


ROADWAY CONSTRUCTION AND TRAFFIC SIGNAL IMPROVEMENTS JEFFCO BOULEVARD (MO RTE 61-67) AND TENBROOK ROAD ARNOLD, MISSOURI FEDERAL PROJECT # CMAQ-5403(668) TIP#6624-16

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Corporate Engineering
Certificate # 000381



CIVIL ENGINEER

DATE PREPARED
1/26/18

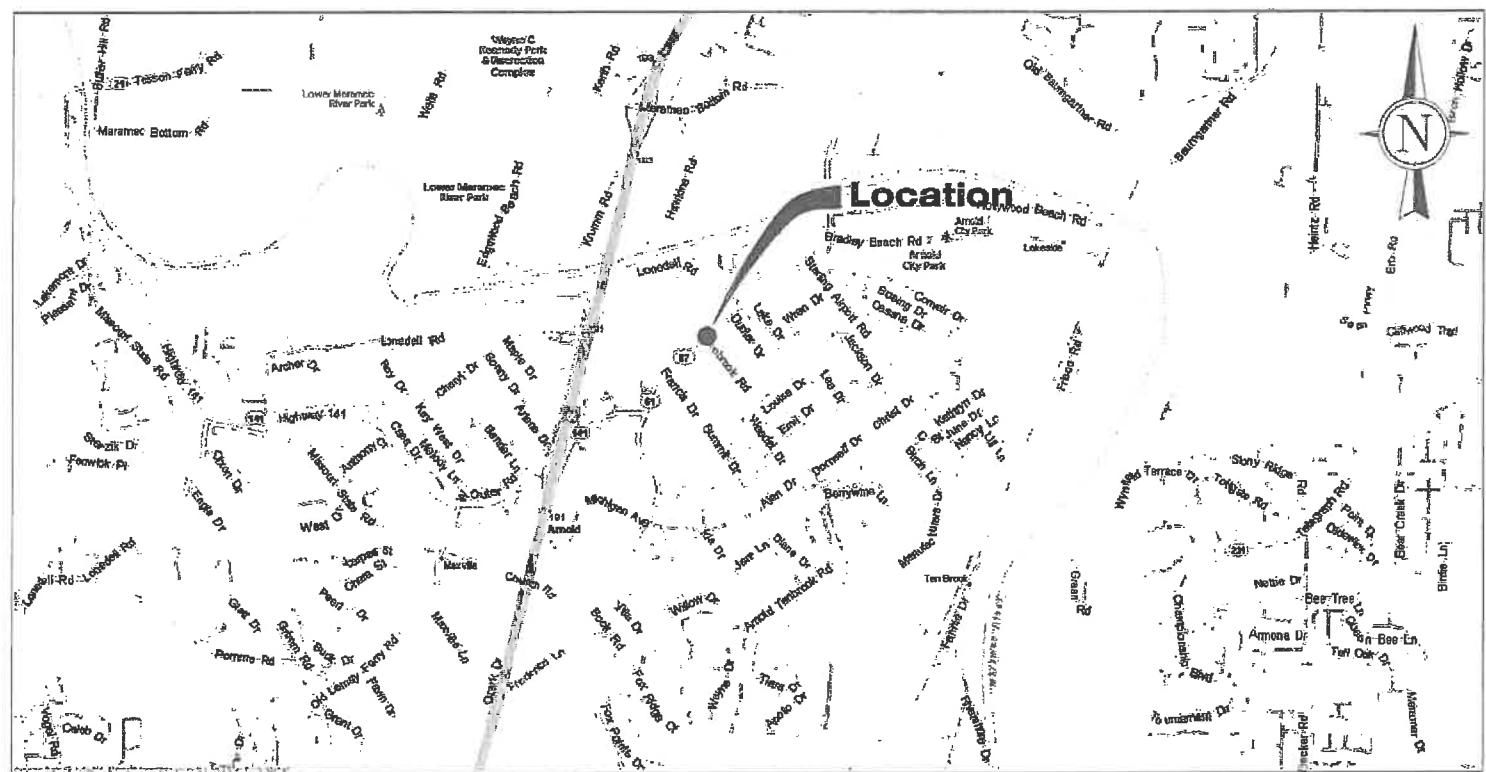
ROUTE STATE
MO

DISTRICT SHEET NO.
SL 1

COUNTY
JEFFERSON

JOB NO.
129-15

CONTRACT ID.



BENCHMARK:
JE-09. THE STATION AND AZIMUTH MARK ARE STANDARD MO DNR GRS DISKS. THE STATION IS STAMPED "JE-09, 1996", AND THE AZIMUTH IS STAMPED "JE-09A, 1996". EACH DISK IS SET IN A 12" DIAMETER CONCRETE MONUMENT ABOUT 30" LONG AND PROJECTING 1" ABOVE THE GROUND.
THE STATION IS LOCATED ON THE NORTH RIGHT-OF-WAY OF MICHIGAN STREET NEAR THE ENTRANCE OF WAL-MART STORE IN ARNOLD, MO. IT IS 125 FT. NORTH OF THE CENTER OF MICHIGAN STREET, 19.8 FT. SOUTHERLY OF A CORNER OF A PARKING LOT AND A STORM DRAIN INLET, 39 FT. EASTERLY OF THE CENTER OF SERVICE ENTRANCE TO A GROCERY STORE, AND 52.6 FT. NORTHERLY OF THE CENTER OF A FIRE HYDRANT.
THE AZIMUTH IS LOCATED ABOUT 0.15 MILE WEST OF HWY 141 AND I-55 (EXIT 191) OVERPASS, AND AT THE NORTHWEST ANGLE OF BENDER LANE AND BIG BILL BLVD. (NORTH OUTER ROAD). IT IS 53.7 FT. EAST-SOUTHEAST OF CENTER OF EASTERLY 1 OF 2 TELEPHONE MANHOLES, 22.5 FT. SOUTH-SOUTHEAST OF A NAIL AND SHINER IN A UTILITY POLE WITH CARSONITE WITNESS POST, 71 FT. NORTH OF THE CENTER LINE OF OUTER ROAD, 38 FT. WEST OF THE CENTER LINE OF BENDER LANE, AND 20.1 FT. SOUTHERLY OF A WARNING SIGN (METAL POST).

City of Arnold

Ed Blattner, P.E.
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Ed Blattner P.E. 2/23/18

ED BLATTNER, P.E. DATE
PUBLIC WORKS DIRECTOR
CITY OF ARNOLD

DESIGN DESIGNATION

FOX ENTRANCE	TENBROOK DRIVE
FUNCTIONAL CLASSIFICATION PRIVATE COMMERCIAL ENTRANCE	FUNCTIONAL CLASSIFICATION COLLECTOR
A.D.T. (2014) = 14,320	A.D.T. (2014) = 20,650
A.D.T. (2024) = 19,150	A.D.T. (2024) = 25,350
DESIGN HOURLY VOLUME (2014) = 1432	DESIGN HOURLY VOLUME (2014) = 2,065
DESIGN HOURLY VOLUME (2024) = 1915	DESIGN HOURLY VOLUME (2024) = 2,535
TRUCK PERCENTAGE = 2%	TRUCK PERCENTAGE = 2%
DESIGN SPEED = 30 MPH	DESIGN SPEED = 30 MPH
CURRENT POSTED SPEED = N/A	CURRENT POSTED SPEED = 30 MPH

LENGTH OF PROJECT

	FOX ENTRANCE	TENBROOK
BEGINNING OF PROJECT	11+43.09	8+30.00
END OF PROJECT	15+00.00	15+00.00
APPARENT LENGTH	356.91'	2330.00'

EQUATIONS AND EXCEPTIONS: NONE

TOTAL CORRECTIONS	0.00 FEET
NET LENGTH OF PROJECT	356.91/2330.00 FEET
STATE LENGTH	0.00 MILES
CITY LENGTH	0.51 MILES



EXISTING UNDERGROUND AND OVERHEAD FACILITIES, STRUCTURES AND UTILITIES IF SHOWN ON THESE PLANS, SHALL BE CONSIDERED APPROXIMATE ONLY. VERIFICATION OF THE LOCATIONS OF ALL EXISTING UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE VERIFIED PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS.

DATE	DESCRIPTION
3/9/16	MDOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
2/13/17	PRELIM PLANS
1/29/18	PS&E PLANS
2/23/18	REVISED PS&E PLANS

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COVER SHEET
ROADWAY IMPROVEMENTS
JEFFCO BLVD AND TENBROOK RD
ARNOLD, MISSOURI
CMAQ-5403(668) TIP 6624-16

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

GENERAL NOTES

- ALL WORK SHALL BE IN ACCORDANCE WITH THE 2017 EDITION OF MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND STANDARD PLANS FOR HIGHWAY CONSTRUCTION EFFECTIVE APRIL 1, 2018.
- ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.
- DIMENSIONS ARE TO THE EDGE OF PAVEMENT UNLESS STATED OTHERWISE ON THE PLANS.
- IF AN OPEN TRENCH CONDITION WILL REMAIN OPEN OVERNIGHT, "PAVEMENT EDGE TREATMENT" SHALL BE PROVIDED IN ACCORDANCE WITH MoDOT STANDARD DRAWING 619.10.
- THE CONTRACTOR SHALL ASSUME COMPLETE RESPONSIBILITY FOR CONTROLLING ALL SILTATION AND EROSION OF THE PROJECT AREA. THE CONTRACTOR SHALL USE WHATEVER MEANS NECESSARY TO CONTROL EROSION AND SILTATION INCLUDING, BUT NOT LIMITED TO, SILTATION FABRIC FENCES. CONTROL SHALL COMMENCE WITH GRADING AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY THE CITY OF ARNOLD. THE CONTRACTOR'S RESPONSIBILITIES INCLUDE ALL DESIGN AND IMPLEMENTATION AS REQUIRED TO PREVENT EROSION AND THE DEPOSITING OF SILT. THE EROSION CONTROL ITEMS SHOWN ON THE PLANS ARE FOR ESTIMATING PURPOSES ONLY. THE CITY OF ARNOLD MAY AT THEIR OPTION DIRECT THE CONTRACTOR IN HIS METHODS AS DEEMED FIT TO PROTECT PROPERTY AND IMPROVEMENTS. ANY DEPOSITING OF SILT OR MUD ON NEW OR EXISTING PAVEMENT SHALL BE REMOVED IMMEDIATELY. ANY DEPOSITING OF SILTS OR MUD IN NEW OR EXISTING STORM SEWERS OR SWALES SHALL BE REMOVED AFTER EACH RAIN AND AFFECTED AREAS CLEANED TO THE SATISFACTION OF THE CITY OF ARNOLD.
- ALL FILL PLACED UNDER PROPOSED STORM AND SANITARY SEWER, PROPOSED ROADS, AND/OR PAVED AREAS SHALL BE COMPACTED TO 90% OF MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED AASHTO T-150 COMPACTION TEST OR 95% OF MAXIMUM DENSITY AS DETERMINED BY THE STANDARD PROCTOR TEST AASHTO T-99. ALL FILL PLACED IN PROPOSED ROADS SHALL BE COMPACTED FROM THE BOTTOM OF THE FILL UP. ALL TESTS SHALL BE VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING AND BACK FILLING OPERATIONS. A COPY OF THE GRADING COMPACTION TEST RESULTS SHALL BE PROVIDED TO THE CITY OF ARNOLD.
- NO SLOPES SHALL BE STEEPER THAN 3(HORIZONTAL) TO 1 (VERTICAL) EXCEPT AS NOTED ON THE PLANS.
- BRICK SHALL NOT BE USED IN THE CONSTRUCTION OF STORM SEWER STRUCTURES.
- PROVIDE ADEQUATE OFF-STREET PARKING FOR CONSTRUCTION EMPLOYEES. PARKING ON NON-SURFACED AREAS SHALL BE PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVEWAY CONDITIONS.
- ANY DISTURBED ITEM OFF PROJECT PROPERTY (I.E. BUSHES, FENCES, MAILBOXES, ETC.) SHALL BE REPLACED, IN KIND.
- THE OFFSETS TO ALL INLETS AND MANHOLES ARE TO THE CENTER OF THE DRAINAGE STRUCTURE. A CONCENTRIC DRAINAGE STRUCTURE WAS USED TO CALCULATE THIS DISTANCE.
- ALL UTILITIES SHALL BE LOCATED IN THE FIELD BY CALLING "ONE CALL" AT 1-800-344-7483 PRIOR TO ANY ATTEMPT TO CONSTRUCT ANY COMPONENT OF ALL IMPROVEMENTS.
- SIGNAL AND LIGHTING EQUIPMENT IS SHOWN ON THE ROADWAY PLANS FOR INFORMATION ONLY. SIGNAL AND LIGHTING INFORMATION SHOWN IN THE SIGNAL AND LIGHT PLANS SHALL TAKE PRECEDENCE OVER THESE ITEMS SHOWN ON THE ROADWAY PLANS.
- SYMBOLS, STOP BARS AND YIELD BARS SHALL BE PRE-FORMED TAPE. ALL OTHER PAVEMENT MARKING SHALL BE WATERBORNE PAINT.
- ALL EXISTING CONFLICTING PAVEMENT MARKING SHALL BE REMOVED USING WATER BLASTING OR GRINDING AND SHALL BE INCLUDED IN THE COST OF THE PAVEMENT MARKING PAY ITEM.
- THE CONTRACTOR IS RESPONSIBLE TO REPLACE ANY DISTURBED CONTROL POINTS AND PROVIDE APPROPRIATE DOCUMENTATION TO THE CITY. THE COST OF SAID WORK SHALL BE INCLUDED IN THE COST OF CONTRACTOR FURNISHED SURVEYING AND STAKING.
- ALL WORK BEFORE STATION 12+50 IN THE FOX SCHOOL ENTRANCE SHALL BE FUNDED 100% BY THE CITY. ALL OTHER WORK SHALL BE INCLUDED IN CMAQ FUNDING (80% FEDERAL FUNDED AND 20% CITY FUNDED).

<p>EXISTING LEGEND</p> <ul style="list-style-type: none"> ← GUY ○ UTILITY POLE ● GUY POLE ☆ LIGHT STANDARD ⊙ FLOODLIGHT ⊙ GAS VALVE ⊙ TRAFFIC CONTROL VAULT ⊙ FLAGPOLE ⊙ MONITORING WELL ⊙ SANITARY MANHOLE ⊙ STORM MANHOLE ⊙ TREE (DIAMETER) ⊙ BUSH ⊙ WATER METER ⊙ WATER VALVE ⊙ FIRE HYDRANT ⊙ MAILBOX 	<p>PROPOSED LEGEND</p> <ul style="list-style-type: none"> EX - EXISTING PR - PROPOSED UIP - USE IN PLACE ATG - ADJUST TO GRADE TBR - TO BE REMOVED P.E. - PRIVATE ENTRANCE C.E. - COMMERCIAL ENTRANCE F.E. - FIELD ENTRANCE <p>EROSION CONTROL PLAN LEGEND</p> <ul style="list-style-type: none"> — TREE PROTECTION FENCE — SILT FENCE — TEMPORARY INLET CHECK — TYPE I TEMPORARY DITCH CHECK — AREA TO BE TEMP./PERM. FERTILIZED/MULCHED/SEEDED — AREA TO INSTALL SOD <p>RIGHT-OF-WAY LEGEND</p> <ul style="list-style-type: none"> — EX R/W — PR R/W — PR PERMANENT SIDEWALK, TRAFFIC SIGNAL, LIGHTING EQUIPEMNT EASMENT — PR PERMANENT DRAINAGE EASEMENT — PR TEMPORARY CONSTRUCTION EASMENT <p>ENTRANCE DETAIL LEGEND</p> <ul style="list-style-type: none"> — PR 8" PCC WIDENING W/ 2" RESURFACING — PR 6" BITUMINOUS DRIVEWAY PAVT W/ 2" RESURFACING — PR 2" MILLING & RESURFACING AREA 	<p>REMOVAL LEGEND</p> <ul style="list-style-type: none"> EX - EXISTING PR - PROPOSED TBR - TO BE REMOVED TBR&R - TO BE REMOVED AND RELOCATED <p>PAVEMENT MARKING LEGEND</p> <ul style="list-style-type: none"> SWL - SOLID WHITE LINE WSD - WHITE SKIP DASH AWSD - ABBREVIATED WHITE SKIP DASH DSY - DOUBLE SOLID YELLOW LINE L&S - LETTER & SYMBOLS — PROPOSED SIGN <p>ADA DETAILS LEGEND</p> <ul style="list-style-type: none"> — 1.5% FLAT AREA ○ - 5' TURNING AREA 1:12 - CONTROLLING RAMP ⊙ MAX 1:12 — NON-CONTROLLING RAMP ⊙ VARIABLE RAMP < 1:12 — SEE PROFILE <p>TRAFFIC CONTROL / STAGING LEGEND</p> <ul style="list-style-type: none"> — WORK AREA — CONE, DRUM OR BARRICADE — DIRECTIONAL INDICATOR BARRICADE — TRAFFIC CONTROL SIGN — OPEN LANE OF TRAFFIC
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Corporate Engineering Certificate # 000381

BRIAN E. COURTWRIGHT
 PROFESSIONAL ENGINEER
 NUMBER PE-2005002817

CIVIL ENGINEER

DATE PREPARED: 1/26/18

ROUTE: SL STATE: MO SHEET NO.: 2

DISTRICT: SL COUNTY: JEFFERSON

JOB NO.: 129-15

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

DATE	DESCRIPTION
3/9/16	MoDOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
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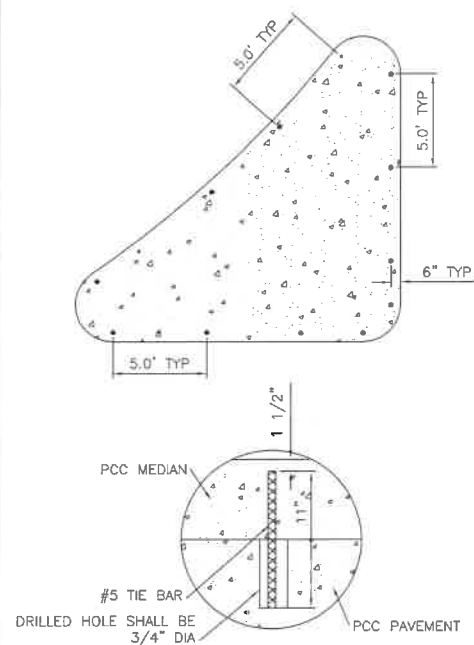
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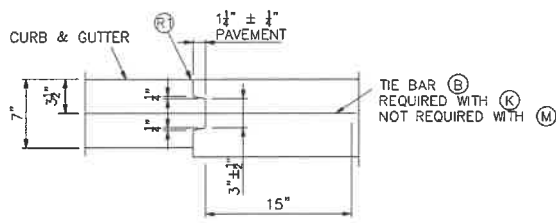
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GENERAL NOTES

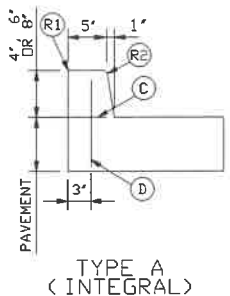
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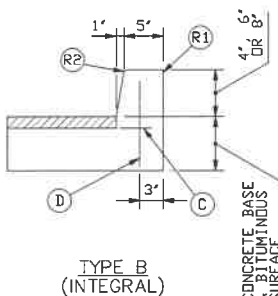
DOVELED ON CONCRETE MEDIAN DETAIL
 SEE MoDOT STANDARD 608.30 FOR FURTHER INFO



THRU TONGUE & GROOVE JOINT

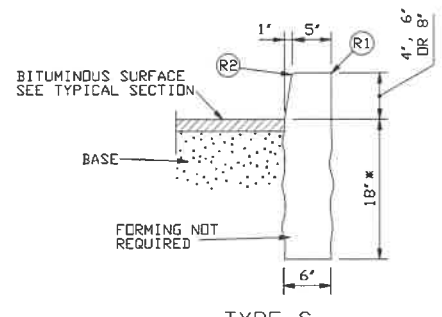


TYPE A (INTEGRAL)



TYPE B (INTEGRAL)

(INTEGRAL) CURBS



TYPE S (SEPARATED)

* DEPTH MAY BE REDUCED IF KEYED 6' IN ROCK

- LEGEND**
- (B) TIE BARS - 30" x #5 @ 30" CTRS.
 - (C) PERMISSIBLE CONSTRUCTION JOINT, IF CONSTRUCTED IN THIS MANNER TIE BARS MUST BE USED.
 - (D) #4 @ 24" CENTERS LENGTH OF THE TIE BARS EQUALS THICKNESS OF PAVEMENT PLUS HEIGHT OF CURB, LESS 3 INCHES.
 - (K) TONGUE & GROOVE JOINT WITH TIE BAR - SEE DETAIL.
 - (M) TOP OF PAVEMENT OR CONCRETE BASE.
 - (R1) ROUND TO 1" RADIUS. (EXCEPT FOR SAWED JOINTS)
 - (R2) ROUND TO 1" RADIUS.
 - (R3) CONSTRUCT TO 9" RADIUS

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SUMMARY OF QUANTITIES					
ITEM NUM.	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	CMAQ FUNDING	100% CITY FUNDING
ROADWAY ITEMS					
202-20.10	REMOVAL OF IMPROVEMENTS	L. SUM	1	1	
202-99.02a *	EX UTILITY MANHOLE (ATG)	EA	3	2	1
202-99.02b *	EX BUSINESS SIGN (TBR&R)	EA	1	1	
202-99.02c *	EX WATER VALVE (ATG)	EA	1	1	
202-99.02d *	EX MAILBOX (TBR&R)	EA	1	1	
202-99.03 *	FENCE (TBR)	FT	20	20	
203-10.00	CLASS A EXCAVATION	CUYD	539.3	479.2	60.1
203-60.00	COMPACTING EXCAVATION	CUYD	296.2	255.4	40.8
304-05.04	TYPE 5 AGGREGATE FOR BASE (4 IN. THICK)	SQYD	1721	1513	208
310-10.03	GRAVEL (A)	SQYD	63	63	
401-12.09	BITUMINOUS PAVEMENT MIXTURE PG64-22 (BP-1)	TONS	869	820	49
401-30.00	BITUMINOUS PAVEMENT MIXTURE PG64-22 (BASE)	TONS	265.2	254.6	10.6
407-10.05	TACK COAT	GAL	300	264	36
502-11.06	CONCRETE PAVEMENT (6 IN. NON-REINF)	SQYD	99	99	
502-11.08	CONCRETE PAVEMENT (8 IN. NON-REINF)	SQYD	804	677	127
608-30.06	6 IN. CONCRETE MEDIAN STRIP	SQYD	59	59	
608-50.08	PAVED APPROACH, 8 IN	SQYD	368	368	
609-20.12	CONCRETE CURB (6 IN. HEIGHT AND UNDER) TYPE S	LF	30	30	
609-20.11	INTEGRAL CURB (6 IN. HEIGHT AND UNDER) TYPE A	LF	116	116	
609-20.12	INTEGRAL CURB (6 IN. HEIGHT AND UNDER) TYPE B	LF	800	578	222
618-10.05	CONSTRUCTION SIGNS	SQ FT	122.25	122.3	
618-10.10	RELOCATE SIGNS	SQ FT	160	160	
618-10.28	CHANNELIZER	EA	25	25	
618-10.33	DIRECTIONAL INDICATOR BARRICADE	EA	6	6	
616-99.01 *	MAINTENANCE OF TRAFFIC CONTROL ITEMS	LS	1	1	
616-99.02 *	RELOCATE CHANNELIZER	EA	42	42	
616-99.02 *	RELOCATE DIRECTIONAL INDICATOR BARRICADE	EA	11	11	
617-20.01 *	CONCRETE TRAFFIC BARRIER, TYPE B (MODIFIED)	LF	209	209	
618-10.00	MOBILIZATION	LS	1	0.88	0.12
619-10.00	PAVEMENT EDGE TREATMENT	LF	1600	1373	227
622-10.01	COLDMILLING BITUMINOUS PAVEMENT FOR REMOVAL OF SURFACING (LESS THAN 3 IN. THICK)	SQ YD	1372	874	498
627-40.00	CONTRACTOR FURNISHED SURVEYING AND STAKING	LS	1	0.88	0.12
710-10.10	EPOXY COATED TIE BARS (DRILLED AND INSTALLED)	LBS	1670	1433	237
710-10.10	EPOXY COATED TIE BARS (DRILLED AND INSTALLED)	LBS	1433	1433	
803-10.00A	TURF TYPE TALL FESCUE SODDING	SQ YDS	734	665	69
805-20.00A	SEEDING WARM SEASON MIXTURES	AC	0.1	0.1	
806-10.17	TEMPORARY SEEDING	AC	0.4	0.3	0.1
806-10.19	SILT FENCE	LF	1289	1181	108
806-10.21	TYPE I DITCH CHECK	EA	2	2	
806-10.25	INLET CHECK	EA	8	8	
806-99.02	TREE PROTECTION	EA	2	2	
DRAINAGE ITEMS					
731-00.60	PRECAST CONCRETE MANHOLE - 60 IN	LF	5.4	5.4	
731-10.30	PRECAST CONCRETE DROP INLET 3 FT X2 FT-6IN	LF	4.3	4.3	
731-10.32	PRECAST CONCRETE DROP INLET 3 FT X2 FT	LF	9.9	9.9	
731-99.02 *	EX INLET/MANHOLE (ADJUST TO GRADE)	EA	1	1	

SUMMARY OF QUANTITIES					
ITEM NUM.	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	CMAQ FUNDING	100% CITY FUNDING
726-12.24	24 IN. CLASS II REINFORCED CONCRETE PIPE CULVERT	LF	32	32	
726-12.30	30 IN. CLASS II REINFORCED CONCRETE PIPE CULVERT	LF	25	25	
730-99.03 *	6 IN. PVC PIPE CULVERT	LF	103	103	
732-06.24	24 IN. PRECAST CONCRETE FLARED END SECTION	EA	2	2	
732-99.02 *	6X9'. PRECAST CONCRETE ELLIPTICAL FLARED END SECTION	EA	1	1	
SIGNING ITEMS					
903-10.10	CONCRETE FOOTINGS, EMBEDDED	CUYD	1.17	0.91	0.26
903-12.20	PIPE POST	LB	818.1	648.7	169.4
903-12.50A	U-CHANNEL POST, 3 LB	FT	127.50	127.50	
903-12.40	BREAKAWAY ASSEMBLY	EA	9	7.00	2.00
903-50.04	TYPE SHR2L-1 SIGN	SOFT	81.50	63.50	18.00
903-99.02 *	RELOCATE SIGNS	EA	3	3	
STRIPING					
620-61.06	ACRYLIC WATERBORNE PAVEMENT MARKING PAINT, 6 IN. WHITE	LF	1727	1633	94
620-61.22	ACRYLIC WATERBORNE PAVEMENT MARKING PAINT, 12 IN. WHITE	LF	416	416	
620-61.24	ACRYLIC WATERBORNE PAVEMENT MARKING PAINT, 24 IN. WHITE	LF	207	207	
620-60.01B	4 IN. YELLOW ACRYLIC WATERBORNE PAVEMENT MARKING PAINT	LF	1848	1848	
620-99.03 *	ACRYLIC WATERBORNE PAVEMENT MARKING PAINT, 12 IN. YELLOW	LF	74	74	
620-99.03 *	ACRYLIC WATERBORNE PAVEMENT MARKING PAINT, CURB PAINT, YELLOW	LF	166	166	
620-51.30	TYPE 2 PREFORMED MARKING TAPE (GROOVED), LEFT/RIGHT ARROW	EA	11	11	
620-51.31	TYPE 2 PREFORMED MARKING TAPE (GROOVED), STRAIGHT ARROW	EA	3	3	
620-51.40	TYPE 2 PREFORMED MARKING TAPE (GROOVED), WHITE, YIELD LINE TRIANGLES	EA	21	10	11
620-99.03 *	ACRYLIC COPOLYMER FAST DRY PAVEMENT MARKING PAINT, SYMBOL, BLUE	EA	3		3
620-99.03 *	ACRYLIC COPOLYMER FAST DRY PAVEMENT MARKING PAINT, ACRYLIC WATERBORNE PAVEMENT MARKING PAINT, 4 IN. BLUE	LF	772		772
BICYCLE/PEDESTRIAN ITEMS					
608-10.10	CONCRETE CURB RAMP	SQYD	52	52	
608-60.04	CONCRETE SIDEWALK, 4 IN.	SQYD	199	199	
608-10.12	TRUNCATED DOMES	SQ FT	109	109	
ELECTRICAL					
901-11.15	BRACKET ARM, 15 FT.	EACH	4	4	
901-13.00	LUMINAIRE, 150 WATT LED (MAST ARM LTG)	EACH	4	4	
902-02.11	SIGNAL HEAD, TYPE 1S	EACH	6	6	
902-02.13	SIGNAL HEAD, TYPE 3S	EACH	1	1	
902-05.13	SIGNAL HEAD, TYPE 3B	EACH	7	7	
902-05.14	SIGNAL HEAD, TYPE 4B	EACH	4	4	
902-27.08	POST, SIGNAL 8 FT.	EACH	2	2	
902-31.25	POST, TYPE CL, 25 FT. ARM	EACH	1	1	
902-31.40	POST, TYPE CL, 40 FT. ARM	EACH	2	2	
902-31.55	POST, TYPE CL, 55 FT. ARM	EACH	1	1	
902-42.83	CONTROLLER ASSEMBLY HOUSING, NEMA TS2 CONTROLLER	EACH	1	1	
902-49.75	VIDEO DETECTION SYSTEM, W/DILEMMA ZONE RADAR	EACH	1	1	
902-86.21	POWER SUPPLY ASSEMBLY, T2 WITH 120V LTG CABINET & UPS	EACH	1	1	
902-52.00	CONDUIT, 2 IN., TRENCH WITH TRACER WIRE	LIN. FT.	104	104	
902-53.00	CONDUIT, 3 IN., TRENCH WITH TRACER WIRE	LIN. FT.	103	103	
902-73.00	CONDUIT, 3 IN., PUSHED WITH TRACER WIRE	LIN. FT.	342	324	
902-81.00	CABLE, 10 AWG 1 CONDUCTOR, POLE AND BRACKET	LIN. FT.	420	420	
902-82.08	CABLE, 8 AWG 1 CONDUCTOR, POWER	LIN. FT.	150	150	

SUMMARY OF QUANTITIES					
ITEM NUM.	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	CMAQ FUNDING	100% CITY FUNDING
902-83.02	CABLE, 12 AWG 2 CONDUCTOR	LIN. FT.	930	930	
902-83.08	CABLE, 16 AWG 2 CONDUCTOR	LIN. FT.	1510	1510	
902-83.10	CABLE, 16 AWG 5 CONDUCTOR	LIN. FT.	1300	1300	
902-83.11	CABLE, 16 AWG 7 CONDUCTOR	LIN. FT.	2920	2920	
902-88.11	PREFORMED PULLBOX, CLASS 2	EACH	3	3	
902-88.12	PREFORMED PULLBOX, CLASS 3	EACH	2	2	
902-91.00	BASE, CONCRETE	CUYD	15.9	15.9	
902-99.01	TRAFFIC SIGNAL MAINTENANCE & PROGRAMMING	LS	1	1	
902-99.02	PUSHBUTTON POST	EACH	2	2	
902-99.02	RELOCATE/RETERMINATE FIBER OPTIC CABLES	EACH	2	2	
902-99.02	SPECIAL EVENT BUTTON	EACH	1	1	
902-99.02	NETWORK CONNECTED SIGNAL MONITOR	EACH	1	1	
902-99.02	DETECTOR, PUSHBUTTON W/APR FEATURE	EACH	6	6	
902-99.02	SDLC PANEL	EACH	1	1	
ALT BID ITEMS					
910.37.00	CCTV CAMERA ASSEMBLY	EACH	1	1	

Corporate Engineering Certificate # 000391

STATE OF MISSOURI
COURT REPORTER
NUMBER PE-8006802817
PROFESSIONAL ENGINEER

CIVIL ENGINEER
DATE PREPARED: **1/26/18**
ROUTE: SL STATE: MO
DISTRICT: SL SHEET NO.: 3
COUNTY: JEFFERSON
JOB NO.: 129-15
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE: 3/9/18 12/5/17 12/13/17 1/26/18
DESCRIPTION: PRELIMINARY APPROVAL FINAL R/W PLANS (REV) PRELIMINARY PLANS PS&E PLANS

TRANSPORTATION ENGINEERS+PLANNERS
12400 DULVE BLVD, SUITE 430
ST. LOUIS, MO 63141
(314) 919-6644
4800 COTTONWOOD RD, SUITE B
BENTON, MO, IL 62024
(618) 696-2812
www.ctbrnff.com

GGBB

SUMMARY OF QUANTITIES
ROADWAY IMPROVEMENTS
JEFFCO BLVD AND TENBROOK RD
ARNOLD, MISSOURI
CMAQ-5403(668) TIP 6624-16

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



CIVIL ENGINEER

DATE PREPARED
1/26/18

ROUTE STATE
SL MO

DISTRICT SHEET NO.
SL 4

COUNTY
JEFFERSON

JOB NO.
129-15

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION
3/9/16 <td>MDOT PRELIMINARY APPROVAL</td>	MDOT PRELIMINARY APPROVAL
12/5/17 <td>FINAL R/W PLANS (REV)</td>	FINAL R/W PLANS (REV)
12/13/17 <td>PRELIM PLANS</td>	PRELIM PLANS
1/26/18 <td>PS&E PLANS</td>	PS&E PLANS

TRANSPORTATION ENGINEERS+PLANNERS
12400 OLIVE BLVD., SUITE 430
COLUMBIA, MO 65211
460 GOTTENHOOD RD., SUITE #
GLENN CARBON, IL 62004
(618) 655-2612
www.cbtrfllc.com



SCHEDULE OF QUANTITIES
ROADWAY IMPROVEMENTS
JEFFCO BLVD AND TENBROOK RD
ARNOLD, MISSOURI
CMAQ-5403(668) TIP 6624-16

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

LOCATION	PLAN SHEET	REMOVAL OF IMPROVEMENTS (1 L. SUM)																					
		SAWCUT (FT)	CURB REMOVAL (FT)	PAV'T REMOVAL (SQ YDS)	PARKING LOT PAV'T REMOVAL (SQ YDS)	DRIVEWAY PAV'T REMOVAL (SQ YDS)	SIDEWALK REMOVAL (SQ YDS)	DOWELLED ON MEDIUM REMOVAL (SQ YDS)	EX SEWER REMOVAL (FT)	EX INLET/MH REMOVAL (EA)	EX TREE (TBR)	EX BOLLARDS (TBR)	EX GUARDRAIL (TBR)	EX SIGN (TBR)	REMOVE EX SIGNAL (EA)	COLDMILLING <3" THICK (SQ YDS)	EX UTILITY MH (ATG) (EA)	EX BUSINESS SIGN (TBR&R) (EA)	EX WATER VALVE (ATG) (EA)	EX MAILBOX (TBR&R) (EA)	EX FENCE (TBR) (FT)	PAVEMENT EDGE TREATMENT (FT)	EPOXY COATED TIE BARS (DRILLED & INSTALLED) (LBS)
11+43.09 to 12+50.00	RT REM 2	227	192	44	243		8							1		1						227	237
100% CITY FUNDING		227	192	44	243		8							1		1						227	237
12+50.00 to 13+25.00	RT REM 2	9	247	17	134	134		18	1													9	10
13+25.00 to 14+60.00	RT REM 1	331	381	46				20	2	1				2		2					10	331	345
13+75.00 to 14+60.00	LT REM 1	18		6				76													10	18	19
14+60.00 to 14+69.71	REM 1	256		125																		256	267
14+66.00 to 14+28.42	LT REM 1						68							1									
14+66.00 to 14+35.23	RT REM 1	38	24				12							1								38	40
13+99.85 to 13+15.00	LT REM 1	173	42	30	33									1								173	180
13+15.00 to 12+94.64	LT REM 2	9		4												30						9	10
12+94.64 to 11+54.01	LT REM 2	252			445			89	2		2				346		1	1				252	263
11+54.01 to 8+70.00	LT REM 2	287		64		121						53	1						1			287	299
CMAQ FUNDING		1373	694	292	612	255	119	127	5	1	2	53	6	1	376	2	1	1	1	20	1373	1433	

LOCATION	PLAN SHEET	PAVING SCHEDULE							PERMANENT CONCRETE TRAFFIC BARRIER TYPE B (MODIFIED) (FT)
		4" TYPE 5 AGGREGATE (SQ YDS)	6" TYPE B (INTERGRAL) CURB (FT)	8" PCC PAV'T (SQ YDS)	TACK COAT (GALS)	BP-1 WEARING SURFACE (TONS)	STAMPED PCC MEDIAN (DOWELLED-ON) (SQ YDS)		
11+43.09 to 12+50.00	RT PLN 2	151	109	127	15	32			
100% CITY FUNDING		151	109	127	15	32			
12+50.00 to 13+25.00	RT PLN 2	130	77	113	6	113			
13+25.00 to 14+60.00	RT PLN 1	232	142	200	10	200			
13+75.00 to 14+60.00	LT PLN 2	2	18	5	1	5			
14+66.00 to 14+28.42	LT PLN 2						31		
14+66.00 to 14+35.23	RT PLN 2						28		
13+99.85 to 13+15.00	LT PLN 2	55	15	52	3	52			
13+15.00 to 12+94.64	LT PLN 1	12	6	11	2	26			
12+94.64 to 11+50.00	LT PLN 1	144	13	142	8	156			
11+50.00 to 8+70.00	LT PLN 1	179	113	154	8	154		209	
CMAQ FUNDING		754	384	677	38	706	59	209	

LOCATION	PLAN SHEET	PEDESTRIAN ACCOMMODATION SCHEDULE		
		4" PCC SIDEWALK (SQ YDS)	CONC CURB RAMPS (SQ YDS)	TRUNCATED DOMES (SQ FT)
13+50.00 to 13+25.00	RT PLN 2	40	12	39
13+25.00 to 14+60.00	RT PLN 1	86	22	19
13+75.00 to 14+60.00	LT PLN 2	73	18	30
14+66.00 to 14+35.23	RT PLN 2			21
CMAQ FUNDING		199	52	109

LOCATION	PLAN SHEET	ENTRANCE & PARKING LOT SCHEDULE												
		4" TYPE 5 AGGREGATE (SQ YDS)	6" TYPE A (INTERGRAL) CURB (FT)	6" TYPE B (INTERGRAL) CURB (FT)	6" TYPE S CURB (FT)	8" PAVED APPROACH (SQ YDS)	6" PCC DRIVEWAY PAV'T (SQ YDS)	TACK COAT (GALS)	6" BIT. PAV'T MIX (BASE) (TON)	6" PCC DRIVEWAY GRAVEL (SQ YDS)	COLDMILLING <3" THICK (SQ YDS)	TACK COAT (GALS)	BP-1 WEARING SURFACE (TONS)	
11+43.09 to 12+50.00 (FOX SCHOOL PARKING LOT)	PLN 2	57		113				13	10.6			113	8	17
CMAQ FUNDING		57		113				13	10.6			113	8	17
12+50 to 13+25 (FOX SCHOOL PARKING LOT)	PLN 2	36		72				8	6.6				2	5
13+25 to 15+00 (FOX SCHOOL PARKING LOT)	PLN 2	63		122				14	11.8				4	8
14+60 to 14+69.71	PLN 2	160	55			147								
13+59.67	ENT 1	248	24		30	67		99	83.2				13	28
12+45.17, 11+83.08 & CONWAY DR (VACATED)	ENT 2	153	37			154		61	153.0			498	25	73
11+22.99	ENT 3	30								30			13	
9+24.12	ENT 3	25								25			50	
9+90.02	ENT 3	44								44				
CMAQ FUNDING		759	116	194	30	368		182	254.6	63	498	44	114	

LOCATION	PLAN SHEET	DRAINAGE STRUCTURE				COVER/LID/GRATE/FRACTION			SEWER CLASS II RCCP		PVC		END SECTIONS	
		PRECAST DROP INLET 3' x 2' (FT)	PRECAST DROP INLET 3' x 2'-6" (FT)	PRECAST 60" MANHOLE (FT)	EX INLET/MH (ATG) (EA)	TYPE 4 (EA)	TYPE T (EA)	TYPE S1 (EA)	24" (FT)	30" (FT)	6" (FT)	24" (EA)	9'x6' (EA)	
A2 to EX2	SS1			5.4		1				6				
EX4 to A1	SS1	3.9			1	1	1			19				
B1	SS1		4.3				1							
C1 to C2	SS2	2.4						1			55			
C2 to OUTLET	SS2	3.6					1				48			
6x9 RCEP	SS2												1	
DRIVEWAY	PROF1							32					2	
CMAQ FUNDING		9.9	4.3	5.4	1	2	1	3	32	25	103	2	1	

LOCATION	PLAN SHEET	EROSION CONTROL SCHEDULE							
		SODO (SQ YDS)	SEEDING (SQ YDS)	SILT FENCE (FT)	INLET CHECK (EA)	TYPE I DITCH CHECK (EA)	TREE PROTECTION (EA)	TEMP SEEDING (SQ YDS)	
11+43.09 to 12+50.00	RT EC2	69		108					0.02
100% CITY FUNDING		69		108					0.1
12+50.00 to 13+25.00	RT EC2	82		116	1				0.02
13+25.00 to 14+60.00	RT EC1	206		157	2				0.05
13+75.00 to 14+60.00	LT EC1	245		876	2				0.06
13+99.85 to 13+15.00	LT EC1	61							0.02
13+15.00 to 12+94.64	LT EC2	2							0.01
12+94.64 to 11+50.00	LT EC2	21	0.01		2				0.01
11+50.00 to 8+70.00	LT EC2	47	0.06	32	1	2	2	2	0.07
CMAQ FUNDING		665	0.1	1181	8	2	2	2	0.3



CIVIL ENGINEER

DATE PREPARED
1/26/18

ROUTE STATE
SL MO

DISTRICT SHEET NO.
SL 5

COUNTY
JEFFERSON

JOB NO.
129-15

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION
3/9/16	MDOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PRELIM PLANS
1/26/18	PS&E PLANS

TRANSPORTATION ENGINEERS+PLANNERS
19429 OLIVE BLVD, SUITE 400
ST. LOUIS, MO 63141
(314) 878-8644
450 COTTONWOOD RD, SUITE B
GLEN CARBON, IL 62034
(618) 656-2612
www.cbtraffic.com



SCHEDULE OF QUANTITIES
ROADWAY IMPROVEMENTS
JEFFCO BLVD AND TENBROOK RD
ARNOLD, MISSOURI
CMAQ-5403(668) TIP 6624-16

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

PAVEMENT MARKING SCHEDULE

LOCATION	PLAN SHEET	WHITE			YIELD TRIANGLE (EA)	L&S			YELLOW		BLUE		
		SOLID LINE				LEFT ARROW (EA)	THRU ARROW (EA)	RIGHT ARROW (EA)	DOUBLE 4" (FT)	12" (FT)	CURB PAINT (FT)	SOLID LINE	
		6" (FT)	12" (FT)	24" (FT)								4" (FT)	L&S (EA)
11+43.09 to 12+50.00	PM2	18	76		11						772	3	
100% CITY FUNDING		18	76		11						772	3	
12+50.00 to 13+25.00	PM2		133	108		1	1	1					
13+25.00 to 14+50.00	PM1		237	190		2	2	2					
JEFFCO	PM1			156	77								
14+66.00 to 14+28.42	PM1		169		5								
14+66.00 to 14+35.23	PM1		154	37	5								
14+49.74 to 13+15.00	PM1		313	7	22				238				
13+15.00 to 11+50.00	PM2		609	26		2		2	330				
11+50.00 to 10+95.00	PM2	18							220	10			
10+95.00 to 8+30.00	PM2								1060	64			
CMAQ FUNDING		18	1615	416	207	10	5	3	6	1848	74	166	

SIGNING SCHEDULE

SIGN #	PLAN SHEET	SIZE IN x IN	SHR2L-1 (SQ.FT)	RELOCATE SIGN (EA)	PIPE POST 2.5" (LBS)	PIPE POST 3" (LBS)	U-CHANNEL POST (LBS)	BREAKAWAY ASSEMBLY (EA)	CONC FOOTING EMBEDDED (CU YDS)	COMMENT
P1	PM2	36 x 36	9.00		84.7			1	0.13	R1-5R "YIELD HER TO PEDESTRAINS"
P2	PM2	36 x 36	9.00		84.7			1	0.13	R1-5R "YIELD HER TO PEDESTRAINS"
100% CITY FUNDING			18.00		169.4			2	0.26	
P3	PM1	24 x 30	5.00		81.8			1	0.13	R4-7 "KEEP RIGHT"
P4	PM1	30 x 30	6.25		81.8			1	0.13	W12-1 "DOUBLE DOWN"
P5	PM1	48 x 48	16.00			118.4		1	0.13	R1-2 "YIELD"
P6	PM1	30 x 30	6.25		81.8			1	0.13	W12-1 "DOUBLE DOWN"
P7	PM1	48 x 48	16.00			118.4		1	0.13	R1-2 "YIELD"
P8	PM1	36 x 36	9.00		84.7			1	0.13	W12-2 "LOW CLEARANCE W/ ARROWS"
P9	PM2	24 x 30	5.00		81.8			1	0.13	W12-2 "SPEED LIMIT 30 MPH"
R1	PM1			1			43.5			EX "NO TRACTOR TRAILER"
R2	PM2			1			84.0			EX "NO COMMERCIAL VEHICLES"
CMAQ FUNDING			63.50	3	411.9	236.8	127.5	7	0.91	EX "ENTER CAR WASH"

MISCELLANEOUS PAY ITEMS

PAY ITEM	CMAQ FUNDS	100% CITY FUNDS
MAINTENANCE OF TRAFFIC CONTROL ITEMS	1	
MOBILIZATION	0.88	0.12
CONTRACTOR FURNISHED SURVEYING AND STAKING	0.88	0.12

EARTHWORK SCHEDULE

STA to STA	UNADJUSTED EXCAVATION (CU YD)	EXCAVATION ADJUSTED FOR 25% SHINKAGE (CU YD)	COMPACTING EMBANKMENT (CU YD)	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-) (CU YD)
11+75.00 to 12+00.00	17.3	13.0	0.9	12.1
12+00.00 to 12+25.00	21.8	16.4	1.7	14.7
12+25.00 to 12+50.00	21.0	15.8	1.8	14.0
100% CITY FUNDING	60.1	45.2	4.4	40.8
12+50.00 to 12+75.00	22.0	16.5	3.2	13.3
12+75.00 to 13+00.00	28.7	21.5	2.3	19.2
13+00.00 to 13+25.00	30.7	23.0	0.4	22.6
13+25.00 to 13+50.00	23.2	17.4	5.5	11.9
13+50.00 to 13+75.00	18.7	14.0	10.8	3.2
13+75.00 to 14+00.00	22.2	16.7	8.1	8.6
14+00.00 to 14+25.00	15.0	11.3	2.6	8.7
FOX SCHOOL ENTRANCE SUB-TOTAL	160.5	120.4	32.9	87.5
9+00.00 to 9+50.00	12.6	8.5	6.8	2.7
9+50.00 to 10+00.00	15.7	11.8	14.2	-2.4
10+00.00 to 10+50.00	14.9	11.2	26.2	-15.0
10+50.00 to 11+00.00	28.2	19.7	18.9	0.8
11+00.00 to 11+50.00	33.9	25.4	0.3	25.1
11+50.00 to 12+00.00	34.5	25.9	0.2	25.7
12+00.00 to 12+50.00	31.7	23.8	1.8	22.0
12+50.00 to 13+00.00	9.4	7.1	2.4	4.7
13+00.00 to 13+50.00	58.0	43.5	0.6	42.9
13+50.00 to 13+75.00	55.4	41.6	0.0	41.6
13+75.00 to 13+88.36	26.4	19.8	0.0	19.8
TENBROOK SUB-TOTAL	318.7	238.3	71.4	167.9
CMAQ FUNDING	479.2	359.7	104.3	255.4

SIGN	SIZE (IN)	AREA (SQ FT)	QTY	TOTAL AREA	QTY RELOC	TOTAL RELOC AREA	DESCRIPTION
WARNING SIGNS							
WO1-1L	48 x 48	16.00					TURN (SYMBOL LEFT ARROW)
WO1-1R	48 x 48	16.00					TURN (SYMBOL RIGHT ARROW)
WO1-2L	48 x 48	16.00					CURVE (SYMBOL LEFT ARROW)
WO1-2R	48 x 48	16.00					CURVE (SYMBOL RIGHT ARROW)
WO1-3L	48 x 48	16.00					REVERSE TURN (SYMBOL LEFT ARROW)
WO1-3R	48 x 48	16.00					REVERSE TURN (SYMBOL RIGHT ARROW)
WO1-4L	48 x 48	16.00					REVERSE CURVE (SYMBOL LEFT ARROW)
WO1-4R	48 x 48	16.00					REVERSE CURVE (SYMBOL RIGHT ARROW)
WO1-4bL	48 x 48	16.00					DOUBLE ARROW REVERSE CURVE (SYMBOL LEFT ARROWS)
WO1-4bR	48 x 48	16.00					DOUBLE ARROW REVERSE CURVE (SYMBOL RIGHT ARROWS)
WO1-4cL	48 x 48	16.00					TRIPLE ARROW REVERSE CURVE (SYMBOL LEFT ARROWS)
WO1-4cR	48 x 48	16.00					TRIPLE ARROW REVERSE CURVE (SYMBOL RIGHT ARROWS)
WO1-6	60 x 30	12.50					HORIZONTAL ARROW (SYMBOL)
WO1-6a	72 x 36	18.00					HORIZONTAL ARROW (SYMBOL ON PERMANENT BARRICADE)
WO1-7	60 x 30	12.50					DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)
WO1-7a	72 x 36	18.00					DOUBLE HEAD HORIZONTAL ARROW (SYMBOL ON PERMANENT BARRICADE)
WO1-8	18 x 24	3.00					CHEVRON (SYMBOL)
WO1-8a	30 x 36	7.50					CHEVRON (SYMBOL FOR DIVIDED HIGHWAY)
WO3-1	48 x 48	16.00					STOP (AHEAD)
WO3-2	48 x 48	16.00					YIELD (AHEAD)
WO3-3	48 x 48	16.00					SIGNAL (AHEAD)
WO3-4	48 x 48	16.00					BE PREPARED TO STOP
WO3-5	48 x 48	16.00					SPEED LIMIT AHEAD
WO4-1L	48 x 48	16.00					MERGE (SYMBOL FROM LEFT)
WO4-1R	48 x 48	16.00					MERGE (SYMBOL FROM RIGHT)
WO5-1	48 x 48	16.00					ROAD/BRIDGE/RAMP NARROWS
WO5-3	48 x 48	16.00					ONE LANE BRIDGE
WO5-5	48 x 48	16.00					NARROW LANES
WO6-1	48 x 48	16.00					DIVIDED HIGHWAY (SYMBOL)
WO6-2	48 x 48	16.00					DIVIDED HIGHWAY END (SYMBOL)
WO6-3	48 x 48	16.00					TWO WAY TRAFFIC (SYMBOL)
WO7-3a	30 x 24	5.00					NEXT XX MILES (PLAQUE)
WO8-1	48 x 48	16.00					BUMP
WO8-2	48 x 48	16.00					DIP
WO8-3	48 x 48	16.00					PAVEMENT ENDS
WO8-4	48 x 48	16.00					SOFT SHOULDER
WO8-5	48 x 48	16.00					SLIPPERY WHEN WET (SYMBOL)
WO8-6	48 x 48	16.00					TRUCK CROSSING WITH FLAGS
WO8-6c	48 x 48	16.00					TRUCK ENTRANCE
WO8-7	36 x 36	9.00					LOOSE GRAVEL
WO8-9	48 x 48	16.00					LOW SHOULDER
WO8-11	48 x 48	16.00					UNEVEN LANES
WO8-12	48 x 48	16.00					NO CENTER LANE
WO10-1	42 ROUND	9.62					RAILROAD CROSSING
WO12-1	24 x 24	4.00					DOUBLE DOWN ARROW (SYMBOL)
WO12-2	48 x 48	16.00					LOW CLEARANCE (SYMBOL)
WO12-2x	24 x 18	3.00					LOW CLEARANCE (PLAQUE)
WO12-2a	84 x 24	14.00					OVERHEAD LOW CLEARANCE (FEET AND INCHES)
WO8-15	48 x 48	16.00					GROOVED PAVEMENT
WO8-15p	30 x 24	5.00					MOTORCYCLE (PLAQUE)
WO8-17	48 x 48	16.00					SHOULDER DROP-OFF (SYMBOL)
WO8-17p	30 x 24	5.00					SHOULDER DROP-OFF (PLAQUE)
SPECIAL	120 x 60	50.00					LOW CLEARANCE XX FT XX IN XX MILES AHEAD
SPECIAL	120 x 60	50.00					WIDTH RESTRICTION XX FT XX IN XX MILES AHEAD
WO13-1	30 x 30	6.25					ADVISORY SPEED (PLAQUE)
WO16-2	30 x 24	5.00					XXX FEET (PLAQUE)
WO16-3	30 x 24	5.00					X MILE (PLAQUE)
WO20-1	48 x 48	16.00	5	80.0	8	128.0	ROAD/BRIDGE/RAMP WORK AHEAD
WO20-1b	48 x 48	16.00					SHOULDER WORK AHEAD
WO20-2	48 x 48	16.00					DETOUR AHEAD
WO20-3	48 x 48	16.00					ROAD CLOSED AHEAD
WO20-4	48 x 48	16.00					ONE LANE ROAD AHEAD
WO20-5	48 x 48	16.00	1	16.0	1	16.0	RIGHT/CENTER/LEFT LANE CLOSED AHEAD
WO20-5a	48 x 48	16.00					2 RIGHT/CENTER/LEFT LANES CLOSED AHEAD
WO20-6a	48 x 48	16.00	1	16.0	1	16.0	RIGHT/CENTER/LEFT LANE CLOSED
WO20-7a	48 x 48	16.00					FLAGGER (SYMBOL) WITH FLAGS
WO21-2	36 x 36	9.00					FRESH OIL
WO-21-5b	48 x 48	16.00					SHOULDER WORK AHEAD
WO22-1	48 x 48	16.00					BLASTING ZONE AHEAD
WO22-2	42 x 36	10.50					TURN OFF 2-WAY RADIO AND PHONE
WO22-3	42 x 36	10.50					END BLASTING ZONE
WO22-6a	21 x 15	2.19					WET PAINT (ARROW PIVOTS)

SIGN	SIZE (IN)	AREA (SQ FT)	QTY	TOTAL AREA	QTY RELOC	TOTAL RELOC AREA	DESCRIPTION
GUIDE SIGNS							
SPECIAL	36 x 36	9.00					FRESH OIL / LOOSE GRAVEL
EO5-1	36 x 48	12.00					GORE EXT
EO5-2	48 x 36	12.00					EXT OPEN
EO5-2a	48 x 36	12.00					EXT CLOSED
GO20-1	60 x 24	10.00					ROAD WORK NEXT XX MILES
GO20-2	48 x 24	8.00					END ROAD WORK
GO20-4	36 x 18	4.50					PILOT CAR FOLLOW ME
SPECIAL	42 x 30	8.75					PLEASE WAIT FOR PLUG CAR
GO20-5aP	36 x 24	6.00					WORK ZONE (PLAQUE)
MO4-8a	24 x 18	3.00					END DETOUR
MO4-9L	48 x 36	12.00					DETOUR (LEFT ARROW)
MO4-9R	48 x 36	12.00					DETOUR (RIGHT ARROW)
MO4-10L	48 x 18	6.00					DETOUR (ARROW LEFT)
MO4-10R	48 x 18	6.00					DETOUR (ARROW RIGHT)
SPECIAL	x	0.00					
WO24-1R	36 x 36	9.00	1	9.0			DOUBLE REVERSE CURV (1 LANE)
REGULATORY SIGNS							
R1-1	48 x 48	16.00					STOP
R1-2	48 TRI	6.93					YIELD
R1-2a	36 x 36	9.00					TO ONCOMING TRAFFIC (PLAQUE)
R1-3	20 x 9	1.25					XWAY (PLAQUE)
R2-1	36 x 48	12.00					SPEED LIMIT XX
R3-1	48 x 48	16.00					NO RIGHT TURN (SYMBOL)
R3-2	48 x 48	16.00					NO LEFT TURN (SYMBOL)
R3-3	36 x 36	9.00					NO TURNS
R3-4	48 x 48	16.00					NO U-TURNS (SYMBOL)
R3-7L	30 x 30	6.25					LEFT LANE MUST TURN LEFT
R3-7R	30 x 30	6.25					RIGHT LANE MUST TURN RIGHT
R4-1	36 x 48	12.00					DO NOT PASS
R4-2	36 x 48	12.00					PASS WITH CARE
R4-7aL	36 x 48	12.00					KEEP LEFT (HORIZONTAL ARROW)
R4-7aR	36 x 48	12.00					KEEP RIGHT (HORIZONTAL ARROW)
R5-1	30 x 30	6.25					DO NOT ENTER
R5-1a	36 x 24	6.00					WRONG WAY
R6-1L	48 x 18	6.00					ONE WAY (LEFT)
R6-1R	48 x 18	6.00					ONE WAY (RIGHT)
R6-2L	24 x 30	5.00					ONE WAY ARROW (LEFT)
R6-2R	24 x 30	5.00					ONE WAY ARROW (RIGHT)
R10-6	24 x 36	6.00					STOP HERE ON RED (48" ARROW)
R11-2	48 x 30	10.00					ROAD CLOSED
R11-3a	60 x 30	12.50					ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY
R11-4	36 x 30	7.50					ROAD CLOSED TO THRU TRAFFIC
S4-4	36 x 15	3.75					WHEN FLASHING
CONST-3A	48 x 48	16.00					FINE SIGN
CONST-3X	72 x 12	6.00					SPEEDING / PASSING (PLATE)
R9-9	24 x 12	2.00	2	4.0			SIDEWALK CLOSED
MISCELLANEOUS SIGNS							
W12-1	30 x 30	6.25	1	6.3			DOUBLE ARROW
SPECIAL	36 x 48	12.00					POINT OF PRESENCE
SPECIAL	96 x 48	32.00					POINT OF PRESENCE
CONST-7-48	48 x 24	8.00					RATE OUR WORK ZONE
CONST-7-72	72 x 36	18.00					RATE OUR WORK ZONE
616-10.05							
CONSTRUCTION SIGNS TOTAL				122.3			
616-10.10							
RELOCATED SIGNS TOTAL						189.0	

ITEM NUMBER	TOTAL QTY	DESCRIPTION
6122008		IMPACT ATTENUATOR (8 SAND BARRELS)
6122009		IMPACT ATTENUATOR (9 SAND BARRELS)
6122010		IMPACT ATTENUATOR (10 SAND BARRELS)
6122012		IMPACT ATTENUATOR (12 SAND BARRELS)
6122014		IMPACT ATTENUATOR (14 SAND BARRELS)
6122017		IMPACT ATTENUATOR (17 SAND BARRELS)
6122019		IMPACT ATTENUATOR (19 SAND BARRELS)
6122020		REPLACEMENT SAND BARREL
6122030		IMPACT ATTENUATOR ARRAY (RELOCATION)
6123000A		TRUCK OR TRAILER MOUNTED ATTENUATOR (TMA)
6161007		SPEED LIMIT AND STROBE LIGHT ASSEMBLY
6161008		ADVANCED WARNING RAIL SYSTEM
6161009		FLAG ASSEMBLY
611020		CHANNELIZER (DRUM-LIKE)
6161022		CHANNELIZER (CONES)
6161024		CHANNELIZER (TRIM LINE) WITH LIGHT
6161025		CHANNELIZER (TRIM LINE)
6161026		CHANNELIZER (VERTICAL PANEL)
6161027		CHANNELIZER (VERTICAL PANEL) WITH LIGHT
6161028	25	CHANNELIZER
6161030		TYPE III MOVEABLE BARRICADE
6161031	6	TYPE III MOVEABLE BARRICADE WITH LIGHT
6161033		DIRECTION INDICATOR BARRICADE
6161034		DIRECTION INDICATOR BARRICADE WITH LIGHT
6161040		FLASHING ARROW PANEL
6161047		TYPE III OBJECT MARKER
6161051		WARNING LIGHT, TYPE A
6161052		WARNING LIGHT, TYPE B
6161053		WARNING LIGHT, TYPE C
6161055		SEQUENTIAL FLASHING WARNING LIGHT
6161070		TUBULAR MARKER
6161095		RADAR SPEED ADVISORY SYSTEM
6161096		CHANGEABLE MESSAGE SIGN, COMMISSION FURNISHED / RETAINED
6161098		CHANGEABLE MESSAGE SIGN, CONTRACTOR FURNISHED / RETAINED
6161100		CHANGEABLE MESSAGE SIGN, CONTRACTOR FURNISHED / COMMISSION RETAINED
6173900D		CONTRACTOR FURNISHED / RETAINED TEMPORARY TRAFFIC BARRIER
6173902B		CONTRACTOR FURNISHED / COMMISSION TEMPORARY TRAFFIC BARRIER
6174000A		TEMPORARY TRAFFIC BARRIER HEIGHT TRANSITION
6175010A		RELOCATING TEMPORARY TRAFFIC BARRIER
6176000B		COMMISSION FURNISHED / RETAINED TEMPORARY TRAFFIC BARRIER
6177000B		COMMISSION FURNISHED / RETAINED TEMPORARY TRAFFIC BARRIER HEIGHT TRANSITION
9019400		TEMPORARY LIGHTING
9029400		TEMPORARY TRAFFIC SIGNAL
9029401		TEMPORARY TRAFFIC SIGNAL AND LIGHTING
7319902a		RELOCATING FLASHING ARROW PANEL
7319902b	42	RELOCATING CHANNELIZER
7319902c	11	RELOCATING DIRECTION INDICATOR BARRICADE
		RELOCATING ADVANCED WARNING RAIL SYSTEM
		RELOCATING CHANNELIZER (DRUM-LIKE)
		RELOCATING TEMPORARY TRAFFIC BARRIER HEIGHT TRANSITION
		RELOCATING TYPE III MOVEABLE BARRICADE
		COORDINATE ITS MESSAGES w/ MoDOT
		PAVEMENT MARKING - PERMINATE (FT)
		PAVEMENT MARKING - REMOVAL (FT)
		PAVEMENT MARKING - TEMPORARY (FT)
		TEMPORARY PAVEMENT (SQ YDS)
		TEMPORARY SHORING (L SUM)
61699.01		MAINTENANCE OF TRAFFIC CONTROL ITEMS (L SUM)

Corporate Engineering Certificate # 000381



CIVIL ENGINEER

DATE PREPARED
1/26/18

ROUTE STATE
SL MO

DISTRICT SHEET NO.
SL 6

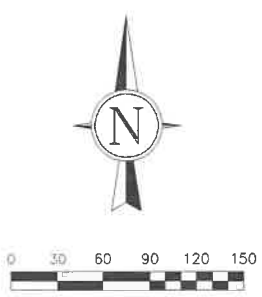
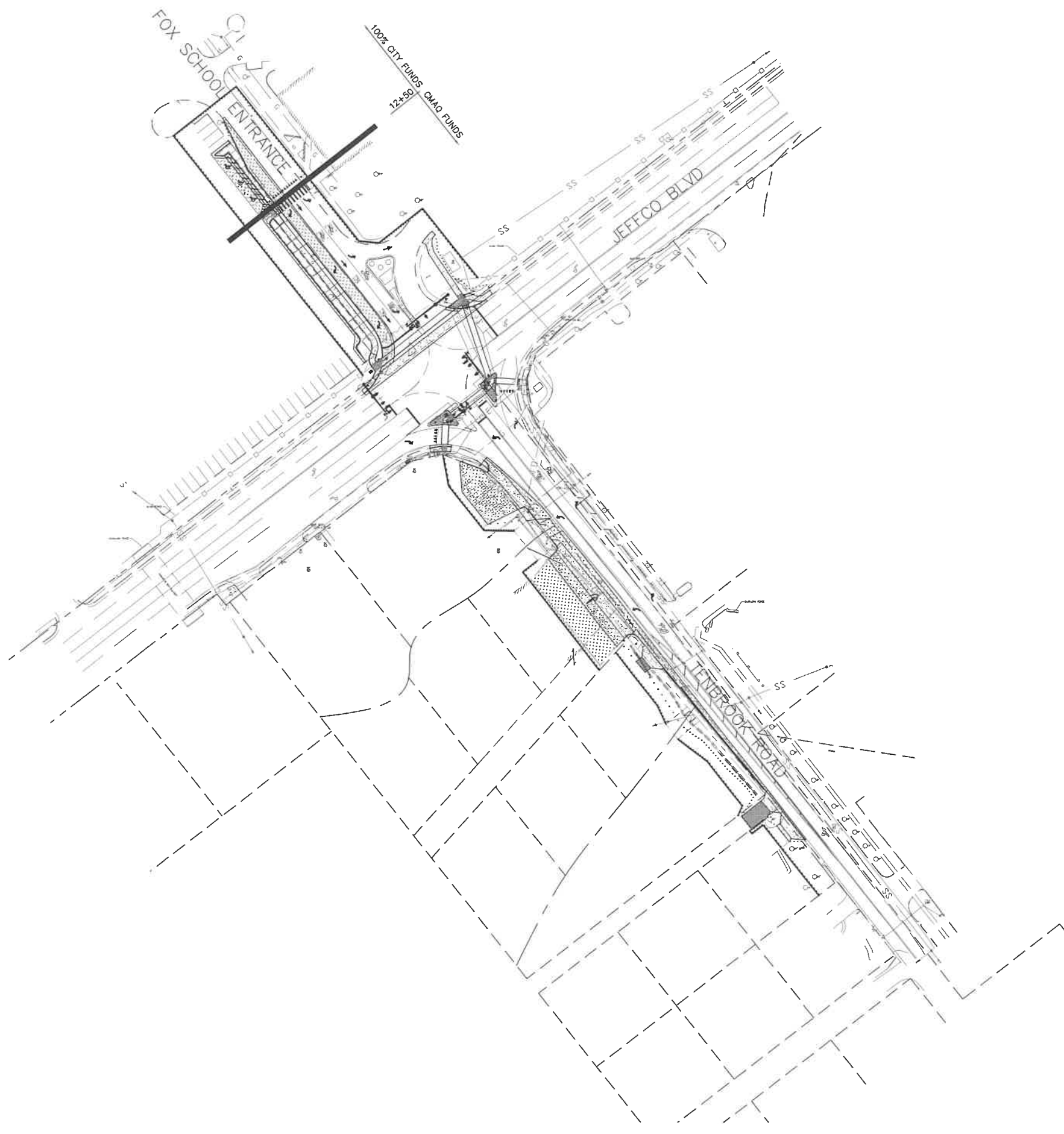
COUNTY
JEFFERSON

JOB NO.
129-15

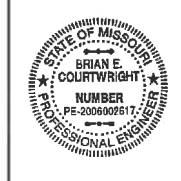
CONTRACT ID.

PROJECT NO.

BRIDGE NO.



Corporate Engineering
Certificate # 000381



CIVIL ENGINEER

DATE PREPARED
1/26/18

ROUTE STATE
SL MO

DISTRICT SHEET NO.
SL 7

COUNTY
JEFFERSON

JOB NO.
129-15

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION
3/9/16	MDOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PRELIM PLANS
1/26/18	PS&E PLANS
2/23/18	REVISED PS&E PLANS

TRANSPORTATION ENGINEERS+PLANNERS
 1540 OLIVE BLVD, SUITE 430
 ST. LOUIS, MO 63111
 (314) 878-0844
 450 COTTONWOOD RD, SUITE B
 GLEN CARBON, IL 62304
 (618) 656-2612
 www.cbbrific.com



PROJECT OVERALL
 ROADWAY IMPROVEMENTS
 JEFFCO BLVD AND TENBROOK RD
 ARNOLD, MISSOURI
 CMAQ-5403(668) TIP 6624-16

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



CIVIL ENGINEER

DATE PREPARED
1/26/18

ROUTE STATE
SL MO

DISTRICT SHEET NO.
8

COUNTY
JEFFERSON

JOB NO.
129-15

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

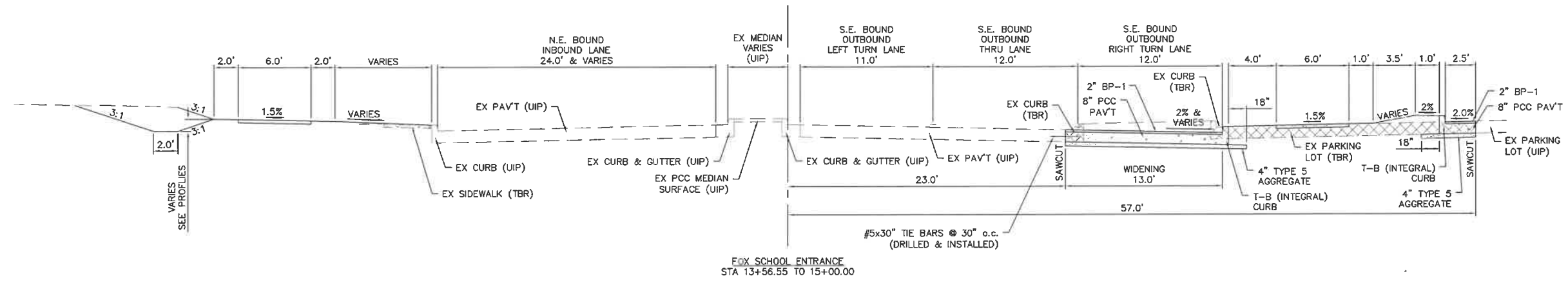
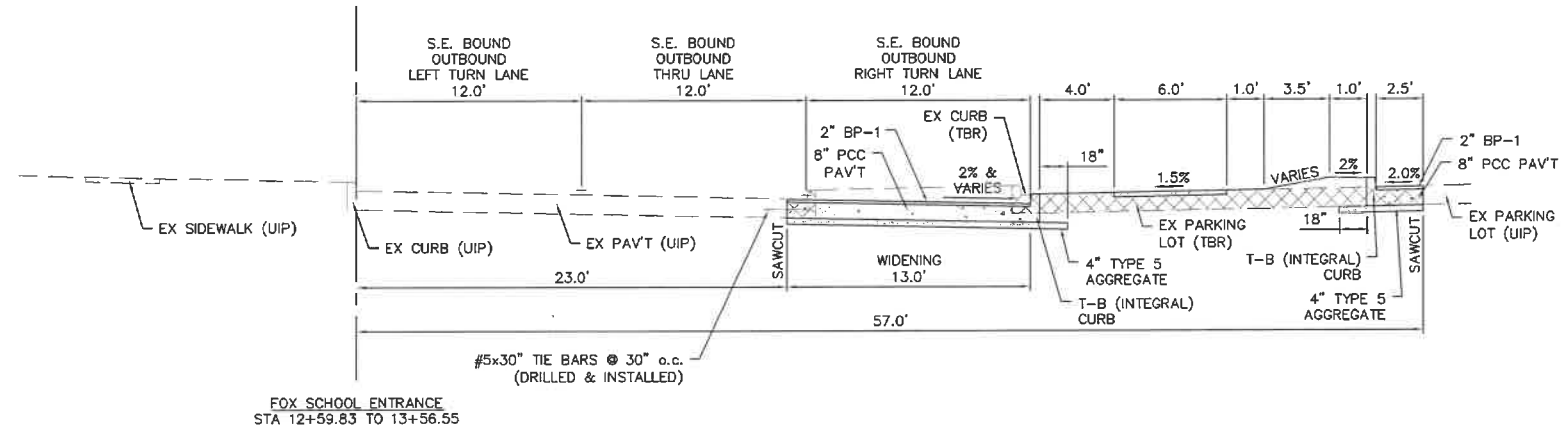
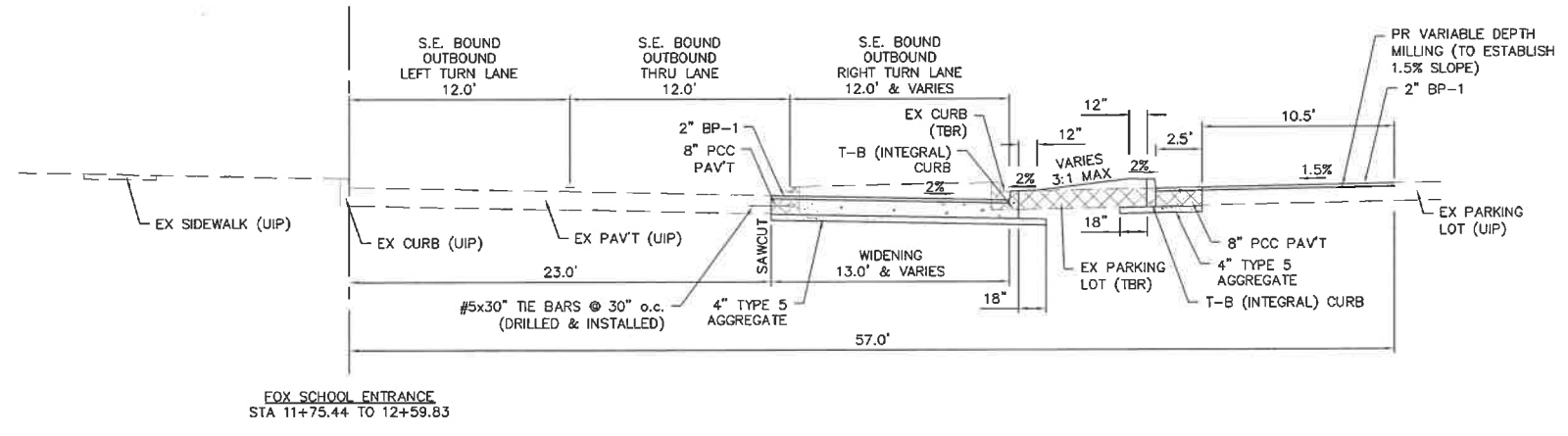
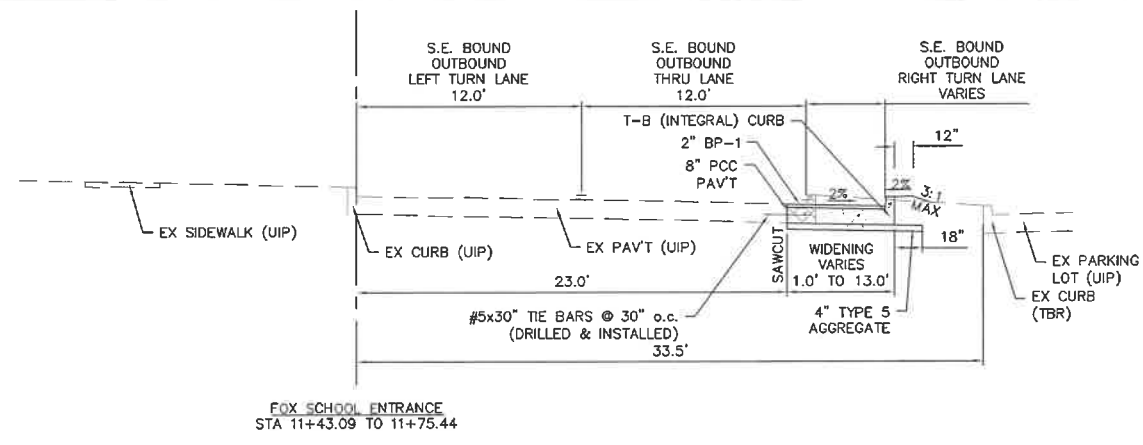
DATE	DESCRIPTION
3/9/16	MDOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PRELIM PLANS
1/26/18	PS&E PLANS

TRANSPORTATION ENGINEERS+PLANNERS
12400 OLIVE BLVD, SUITE 430
JEFFERSON, MO 64131
480 COTTAGEWOOD BLVD, SUITE B
JEFFERSON, MO 64131
(616) 656-2912
www.cbbrpllc.com



FOX ENTRANCE
TYPICAL SECTION
ROADWAY IMPROVEMENTS
JEFFCO BLVD AND TENBROOK RD
ARNOLD, MISSOURI
CMAQ-5403(668) TIP 6624-16

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.





CIVIL ENGINEER

DATE PREPARED
1/26/18

ROUTE STATE
SL MO

DISTRICT SHEET NO.
SL 9

COUNTY
JEFFERSON

JOB NO.
129-15

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

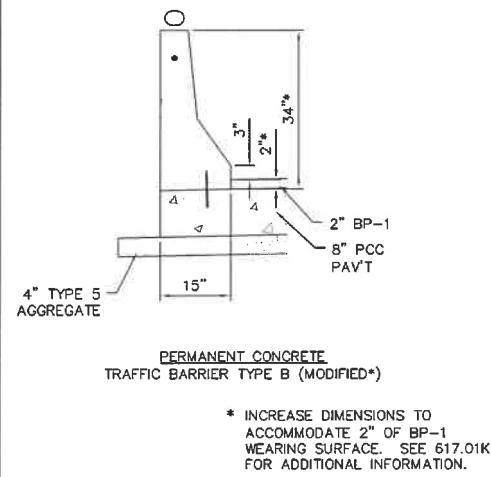
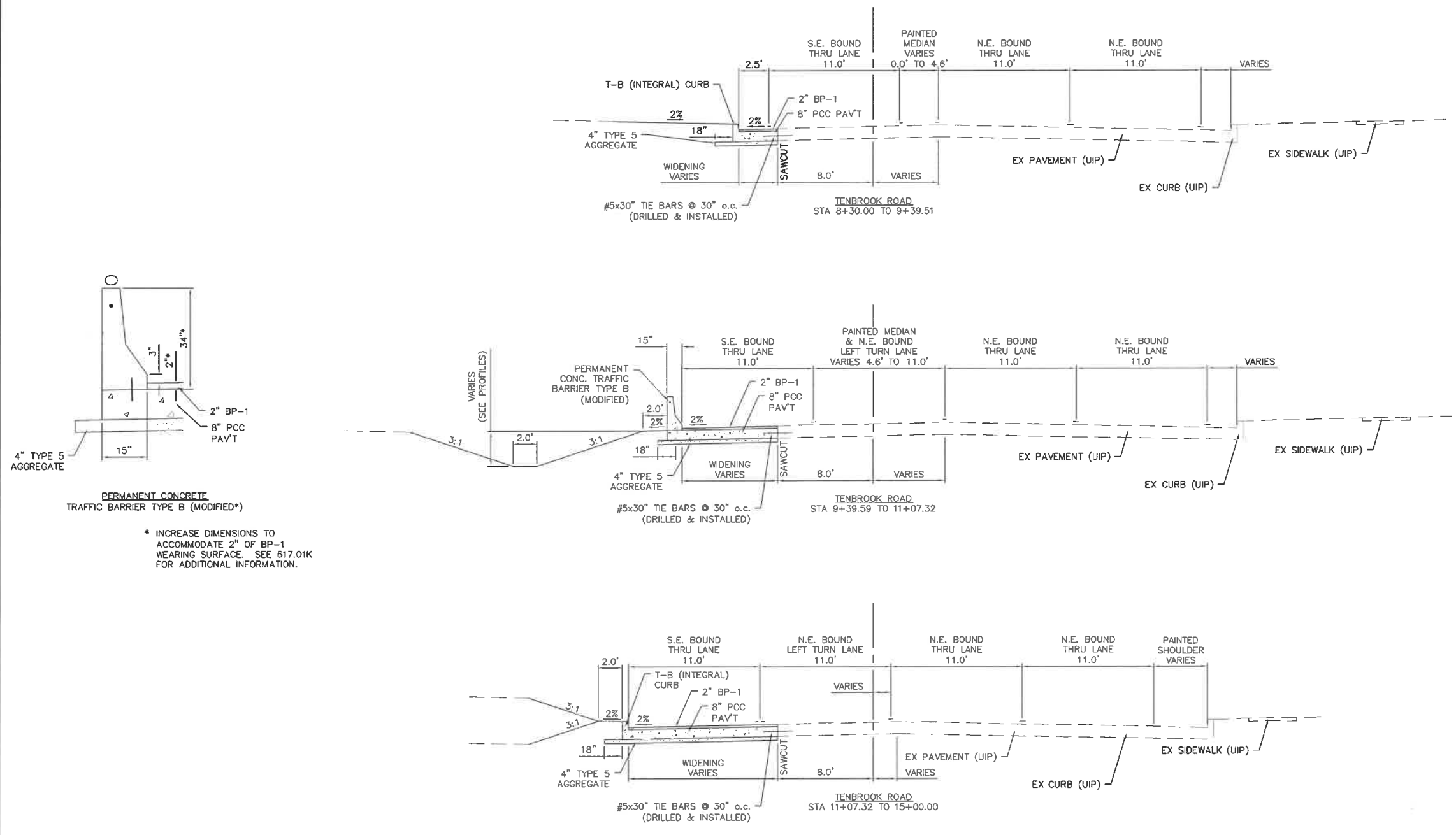
DATE	DESCRIPTION
3/9/16	MDOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PRELIM PLANS
1/26/18	PS&E PLANS

TRANSPORTATION ENGINEERS+PLANNERS
12400 OLIVE BLVD, SUITE 430
ST. LOUIS, MO 63141
(314) 318-6644
400 COTTONWOOD RD, SUITE B
ARNOLD, MISSOURI, E 0204
(618) 692-2812
www.ctbrific.com



TENBROOK TYPICAL SECTION
ROADWAY IMPROVEMENTS
JEFFCO BLVD AND TENBROOK RD
ARNOLD, MISSOURI
CMAQ-5403(668) TIP 6624-16

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



PROPOSED LEGEND

- EX - EXISTING
- PR - PROPOSED
- UIP - USE IN PLACE
- ATG - ADJUST TO GRADE
- TBR - TO BE REMOVED
- P.E. - PRIVATE ENTRANCE
- C.E. - COMMERCIAL ENTRANCE
- F.E. - FIELD ENTRANCE

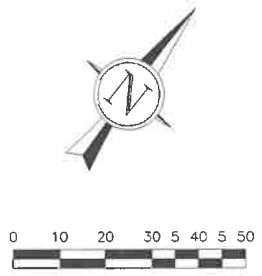
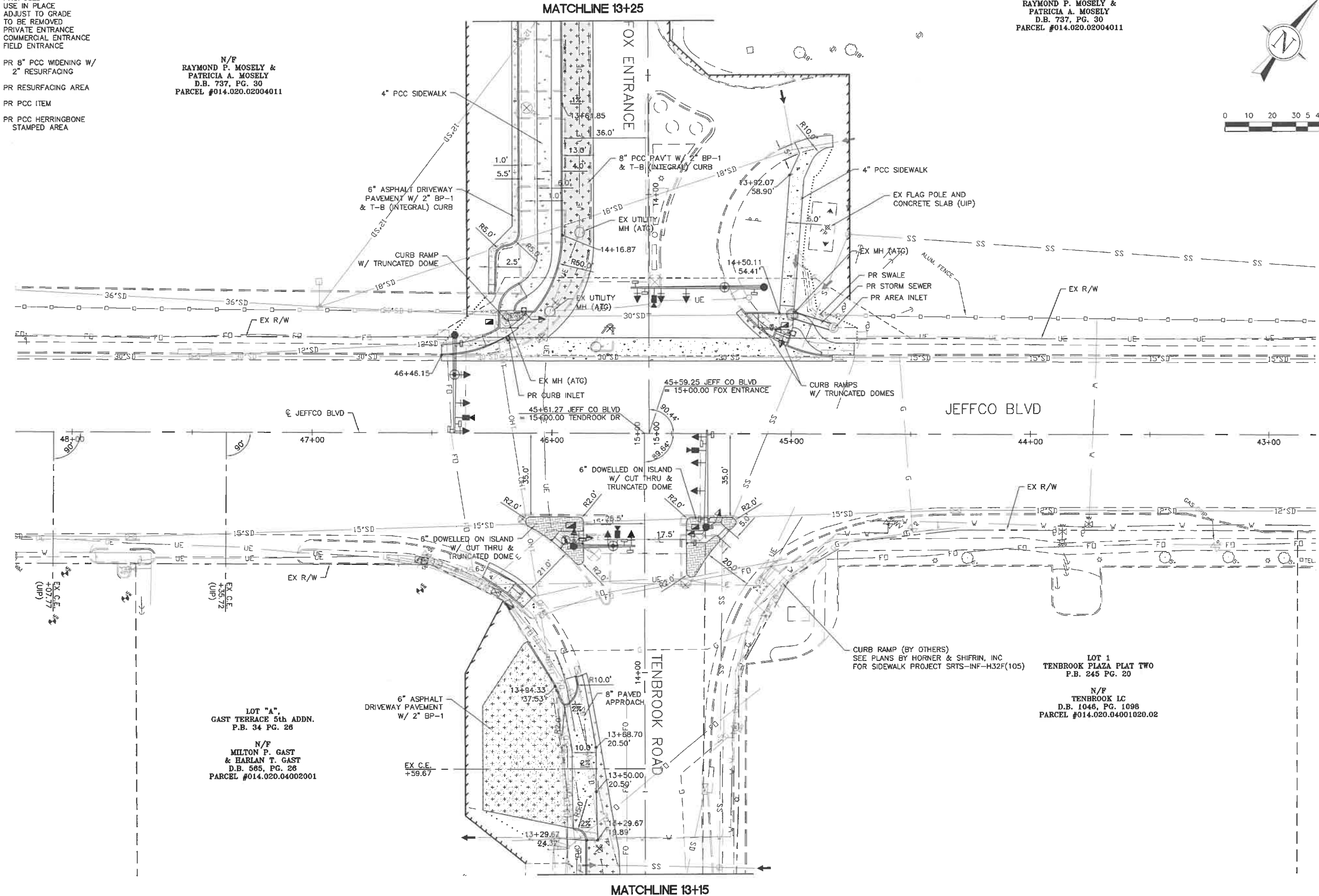
- PR 8" PCC WIDENING W/ 2" RESURFACING
- PR RESURFACING AREA
- PR PCC ITEM
- PR PCC HERRINGBONE STAMPED AREA

N/F
**RAYMOND P. MOSELY &
 PATRICIA A. MOSELY**
 D.B. 737, PG. 30
 PARCEL #014.020.02004011

LOT "A",
 GAST TERRACE 5th ADDN.
 P.B. 34 PG. 28

 N/F
**MILTON P. GAST
 & HARLAN T. GAST**
 D.B. 565, PG. 28
 PARCEL #014.020.04002001

N/F
**RAYMOND P. MOSELY &
 PATRICIA A. MOSELY**
 D.B. 737, PG. 30
 PARCEL #014.020.02004011



MATCHLINE 13+25

MATCHLINE 13+15

Corporate Engineering
 Certificate # 000381



CIVIL ENGINEER

DATE PREPARED
1/26/18

ROUTE STATE
 SL MO

DISTRICT SHEET NO.
 10

COUNTY
 JEFFERSON

JOB NO.
 129-15

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION
3/9/16	MDOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PRELIM PLANS
1/26/18	PS&E PLANS

TRANSPORTATION ENGINEERS+PLANNERS

12400 OLIVE BLVD, SUITE 430
 ST. LOUIS, MO 63141
 (314) 996-6666
 9800 GLENVIEW RD, SUITE B
 GLENVIEW, IL 60045
 (848) 956-2612
 www.cbbrllc.com

PLAN SHEET

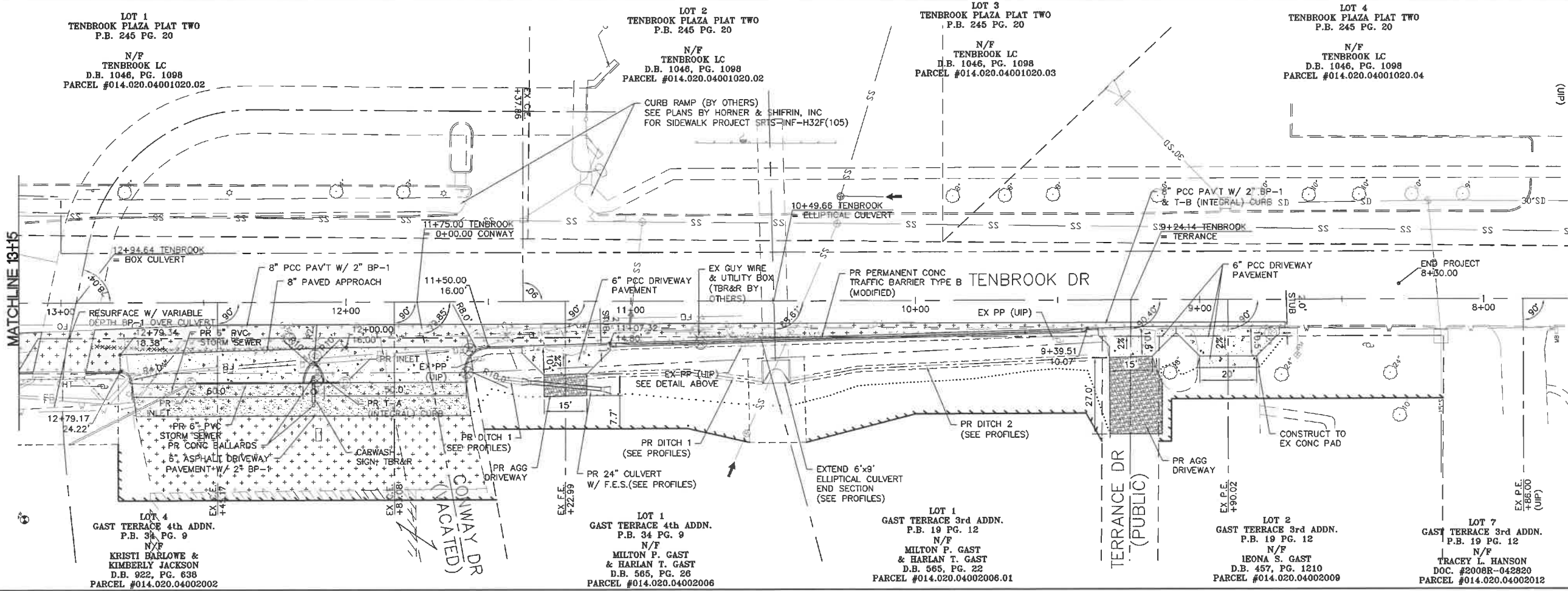
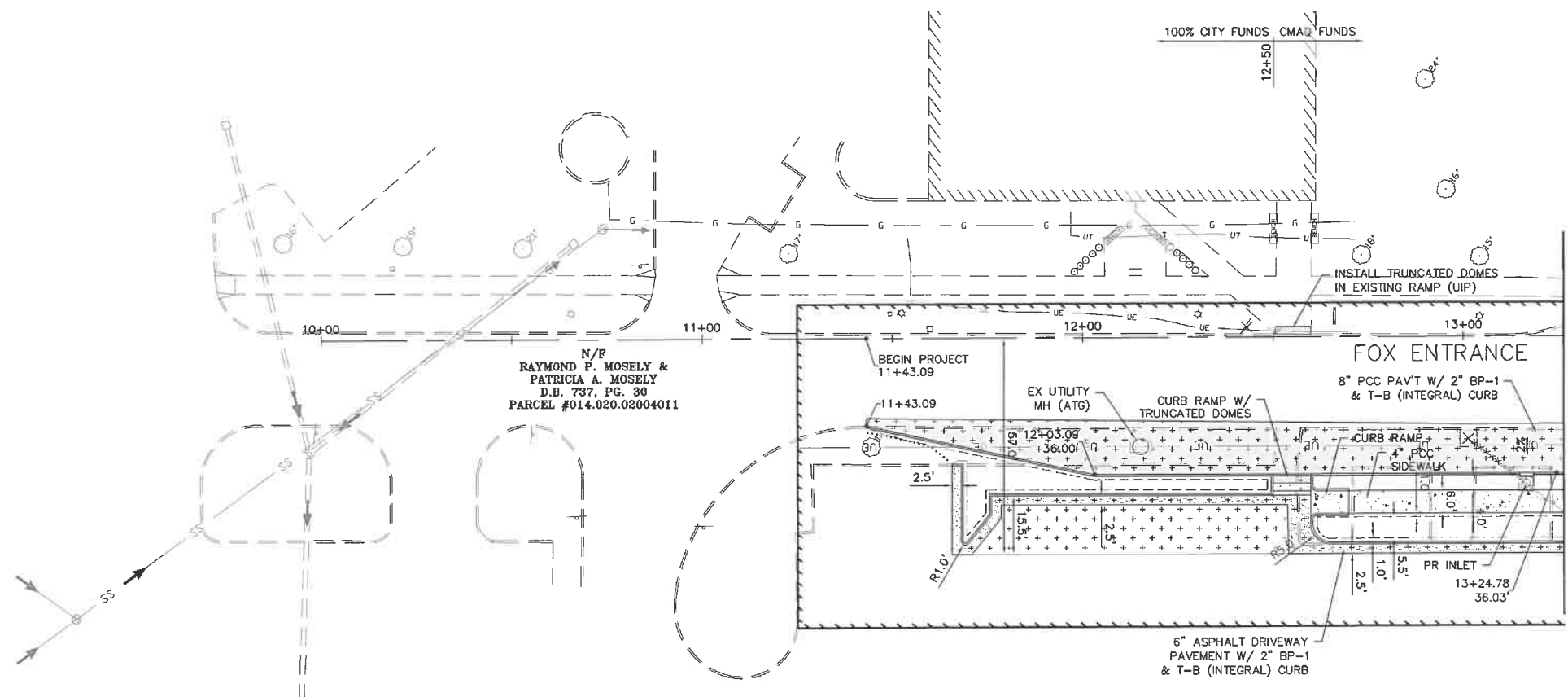
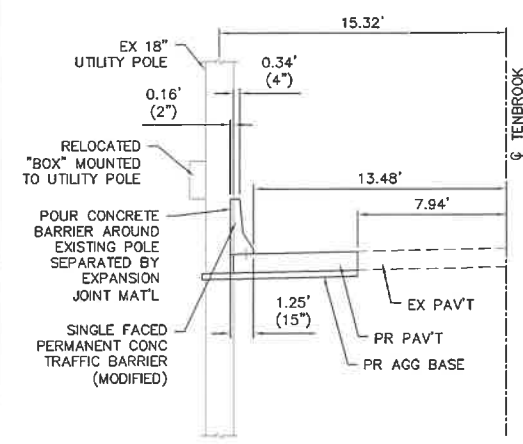
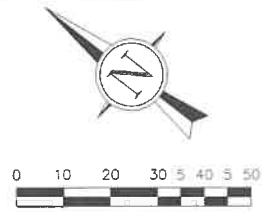
ROADWAY IMPROVEMENTS
 JEFFCO BLVD AND TENBROOK RD
 ARNOLD, MISSOURI
 CMAQ-5403(668) TIP 6624-16

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

PROPOSED LEGEND

- EX - EXISTING
- PR - PROPOSED
- UIP - USE IN PLACE
- ATG - ADJUST TO GRADE
- TBR - TO BE REMOVED
- P.E. - PRIVATE ENTRANCE
- C.E. - COMMERCIAL ENTRANCE
- F.E. - FIELD ENTRANCE

- PR 8" PCC WIDENING W/ 2" RESURFACING
- PR RESURFACING AREA
- PR PCC ITEM
- PR PCC HERRINGBONE STAMPED AREA



Corporate Engineering Certificate # 000381



CIVIL ENGINEER	
DATE PREPARED	1/26/18
ROUTE	STATE MO
DISTRICT SL	SHEET NO. 11
COUNTY JEFFERSON	
JOB NO. 129-15	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION
3/9/16	MDOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PRELIM PLANS
1/26/18	PS&E PLANS

TRANSPORTATION ENGINEERS+PLANNERS

13400 OLIVE BLVD, SUITE 430
ST. LOUIS, MO 63141
(314) 978-8644

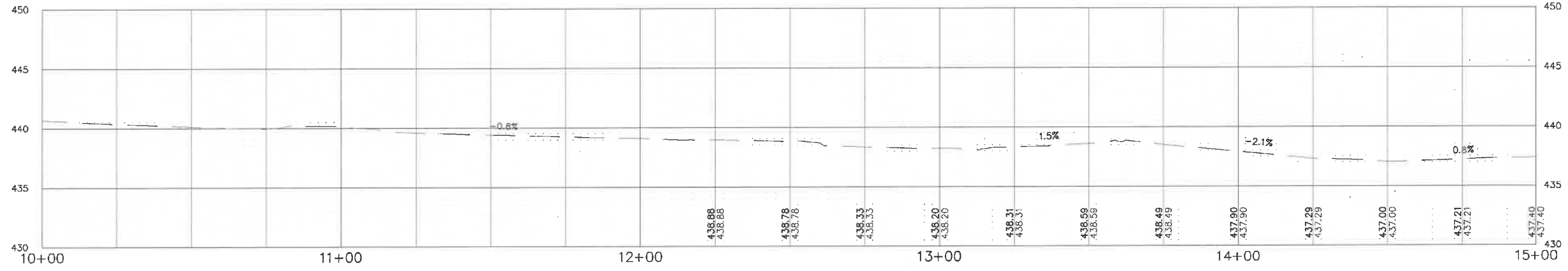
450 COTTONWOOD BLVD, SUITE B
GLEN CARBON, IL 62034
(618) 556-2612
www.cbtrac.com

PLAN SHEET

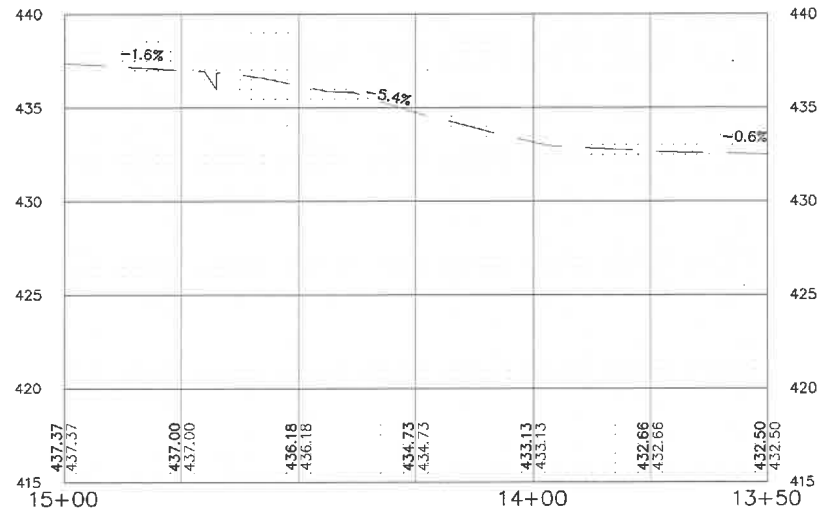
ROADWAY IMPROVEMENTS
JEFFCO BLVD AND TENBROOK RD
ARNOLD, MISSOURI
CMAQ-5403(668) TIP 6624-16

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

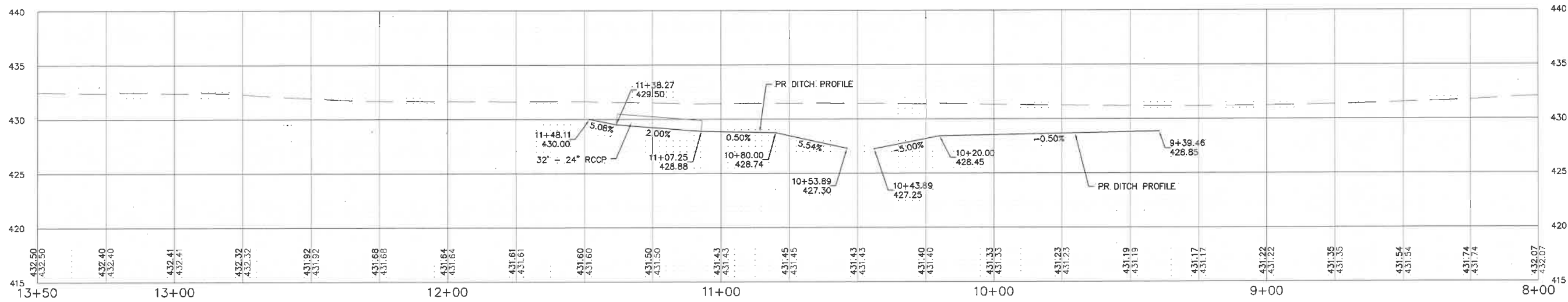
ROADWAY CENTERLINE PROFILE – FOX SCHOOL ENTRANCE



ROADWAY CENTERLINE PROFILE – TENBROOK ROAD



ROADWAY CENTERLINE PROFILE – TENBROOK ROAD (CONT'D)



Corporate Engineering
Certificate # 000381



CIVIL ENGINEER

DATE PREPARED
1/26/18

ROUTE STATE
SL MO

DISTRICT SHEET NO.
SL 12

COUNTY
JEFFERSON

JOB NO.
129-15

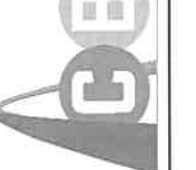
CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION
3/9/16	MODOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PRELIM PLANS
1/26/18	PS&E PLANS

TRANSPORTATION ENGINEERS+PLANNERS
12400 OLIVE BLVD, SUITE 430
ST. LOUIS, MO 63141
(314) 878-6844
450 COTTONWOOD RD, SUITE B
GLEN CARBON, IL 62034
(618) 656-2612
www.cbbrific.com



ROADWAY PROFILE SHEET
ROADWAY IMPROVEMENTS
JEFFCO BLVD AND TENBROOK RD
ARNOLD, MISSOURI
CMAQ-5403(668) TIP 6624-16

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

REMOVAL LEGEND

- EX - EXISTING
- PR - PROPOSED
- TBR - TO BE REMOVED
- TBR&R - TO BE REMOVED AND RELOCATED
- ▨ - SIDEWALK/MEDIAN/MISC PCC REMOVAL
- ▧ - PAVT &/OR CURB REMOVAL
- ✕ - EX ITEM TBR
- ⊗ - EX ITEM TBR&R
- - EX ITEM ATG

N/F
RAYMOND P. MOSELY & PATRICIA A. MOSELY
 D.B. 737, PG. 30
 PARCEL #014.020.02004011

LOT "A"
 GAST TERRACE 5th ADDN.
 P.B. 34 PG. 28
 N/F
MILTON P. GAST & HARLAN T. GAST
 D.B. 585, PG. 28
 PARCEL #014.020.04002001

N/F
RAYMOND P. MOSELY & PATRICIA A. MOSELY
 D.B. 737, PG. 30
 PARCEL #014.020.02004011

Corporate Engineering
 Certificate # 000381



CIVIL ENGINEER

DATE PREPARED
1/26/18

ROUTE STATE
 SL MO

DISTRICT SHEET NO.
 SL 13

COUNTY
 JEFFERSON

JOB NO.
 129-15

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION
3/9/16	MODOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PRELIM PLANS
1/26/18	PS&E PLANS

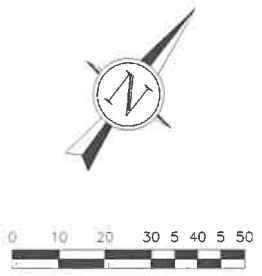
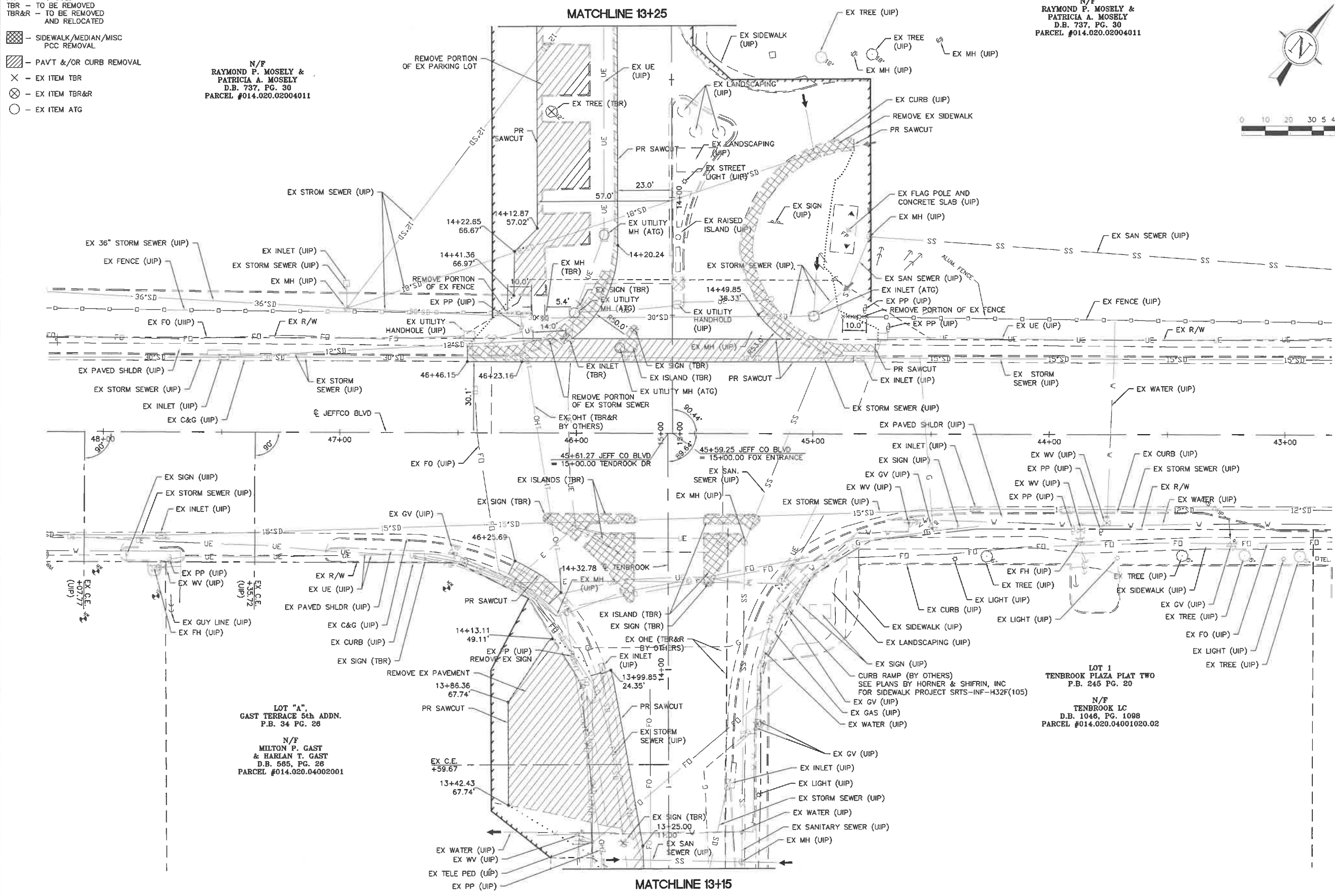
TRANSPORTATION ENGINEERS+PLANNERS

12400 OLIVE BLVD, SUITE 430
 ST. LOUIS, MO 63141
 (314) 778-9884
 480 COTTAGEWOOD RD, SUITE B
 GLEN CARBON, IL 62034
 (618) 656-2612
 www.cbtrfllc.com



REMOVAL SHEET
 ROADWAY IMPROVEMENTS
 JEFFCO BLVD AND TENBROOK RD
 ARNOLD, MISSOURI
 CMAQ-5403(668) TIP 6624-16

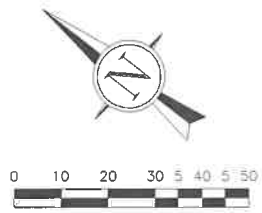
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



LOT 1
 TENBROOK PLAZA PLAT TWO
 P.B. 245 PG. 20
 N/F
TENBROOK LC
 D.B. 1046, PG. 1088
 PARCEL #014.020.04001020.02

REMOVAL LEGEND

- EX - EXISTING
- PR - PROPOSED
- TBR - TO BE REMOVED
- TBR&R - TO BE REMOVED AND RELOCATED
- SIDEWALK/MEDIAN/MISC PCC REMOVAL
- PAVT &/OR CURB REMOVAL
- X - EX ITEM TBR
- ⊗ - EX ITEM TBR&R
- - EX ITEM ATG



Corporate Engineering
Certificate # 000381



CIVIL ENGINEER	
DATE PREPARED	1/26/18
ROUTE	STATE MO
DISTRICT	SHEET NO. 14
COUNTY JEFFERSON	
JOB NO. 129-15	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

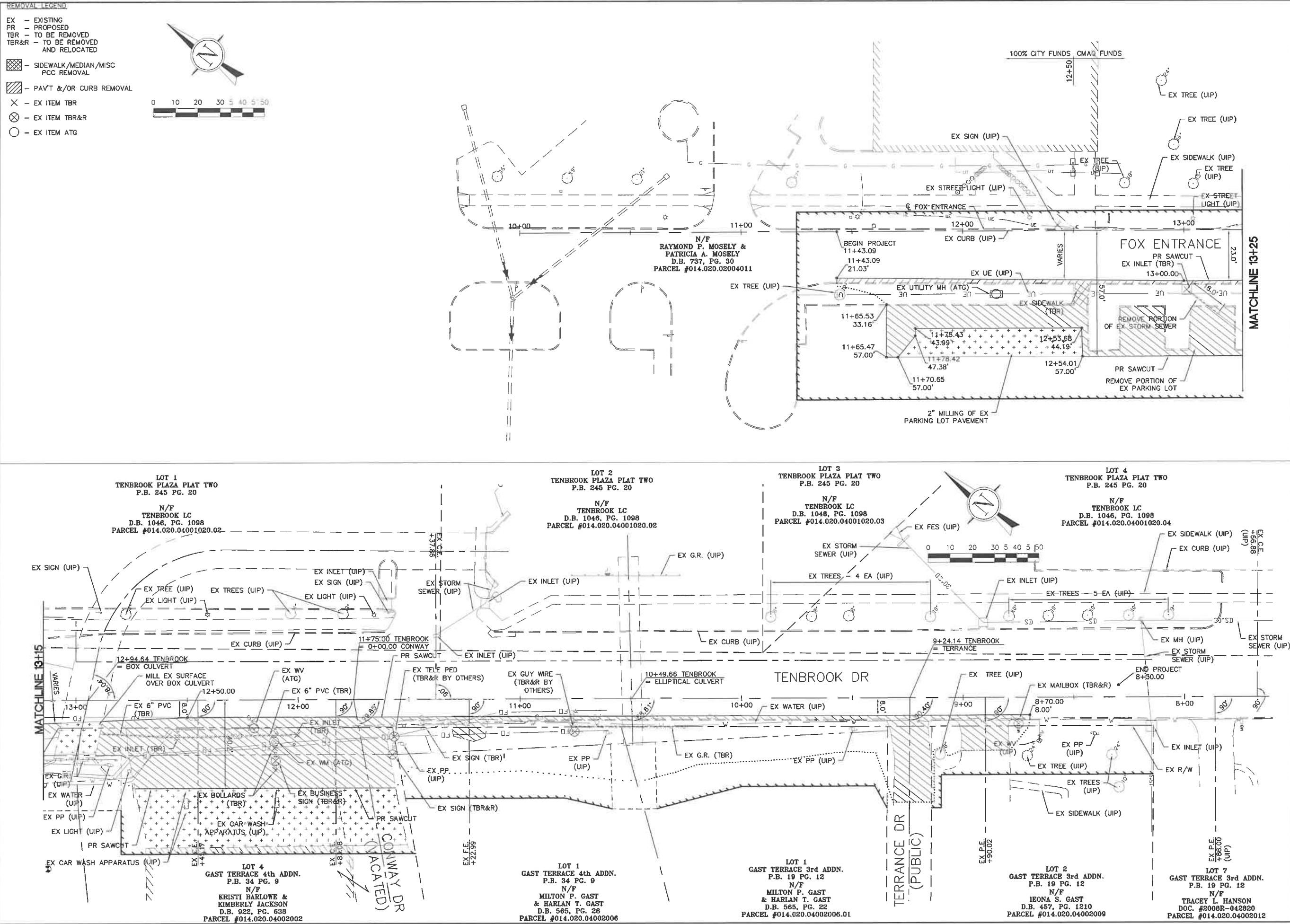
DATE	DESCRIPTION
3/9/16	MDOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PRELIM PLANS
1/26/18	PS&E PLANS

TRANSPORTATION ENGINEERS+PLANNERS

12400 OLIVE BLVD, SUITE 430
63141 BRIDGEMAN
450 COTTONTOWN RD, SUITE B
GLEN CARBON, IL 62034
(618) 556-2612
www.cbtraffic.com

REMOVAL SHEET

ROADWAY IMPROVEMENTS
JEFFCO BLVD AND TENBROOK RD
ARNOLD, MISSOURI
CMAQ-5403(668) TIP 6624-16



IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

PAVEMENT MARKING LEGEND

- SWL - SOLID WHITE LINE
- WSD - WHITE SKIP DASH
- AWSD - ABBREVIATED WHITE SKIP DASH
- DSY - DOUBLE SOLID YELLOW LINE
- L&S - LETTER & SYMBOLS
- ☐ - PROPOSED SIGN

N/F
 RAYMOND P. MOSELY &
 PATRICIA A. MOSELY
 D.B. 737, PG. 30
 PARCEL #014.020.02004011

N/F
 RAYMOND P. MOSELY &
 PATRICIA A. MOSELY
 D.B. 737, PG. 30
 PARCEL #014.020.02004011

Corporate Engineering
 Certificate # 000381



CIVIL ENGINEER

DATE PREPARED
 1/26/18

ROUTE STATE
 SL MO

DISTRICT SHEET NO.
 SL 15

COUNTY
 JEFFERSON

JOB NO.
 129-15

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

12/5/17 PRELIMINARY APPROVAL

12/13/17 FINAL R/W PLANS (REV)

1/26/18 PRELIMINARY APPROVAL

1/26/18 FINAL R/W PLANS

1/26/18 PS&E PLANS

12400 OLIVE BLVD, SUITE 430

ST. LOUIS, MO 63141

(314) 878-8844

480 COTTONWOOD RD, SUITE B

ELLEN CARSON, IL 62804

(618) 656-2612

www.cbbe.com

TRANSPORTATION ENGINEERS+PLANNERS

CBEB

PAVEMENT MARKING SHEET

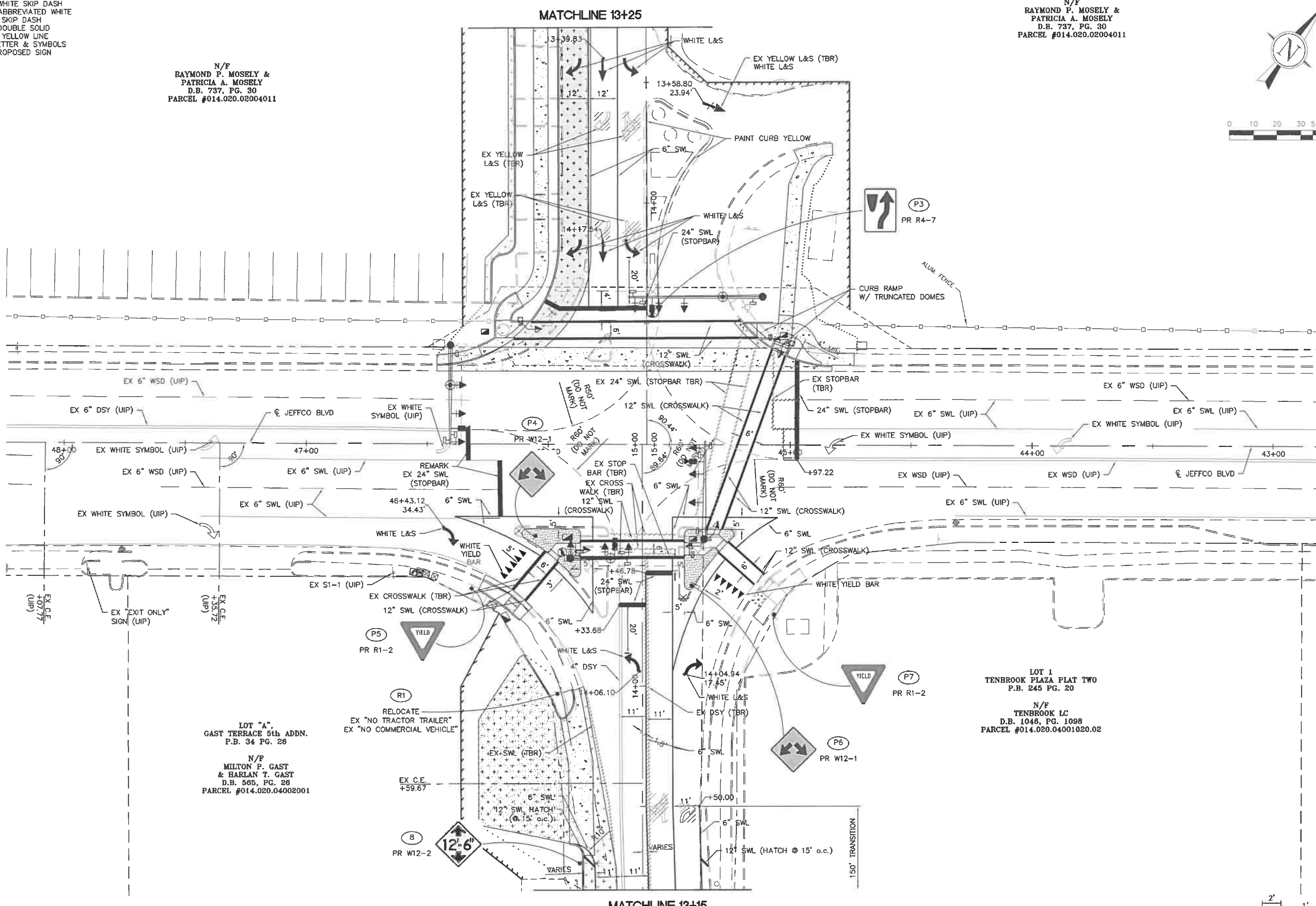
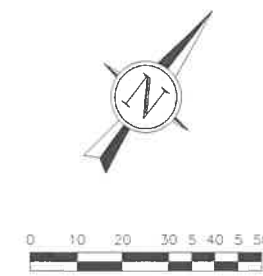
ROADWAY IMPROVEMENTS

JEFFCO BLVD AND TENBROOK RD

ARNOLD, MISSOURI

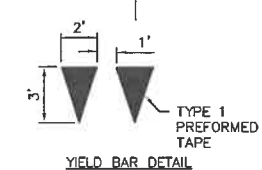
CMAQ-5403(668) TIP 6624-16

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



LOT "A",
 GAST TERRACE 5th ADDN.
 P.B. 34 PG. 28
 N/F
 MILTON P. GAST
 & HARLAN T. GAST
 D.B. 585, PG. 28
 PARCEL #014.020.04002001

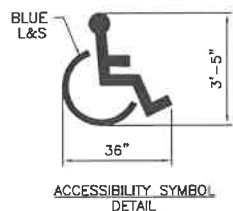
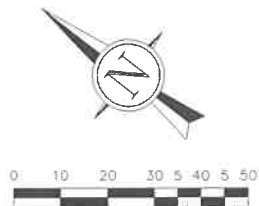
LOT 1
 TENBROOK PLAZA PLAT TWO
 P.B. 245 PG. 20
 N/F
 TENBROOK LC
 D.B. 1046, PG. 1098
 PARCEL #014.020.04001020.02



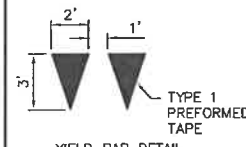
TYPE 1
 PREFORMED
 TAPE
 YIELD BAR DETAIL

PAVEMENT MARKING LEGEND

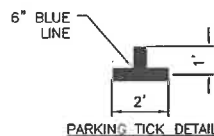
- SWL - SOLID WHITE LINE
- WSD - WHITE SKIP DASH
- AWSD - ABBREVIATED WHITE SKIP DASH
- DSY - DOUBLE SOLID YELLOW LINE
- L&S - LETTER & SYMBOLS
- PROPOSED SIGN



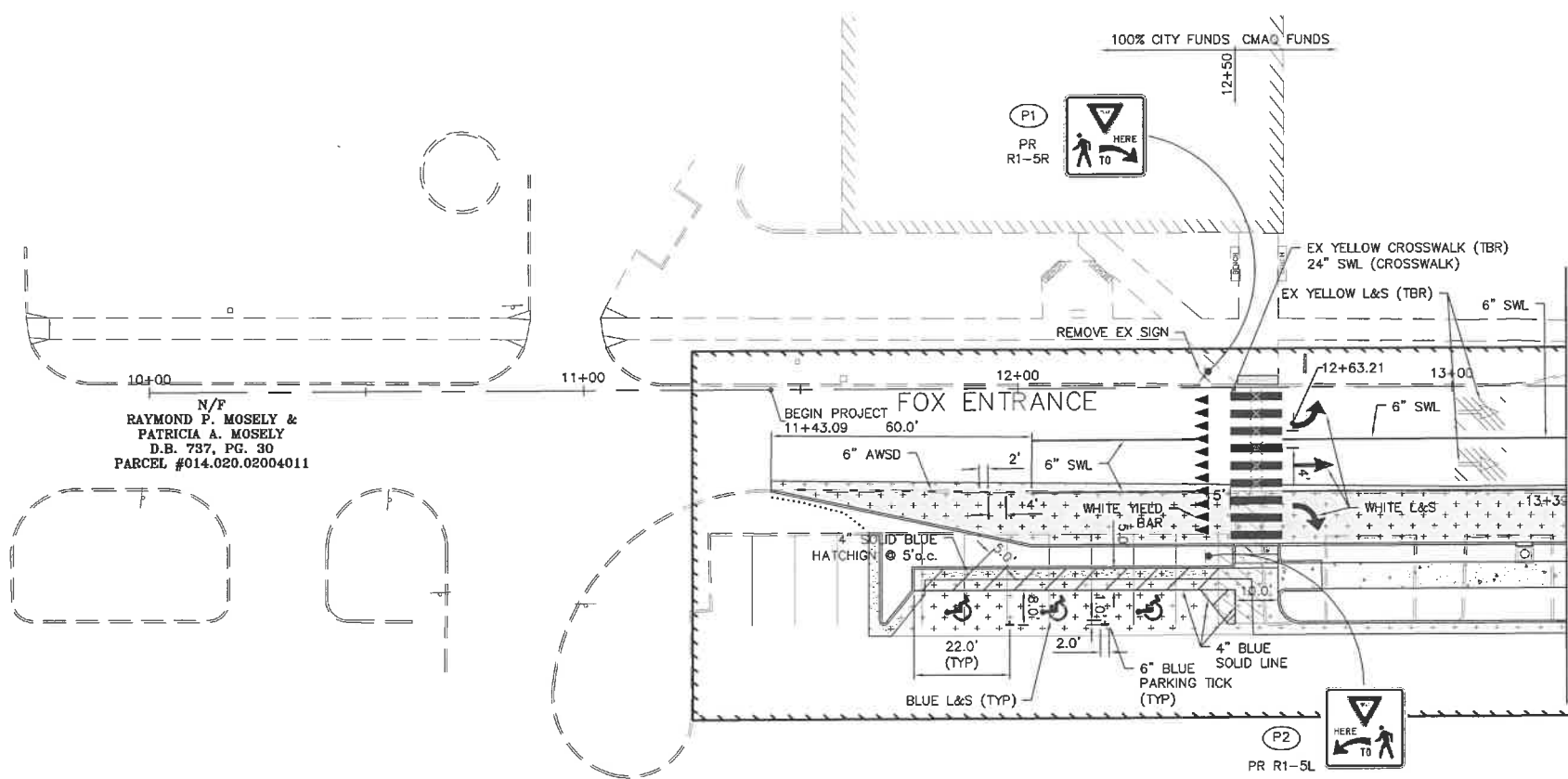
ACCESSIBILITY SYMBOL DETAIL



YIELD BAR DETAIL

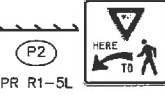
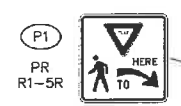


PARKING TICK DETAIL



N/F
RAYMOND P. MOSELY &
PATRICIA A. MOSELY
D.B. 737, PG. 30
PARCEL #014.020.02004011

100% CITY FUNDS CMAQ FUNDS



LOT 1
TENBROOK PLAZA PLAT TWO
P.B. 245 PG. 20

N/F
TENBROOK LC
D.B. 1046, PG. 1098
PARCEL #014.020.04001020.02

LOT 2
TENBROOK PLAZA PLAT TWO
P.B. 245 PG. 20

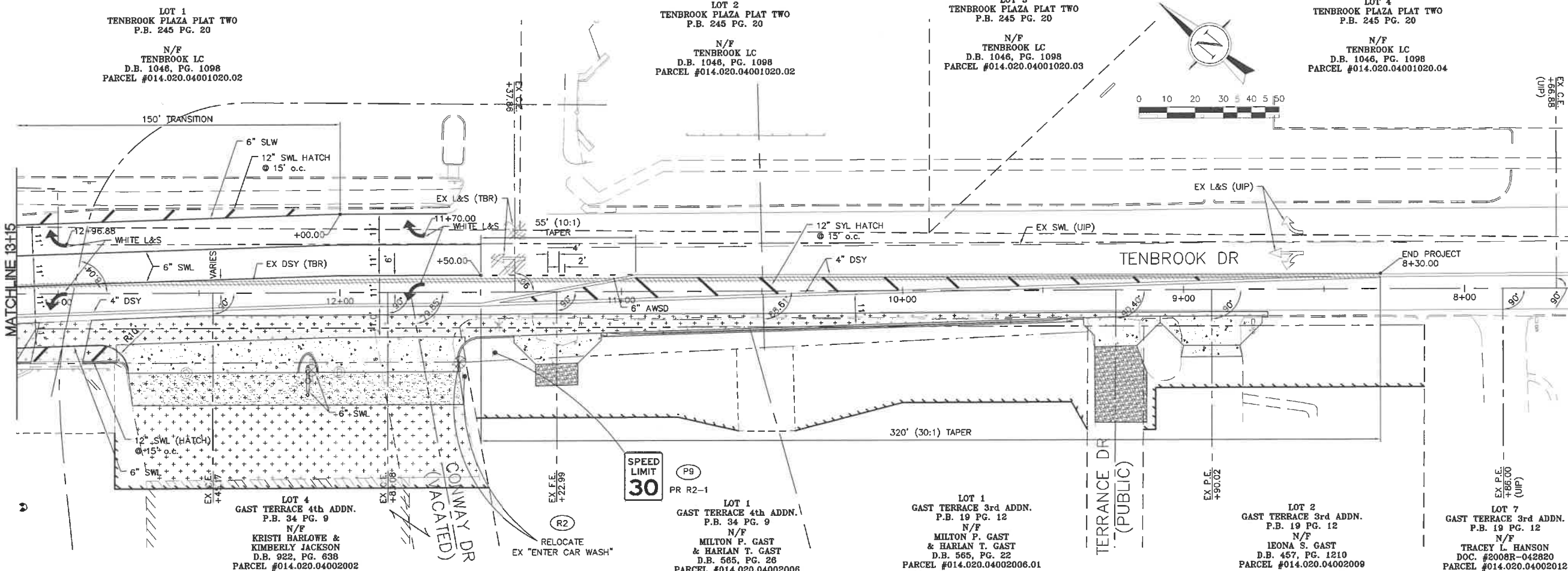
N/F
TENBROOK LC
D.B. 1046, PG. 1098
PARCEL #014.020.04001020.02

LOT 3
TENBROOK PLAZA PLAT TWO
P.B. 245 PG. 20

N/F
TENBROOK LC
D.B. 1046, PG. 1098
PARCEL #014.020.04001020.03

LOT 4
TENBROOK PLAZA PLAT TWO
P.B. 245 PG. 20

N/F
TENBROOK LC
D.B. 1046, PG. 1098
PARCEL #014.020.04001020.04



LOT 1
GAST TERRACE 4th ADDN.
P.B. 34 PG. 9
N/F
MILTON P. GAST
& HARLAN T. GAST
D.B. 565, PG. 28
PARCEL #014.020.04002006

LOT 1
GAST TERRACE 3rd ADDN.
P.B. 19 PG. 12
N/F
MILTON P. GAST
& HARLAN T. GAST
D.B. 565, PG. 22
PARCEL #014.020.04002006.01

LOT 2
GAST TERRACE 3rd ADDN.
P.B. 19 PG. 12
N/F
LEONA S. GAST
D.B. 457, PG. 1210
PARCEL #014.020.04002009

LOT 7
GAST TERRACE 3rd ADDN.
P.B. 19 PG. 12
N/F
TRACEY L. HANSON
DOC. #2008R-042820
PARCEL #014.020.04002012

Corporate Engineering
Certificate # 000381

CIVIL ENGINEER

DATE PREPARED: 1/26/18

ROUTE: SL STATE: MO

DISTRICT: SL SHEET NO.: 16

COUNTY: JEFFERSON

JOB NO.: 129-15

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

DATE	DESCRIPTION
3/9/16	MODOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PRELIM PLANS
1/26/18	PS&E PLANS

TRANSPORTATION ENGINEERS+PLANNERS







12400 OLIVE BLVD, SUITE 430
OLIVE SPRING, MO 63441
636.339.8644
636.339.8644
636.339.8644
www.ctbinc.com

PAVEMENT MARKING SHEET

ROADWAY IMPROVEMENTS
JEFFCO BLVD AND TENBROOK RD
ARNOLD, MISSOURI
CMAQ-5403(668) TIP 6624-16

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

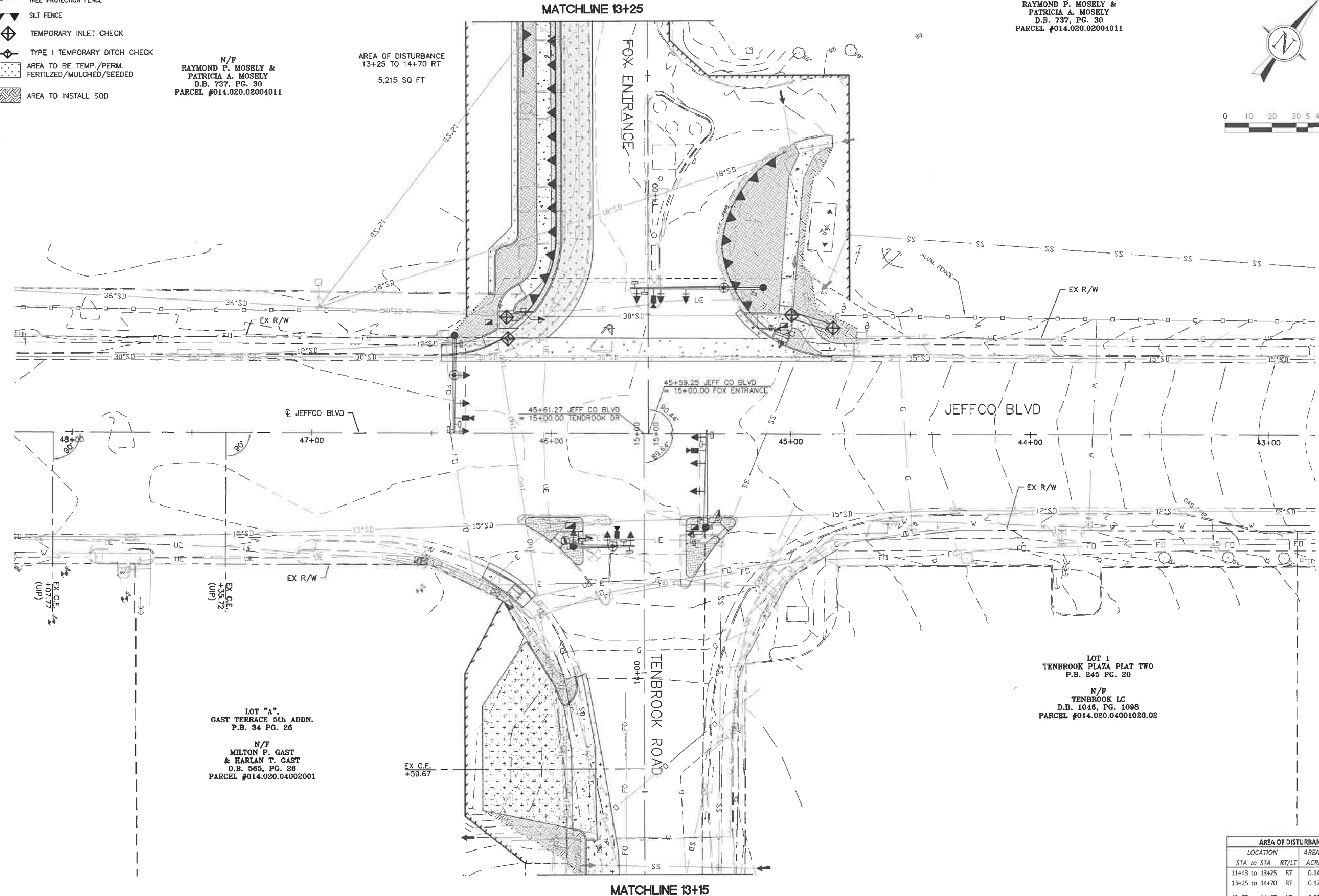
EROSION CONTROL PLAN LEGEND

-  TREE PROTECTION FENCE
-  SILT FENCE
-  TEMPORARY INLET CHECK
-  TYPE I TEMPORARY DITCH CHECK
-  AREA TO BE TEMP./PERM. FERTILIZED/MULCHED/SEEDED
-  AREA TO INSTALL SOD

N/F
**RAYMOND P. MOSELY &
 PATRICIA A. MOSELY**
 D.B. 737, PG. 30
 PARCEL #014.020.02004011

AREA OF DISTURBANCE
 13+25 TO 14+70 RT
 5,215 SQ FT

N/F
**RAYMOND P. MOSELY &
 PATRICIA A. MOSELY**
 D.B. 737, PG. 30
 PARCEL #014.020.02004011



LOT "A",
 GAST TERRACE 5th ADDN.
 P.B. 34 PG. 28

N/F
**MILTON P. GAST
 & HARLAN T. GAST**
 D.B. 565, PG. 28
 PARCEL #014.020.04002001

LOT 1
 TENBROOK PLAZA PLAT TWO
 P.B. 245 PG. 20

N/F
TENBROOK LC
 D.B. 1046, PG. 1098
 PARCEL #014.020.04001020.02

AREA OF DISTURBANCE		
LOCATION	AREA DISTURBED	
STA to STA RT/LT	ACRE	(SQ FT)
11+43 to 13+25 RT	0.14	(5746)
13+25 to 14+70 RT	0.12	(5215)
13+75 to 14+67 LT	0.07	(2952)
14+13 to 13+15 RT	0.09	(3688)
13+15 to 14+70 RT	0.34	(14461)
TOTAL	0.76	(32062)

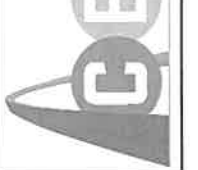
Corporate Engineering
 Certificate # 000381



CIVIL ENGINEER
 DATE PREPARED
1/26/18
 ROUTE STATE
 SL MO
 DISTRICT SHEET NO.
 SL 17
 COUNTY
 JEFFERSON
 JOB NO.
 129-15
 CONTRACT ID.
 PROJECT NO.
 BRIDGE NO.

DATE	DESCRIPTION
3/9/16	MDOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PRELIM PLANS
1/26/18	PS&E PLANS







**TRANSPORTATION
 ENGINEERS+PLANNERS**
 12400 OLIVE BLVD, SUITE 430
 ST. LOUIS, MO 63141
 (314) 779-6600
 6500 WOODBURN DR, SUITE B
 COLUMBIA, MO 65204
 (618) 956-2812
 www.ctbrinc.com

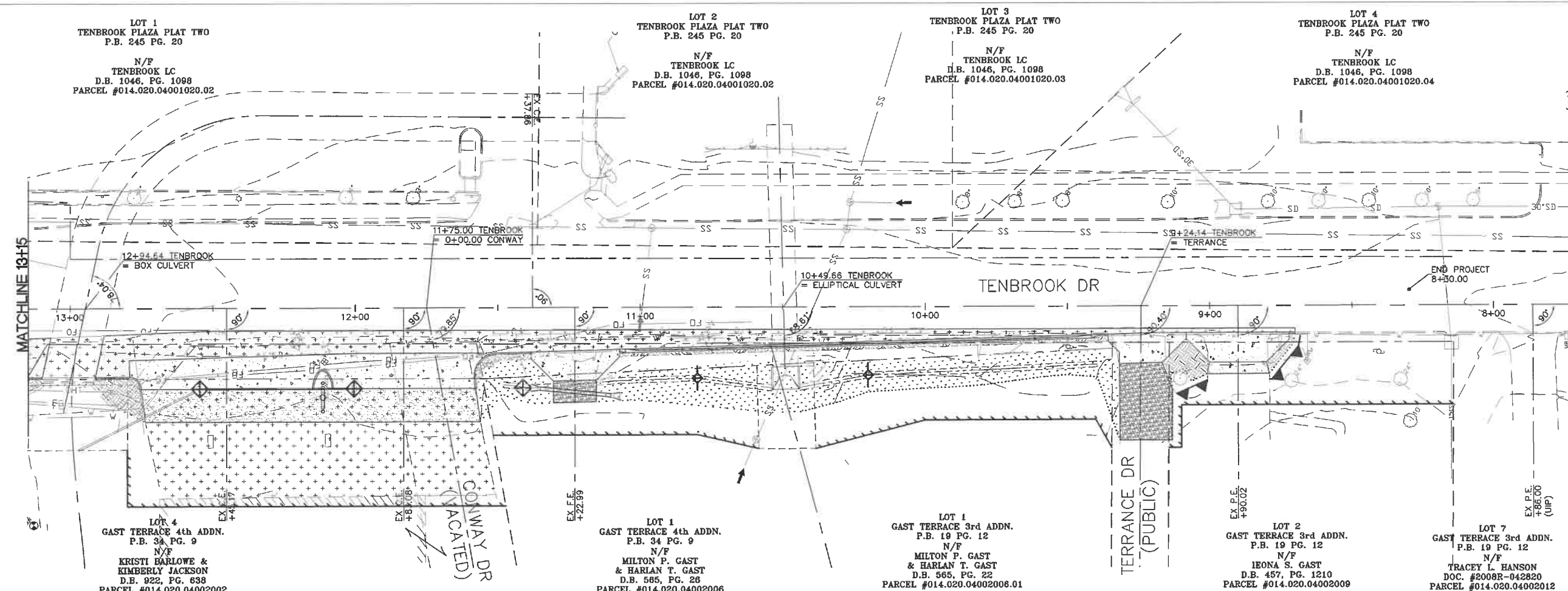
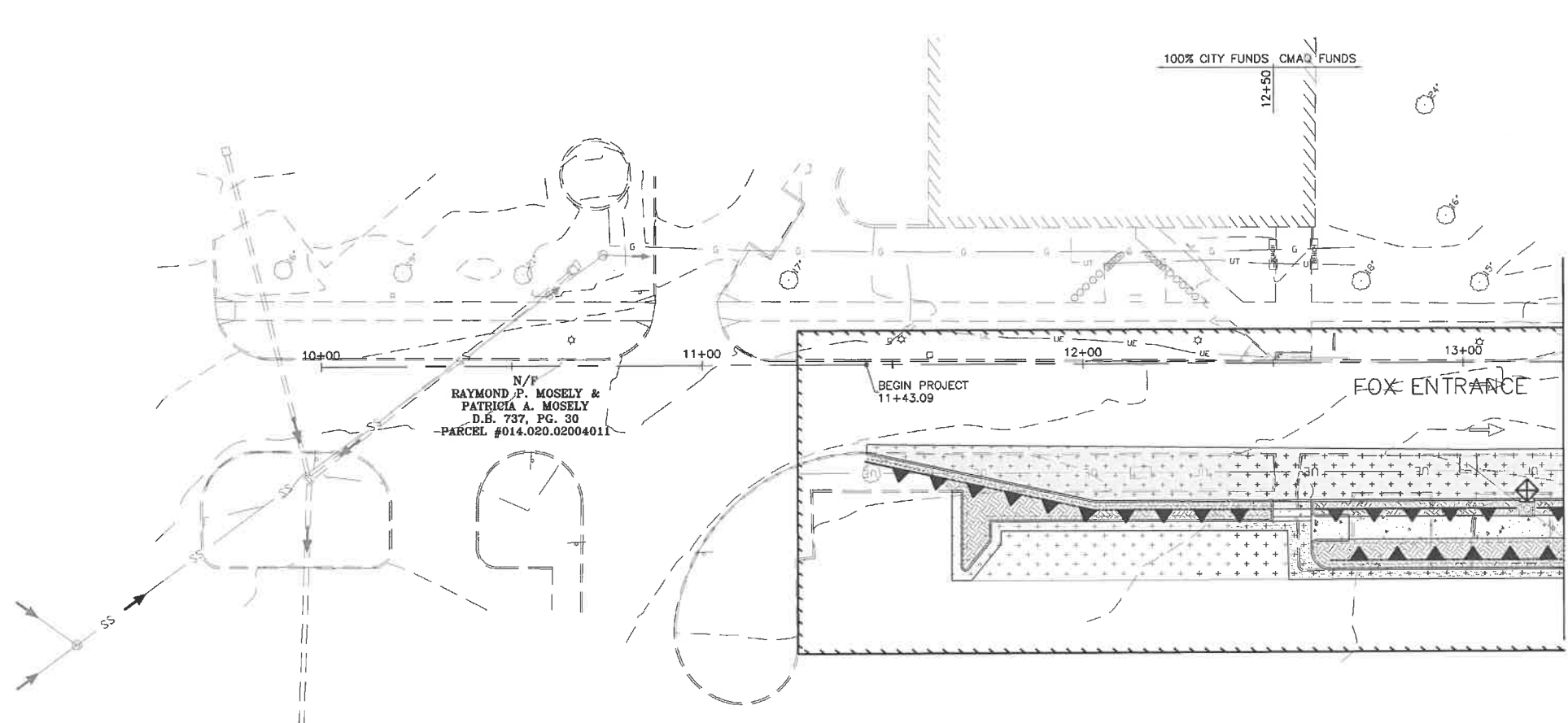
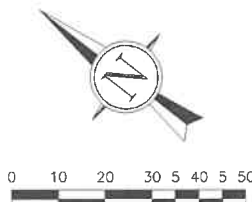


EROSION CONTROL PLAN
 ROADWAY IMPROVEMENTS
 JEFFCO BLVD AND TENBROOK RD
 ARNOLD, MISSOURI
 CMAQ-5403(668) TIP 6624-16

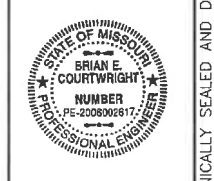
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

EROSION CONTROL PLAN LEGEND:

-  TREE PROTECTION FENCE
-  SILT FENCE
-  TEMPORARY INLET CHECK
-  TYPE I TEMPORARY DITCH CHECK
-  AREA TO BE TEMP./PERM. FERTILIZED/MULCHED/SEEDED
-  AREA TO INSTALL SOD



Corporate Engineering Certificate # 000381



CIVIL ENGINEER	
DATE PREPARED	1/26/18
ROUTE	STATE MO
DISTRICT SL	SHEET NO. 18
COUNTY JEFFERSON	
JOB NO. 129-15	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION
3/9/16	MODOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PREFINAL PLANS
1/26/18	PS&E PLANS
2/23/18	REVISED PS&E PLANS

TRANSPORTATION ENGINEERS+PLANNERS

TRANSOLIVE BLVD, SUITE 430
 ST. LOUIS, MO 63111
 (314) 878-8844
 450 COY TENWOOD RD, SUITE B
 GLEN CARBON, IL 62034
 (618) 656-2912
 www.cbbtraffic.com



EROSION CONTROL PLAN

ROADWAY IMPROVEMENTS
 JEFFCO BLVD AND TENBROOK RD
 ARNOLD, MISSOURI
 CMAQ-5403(668) TIP 6624-16

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



CIVIL ENGINEER

DATE PREPARED
1/26/18

ROUTE STATE
SL MO

DISTRICT SHEET NO.
SL 19

COUNTY
JEFFERSON

JOB NO.
129-15

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION
3/9/16	MODOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PRELIM PLANS
1/26/18	PS&E PLANS

TRANSPORTATION ENGINEERS+PLANNERS
12400 OLIVE BLVD, SUITE 430
DUBLINO, MO 63014
466 SOUTHMANOR RD, SUITE B
GLEN CARBON, IL 62034
(618) 656-2912
www.tepp.com



RIGHT OF WAY
ROADWAY IMPROVEMENTS
JEFFCO BLVD AND TENBROOK RD
ARNOLD, MISSOURI
CMAQ-5403(668) TIP 6624-16

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

N/F
RAYMOND P. MOSELY &
PATRICIA A. MOSELY
D.B. 737, PG. 30
PARCEL #014.020.02004011

①
PR PERMANENT SIDEWALK, TRAFFIC SIGNAL AND LIGHTING
EQUIPMENT EASEMENT = 0.09 AC (4,037.50 SQ FT)
TEMP CONSTRUCTION EASEMENT = 0.54 AC (23,659.33 SQ FT)

N/F
RAYMOND P. MOSELY &
PATRICIA A. MOSELY
D.B. 737, PG. 30
PARCEL #014.020.02004011

①
PR PERMANENT SIDEWALK, TRAFFIC SIGNAL AND LIGHTING
EQUIPMENT EASEMENT = 0.09 AC (4,037.50 SQ FT)
TEMP CONSTRUCTION EASEMENT = 0.76 AC (33,080 SQ FT)

LOT "A",
GAST TERRACE 5th ADDN.
P.B. 34 PG. 26

N/F
MILTON P. GAST
& HARLAN T. GAST
D.B. 585, PG. 26
PARCEL #014.020.04002001

②
ORIGINAL AREA = 0.59 AC (25,871.37 SQ FT)
AREA OF TAKING = <0.00 AC (164.95 SQ FT)
REMAINING AREA = 0.59 AC (25,706.42 SQ FT)
PR PERMANENT DRAINAGE EASEMENT = 0.01 AC (498.88 SQ FT)
TEMP CONSTRUCTION EASEMENT = 0.08 AC (3,528.53 SQ FT)

LOT 1
TENBROOK PLAZA PLAT TWO
P.B. 245 PG. 20

N/F
TENBROOK LC
D.B. 1046, PG. 1098
PARCEL #014.020.04001020.02

③

EXISTING LEGEND

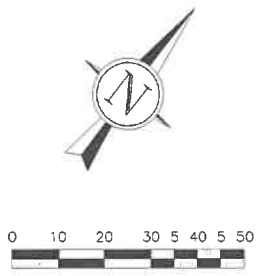
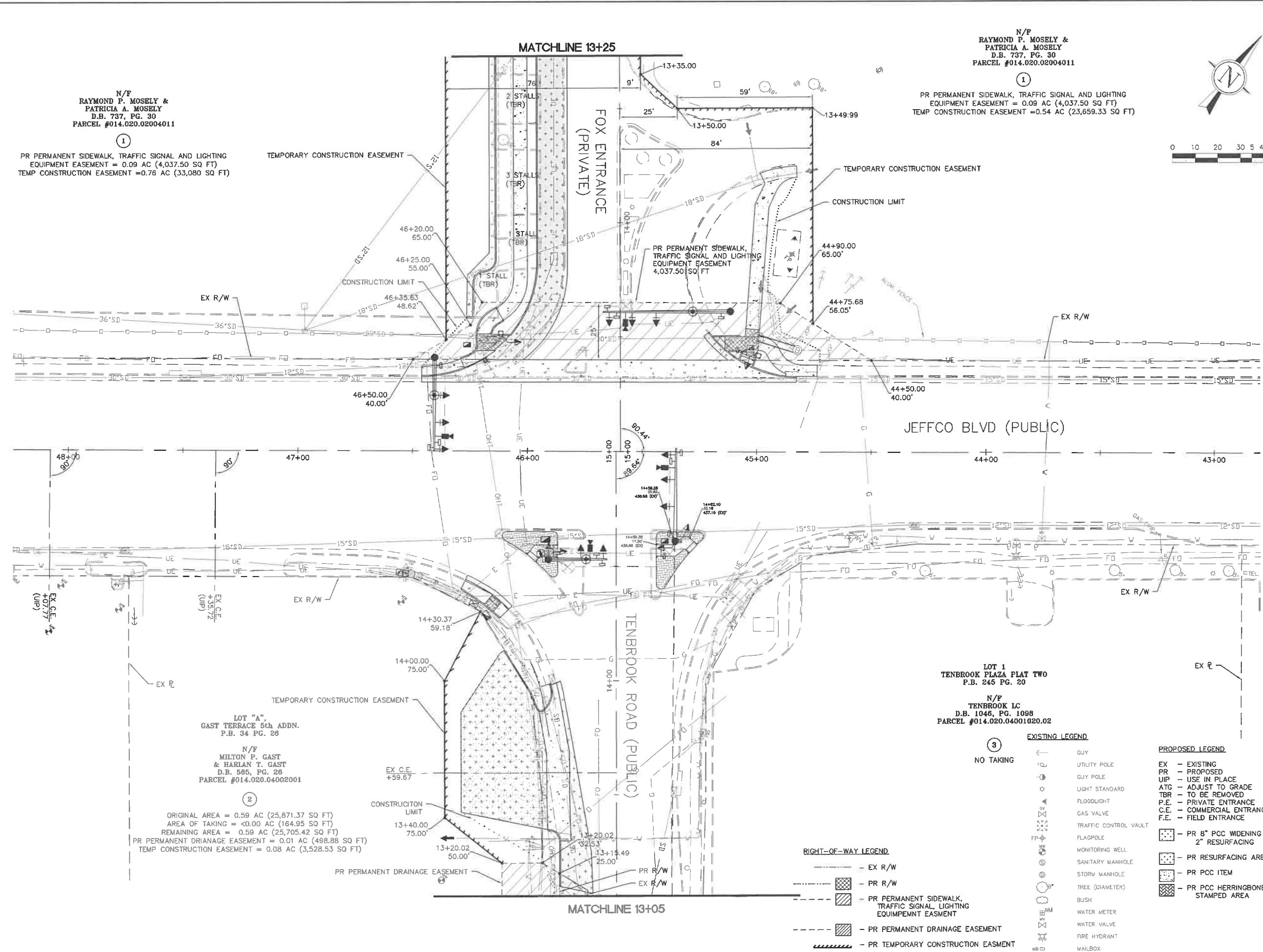
- NO TAKING
- GUY
- UTILITY POLE
- GUY POLE
- LIGHT STANDARD
- FLOODLIGHT
- GAS VALVE
- TRAFFIC CONTROL VAULT
- FLAGPOLE
- MONITORING WELL
- SANITARY MANHOLE
- STORM MANHOLE
- TREE (DIAMETER)
- BUSH
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- MAILBOX

PROPOSED LEGEND

- EX - EXISTING
- PR - PROPOSED
- UIP - USE IN PLACE
- ATG - ADJUST TO GRADE
- TBR - TO BE REMOVED
- P.E. - PRIVATE ENTRANCE
- C.E. - COMMERCIAL ENTRANCE
- F.E. - FIELD ENTRANCE
- PR 8" PCC WIDENING W/ 2" RESURFACING
- PR RESURFACING AREA
- PR PCC ITEM
- PR PCC HERRINGBONE STAMPED AREA

RIGHT-OF-WAY LEGEND

- EX R/W
- PR R/W
- PR PERMANENT SIDEWALK, TRAFFIC SIGNAL, LIGHTING EQUIPMENT EASEMENT
- PR PERMANENT DRAINAGE EASEMENT
- PR TEMPORARY CONSTRUCTION EASEMENT





CIVIL ENGINEER

DATE PREPARED 1/26/18

ROUTE SL STATE MO

DISTRICT SL SHEET NO. 20

COUNTY JEFFERSON

JOB NO. 129-15

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION
3/9/16	MDOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PRELIM PLANS
1/26/18	PS&E PLANS

TRANSPORTATION ENGINEERS+PLANNERS
 12400 OLIVE BLVD, SUITE 430
 ST. LOUIS, MO 63141
 (314) 776-6444
 650 S. PENNSYLVANIA ST., SUITE B
 ST. LOUIS, MO 63102
 (314) 556-2017
 www.cbbtraffic.com



RIGHT OF WAY
 ROADWAY IMPROVEMENTS
 JEFFCO BLVD AND TENBROOK RD
 ARNOLD, MISSOURI
 CMAQ-5403(668) TIP 6624-16

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

EXISTING LEGEND

- GUY
- UTILITY POLE
- GUY POLE
- LIGHT STANDARD
- FLOODLIGHT
- GAS VALVE
- TRAFFIC CONTROL VAULT
- FLAGPOLE
- MONITORING WELL
- SANITARY MANHOLE
- STORM MANHOLE
- TREE (DIAMETER)
- BUSH
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- MAILBOX

PROPOSED LEGEND

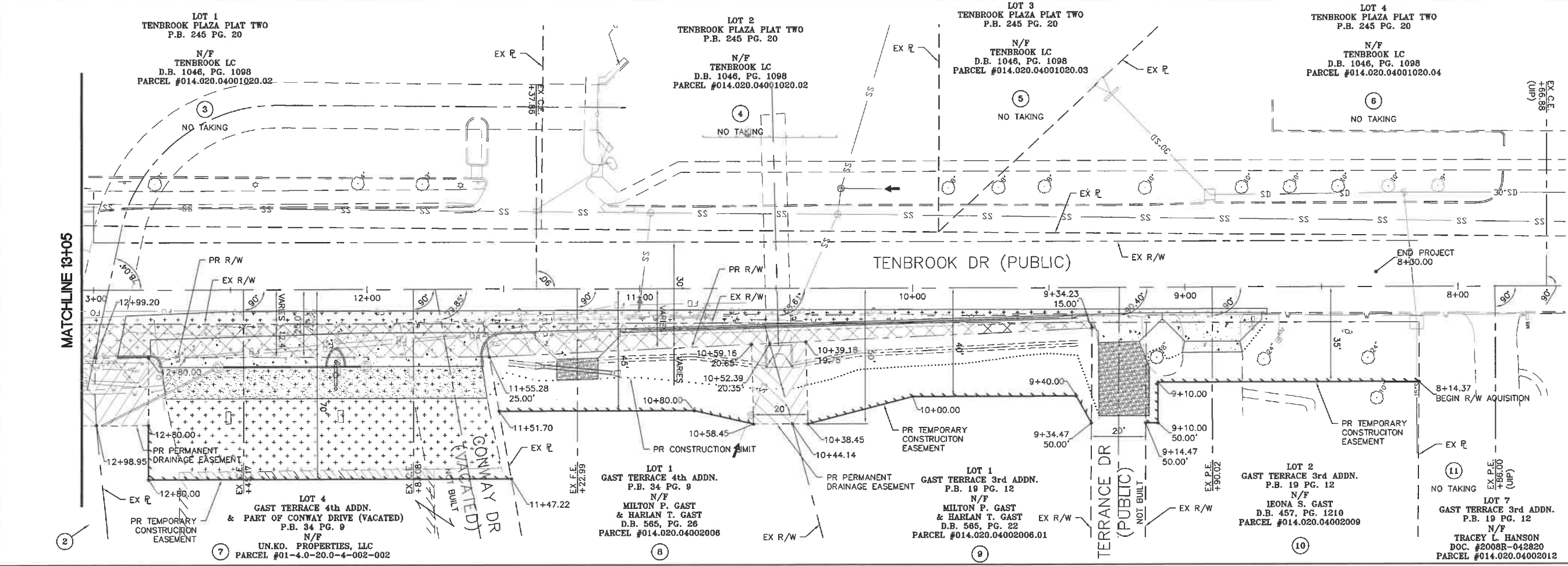
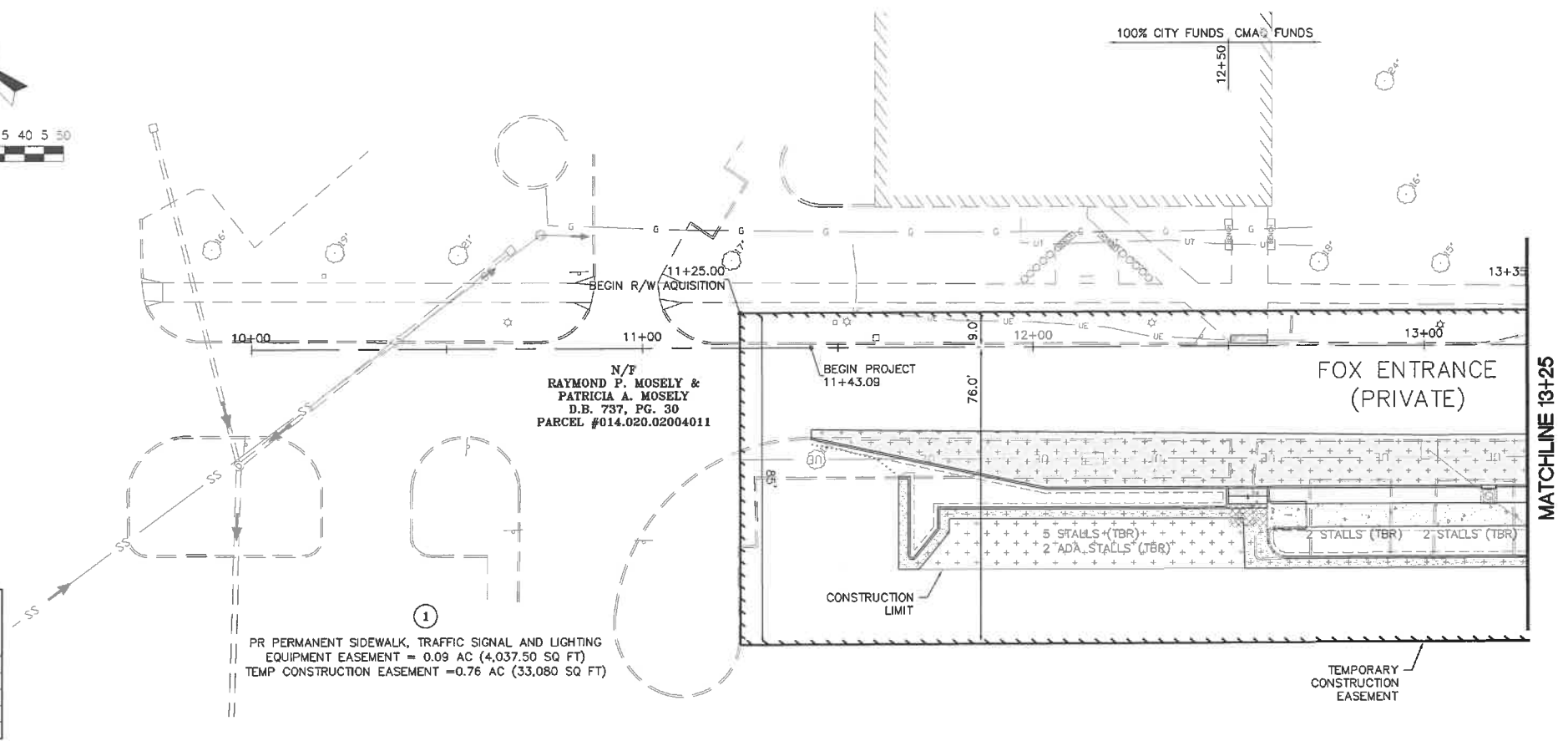
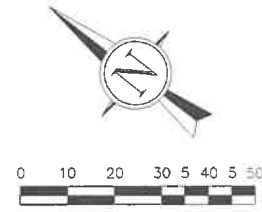
- EX - EXISTING
- PR - PROPOSED
- UIP - USE IN PLACE
- ATG - ADJUST TO GRADE
- TBR - TO BE REMOVED
- P.E. - PRIVATE ENTRANCE
- C.E. - COMMERCIAL ENTRANCE
- F.E. - FIELD ENTRANCE
- PR 8" PCC WIDENING W/ 2" RESURFACING
- PR RESURFACING AREA
- PR PCC ITEM
- PR PCC HERRINGBONE STAMPED AREA

RIGHT-OF-WAY LEGEND

- EX R/W
- PR R/W
- PR PERMANENT SIDEWALK, TRAFFIC SIGNAL, LIGHTING EQUIPMENT EASEMENT
- PR PERMANENT DRAINAGE EASEMENT
- PR TEMPORARY CONSTRUCTION EASEMENT

Property #	Original Area (ac)	Area of Taking (sq ft)	Remaining Area (ac)	Pr Permanent Drainage Easement (sq ft)	Temp Construction Easement (ac)
7	0.41	17,997.74	0.04	1,759.02	0.37
8	0.30	13,001.34	0.02	1,025.79	0.27
9	0.56	24,187.40	0.01	579.99	0.54
10	0.25	10,698.30			0.05
11					

NOT IMPACTED





CIVIL ENGINEER

DATE PREPARED
1/26/18

ROUTE STATE
SL MO

DISTRICT SHEET NO.
SL 21

COUNTY
JEFFERSON

JOB NO.
129-15

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION
3/9/16	MDOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PRELIM PLANS
1/26/18	PS&E PLANS
2/23/18	REVISED PS&E PLANS

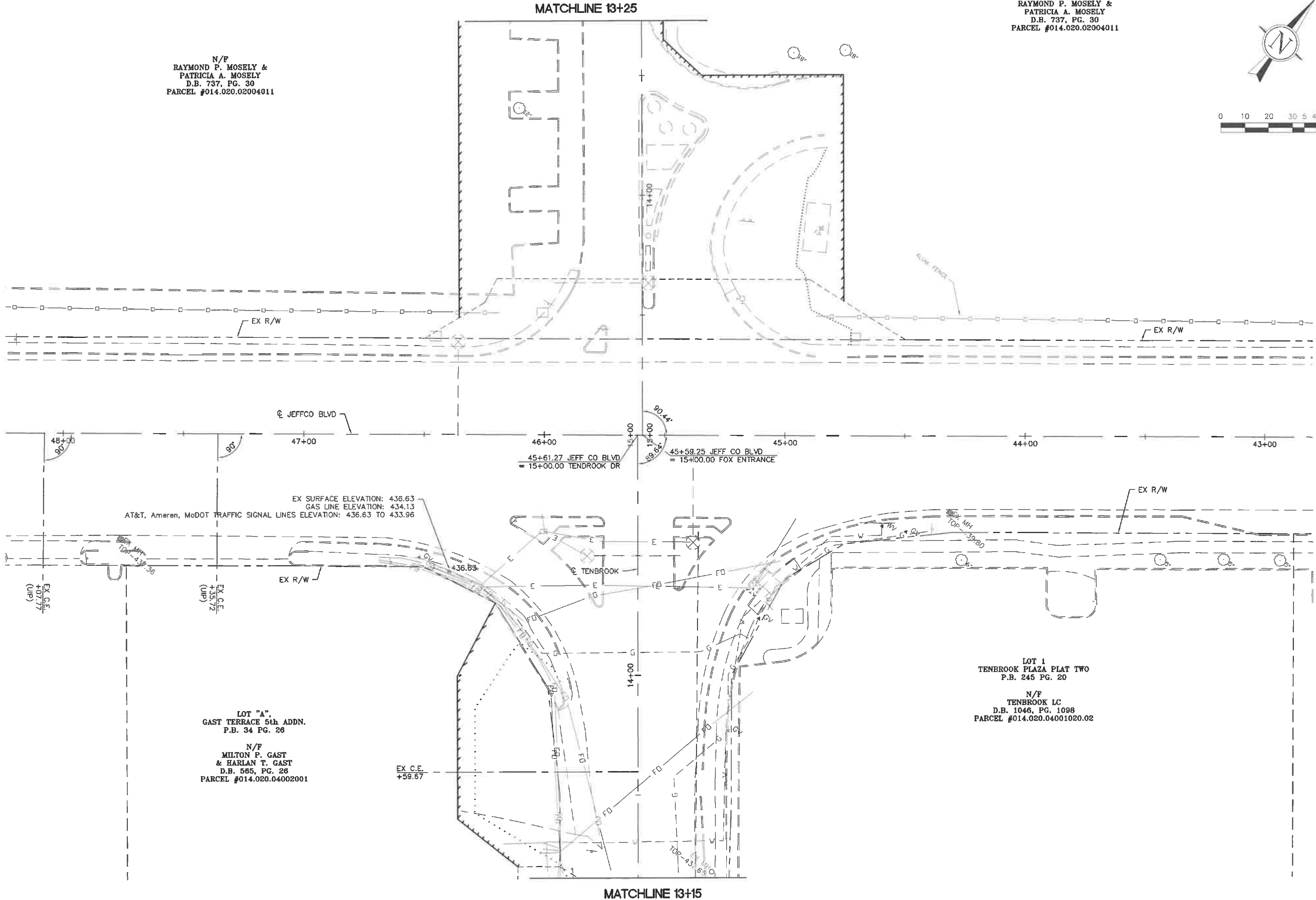
TRANSPORTATION ENGINEERS+PLANNERS
15405 OLIVE BLVD, SUITE 430
ST. LOUIS, MO 63141
(314) 878-0844
480 COTTONWOOD RD, SUITE B
GLEN CARBON, IL 62034
(618) 656-2612
www.cbtraffic.com



EXISTING UTILITY INVESTIGATION
ROADWAY IMPROVEMENTS
JEFFCO BLVD AND TENBROOK RD
ARNOLD, MISSOURI
CMAQ-5403(668) TIP 6624-16

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

N/F
RAYMOND P. MOSELY &
PATRICIA A. MOSELY
D.B. 737, PG. 30
PARCEL #014.020.02004011



N/F
RAYMOND P. MOSELY &
PATRICIA A. MOSELY
D.B. 737, PG. 30
PARCEL #014.020.02004011

AT&T, Ameren, MoDOT TRAFFIC SIGNAL LINES ELEVATION: 436.63 TO 433.96
EX SURFACE ELEVATION: 436.63
GAS LINE ELEVATION: 434.13

LOT "A"
GAST TERRACE 5th ADDN.
P.B. 34 PG. 28

N/F
MILTON P. GAST
& HARLAN T. GAST
D.B. 585, PG. 28
PARCEL #014.020.04002001

LOT 1
TENBROOK PLAZA PLAT TWO
P.B. 245 PG. 20

N/F
TENBROOK LC
D.B. 1046, PG. 1098
PARCEL #014.020.04001020.02

MATCHLINE 13+15

MATCHLINE 13+25



CIVIL ENGINEER	
DATE PREPARED	1/26/18
ROUTE	STATE MO
DISTRICT	SL 22
COUNTY	JEFFERSON
JOB NO.	129-15
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION
3/9/16	MODOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PRELIM PLANS
1/26/18	PS&E PLANS
2/23/18	REVISED PS&E PLANS

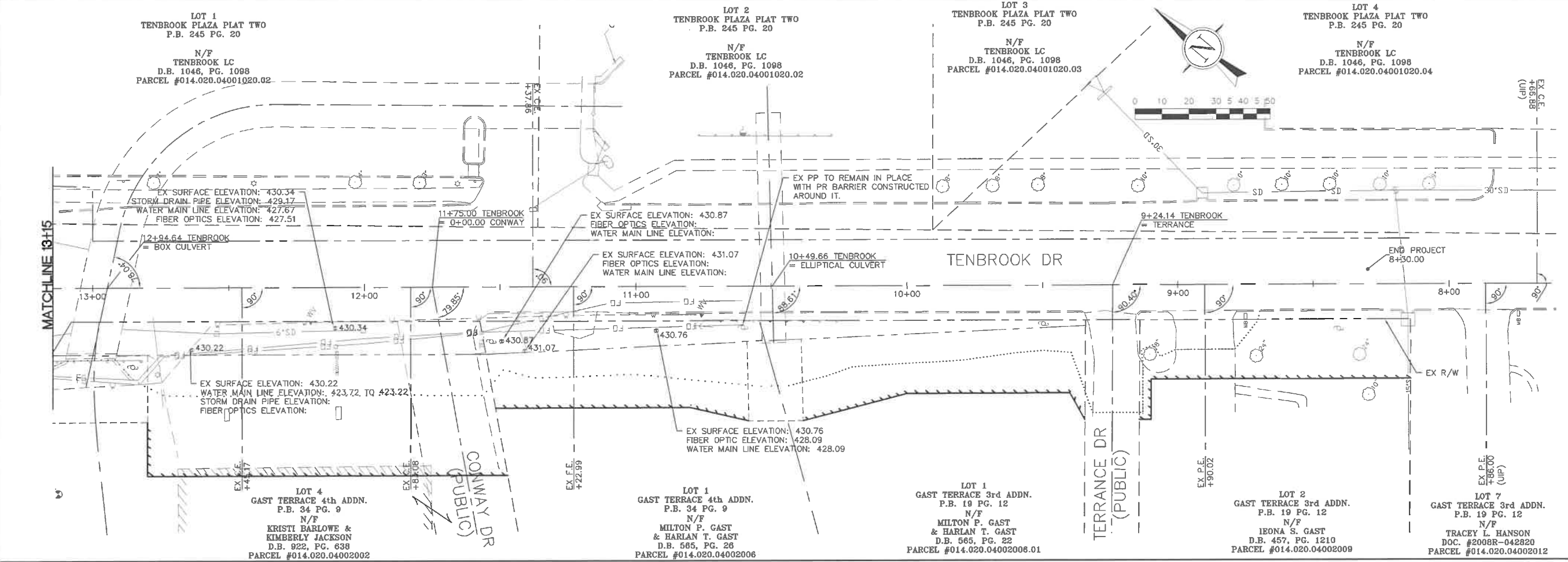
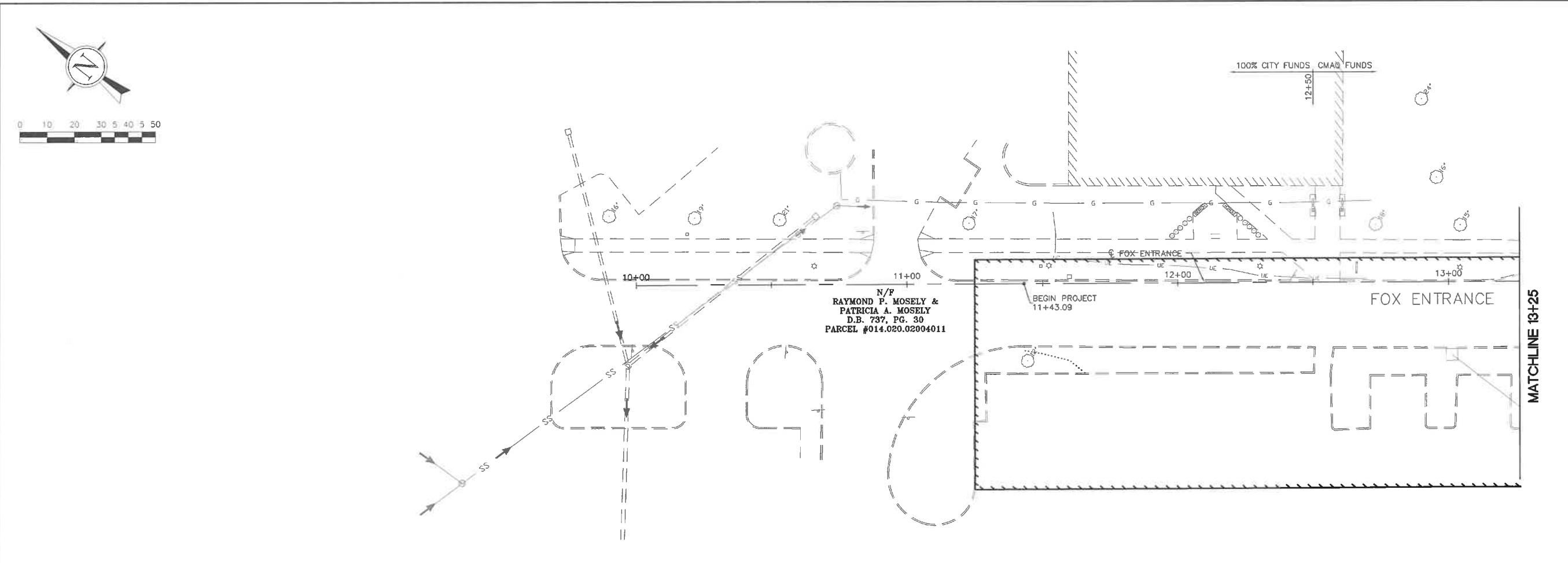
TRANSPORTATION ENGINEERS+PLANNERS

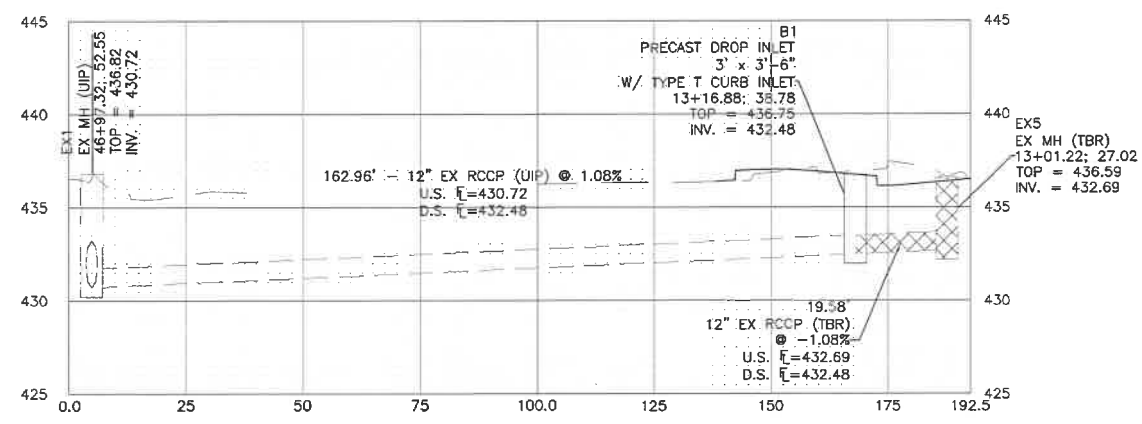
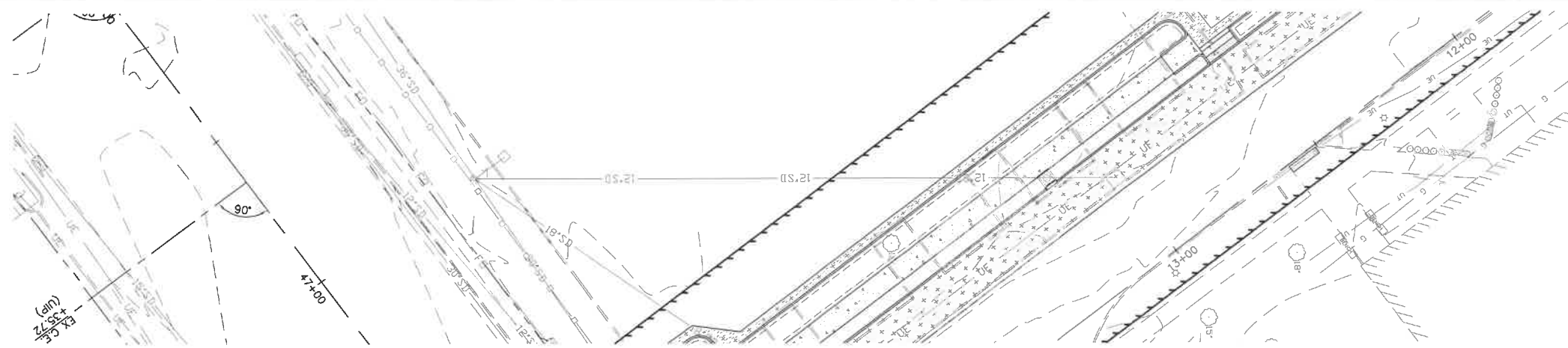
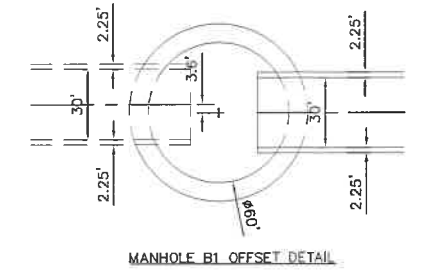
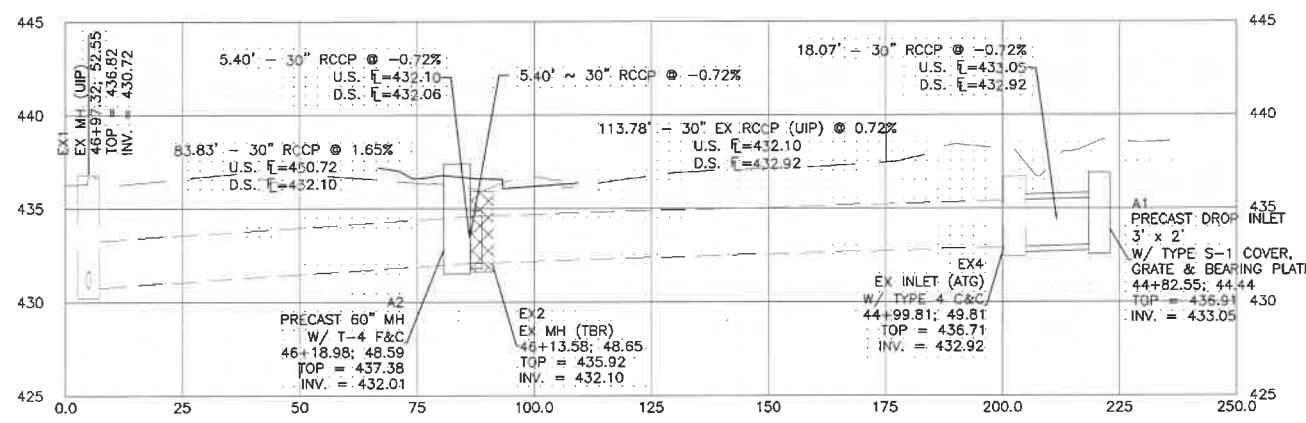
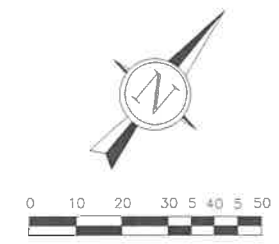
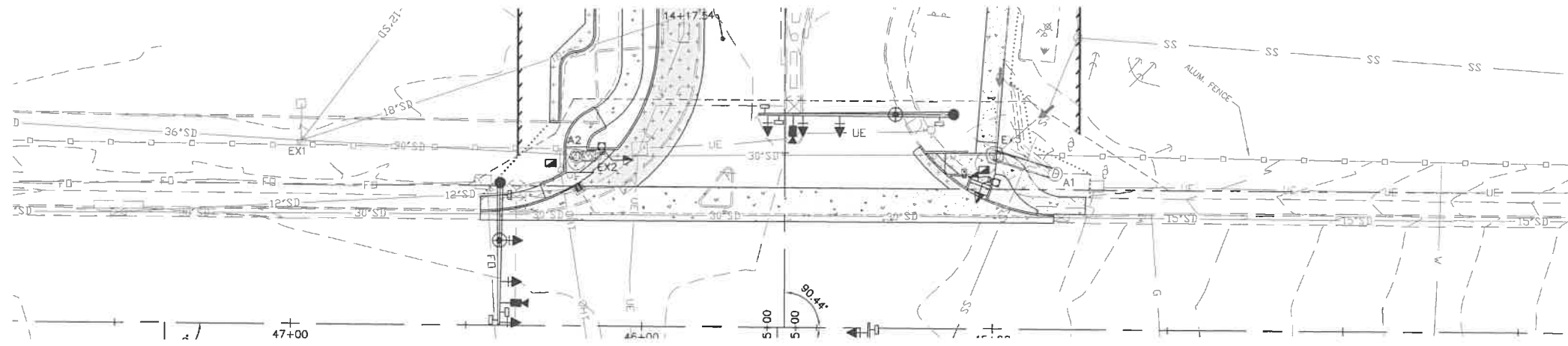
7240 OLIVE BLVD, SUITE 430
ST. LOUIS, MO 63111
(314) 771-6644

455 COTTONWOOD RD, SUITE B
CLERHAMPTON, IL 62024
(618) 956-2512
www.cbtraffic.com

EXISTING UTILITY INVESTIGATION
ROADWAY IMPROVEMENTS
JEFFCO BLVD AND TENBROOK RD
ARNOLD, MISSOURI
CMAQ-5403(668) TIP 6624-16

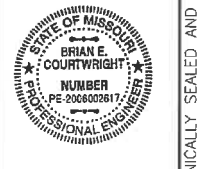
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NOT APPROVED
FOR CONSTRUCTION

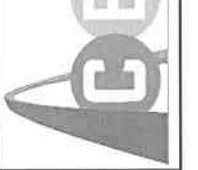
Corporate Engineering
Certificate # 000381



CIVIL ENGINEER	
DATE PREPARED	1/26/18
ROUTE	STATE MO
DISTRICT	SHEET NO. 23
COUNTY JEFFERSON	
JOB NO. 129-15	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

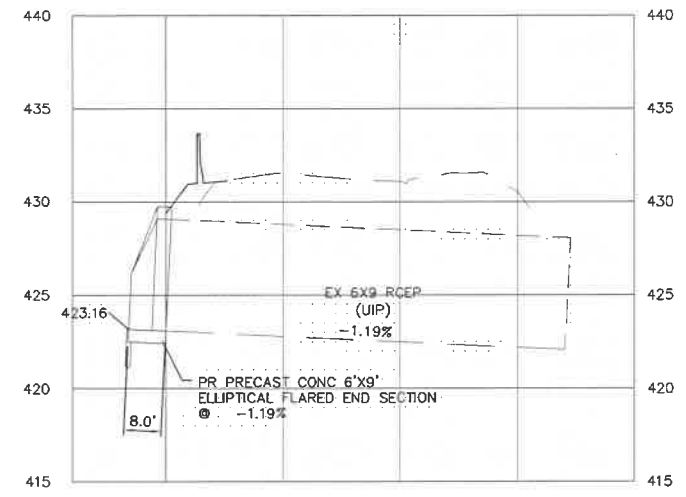
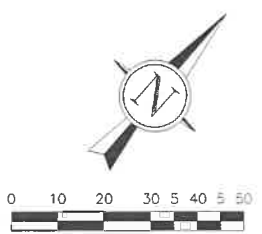
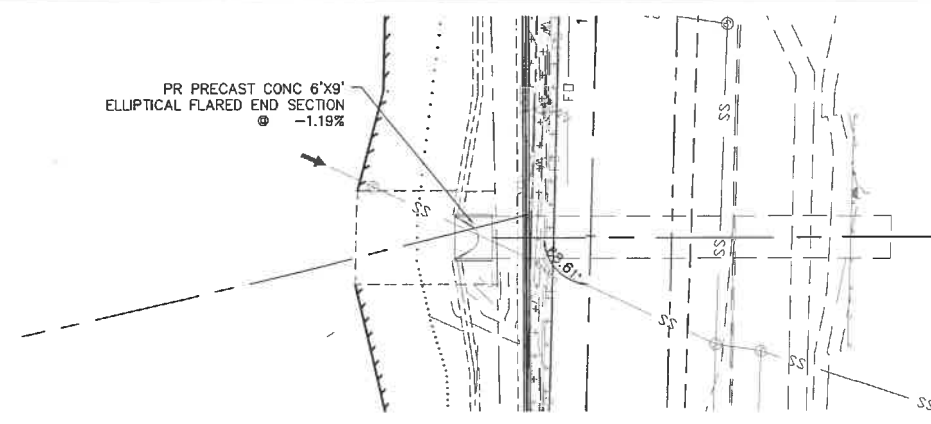
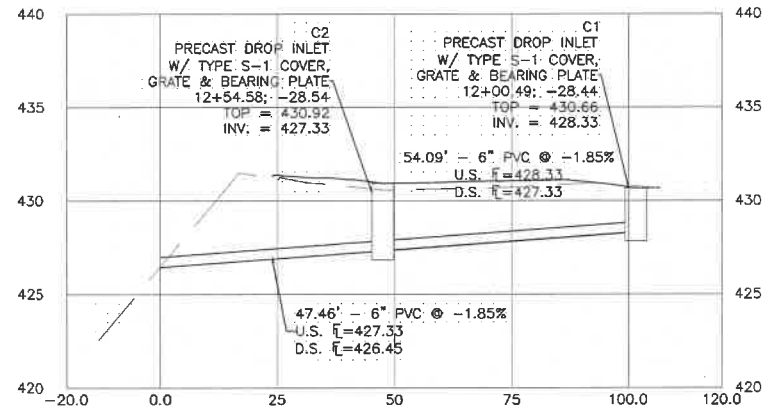
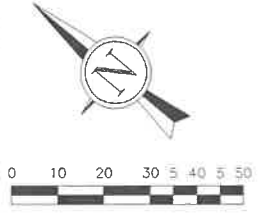
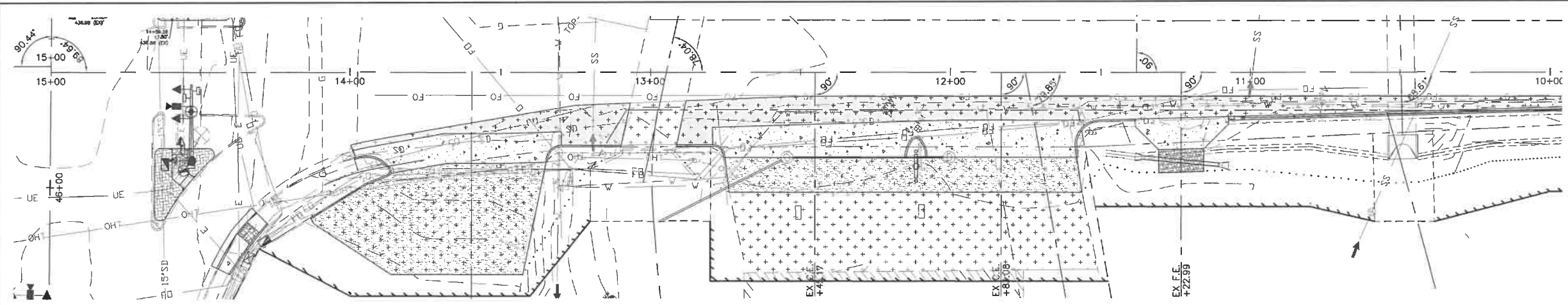
DATE	DESCRIPTION
3/9/16	MODOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PRELIM PLANS
1/26/18	PS&E PLANS

TRANSPORTATION ENGINEERS+PLANNERS
 12400 OLIVE BLVD, SUITE 430
 OLLIVIER, MISSOURI 63114
 (314) 878-0884
 450 COTTONWOOD RD, SUITE B
 GLEN CARBON, IL 62034
 (618) 656-2612
 www.ctbtraffic.com



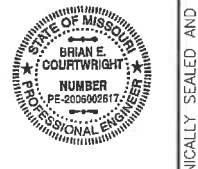
STORM SEWER SHEET
 ROADWAY IMPROVEMENTS
 JEFFCO BLVD AND TENBROOK RD
 ARNOLD, MISSOURI
 CMAQ-5403(668) TIP 6624-16

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



**NOT APPROVED
FOR CONSTRUCTION**

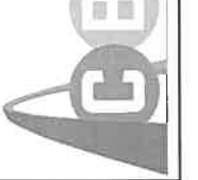
Corporate Engineering Certificate # 000381



CIVIL ENGINEER
 DATE PREPARED: **1/26/18**
 ROUTE: _____ STATE: **MO**
 DISTRICT: **SL** SHEET NO.: **24**
 COUNTY: **JEFFERSON**
 JOB NO.: **129-15**
 CONTRACT ID.: _____
 PROJECT NO.: _____
 BRIDGE NO.: _____

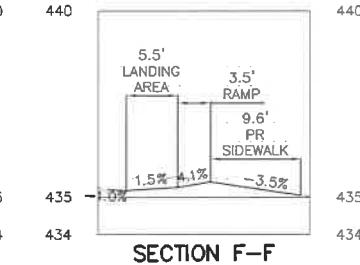
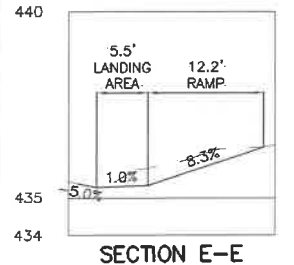
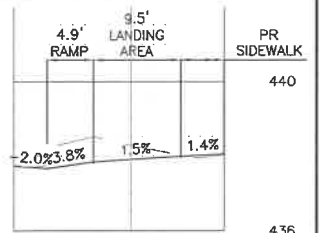
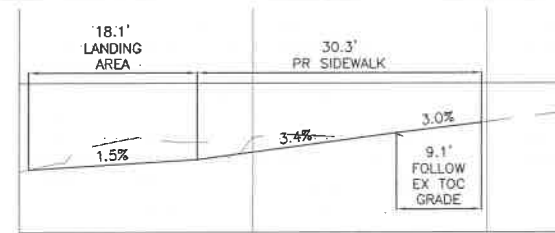
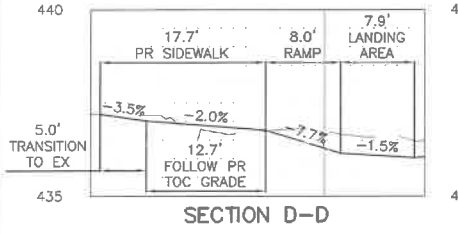
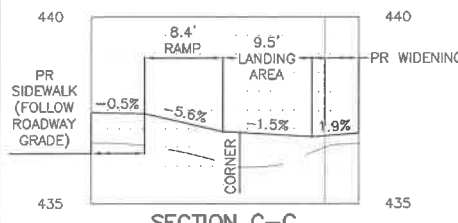
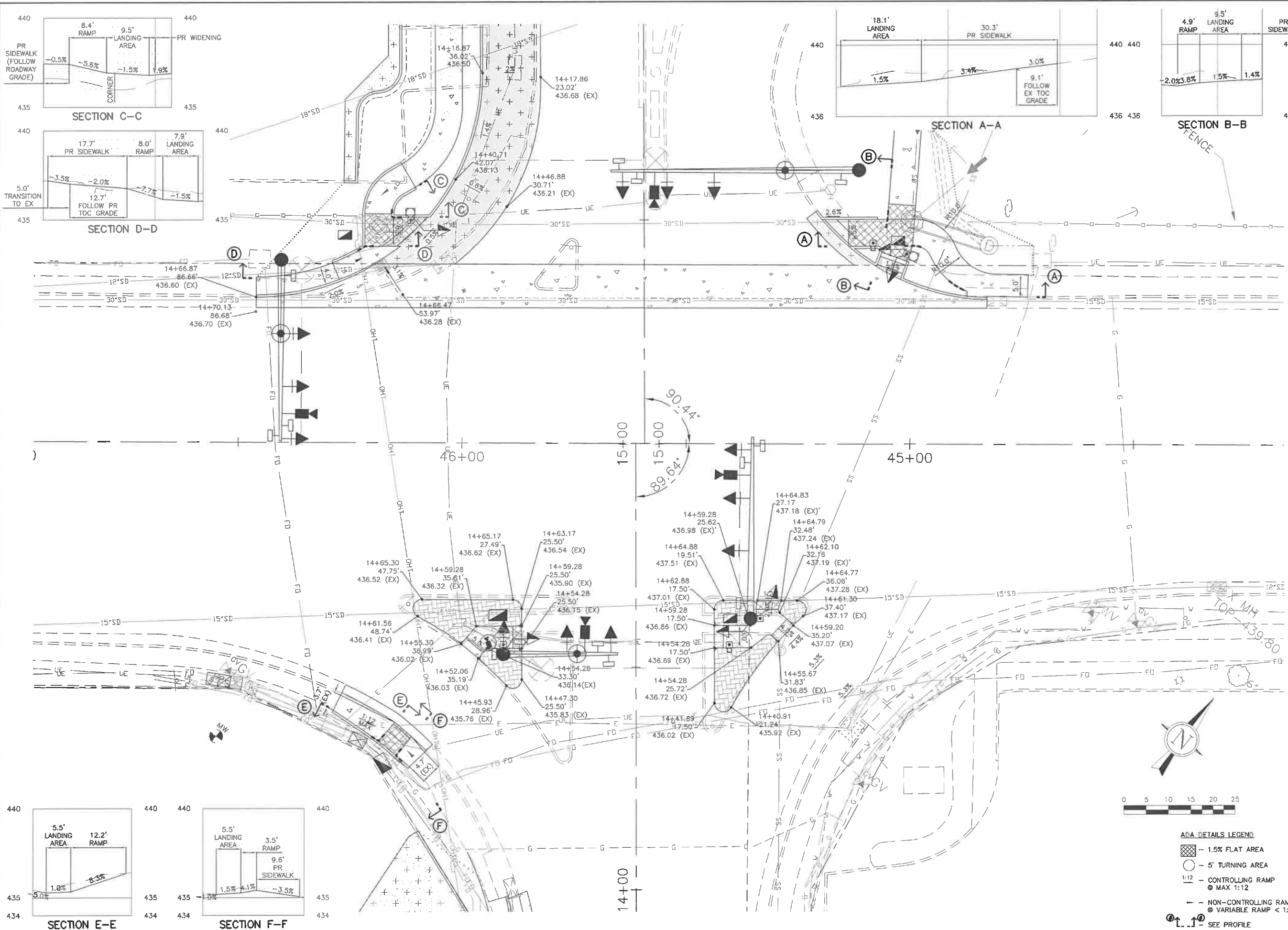
DATE	DESCRIPTION
3/9/16	MODOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PRELIM PLANS
1/26/18	PS&E PLANS

TRANSPORTATION ENGINEERS+PLANNERS
 1545 OLIVE BLVD, SUITE 430
 ST. LOUIS, MO 63104
 (314) 877-8644
 450 COTTONWOOD RD, SUITE B
 GLEN CARBON, IL 62044
 (618) 956-2512
 www.cbtp.com



STORM SEWER SHEET
 ROADWAY IMPROVEMENTS
 JEFFCO BLVD AND TENBROOK RD
 ARNOLD, MISSOURI
 CMAQ-5403(668) TIP 6624-16

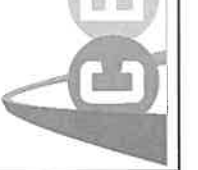
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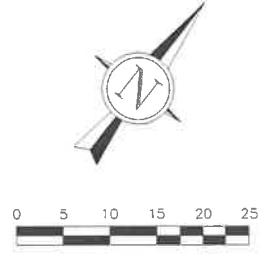
CIVIL ENGINEER
 DATE PREPARED
1/26/18
 MO
 SL **25**
 JEFFERSON
 129-15

DATE	DESCRIPTION
3/9/16	MODOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PRELIM PLANS
1/26/18	PS&E PLANS

TRANSPORTATION ENGINEERS+PLANNERS
 15050 OLIVE BLVD, SUITE 430
 ST. LOUIS, MO 63141
 (314) 978-6644
 450 COTTONWOOD RD, SUITE B
 GLEN CARBON, IL 62034
 (618) 656-2612
 www.cbtrnpl.com

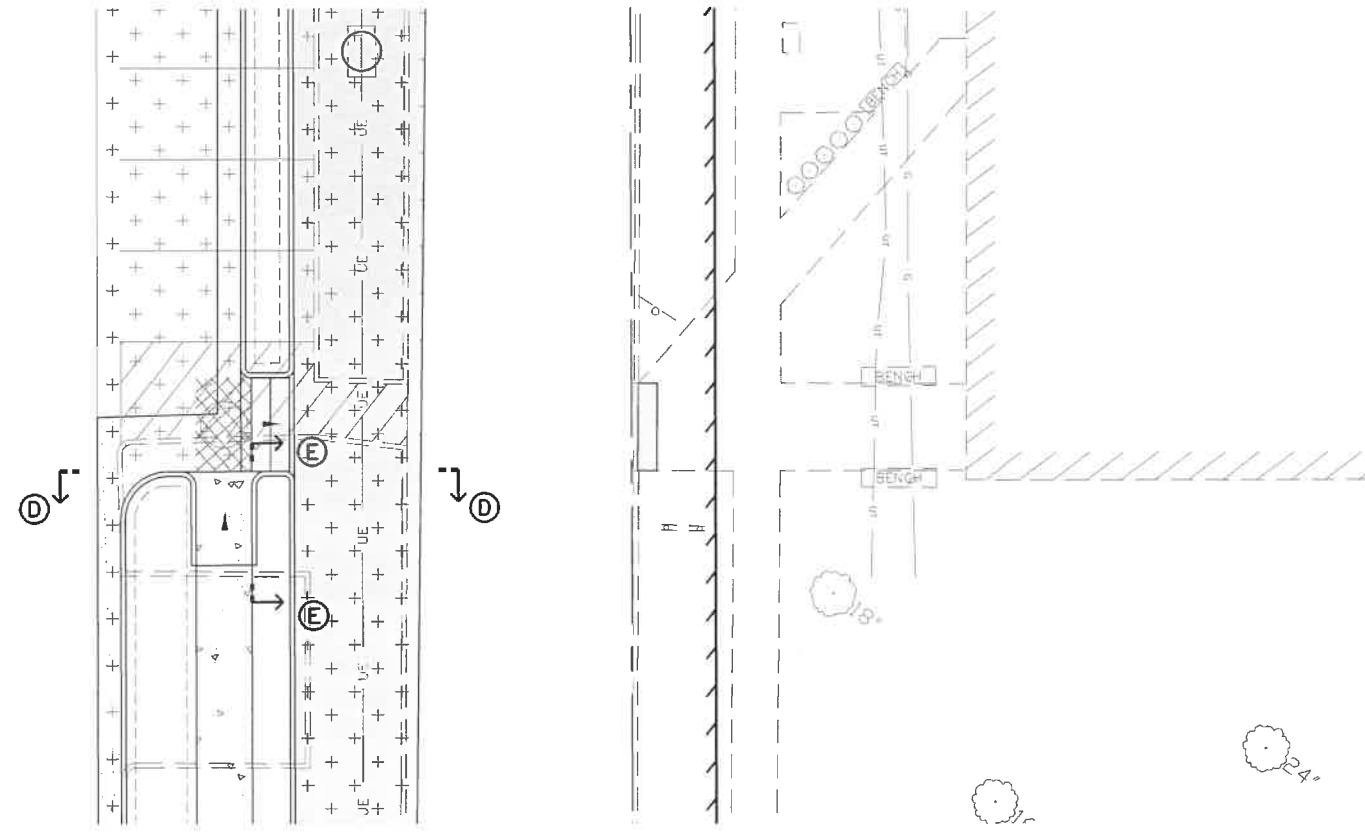
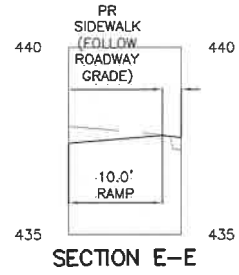
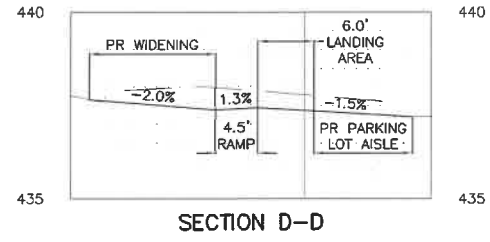


INTERSECTION DETAIL
 ROADWAY IMPROVEMENTS
 JEFFCO BLVD AND TENBROOK RD
 ARNOLD, MISSOURI
 CMAQ-5403(668) TIP 6624-16

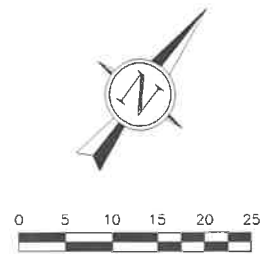


- ADA DETAILS LEGEND**
- 1.5% FLAT AREA
 - 5' TURNING AREA
 - 1:12 - CONTROLLING RAMP
 - MAX 1:12
 - NON-CONTROLLING RAMP
 - VARIABLE RAMP < 1:12
 - SEE PROFILE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



- ADA DETAILS LEGEND**
- 1.5% FLAT AREA
 - 5' TURNING AREA
 - CONTROLLING RAMP
 - MAX 1:12
 - NON-CONTROLLING RAMP
 - VARIABLE RAMP < 1:12
 - SEE PROFILE



Corporate Engineering
Certificate # 000381



CIVIL ENGINEER

DATE PREPARED
1/26/18

MO

SL **26**

JEFFERSON

129-15

DATE	DESCRIPTION
3/9/16	MODOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PRELIM PLANS
1/26/18	PS&E PLANS

TRANSPORTATION ENGINEERS+PLANNERS
 12400 OLIVE BLVD, SUITE 430
 ST. LOUIS, MO 63141
 (314) 916-6644
 485 COTTONWOOD RD, SUITE 8
 ARNOLD, MISSOURI, E. 63004
 (618) 856-2812
 www.ctbrn.com



INTERSECTION DETAIL
 ROADWAY IMPROVEMENTS
 JEFFCO BLVD AND TENBROOK RD
 ARNOLD, MISSOURI
 CMAQ-5403(668) TIP 6624-16

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

PROPOSED LEGEND

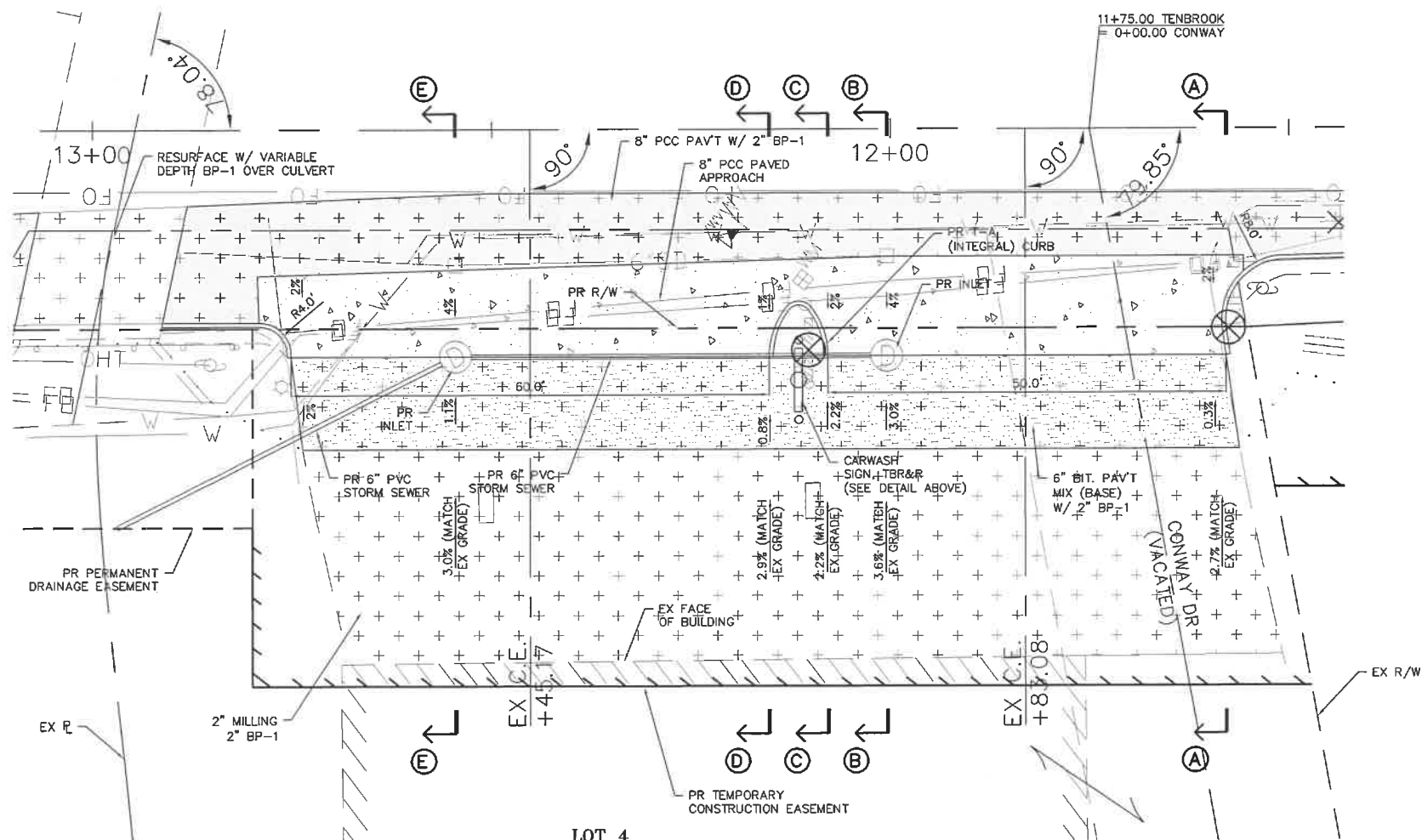
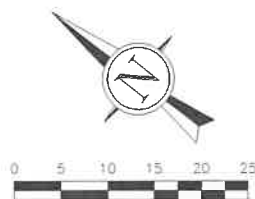
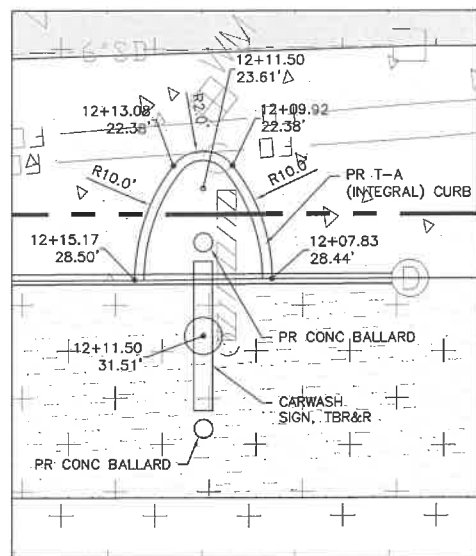
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- PR - PROPOSED
- UIP - USE IN PLACE
- ATG - ADJUST TO GRADE
- TBR - TO BE REMOVED
- P.E. - PRIVATE ENTRANCE
- C.E. - COMMERCIAL ENTRANCE
- F.E. - FIELD ENTRANCE
- PR 8" PCC WIDENING W/ 2" RESURFACING
- PR RESURFACING AREA
- PR PCC ITEM
- PR PCC HERRINGBONE STAMPED AREA

REMOVAL LEGEND

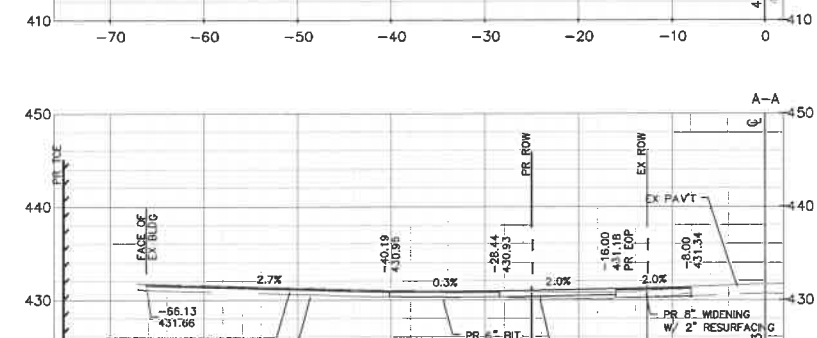
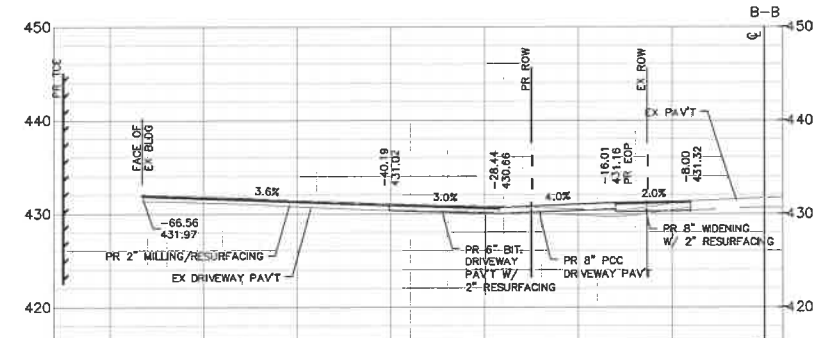
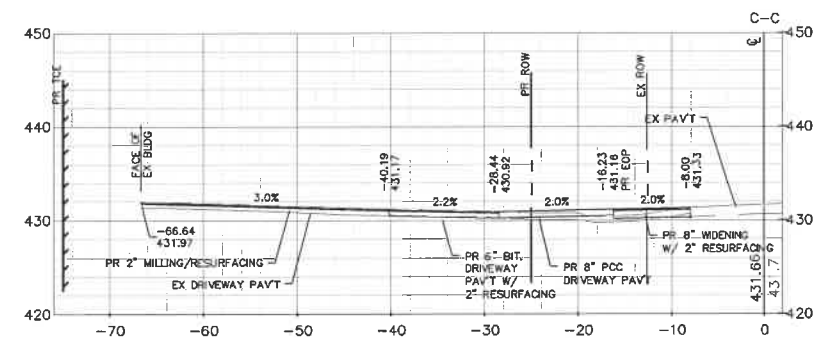
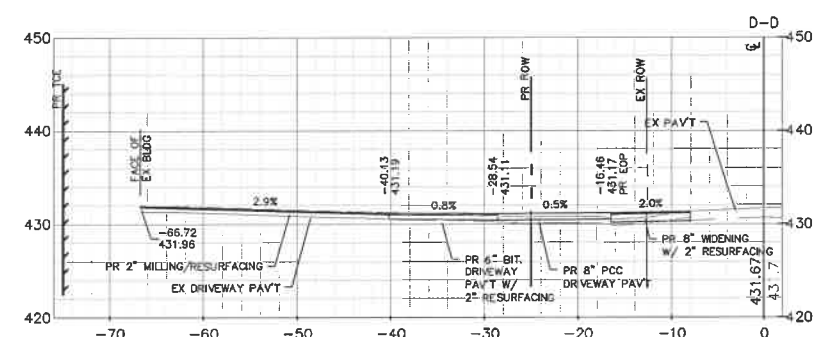
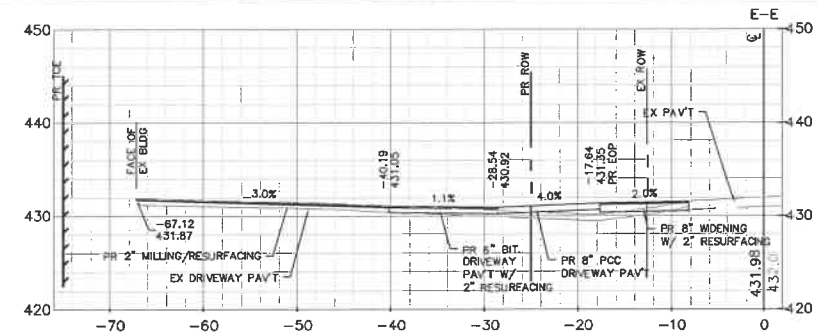
- EX - EXISTING
- PR - PROPOSED
- TBR - TO BE REMOVED
- TBR&R - TO BE REMOVED AND RELOCATED
- ⊗ - EX ITEM TBR
- ⊗ - EX ITEM TBR&R
- - EX ITEM ATG

ENTRANCE DETAIL LEGEND

- PR 8" PCC WIDENING W/ 2" RESURFACING
- PR 6" BITUMINOUS DRIVEWAY PAVT W/ 2" RESURFACING
- PR 2" MILLING & RESURFACING AREA



LOT 4
 GAST TERRACE 4th ADDN.
 P.B. 34 PG. 9
 N/F
 KRISTI BARLOWE &
 KIMBERLY JACKSON
 D.B. 922, PG. 638
 PARCEL #014.020.04002002



Corporate Engineering
 Certificate # 00381



CIVIL ENGINEER

DATE PREPARED
 1/26/18

ROUTE STATE
 SL MO

DISTRICT SHEET NO.
 SL 28

COUNTY
 JEFFERSON

JOB NO.
 129-15

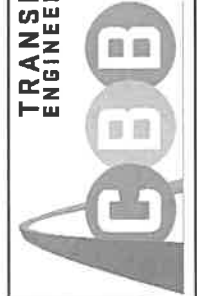
CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION
3/9/16 <td>MDOT PRELIMINARY APPROVAL</td>	MDOT PRELIMINARY APPROVAL
12/5/17 <td>FINAL R/W PLANS (REV)</td>	FINAL R/W PLANS (REV)
12/13/17 <td>PRELIM PLANS</td>	PRELIM PLANS
1/26/18 <td>PS&E PLANS</td>	PS&E PLANS

TRANSPORTATION ENGINEERS+PLANNERS
 12900 OLIVE BLVD, SUITE 430
 ST. LOUIS, MO 63141
 (314) 878-6844
 460 COTTAGEWOOD RD, SUITE B
 GLEN CARBON, IL 62934
 (618) 652-2612
 www.cbb.com



ENTRANCE DETAIL
 ROADWAY IMPROVEMENTS
 JEFFCO BLVD AND TENBROOK RD
 ARNOLD, MISSOURI
 CMAQ-5403(668) TIP 6624-16

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

PROPOSED LEGEND

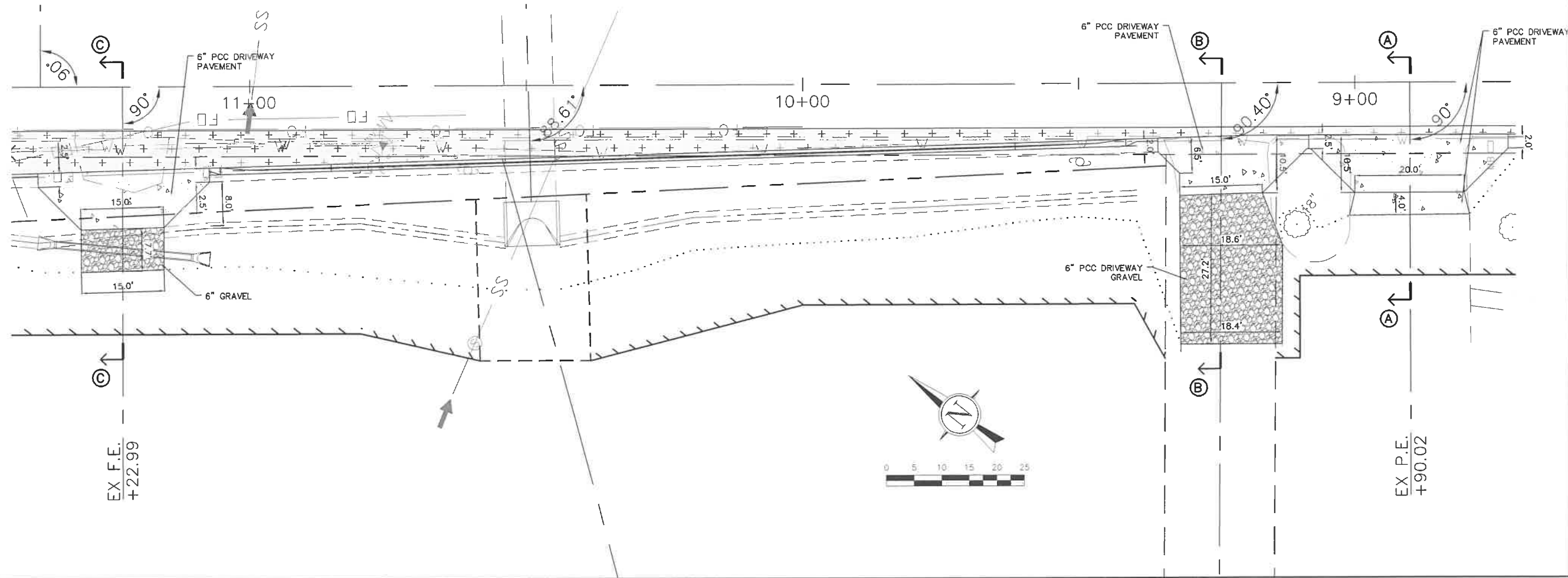
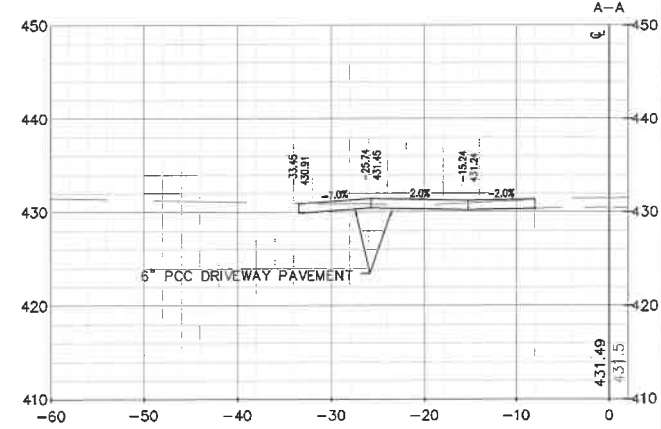
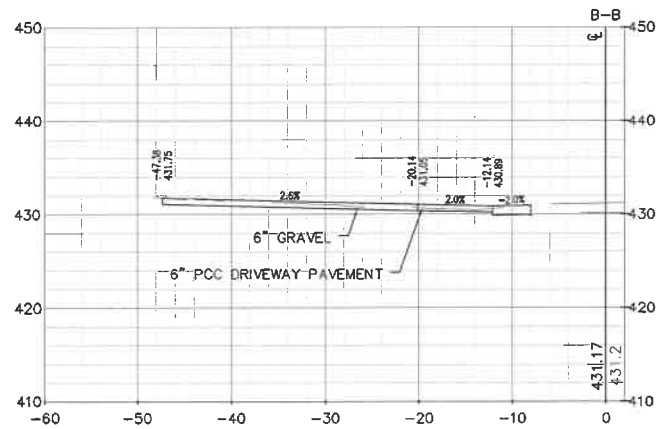
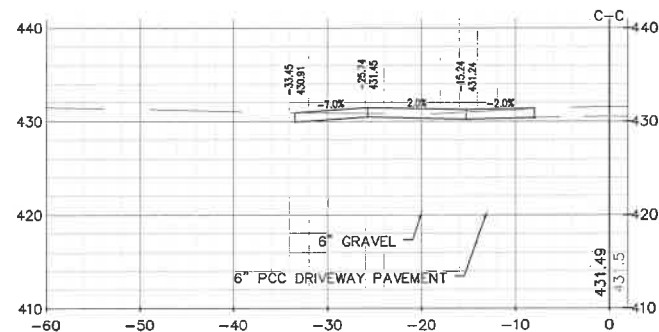
- EX - EXISTING
- PR - PROPOSED
- UIP - USE IN PLACE
- ATG - ADJUST TO GRADE
- TBR - TO BE REMOVED
- P.E. - PRIVATE ENTRANCE
- C.E. - COMMERCIAL ENTRANCE
- F.E. - FIELD ENTRANCE
- PR 8" PCC WIDENING W/ 2" RESURFACING
- PR RESURFACING AREA
- PR PCC ITEM
- PR PCC HERRINGBONE STAMPED AREA

REMOVAL LEGEND

- EX - EXISTING
- PR - PROPOSED
- TBR - TO BE REMOVED
- TBR&R - TO BE REMOVED AND RELOCATED
- ⊗ - EX ITEM TBR
- ⊗ - EX ITEM TBR&R
- - EX ITEM ATG

ENTRANCE DETAIL LEGEND

- PR 8" PCC WIDENING W/ 2" RESURFACING
- PR 6" BITUMINOUS DRIVEWAY PAVT W/ 2" RESURFACING
- PR 2" MILLING & RESURFACING AREA



Corporate Engineering
Certificate # 000381



CIVIL ENGINEER

DATE PREPARED
1/26/18

ROUTE STATE
SL MO

DISTRICT SHEET NO.
SL 29

COUNTY
JEFFERSON

JOB NO.
129-15

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE DESCRIPTION

3/9/16 MODOT PRELIMINARY APPROVAL

12/5/17 FINAL R/W PLANS (REV)

12/13/17 PRELIM PLANS

1/26/18 PS&E PLANS

TRANSPORTATION
ENGINEERS+PLANNERS

12430 OLIVE BLVD, SUITE 430
JEFFERSON, MO 64131

450 COTTAGEWOOD BLVD, SUITE B
JEFFERSON, MO 64131

(618) 856-2812
www.cbbrnllc.com

JEFFCO BLVD AND TENBROOK RD
ARNOLD, MISSOURI

CMAQ-5403(668) TIP 6624-16

ENTRANCE DETAIL

ROADWAY IMPROVEMENTS

JEFFCO BLVD AND TENBROOK RD

ARNOLD, MISSOURI

CMAQ-5403(668) TIP 6624-16

TRANSPORTATION
ENGINEERS+PLANNERS

12430 OLIVE BLVD, SUITE 430
JEFFERSON, MO 64131

450 COTTAGEWOOD BLVD, SUITE B
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(618) 856-2812
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JEFFCO BLVD AND TENBROOK RD

ARNOLD, MISSOURI

CMAQ-5403(668) TIP 6624-16

ENTRANCE DETAIL

ROADWAY IMPROVEMENTS

JEFFCO BLVD AND TENBROOK RD

ARNOLD, MISSOURI

CMAQ-5403(668) TIP 6624-16

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



CIVIL ENGINEER

DATE PREPARED
1/26/18

100 MO

SL 30

106-16

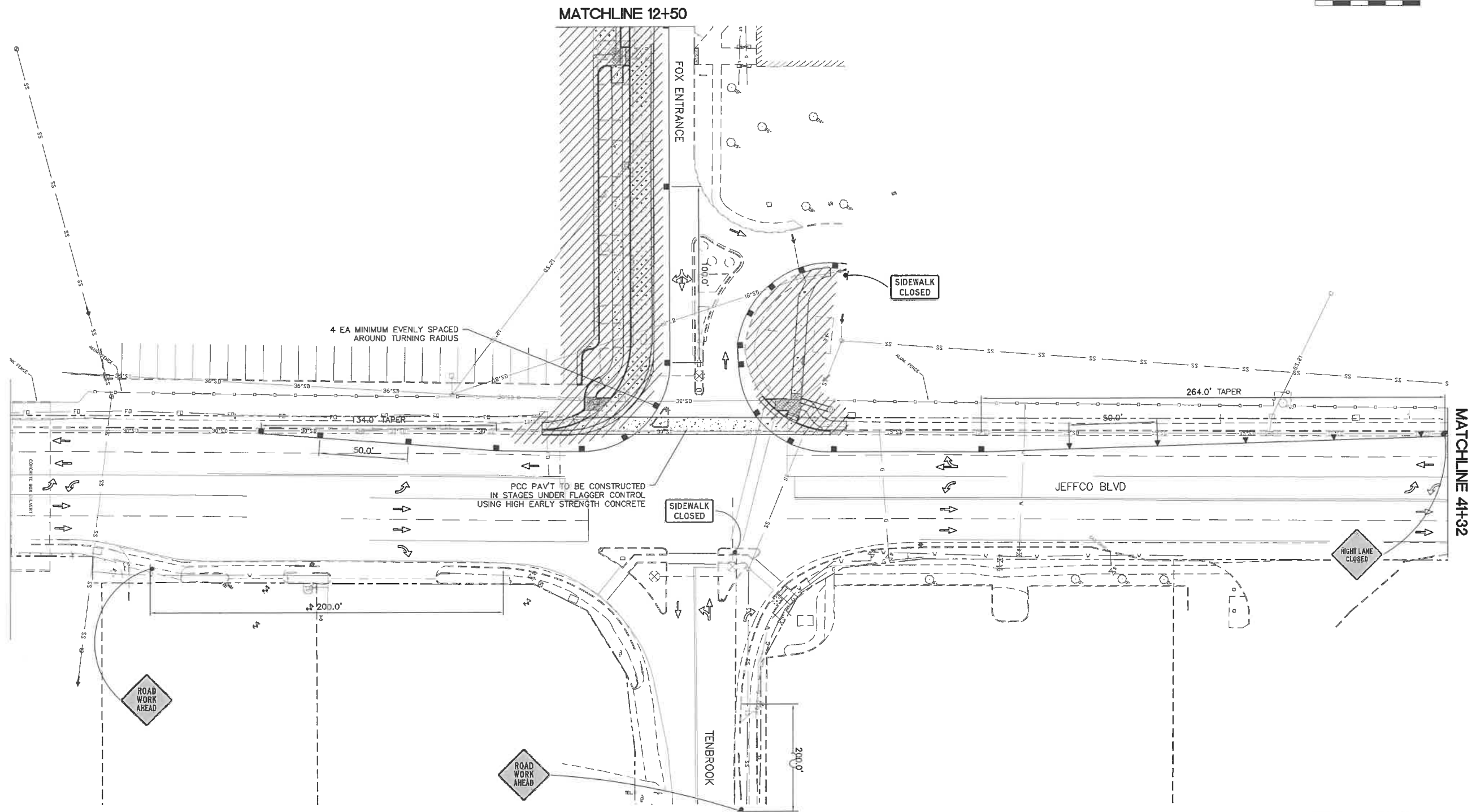
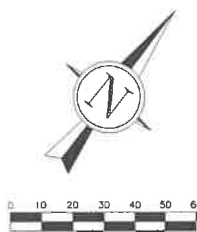
DATE	DESCRIPTION
3/9/16	MDDOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PRELIM PLANS
1/26/18	PS&E PLANS
2/23/18	REVISED PS&E PLANS

TRANSPORTATION ENGINEERS+PLANNERS
12400 OLIVE BLVD, SUITE 430
ST. LOUIS, MO 63141
(314) 878-9844
480 COTTAGEWOOD RD, SUITE 8
GLEN CARROLL, IL 60024
(618) 652-2612
www.cbbtraffic.com



TRAFFIC CONTROL PLAN
STAGE 1
ROADWAY IMPROVEMENTS
JEFFCO BLVD AND TENBROOK RD
ARNOLD, MISSOURI
CMAQ-5403(668) TIP 6624-16

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



TRAFFIC CONTROL / STAGING LEGEND

	WORK AREA
	CONE, DRUM OR BARRICADE
	DIRECTIONAL INDICATOR BARRICADE
	TRAFFIC CONTROL SIGN
	OPEN LANE OF TRAFFIC



CIVIL ENGINEER

DATE PREPARED
1/26/18

100 MO

SL 31

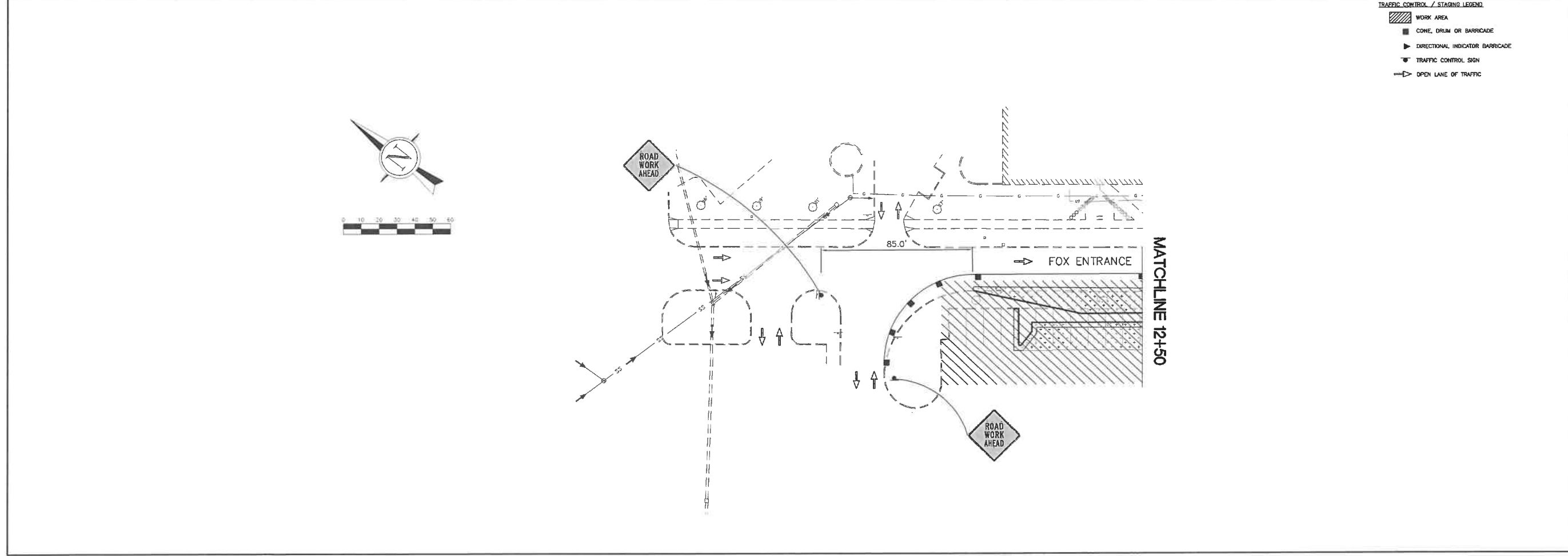
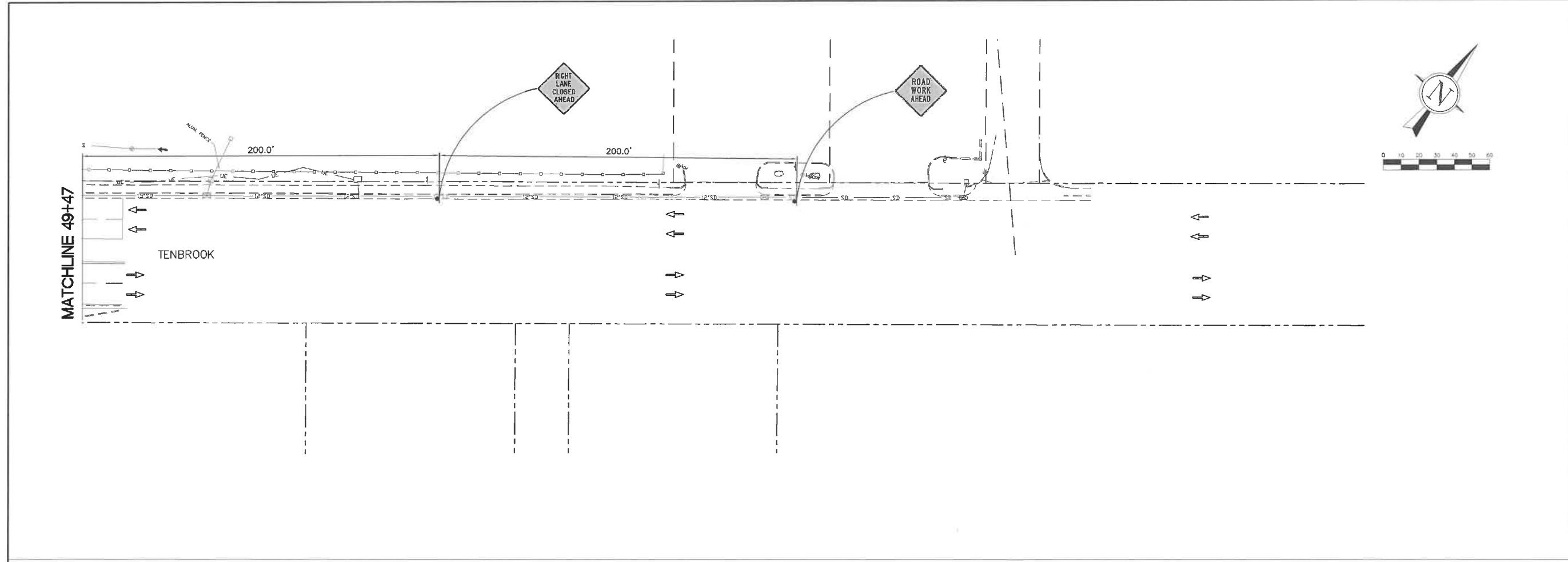
106-16

DATE	DESCRIPTION
3/9/16	MoDOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PRELIMINARY PLANS
1/26/18	PS&E PLANS
2/23/18	REVISED PS&E PLANS

TRANSPORTATION ENGINEERS+PLANNERS
 15450 CLUIE BLVD, SUITE 430
 ST. LOUIS, MO 63141
 (314) 878-8844
 450 COTTONWOOD RD, SUITE B
 GLEN CARBON, IL 62024
 (618) 656-2612
 www.ctbtraffic.com

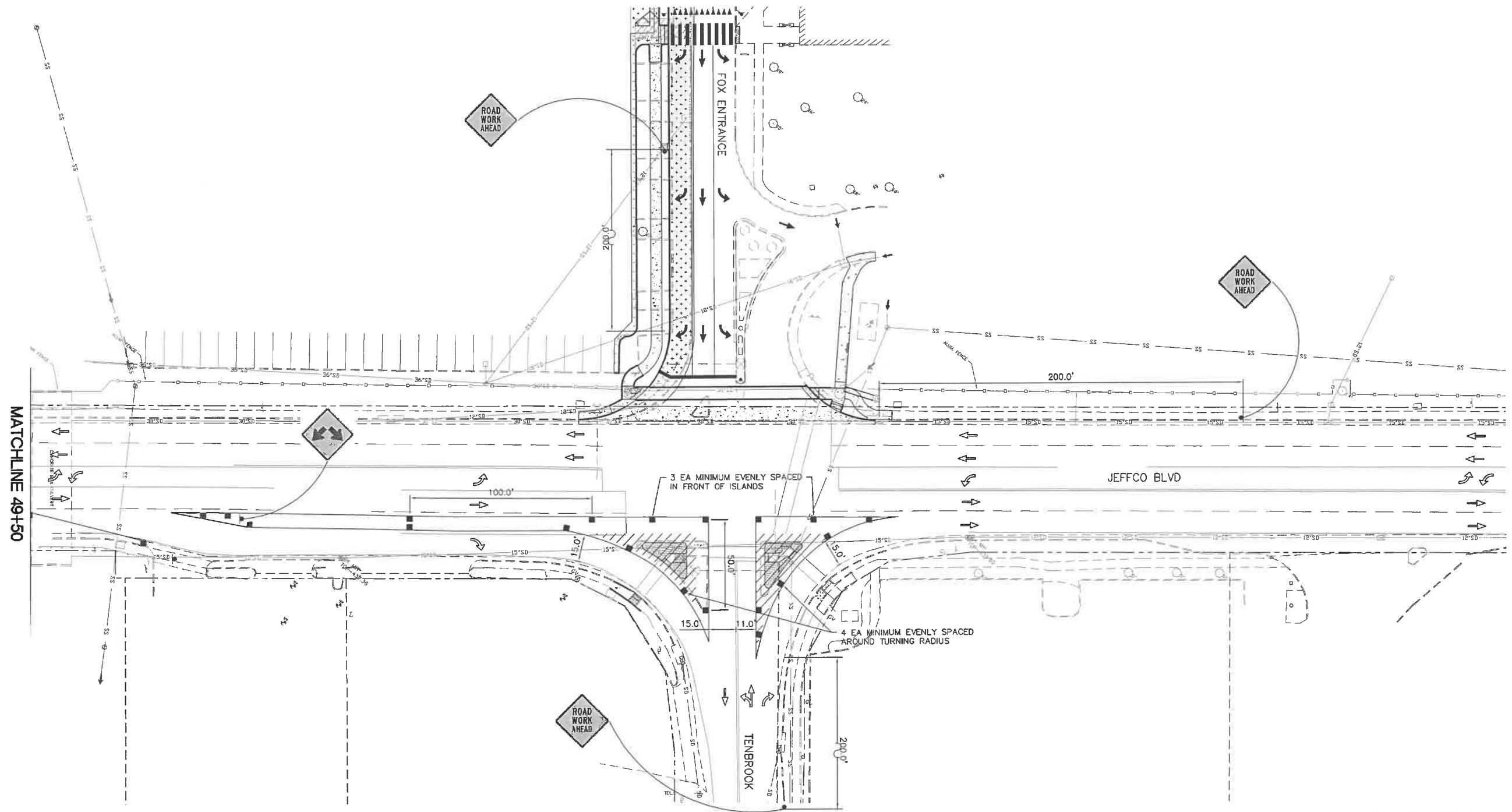
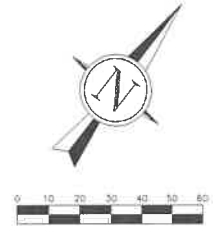


TRAFFIC CONTROL PLAN
 STAGE 1
 ROADWAY IMPROVEMENTS
 JEFFCO BLVD AND TENBROOK RD
 ARNOLD, MISSOURI
 CMAQ-5403(668) TIP 6624-16



TRAFFIC CONTROL / STAGING LEGEND

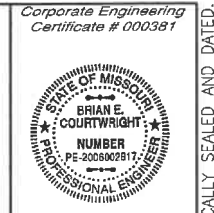
	WORK AREA
	CONE, DRUM OR BARRICADE
	DIRECTIONAL INDICATOR BARRICADE
	TRAFFIC CONTROL SIGN
	OPEN LANE OF TRAFFIC



NOTE:
ENTRANCES SHOULD BE BUILT UNDER
FLAGGER CONTROL IN STAGES USING HIGH
EARLY STRENGTH CONCRETE.

TRAFFIC CONTROL / STAGING LEGEND

	WORK AREA
	CONE, DRUM OR BARRICADE
	DIRECTIONAL INDICATOR BARRICADE
	TRAFFIC CONTROL SIGN
	OPEN LANE OF TRAFFIC

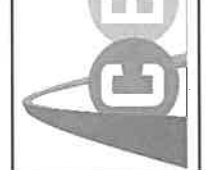


CIVIL ENGINEER
DATE PREPARED
1/26/18
100 MO
SL 32

106-16

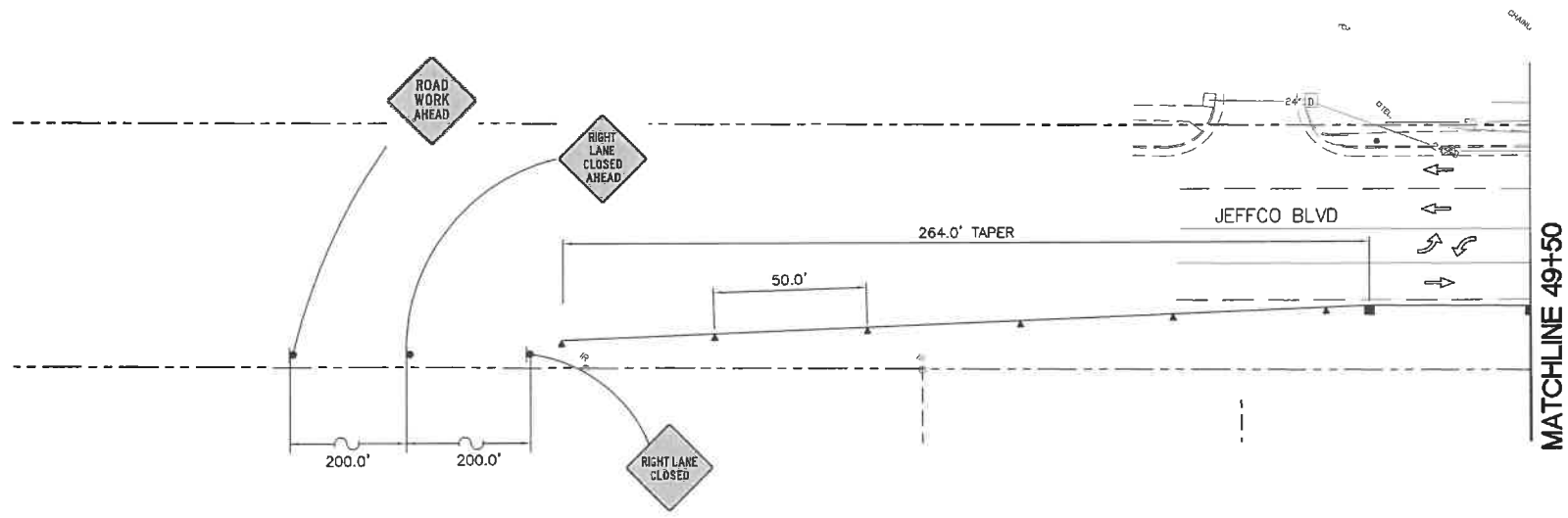
DATE	DESCRIPTION
3/9/16	MODOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
2/13/17	PRELIM PLANS
1/26/18	PS&E PLANS
2/23/18	REVISED PS&E PLANS

TRANSPORTATION ENGINEERS+PLANNERS
12400 OLIVE BLVD, SUITE 430
ST. LOUIS, MO 63141
(314) 379-0044
400 COTTONWOOD RD, SUITE B
ARNOLD, MO 63010
(618) 656-2612
www.cbbrllc.com

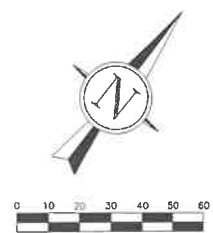


TRAFFIC CONTROL PLAN
STAGE 2
ROADWAY IMPROVEMENTS
JEFFCO BLVD AND TENBROOK RD
ARNOLD, MISSOURI
CMAQ-5403(668) TIP 6624-16

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



- TRAFFIC CONTROL / STAGING LEGEND**
- WORK AREA
 - CONE, DRUM OR BARRICADE
 - DIRECTIONAL INDICATOR BARRICADE
 - TRAFFIC CONTROL SIGN
 - OPEN LANE OF TRAFFIC



TRAFFIC CONTROL PLAN
STAGE 2
 ROADWAY IMPROVEMENTS
 JEFFCO BLVD AND TENBROOK RD
 ARNOLD, MISSOURI
 CMAQ-5403(668) TIP 6624-16

TRANSPORTATION ENGINEERS + PLANNERS
 12400 OLIVE BLVD, SUITE 430
 ST. LOUIS, MO 63141
 (314) 878-6644
 489 COTTONWOOD RD, SUITE B
 ARNOLD, IL 62004
 (618) 856-2812
 www.ctraffic.com

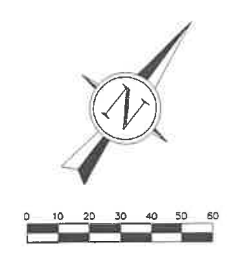
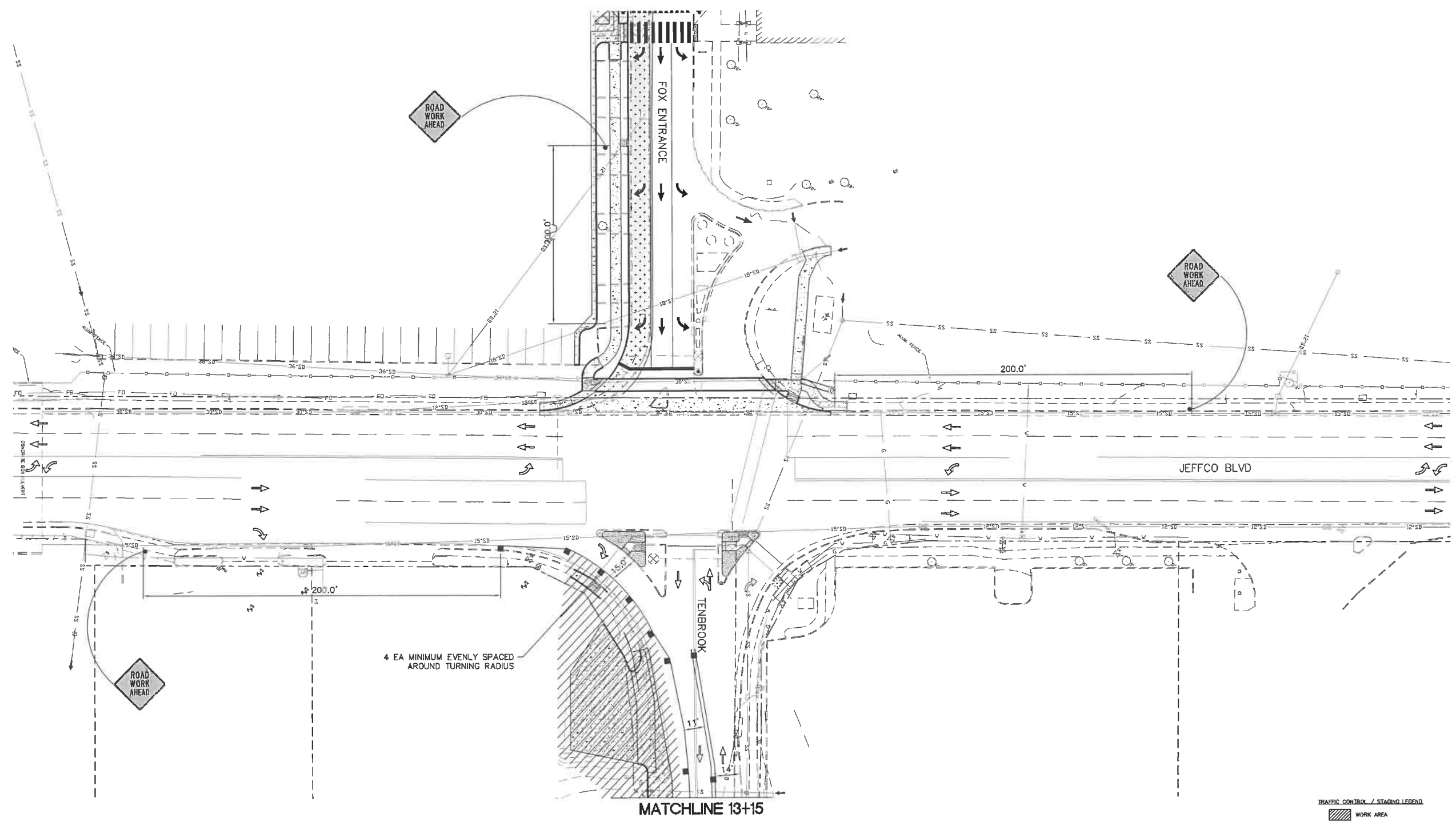
DATE	DESCRIPTION
3/9/16	MODOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PRELIMINAL PLANS
1/26/18	PS&E PLANS
2/23/18	REVISED PS&E PLANS

106-16	
100	MO
SL	33

Corporate Engineering
 Certificate # 000381

CIVIL ENGINEER
 DATE PREPARED
1/26/18

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



NOTE:
ENTRANCES SHOULD BE BUILT UNDER
FLAGGER CONTROL IN STAGES USING HIGH
EARLY STRENGTH CONCRETE.

- TRAFFIC CONTROL / STAGING LEGEND
- WORK AREA
 - CONE, DRUM OR BARRICADE
 - DIRECTIONAL INDICATOR BARRICADE
 - TRAFFIC CONTROL SIGN
 - OPEN LANE OF TRAFFIC

Corporate Engineering
Certificate # 000381

CIVIL ENGINEER
DATE PREPARED
1/26/18

100	MO
SL	34

106-16

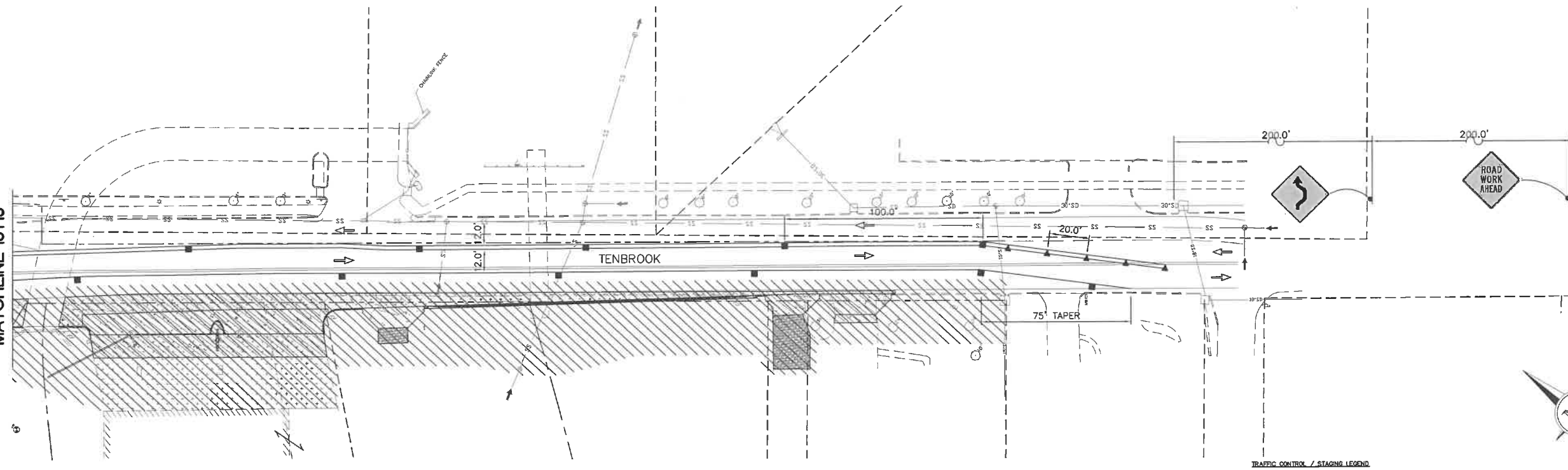
DATE	DESCRIPTION
3/9/16	MDOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PRELIM PLANS
1/26/18	PS&E PLANS
2/23/18	REVISED PS&E PLANS

TRANSPORTATION ENGINEERS+PLANNERS
 12400 OLIVE BLVD, SUITE 430
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 (314) 916-6644
 4810 LEXINGTON, SUITE B
 ARNOLD, MISSOURI 63010
 (618) 656-2812
 www.cbbarrill.com

TRAFFIC CONTROL PLAN
 STAGE 3
 ROADWAY IMPROVEMENTS
 JEFFCO BLVD AND TENBROOK RD
 ARNOLD, MISSOURI
 CMAQ-5403(668) TIP 6624-16

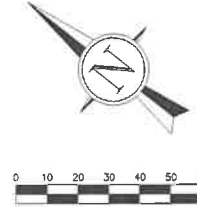
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MATCHLINE 13+15



NOTE:
ENTRANCES SHOULD BE BUILT UNDER
FLAGGER CONTROL IN STAGES USING HIGH
EARLY STRENGTH CONCRETE.

- TRAFFIC CONTROL / STAGING LEGEND
- WORK AREA
 - CONE, DRUM OR BARRICADE
 - DIRECTIONAL INDICATOR BARRICADE
 - TRAFFIC CONTROL SIGN
 - OPEN LANE OF TRAFFIC



TRAFFIC CONTROL PLAN
STAGE 3
ROADWAY IMPROVEMENTS
JEFFCO BLVD AND TENBROOK RD
ARNOLD, MISSOURI
CMAQ-5403(668) TIP 6624-16

TRANSPORTATION ENGINEERS+PLANNERS

 12400 OLIVE BLVD, SUITE 430
 OMAHA, NE 68141
 480 COTTAGEWOOD AVE, SUITE 8
 GLEN CARBON, IL 62034
 (618) 656-2612
 www.cbbtraffic.com

DATE	DESCRIPTION
3/9/16	MDOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PREFINAL PLANS
1/26/18	PS&E PLANS
2/23/18	REVISED PS&E PLANS

100	MO
SL	35
106-16	

Corporate Engineering
Certificate # 000381

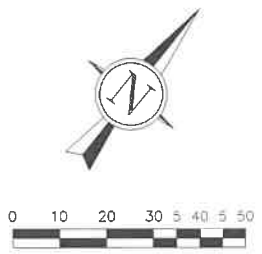
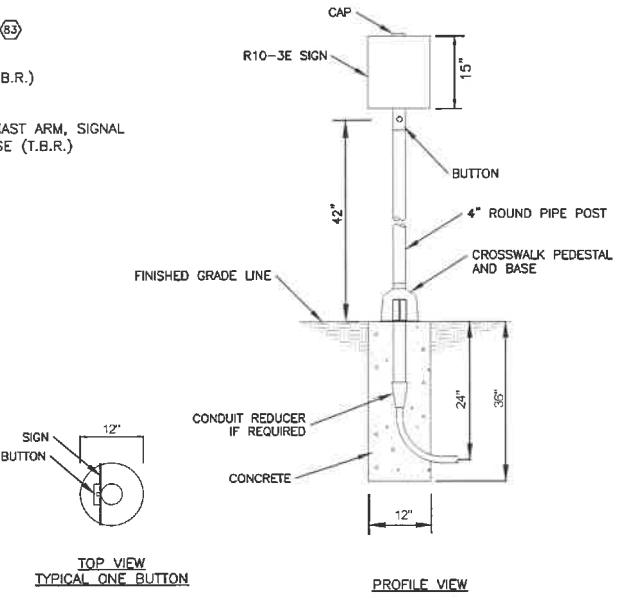
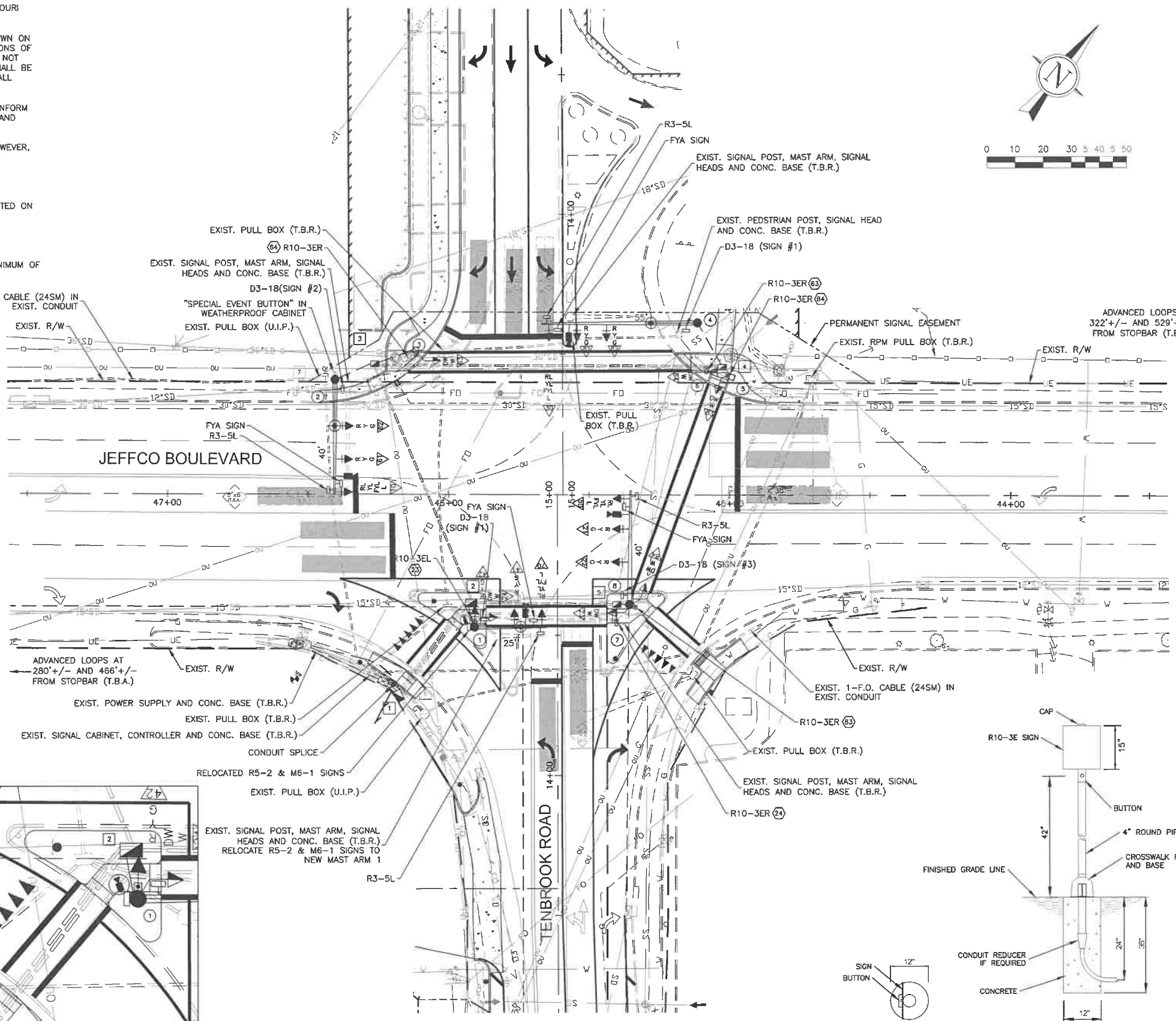
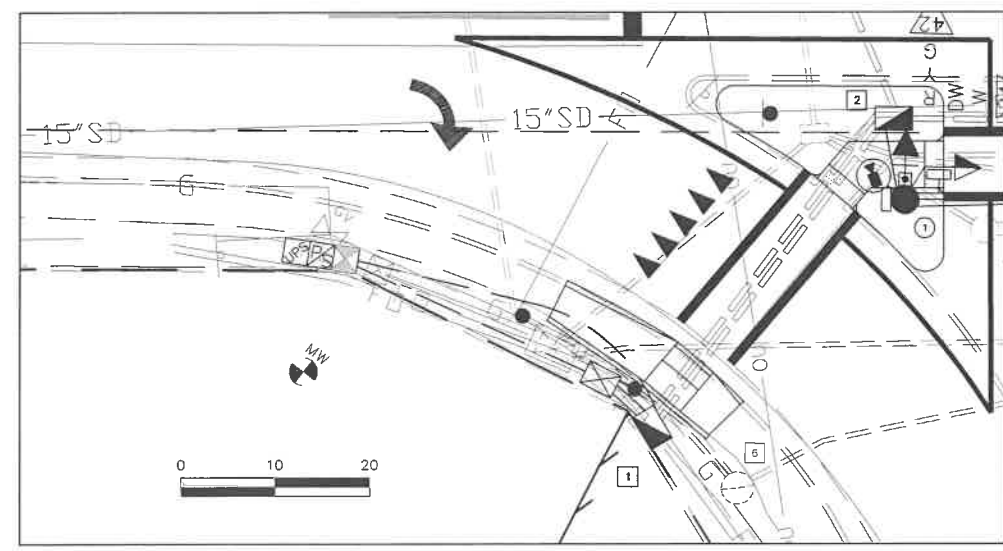
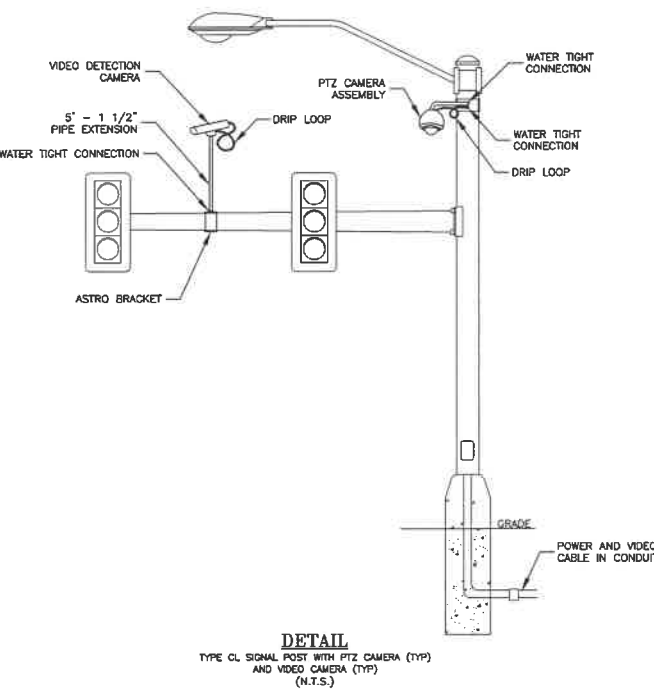
STATE OF MISSOURI
 BRIAN E. COURTWRIGHT
 NUMBER PE-2006002811
 PROFESSIONAL ENGINEER

CIVIL ENGINEER
 DATE PREPARED 1/26/18

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

GENERAL NOTES:

1. THE INSTALLATION OF THE TRAFFIC SIGNALS SHALL BE IN ACCORDANCE WITH THE MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION'S STANDARD SPECIFICATIONS, 2016 EDITION.
2. EXISTING UNDERGROUND AND OVERHEAD FACILITIES, STRUCTURES AND UTILITIES IF SHOWN ON THESE PLANS, SHALL BE CONSIDERED APPROXIMATE ONLY. VERIFICATION OF THE LOCATIONS OF ALL EXISTING UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE VERIFIED PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS. CALL MISSOURI ONE-CALL SYSTEM AT 1-800-DIG-RITE (344-7483).
3. TRAFFIC CONTROL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS AND MISSOURI DEPARTMENT OF TRANSPORTATION STANDARDS.
4. DIRECTIONAL BORING MAY BE USED INSTEAD OF TRENCHING OR PUSHING CONDUIT, HOWEVER, NO ADDITIONAL PAYMENT WILL BE MADE.
5. THE TRAFFIC SIGNAL CONSTRUCTION SHALL BE COORDINATED WITH THE ROADWAY CONSTRUCTION.
6. REFER TO THE ROADWAY PLANS FOR STRIPING AND SIGNING EXCEPT FOR SIGNS MOUNTED ON SIGNAL EQUIPMENT.
7. ALL PEDESTRIAN FACILITIES MUST COMPLY TO CURRENT ADA STANDARDS.
8. THE CONTRACTOR WILL BE RESPONSIBLE FOR SPOTTING THE LOCATION OF ALL SIGNAL EQUIPMENT. THE CONTRACTOR SHALL NOTIFY THE MODOT OUTSOURCE INSPECTOR A MINIMUM OF ONE WEEK IN ADVANCE OF THE DESIRED DATE OF INSTALLATION.



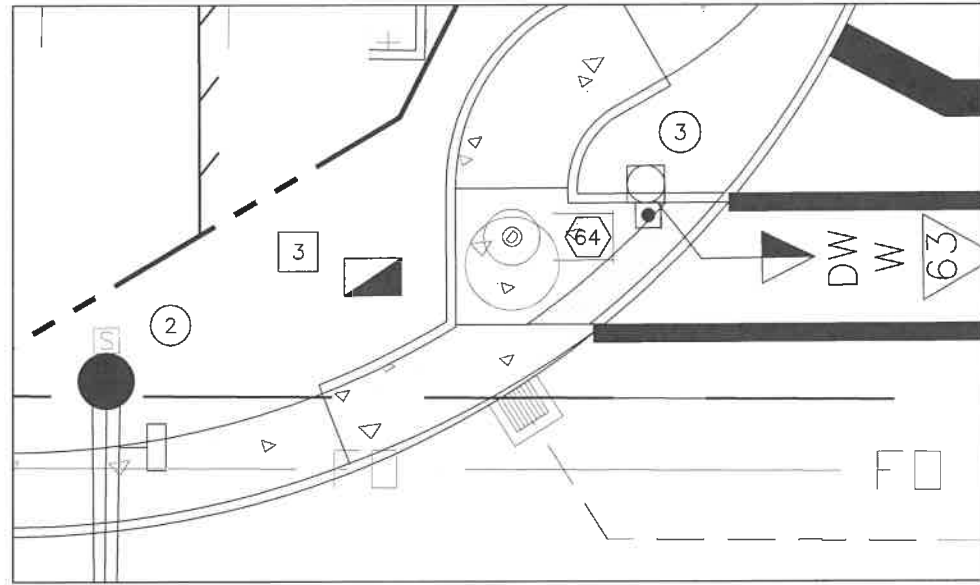
Corporate Engineering
Certificate # 000381

CIVIL ENGINEER
DATE PREPARED: 1/26/18
ROUTE: SL STATE: MO
DISTRICT: SL SHEET NO.: 36
COUNTY: JEFFERSON
JOB NO.: 129-15
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

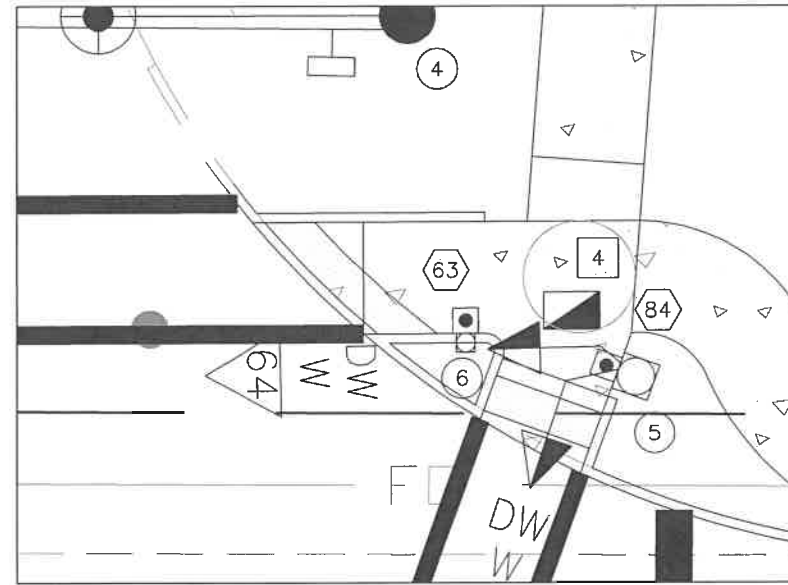
TRANSPORTATION ENGINEERS+PLANNERS
12400 OLIVE BLVD, SUITE 400
ARNDT, MISSOURI 63141
(314) 878-6644
4800 PETERMAN ROAD, SUITE B
GLEN CARBON, IL 62534
(618) 652-2012
www.cbbtraffic.com

TRAFFIC SIGNAL PLAN SHEET
JEFFCO BOULEVARD AND
TENBROOK ROAD
ARNOLD, MISSOURI

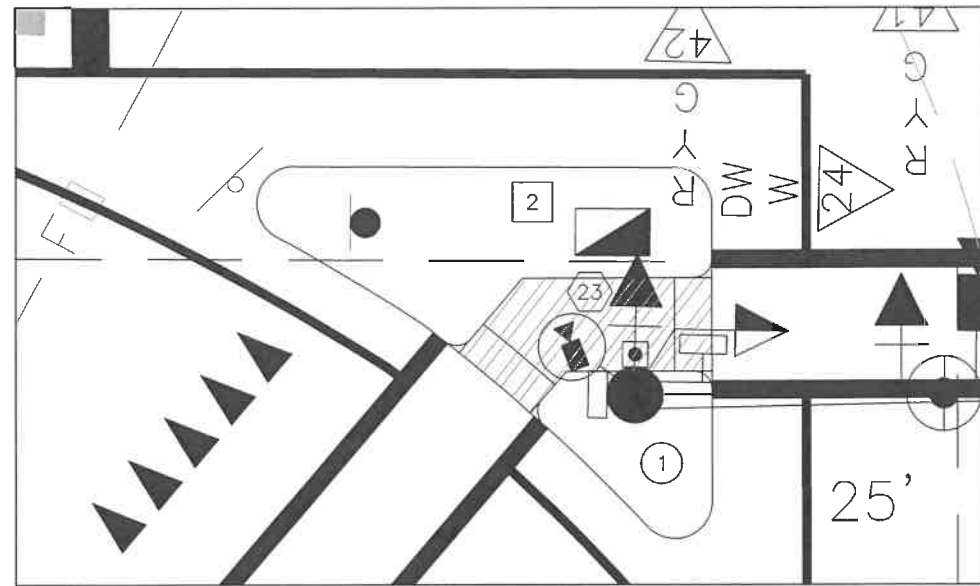
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



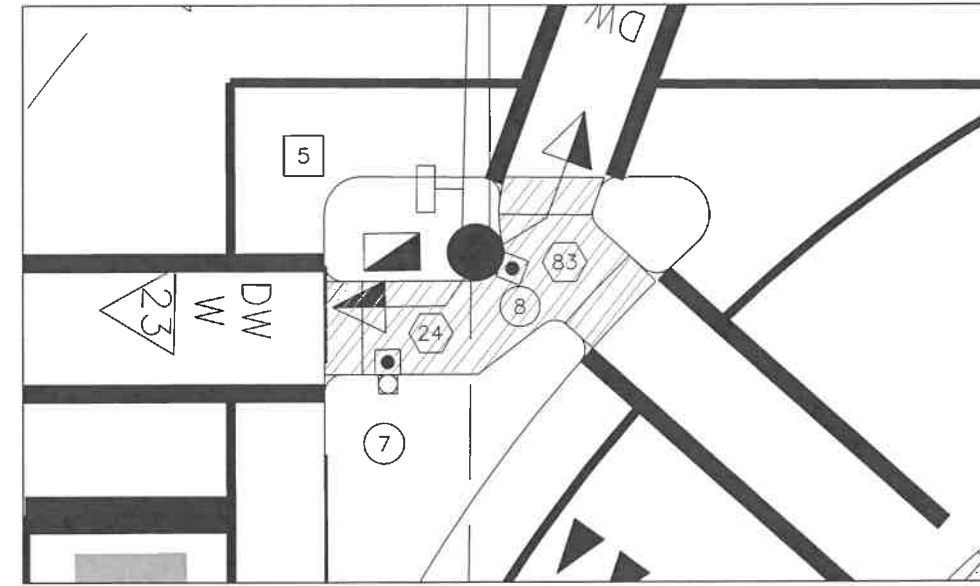
SOUTHWEST QUADRANT



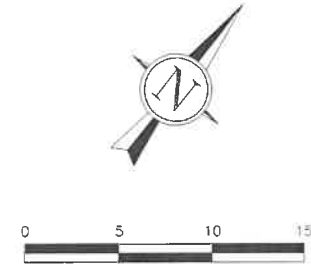
NORTHWEST QUADRANT



SOUTHEAST QUADRANT



NORTHEAST QUADRANT



- INDICATES LANDING AREA
- 1.5% MAX SLOPE (ALL DIRECTIONS)
- 0.5% MIN. SLOPE (ALL DIRECTIONS)
- 5'X5' MIN. AREA

Corporate Engineering
Certificate # 000381



CIVIL ENGINEER

DATE PREPARED
1/26/18

ROUTE STATE
SL MO

DISTRICT SHEET NO.
SL 37

COUNTY
JEFFERSON

JOB NO.
129-15

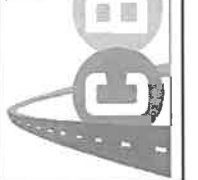
CONTRACT ID.

PROJECT NO.

BRIDGE NO.

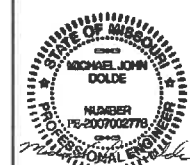
DATE	DESCRIPTION
7/07/17	UTILITY SUBMITTAL
12/1/17	MODOT PREFINAL SUBMITTAL
1/26/18	PS&E PLANS

TRANSPORTATION ENGINEERS+PLANNERS
12400 OLIVE BLVD, SUITE 430
JEFFERSON, MO 63141
(314) 976-6044
4850 COLLETTMAN RD, SUITE B
JEFFERSON, MO 63141
(314) 976-6044
www.ctbrinc.com



ADA PUSHBUTTON ACCESS DETAILS
JEFFCO BOULEVARD AND TENBROOK ROAD
ARNOLD, MISSOURI

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CIVIL ENGINEER

DATE PREPARED
1/26/18

ROUTE STATE
MO

DISTRICT SHEET NO.
SL 40

COUNTY
JEFFERSON

JOB NO.
129-15

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

UTILITY SUBMITTAL

MODOT PRELIM SUBMITTAL

PS&E PLANS

DATE

7/07/17

12/1/17

1/26/18

TRANSPORTATION ENGINEERS+PLANNERS

12400 OLIVE BLVD, SUITE 430

JEFFERSON, MO 63141

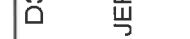
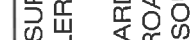
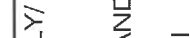
(314) 916-6644

450 COTTONWOOD RD, SUITE B

GLERU, MISSOURI, IL 62034

(618) 956-2674

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POWER SUPPLY												
LOCATION			POWER SUPPLY ASSEMBLY		CIRCUIT BREAKER TRIP RATING*				LIGHTING CONTROL* (ON POWER SUPPLY)		SERVICE POLE	
APPROACH	STATION	OFFSET	DRAWING 902.15	DRAWING	CONTROLLER		POWER SUPPLY DISCONNECT		120 VOLT CONTROL CABINET	MAIN BREAKER	CONTRACT FURNISH	UTILITY COMPANY
					AUXILIARY BREAKER	CONT & SIGNAL LAMPS	MAIN BREAKER	SIGNALS				
JEFFCO BOULEVARD	46+52	53' L	1(5)		15 Amps	40 Amps	100 Amps	100 Amps			CL FL	CL FL

CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT																							
LOCATION			SYSTEM MASTER (CLOSED LOOP)		ACTUATED		ON-OFF* SWITCH		COORDINATION INTERFACE *				TIME* CLOCK	NEMA CABINET TYPE *			170 CABINET TYPE *		170 SOFTWARE *				
APPROACH	STATION	OFFSET	NEMA		170		TYPE		12C/7C HARDWARE (1)		TIME BASE	CLOSED LOOP		FIBER	E	EV	DOUBLE	332	336S	BITRAN	WAPITI		
			I	II	MASTER	LOCAL	NEMA	170															
JEFFCO BOULEVARD	46+23	66.5' L			1									(6)			1(6)(7)						

DETECTOR SCHEDULE						
DETECTOR NUMBER	APPROACH	TYPE				
		PUSH BUTTON(3)	INDUCTION LOOP (2)		SPECIAL EVENT BUTTON	VIDEO
			STANDARD	DELAY/EXTEND*		
						1(8)
						1(4)
23	JEFFCO BOULEVARD	1				
24	JEFFCO BOULEVARD	1				
63	JEFFCO BOULEVARD	1				
64	JEFFCO BOULEVARD	1				
83	TENBROOK ROAD	1				
84	TENBROOK ROAD	1				
TOTAL		6				1

* ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.

- (1) MoDOT "D" PLUG SHALL BE WIRED INTO ALL NEMA CONTROLLERS.
- (2) PAYMENT IS MADE FOR THE NUMBER OF 2-CHANNEL DETECTOR CARDS AS SHOWN BELOW THE ASSIGNMENT CHART.
- (3) THE PEDESTRIAN PUSHBUTTONS SHALL BE ADA COMPLIANT AND SHALL BE MOUNTED 42" ABOVE THE PEDESTRIAN PATH.
- (4) STOP BAR DETECTION SHALL BE COVERED USING VIDEO DETECTION AS SHOWN ON THE PLANS PER MANUFACTURER'S SPECIFICATIONS. ADVANCED DETECTION SHALL BE PROGRAMMED USING RADAR DETECTION FOR N.B. AND S.B. US HWY JEFFCO BOULEVARD THRU LANES ONLY, PER MANUFACTURER'S SPECIFICATION FOR DILEMMA ZONE PROTECTION FOR A DISTANCE FROM THE END OF THE VIDEO DETECTION ZONE TO A POINT OF 500 FT. FROM THE STOP BAR. ALL CABLES, MOUNTING HARDWARE AND MISCELLANEOUS EQUIPMENT NEEDED FOR A FULLY FUNCTIONAL UNIT WILL BE CONSIDERED INCIDENTAL TO THE VIDEO DETECTION SYSTEM PAY ITEM.
- (5) CONTRACTOR SHALL PROVIDE AND INSTALL POWER SUPPLY PEDESTAL FOR 120 VOLT SIGNAL AND 120 VOLT, MAST ARM LIGHTING, WITH INTEGRATED BATTERY BACK UP.
- (6) THE CABINET SHALL BE A TS2-TYPE 2. CONTRACTOR SHALL INSTALL A NEW ETHERNET ENABLED SIGNAL CONTROLLER, COMPATIBLE WITH MODOT'S SIGNAL SYSTEM. THE CONTRACTOR SHALL FURNISH AND INSTALL A MANAGED ETHERNET SWITCH WITH 2 SM FIBER PORTS AND 8 RJ45 ETHERNET PORTS, COMPATIBLE WITH MODOT'S SIGNAL NETWORK. THE MMU2 SHALL BE FYA COMPATIBLE WITH AN RJ45 CONNECTOR FOR LINKING TO THE MANAGED NETWORK SWITCH. AN AUXILIARY BREAKER AND 6 PORT OUTLET POWER STRIP SHALL BE SUPPLIED WITH THE CABINET. SEE COMMUNICATION PLAN SHEET FOR FIBER SPLICING AND CABINET DETAILS.
- (7) THE CCTV CAMERA SHALL BE MOUNTED WITH THE ABILITY TO PAN/TILT/ZOOM ON THE MAST ARM UPRIGHT, HIGH DEFINITION, 1080P, ETHERNET READY, AND COMPATIBLE WITH MODOT'S EXISTING VIDEO SYSTEM/TMC. ALL CABLES, MOUNTING HARDWARE AND MISCELLANEOUS EQUIPMENT NEEDED FOR A FULLY FUNCTIONAL UNIT WILL BE CONSIDERED INCIDENTAL TO THIS PAY ITEM.
- (8) THE CONTRACTOR SHALL FURNISH AND INSTALL A "SPECIAL EVENT" PUSHBUTTON ON POLE 2, 5' FROM FINISHED GRADE, TO BE WIRED TO POWERED TIMER RELAY THAT IS USER ADJUSTABLE FOR THE AMOUNT OF TIME THE RELAY IN TO BE ENERGIZED. RELAY SHALL BE WIRED TO TRIGGER THE CONTROLLER TO OPERATE IN "FREE" MODE WHEN ENERGIZED. THE BUTTON SHALL BE ENCLOSED IN A WEATHERPROOF CABINET NO LARGER THAN 12"x14"x4" WITH A SKELETON KEY LOCK IDENTICAL TO THE SIGNAL CABINET POLICE PANEL LOCK. ALL ITEMS NECESSARY FOR A FULLY FUNCTIONAL SPECIAL EVENT BUTTON AND ENCLOSURE, EXCLUDING CABLE SHALL BE INCLUDED IN THE SPECIAL EVENT BUTTON PAY ITEM.

NEMA DETECTOR ASSIGNMENT								
CARD POSITION								
CHANNEL	1	2	3	4	5	6	7	8
2								

TOTAL NUMBER OF DETECTOR CARDS(2-CHANNEL) = ___ (2)

NEMA LOAD SWITCH ASSIGNMENTS											
1	2	3	4	5	6	7	8	9	10	11	12
OLA SBL (A)	#2 NB	OLB WBL (A)	#4 EB	OLC NBL (A)	#6 SB	OLD EBL (A)	#8 WB	#1+2P E.SIDE SBL (B)	#3 WBL (B)	#5+6P W.SIDE NBL (B)	#7+8P N.SIDE EBL (B)

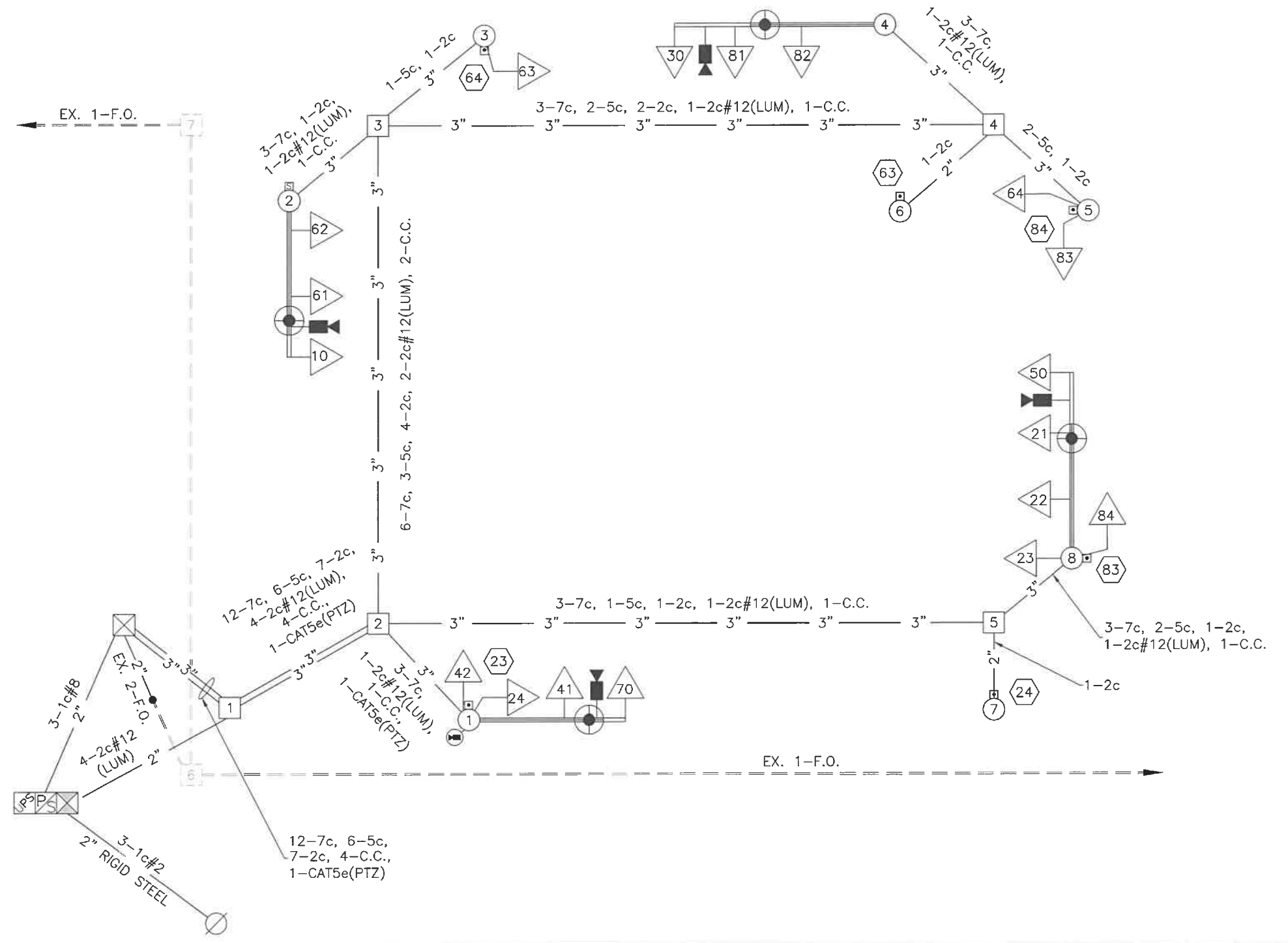
- (A) RL, YL, FYL
- (B) GREEN LEFT ARROW

D37C - POWER SUPPLY/
CONTROLLER

JEFFCO BOULEVARD AND
TENBROOK ROAD
ARNOLD, MISSOURI

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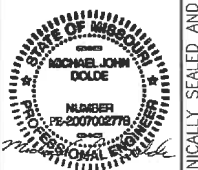
WIRING DIAGRAM



LEGEND

- X— CONDUIT CONTAINING CABLE WITH SIZE
- CABLE
- X-Xc MULTI-CONDUCTOR CABLE #16 AWG (UNLESS OTHERWISE INDICATED)
- LIC #14 AWG DETECTOR LEAD-IN CABLE (2C TWISTED SHIELDED)
- C.C. CAMERA CABLE
- [X] PULL BOX WITH NUMBER
- [X] POST WITH NUMBER
- [X] POST WITH MAST ARM
- [X] POST WITH MAST ARM AND LUMINAIRE
- [X] DETECTOR WITH NUMBER
- [X] SIGNAL HEAD WITH NUMBER
- [X] SIGNAL CONTROLLER
- [X] POWER SOURCE
- [X] LIGHTING CONTROLLER
- [PS] POWER SUPPLY
- [VDC] VIDEO DETECTION CAMERA
- [PD] PREEMPTION DETECTOR
- [PB] PEDESTRIAN PUSHBUTTON
- [SE] "SPECIAL EVENT" PUSHBUTTON

*DASHED OR GRAY LINES INDICATE EXISTING EQUIPMENT

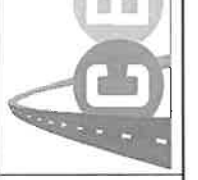


CIVIL ENGINEER
 DATE PREPARED: 1/26/18
 ROUTE: MO
 DISTRICT: SL
 SHEET NO.: 41

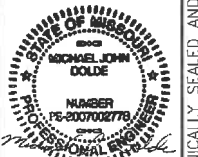
COUNTY: JEFFERSON
 JOB NO.: 129-15
 CONTRACT ID.:
 PROJECT NO.:
 BRIDGE NO.:

DATE	DESCRIPTION
7/07/17	UTILITY SUBMITTAL
12/1/17	MODOT PREFINAL SUBMITTAL
1/26/18	PS&E PLANS

TRANSPORTATION ENGINEERS+PLANNERS
 12400 OLIVE BLVD, SUITE 430
 JEFFERSON, MO 63141
 (314) 875-6644
 450 COTTONWOOD RD, SUITE B
 ARNOLD, MO 63010
 (618) 652-2812
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D37D - WIRING DIAGRAM
 JEFFCO BOULEVARD AND
 TENBROOK ROAD
 ARNOLD, MISSOURI



CIVIL ENGINEER

DATE PREPARED
1/26/18

ROUTE STATE
MO

DISTRICT SHEET NO.
SL 42

COUNTY
JEFFERSON

JOB NO.
129-15

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE DESCRIPTION
7/07/17 UTILITY SUBMITTAL
12/1/17 MODOT PREFINAL SUBMITTAL
1/26/18 PS&E PLANS

TRANSPORTATION ENGINEERS+PLANNERS
12400 OLIVE BLVD, SUITE 430
JEFFERSON, MO 65141
(314) 979-6644
488 COTTONWOOD RD, SUITE B
ARNOLD, MO 63010
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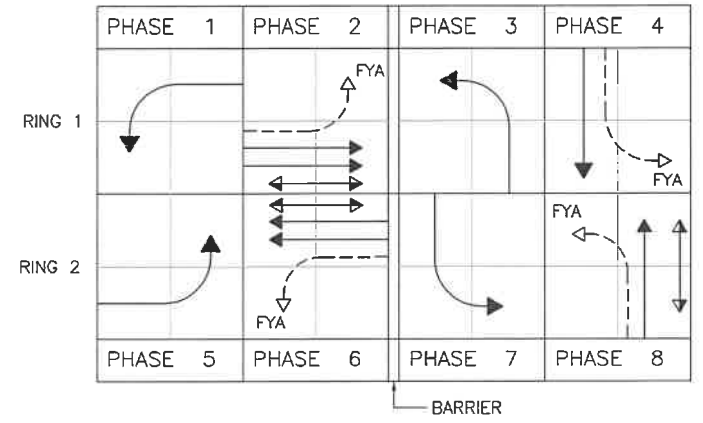
D38A - SIGNAL PHASING
JEFFCO BOULEVARD AND
TENBROOK ROAD
ARNOLD, MISSOURI

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



TRAFFIC PHASING AND COLOR SEQUENCE - ACTUATED CONTROLLERS

		PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8	OVERLAP A + 2P	OVERLAP B	OVERLAP C + 6P	OVERLAP D + 8P	FACE
CONTROL	FACE NUMBERS	10	21 22	30	41 42	50	61 62	70	81 82	10 23 24	30	50 63 64	70 83 84	
	SIGNAL INDICATIONS	R	R		R		R		R	RL DW	RL	RL DW	RL DW	R
		Y	Y		Y		Y		Y	YL	YL	YL	YL	Y
		FLA								FYL	FYL	FYL	FYL	FLA
	G	G	L	G	L	G	L	G	W	W	W	W	G	
		LOAD SWITCH OUTPUTS												
										OVERLAP PARENT PHASES	1	3	5	7



RING STRUCTURE

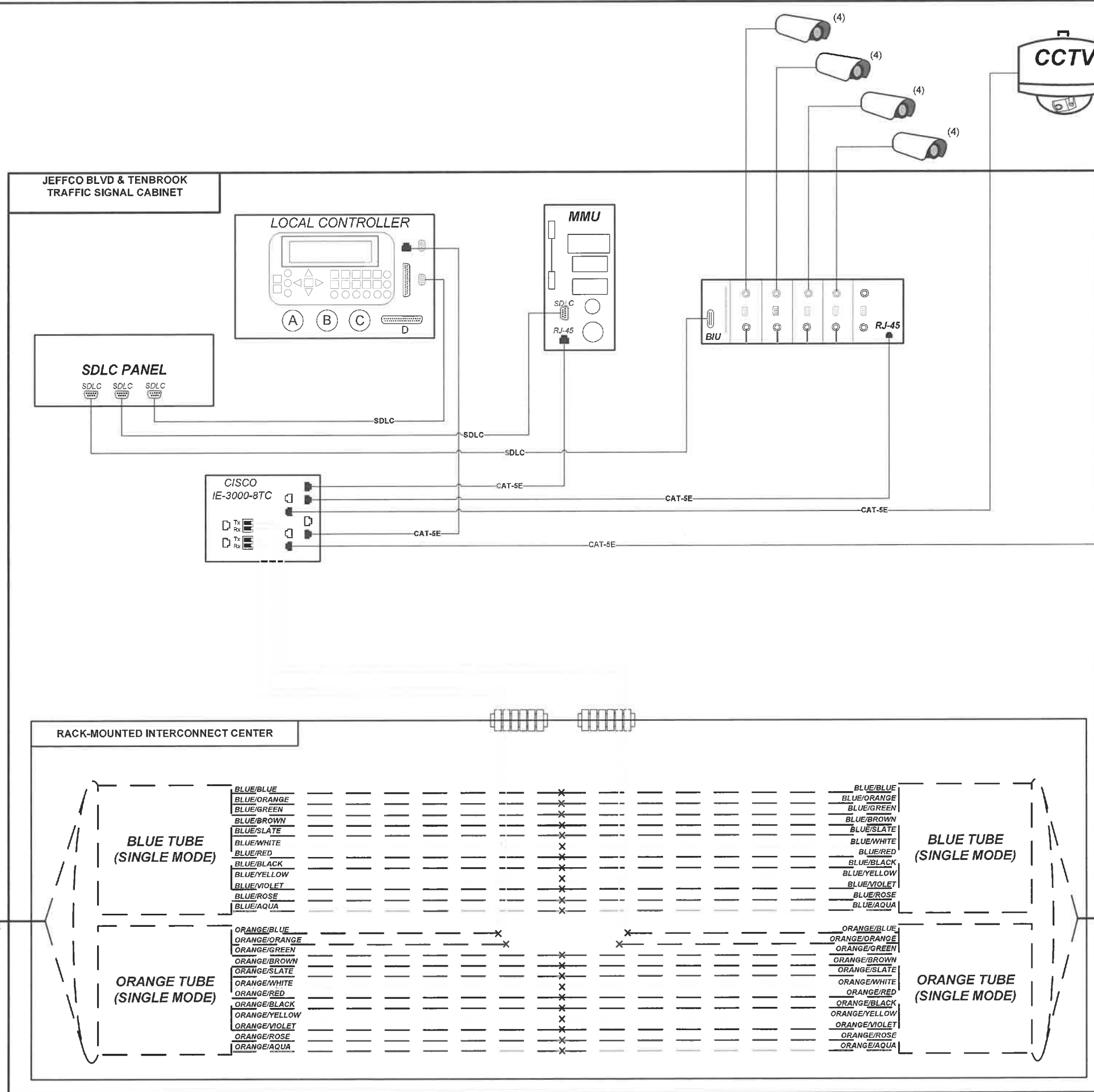
IF CALLED, ALL NON-CONFLICTING PHASES SHALL COMBINE AND TIME CONCURRENTLY AND SET IN THE CONTROLLER BY THE CONTRACTOR.

* SIGNAL TIMING TO BE DEVELOPED BY CONSULTANT/CONTRACTOR AND APPROVED BY ENGINEER PRIOR TO SIGNAL TURN ON.

FLASHING OPERATION	
JEFFCO BOULEVARD	FR
TENBROOK ROAD	FR
CONTROLLER TYPE	NEMA Ø8

LEGEND	
	ACTUATED VEHICULAR MOVEMENT
	PARTIALLY RESTRICTED ACTUATED VEHICULAR MOVEMENT
	NON-ACTUATED VEHICULAR MOVEMENT
	PARTIALLY RESTRICTED NON-ACTUATED VEHICULAR MOVEMENT
	ACTUATED PEDESTRIAN MOVEMENT
	NON-ACTUATED PEDESTRIAN MOVEMENT
	VEHICLE STOPPED
FDW	FLASHING DON'T WALK
R/W	RIGHT OF WAY INTERVAL
DW	DON'T WALK
RRt	RED RIGHT ARROW
YRt	YELLOW RIGHT ARROW
RT	GREEN RIGHT ARROW
W	WALK
RL	RED LEFT ARROW
YL	YELLOW LEFT ARROW
L	GREEN LEFT ARROW
S	GREEN STRAIGHT AHEAD ARROW
G	CIRCULAR GREEN
Y	CIRCULAR YELLOW
R	CIRCULAR RED
Ø	TRAFFIC PHASE
AO	ALL OTHERS
FR	FLASHING RED
FY	FLASHING YELLOW
FYA	FLASHING ARROW INDICATION
FYL	FLASHING YELLOW LEFT
FYR	FLASHING YELLOW RIGHT

TRAFFIC SIGNAL CONTROL OPERATION	

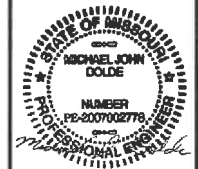


KEY

- EQUIPMENT CONNECTION
- FIBER OPTIC JUMPER
- FIBER OPTIC PIGTAIL
- BARE FIBER LEFT COILED IN SPLICE TRAY
- FUSION SPLICE
- MECHANICAL SPLICE
- PATCH PANEL MODULE

DASHED OR SHADED LINES DENOTE EXISTING CABLES, DEVICES, OR ENCLOSURES.

- (1) MAXIMUM SPLICE LOSS SHALL BE 0.1 Db.
- (2) NO INTERMEDIATE SPLICES ALLOWED UNLESS SPECIFIED.
- (3) ALL SPLICES SHALL BE FUSION SPLICES.
- (4) VIDEO DETECTION SYSTEM WITH RADAR UNIT FOR DILEMMA ZONE PROTECTION.



DATE PREPARED 1/26/18	
ROUTE	STATE MO
DISTRICT SL	SHEET NO. 43
COUNTY ST. LOUIS	
JOB NO. 129-15	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION
12/1/17	MODOT PREFINAL SUBMITTAL
1/26/18	PS&E PLANS

TRANSPORTATION ENGINEERS+PLANNERS

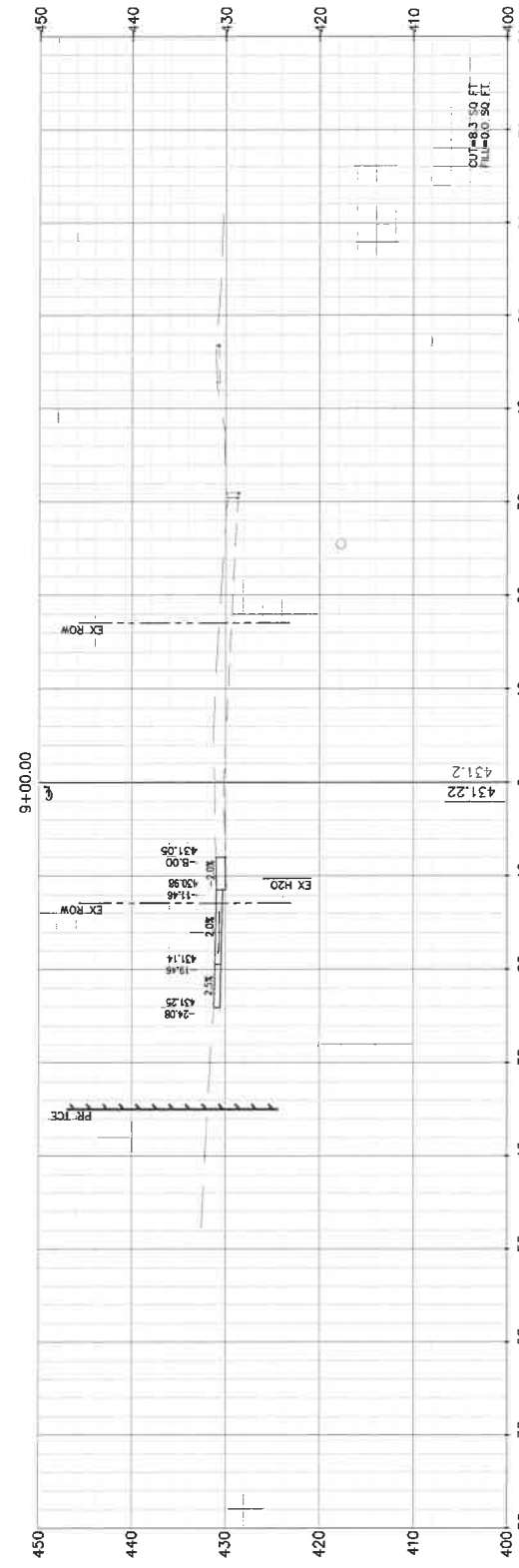
12400 OLIVE BLVD, SUITE 430
ST. LOUIS, MO 63141
(314) 878-8644

450 COTTONWOOD RD, SUITE B
GLEK CARBON, IL 62234
(618) 656-2612
www.ctbtraffic.com

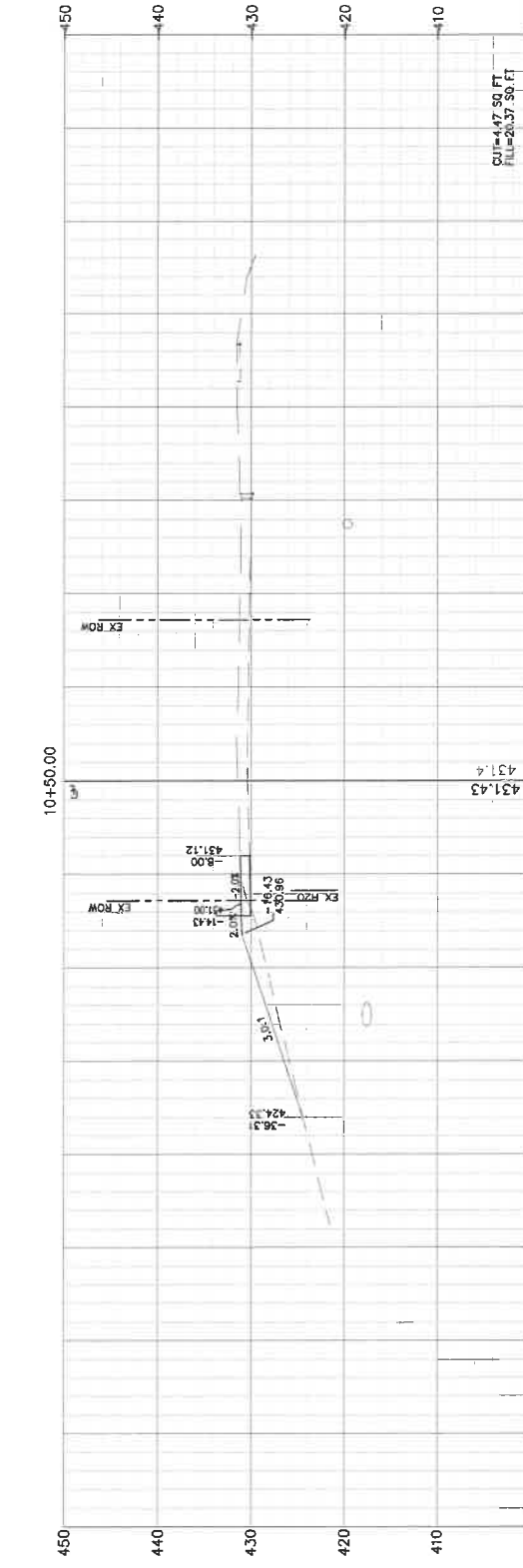
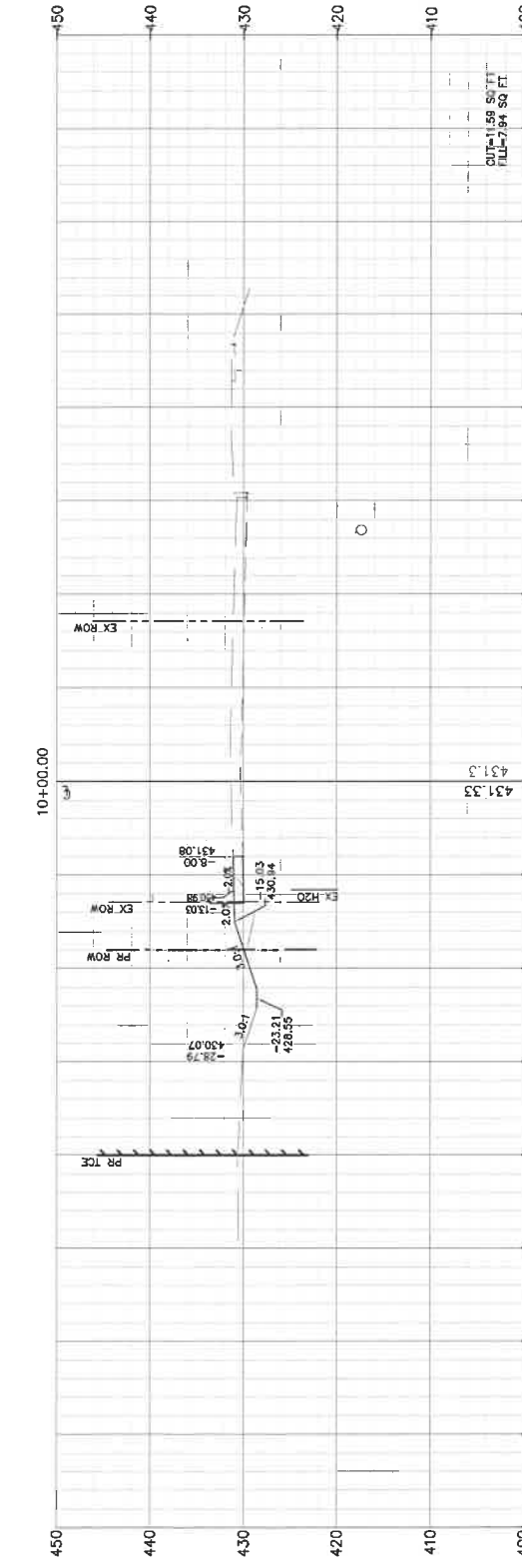
COMMUNICATION PLANS
JEFFCO BLVD & TENBROOK

RELOCATED EXIST 24SM FIBER DISTRIBUTION CABLE TO THE SOUTH AT JEFFCO BLVD & MO RTE 141

RELOCATED EXIST 24SM FIBER DISTRIBUTION CABLE TO THE NORTH AT JEFFCO BLVD & STARLING AIRPORT RD



100% CITY FUNDS

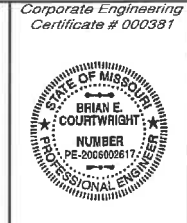


TENBROOK CROSS SECTIONS
ROADWAY IMPROVEMENTS
JEFFCO BLVD AND TENBROOK RD
ARNOLD, MISSOURI
CMAQ-5403(668) TIP 6624-16

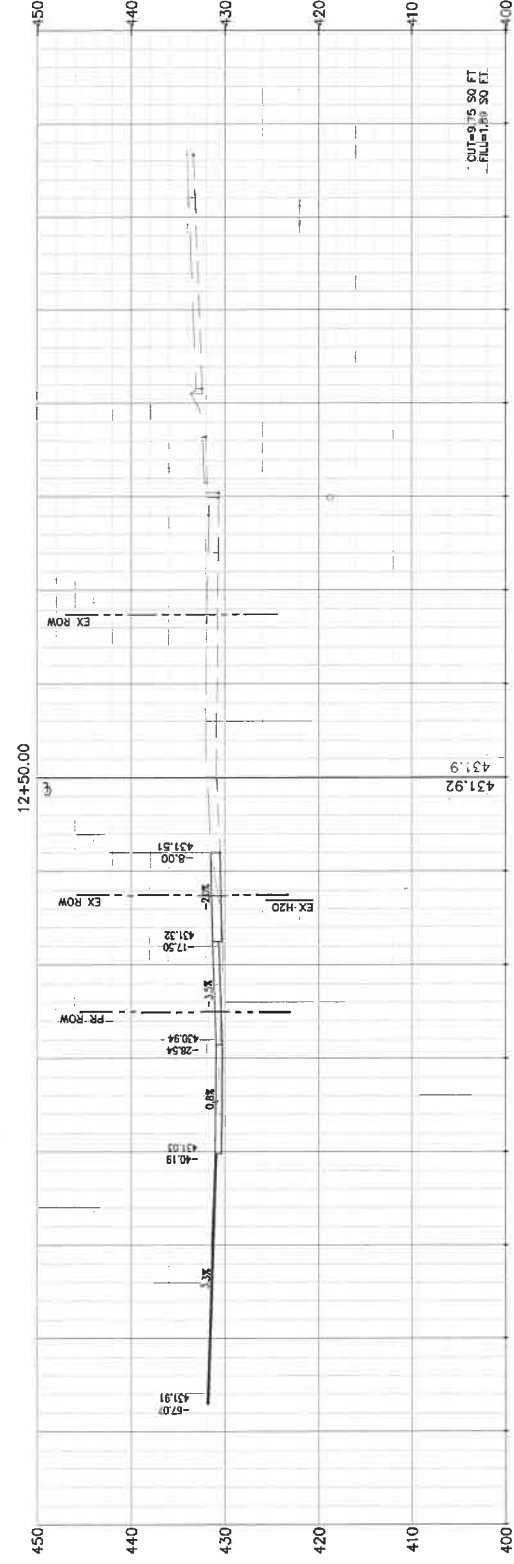
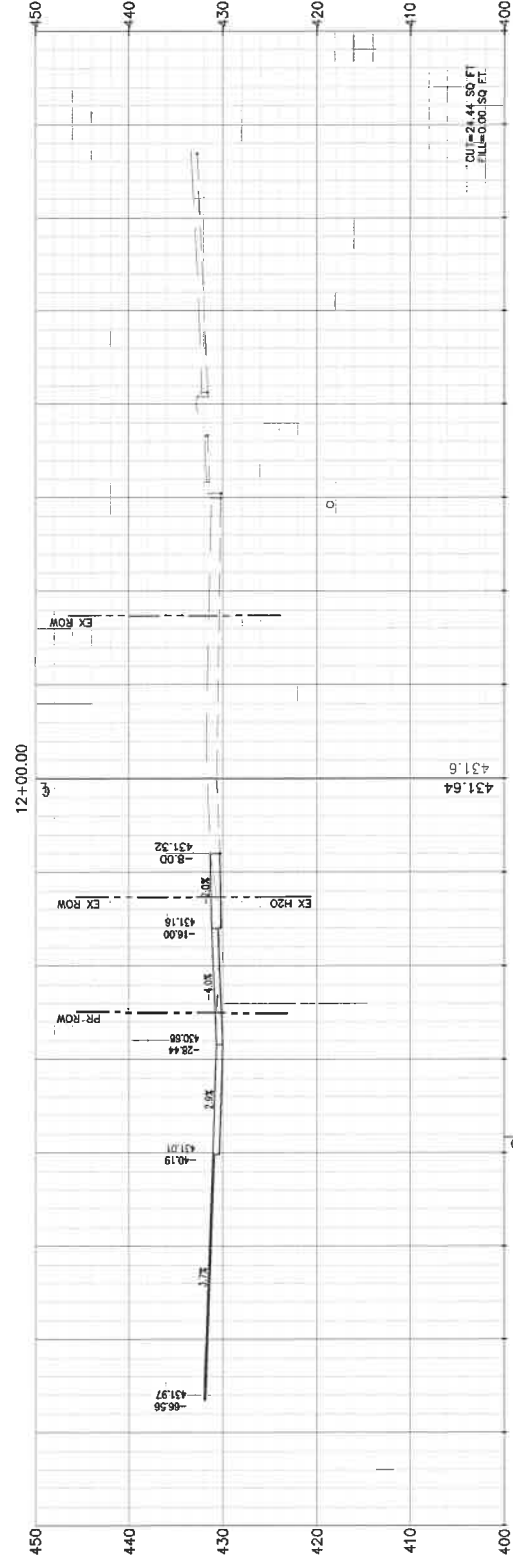
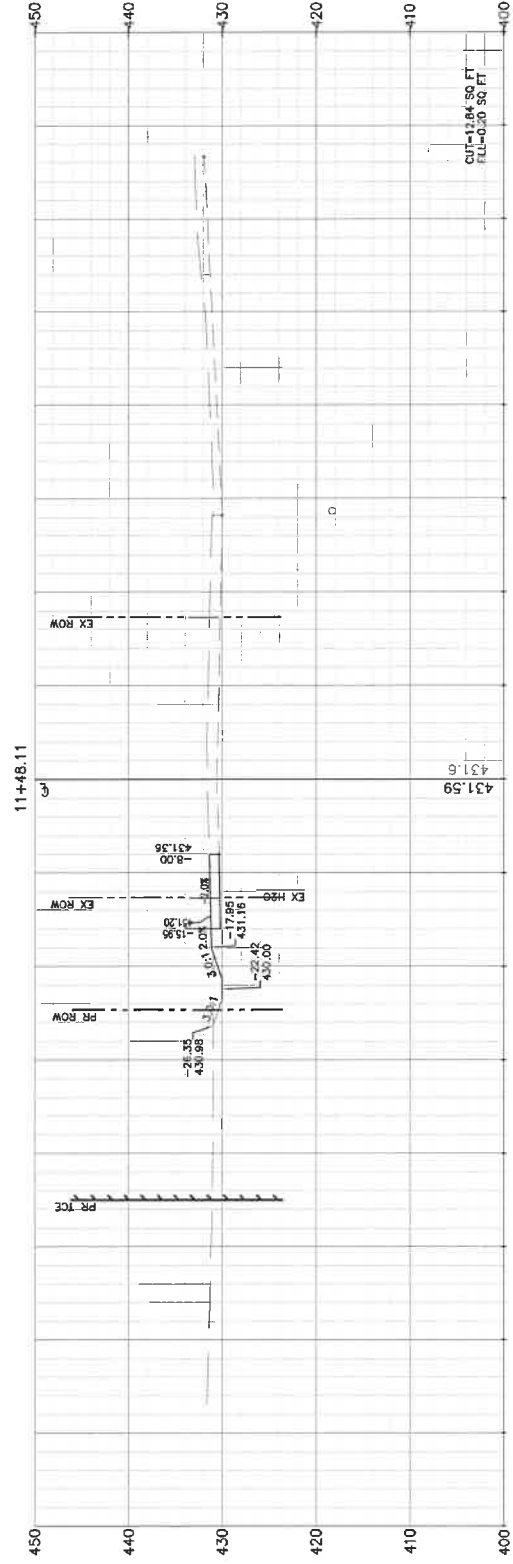
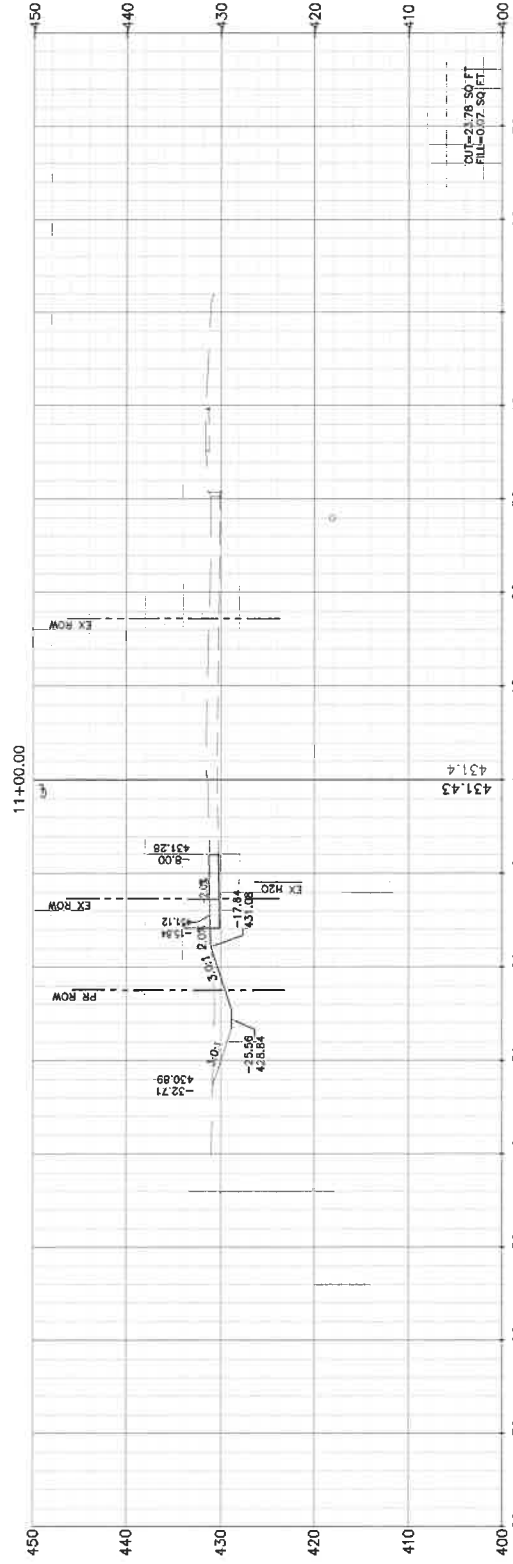
TRANSPORTATION
ENGINEERS+PLANNERS
15405 OLIVE BLVD, SUITE 430
ST. LOUIS, MO 63141
(314) 878-0444
480 COTTONWOOD RD, SUITE B
GLEN CARBON, IL 62034
(618) 656-2812
www.cbstraffic.com

DATE	DESCRIPTION
3/5/16	MODOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PRELIM PLANS
1/26/18	PS&E PLANS

CIVIL ENGINEER	
DATE PREPARED	1/26/18
ROUTE	STATE
SL	MO
DISTRICT	SHEET NO.
SL	44
COUNTY	
JEFFERSON	
JOB NO.	
129-15	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	



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100% CITY FUNDS CMAQ FUNDS

TENBROOK CROSS SECTIONS
ROADWAY IMPROVEMENTS
JEFFCO BLVD AND TENBROOK RD
ARNOLD, MISSOURI
CMAQ-5403(668) TIP 6624-16

TRANSPORTATION ENGINEERS+PLANNERS
2400 OLIVE BLVD, SUITE 430
ST. LOUIS, MO 63141
(314) 936-6644
6100 WOODS DR, SUITE B
COLUMBIA, MO 65204
(314) 656-2612
www.ctbtraffic.com

DATE	DESCRIPTION
3/5/16	MODOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PRELIM PLANS
1/26/18	PS&E PLANS

BRIDGE NO.
PROJECT NO.
CONTRACT ID.
JOB NO.
129-15
COUNTY
JEFFERSON
DISTRICT
SL
SHEET NO.
45
STATE
MO
ROUTE

CIVIL ENGINEER

DATE PREPARED
1/26/18

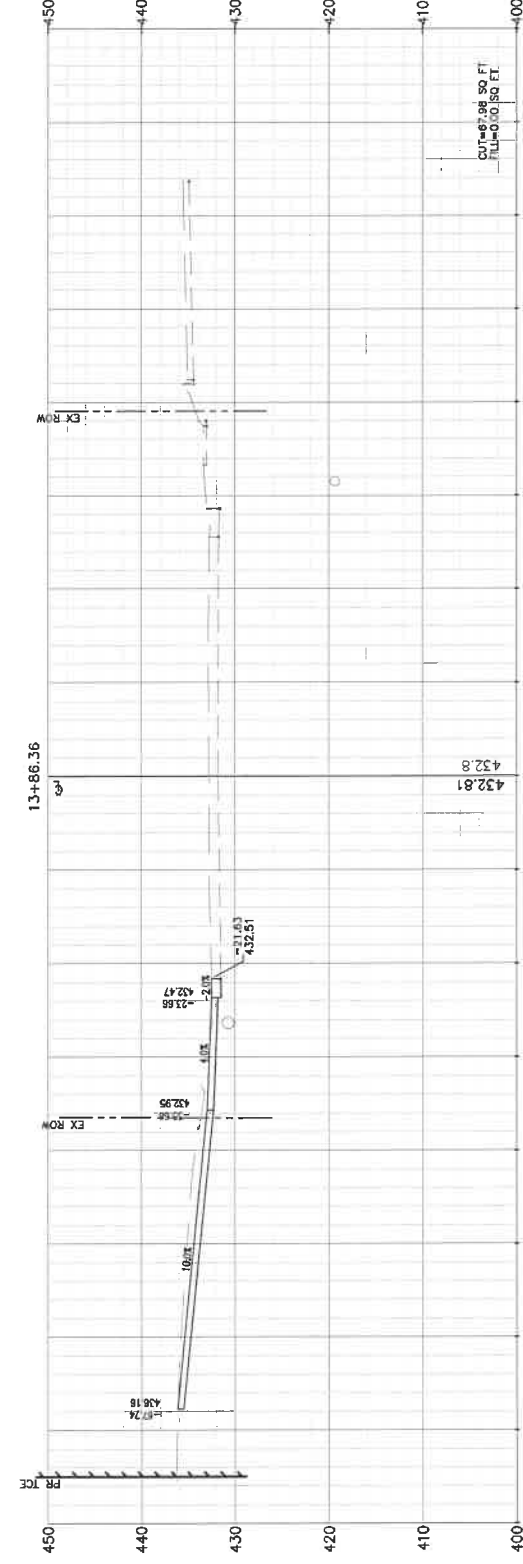
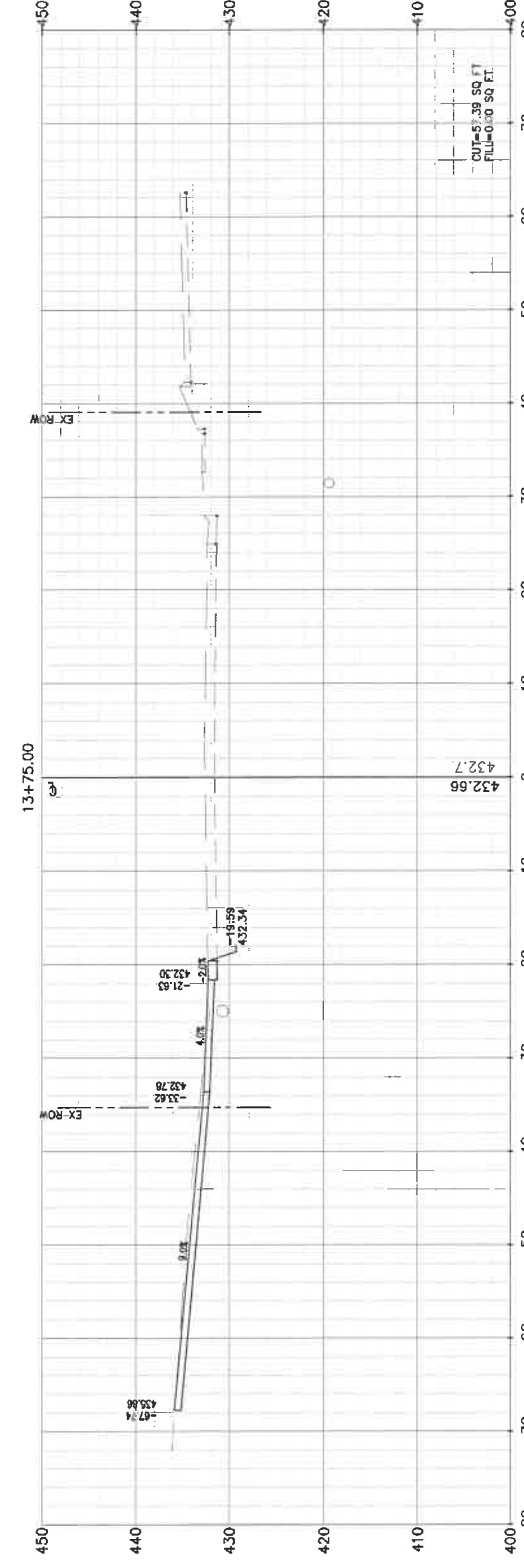
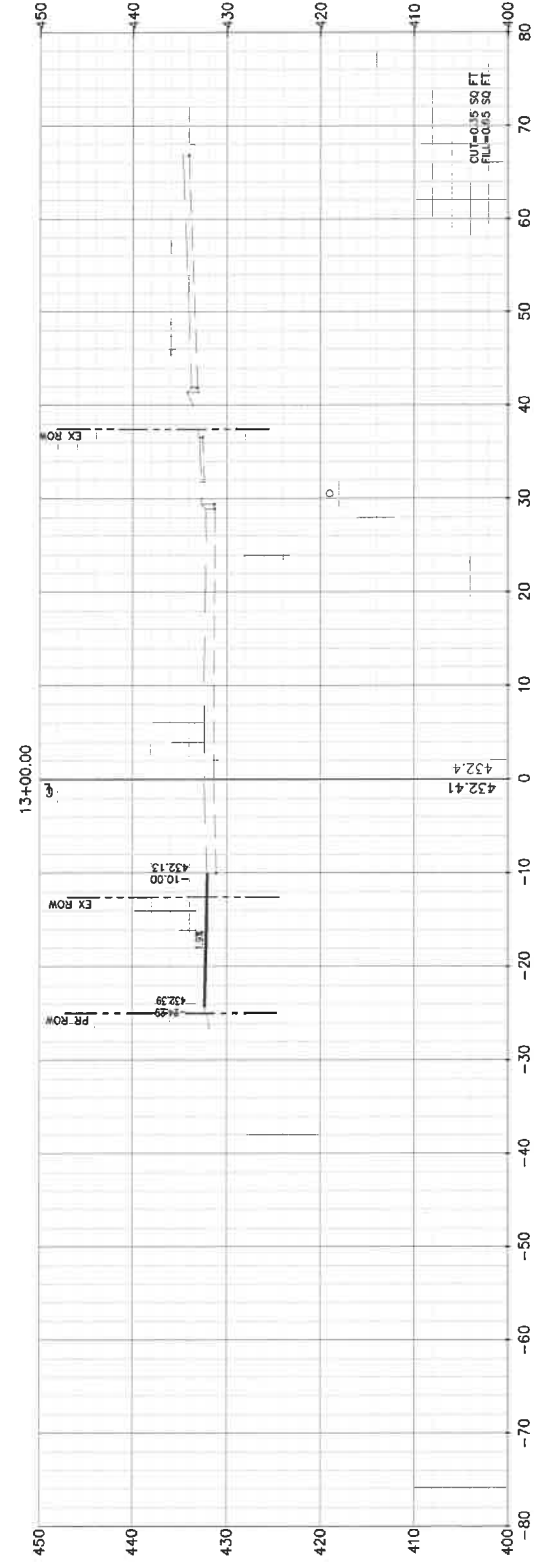
BRIAN E. COURTWRIGHT
NUMBER
PE-000800281



Corporate Engineering Certificate # 000381

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CMAQ FUNDS



TENBROOK CROSS SECTIONS
 ROADWAY IMPROVEMENTS
 JEFFCO BLVD AND TENBROOK RD
 ARNOLD, MISSOURI
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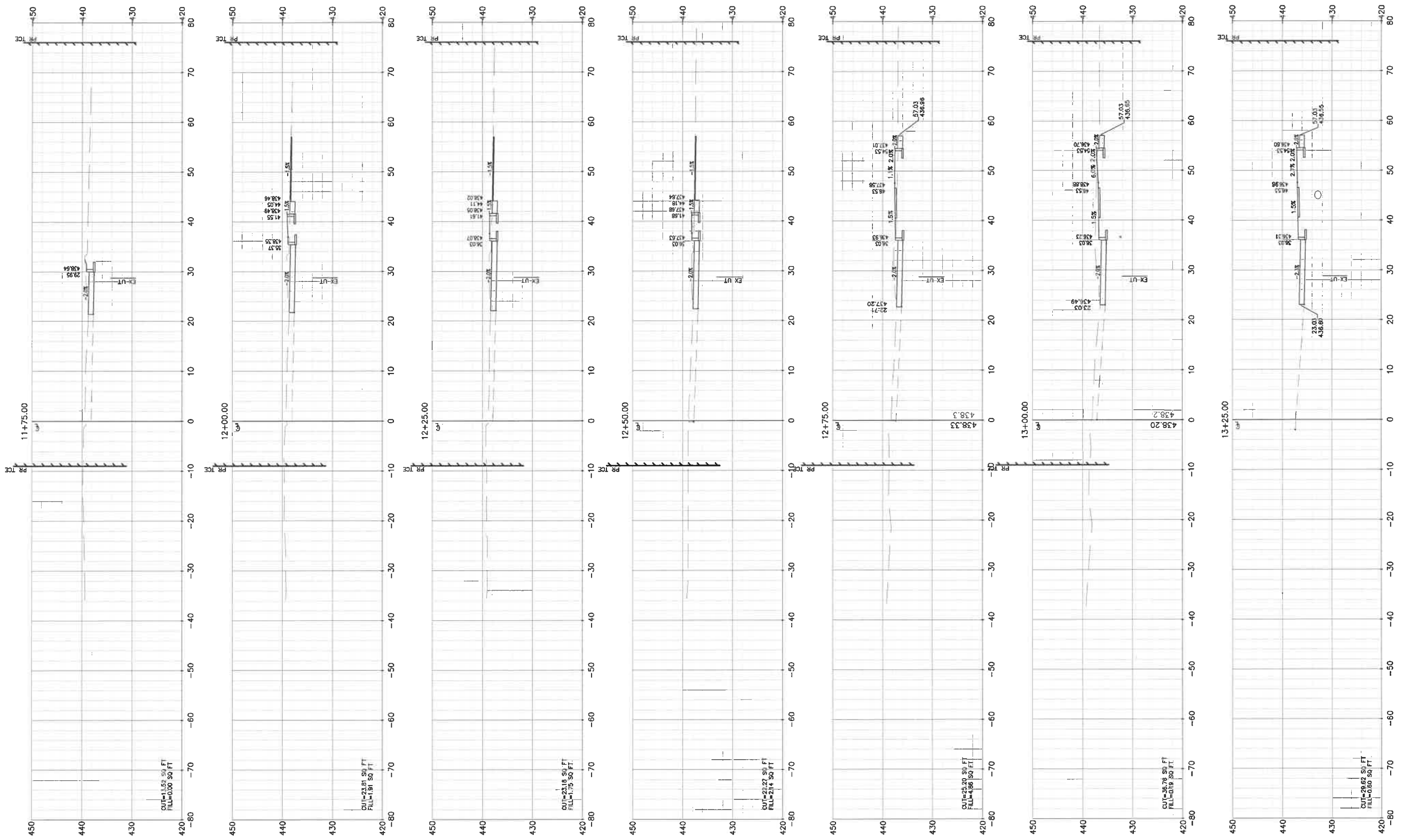
TRANSPORTATION ENGINEERS+PLANNERS
 1240 OLIVE BLVD, SUITE 430
 ST. LOUIS, MO 63111
 (314) 878-8844
 480 COTTONWOOD RD, SUITE B
 GLEN CARBON, IL 62344
 (618) 656-2612
 www.ctbpllc.com

DATE	DESCRIPTION
3/9/16	MODOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PREFINAL PLANS
1/26/18	PS&E PLANS

CIVIL ENGINEER
 DATE PREPARED: 1/26/18
 ROUTE: SL STATE: MO
 DISTRICT: SL SHEET NO.: 46
 COUNTY: JEFFERSON
 JOB NO.: 129-15
 CONTRACT ID.:
 PROJECT NO.:
 BRIDGE NO.:



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CROSS SECTIONS
ROADWAY IMPROVEMENTS
JEFFCO BLVD AND TENBROOK RD
ARNOLD, MISSOURI
CMAQ-5403(668) TIP 6624-16**

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ENGINEERS+PLANNERS**
12400 OLIVE BLVD, SUITE 430
ST. LOUIS, MO 63141
(314) 916-6644
4800 COTTAGEWOOD RD, SUITE B
ST. LOUIS, MO 6304
(618) 686-2812
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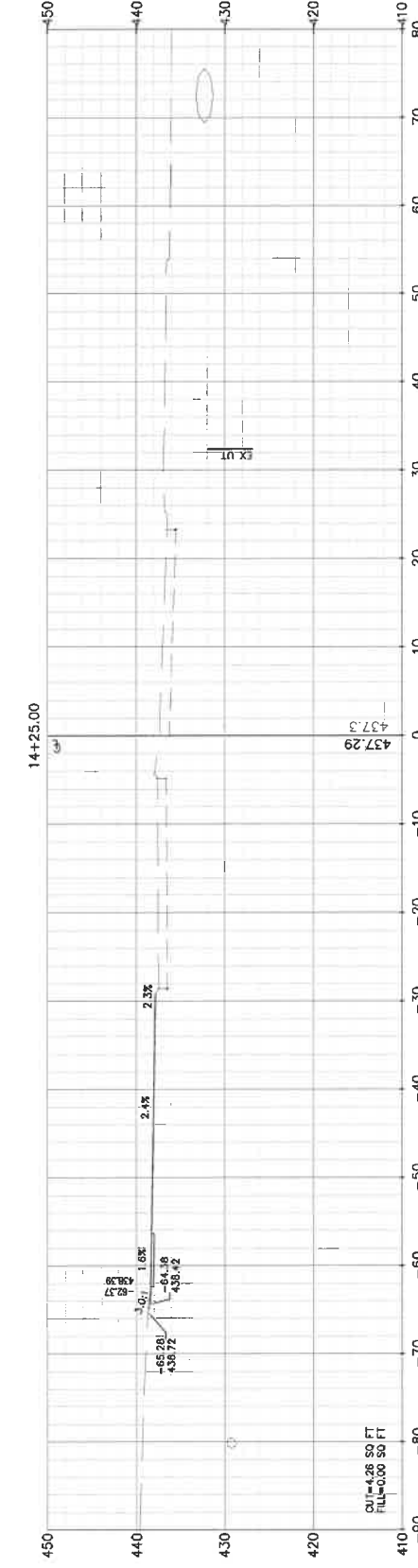
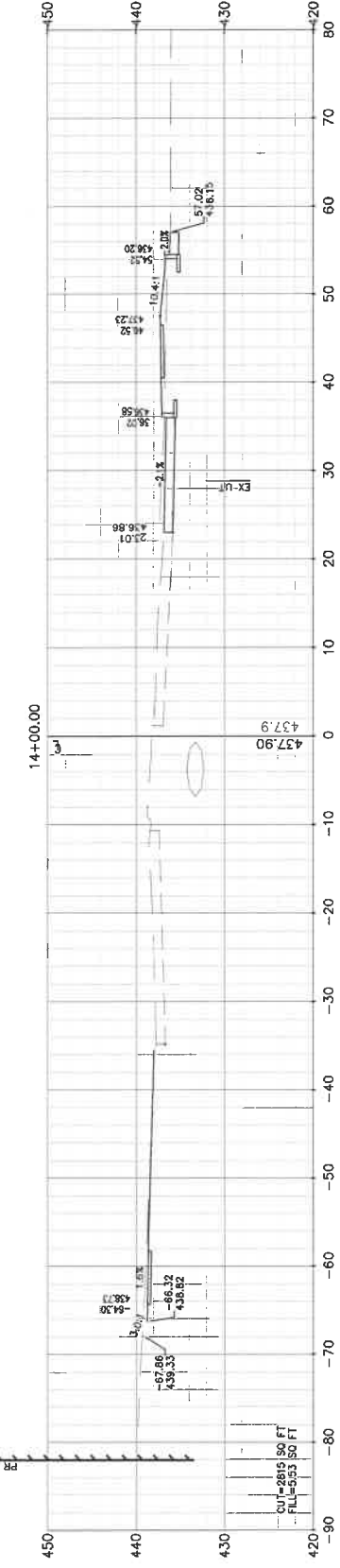
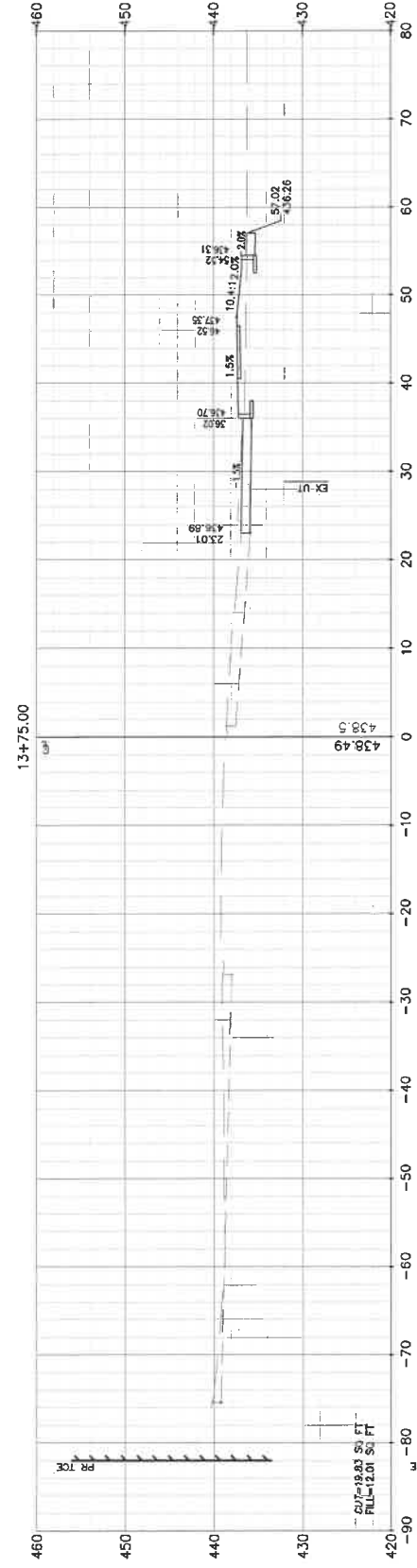
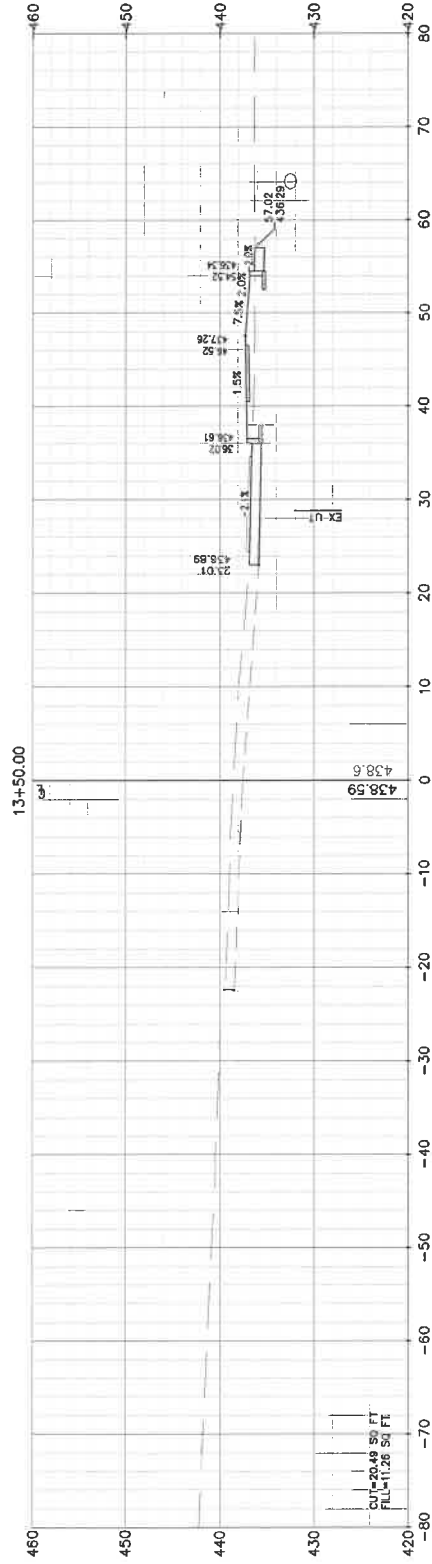
DATE	DESCRIPTION
3/9/16	MO DOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PRELIM PLANS
1/26/18	PS&E PLANS

PROJECT NO.	
BRIDGE NO.	
COUNTY	JEFFERSON
JOB NO.	129-15
CONTRACT ID.	
DISTRICT	SL
SHEET NO.	47
ROUTE	STATE MO
DATE PREPARED	1/26/18
CIVIL ENGINEER	

Corporate Engineering
Certificate # 000381

STATE OF MISSOURI
BRIAN E. COURTWRIGHT
NUMBER
PE-2006002817
PROFESSIONAL ENGINEER

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CMAQ FUNDS

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 CROSS SECTIONS
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 ST. LOUIS, MO 63141
 (314) 974-6464
 450 COTTONWOOD DR, SUITE B
 GLEN CARBON, IL 62034
 (618) 956-2612
 www.gbbtraffic.com

DATE	DESCRIPTION
3/5/16	MDOT PRELIMINARY APPROVAL
12/5/17	FINAL R/W PLANS (REV)
12/13/17	PRELIM PLANS
1/26/18	PS&E PLANS

PROJECT NO.	
BRIDGE NO.	
COUNTY	JEFFERSON
JOB NO.	129-15
CONTRACT ID.	
DISTRICT	SL
SHEET NO.	48
ROUTE	
STATE	MO
DATE PREPARED	1/26/18
CIVIL ENGINEER	

BRIAN E. COURTWRIGHT
 NUMBER PE-300802857
 PROFESSIONAL ENGINEER
 STATE OF MISSOURI
 Certificate # 000381

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