXISTING UNDERGROUND CABLE TV	WB	EXISTING BENCHMARK
-----	EXISTING OVERHEAD CABLE TV		

NOTE:
DASHED OR SCREENED SYMBOL INDICATES EXISTING FEATURE.

LEGEND

(USED IN PLANS)

UTILITIES INFORMATION

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RICHI GARCIA
3420 BROADWAY BLVD
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RICHI.GARCIA@SPIREENERGY.COM
816-507-0713

BRIGHTSPEED
TONJIA BALDWIN
625 CHERRY ST
COLUMBIA, MO 65201
980-376-1492

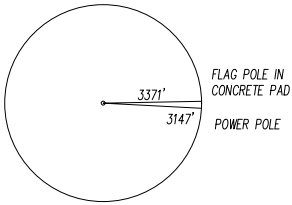
CITY OF HARRISONVILLE- ELECTRIC
BRENT STOCKSTILL
2108 ROYAL STREET
HARRISONVILLE, MO
BSTOCKSTILL@HARRISONVILLE.COM
816-564-4666

MoDOT KANSAS CITY DISTRICT
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650 MULBERRY ST,
KANSAS CITY MO 64101
JORDAN.SWING@MODOT.MO.GOV

CITY OF HARRISONVILLE-WATER/SEWER
MATT CARVER
201 W CHESTNUT STREET
HARRISONVILLE, MO
MCARVER@HARRISONVILLE.COM
816-745-6127

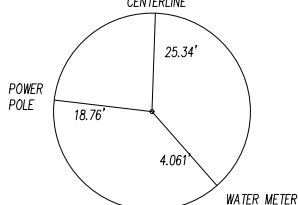
FIDELITY COMMUNICATIONS
573-237-2103
9503 HIGHWAY 100
NEW HAVEN, MO 63068

FOUND 1/2" BAR & CAP
SEC CORNER



NE CORNER SECTION 4, T44N, R31W
N: 903109.98 (GROUND)
E: 2829723.83 (GROUND)
N: 903109.9807' (GRID)
E: 2829723.8294' (GRID)

CONTROL POINT ONLY
1/2" REBAR



N: 902943.18 (GROUND)
E: 2832884.65 (GROUND)

N: 902943.1840' (GRID)
E: 2832884.6500' (GRID)

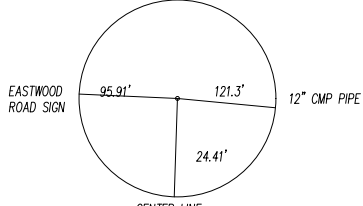
CONTROL POINT
3/8" BAR & CAP
CENTERLINE



N: 902938.80 (GROUND)
E: 2833181.79 (GROUND)

N: 902938.7993 (GRID)
E: 2833181.7870 (GRID)

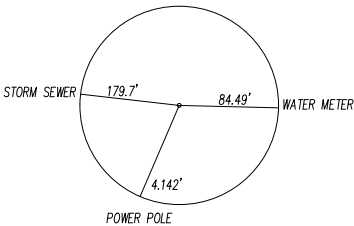
CONTROL POINT ONLY
BAR WITH CAP



N: 902985.40 (GROUND)
E: 2833245.23 (GROUND)

N: 902985.4040 (GRID)
E: 2833245.2270 (GRID)

BENCH MARK #1



N: 902981.3771
E: 2833459.3504
EL: 891.56'

HARRISONVILLE, SOUTH STREET CULVERT
REPLACEMENT
A/E PROJECT NO.23KC40007
GEIOD 2017

HORIZONTAL DATUM
MISSOURI STATE PLANE COORDINATE SYSTEM, 1983
MISSOURI WEST ZONE, 2005 ADJUSTMENT

VERTICAL DATUM:
NAVD 83 W NGVD 88
CONTROL WAS ESTABLISHED VIA THE MISSOURI VRS
NETWORK

COMBINED ADJUSTMENT FACTOR: 0.9999842
(1/x=1.00000158)
POINTS AND LINE WORK ARE GROUND DISTANCES
SCALED ABOUT THE ORIGIN (0,0,0)

GENERAL NOTES:

DESIGN SPECIFICATIONS:
LATEST EDITION OF THE AASHTO ROADSIDE DESIGN GUIDE

CONSTRUCTION SPECIFICATIONS:
MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION

MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION

- EXISTING UTILITIES AND UNDERGROUND INSTALLATIONS HAVE BEEN LOCATED TO THE GREATEST EXTENT PRACTICAL THROUGH REVIEW OF CONSTRUCTION PLANS AND SURFACE OBSERVATIONS. THE CONTRACTOR SHALL FIELD VERIFY ALL HORIZONTAL AND VERTICAL LINES AND GRADES OF EXISTING UTILITIES PRIOR TO THE CONSTRUCTION OF IMPROVEMENTS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY UPON DISCOVERING A DISCREPANCY BETWEEN THE CONTRACT DRAWINGS AND ACTUAL FIELD CONDITIONS. CONTACT ONE CALL.
- THE CONTRACTOR MUST COORDINATE CONSTRUCTION WITH THE NECESSARY AUTHORITIES.
- NO WORK SHALL COMMENCE UNTIL ALL NECESSARY PERMITS ARE OBTAINED BY THE OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL LINE AND GRADE STAKES.
- CONTRACTOR SHALL REMOVE, PRESERVE, AND REPLACE ALL SIGNS, MAIL BOXES, FENCES, METAL FLAG POLE BASES AND THE LIKE, WITHIN THE LIMITS OF THE PROPOSED IMPROVEMENTS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.
- ALL TRAFFIC WAYS INCLUDING DRIVEWAYS, ALLEYWAYS, ETC., SHALL REMAIN ACCESSIBLE TO RESIDENTIAL AND EMERGENCY VEHICLES DURING PROJECT DURATION.
- ALL CONSTRUCTION AND EXCAVATION ACTIVITIES SHALL BE CONFINED TO EASEMENTS, ROAD RIGHT-OF-WAY, AND/OR WORK AREA LIMITS AS SHOWN ON DRAWINGS.
- CONTRACTOR SHALL RAISE OR LOWER ALL AFFECTED MANHOLE RIMS AND VALVE BOXES IN THE WORK AREA TO MATCH PROPOSED GRADE.
- ALL AREAS DISTURBED BY CONSTRUCTION ARE FIRST TO BE FINE GRADED AND THEN FOLLOWED BY SEED AND STRAW MULCH, UNLESS OTHERWISE NOTED, OVER, MIN. 4" TOPSOIL STOCKPILED FROM SITE OR HAULED IN AS REQUIRED.
- PROVIDE POSITIVE DRAINAGE FROM ALL IMPROVED AREAS, SO THAT RUNOFF DRAINS TO DRAIN WAYS.
- ALL CONTOURS AND SPOT ELEVATIONS SHOWN ARE FINISH GRADE.
- ANY DAMAGE TO EXISTING STRUCTURES, VEGETATION, OR IMPROVEMENTS RESULTING FROM NEW CONSTRUCTION ACTIVITIES SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- ALL SIDEWALKS AND ADA RAMPS SHALL BE IN ACCORDANCE WITH ADA REGULATIONS.
- CONTRACTOR TO PROTECT ANY STORM INLETS, THAT RECEIVE STORM WATER FROM THE AREA OF CONSTRUCTION, FROM SEDIMENT. EROSION CONTROL DEVICES SHALL BE MAINTAINED DURING THE WHOLE CONSTRUCTION PERIOD BY THE CONTRACTOR. ALL EROSION CONTROL DEVICES, NOT LISTED IN THE PLANS, SHALL BE INCIDENTAL TO CONSTRUCTION.
- ALL TRENCHES, WHICH LIE UNDER PROPOSED PAVEMENT, OR LIE WITHIN TWO FEET OF BACK OF CURB, SHALL BE BACKFILLED TO PAVEMENT SUB-GRADE WITH COMPACTED GRANULAR BACK FILL.
- TRENCHES SHALL BE COMPACTED TO 95% STANDARD PROCTOR WHEN PIPES ARE LAID IN FILL.
- ALL REMOVALS NECESSARY TO COMPLETE THE PROJECT AS SHOWN ON THE PLANS, SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
- ANY WORK INDICATED ON THE PLAN THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION ON THIS PROJECT.

ANDERSON
ENGINEERING
EMPLOYEE OWNED



ENGINEERS • SURVEYORS • LABORATORIES • DRILLING
941 W. 111ST TERRACE • KANSAS CITY, MISSOURI 64114 • PHONE (816) 771-5400
ANDERSON ENGINEERING CO. INC.



NO.		REVISIONS		DRAWING INFO.	
NO.	DESCRIPTION	BY	DATE	FIELD BY:	FIELD BY:
D	ISSUE FOR A DATE REVIEW	TSE	04-21-25	CHECK BY:	KEL
E	ISSUE FOR CONSTRUCTION	TSE	04-30-26	DATE:	
F	REISSUE FOR A-DATE REVIEW	TSE	09-03-26	FIELD BOOK:	
G	ISSUE FOR BID	TSE	10-02-26	JOB NUMBER:	
H	JOB NUMBER REVISION	TSE	10-20-26	JOB NUMBER:	
COPYRIGHT ANDERSON ENGINEERING, INC. 2012				FED NUMBER:	STBC-26004(11)

(QU) QUANTITIES & GENERAL NOTES

MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK., BRIDGE #A9481 REPLACEMENT

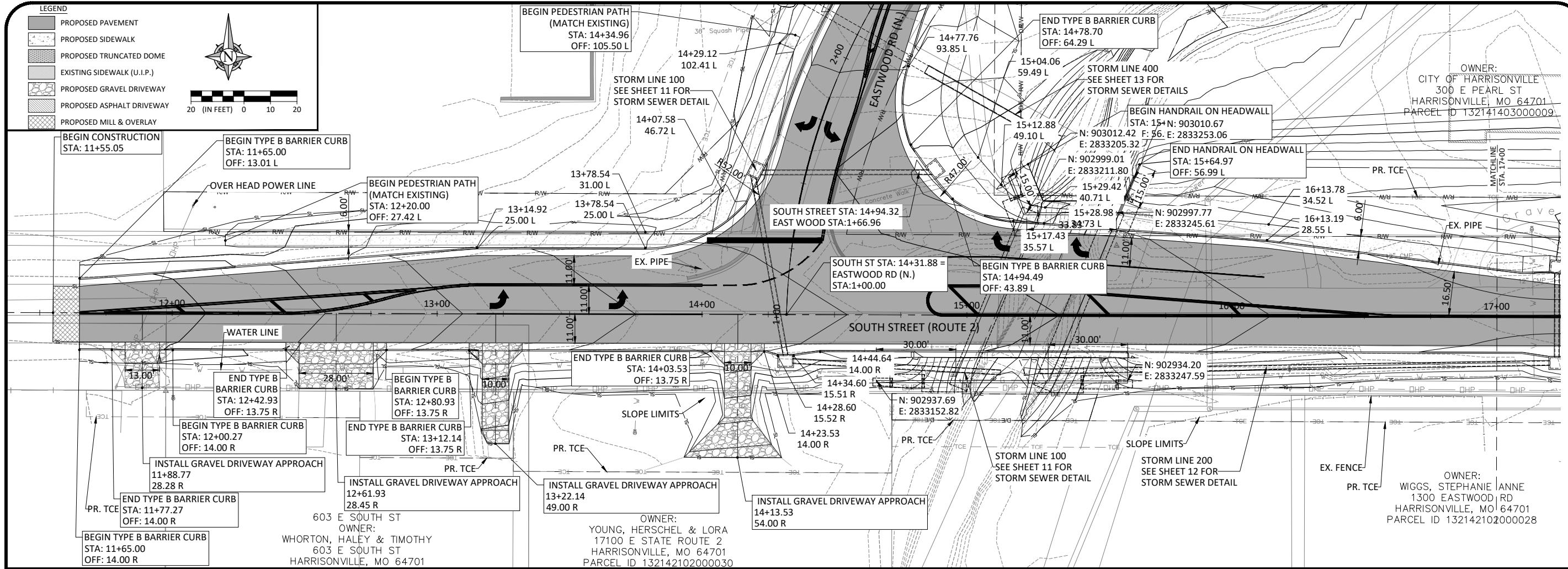
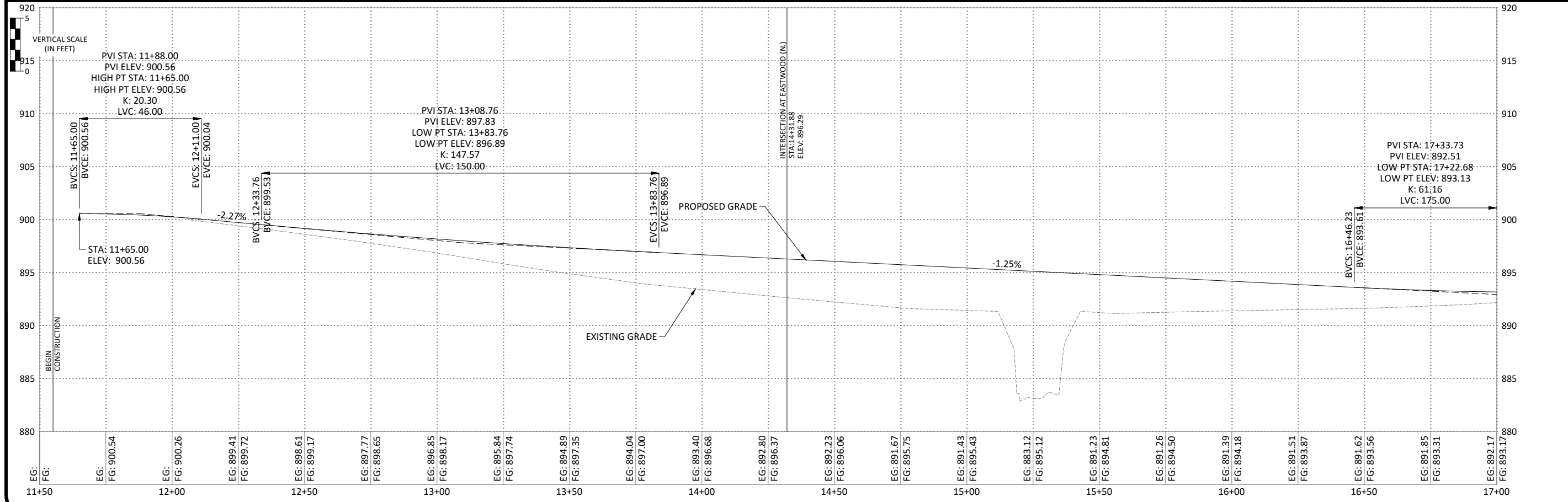
SEC4 T44N R31W

CITY OF HARRISONVILLE, MO

SHEET NUMBER

03

OF 32



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EMPLOYEE OWNED

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941 W. 11ST TERRACE - KANSAS CITY, MISSOURI 64114 - PHONE (816) 771-5400
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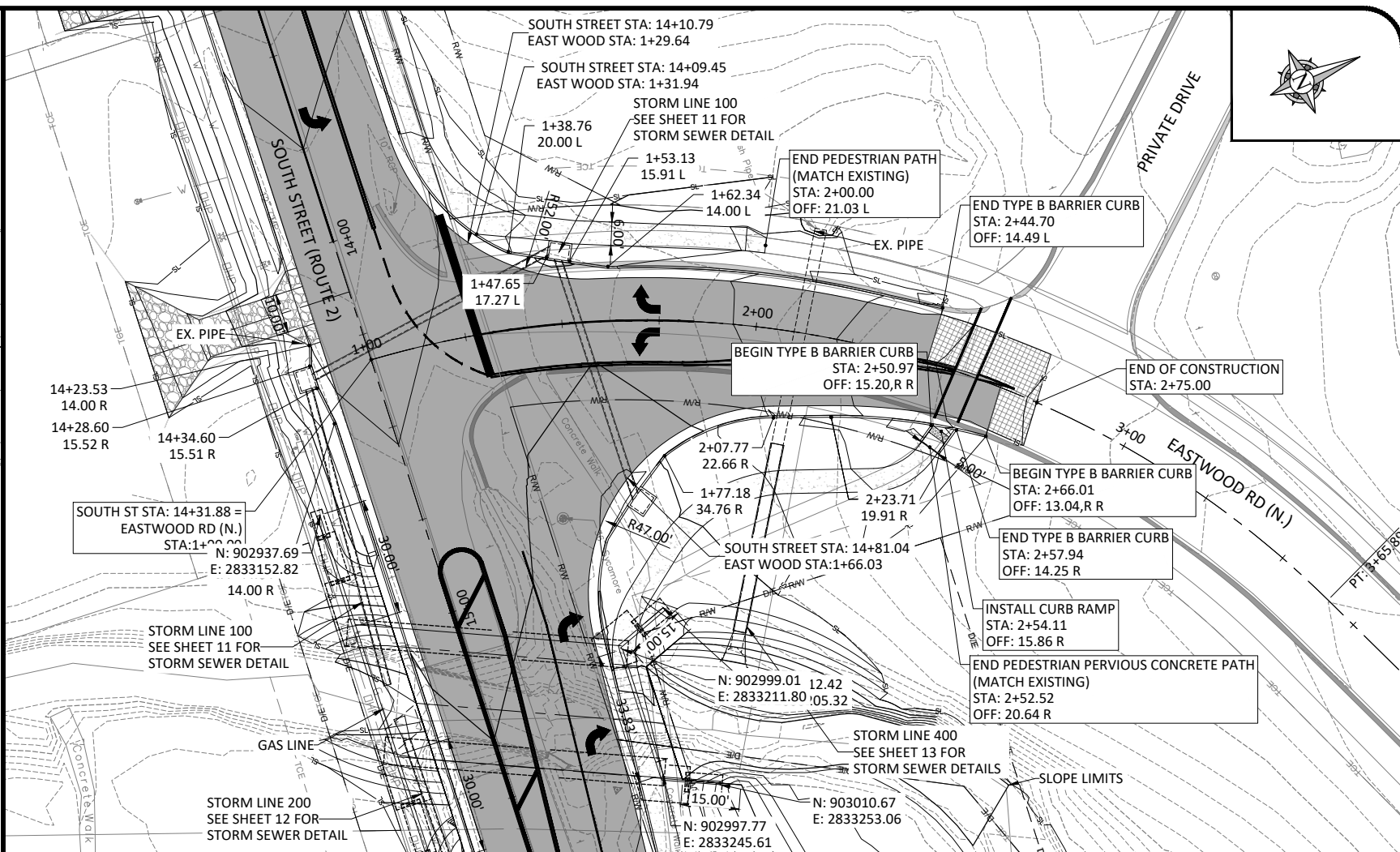
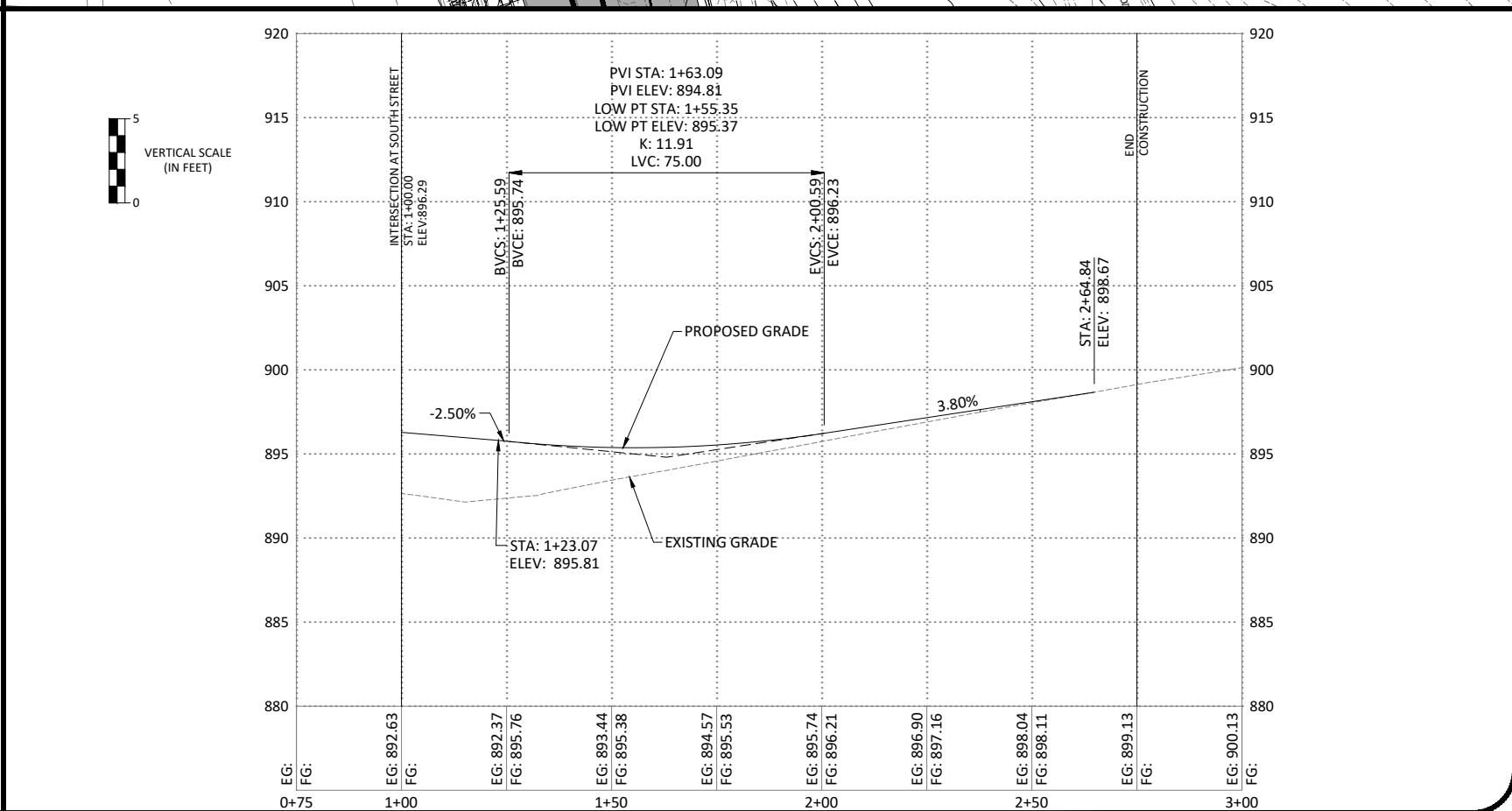
STATE OF MISSOURI
T. SCOTT EDGAR
NUMBER PE-2005021662
PROFESSIONAL ENGINEER

REVISIONS		DRAWING INFO.	
NO.	DESCRIPTION	BY	DATE
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E	ISSUE FOR CONSTRUCTION	TSE	04-30-26
F	REISSUE FOR A DATE REVIEW	TSE	09-03-26
G	ISSUE FOR BID	TSE	10-02-26
H	JOB NUMBER REVISION	TSE	10-02-26
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		DATE:	
		FIELD BOOK:	
		JOB NUMBER:	
		JOB NUMBER:	
		FED NUMBER:	STB-2604(11)

(PP) PLAN & PROFILE

MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

SHEET NUMBER
06
OF 32



SHEET NUMBER <div style="font-size: 2em; font-weight: bold; margin-top: 5px;">07</div>	(PP) PLAN & PROFILE MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY 2 OF MUDDY CRK, BRIDGE #A948 I REPLACEMENT SEC4 T44N R31W CITY OF HARRISONVILLE, MO
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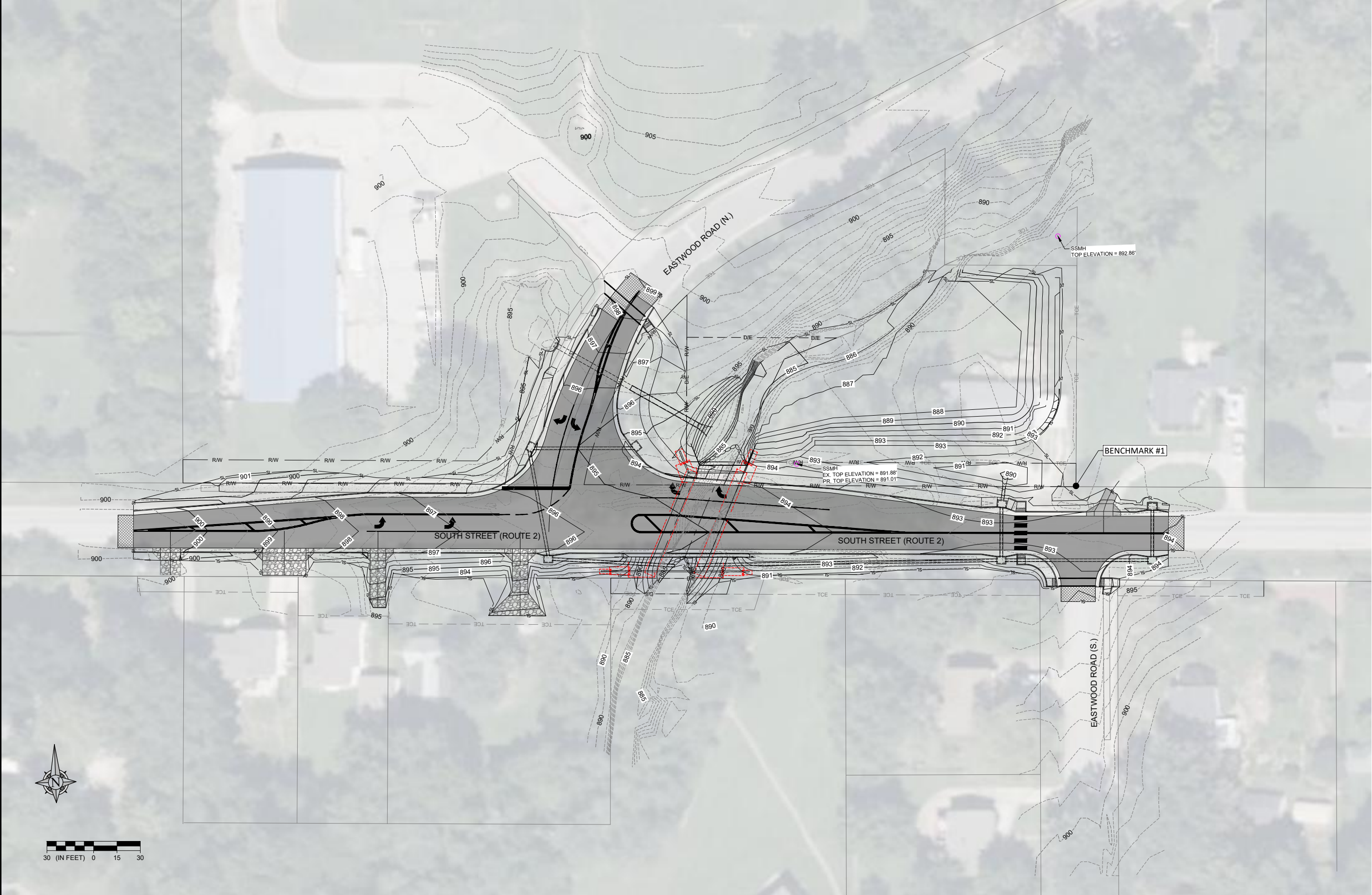
T. SCOTT EDGAR
NUMBER
PE-2005021662
PROFESSIONAL ENGINEER

REVISIONS		DRAWING INFO.	
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E	ISSUE FOR CONSTRUCTION	TSE	04-30-26
F	REISSUE FOR A-DATE REVIEW	TSE	09-03-26
G	ISSUE FOR BID	TSE	10-02-26
H	JOB NUMBER REVISION	TSE	10-20-26

CHECKED BY: _____
 DATE: _____

FIELD BOOK: _____
 JOB NUMBER: _____
 FED. NUMBER: STRG 2004(411)

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T. SCOTT EDGAR

NUMBER PE-2005021662

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REVISIONS		DRAWING INFO			
NO.	DESCRIPTION	BY	DATE	FIELD BY:	FIELD NO.:
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F	REISSUE FOR A DATE REVIEW	TSE	09-03-26	FIELD BOOK:	
G	ISSUE FOR BID	TSE	10-02-26	JOB NUMBER:	
H	JOB NUMBER REVISION	TSE	10-20-26	JOB NUMBER:	STB-2004(11)

(GP) GRADING PLAN

MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK. BRIDGE #A9481 REPLACEMENT

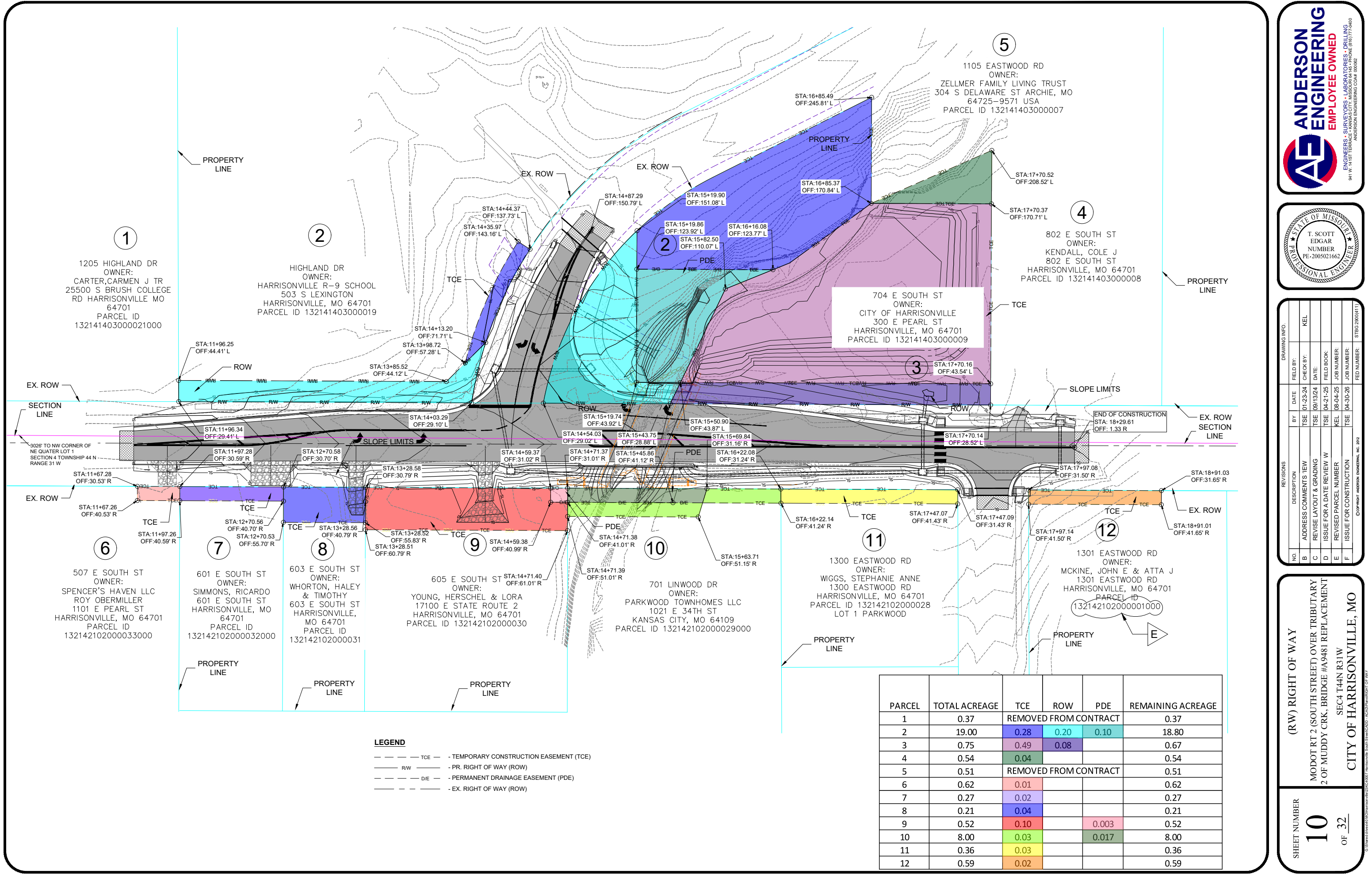
SEC4 T44N R31W

CITY OF HARRISONVILLE, MO

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09

OF 32



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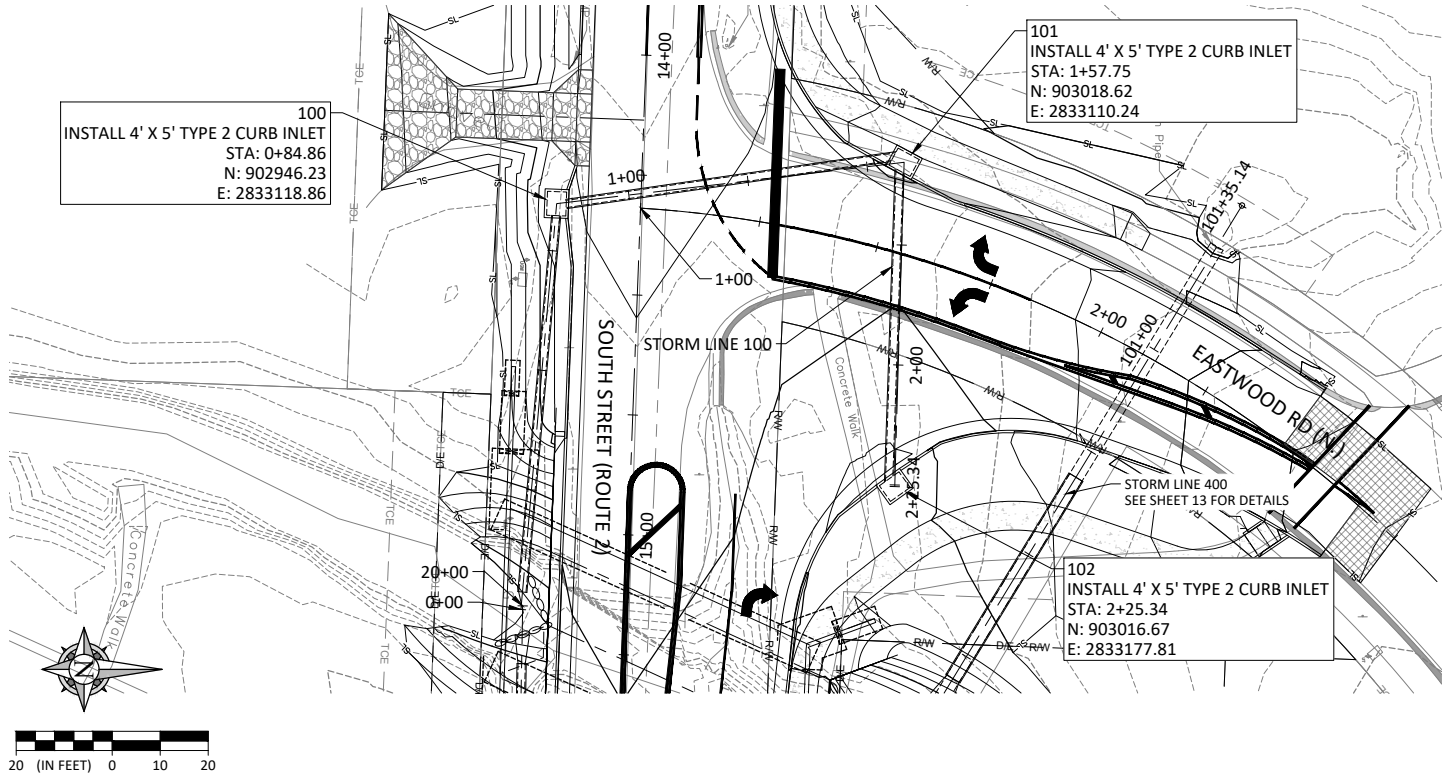
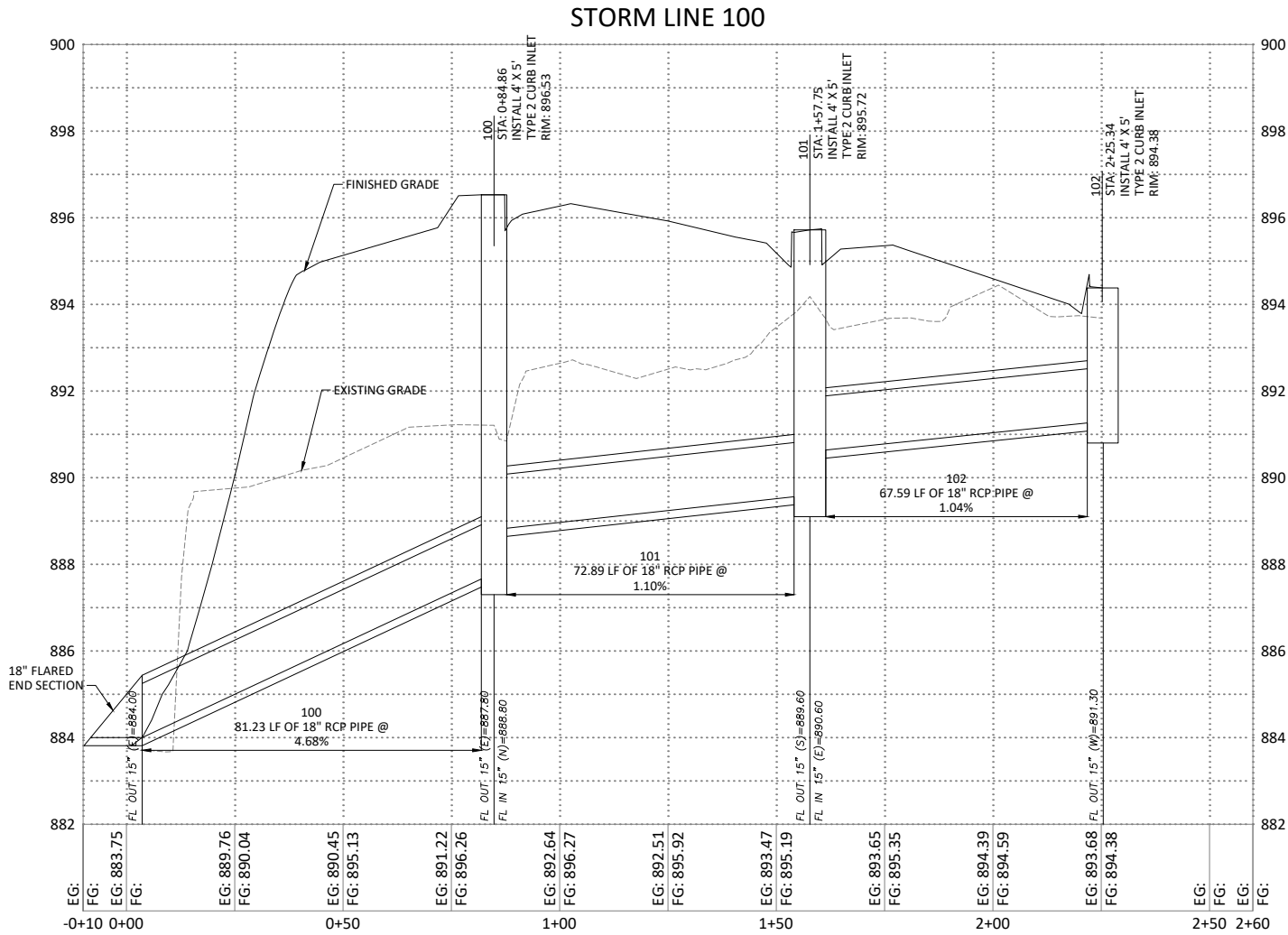
STATE OF MISSOURI
T. SCOTT EDGAR
NUMBER PE-2005021662
PROFESSIONAL ENGINEER

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TSE	09/13/24	REVISE LAYOUT & GRADING			
TSE	04-21-25	ISSUE FOR A DATE REVIEW W			
KEL	08-04-25	REVISED PARCEL NUMBER			
TSE	04-30-26	ISSUE FOR CONSTRUCTION			
STB: 2604(11)		STB: 2604(11)		STB: 2604(11)	

(RW) RIGHT OF WAY

MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

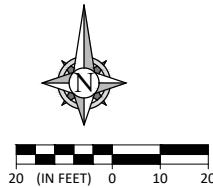
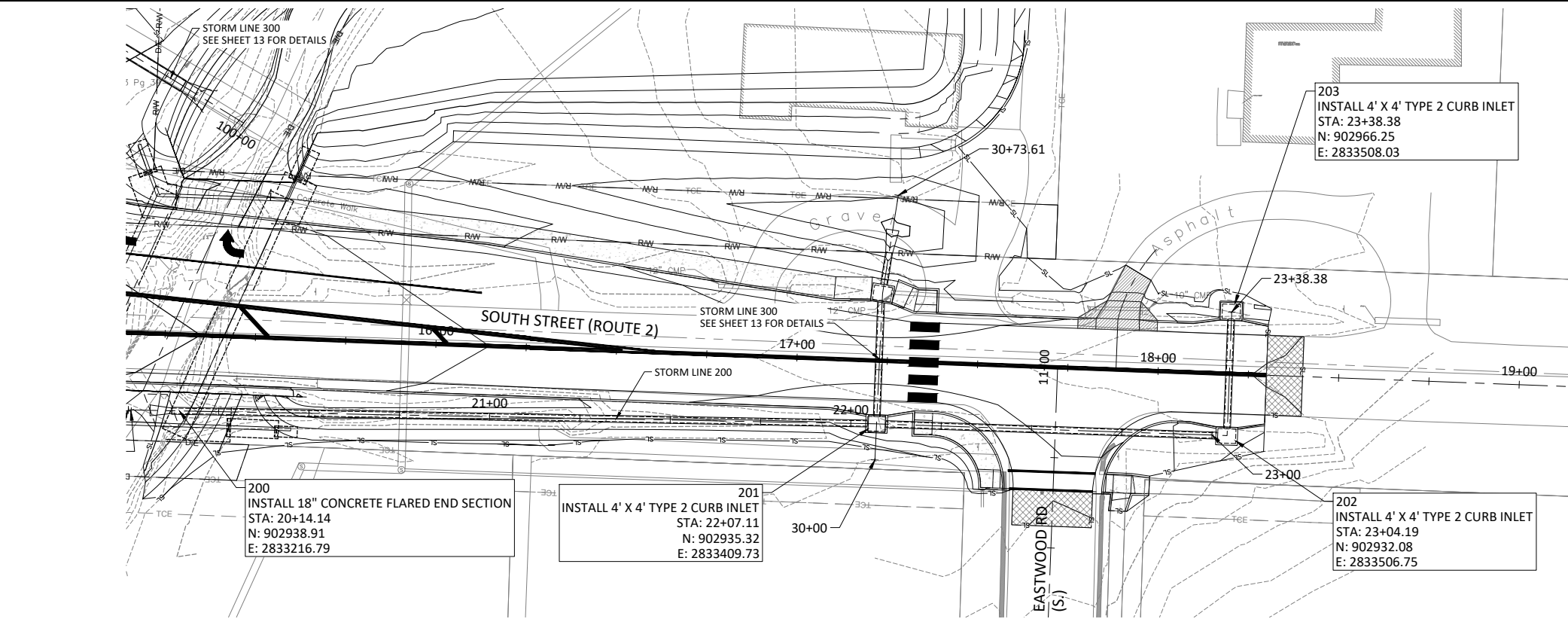
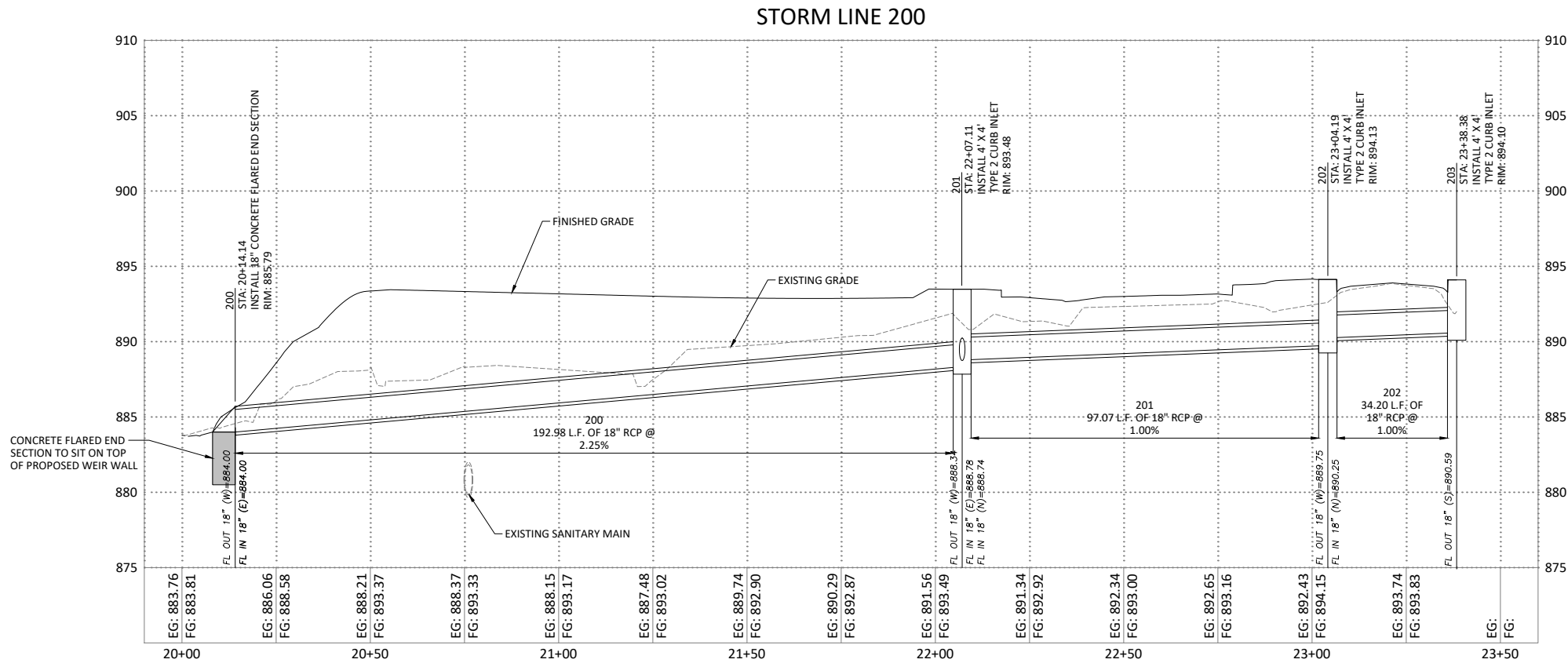
SHEET NUMBER
10
OF 32



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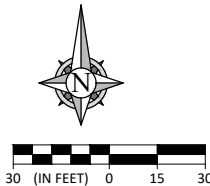
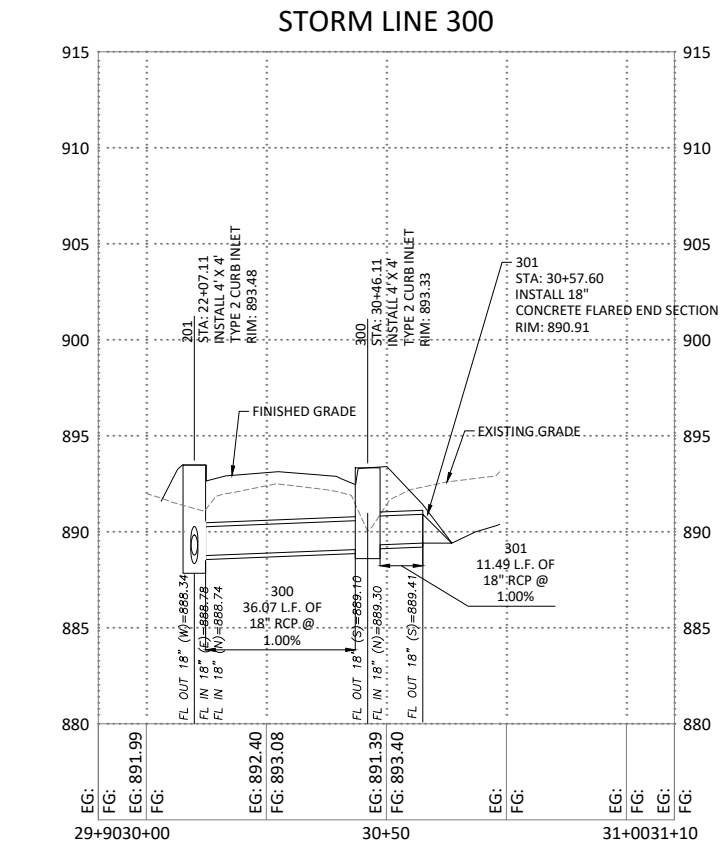
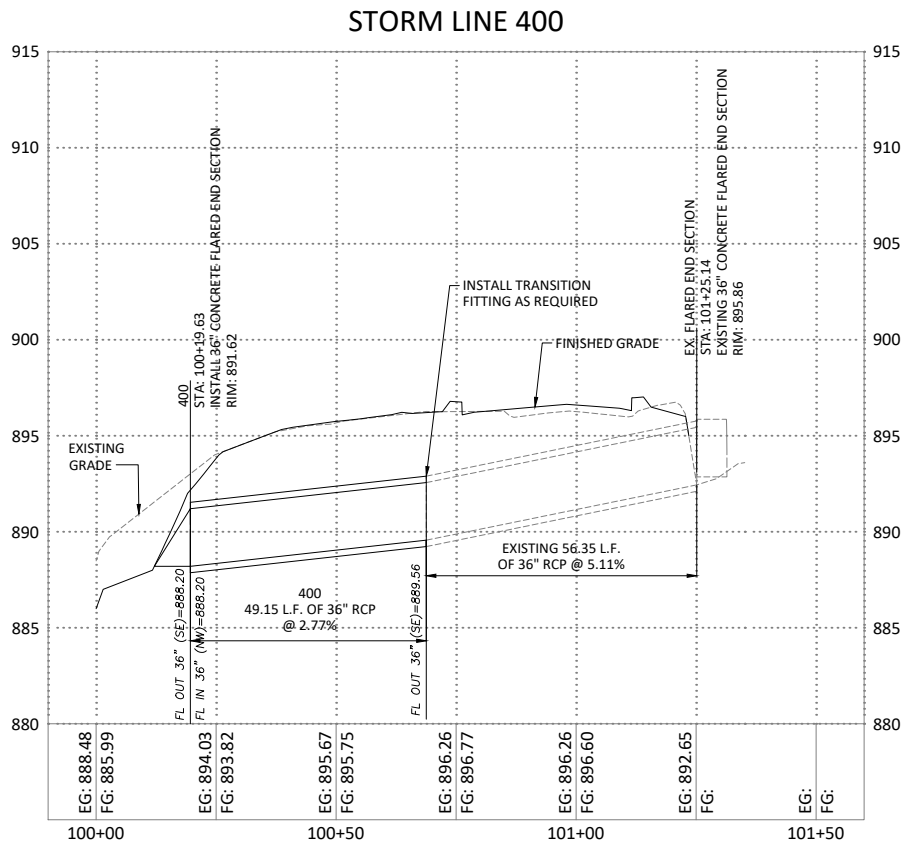
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MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

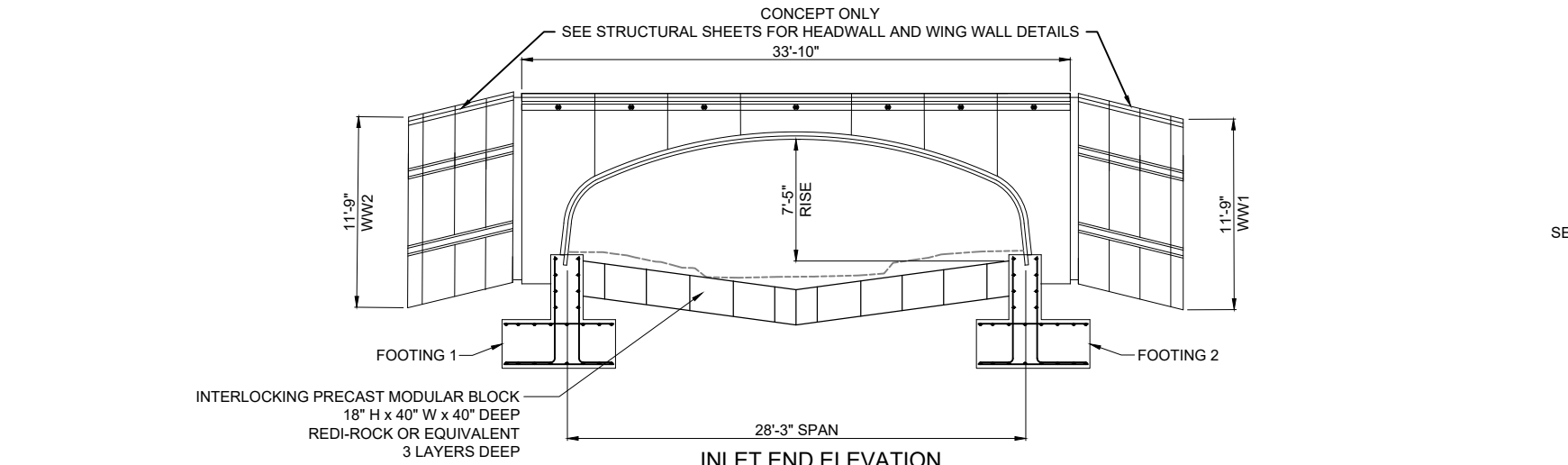
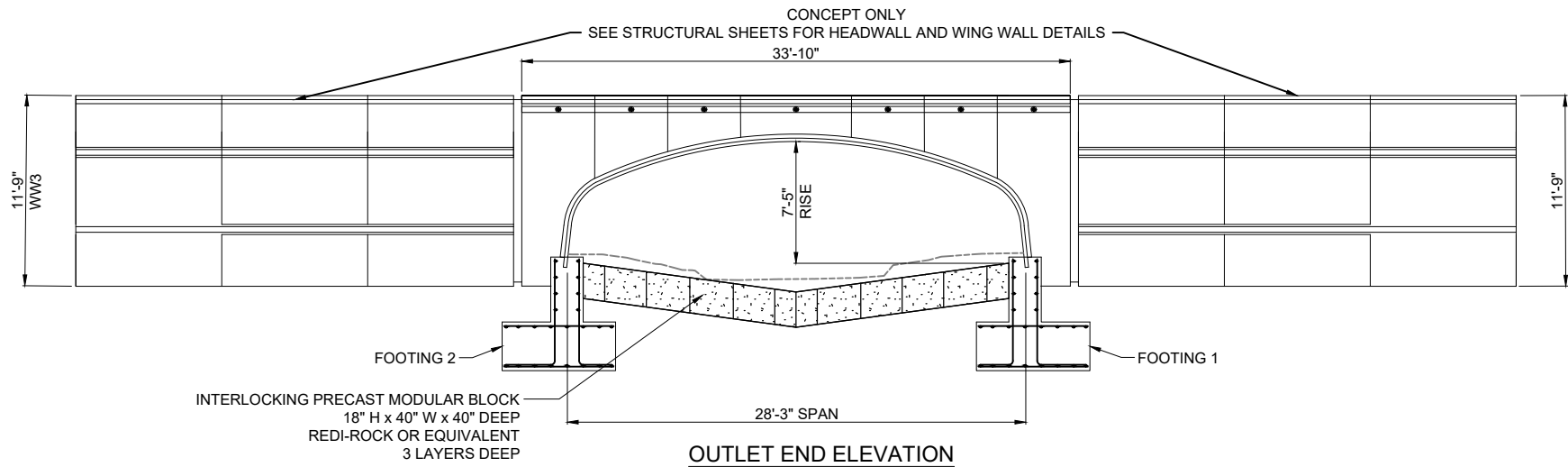
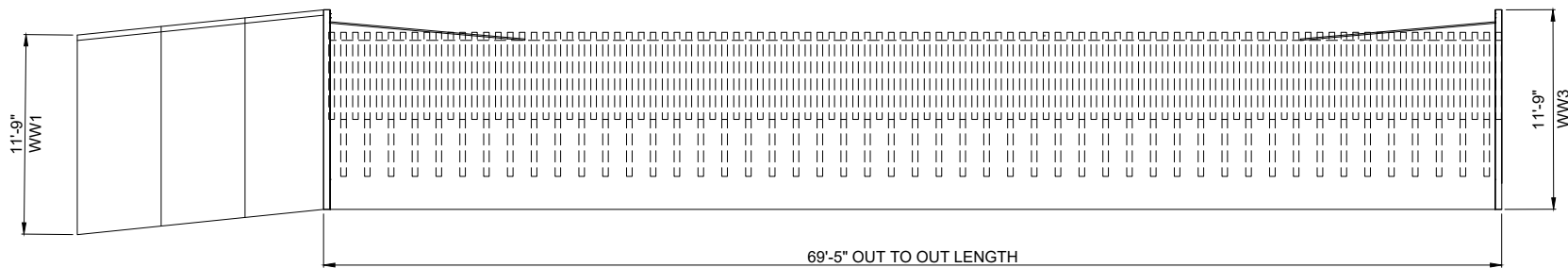
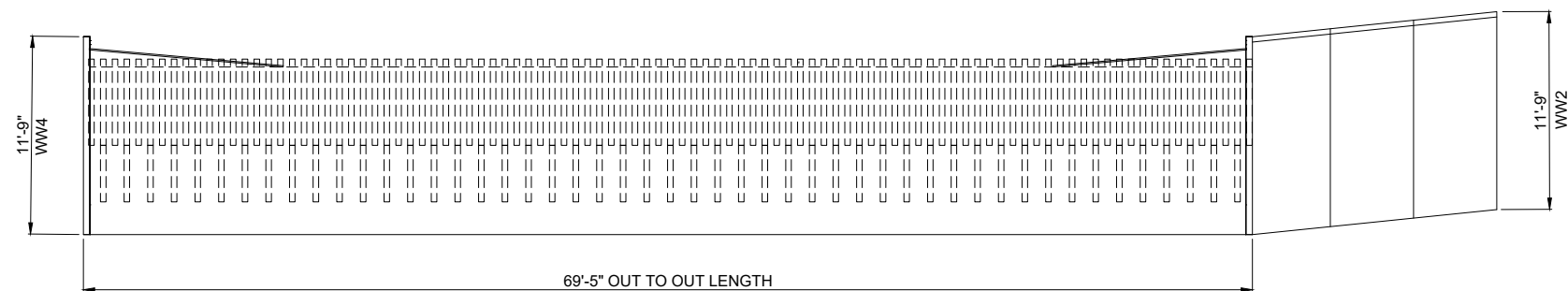
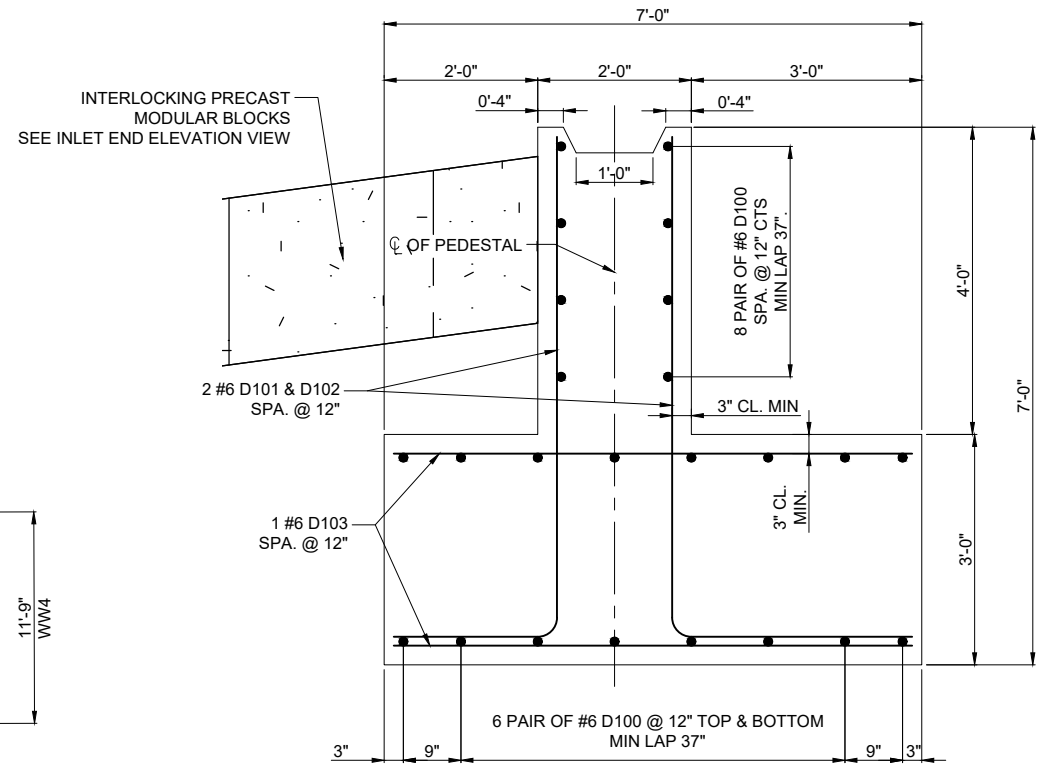
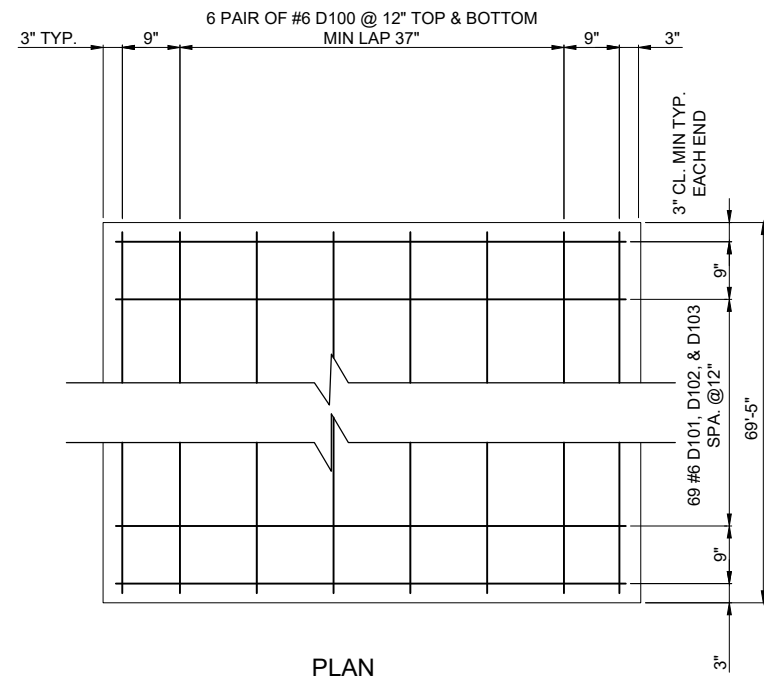
SHEET NUMBER
11
OF **32**



REVISIONS		DRAWING INFO			
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E	ISSUE FOR CONSTRUCTION	TSE	04-30-26	DATE:	
F	REISSUE FOR A DATE REVIEW	TSE	09-03-26	FIELD BOOK:	
G	ISSUE FOR BID	TSE	10-02-26	JOB NUMBER:	
H	JOB NUMBER REVISION	TSE	10-20-26	JOB NUMBER:	

(SW) STORM WATER PLAN & PROFILE
MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO



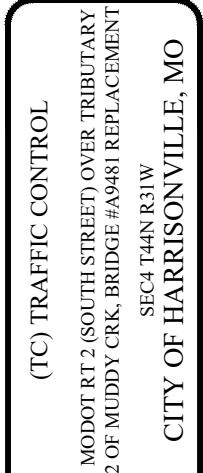


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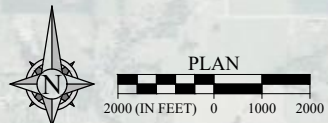
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SOUTH STREET (ROUTE 2) OVER MUDDY CREEK
CULVERT #1240 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

SHEET NUMBER
15
OF 32



	SIGNED LOCAL DETOUR
	UNSIGNED LOCAL DETOUR
	SIGN
	TYPE III BARRICADE



LEGEND

 SILT FENCE

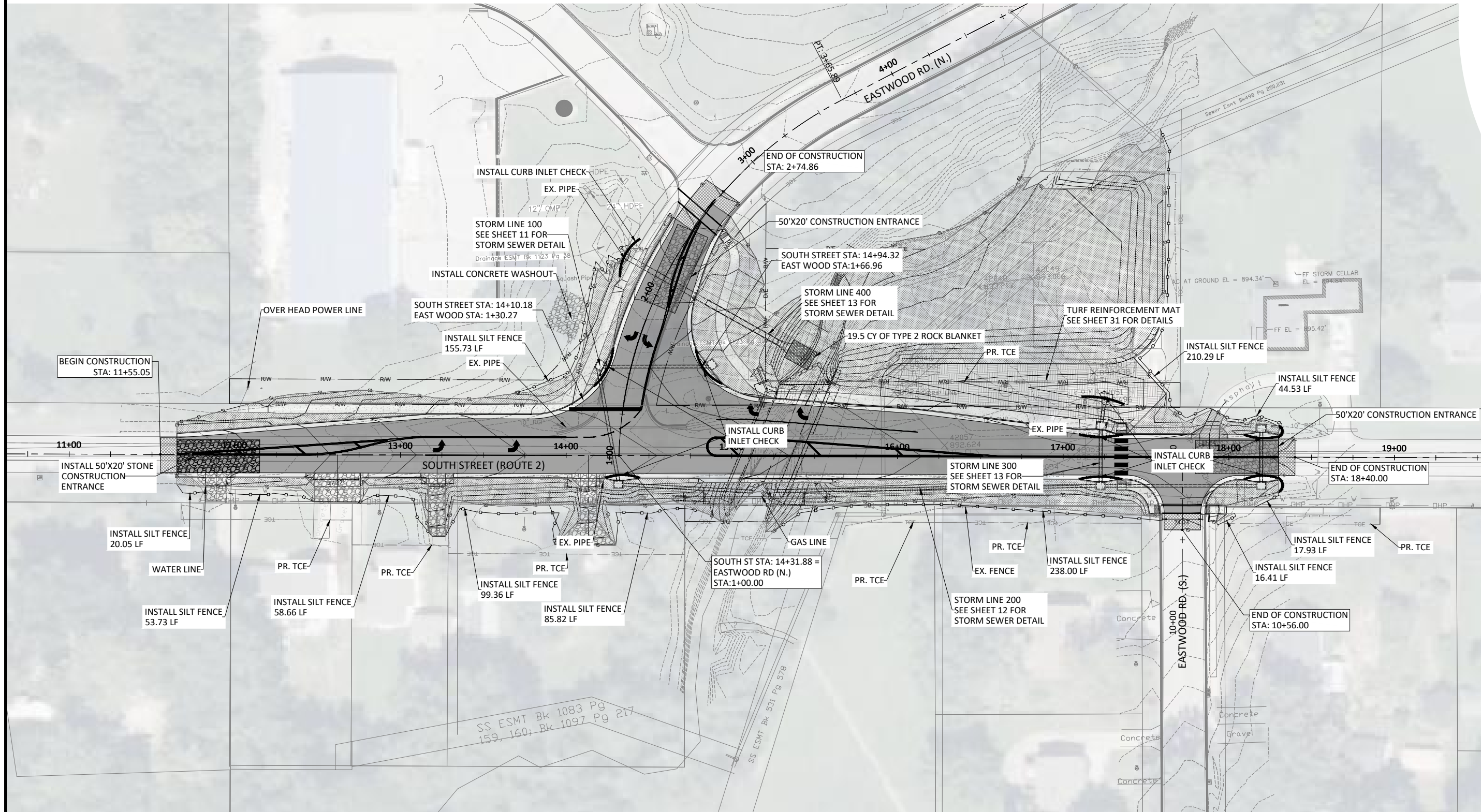
 CURB INLET PROTECTION

 SEEDING AREA

 TURF REINFORCEMENT MAT



30 (IN FEET) 0 15 30



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EDGAR
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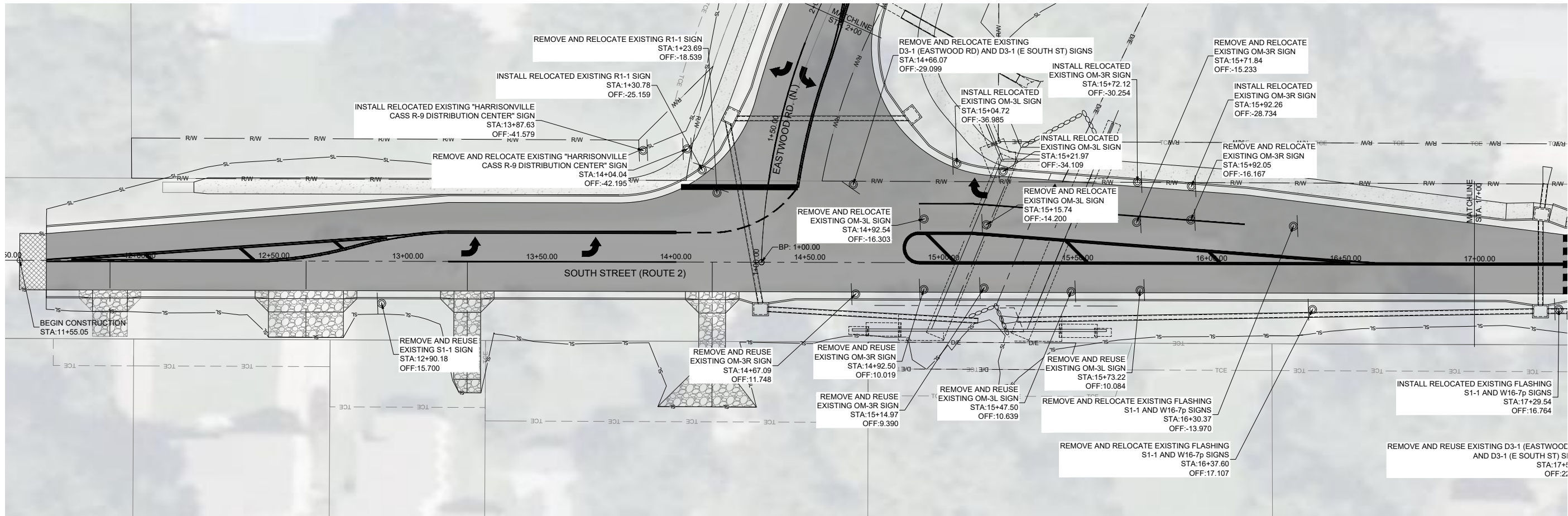
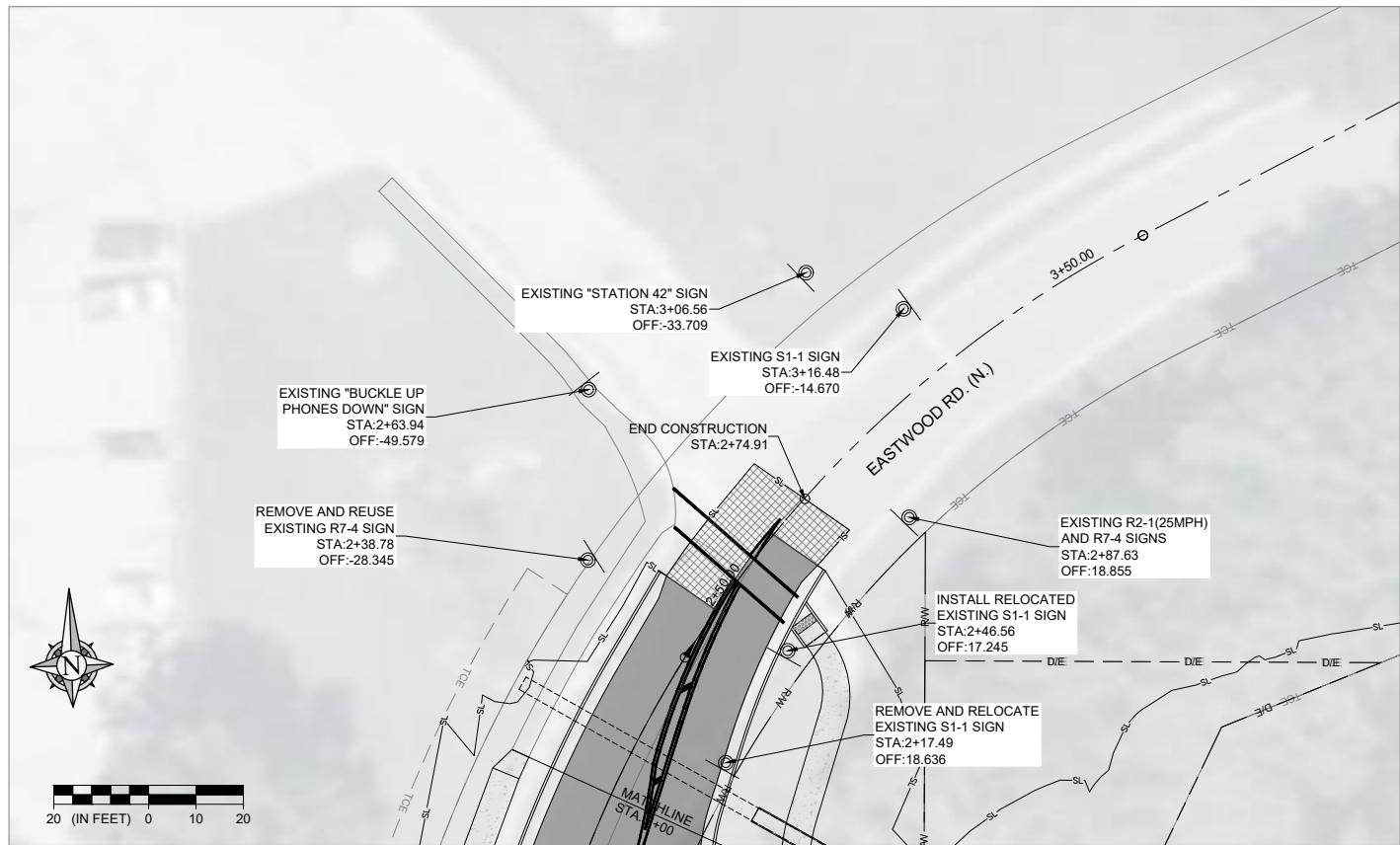
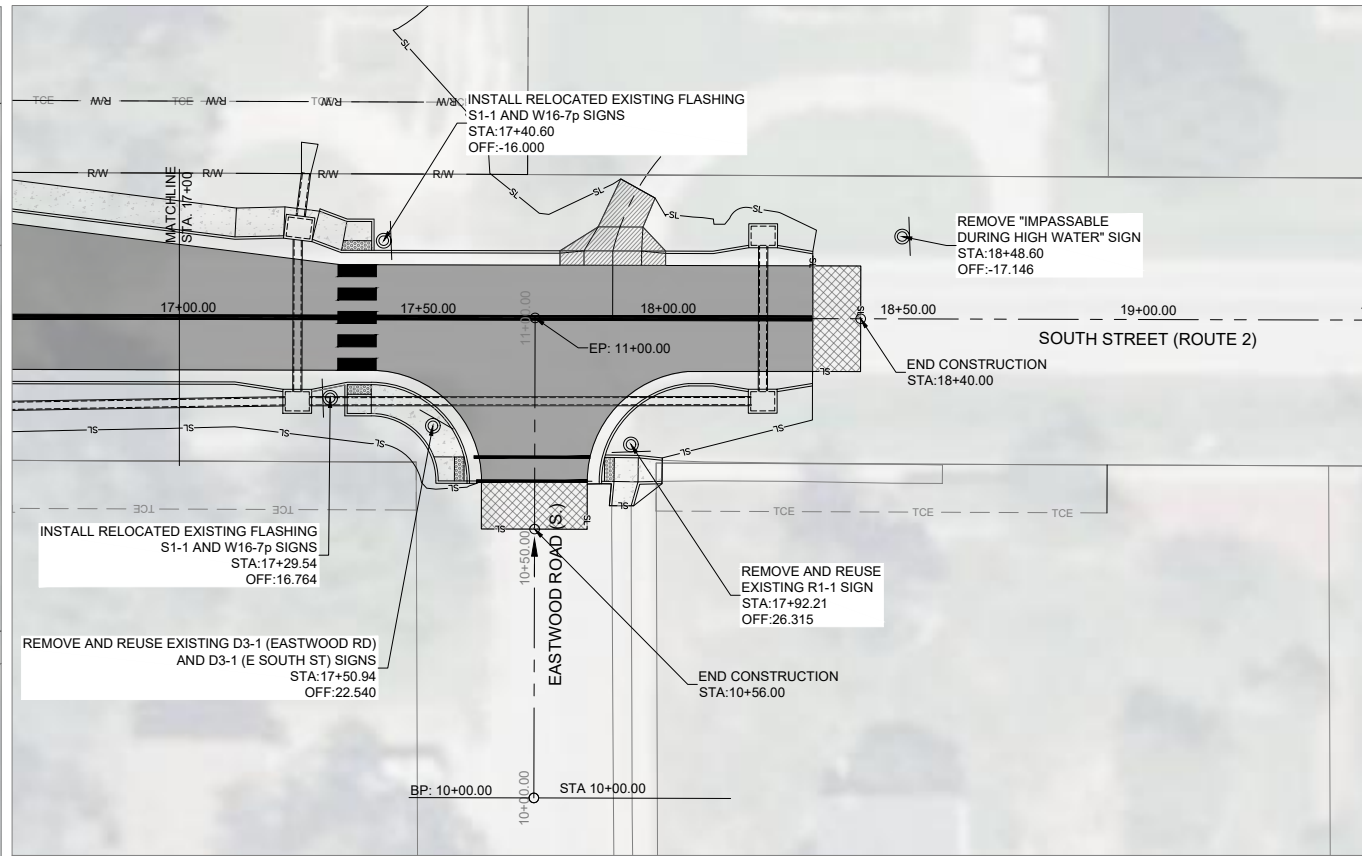
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STB-2600(411)												FED NUMBER:	

(EC) EROSION CONTROL

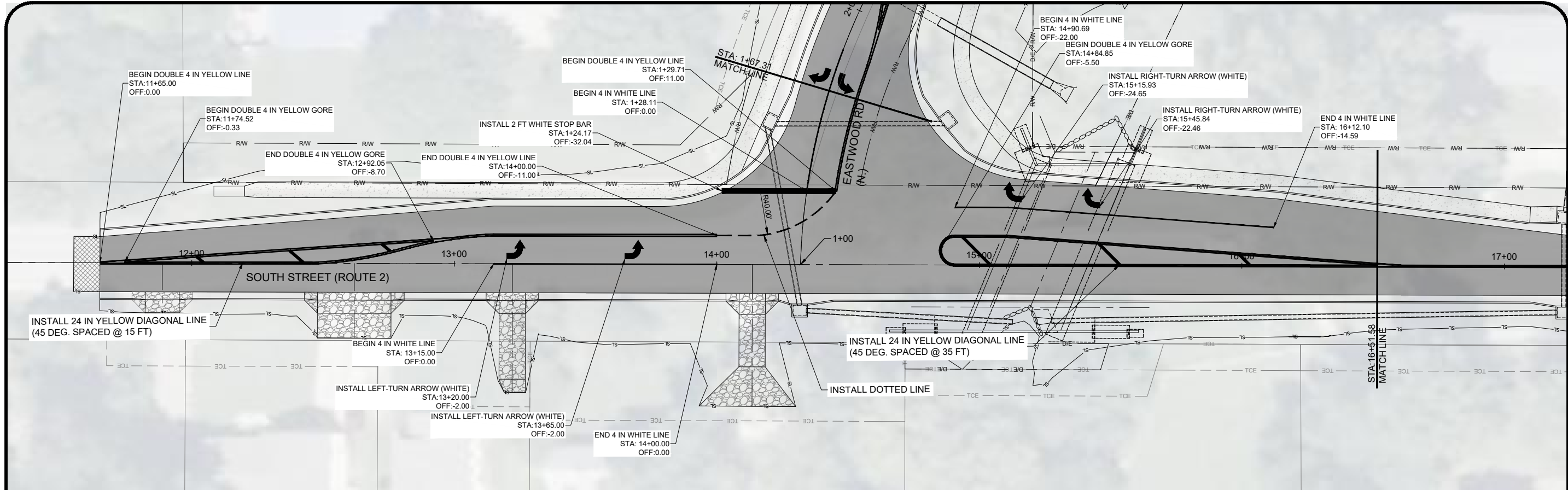
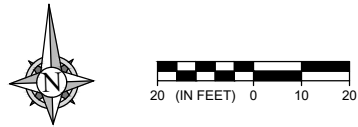
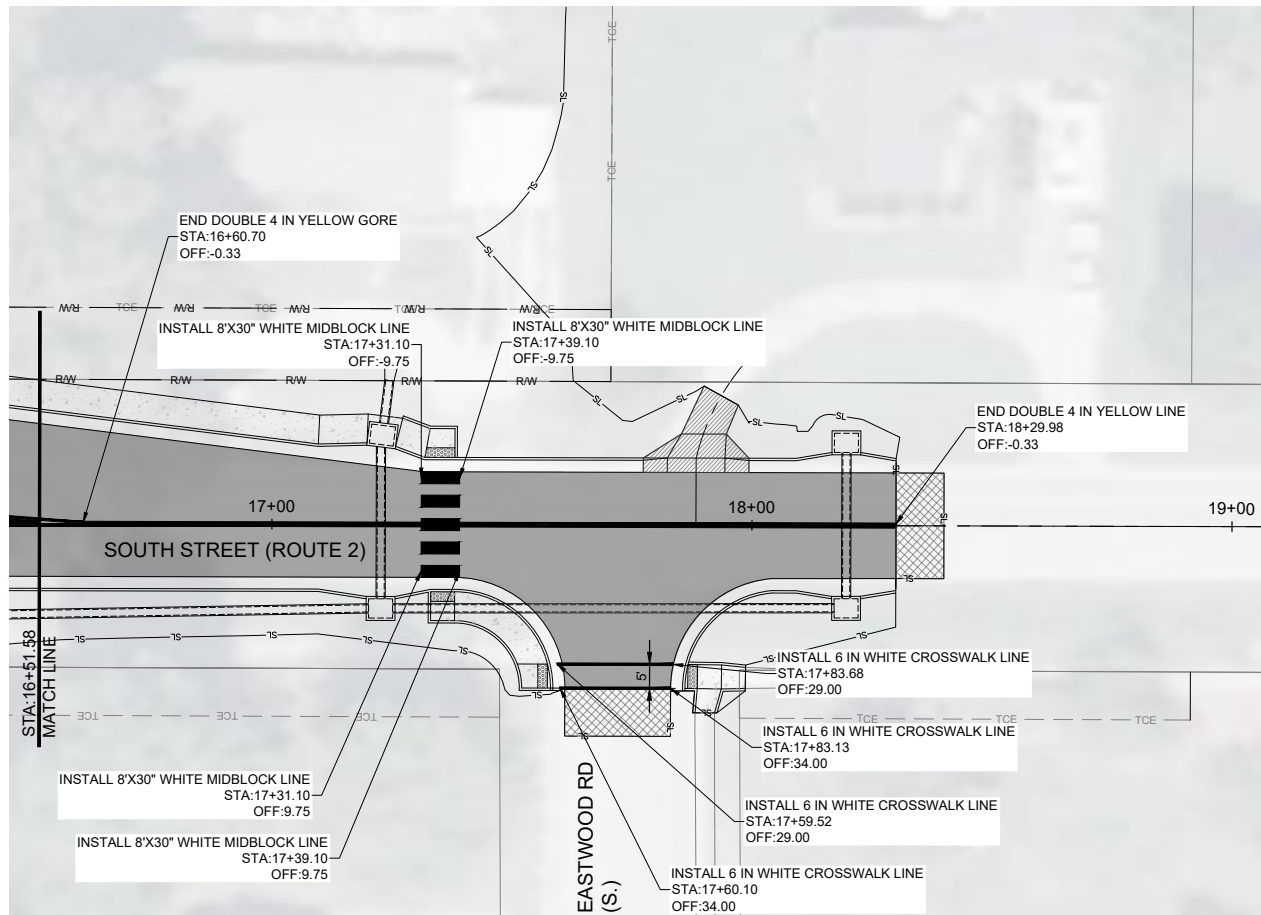
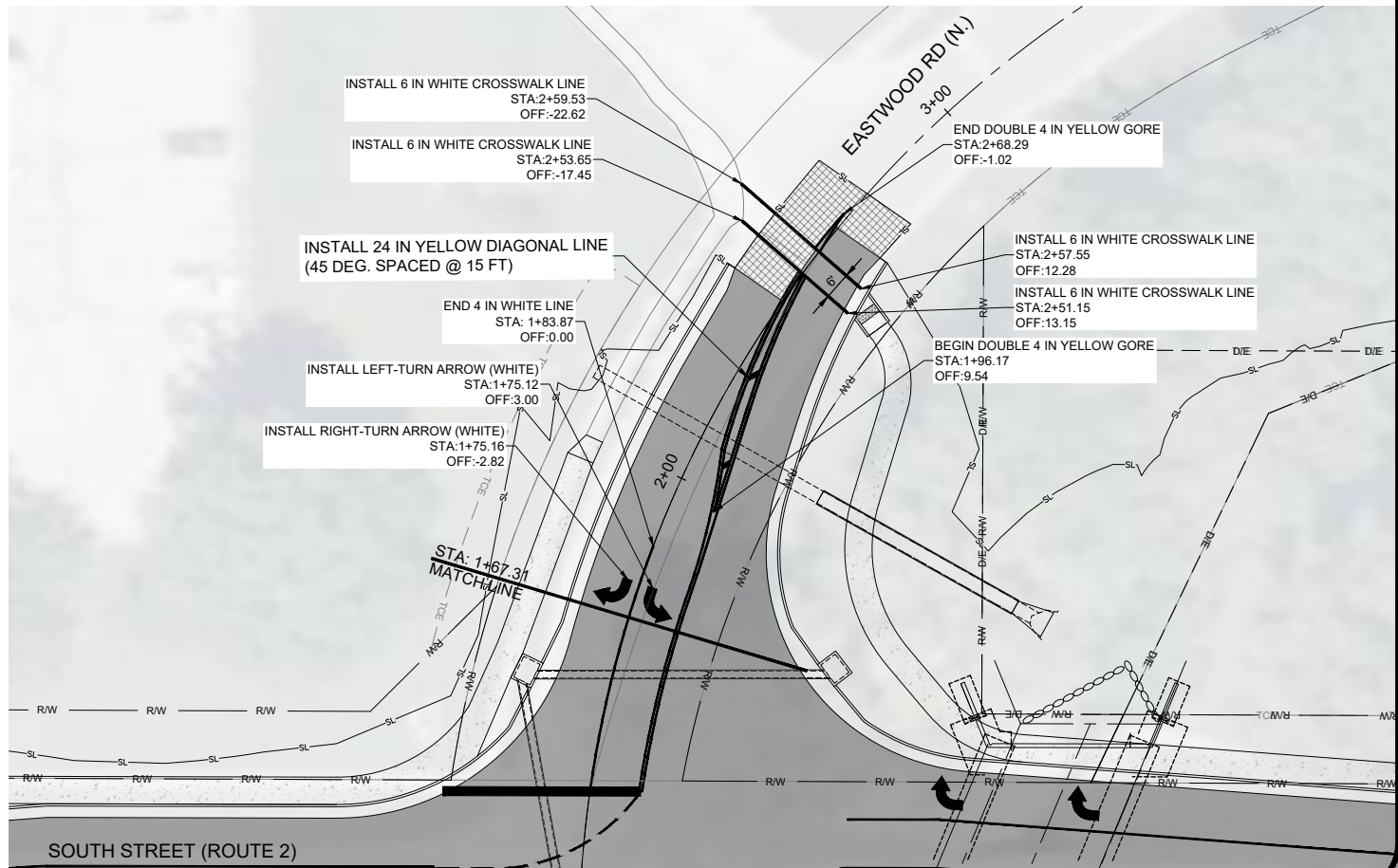
MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK., BRIDGE #A9481 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

SHEET NUMBER

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OF 32



REVISIONS				DRAWING INFO.			
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H	JOB NUMBER REVISION	TSE	10-20-26	JOB NUMBER:			
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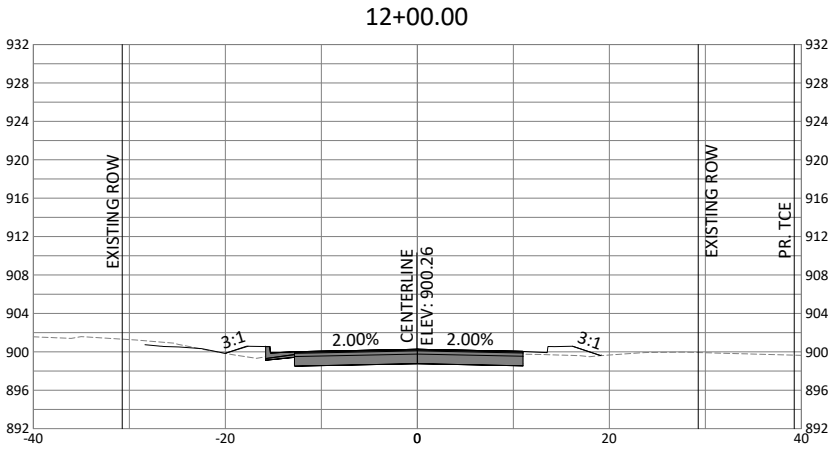
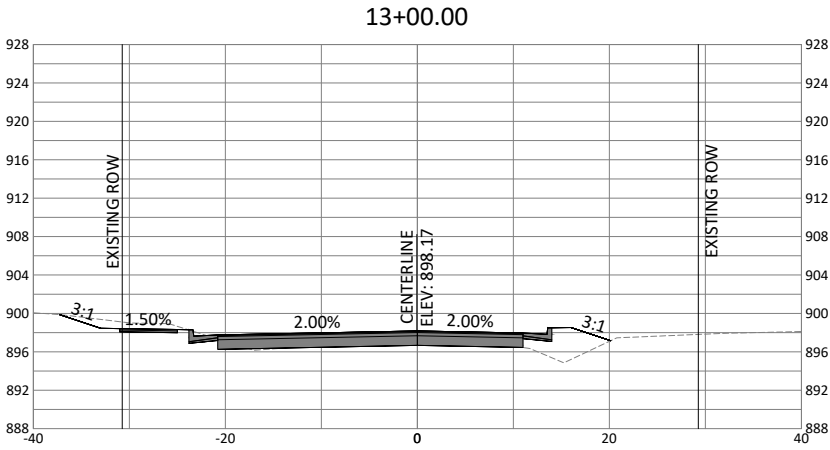
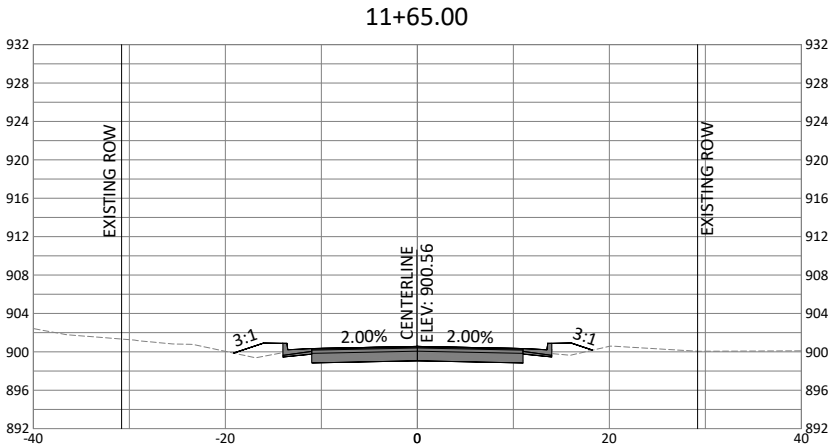
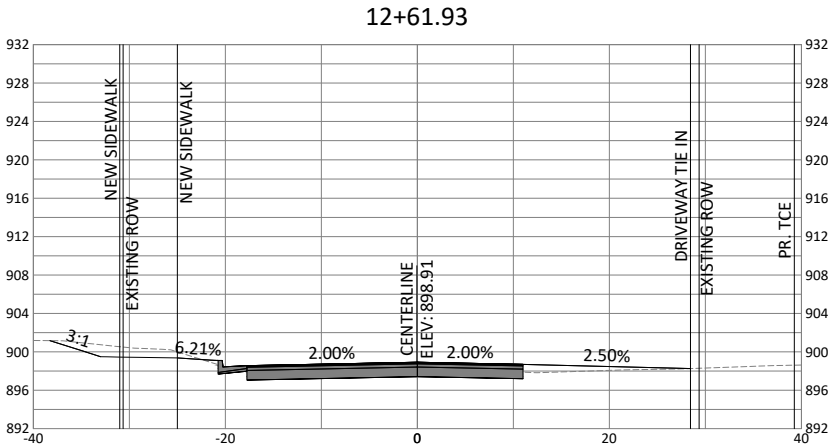
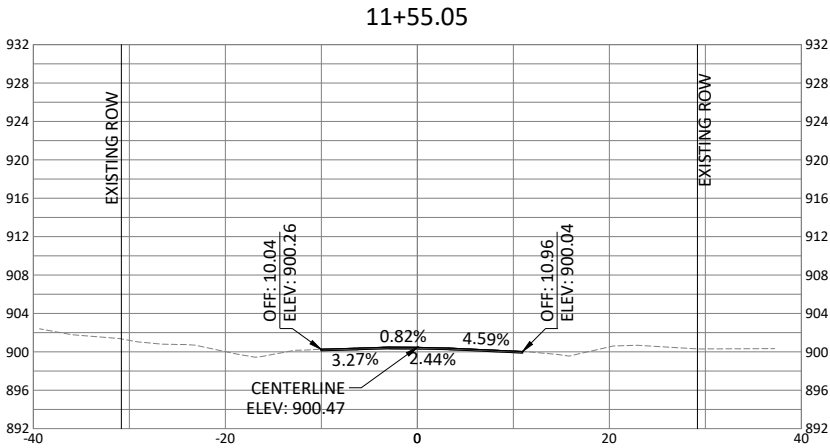
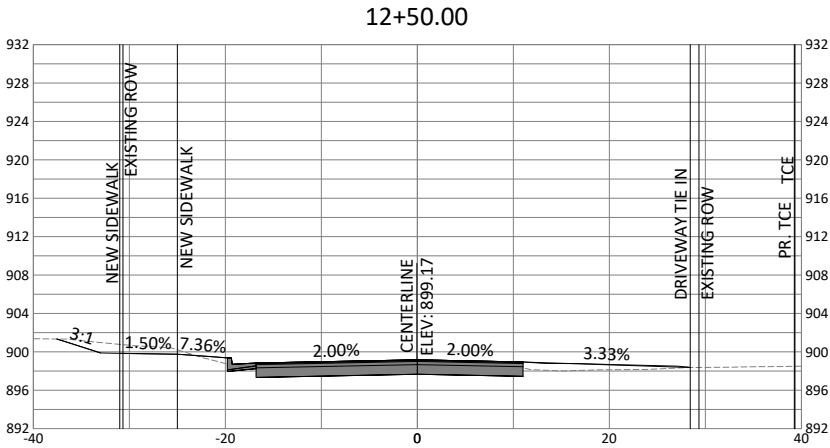
PM) PAVEMENT MARKING

MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT

SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

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19
OF 32

SOUTH STREET (ROUTE 2)



REVISIONS		DRAWING INFO			
NO.	DESCRIPTION	BY	DATE	FIELD BY:	FIELD NO.
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(XS) CROSS SECTIONS

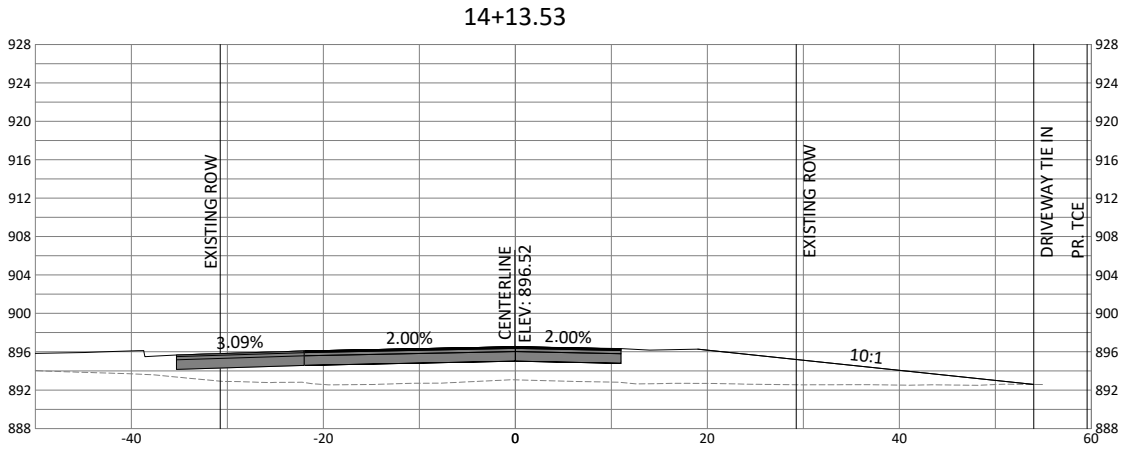
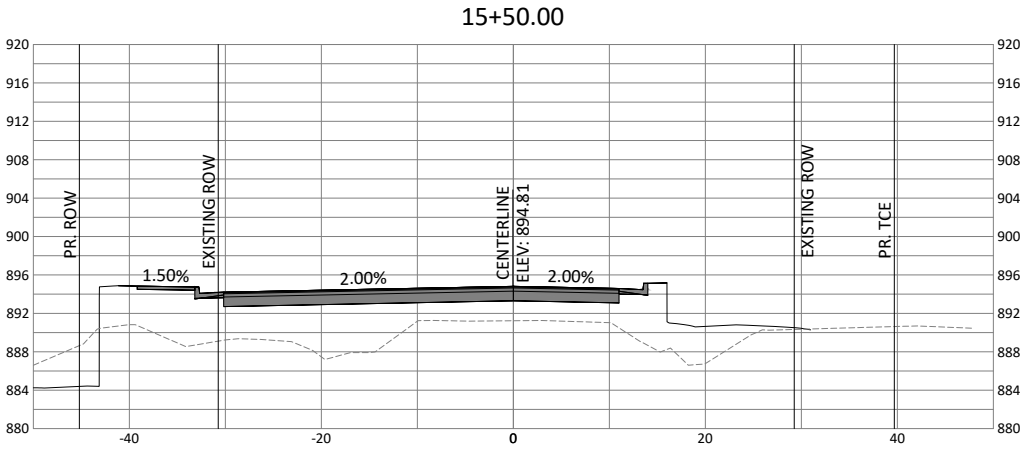
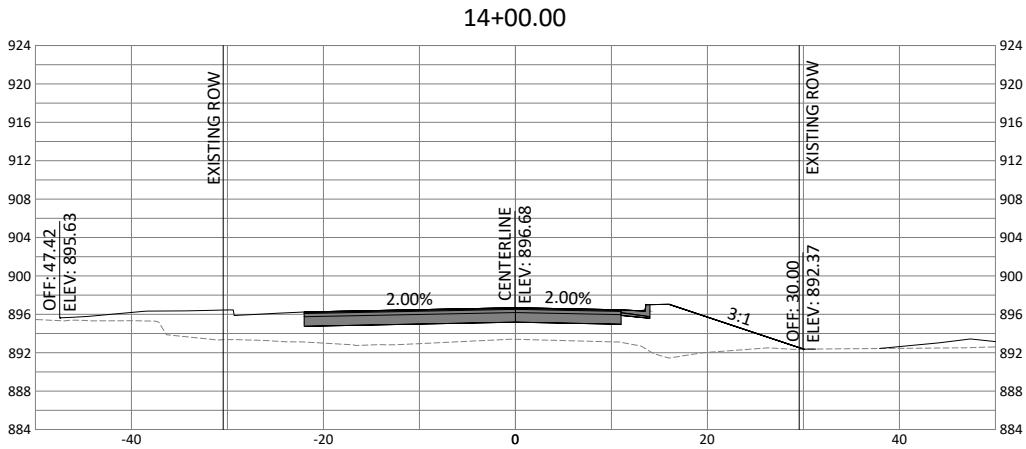
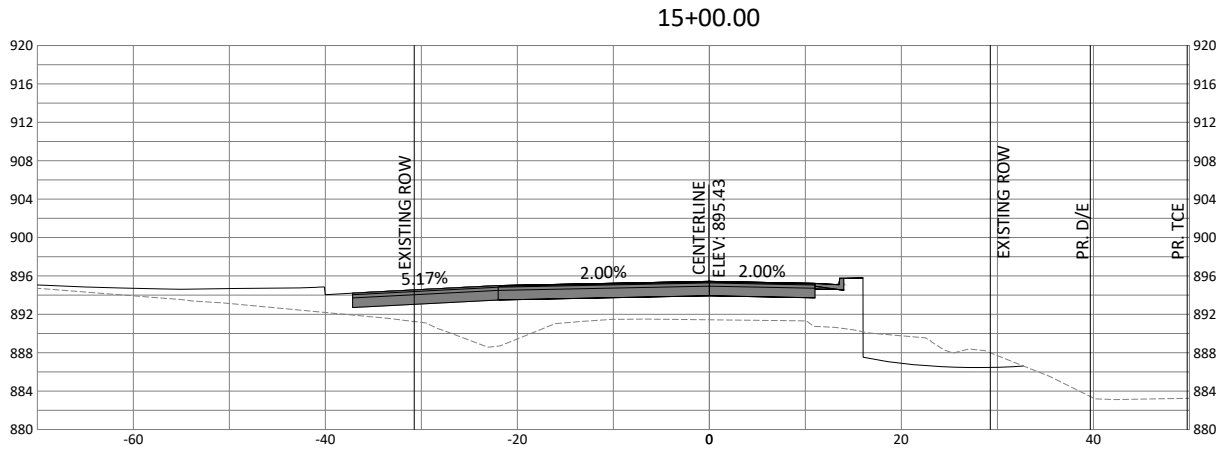
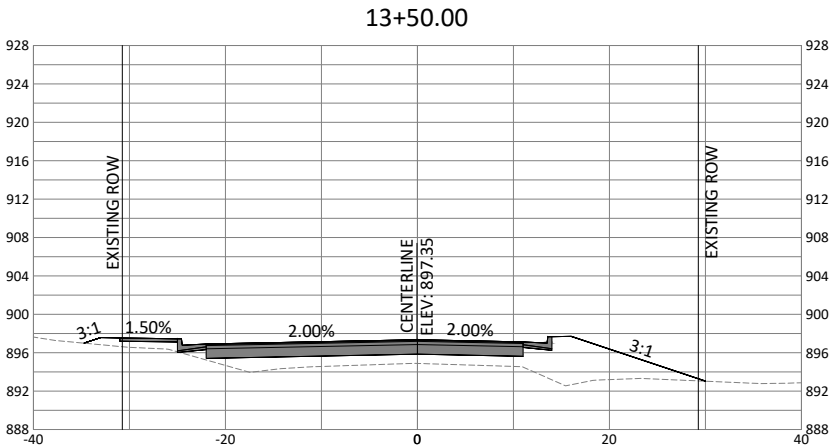
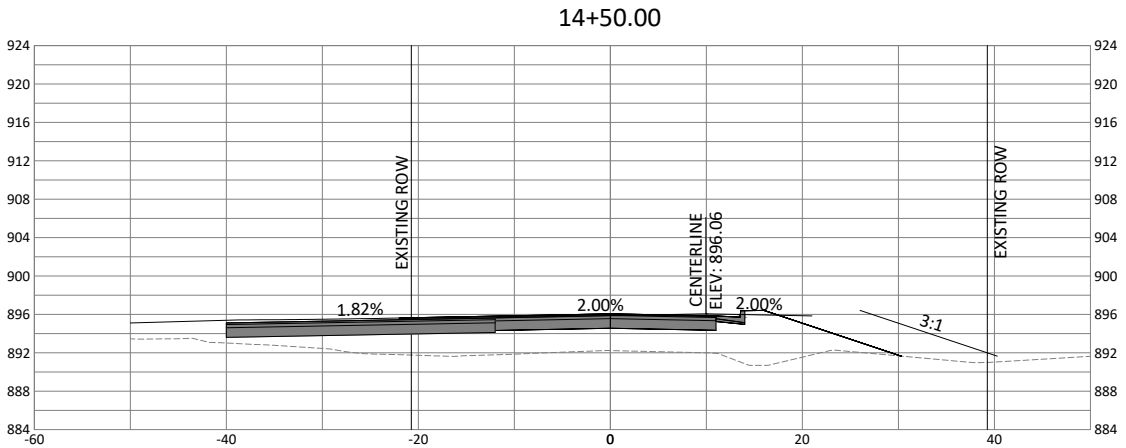
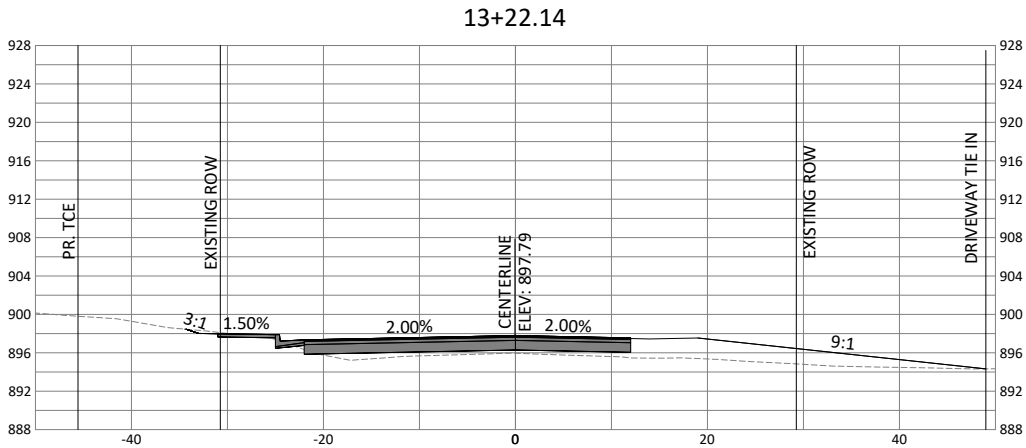
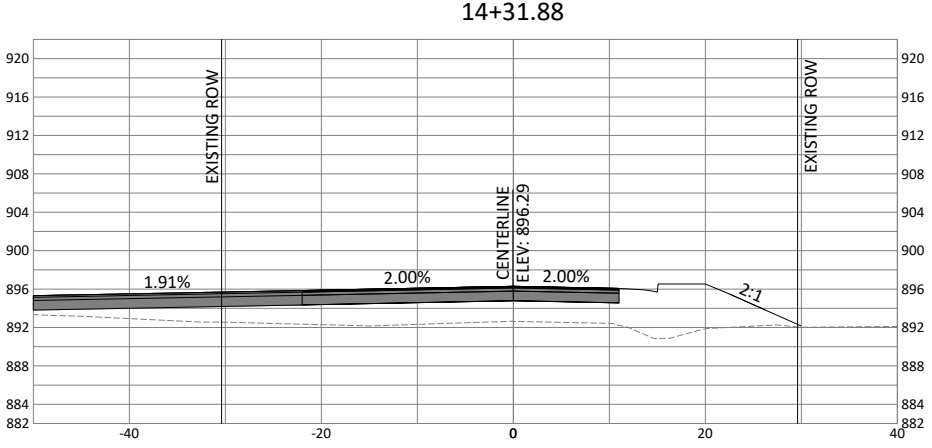
MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT

SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

SHEET NUMBER

20
OF 32

SOUTH STREET (ROUTE 2)



REVISIONS		DRAWING INFO.	
NO.	DESCRIPTION	BY	DATE
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E	ISSUE FOR CONSTRUCTION	TSE	04-30-26
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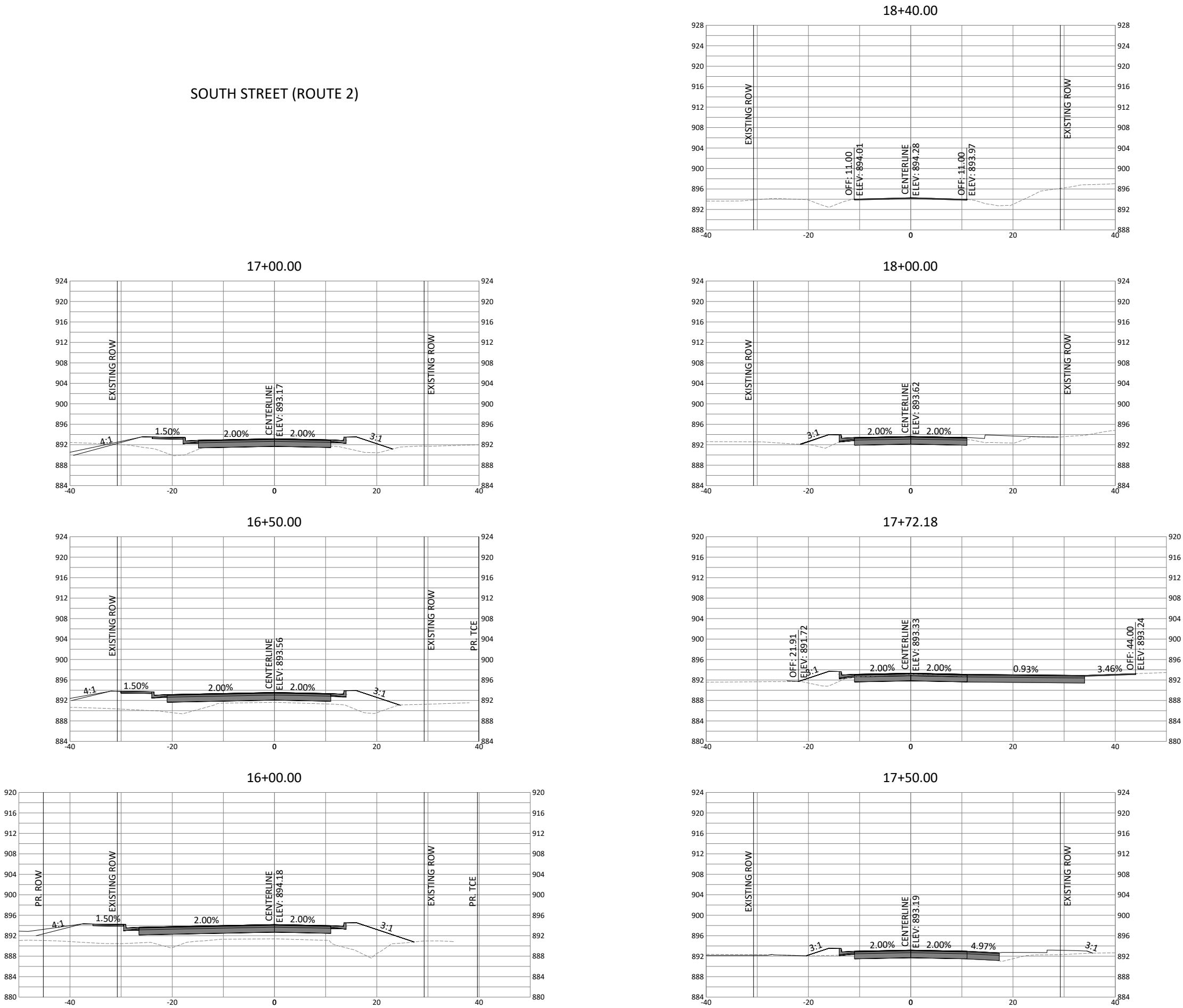
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MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT

SEC 4 T44N R31W
CITY OF HARRISONVILLE, MO

SHEET NUMBER
21
OF 32

SOUTH STREET (ROUTE 2)



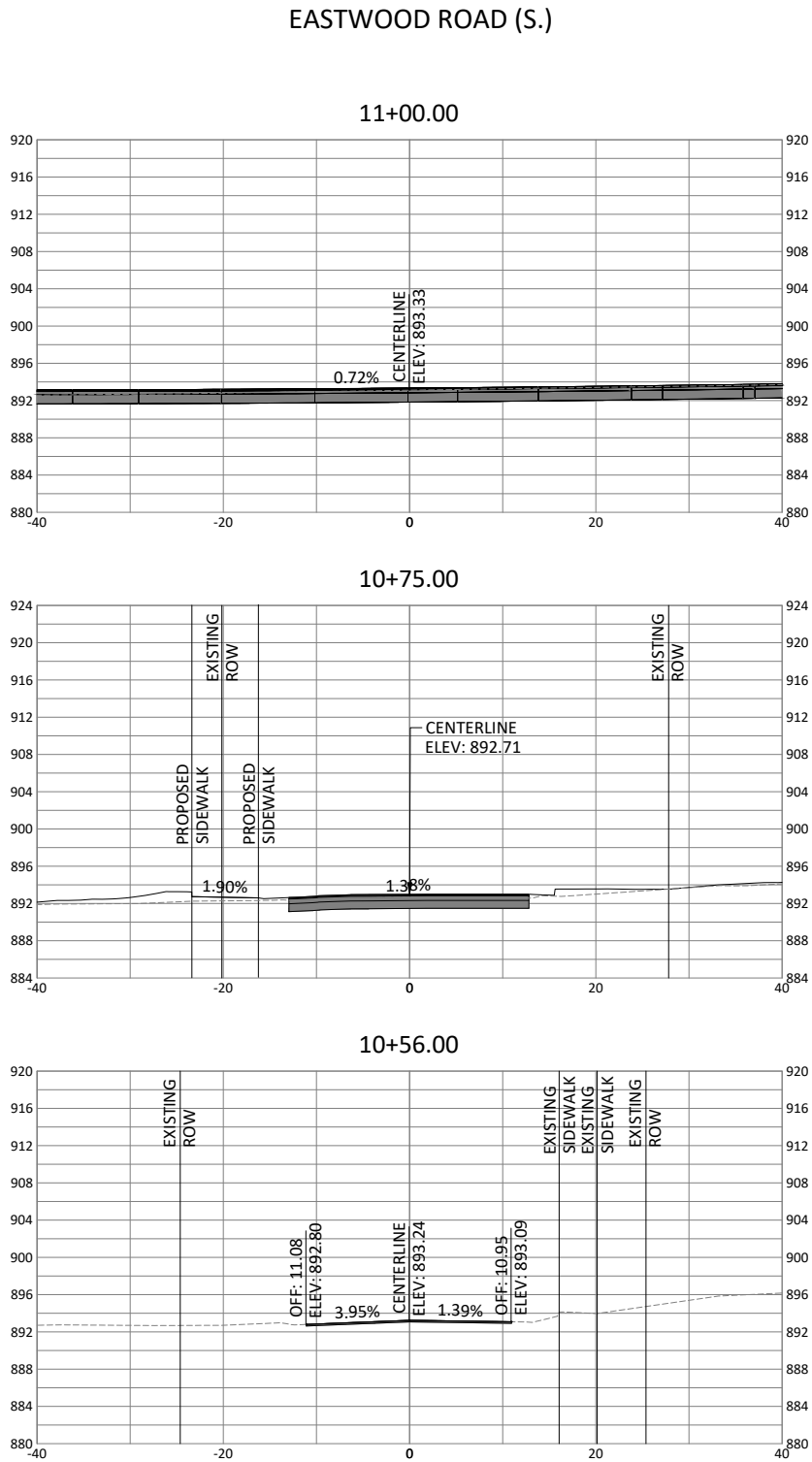
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G	ISSUE FOR BID	TSE	10-02-26
H	JOB NUMBER REVISION	TSE	10-20-26

CHECK BY:	KEL
DATE:	
FIELD BOOK:	
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FED NUMBER:	STB-2004(11)

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(XS) CROSS SECTIONS

MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO



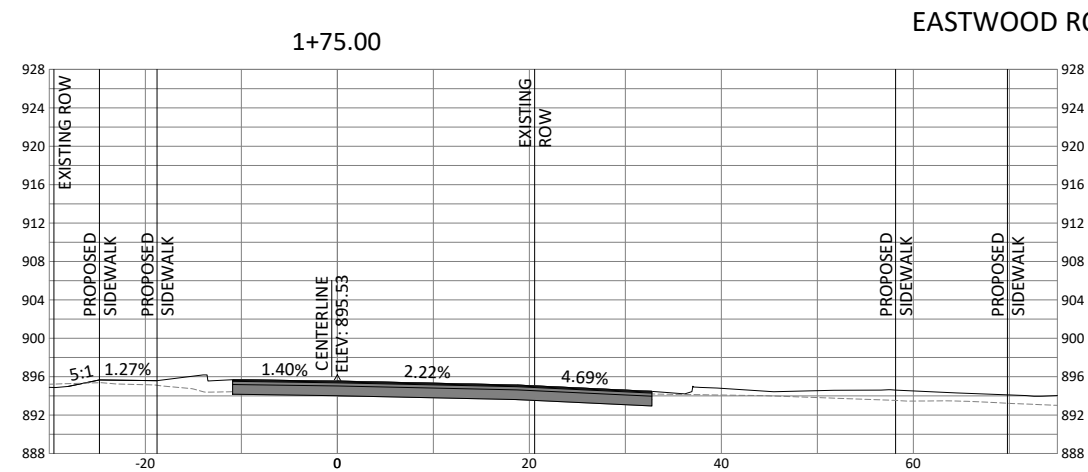
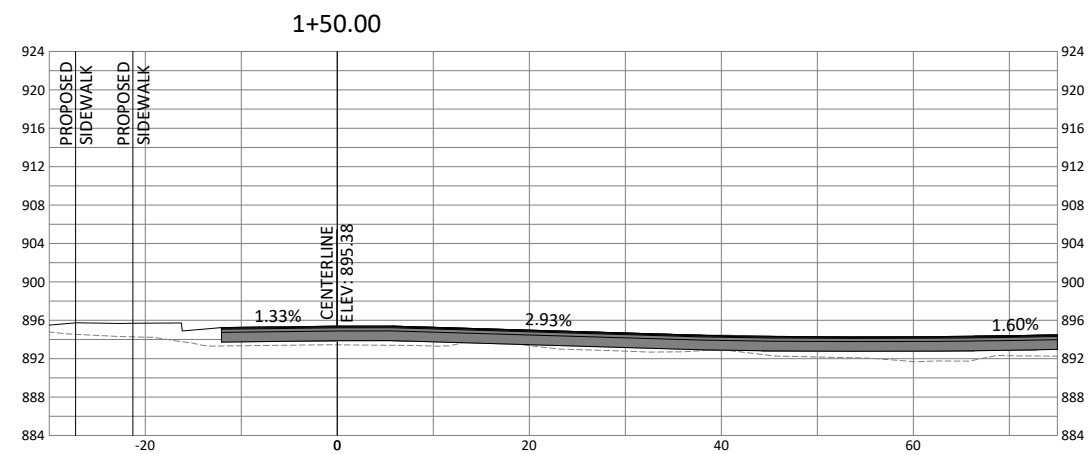
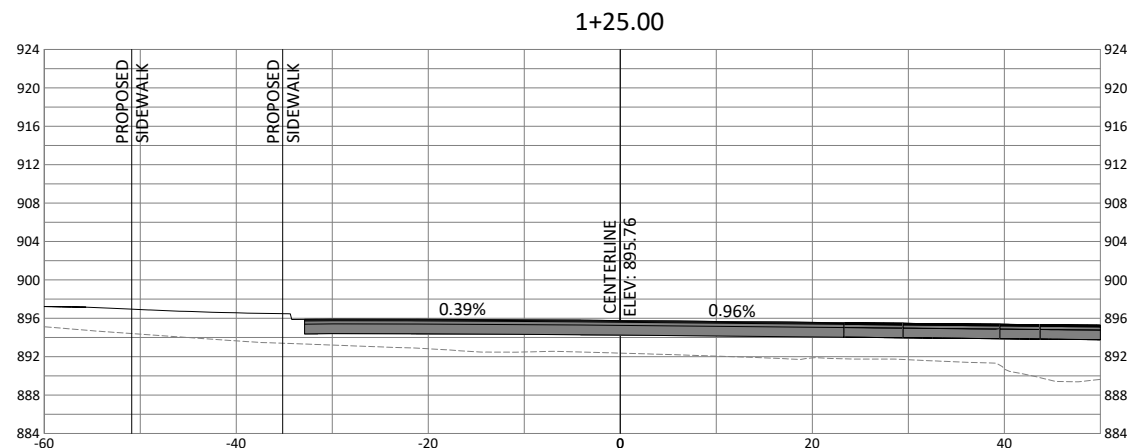
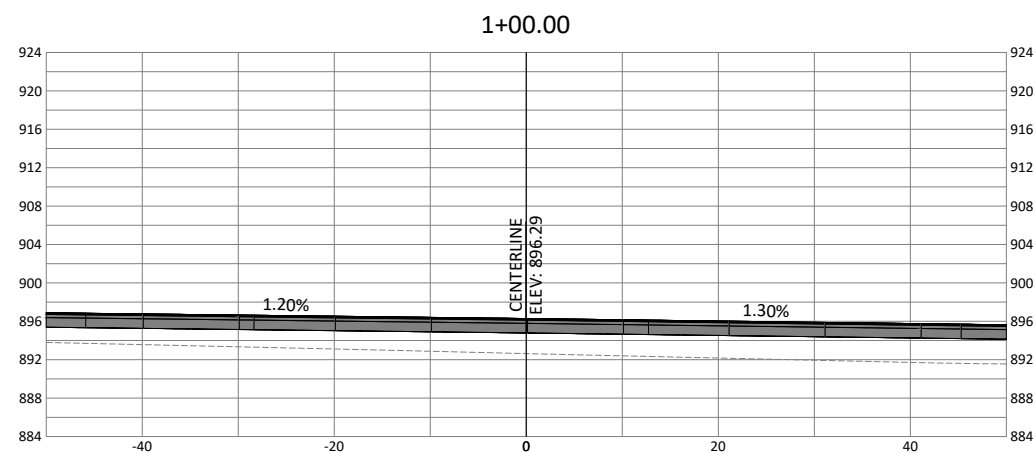
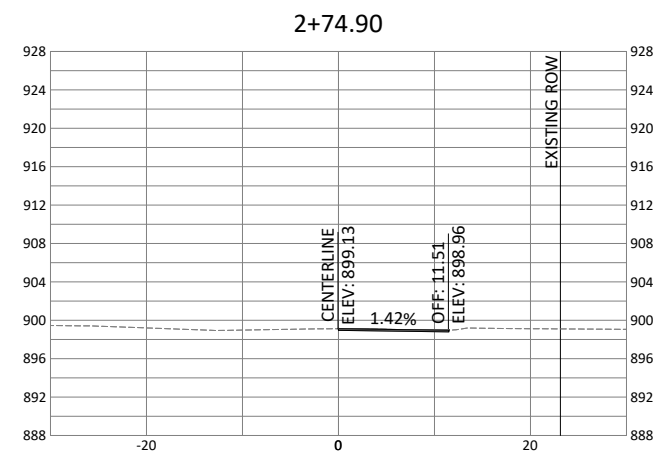
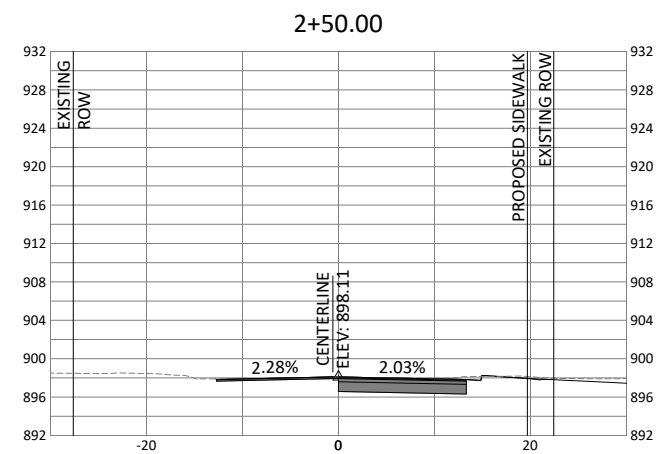
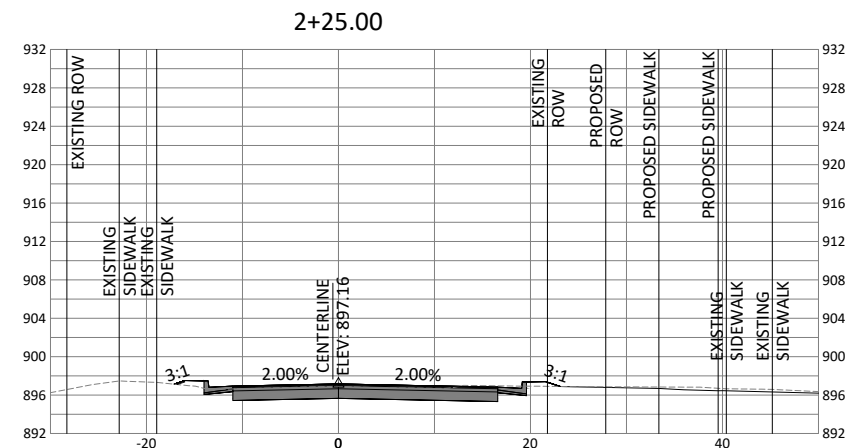
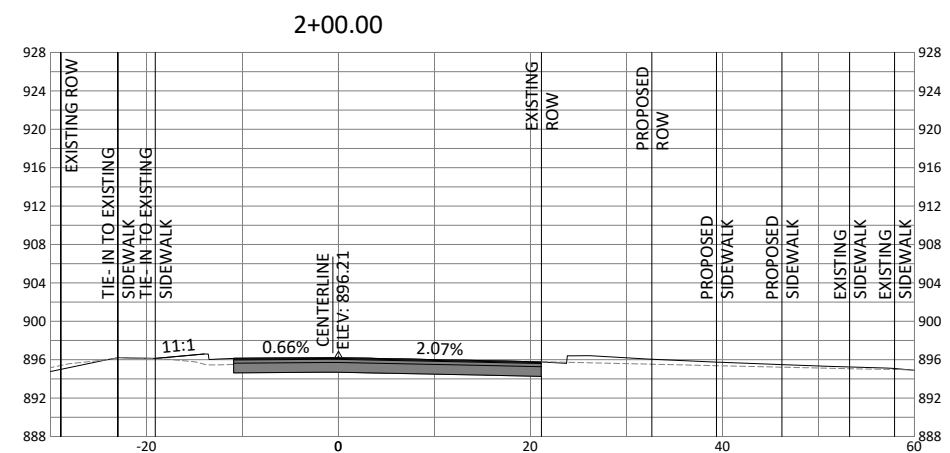
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E	ISSUE FOR CONSTRUCTION	TSE	04-30-26	DATE:	
F	REISSUE FOR A-DATE REVIEW	TSE	09-03-26	FIELD BOOK:	
G	ISSUE FOR BID	TSE	10-02-26	JOB NUMBER:	
H	JOB NUMBER REVISION	TSE	10-20-26	JOB NUMBER:	
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(XS) CROSS SECTIONS

MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT

SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

SHEET NUMBER
23
OF 32



REVISIONS		DRAWING INFO:		
N ^O	DESCRIPTION	BY	DATE	FIELD BY:
D	ISSUE FOR A DATE REVIEW	TSE	04-21-25	CHECK BY:
E	ISSUE FOR CONSTRUCTION	TSE	04-30-26	DATE:
F	REISSUE FOR A-DATE REVIEW	TSE	09-03-26	FIELD BOOK:
G	ISSUE FOR BID	TSE	10-02-26	JOB NUMBER:
H	JOB NUMBER REVISION	TSE	10-20-26	

STBC 2900(411)

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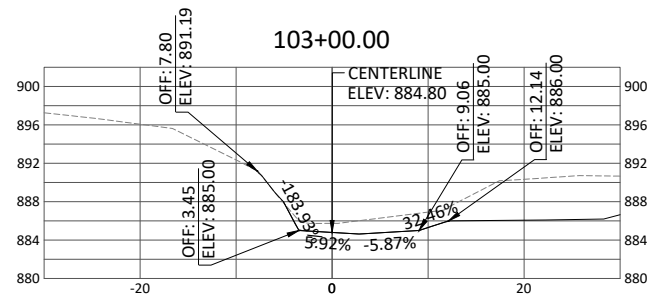
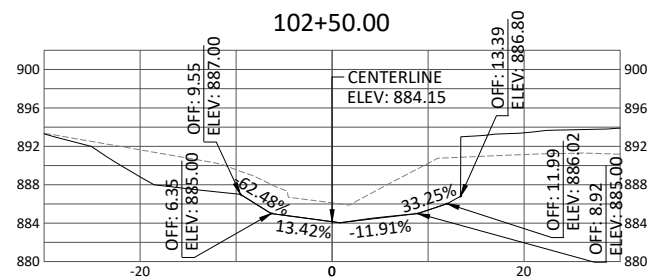
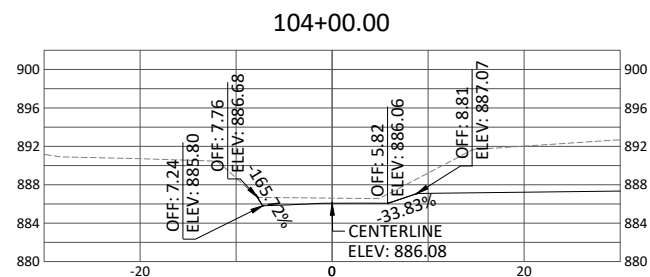
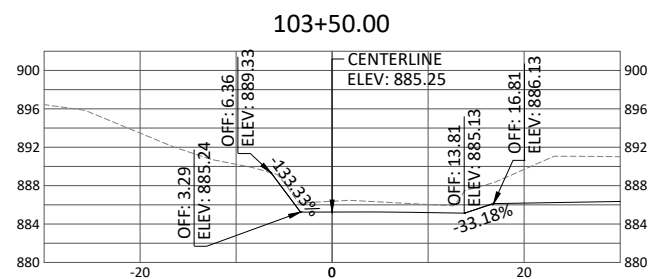
(XS) CROSS SECTIONS

MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT

SEC4 T44N R31W

CITY OF HARRISONVILLE, MO

SHEET NUMBER
24
OF 32



REVISONS			DRAWING INFO.		
NO.	DESCRIPTION	BY	DATE	FIELD BY:	
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E	ISSUE FOR CONSTRUCTION	TSE	04-30-26	DATE:	
F	REISSUE FOR A-DATE REVIEW	TSE	09-03-26	FIELD BOOK:	
G	ISSUE FOR BID	TSE	10-02-26	JOB NUMBER:	
H	JOB NUMBER REVISION	TSE	10-20-26	JOB NUMBER:	
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(SP) STREAM CROSS SECTIONS

MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT

SEC4 T44N R31W

CITY OF HARRISONVILLE, MO
 SELECTED FINANCIAL STATEMENTS
 FOR THE YEAR 2011

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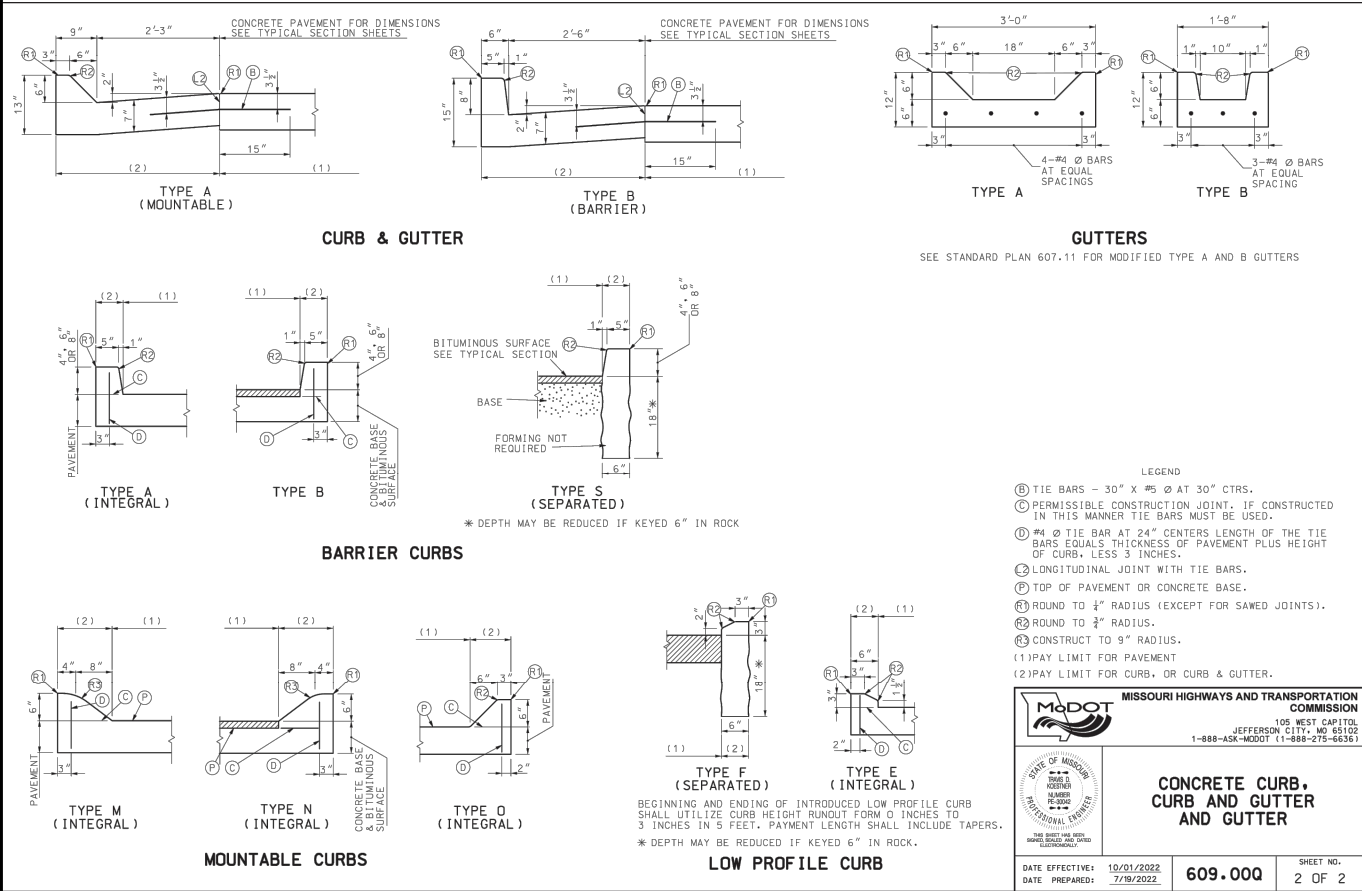
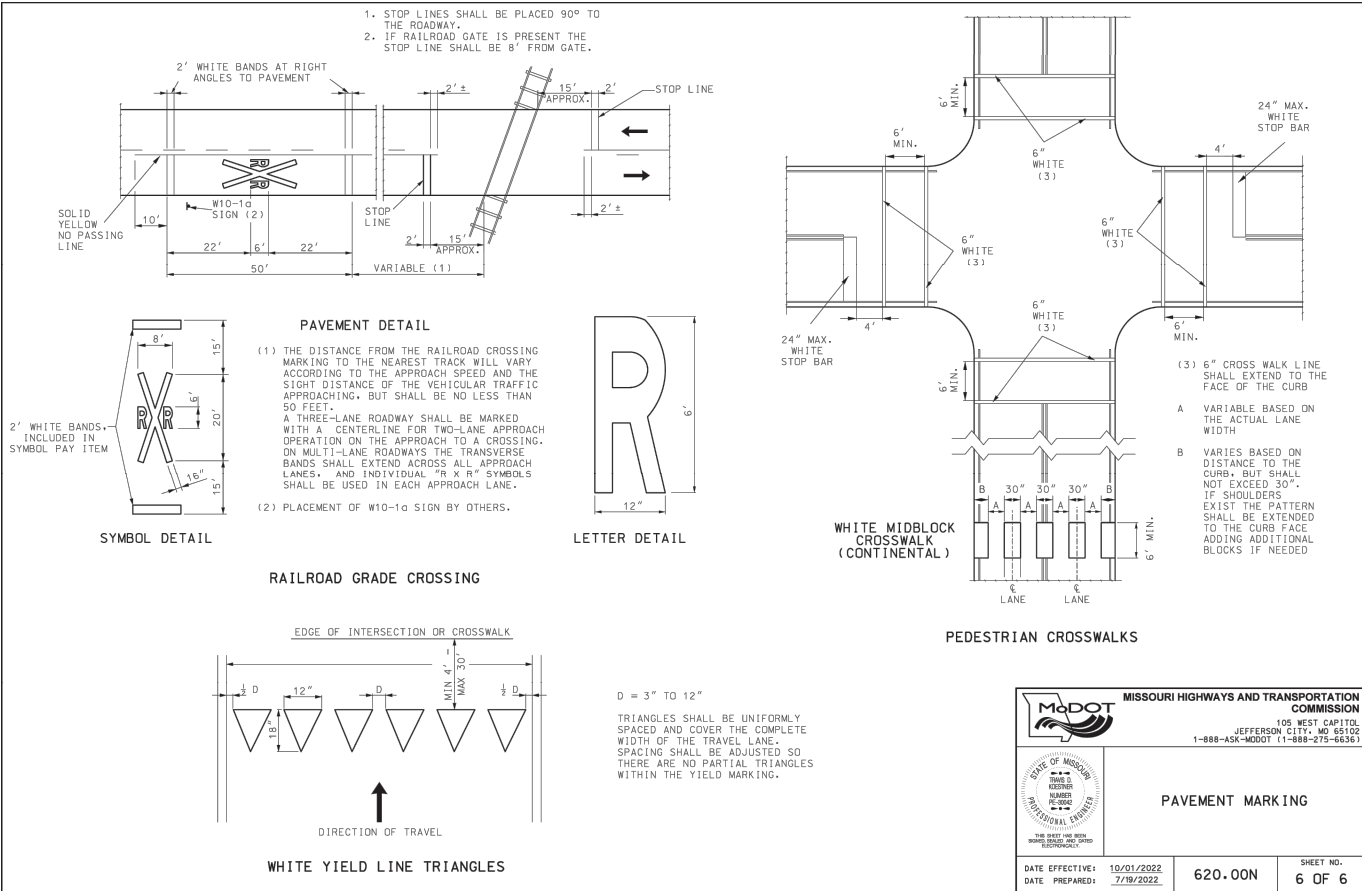


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EDGAR
NUMBER
PE-2005021662



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E	ISSUE FOR CONSTRUCTION	TSE	04-30-26
F	REISSUE FOR A DATE REVIEW	TSE	09-03-26
G	ISSUE FOR BID	TSE	10-02-26
H	JOB NUMBER REVISION	TSE	10-20-26

FIELD BY:	DATE:	CHECK BY:	DATE:
DNT			

FIELD BOOK:	JOB NUMBER:	STB:2004(11)

(SD) STANDARD DETAILS

MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY

2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT

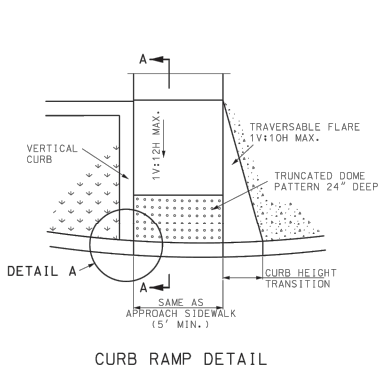
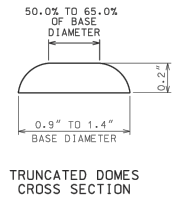
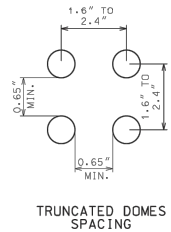
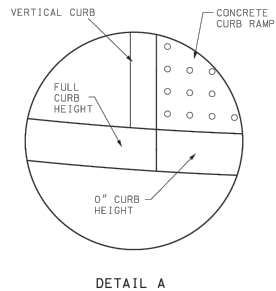
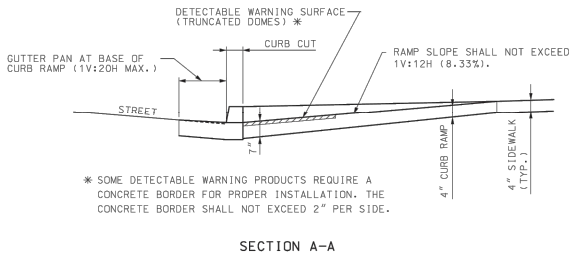
SEC4 T44N R31W

CITY OF HARRISONVILLE, MO

SHEET NUMBER

28

OF 32



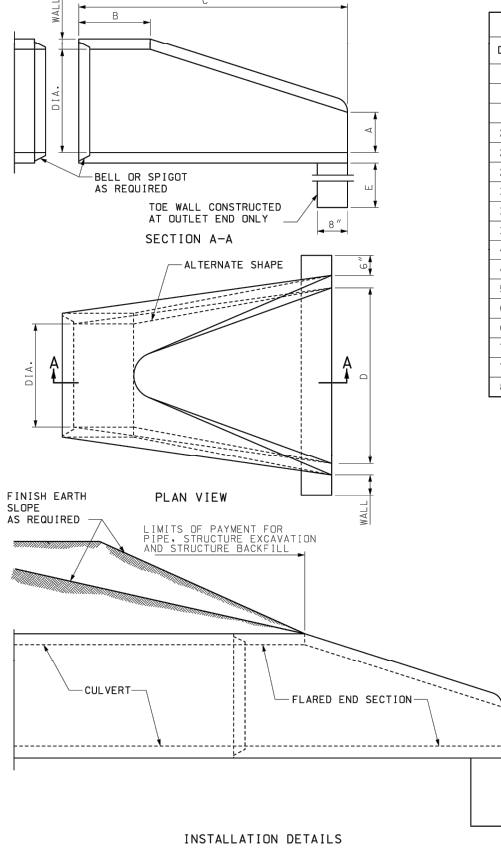
GENERAL NOTES:
ALL AREAS OF THE PEDESTRIAN ACCESS ROUTE MUST BE COMPLIANT WITH THE AMERICANS WITH DISABILITIES ACT - GUIDELINES FOR ACCESSIBLE PUBLIC RIGHTS OF WAY. EXCEPTIONS MUST BE APPROVED BY THE ENGINEER. ALL OTHER AREAS OF NON-COMPLIANCE SHALL BE REMOVED AND CORRECTED AT THE CONTRACTOR'S EXPENSE.
THE SURFACES OF PEDESTRIAN ACCESS ROUTES AND ELEMENTS, AND SPACES REQUIRED TO CONNECT TO PEDESTRIAN ACCESS ROUTES, SHALL BE FIRM, STABLE, SLIP RESISTANT, AND SHALL NOT POND WATER.
SIDEWALK, RAMP AND LANDING CROSS SLOPES SHALL BE 1.00% TO FACILITATE DRAINAGE (2.00% MAX.).
THE CROSS SLOPE OF THE CONTINUOUS PEDESTRIAN ACCESS ROUTE THROUGH ENTRANCES, ALLEYS, AND SIDE ROAD CONNECTIONS WITH STOP OR YIELD CONTROL SHALL BE 1.00% TO FACILITATE DRAINAGE (2.00% MAX.).
WHERE PEDESTRIAN ACCESS ROUTES ARE CONTAINED WITHIN PEDESTRIAN STREET CROSSINGS WITHOUT YIELD OR STOP CONTROL, THE CROSS SLOPE OF THE PEDESTRIAN ACCESS ROUTE SHALL BE 5.00% MAXIMUM.
WHERE PEDESTRIAN ACCESS ROUTES ARE CONTAINED WITHIN MIDBLOCK PEDESTRIAN STREET CROSSINGS, THE CROSS SLOPE OF THE PEDESTRIAN ACCESS ROUTE SHALL BE PERMITTED TO EQUAL THE STREET OR HIGHWAY GRADE.
30" X 48" CLEAR SPACE SHALL BE PROVIDED CENTERED ON THE PEDESTRIAN PUSH BUTTON.
BEYOND THE BOTTOM GRADE BREAK OF A CURB RAMP, A CLEAR SPACE 4' MINIMUM BY 4' MINIMUM SHALL BE PROVIDED WITHIN THE WIDTH OF THE PEDESTRIAN STREET CROSSING AND WHOLLY OUTSIDE THE PARALLEL VEHICLE TRAVEL LANE.
SIDE FLARES OF CURB RAMP, IN THE PATH OF PEDESTRIAN TRAVEL (TRAVERSABLE), SHALL NOT EXCEED A SLOPE OF 1V:10H. SIDE FLARES OUTSIDE THE PEDESTRIAN PATH (NONTRAVERSABLE) MAY BE VERTICAL.
TRANSITION FROM SIDEWALK OR CURB RAMP TO GUTTER TO ROADWAY SHALL BE FLUSH.
DETECTABLE WARNING SURFACES (TRUNCATED DOMES) SHALL BE PERFORMED AND INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS. STAMPED CONCRETE WILL NOT BE ACCEPTED.
THE DETECTABLE WARNING SURFACE SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT. TRUNCATED DOMES SHALL SPAN THE FULL WIDTH OF THE RAMP OR LANDING 24" DEEP.
DETECTABLE WARNING SURFACES SHALL BE ALIGNED PERPENDICULAR OR RADIAL TO THE BREAK BETWEEN THE RAMP, LANDING OR BLENDED TRANSITION, AND THE STREET.
WHERE THE BOTTOM GRADE BREAK OF A CURB RAMP IS LESS THAN 5' FROM THE BACK OF CURB, DETECTABLE WARNINGS SHALL BE LOCATED ON THE RAMP SURFACE AT THE BACK OF THE CURB, WHERE THE GRADE BREAK IS GREATER THAN 5' FROM THE BACK OF CURB, THE DETECTABLE WARNING SHALL BE LOCATED ON THE LOWER LANDING.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MDOT (1-888-275-6636)

DATE EFFECTIVE: 01/01/2023
DATE PREPARED: 10/6/2022

608.50A

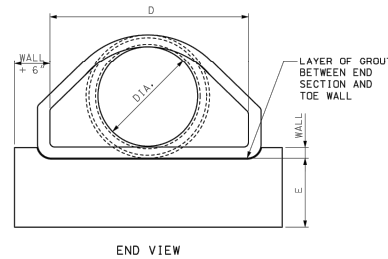
SHEET NO. 1 OF 4



DIMENSIONS					
DIA.	WALL	A	B MIN.	C MIN.	D E
12"	2"	4"	4'-0"	6'	2'-0"
15"	2 1/2"	6"	3'-10"	6'	2'-6"
18"	2 1/2"	9"	3'-10"	6'	3'-0"
21"	2 1/2"	9"	3'-2"	6'	3'-6"
24"	3"	9 1/2"	2'-6"	6'	4'-0"
27"	3 1/2"	10 1/2"	2'-1"	6'	4'-6"
30"	3 1/2"	1'-0"	1'-7"	6'	5'-0"
33"	3 1/2"	1'-2"	1'-7"	6'	5'-6"
36"	4"	1'-3"	2'-10"	8'	6'-0"
42"	4 1/2"	1'-9"	2'-11"	8'	6'-6"
48"	5"	2'-0"	2'-2"	8'	7'-0"
54"	5 1/2"	2'-3"	2'-11"	8'	7'-6"
60"	6"	2'-6"	3'-3"	8'	8'-0"
66"	6 1/2"	2'-0"	1'-9"	8'	8'-6"
72"	7"	2'-0"	2'-9"	10'	9'-0"
78"	7 1/2"	2'-3"	2'-3"	10'	9'-6"
84"	8"	2'-6"	2'-0"	10'	10'-0"

ADJOINING PIPE DIA.	BARREL SECTION REINFORCEMENT		FLARE SECTION REINFORCEMENT (ONE LAYER ONLY IN CENTER OF WALL)	
	CIRCULAR	ELLIPTICAL	AREA OF LONGITUDINAL	AREA OF TRANSVERSE
	INNER CAGE SQ. IN./LIN. FT.	OUTER CAGE SQ. IN./LIN. FT.	SO. IN./LIN. FT.	SO. IN./LIN. FT.
12"	0.07		0.048	0.048
15"	0.07		0.054	0.054
18"	0.07	0.07	0.060	0.060
21"	0.07	0.07	0.066	0.066
24"	0.07	0.07	0.072	0.072
27"	0.13	0.11	0.078	0.078
30"	0.14	0.12	0.084	0.084
33"	0.15	0.13	0.090	0.090
36"	0.12	0.09	0.096	0.096
42"	0.15	0.12	0.108	0.108
48"	0.18	0.14	0.120	0.120
54"	0.22	0.16	0.132	0.132
60"	0.25	0.19	0.144	0.144
66"	0.31	0.23	0.156	0.156
72"	0.35	0.21	0.170	0.170
78"	0.40	0.24	0.185	0.185
84"	0.46	0.28	0.205	0.205

GENERAL NOTES:
SLIGHT VARIATIONS IN BOTH SHAPE AND DIMENSIONS FROM THOSE SHOWN MAY BE ACCEPTED IF APPROVED BY THE ENGINEER.
NOT MORE THAN THREE LIFT HOLES MAY BE DRILLED OR CAST IN THE END SECTION FOR HANDLING AND LAYING.
LIFT LUGS OR BARS WILL BE PERMITTED IN PRECAST TOE WALLS.
TOE WALLS MAY BE CAST-IN-PLACE OR PRECAST.
STEEL FIBERS MAY BE USED IN LIEU OF REBAR OR COLD DRAWN STEEL WIRE AS PER SECTION 1032.3.4.

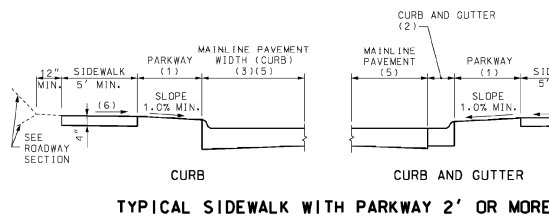
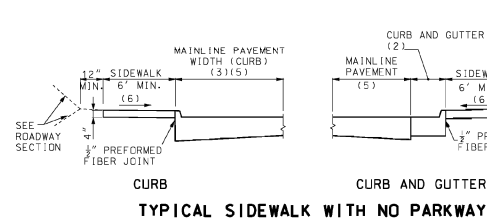
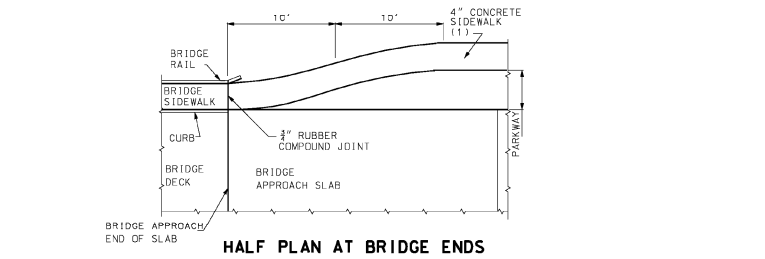
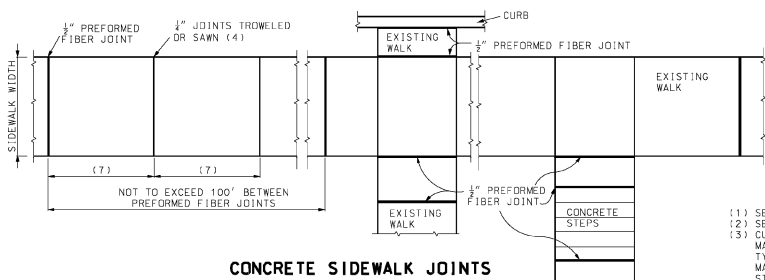


MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MDOT (1-888-275-6636)

DATE EFFECTIVE: 04/01/2016
DATE PREPARED: 2/11/2016

732.00S

SHEET NO. 1 OF 3



- (1) SEE PLANS FOR WIDTH
- (2) SEE STANDARD 608.00
- (3) CURB TO BE MONOLITHIC WITH PCC MAINLINE PAVEMENT. CURB TO BE TYPE 5 WITH ASPHALT CONCRETE MAINLINE PAVEMENT. SEE STANDARD PLAN 609.00.
- (4) MIN. 2" DEPTH JOINT.
- (5) SEE TYPICAL PAVEMENT SECTION
- (6) SLOPE 1.0% (2.0% MAX.)
- (7) SPACING EQUAL TO WIDTH OF WALK

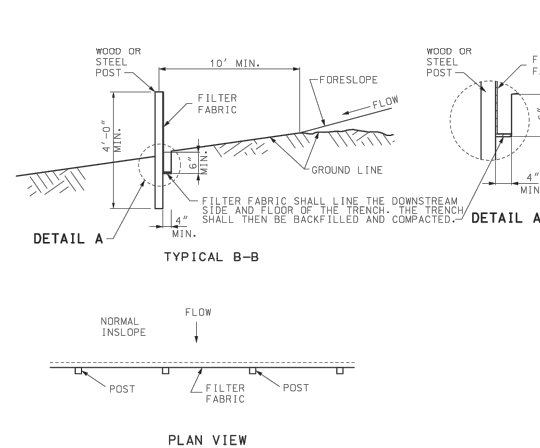
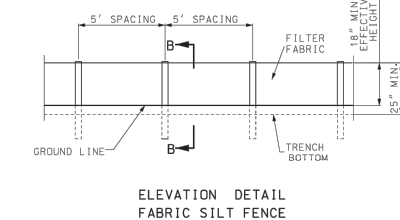
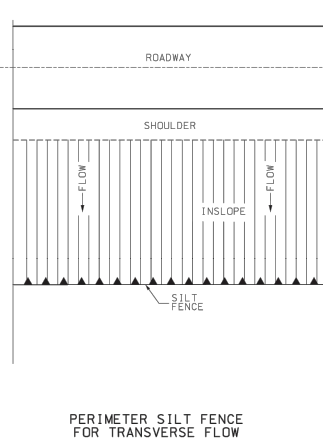
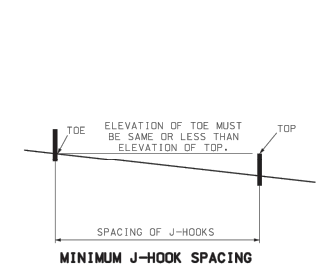
GENERAL NOTES:
ALL AREAS OF THE PEDESTRIAN ACCESS ROUTE MUST BE COMPLIANT WITH THE AMERICANS WITH DISABILITIES ACT - GUIDELINES FOR ACCESSIBLE PUBLIC RIGHTS OF WAY. EXCEPTIONS MUST BE APPROVED BY THE ENGINEER. ALL OTHER AREAS OF NON-COMPLIANCE SHALL BE REMOVED AND CORRECTED AT THE CONTRACTOR'S EXPENSE.
THE SURFACES OF PEDESTRIAN ACCESS ROUTES AND ELEMENTS, AND SPACES REQUIRED TO CONNECT TO PEDESTRIAN ACCESS ROUTES, SHALL BE FIRM, STABLE, SLIP RESISTANT, AND SHALL NOT POND WATER.
WHERE SIDEWALKS ARE LESS THAN 5 FT. X 5 FT. PASSING SPACES EVERY 200 FT. SHALL BE PROVIDED AND ARE PERMITTED TO OVERLAP PEDESTRIAN ACCESS ROUTES.
THE CROSS SLOPE OF THE CONTINUOUS PEDESTRIAN ACCESS ROUTE THROUGH ENTRANCES, ALLEYS, AND SIDEROAD CONNECTIONS WITH STOP OR YIELD CONTROL SHALL BE 1.00% TO FACILITATE DRAINAGE (2.00% MAX.).
WHERE PEDESTRIAN ACCESS ROUTES ARE CONTAINED WITHIN PEDESTRIAN STREET CROSSINGS WITHOUT YIELD OR STOP CONTROL, THE CROSS SLOPE OF THE PEDESTRIAN ACCESS ROUTE SHALL BE 5.00% MAXIMUM.
WHERE PEDESTRIAN ACCESS ROUTES ARE CONTAINED WITHIN MIDBLOCK PEDESTRIAN STREET CROSSINGS, THE CROSS SLOPE OF THE PEDESTRIAN ACCESS ROUTE SHALL BE PERMITTED TO EQUAL THE STREET OR HIGHWAY GRADE.
STORMWATER INLETS, SIGNS, POSTS, MANHOLE COVERS, PULL BOXES AND OTHER ACCESS LIDS SHOULD BE AVOIDED WITHIN THE SIDEWALK. IF SUCH A LOCATION IS NECESSARY, THE FEATURE MUST MEET ADA STANDARDS.
THE RUNNING GRADE OF A SIDEWALK SHALL NOT EXCEED 5.0% UNLESS IT IS MATCHING THE GRADE OF THE ADJACENT ROADWAY.
PEDESTRIAN ACCESS ROUTE SHALL CONTINUE ACROSS RESIDENTIAL AND COMMERCIAL ENTRANCES, ALLEYS, AND SIDEROAD CONNECTIONS.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MDOT (1-888-275-6636)

DATE EFFECTIVE: 04/01/2015
DATE PREPARED: 2/20/2016

608.10P

SHEET NO. 1 OF 1



GENERAL NOTES:
USE SILT FENCE FOR FILL HEIGHTS GREATER OR EQUAL TO 10 FEET. ON ALL FILLS GREATER THAN 10 FEET HIGH, MID-SLOPE RUNS OF SILT FENCE SHOULD BE CONSIDERED.
FOR FABRIC SILT FENCE:
MINIMUM LONGITUDINAL SPLICE OVERLAP SHALL BE 2' WITH A POST AT EACH END.
SECURE FABRIC TO POSTS.
INSTEAD OF SILT FENCE ACROSS DRAINAGE DITCHES AND DRAINS, DITCH CHECKS SHALL BE USED AS SHOWN ON PLANS OR AS DIRECTED BY ENGINEER.
AT CULVERTS, PLACE SEDIMENT BARRIERS OVER THE TOP OF THE CULVERTS (NOT IN THE STREAM CHANNEL).

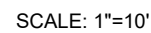
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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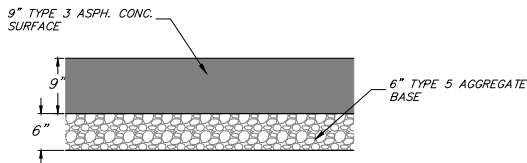
DATE EFFECTIVE: 01/01/2023
DATE PREPARED: 10/10/2022

806.10K

SHEET NO. 5 OF 6

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H	JOB NUMBER REVISION	TSE	10-20-26	TSE	10-20-26	TSE	10-20-26	TSE	10-20-26	TSE	10-20-26	TSE	10-20-26

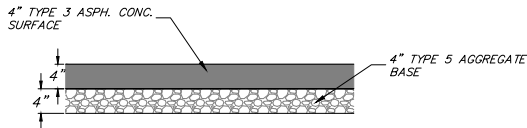




NOTES:
1. THE PLANT MIX BITUMINOUS PAVEMENT SHALL CONFORM TO THE MoDOT job Requirements.

ASPHALTIC CONCRETE PAVEMENT SECTION

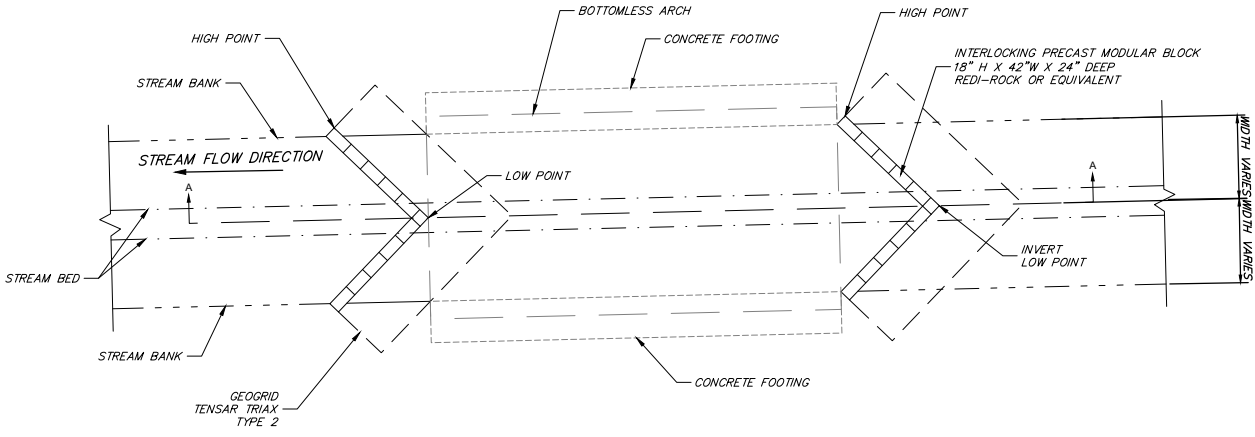
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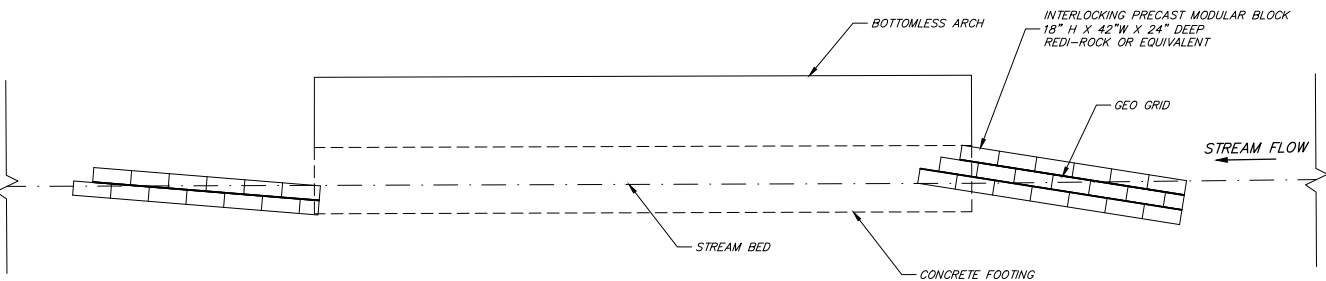
NOTES:
1. THE PLANT MIX BITUMINOUS PAVEMENT SHALL CONFORM TO THE CITY OF HARRISONVILLE, MO ADOPTED ORDINANCE TITLE IV LAND USE, SECTION 410.490D FOR ASPHALTIC CONCRETE PAVEMENT.
2. THE BASE ROCK COURSE SHALL CONFORM TO THE CITY OF HARRISONVILLE, MO ADOPTED ORDINANCE TITLE IV LAND USE, SECTION 410.490D FOR ASPHALTIC CONCRETE PAVEMENT.

ASPHALTIC CONCRETE DRIVEWAY PAVEMENT SECTION

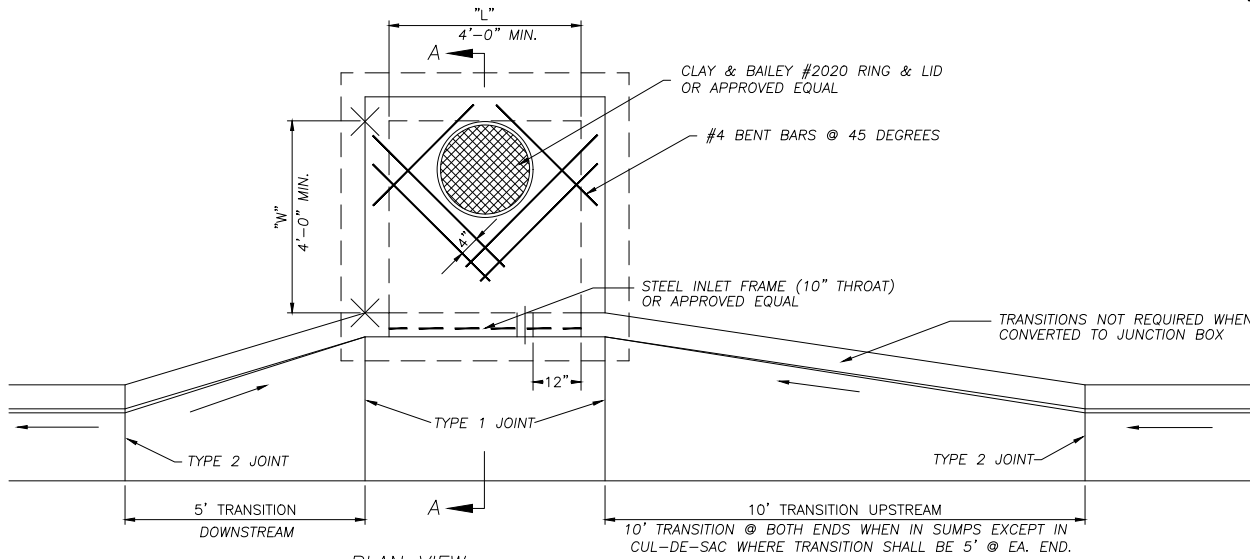
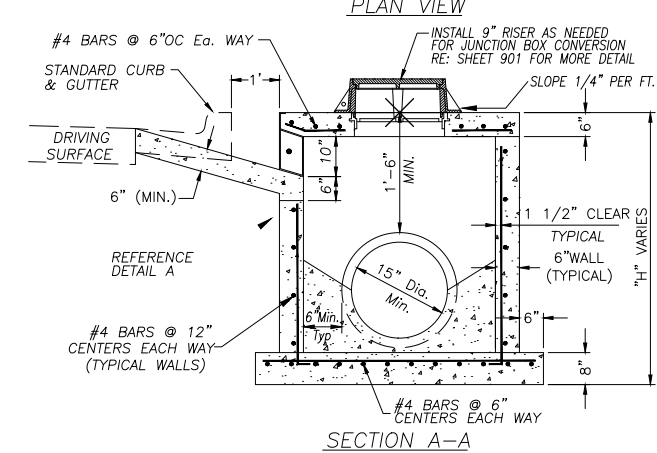
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PLAN CROSS VANE WEIR (NTS)



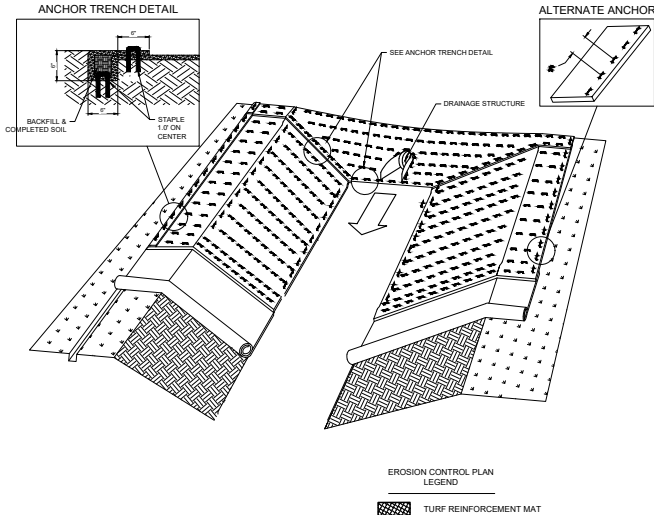
SECTION A-A CROSS VANE WEIR (NTS)



SET-BACK CURB INLET

SCALE: N.T.S.

NOTES:
1. ALL CONCRETE SHALL BE 4000 PSI.
2. INLET CONSTRUCTION NOTES SHALL LIST THE "L" DIMENSION FIRST, THE "W" DIMENSION SECOND, AND THE "H" DIMENSION THIRD.
3. FLOOR OF INLET SHALL HAVE A SHAPED CONCRETE INVERT TO PROVIDE FOR SMOOTH FLOW.
4. THE MINIMUM DIMENSION BETWEEN TOP OF PIPE AND TOP OF BOX SHALL BE 1'-6" (TYPICAL ALL WALLS)
5. ALL INGRADE INLETS SHALL CONFORM TO STREET GRADE. ALL INLETS IN SUMP SHALL BE LEVEL. BEVEL ALL EXPOSED EDGES WITH 3/4" TRIANGULAR MOLDING.
6. THE THROAT AND TRANSITION ARE SUBSIDIARY TO THE STRUCTURE.



TURF REINFORCEMENT MAT FOR CHANNEL INSTALLATION GENERAL NOTES

① TURF REINFORCEMENT MATS ARE USED TO PERMANENTLY STABILIZE DITCHES AND SWALES.
② EROSION CONTROL BLANKETS MAY BE USED TO TEMPORARILY STABILIZE DITCHES AND SWALES.
③ TURF REINFORCEMENT MATS SHALL BE NOTICED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
④ WHEN NOT AVAILABLE INSTALL ACCORDING TO NOTES ⑤ THROUGH ⑧.
⑤ STEP ONE: SITE PREPARATION
THE CHANNEL SHOULD BE FINE GRADED TO A SMOOTH PROFILE AND RELATIVELY FREE FROM ALL WEEDS, CLUMPS, STONES, ROOTS, STUMPS, BRUSHES, GULLIES, CRUSTING AND CHIRING. FILL ANY VOIDS AND MAKE SURE THE CHANNEL IS COMPACTED PROPERLY.
⑥ STEP TWO: SEEDING
SEEDING WITHOUT MULCH SHOULD BE APPLIED TO THE AREA TO BE VEGETATED.
⑦ STEP THREE: ANCHORING THE TURF REINFORCEMENT
TURF REINFORCEMENT MATS SHALL BE ANCHORED AT THE BEGINNING OF THE CHANNEL. A 6-INCH WIDE X 4-INCH DEEP TRENCH SHOULD BE EXCAVATED PERPENDICULAR TO THE DIRECTION OF THE WATER FLOW. THE ENTIRE BOTTOM OF THE CHANNEL, THE TURF REINFORCEMENT MAT SHOULD BE Laid IN THE DRAIN SLIT WITH 10 INCHES OF THE TURF REINFORCEMENT MAT EXTENDING UPSTREAM OF THE ANCHOR TRENCH. SHADE THE EXPOSED SOIL WITH THE REMAINING 12 INCHES OF THE TURF REINFORCEMENT MAT. THE ANCHOR TRENCH AND COMPACT THE SOIL PLACED NEAR THE COMPLETED SOIL. COVER THE COMPLETED SOIL WITH THE REMAINING 12 INCHES OF THE TURF REINFORCEMENT MAT. STAPLE OR STAKE THE TERMINAL END/DOWN SLOPE OF THE ANCHOR TRENCH ON 12-INCH CENTERS.
⑧ STEP FOUR: CHECK SLOTS
CHECK SLOTS SHOULD BE PLACED PERPENDICULAR TO THE FLOW DIRECTION ACROSS THE ENTIRE WIDTH OF THE CHANNEL AT 25 FOOT INTERVALS AND AT THE TERMINAL END OF THE CHANNEL. THE CHECK SLOTS SHOULD BE PLACED IN A 6-INCH WIDE X 4-INCH DEEP TRENCH AS SHOWN. TURF REINFORCEMENT MAT IN THE UP STREAM SIDE OF THE CHECK SLOT WITH STAPLES OR STAKES. FILL THE CHECK SLOTS AS SHOWN AND COMPACT THE SOIL. CONTINUE ROLLING THE TURF REINFORCEMENT MAT DOWNSTREAM OVER THE COMPLETED CHECK SLOT.
⑨ STEP FIVE: TURF REINFORCEMENT MAT DEPLOYMENT ON THE SIDE SLOPES
CONTINUE TO ROLL THE TURF REINFORCEMENT MAT ALONG THE CHANNEL BOTTOM AND SIDE SLOPES IN THE DIRECTION OF THE WATER FLOW. AS THE TURF REINFORCEMENT MAT IS INSTALLED BEHIND THE CHANNEL BOTTOM AND SIDE SLOPES, A SINGLE TYPICAL ROLL LAYDOWN BEHIND THE BOTTOM OF THE SLOPE. TURF REINFORCEMENT MAT OVERLAPPING THE LOWER TURF REINFORCEMENT MAT APPROXIMATELY 4 INCHES. ANCHOR THE TURF REINFORCEMENT MAT WITH A MINIMUM ONE STAPLE OR STAKE IN EACH TRENCH. THE BOTTOM AND ONE STAPLE OR STAKE IN EACH DOWN SLOPE. IF THE TURF REINFORCEMENT MAT NEEDS TO BE SPACED, BE SURE THE TURF REINFORCEMENT MAT IS OVERLAP WITH THE UP STREAM TURF REINFORCEMENT MAT. OVERLAPPING THE DOWN STREAM TURF REINFORCEMENT MAT. THERE SHOULD BE A MINIMUM OF 4 INCHES OF CHECK SLOTS TO SECURE THE TURF REINFORCEMENT MAT. THE TURF REINFORCEMENT MAT SHOULD BE PLACED AT THE TOP OF THE CHANNEL SLOPE IN THE SAME MANNER AS SHOWN.
⑩ STEP SIX: TERMINAL END
SECURE THE TURF REINFORCEMENT MAT AT THE TERMINAL END OF THE CHANNEL WITH A CHECK SLOT STAPLE TO THE ONE MADE AT THE BEGINNING OF THE CHANNEL.
⑪ ONLY TURF REINFORCEMENT MATS LISTED ON THE QUALIFIED PRODUCTS LIST MAY BE USED.
⑫ TURF REINFORCEMENT MATS FOR CHANNEL INSTALLATION SHALL BE PAID FOR UNDER THE FOLLOWING ITEM NUMBER:
ITEM NUMBER: 804-00 SEEDING (WITHOUT MULCH) UNIT: 801-0201 CROWN VETCH MIXTURE (WITHOUT MULCH) UNIT: 801-0202 TEMPORARY SEEDING (WITHOUT MULCH) UNIT: 804-0101 TURF REINFORCEMENT MAT (CLASS I) S.Y. 804-0102 TURF REINFORCEMENT MAT (CLASS II) S.Y. 805-0103 TURF REINFORCEMENT MAT (CLASS III) S.Y.
EROSION CONTROL BLANKETS SHALL BE PAID FOR ACCORDING TO THEIR RESPECTIVE ITEM NUMBERS.
PAYMENT SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY FOR CONSTRUCTION AND MAINTENANCE OF TURF REINFORCEMENT MATS.
⑬ TURF REINFORCEMENT MATS SHALL NOT BE PLACED IN INTERMITTENT OR PERMANENT STREAMS UNLESS PERMITTED.

TURF REINFORCEMENT MAT DETAIL



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E	ISSUE FOR CONSTRUCTION	TSE	04-30-26
F	REISSUE FOR A DATE REVIEW	TSE	09-03-26
G	ISSUE FOR BID	TSE	10-02-26
H	JOB NUMBER REVISION	TSE	10-20-26
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		FED NUMBER:	

(SD) STANDARD DETAILS

MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A981 REPLACEMENT

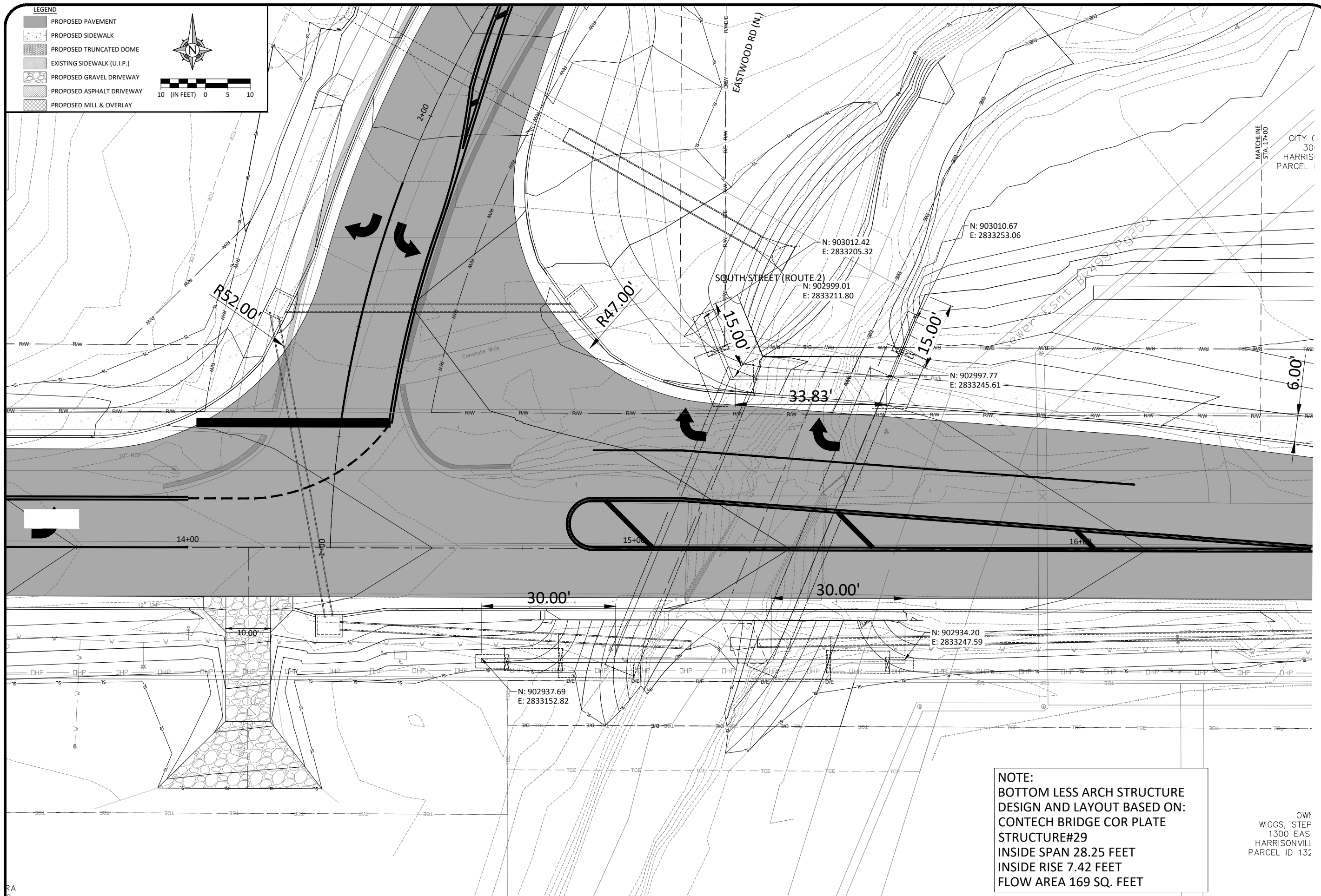
SEC4 T44N R31W

CITY OF HARRISONVILLE, MO

SHEET NUMBER

31

OF 32



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F	REISSUE FOR A DATE REVIEW	TSE	09-03-26	FIELD BOOK:
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				STBC 2200(411)

(WL) WING WALL LAYOUT

MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT

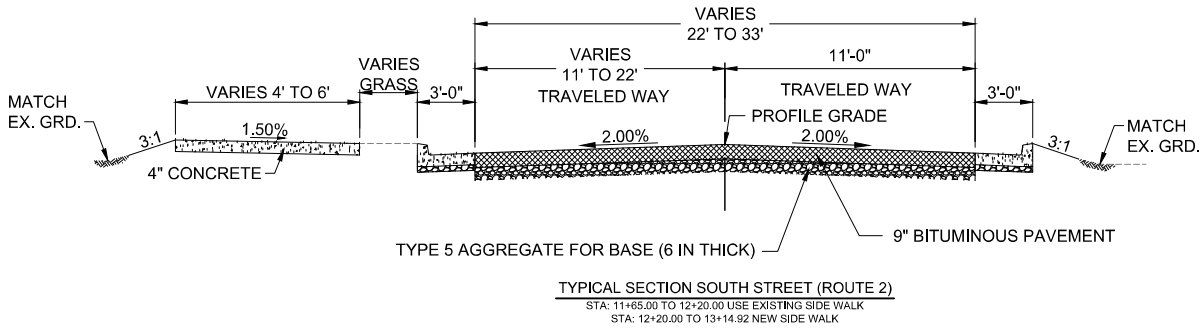
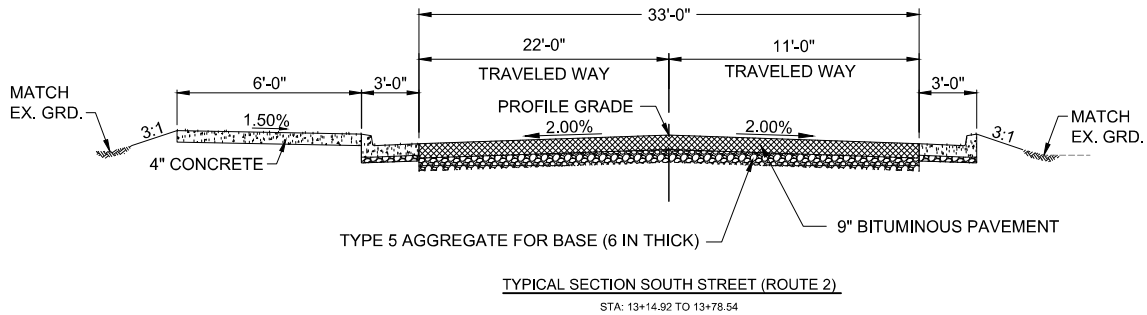
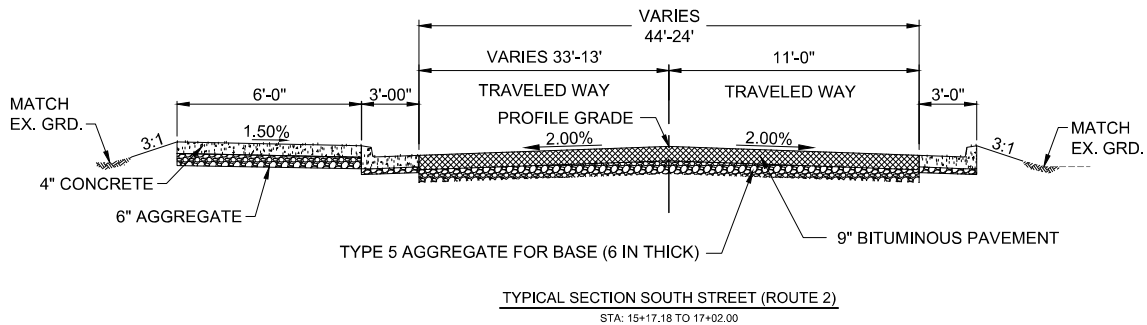
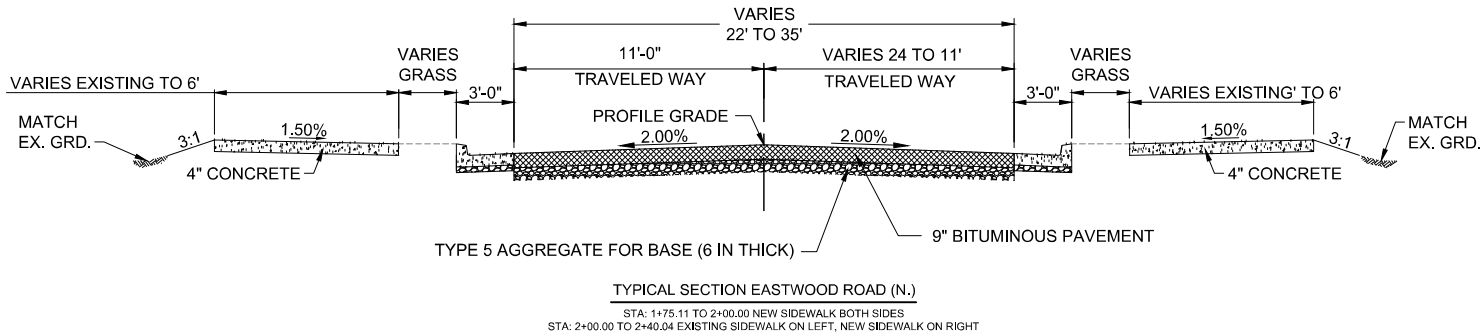
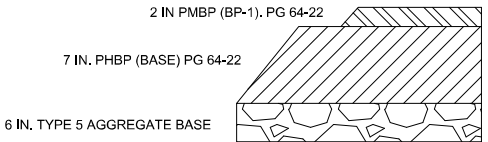
SEC4 T44N R31W

CITY OF HARRISONVILLE, MO

SHEET NUMBER
32
OF 32

NOTE:
BOTTOM LESS ARCH STRUCTURE
DESIGN AND LAYOUT BASED ON:
CONTECH BRIDGE COR PLATE
STRUCTURE#29
INSIDE SPAN 28.25 FEET
INSIDE RISE 7.42 FEET
FLOW AREA 169 SQ. FEET

OWN
WIGGS, STEP
1300 EAS
HARRISONVILL
PARCEL ID 132



ASPHALT FACTORS	
MATERIAL	TONS/CY
PMBP (BP-1), PG 64-22	1.950
PHBP (BASE), PG 64-22	1.950
TACK COAT APPLICATION RATE	
0.10 GAL/YD (UNDILUTED)	



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(TS) TYPICAL SECTIONS
MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

SHEET NUMBER
02
OF 32

Description	Quantity	Unit
TEMPORARY SURFACING	50	C.Y.
CLEARING AND GRUBBING	3	ACRE
REMOVAL OF IMPROVEMENTS	1	L.S.
UNCLASSIFIED EXCAVATION	2583	C.Y.
EMBANKMENT IN PLACE	774	C.Y.
COMPACTING EMBANKMENT	2246	C.Y.
TYPE 5 AGGREGATE FOR BASE (4 IN THICK)	201	S.Y.
TYPE 5 AGGREGATE FOR BASE (6 IN THICK)	3438	S.Y.
GRAVEL (A) OR CRUSHED STONE (B)	38	TON
9 INCHES, BITUMINOUS PAVEMENT	2986.2	S.Y.
BITUMINOUS PAVEMENT MIXTURE PG64-22, (BP-1)	22	TON
SEWER {ADJUSTMENT RING SANITARY SEWER}	1	EACH
CHAIN LINK FENCE (RET. WALLS)	165	L.F.
CONCRETE CURB RAMP	29	S.Y.
TRUNCATED DOMES	53	S.F.
CONCRETE SIDEWALK, 4 IN.	177	S.Y.
MISC. {PERVIOUS PEDESTRIAN PATH}	201	S.Y.
CURB AND GUTTER TYPE B	1355	L.F.
MISC. {4'L x 2'D X 1.5H PRECAST CONCRETE BLOCK -WEIRS}	130	S.Y.
MISC. {FURNISHING AND PLACING TYPE 3 ROCK BLANKET}	20	TON
CURB INLET	7	EACH
CONSTRUCTION SIGNS	109	S.F.
CHANGEABLE MESSAGE SIGN	2	EACH
TYPE III MOVABLE BARRICADE	8	EACH
MOBILIZATION	1	L.S.
PREFORMED THERMOPLASTIC PAVEMENT MARKING, 24 IN. WHITE	84	L.F.
PREFORMED THERMOPLASTIC PAVEMENT MARKING, LEFT/RIGHT ARROW	6	EACH
6 IN. WHITE CLASS 2 PAVEMENT MARKING PAINT (25-MIL, TYPE I BEAD)	113	L.F.
4 IN. WHITE CLASS 1 PAVEMENT MARKING PAINT (18-MIL, TYPE P BEAD)	263	L.F.
4 IN. YELLOW CLASS 1 PAVEMENT MARKING PAINT (18-MIL, TYPE P BEAD)	2255	L.F.
MODIFIED COLDMILLING (DEPTH TRANSITIONS)	126	S.Y.
CONTRACTOR FURNISHED SURVEYING/ STAKING	1	L.S.
18 IN. PIPE GROUP A	600	L.F.
36 IN. PIPE GROUP A	49	L.F.
18 IN. OR ALLOWED SUBSTITUTE GROUP A FLARED END SECTION	2	EACH
36 IN. OR ALLOWED SUBSTITUTE GROUP A FLARED END SECTION	1	EACH
MULCHING	0.4	ACRE
MISC. {NATIVE PLANTINGS ALONG CREEK BANK}	125	S.Y.
SEEDING - COOL SEASON GRASSES	0.8	ACRE
CURB INLET CHECK	7	EACH
SEDIMENT REMOVAL	25	C.Y.
TEMPORARY SEEDING	0.8	ACRE
SILT FENCE	1800	L.F.
TYPE 1 TURF REINFORCEMENT MAT	600	S.Y.
MISC. {REMOVE AND REPLACE SCHOOL MONUMENT SIGN}	1	L.S.
MISC. {REMOVE/REPLACE CROSSWALK SIGN -EASTWOOD }	2	EACH
MISC. {REMOVE/REPLACE CROSSWALK SIGN/LIGHT - S. STREET}	2	EACH
CLASS B-2 CONCRETE	160	C.Y.
STEEL PLATE BOTTOMLESS ARCH 28"W x 7.4'H	1	L.S.
REINFORCING STEEL (EPOXY COATED)	18560	LBS
PROTECTIVE COATING - CONCRETE BENTS AND PIERS (EPOXY)	1	L.S.
POLYMER COATING WATERPROOFING -STEEL ARCH	300	S.Y.
TRANSPORTING AND ERECTING SUPERSTRUCTURE	1	L.S.
MISC. {DEWATERING}	1	L.S.

QUANTITIES SHOWN ON THESE PLANS ARE NOT GUARANTEED BY THE OWNER AND ARE USED SOLELY FOR THE PURPOSE OF COMPARING BIDS AND AWARDING THE CONTRACT, AND MAY OR MAY NOT REPRESENT THE ACTUAL QUANTITIES ON THE JOB, SEE SPECIFICATIONS.

ANY ITEMS NOT SHOWN IN BID TAB, SHALL BE CONSIDERED SUBSIDIARY TO OTHER ITEMS.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SUBMIT FORM 106, TO MISSOURI DEPARTMENT OF NATURAL RESOURCES, HISTORIC PRESERVATION PROGRAM FOR ANY BORROW AREAS TO BE USED ON THIS PROJECT.

ABBREVIATION TABLE

BC:	BACK OF CURB
CL	CENTERLINE
CONT.	CONTINUOUS
C.P.	CONTROL POINT
EG:	EXISTING GRADE
EX:	EXISTING
FG:	FINISH GRADE
FL:	FLOW LINE
GL:	GUTTER LINE
MAX.	MAXIMUM
MIN.	MINIMUM
OFF:	OFFSET
PL	PROPERTY LINE
PR:	PROPOSED
R/W	RIGHT-OF-WAY
STA:	STATION
TBM	TEMPORARY BENCHMARK
T.C.E.	TEMPORARY CONSTRUCTION EASEMENT
TEMP.	TEMPORARY
TYP.	TYPICAL

-----	EXISTING CONTOUR (MAJOR)	☐	EXISTING MAILBOX
-----	EXISTING CONTOUR (MINOR)	☐	EXISTING STORM INLET
-----	EXISTING FEATURE	☉	EXISTING GAS METER
-x-x-x-x-	EXISTING FENCE	☼	EXISTING GAS VALVE
-+-----+	EXISTING GUARDRAIL	Ⓜ	EXISTING WATER METER
-----	SECTION LINE	Ⓜ	EXISTING WATER VALVE
- - - - -	EXISTING PROPERTY LINE	Ⓜ	EXISTING FIRE HYDRANT
-----	EXISTING EASEMENT	Ⓜ	EXISTING WATER WELL
-----	EXISTING STORM WATER	Ⓜ	EXISTING SANITARY MANHOLE
-----	EXISTING GAS LINE	Ⓜ	EXISTING POWER POLE
-----	EXISTING WATER LINE	Ⓜ	EXISTING LIGHT POLE
-----	EXISTING SANITARY SEWER	Ⓜ	EXISTING GUY WIRE ANCHOR
-----	EXISTING UNDERGROUND ELECTRIC	Ⓜ	EXISTING TELEPHONE PEDESTAL
-----	EXISTING OVERHEAD ELECTRIC	Ⓜ	EXISTING SIGN
-----	EXISTING UNDERGROUND TELEPHONE	Ⓜ	EXISTING TREE
-----	EXISTING OVERHEAD TELEPHONE	Ⓜ	CONTROL POINT
-----	EXISTING FIBER OPTIC	Ⓜ	FOUND IRON BAR
-----	EXISTING UNDERGROUND CABLE TV	Ⓜ	EXISTING BENCHMARK
-----	EXISTING OVERHEAD CABLE TV	Ⓜ	

NOTE:
DASHED OR SCREENED SYMBOL INDICATES EXISTING FEATURE.

LEGEND

(USED IN PLANS)

UTILITIES INFORMATION

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816-507-0713

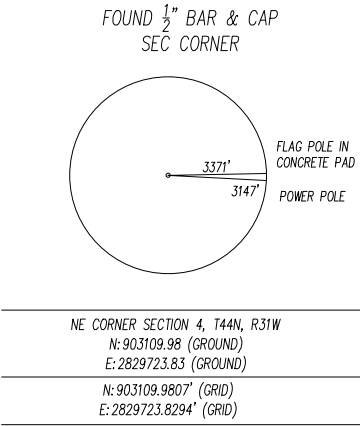
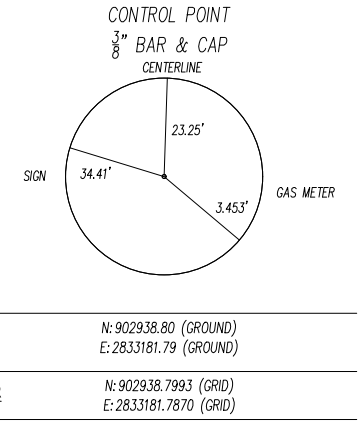
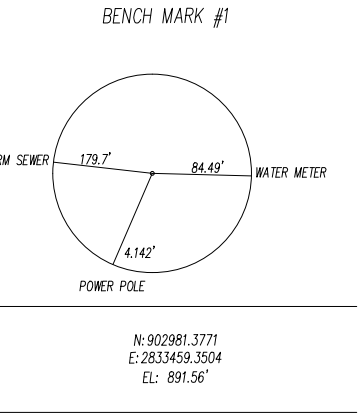
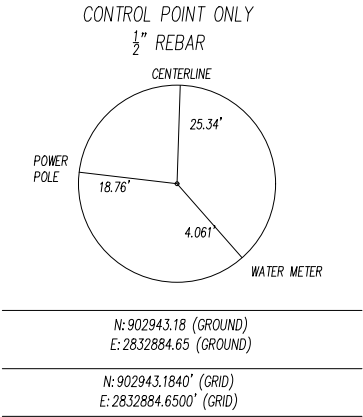
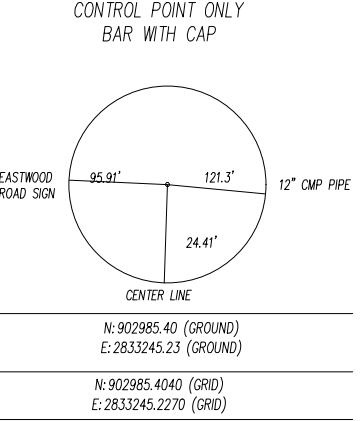
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FIDELITY COMMUNICATIONS
573-237-2103
9503 HIGHWAY 100
NEW HAVEN, MO 63068



HARRISONVILLE, SOUTH STREET CULVERT
REPLACEMENT
A/E PROJECT NO.23KC40007
GEOID 2017

HORIZONTAL DATUM
MISSOURI STATE PLANE COORDINATE SYSTEM, 1983
MISSOURI WEST ZONE, 2005 ADJUSTMENT

VERTICAL DATUM:
NAVD 83 W NGVD 88
CONTROL WAS ESTABLISHED VIA THE MISSOURI VRS
NETWORK

COMBINED ADJUSTMENT FACTOR: 0.9999842
(1/x=1.00000158)
POINTS AND LINE WORK ARE GROUND DISTANCES
SCALED ABOUT THE ORIGIN (0,0,0)

GENERAL NOTES:

DESIGN SPECIFICATIONS:
LATEST EDITION OF THE AASHTO ROADSIDE DESIGN GUIDE

CONSTRUCTION SPECIFICATIONS:
MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION

MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION

- EXISTING UTILITIES AND UNDERGROUND INSTALLATIONS HAVE BEEN LOCATED TO THE GREATEST EXTENT PRACTICAL THROUGH REVIEW OF CONSTRUCTION PLANS AND SURFACE OBSERVATIONS. THE CONTRACTOR SHALL FIELD VERIFY ALL HORIZONTAL AND VERTICAL LINES AND GRADES OF EXISTING UTILITIES PRIOR TO THE CONSTRUCTION OF IMPROVEMENTS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY UPON DISCOVERING A DISCREPANCY BETWEEN THE CONTRACT DRAWINGS AND ACTUAL FIELD CONDITIONS. CONTACT ONE CALL.
- THE CONTRACTOR MUST COORDINATE CONSTRUCTION WITH THE NECESSARY AUTHORITIES.
- NO WORK SHALL COMMENCE UNTIL ALL NECESSARY PERMITS ARE OBTAINED BY THE OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL LINE AND GRADE STAKES.
- CONTRACTOR SHALL REMOVE, PRESERVE, AND REPLACE ALL SIGNS, MAIL BOXES, FENCES, METAL FLAG POLE BASES AND THE LIKE, WITHIN THE LIMITS OF THE PROPOSED IMPROVEMENTS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.
- ALL TRAFFIC WAYS INCLUDING DRIVEWAYS, ALLEYWAYS, ETC., SHALL REMAIN ACCESSIBLE TO RESIDENTIAL AND EMERGENCY VEHICLES DURING PROJECT DURATION.
- ALL CONSTRUCTION AND EXCAVATION ACTIVITIES SHALL BE CONFINED TO EASEMENTS, ROAD RIGHT-OF-WAY, AND/OR WORK AREA LIMITS AS SHOWN ON DRAWINGS.
- CONTRACTOR SHALL RAISE OR LOWER ALL AFFECTED MANHOLE RIMS AND VALVE BOXES IN THE WORK AREA TO MATCH PROPOSED GRADE.
- ALL AREAS DISTURBED BY CONSTRUCTION ARE FIRST TO BE FINE GRADED AND THEN FOLLOWED BY SEED AND STRAW MULCH, UNLESS OTHERWISE NOTED, OVER, MIN. 4" TOPSOIL STOCKPILED FROM SITE OR HAULED IN AS REQUIRED.
- PROVIDE POSITIVE DRAINAGE FROM ALL IMPROVED AREAS, SO THAT RUNOFF DRAINS TO DRAIN WAYS.
- ALL CONTOURS AND SPOT ELEVATIONS SHOWN ARE FINISH GRADE.
- ANY DAMAGE TO EXISTING STRUCTURES, VEGETATION, OR IMPROVEMENTS RESULTING FROM NEW CONSTRUCTION ACTIVITIES SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- ALL SIDEWALKS AND ADA RAMPS SHALL BE IN ACCORDANCE WITH ADA REGULATIONS.
- CONTRACTOR TO PROTECT ANY STORM INLETS, THAT RECEIVE STORM WATER FROM THE AREA OF CONSTRUCTION, FROM SEDIMENT. EROSION CONTROL DEVICES SHALL BE MAINTAINED DURING THE WHOLE CONSTRUCTION PERIOD BY THE CONTRACTOR. ALL EROSION CONTROL DEVICES, NOT LISTED IN THE PLANS, SHALL BE INCIDENTAL TO CONSTRUCTION.
- ALL TRENCHES, WHICH LIE UNDER PROPOSED PAVEMENT, OR LIE WITHIN TWO FEET OF BACK OF CURB, SHALL BE BACKFILLED TO PAVEMENT SUB-GRADE WITH COMPACTED GRANULAR BACK FILL.
- TRENCHES SHALL BE COMPACTED TO 95% STANDARD PROCTOR WHEN PIPES ARE LAID IN FILL.
- ALL REMOVALS NECESSARY TO COMPLETE THE PROJECT AS SHOWN ON THE PLANS, SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
- ANY WORK INDICATED ON THE PLAN THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION ON THIS PROJECT.



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F	REISSUE FOR A-DATE REVIEW	TSE	09-03-26
G	ISSUE FOR BID	TSE	10-02-26
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		JOB NUMBER:	
		FED NUMBER:	

(QU) QUANTITIES & GENERAL NOTES

MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT

SEC4 T44N R31W

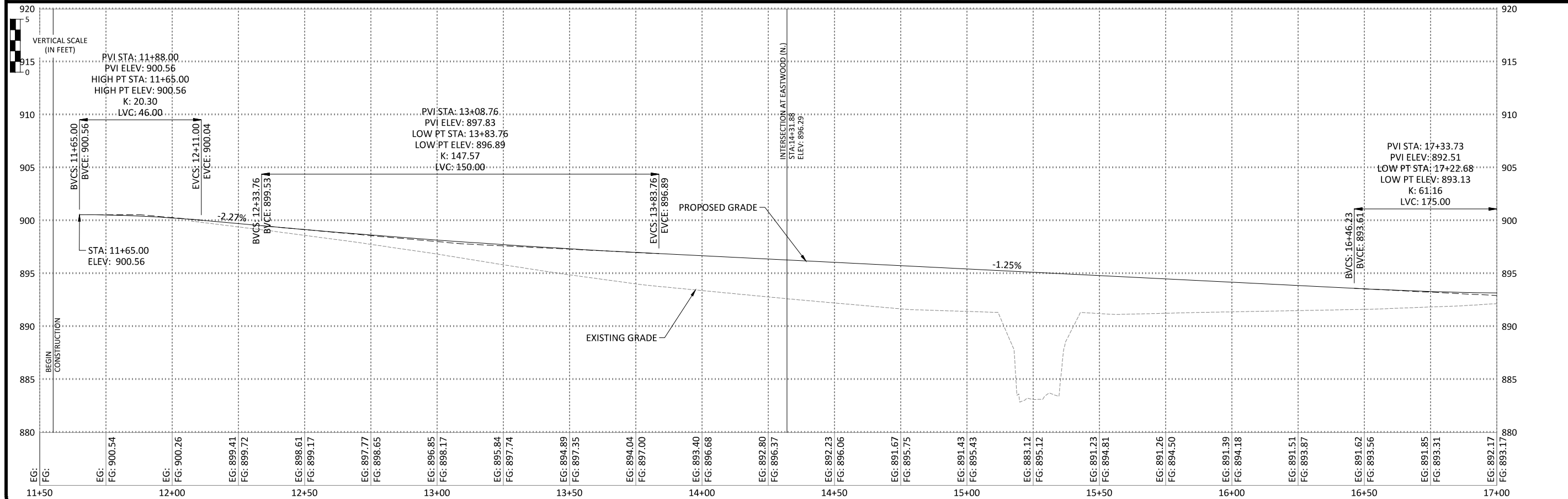
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SHEET NUMBER

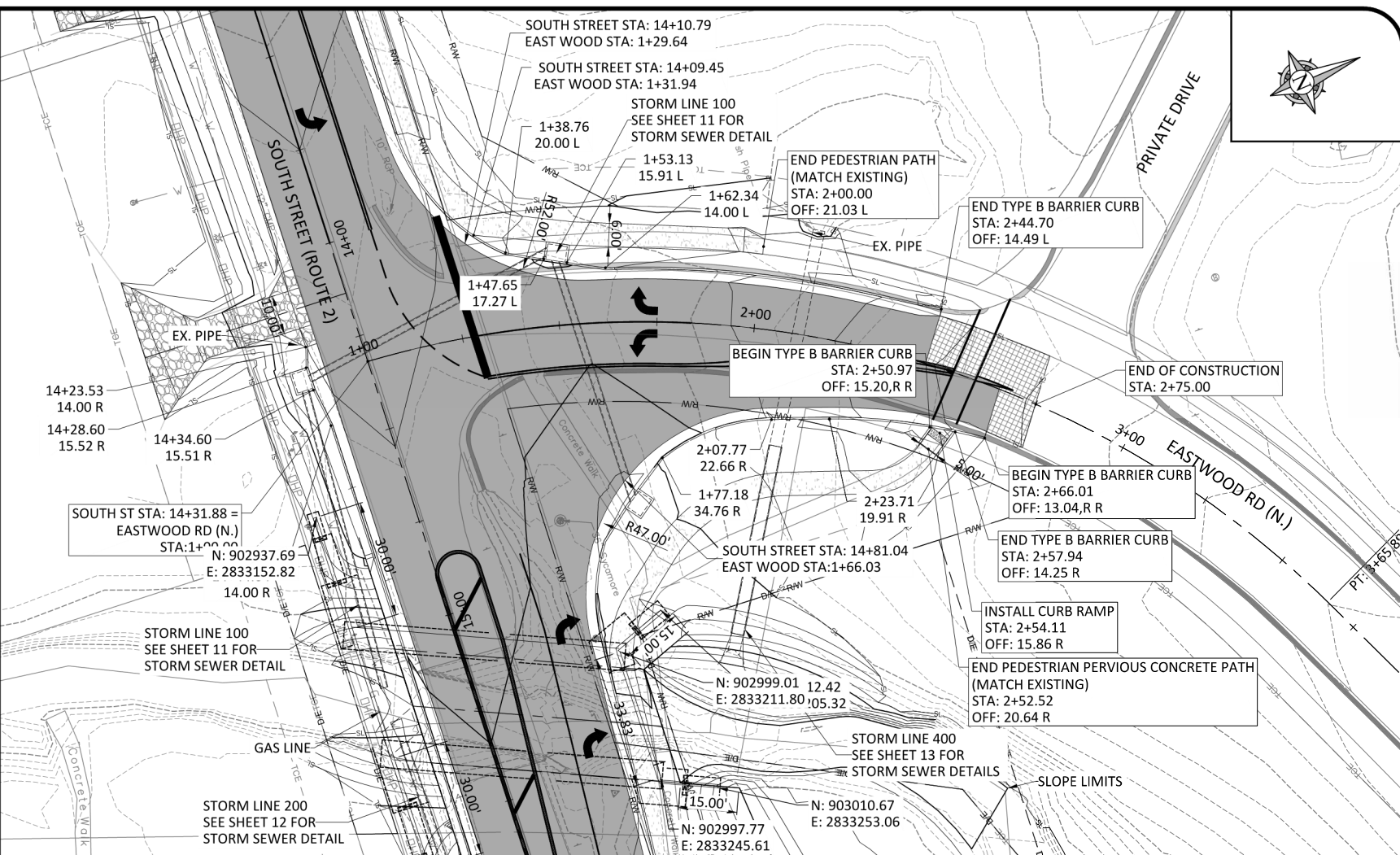
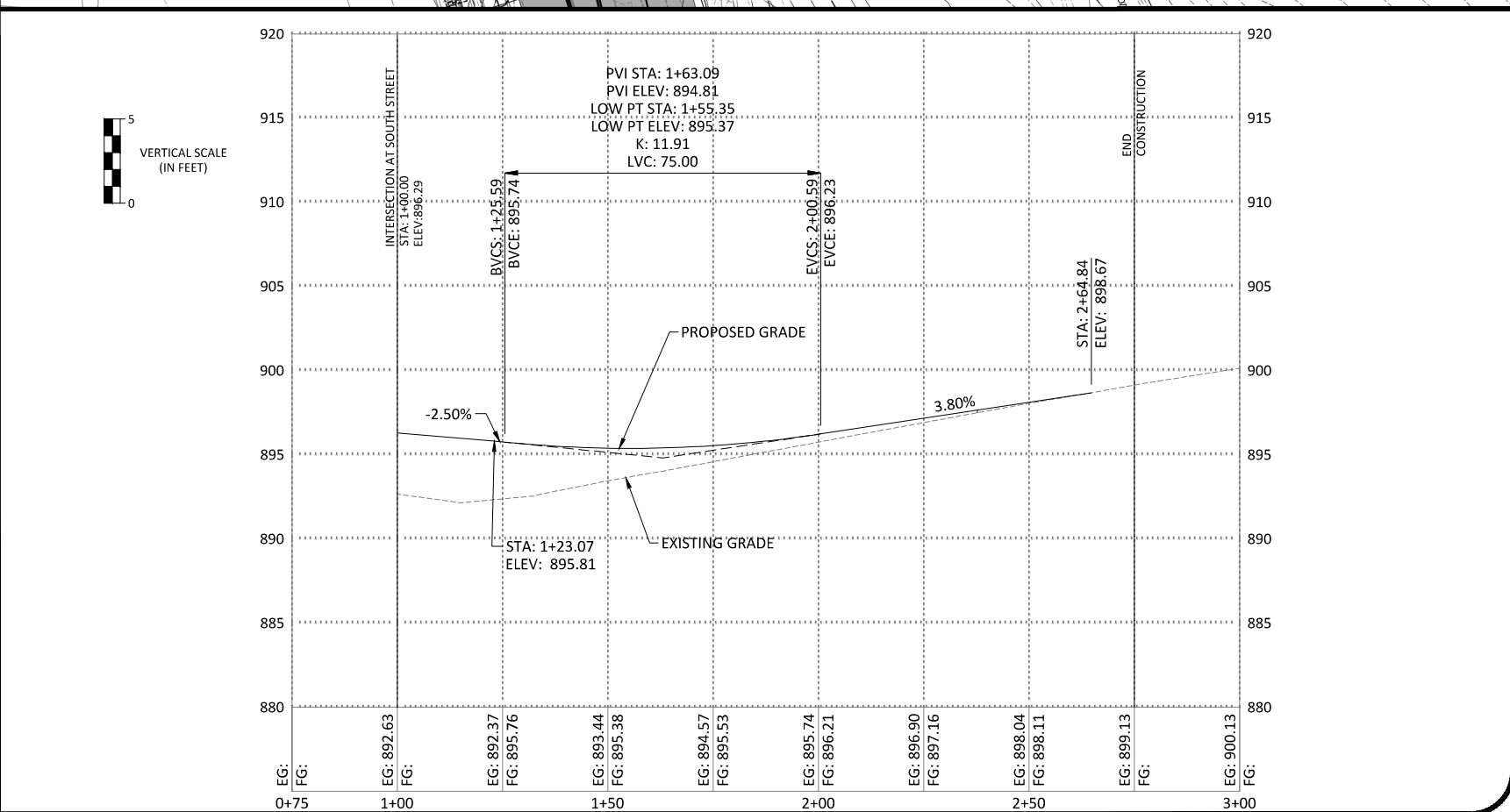
03

OF 32

© Shared owner: MO2427000002340007 Harrisonville South StreetCAD: A-CA2427000002340007 QUANTITIES & GENERAL NOTES



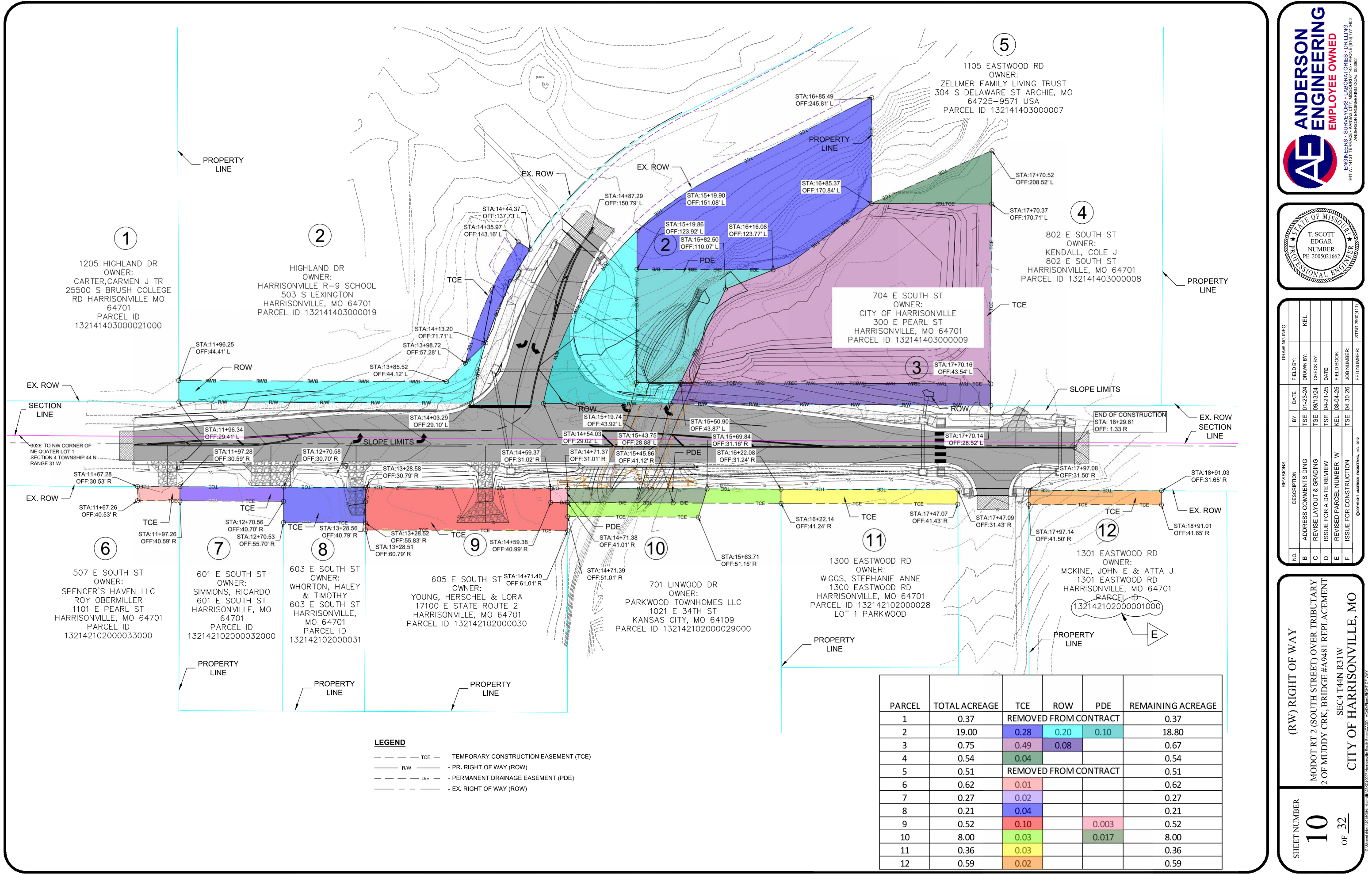
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06	MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY 2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT
OF 32	SEC 4 T44N R31W CITY OF HARRISONVILLE, MO



SHEET NUMBER	<div style="font-size: 48px; font-weight: bold;">07</div>	(PP) PLAN & PROFILE
MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY 2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT		
SEC4 T44N R31W CITY OF HARRISONVILLE, MO		

REVISIONS				DRAWING INFO.	
NO.	DESCRIPTION	BY	DATE	FIELD BY:	
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E	ISSUE FOR CONSTRUCTION	TSE	04-30-26	DATE:	
F	RESUBMIT FOR A-DATE REVIEW	TSE	09-03-26	FIELD BOOK:	
G	ISSUE FOR BID	TSE	10-02-26	JOB NUMBER:	
				FED NUMBER:	STRG 2005(411)

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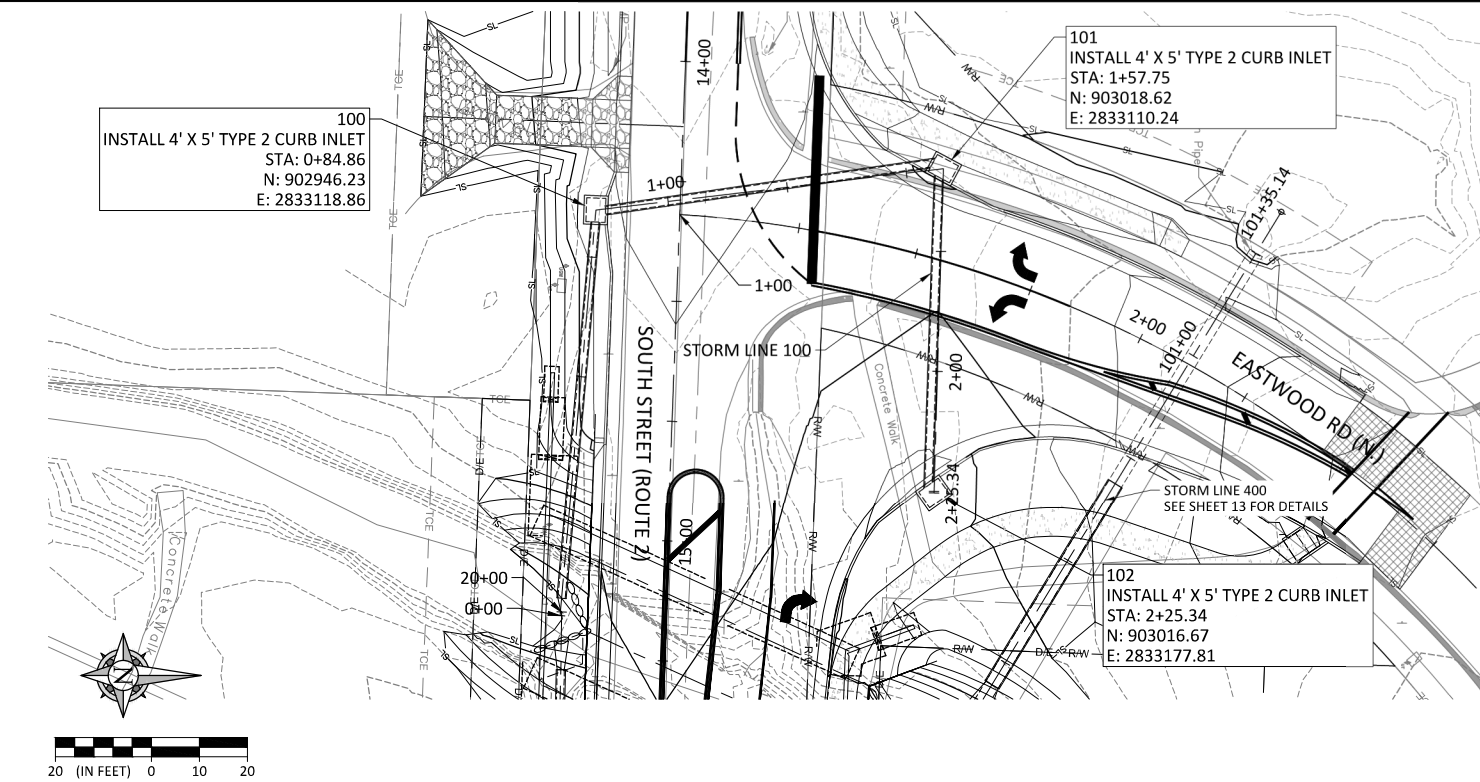
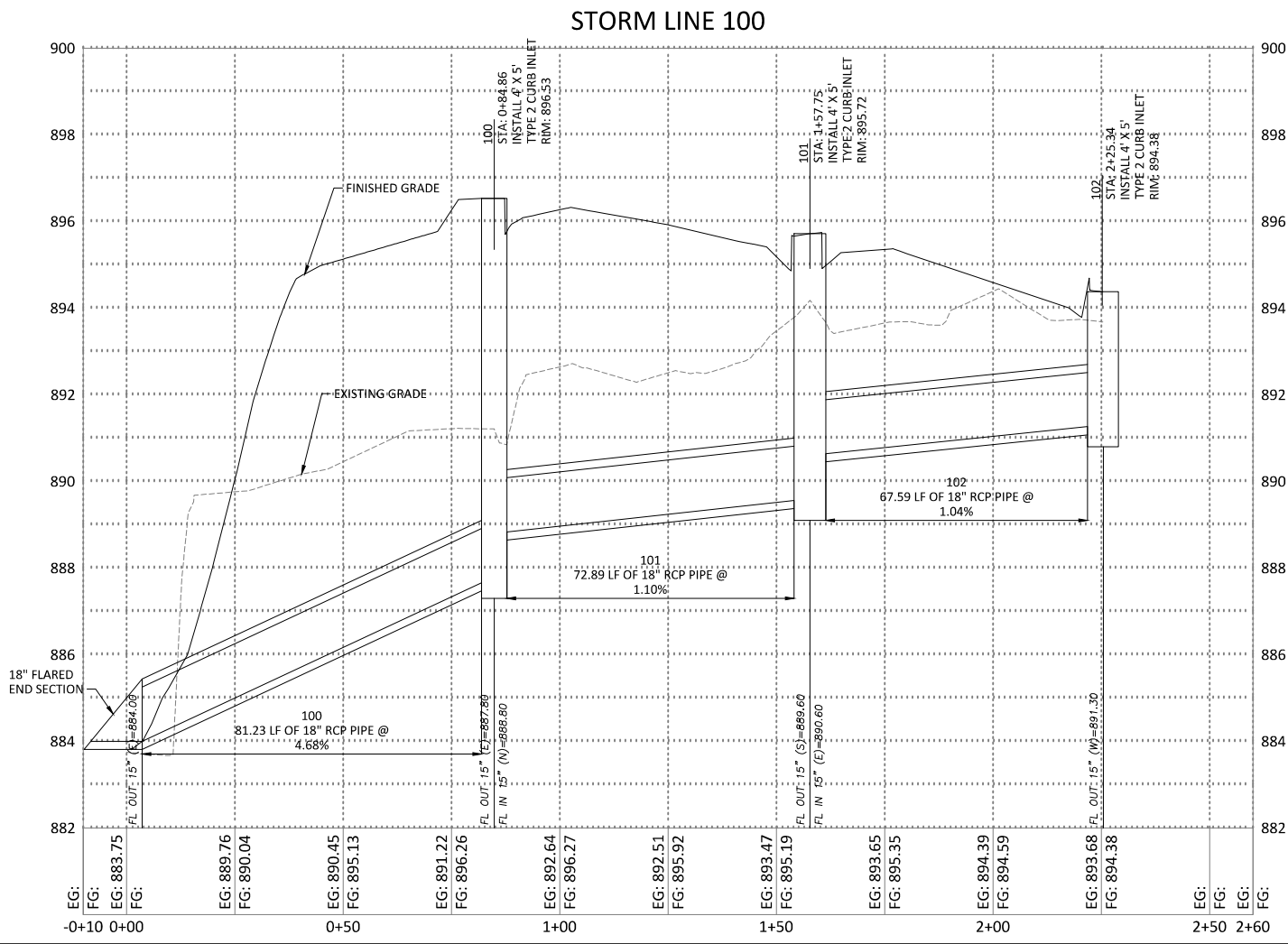
STATE OF MISSOURI
T. SCOTT EDGAR
NUMBER
PE-2005021662
PROFESSIONAL ENGINEER

DRAWING INFO.					
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C	09/13/24	TSE	09/13/24	2	REVISE LAYOUT & GRADING
D	04-21-25	TSE	04-21-25	3	ISSUE FOR A DATE REVIEW
E	08-04-25	KEL	08-04-25	4	REVISED PARCEL NUMBER W
F	04-30-26	TSE	04-30-26	5	ISSUE FOR CONSTRUCTION
					STG 250X(11)

(RW) RIGHT OF WAY

MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

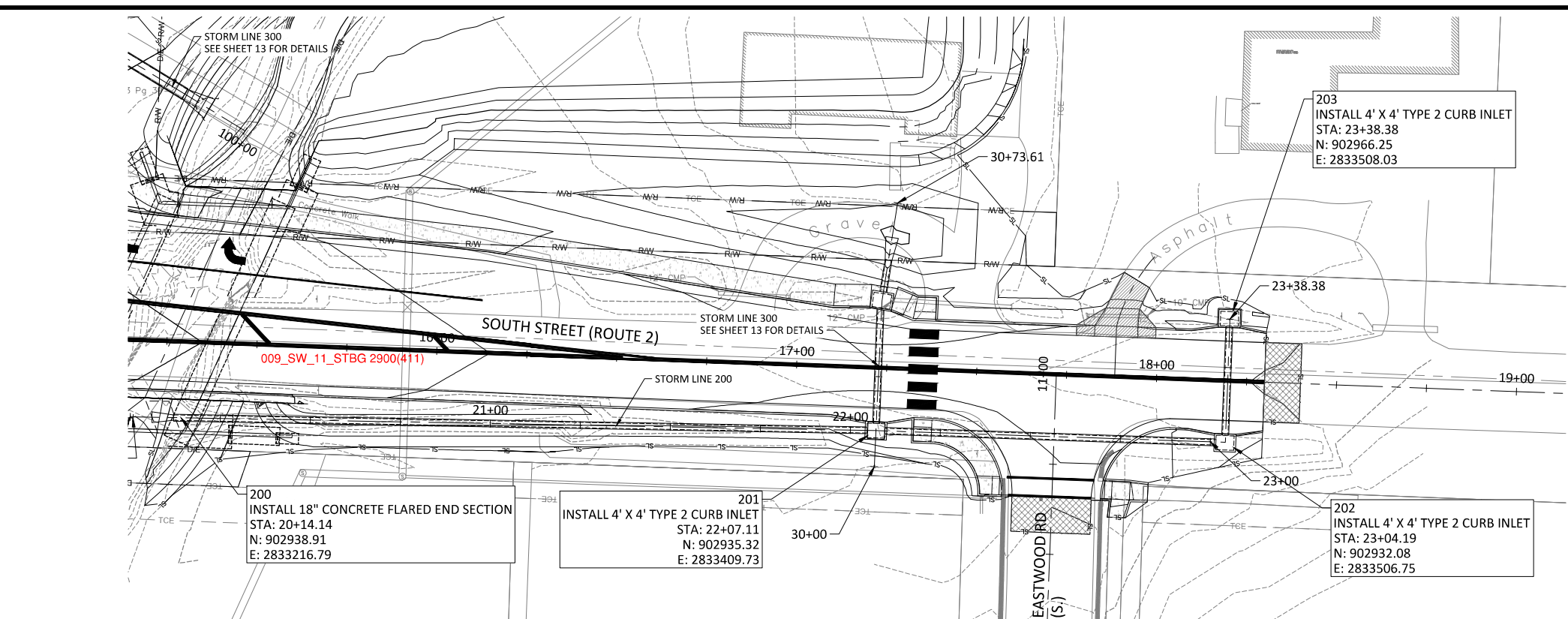
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10
OF 32



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G	ISSUE FOR BID	TSE	10-02-26	JOB NUMBER:	STPG 29504(11)

(SW) STORM WATER PLAN & PROFILE
MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

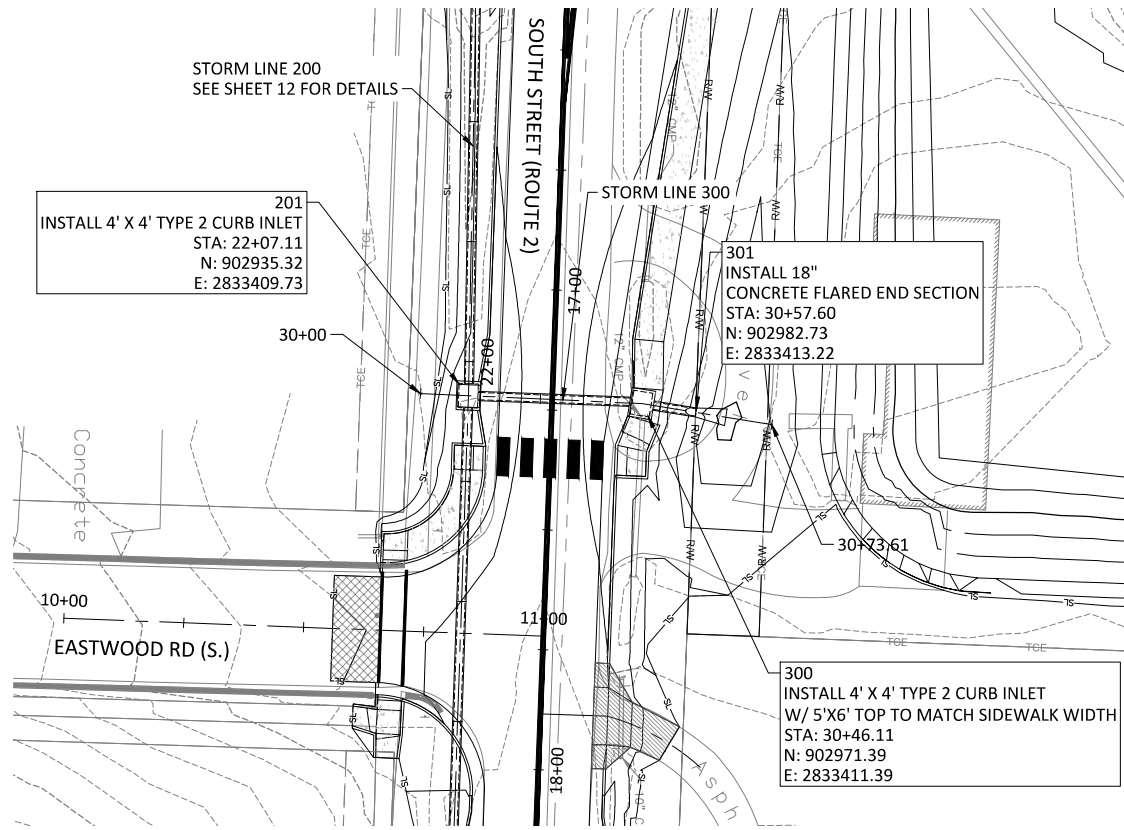
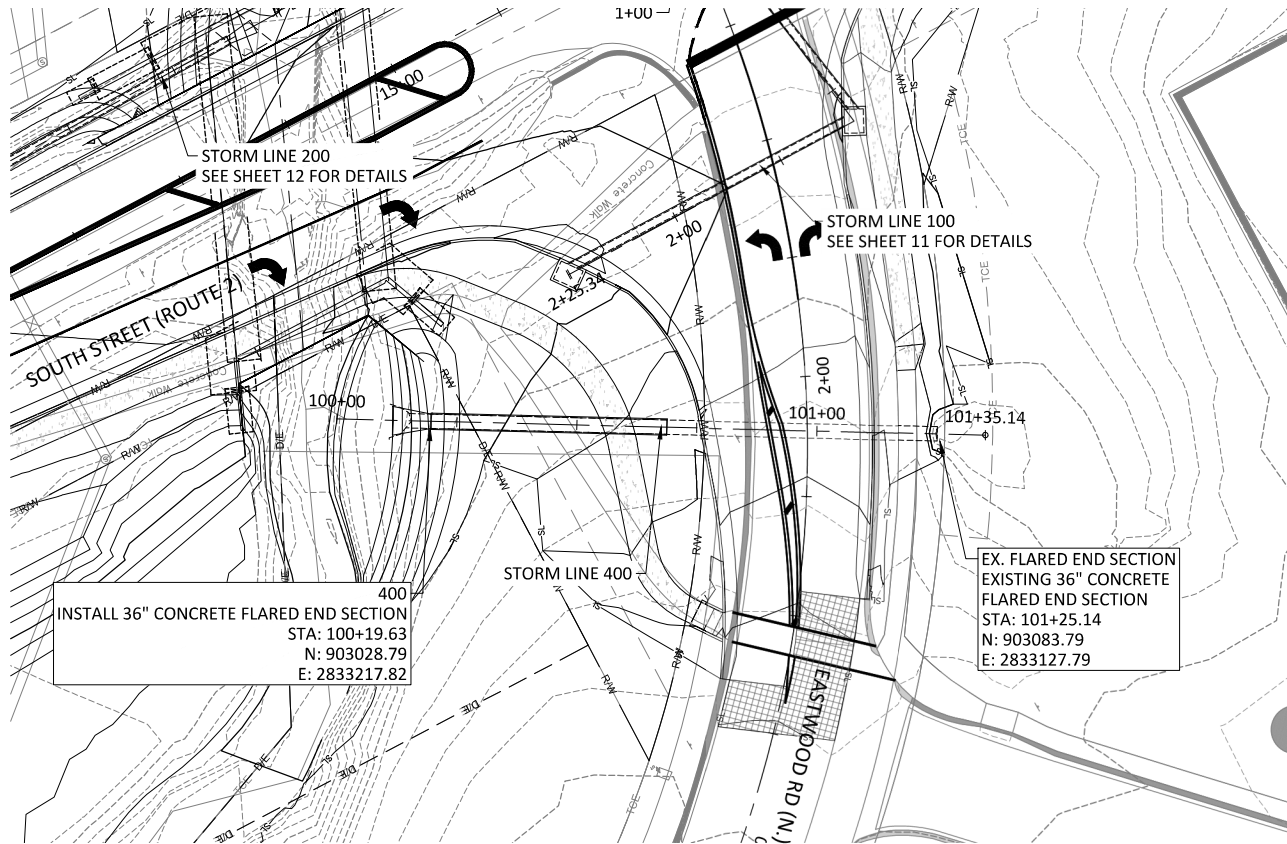
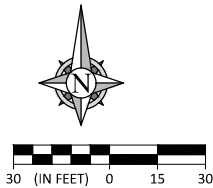
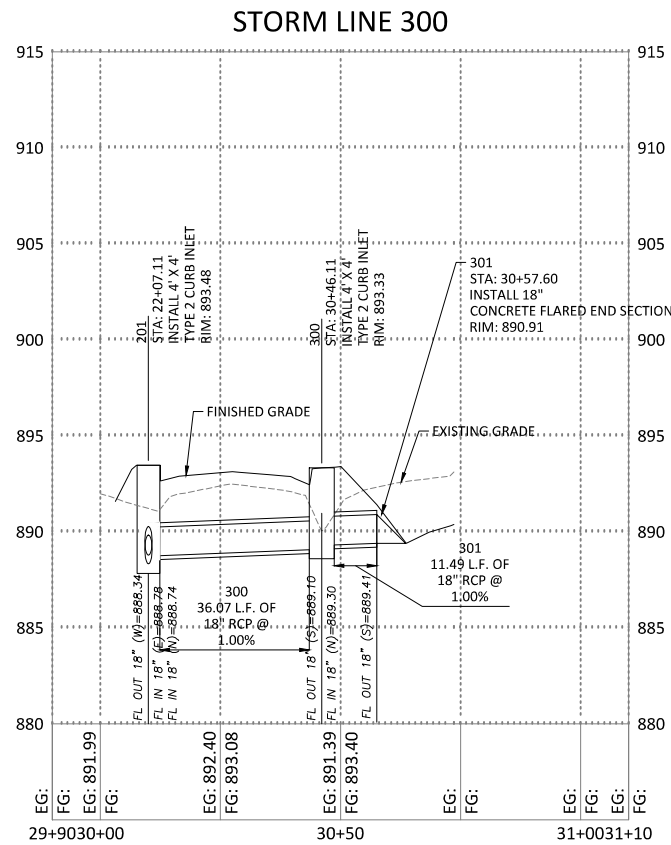
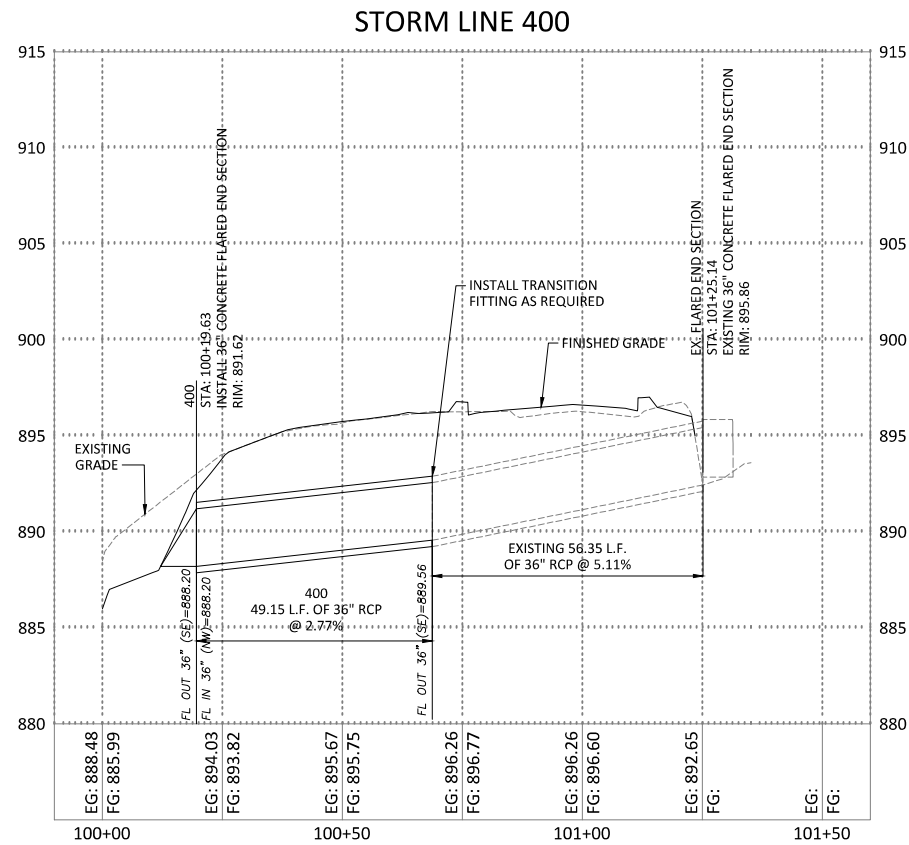
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(SW) STORM WATER PLAN & PROFILE
MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
C OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

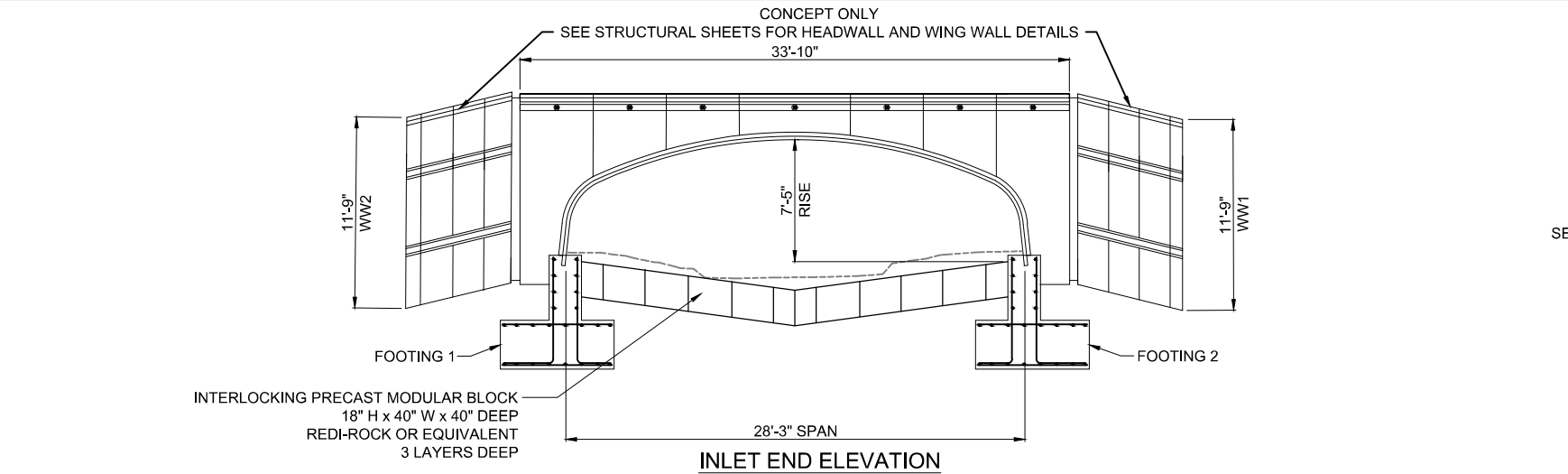
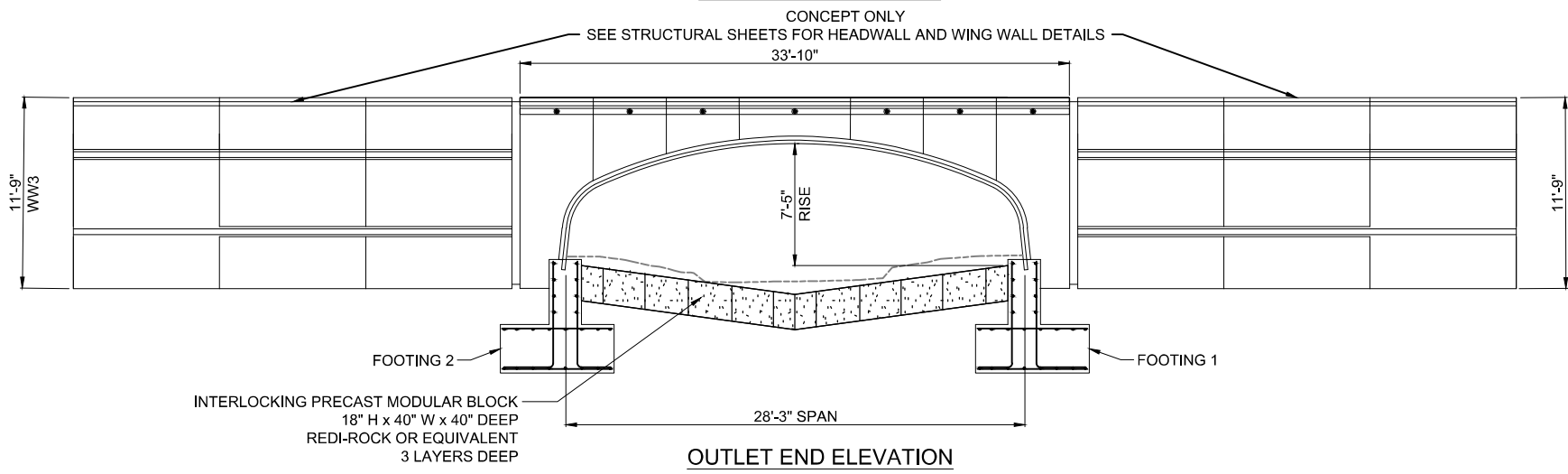
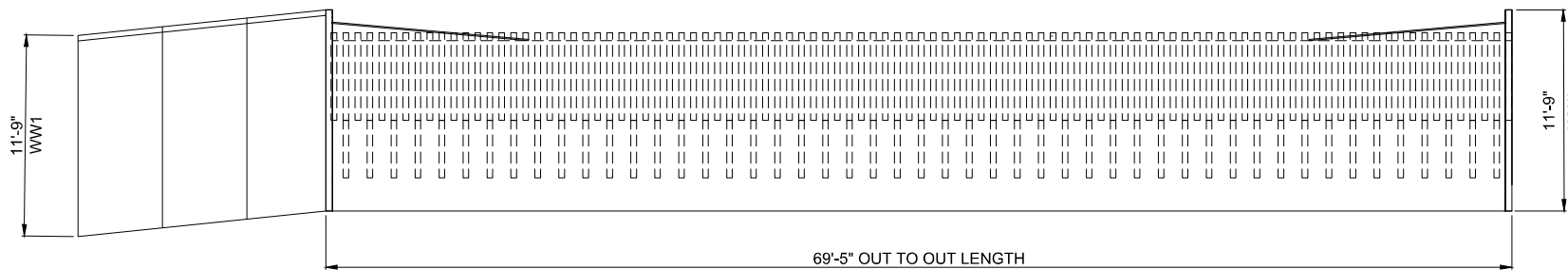
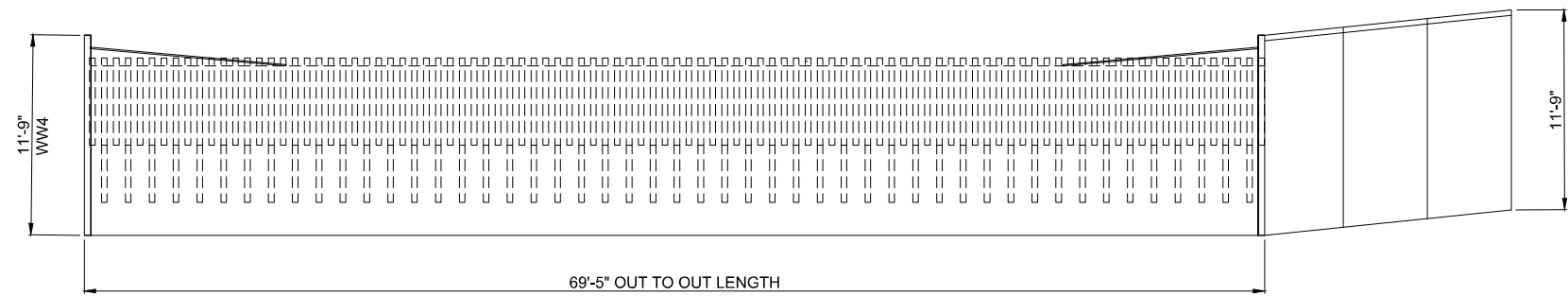
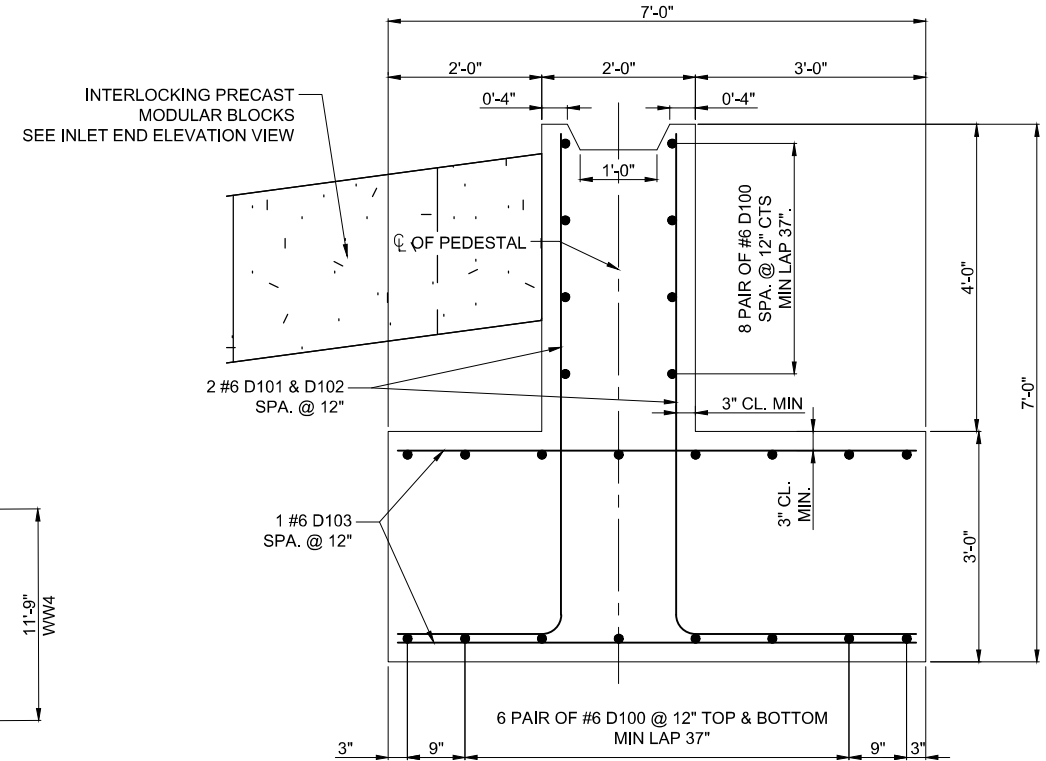
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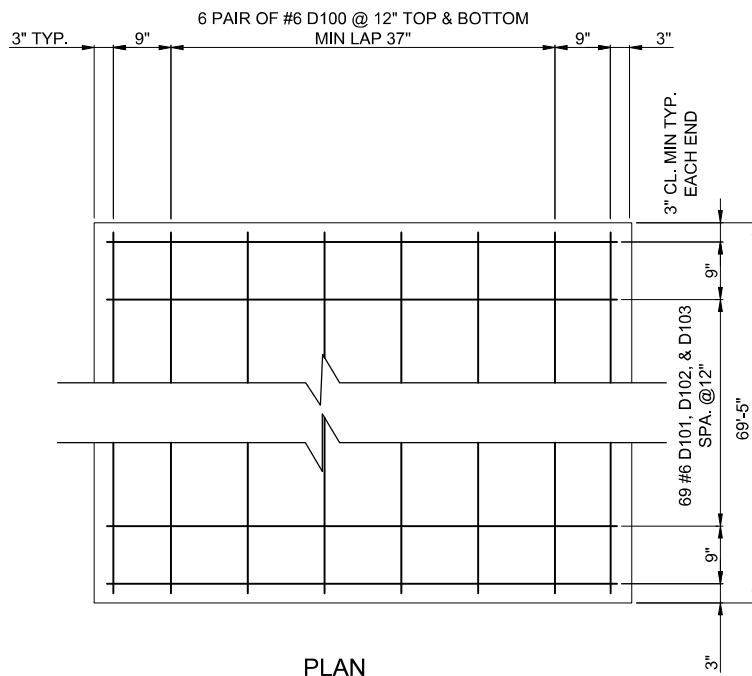
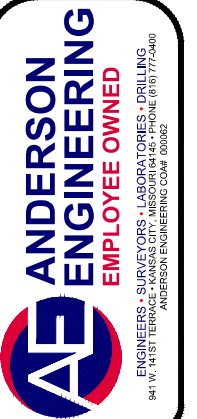
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G	ISSUE FOR BID	TSE	10-02-26	JOB NUMBER:	STG-2504(11)

(SW) STORM WATER PLAN & PROFILE
MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

SHEET NUMBER
13
OF 32



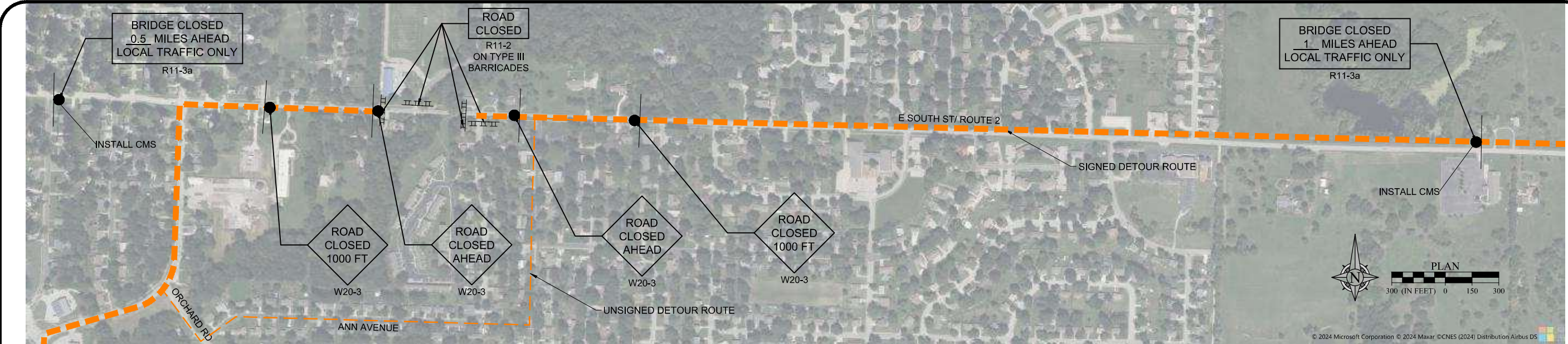
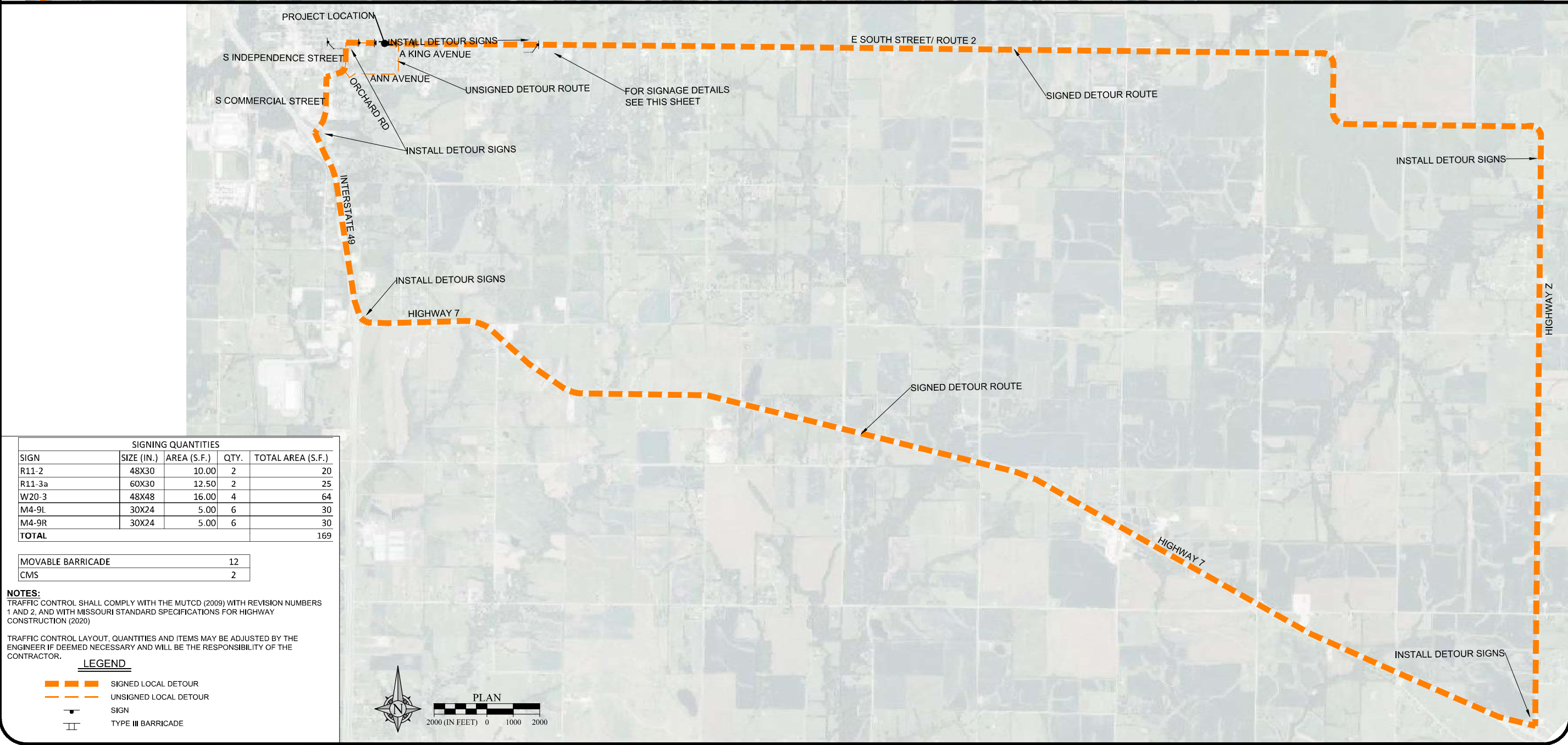
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E	ISSUE FOR CONSTRUCTION	TSE	04-30-26
F	REISSUE FOR A-DATE REVIEW	TSE	09-03-26
G	ISSUE FOR BID	TSE	10-02-26
		FIELD BY:	KEL
		DRAWN BY:	
		CHECK BY:	
		DATE:	
		FIELD BOOK:	
		JOB NUMBER:	

BRIDGE PROFILE

SOUTH STREET (ROUTE 2) OVER MUDDY CREEK
CULVERT #1240 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO



SIGNING QUANTITIES				
SIGN	SIZE (IN.)	AREA (S.F.)	QTY.	TOTAL AREA (S.F.)
R11-2	48X30	10.00	2	20
R11-3a	60X30	12.50	2	25
W20-3	48X48	16.00	4	64
M4-9L	30X24	5.00	6	30
M4-9R	30X24	5.00	6	30
TOTAL				169

MOVABLE BARRICADE	12
CMS	2

NOTES:
TRAFFIC CONTROL SHALL COMPLY WITH THE MUTCD (2009) WITH REVISION NUMBERS 1 AND 2, AND WITH MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2020)

TRAFFIC CONTROL LAYOUT, QUANTITIES AND ITEMS MAY BE ADJUSTED BY THE ENGINEER IF DEEMED NECESSARY AND WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

LEGEND

- SIGNED LOCAL DETOUR
- UNSIGNED LOCAL DETOUR
- SIGN
- TYPE III BARRICADE



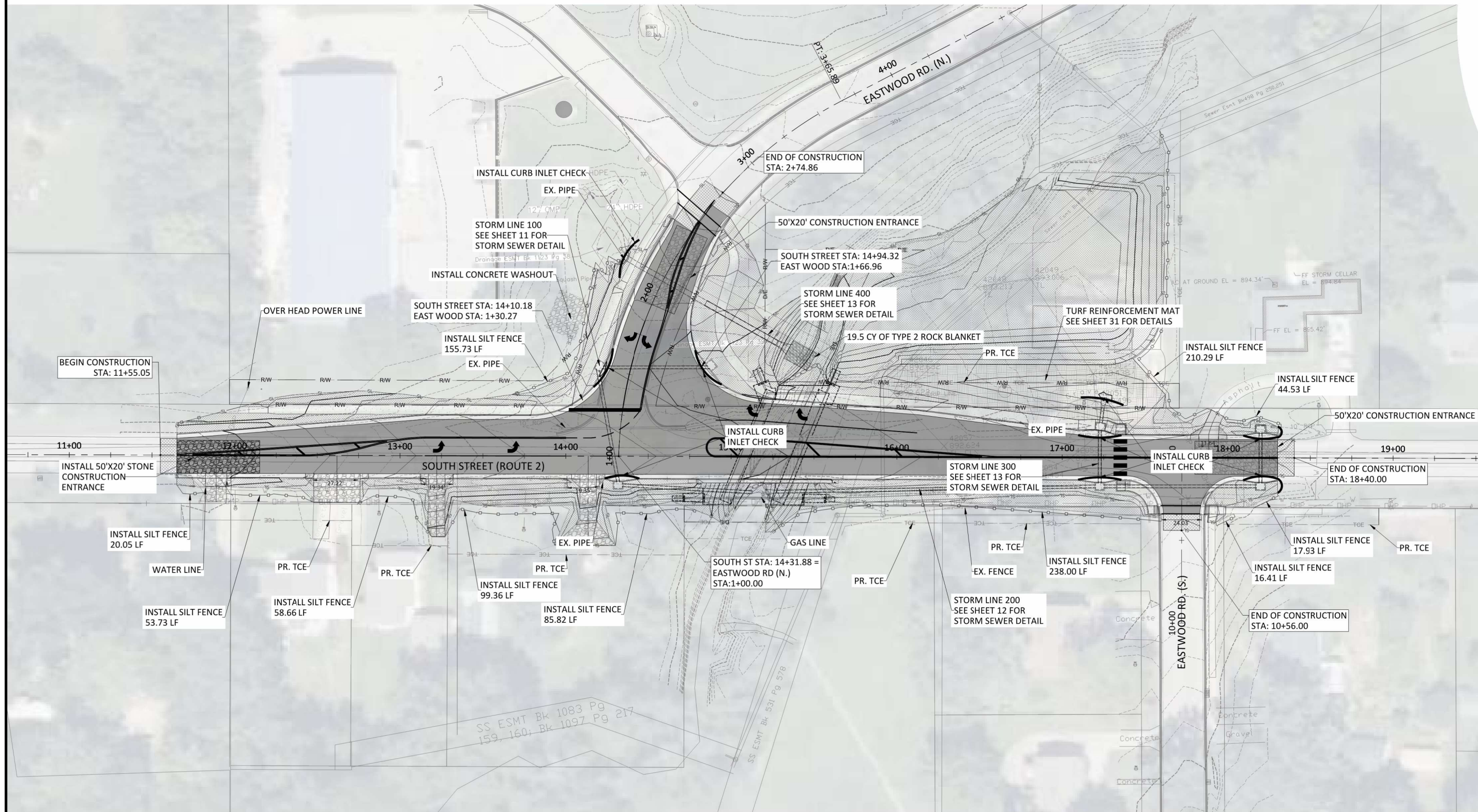
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F	REISSUE FOR A-DATE REVIEW	TSE	09-03-26
G	ISSUE FOR BID	TSE	10-02-26

FIELD NO.	DATE	FIELD NO.	DATE
KEL			

STPG 2500(11)
FED NUMBER: 10-02-26
JOB NUMBER: 10-02-26
FIELD BOOK: 10-02-26
DATE: 10-02-26
CHECK BY: 10-02-26
DRAWN BY: 10-02-26
TSE

(TC) TRAFFIC CONTROL
MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

SHEET NUMBER
16
OF 32



SHEET NUMBER

17

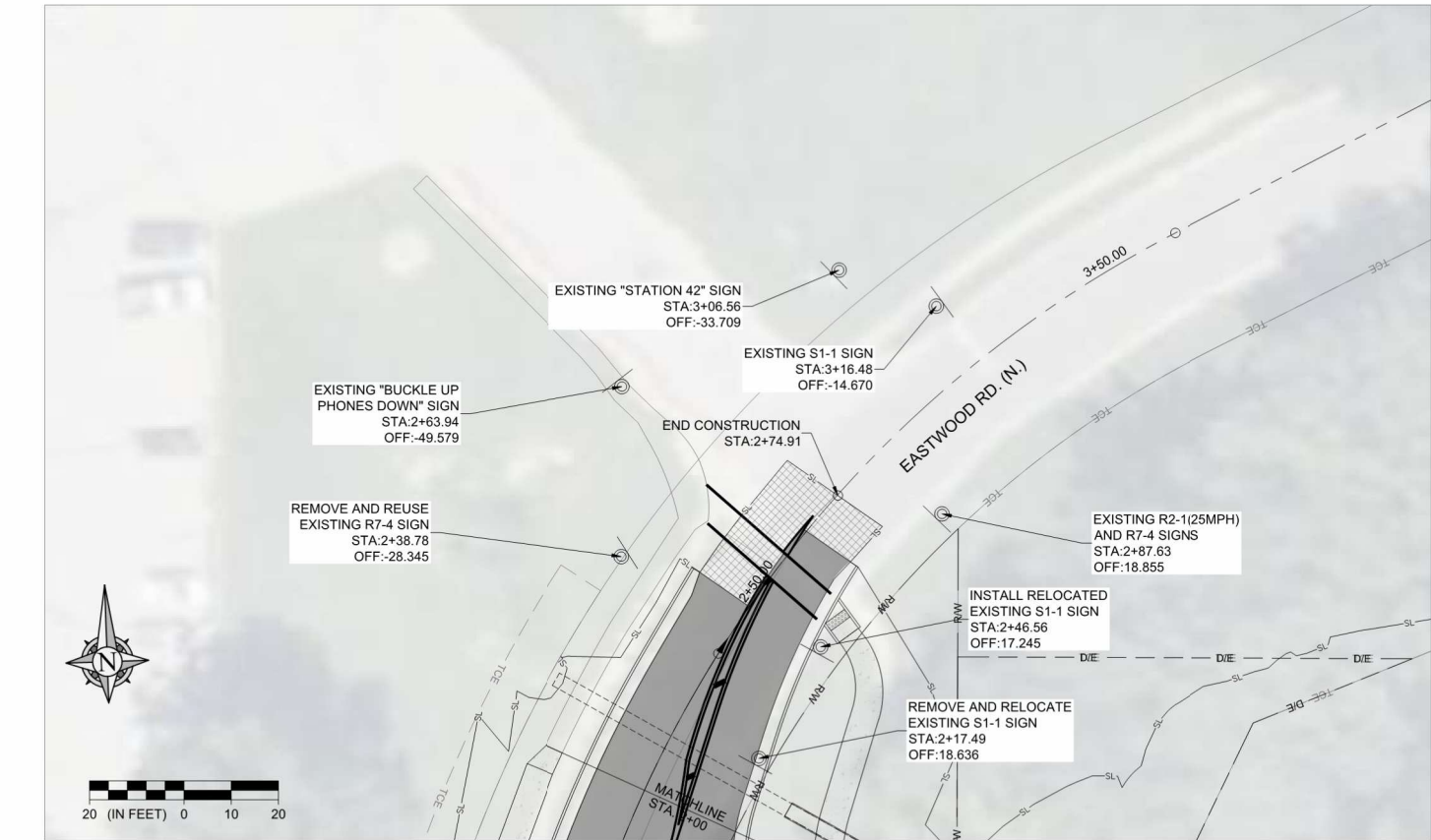
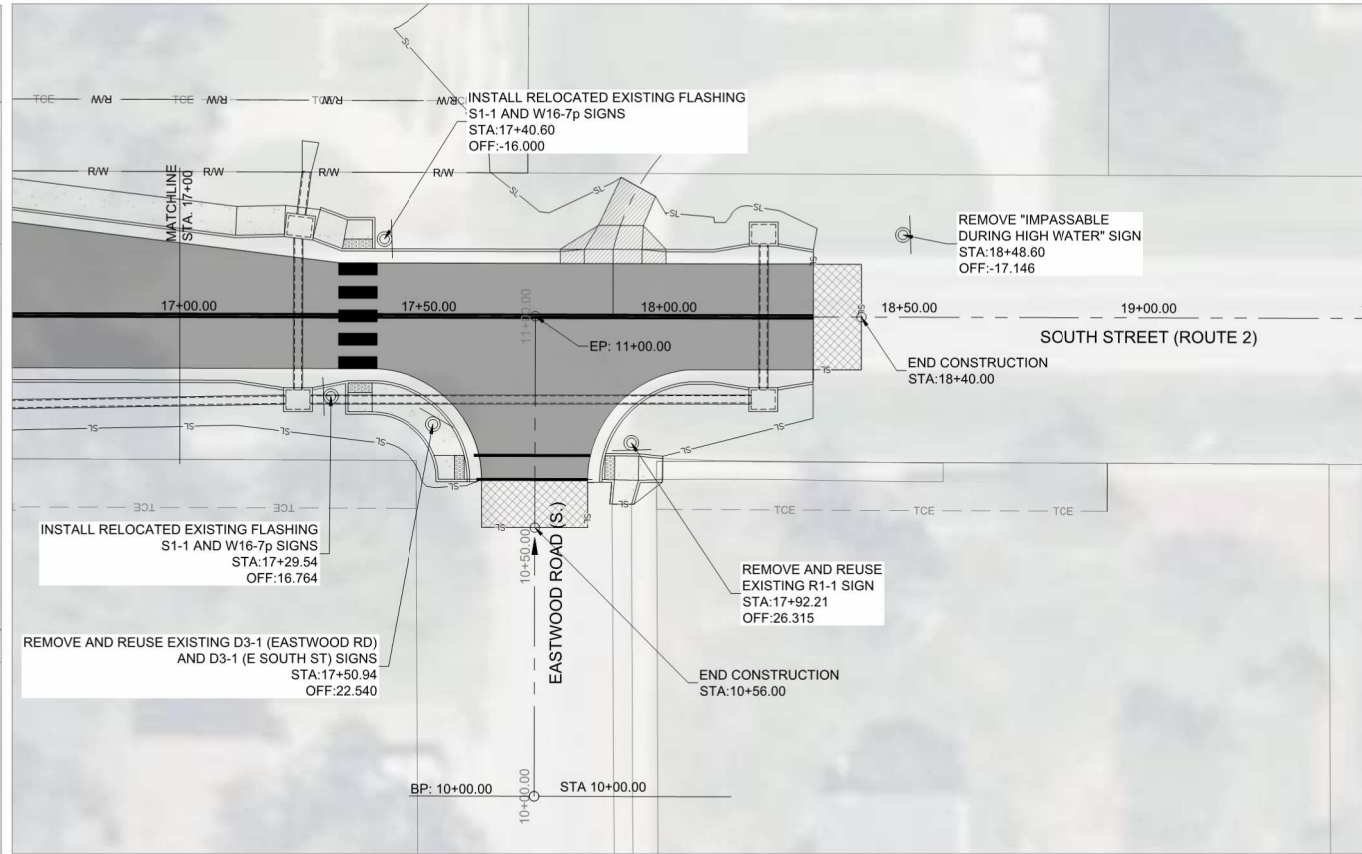
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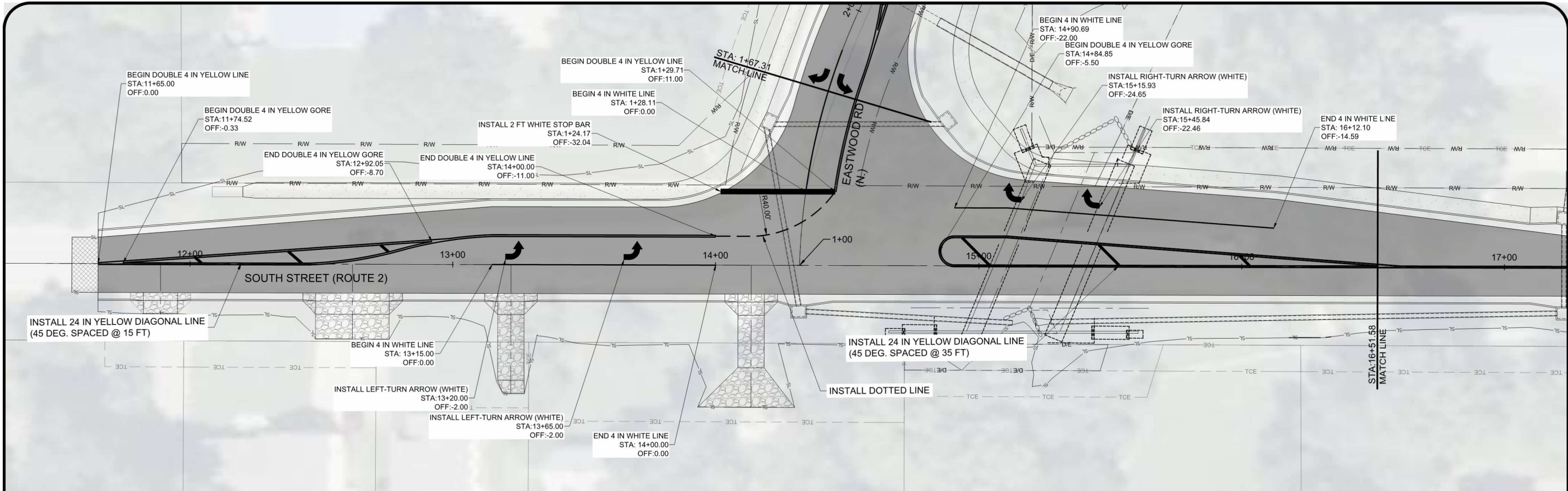
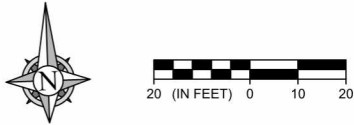
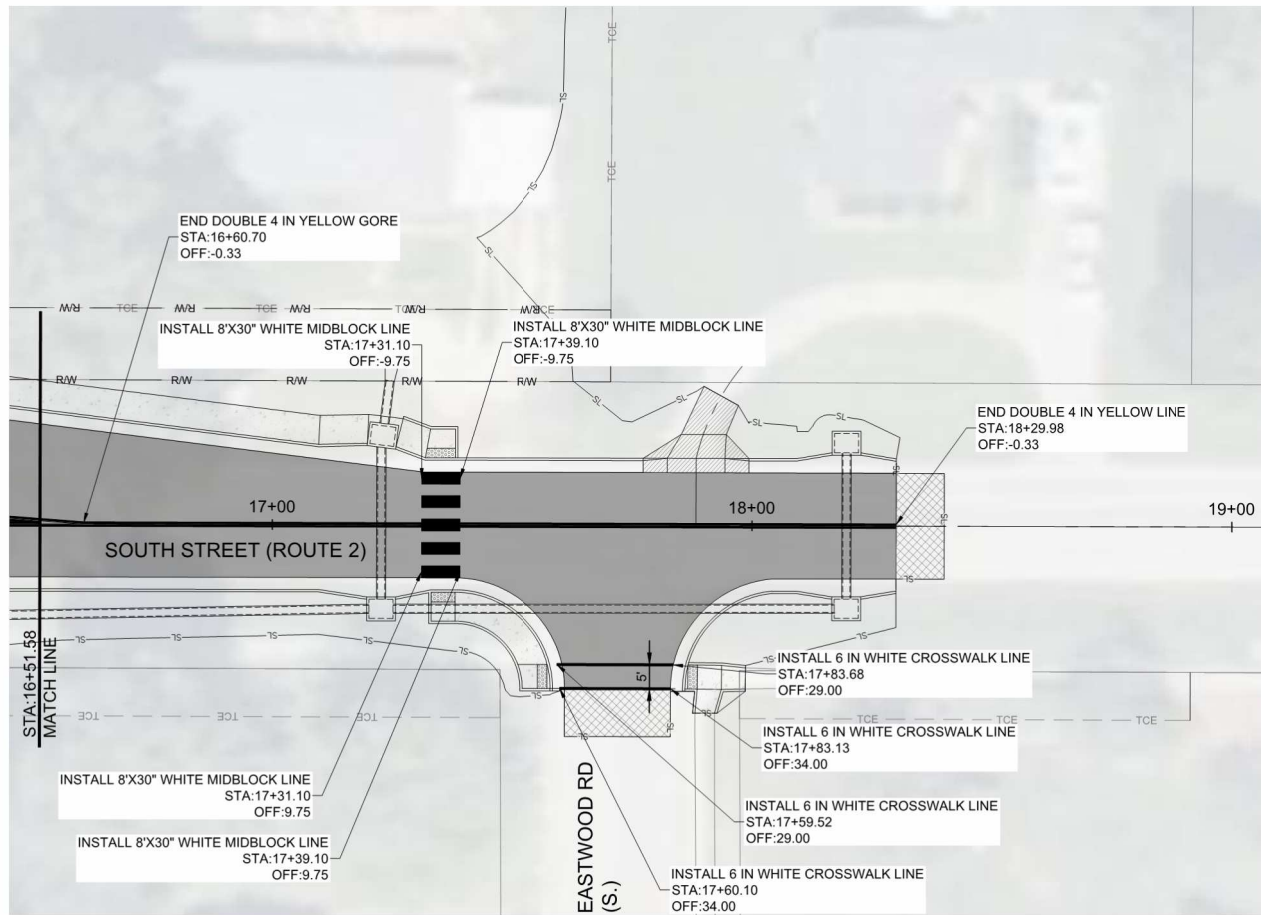
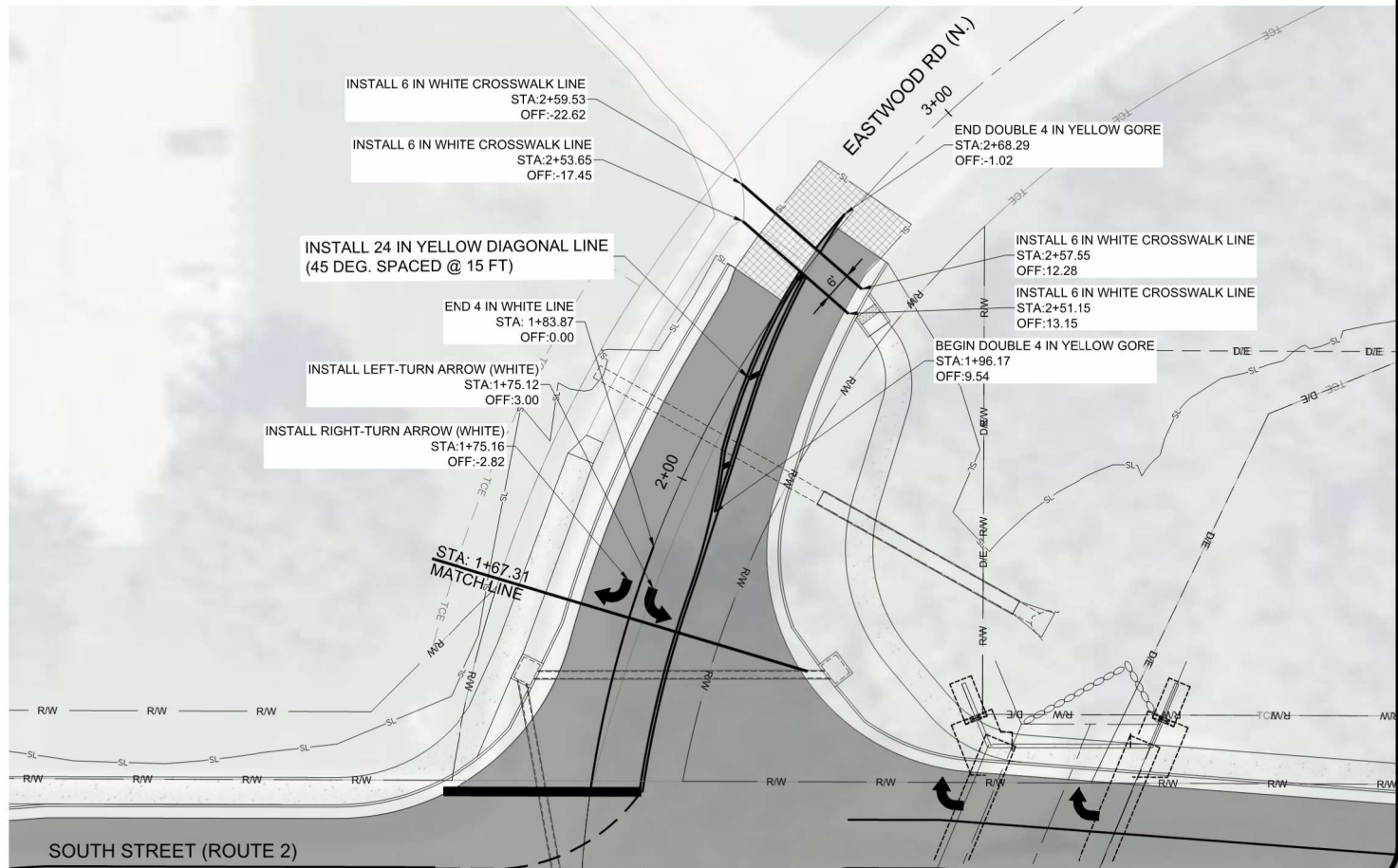
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MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT

SEC4 T44N R31W

CITY OF HARRISONVILLE, MO



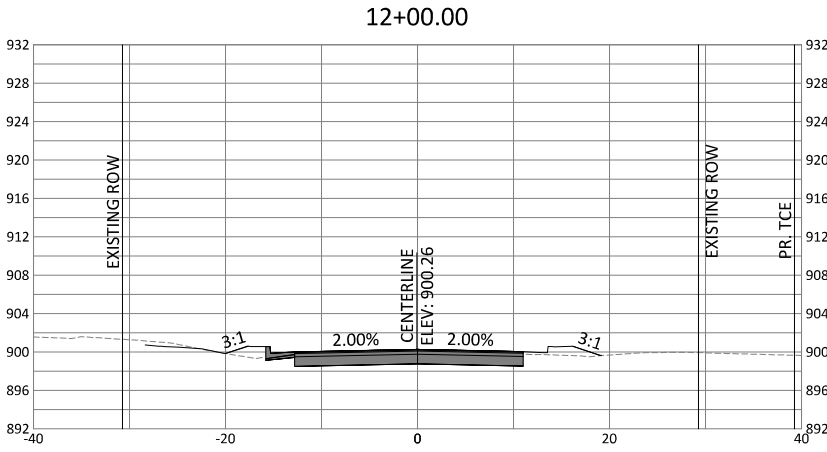
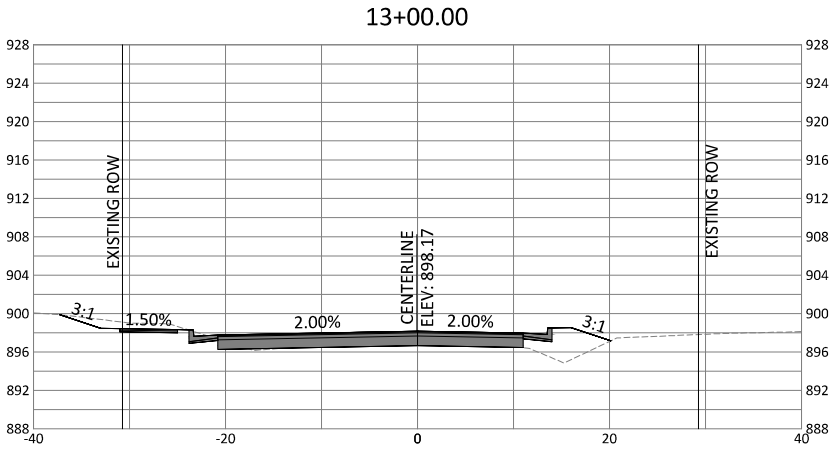
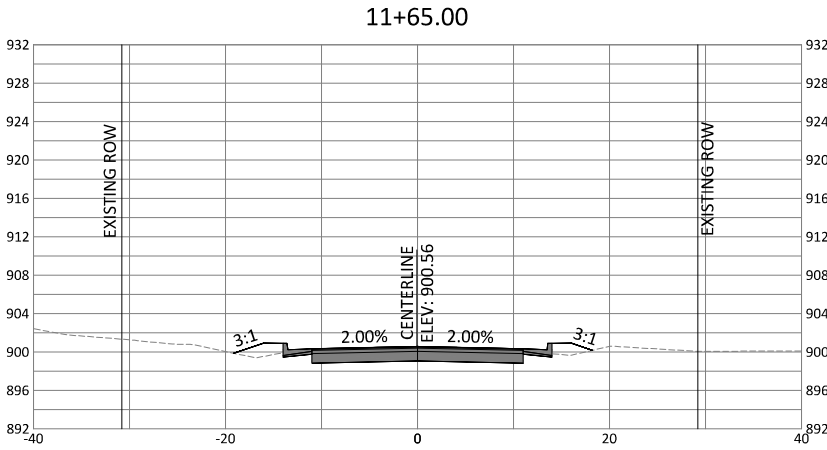
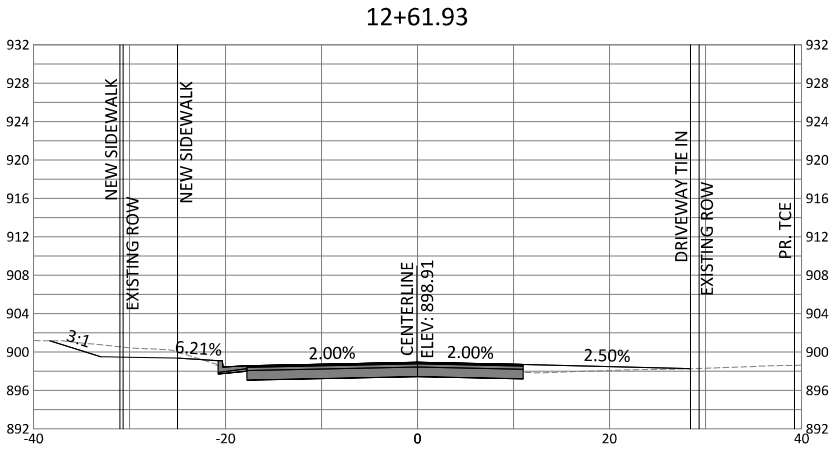
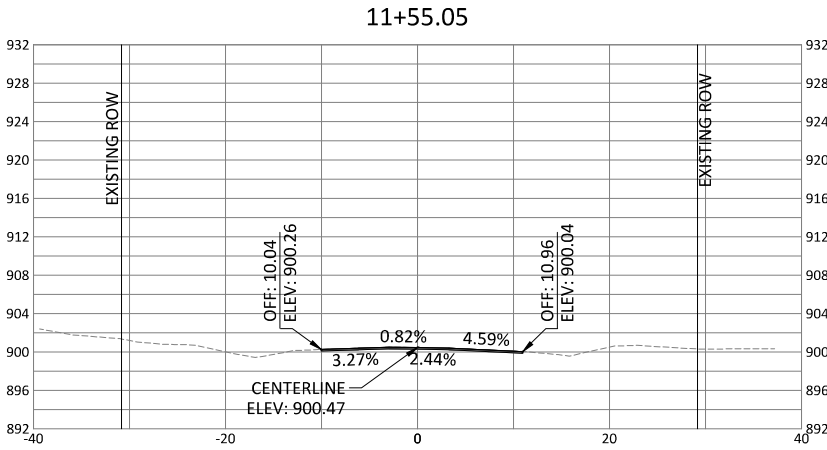
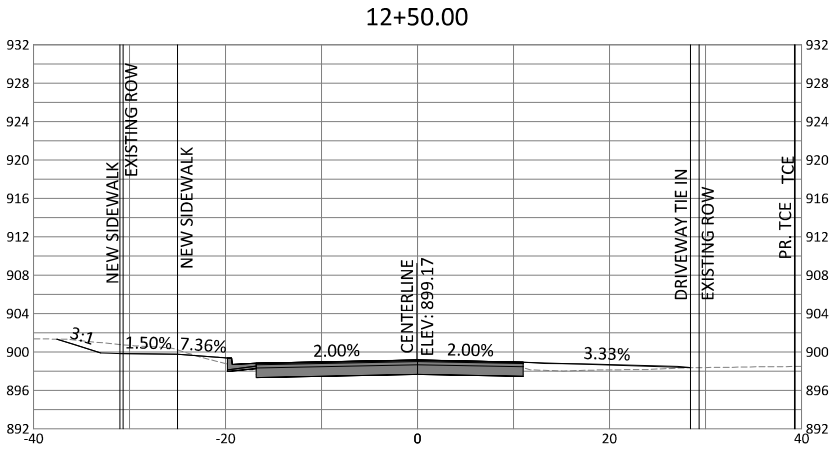


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E	ISSUE FOR CONSTRUCTION	TSE	04-30-26
F	REISSUE FOR A-DATE REVIEW	TSE	09-03-26
G	REISSUE FOR BID	TSE	10-02-26

FIELD BY:	KEL
DRAWN BY:	
CHECK BY:	
DATE:	
FIELD BOOK:	
JOB NUMBER:	
FED NUMBER:	STEG 2900(411)

(PM) PAVEMENT MARKING
MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

SOUTH STREET (ROUTE 2)



REVISIONS		DRAWING INFO.			
NO.	DESCRIPTION	BY	DATE	FIELD BY:	
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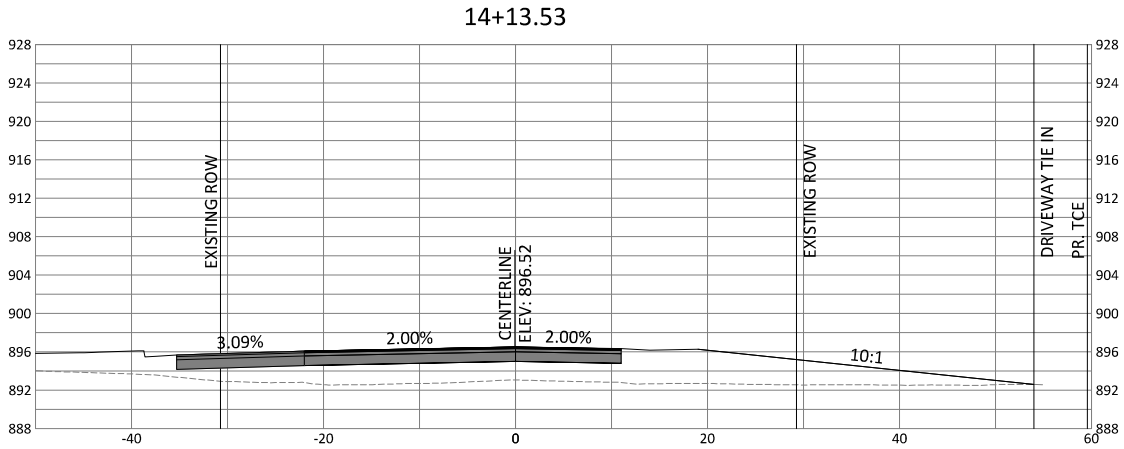
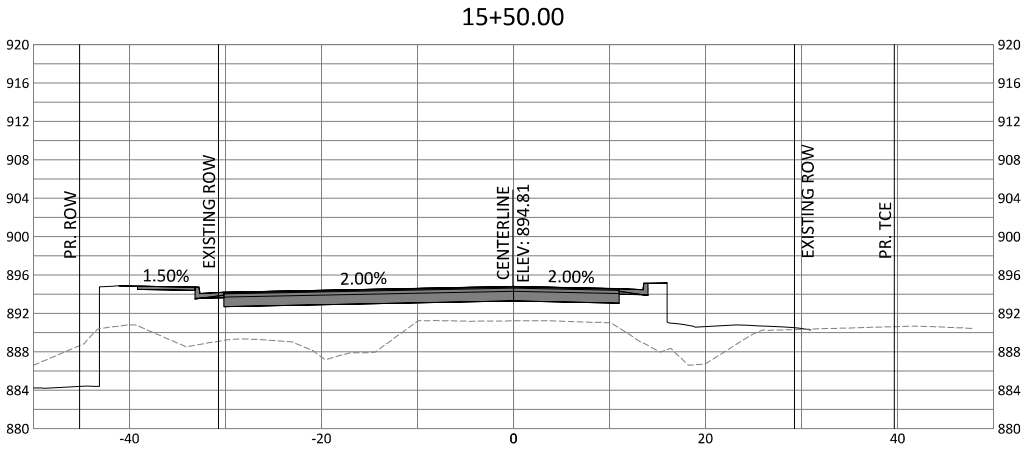
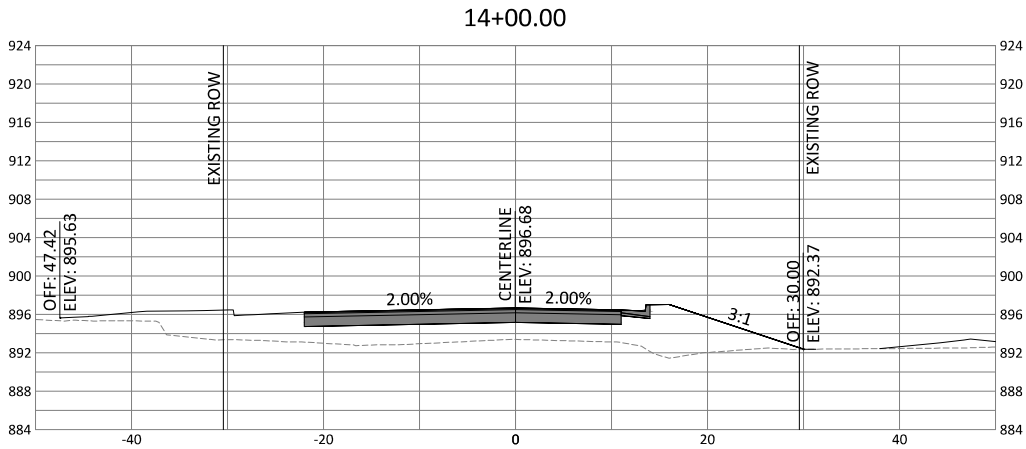
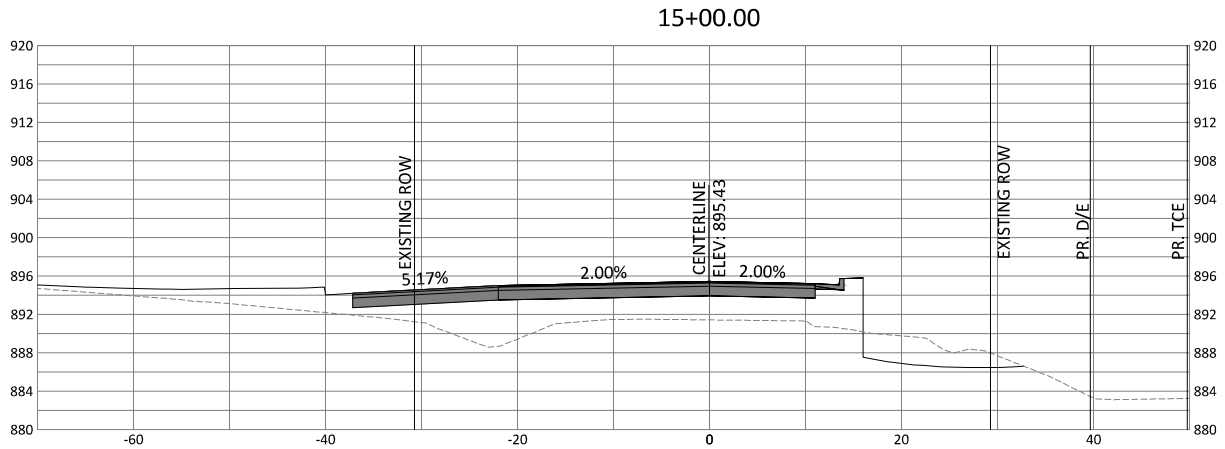
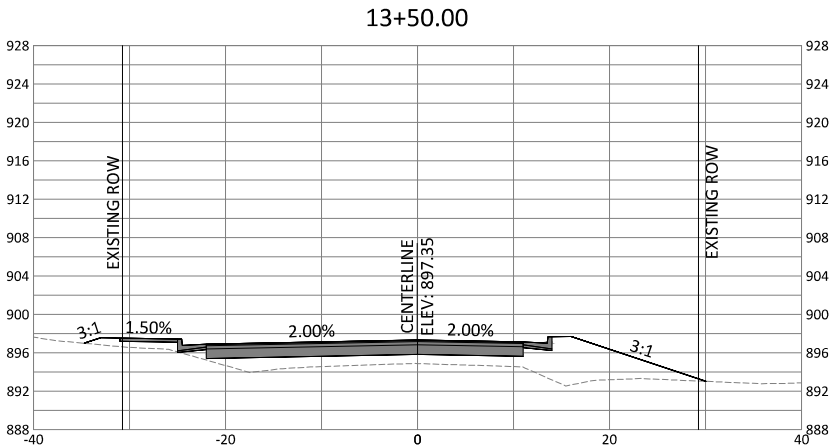
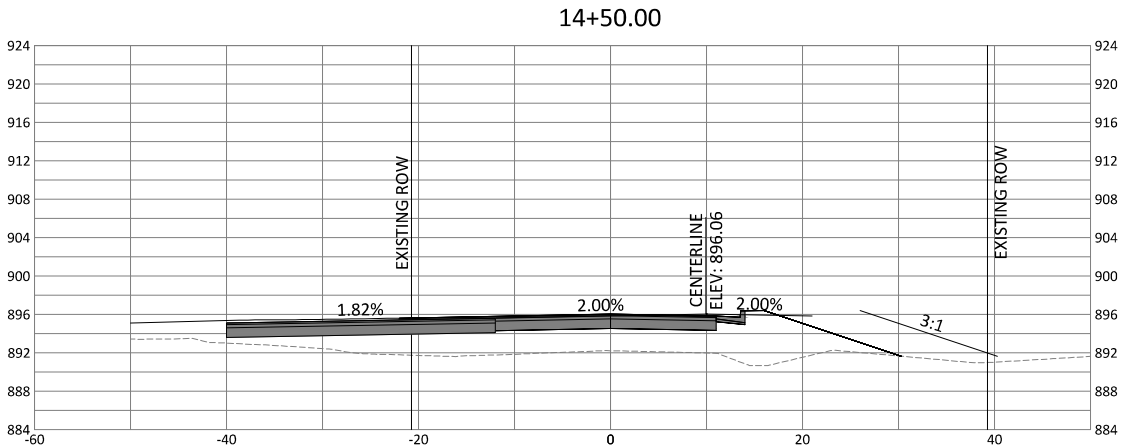
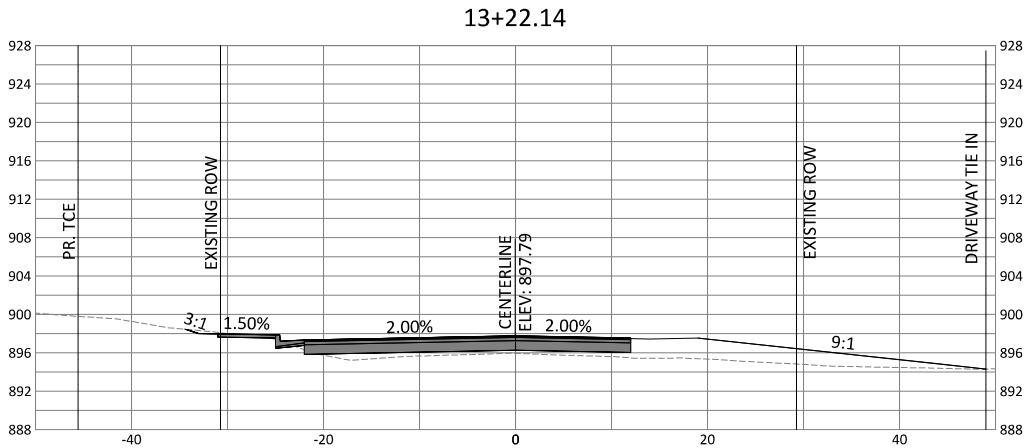
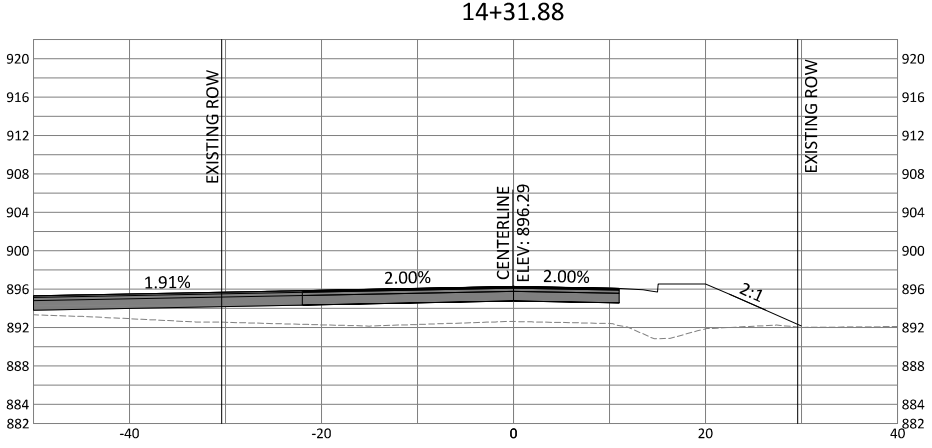
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MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT

SEC4 T44N R31W

CITY OF HARRISONVILLE, MO

SOUTH STREET (ROUTE 2)



REVISIONS		DRAWING INFO.			
NO.	DESCRIPTION	BY	DATE	FIELD BY:	
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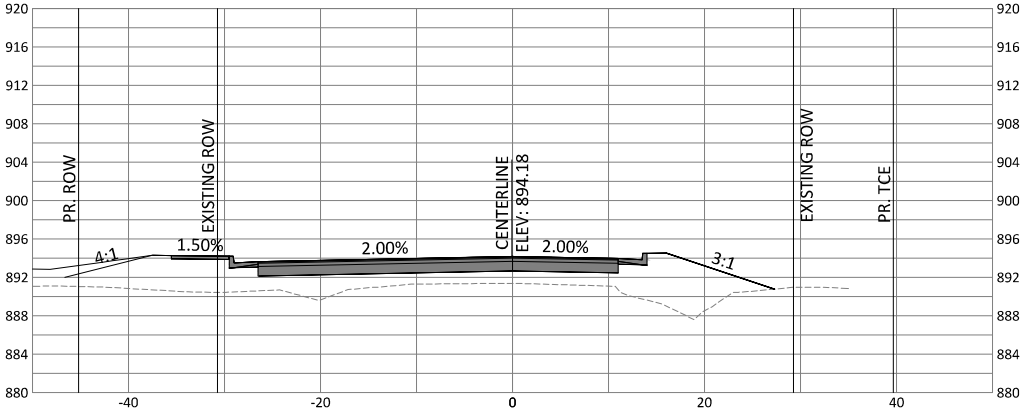
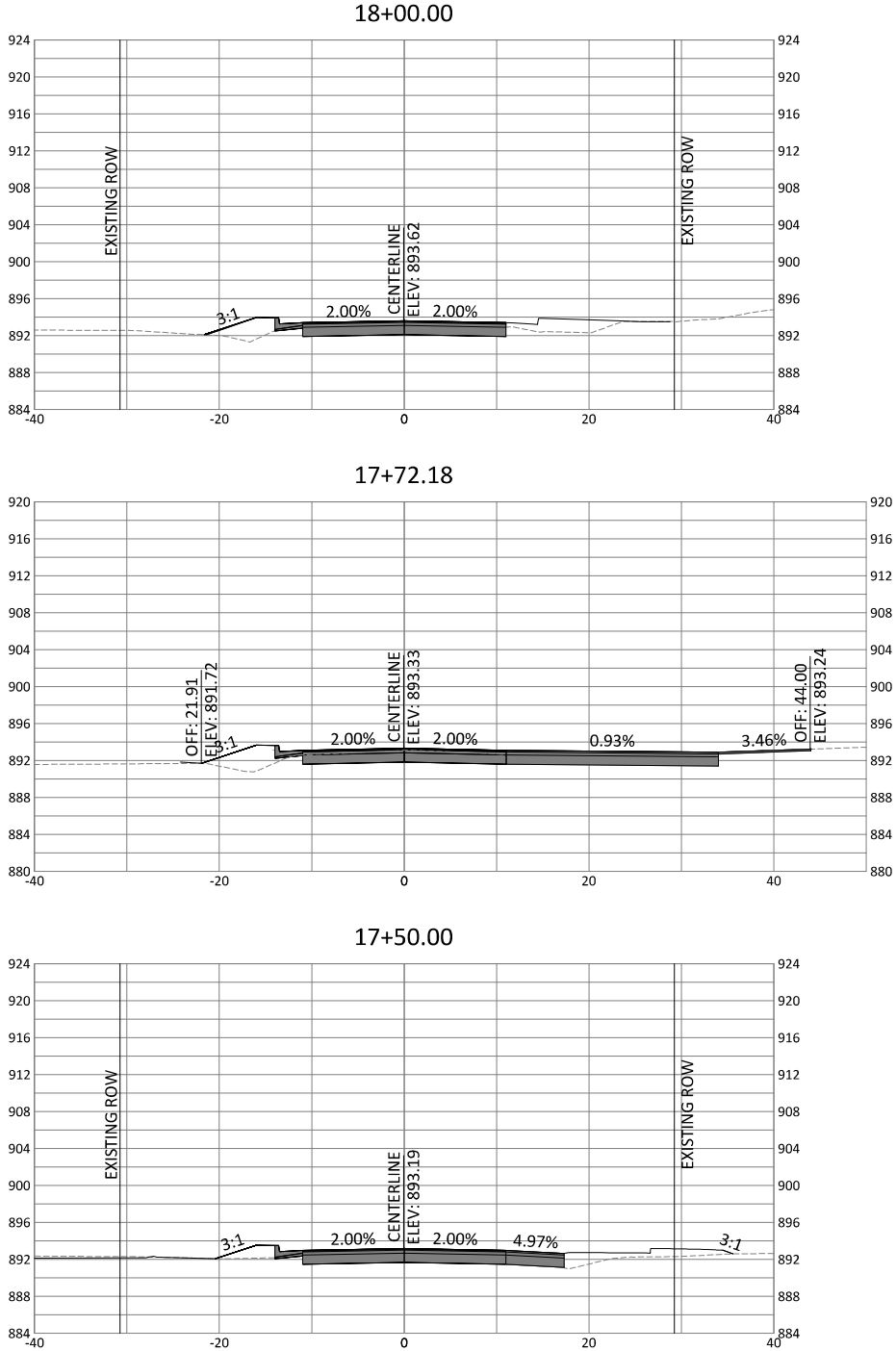
MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT

SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

SHEET NUMBER

21
OF 32

SOUTH STREET (ROUTE 2)

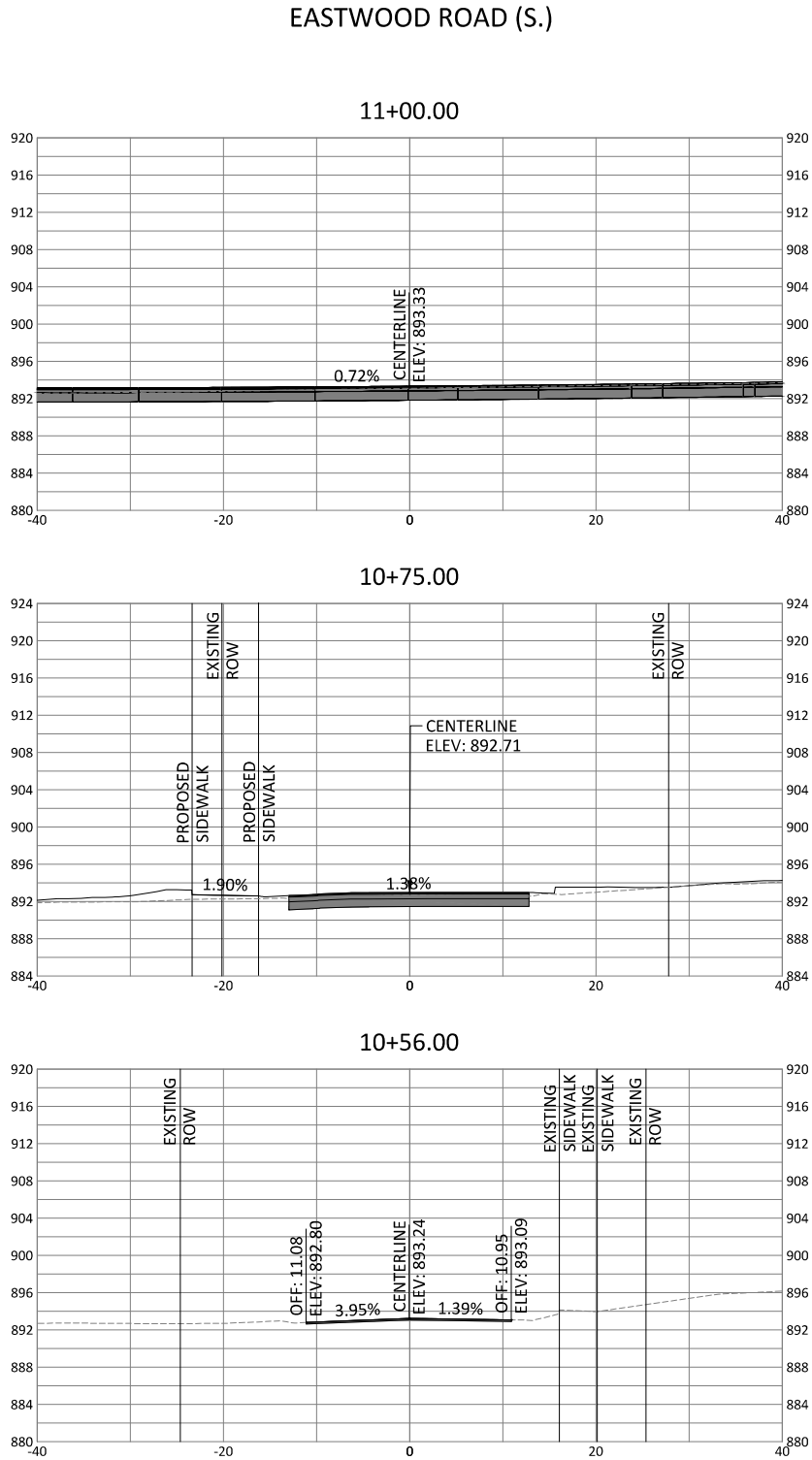


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(XS) CROSS SECTIONS

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REVISIONS		DRAWING INFO.			
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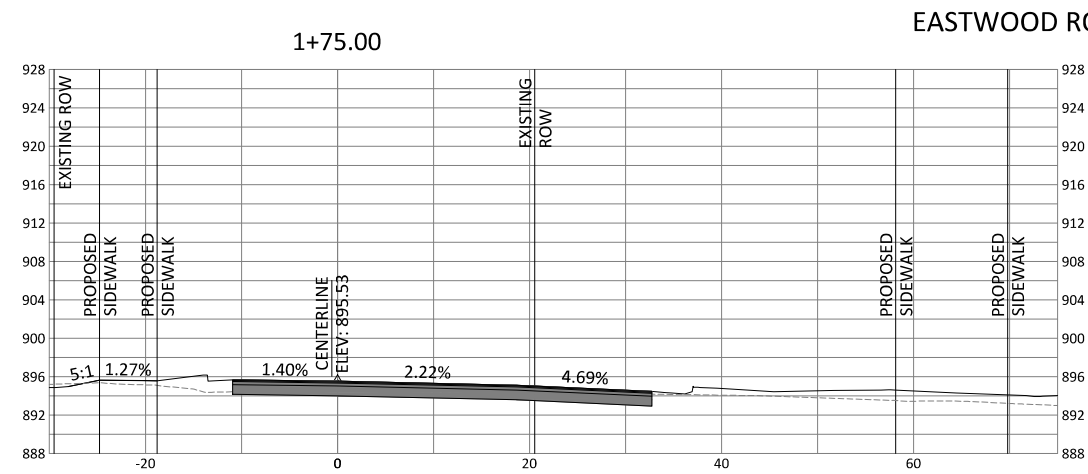
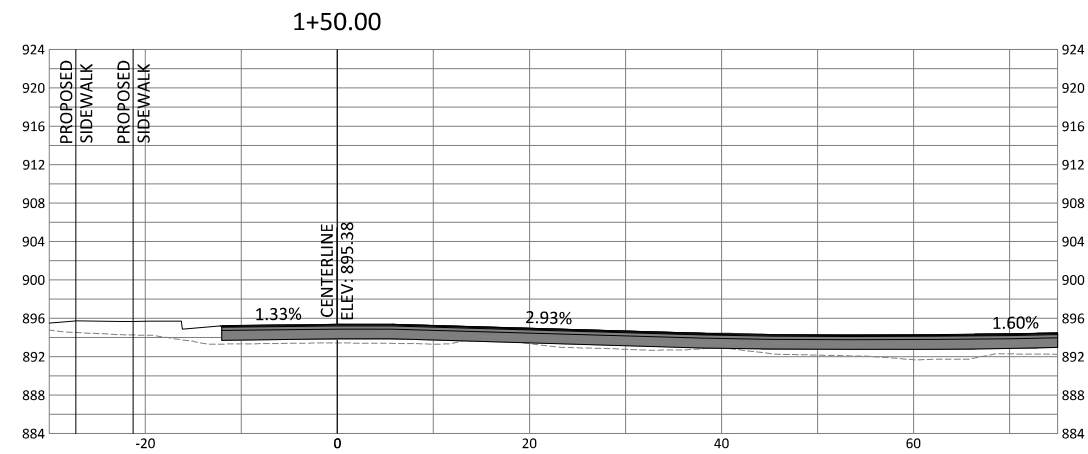
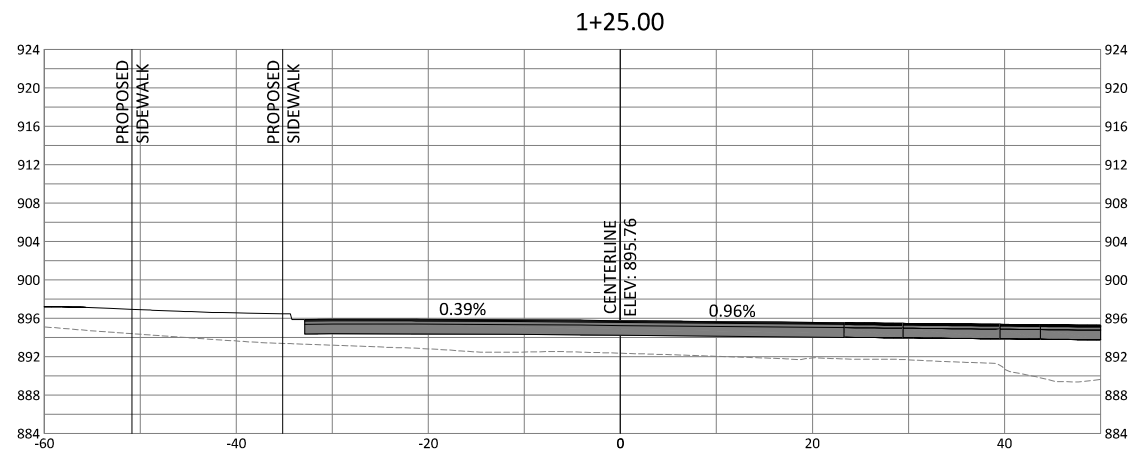
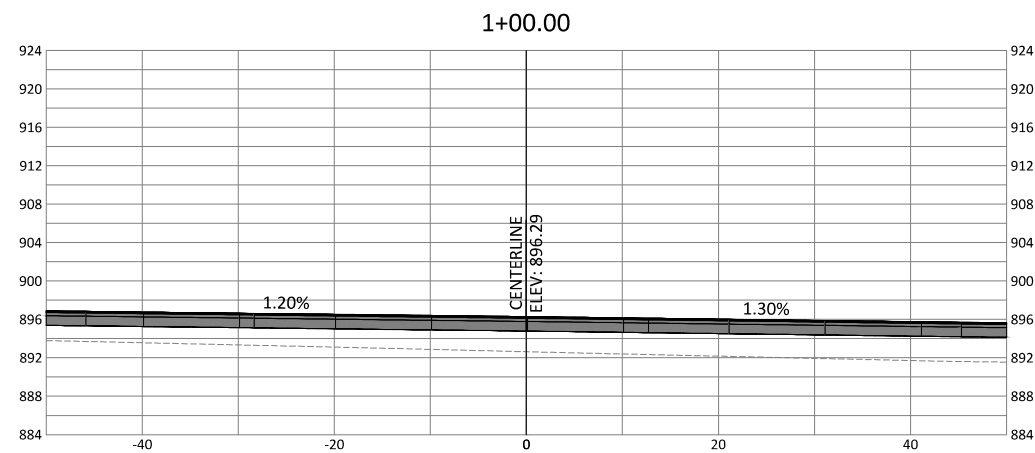
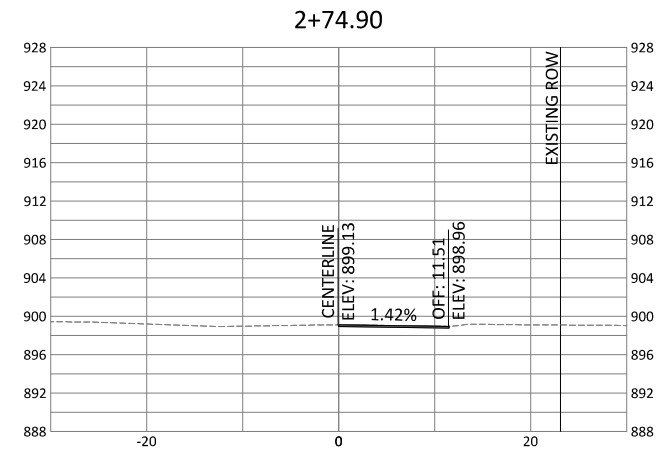
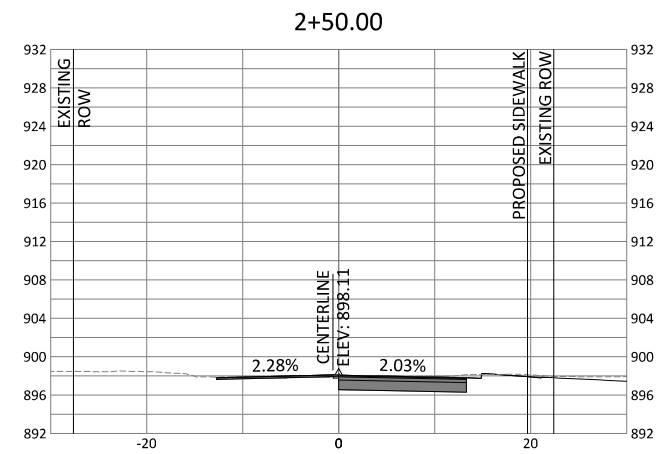
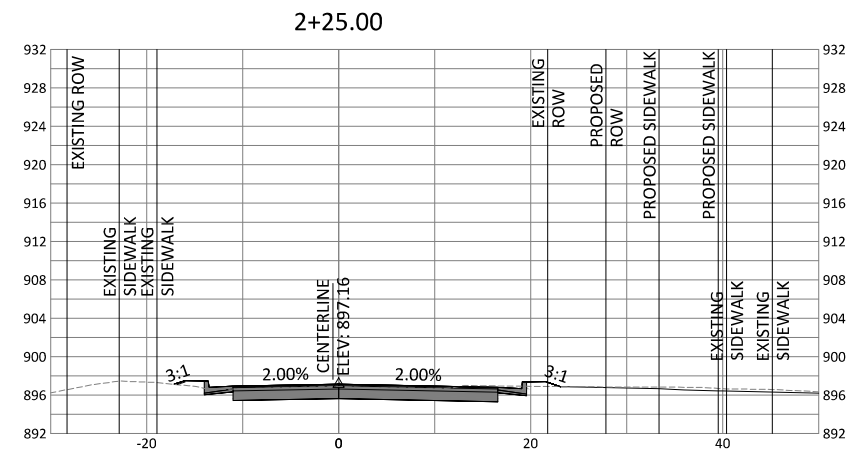
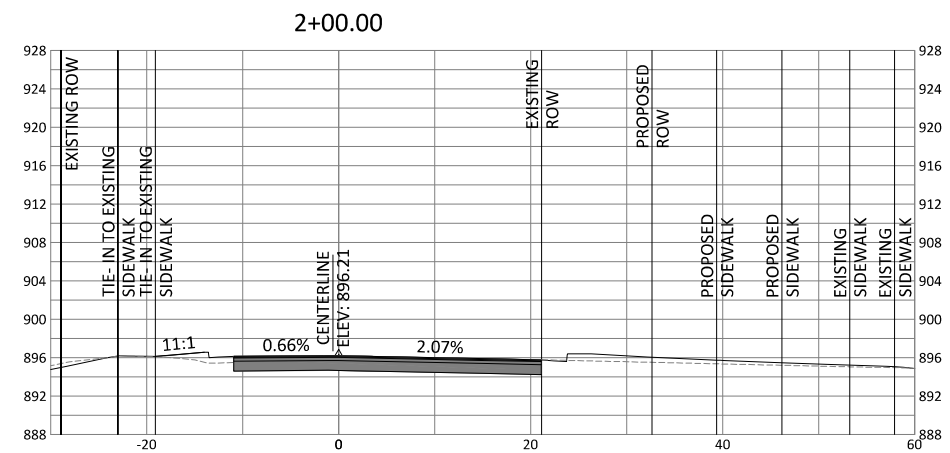
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MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT

SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

SHEET NUMBER

23
OF 32



REVISIONS			DRAWING INFO.		
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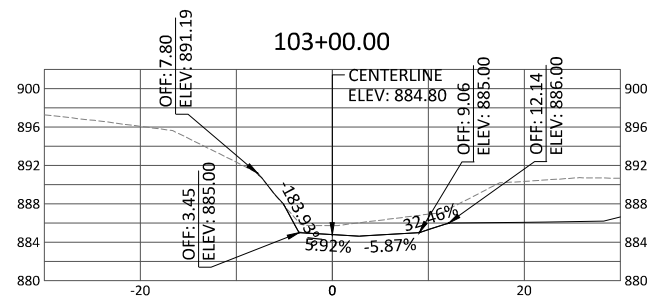
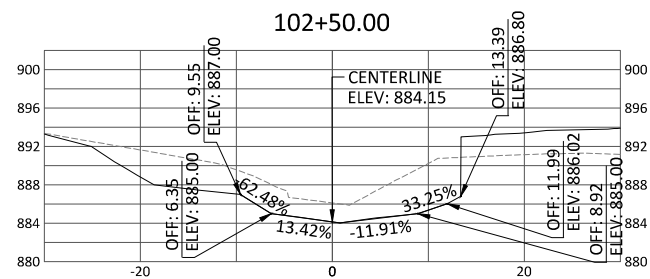
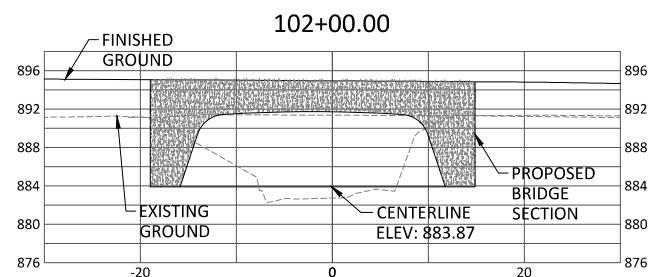
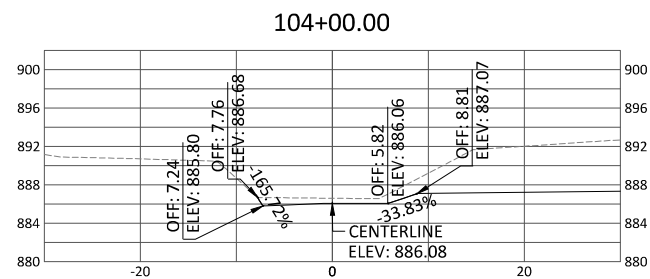
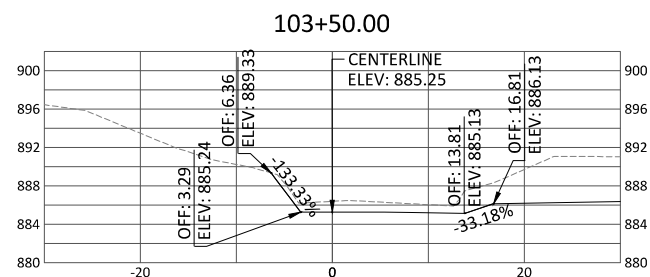
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(XS) CROSS SECTIONS
MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
Q OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

SHEET NUMBER
24
OF 32



REVISIONS		DRAWING INFO.		
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G	ISSUE FOR BID	TSE	10-02-26	JOB NUMBER:

STBC 2000(411)

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(SP) STREAM CROSS SECTIONS

MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT

SEC4 T44N R31W

CITY OF HARRISONVILLE, MO

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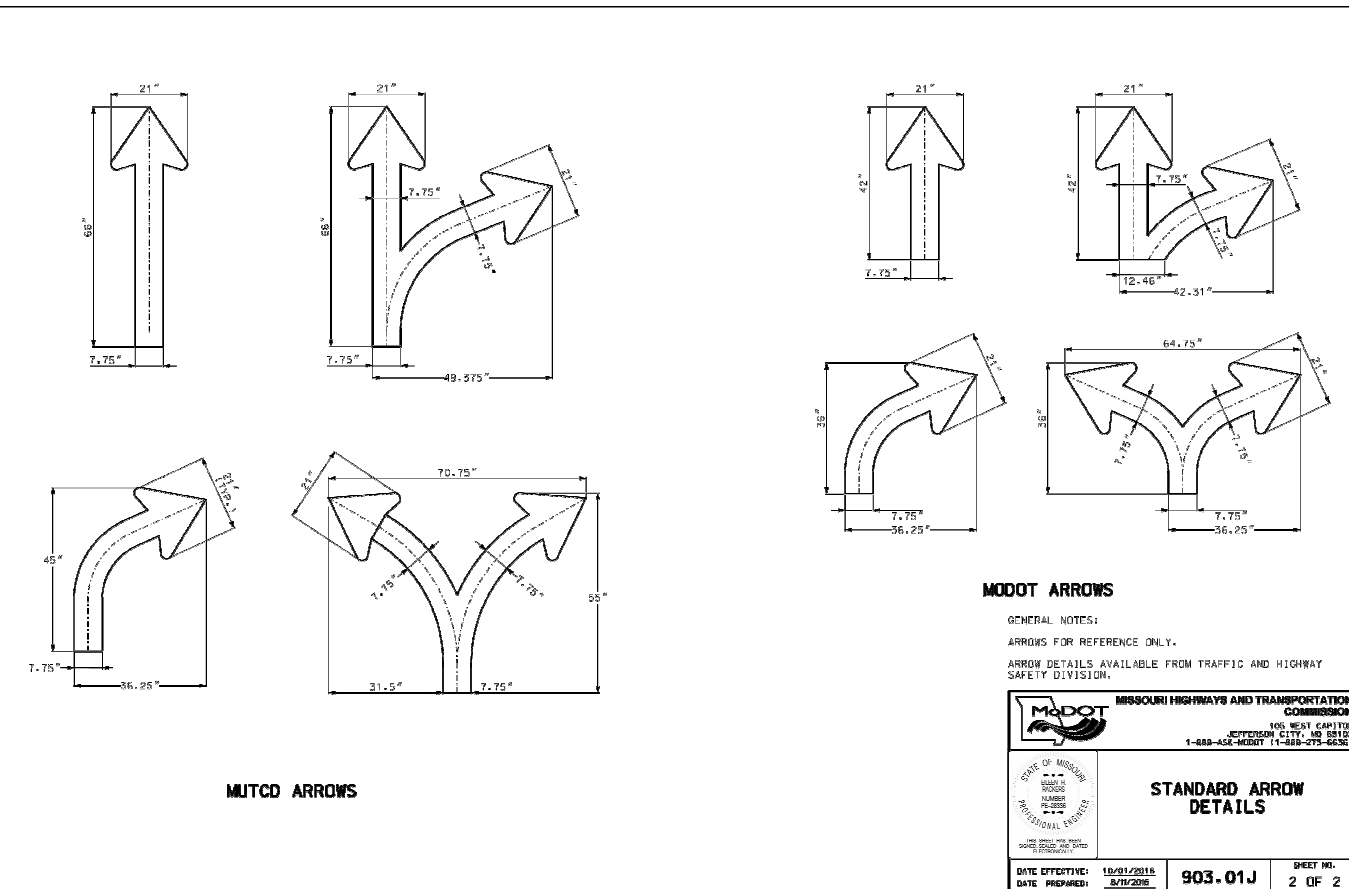
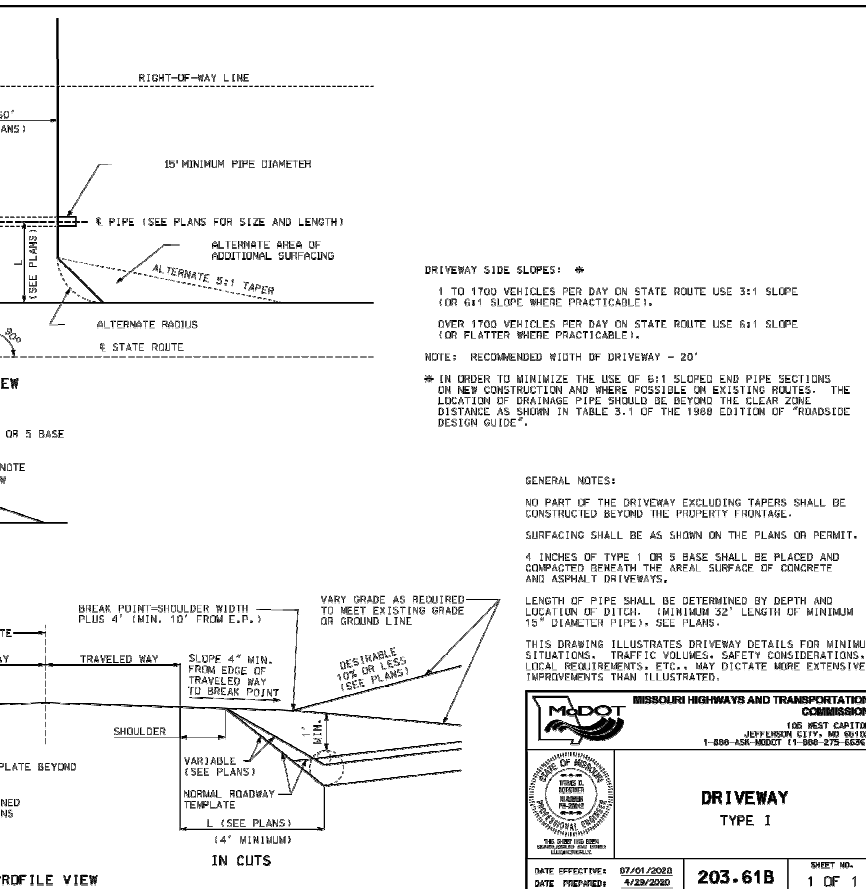


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 ANDERSON ENGINEERING CO.# 000062



T. SCOTT
EDGAR
NUMBER
PE-2005021662



(SD) STANDARD DETAILS

MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT

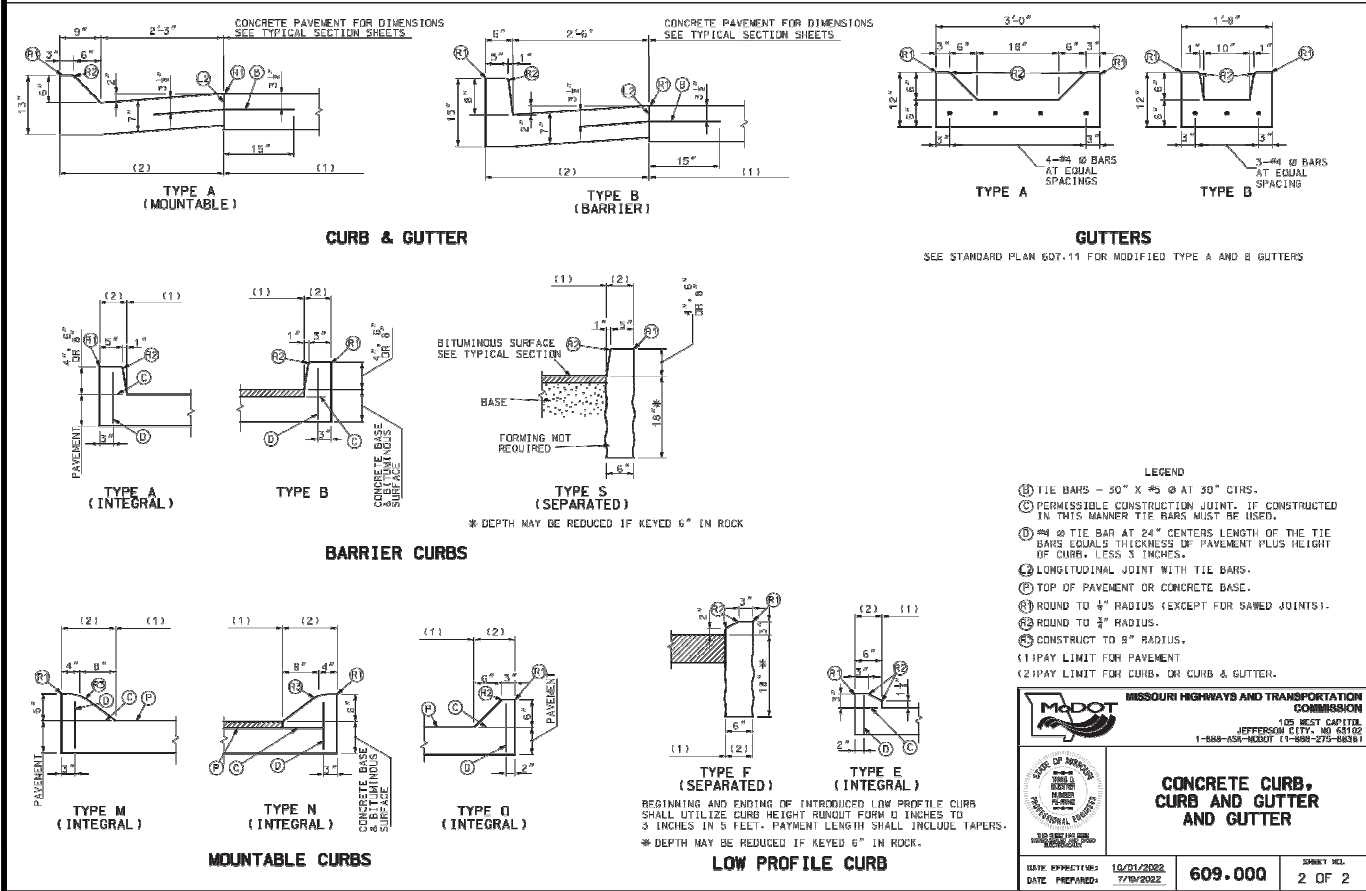
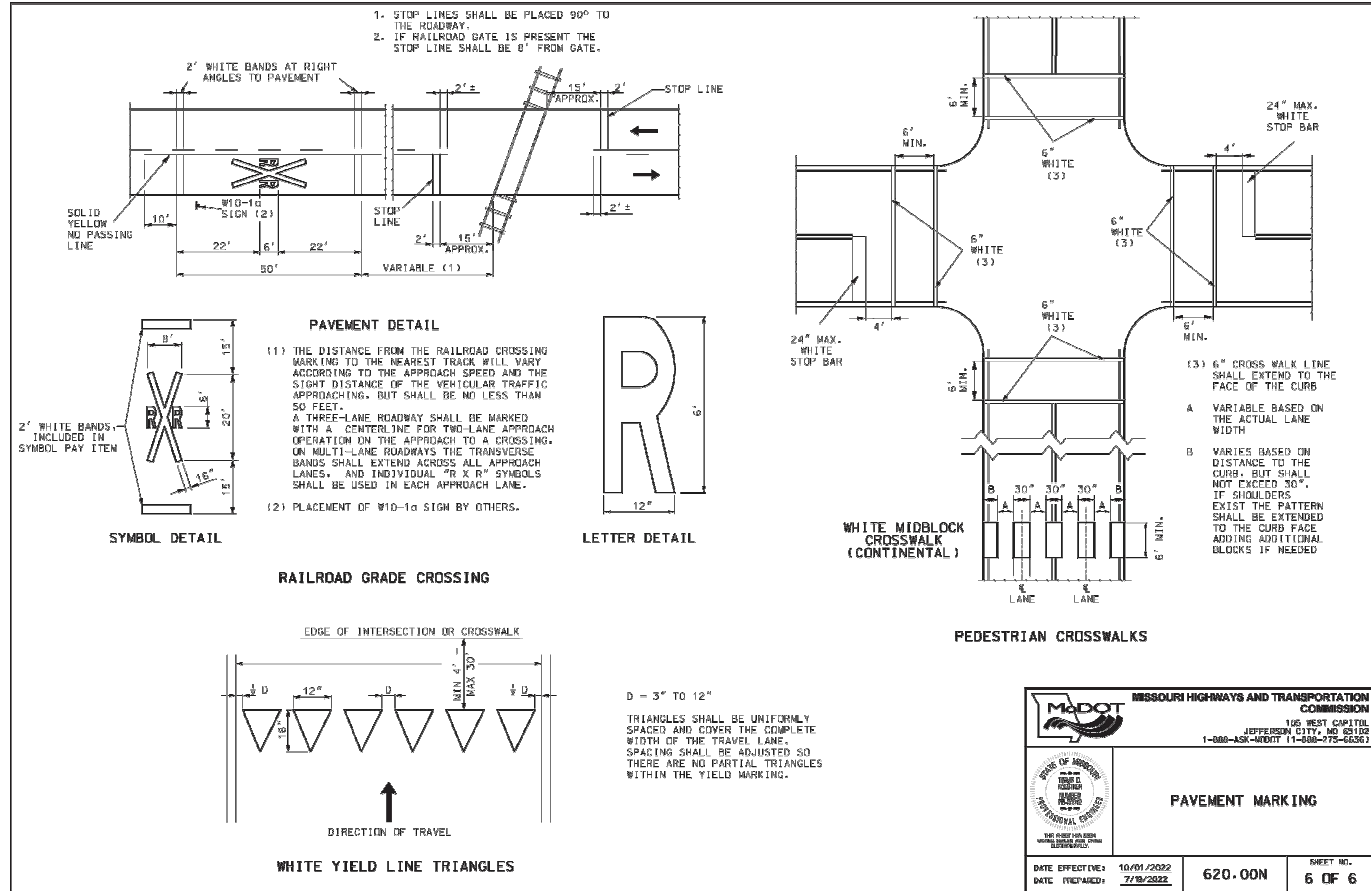
SEC4 T44N R31W

CITY OF HARRISONVILLE, MO

SHEET NUMBER

27

OF 32



(SD) STANDARD DETAILS

MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT

SEC4 T44N R31W

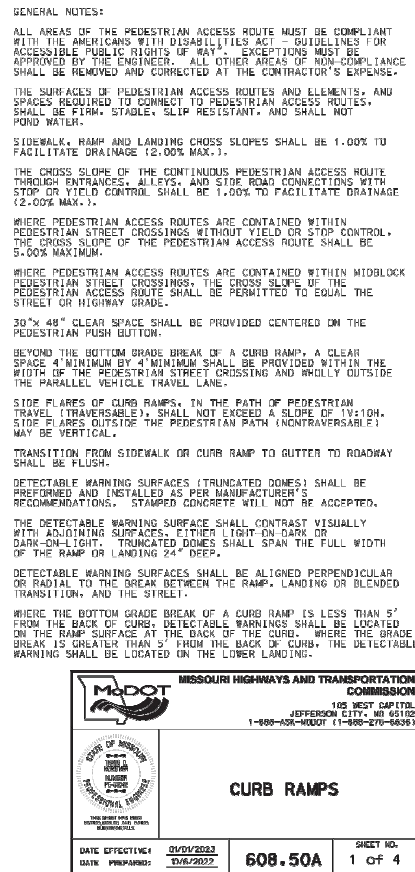
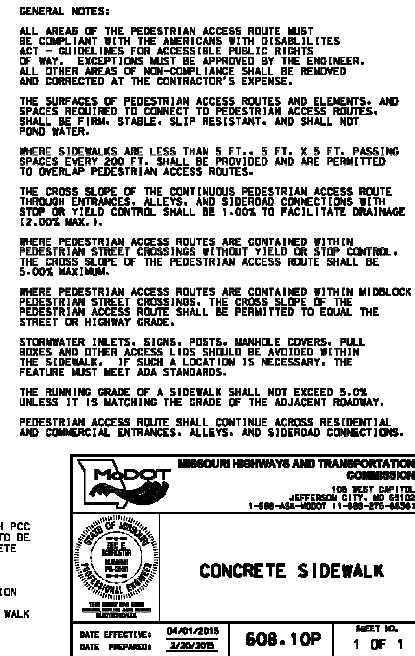
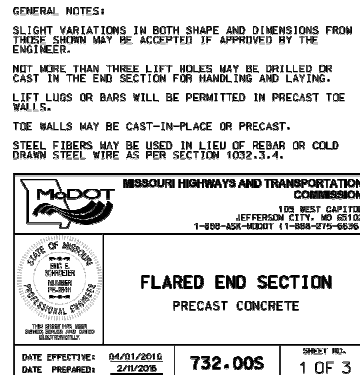
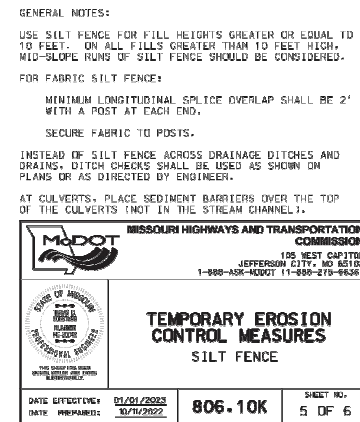
CITY OF HARRISONVILLE, MO

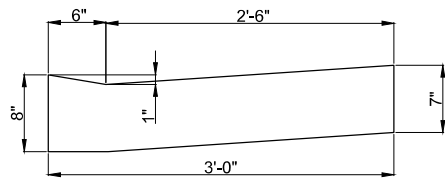
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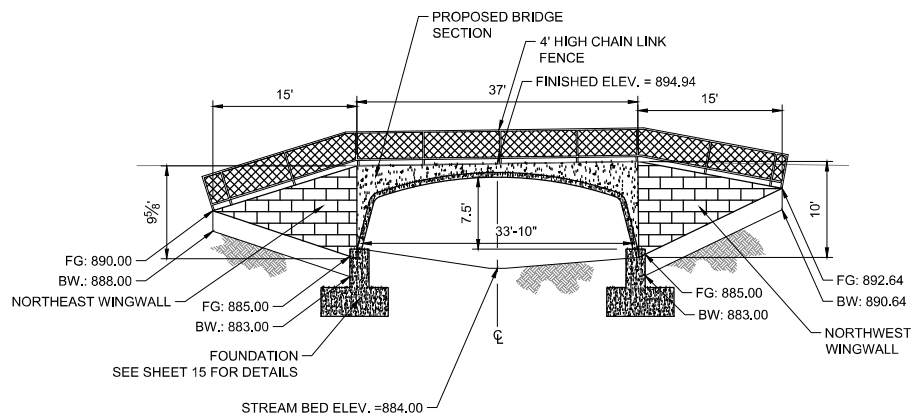
OF 32

REVISIONS		DRAWING INFO.	
NO.	DESCRIPTION	BY	DATE
C	REVISE LAYOUT & GRADING	TSE	09/13/24
D	ISSUE FOR A DATE REVIEW	TSE	04-21-25
E	ISSUE FOR CONSTRUCTION	TSE	04-30-26
F	REISSUE FOR A-DATE REVIEW	TSE	09-03-26
G	ISSUE FOR BID	TSE	10-02-26
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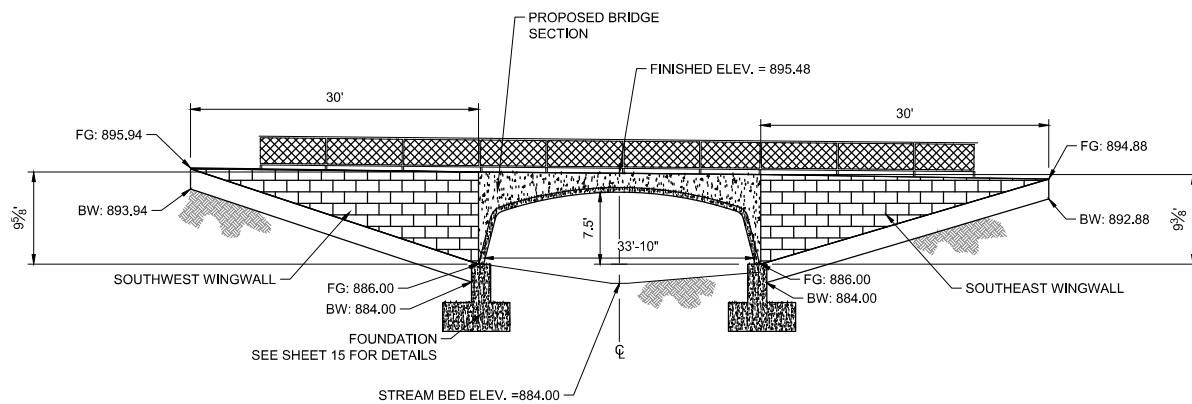


ADA CURB RAMP CURB & GUTTER



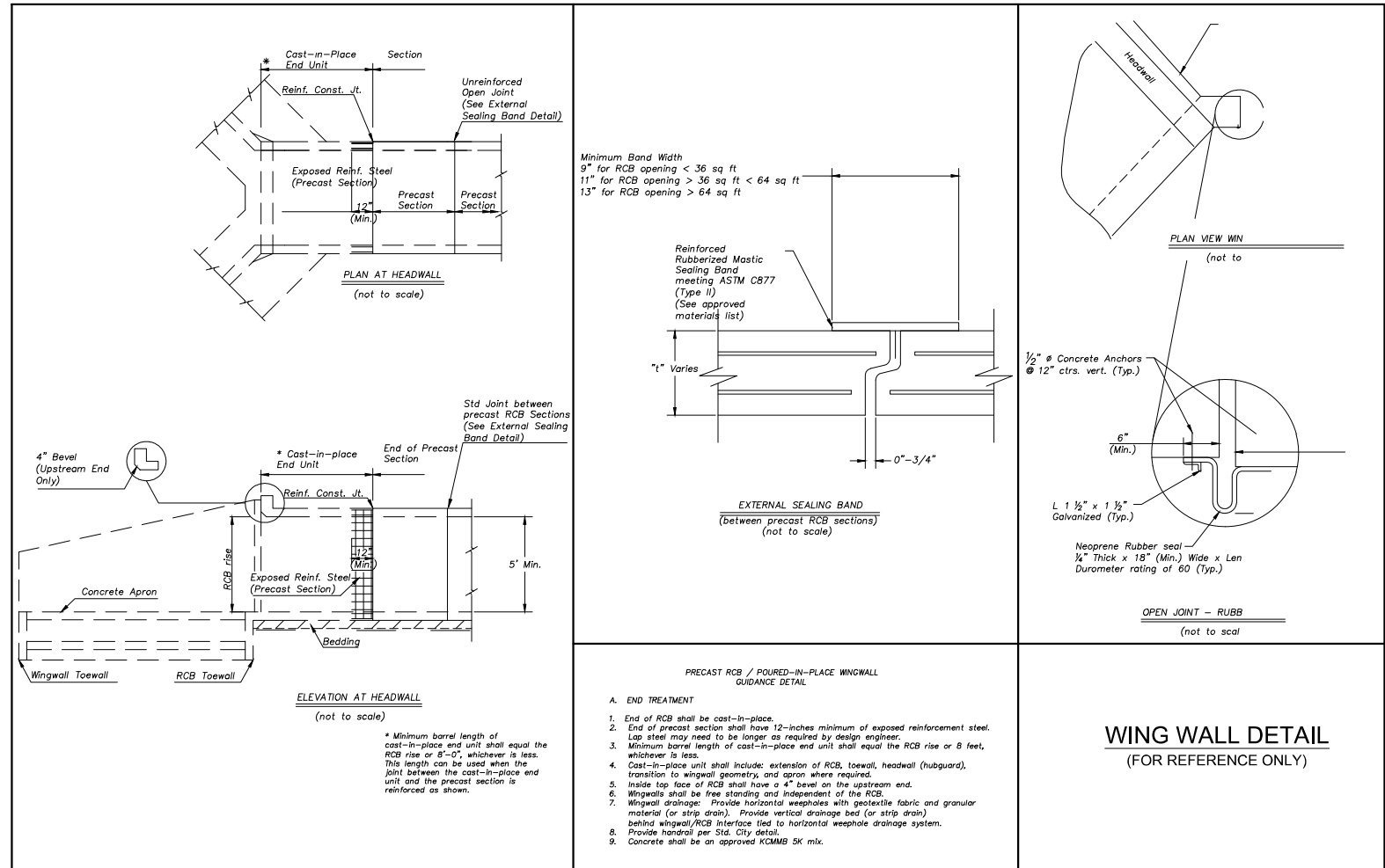
BOTTOMLESS ARCH & HEADWALL SECTION DETAIL
(UPSTREAM SIDE)

SCALE: 1"=10'



BOTTOMLESS ARCH & HEADWALL SECTION DETAIL
(DOWNSTREAM SIDE)

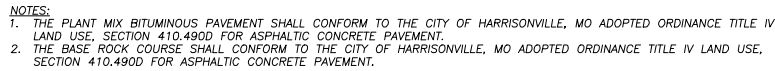
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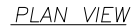
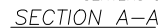
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COMPANY ANDERSON ENGINEERING, INC. 2012		JOB NUMBER: STBG 25004(11)	



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SCALE: N.T.S.



SCALE: N.T.S.

- NOTES:

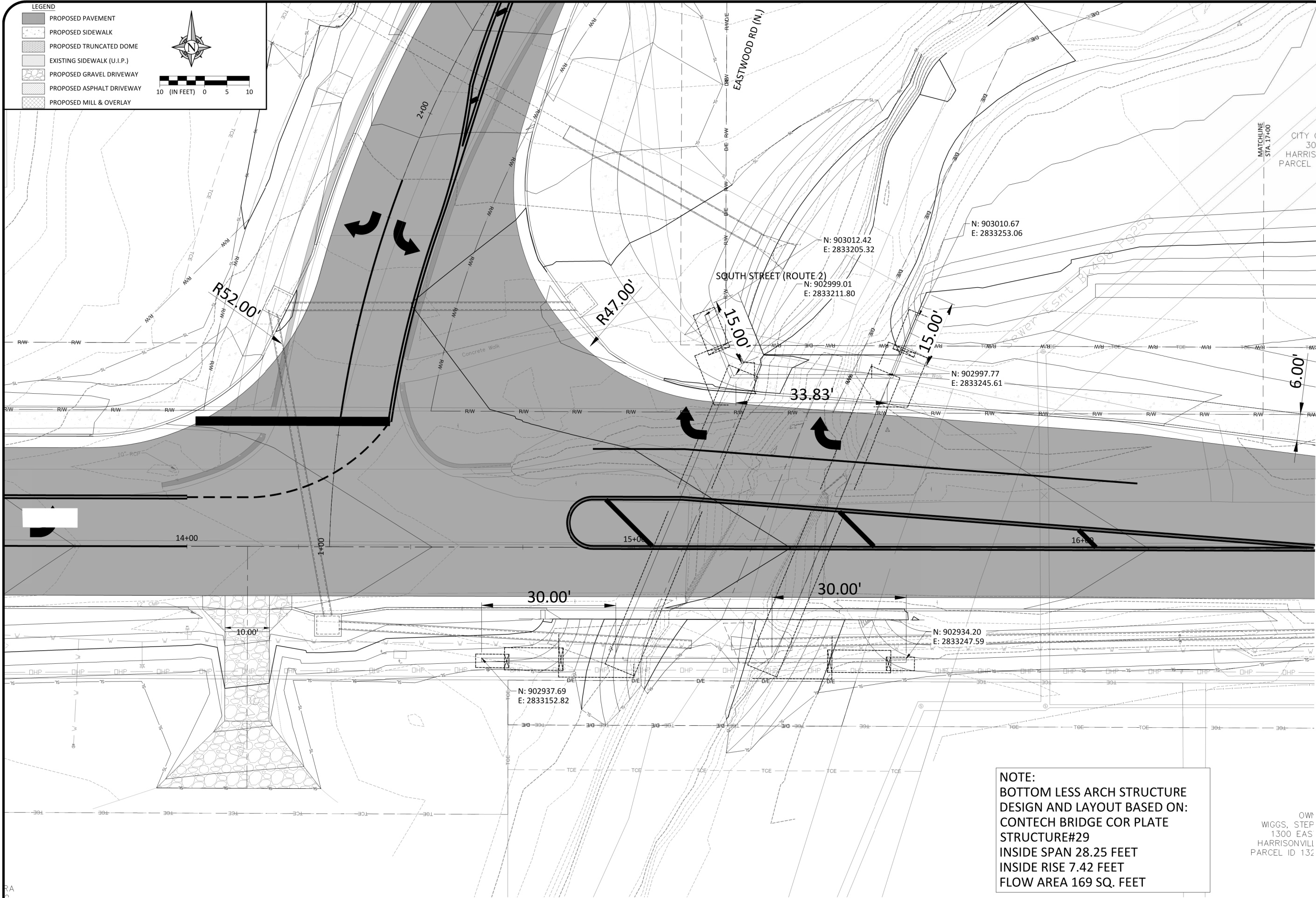
1. ALL CONCRETE SHALL BE 4000 PSI.
2. INLET CONSTRUCTION NOTES SHALL LIST THE "L" DIMENSION FIRST, THE "W" DIMENSION SECOND, AND THE "H" DIMENSION THIRD.
3. FLOOR OF INLET SHALL HAVE A SHAPED CONCRETE INVERT TO PROVIDE FOR SMOOTH FLOW.
4. THE MINIMUM DIMENSION BETWEEN TOP OF PIPE AND TOP OF BOX SHALL BE 1'-6" (TYPICAL ALL WALLS)
5. ALL INGRADE INLETS SHALL CONFORM TO STREET GRADE. ALL INLETS IN SUMP SHALL BE LEVEL. BEVEL ALL EXPOSED EDGES WITH 3/4" TRIANGULAR MOLDING.
6. THE THROAT AND TRANSITION ARE SUBSIDIARY TO THE STRUCTURE.



TURF REINFORCEMENT MAT FOR CHANNEL INSTALLATION GENERAL NOTES

- [illegible]

REVISIONS			DRAWING INFO.	
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F	REISSUE FOR A-DATE REVIEW	TSE	09-03-26	FIELD BOOK:
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Conquest Madison District, Inc. 2012 Conquest Madison District, Inc. 2012				STBC 2300(11)



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G	ISSUE FOR BID	TSE	10-02-26
		FIELD BY:	FIELD BOOK:
		JOB NUMBER:	STIG 26004(11)
		FED NUMBER:	

(WL) WING WALL LAYOUT

MODOT RT 2 (SOUTH STREET) OVER TRIBUTARY
2 OF MUDDY CRK, BRIDGE #A9481 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

SHEET NUMBER
32
OF 32

HYDROLOGIC DATA
DRAINAGE AREA = 1.2 SQ. MI.
DESIGN FLOOD FREQUENCY = 25 YEARS
DESIGN FLOOD DISCHARGE = 576 CFS
DESIGN FLOOD (D.F.) ELEVATION = 891.24
BASE FLOOD (100-YEAR)
BASE FLOOD ELEVATION = 895
BASE FLOOD DISCHARGE = 840 CFS
ESTIMATED BACKWATER = 0.88 FT
FREEBOARD (25-YEAR)
FREEBOARD = 3.26 FT
ROADWAY OVERTOPPING
OVERTOPPING FLOOD DISCHARGE = 1,190 CFS
OVERTOPPING FLOOD FREQUENCY = 500 YEARS
OVERTOPPING FLOOD ELEVATION = 893.13

GENERAL NOTES:

DESIGN SPECIFICATIONS:

2020 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS (9TH ED.)
SEISMIC PERFORMANCE CATEGORY A
2019 AASHTO GUIDELINES FOR GEOMETRIC DESIGN

CONSTRUCTION SPECIFICATIONS:

MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION
MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION

DESIGN LOADING:

HS20-44
FUTURE WEARING SURFACE = 35 LB/SF
EARTH PRESSURE = 120 LB/CF
EQUIVALENT FLUID PRESSURE = 45 LB/CF

DESIGN UNIT STRESSES:

CLASS B-2 CONCRETE (SUBSTRUCTURE)
REINFORCING STEEL (GRADE 60)

REINFORCING STEEL:

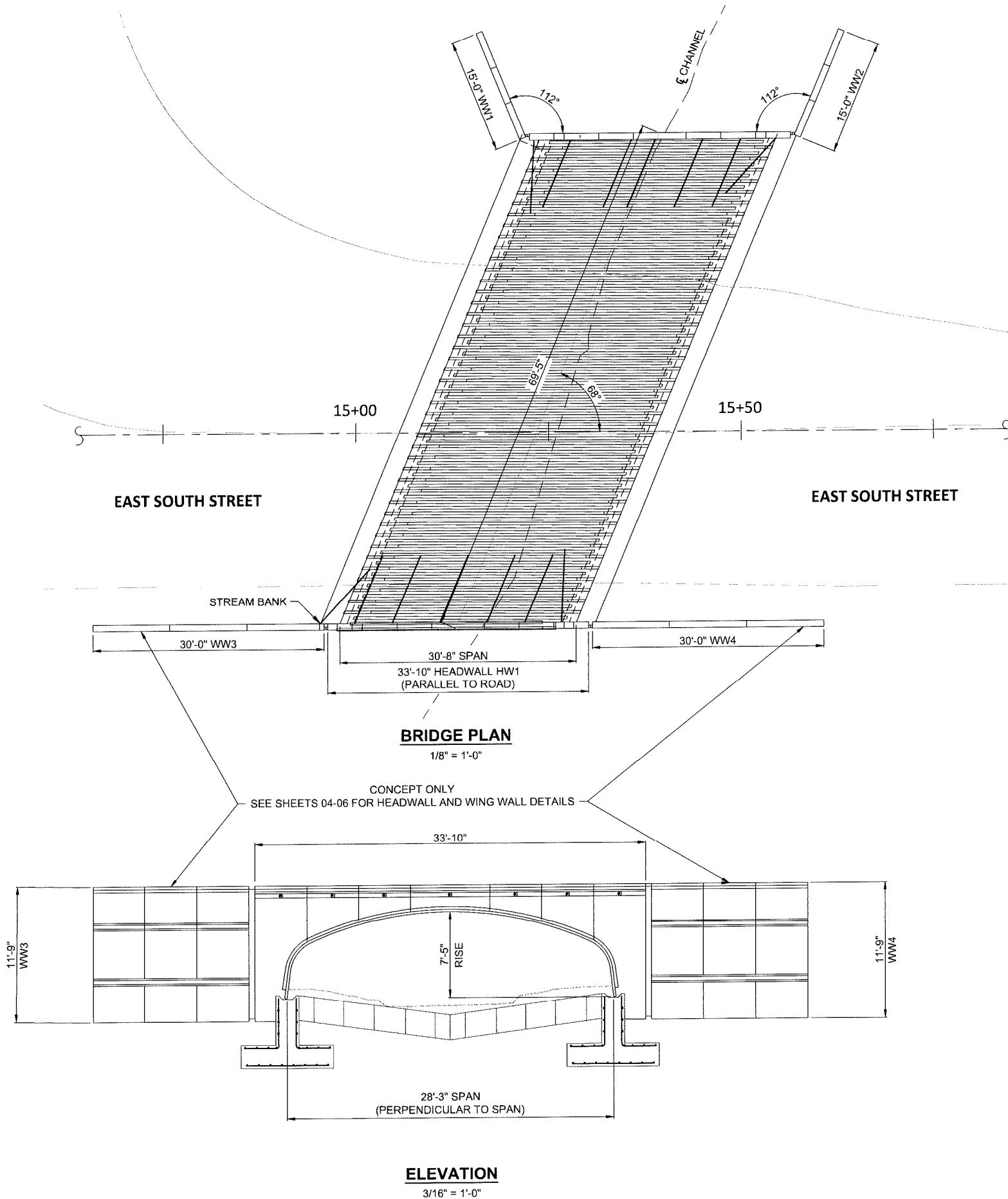
MINIMUM CLEARANCE TO THE REINFORCING STEEL
SHALL BE 1-1/2 INCHES, UNLESS OTHERWISE SHOWN.

TRAFFIC HANDLING:

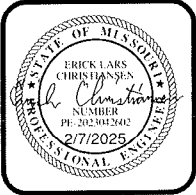
STRUCTURE TO BE CLOSED DURING CONSTRUCTION. TRAFFIC
TO BE MAINTAINED ON OTHER ROUTES DURING CONSTRUCTION.
SEE ROADWAY PLANS FOR TRAFFIC CONTROL.

NOTE:

QUANTITIES SHOWN ON THESE PLANS ARE NOT
GUARANTEED BY THE OWNER AND ARE USED SOLELY FOR
THE PURPOSE OF COMPARING BIDS AND AWARDED THE
CONTRACT, AND MAY OR MAY NOT REPRESENT THE
ACTUAL QUANTITIES ON THE JOB. SEE SPECIFICATIONS.
ANY ITEMS NOT SHOWN IN BID TAB, SHALL BE CONSIDERED
SUBSIDIARY TO OTHER ITEMS.



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by Erick Lars
Christiansen
Date: 2025.02.07
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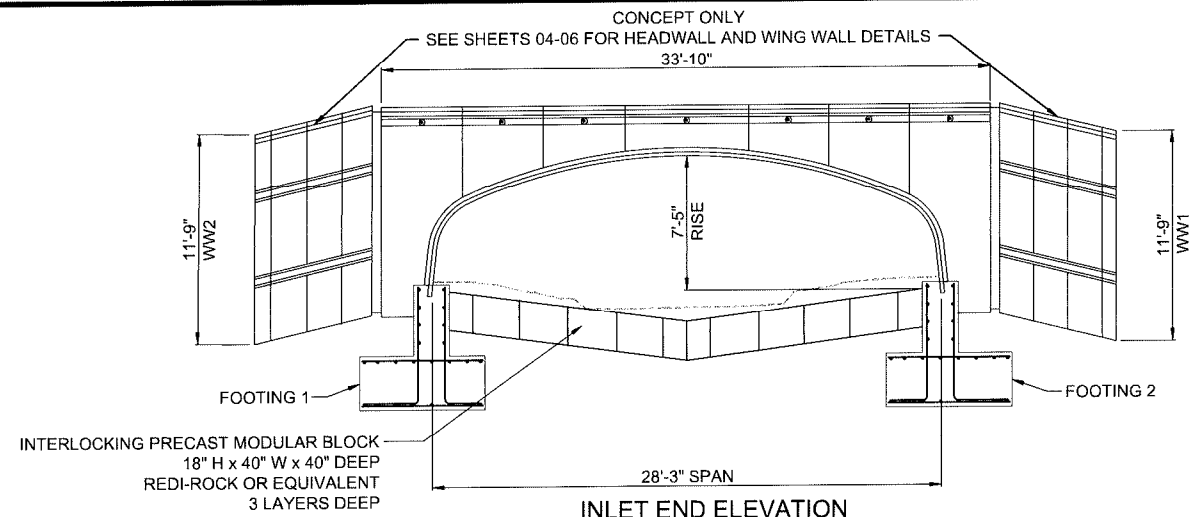
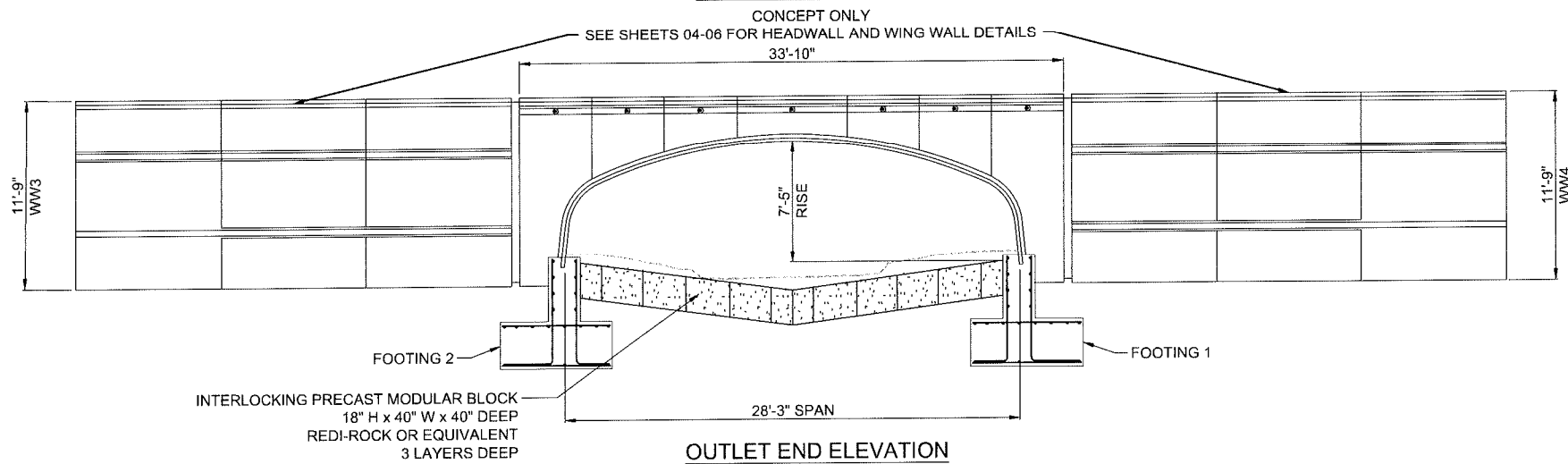
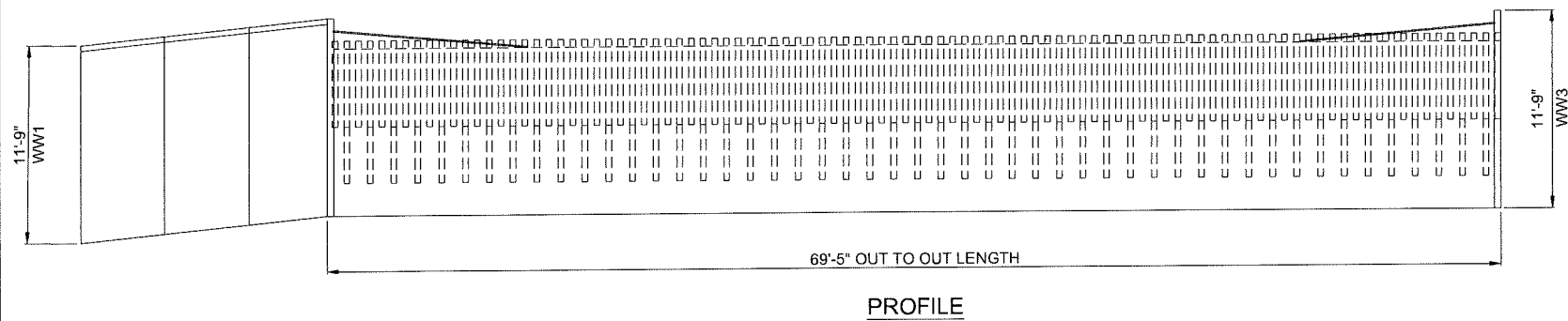
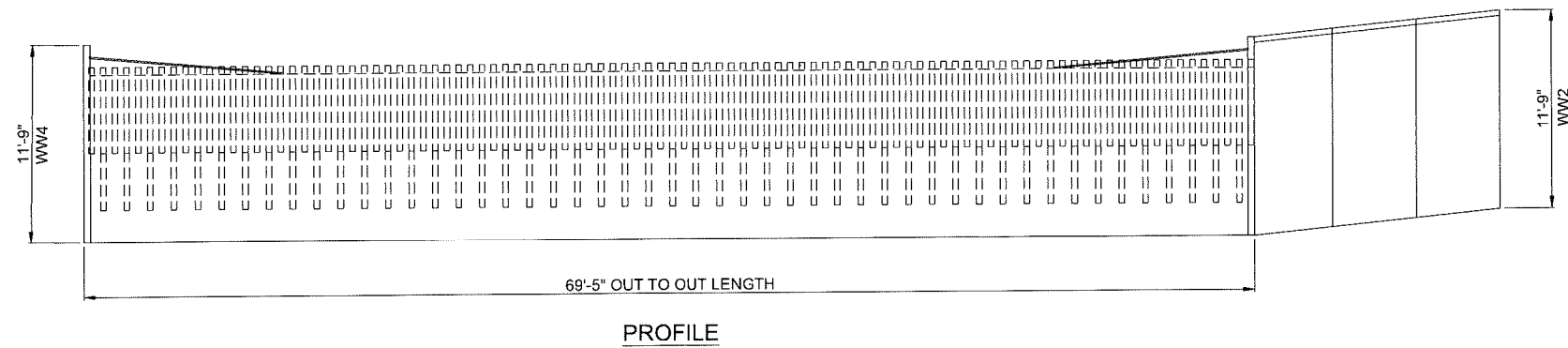


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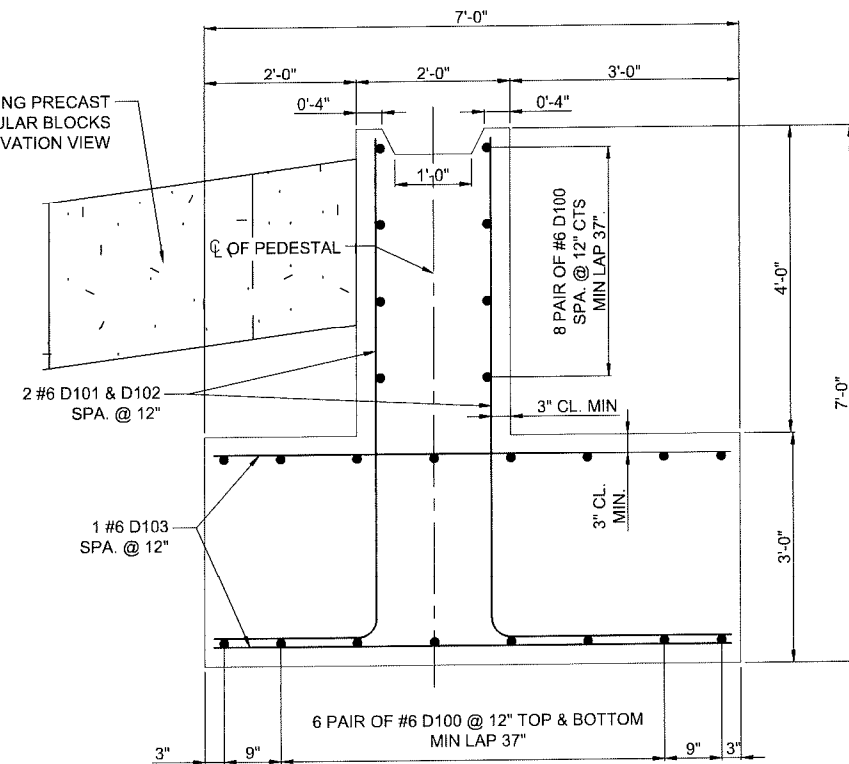
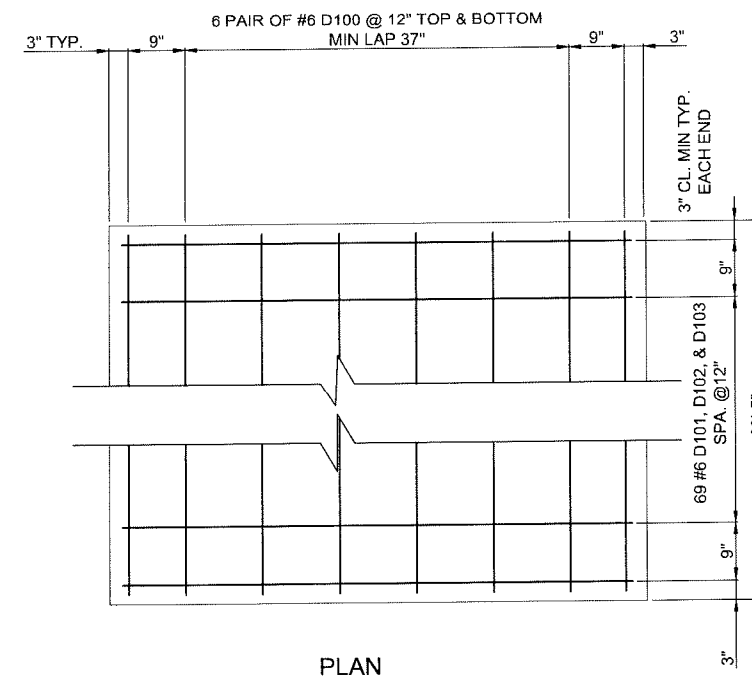
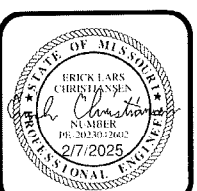
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BRIDGE PLAN & PROFILE
SOUTH STREET (ROUTE 2) OVER MUDDY CREEK
CULVERT #1240 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

SHEET NUMBER
01
OF 12



INTERLOCKING PRECAST
MODULAR BLOCKS
SEE INLET END ELEVATION VIEW



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KEL

BRIDGE PROFILE
SOUTH STREET (ROUTE 2) OVER MUDDY CREEK
CULVERT #1240 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

SHEET NUMBER
02
OF 12

1. GENERAL

- ## 2. DESIGN CRITERIA

- ### 3. SUBMITTALS

- #### 4. FOUNDATIONS

- ## 5. FILL AND AGGREGATE MATERIALS

- ## 6. CONCRETE

- C. CONCRETE ACCESSORIES:

- D. ANCHORS FOR CONCRETE:

- ## CONCRETE QUALITY AND DETAILS

- B. CONCRETE PROPORTIONS:

- E. MIXING & PLACING CONCRETE: Concrete shall be prepared, mixed, placed and consolidated in accordance with ACI 318 and as follows:

- F. CURING: Concrete shall be maintained above 50-degrees F and in a moist condition for at least 7 days after placement, except when cured in accordance with ACI 318.

- G. COLD WEATHER REQUIREMENTS: Adequate equipment shall be provided for heating concrete materials and protecting concrete during freezing or near-freezing weather. The recommended procedure listed in ACI 306; Cold Weather Concreting shall be followed.

- a. Cold weather is defined as a period when, for more than 3 consecutive days, the following conditions exist:
 - a.1. The average daily air temperature is less than 40-degrees F and
 - a.2. The air temperature is not greater than 50-degrees F for more than one-half of any 24-hour period

- H. **HOT WEATHER REQUIREMENTS:** During hot weather, proper attention shall be given to ingredients, production methods, handling, placing, protection, and curing to prevent excessive concrete temperatures or water evaporation that could impair required strength or serviceability of the member or structure. The recommended procedures listed in ACI 305: Hot Weather Concreting shall be followed.

- a. Hot weather is any combination of the following conditions that tends to impair the quality of freshly mixed or hardened concrete by accelerating the rate of moisture loss and rate of cement hydration, or otherwise causing detrimental results:
 - a.1. High ambient temperature.
 - a.2. High concrete temperature.
 - a.3. Low relative humidity.
 - a.4. Wind speed.
 - a.5. Solar radiation.

FORMWORK

- C. REMOVAL OF FORMS.

- a. Concrete forms shall not be removed until the retained concrete has reached the following minimum percentage of the required 28-day compressive strength:
- a.1. Footings and base slabs on grade: 50% of f'_c .
 - a.2. Foundation walls and columns: 67% of f'_c .

D. EMBEDMENTS IN CONCRETE

- a. Conduits, pipes, and sleeves of any material not harmful to concrete and within limitations of ACI 318 shall be permitted to be embedded in concrete with approval of the Project Engineer, provided they are not considered to replace structurally the displaced concrete, except as provided in ACI 318.
- b. Conduits and pipes of aluminum shall not be embedded in structural concrete unless effectively coated or covered to prevent aluminum-concrete reaction or electrolytic action between aluminum and steel.

9. DETAILS OF REINFORCEMENT

- A. Placement of all reinforcing steel within concrete structures shall be in conformance with ACI 318.
- B. All reinforcing steel shall be uncoated unless specifically noted otherwise.
- C. Reinforcing steel hooks, bends, ties, splices and other reinforcement details shall be in accordance with ACI 315; Details and Detailing of Concrete Reinforcement.
- D. All reinforcing steel shall be bent by the fabricator prior to delivery to the site. Reinforcing steel shall not be field bent, unless specifically approved by the Engineer in writing.
- E. Spacing limits for reinforcement shall be in conformance with ACI 318.
- F. Concrete protection for reinforcement. Unless noted elsewhere on the drawings, all reinforcing steel shall have the following concrete cover:
 - a. For concrete structures; per ACI 318:
 - a.1. Concrete cast against earth: 3.00 inch
 - a.2. Concrete exposed to earth, liquid or weather;
 - a.2.a. Slabs and joints: 2.00-inch
 - a.2.b. Walls: 2.00-inch
 - a.3. Footings and base slabs;
 - a.3.a. Formed surfaces: 2.00-inch
 - a.3.b. Top of footings and base slabs: 2.00-inch

- G. Concrete blocks or plastic-coated bar chairs shall be provided for support of all slab reinforcing steel, sufficient in number to prevent settlement or sagging, but in no case shall such support be continuous. Metal clips or supports shall not be placed in contact with the forms or the sub-grade.

- H. Dowels and anchor bolts shall be wired or otherwise held in correct position prior to placing concrete. Care shall be taken to ensure that dowels and anchor bolts remain plum after concrete is poured and vibrated. In no case shall dowels or anchor bolts be stabbed into freshly poured concrete.

- I. Provide dowels in footings and at construction joints to match vertical reinforcing bar size and spacing, unless otherwise noted on the drawings.

- J. Where drilled in anchors are to be post-installed into concrete surfaces take care to locate reinforcing steel so that it will not interfere with the drilling operations. Move bars plus or minus 1 to 2 inches in order to avoid drilling conflicts.

- K. All bar bends, hooks, splices and other reinforcing steel details shall conform to the requirements of ACI 315.

- L. Unless otherwise noted on the plans all bars shall be spliced with a minimum Class B lap splice.

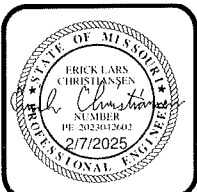
- M. At all corners and wall intersections, provide bent bars to match the horizontal reinforcing steel and in accordance with the typical corner reinforcing details.

- N. If the Contractor fails to properly tie reinforcing and anchors before concrete is cast in place, the Contractor shall remove all substandard work and reconstruct the concrete work at his own expense.

- O. Unless otherwise noted, at slab and wall openings provide a minimum of (4) #5 bars; over, under and at either side of the openings. Extend these bars a minimum of 24" past the opening edge. Provide (1) mat of (4) #5 bars for walls or slabs with single-layer reinforcing and (2) mats of (4) #5 bars for double-layer reinforcing walls or slabs. Provide #4, 4'-0" long diagonal bars at each re-entrant corner in slabs; (1) bar for slabs with single layer reinforcing and (2) bars for slabs with double layer reinforcing.

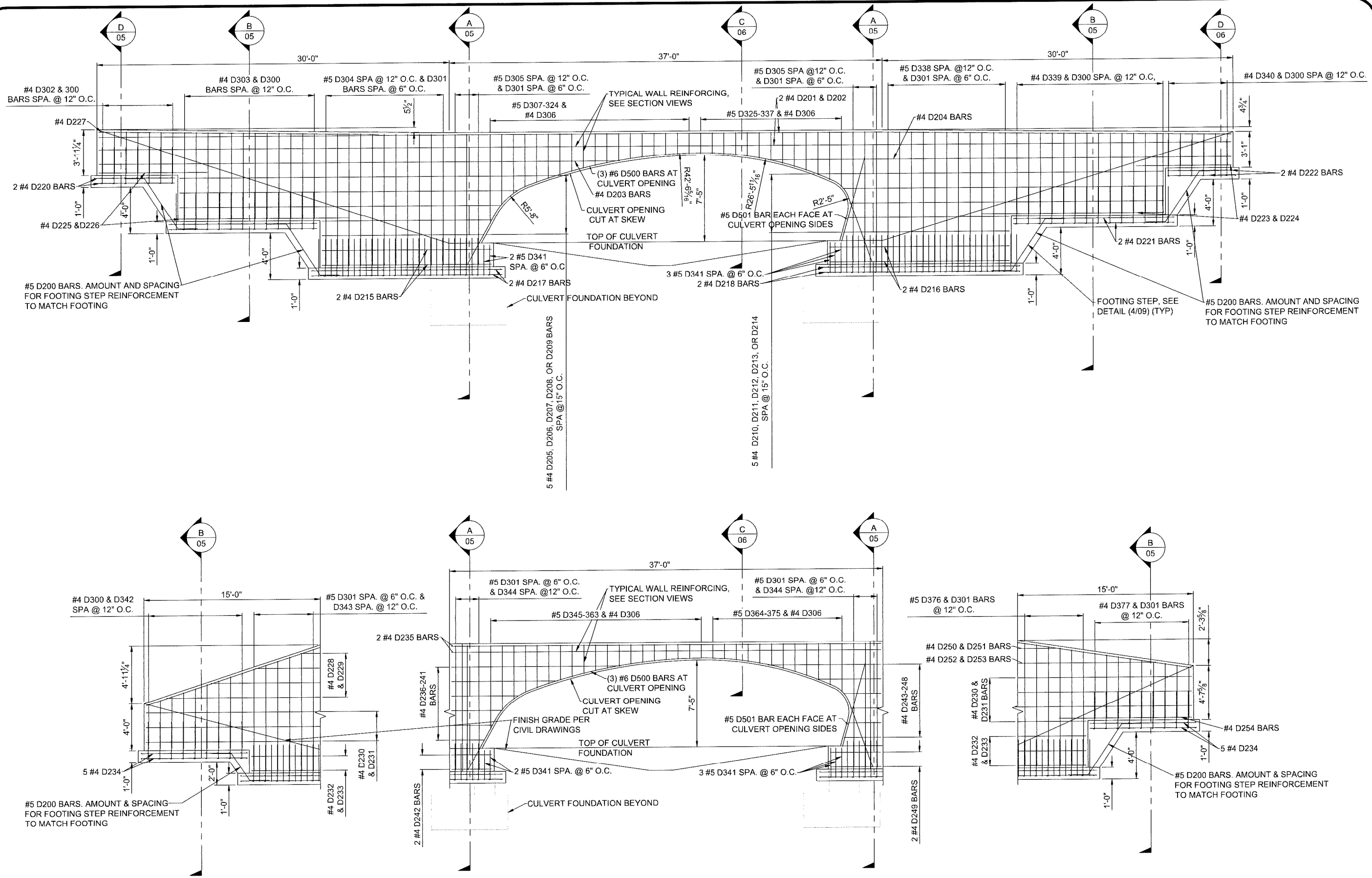
10. CULVERT HEADWALL-WITH FORMLINER

- A. Description: "Culvert Headwall-with Formliner" shall be in accordance with the details and specifications provided in the Bid Plans. No special measurement or payment will be made for excavation compaction backfilling, pipe connection, anti-graffiti coating, or coordination with other work items.
- B. Anti-Graffiti Coating: All cast-in-place headwalls shall be treated with Prosoco Sure Klean Weather Seal - Block Guard & Graffiti Control 15 or approved equal.
- C. Formliner: Formliner shall be submitted to the City for approval prior to construction.
- D. Minimum concrete cover of reinforcing shall be maintained at all points of formliner.



STRUCTURAL GENERAL NOTES
SOUTH STREET (ROUTE 2) OVER MUDDY CREEK
CULVERT #1240 REPLACEMENT
SEC 4 T44N R31W
CITY OF HARRISONVILLE, MO

SHEET NUMBER
03
OF 12



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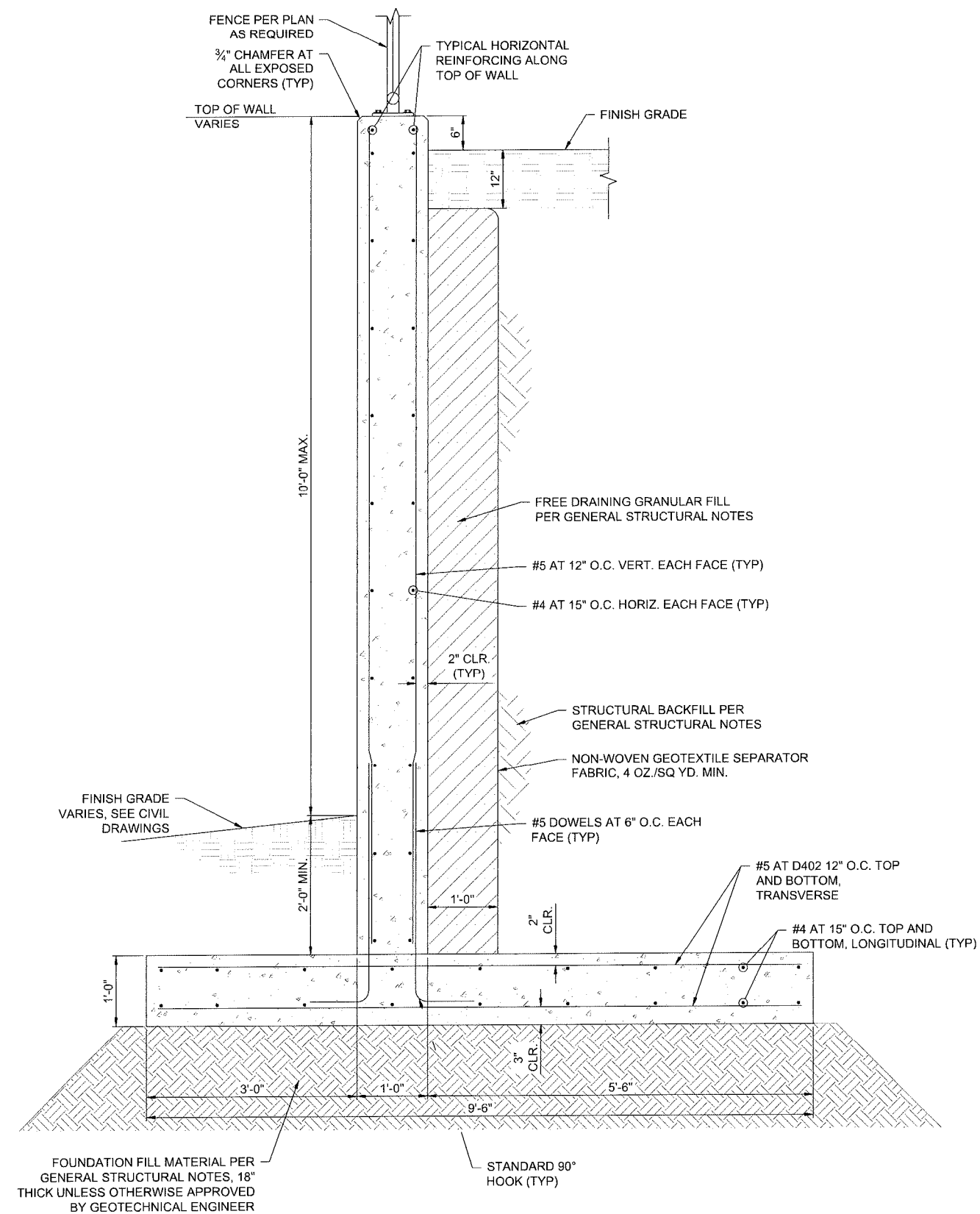
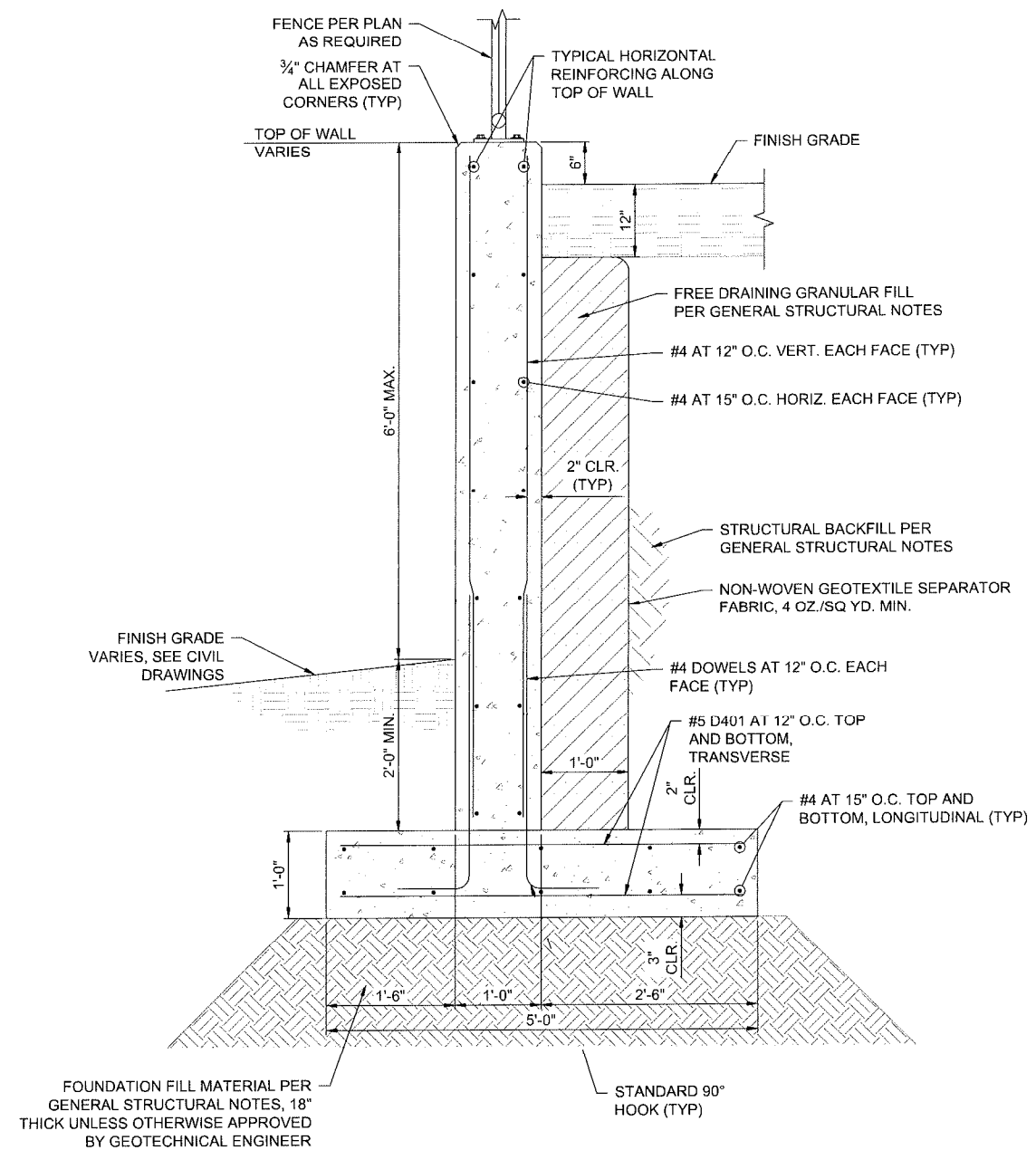
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HEADWALL & WINGWALL ELEVATION
SOUTH STREET (ROUTE 2) OVER MUDDY CREEK
CULVERT #1240 REPLACEMENT
SEC4 T44N R31W
CITY OF HARRISONVILLE, MO

SHEET NUMBER
04
OF 12



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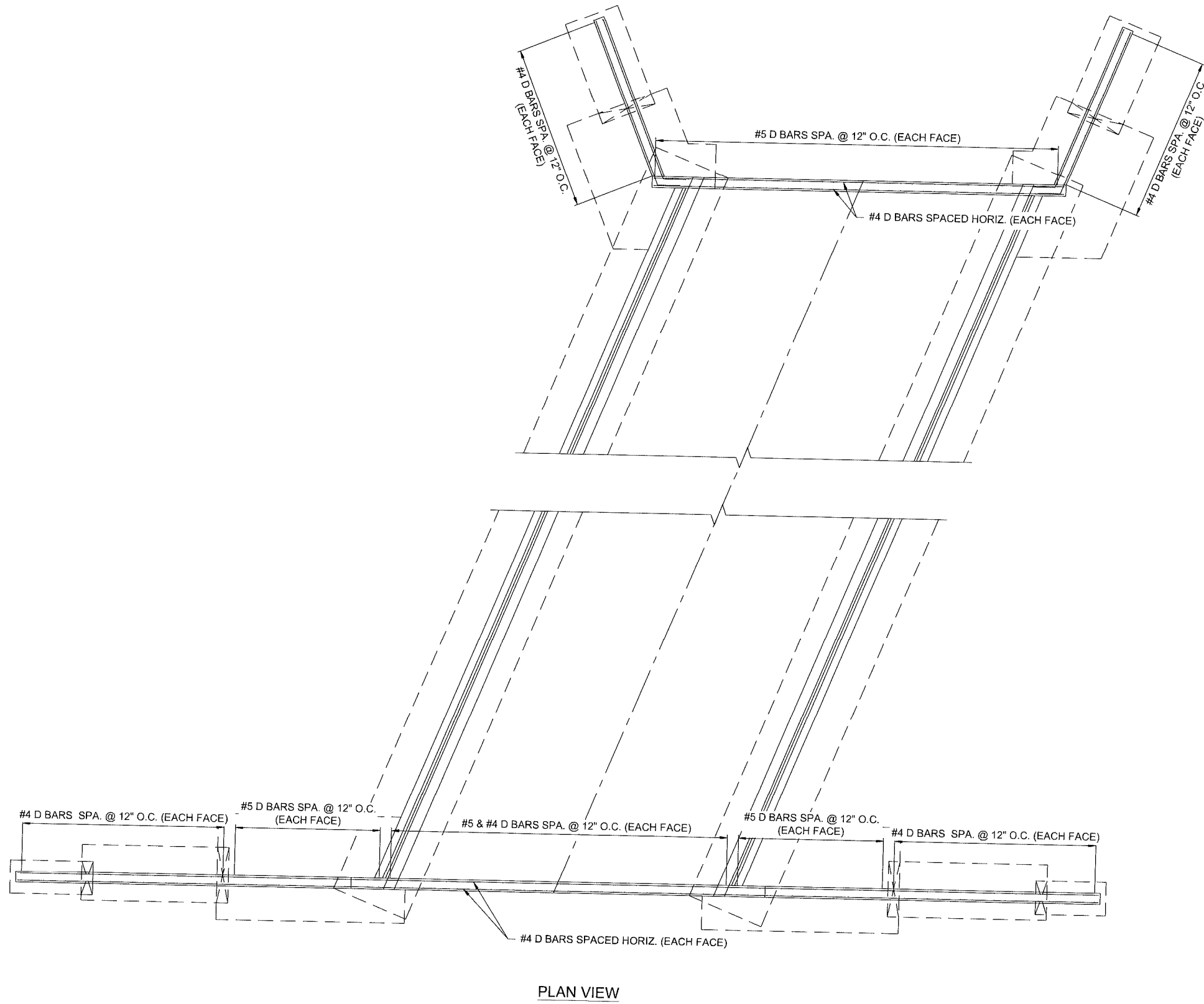
CUT SECTIONS 2

SOUTH STREET (ROUTE 2) OVER MUDDY CREEK
CULVERT #1240 REPLACEMENT

SEC4 T44N R31W

CITY OF HARRISONVILLE, MO

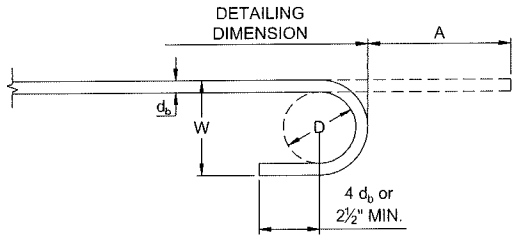
SHEET NUMBER
06
OF 12



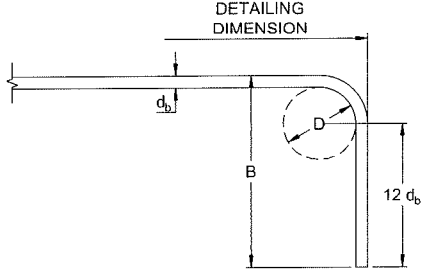
TYPICAL LAP SPLICE LENGTHS IN INCHES, PER ACI 318									
BAR SIZE	LAP CLASS	f'c = 3,000 psi		f'c = 4,000 psi		f'c = 4,500 psi		f'c = 5,000 psi	
		CAT. 1	CAT. 2	CAT. 1	CAT. 2	CAT. 1	CAT. 2	CAT. 1	CAT. 2
#4	A	22	33	19	28	18	27	17	25
	B	28	43	25	37	24	35	22	33
#5	A	27	41	24	36	23	34	21	32
	B	36	53	31	46	30	44	28	41
#6	A	33	49	28	43	27	41	25	38
	B	43	64	37	55	36	53	33	50
#7	A	48	72	42	62	40	59	37	56
	B	62	93	54	81	51	77	48	72
#8	A	55	82	47	71	45	68	42	64
	B	71	106	61	92	58	88	55	83
#9	A	62	92	53	80	51	76	48	72
	B	80	120	69	104	66	99	62	93

- NOTES:
- FOR GRADE 60 REINFORCING STEEL BARS.
 - ALL LAP SPLICES SHALL BE CLASS B, UNLESS OTHERWISE NOTED.
 - LENGTH TO BE SELECTED BY CATEGORY OF BARS BEING SPLICED:
 - CATEGORY 1: CLEAR COVER $\geq d_b$ AND CLEAR SPACING $\geq d_b$, AND STIRRUPS OR TIES THROUGHOUT L_d ARE PROVIDED.
 - CATEGORY 1: CLEAR COVER $\geq d_b$ AND CLEAR SPACING $\geq 2d_b$.
 - CATEGORY 2: CLEAR COVER $> d_b$ OR CLEAR SPACING $< 2d_b$.
 - FOR TOP BARS, MULTIPLY LAP LENGTH LISTED BY 1.30. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE CAST BELOW THE BARS.
 - FOR EPOXY COATED BARS, LAP LENGTHS SHALL BE MULTIPLIED BY 1.20.

1 TYPICAL REBAR LAP SPLICE SCHEDULE - CONCRETE
SCALE: NOT TO SCALE



180° HOOKS

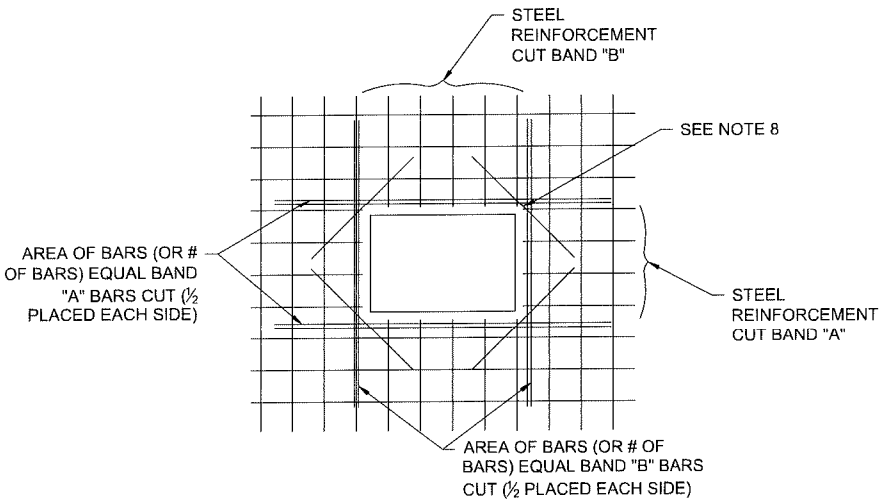


90° HOOKS

TYPICAL HOOK DIMENSIONS				
BAR SIZE	D	180° HOOKS		90° HOOKS
		A	W	B
#3	2 1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3 3/4"	7"	5"	10"
#6	4 1/2"	8"	6"	12"
#7	5 1/4"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9 1/2"	15"	11 3/4"	19"
#10	10 3/4"	17"	13 3/4"	22"
#11	12"	19"	14 3/4"	24"

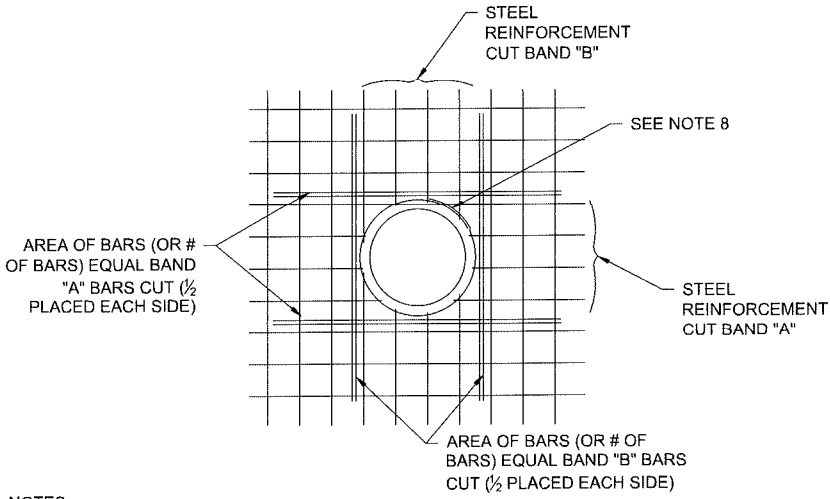
- NOTES:
- d_b = NOMINAL BAR DIAMETER
 - D = FINISHED INSIDE BEND DIAMETER
 - MINIMUM D = $6d_b$ FOR #3 TO #8 BARS.
 - MINIMUM D = $8d_b$ FOR #9 TO #11 BARS.
 - MINIMUM D = $10d_b$ FOR #14 TO #18 BARS.

2 TYPICAL REBAR HOOK DETAILS
SCALE: NOT TO SCALE



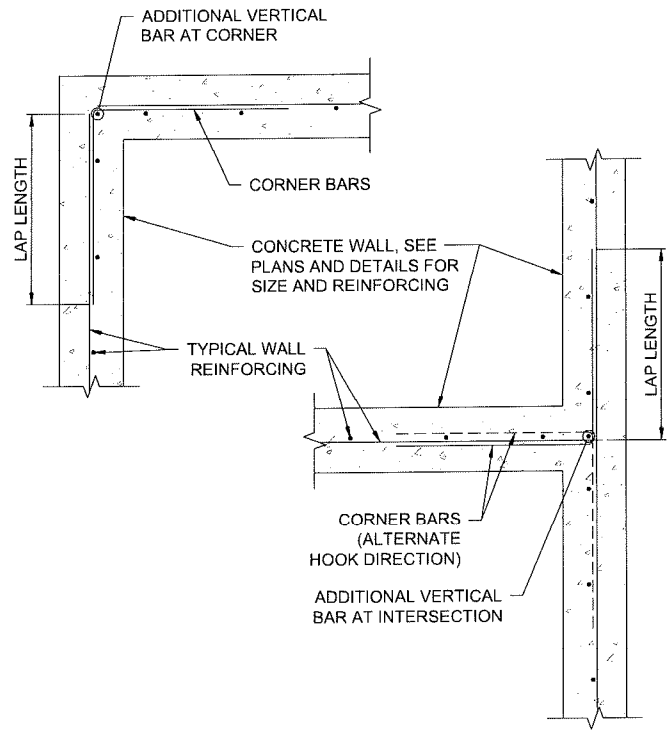
- NOTES:
- TYPICAL FOR ALL OPENINGS IN CONCRETE WALLS AND SLABS UNLESS INDICATED OTHERWISE ON PLANS.
 - COORDINATE PLACEMENT OF ALL PIPING AND REINFORCING STEEL SO THAT NO CONTACT EXISTS BETWEEN TWO METALS.
 - DO NOT WELD REINFORCEMENT TO PIPE SLEEVES, INSERTS OR EMBEDMENTS.
 - PROVIDE A MINIMUM OF TWO (2) "A" BARS AND TWO (2) "B" BARS EACH SIDE OF OPENING (ONE EACH FACE).
 - SPACE BARS AT 3 BAR DIAMETERS (OR 3" MIN.) ON CENTER.
 - IF OPENING REINFORCING TERMINATES AT THE EDGE OF THE SLAB PROVIDE A STANDARD HOOK ON THE "EDGE" SIDE OF THE REINFORCING.
 - CONTINUE SPLICE REINFORCEMENT THROUGH ON SPAN LENGTH PLUS REQUIRED EMBEDMENT LENGTH.
 - PROVIDE DIAGONAL BARS ACCORDING TO THE FOLLOWING:
 - OPENINGS UP TO 30" WIDE: (1) #5 x 4'-0" AT EACH CORNER, EACH FACE.
 - OPENINGS GREATER THAN 30" WIDE: (1) #5 x 6'-0" AT EACH CORNER, EACH FACE.

4 TYPICAL OPENING REINFORCEMENT DETAIL - SQUARE/RECT.
SCALE: NOT TO SCALE

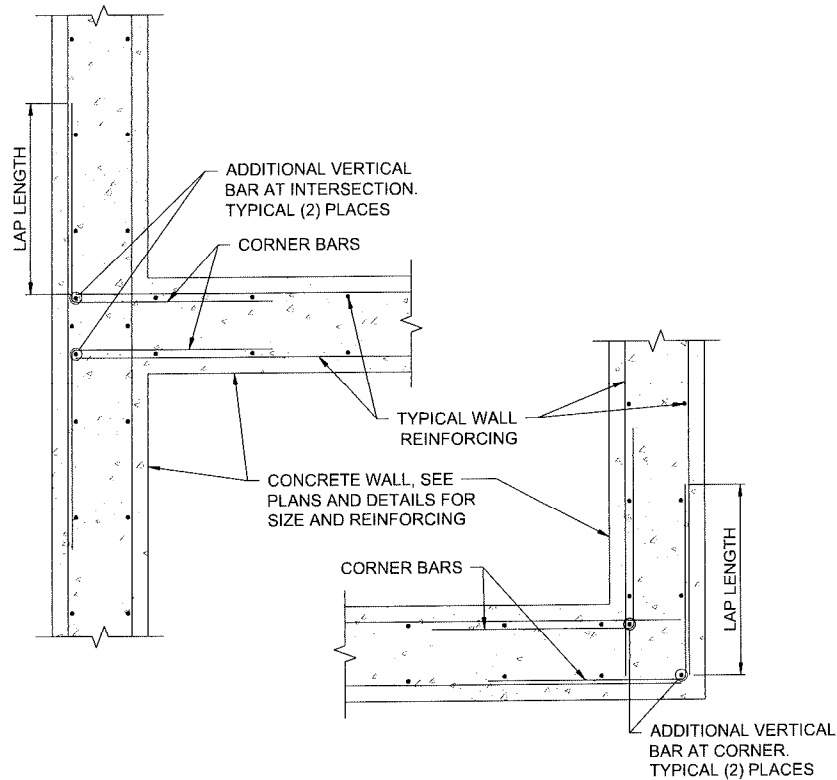


- NOTES:
- TYPICAL FOR ALL OPENINGS IN CONCRETE WALLS AND SLABS UNLESS INDICATED OTHERWISE ON PLANS.
 - COORDINATE PLACEMENT OF ALL PIPING AND REINFORCING STEEL SO THAT NO CONTACT EXISTS BETWEEN TWO METALS.
 - DO NOT WELD REINFORCEMENT TO PIPE SLEEVES, INSERTS OR EMBEDMENTS.
 - PROVIDE A MINIMUM OF TWO (2) "A" BARS AND TWO (2) "B" BARS EACH SIDE OF OPENING (ONE EACH FACE).
 - SPACE BARS AT 3 BAR DIAMETERS (OR 3" MIN.) ON CENTER.
 - IF OPENING REINFORCING TERMINATES AT THE EDGE OF THE SLAB PROVIDE A STANDARD HOOK ON THE "EDGE" SIDE OF THE REINFORCING.
 - CONTINUE SPLICE REINFORCEMENT THROUGH ON SPAN LENGTH PLUS REQUIRED EMBEDMENT LENGTH.
 - PROVIDE HOOP BARS ACCORDING TO THE FOLLOWING:
 - OPENINGS UP TO 30" DIAMETER: (1) #4 BAR, DIAMETER OF OPENING + 8" WITH 12" LAP, EACH FACE.
 - OPENINGS GREATER THAN 30" DIAMETER: (1) #5 BAR, DIAMETER OF OPENING + 8" WITH 18" LAP, EACH FACE.
 - AT CIRCULAR OPENING PIPE PENETRATIONS, CONTRACTOR SHALL CAST PIPE IN SEEP RING.

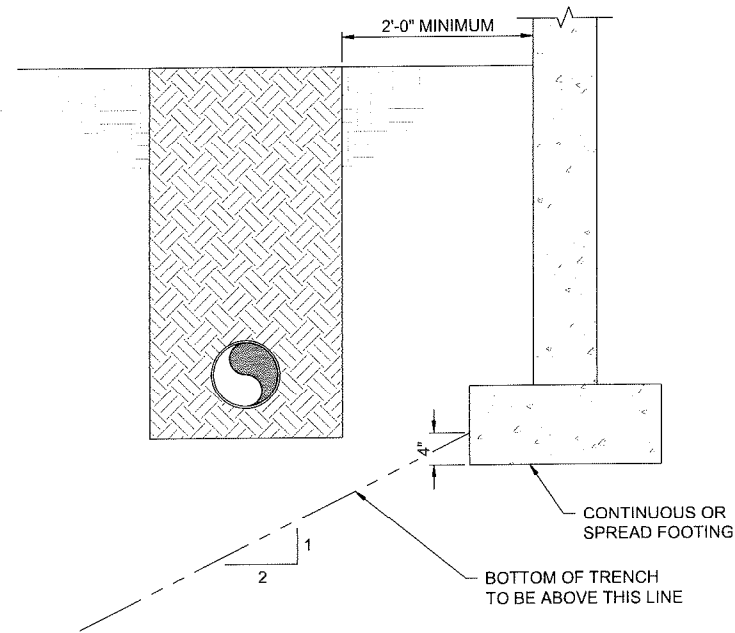
5 TYPICAL OPENING REINFORCEMENT DETAIL - CIRCULAR
SCALE: NOT TO SCALE



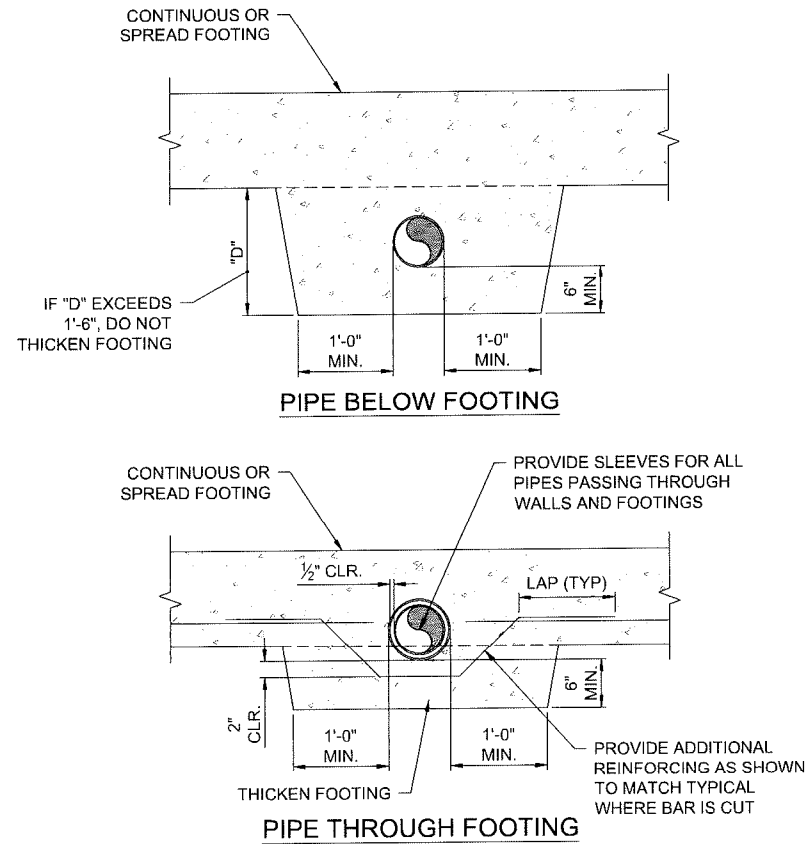
3 CORNER REINFORCEMENT FOR CONCRETE WALLS DETAIL - SINGLE MAT
SCALE: NOT TO SCALE



6 CORNER REINFORCEMENT FOR CONCRETE WALLS DETAIL - DOUBLE MAT
SCALE: NOT TO SCALE

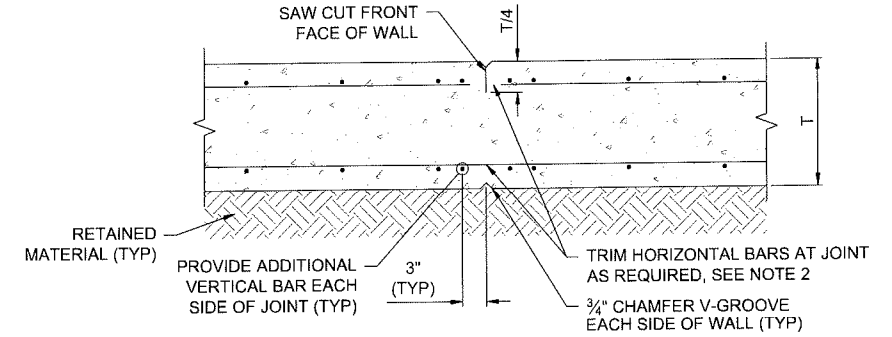


1 PIPE PARALLEL TO FOOTING DETAIL
SCALE: NOT TO SCALE

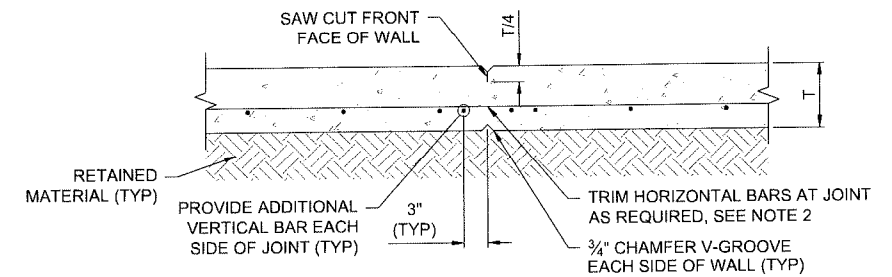


2 PIPE PERPENDICULAR TO FOOTING DETAIL
SCALE: NOT TO SCALE

- NOTES:
- WALL JOINTS SHALL BE SPACED AT A MAXIMUM OF 20 FEET UNLESS OTHERWISE NOTED.
 - HORIZONTAL REINFORCING BARS SHALL BE TRIMMED ACCORDING TO THE FOLLOWING:
 - SINGLE MAT REINFORCING - TRIM EVERY OTHER BAR, WITH ALTERNATING BARS BEING CONTINUOUS THROUGH THE JOINT. BARS AT TOP AND BOTTOM OF WALL SHALL BE CONTINUOUS.
 - DOUBLE MAT REINFORCING - FOR REAR FACE OF WALL, TRIM EVERY OTHER BAR, WITH ALTERNATING BARS BEING CONTINUOUS THROUGH THE JOINT. FOR FRONT FACE OF WALL, TRIM ALL BARS. BARS AT TOP AND BOTTOM OF WALL SHALL BE CONTINUOUS FOR BOTH FACES.

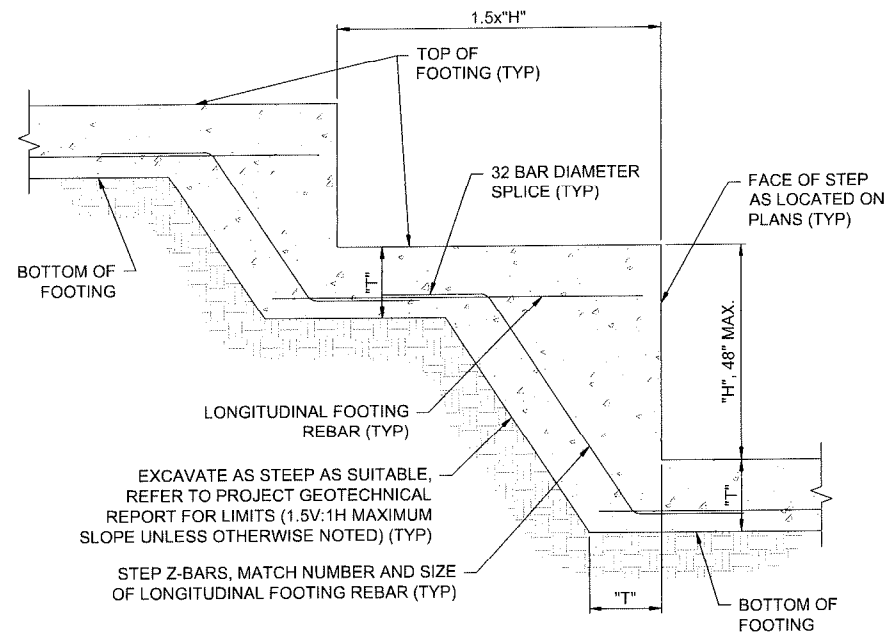


PLAN VIEW DOUBLE MAT REINFORCED WALLS



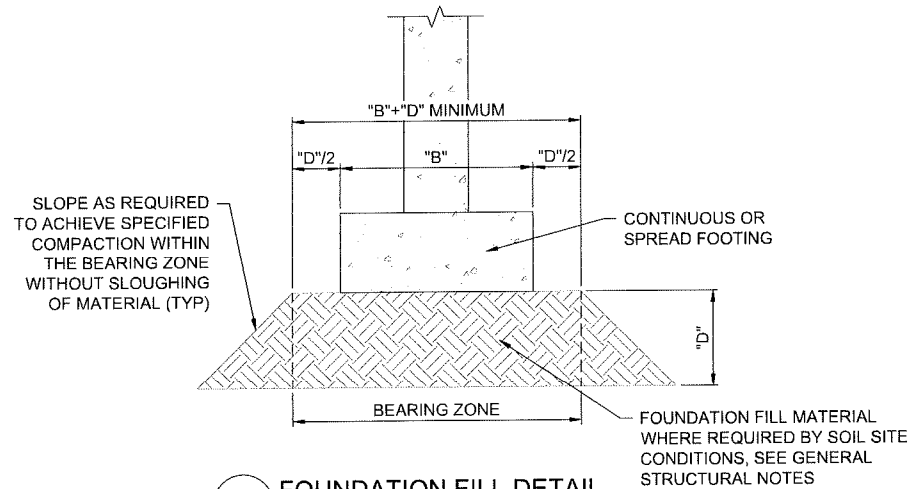
PLAN VIEW SINGLE MAT REINFORCED WALLS

3 RETAINING WALL CONTROL JOINT DETAIL
SCALE: NOT TO SCALE

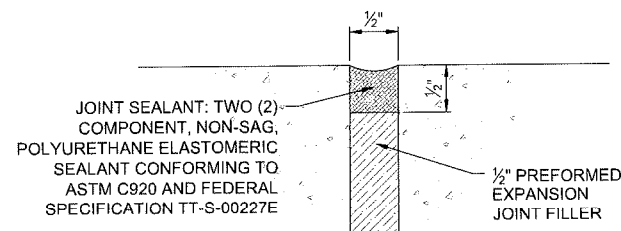


- NOTES:
- REFER TO FOUNDATION PLANS FOR LOCATION AND ELEVATIONS.
 - REFER TO OTHER DETAILS FOR FOOTING REINFORCING.
 - FOOTING TRANSVERSE REINFORCING NOT SHOWN FOR CLARITY.

4 TYPICAL WALL FOOTING STEP DETAIL
SCALE: NOT TO SCALE



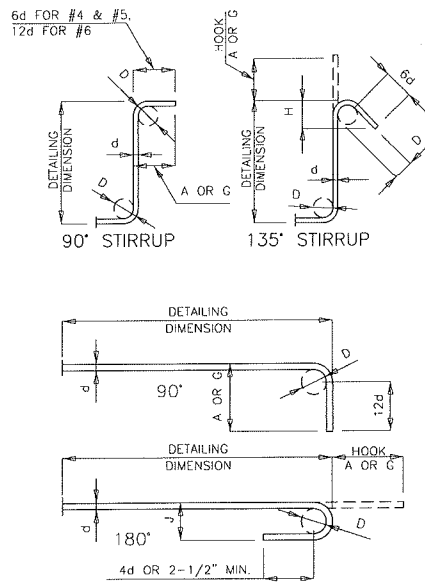
5 FOUNDATION FILL DETAIL
SCALE: NOT TO SCALE



6 EXPANSION JOINT SEALANT DETAIL
SCALE: NOT TO SCALE

REVISIONS		DRAWING INFO	
NO.	DESCRIPTION	BY	DATE
1	ISSUE FOR REVIEW	TSE	2/6/2025
2	ISSUE FOR BID	DNT	2/7/25
3			
4			
5			
6			
7			
8			
9			
10			

BILL OF REINFORCING STEEL																														
NO. REQD.	MARK NO.		LOCATION	CODES			DIMENSIONS												NOMINAL LENGTH		ACTUAL LENGTH		WEIGHT							
	SIZE	MARK					B		C		D		E		F		H							K						
				C	SH	V	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.		FT.	IN.	LBS.				
Footings																														
96	6	D100	FOOTING		20		36	0.000																		36	0	36	0	5.191
142	6	D101	FOOTING		18		6	4.500	2	0.000																8	5	8	3	1.760
142	6	D102	FOOTING		18		6	4.500	3	0.000																9	5	9	3	1.973
284	6	D103	FOOTING		20		6	6.000																		6	5	6	6	2.773
12	5	D200	HEADWALL		33		1	8.000	5	5.250	1	8.000	0	0.000	1	8.000	4	5.500	2	10.750						8	9	8	8	108
4	4	D201	HEADWALL		20		60	0.000																		60	0	60	0	160
4	4	D202	HEADWALL		20		36	6.000																		36	6	36	6	98
2	4	D203	HEADWALL		20		44	2.500																		44	3	44	3	50
2	4	D204	HEADWALL		20		39	5.625																		39	6	39	6	53
2	4	D205	HEADWALL		20		32	0.625																		32	1	32	1	43
2	4	S206	HEADWALL		20		28	9.500																		28	10	28	10	39
2	4	D207	HEADWALL		20		27	2.250																		27	2	27	2	36
2	4	D208	HEADWALL		20		14	5.750																		14	8	14	8	19
2	4	D209	HEADWALL		20		13	10.125																		13	10	13	10	18
2	4	D210	HEADWALL		20		29	7.500																		29	8	29	8	40
2	4	D211	HEADWALL		20		27	5.250																		27	5	27	5	37
2	4	D212	HEADWALL		20		26	10.625																		26	11	26	11	36
2	4	D213	HEADWALL		20		13	9.875																		13	10	13	10	18
2	4	D214	HEADWALL		20		14	2.000																		14	2	14	2	19
4	4	D215	HEADWALL		20		14	5.500																		14	6	14	6	39
4	4	D216	HEADWALL		20		15	4.250																		15	4	15	4	41
18	4	D217	HEADWALL		20		16	3.500																		16	4	16	4	196
18	4	D218	HEADWALL		20		17	2.250																		17	2	17	2	206
10	4	D219	HEADWALL		20		12	6.875																		12	7	12	7	84
8	4	D220	HEADWALL		20		6	10.875																		6	11	6	11	37
10	4	D221	HEADWALL		20		13	9.500																		13	10	13	10	82
8	4	D222	HEADWALL		20		5	10.250																		5	10	5	10	31
2	4	D223	HEADWALL		20		8	1.250																		8	1	8	1	11
2	4	D224	HEADWALL		20		15	6.625																		15	7	15	7	21
2	4	D225	HEADWALL		20		9	3.000																		9	3	9	3	12
2	4	D226	HEADWALL		20		14	4.875																		14	5	14	5	19
2	6	U227	HEADWALL		20		23	10.500																		23	11	23	11	72
4	4	D328	HEADWALL		23	V	2										1	10.250		9.000	3	11	3	10	25					
			INCREMENT =				2			13	3.875							1	10.250		9.000	15	4	15	3					
			45.500 INCH																											
4	4	D329	HEADWALL		23	V	2			2	6.250							1	10.250		9.000	4	6	4	5	27				
			INCREMENT =				2			13	10.875							1	10.250		9.000	15	11	15	10					
			45.600 INCH																											
6	4	D230	HEADWALL		23		2			15	1.000							1	10.250		9.000	17	1	17	0	68				
7	4	D231	HEADWALL		23		2			15	8.000							1	10.250		9.000	17	8	17	7	82				
5	4	D232	HEADWALL		23		2			6	1.000							1	10.250		9.000	8	1	8	0	27				
5	4	D233	HEADWALL		23		2			6	8.000							1	10.250		9.000	8	8	8	7	29				
20	4	D234	HEADWALL		20		9	1.000																		9	1	9	1	121
4	4	D235	HEADWALL		20		36	8.000																		36	8	36	8	98
2	4	D236	HEADWALL		20		14	2.250																		14	2	14	2	19
2	4	D237	HEADWALL		20		8	11.625																		9	0	9	0	12
2	4	D238	HEADWALL		20		5	8.375																		5	8	5	8	8
2	4	D239	HEADWALL		20		4	3.875																		4	4	4	4	6
2	4	D240	HEADWALL		20		3	5.625																		3	6	3	6	5
2	4	D241	HEADWALL		20		2	9.375																		2	9	2	9	4
4	4	D242	HEADWALL		20		3	5.375																		3	5	3	5	9
2	4	D243	HEADWALL		20		9	5.500																		9	6	9	6	13
2	4	D244	HEADWALL		20		5	4.750																		5	5	5	5	7
2	4	D245	HEADWALL		20		3	1.875																		3	2	3	2	4
2	4	D246	HEADWALL		20		2	7.875																		2	8	2	8	4
2	4	D247	HEADWALL		20		2	9.125																		2	9	2	9	4
2	4	D248	HEADWALL		20		3	1.250																		3	1	3	1	4
4	4	D249	HEADWALL		20		4	4.125																		4	4	4	4	12
1	4	D250	HEADWALL		23		2			3	11.000							1	10.250		9.000	5	11	5	10	4				
1	4	D251	HEADWALL		23		2			4	6.000							1	10.250		9.000	6	6	6	5	4				
1	4	D252	HEADWALL		23		2			12	0.875							1	10.250		9.000	14	1	14	0	9				
1	4	D253	HEADWALL		23		2			12	7.875							1	10.250		9.000	14	8	14	7	10				
2	4	D254	HEADWALL		20		11	4.000																		3	5	3	10	302
118	4	D300	HEADWALL		</																									

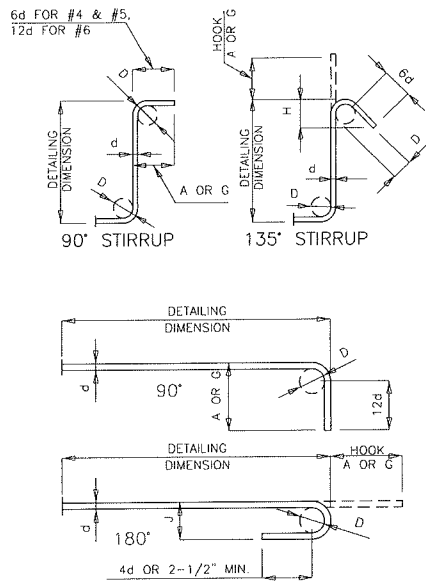


STIRRUP HOOK DIMENSIONS				
GRADES 40 - 50 - 60 KSI				
BAR SIZE	D (IN.)	90° HOOK A OR G	135° HOOK A OR G	APPROX. H
#4	2"	4-1/2"	4-1/2"	3"
#5	2-1/2"	6"	5-1/2"	3-3/4"
#6	4-1/2"	12"	8"	4-1/2"

NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.

END HOOK DIMENSIONS										
BAR SIZE	D (IN.)	ALL GRADES								
		180° HOOKS		90° HOOKS						
		A	O	C	J	A	O	C	J	
#3	3-1/4"	5"	5"	3"	3"	6"				
#4	3"	5"	6"	4"	4"	8"				
#5	3-3/4"	7"	7"	5"	5"	10"				
#6	4-1/2"	8"	8"	6"	6"	12"				
#7	5-1/4"	10"	10"	7"	7"	14"				
#8	6"	11"	11"	8"	8"	16"				
#9	9-1/2"	15"	15"	11-3/4"	11-3/4"	19"				
#10	10-3/4"	17"	17"	13-1/4"	13-1/4"	22"				
#11	12"	19"	19"	14-3/4"	14-3/4"	24"				
#14	18-1/4"	2-3"	2-3"	21-3/4"	21-3/4"	2-7"				

BILL OF REINFORCING STEEL																						
NO. REQD.	MARK NO.		LOCATION	CODES			DIMENSIONS												NOMINAL LENGTH	ACTUAL LENGTH		WEIGHT
	SIZE	MARK					B		C		D		E		F		H					
				C	SH	V	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.		FT.	IN.	
2	5	D319	HEADWALL		20		2	2.500													5	
2	5	D320	HEADWALL		20		2	0.875													4	
2	5	D321	HEADWALL		20		1	11.625													4	
2	5	D322	HEADWALL		20		1	10.625													4	
2	5	D323	HEADWALL		20		1	9.875													4	
2	5	D324	HEADWALL		20		1	9.375													4	
2	5	D325	HEADWALL		20		1	9.125													4	
2	5	D326	HEADWALL		20		1	9.375													4	
2	5	D327	HEADWALL		20		1	10.000													4	
2	5	D328	HEADWALL		20		1	11.000													4	
2	5	D329	HEADWALL		20		2	0.625													5	
2	5	D330	HEADWALL		20		2	2.625													5	
2	5	D331	HEADWALL		20		2	5.000													6	
2	5	D332	HEADWALL		20		2	8.000													6	
2	5	D333	HEADWALL		20		2	11.500													7	
2	5	D334	HEADWALL		20		3	3.500													8	
2	5	D335	HEADWALL		20		3	8.125													9	
2	5	D336	HEADWALL		20		4	1.250													10	
2	5	D337	HEADWALL		20		4	8.625													254	
22	5	D338	HEADWALL		20	V	11	1.625														
			INCREMENT =				11	0.000														
			0.125 INCH																			
26	5	D339	HEADWALL		20	V	6	11.875													202	
			INCREMENT =				6	9.875														
			0.125 INCH																			
12	5	D340	HEADWALL		20	V	2	9.750													35	
			INCREMENT =				2	9.000														
			0.125 INCH																			
20	5	D341	HEADWALL		17		2	6.500													64	
18	4	D342	HEADWALL		20	V	3	9.375													61	
			INCREMENT =				6	5.000														
			4.000 INCH																			
12	5	D343	HEADWALL		20	V	8	9.000													120	
			INCREMENT =				10	4.750														
			4.000 INCH																			
12	5	D344	HEADWALL		20		10	7.250														
2	5	D345	HEADWALL		20		7	1.750													15	
2	5	D346	HEADWALL		20		5	6.625													12	
2	5	D347	HEADWALL		20		4	7.375													10	
2	5	D348	HEADWALL		20		4	0.375													8	
2	5	D349	HEADWALL		20		3	7.750													8	
2	5	D350	HEADWALL		20		3	3.750													7	
2	5	D351	HEADWALL		20		3	0.000													6	
2	5	D352	HEADWALL		20		2	8.500													6	
2	5	D353	HEADWALL		20		2	5.375													5	
2	5	D354	HEADWALL		20		2	2.625													5	
2	5	D355	HEADWALL		20		2	0.000													4	
2	5	D356	HEADWALL		20		1	10.000													4	
2	5	D357	HEADWALL		20		1	8.000													3	
2	5	D358	HEADWALL		20		1	6.500													3	
2	5	D359	HEADWALL		20		1	5.125													3	
2	5	D360	HEADWALL		20		1	4.125													3	
2	5	D361	HEADWALL		20		1	3.375													3	
2	5	D362	HEADWALL		20		1	2.875													3	
2	5	D363	HEADWALL		20		1	2.625													3	
2	5	D364	HEADWALL		20		1	2.875													3	
2	5	D365	HEADWALL		20		1	3.500													3	
2	5	D366	HEADWALL		20		1	4.500													3	
2	5	D367	HEADWALL		20		1	6.125													3	
2	5	D368	HEADWALL		20		1	8.125													3	
2	5	D369	HEADWALL		20		1	10.625													4	
2	5	D370	HEADWALL		20		2	1.500													5	
2	5	D371	HEADWALL		20		2	5.000													5	
2	5	D372	HEADWALL		20		2	9.000													6	
2	5	D373	HEADWALL		20		3	1.625													7	
2	5	D374	HEADWALL		20		3	6.750													7	
2	5	D375	HEADWALL		20		4	2.125													9	
12	5	D376	HEADWALL		20	V	10	6.250													127	
			INCREMENT =				9	8.750														
			1.875 INCH																			
18	4	D377	HEADWALL		20	V	5	7.125													60	
			INCREMENT =				4	4.375														
			1.875 INCH																			
30	5	D400	HEADWALL		20		2	8.000													83	
88	5	D401	HEADWALL		20		4	8.000													428	
86	5	D402	HEADWALL		20		9	2.000													822	
4	5	D403	HEADWALL		20		10	10.000													45	
4	5	D404	HEADWALL		20		11	1.625													47	
4	5	D405	HEADWALL		20		10	8.750													45	
4	5	D406	HEADWALL		20		6	2.000													26	
4	5	D407	HEADWALL		20		1	10.250													8	
4	5	D408	HEADWALL		20		5	2.375													22	
4	5	D409	HEADWALL		20		4	2.750													18	
4	5	D410	HEADWALL		20		2	0.625													9	
4	5	D411	HEADWALL		20		2	10.875													12	
4	5	D412	HEADWALL		20		5	11.125													25	
6	6	D500	HEADWALL		C		43	3.750													391	
4	6	D601	HEADWALL		20		7	5.625													31	



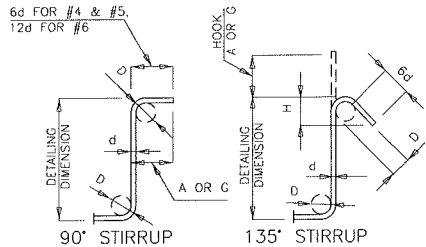
STIRRUP HOOK DIMENSIONS				
GRADES 40 - 50 - 60 KSI				
BAR SIZE	D (IN.)	90° HOOK A OR G	135° HOOK A OR G	APPROX. H
#4	2"	4-1/2"	4-1/2"	3"
#5	2-1/2"	6"	5-1/2"	3-3/4"
#6	4-1/2"	12"	8"	4-1/2"

NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.

END HOOK DIMENSIONS				
ALL GRADES				
BAR SIZE	D (IN.)	180° HOOKS A OR G	90° HOOKS J	A OR G
#3	2-1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3-3/4"	7"	5"	10"
#6	4-1/2"	8"	6"	12"
#7	5-1/4"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9-1/2"	15"	11-3/4"	19"
#10	10-3/4"	17"	13-1/4"	22"
#11	12"	19"	14-3/4"	2'-0"
#14	16-1/4"	2'-3"	21-3/4"	2'-7"

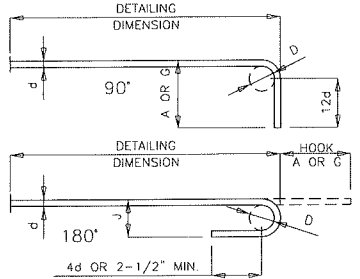
NOTE:
TWO ADDITIONAL BARS, OF EACH SIZE, ARE REQUIRED FOR TESTING BUT ARE NOT INCLUDED IN THE BAR BILL.
ALL

BILL OF REINFORCING STEEL																						
NO. REQD.	MARK NO.		LOCATION	CODES	DIMENSIONS													NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT		
	SIZE	MARK			B		C		D		E		F		H		K					
					C	SH	V	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.
TOTALS																						
	4																				2,761	
	4			E																	-	
	5																				4,031	
	5			E																	-	
	6																				11,769	
	6			E																	-	
	7																				-	
	7			E																	-	
	8																				-	
	8			E																	-	
	9																				-	
	9			E																	-	
	10																				-	
	10			E																	-	
	11																				-	
	11			E																	-	
			TOTAL																		16,561	
			TOTAL	E																	-	



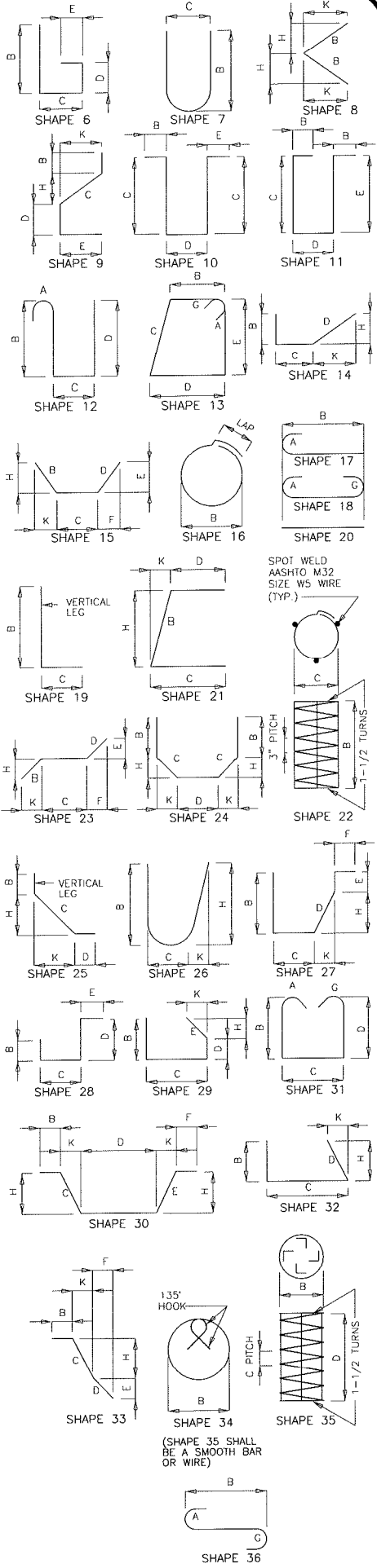
STIRRUP HOOK DIMENSIONS				
GRADES 40 - 50 - 60 KSI				
BAR SIZE	D (IN.)	90° HOOK		135° HOOK
		A OR G	HOOK	A OR G
#4	2"	4-1/2"	4-1/2"	3"
#5	2-1/2"	6"	5-1/2"	3-3/4"
#6	4-1/2"	12"	8"	4-1/2"

NOTE: UNLESS OTHERWISE NOTED
DIAMETER "D" IS THE SAME FOR ALL
BENDS AND HOOKS ON A BAR.



END HOOK DIMENSIONS					
BAR SIZE	D (IN.)	ALL GRADES			
		180° HOOKS		90° HOOKS	
		A OR G	J	A OR G	J
#3	2-1/4"	5"	3"	6"	
#4	3"	6"	4"	8"	
#5	3-3/4"	7"	5"	10"	
#6	4-1/2"	8"	6"	12"	
#7	5-1/4"	10"	7"	14"	
#8	6"	11"	8"	16"	
#9	9-1/2"	15"	11-3/4"	19"	
#10	10-3/4"	17"	13-1/4"	22"	
#11	12"	19"	14-3/4"	2'-0"	
#14	18-1/4"	2'-3"	21-3/4"	2'-7"	

NOTE:
TWO ADDITIONAL BARS, OF EACH SIZE, ARE REQUIRED FOR TESTING BUT ARE NOT INCLUDED IN THE BAR BILL.
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH THE SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E = EPOXY COATED REINFORCEMENT
S = STIRRUP
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. EA. = NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRIATORS USE (NEAREST INCH).
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.
FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND MASS OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.
REINFORCING STEEL (GRADE 60) = FY 60,000 PSI.



ANDERSON ENGINEERING
EMPLOYEE OWNED

ENGINEERS • SURVEYORS • LABORATORIES • DRILLING
141 W. 115TH TERRACE, SUITE 200, HARRISONVILLE, MO 64583
PHONE (816) 777-5800
FAX (816) 777-5801

STATE OF MISSOURI
ERICK LARS CHRISTENSEN
NUMBER
PE 2024012664
2/7/2025
PROFESSIONAL ENGINEER

DRAWING INFO		FIELD BY		DATE		FIELD BY		DATE	
BY		TSE		2/6/2025		DNT		2/7/25	
DESCRIPTION		ISSUE FOR REVIEW				CHECK BY:		KEL	
		ISSUE FOR BID				DATE			
						FIELD BOOK			
						JOB NUMBER			

BILL OF REINFORCING

SOUTH STREET (ROUTE 2) OVER MUDDY CREEK
CULVERT #1240 REPLACEMENT
SEC4 T44N R31W

CITY OF HARRISONVILLE, MO

SHEET NUMBER

12

OF 12