

FOR SPECIFIC UTILITY CONTACTS AND LOCATIONS, SEE "SITE PLAN"
 MISSOURI ONE CALL SYSTEM (DIGRITE) 1-800-344-7483 or 811

COLE COUNTY, MISSOURI

PLANS FOR PROPOSED BRIDGE REPLACEMENT OVER CLARK BRANCH

BRO-B026(23), BRIDGE NO. 17300121

OLD FORGE ROAD

MECO PROJECT NO. 401-057

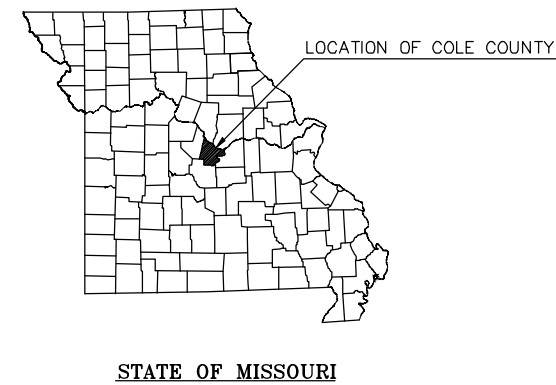
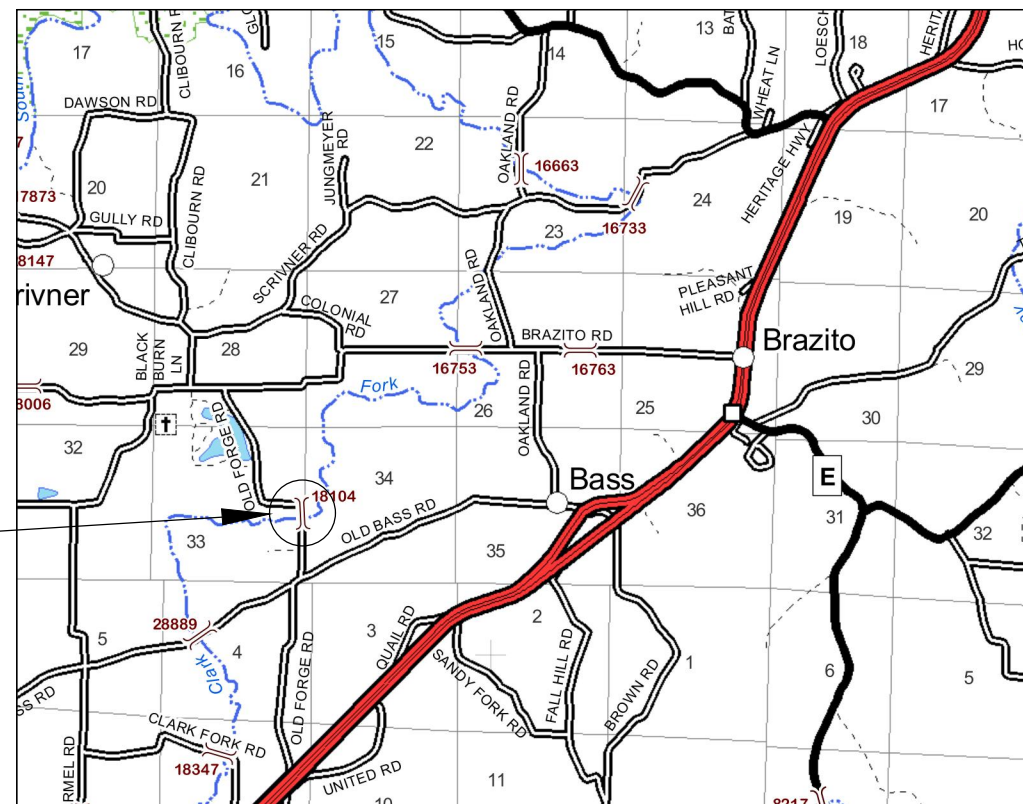
MECO PROJECT NO. 401-057
 COLE COUNTY, MISSOURI
 BRO-B026(23)
 SECTIONS 33 & 34
 TOWNSHIP 43N-RANGE 13W

DESIGN DESIGNATION

CURRENT AADT (2020) = 60 VEH. PER DAY
 DESIGN AADT (2040) = 102 VEH. PER DAY
 CURRENT SPEED LIMIT = 30 MILES PER HOUR
 DESIGN SPEED LIMIT = 30 MILES PER HOUR
 FUNCTIONAL CLASS: RURAL LOCAL
 PERCENT TRUCKS: 10%
 BEGINNING STATION: 2+70.00
 ENDING STATION: 8+50.00
 PROJECT LENGTH: 580'

INDEX OF SHEETS

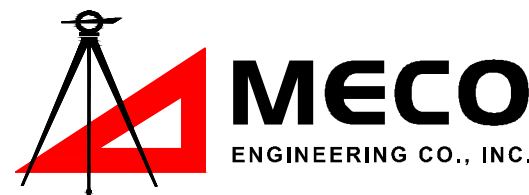
COVER SHEET.....	1
SITE PLAN.....	2
PROPOSED ROADWAY PROFILE.....	3
GENERAL NOTES, PLAN, & ELEVATION.....	4
BORING LOGS.....	5
RIGHT-OF-WAY & TEMP. EASEMENT PLAN.....	6
GENERAL DETAILS & QUANTITIES.....	7
TRAFFIC CONTROL DEVICES.....	8
END BENT & PILING DETAILS.....	9
END BENTS LAYOUT.....	10
END BENTS REINFORCEMENT.....	11
PRESTRESSED I GIRDER DETAILS.....	12
PRECAST PRESTRESSED PANELS.....	13
SLAB DETAILS.....	14
VERTICAL SLAB DRAINS.....	15
INTERMEDIATE STEEL DIAPHRAMS.....	16
BILL OF REINFORCING STEEL.....	17
CONCRETE BARRIER CURB.....	18-19
CROSS SECTIONS.....	20-21
GRADING, ROCK BLANKET, FENCE & GUARDRAIL.....	22
BRIDGE ANCHOR AND TRANSITION SECTION.....	23
FENCING.....	24
MoDOT STANDARD SHEET.....	606.31B 1/1
MoDOT STANDARD SHEET.....	706.35H 1/1
MoDOT STANDARD SHEET.....	806.10J 1-6/6



BRIDGE NO. 17300121

LOCATION MAP

UTILITIES:
 NO KNOWN UTILITIES



mecoengineering.com
 MO Engineering Lic. #000898 - IL Design Firm #184-001749

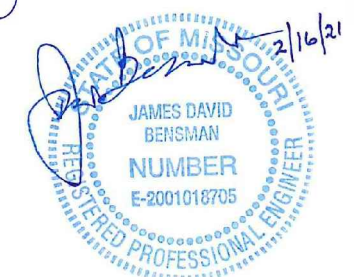
OFFICE LOCATIONS
 HANNIBAL, MO
 JEFFERSON CITY, MO
 BRANSON, MO
 PITTSFIELD, IL
 SPRINGFIELD, IL

COLE COUNTY, MISSOURI

Eric Landwehr 11-4-2020
 COLE COUNTY PUBLIC WORKS DATE
 ERIC LANDWEHR, P.E.,
 COUNTY ENGINEER

MECO ENGINEERING CO., INC.

SUBMITTED: 2/16/21
 ENGINEER *James David Bensman* DATE



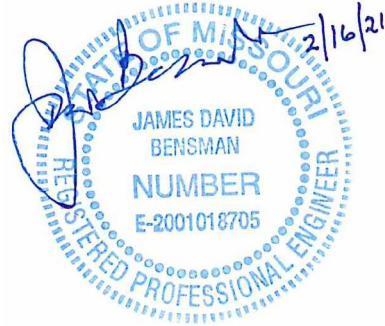
P.E. SEAL

THE CONTRACTOR SHALL CONSTRUCT ALL TEMPORARY STREAM CROSSINGS, COFFERDAMS, PERFORM DEWATERING, AND OTHER ACTIVITIES REGULATED BY THE US ARMY CORPS OF ENGINEERS AND MISSOURI DEPARTMENT OF NATURAL RESOURCES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

MODOT AND FHWA RESERVES THE RIGHT TO INSPECT ANY AND ALL WORK PERFORMED ON THIS PROJECT. THE CONTRACTOR SHALL GRANT THEM ACCESS TO ALL PARTS OF THE PROJECT.

THE CONTRACTOR SHALL PERFORM ALL NECESSARY TEMPORARY EROSION CONTROL WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE ATTACHED MODOT STANDARD SHEETS, CONTRACT PROVISIONS, AND APPLICABLE REGULATORY AGENCY REQUIREMENTS.

ALL TREES AND BRUSH WITHIN PROJECT RIGHT-OF-WAY SHALL BE CLEARED AND GRUBBED BY THE PROJECT CONTRACTOR AS A PART OF THE CLEARING AND GRUBBING BID ITEM. OTHER AREAS WITHIN THE TEMPORARY CONSTRUCTION EASEMENT LIMITS MAY BE CLEARED AND GRUBBED BY THE CONTRACTOR, WITHOUT ADDITIONAL PAYMENT, AS NEEDED TO COMPLETE THE PROJECT.



NOTE TO CONTRACTOR:

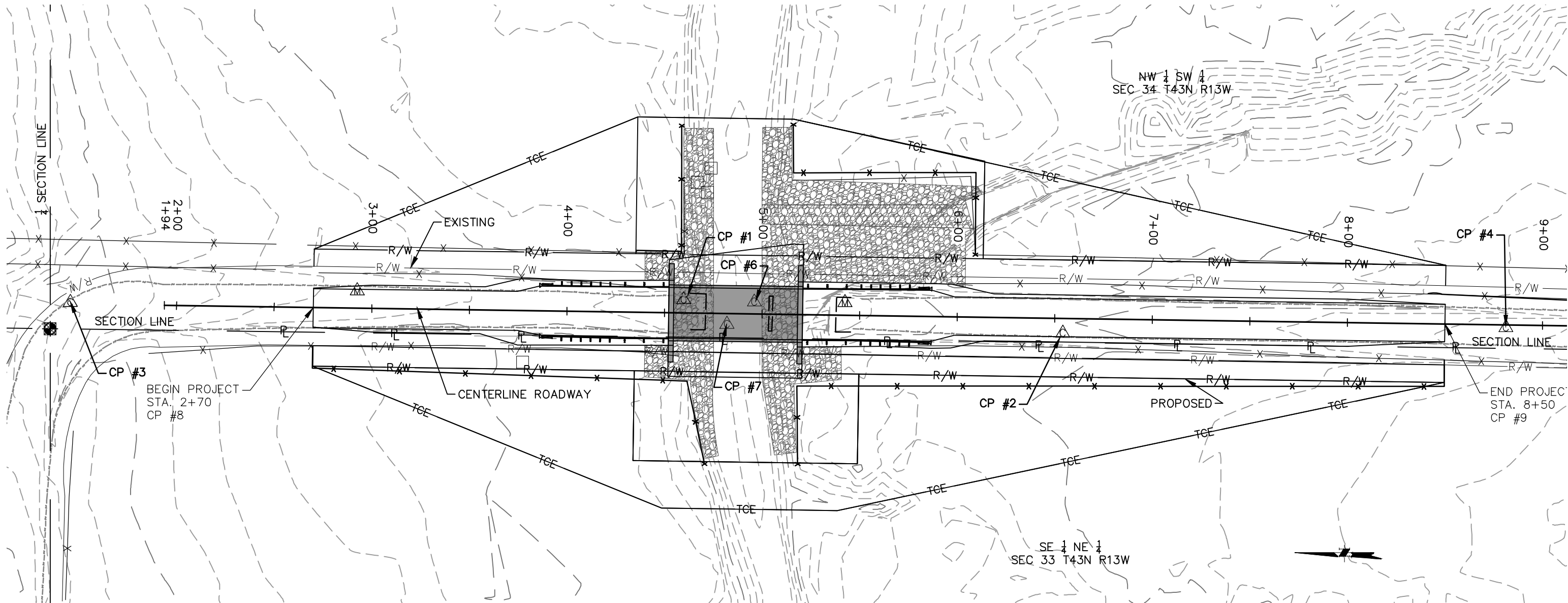
CONTRACTOR TO REMOVE EXISTING BRIDGE, PIERS, AND ABUTMENTS DOWN TO NO LESS THAN 2 FEET BELOW THE PROPOSED CREEK FLOWLINE ELEVATION AT THE BRIDGE CENTERLINE OR TO THE TOP OF EXISTING BEDROCK, WHICHEVER IS HIGHER.

UNDERGROUND UTILITIES NOTE:

UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS AND THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS THE EXISTENCE OF WHICH IS AT PRESENT NOT KNOWN. VERIFICATION OF THE LOCATIONS OF UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, WILL BE THE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR.

Control Point Table

Point #	Northing	Easting	Description	Elevation
1	945864.8937	1681759.9147	CP SPK	741.523
2	945670.6402	1681742.7081	CP SPK	739.769
3	946179.2138	1681758.6011	CP SPK	746.485
4	945443.6001	1681745.6302	CP ROD	742.464
6	945828.7321	1681758.7242	CP MAG	741.761
7	945842.7588	1681747.3034	CP MAG	741.841
8	946054.6650	1681756.6830	CL ROAD	741.800
9	945474.8458	1681747.5174	CL ROAD	741.850

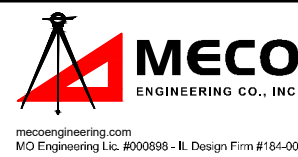


UTILITIES:

NO KNOWN UTILITIES WITHIN PROJECT LIMITS

IF THIS DRAWING IS PLOTTED MORE THAN 11x17 IN SIZE, IT IS AN ENLARGED PLOT - SCALE SHOULD BE ADJUSTED ACCORDINGLY

NO.	DATE	REVISION DESCRIPTION	BY



OFFICE LOCATIONS
 HANNIBAL, MO
 JEFFERSON CITY, MO
 BRANSON, MO
 BOONVILLE, MO
 PITTSFIELD, IL
 SPRINGFIELD, IL

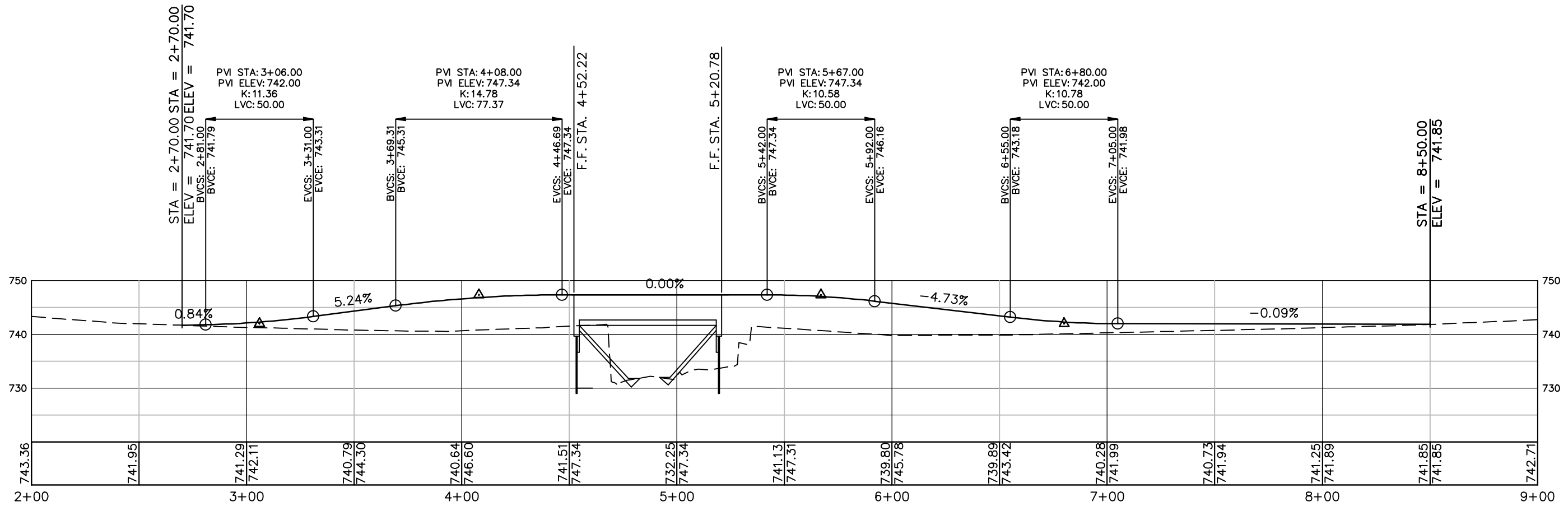
THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEARS ON THIS SHEET ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) & (PURSUANT TO 225 ILC 325/PROFESSIONAL ENGINEERING PRACTICE ACT OF 1989) ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART, OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.

OLD FORGE RD. BRIDGE #17300121 OVER CLARK FORK
PROJECT BRO-B026(23)
COLE COUNTY, MISSOURI

SURVEYED	DESIGNED	DRAWN	CHECKED	APPROVED	RELEASED
	JDB	AKL			

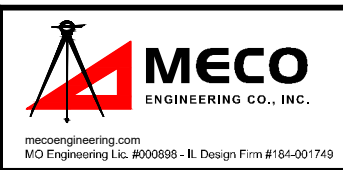
SCALE 1"=50'	FILE NO. 401057 Site	PROJECT NO. 401-057	SHEET NO. 2
-----------------	-------------------------	------------------------	-----------------------

SITE PLAN



JAMES DAVID BENSMAN
 REGISTERED PROFESSIONAL ENGINEER
 NUMBER E-2001018705
 2/16/21

NO.	DATE	REVISION DESCRIPTION	BY



OFFICE LOCATIONS
 HANNIBAL, MO
 JEFFERSON CITY, MO
 BRANSON, MO
 PITTSFIELD, IL
 SPRINGFIELD, IL

THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEARS ON THIS SHEET ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) & (PURSUANT TO 225 ILCS 325/PROFESSIONAL ENGINEERING PRACTICE ACT OF 1989) ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART, OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.

OLD FORGE RD. BRIDGE #17300121 OVER CLARK FORK PROJECT BRO-B026(23) COLE COUNTY, MISSOURI						
SURVEYED	DESIGNED	DRAWN	CHECKED	APPROVED	RELEASED	
	JDB	AKL				

PROFILE			
SCALE H: 1"=50' V: 1"=20'	FILE NO. 401057 Site	PROJECT NO. 401-057	SHEET NO. 3

PROPOSED STRUCTURE
 PRESTRESSED CONCRETE MODOT TYPE 3 BEAMS (APPROX. 68')
 SKEW = 0°
 GRADE = 0.00%

GENERAL NOTES

DESIGN SPECIFICATIONS
 A.A.S.H.T.O. - LATEST EDITION OF STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES (WITH INTERIM REVISIONS)
 SEISMIC PERFORMANCE CATEGORY A
 2019 MISSOURI STANDARD SPECIFICATIONS FOR HWY. CONSTRUCTION AND SUPPLEMENTAL SPECIFICATION REVISIONS (CONTRACTOR SHALL ALSO NOTE APPLICABLE SPECIAL PROVISIONS IN THE CONTRACT DOCUMENTS)

DESIGN LOADING
 HS20 LOADING
 EARTH 120 LBS./ CUBIC FT.
 EQUIVALENT FLUID PRESSURE = 45 LBS./ CUBIC FOOT
 HS20 OPERATING RATING = 60.2 TONS
 HS20 INVENTORY RATING = 36.0 TONS

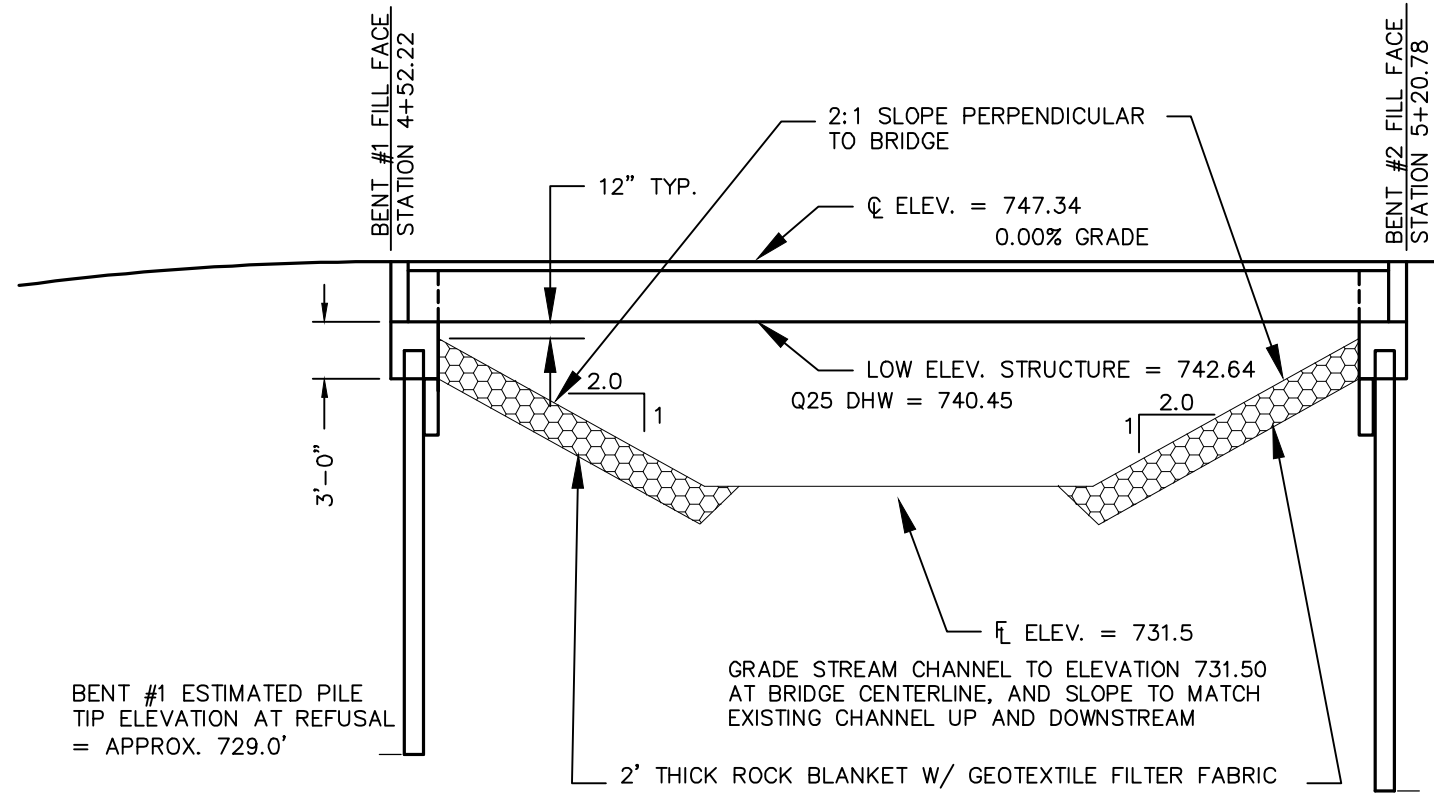
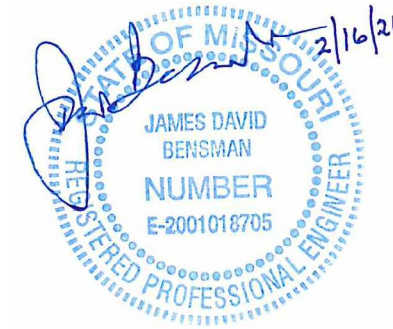
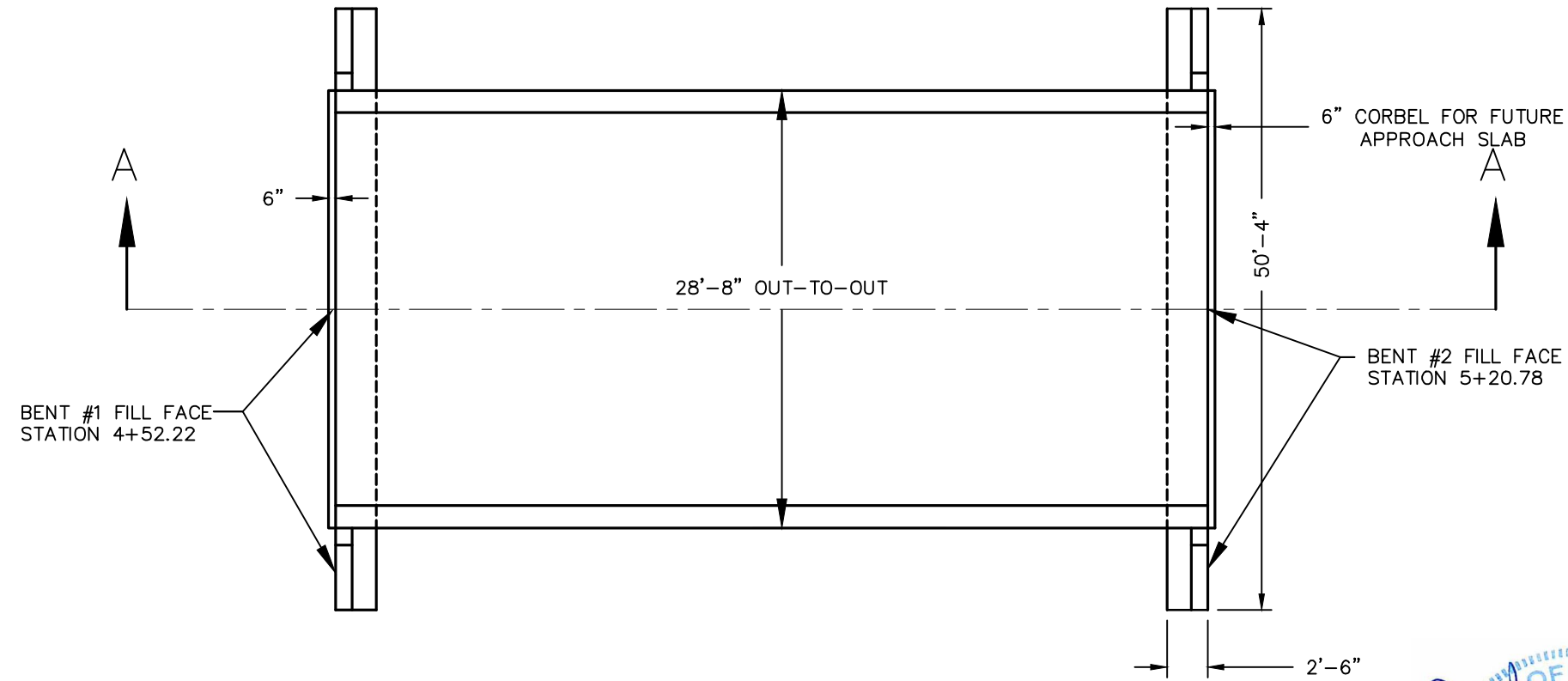
DESIGN UNIT STRESSES:
 CLASS B-1 SUBSTRUCTURE CONCRETE $F'_c = 4,000$ PSI
 CLASS B-2 CONCRETE $F'_c = 4,000$ PSI
 CLASS A-1 CONCRETE $F'_c = 5,000$ PSI
 REINFORCING STEEL (GRADE 60) $f_y = 60,000$ PSI
 ALL JOINT FILLER SHALL MEET THE REQUIREMENTS OF MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION SECTION 1057.7.4.

MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1-1/2 INCHES UNLESS OTHERWISE SHOWN. ALL SUPPORTS FOR REINFORCING STEEL SHALL BE EPOXY COATED OR PLASTIC COATED WITHIN 1" OF EXPOSED SURFACES.

THE SCALE PREVENTION TREATMENT, MEETING THE REQUIREMENTS OF MISSOURI STANDARD SPECIFICATIONS 703.3.8 SHALL BE INCLUDED IN THE UNIT BID PRICE FOR CLASS B1 CONCRETE.

BEARINGS SHALL BE 60 DUROMETER NEOPRENE PADS.
 ROADWAY FILL SHALL BE COMPLETED TO THE FINAL ROADWAY SECTION AND UP TO THE ELEVATION OF THE BOTTOM OF THE CONCRETE BEAM WITHIN THE LIMITS OF THE STRUCTURE AND FOR NOT LESS THAN 25 FEET IN BACK OF THE FILL FACE OF THE END BENTS BEFORE THE PILES ARE DRIVEN FOR ANY BENTS FALLING WITHIN THE EMBANKMENT SECTION

ALL PILES SHALL BE DRIVEN TO PRACTICAL REFUSAL.
 WHENEVER THERE IS A CONFLICT BETWEEN THE DESIGN DRAWINGS AND THE SPECIFICATIONS, THE DRAWINGS WILL GOVERN.
 ALL CONCRETE AND REINFORCING STEEL FOR THE OPEN CONCRETE BARRIER CURB SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OPEN CONCRETE BARRIER CURB.



HYDRAULIC DATA
 DRAINAGE AREA = 7.42 SQUARE MILES
 DRAINAGE BASIN SLOPE = 24.2 FT/MILE
 CHANNEL SLOPE IN THE VICINITY OF THE STRUCTURE = 0.0155 FT./FT.

FREQUENCY OF FLOOD (YEARS)	MAGNITUDE OF FLOOD (CFS)	STAGE OF FLOOD (ELEVATION)
2	787	737.46
5	1424	739.99
10	1943	740.41
25	2668	740.45
50	3191	740.33
100	3743	741.12
500	5050	744.11

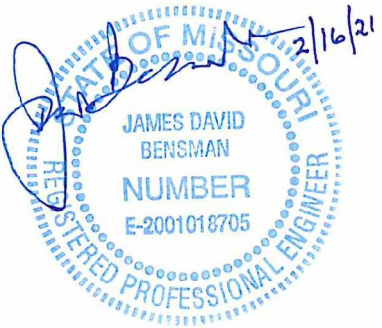
DESIGN FREQUENCY	Q25
DESIGN DISCHARGE	2668 cfs
MAXIMUM BACKWATER FOR DESIGN FREQUENCY	1 FEET
DESIGN HIGH WATER ELEVATION AT THE STRUCTURE	740.45
LOW ELEVATION OF STRUCTURE	742.64
100-YEAR DISCHARGE	3743 cfs
100-YEAR HIGH WATER ELEVATION AT THE STRUCTURE	741.12
APPROACH ROADWAY OVERTOPPING FREQUENCY	Q500

PILE AND FOOTING DATA				
		BENT NUMBER	1	2
BEARING PILE	PILE TYPE		HP12X53	HP12X53
	NUMBER		4	4
	APPROXIMATE LENGTH AT CENTER	FT.	13	13
	DESIGN BEARING	TONS	58.6	58.6
	HAMMER ENERGY REQUIRED	FT.-LBS.	13,200	13,200
	PILE TIP REINFORCEMENT		YES	YES
SPREAD FOOTING	PREBORE PILING (AVERAGE)	FT.	10.0	10.0
	FOUNDATION MATERIAL		N/A	N/A
	DESIGN BEARING	(TONS/SQ. FT.)	N/A	N/A

NOTE: ALL EXCAVATION FOR STRUCTURE IS CLASSIFIED AS CLASS 1 FOR THIS PROJECT.

IF THIS DRAWING IS PLOTTED MORE THAN 11x17 IN SIZE, IT IS AN ENLARGED PLOT - SCALE SHOULD BE ADJUSTED ACCORDINGLY	NO.	DATE	REVISION DESCRIPTION	BY	 meceoengineering.com MO Engineering Lic. #000898 - IL Design Firm #184-001749	OFFICE LOCATIONS HANNIBAL, MO JEFFERSON CITY, MO BRANSON, MO PITTSFIELD, IL SPRINGFIELD, IL	THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEARS ON THIS SHEET ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) & (PURSUANT TO 225 ILCS 325/PROFESSIONAL ENGINEERING PRACTICE ACT OF 1989) ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART, OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.	OLD FORGE RD. BRIDGE #17300121 OVER CLARK FORK PROJECT BRO-B026(23) COLE COUNTY, MISSOURI					GENERAL NOTES, BRIDGE PLAN, AND ELEVATION			
	SURVEYED FB#/PG# SV/SV	DESIGNED JDB	DRAWN AKL	CHECKED				APPROVED	RELEASED	SCALE NTS	FILE NO. 401057gn	PROJECT NO. 401-057	SHEET NO. 4			

DAILY FIELD REPORT BOREHOLE LOG		SHEET 1 OF 1									
		PROJECT NUMBER: 19-6060 HOLE NUMBER: B1									
PROJECT: Cole Co. Bridge		LOCATION: Old Forge Rd. over Clark Fork									
COORDINATES: 1681757, 945775 MO State Plane		DRILLING CONTRACTOR: Bulldog Drilling									
DRILL MAKE AND MODEL: CME 75	DEPTH TOP OF ROCK: 8 feet	DEPTH CASING & SIZE:	HOLE SIZE: 3 inch								
ELEVATION: -741.2'	ANGLE FROM VERT. AND BEARING:	DEPTH BOTTOM OF HOLE: 18 feet									
WATER LEVEL:	FLUIDS AND ADDITIVES:	DATE START: 10/23/19	DATE FINISH: 10/23/19								
LOGGER: RJS											
ELEVATION	DEPTH BELOW SURFACE	SAMPLE			STANDARD PENETRATION TEST RESULT	SYMBOLIC LOG	MOISTURE %	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	SOIL DESCRIPTION
		INTERVAL (ft)	TYPE & NUMBER	RECOVERY							
0											Aggregate Road
1		4 - 4 - 5 [9]									1" Gravel
2	1-2.5	SS1	11"/18"		PP = 2.5						10" Dark Brown Silt, Stiff, Dry, Low dry strength
3											
4	3.5-5	SS2	9"/18"		PP = 3.5						Dark Brown Gravelly Silt, Stiff, Dry, Low dry Strength
5											
6	6-7.5	SS3	11"/18"		PP = N/A						Silt with Sand and Gravel, Stiff, Moist, Medium dry strength
7	7.5-8	SS4	5"		50/5"						Weathered Limestone, Very Dense, Moist
8											2.4 ft - Dolomite, Hard, Aphanitic, Massive Bed, Slightly Weather, Pitted Very Poor RQD
9											
10											3.5 ft - Dolomitic Sandstone, Medium Hard, Very fine Crystalline, Massive Bed, Medium Weathered, Pitted, Fair RQD
11											Fractured Dolomite filled and cemented together
12	8-18	Core	9.5/10"		57/120 = 47.5%						3.6 ft - Dolomite, Hard, Aphanitic to Very Fine Crystalline, Medium Weathered Dense, Thin Beds, Very Poor RQD
13					Poor						Fractured Dolomite filled and cemented together, beds are tilted
14											
15											
16											
17											
18											Bottom of Hole - 18 feet
19											



REMARKS: Completed with pumped bentonite grout at depth and spider plug and matching road gravel at surface.

The stratifications lines represent approximate strata boundaries. In situations the transition may be gradual.

DAILY FIELD REPORT BOREHOLE LOG		SHEET 1 OF 1									
		PROJECT NUMBER: 19-6060 HOLE NUMBER: B2									
PROJECT: Cole Co. Bridge		LOCATION: Old Forge Rd. over Clark Fork									
COORDINATES: 1681759, 945903 - MO State Plane		DRILLING CONTRACTOR: Bulldog Drilling									
DRILL MAKE AND MODEL: CME 75	DEPTH TOP OF ROCK: 9.9 feet	DEPTH CASING & SIZE:	HOLE SIZE: 3 inch								
ELEVATION: -740.9'	ANGLE FROM VERT. AND BEARING:	DEPTH BOTTOM OF HOLE: 20 feet									
WATER LEVEL:	FLUIDS AND ADDITIVES:	DATE START: 10/23/19	DATE FINISH: 10/23/19								
LOGGER: RJS											
ELEVATION	DEPTH BELOW SURFACE	SAMPLE			STANDARD PENETRATION TEST RESULT	SYMBOLIC LOG	MOISTURE %	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	SOIL DESCRIPTION
		INTERVAL (ft)	TYPE & NUMBER	RECOVERY							
0											Aggregate Road
1		5 - 8 - 5 [13]									Dark Brown Silt with Gravel, Stiff, Moist, Medium Dry Strength
2	1-2.5	SS1	14"/18"		PP = 3.25						
3											
4	3.5-5	SS2	10"/18"		PP = 1.5						Dark Brown Silt, Medium Stiff, Moist, Low Dry Strength
5											
6	6-7.5	SS3	12"/18"		PP = 0.75						Silt with Gravel, Medium Stiff, Moist, Low Dry Strength
7											Weathered Limestone
8											
9	9-10	SS4	4"/6"		50 / 6"						Weathered Limestone, Hard, Moist, Medium Dry Strength
10											Top of Rock - 9.9 feet
11											2 ft - Dolomite, Medium Hard, Aphanitic to Very Fine Crystalline, Banded Bedding, Moderate Weathering, Pitted, Poor RQD
12											0.7 ft - Broken Dolomite cemented together with Sandstone, Medium Hard, Fine Crystalline, Pitted to Dense, Very Poor RQD
13											0.3 ft - Shale, Soft, Aphanitic, Banded Bedding, Slightly Weathered Dense
14											
15	9.9-20	Core	9.25/10"		32.5/120 = 27.1%						0.25 ft - Dolomite, Medium Hard, Pitted to Vuggy,
16					Poor						6 ft - Dolomite, Medium Hard, Pitted to Dense, Slight to Moderate Weathering Very Poor RQD
17											
18											
19											Bottom of Hole - 20 feet

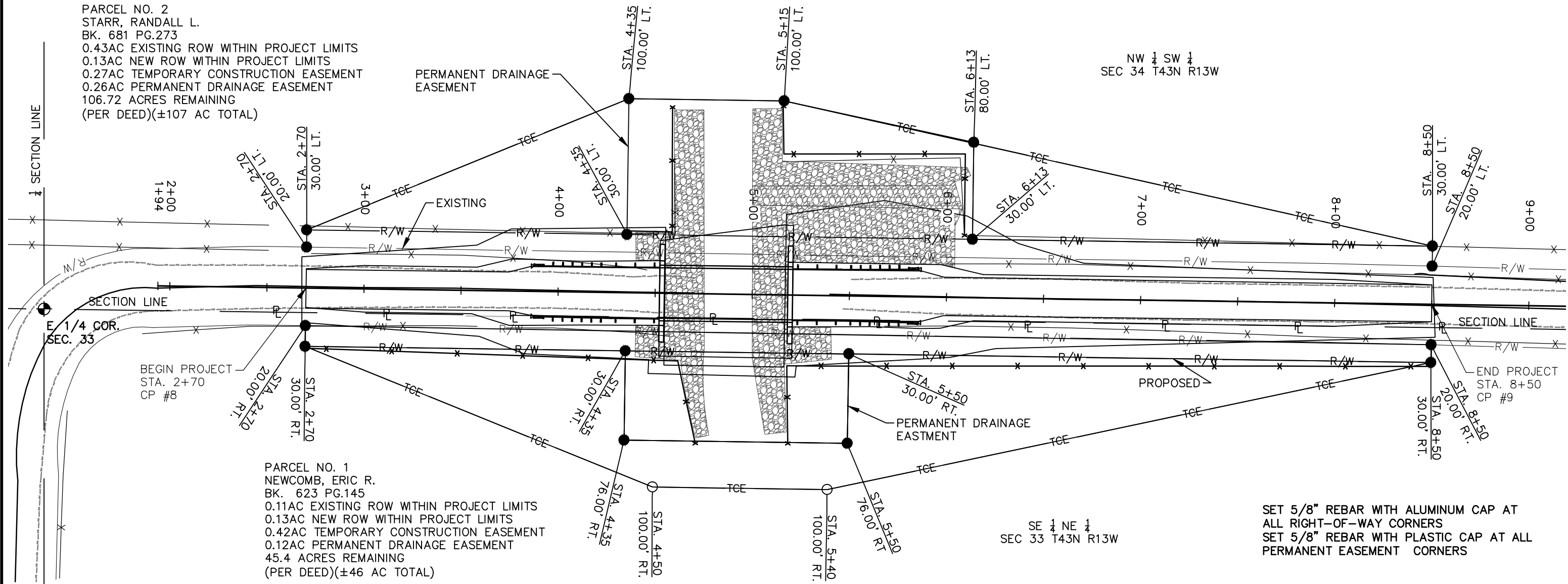


REMARKS: Completed with pumped bentonite grout at depth and spider plug and matching road gravel at surface.

The stratifications lines represent approximate strata boundaries. In situations the transition may be gradual.

PARCEL NO. 2
 STARR, RANDALL L.
 BK. 681 PG.273
 0.43AC EXISTING ROW WITHIN PROJECT LIMITS
 0.13AC NEW ROW WITHIN PROJECT LIMITS
 0.27AC TEMPORARY CONSTRUCTION EASEMENT
 0.26AC PERMANENT DRAINAGE EASEMENT
 106.72 ACRES REMAINING
 (PER DEED)(±107 AC TOTAL)

NW 1/4 SW 1/4
 SEC 34 T43N R13W



BEGIN PROJECT
 STA. 2+70
 CP #8

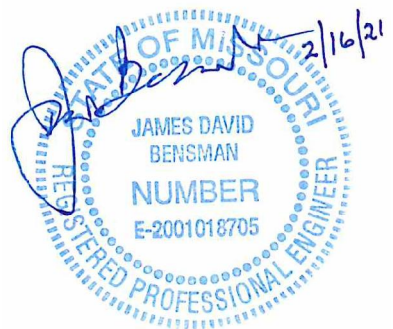
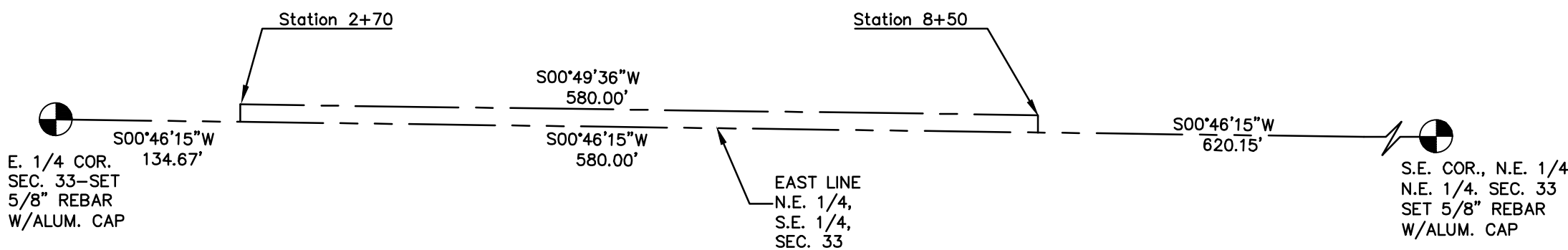
END PROJECT
 STA. 8+50
 CP #9

PARCEL NO. 1
 NEWCOMB, ERIC R.
 BK. 623 PG.145
 0.11AC EXISTING ROW WITHIN PROJECT LIMITS
 0.13AC NEW ROW WITHIN PROJECT LIMITS
 0.42AC TEMPORARY CONSTRUCTION EASEMENT
 0.12AC PERMANENT DRAINAGE EASEMENT
 45.4 ACRES REMAINING
 (PER DEED)(±46 AC TOTAL)

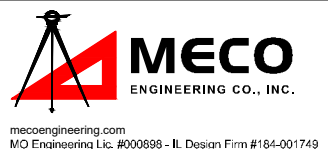
SE 1/4 NE 1/4
 SEC 33 T43N R13W

SET 5/8" REBAR WITH ALUMINUM CAP AT ALL RIGHT-OF-WAY CORNERS
 SET 5/8" REBAR WITH PLASTIC CAP AT ALL PERMANENT EASEMENT CORNERS

SECTION TIES
 NOT TO SCALE



NO.	DATE	REVISION DESCRIPTION	BY



OFFICE LOCATIONS
 HANNIBAL, MO
 JEFFERSON CITY, MO
 BRANSON, MO
 PITTSFIELD, IL
 SPRINGFIELD, IL

THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEARS ON THIS SHEET ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) & (PURSUANT TO 225 ILC'S 325/PROFESSIONAL ENGINEERING PRACTICE ACT OF 1989) ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART, OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.

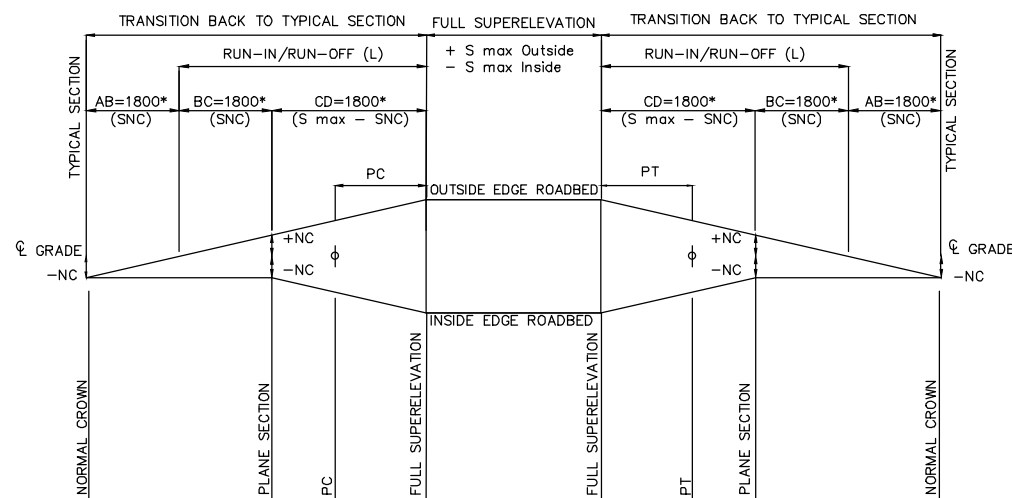
OLD FORGE RD. BRIDGE #17300121 OVER CLARK FORK
PROJECT BRO-B026(23)
COLE COUNTY, MISSOURI

SURVEYED FB#/PG# SV/SV	DESIGNED JDB	DRAWN AKL	CHECKED	APPROVED	RELEASED
------------------------------	-----------------	--------------	---------	----------	----------

RIGHT OF WAY AND TEMPORARY EASMENT PLAN			
SCALE	FILE NO.	PROJECT NO.	SHEET NO.
1"=50'	401057 Site	401-057	6

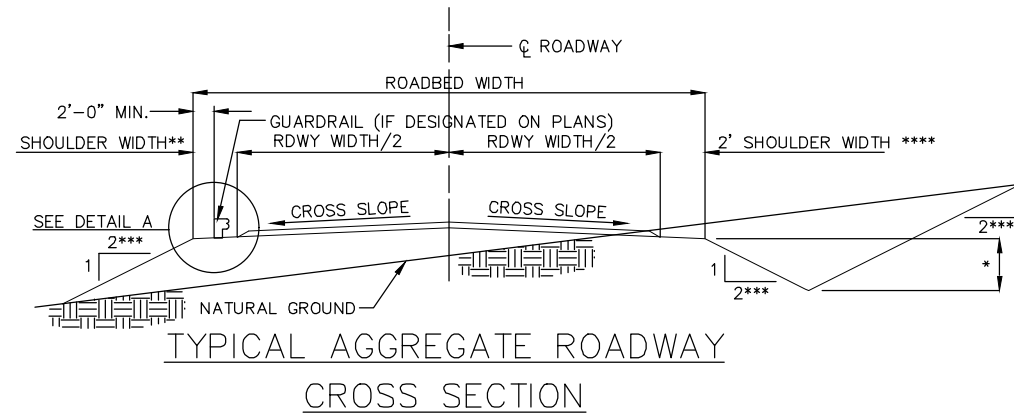
GENERAL LIST OF QUANTITIES

ITEM NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY
ROADWAY ITEMS			
2013000-JSP	CLEARING AND GRUBBING	LS	1
2035000	UNCLASSIFIED EXCAVATION (CUT)	CY	657
2035500	EMBANKMENT IN PLACE (FILL)	CY	2851
3102003	AGGREGATE SURFACE, 4" THICK	SY	1281
6062300	TRANSITION SECTION	EACH	4
6062400	BRIDGE ANCHOR SECTION	EACH	4
6063000	CRASHWORTHY END SECTION	EACH	4
6072010	BARBED WIRE FENCE	LF	880
6113020	FURNISHING ROCK BLANKET (TYPE 2)	CY	881
6113040	PLACING ROCK BLANKET (TYPE 2)	CY	881
6181000	MOBILIZATION	LS	1
6240110	GEOTEXTILE FABRIC FILTER CLOTH	SY	1321
8051099	FERTILIZING, SEEDING, AND MULCHING	ACRE	1.2
8069901-JSP	TEMPORARY EROSION CONTROL	LS	1
BRIDGE ITEMS			
2061000-JSP	CLASS 1 EXCAVATION	LS	1
2160500	REMOVAL OF BRIDGE	LS	1
7021010	PILING (HP12x53)	LF	104
7026000	PRE-BORE FOR PILING	LF	80
7027000	PILE TIP REINFORCEMENT	EA	8
7034001	CLASS B-1 CONCRETE (4000 PSI)	CY	35.4
7034213-JSP	PRECAST CONCRETE SLAB PANELS ON I-GIRDERS	SY	147.1
7034214	CLASS B-2 CONCRETE (4000 PSI)	CY	63.6
7034610	CONCRETE BARRIER CURB (BRIDGE RAIL)	LF	137
7056002-JSP	PRESTRESSED I-GIRDER	EACH	4
7060160	REINFORCING STEEL--PLAIN	LBS	8120
7101000	REINFORCING STEEL--EPOXY COATED	LBS	14048
7123610	VERTICAL SLAB DRAINS	EACH	12
7161002	PLAIN NEOPRENE BEARING PADS	EACH	8
SIGNING ITEMS			
6161005-JSP	CONSTRUCTION SIGNS	SF	77
6161030-JSP	MOVEABLE BARRICADE	EACH	2

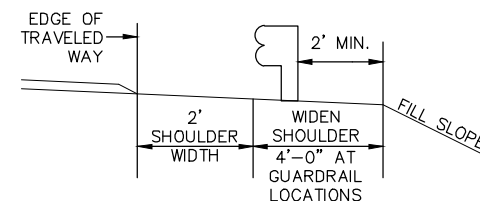


- "S" DENOTES THE MAXIMUM SUPERELEVATION IN FT. PER FT. ($S_{max} = 0.04$)
- "L" LENGTH OF SUPERELEVATION RUNOFF IN FEET. $L = 1800 (S_{max})$
- "SNC" = SLOPE OF NORMAL CROWN IN FT. PER FT. $SNC = 3/16"/FT$
- "NC" = LANE WIDTH X SNC

METHOD OF ATTAINING SUPERELEVATION



TYPICAL AGGREGATE ROADWAY CROSS SECTION



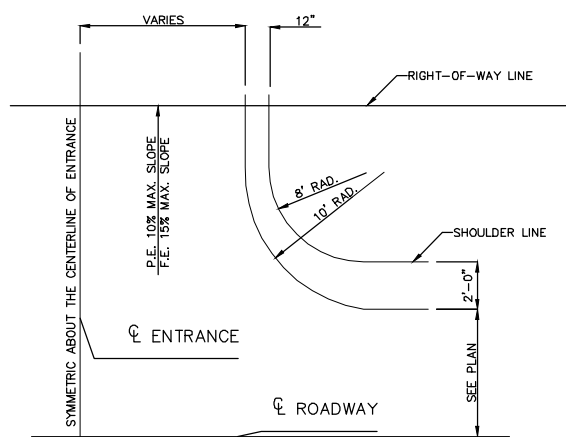
DETAIL A-GUARDRAIL LOCATIONS

GENERAL NOTES

- WHENEVER THERE IS A CONFLICT BETWEEN THE DESIGN DRAWINGS AND THE SPECIFICATIONS, THE DRAWINGS WILL GOVERN.
- THE CONTRACTOR SHALL MAKE SUITABLE AND TIMELY REQUEST TO ALL UTILITY OWNERS, PIPELINE OWNERS, OR OTHER PARTIES AFFECTED TO HAVE ALL NECESSARY ADJUSTMENTS OF PUBLIC OR PRIVATE UTILITIES, PIPELINES, OR OTHER APPURTENANCES WITHIN OR ADJACENT TO THE LIMITS OF CONSTRUCTION, AS SOON AS PRACTICAL OR POSSIBLE.

ROADBED WIDTH = 24 FEET
 ROADWAY WIDTH = 20 FEET
 SHOULDER WIDTH = 2 FEET **
 CROSS SLOPE = 3/8" PER FOOT (AGGREGATE SURFACE)
 CROSS SLOPE = 3/16" PER FOOT (ASPHALT SURFACE)

- * DITCH DEPTH VARIES (SEE SECTIONS)
- ** SHOULDER WIDTH VARIES WHERE GUARD RAIL IS INSTALLED. SEE "SITE PLAN" SHEET FOR LIMITS OF SHOULDERS.
- *** SOME SLOPES MAY VARY (SEE SECTIONS)
- **** AT SECTIONS WITHOUT GUARDRAIL



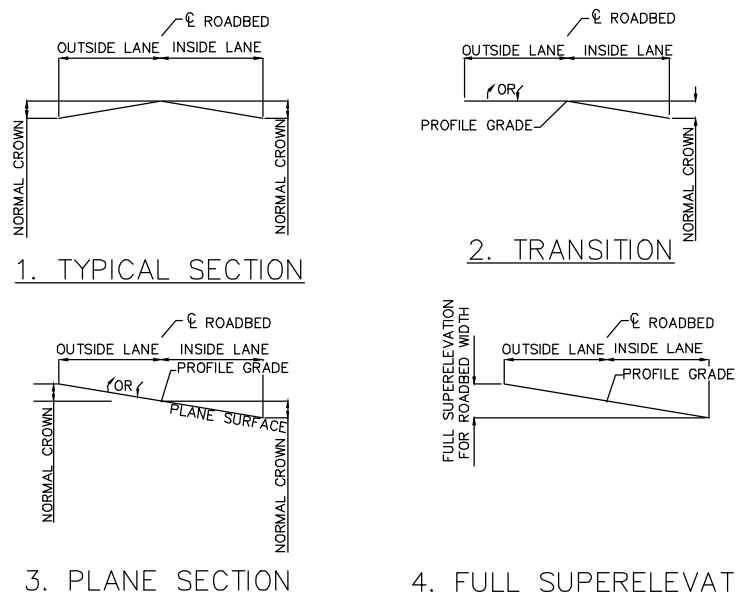
TYPICAL PRIVATE AND FIELD ENTRANCE PARTIAL DETAIL

NOTE: EXISTING ENTRANCE WILL GOVERN REPLACEMENT ENTRANCE

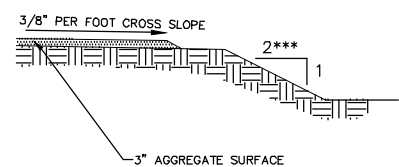
DESIGN SPEED	SUPERELEVATION AND WIDENING TABLE											
	30 M.P.H. OR LESS				40 M.P.H.				50 M.P.H.			
NORMAL SURFACE WIDTH	20'	22'	24'	20'	22'	24'	20'	22'	24'	20'	22'	24'
DEGREE OF CURVE	S			"W"			S			"W"		
0°-01' to 0°-30'	0	0	0	0	0	0	0	0	0	0	0	0
0°-31' to 1°-00'	0	0	0	0	.01	0	0	0	.01	0	0	0
1°-01' to 1°-30'	0	0	0	0	.02	2.0	0	0	.02	2.0	0	0
2°-00'	.01	2.0	0	0	.03	2.0	0	0	.03	2.0	0	0
2°-30'	.02	2.0	0	0	.03	2.0	0	0	.04	2.0	0	0
3°-00'	.02	2.0	0	0	.04	2.0	0	0	.05	2.0	0	0
3°-30'	.03	2.0	0	0	.04	2.5	0	0	.05	2.5	0	0
4°	.03	2.0	0	0	.05	2.5	0	0	.06	2.5	0	0
5°	.04	2.5	0	0	.06	2.5	0	0	.06	3.0	2.0	0
6°	.04	2.5	0	0	.06	3.0	2.0	0	.08	3.0	2.0	0
7°	.05	2.5	0	0	.07	3.0	2.0	0	.08	3.5	2.5	0
8°	.05	3.0	2.0	0	.07	3.0	2.0	0	.08	3.5	2.5	0
9°	.06	3.0	2.0	0	.08	3.5	2.5	0	MAX. CURVE 7°-30'			
10°	.06	3.0	2.0	0	.08	3.5	2.5	0				
11°	.06	3.0	2.0	0	.08	3.5	2.6	0				
12°	.07	3.5	2.5	0	.08	4.0	3.0	2.0				
13°	.07	3.5	2.5	0	.08	4.0	3.0	2.0				
14° TO 17°	.07	4.0	3.0	2.0	MAX. CURVE 12°-15'							
18° TO 19°	.08	4.5	3.5	2.5								
20°-00' TO 22°-45'	.08	5.0	4.0	2.5	MAX. CURVE 22°-45'							

- "S" DENOTES THE MAXIMUM SUPERELEVATION IN FT. PER FT. (S_{max})
- "W" DENOTES THE WIDENING IN FEET FOR SURFACING AT INSIDE SHOULDER. (ASPHALT SURFACE ONLY)
- VALUES FOR DEGREES OF CURVE NOT SHOWN ON ABOVE TABLE SHALL USE VALUES FOR NEXT HIGHER DEGREE CURVE.
- "L" DENOTES LENGTH OF SUPERELEVATION RUNOFF AND WIDENING TRANSITION IN FEET. $L = 1800 (S_{max})$
- "S_{nc}" = SLOPE OF NORMAL CROWN IN FT. PER FT.
- "NC" = LANE WIDTH X S_{nc}
- "PC" = "PT" = MIN (L/2, LC/2)

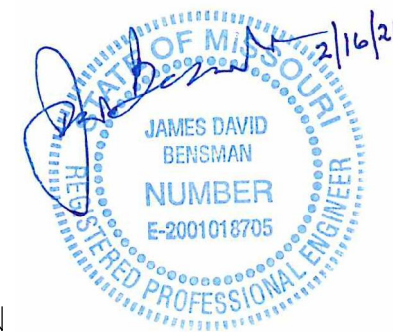
METHOD OF ATTAINING SUPERELEVATION



TYPICAL ORDER 1-2-3-4-3-2-1
 SUPERELEVATION DETAILS



HALF SECTION ENTRANCE



NO.	DATE	REVISION DESCRIPTION	BY



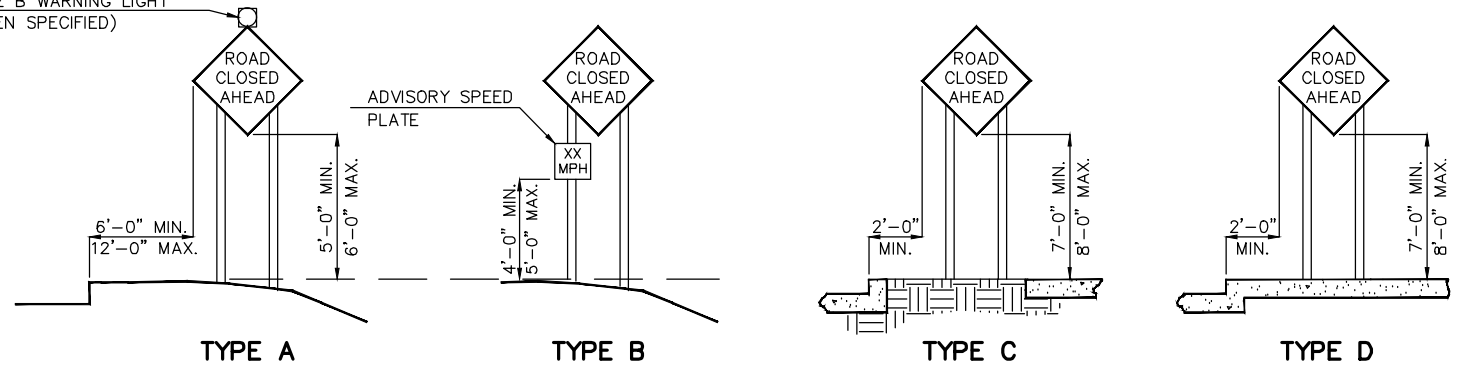
OFFICE LOCATIONS
 HANNIBAL, MO
 JEFFERSON CITY, MO
 BRANSON, MO
 PITTSFIELD, IL
 SPRINGFIELD, IL

THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEARS ON THIS SHEET ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) & (PURSUANT TO 225 ILC'S 325/PROFESSIONAL ENGINEERING PRACTICE ACT OF 1989) ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART, OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.

OLD FORGE RD. BRIDGE #17300121 OVER CLARK FORK PROJECT BRO-B026(23) COLE COUNTY, MISSOURI						
SURVEYED	DESIGNED	DRAWN	CHECKED	APPROVED	RELEASED	SCALE
JDB	JDB	AKL				NTS

GENERAL DETAILS AND QUANTITIES			
FILE NO.	PROJECT NO.	SHEET NO.	
401057GD	401-057	7	

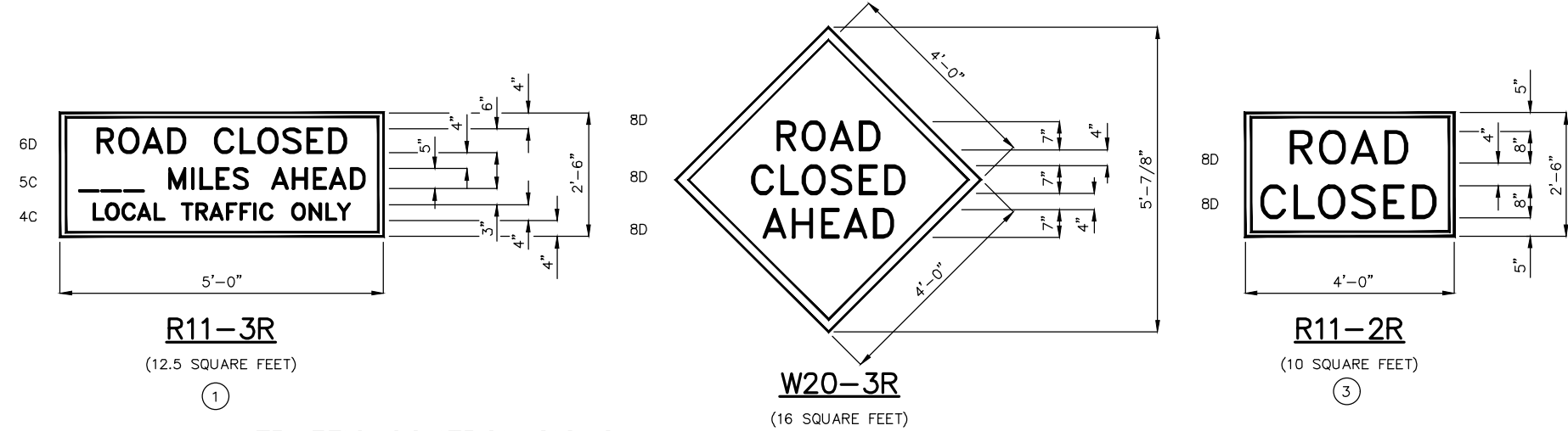
TYPE B WARNING LIGHT
(WHEN SPECIFIED)



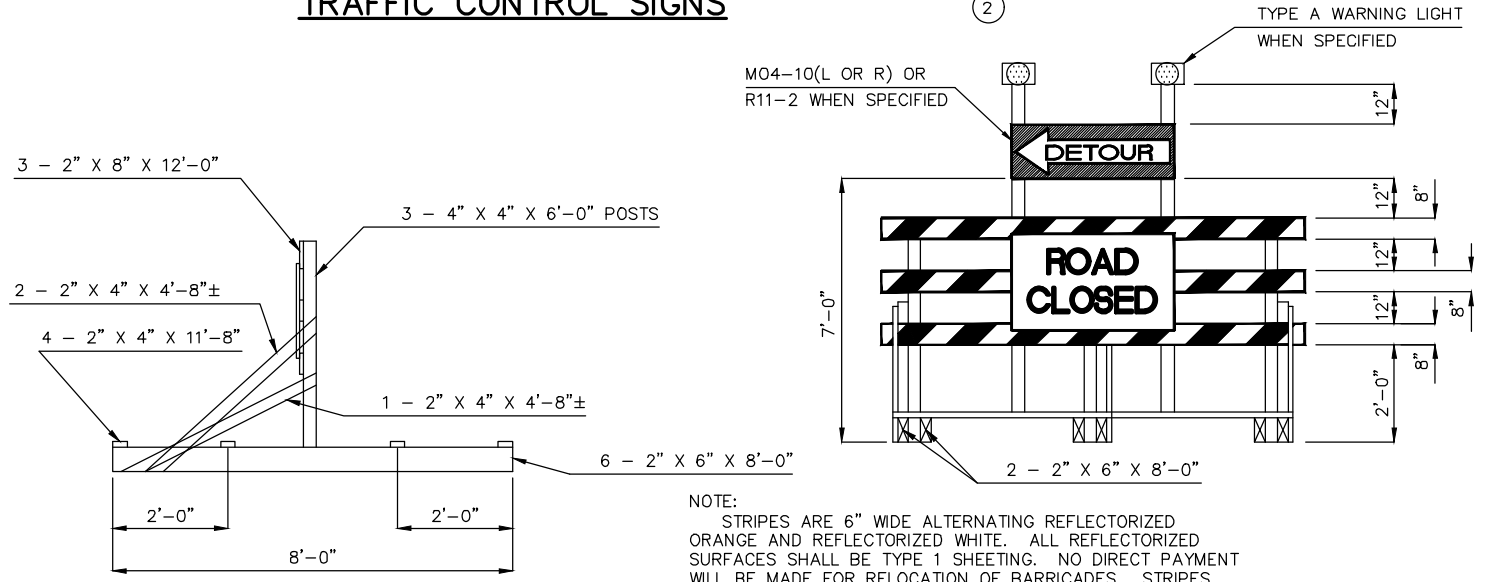
TYPE A TYPE B TYPE C TYPE D

NOTE:
PAYMENT FOR RELOCATION OF PERMANENT AND SEMI-PERMANENT MOUNTED SIGNS WILL BE MADE BY THE SQUARE FEET OF SIGN. TWO POSTS SHALL BE USED WHEN THE SIGN IS GREATER THAN 10 SQUARE FEET IN AREA.

RURAL URBAN
HEIGHT AND LATERAL LOCATIONS
PERMANENT AND SEMI-PERMANENT SIGN MOUNTING



TRAFFIC CONTROL SIGNS



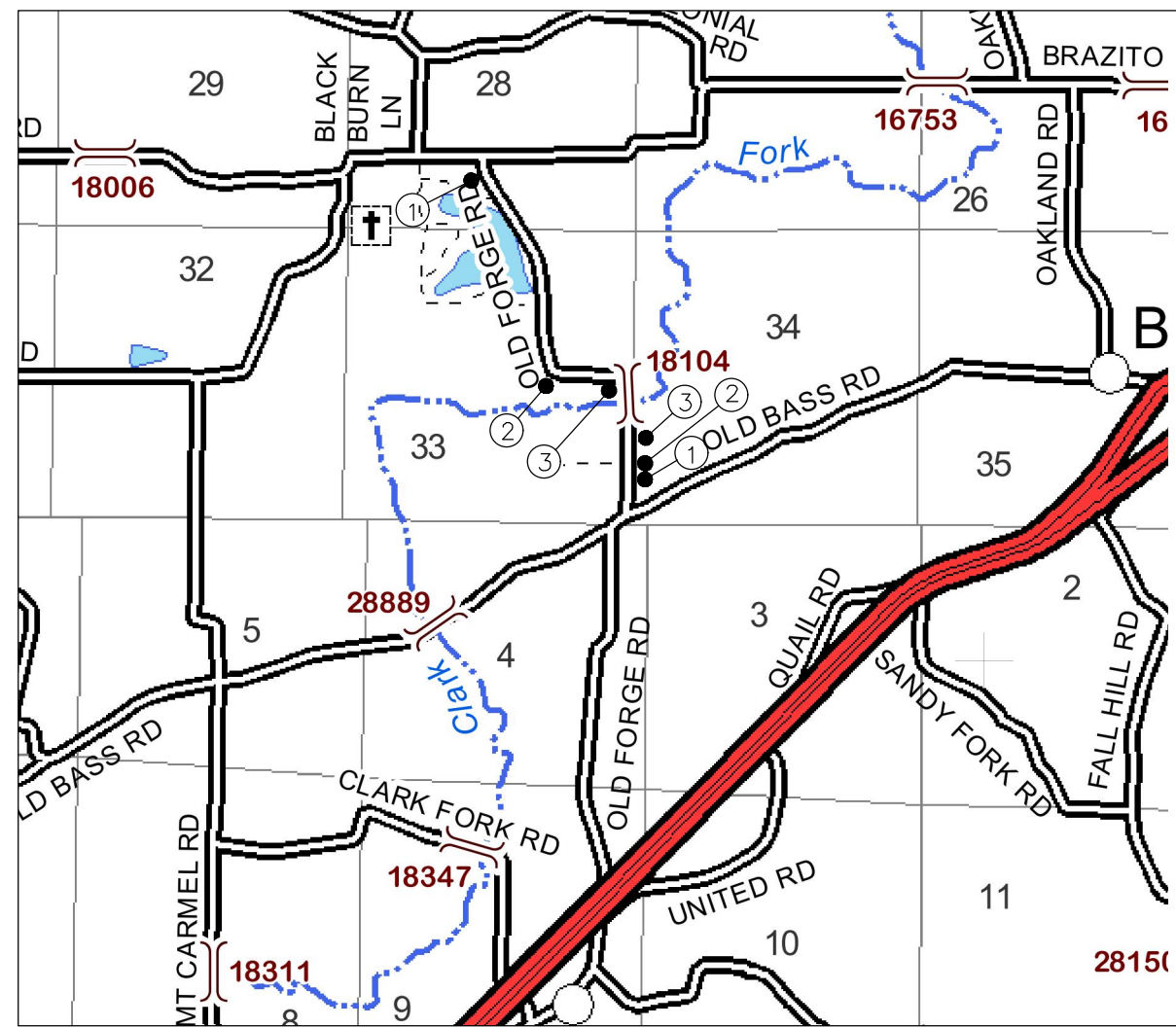
END ELEVATION FRONT ELEVATION

TYPE III MOVABLE BARRICADE UNIT

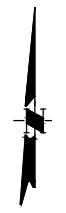
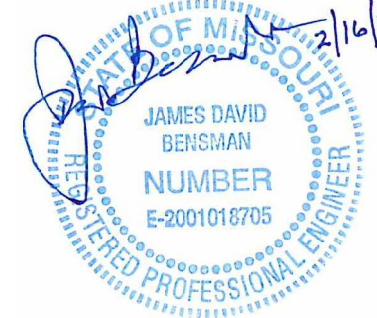
NOTE:
STRIPES ARE 6" WIDE ALTERNATING REFLECTORIZED ORANGE AND REFLECTORIZED WHITE. ALL REFLECTORIZED SURFACES SHALL BE TYPE 1 SHEETING. NO DIRECT PAYMENT WILL BE MADE FOR RELOCATION OF BARRICADES. STRIPES SHALL SLOPE DOWNWARD TOWARD THE SIDE TRAFFIC IS TO PASS.

TRAFFIC CONTROL SCHEDULE			
PLAN DESIG.	SIGN	MOUNTING	COMMENTS
①	R11-3R	TYPE A	INSTALL AT INTERSECTION
②	W20-3R	TYPE A	INSTALL ABOUT 1000 FT. FROM PROJECT
③	R11-2R	TYPE III	MOVABLE BARRICADE

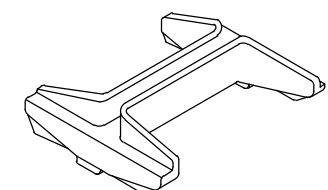
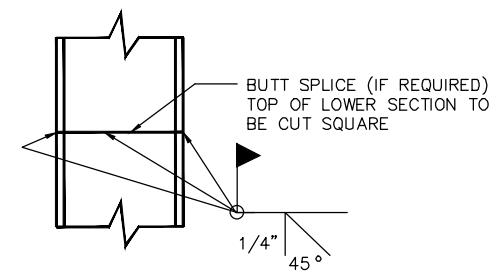
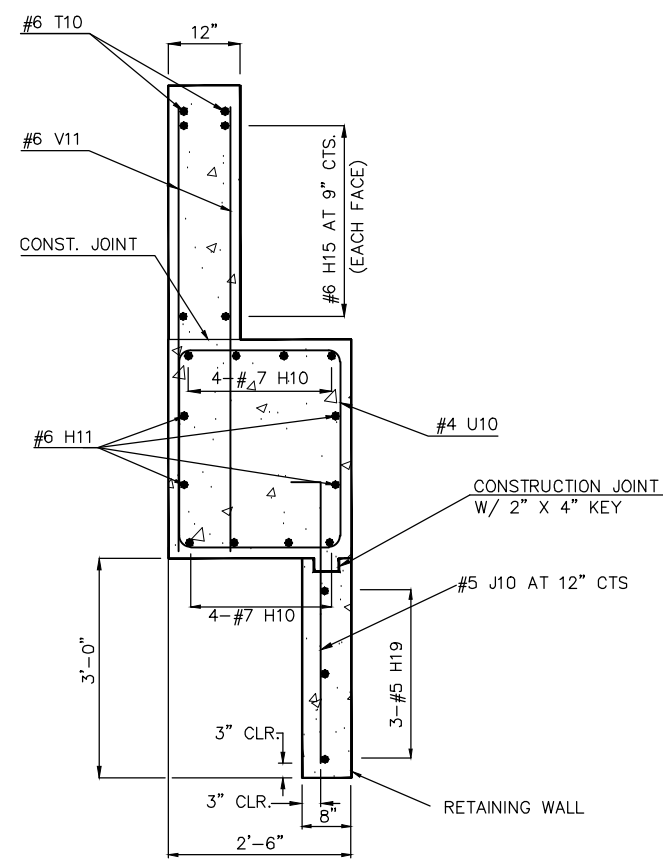
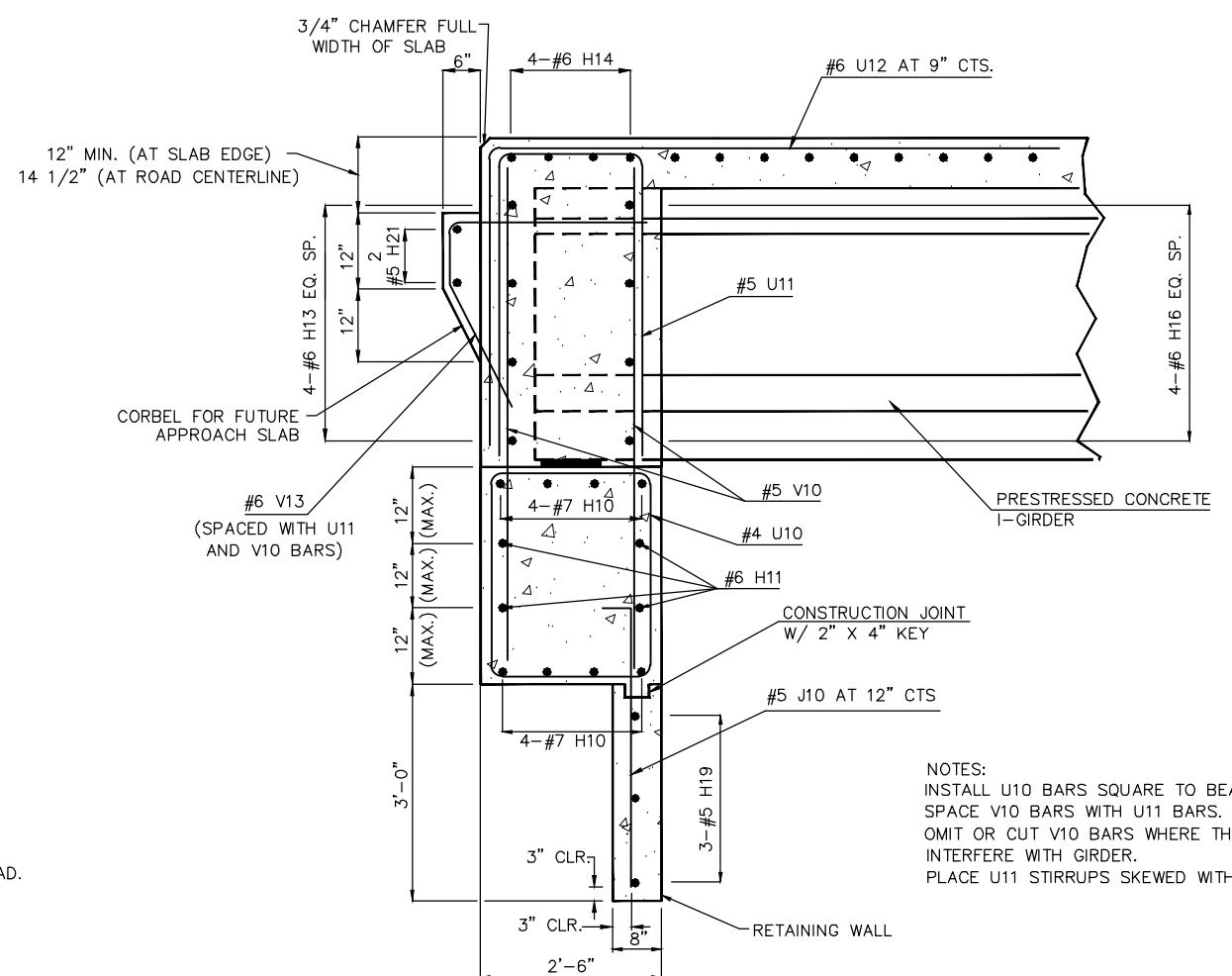
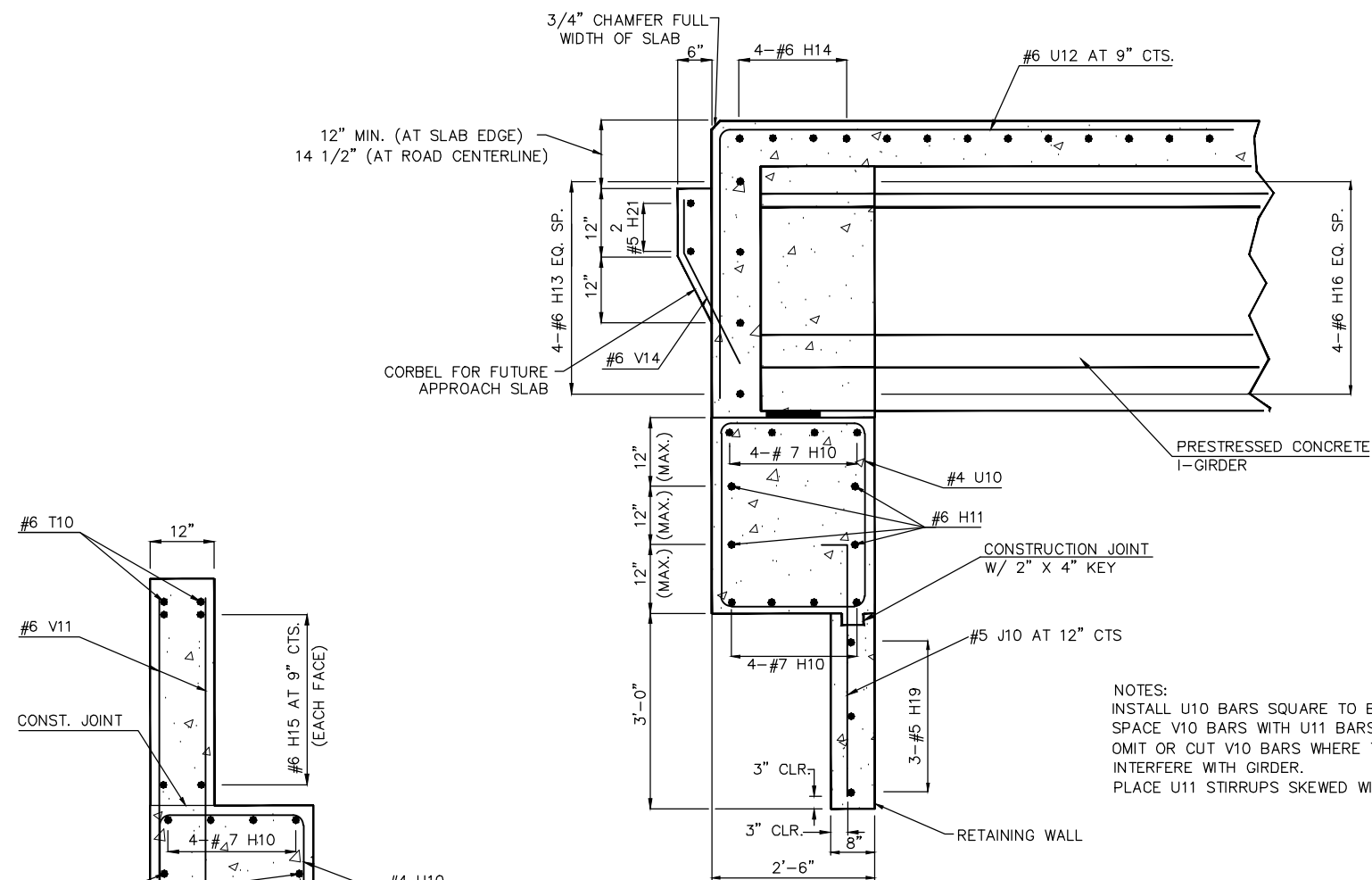
ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH F.H.A. MANUAL OF TRAFFIC CONTROL DEVICES (M.U.T.C.D.)



TRAFFIC CONTROL LAYOUT



<p>IF THIS DRAWING IS PLOTTED MORE THAN 11x17 IN SIZE, IT IS AN ENLARGED PLOT - SCALE SHOULD BE ADJUSTED ACCORDINGLY</p>	NO.	DATE	REVISION DESCRIPTION	BY	<p>MECO ENGINEERING CO., INC. meceoengineering.com MO Engineering Lic. #000898 - IL Design Firm #184-001749</p>	<p>OFFICE LOCATIONS HANNIBAL, MO JEFFERSON CITY, MO BRANSON, MO BOONVILLE, MO PITTSFIELD, IL SPRINGFIELD, IL</p>	<p>THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEARS ON THIS SHEET ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) & (PURSUANT TO 225 ILC'S 325/PROFESSIONAL ENGINEERING PRACTICE ACT OF 1989) ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART, OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.</p>	<p>OLD FORGE RD. BRIDGE #17300121 OVER CLARK FORK PROJECT BRO-B026(23) COLE COUNTY, MISSOURI</p>				<p>TRAFFIC CONTROL DEVICES</p>		
	SURVEYED	DESIGNED	DRAWN	CHECKED				APPROVED	RELEASED	SCALE	FILE NO.	PROJECT NO.	SHEET NO.	
	JDB	AKL				NONE	401057 TrafficCtrl	401-057	8					

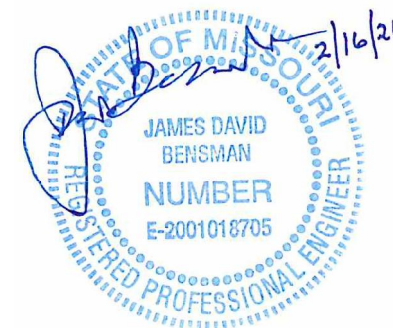


NOTES:
 INSTALL U10 BARS SQUARE TO BEAM.
 SPACE V10 BARS WITH U11 BARS.
 OMIT OR CUT V10 BARS WHERE THEY
 INTERFERE WITH GIRDER.
 PLACE U11 STIRRUPS SKEWED WITH ϕ ROAD.

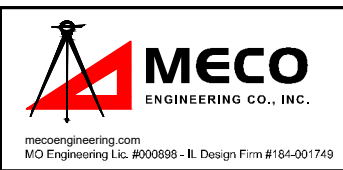
NOTES:
 INSTALL U10 BARS SQUARE TO BEAM.
 SPACE V10 BARS WITH U11 BARS.
 OMIT OR CUT V10 BARS WHERE THEY
 INTERFERE WITH GIRDER.
 PLACE U11 STIRRUPS SKEWED WITH ϕ ROAD.

NOTES:
 INSTALL U10 BARS SQUARE TO BEAM.
 SPACE V10 BARS WITH U11 BARS.
 OMIT OR CUT V10 BARS WHERE THEY
 INTERFERE WITH GIRDER.
 PLACE U11 STIRRUPS SKEWED WITH ϕ ROAD.

NOTES:
 IF PILE TIP REINFORCEMENT IS SPECIFIED IN THE "PILE AND FOOTING DATA"
 TABLE ON THE "GENERAL PLAN AND ELEVATION" SHEET, CONTRACTOR SHALL
 USE PREFABRICATED "ARMORED PILE TIPS".
 PAYMENT FOR THE PILE TIP REINFORCEMENT SHALL BE AT THE CONTRACT UNIT
 PRICE FOR "ARMORED PILE TIPS", EACH.
 POINTS ON THE ARMORED PILE TIPS SHALL BE MADE IN ONE PIECE OF
 ASTM A27 65/35 CAST STEEL.
 POINTS ON THE ARMORED PILE TIPS SHALL HAVE CONTINUOUS BACK-UP ON
 THE ENTIRE INNER EDGES OF THE "H" FOR THE PURPOSE OF BACKING UP WELDS
 ALONG THE OUTSIDE OF THE FLANGES, AND ENCASING THE WEB OF THE PILE TO
 ASSURE ALIGNMENT AND PREVENT SEPARATION.



NO.	DATE	REVISION DESCRIPTION	BY



OFFICE LOCATIONS
 HANNIBAL, MO
 JEFFERSON CITY, MO
 BRANSON, MO
 PITTSFIELD, IL
 SPRINGFIELD, IL

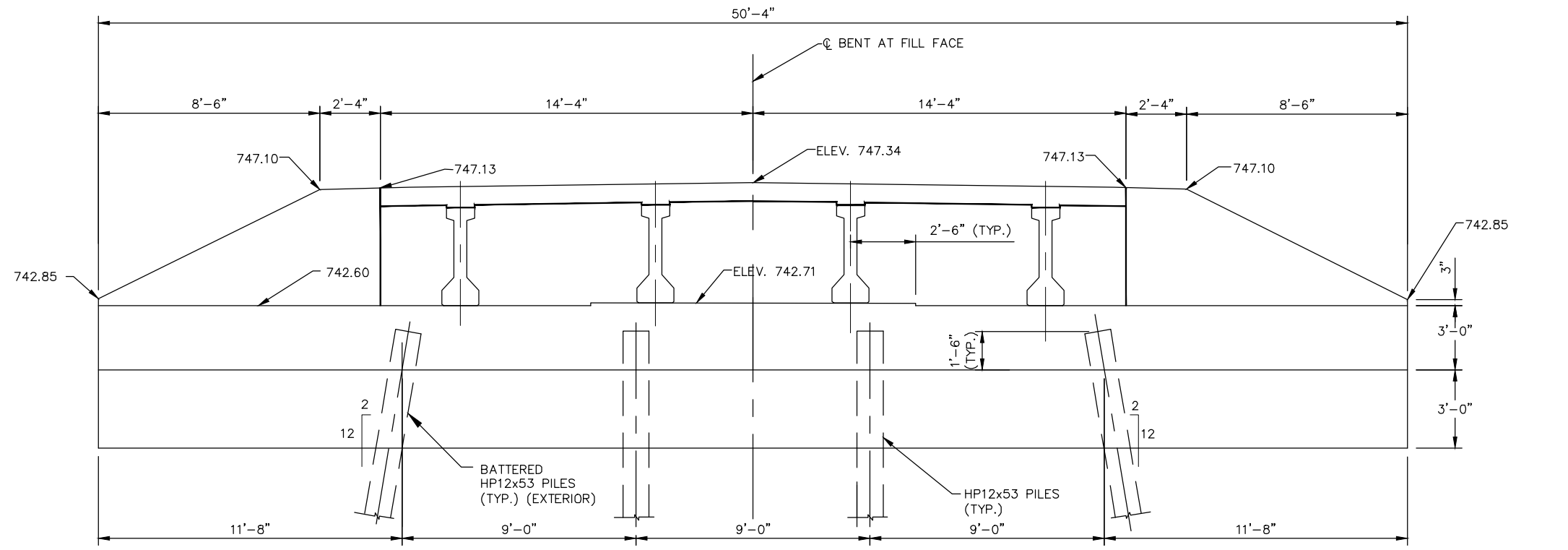
THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEARS ON THIS SHEET ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) & (PURSUANT TO 225 ILCS 325/PROFESSIONAL ENGINEERING PRACTICE ACT OF 1989) ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART, OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.

OLD FORGE RD. BRIDGE #17300121 OVER CLARK FORK
 PROJECT BRO-B026(23)
 COLE COUNTY, MISSOURI

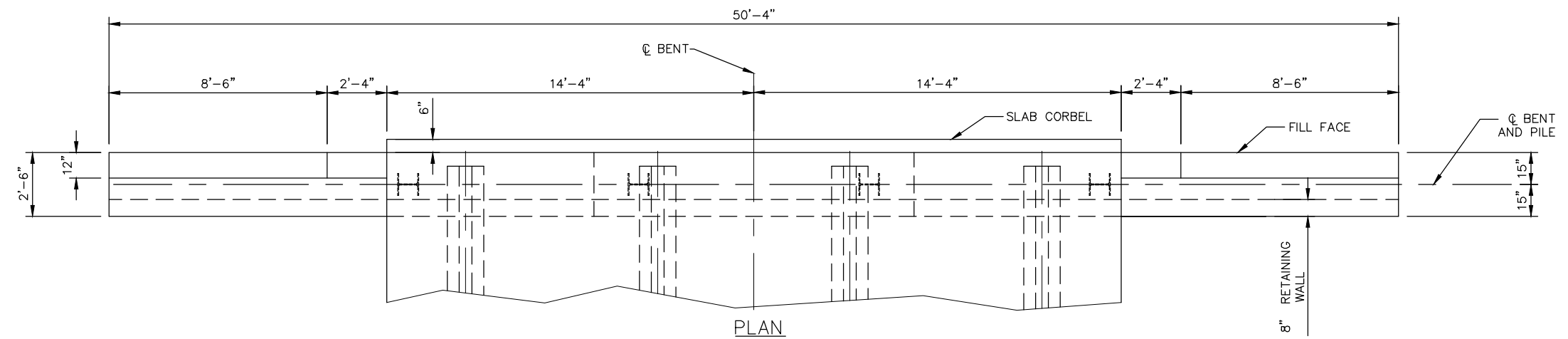
SURVEYED	DESIGNED	DRAWN	CHECKED	APPROVED	RELEASED
	JDB	AKL			

END BENT AND PILING DETAIL

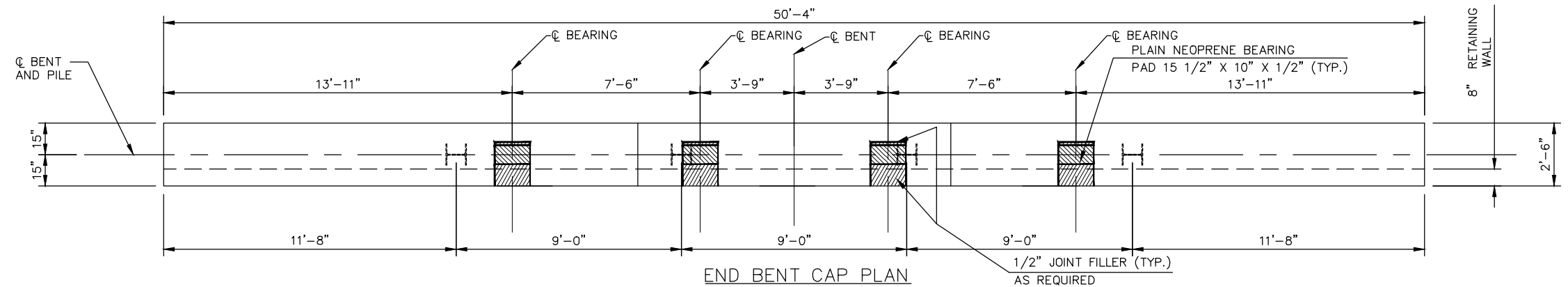
SCALE	FILE NO.	PROJECT NO.	SHEET NO.
NOT TO SCALE	401057EndBent	401-057	9



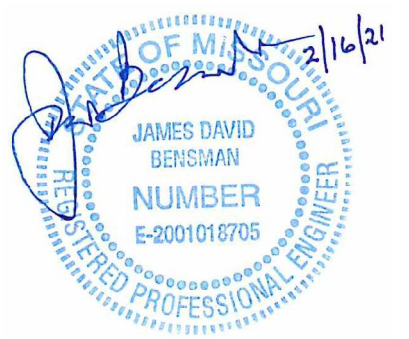
ELEVATION (IN DIRECTION OF INCREASING STATIONING)



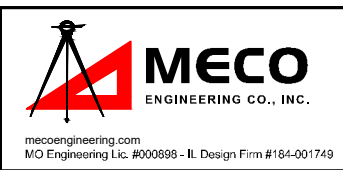
PLAN



END BENT CAP PLAN



NO.	DATE	REVISION DESCRIPTION	BY



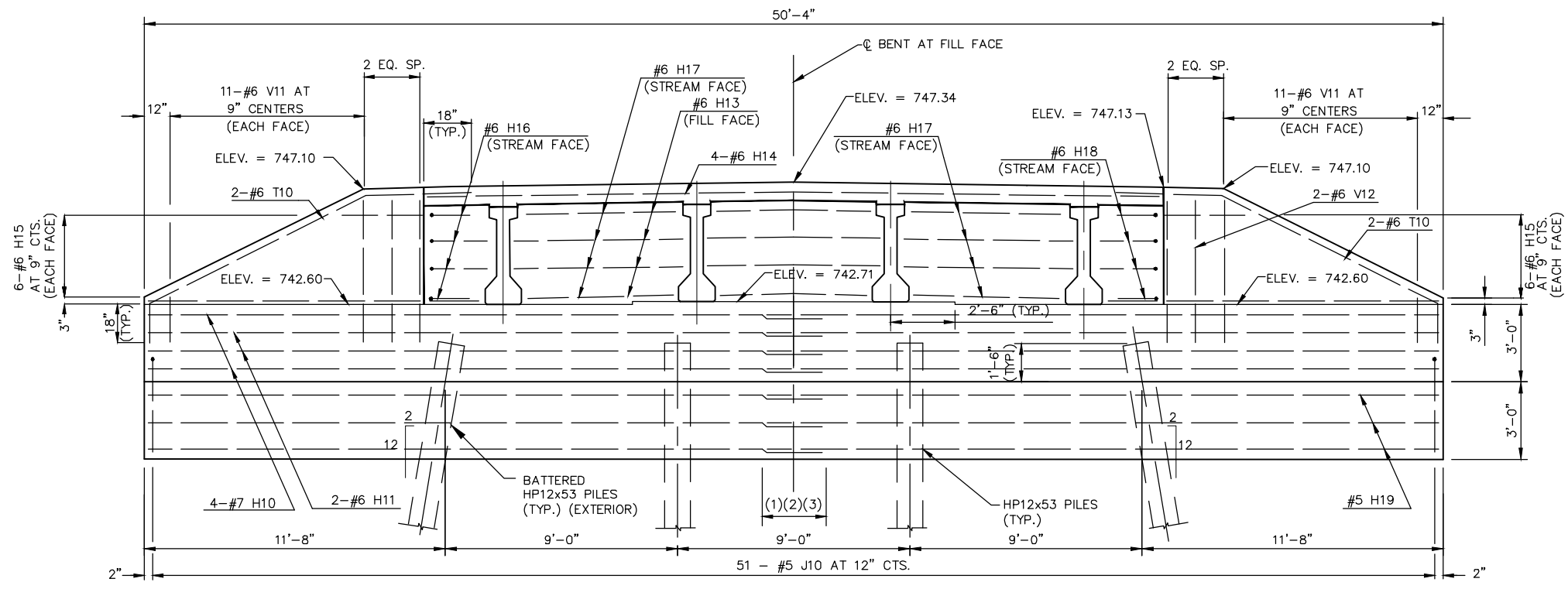
OFFICE LOCATIONS
 HANNIBAL, MO
 JEFFERSON CITY, MO
 BRANSON, MO
 PITTSFIELD, IL
 SPRINGFIELD, IL

THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEARS ON THIS SHEET ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) & (PURSUANT TO 225 ILC'S 325/PROFESSIONAL ENGINEERING PRACTICE ACT OF 1989) ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART, OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.

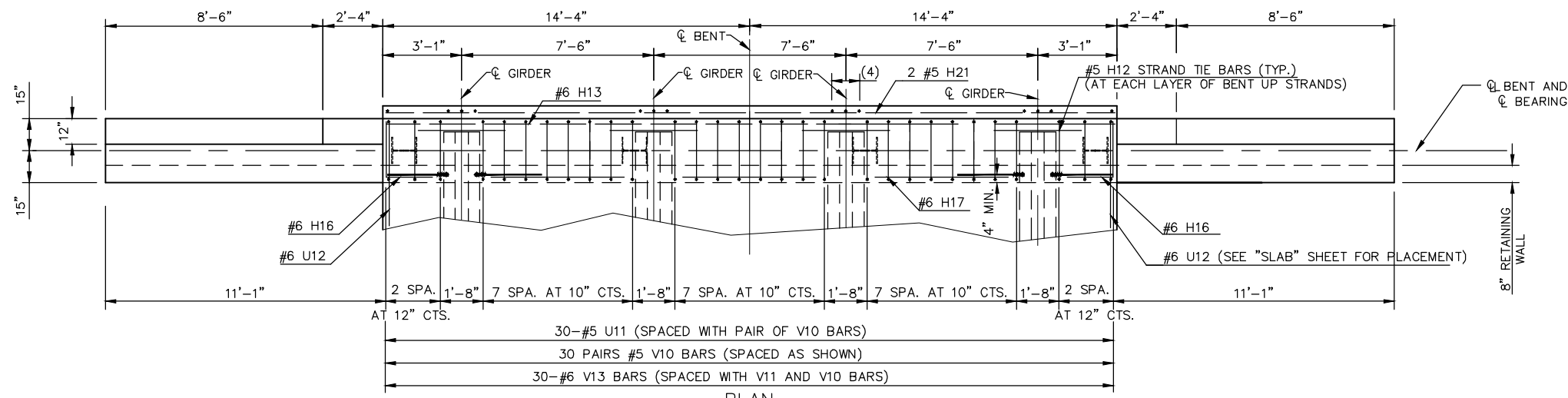
OLD FORGE RD. BRIDGE #17300121 OVER CLARK FORK
PROJECT BRO-B026(23)
COLE COUNTY, MISSOURI

SURVEYED	DESIGNED	DRAWN	CHECKED	APPROVED	RELEASED
	JDB	AKL			

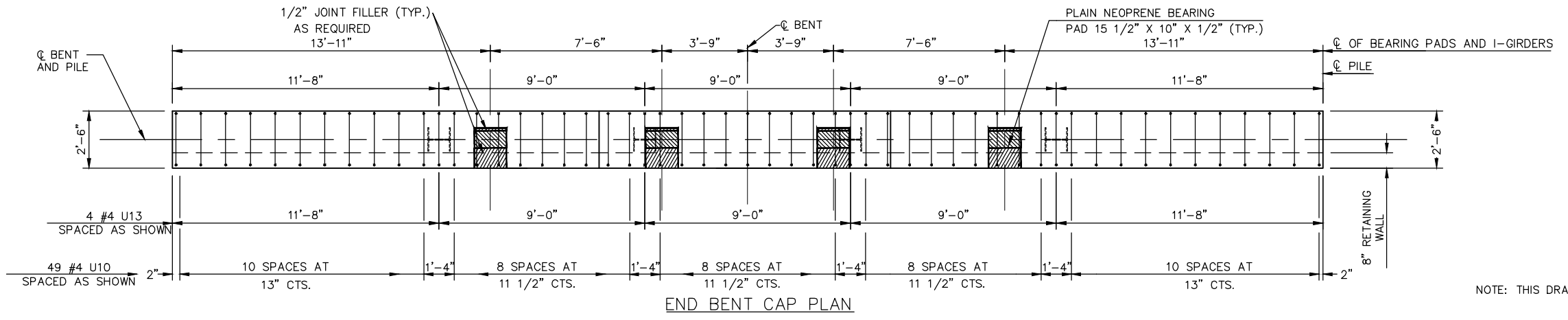
SCALE	FILE NO.	PROJECT NO.	SHEET NO.
NOT TO SCALE	401057EB	401-057	10



ELEVATION (IN DIRECTION OF INCREASING STATIONING)

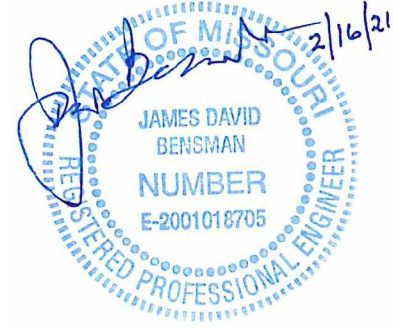


PLAN



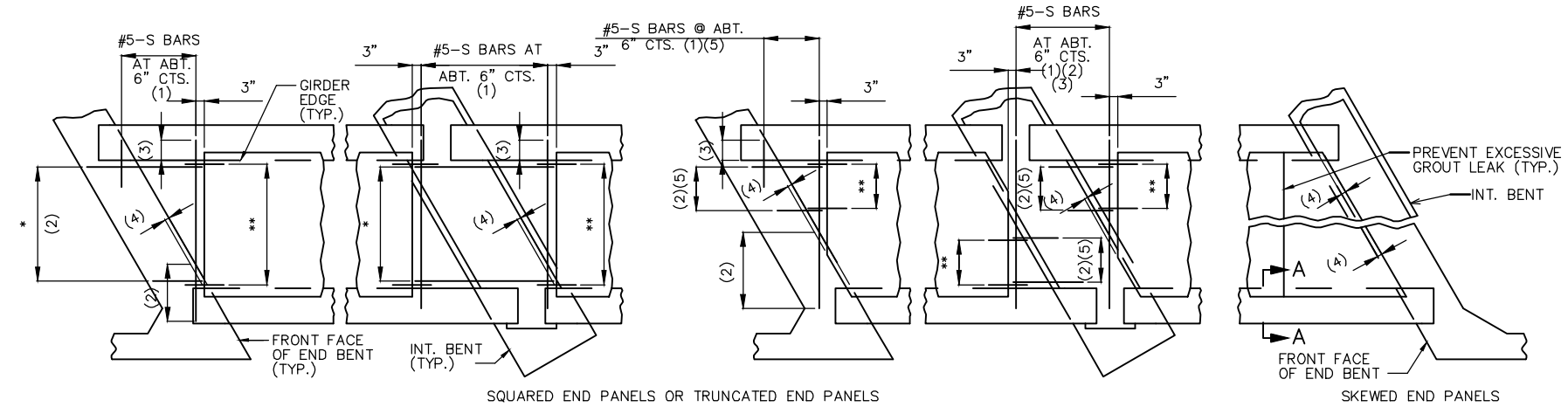
END BENT CAP PLAN

NOTES:
 SEE "CONCRETE BARRIER CURB" DETAILS SHEET FOR LOCATION AND PLACEMENT OF CURB REINFORCEMENT. U10 BARS ARE PLACED PERPENDICULAR TO BEAM. U11 AND PAIRS OF V10 BARS ARE PLACED PARALLEL TO TRAFFIC.
 SEE "END BENT AND PILING DETAILS" SHEETS FOR ADDITIONAL DETAILS.
 (1) - #7 LAP = 43"
 (2) - #6 LAP = 37"
 (3) - #5 LAP = 31"
 (4) - 3 #6 V14 AT 9" CTS.



NOTE: THIS DRAWING IS NOT TO SCALE. PLEASE FOLLOW DIMENSIONS.

IF THIS DRAWING IS PLOTTED MORE THAN 11x17 IN SIZE, IT IS AN ENLARGED PLOT - SCALE SHOULD BE ADJUSTED ACCORDINGLY	NO.	DATE	REVISION DESCRIPTION	BY	 mecoengineering.com MO Engineering Lic. #000898 - IL Design Firm #184-001749	OFFICE LOCATIONS HANNIBAL, MO JEFFERSON CITY, MO BRANSON, MO PITTSFIELD, IL SPRINGFIELD, IL	THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEARS ON THIS SHEET ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) & (PURSUANT TO 225 ILC'S 325/PROFESSIONAL ENGINEERING PRACTICE ACT OF 1989) ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART, OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.	OLD FORGE RD. BRIDGE #17300121 OVER CLARK FORK PROJECT BRO-B026(23) COLE COUNTY, MISSOURI					END BENTS		
									SURVEYED DESIGNED DRAWN CHECKED APPROVED RELEASED	SCALE NOT TO SCALE	FILE NO. 401057EBR	PROJECT NO. 401-057	SHEET NO. 11		

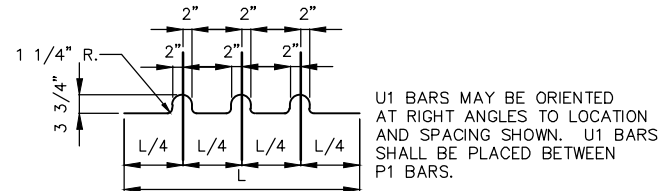


SQUARED END PANELS OR TRUNCATED END PANELS

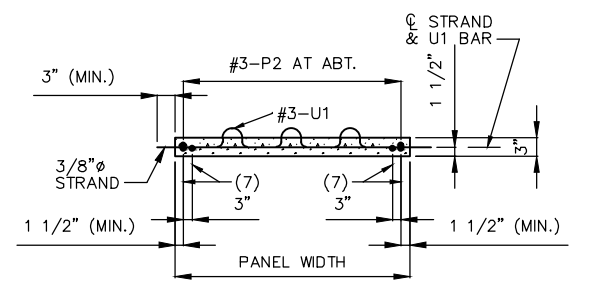
SKewed END PANELS

PLAN SHOWING PANELS PLACEMENT

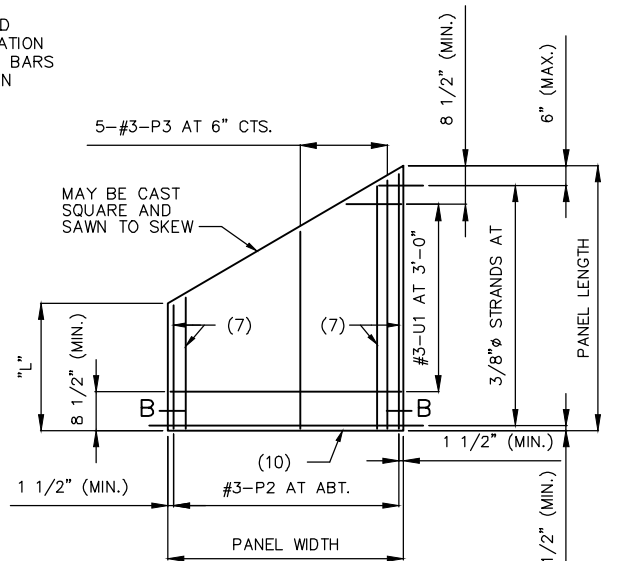
- * #5-S BARS AT ABT. 9" CTS. (1)
- ** #3-P1 AT 12" CTS. (END PANELS ONLY)



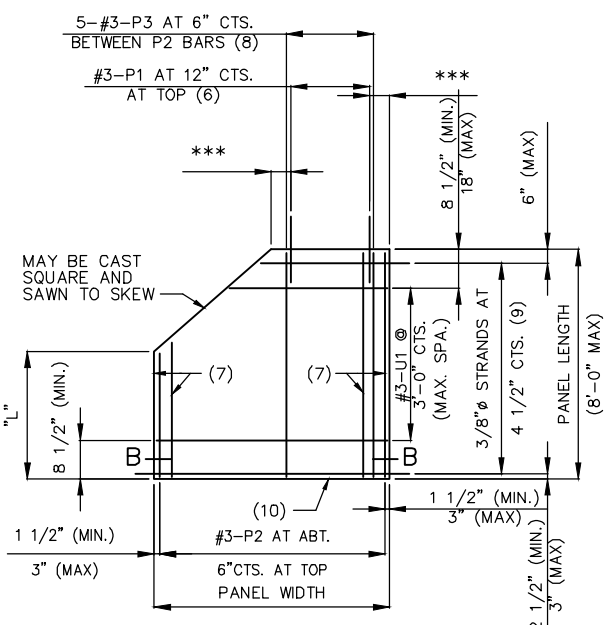
BENDING DIAGRAM FOR U1 BAR



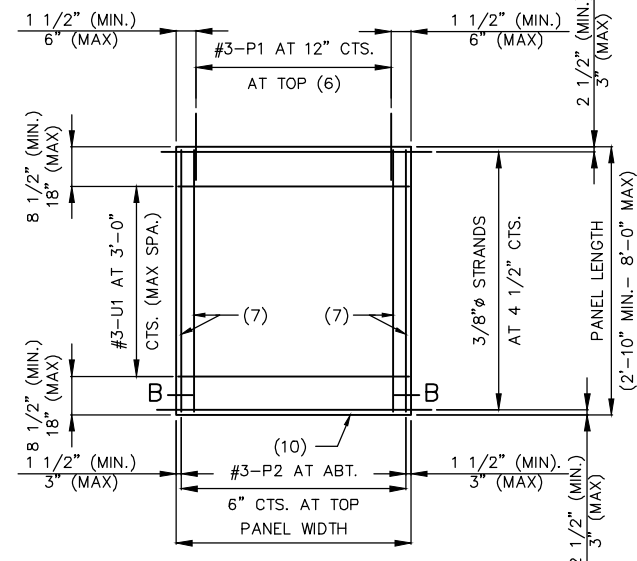
SECTION B-B



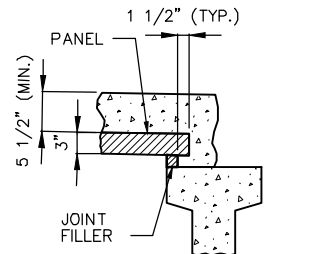
PLAN OF OPTIONAL SKEWED END PANEL



PLAN OF OPTIONAL TRUNCATED END PANEL
*** 3" (MIN.), 6" (MAX.)



PLAN OF SQUARED PANEL



SECTION A-A

JOINT FILLER DIMENSIONS		
WIDTH	HEIGHT	
	MIN.	MAX.
1 1/2"	1"	2"

REFERENCE NOTES:

- PLAN OF PANELS PLACEMENT:**
- (1) S-BARS SHOWN ARE BOTTOM STEEL IN SLAB BETWEEN PANELS AND USED WITH SQUARED AND TRUNCATED END PANELS ONLY.
 - (2) EXTEND S-BARS 18 INCHES BEYOND THE FRONT FACE OF END BENTS AND INT. BENTS FOR SQUARED AND TRUNCATED END PANELS ONLY.
 - (3) EXTEND S-BARS 9 INCHES BEYOND EDGE OF GIRDER (TYP.).
 - (4) END PANELS SHALL BE DIMENSIONED 1/2" MIN. TO 1 1/2" MAX. FROM THE INSIDE FACE OF DIAPHRAGM.
 - (5) FOR TRUNCATED END PANELS, USE A MIN. OF #5-S BARS AT 6" CROSSINGS IN OPENINGS, OR MIN. 4X4-W7XW7.
- PLANS OF PANELS:**
- (6) FOR END PANELS ONLY, P1 BARS SHALL BE 2'-0" IN LENGTH AND EMBEDDED 12". P1 BARS WILL NOT BE REQUIRED FOR PANELS AT SQUARED INTEGRAL END BENTS.
 - (7) #3-P2 BARS NEAR EDGE OF PANEL AT BOTTOM (UNDER STRANDS).
 - (8) USE #3-P3 BARS IF PANEL IS SKEWED 45° OR GREATER.
 - (9) ANY STRAND 2'-0" OR SHORTER SHALL HAVE A #4 REINFORCING BAR ON EACH SIDE OF IT, CENTERED BETWEEN STRANDS. STRANDS 2'-0" OR SHORTER MAY THEN BE DEBONDED AT THE FABRICATOR'S OPTION.
 - (10) OPTIONAL 1/2" X 45° CHAMFER ONE OR BOTH SIDES AT BOTTOM.
- SECTION A-A:**
- (11) SLAB THICKNESS OVER PRESTRESSED PANELS VARIES DUE TO GIRDER CAMBER. IN ORDER TO MAINTAIN MINIMUM SLAB THICKNESS, IT MAY BE NECESSARY TO RAISE THE GRADE UNIFORMLY THROUGHOUT THE STRUCTURE. NO PAYMENT WILL BE MADE FOR ADDITIONAL LABOR OR MATERIALS REQUIRED FOR NECESSARY GRADE ADJUSTMENT.
 - (12) CONTRACTOR SHALL ENSURE PROPER CONSOLIDATION UNDER AND BETWEEN PANELS.
 - (13) AT THE CONTRACTOR'S OPTION, THE VARIATION IN SLAB THICKNESS OVER PRESTRESSED PANELS MAY BE ELIMINATED OR REDUCED BY INCREASING AND VARYING THE GIRDER TOP FLANGE THICKNESS. DIMENSIONS SHALL BE SHOWN ON THE SHOP DRAWINGS.

GENERAL NOTES:

PRESTRESSED PANELS:
CONCRETE FOR PRESTRESSED PANELS SHALL BE CLASS A-1 WITH F'C = 6,000 PSI, F'CI = 4,000 PSI.

THE TOP SURFACE OF ALL PANELS SHALL RECEIVE A SCORED FINISH WITH A DEPTH OF SCORING OF 1/8" PERPENDICULAR TO THE PRESTRESSING STRANDS IN THE PANELS.

PRESTRESSING TENDONS SHALL BE HIGH-TENSILE STRENGTH, UNCOATED, SEVEN-WIRE, LOW-RELAXATION STRANDS FOR PRESTRESSED CONCRETE IN ACCORDANCE WITH AASHTO M 203 GRADE 270, WITH NOMINAL DIAMETER OF STRAND = 3/8" AND NOMINAL AREA = 0.085 SQ.IN. AND MINIMUM ULTIMATE STRENGTH = 22.95 KIPS (270 KSI). LARGER STRANDS MAY BE USED WITH THE SAME SPACING AND INITIAL TENSION.

INITIAL PRESTRESSING FORCE = 17.2 KIPS/STRAND.

THE METHOD AND SEQUENCE OF RELEASING THE STRANDS SHALL BE SHOWN ON THE SHOP DRAWINGS.

SUITABLE ANCHORAGE DEVICES FOR LIFTING PANELS MAY BE CAST IN PANELS, PROVIDED THE DEVICES ARE SHOWN ON THE SHOP DRAWINGS AND APPROVED BY THE ENGINEER. PANEL LENGTHS SHALL BE DETERMINED BY THE CONTRACTOR AND SHOWN ON THE SHOP DRAWINGS.

WHEN SQUARED END PANELS ARE USED AT SKEWED BENTS, THE SKEWED PORTION SHALL BE CAST FULL DEPTH. NO SEPARATE PAYMENT WILL BE MADE FOR ADDITIONAL CONCRETE AND REINFORCING REQUIRED.

SUPPORT FROM DIAPHRAGM FORMS IS REQUIRED UNDER THE OPTIONAL SKEWED END UNTIL CAST-IN-PLACE CONCRETE HAS REACHED 3,000 PSI COMPRESSIVE STRENGTH.

PRESTRESSED PANELS SHALL BE BROUGHT TO SATURATED SURFACE-DRY (SSD) CONDITION JUST PRIOR TO THE DECK POUR. THERE SHALL BE NO FREE STANDING WATER ON THE PANELS OR IN THE AREA TO BE CAST.

THE PRESTRESSED PANEL QUANTITIES ARE NOT INCLUDED IN THE TABLE OF ESTIMATED QUANTITIES FOR THE SLAB.

REINFORCING STEEL:

ALL DIMENSIONS ARE OUT TO OUT.

HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE CRSI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES, STIRRUP AND TIE DIMENSIONS.

MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1 1/2", UNLESS OTHERWISE SHOWN.

IF U1 BARS INTERFERE WITH PLACEMENT OF SLAB STEEL, U1 LOOPS MAY BE BENT OVER, AS NECESSARY, TO CLEAR SLAB STEEL.

DEFORMED WELDED WIRE REINFORCEMENT (WWR) PROVIDING A MINIMUM AREA OF REINFORCING PERPENDICULAR TO STRANDS OF 0.22 SQ IN./FT, WITH SPACING PARALLEL TO STRANDS SUFFICIENT TO ENSURE PROPER HANDLING, MAY BE USED IN LIEU OF THE #3-P2 BARS SHOWN. WIRE DIAMETER SHALL NOT BE LARGER THAN 0.375 INCH. THE ABOVE ALTERNATIVE REINFORCEMENT CRITERIA MAY BE USED IN LIEU OF THE #3-P3 BARS, WHEN REQUIRED, AND PLACED OVER A WIDTH NOT LESS THAN 2 FEET.

THE FOLLOWING REINFORCING STEEL SHALL BE TIED SECURELY TO THE STRANDS WITH THE FOLLOWING MAXIMUM SPACING IN EACH DIRECTION:
#3-P2 BARS AT 16 INCHES.
WWR AT 24 INCHES.

THE #3-U1 BARS SHALL BE TIED SECURELY TO #3-P2 BARS, TO WWR OR TO STRANDS (WHEN PLACED BETWEEN P1 BARS) AT ABOUT 3-FOOT CENTERS.

MINIMUM REINFORCEMENT STEEL LENGTH SHALL BE 2'-0".

ALL REINFORCEMENT OTHER THAN PRESTRESSING STRANDS SHALL BE EPOXY COATED.

PRECAST PANELS MAY BE IN CONTACT WITH STIRRUP REINFORCING IN DIAPHRAGMS.

S-BARS ARE NOT LISTED IN THE BILL OF REINFORCING.

COST OF S-BARS WILL BE CONSIDERED COMPLETELY COVERED BY THE CONTRACT UNIT PRICE FOR THE SLAB.

JOINT FILLER:

JOINT FILLER SHALL BE PREFORMED FIBER EXPANSION JOINT MATERIAL IN ACCORDANCE WITH SEC 1057 OR EXPANDED OR EXTRUDED POLYSTYRENE BEDDING MATERIAL IN ACCORDANCE WITH SEC 1073.

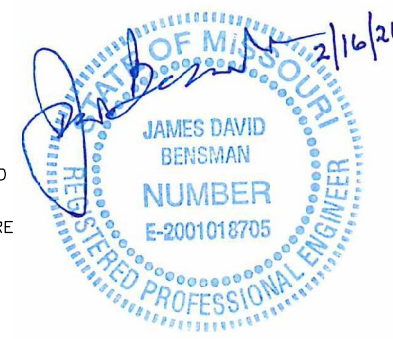
USE SLAB HAUNCHING DIAGRAM FOR DETERMINING THICKNESS OF JOINT FILLER WITHIN THE LIMITS NOTED IN THE TABLE OF JOINT FILLER DIMENSIONS.

THICKER MATERIAL MAY BE USED ON ONE OR BOTH SIDES OF THE GIRDER TO REDUCE CAST-IN-PLACE CONCRETE THICKNESS TO WITHIN TOLERANCES.

THE SAME THICKNESS OF PREFORMED FIBER EXPANSION JOINT MATERIAL SHALL BE USED UNDER ANY ONE EDGE OF ANY PANEL EXCEPT AT LOCATIONS WHERE TOP FLANGE THICKNESS MAY BE STEPPED. THE MAXIMUM CHANGE IN THICKNESS BETWEEN ADJACENT PANELS SHALL BE 1/4 INCH. THE POLYSTYRENE BEDDING MATERIAL MAY BE CUT WITH A TRANSITION TO MATCH HAUNCH HEIGHT ABOVE TOP OF FLANGE.

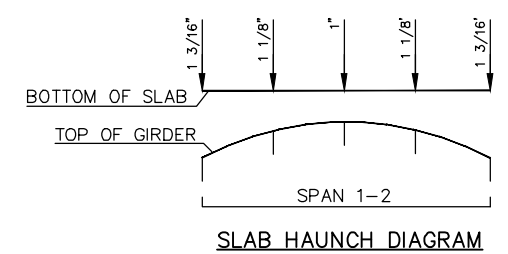
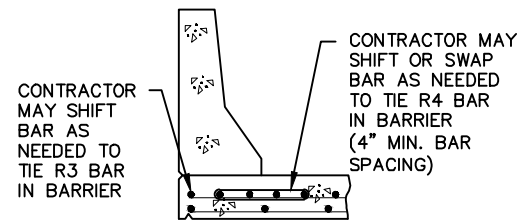
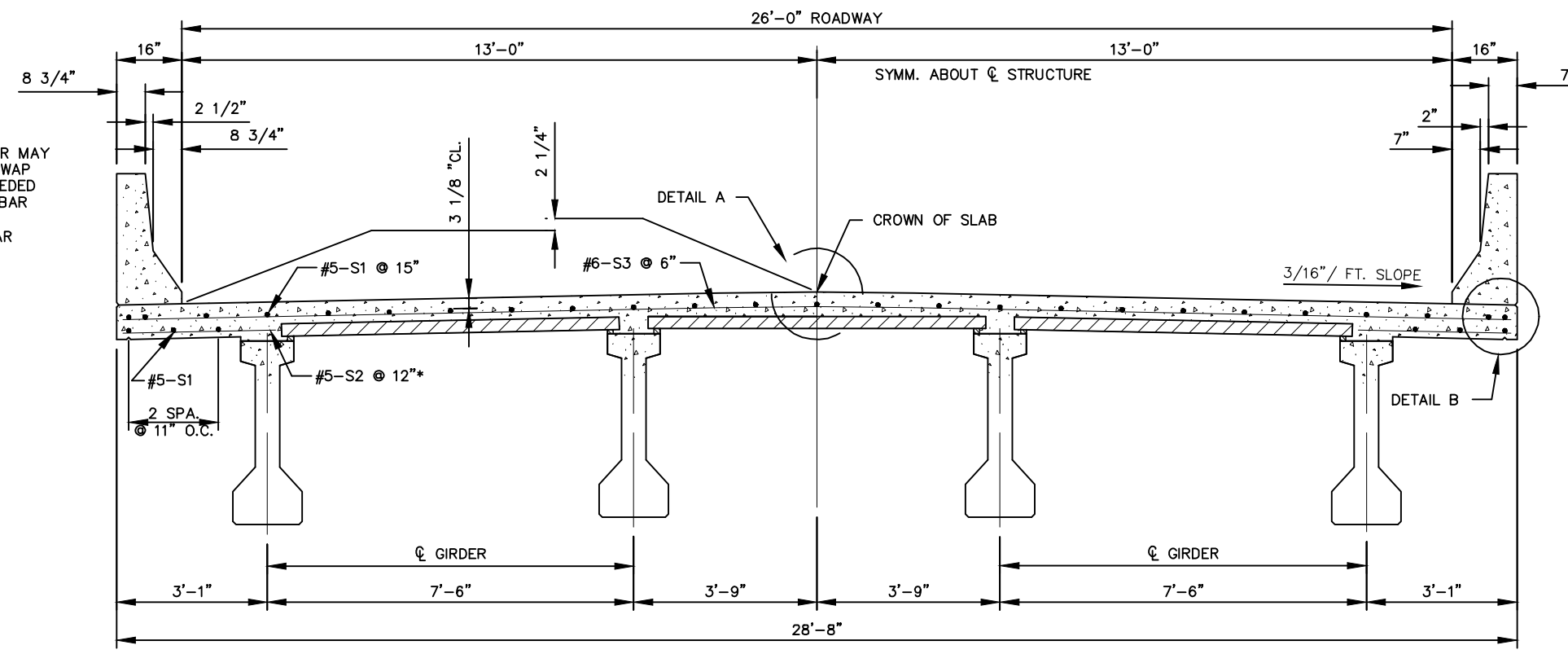
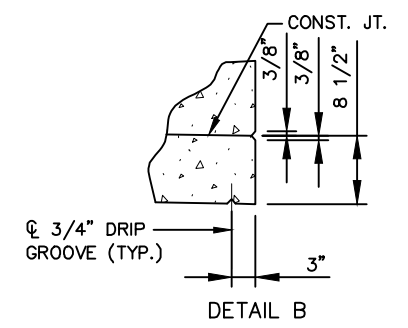
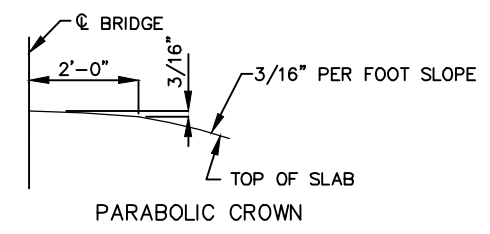
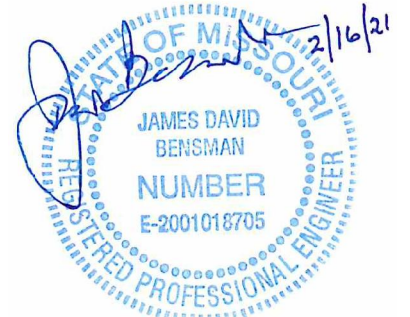
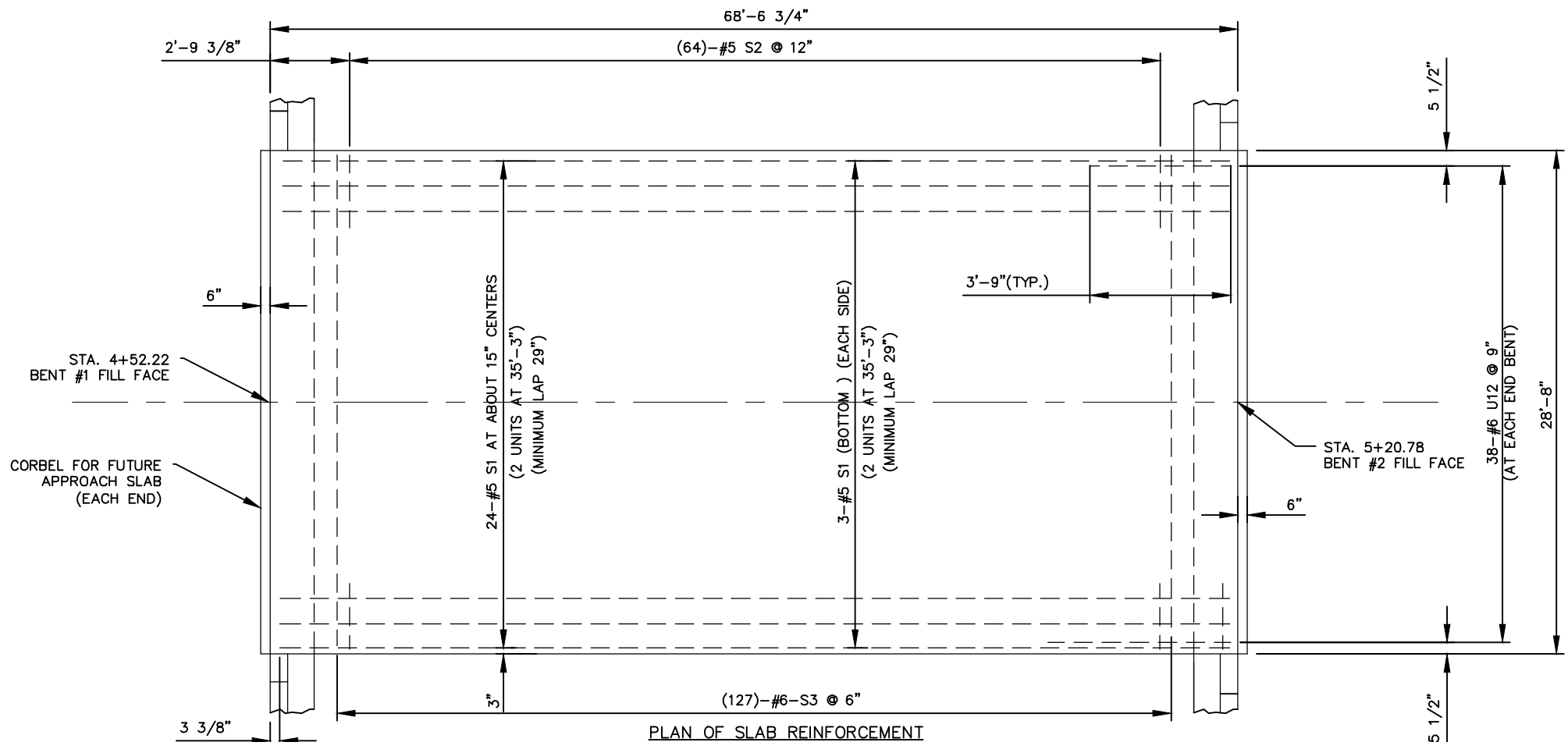
JOINT FILLER SHALL BE GLUED TO THE GIRDER. WHEN THICKNESS EXCEEDS 1 1/2 INCHES, THE JOINT FILLER SHALL BE GLUED TOP AND BOTTOM. THE GLUE USED SHALL BE THE TYPE RECOMMENDED BY THE JOINT FILLER MANUFACTURER.

EDGES OF PANELS SHALL BE UNIFORMLY SEATED ON THE JOINT FILLER BEFORE SLAB REINFORCEMENT IS PLACED.



DETAILS OF PRESTRESSED PANELS

<p>IF THIS DRAWING IS PLOTTED MORE THAN 11x17 IN SIZE, IT IS AN ENLARGED PLOT - SCALE SHOULD BE ADJUSTED ACCORDINGLY</p>	NO.	DATE	REVISION DESCRIPTION	BY	<p>MECO ENGINEERING CO., INC. MO Engineering Lic. #000898 - IL Design Firm #184-001749</p>	<p>OFFICE LOCATIONS HANNIBAL, MO JEFFERSON CITY, MO BRANSON, MO PITTSFIELD, IL SPRINGFIELD, IL</p>	<p>THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEARS ON THIS SHEET ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) & (PURSUANT TO 225 ILLCS 325/PROFESSIONAL ENGINEERING PRACTICE ACT OF 1989) ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART, OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.</p>	<p>OLD FORGE RD. BRIDGE #1730021 OVER CLARK FORK PROJECT BRO-B026(23) COLE COUNTY, MISSOURI</p>					<p>PRECAST PRESTRESSED PANELS</p>			
	SURVEYED	DESIGNED	DRAWN	CHECKED				APPROVED	RELEASED	SCALE	FILE NO.	PROJECT NO.	SHEET NO.			
	JDB	AKL				NTS	401057 Panels	401-057	13							

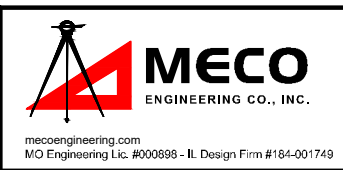


NOTES:
 IF GIRDER CAMBER IS DIFFERENT FROM THAT SHOWN IN THE CAMBER DIAGRAM, IT SHALL BE NECESSARY TO ADJUST THE SLAB HAUNCHES, TO INCREASE THE SLAB THICKNESS OR TO RAISE THE GRADE UNIFORMLY THROUGHOUT THE STRUCTURE. NO PAYMENT WILL BE MADE FOR ADDITIONAL LABOR OR MATERIALS REQUIRED FOR VARIATION IN HAUNCHING, SLAB THICKNESS OR GRADE ADJUSTMENT.

THE CONTRACTOR SHALL FURNISH AN APPROVED RETARDER TO RETARD THE SET OF CONCRETE TO 2.5 HOURS. THE RATE OF POUR MAY BE REDUCED TO NOT LESS THAN 25 CUBIC YARDS PER HOUR. MACHINE FINISHING OF THE RIDING SURFACE WILL BE REQUIRED.
 THE DIAPHRAGM OF THE END BENTS AND INTERIOR BENTS SHALL BE POURED A MINIMUM OF 30 MINUTES AND A MAXIMUM OF 2 HOURS BEFORE THE SLAB IS POURED ACROSS THE DIAPHRAGM.
 SEE "OPEN CONCRETE BARRIER CURB DETAILS" SHEET FOR LOCATION OF CURB REINFORCING BARS.
 THE CONTRACTOR SHALL USE PLASTIC OR RUBBER TIPPED BAR CHAIRS ON THE OVERHANGS.

* ALTERNATE BAR SHAPE AVAILABLE, SEE BARRIER SHEETS.

NO.	DATE	REVISION DESCRIPTION	BY



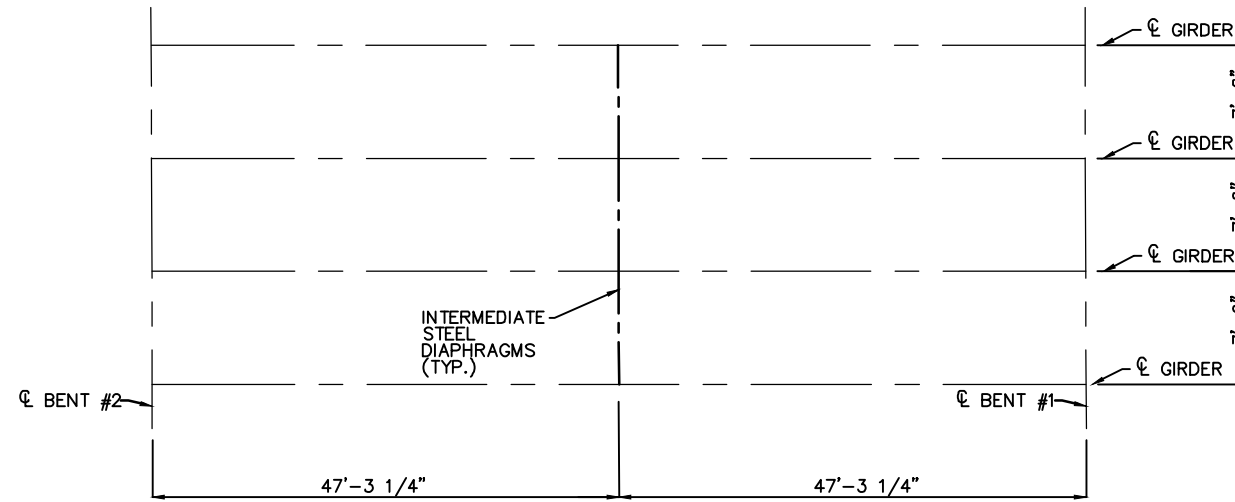
OFFICE LOCATIONS
 HANNIBAL, MO
 JEFFERSON CITY, MO
 BRANSON, MO
 PITTSFIELD, IL
 SPRINGFIELD, IL

THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEARS ON THIS SHEET ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) & (PURSUANT TO 225 ILCS 325/PROFESSIONAL ENGINEERING PRACTICE ACT OF 1989) ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART, OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.

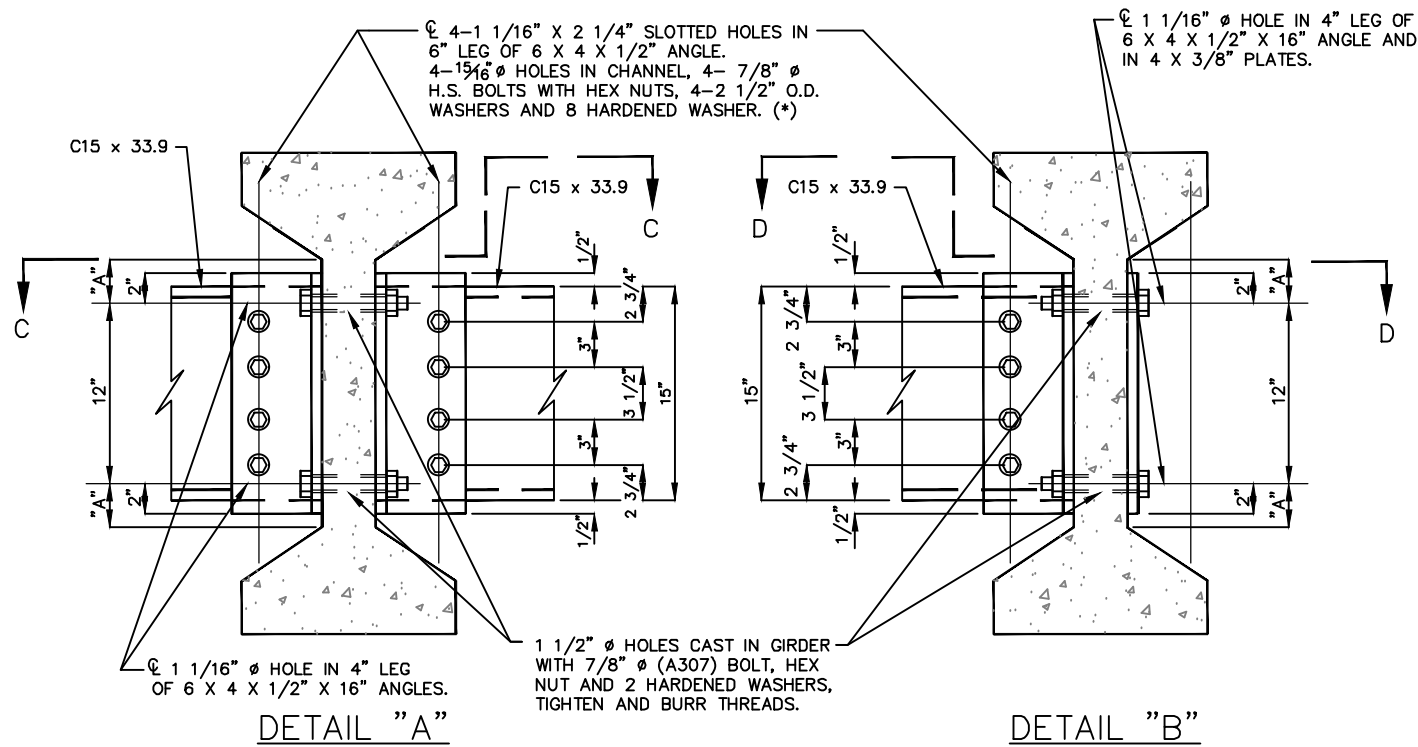
OLD FORGE RD. BRIDGE #17300121 OVER CLARK FORK
 PROJECT BRO-B026(23)
 COLE COUNTY, MISSOURI

SURVEYED	DESIGNED	DRAWN	CHECKED	APPROVED	RELEASED
	JDB	AKL			

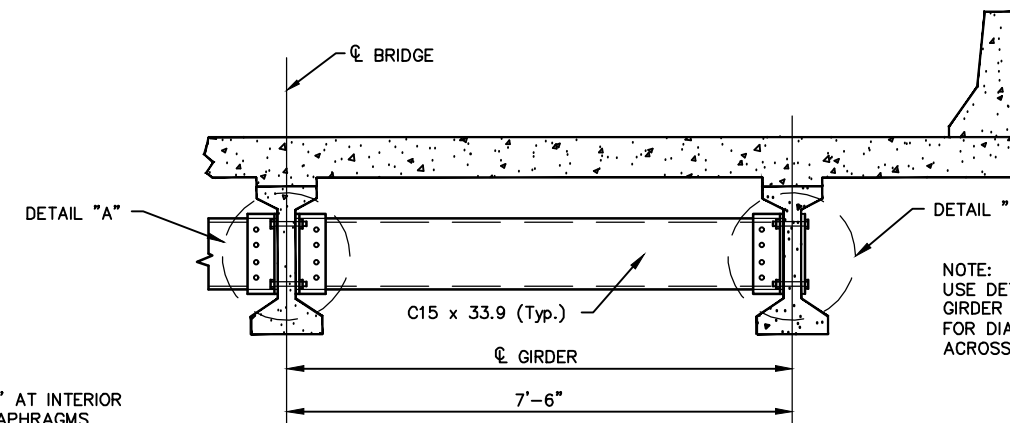
SCALE	FILE NO.	PROJECT NO.	SHEET NO.
NOT TO SCALE	401057decksect	401-057	14



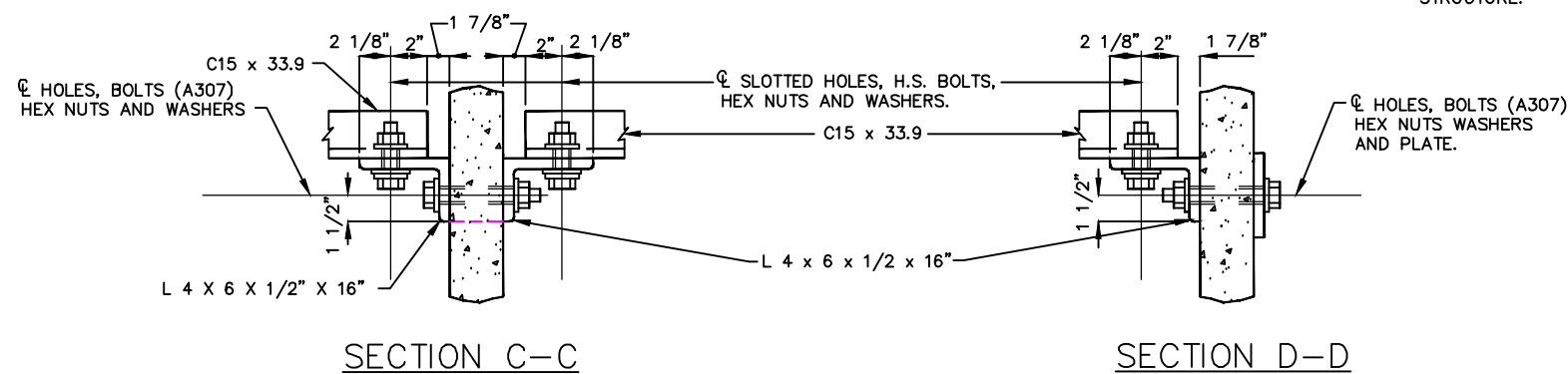
PLAN OF INTERMEDIATE STEEL DIAPHRAGMS



GIRDER HEIGHT	DIMENSION "A"
3'-9"	6 1/2"
4'-6"	9 3/4"



PART SECTION SHOWING INTERMEDIATE STEEL DIAPHRAGM



SECTION C-C

SECTION D-D

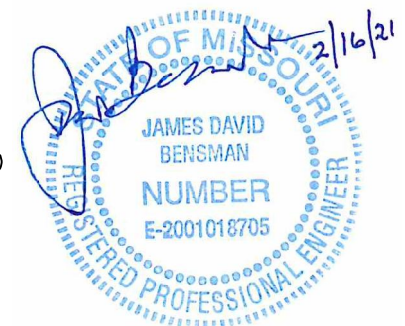
NOTE:
USE DETAIL "A" AT INTERIOR GIRDER FOR DIAPHRAGMS STRAIGHT IN LINE ACROSS STRUCTURE.

NOTE:
USE DETAIL "B" FOR EXTERIOR GIRDER AND AT INTERIOR GIRDER FOR DIAPHRAGMS STEPPED ACROSS STRUCTURE.

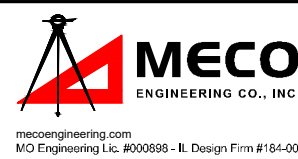
NOTES:
(* IN LIEU OF 2 1/2" O.D. WASHERS, CONTRACTOR MAY SUBSTITUTE A 3/16" (MIN. THICKNESS) PLATE WITH 4- 15/16 HOLES AND 1 HARDENED WASHER PER BOLT.
ALL H.S. BOLTS MAY BE TENSIONED BY TURN-OF-NUT METHOD.
ALL DIAPHRAGM MATERIALS, INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED.
THE 1 1/2" Ø HOLES SHALL BE CAST IN THE WEB. DRILLING IS NOT ALLOWED.

PAYMENT FOR FURNISHING AND INSTALLING STEEL INTERMEDIATE DIAPHRAGMS SHALL BE INCLUDED IN CONTRACT UNIT PRICE FOR PRESTRESSED CONCRETE I-GIRDERS.
DIAPHRAGM HOLE LOCATIONS MAY BE ADJUSTED TO AVOID INTERFERENCE WITH STRANDS.

NOTE: THIS DRAWING IS NOT TO SCALE. PLEASE FOLLOW DIMENSIONS.



NO.	DATE	REVISION DESCRIPTION	BY



OFFICE LOCATIONS
HANNIBAL, MO
JEFFERSON CITY, MO
BRANSON, MO
PITTSFIELD, IL
SPRINGFIELD, IL

THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEARS ON THIS SHEET ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) & (PURSUANT TO 225 ILC'S 325/PROFESSIONAL ENGINEERING PRACTICE ACT OF 1989) ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART, OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.

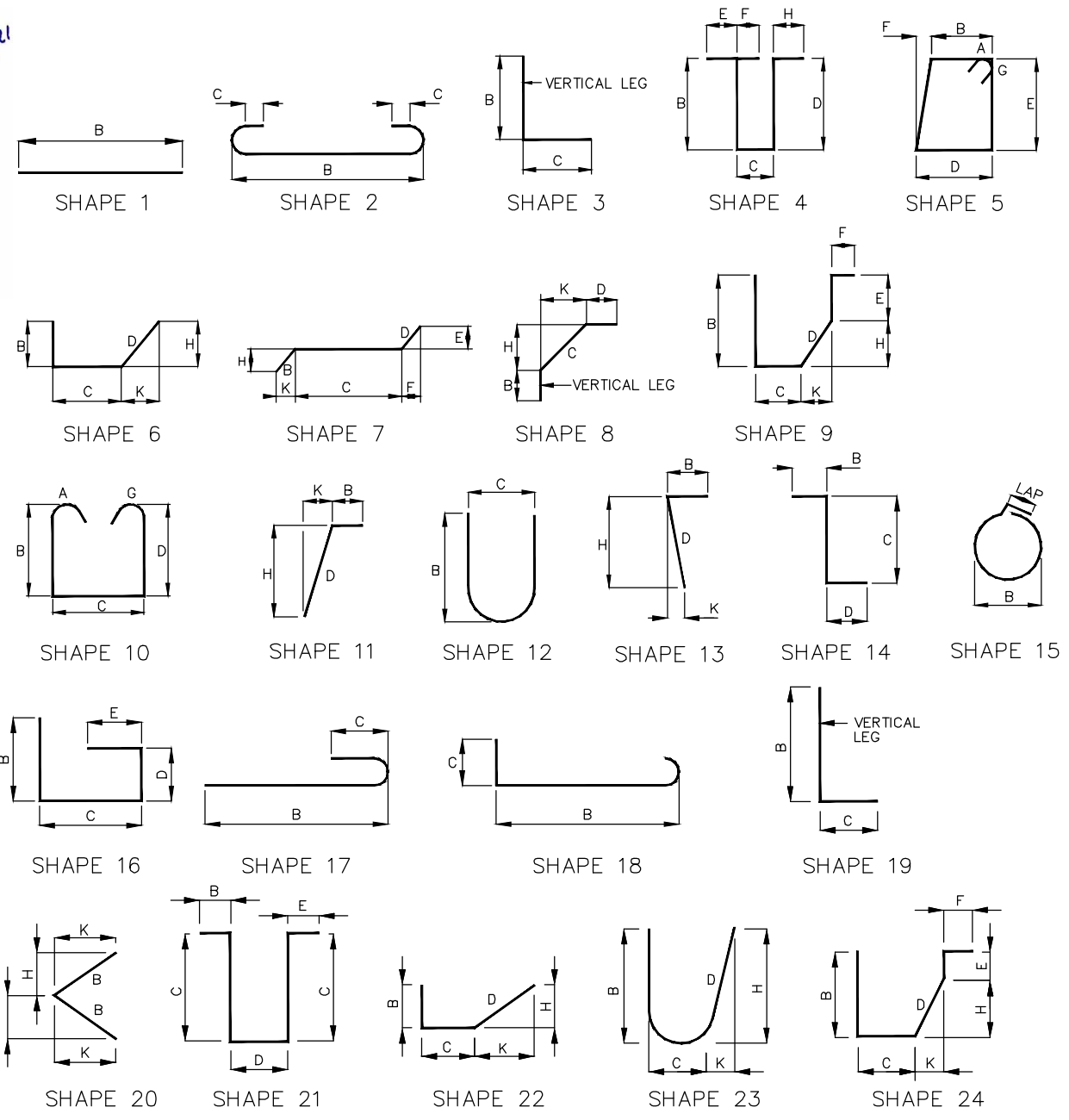
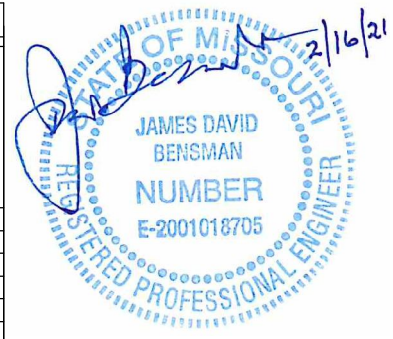
OLD FORGE RD. BRIDGE #17300121 OVER CLARK FORK
PROJECT BRO-B026(23)
COLE COUNTY, MISSOURI

SURVEYED FB#/PG#	DESIGNED JDB	DRAWN AKL	CHECKED	APPROVED	RELEASED
---------------------	-----------------	--------------	---------	----------	----------

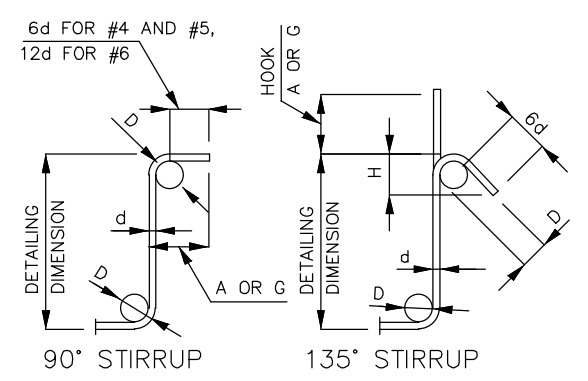
SCALE NOT TO SCALE	FILE NO. 401057Diaphragm	PROJECT NO. 401-057	SHEET NO. 16
-----------------------	-----------------------------	------------------------	-----------------

BILL OF REINFORCING STEEL

EPOXY NO. REQUIRED	SIZE	MARK	BAR LOCATION	SHAPE NO.	STIRRUP SUBSTRUCTURE VARIES	NO. EACH	DIMENSIONS												LENGTH	WEIGHT			
							B	C	D	E	F	H	K	FT.	IN.	FT.	IN.	FT.			IN.	FT.	IN.
32	7	H10	BEAM	1	X		26	10										26	10	1755			
16	6	H11	BEAM	1	X		26	7										26	7	639			
24	5	H12	DIAPH.	7			1	3	2	4	1	3	0	7	1	2	0	7	1	2	4	10	121
8	6	H13	DIAPH.	1			28	4										28	4				340
X	8	6	H14	DIAPH.	1		28	4										28	4				340
48	6	H15	WING WALL	1		V	4	8										4	8				613
			INC.=1'-6 1/4"				12	3										12	3				
8	6	H16	DIAPH.	3			2	2	2	0								4	2				50
24	6	H17	DIAPH.	1			7	2										7	2				200
8	6	H18	DIAPH.	3			2	2	2	0								4	2				50
12	5	H19	RETAINING WALL	1	X		26	4										26	4				330
4	5	H21	DIAPH.	1			28	4										28	4				118
102	5	J10	RETAINING WALL	3	X		3	10	0	10								4	8				497
8	6	T10	WING WALL	8			1	9	9	4	4	2					4	2	8	5	15	3	183
98	4	U10	BEAM	5	X	X	2	9			2	9	2	3	0	0		11	0				720
X	60	5	U11	DIAPH.	4	X	4	11	2	6	4	11	0	0	0	0	0	12	2				762
X	76	6	U12	DIAPH.	3		5	0	8	0								12	10				1465
8	4	U13	BEAM	4	X	X	2	9	2	3	2	9	0	0	0	0	0	7	9				41
120	5	V10	DIAPH.	1			7	10										7	10				979
88	6	V11	WING WALL	1		V	2	2										2	2				506
			INC.=4 1/2"				5	10										5	10				
12	6	V12	WING WALL	1			5	6										5	6				105
60	6	V13	DIAPH.	6			2	9	0	9	1	11					0	10	1	8	7	11	714
24	6	V14	DIAPH.	11			0	9			1	11					0	10	1	8	5	2	186
X	60	6	S1	SLAB	1		35	3									35	3					2206
X	128	4	S2	SLAB	1		3	1									3	1					264
X	127	6	S3	SLAB	1		28	2									28	2					5374
X	60	5	K1	BARRIER CURB	19	X	2	5	5.125								2	10					177
X	60	5	K2	BARRIER CURB	22	X		5.125	11.125	1	6						2	15.875	4	6			282
X	16	5	K3	BARRIER CURB	24	X	1	5.625	5.125	1	0	8.125	1	0	9.875	6.875	6	0					100
X	44	5	K4	BARRIER CURB	21	X	1	0	1	5.625	6						2	0					92
X	4	5	K5	BARRIER CURB	24	X	5	10	4.375	6.75	8.125	1	0	5.50			8	11					37
X	4	5	K6	BARRIER CURB	24	X	5	6	4.375	7.875	8.125	1	0	6.50			8	9					37
X	4	5	K7	BARRIER CURB	24	X	2	9	4.375	9.625	8.125	1	0	7.875			6	3					26
X	4	5	K8	BARRIER CURB	24	X	0	9	4.375	11.25	8.125	1	0	9.25			4	6					19
X	48	5	K9	BARRIER CURB	1		6	9									6	9					338
X	4	5	K11	BARRIER CURB	20	X	2	2.125			0	9					2	2	2.375	5	3		22
X	112	5	R1	BARRIER CURB	23		2	6	4.25	2	6.125						2	6		3	8	1	944
X	112	5	R3	BARRIER CURB	19	X	1	4.375	6								1	11					224
X	112	5	R4	BARRIER CURB	24	X		6	11.25	7.50	1	0	9.25	6.375	3	10	447						
X	28	5	R5	BARRIER CURB	1		30	7									30	7					893
TOTAL WT. (BL)																	8120						
TOTAL WT. (E)																	14048						

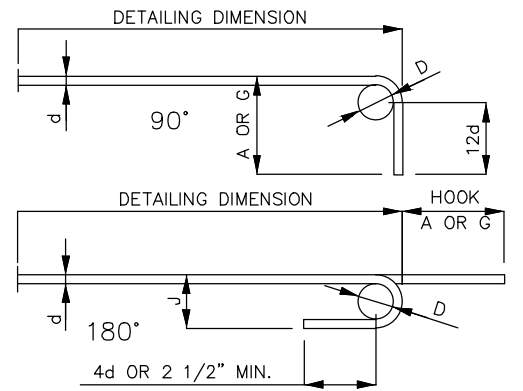


NOTE: ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS. HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.



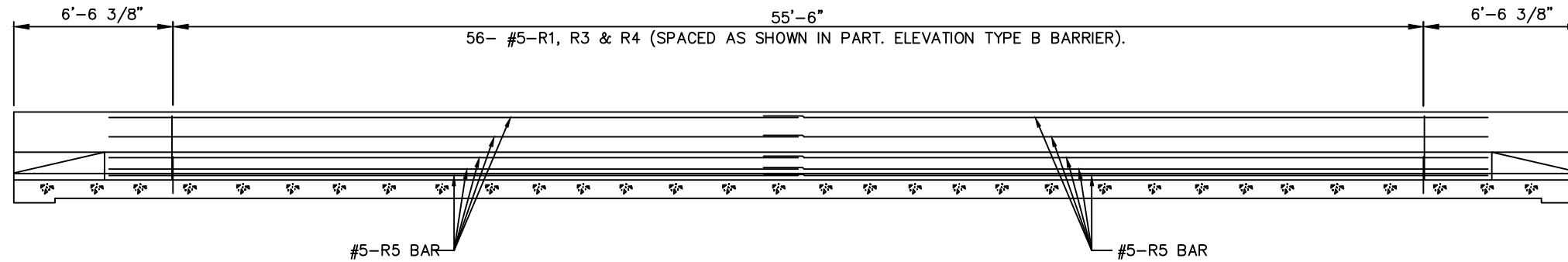
STIRRUP HOOK DIMENSIONS				
GRADES 40 - 50 - 60 KSI				
BAR SIZE	D (IN.)	90° HOOK		135° HOOK
		HOOK A OR G	HOOK A OR G	APPROX. H
#4	2"	4 1/2"	4 1/2"	3"
#5	2 1/2"	6"	5 1/2"	3 3/4"
#6	4 1/2"	12"	8"	4 1/2"

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

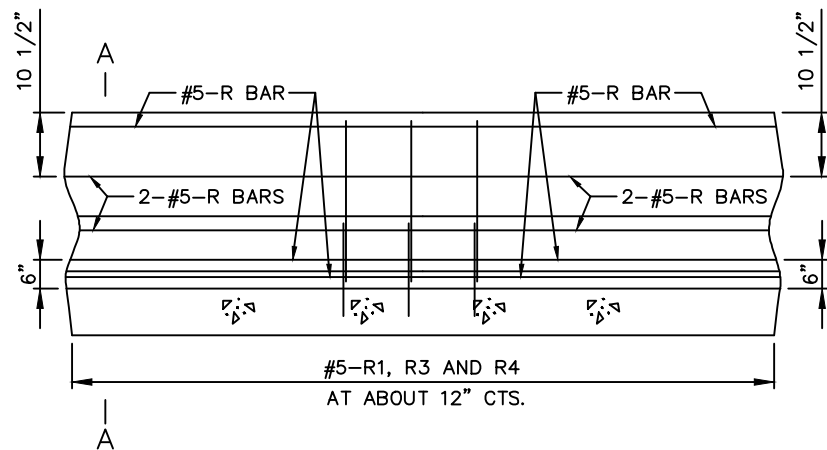
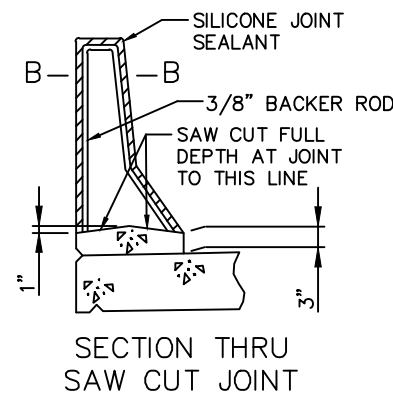
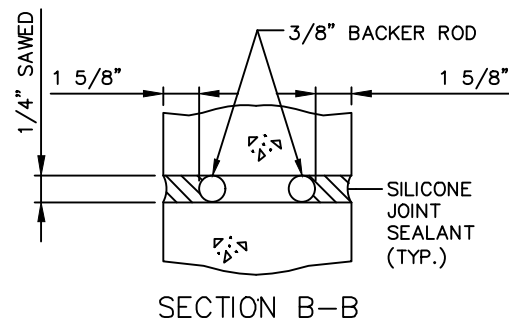


BAR SIZE	END HOOK DIMENSIONS				
	180° HOOKS		90° HOOKS		ALL GRADES
	GRADE 40	GRADE 60	GRADE 40	GRADE 60	
#3	5"	2 3/4"	5"	3"	6"
#4	6"	3 1/2"	6"	4"	8"
#5	7"	4 1/2"	7"	5"	10"
#6	8"	5 1/4"	8"	6"	12"
#7	9"	6 1/4"	10"	7"	14"
#8	10"	7"	11"	8"	16"
#9	12"	8"	15"	11 1/4"	19"
#10	13"	9"	17"	12 3/4"	22"
#11	14"	10"	19"	14 1/4"	2'-0"
#14	2'-2"	20 1/2"	2'-2"	20 1/4"	2'-7"
#18	2'-11"	2'-3"	2'-11"	2'-3"	3'-5"

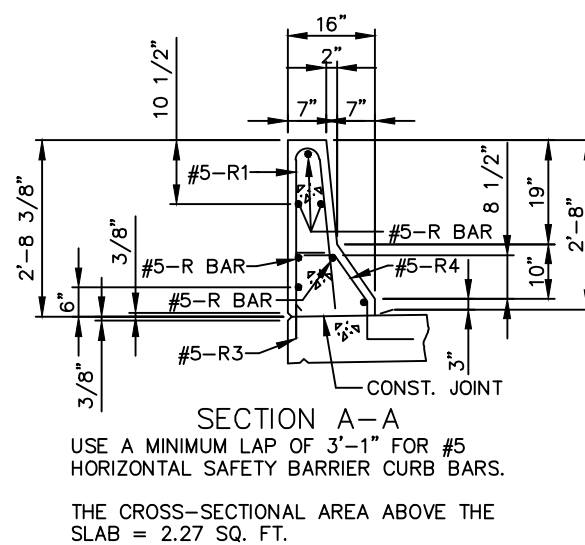
E-EPOXY COATED REINFORCEMENT
 S-STIRRUP
 X-BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES
 V-BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
 NO.-EACH NUMBER OF BARS OF EACH LENGTH.
 DIMENSIONS SHOWN ARE OUT TO OUT DIMENSIONS. LENGTH SHOWN IS MEASURED ALONG C OF BAR. (TO NEAREST INCH)
 LENGTHS AND QUANTITIES OF BARS SHOWN IN TABLE ARE FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL VERIFY ALL QUANTITIES AND DIMENSIONS PRIOR TO FABRICATING STEEL.



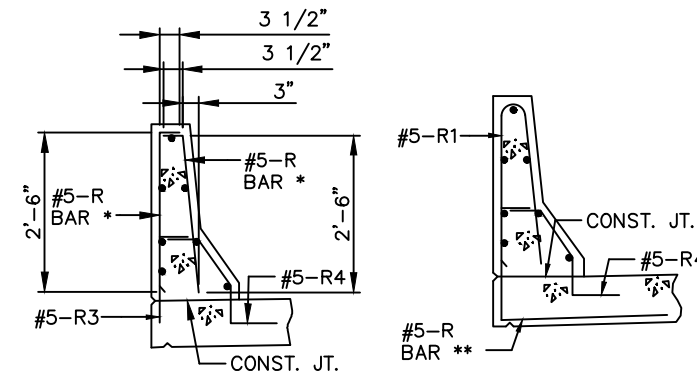
ELEVATION OF TYPE B BARRIER CURB
(LEFT BARRIER CURB SHOWN, RIGHT BARRIER CURB SIMILAR)
LONGITUDINAL DIMENSIONS ARE HORIZONTAL.



PART ELEVATION OF TYPE B BARRIER CURB

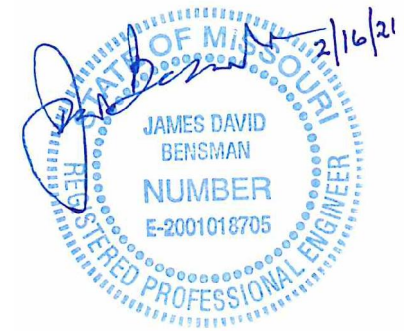


SECTION A-A
USE A MINIMUM LAP OF 3'-1" FOR #5 HORIZONTAL SAFETY BARRIER CURB BARS.
THE CROSS-SECTIONAL AREA ABOVE THE SLAB = 2.27 SQ. FT.



R-BAR PERMISSIBLE ALTERNATE SHAPE
* THE R1 BAR MAY BE SEPARATED INTO TWO BARS AS SHOWN, AT THE CONTRACTOR'S OPTION, ONLY WHEN SLIP FORMING IS NOT USED. (ALL DIMENSIONS ARE OUT TO OUT.)
** THE R3 BAR AND #5 BOTTOM TRANSVERSE SLAB BAR IN CANTILEVER (P/S PANELS ONLY) COMBINATION MAY BE FURNISHED AS ONE BAR AS SHOWN, AT THE CONTRACTOR'S OPTION.

CONVENTIONAL-FORMED TYPE B BARRIER CURB



GENERAL NOTES

TOP OF SAFETY BARRIER CURB SHALL BE BUILT PARALLEL TO GRADE WITH BARRIER CURB JOINTS (EXCEPT AT END BENTS) NORMAL TO GRADE.

ALL EXPOSED EDGES OF SAFETY BARRIER CURB SHALL HAVE EITHER A 1/2-INCH RADIUS OR A 3/8-INCH BEVEL, UNLESS OTHERWISE NOTED.

PAYMENT FOR ALL CONCRETE AND REINFORCEMENT, COMPLETE IN PLACE, WILL BE CONSIDERED COMPLETELY COVERED BY THE CONTRACT UNIT PRICE FOR SAFETY BARRIER CURB PER LINEAR FOOT.

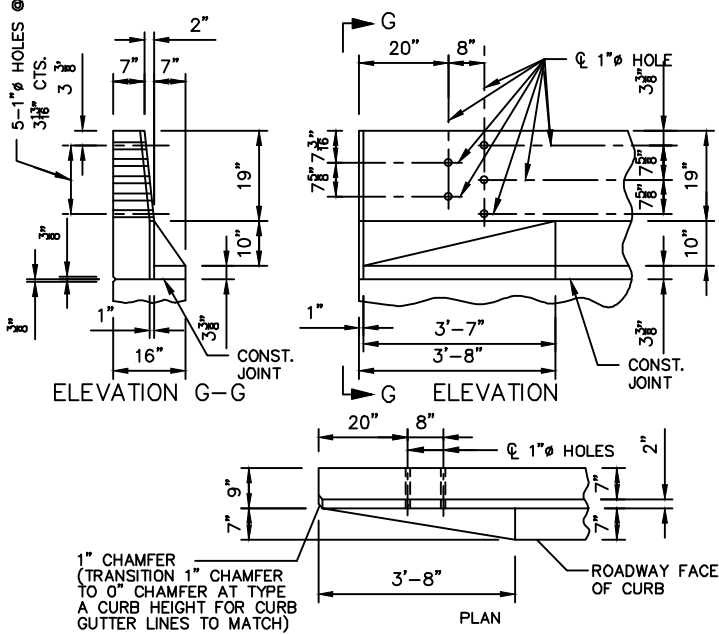
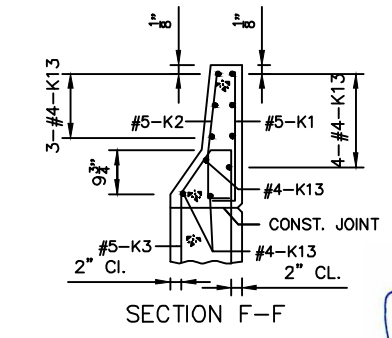
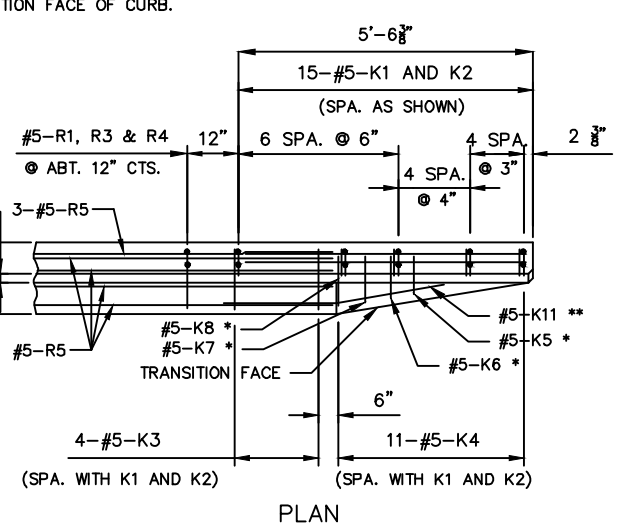
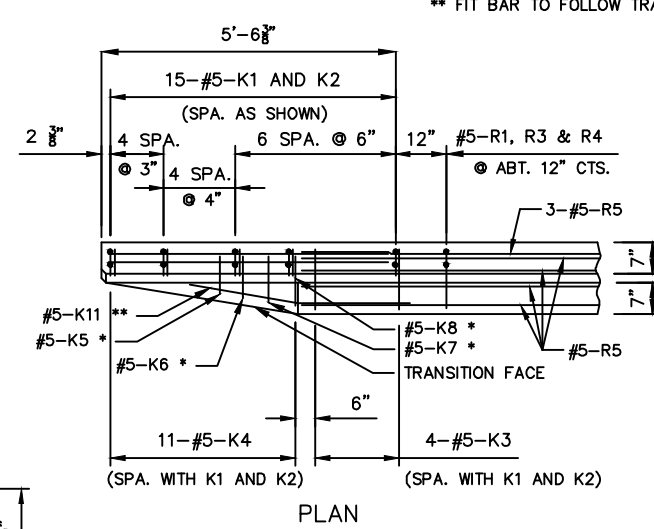
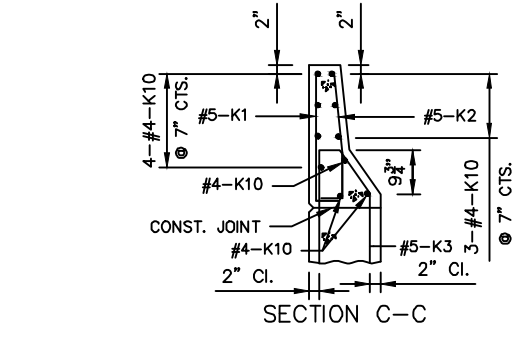
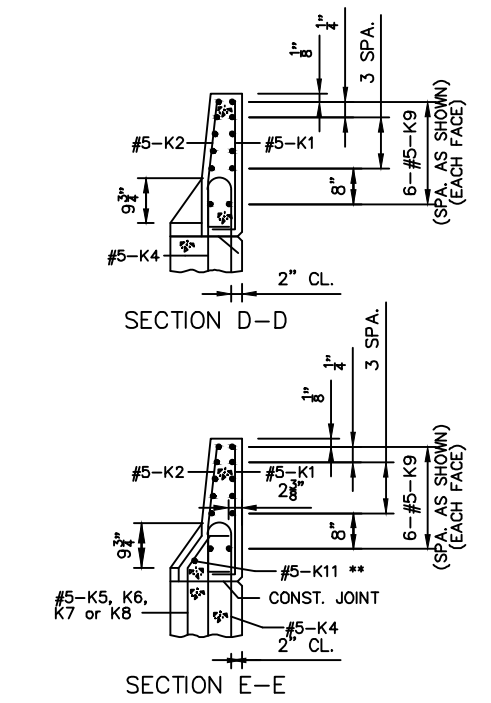
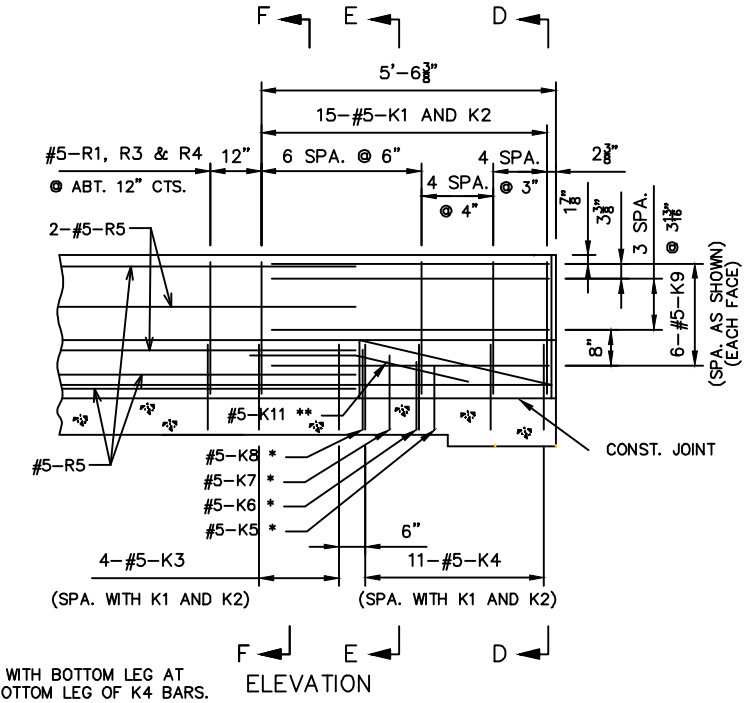
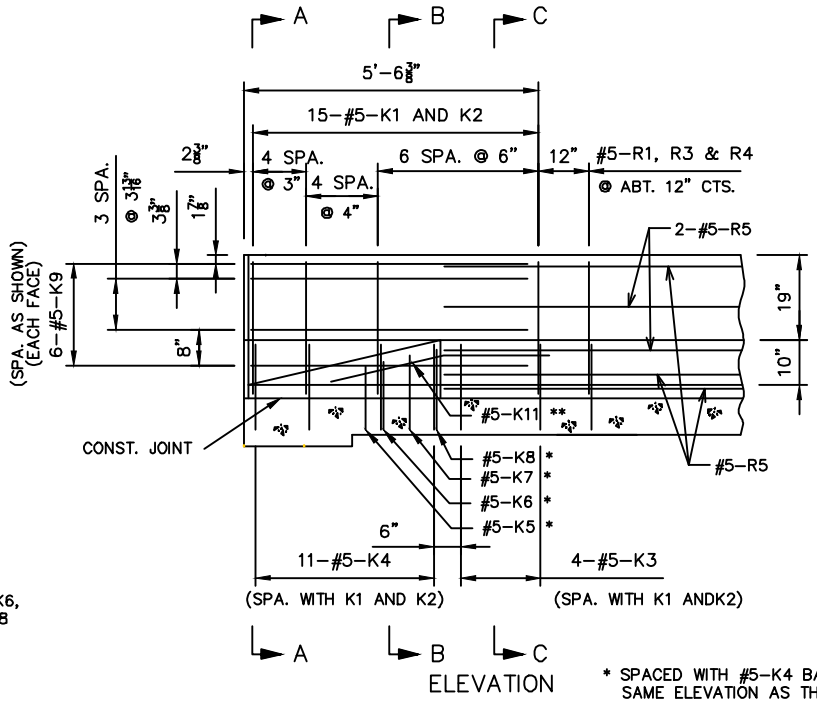
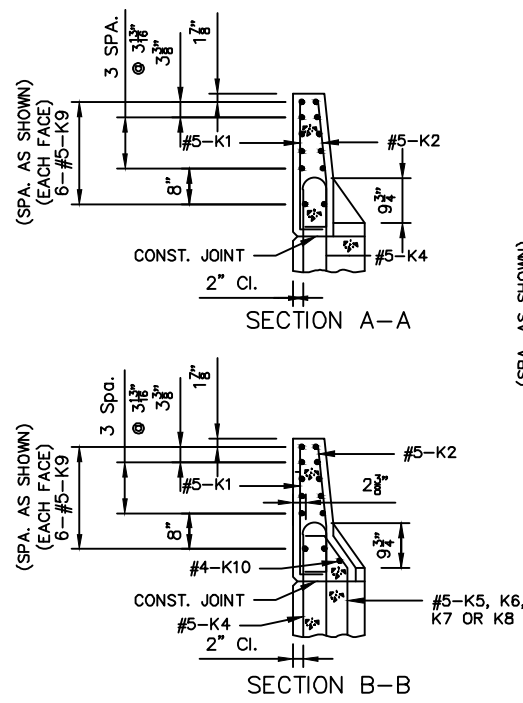
CONCRETE IN THE SAFETY BARRIER CURB SHALL BE CLASS B-1.

MEASUREMENT OF SAFETY BARRIER CURB IS TO THE NEAREST LINEAR FOOT FOR EACH STRUCTURE, MEASURED ALONG THE OUTSIDE TOP OF SLAB FROM END OF ABUTMENT TO END OF ABUTMENT.

CONCRETE TRAFFIC BARRIER DELINEATORS SHALL BE PLACED ON TOP OF THE SAFETY BARRIER CURB AS SHOWN ON MISSOURI STANDARD PLANS 617.10 AND IN ACCORDANCE WITH SEC 617. DELINEATORS ON BRIDGES WITH TWO-LANE, TWO-WAY TRAFFIC SHALL HAVE RETROREFLECTIVE SHEETING ON BOTH SIDES. CONCRETE TRAFFIC BARRIER DELINEATORS WILL BE CONSIDERED COMPLETELY COVERED BY THE CONTRACT UNIT PRICE FOR SAFETY BARRIER CURB.

JOINT SEALANT AND BACKER RODS SHALL BE IN ACCORDANCE WITH SEC 717 FOR SILICONE JOINT SEALANT FOR SAW CUT AND FORMED JOINTS.

IF THIS DRAWING IS PLOTTED MORE THAN 11x17 IN SIZE, IT IS AN ENLARGED PLOT - SCALE SHOULD BE ADJUSTED ACCORDINGLY	NO.	DATE	REVISION DESCRIPTION	BY	 meceoengineering.com MO Engineering Lic. #000898 - IL Design Firm #184-001749	OFFICE LOCATIONS HANNIBAL, MO JEFFERSON CITY, MO BRANSON, MO PITTSFIELD, IL SPRINGFIELD, IL	THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEARS ON THIS SHEET ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) & (PURSUANT TO 225 ILCS 325/PROFESSIONAL ENGINEERING PRACTICE ACT OF 1989) ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART, OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.	OLD FORGE RD. BRIDGE 17300121 OVER CLARK FORK PROJECT BRO-B026(23) COLE COUNTY, MISSOURI				BARRIER CURB DETAILS			
	SURVEYED	DESIGNED	DRAWN	CHECKED				APPROVED	RELEASED	SCALE	FILE NO.	PROJECT NO.	SHEET NO.	18	
								JDB	AKL			NOT TO SCALE	401057BarrierCurb	401-057	



* SPACED WITH #5-K4 BARS WITH BOTTOM LEG AT SAME ELEVATION AS THE BOTTOM LEG OF K4 BARS.
 ** FIT BAR TO FOLLOW TRANSITION FACE OF CURB.

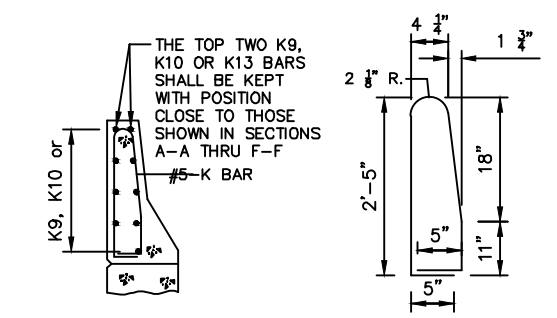
GENERAL NOTES

CONCRETE TRAFFIC BARRIER DELINEATORS SHALL BE PLACED ON TOP OF THE SAFETY BARRIER CURB AS SHOWN ON MISSOURI STANDARD PLANS 617.10 AND IN ACCORDANCE WITH SEC 617. DELINEATORS ON BRIDGES WITH TWO-LANE, TWO WAY TRAFFIC SHALL HAVE RETROREFLECTIVE SHEETING ON BOTH SIDES. CONCRETE TRAFFIC BARRIER DELINEATORS WILL BE CONSIDERED COMPLETELY COVERED BY THE CONTRACT UNIT PRICE FOR SAFETY BARRIER CURB.

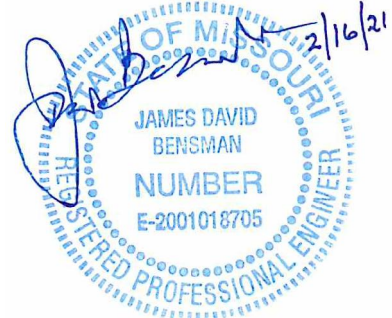
REINFORCING STEEL:

MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1 1/2" EXCEPT AS SHOWN FOR BARS EMBEDDED INTO END BENT. USE A MINIMUM LAP OF 2'-7" BETWEEN K9 AND K10 OR K13 BARS.

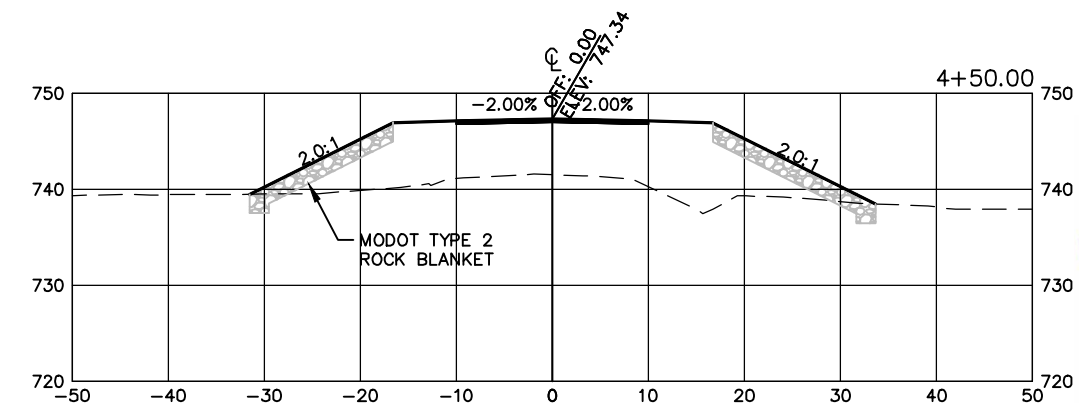
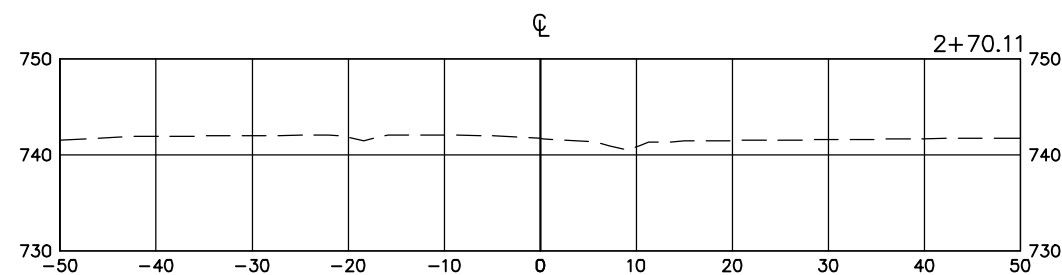
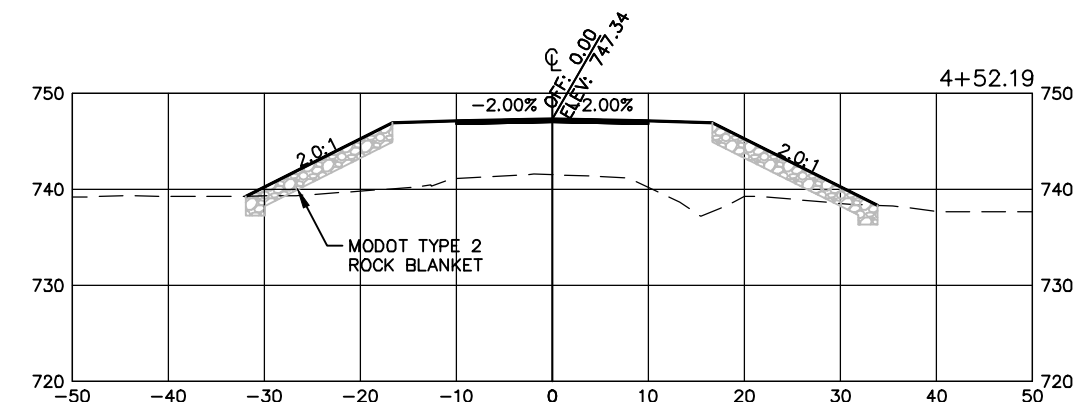
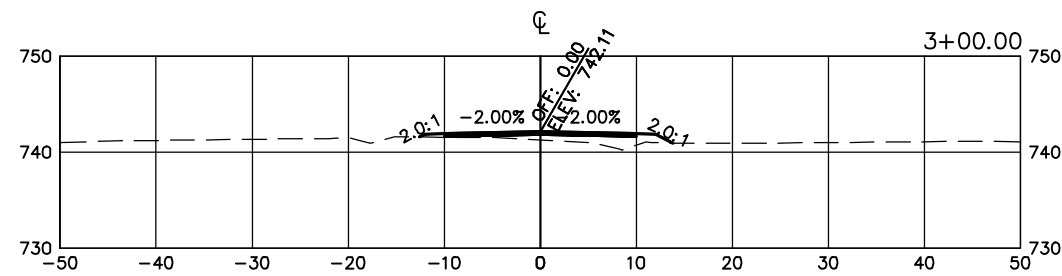
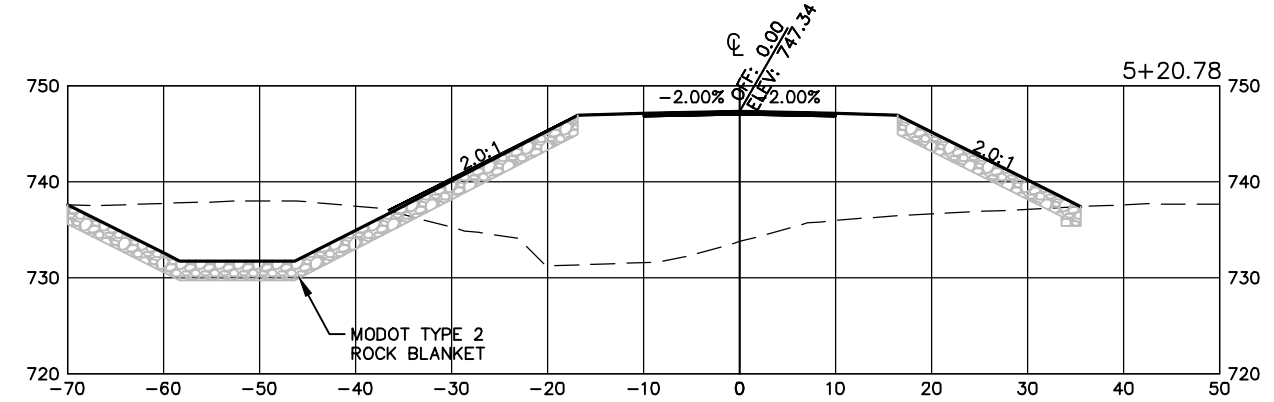
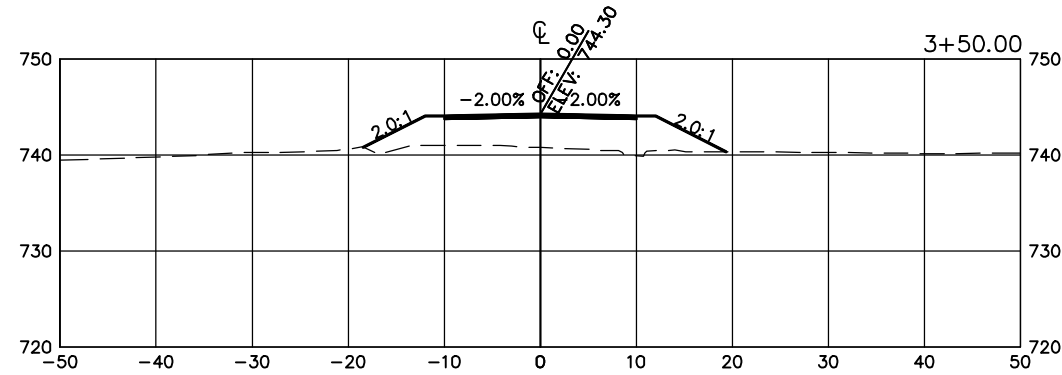
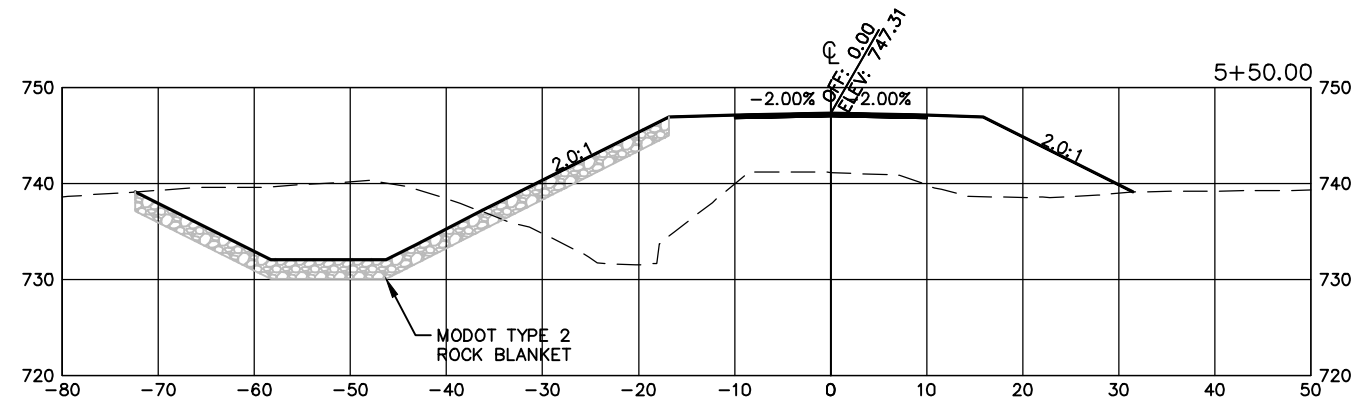
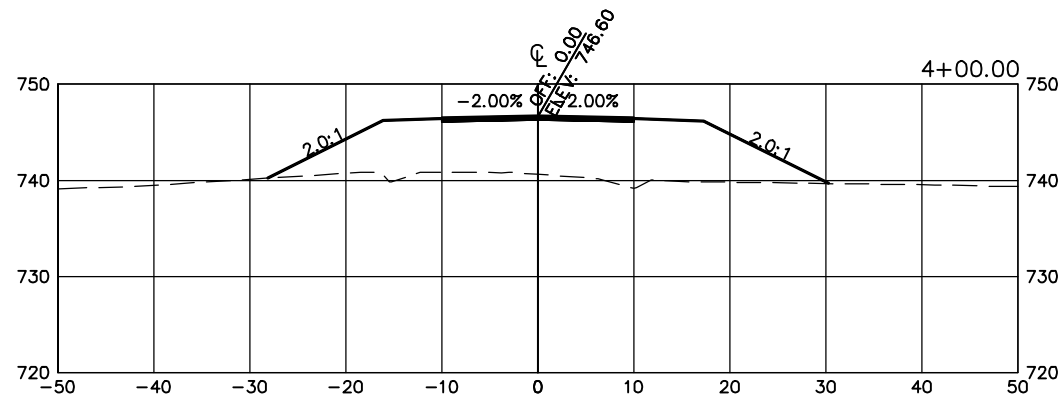
TYPE B BARRIER CURB AT END BENTS
 (LEFT BARRIER CURB SHOWN, RIGHT BARRIER CURB SIMILAR)



K1-K2 BAR PERMISSIBLE ALTERNATE SHAPE
 (K3 OR K4 THRU K8 BARS NOT SHOWN FOR CLARITY)
 THE K1 AND K2 BAR COMBINATION MAY BE FURNISHED AS ONE BAR AS SHOWN, AT THE CONTRACTOR'S OPTION.

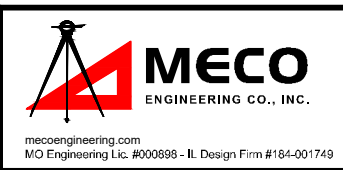


IF THIS DRAWING IS PLOTTED MORE THAN 11x17 IN SIZE, IT IS AN ENLARGED PLOT - SCALE SHOULD BE ADJUSTED ACCORDINGLY	NO.	DATE	REVISION DESCRIPTION	BY	 mecoengineering.com MO Engineering Lic. #000898 - IL Design Firm #184-001749	OFFICE LOCATIONS HANNIBAL, MO JEFFERSON CITY, MO BRANSON, MO PITTSFIELD, IL SPRINGFIELD, IL	THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEARS ON THIS SHEET ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) & (PURSUANT TO 225 ILLCS 325/PROFESSIONAL ENGINEERING PRACTICE ACT OF 1989) ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART, OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.	OLD FORGE RD. BRIDGE 17300121 OVER CLARK FORK PROJECT BRO-B026(23) COLE COUNTY, MISSOURI					BARRIER CURB AT END BENTS		
	SURVEYED	DESIGNED	DRAWN	CHECKED				APPROVED	RELEASED	SCALE	FILE NO.	PROJECT NO.	SHEET NO.	19	



JAMES DAVID BENSMAN
 REGISTERED PROFESSIONAL ENGINEER
 NUMBER E-2001018705
 2/16/21

NO.	DATE	REVISION DESCRIPTION	BY



OFFICE LOCATIONS
 HANNIBAL, MO
 JEFFERSON CITY, MO
 BRANSON, MO
 PITTSFIELD, IL
 SPRINGFIELD, IL

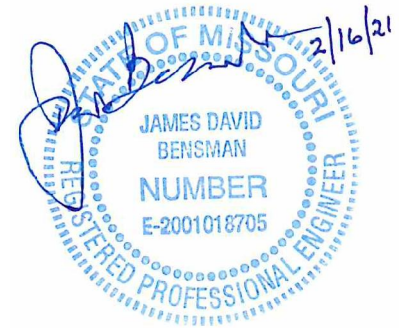
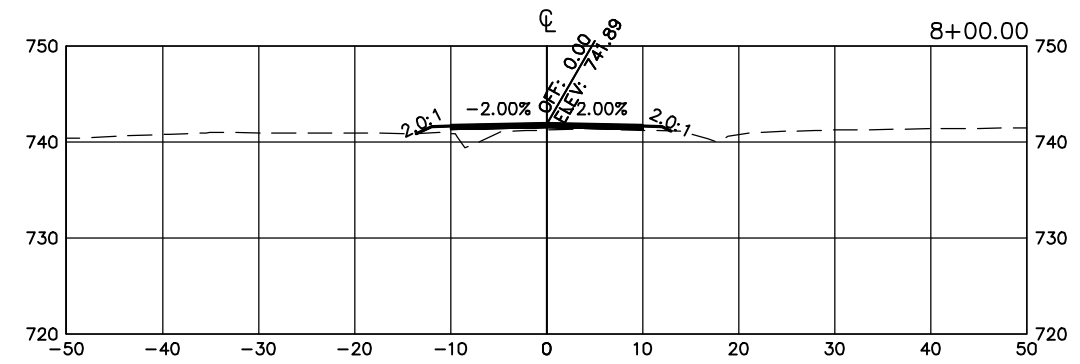
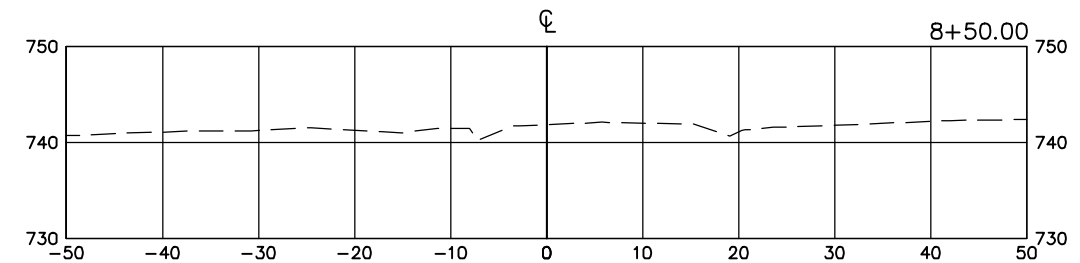
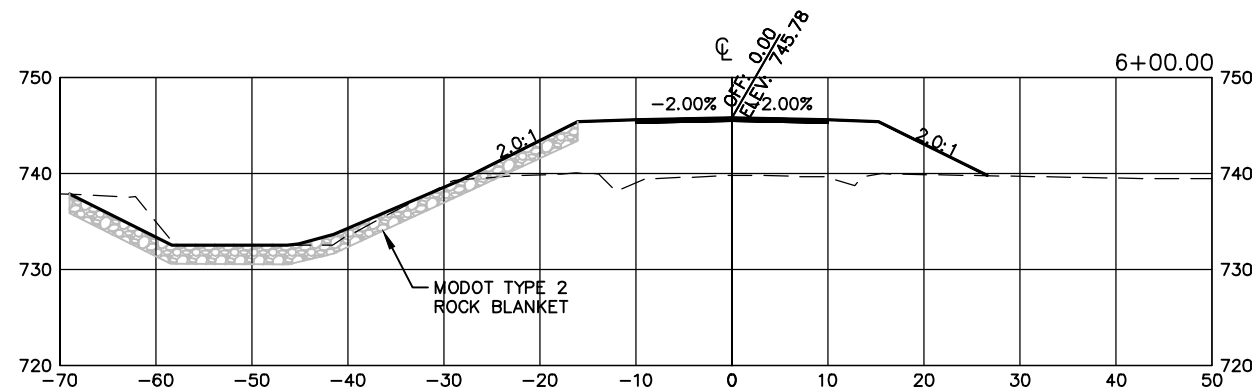
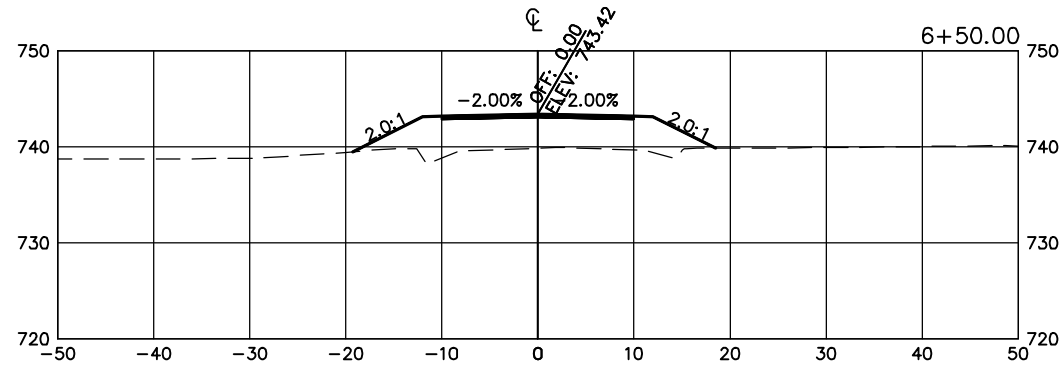
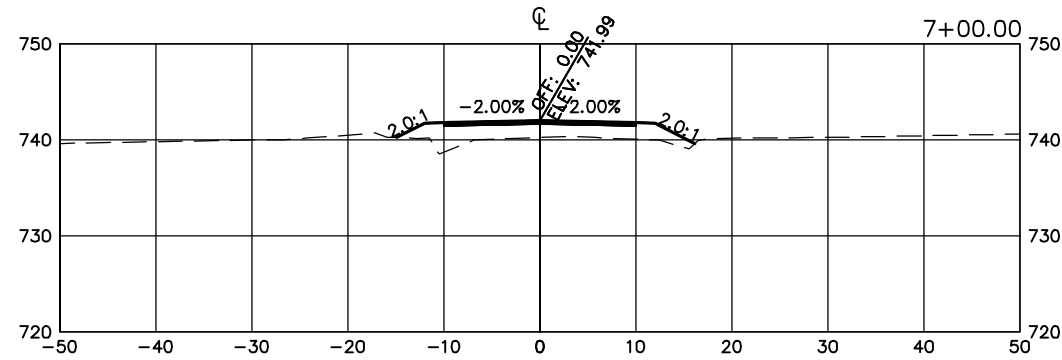
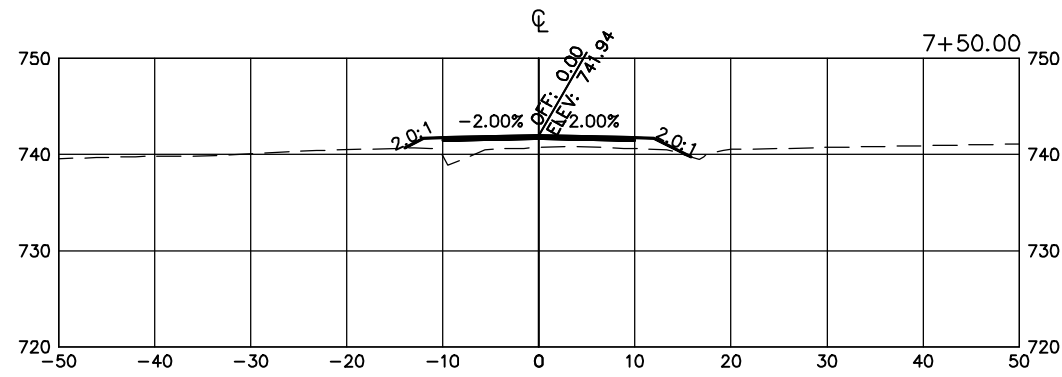
THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEARS ON THIS SHEET ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) & (PURSUANT TO 225 ILC'S 325/PROFESSIONAL ENGINEERING PRACTICE ACT OF 1989) ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART, OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.

OLD FORGE RD. BRIDGE #17300121 OVER CLARK FORK
PROJECT BRO-B026(23)
COLE COUNTY, MISSOURI

SURVEYED	DESIGNED	DRAWN	CHECKED	APPROVED	RELEASED
	JDB	AKL			

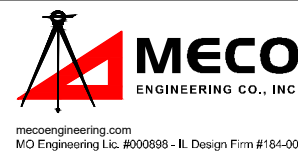
CROSS SECTIONS
2+70.00 TO 5+50.00

SCALE	FILE NO.	PROJECT NO.	SHEET NO.
1"=20'	401057 Site	401057	20



IF THIS DRAWING IS PLOTTED MORE THAN 11x17 IN SIZE, IT IS AN ENLARGED PLOT - SCALE SHOULD BE ADJUSTED ACCORDINGLY

NO.	DATE	REVISION DESCRIPTION	BY



OFFICE LOCATIONS
HANNIBAL, MO
JEFFERSON CITY, MO
BRANSON, MO
PITTSFIELD, IL
SPRINGFIELD, IL

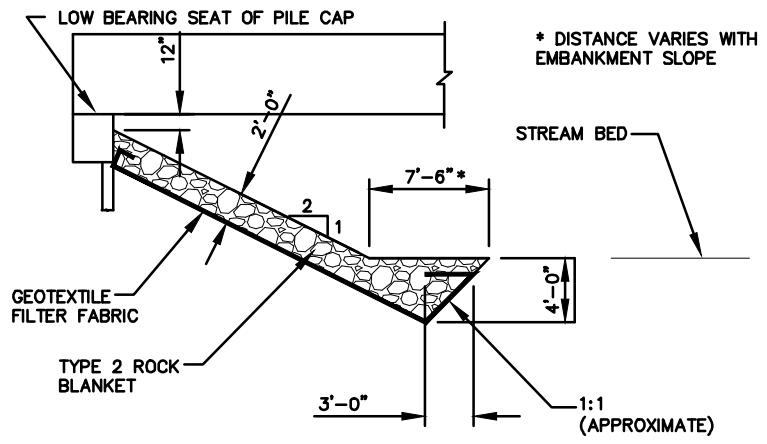
THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEARS ON THIS SHEET ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) & (PURSUANT TO 225 ILC'S 325/PROFESSIONAL ENGINEERING PRACTICE ACT OF 1989) ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART, OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.

OLD FORGE RD. BRIDGE #17300121 OVER CLARK FORK
PROJECT BRO-B026(23)
COLE COUNTY, MISSOURI

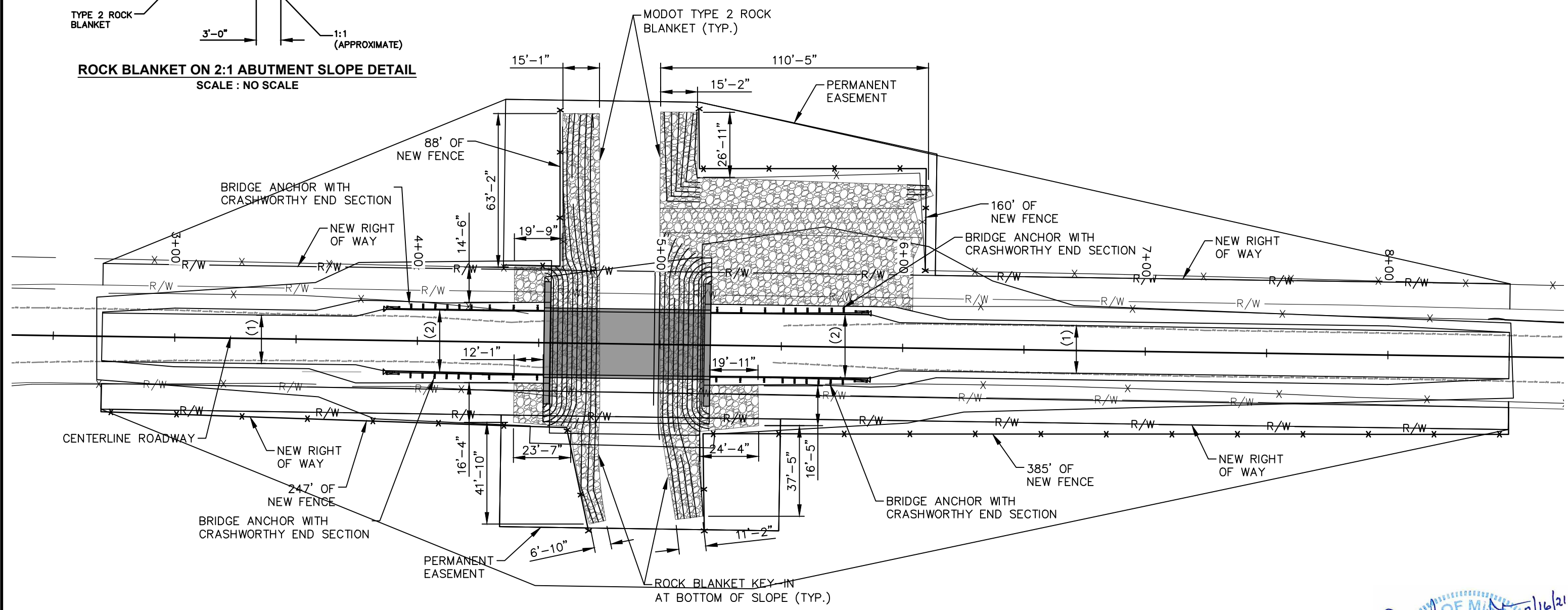
SURVEYED	DESIGNED	DRAWN	CHECKED	APPROVED	RELEASED
	JDB	AKL			

SCALE 1"=20'	FILE NO. 401057 Site	PROJECT NO. 401057	SHEET NO. 21
-----------------	-------------------------	-----------------------	------------------------

CROSS SECTIONS
6+00.00 TO 8+50.00

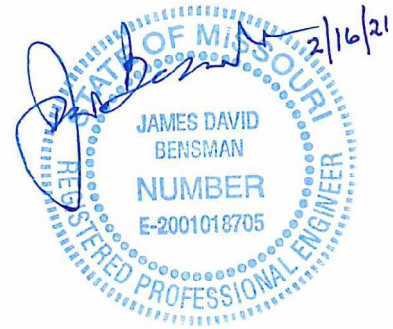


ROCK BLANKET ON 2:1 ABUTMENT SLOPE DETAIL
SCALE : NO SCALE

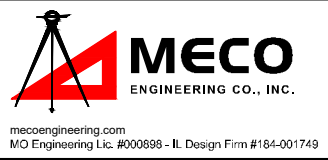


AGGREGATE SURFACE NOTES:

1. 20 FOOT WIDTH
2. 26 FOOT WIDTH



NO.	DATE	REVISION DESCRIPTION	BY



OFFICE LOCATIONS
HANNIBAL, MO
JEFFERSON CITY, MO
BRANSON, MO
BOONVILLE, MO
PITTSFIELD, IL
SPRINGFIELD, IL

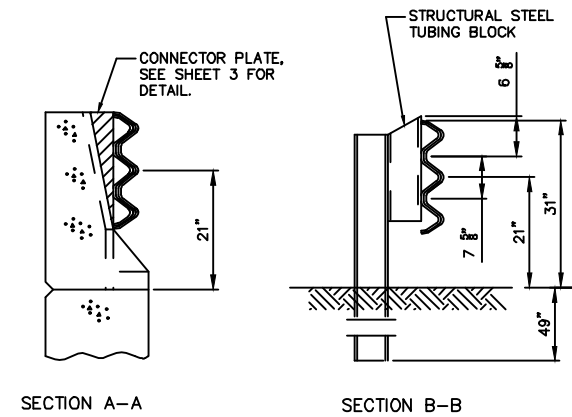
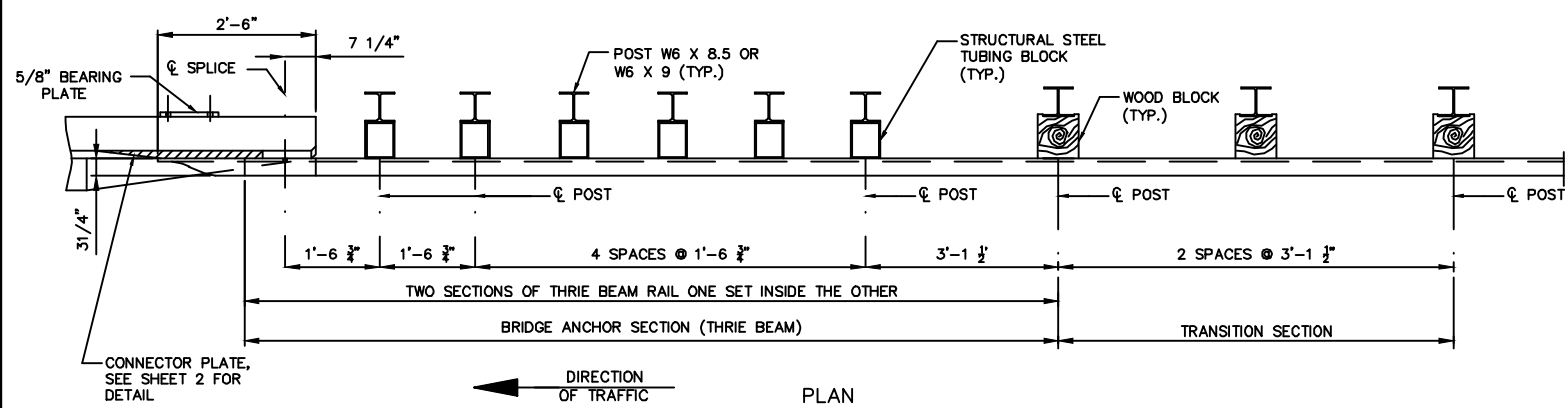
THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEARS ON THIS SHEET ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) & (PURSUANT TO 225 ILC'S 325/PROFESSIONAL ENGINEERING PRACTICE ACT OF 1989) ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART, OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.

OLD FORGE RD. BRIDGE #17300121 OVER CLARK FORK
PROJECT BRO-B026(23)
COLE COUNTY, MISSOURI

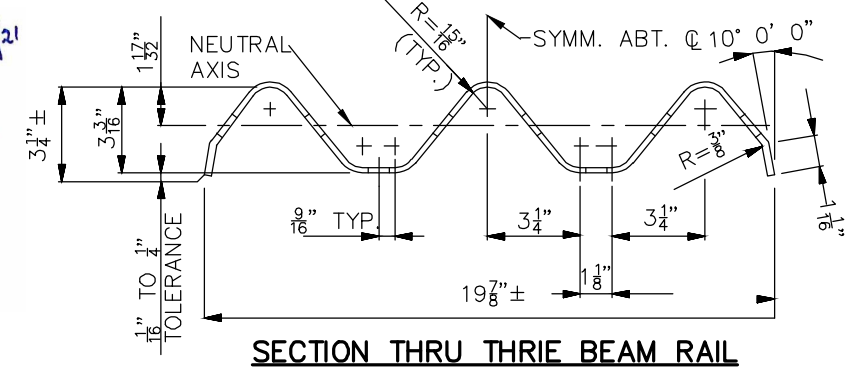
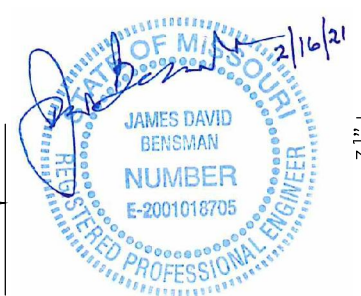
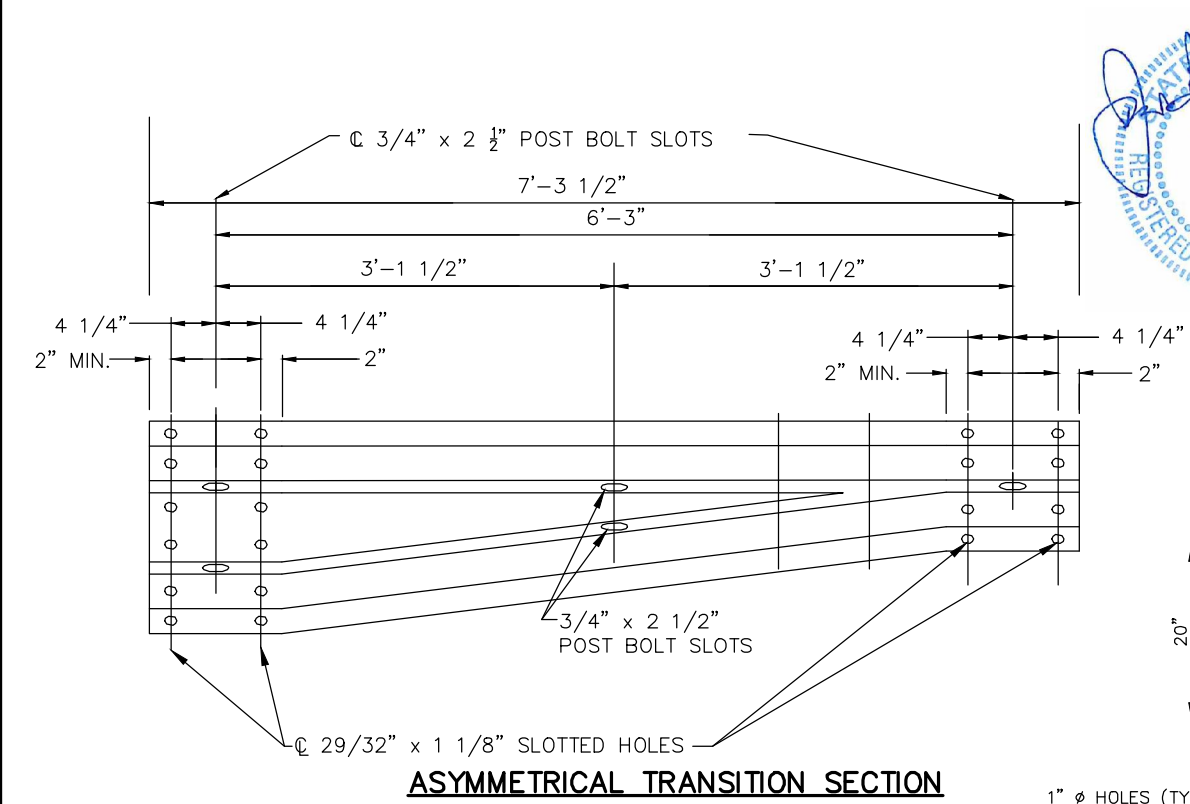
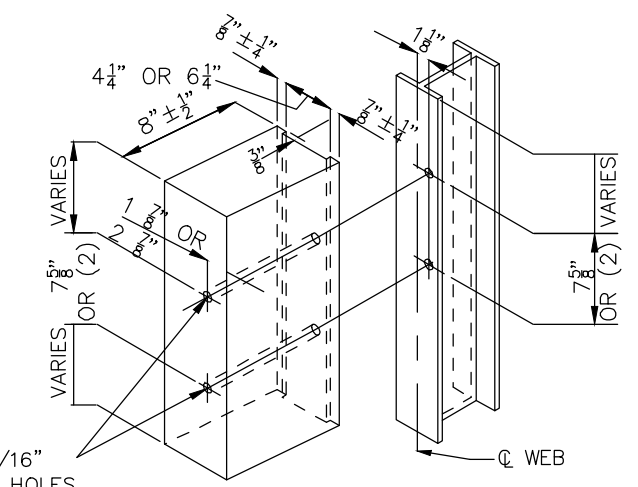
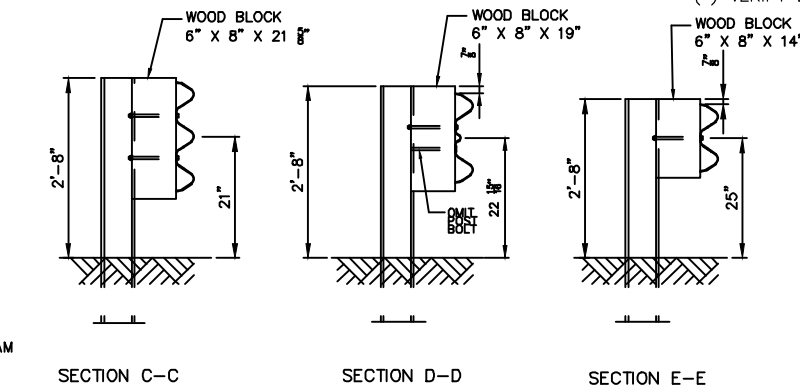
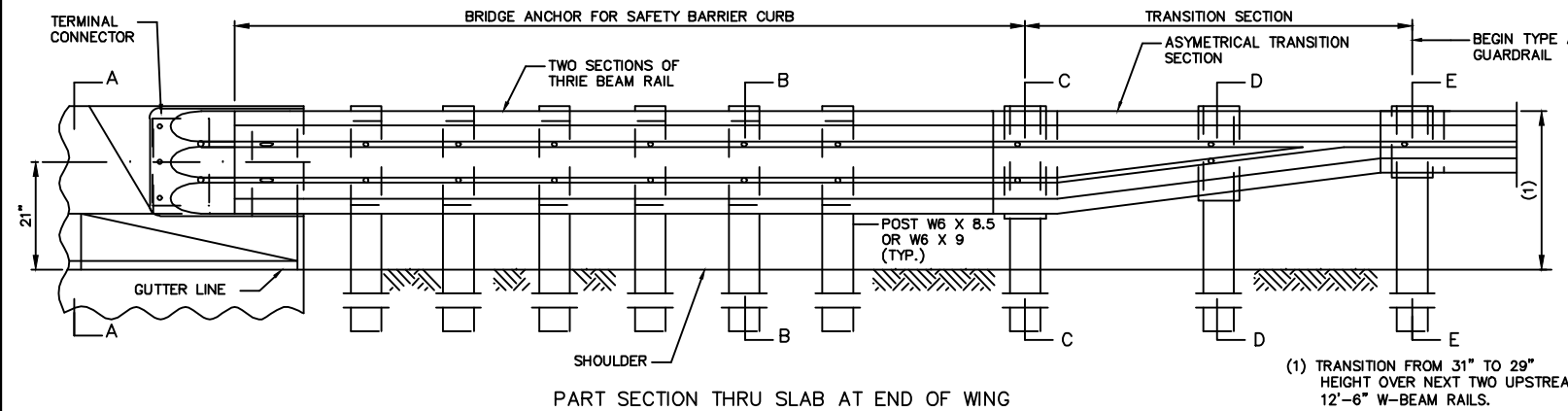
SURVEYED	DESIGNED	DRAWN	CHECKED	APPROVED	RELEASED
	JDB	AKL			

GRADING, GUARDRAIL, FENCE & ROCK BLANKET

SCALE 1"=40'	FILE NO. 401057 Site	PROJECT NO. 401-057	SHEET NO. 22
-----------------	-------------------------	------------------------	------------------------



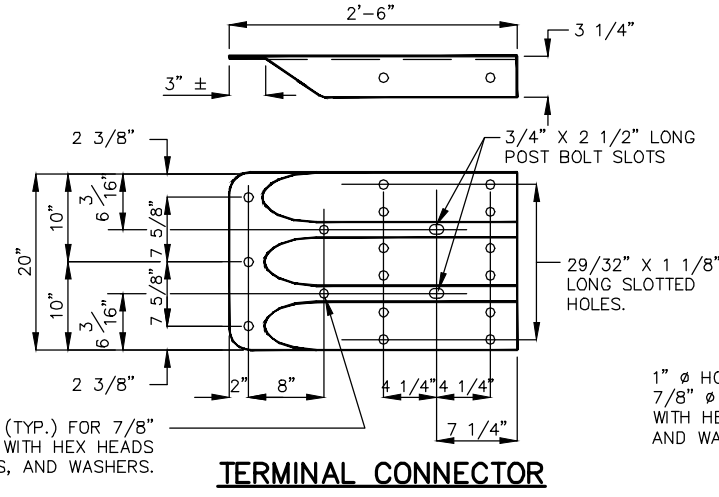
NOTES:
 DESIGN A.A.S.H.T.O. 1989 SPECIFICATIONS.
 THE THRIE BEAM RAIL, END SHOE AND THE TRANSITION SECTION FOR THE BRIDGE ANCHOR SECTION SHALL BE MADE OF STEEL AND SHALL BE 12 GAGE. ZINC COATING SHALL BE TYPE 2.
 FOR PROTECTIVE COATING AND MATERIAL REQUIREMENTS, SEE SECTION 1040 OF THE MISSOURI STANDARD SPECIFICATIONS.
 RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.
 WASHERS SHALL BE USED AT ALL POST BOLTS (BETWEEN BOLT HEAD AND BEAM). THEY SHALL BE RECTANGULAR IN SHAPE (3" X 1 3/4" X 3/16" MIN.) AND FLAT, OR WHEN NECESSARY OF SUCH DESIGN AS TO FIT THE CONTOUR OF THE BEAM. WASHERS SHALL HAVE A 11/16" X 1" SLOTTED HOLE.
 USE 5/8" BUTTON-HEAD, OVAL SHOULDER BOLTS WITH HEX NUTS AT ALL SLOTS. (THICKNESS OF HEX NUTS = 3/8")
 THE BEARING PLATE SHALL BE FABRICATED FROM A36 STEEL AND GALVANIZED.
 ALL LAP SPLICES, INCLUDING END SHOES, SHALL BE MADE IN THE DIRECTION OF TRAFFIC.
 SEE MISSOURI STANDARD PLANS DRAWING 606.00 FOR DETAILS NOT SHOWN.
 (*) VERIFY BY RAIL TRANSITION SUPPLIER.



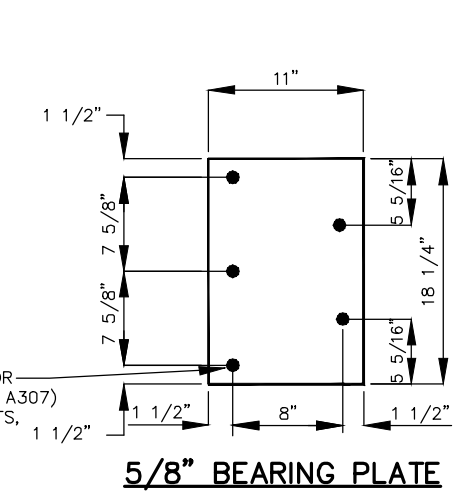
POST ② - (2) VERIFY BY RAIL TRANSITION PRODUCER (SEE FRONT SHEET)
 POST ③ - ONLY 1 HOLE REQUIRED
 ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED

ASYMMETRICAL TRANSITION SECTION

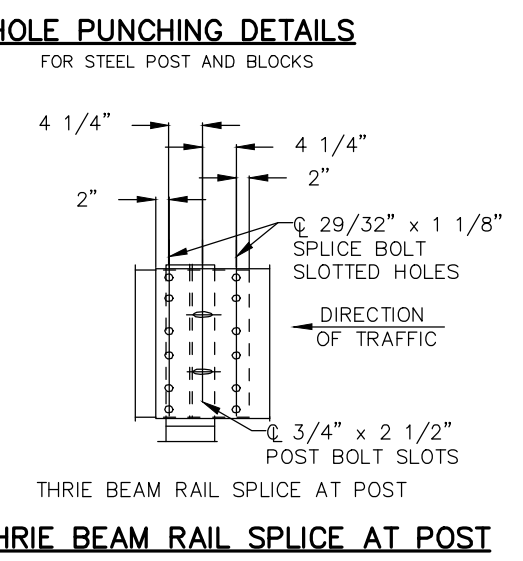
1" Ø HOLES (TYP.) FOR 7/8" BOLTS (ASTM A307) WITH HEX HEADS, NUTS, AND WASHERS.



TERMINAL CONNECTOR



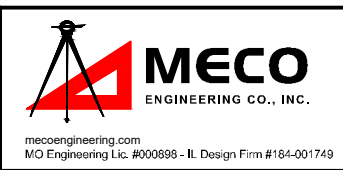
5/8" BEARING PLATE



HOLE PUNCHING DETAILS FOR STEEL POST AND BLOCKS

THRIE BEAM RAIL SPLICE AT POST

NO.	DATE	REVISION DESCRIPTION	BY

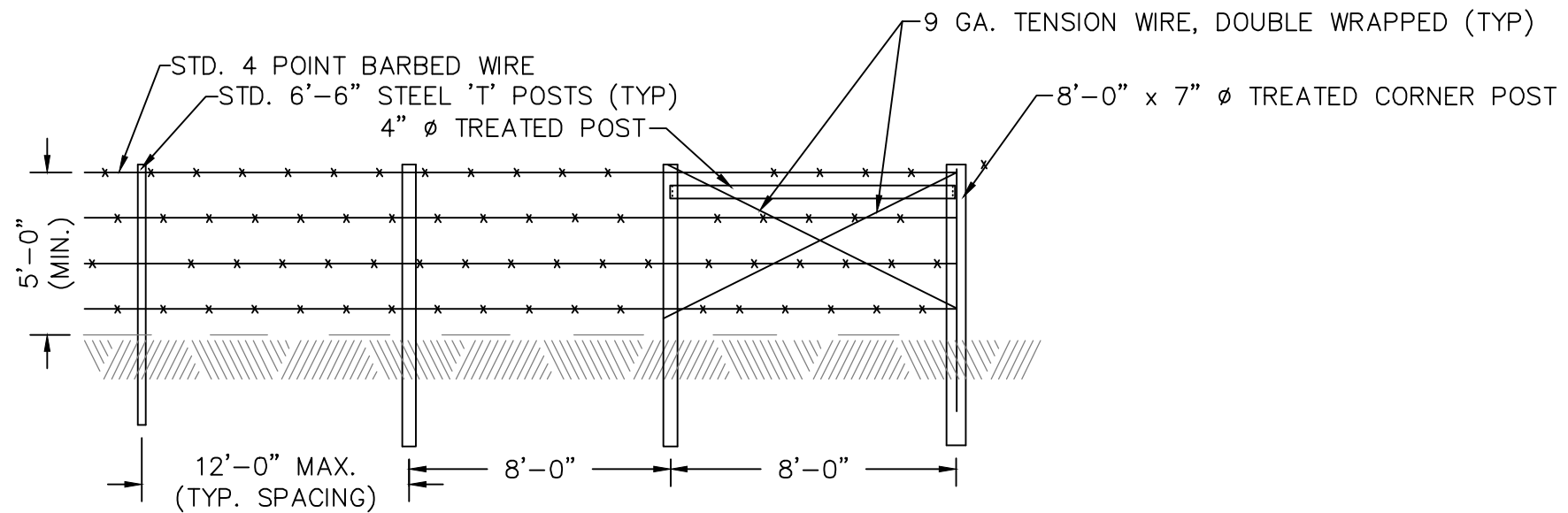


OFFICE LOCATIONS
 HANNIBAL, MO
 JEFFERSON CITY, MO
 BRANSON, MO
 PITTSFIELD, IL
 SPRINGFIELD, IL

THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEARS ON THIS SHEET ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) & (PURSUANT TO 225 ILC'S 325/PROFESSIONAL ENGINEERING PRACTICE ACT OF 1989) ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART, OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.

OLD FORGE RD. BRIDGE #17300121 OVER CLARK FORK PROJECT BRO-B026(23) COLE COUNTY, MISSOURI						
SURVEYED	DESIGNED	DRAWN	CHECKED	APPROVED	RELEASED	SCALE
	JDB	AKL				NTS

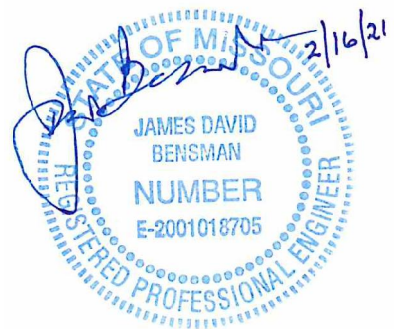
BRIDGE ANCHOR AND TRANSITION SECTION			
FILE NO.	PROJECT NO.	SHEET NO.	
401057 ThrieBeam	401-057	23	




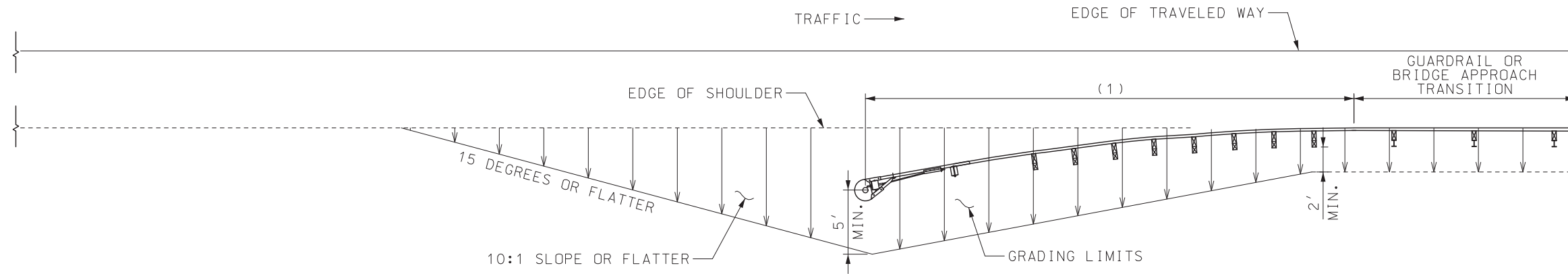
TYPICAL CORNER AND BRACING
(FOR BARBED WIRE & WOVEN WIRE)

NOTES:

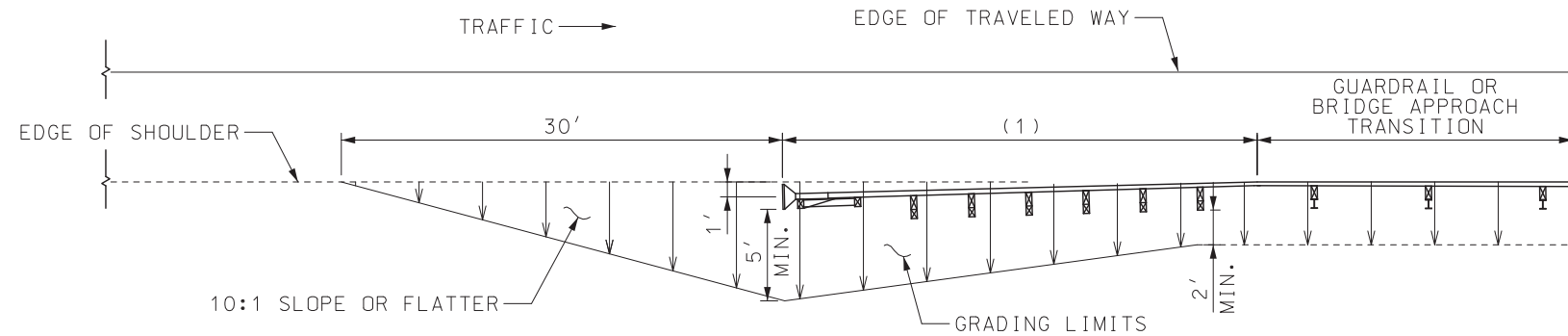
1. FENCING SHOWN IN THIS DETAIL IS THE MINIMUM REQUIRED BY THE ENGINEER. ACTUAL REPLACEMENT FENCE SHALL BE EQUAL TO OR BETTER THAN THE EXISTING.
2. TIES TO EXISTING FENCE REQUIRE THE SAME LAYOUT AS FENCE CORNERS (i.e. CORNER POSTS WITH BRACING AND TENSION WIRE).
3. INSTALL BREAKAWAY WATER GAP IF SPECIFIED ON THE SITE PLAN.



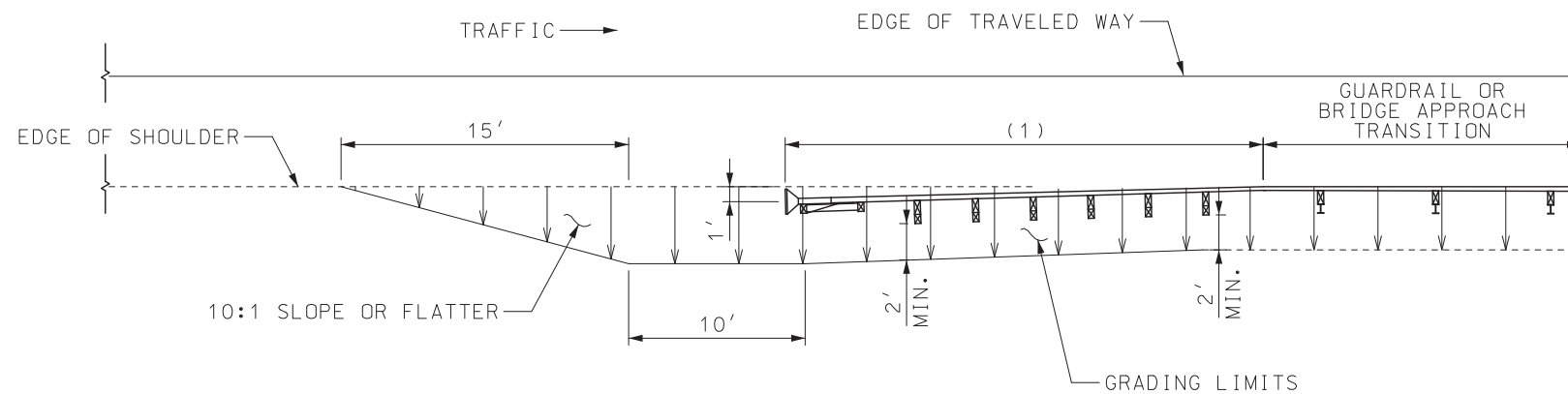
IF THIS DRAWING IS PLOTTED MORE THAN 11x17 IN SIZE, IT IS AN ENLARGED PLOT - SCALE SHOULD BE ADJUSTED ACCORDINGLY	NO.	DATE	REVISION DESCRIPTION	BY	 mecoengineering.com MO Engineering Lic. #000898 - IL Design Firm #184-001749	OFFICE LOCATIONS HANNIBAL, MO JEFFERSON CITY, MO BRANSON, MO PITTSFIELD, IL SPRINGFIELD, IL	THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEARS ON THIS SHEET ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) & (PURSUANT TO 225 ILCS 325/PROFESSIONAL ENGINEERING PRACTICE ACT OF 1989) ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART, OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.	OLD FORGE RD. BRIDGE #17300121 OVER CLARK FORK PROJECT BRO-B026(23) COLE COUNTY, MISSOURI				FENCE DETAIL			
									SURVEYED JDB	DESIGNED AKL	DRAWN AKL	CHECKED	APPROVED	RELEASED	SCALE NOT TO SCALE



GRADING LIMITS FOR FLARED CRASHWORTHY END TERMINALS



STANDARD GRADING LIMITS FOR CRASHWORTHY END TERMINALS



ALTERNATE GRADING LIMITS FOR CRASHWORTHY END TERMINALS


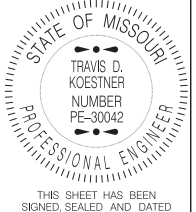
(1) APPROVED CRASHWORTHY END TERMINAL

GENERAL NOTES:

STANDARD GRADING LIMITS SHALL BE USED WHEN CONSTRUCTING A NEW ROADBED. ALTERNATE GRADING LIMITS ARE ALLOWABLE ON EXISTING ROADBEDS EXCEPT WHEN STANDARD GRADING IS INDICATED ON THE PLANS.

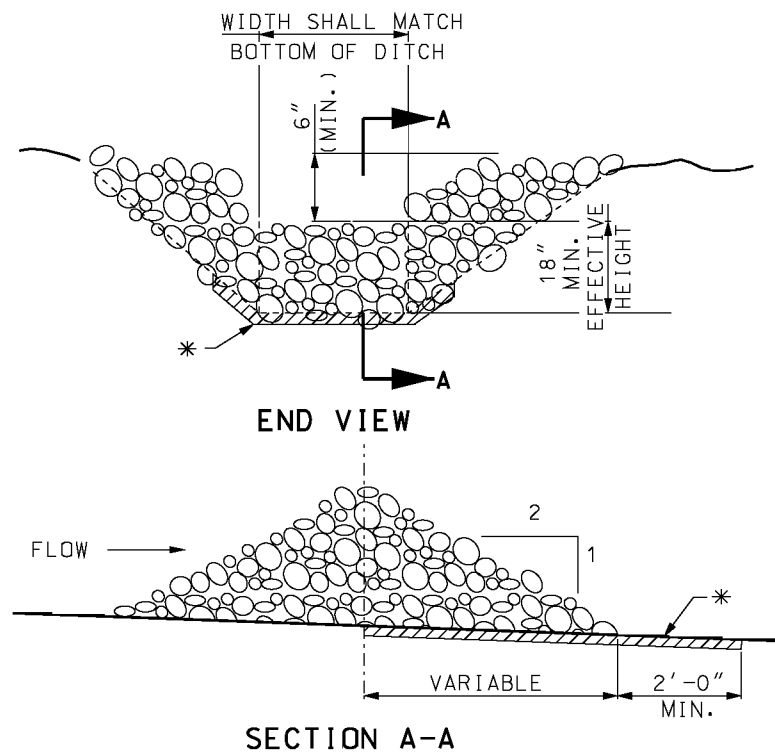
THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH APPROVED SHOP DRAWINGS OF THE APPROVED CRASHWORTHY END TERMINAL.

END ANCHORS SHALL BE INSTALLED ON ENDS OF GUARDRAIL RUNS WHERE CRASHWORTHY END TERMINALS ARE NOT REQUIRED.

	MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
		CRASHWORTHY END TERMINALS TYPE A GRADING LIMITS
DATE EFFECTIVE: 10/01/2019 DATE PREPARED: 7/18/2019	606.31B	SHEET NO. 1 OF 1

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

ROCK DITCH CHECK



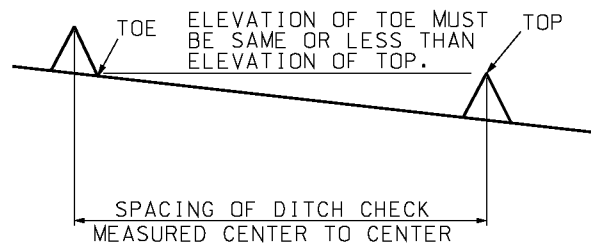
* GEOTEXTILE LINING MAY BE INSTALLED AS REQUIRED BY THE ENGINEER.

NOTE:

ROCK DITCH CHECK IN THE CLEAR ZONE SHALL BE REMOVED OR LEVELED (IF ALLOWABLE) AFTER THE VEGETATION HAS SUFFICIENTLY MATURED TO PROTECT THE DITCH OR SWALE.

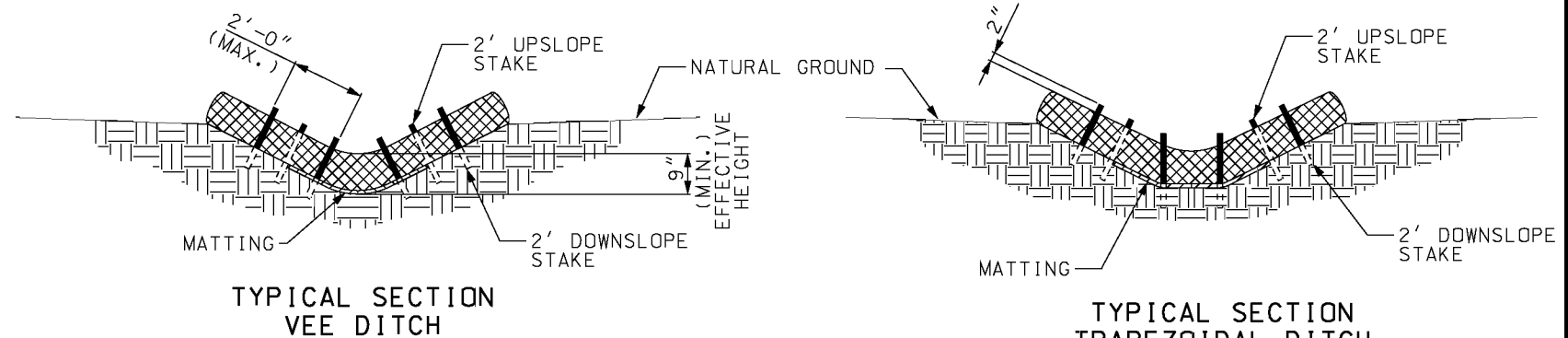
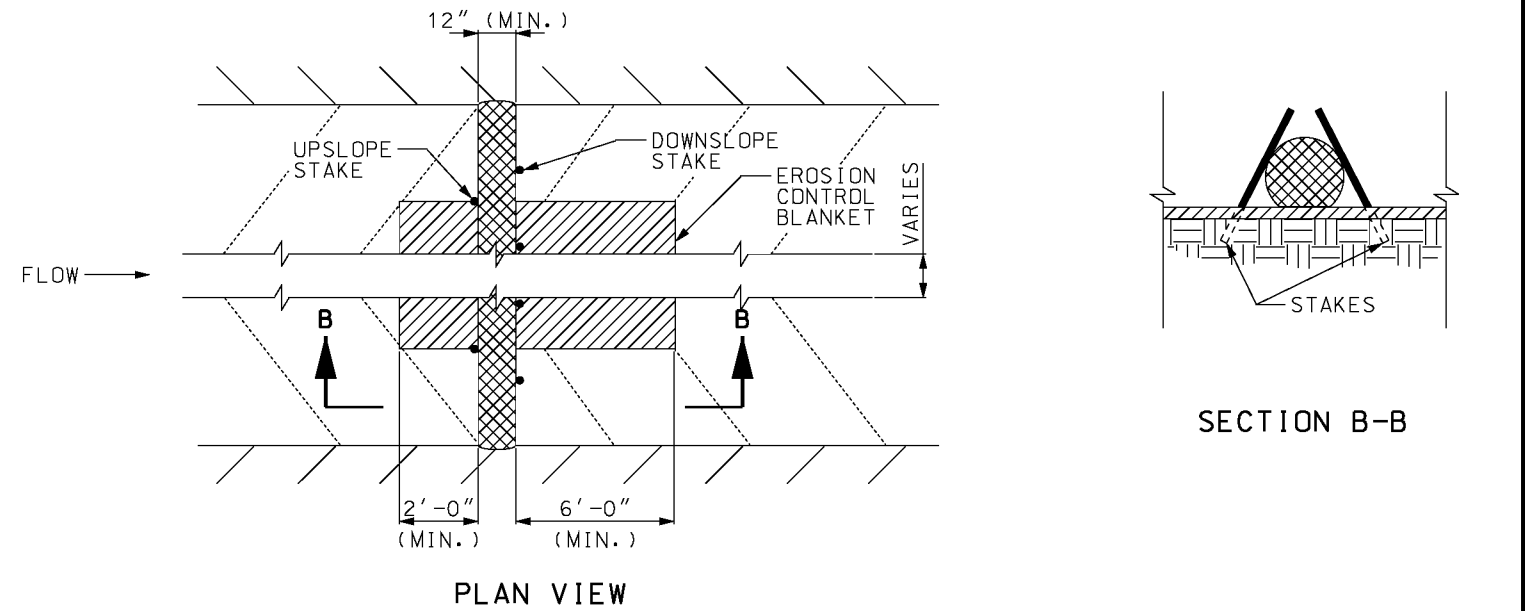
EXAMPLE DITCH CHECK SPACING FOR STANDARD HEIGHTS (FT.)

DITCH @ SLOPE %	SPACING FOR 9" EFF. HEIGHT	SPACING FOR 18" EFF. HEIGHT
0.5	150	300
1.0	75	150
1.5	50	100
2.0	37	75
2.5	30	60
3.0	25	50
3.5	21	43
4.0	19	38
4.5	16	33
5.0	15	30
5.5	13	27
6.0	12	25
6.5	11	23
7.0	10	21
7.5	10	20
8.0	9	19
8.5	9	18
9.0	8	17
9.5	8	16
10.0	7	15



MINIMUM DITCH CHECK SPACING

ALTERNATE DITCH CHECK



NOTES:

USE MINIMUM 12 IN. DIAMETER LOG/SOCK.
 USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
 INSTALL LOG/SOCK TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND LOG/SOCK AND SCOUR DITCH SLOPES OR AS DIRECTED BY ENGINEER.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE LOG/SOCK TO BOTTOM OF DITCH.
 EROSION CONTROL BLANKET SHALL BE ANCHORED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

GENERAL NOTES:

OTHER PROPRIETARY DITCH CHECKS MAY BE SUBSTITUTED IN ACCORDANCE WITH SEC 806 OR AS DIRECTED BY THE ENGINEER.
 INSTALLATION OF PROPRIETARY DITCH CHECKS SHALL BE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

TEMPORARY EROSION CONTROL MEASURES

TEMPORARY DITCH CHECKS

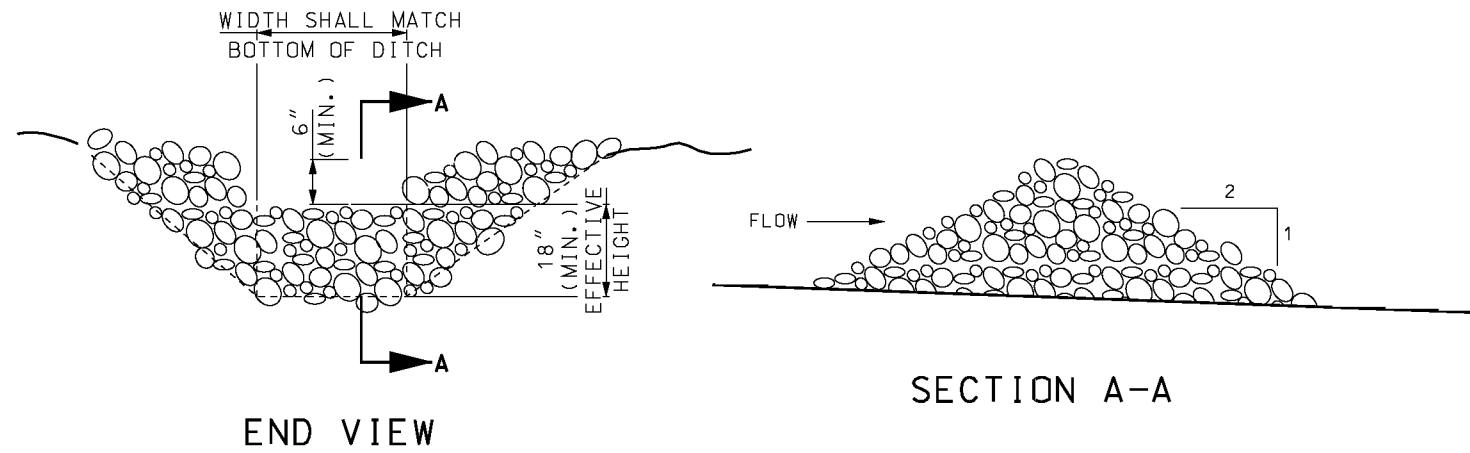
STATE OF MISSOURI
ERIC E. SCHROETER
NUMBER PE-28411
PROFESSIONAL ENGINEER

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

806.10J

SHEET NO.
1 OF 6

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



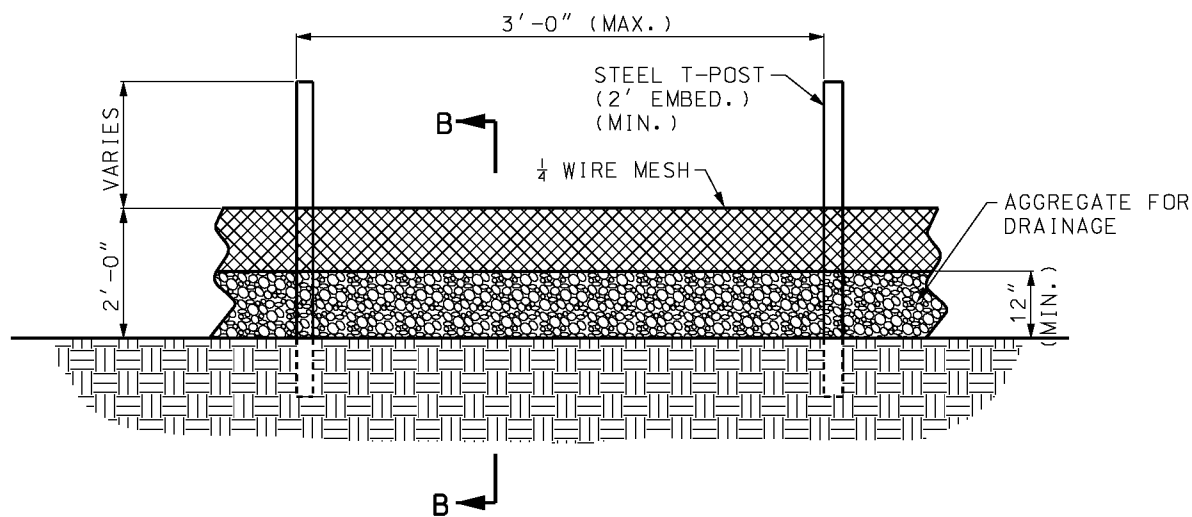
END VIEW

SECTION A-A

NOTE:

SEDIMENT TRAP

SEDIMENT TRAP IN THE CLEAR ZONE SHALL BE REMOVED OR LEVELED (IF ALLOWABLE) AFTER THE VEGETATION HAS SUFFICIENTLY MATURED TO PROTECT THE DITCH OR SWALE.

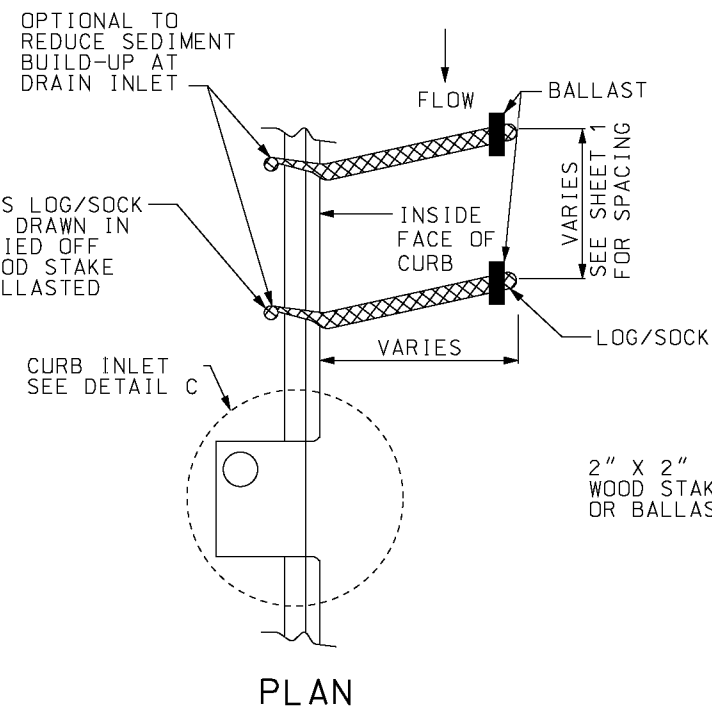


ELEVATION DETAIL

NOTES:

- AGGREGATE FOR DRAINAGE SHALL BE IN ACCORDANCE WITH SEC 1009, GRADE 4 OR GRADE 5.
- USE HARDWARE CLOTH 24 GAUGE WIRE MESH WITH 1/4 INCH MESH OPENINGS.
- INSTALL 5 FT. T-POST WITH A 2 FOOT EMBEDMENT DEPTH (MIN.).
- ATTACH HARDWARE CLOTH TO POST WITH WIRE STAPLE OR OTHER ACCEPTABLE METHODS
- SPACE POST A MAXIMUM OF 3 FT.
- FOR INSTALLATION BETWEEN SECTIONS OF SILT FENCE, EXTEND AGGREGATE FOR DRAINAGE A MINIMUM OF 12 INCHES ON EACH SIDE OF SPECIAL SEDIMENT CONTROL FENCE SECTION.
- INSTALLATION SHALL BE FOR AREA INLETS AND PERIMETER PROTECTION BMP'S.

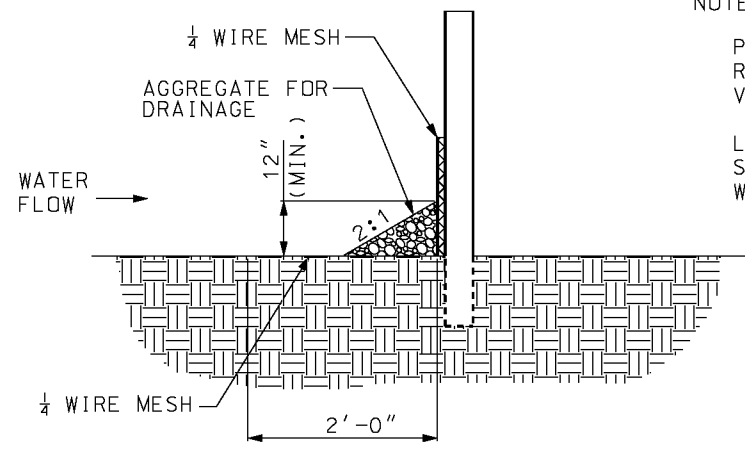
ROCK/MESH SEDIMENT CONTROL FENCE



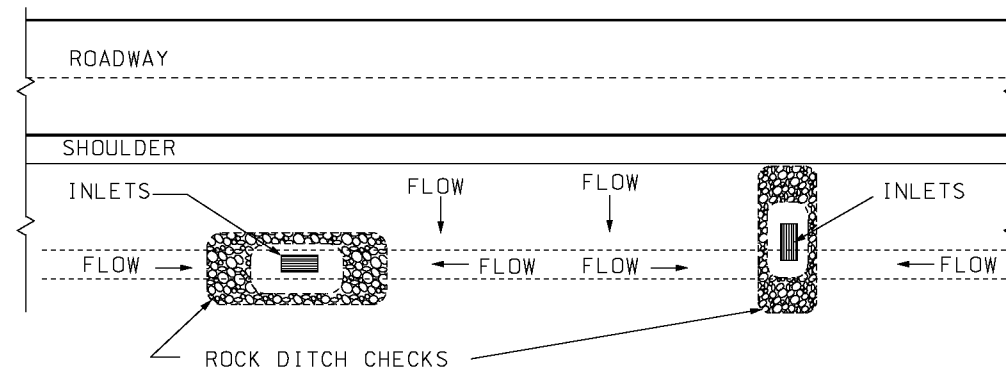
PLAN

NOTES:

- PRIOR TO PLACEMENT ALL DEBRIS, ROCK, LARGE CLODS AND WOOD VEGETATION SHALL BE CLEARED.
- LOG/SOCK PLACED ON PAVEMENT SHALL BE WEIGHTED DOWN WITH GRAVEL/SAND BALLAST.

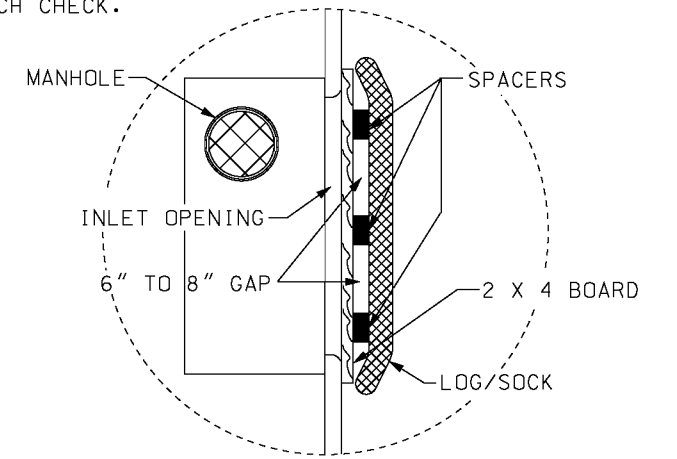


SECTION B-B

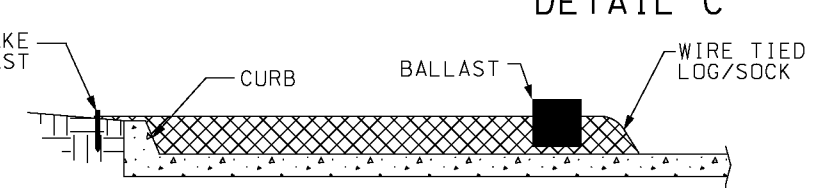


DROP INLET CHECK

SEE SHEET 1 OF 6 FOR DETAILS OF ROCK DITCH CHECK.



DETAIL C



SECTION INLET PROTECTION DROP CONTAINMENT

GENERAL NOTES:

- OTHER PROPRIETARY INLET PROTECTION MAY BE SUBSTITUTED IN ACCORDANCE WITH SEC 806 OR AS DIRECTED BY THE ENGINEER.
- FOR SEDIMENT CONTROL SPACING SEE SHEET 1 OF 6.

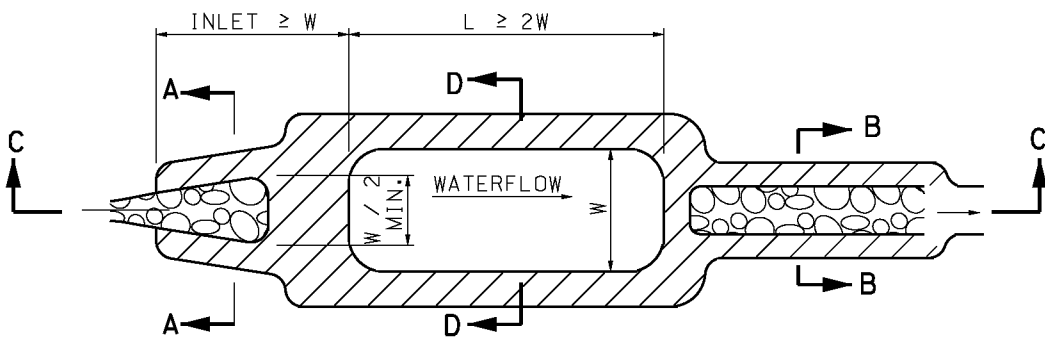
MoDOT MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
 105 WEST CAPITOL JEFFERSON CITY, MO 65102
 1-888-ASK-MODOT (1-888-275-6636)

STATE OF MISSOURI
 ERIC E. SCHROETER
 NUMBER PE-28411
 PROFESSIONAL ENGINEER

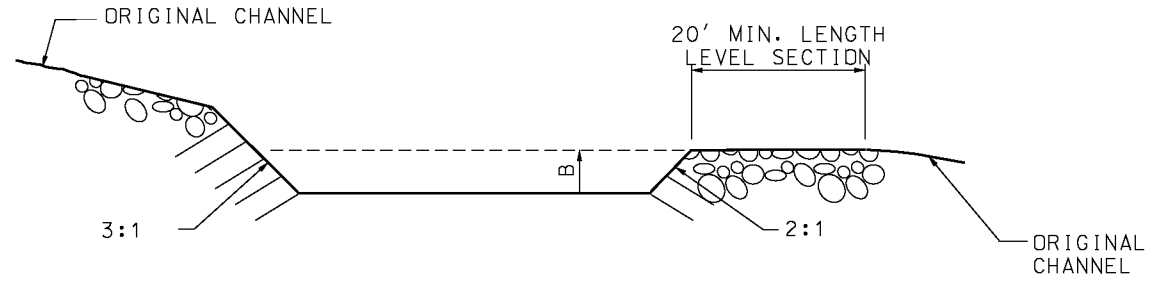
TEMPORARY EROSION CONTROL MEASURES

DATE EFFECTIVE: 04/01/2015	806.10J	SHEET NO. 2 OF 6
DATE PREPARED: 2/20/2015		

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

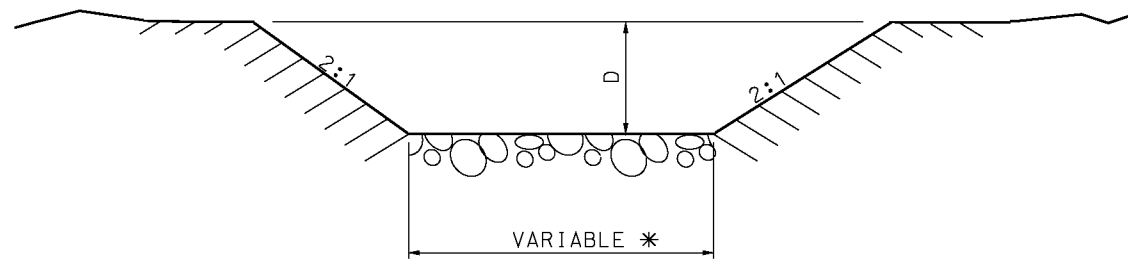


PLAN VIEW



SECTION C-C

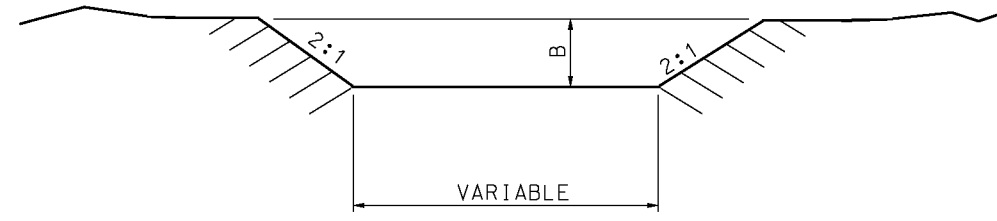
EFFECTIVE DEPTH "B" = MIN. 2', MAX. 6' DEPENDENT UPON CONFIGURATION REQUIRED BY LOCATION AND ESTIMATED VOLUME.



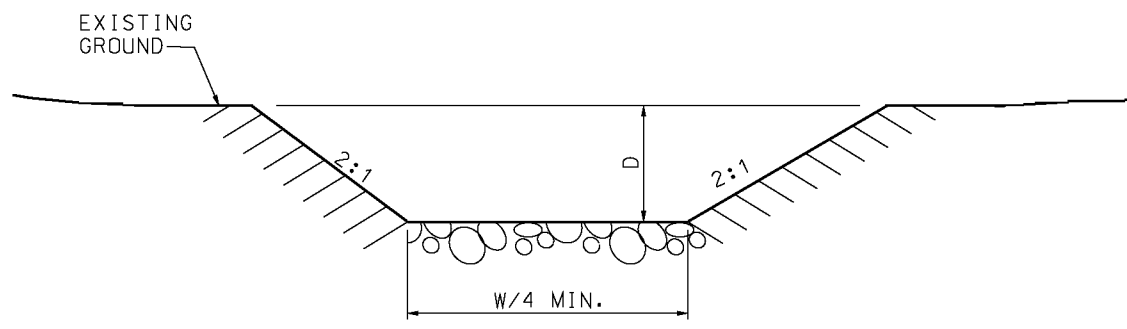
SECTION A-A
INLET

D = 1.0' + DESIGN FLOW DEPTH-MIN.

* VARIES FROM WIDTH OF STREAM AT INLET TO ONE-HALF WIDTH OF POND AT OUTLET.



SECTION D-D



SECTION B-B
OUTLET

 LAYER OF APPROVED STABILIZING MATERIAL FOR SCOUR PREVENTION

GENERAL NOTES:

SEDIMENT BASINS ARE TO BE INCLUDED IN THE BMP SYSTEM WHEN THE GEOMETRY OF RIGHT-OF-WAY ALLOWS. WHERE INCLUDED, SEDIMENT BASINS ARE TO BE DESIGNED AND CONSTRUCTED TO PROVIDE STORAGE VOLUME FOR THE LOCAL 2-YR, 24-HOUR STORM FOR DISTURBED ACREAGE DRAINING TO THEM. IF THE DESIGN STORM VOLUME HAS NOT BEEN CALCULATED, BASINS ARE TO BE DESIGNED AND CONSTRUCTED TO PROVIDE A STORAGE VOLUME OF AT LEAST 3,600 CUBIC FEET PER DISTURBED ACRE DRAINING TO THE BASIN(S).

IF SEDIMENT BASIN IS TO BE PERMANENT ITS SLOPES SHALL BE STABILIZED WITH ROCK RIPRAP OR EQUIVALENT.

THE MATERIALS FOR ROCK RIPRAP SHALL MEET THE REQUIREMENTS OF SEC 611.30 FOR TYPE 2 ROCK BLANKET.

SEE PLANS FOR LENGTH, DEPTH AND WIDTH OF BASIN.

SEE PLANS FOR ESTIMATED QUANTITIES OF ROCK RIPRAP - CUBIC YARDS.

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

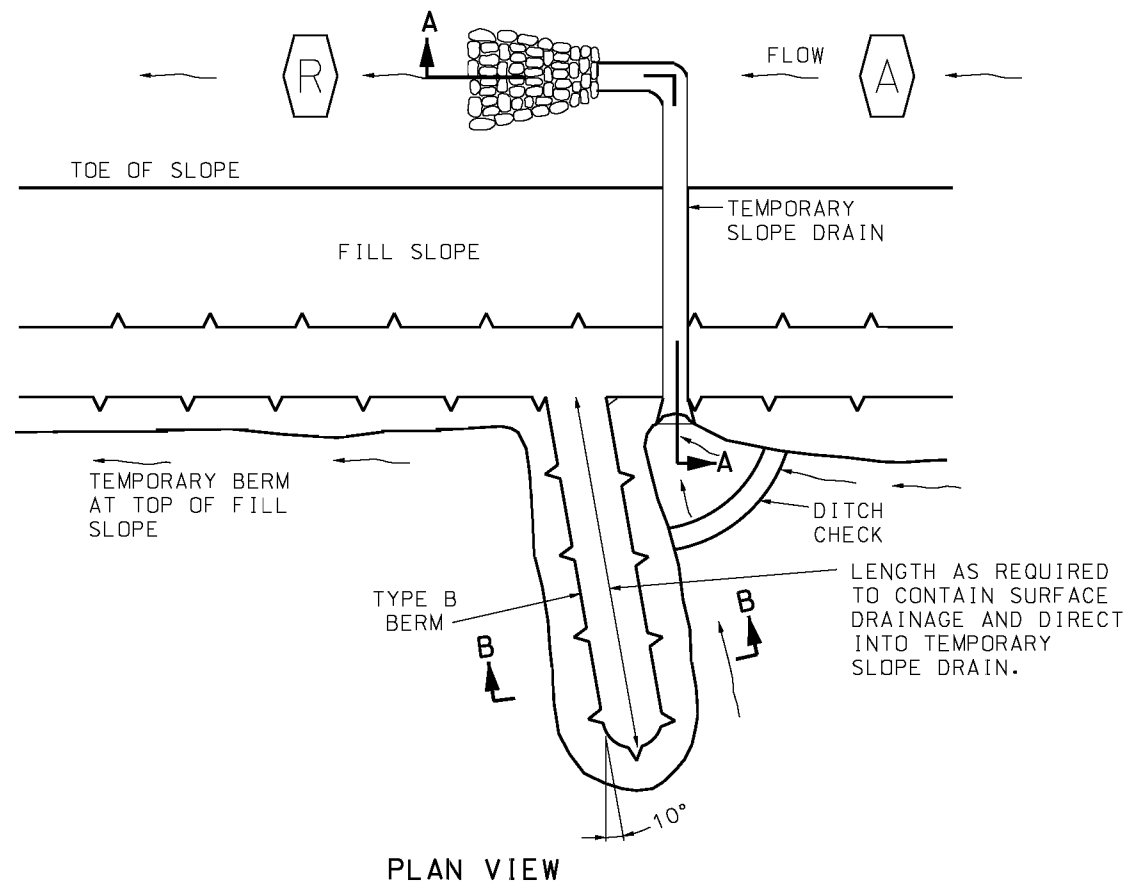
STATE OF MISSOURI
 ERIC E. SCHROETER
 NUMBER PE-28411
 PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

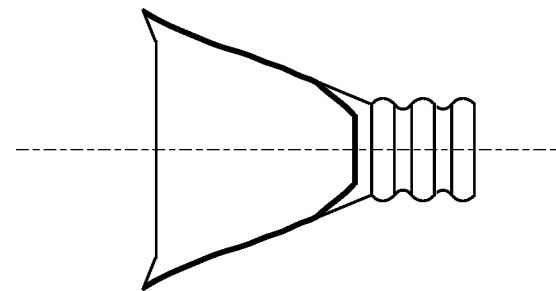
TEMPORARY EROSION CONTROL MEASURES
SEDIMENT BASIN

DATE EFFECTIVE: 04/01/2015	806.10J	SHEET NO.
DATE PREPARED: 2/20/2015		3 OF 6

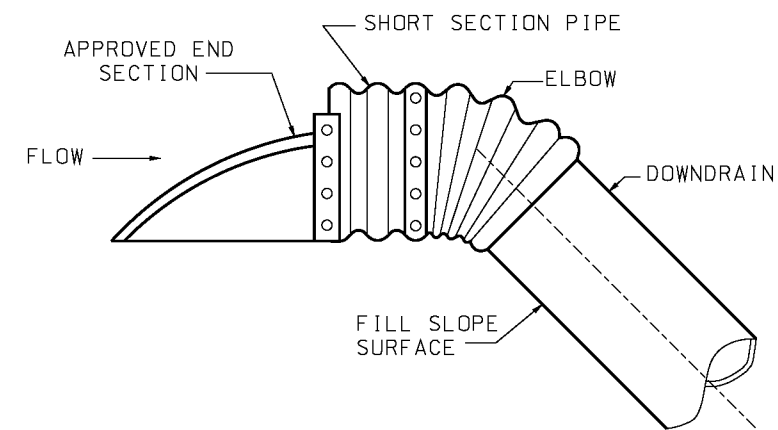
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



PLAN VIEW

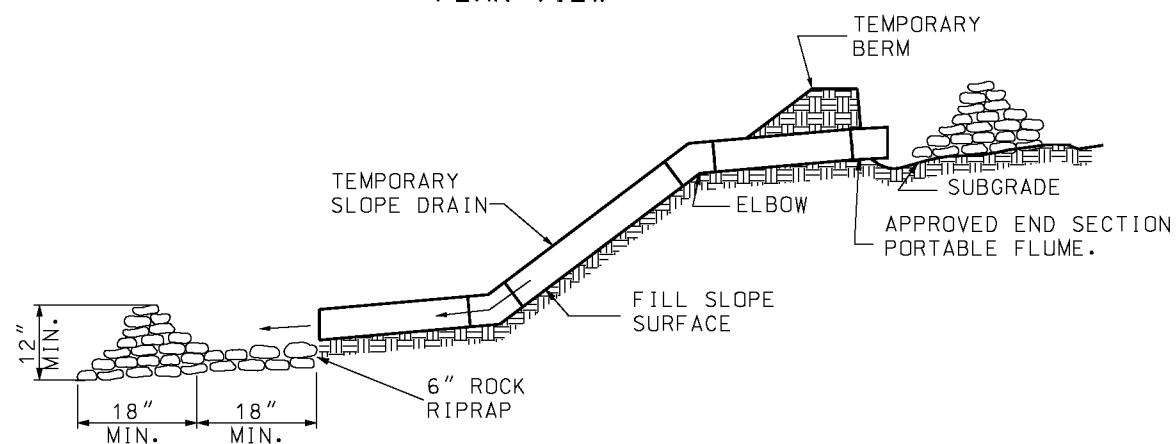


PLAN VIEW



SECTION VIEW

TEMPORARY SLOPE DRAIN INLET TREATMENT

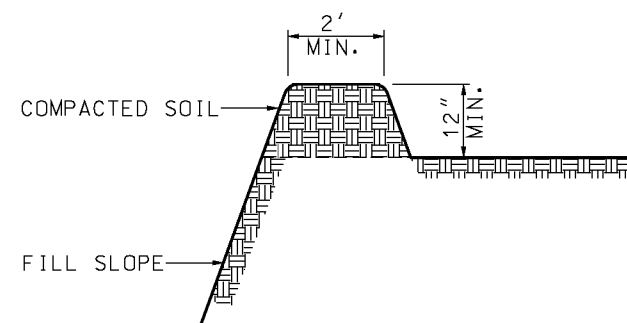


SECTION A-A

TEMPORARY BERM

(METAL, FLEXIBLE RUBBER OR PLASTIC PIPE)

NOTE:
MAXIMUM LENGTH BETWEEN SLOPE DRAINS SHALL BE APPROXIMATELY 500 FEET.



SECTION B-B
TYPE B BERM

NOTE:

IN SOME CASES IT MAY BE NECESSARY TO EMBED METAL OR PLASTIC PIPE INTO THE FILL SLOPE TO SECURE PROPER ANCHORAGE.

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

STATE OF MISSOURI
ERIC E. SCHROETER
NUMBER PE-28411
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

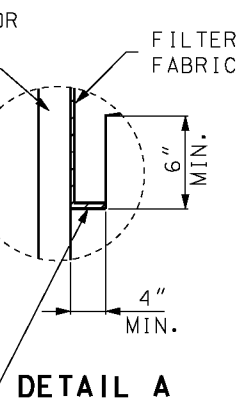
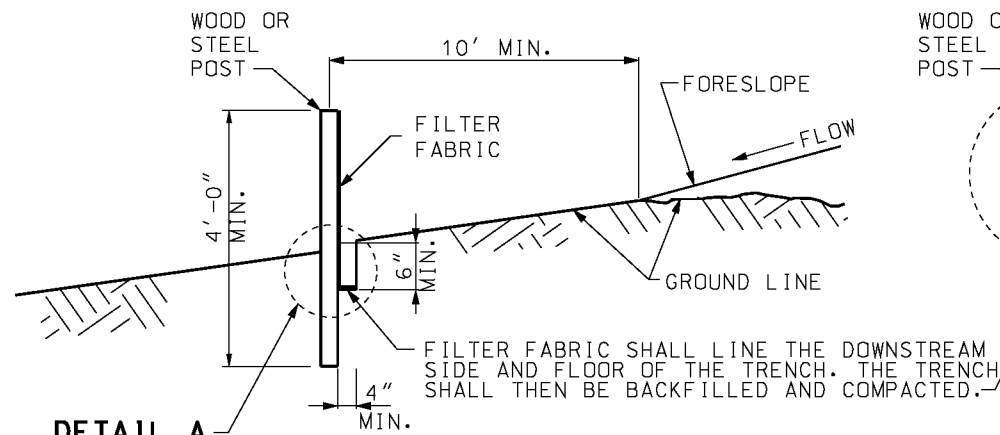
TEMPORARY EROSION CONTROL MEASURES
SLOPE DRAINS

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

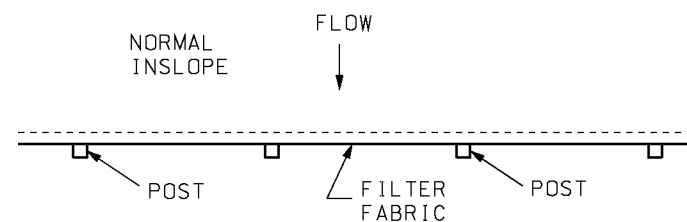
806.10J

SHEET NO.
4 OF 6

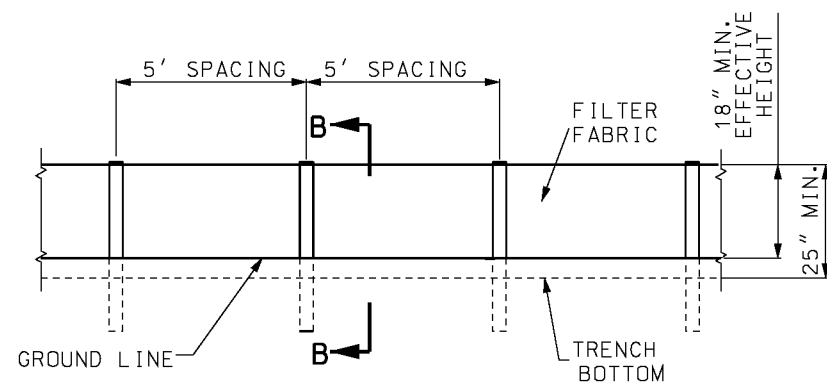
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



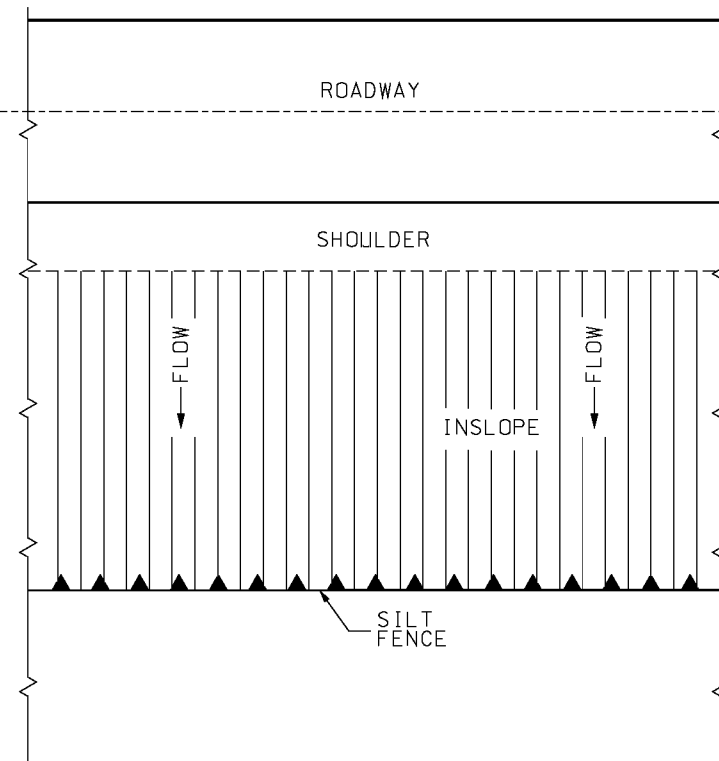
DETAIL A
TYPICAL B-B



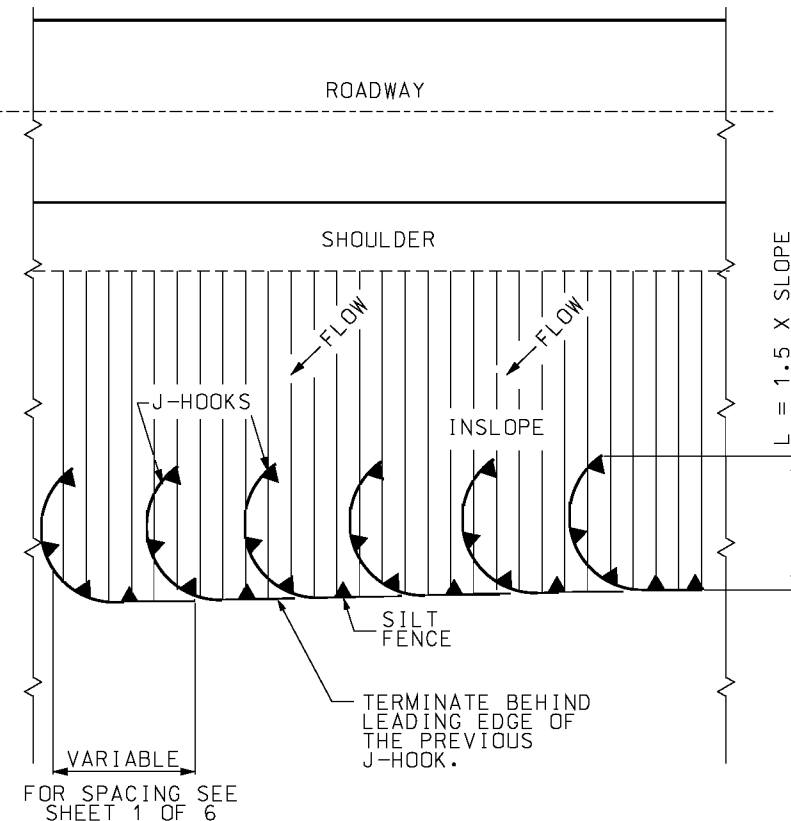
PLAN VIEW



ELEVATION DETAIL
FABRIC SILT FENCE



PERIMETER SILT FENCE
FOR TRANSVERSE FLOW



PERIMETER SILT FENCE
FOR ANGULAR FLOW

GENERAL NOTES:

USE SILT FENCE FOR FILL HEIGHTS GREATER OR EQUAL TO 10 FEET. ON ALL FILLS GREATER THAN 10 FEET HIGH, MID-SLOPE RUNS OF SILT FENCE SHOULD BE CONSIDERED.

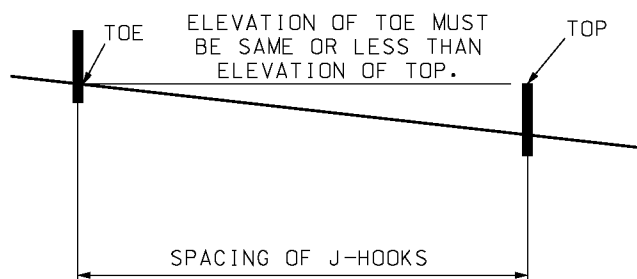
FOR FABRIC SILT FENCE:

MINIMUM LONGITUDINAL SPLICE OVERLAP SHALL BE 2' WITH A POST AT EACH END.

SECURE FABRIC TO POSTS.

INSTEAD OF SILT FENCE ACROSS DRAINAGE DITCHES AND DRAINS, DITCH CHECKS SHALL BE USED AS SHOWN ON PLANS OR AS DIRECTED BY ENGINEER.

AT CULVERTS, PLACE SEDIMENT BARRIERS OVER THE TOP OF THE CULVERTS (NOT IN THE STREAM CHANNEL).



MINIMUM J-HOOK SPACING

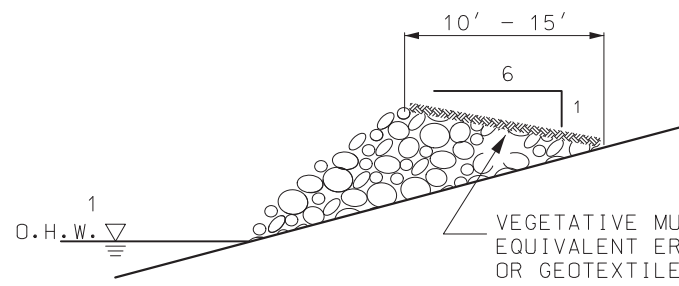
MoDOT MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

STATE OF MISSOURI
ERIC E. SCHROETER
NUMBER PE-28411
PROFESSIONAL ENGINEER

TEMPORARY EROSION CONTROL MEASURES
SILT FENCE

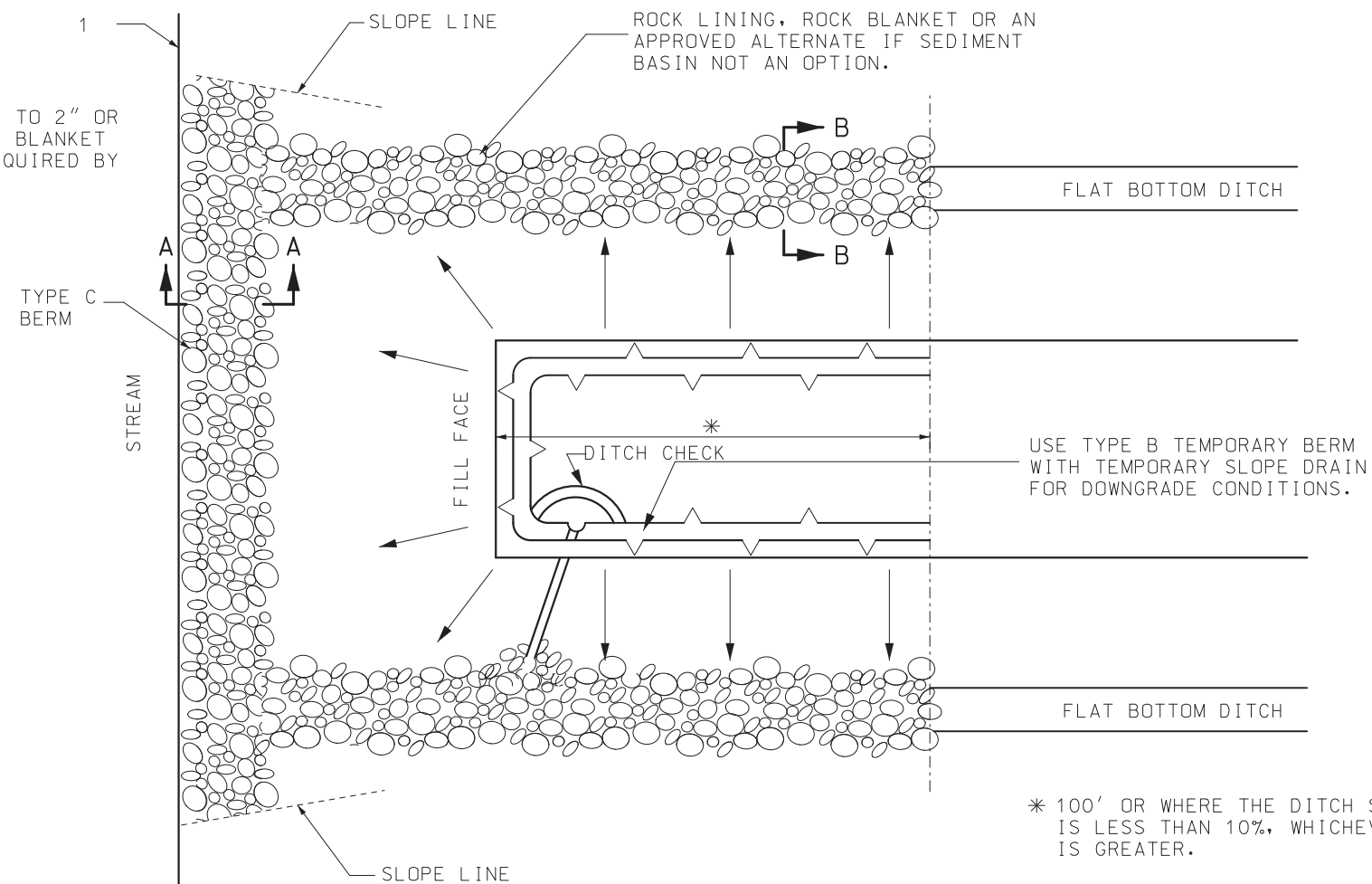
DATE EFFECTIVE: 04/01/2015	806.10J	SHEET NO. 5 OF 6
DATE PREPARED: 2/20/2015		

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



SECTION A-A
TYPE C BERM

(1) TYPE C BERM SHALL BE PLACED ABOVE THE ORDINARY HIGH WATER (O.H.W.) OR AT AN ELEVATION AS DIRECTED BY THE ENGINEER.



PLAN VIEW

* 100' OR WHERE THE DITCH SLOPE IS LESS THAN 10%, WHICHEVER IS GREATER.



SECTION B-B

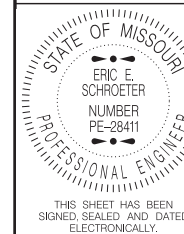
GENERAL NOTES:

TYPE C BERM SHALL BE BUILT TO HANDLE SIGNIFICANT RUN-OFF EVENTS AND SHALL BE INSTALLED PRIOR TO SOIL DISTURBANCE OR PLACEMENT OF FILL IN THE DRAINAGE AREA OF THE BERM.



MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

TEMPORARY EROSION CONTROL MEASURES
BRIDGES AND BOX CULVERTS
AT STREAM CROSSINGS

DATE EFFECTIVE: 04/01/2019
DATE PREPARED: 1/16/2019

806.10J

SHEET NO.
6 OF 6