DESIGN DESIGNATION

LOCAL / RURAL MINOR COLLECTOR
ADT 2012 / 400 — CURRENT SPEED 30 MPH
DESIGN ADT 2032 /1000 — DESIGN SPEED 30 MPH
TRUCKS 5% — POSTING TO REMAIN @ 30 MPH

STATE OF MISSOURI
JEFFERSON COUNTY PUBLIC WORKS DEPARTMENT
PLANS FOR THE PROPOSED STRUCTURE REPLACEMENT
OF
CHARTER CHURCH ROAD AT MITCH SWEET ROAD
OVER
PLATTIN CREEK
STP-5403(673)
BRIDGE NO. 35500101

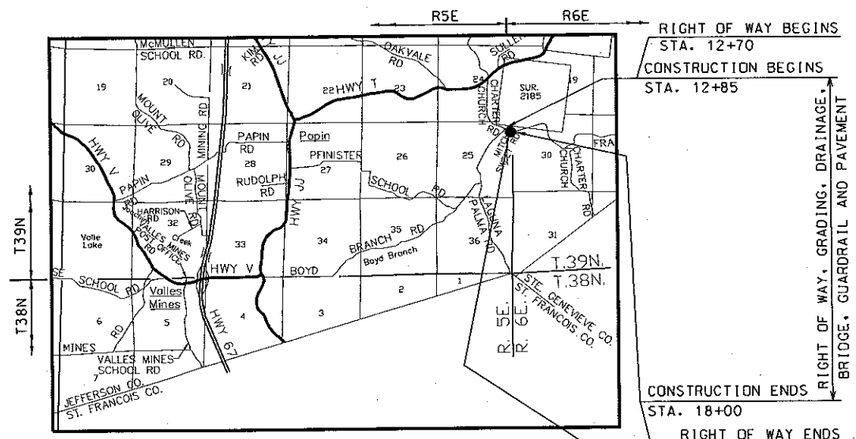
March 11, 2020

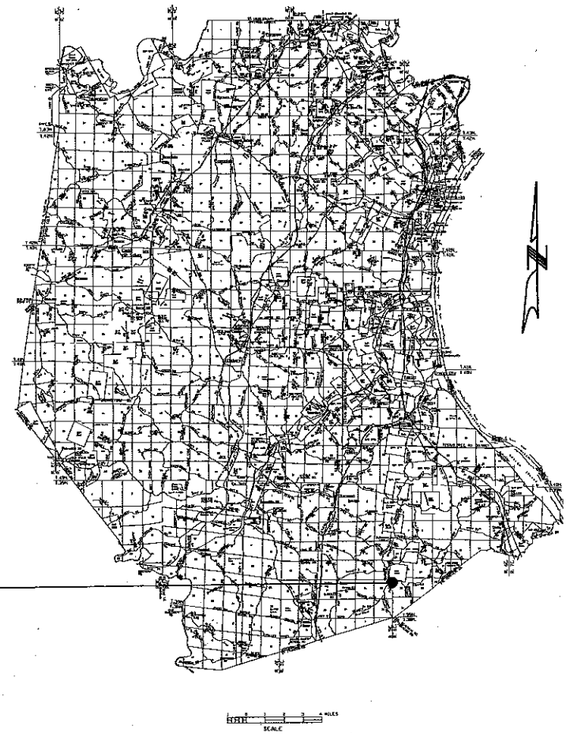
JEFFERSON COUNTY

SEC 25 T39N, R5E & SEC 30 T39N, R6E

SYMBOL LEGEND

A/C UNIT	GRATED MANHOLE	STORM MANHOLE
BOLLARD	GUY WIRE ANCHOR	STUMP
BUSH	LANDSCAPE LIGHT	TELEPHONE PEDESTAL
CLEANOUT	LAWN SPRINKLER	TELEPHONE PULLBOX
COMBINED MANHOLE	LIGHT STANDARD	TEMPORARY CONSTRUCTION EASEMENT
CURB/AREA INLET	MONITORING WELL	TREE, DECIDUOUS
ELECTRIC MANHOLE	PARKING METER	TREE, CONIFEROUS
ELECTRIC METER	POWER POLE	TRAFFIC SIGNAL MAST ARM
ELECTRIC PEDESTAL	PROPOSED ROW	TRAFFIC SIGNAL PEDESTAL
ELECTRIC PULLBOX	ROW MARKER	UTILITY MARKER
FIRE HYDRANT	RR FLASHERS	WATER MANHOLE
GAS DRIP	SAMPLING TEE	WATER METER
GAS METER	SANITARY MANHOLE	WATER VALVE
GAS VALVE	SIGN	
GRATED INLET	SOIL BORING	





LOCATION MAP
NET CONSTRUCTION LENGTH 515.0 FEET (0.0975 MILES)

INDEX OF SHEETS

SHEET NO.	DESCRIPTION OF SHEET
1	COVER SHEET
2	TYPICAL SECTIONS
2A	SUMMARY OF QUANTITIES
2B	SCHEDULE OF QUANTITIES
2BS	SCHEDULE OF QUANTITIES (SIGNS)
3	PLAN AND PROFILE
4-5	RIGHT-OF-WAY PLAT
6	COORDINATE POINTS
7	SPECIAL SHEET (TYPE 2 ROCK BLANKET)
8	DRIVEWAY AND CULVERT PROFILES
9	TRAFFIC CONTROL (ROAD CLOSED)
10	TRAFFIC CONTROL (SIGNS)
11	EROSION CONTROL
12-47	BRIDGE DRAWINGS (35500101)
48-52	ROADWAY SECTIONS
53-54	MITCH SWEET ROAD SECTIONS
55-56	CHANNEL SECTIONS

Line Legend

Existing Right of Way
Proposed Right of Way
Permanent Drainage Easement — PDE
Temporary Construction Easement — TCE
Overhead Electric — OE
Underground Telephone — UT
Slope limit — SL
Proposed Ditch
Property Line

Control Benchmark:
Station JE-19, Elevation: 662.63

Site Benchmarks:(NAVD 1988)

BM - Chiseled "U" on top of West headwall 55' East of centerline of Mitch Sweet Road and 20' South of the centerline of Charter Church Road - Elevation 524.17

BM#1 - Chiseled "L" on Northeast corner of North headwall of Bridge Located on Charter Church Road ±75' West of the Centerline of Laguna Palma Road - Elevation 523.86

BM#2 - CPS in Power Pole First Power Pole East of Mitch Sweet Road South Side of Charter Church Road Located on North side of Pole Elevation 524.81

UTILITIES

TELEPHONE	ELECTRIC
AT&T JEREMIAH D. KINEALY 12851 MANCHESTER RD DES PERES, MO 63131 (314) 335-6058	AMEREN U.E. MR. BILL ROSENER CONSULTING ENGINEER 6450 HIGHWAY MM HOUSE SPRINGS, MO 63051 (636) 671-6162

UTILITY LOCATION SERVICE
1-800-DIG-RITE

APPROVED FOR CONSTRUCTION

5-14-2020

PUBLIC WORKS DIRECTOR — DATE

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24699
REGISTERED PROFESSIONAL ENGINEER

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

DATE PREPARED: 5/14/2020
STATE: MO — SHEET NO.: 1
ROUTE: CHARTER CHURCH
COUNTY: JEFFERSON
JOB NO.: 17-6026
PROJECT NO.: STP-5403 (673)
BRIDGE NO.: 35500101

DESCRIPTION	DATE

JEFFERSON COUNTY PUBLIC WORKS DEPARTMENT
P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

HABNA
4140 LINDELL BOULEVARD
ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

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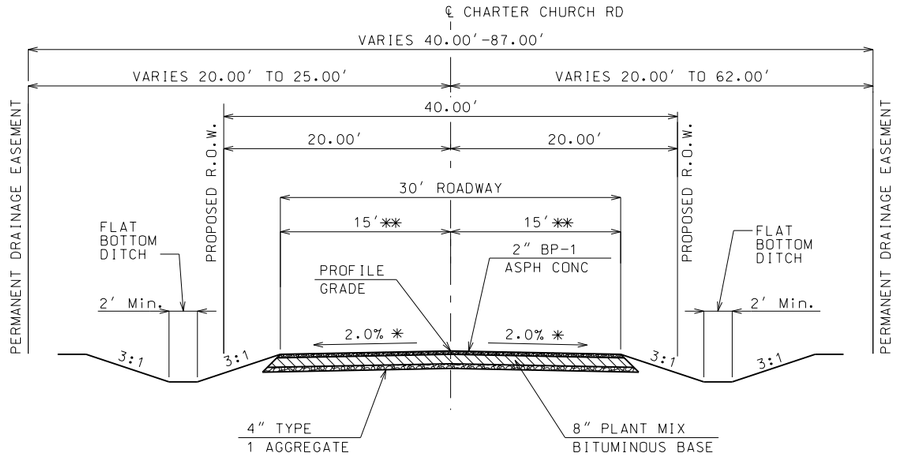


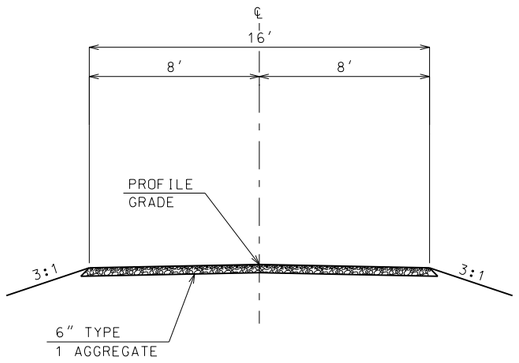
✱ CROSS SLOPE VARIES SEE CROSS SECTIONS

PROPOSED TYPICAL CROSS SECTION CHARTER CHURCH ROAD

STA 12+85.00 TO STA 14+55.00
STA 16+34.24 TO STA 18+00.00

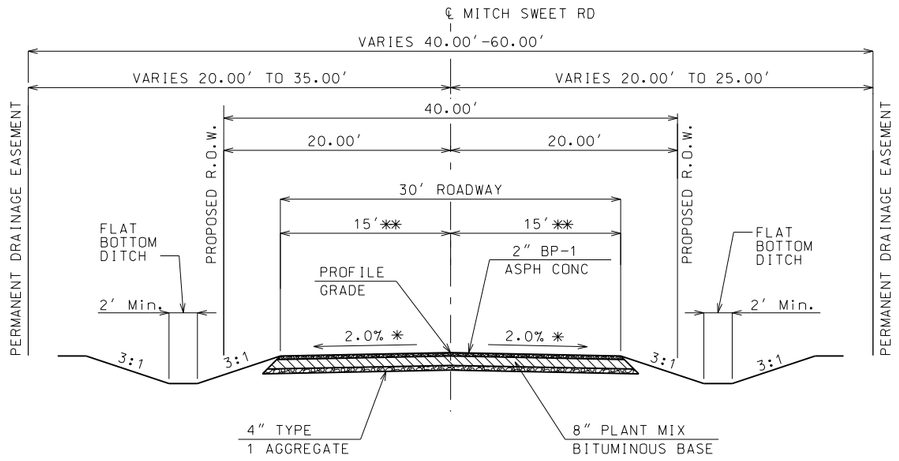
✱✱ TRANSITION FROM 15' TO EXISTING STA 12+85.00 TO STA 13+50.00
STA 16+53.74.00 TO STA 18+00.00

BRIDGE APPROACH SLAB (MINOR ROAD) STA 14+35.50 TO STA 13+55.50
STA 16+33.74 TO STA 16+53.74



PROPOSED TYPICAL CROSS SECTION FIELD ENTRANCES

ENT #1 STA 14+10.00 LT
ENT #2 STA 16+82.85 RT
ENT #3 STA 17+10.00 LT



✱ CROSS SLOPE VARIES SEE CROSS SECTIONS

PROPOSED TYPICAL CROSS SECTION MITCH SWEET ROAD

✱✱ TRANSITION FROM PROPOSED E.O.P. OF CHARTER CHURCH RD. TO MATCH EXISTING MITCH SWEET ROAD WIDTH ±20'

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

TYPICAL SECTIONS

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24688
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED 3/11/2020
STATE MO | SHEET NO. 2
ROUTE CHARTER CHURCH
COUNTY JEFFERSON
JOB NO. 17-6026
PROJECT NO. STP-5403 (673)
BRIDGE NO. 35500101

DATE	DESCRIPTION

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

JEFFERSON COUNTY PUBLIC WORKS DEPARTMENT
P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

ABNA
4140 LINDELL BOULEVARD
ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

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ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
Roadway			
2013000	Clearing & Grubbing	ACRE	0.7
2022010	Removal of Improvements	LS	1.0
2031000	Class A Excavation	CUYD	2216.0
2036000	Compacting Embankment	CUYD	499.0
2059999	Subgrade Repair	SQYD	500.0
2063000	Class 3 Excavation	CUYD	43.0
2072000	Linear Grading, Class 2	STA	1.3
3040143	Type 1 Aggregate (4" Thick)	SQYD	1218.0
3040163	Type 1 Aggregate (6" Thick)	SQYD	233.0
4011209	Bituminous Pavement Mixture Surface (BP-1)	TON	131.0
4013000	Bituminous Pavement Mixture (Base)	TON	525.0
4071005	Tack Coat	GAL	40.0
6061010	Guardrail, Type A	LF	38.0
6061050	Guardrail, Type E, 6 Ft Post 3'-1½" Spacing	LF	75.0
6062100	Bridge Anchor Section (Curb Type)	EA	1.0
6062303	Asymetrical Transition Section, 6.5 FT Post	EA	1.0
6113020	Furnishing Type 2 Rock Blanket	CUYD	335.0
6113040	Placing Type 2 Rock Blanket	CUYD	335.0
6161005	Construction Signs	SQFT	197.0
6161052	Warning Light, Type B	EA	8.0
6161030	Type III Moveable Barricade	EA	6.0
6161198A	Changeable Message Sign, Without Communication Interface Contractor Furnished & Retained	EA	2.0
6181000	Mobilization	LS	1.0
6274000	Contractor Furnished Surveying and Staking	LS	1.0
7261030	30" Pipe Group A (RCP)	LF	36.0
7320630A	30" or Allowed Substitute Group A Flared End Section	EA	2.0
8061005	Rock Ditch Check	LF	12.0
8061019	Silt Fence	LF	953.0

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
Bridge			
2061000	Class 1 Excavation	CUYD	130.0
2160500	Removal of Bridges	LS	1.0
5031011A	Bridge Approach Slab (Minor Road)	SQYD	143.0
7011105	Drilled Shafts (3'-6" Diameter)	LF	51.0
7011204	Rock Socket (3'-6" Diameter)	LF	60.0
7011300	Video Camera Inspection	EA	6.0
7011400	Foundation Inspection Holes	LF	60.0
7011600	Sonic Logging Testiing	EA	6.0
7021210	Galvanized Structural Steel Piles (10 in)	LF	225.0
7026000	Pre-Bore For Piling	LF	205.0
7027000	Pile Point Reinforcement	EA	10.0
7032003	Class B Concrete (Substructure)	CUYD	87.8
7034213	Slab on Concrete I-Girder	SQYD	645.0
7034215	Safety Barrier Curb	LF	356.0
7056001	Type 3 (39") Prestressed Concrete I-Girder	LF	1050.0
7061060	Reinforcing Steel (Bridges)	LBS	17140.0
7123301	Steel Intermediate Diaphragm for P/S Concrete Girders	EA	15.0
7123610	Slab Drains	EA	15.0
7151001	Vertical Drain at End Bents	EA	2.0
7161000	Plain Neoprene Bearing Pad	EA	12.0
7161000	Laminated Neoprene Bearing Pad	EA	24.0
Striping			
6206000C	4" White Acrylic Waterborne Pavement Marking Paint, Type P Beads	LF	1030.0
6206001C	4" Yellow Acrylic Waterborne Pavement Marking Paint, Type P Beads	LF	1030.0
6208065	Temporary Raised Pavement Marker, Type 2	EA	13.0
Landscaping			
8051000	Seeding	ACRE	0.4

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

SUMMARY OF QUANTITIES

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24688
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED
5/14/2020

STATE	SHEET NO.
MO	2A

ROUTE
CHARTER CHURCH

COUNTY
JEFFERSON

JOB NO.
17-6026

PROJECT NO.
STP-5403 (673)

BRIDGE NO.
35500101

DATE	DESCRIPTION

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

JEFFERSON COUNTY PUBLIC WORKS
DEPARTMENT
P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

ABNA
4140 LINDELL BOULEVARD
ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

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CLEARING & GRUBBING = 0.7 ACRES

REMOVAL OF IMPROVEMENTS = 1 LUMP SUM

-Asphalt Pavement Sta. 12+85 to Ex. Bridge = 465 Sq Yd
-Asphalt Pavement Sta. Ex. Bridge to Sta. 18+00 = 490 Sq Yd
-Aphalt Pavement Mitch Sweet Rd. Sta. 50+11 to 50+69 = 225 Sq Yd
-Fence Rt. 27' Rt Sta. 12+85 to 30' Rt. Sta. 13+90 = 105 Lin Ft.
-Fence Rt. 30' Rt Sta. 13+90 to 80' Rt. Sta. 14+00 = 51 Lin Ft.
-24" CMP AR Sta. 50+555 (Mitch Sweet Rd.) = 30 Lin. Ft.
-Panel Markers at Each End of Ex. Bridge = 4 Each ✳
-Load Limit Signs at Ex. Bridge = 2 Each ✳
-Street Signs ✳
-Stop Signs ✳

✳ Signs to be Stored for County to Pick Up.

EARTH WORK SUMMARY	CUT	FILL
	CU YD	CU YD
CLASS A EXCAVATION (MAIN LINE)	203	467
CLASS A EXCAVATION (MITCH SWEET RD)	35	32
CLASS A EXCAVATION (CHANNEL)	1978	
ESTIMATED EXCESS ✳		1717
TOTALS	2216	2216
✳ For Information Only		

BRIDGE APPROACH SLAB (MINOR ROAD)

LOCATION	LENGTH FEET	WIDTH FEET	BRIDGE APPROACH SLAB (SQ YD)
14+35.00 to 14+55.00	20.0	32'-2"	71.5
16+33.00 to 16+53.00	20.0	32'-2"	71.5
TOTALS			143.0

SUBGRADE REPAIR = 500 SQ YD.

LOCATIONS AS DIRECTED BY THE ENGINEER.
(SEE SPECIAL PROVISIONS)

ASPHALTIC PAVEMENT & BASE				2"	8"	0.035 G/SY	TYPE 1 AGGREGATE WIDTH	TYPE 1 AGGREGATE 4" SQ YD	TYPE 1 AGGREGATE 6" SQ YD
LOCATION	LENGTH FEET	WIDTH FEET	AREA (1) SQ YD	BP-1 TON	BIT. BASE TON	TACK GAL (2)			
12+85 TO 14+35	150.0	30.0	500	56.0	225.0	18	31.67	528	-
16+54 TO 18+00	146.0	30.0	487	55.0	220.0	18	31.67	514	-
50+15 TO 50+70 MITCH SWEET RD	55.0	27	165	20.0	80.0	4	28.67	176	-
ENTRANCE #1	25.0	16.0	-	-	-	-	-	-	45
ENTRANCE #2	70.0	16.0	-	-	-	-	-	-	125
ENTRANCE #3	35.0	16.0	-	-	-	-	-	-	63
TOTALS				131	525	40		1218	233

GUARDRAIL

LOCATION	BRIDGE ANCHOR EACH	TRANS SECTION EACH	TYPE A GUARDRAIL LIN FT	TYPE E GUARDRAIL LIN FT	REMARKS
EAST APPROACH	1	1	38	-	Guardrail
EAST DEPARTING	-	-	-	25	Connect to Safety Barrier Curb, Bend at 15' Radius
WEST APPROACH	-	-	-	25	Connect to Safety Barrier Curb, Bend at 15' Radius
WEST DEPARTING	-	-	-	25	Connect to Safety Barrier Curb, Bend at 15' Radius
TOTALS	1	1	38	75	

LINEAR GRADING, CLASS 2 = 1.3 STA

ENTRANCE #1 = 0.3
ENTRANCE #2 = 0.7
ENTRANCE #3 = 0.3

FURNISHING & PLACING TYPE 2 ROCK BLANKET

LOCATION	CU YD
WEST	160
EAST	175
TOTALS	335

MOBILIZATION = 1 LUMP SUM

CONTRACTOR FURNISHED SURVEYING AND STAKING = 1 LUMP SUM

PIPE CULVERTS

PIPE GROUP	A	B		FLARED END SECTION			
	30" LIN FT			30" EACH			CLASS 3 EXCAVATION CU YD
MITCH SWEET	36			2			43
TOTALS	36			2			43

4" WHITE PAVEMENT MARKING

EDGE LINES 12' LT & RT
STA 12+85 TO STA 18+00 = 1030 LIN FT

4" YELLOW PAVEMENT MARKING

DOUBLE SOLID CENTERLINE
STA 12+85 TO STA 18+00 = 1030 LIN FT

TEMPORARY RAISED PAVEMENT MARKER, TYPE 2 = 13 EACH

TO BE USED IF ROAD IS OPENED PRIOR TO FINAL STRIPING AT 40' SPACING

SEEDING = 0.4 ACRE

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

SCHEDULE OF QUANTITIES

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24688
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED 3/11/2020
STATE MO | SHEET NO. 2B
ROUTE CHARTER CHURCH
COUNTY JEFFERSON
JOB NO. 17-6026
PROJECT NO. STP-5403 (673)
BRIDGE NO. 35500101

DESCRIPTION | DATE

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

JEFFERSON COUNTY PUBLIC WORKS DEPARTMENT
P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

ABNA
4140 LINDELL BOULEVARD
ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

EFFECTIVE: 10-01-2019

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL AREA SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
WARNING SIGNS								
W01-1L	48X48	16.00						TURN (SYMBOL LEFT ARROW)
W01-1R	48X48	16.00						TURN (SYMBOL RIGHT ARROW)
W01-2L	48X48	16.00						CURVE (SYMBOL LEFT ARROW)
W01-2R	48X48	16.00						CURVE (SYMBOL RIGHT ARROW)
W01-3L	48X48	16.00						REVERSE TURN (SYMBOL LEFT ARROW)
W01-3R	48X48	16.00						REVERSE TURN (SYMBOL RIGHT ARROW)
W01-4L	48X48	16.00						REVERSE CURVE (SYMBOL LEFT ARROW)
W01-4R	48X48	16.00						REVERSE CURVE (SYMBOL RIGHT ARROW)
W01-4bL	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL LT ARROWS)
W01-4bR	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL RT ARROWS)
W01-4cL	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL LT ARROWS)
W01-4cR	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL RT ARROWS)
W01-6	60X30	12.50						HORIZONTAL ARROW (SYMBOL)
W01-6a	72X36	18.00						HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)
W01-7	60X30	12.50						DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)
W01-7a	72X36	18.00						DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)
W01-8	18X24	3.00						CHEVRON (SYMBOL)
W01-8a	30X36	7.50						CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)
W03-1	48X48	16.00						STOP AHEAD (SYMBOL)
W03-2	48X48	16.00						YIELD AHEAD (SYMBOL)
W03-3	48X48	16.00						SIGNAL AHEAD (SYMBOL)
W03-4	48X48	16.00						BE PREPARED TO STOP
W03-5	48X48	16.00						SPEED LIMIT AHEAD
W04-1L	48X48	16.00						MERGE (SYMBOL FROM LEFT)
W04-1R	48X48	16.00						MERGE (SYMBOL FROM RIGHT)
W04-1aL	48X48	16.00						MERGE (ARROW SYMBOL)
W04-1aR	48X48	16.00						MERGE (ARROW SYMBOL)
W05-1	48X48	16.00						ROAD/BRIDGE/RAMP NARROWS
W05-3	48X48	16.00						ONE LANE BRIDGE
W05-5	48X48	16.00						NARROW LANES
W06-1	48X48	16.00						DIVIDED HIGHWAY (SYMBOL)
W06-2	48X48	16.00						DIVIDED HIGHWAY END (SYMBOL)
W06-3	48X48	16.00						TWO WAY TRAFFIC (SYMBOL)
W07-3a	30X24	5.00						NEXT XX MILES (PLAQUE)
W08-1	48X48	16.00						BUMP
W08-2	48X48	16.00						DIP
W08-3	48X48	16.00						PAVEMENT ENDS
W08-4	48X48	16.00						SOFT SHOULDER
W08-5	48X48	16.00						SLIPPERY WHEN WET (SYMBOL)
W08-6	48X48	16.00						TRUCK CROSSING
W08-6c	48X48	16.00						TRUCK ENTRANCE
W08-7	36X36	9.00						LOOSE GRAVEL
W08-7a	36X36	9.00						FRESH OIL/LOOSE GRAVEL
W08-9	48X48	16.00						LOW SHOULDER
W08-11	48X48	16.00						UNEVEN LANES
W08-12	48X48	16.00						NO CENTER LINE
W08-15	48X48	16.00						GROOVED PAVEMENT
W08-15P	30X24	5.00						MOTORCYCLE (PLAQUE)
W08-17	48X48	16.00						SHOULDER DROP-OFF (SYMBOL)
W08-17P	30X24	5.00						SHOULDER DROP-OFF (PLAQUE)
W10-1	42RND.	9.62						RAILROAD CROSSING
W012-1	24X24	4.00						DOUBLE DOWN ARROW (SYMBOL)
W012-2	48X48	16.00						LOW CLEARANCE (SYMBOL)
W012-2X	24X18	3.00						LOW CLEARANCE (PLAQUE)
W012-2a	84X24	14.00						OVERHEAD LOW CLEARANCE (FEET AND INCHES)
W012-4	120X60	50.00						LOW CLEARANCE XX FT XX IN XX MILES AHEAD
W012-5	120X60	50.00						WIDTH RESTRICTION XX FT XX IN XX MILES AHEAD
W013-1	30X30	6.25						ADVISORY SPEED (PLAQUE)
W016-2	30X24	5.00	4	20.00				XXX FEET (PLAQUE)
W016-3	30X24	5.00						X MILE (PLAQUE)
W020-1	48X48	16.00	2	32.00				ROAD/BRIDGE/RAMP WORK AHEAD
W020-2	48X48	16.00						DETOUR AHEAD
W020-3	48X48	16.00	6	96.0				ROAD CLOSED AHEAD
W020-4	48X48	16.00						ONE LANE ROAD AHEAD
W020-5	48X48	16.00						RIGHT/CENTER/LEFT LANE CLOSED AHEAD
W020-5a	48X48	16.00						2 RIGHT/CENTER/LEFT LANES CLOSED AHEAD
W020-6a	48X48	16.00						RIGHT/CENTER/LEFT LANE CLOSED
W020-7a	48X48	16.00						FLAGGER (SYMBOL) WITH FLAGS
W021-2	36X36	9.00						FRESH OIL
W021-5	48X48	16.00						SHOULDER WORK AHEAD
W022-1	48X48	16.00						BLASTING ZONE AHEAD
W022-2	42X36	10.50						TURN OFF 2-WAY RADIO AND PHONE
W022-3	42X36	10.50						END BLASTING ZONE
G022-1	21X15	2.19						WET PAINT (ARROW PIVOTS)

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
GUIDE SIGNS								
E05-1	36X48	12.00						GORE EXIT
E05-2	48X36	12.00						EXIT OPEN
E05-2a	48X36	12.00						EXIT CLOSED
G020-1	60X24	10.00						ROAD WORK NEXT XX MILES
G020-2	48X24	8.00	3	24.00				END ROAD WORK
G020-4	36X18	4.50						PILOT CAR FOLLOW ME
G020-4a	42X30	8.75						PILOT CAR IN USE WAIT & FOLLOW
G020-4a	18X12	1.50						PILOT CAR IN USE WAIT & FOLLOW
G020-5aP	36X24	6.00						WORK ZONE (PLAQUE)
M04-8a	24X18	3.00						END DETOUR
M04-9L	48X36	12.00						DETOUR (LEFT ARROW)
M04-9R	48X36	12.00						DETOUR (RIGHT ARROW)
M04-9P	48X12	4.00						STREET NAME (PLAQUE)
M04-10L	48X18	6.00						DETOUR (ARROW LEFT)
M04-10R	48X18	6.00						DETOUR (ARROW RIGHT)
REGULATORY SIGNS								
R1-1	48X48	13.25						STOP
R1-2	48TRI.	6.93						YIELD
R1-2a	36X36	9.00						TO ONCOMING TRAFFIC (PLAQUE)
R1-3P	30X12	2.50						ALL WAY (PLAQUE)
R2-1	36X48	12.00						SPEED LIMIT XX
R3-1	48X48	16.00						NO RIGHT TURN (SYMBOL)
R3-2	48X48	16.00						NO LEFT TURN (SYMBOL)
R3-3	36X36	9.00						NO TURNS
R3-4	48X48	16.00						NO U-TURN (SYMBOL)
R3-7L	30X30	6.25						LEFT LANE MUST TURN LEFT
R3-7R	30X30	6.25						RIGHT LANE MUST TURN RIGHT
R4-1	36X48	12.00						DO NOT PASS
R4-2	36X48	12.00						PASS WITH CARE
R4-8a	36X48	12.00						KEEP LEFT (HORIZONTAL ARROW)
R4-7a	36X48	12.00						KEEP RIGHT (HORIZONTAL ARROW)
R5-1	30X30	6.25						DO NOT ENTER
R5-1a	36X24	6.00						WRONG WAY
R6-1L	54X18	6.75						ONE WAY ARROW (LEFT)
R6-1R	54X18	6.75						ONE WAY ARROW (RIGHT)
R6-2L	24X30	5.00						ONE WAY (LEFT)
R6-2R	24X30	5.00						ONE WAY (RIGHT)
R9-9	24X12	2.00						SIDEWALK CLOSED
R9-11L	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW LEFT) CROSS HERE
R9-11R	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW RIGHT) CROSS HERE
R10-6	24X36	6.00						STOP HERE ON RED (45° ARROW)
R11-2	48X30	10.00						ROAD CLOSED
R11-3a	60X30	12.50	2	25.00				ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY
R11-4	60X30	12.50						ROAD CLOSED TO THRU TRAFFIC
CONST-3A	60X48	20.00						FINE SIGN
CONST-3X	56X12	4.67						SPEEDING/PASSING (PLATE)
MISCELLANEOUS SIGNS								
CONST-5	48X36	12.00						POINT OF PRESENCE
CONST-5	96X48	32.00						POINT OF PRESENCE
CONST-7	48X24	8.00						RATE OUR WORK ZONE
CONST-7	72X36	18.00						RATE OUR WORK ZONE
CONST-8	48X36	12.00						WORK ZONE NO PHONE ZONE

616-10.05 CONSTRUCTION SIGNS	TOTAL	197.0
616-10.10 RELOCATED SIGNS	TOTAL	0

ITEM NUMBER	TOTAL QTY	DESCRIPTION
6122008		IMPACT ATTENUATOR 40 MPH (SAND BARRELS)
6122009		IMPACT ATTENUATOR 45 MPH (SAND BARRELS)
6122010		IMPACT ATTENUATOR 50 MPH (SAND BARRELS)
6122012		IMPACT ATTENUATOR 55 MPH (SAND BARRELS)
6122014		IMPACT ATTENUATOR 60 MPH (SAND BARRELS)
6122017		IMPACT ATTENUATOR 65 MPH (SAND BARRELS)
6122019		IMPACT ATTENUATOR 70 MPH (SAND BARRELS)
6122020		REPLACEMENT SAND BARREL
6122030		IMPACT ATTENUATOR (RELOCATION)
6123000A		TRUCK OR TRAILER MOUNTED ATTENUATOR (TMA)
6161007		SPEED LIMIT AND STROBE LIGHT ASSEMBLY
6161008		ADVANCED WARNING RAIL SYSTEM
6161009		FLAG ASSEMBLY
6161012		BUOYS (BOATS KEEP OUT)
6161013		BUOYS (NO WAKE)
6161014		SPECIAL SIGN ASSEMBLY (BOATS KEEP OUT)
6161024		CHANNELIZER (TRIM LINE) WITH LIGHT
6161025		CHANNELIZER (TRIM LINE)
6161030	6	TYPE III MOVEABLE BARRICADE
6161031		TYPE III MOVEABLE BARRICADE WITH LIGHTS
6161033		DIRECTION INDICATOR BARRICADE
6161034		DIRECTION INDICATOR BARRICADE, WITH LIGHT
6161040		FLASHING ARROW PANEL
6161047		TYPE III OBJECT MARKER
6161052	8	WARNING LIGHT, TYPE B
6161055		SEQUENTIAL FLASHING WARNING LIGHT
6161070		TUBULAR MARKER
6161095		RADAR SPEED ADVISORY SYSTEM
6161096		CHANGEABLE MESSAGE SIGN, COMMISSION FURNISHED/RETAINED
6161098A	2	CHANGEABLE MESSAGE SIGN W/O COMM. INTERFACE, CONTRACTOR FURNISHED/RETAINED
6161099		CHANGEABLE MESSAGE SIGN WITH COMM. INTERFACE, CONTRACTOR FURNISHED/RETAINED
6162000A		WORK ZONE TRAFFIC SIGNAL SYSTEM
6162002		TEMPORARY LONG-TERM RUMBLE STRIPS
6162004		TEMPORARY SHORT-TERM RUMBLE STRIPS
6173600D		TEMPORARY TRAFFIC BARRIER CONTRACTOR FURNISHED/RETAINED
6173602B		TEMPORARY TRAFFIC BARRIER CONTRACTOR FURNISHED/COMMISSION RETAINED
6174000A		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION
6175010A		RELOCATING TEMPORARY TRAFFIC BARRIER
6176000B		TEMPORARY TRAFFIC BARRIER COMMISSION FURNISHED/RETAINED
6177000B		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION COMMISSION FURNISHED/RETAINED
6208064A		TEMPORARY RAISED PAVEMENT MARKER
9029400		TEMPORARY TRAFFIC SIGNALS
9029401		TEMPORARY TRAFFIC SIGNALS AND LIGHTING

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

SCHEDULE OF QUANTITIES (SIGNS)

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STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24688
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED 3/11/2020
STATE MO
SHEET NO. 2BS
ROUTE CHARTER CHURCH
COUNTY JEFFERSON
JOB NO. 17-6026
PROJECT NO. STP-5403 (673)
BRIDGE NO. 35500101

DESCRIPTION
DATE

JEFFERSON COUNTY PUBLIC WORKS
DEPARTMENT
P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

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

ABNA
4140 LINDELL BOULEVARD
ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

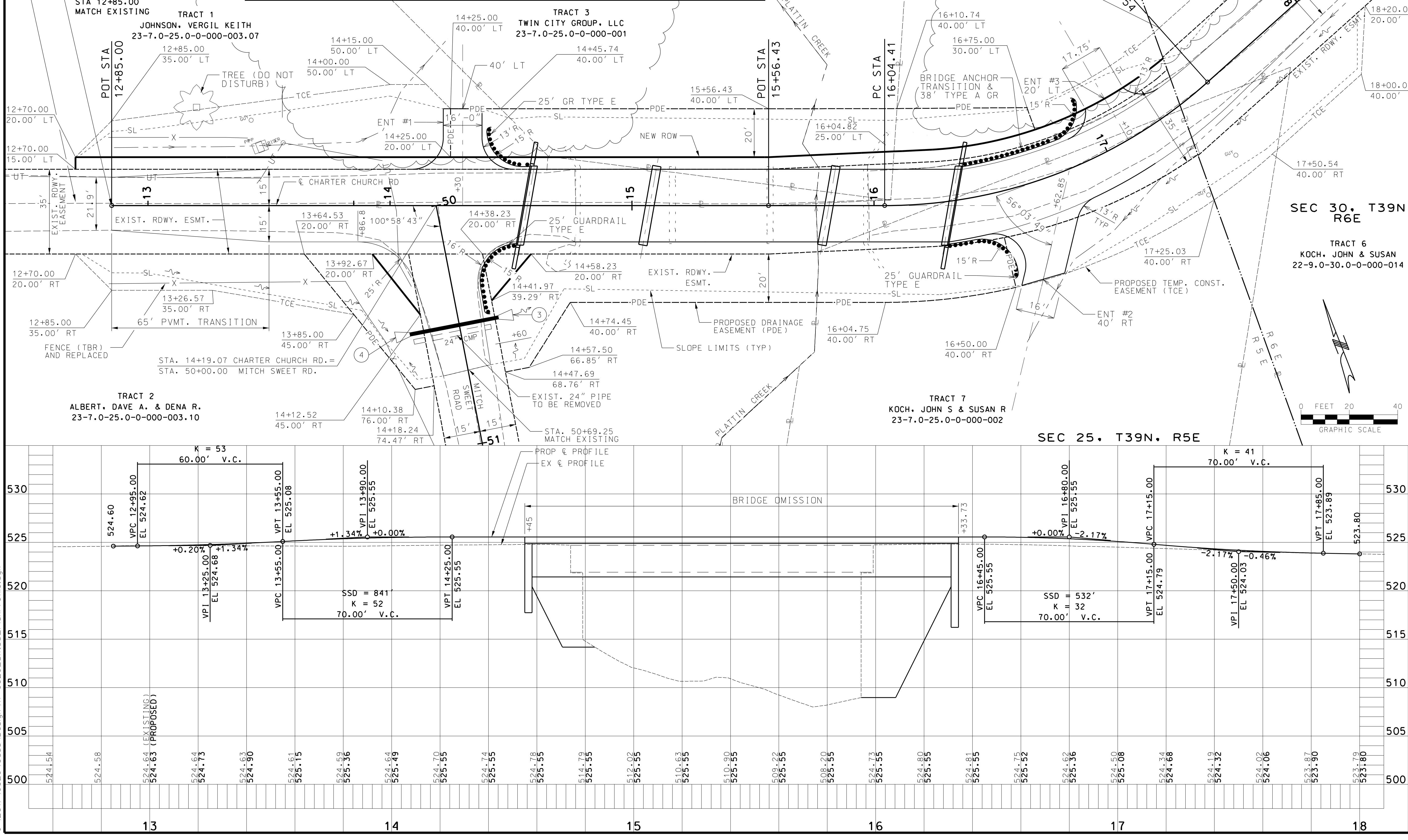
UTILITY NOTE

UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS: AND, THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS POSSIBLE THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN OR SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATION AND TO AVOID THERETO.

PARCEL DATA - CHARTER CHURCH RD.

TRACT NO.	ID	OWNER	EXIST. AREA ACRES	TOTAL R.O.W. SQ. FT.	EXIST PERSCR. R.O.W. SQ. FT.	NEW R.O.W. SQ. FT.	REMAINING AREA ACRES	PROP. PDE SQ. FT.	PROP. TCE SQ. FT.
1	23-7.0-25.0-0-000-003.07	JOHNSON, VERGIL KEITH	1.10	5448	4361	1087	0.98	615	3400
2	23-7.0-25.0-0-000-003.10	ALBERT, DAVE A. & DENA R.	5.42	8087	7707	380	5.23	4372	1649
3	23-7.0-25.0-0-000-001	TWIN CITY GROUP, LLC	2.39	1304	701	603	2.36	3001	0
4	23-7.0-25.0-0-000-001.02	UTHOFF, EDWIN J & CAROL A	0.40	817	213	604	0.38	846	629
5	22-9.0-30.0-0-000-013	KOCH, JOHN & SUSAN	5.39	1610	1610	0	5.35	0	644
6	22-9.0-30.0-0-000-014	KOCH, JOHN & SUSAN	5.00	1772	1772	0	4.96	0	1714
7	23-7.0-25.0-0-000-002	KOCH, JOHN S & SUSAN R	0.82	3005	3005	0	0.75	1737	1780

CURVE P01
PI 16+80.91
PC 16+04.41
PT 17+50.54
Δ 41° 51' 44.6" (LT)
D 28° 38' 52.4"
L 146.13'
T 76.50'
R 200.00'



DATE PREPARED 3/11/2020

STATE	SHEET NO.
MO	3

ROUTE: CHARTER CHURCH
COUNTY: JEFFERSON
JOB NO.: 17-6026
PROJECT NO.: STP-5403 (673)
BRIDGE NO.: 35500101

DESCRIPTION

DATE

STATE OF MISSOURI STEPHEN ALSBURY NUMBER E-24698 REGISTERED PROFESSIONAL ENGINEER

JEFFERSON COUNTY PUBLIC WORKS DEPARTMENT
P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

KABNA
4140 LINDELL BOULEVARD
ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

Detailed JULY 2018 Checked JULY 2018
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RIGHT-OF-WAY PLAT

CHARTER CHURCH ROAD OVER PLATTIN CREEK
SECTION 25, T 39 N, R 5 E & SECTION 30, T 39 N, R 6 E
JEFFERSON COUNTY, MISSOURI

PROPOSED CHARTER CHURCH ROAD CENTER LINE:
COMMENCING FROM AN IRON ROD FOUND AT THE CENTER OF SECTION 25, THENCE NORTH 0 DEGREES 10 MINUTES 20 SECONDS WEST, 1327.10 FEET; THENCE NORTH 72 DEGREES 50 MINUTES 41 SECONDS EAST, 2472.73 FEET TO THE BEGINNING OF THE PROPOSED CENTERLINE; THENCE SOUTH 68 DEGREES 32 MINUTES 51 SECONDS EAST, 334.41 FEET; THENCE EASTERLY ALONG A CURVE TO THE LEFT 146.13 FEET, A RADIUS OF 200.00 FEET, CHORD BEARING SOUTH 89 DEGREES 28 MINUTES 43 SECONDS EAST, 142.90 FEET; THENCE NORTH 69 DEGREES 35 MINUTES 25 SECONDS EAST, 69.46 FEET.

TRACT 1
ID #23-7.0-25.0-0-000-003.07
N/F
VERGIL KEITH JOHNSON
14150 CHARTER CHURCH ROAD, DE SOTO, MO 63020
DOC. NO. 2014R-036064
EXISTING ---------- 1.10 AC.
TOTAL R.O.W. ---------- 5,448 S.F.
EXISTNG PRESCRIBED R.O.W. ------ 4,361 S.F.
NEW R.O.W.---------- 1,087 S.F.
AREA REMAINING ---------- 0.98 AC.

NEW PERMANENT DRAINAGE EASEMENT- 615 S.F.
NEW T.C.E.---------- 3,400 S.F.

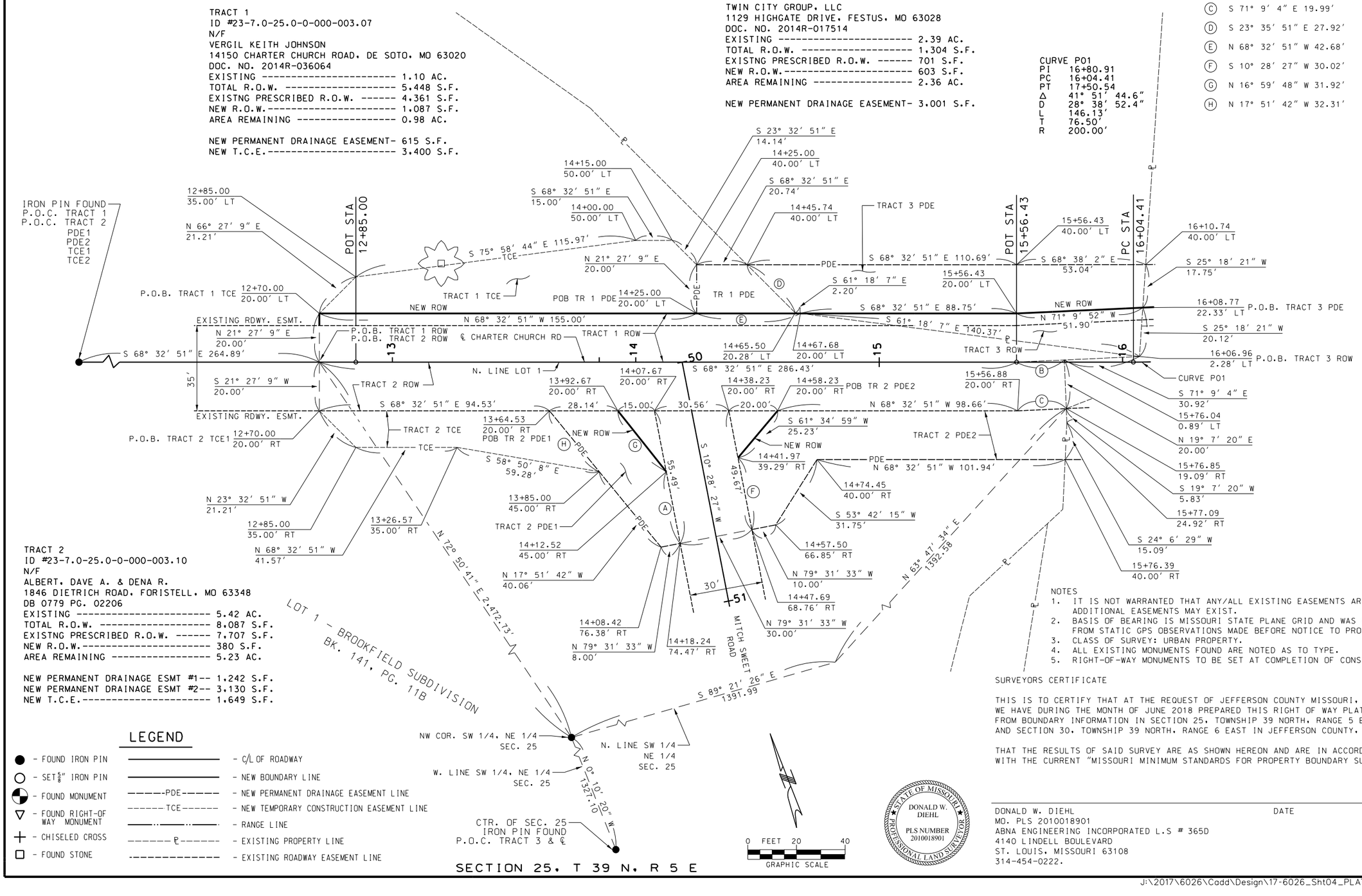
TRACT 3
ID #23-7.0-25.0-0-000-001
N/F
TWIN CITY GROUP, LLC
1129 HIGHGATE DRIVE, FESTUS, MO 63028
DOC. NO. 2014R-017514
EXISTING ---------- 2.39 AC.
TOTAL R.O.W. ---------- 1,304 S.F.
EXISTNG PRESCRIBED R.O.W. ------ 701 S.F.
NEW R.O.W.---------- 603 S.F.
AREA REMAINING ---------- 2.36 AC.

NEW PERMANENT DRAINAGE EASEMENT- 3,001 S.F.

CURVE PO1
PI 16+80.91
PC 16+04.41
PT 17+50.54
Δ 41° 51' 44.6"
D 28° 38' 52.4"
L 146.13'
T 76.50'
R 200.00'

LINE AND CURVE DIMENSIONS

(A)	S 10° 28' 27" W 30.02'
(B)	N 71° 9' 4" W 19.63'
(C)	S 71° 9' 4" E 19.99'
(D)	S 23° 35' 51" E 27.92'
(E)	N 68° 32' 51" W 42.68'
(F)	S 10° 28' 27" W 30.02'
(G)	N 16° 59' 48" W 31.92'
(H)	N 17° 51' 42" W 32.31'



TRACT 2
ID #23-7.0-25.0-0-000-003.10
N/F
ALBERT, DAVE A. & DENA R.
1846 DIETRICH ROAD, FORISTELL, MO 63348
DB 0779 PG. 02206
EXISTING ---------- 5.42 AC.
TOTAL R.O.W. ---------- 8,087 S.F.
EXISTNG PRESCRIBED R.O.W. ------ 7,707 S.F.
NEW R.O.W.---------- 380 S.F.
AREA REMAINING ---------- 5.23 AC.

NEW PERMANENT DRAINAGE ESMT #1-- 1,242 S.F.
NEW PERMANENT DRAINAGE ESMT #2-- 3,130 S.F.
NEW T.C.E.---------- 1,649 S.F.

LEGEND

- ● - FOUND IRON PIN
- ○ - SET 5/8" IRON PIN
- ◔ - FOUND MONUMENT
- ▽ - FOUND RIGHT-OF WAY MONUMENT
- \+ - CHISELED CROSS
- □ - FOUND STONE
- ——— - C/L OF ROADWAY
- ——— - NEW BOUNDARY LINE
- ——PDE—— - NEW PERMANENT DRAINAGE EASEMENT LINE
- ------TCE------ - NEW TEMPORARY CONSTRUCTION EASEMENT LINE
- ——·——·—— - RANGE LINE
- ——℄—— - EXISTING PROPERTY LINE
- ---------- - EXISTING ROADWAY EASEMENT LINE

NOTES
1. IT IS NOT WARRANTED THAT ANY/ALL EXISTING EASEMENTS ARE AS SHOWN, ADDITIONAL EASEMENTS MAY EXIST.
2. BASIS OF BEARING IS MISSOURI STATE PLANE GRID AND WAS CALCULATED FROM STATIC GPS OBSERVATIONS MADE BEFORE NOTICE TO PROCEED.
3. CLASS OF SURVEY: URBAN PROPERTY.
4. ALL EXISTING MONUMENTS FOUND ARE NOTED AS TO TYPE.
5. RIGHT-OF-WAY MONUMENTS TO BE SET AT COMPLETION OF CONSTRUCTION.

SURVEYORS CERTIFICATE

THIS IS TO CERTIFY THAT AT THE REQUEST OF JEFFERSON COUNTY MISSOURI, WE HAVE DURING THE MONTH OF JUNE 2018 PREPARED THIS RIGHT OF WAY PLAT FROM BOUNDARY INFORMATION IN SECTION 25, TOWNSHIP 39 NORTH, RANGE 5 EAST AND SECTION 30, TOWNSHIP 39 NORTH, RANGE 6 EAST IN JEFFERSON COUNTY, MISSOURI.

THAT THE RESULTS OF SAID SURVEY ARE AS SHOWN HEREON AND ARE IN ACCORDANCE WITH THE CURRENT "MISSOURI MINIMUM STANDARDS FOR PROPERTY BOUNDARY SURVEYS".

STATE OF MISSOURI — DONALD W. DIEHL — PLS NUMBER 2010018901 — PROFESSIONAL LAND SURVEYOR

DONALD W. DIEHL — DATE
MO. PLS 2010018901
ABNA ENGINEERING INCORPORATED L.S # 365D
4140 LINDELL BOULEVARD
ST. LOUIS, MISSOURI 63108
314-454-0222.

DATE PREPARED 3/11/2020
STATE MO | SHEET NO. 4
ROUTE CHARTER CHURCH
COUNTY JEFFERSON
JOB NO. 17-6026
PROJECT NO. STP-5403 (673)
BRIDGE NO. 35500101

DESCRIPTION | DATE | REV.

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

JEFFERSON COUNTY PUBLIC WORKS DEPARTMENT
P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

ABNA
4140 LINDELL BOULEVARD
ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

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RIGHT-OF-WAY PLAT

CHARTER CHURCH ROAD OVER PLATTIN CREEK
SECTION 25, T 39 N, R 5 E & SECTION 30, T 39 N, R 6 E
JEFFERSON COUNTY, MISSOURI

LINE AND CURVE DIMENSIONS

- (J) N 25° 18′ 21″ E 7.58′
- (K) S 71° 9′ 52″ E 15.84′
- (L) R=165.94′ L=60.93′ C=60.59′ CB=S 82° 22′ 53″ W
- (M) R=202.46′ L=122.59′ C=120.72′ CB=N 87° 8′ 4″ W
- (N) R=165.94′ L=43.35′ C=43.22′ CB=N 79° 36′ 57″ W
- (O) S 1° 13′ 47″ W 9.69′
- (P) N 1° 38′ 58″ E 10.82′
- (R) R=170.00′ L=2.94′ C=2.94′ CB=N 70° 5′ 5″ E
- (S) N 1° 38′ 58″ E 8.42′
- (T) N 8° 23′ 30″ E 21.12′
- (U) R=210.40′ L=87.60′ C=86.97′ CB=N 88° 14′ 11″ E
- (V) N 19° 7′ 20″ E 5.83′
- (W) S 71° 9′ 23″ E 49.98′
- (X) R=210.40′ L=27.35′ C=27.33′ CB=S 76° 6′ 44″ E
- (Y) N 1° 38′ 58″ E 11.06′

POINTS-STA/OFFSETS

1. 17+35.46, 0.57′ RT — P.O.B. TRACT 5 ROW / SW COR. TRACT 1, NW COR. TRACT 9
2. 17+39.70, 11.85′ LT
3. 17+42.59, 19.42′ LT
4. 17+42.77, 19.86′ LT — P.O.B. TRACT 5 TCE
5. 17+27.49, 29.32′ RT — I.R. FOUND, P.O.C. TRACT 5 & 6, P.O.B. TRACT 6 TCE
6. 16+75.00, 20.31′ LT

TRACT 4
ID #23-7.0-25.0-0-000-001.02
N/F
EDWIN J. & CAROL A. UTHOFF
13730 MITCH SWEET ROAD, DE SOTO, MO. 63020
DB. 0950 DP. 01307
EXISTING ---------- 0.40 AC.
TOTAL R.O.W. ---------- 817 S.F.
EXISTNG PRESCRIBED R.O.W. ------ 213 S.F.
NEW R.O.W.---------- 604 S.F.
AREA REMAINING ---------- 0.38 AC.

NEW PERMANENT DRAINAGE EASEMENT- 846 S.F.
NEW T.C.E. ---------- 629 S.F.

TRACT 5
ID #22-9.0-30.0-0-000-013
N/F
JOHN & SUSAN KOCH
14211 CHARTER CHURCH ROAD, DE SOTO, MO. 63020
DOC. NO. 2012R-004987
EXISTING ---------- 5.39 AC.
TOTAL R.O.W. ---------- 1,610 S.F
EXISTNG PRESCRIBED R.O.W. ------ 1,610 S.F.
NEW R.O.W.---------- 0 S.F.
AREA REMAINING ---------- 5.35 AC.

NEW T.C.E. ---------- 644 S.F.

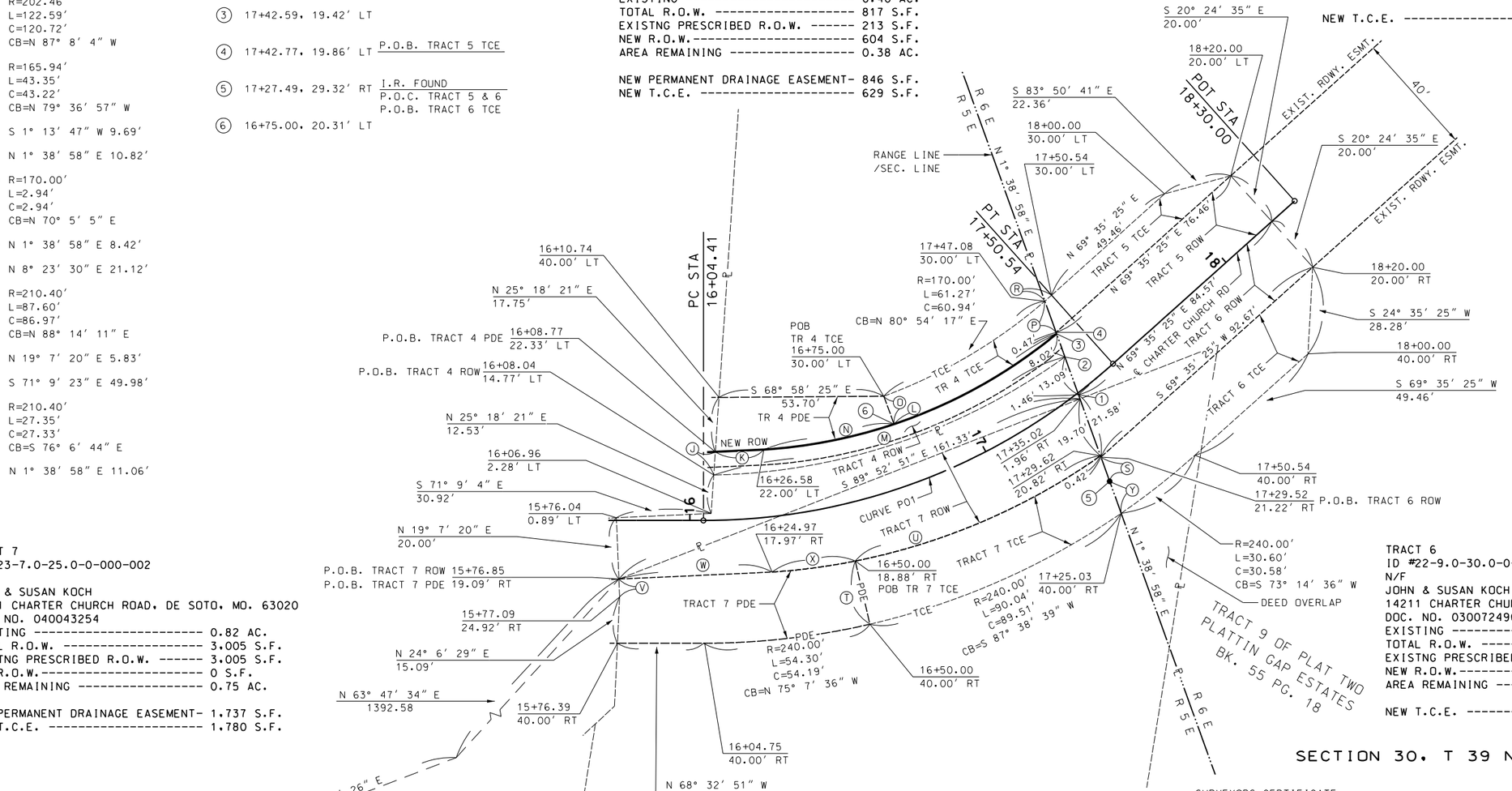
TRACT 7
ID #23-7.0-25.0-0-000-002
N/F
JOHN & SUSAN KOCH
14211 CHARTER CHURCH ROAD, DE SOTO, MO. 63020
DOC. NO. 040043254
EXISTING ---------- 0.82 AC.
TOTAL R.O.W. ---------- 3.005 S.F.
EXISTNG PRESCRIBED R.O.W. ------ 3.005 S.F.
NEW R.O.W.---------- 0 S.F.
AREA REMAINING ---------- 0.75 AC.

NEW PERMANENT DRAINAGE EASEMENT- 1.737 S.F.
NEW T.C.E. ---------- 1.780 S.F.

TRACT 6
ID #22-9.0-30.0-0-000-014
N/F
JOHN & SUSAN KOCH
14211 CHARTER CHURCH ROAD, DE SOTO, MO. 63020
DOC. NO. 030072496
EXISTING ---------- 5.00 AC.
TOTAL R.O.W. ---------- 1,772 S.F.
EXISTNG PRESCRIBED R.O.W. ------ 1,772 S.F.
NEW R.O.W.---------- 0 S.F.
AREA REMAINING ---------- 4.96 AC.

NEW T.C.E. ---------- 1,714 S.F.

CURVE PO1
PI 16+80.91
PC 16+04.41
PT 17+50.54
Δ 41° 51′ 44.6″ (LT)
D 28° 38′ 52.4″
L 146.13′
T 76.50′
R 200.00′



LEGEND

- ● - FOUND IRON PIN
- ○ - SET ⅝" IRON PIN
- ⊕ - FOUND MONUMENT
- ▽ - FOUND RIGHT-OF WAY MONUMENT
- \+ - CHISELED CROSS
- □ - FOUND STONE
- ——— - C/L OF ROADWAY
- ——— - NEW BOUNDARY LINE
- ------PDE------ - NEW PERMANENT DRAINAGE EASEMENT LINE
- -------TCE------- - NEW TEMPORARY CONSTRUCTION EASEMENT LINE
- ——·——·—— - RANGE LINE
- -------℄------- - EXISTING PROPERTY LINE
- ---------- - EXISTING ROADWAY EASEMENT LINE

0 FEET 20 40
GRAPHIC SCALE

STATE OF MISSOURI — DONALD W. DIEHL — PLS NUMBER 2010018901 — PROFESSIONAL LAND SURVEYOR

SURVEYORS CERTIFICATE

THIS IS TO CERTIFY THAT AT THE REQUEST OF JEFFERSON COUNTY MISSOURI, WE HAVE DURING THE MONTH OF NOVEMBER 2016 PREPARED THIS RIGHT OF WAY PLAT FROM BOUNDARY INFORMATION IN SECTION 25, TOWNSHIP 39 NORTH, RANGE 5 EAST AND SECTION 30, TOWNSHIP 39 NORTH, RANGE 6 EAST IN JEFFERSON COUNTY, MISSOURI.

THAT THE RESULTS OF SAID SURVEY ARE AS SHOWN HEREON AND ARE IN ACCORDANCE WITH THE CURRENT "MISSOURI MINIMUM STANDARDS FOR PROPERTY BOUNDARY SURVEYS".

DONALD W. DIEHL — DATE
MO. PLS 2010018901
ABNA ENGINEERING INCORPORATED L.S # 365D
4140 LINDELL BOULEVARD
ST. LOUIS, MISSOURI 63108
314-454-0222.

DATE PREPARED 3/11/2020
STATE MO | SHEET NO. 5
ROUTE CHARTER CHURCH
COUNTY JEFFERSON
JOB NO. 17-6026
PROJECT NO. STP-5403 (673)
BRIDGE NO. 35500101

DESCRIPTION | DATE | REV.

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

JEFFERSON COUNTY PUBLIC WORKS DEPARTMENT
P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

ABNA
4140 LINDELL BOULEVARD
ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

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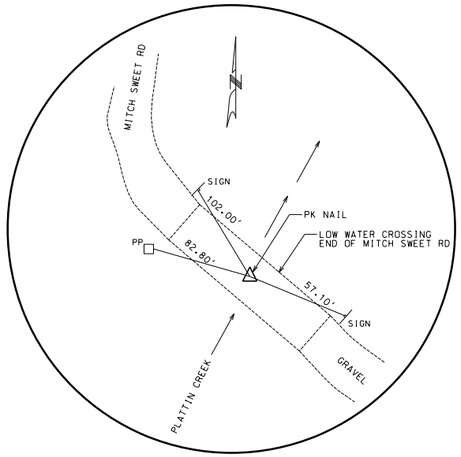
CHARTER CHURCH ROAD LAYOUT COORDINATE TABLE

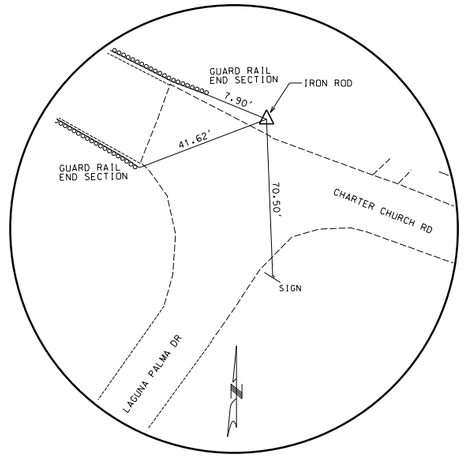
Point Description	North	East
Control Point TPK-400	814,286.432	844,257.253
Control Point TPR-401	814,353.547	844,148.156
Control Point TPK-402	813,749.572	843,932.135
Control Point TPR-403	814,522.325	843,712.905
Control Point TPR-404	814,464.671	844,984.403
Control Point TPR-405	814,247.195	844,395.546
CHARTER CHURCH ROAD		
POT STA. 12+85.00	814,390.288	844,005.690
PI STA. 15+56.43	814,291.017	844,258.315
PC STA. 16+04.41	814,273.470	844,302.970
PI STA. 16+80.91	814,245.492	844,374.168
PT STA. 17+50.54	814,272.169	844,445.863
POT STA. 18+30.00	814,299.880	844,520.335
MITCH SWEET ROAD		
POT STA. 50+00.00	814,341.255	844,130.470
POT STA. 51+02.28	814,240.681	844,111.877

ENTRANCE LAYOUT COORDINATES

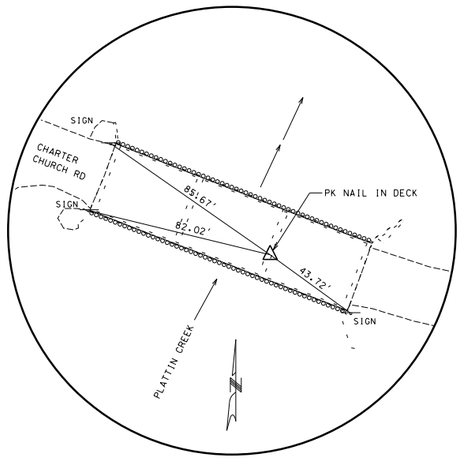
Point Description	North	East
Entrance #1 P.O.T. Sta. 0+00 = ℄ Charter Church Rd. 14+30 LT.	814,337.26	844,140.64
Entrance #1 P.O.T. Sta 0+40.0	814,374.37	844,155.27
Entrance #2 P.O.T. Sta 0+00 = ℄ Charter Church Rd. 16+82.85 RT.	814,259.65	844,379.70
Entrance #2 P.O.T. Sta 0+82.85	814,189.17	844,330.53
Entrance #3 P.O.T. Sta 0+00 = ℄ Charter Church Rd. 17+10 LT.	814,261.97	844,406.70
Entrance #3 P.O.T. Sta. 0+45.0	814,306.07	844,399.88



TPK-402



TPR-403



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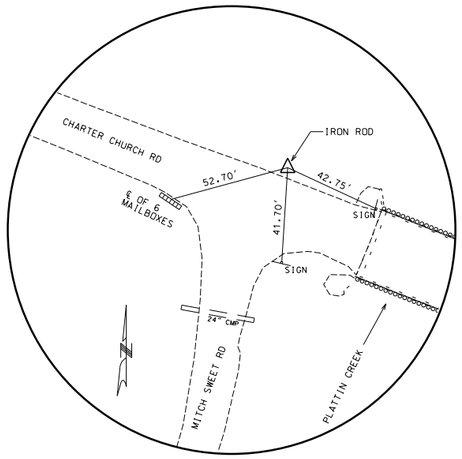
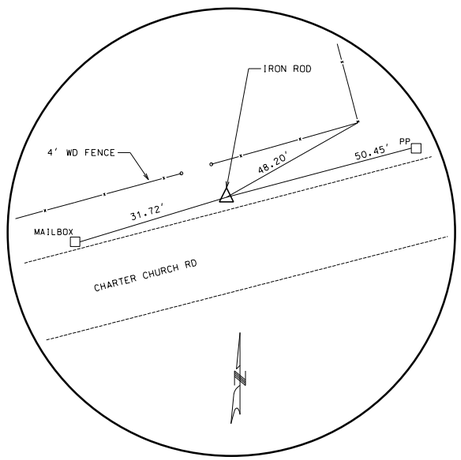
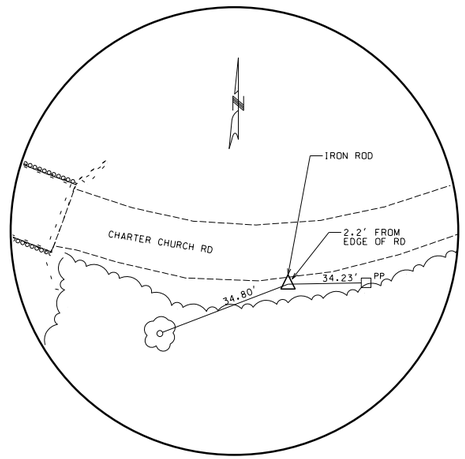


TPR-401



TPR-404



TPR-405

STATE PLANE COORDINATE SYSTEM

STATEMENT OF STATE PLANE COORDIANTE

THIS SITE WAS TIED TO MODOT CONTINUALLY OPERATING REFERENCE STATION MOSI USING TRIMBLE GPS RECEIVERS EMPLOYING REAL TIME CORRECTIONAL METHODS TIED TO THE MODOT VRS SYSTEM ON JANUARY 11, 2018. TO THE BEST OF OUR KNOWLEDGE, THE CALCULATED STATE PLANE COORDINATES MEET THE ACCURACY SURVEYS AS AN "URBAN PROPERTY" RELATIVE TO THE ABOVE STATION.

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

COORDINATE POINTS

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24688
REGISTERED PROFESSIONAL ENGINEER

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

DATE PREPARED 3/11/2020
STATE MO
SHEET NO. 6
ROUTE CHARTER CHURCH
COUNTY JEFFERSON
JOB NO. 17-6026
PROJECT NO. STP-5403 (673)
BRIDGE NO. 35500101

DATE	DESCRIPTION

JEFFERSON COUNTY PUBLIC WORKS
DEPARTMENT
P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

ABNA
4140 LINDELL BOULEVARD
ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

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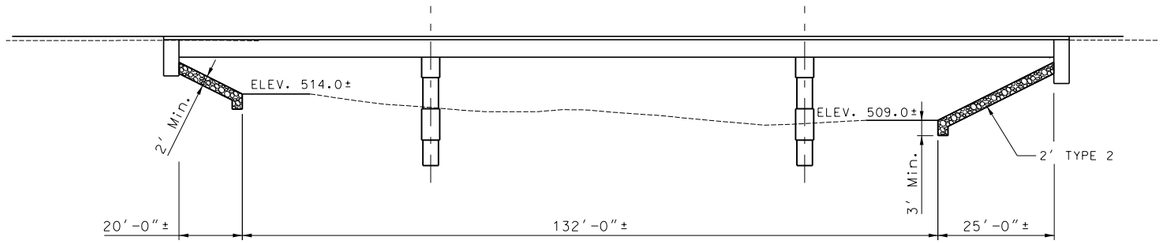
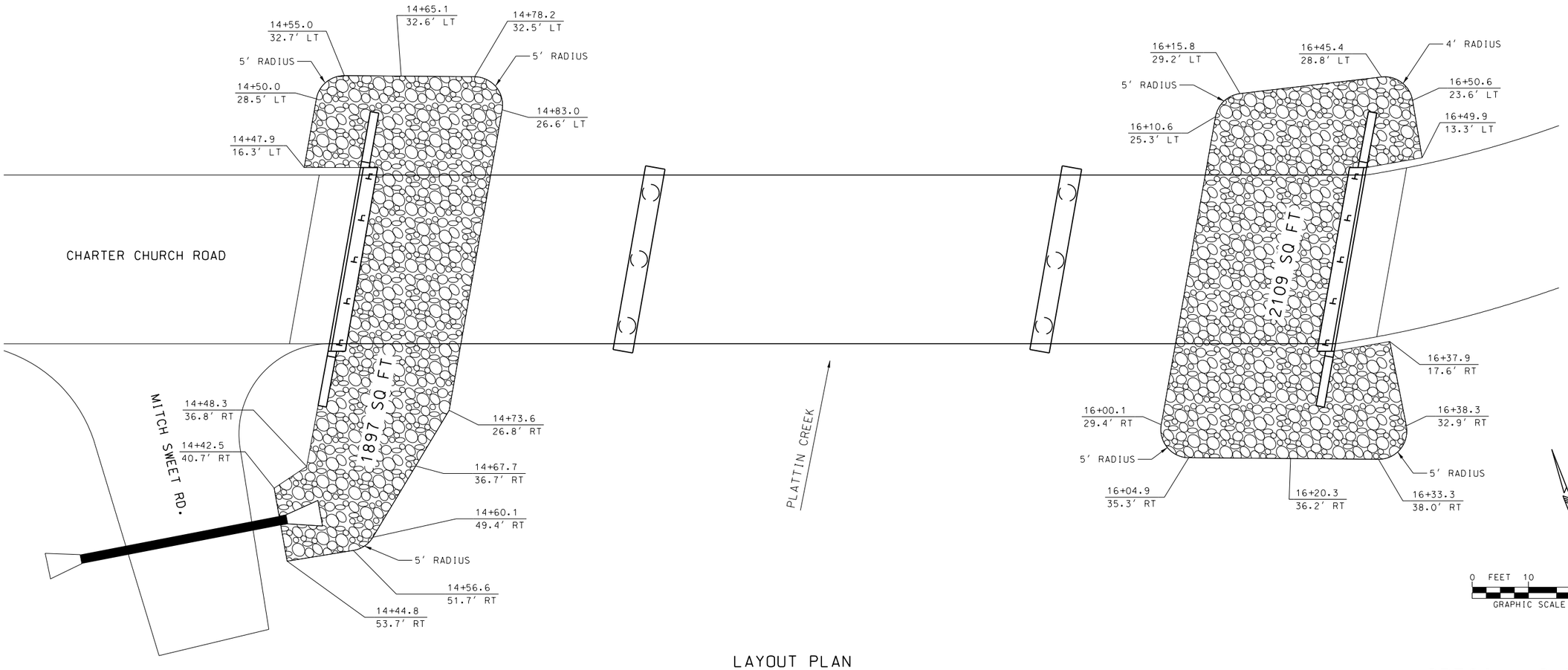


TYPICAL SECTION



LAYOUT PLAN

SPECIAL SHEET
(TYPE 2 ROCK BLANKET)

Detailed Oct 2019
Checked Oct 2019

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24688
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED
3/11/2020

STATE	SHEET NO.
MO	7

ROUTE
CHARTER CHURCH

COUNTY
JEFFERSON

JOB NO.
17-6026

PROJECT NO.
STP-5403 (673)

BRIDGE NO.
35500101

DESCRIPTION	DATE

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

JEFFERSON COUNTY PUBLIC WORKS
DEPARTMENT
P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

ABNA
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ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

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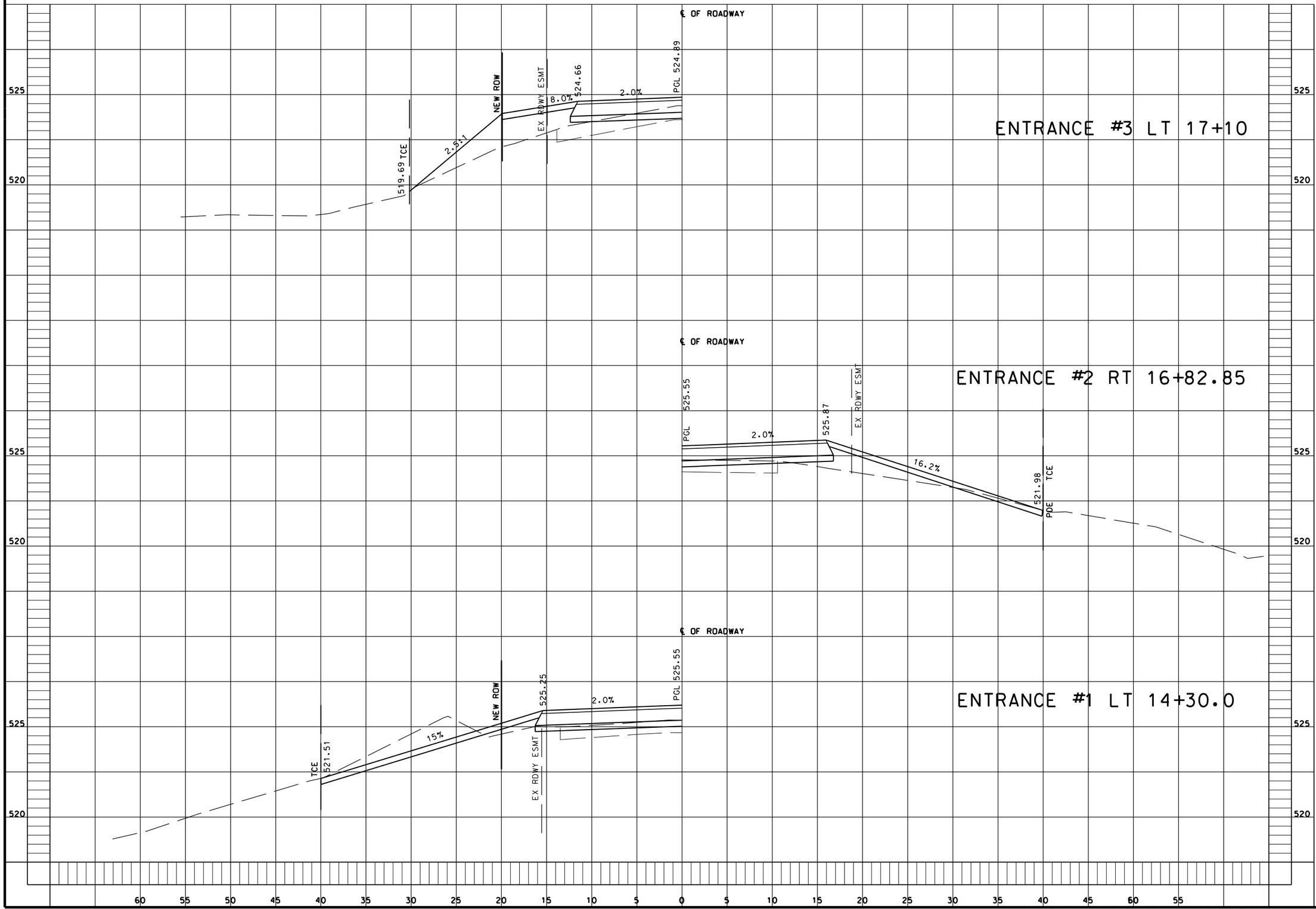

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24688
REGISTERED PROFESSIONAL ENGINEER

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

DATE PREPARED
3/11/2020

STATE	SHEET NO.
MO	8

ROUTE
CHARTER CHURCH

COUNTY
JEFFERSON

JOB NO.
17-6026

PROJECT NO.
STP-5403 (673)

BRIDGE NO.
35500101

DESCRIPTION	DATE

JEFFERSON COUNTY PUBLIC WORKS
DEPARTMENT
P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

ABNA
4140 LINDELL BOULEVARD
ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

REV.

Detailed JULY 2018
Checked JULY 2018

Note: This drawing is not to scale. Follow dimensions.

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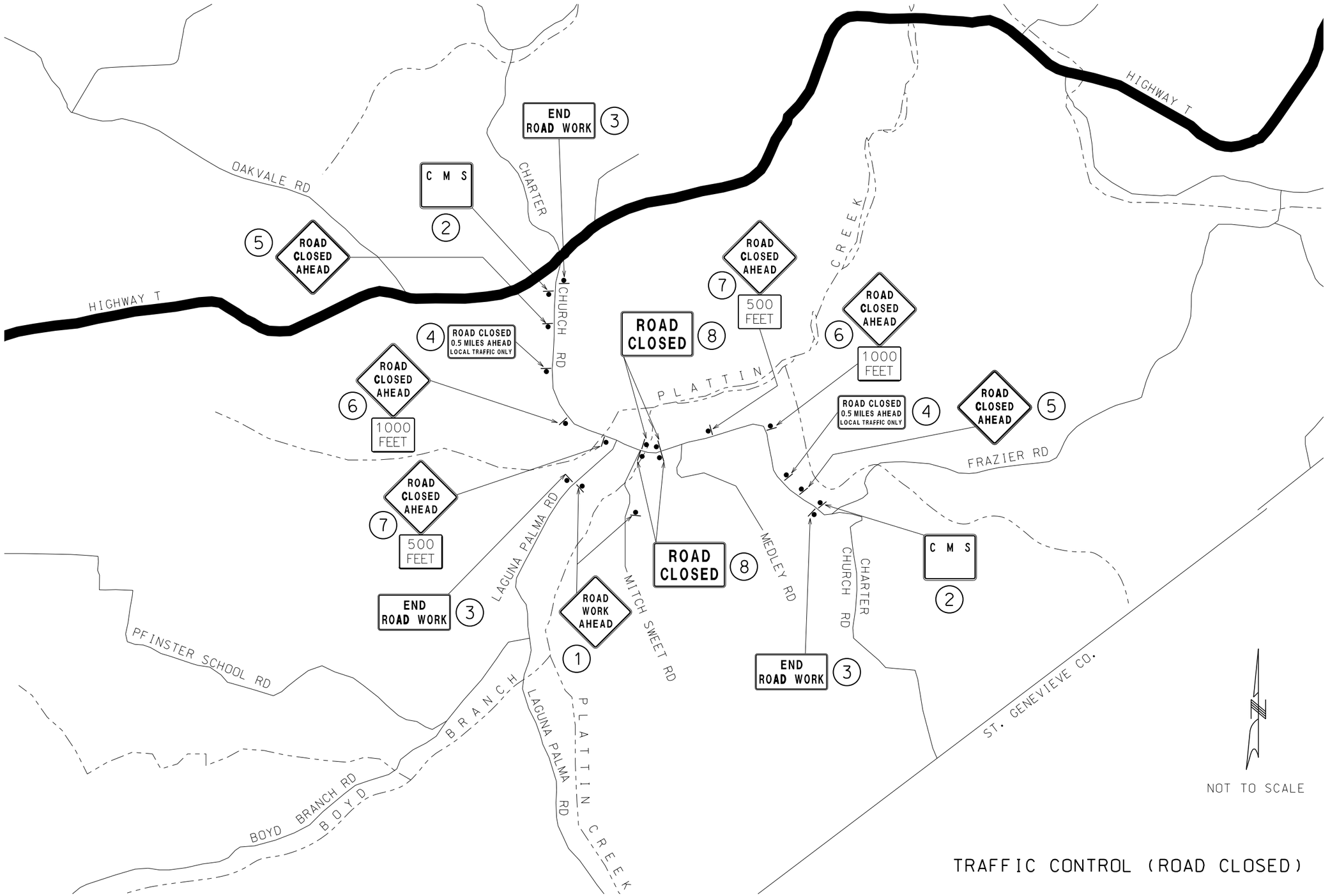

TRAFFIC CONTROL (ROAD CLOSED)

NOTE:
ACCESS TO ADJACENT PROPERTIES
SHALL BE MAINTAINED DURING CONSTRUCTION

Detailed Oct 2019
Checked Oct 2019

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STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24688
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED
3/11/2020

STATE	SHEET NO.
MO	9

ROUTE
CHARTER CHURCH

COUNTY
JEFFERSON

JOB NO.
17-6026

PROJECT NO.
STP-5403 (673)

BRIDGE NO.
35500101

DATE	DESCRIPTION
.	.

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

JEFFERSON COUNTY PUBLIC WORKS
DEPARTMENT

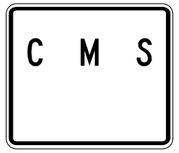
P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

ABNA
4140 LINDELL BOULEVARD
ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

W020-1

1

2-REQUIRED



CHANGABLE
MESSAGE
SIGN W/O
COMMUNICATION
INTERFACE

2

2-REQUIRED

G020-2

3

3-REQUIRED

R11-3a

4

2-REQUIRED

W020-3

5

2-REQUIRED

W020-3

W016-2

6

2-REQUIRED

W020-3

W016-2

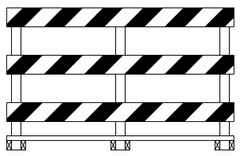
7

2-REQUIRED

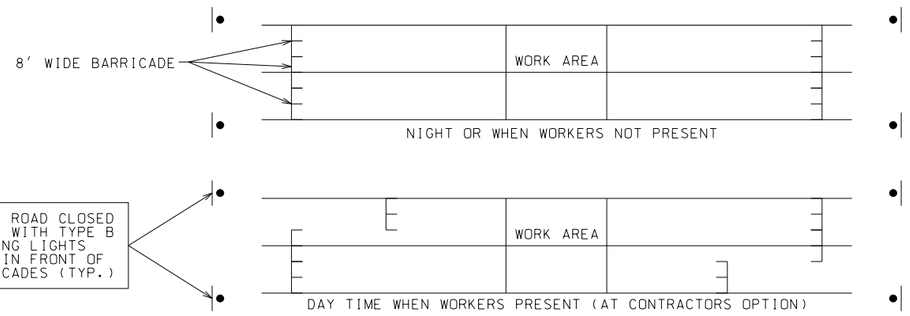
R11-2

8

4-REQUIRED



TYPE III
MOVEABLE BARRICADE



BARRICADE PLACEMENT

NOTES:

1. ALL CONSTRUCTION SIGNS SHALL BE NON-PORTABLE MOUNTED 48 HOURS PRIOR TO ROAD CLOSURE.
2. TYPE III BARRICADES SHALL EXTEND FROM SHOULDER TO SHOULDER.
3. CONTRACTOR IS RESPONSIBLE FOR UTILITY LOCATES PRIOR TO PLACING SIGN POSTS.

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

TRAFFIC CONTROL (SIGNS)

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24688
REGISTERED PROFESSIONAL ENGINEER

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

DATE PREPARED 3/11/2020

STATE	SHEET NO.
MO	10

ROUTE: CHARTER CHURCH
COUNTY: JEFFERSON
JOB NO.: 17-6026
PROJECT NO.: STP-5403 (673)
BRIDGE NO.: 35500101

DATE	DESCRIPTION

JEFFERSON COUNTY PUBLIC WORKS
DEPARTMENT
P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

ABNA
4140 LINDELL BOULEVARD
ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

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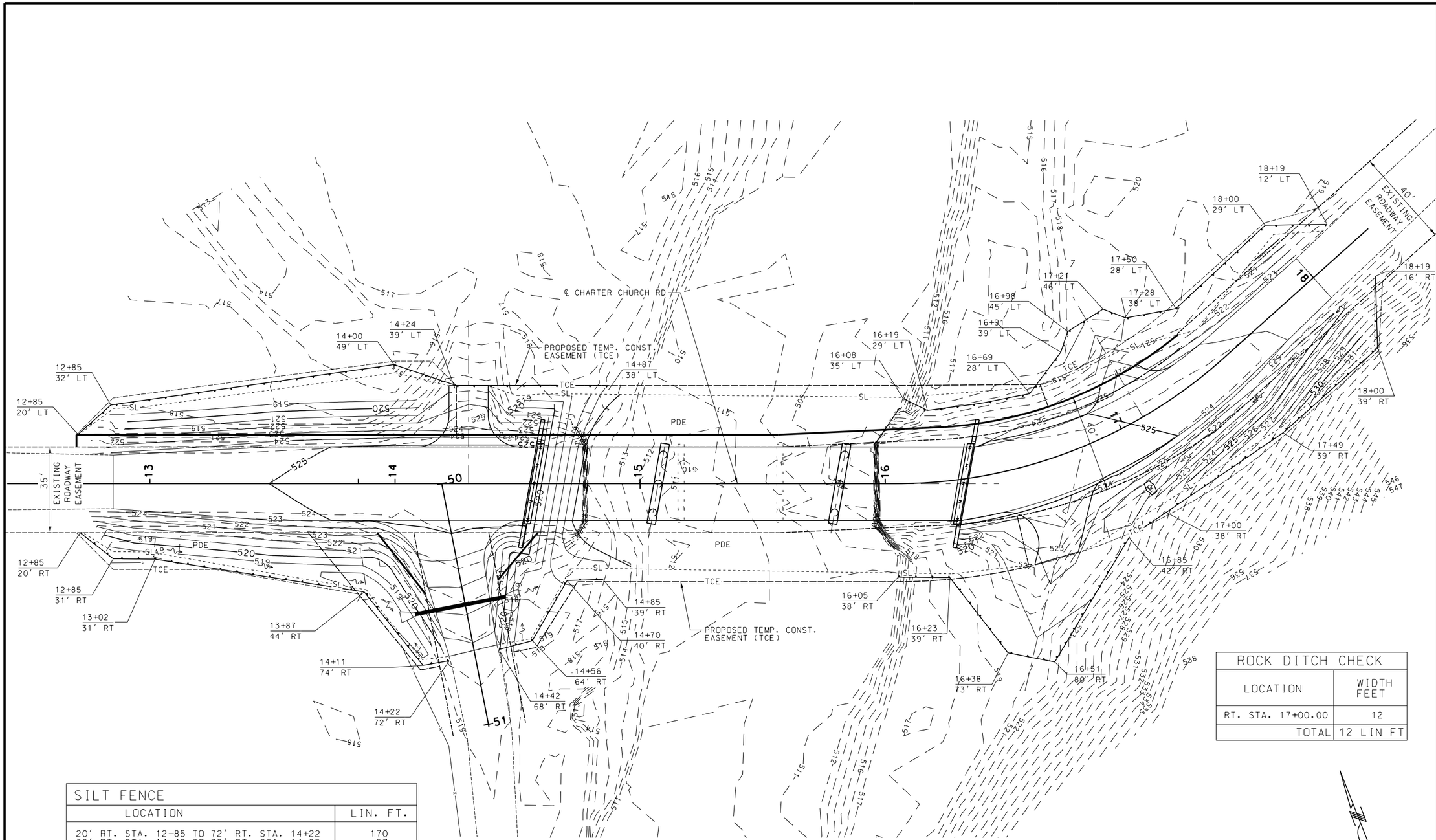

ROCK DITCH CHECK	
LOCATION	WIDTH FEET
RT. STA. 17+00.00	12
TOTAL	12 LIN FT

SILT FENCE	
LOCATION	LIN. FT.
20' RT. STA. 12+85 TO 72' RT. STA. 14+22	170
68' RT. STA. 14+42 TO 39' RT. STA. 14+85	57
28' RT. STA. 16+05 TO 16' RT. STA. 18+19	295
20' LT. STA. 12+85 TO 38' LT. STA. 14+87	224
35' LT. STA. 16+08 TO 12' LT. STA. 18+19	207
TOTAL	953

0 FEET 20 40
GRAPHIC SCALE

LEGEND

SILT FENCE

ROCK DITCH CHECK

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

EROSION CONTROL

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24688
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED 3/11/2020
STATE MO
SHEET NO. 11
ROUTE CHARTER CHURCH
COUNTY JEFFERSON
JOB NO. 17-6026
PROJECT NO. STP-5403 (673)
BRIDGE NO. 35500101

DESCRIPTION
DATE

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

JEFFERSON COUNTY PUBLIC WORKS DEPARTMENT
P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

ABNA
4140 LINDELL BOULEVARD
ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

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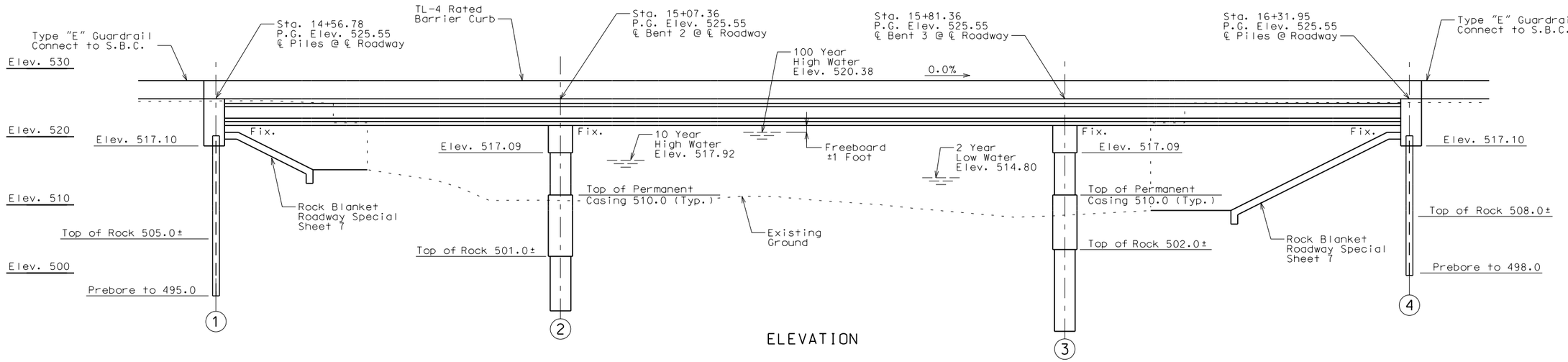
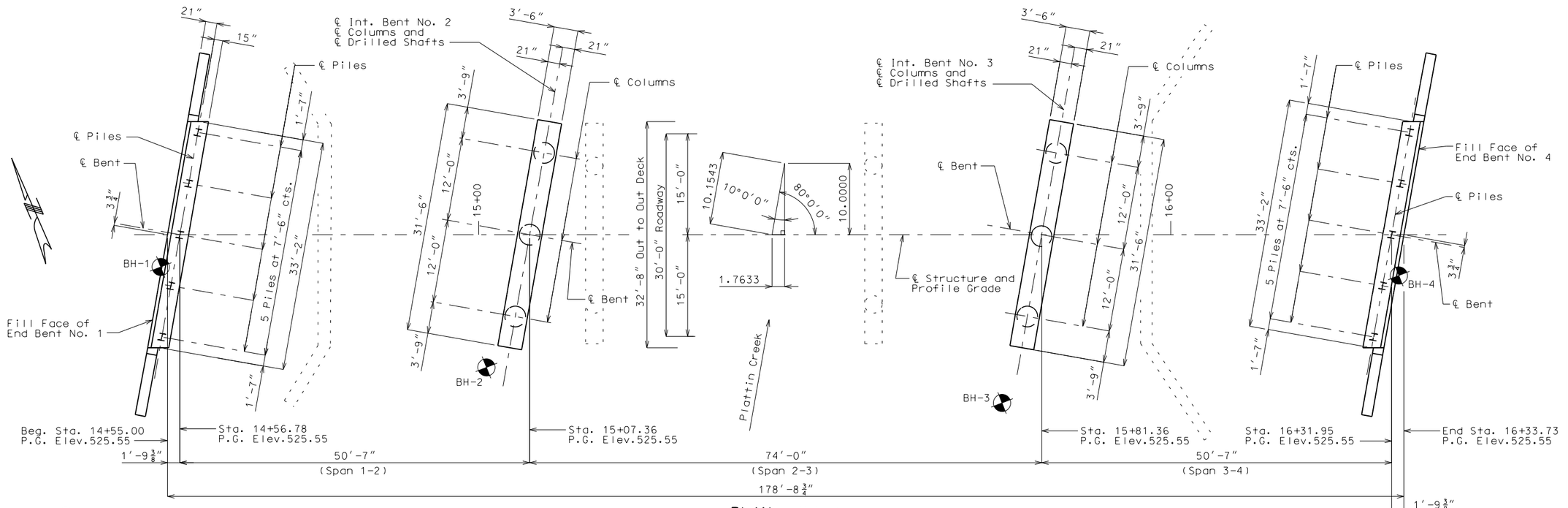
(50'-74'-50') PRESTRESSED CONCRETE GIRDER SPANS



ELEVATION



PLAN

"⊕" Indicates location of borings.

Notice and Disclaimer Regarding Boring Log Data

The locations of all subsurface borings for this structure are shown on the plan sheet for this structure. The boring data for all locations indicated, as well as any other boring logs or factual records of subsurface data and investigations performed by the County for the design of the project, are shown on Sheet Nos. 34 thru 36 or will be available from the Project Contact upon written request. No greater significance or weight should be given to the boring data depicted on the plan sheets than is given to the subsurface data available from the County or elsewhere.

The County does not represent or warrant that any such boring data accurately depicts the conditions to be encountered in constructing this project. A contractor assumes all risks it may encounter in basing its bid prices, time or schedule of performance on the boring data depicted here or those available from the district, or on any other documentation not expressly warranted, which the contractor may obtain from the County.

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

Notes:

Fill Prebore holes at End Bent No. 1 & No. 4 with sand per 702.4.3.1 prior to pile placement.

Old roadway fill under the ends of the bridge shall be removed as shown. Removal of old roadway fill will be considered completely covered by the contract unit price for roadway excavation.

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 any piles are driven for any bents falling within the embankment section.

For General Notes, Pile and Footing Data and Estimated Quantities for Slab on Concrete I-Girder, see Sheet No. 2.

Dimensions shown in plan are horizontal.

Sheet No. 1 of 36

BRIDGE: OVER PLATTIN CREEK

COUNTY ROAD: CHARTER CHURCH & MITCH SWEET

STA. 14+55.00

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24698
REGISTERED PROFESSIONAL ENGINEER

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

DATE PREPARED
3/11/2020

STATE	SHEET NO.
MO	1-2

ROUTE
CHARTER CHURCH

COUNTY
JEFFERSON

JOB NO.
17-6026

PROJECT NO.
STP-5403 (673)

BRIDGE NO.
35500101

DESCRIPTION	DATE

JEFFERSON COUNTY PUBLIC WORKS DEPARTMENT
P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

ABNA
4140 LINDELL BOULEVARD
ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

REV.

Estimated Quantities

Item		Substr.	Superstr.	Total
Class 1 Excavation	cu. yard	130		130
Removal of Bridges	lump sum			1
Bridge Approach Slab (Minor Road)	sq. yard		143	143
Drilled Shaft (3'-6")	linear foot	51		51
Rock Socket (3'-0")	linear foot	60		60
Video Camera Inspection	each	6		6
Foundation Inspection Holes	linear foot	60		60
Sonic Logging Testing	each	6		6
Galvanized Structural Steel Piles (10 in.)	linear foot	225		225
Pre-Bore for Piling	linear foot	205		205
Pile Point reinforcement	each	10		10
Class B Concrete (Substructure)	cu. yard	87.8		87.8
Slab on Concrete I-Girder	sq. yard		645	645
Reinforcing Steel (Bridges)	Pounds	17140		17140
✳ Safety Barrier Curb	linear foot		356	356
Type 3 (39") Prestressed Concrete I-Girder	linear foot		1050	1050
Steel Intermediate Diaphragm for P/S Concrete Girders	each		15	15
Slab Drain	each		15	15
Vertical Drain at End Bents	each	2		2
Plain Neoprene Bearing Pad	each		12	12
Laminated Neoprene Bearing Pad	each		24	24

All concrete above the construction joint in the end bents is included in the Estimated Quantities for Slab on Concrete I-Girder.

All reinforcement in the end bents is included in the Estimated Quantities for Slab on Concrete I-Girder.

All reinforcement in the intermediate bent concrete diaphragms except reinforcement embedded in the beam cap is included in the Estimated Quantities for Slab on Concrete I-Girder.

All concrete above the intermediate beam cap is included in the Estimated Quantities for Slab on Concrete I-Girder.

Cost of L4x4 ASTM A709 Grade 36 HP pile anchors and $\frac{3}{4}$" dia. ASTM F3125 Grade A325 bolts, complete in place, will be considered completely covered by the contract unit price for Galvanized Structural Steel Piles (10 in.).

✳ Safety barrier curb shall be cast-in-place option or slip-form option.

Estimated Quantities for Slab on Concrete I-Girder

Item		Total
Class B-2 Concrete (Slab on Concrete I-Girder)	cu. yard	164
Reinforcing Steel (Bridges)	pound	9700
Reinforcing Steel (Epoxy Coated)	pound	31170

The table of Estimated Quantities for Slab on Concrete I-Girder represents the quantities used by Jefferson County in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard longitudinally from end of slab and transversely from out to out of bridge slab (or with the horizontal dimensions as shown on the plan of slab). Payment for prestressed panels, conventional forms, all concrete and epoxy coated reinforcing steel will be considered completely covered by the contract unit price for the slab. Variations may be encountered in the estimated quantities but the variations cannot be used for an adjustment in the contract unit price.

Method of forming the slab shall be as shown on the plans and in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness class SC 4 and a finish type I, II or III.

The Estimated Quantities for Slab on Concrete I-Girder are based on skewed precast prestressed end panels.

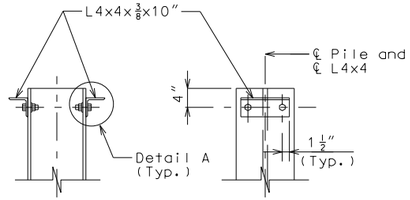
Class B-2 Concrete quantity is based on minimum top flange thickness and minimum joint material thickness.

The prestressed panel quantities are not included in the table of Estimated Quantities for Slab on Concrete I-Girder.

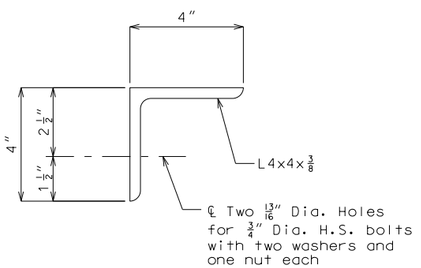
HYDROLOGIC DATA

Drainage Area = 27.0 sq mi
Base Flood (100-year)
Base Flood Elevation = 520.38
Base Flood Discharge = 13,687 cfs
Estimated Backwater = 0.94 ft
Average Velocity thru Opening = 10.1 ft/s
Freeboard (100 year)
Freeboard = 0.8 ft
Roadway Overtopping
Overtopping Flood Discharge = None cfs
Overtopping Flood Frequency = >100 years
500 Year Flood Elevation = 521.69

Detailed Oct 2019
Checked Oct 2019



DETAIL OF HP PILE ANCHORS



DETAIL A

Note:
Galvanizing L4x4, ¾" Diameter High Strength Bolts, Washers and Nuts shall not be required.

Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.

GENERAL NOTES AND ESTIMATED QUANTITIES

Note: This drawing is not to scale. Follow dimensions.

GENERAL NOTES:

Design Specifications:
2017 - AASHTO LRFD Bridge Design Specifications 8th Edition
Seismic Performance Category B
Design Earthquake Response Spectral Acceleration Coefficient at 1.0 Second Period, SD_1= 0.188 SD_S= 0.487
Acceleration Coefficient (Effective Peak Ground Acceleration Coefficient) A_S= .24

Design Loading:
Vehicular = HL-93
Future Wearing Surface = 35 lb/sf
Earth = 120 #/Cu. Ft.
Equivalent Fluid Pressure 45#/Cu. Ft. (Min.)

Superstructure:
Simply supported, Non-Composite for dead load, Continuous composite for live load

Design Unit Stresses:

Class B Concrete (Substructure)	f'c =	3,000 psi
Class B-2 Concrete (Drilled Shafts & Rock Sockets)	f'c =	4,000 psi
Class B-2 Concrete (Superstructure, except Prestressed Girders and Safety Barrier Curb)	f'c =	4,000 psi
Class B-1 Concrete (Safety Barrier Curb)	f'c =	4,000 psi
Reinforcing Steel (Grade 60)	fy =	60,000 psi
Steel Pile (ASTM A709 Grade 50)	fy =	50,000 psi

For Precast Prestressed Panel Stresses, see Sheet No. 21.

For Prestressed Girder Stresses, see Sheets No. 16 and 17.

Neoprene Pads:
Plain and Laminated Neoprene Bearing Pads shall be 60 durometer and shall be in accordance with Sec 716.

Joint Filler:
All joint filler shall be in accordance with sec 1057 for preformed sponge rubber expansion and partition joint filler, except as noted.

Reinforcing Steel:
Minimum clearance to reinforcing steel shall be 1½", unless otherwise shown. All reinforcing steel shall be tied 100% at all intersections with minimum 16 gauge wire.

Traffic Handling:
Structure to be closed during construction. Traffic to be maintained on other routes during construction. See roadway plans for traffic control.

Existing Structure:
Remove existing Bridge No. 3550010 over Plattin Creek.

Construction Specifications:
The 2019 Edition of the Missouri Highway and Transportation Commission, "Missouri Standard Specifications for Highway Construction" supplemental revisions and the job specifications shall govern.

Miscellaneous:
County Construction personnel will indicate the type of joint filler option used under the precast panels for this structure: __ Constant Joint Filler __ Variable Joint Filler

Prebore quantities are based on performing Class 1 Excavation prior to piling operations

Foundation Data

Type	Design Data		Bent No. 1	2	3	4
Load Bearing Pile	Pile Type and Size		HP 10x42			HP 10x42
	Number	ea	5			5
	Approximate Length per Each	ft	20			20
	Pile Point Reinforcement	ea	5			5
	Minimum Galvanized Penetration (Elev.)	ft	500			500
	Estimated Maximum Scour Depth 100 (Elev.)	ft	504			504
	Minimum Tip Penetration (Elev.)	ft	495			498
	Criteria for Minimum Tip Penetration		Minimum Embedment			Minimum Embedment
	Pile Driving Verification Method		DF			DF
	Design Bearing Minimum Nominal Axial Pile Compressive Resistance	kip	391			391
Rock Socket	Number	ea		3	3	
	Foundation Material			Rock	Rock	
	Elevation Range	ft		8	12	
	Design Side Friction Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf		8.5	8.5	
	Design Bearing Nominal Axial Pile Compression Resistance (Tip Resistance)	ksf		73	73	

All piles shall be galvanized down to the minimum galvanized penetration elevation.
Pile point reinforcement need not be galvanized.
Shop drawings shall not be required for pile point reinforcement.
The contractor shall make every effort to achieve the minimum galvanized penetration elevation shown on the plans for all piles. Deviation in penetration less than 5 feet of the minimum will be considered acceptable provided the contractor makes the necessary corrections to ensure the minimum penetration is achieved on subsequent piles.
HP piles are anticipated to be driven to refusal on rock. Review all borings for depth of rack and restrict driving as appropriate to comply with hard rock driving criteria in accordance with Sec 702.

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24698
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED 3/11/2020
STATE MO | SHEET NO. 13
ROUTE CHARTER CHURCH
COUNTY JEFFERSON
JOB NO. 17-6026
PROJECT NO. STP-5403 (673)
BRIDGE NO. 35500101

DATE	DESCRIPTION

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PH. 314-454-0222
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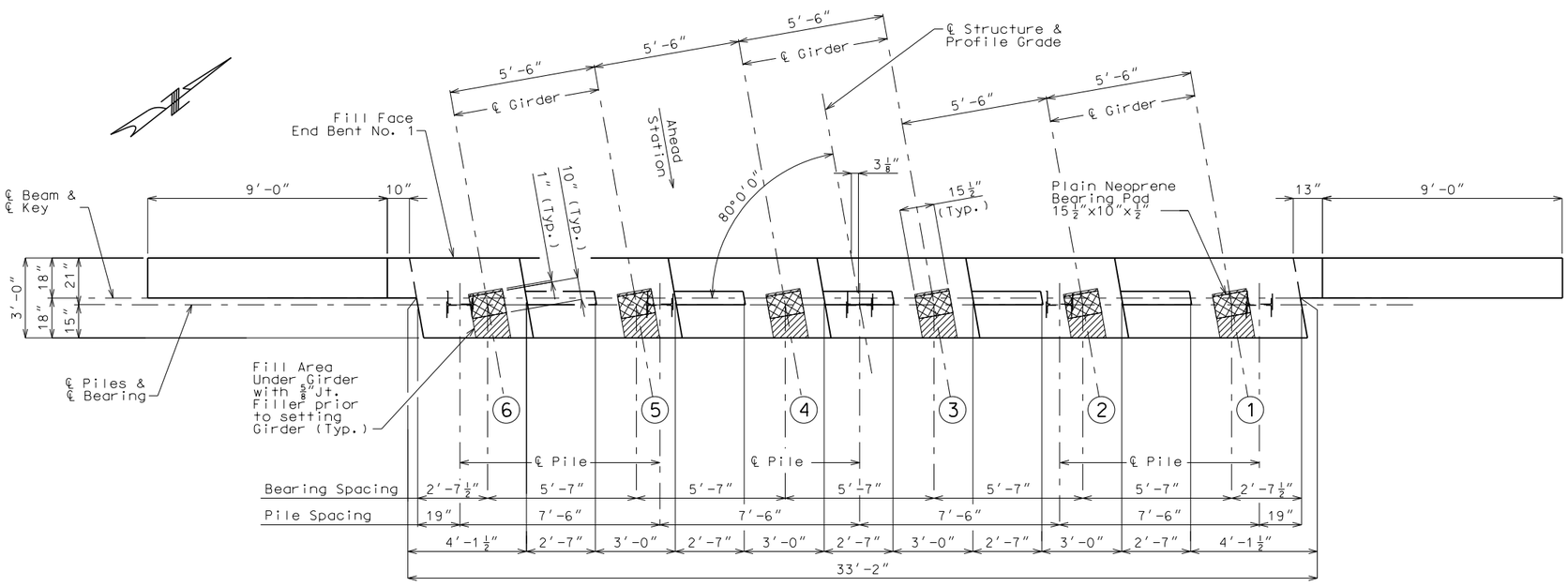
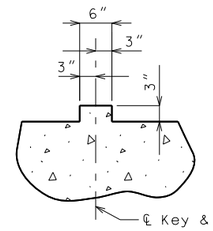
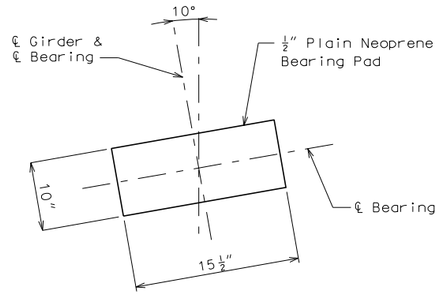


PLAN OF BEAM SHOWING DIMENSIONS

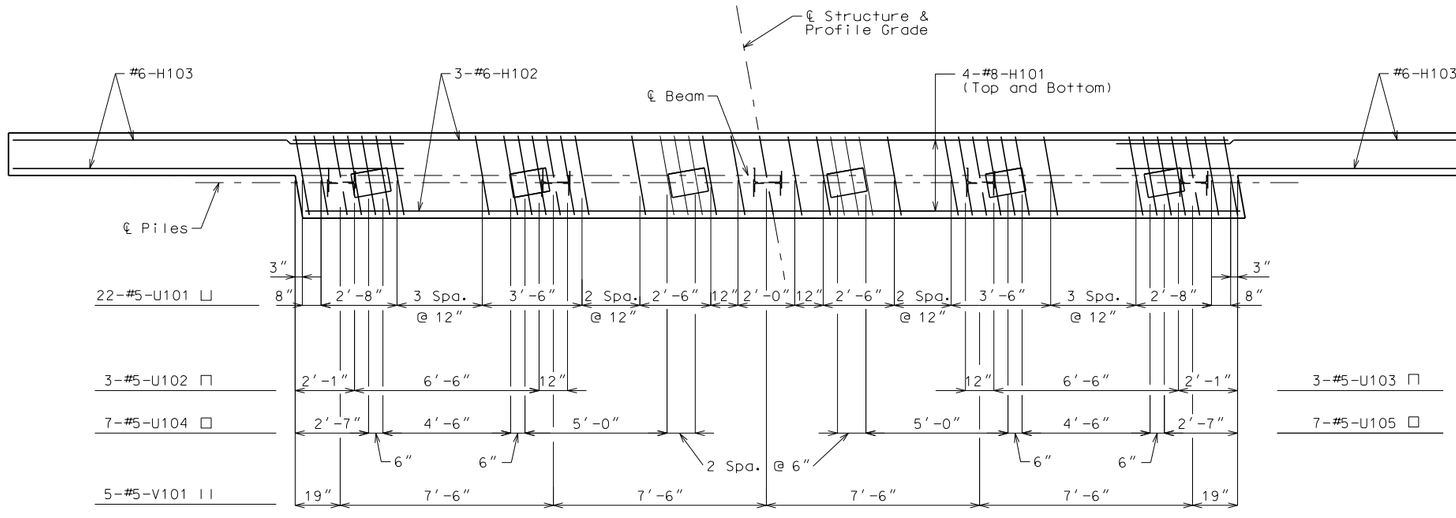


TYPICAL SECTION THRU KEY



TYPICAL PLAN OF BEARINGS

6 Required



PLAN OF BEAM SHOWING REINFORCEMENT

Notes:

Work this Sheet with Sheets No. 4 and 5.

For details of Pile Anchors, see Sheet No. 2.

For details of Vertical Drain at End Bents, see Sheet No. 6.

Reinforcing steel shall be shifted to clear piles. U bars shall clear piles by at least 1½″.

The U-Bars, Pairs V-Bars shall be placed parallel to centerline of roadway.

Substructure Quantity Table for End Bent No. 1		
Item		Quantity
Class 1 Excavation	cu. yard	67
Structural Steel Pile (10 in.)	linear foot	120
Pre-Bore For Piling	linear foot	110
Pile Point Reinforcement	each	5
Class B Concrete (substructure)	cu. yard	20.8

PLAN DETAILS - END BENT NO. 1

Detailed Oct 2019
Checked Oct 2019

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STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24698
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED 3/11/2020
STATE MO
SHEET NO. 14
ROUTE CHARTER CHURCH
COUNTY JEFFERSON
JOB NO. 17-6026
PROJECT NO. STP-5403 (673)
BRIDGE NO. 35500101

DESCRIPTION
DATE

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ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

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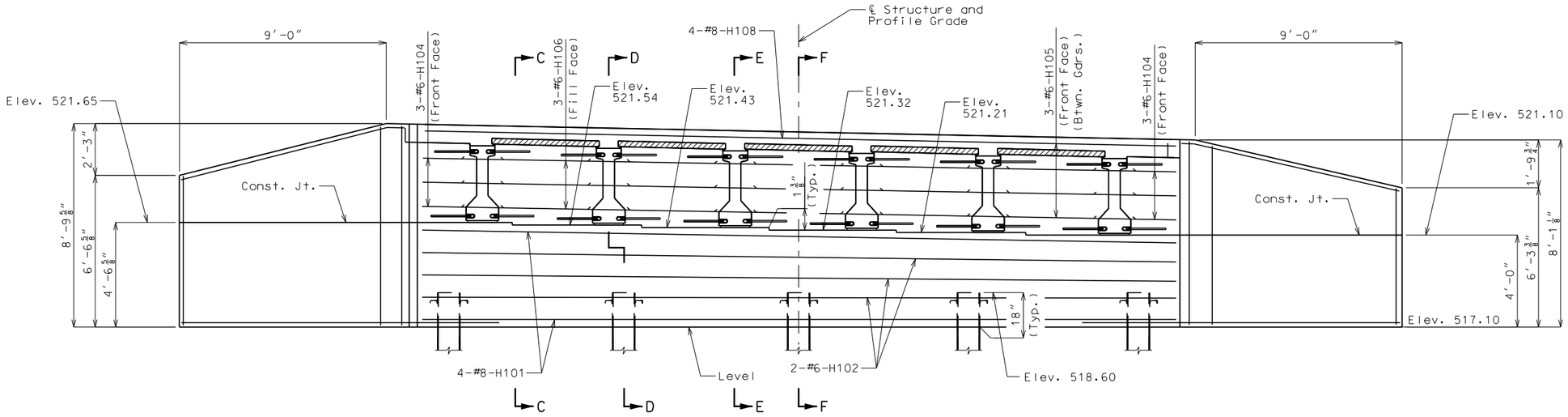
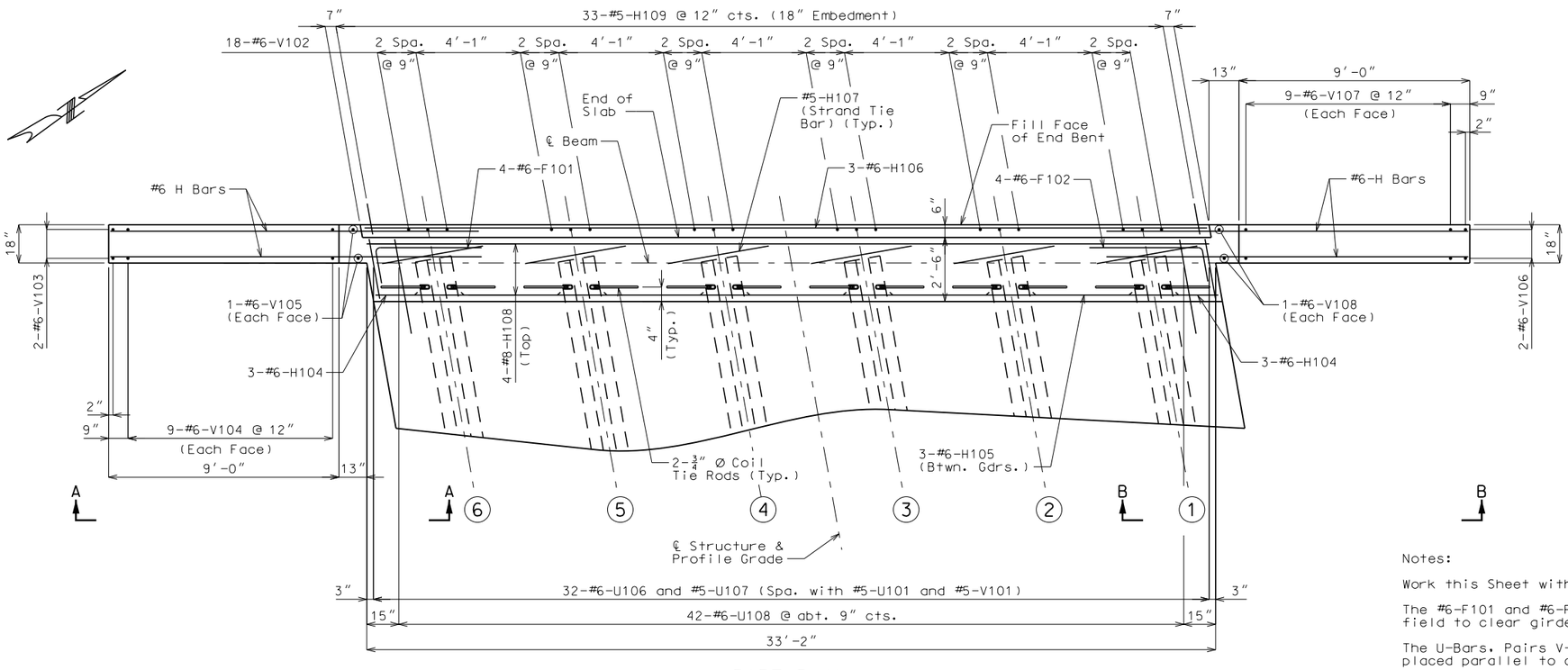


SECTION NEAR END BENT

(Looking Back Station)

Note: Construction joint key 6″x 3″ not shown.



PART PLAN

DETAILS OF END BENT NO. 1

Notes:

Work this Sheet with Sheets No. 3 and 5.

The #6-F101 and #6-F102 bars shall be bent in the field to clear girders.

The U-Bars, Pairs V-Bars and #5-H109 bars shall be placed parallel to centerline of roadway.

All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

Strands at end of the girders shall be field bent or, if necessary, cut in field to maintain 1½″ minimum clearance to fill face of end bent.

Detailed Oct 2019
Checked Oct 2019

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STEPHEN ALSBURY
NUMBER E-24698
REGISTERED PROFESSIONAL ENGINEER

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DATE PREPARED
3/11/2020

STATE	SHEET NO.
MO	1-5

ROUTE
CHARTER CHURCH

COUNTY
JEFFERSON

JOB NO.
17-6026

PROJECT NO.
STP-5403 (673)

BRIDGE NO.
35500101

DATE	DESCRIPTION	REV.

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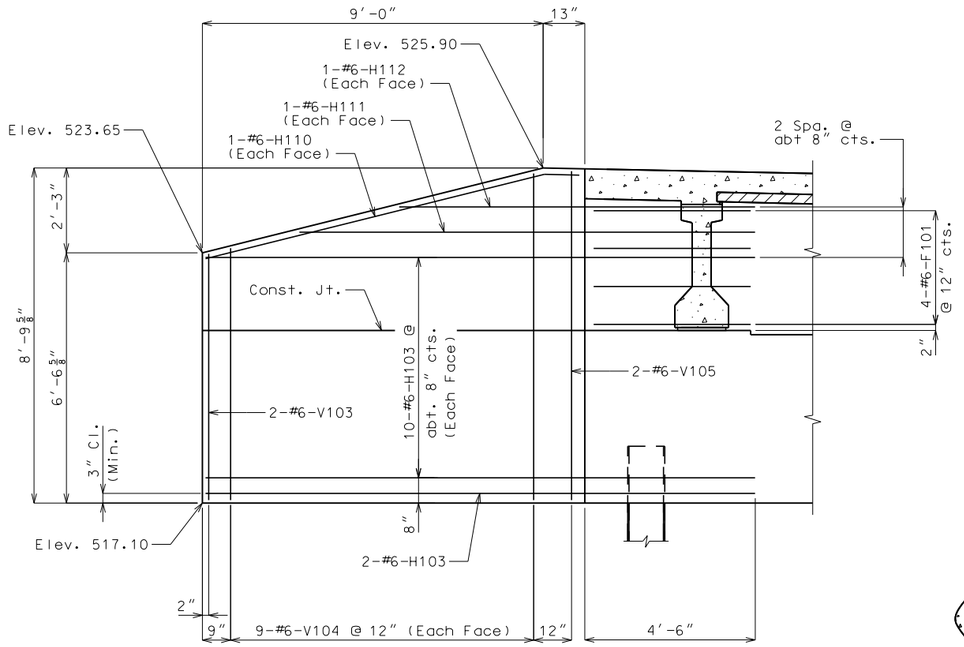
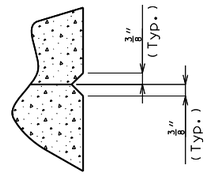
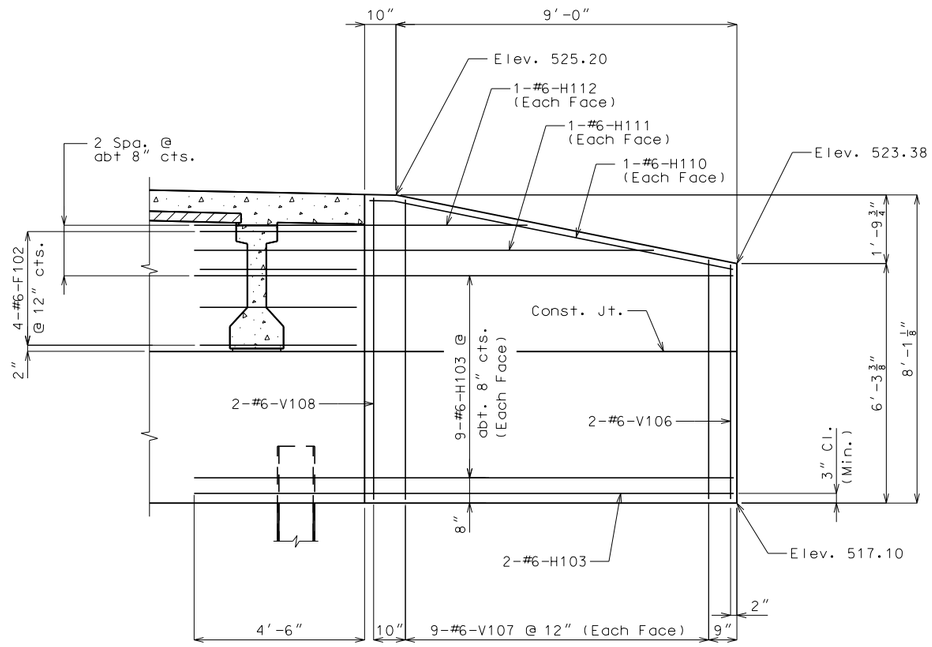
CERTIFICATE/LICENSE NO. 001501



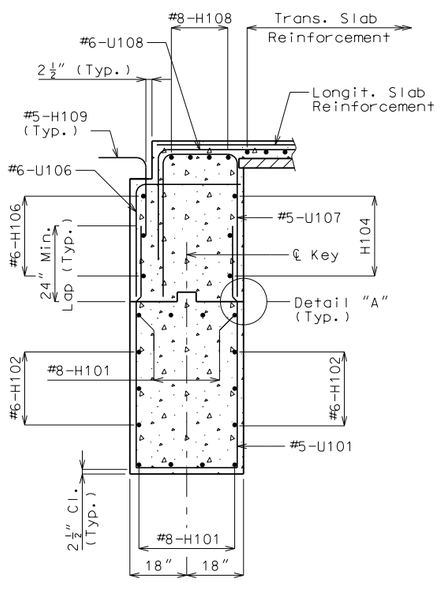
ELEVATION A-A



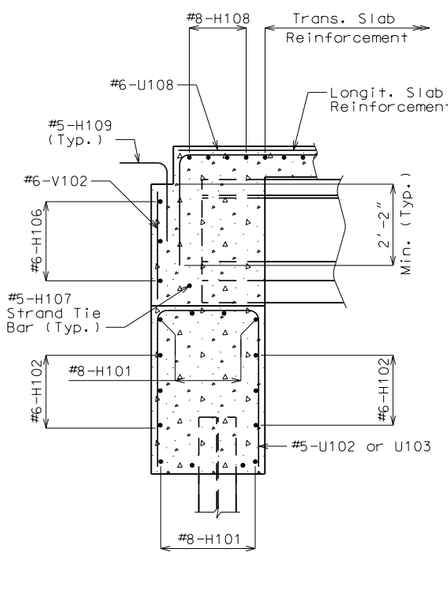
DETAIL "A"



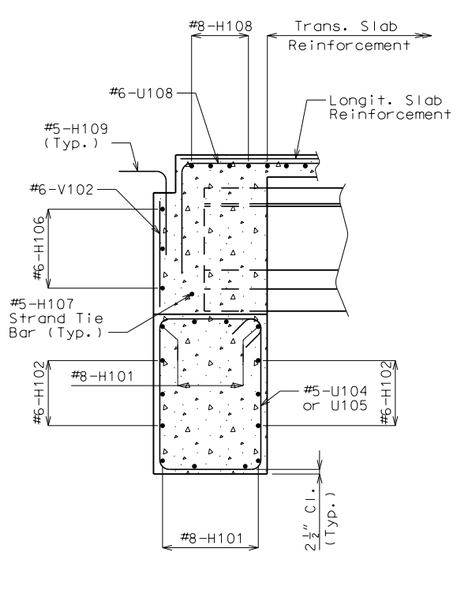
ELEVATION B-B



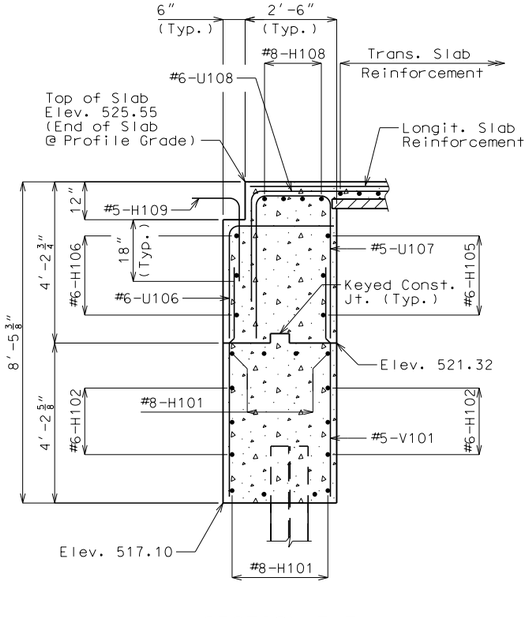
SECTION C-C



SECTION D-D



SECTION E-E



SECTION F-F

SECTIONS OF END BENT NO. 1

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

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STEPHEN ALSBURY
NUMBER E-24698
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED
3/11/2020

STATE	SHEET NO.
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ROUTE
CHARTER CHURCH

COUNTY
JEFFERSON

JOB NO.
17-6026

PROJECT NO.
STP-5403 (673)

BRIDGE NO.
35500101

DESCRIPTION

DATE

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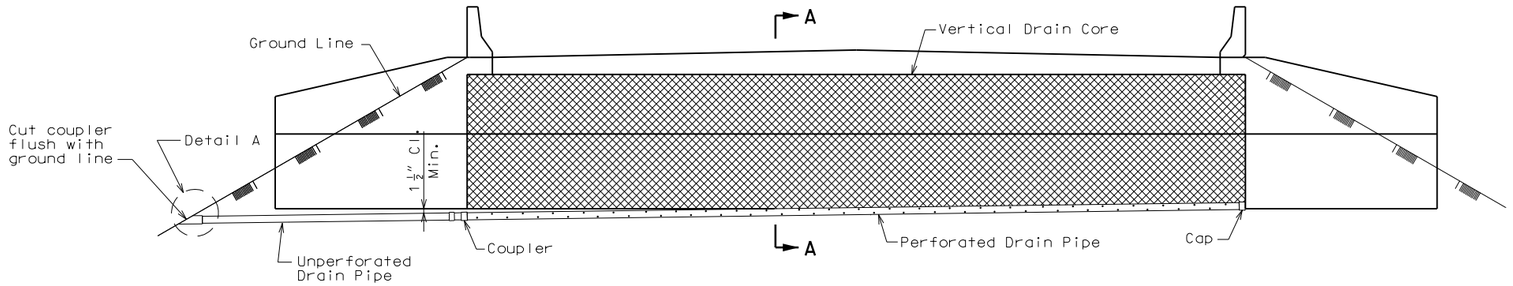
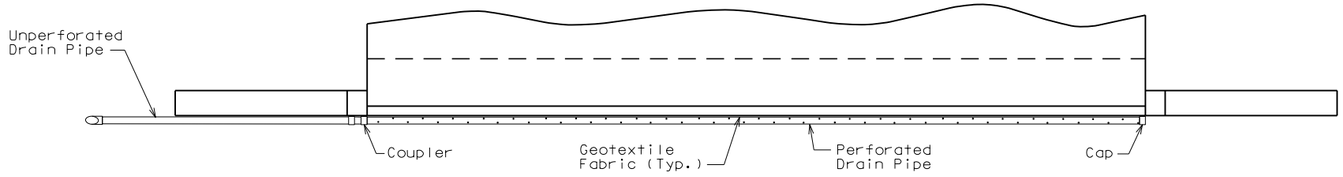
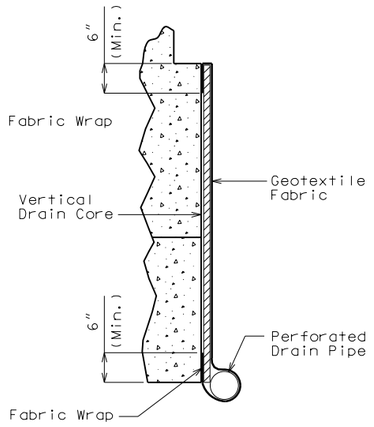


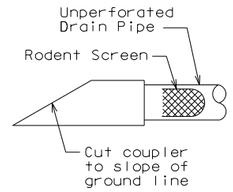
ELEVATION OF END BENT



PLAN OF END BENT



PART SECTION A-A



DETAIL A

General Notes:

All drain pipe shall be sloped 1 to 2 percent.

Drain pipe may be either 6-inch diameter corrugated metallic-coated steel pipe underdrain, 4-inch diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4-inch diameter corrugated polyethylene (PE) drain pipe.

Drain pipe shall be placed at fill face of end bent and inside face of wings. The pipe shall slope to lowest grade of ground line, also missing the lower beam of end bent by a minimum of 1 1/2 inches.

Perforated pipe shall be placed at fill face side and inside face of wings at the bottom of end bent and plain pipe shall be used where the vertical drain ends to the exit at ground line.

VERTICAL DRAIN AT END BENTS

(Squared end bent shown, skewed end bent similar)

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

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STEPHEN ALSBURY
NUMBER E-24698
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED
3/11/2020

STATE	SHEET NO.
MO	1-7

ROUTE
CHARTER CHURCH

COUNTY
JEFFERSON

JOB NO.
17-6026

PROJECT NO.
STP-5403 (673)

BRIDGE NO.
35500101

DATE	DESCRIPTION	REV.

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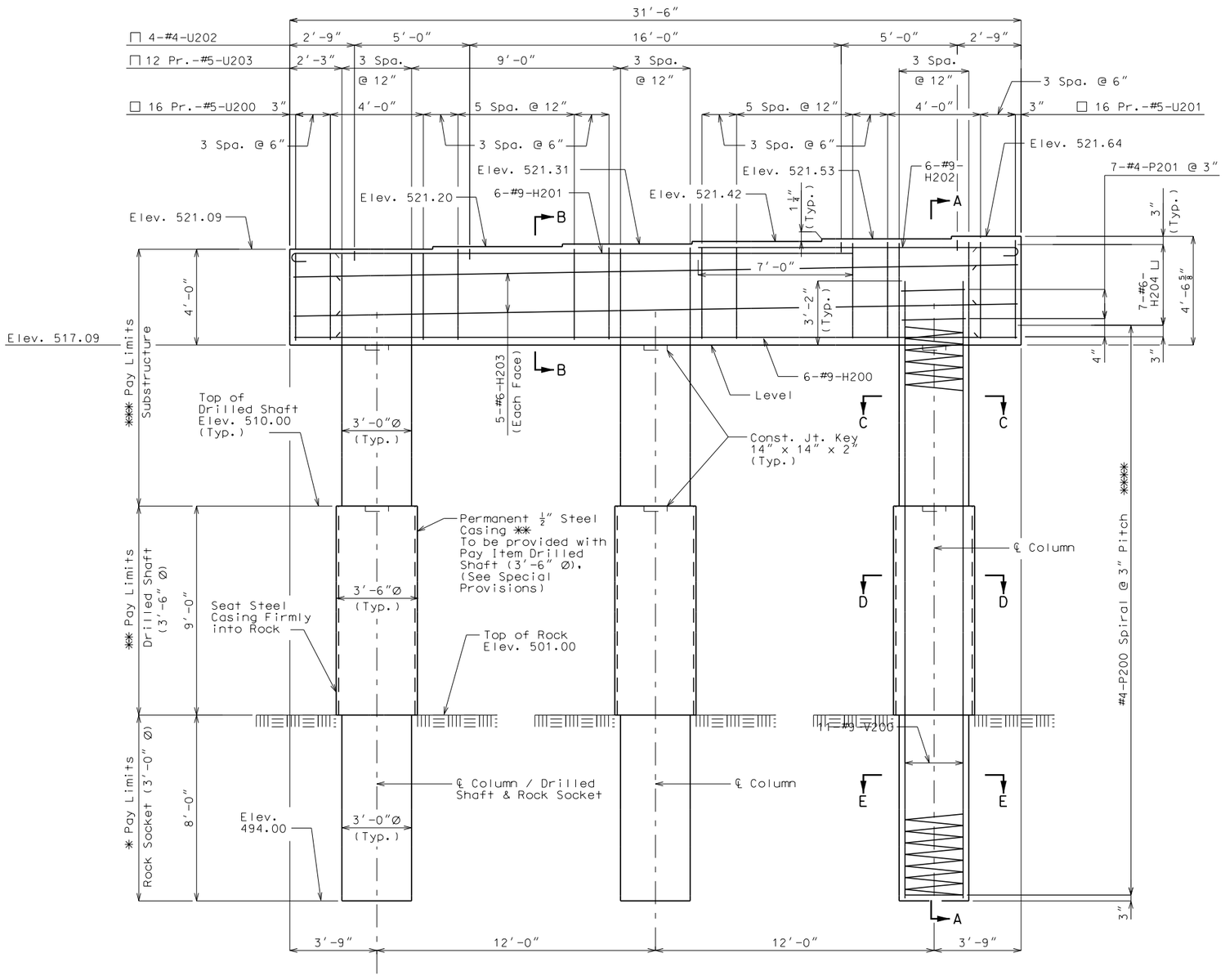
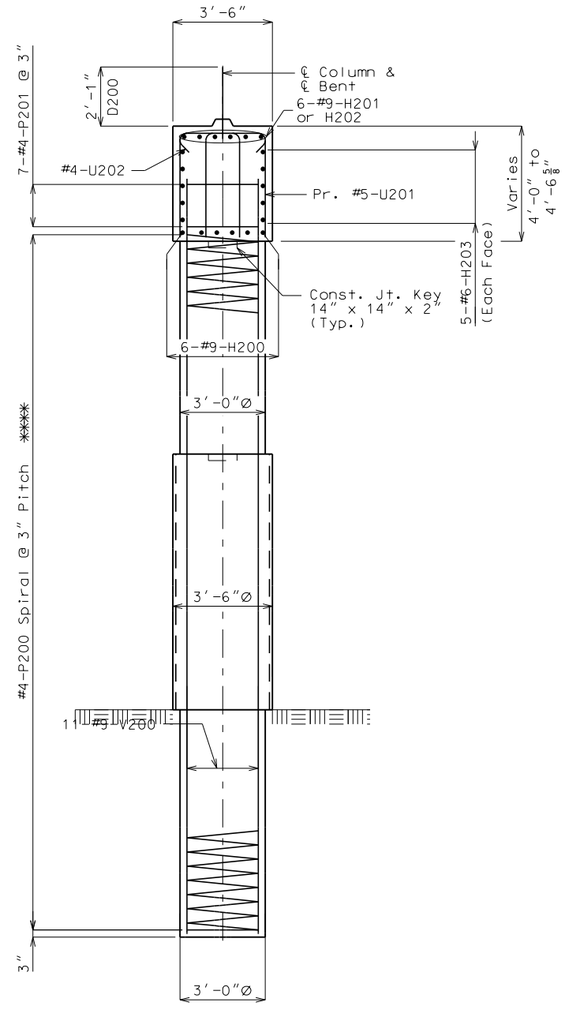


ELEVATION

(Looking ahead Station)

Note: 6″x3″ Key not shown for clarity.



SECTION A-A

Notes:

For details of Intermediate Bent No. 2 not shown, see Sheets No. 8 and 9.

For Substructure Quantity Table for Bent No. 2, see Sheet No. 9.

✳ Indicates Pay Limits for Rock Socket (3′-0″ Ø)

✳✳ Indicates Pay Limits for Drilled Shaft (3′-6″ Ø) (Permanent Casing to be Provided)

✳✳✳ Indicates Pay limits for Substructure

✳✳✳✳ The spiral bars shall be continued for a distance of 1½″ from the column connection into the beam cap.

DETAILS OF INTERMEDIATE BENT NO. 2

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

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STEPHEN ALSBURY
NUMBER E-24698
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED 3/11/2020
STATE MO
SHEET NO. 1-8
ROUTE CHARTER CHURCH
COUNTY JEFFERSON
JOB NO. 17-6026
PROJECT NO. STP-5403 (673)
BRIDGE NO. 35500101

DATE	DESCRIPTION	REV.
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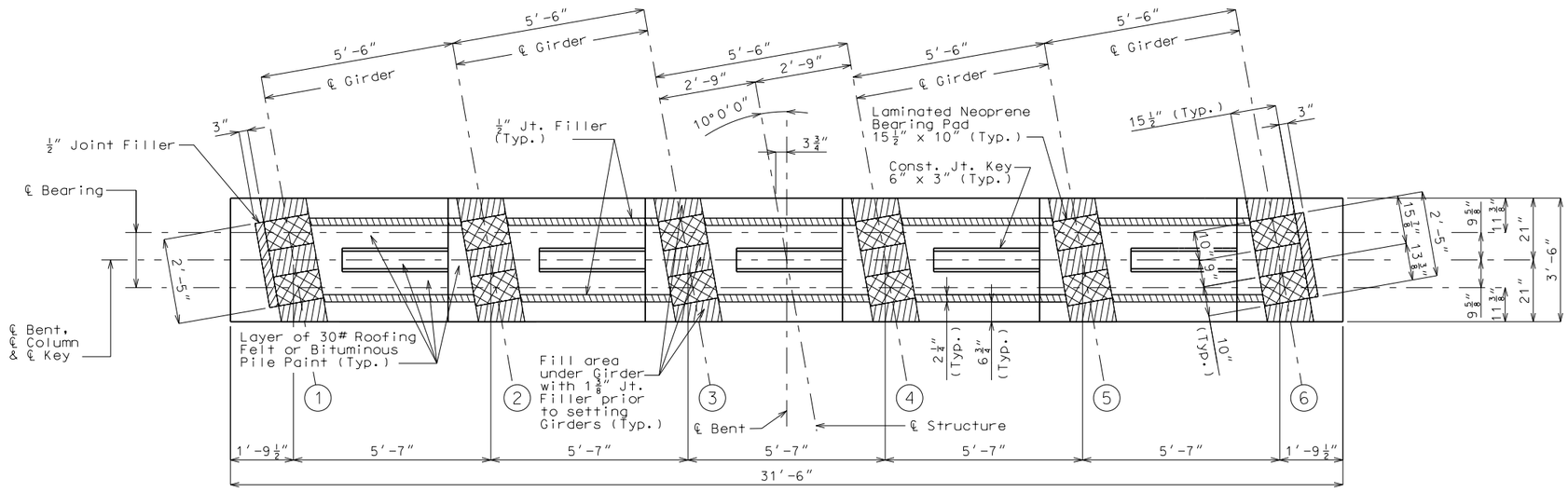
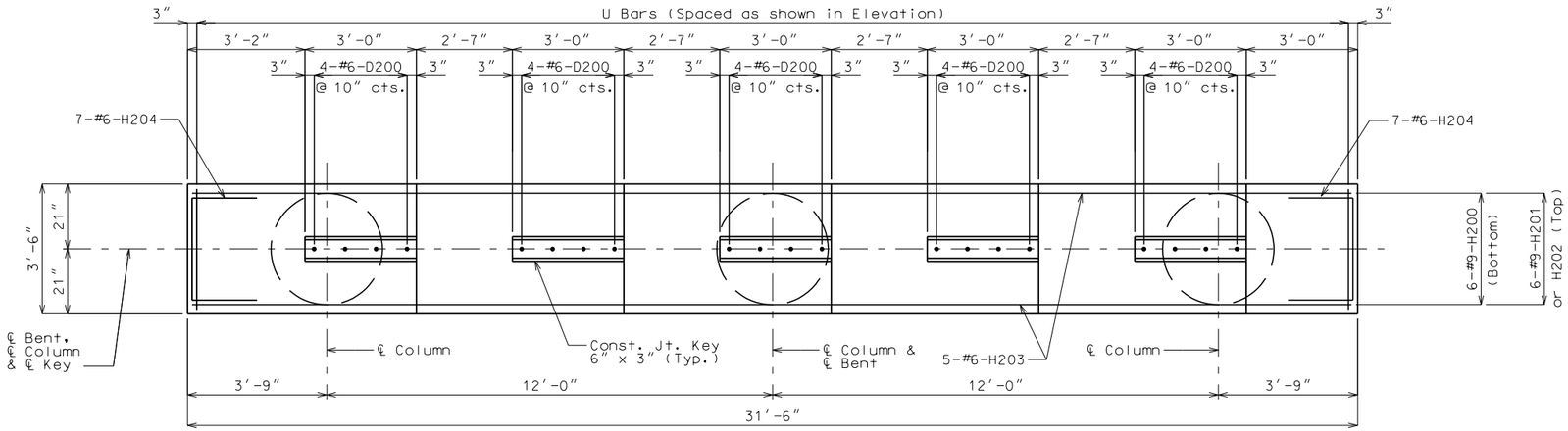
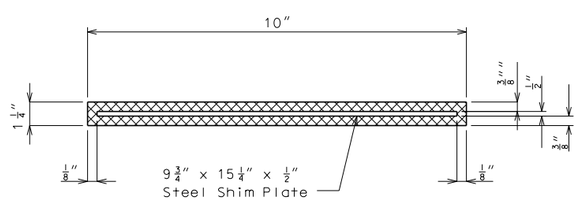


PART PLAN OF BEAM



PART PLAN SHOWING REINFORCEMENT



TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PAD
(12 Required)

Notes:

For details of Intermediate Bent No. 2 not shown, see Sheet No. 7 and 9.

DETAILS OF INTERMEDIATE BENT NO. 2

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
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NUMBER E-24698
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED
3/11/2020

STATE	SHEET NO.
MO	1-9

ROUTE
CHARTER CHURCH

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JEFFERSON

JOB NO.
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PROJECT NO.
STP-5403 (673)

BRIDGE NO.
35500101

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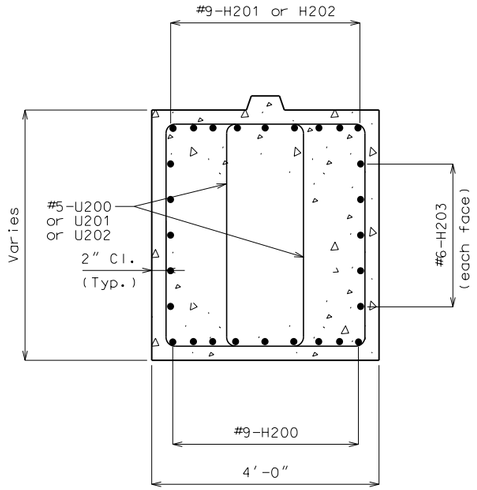
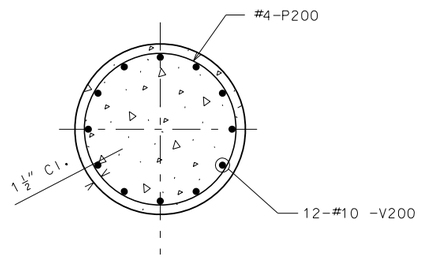
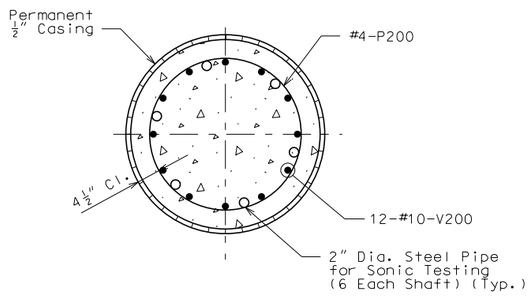


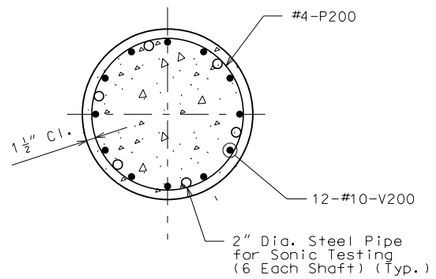
SECTION B-B



SECTION C-C

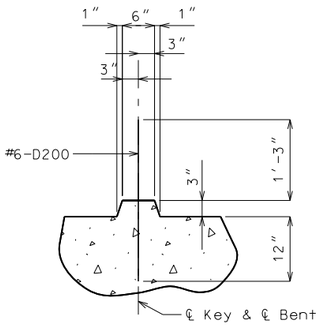


SECTION D-D

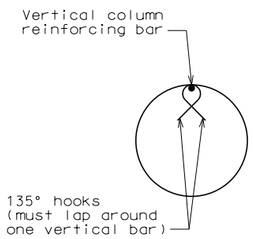


SECTION E-E

Note: Steel pipe shall be placed as shown from bottom of shaft to 12" above permanent casing.



TYPICAL SECTION
THRU KEY



DETAIL OF SEISMIC
STIRRUP BAR

Substructure Quantity Table for Bent No. 2		
Item		Quantity
Drilled Shafts (3'-6" Dia.)	linear foot	27.0
Rock Sockets (3'-0" Dia.)	linear foot	24.0
Supplementary Television Camera Inspection	each	3
Foundation Test Holes	linear foot	30
Sonic Logging Testing	each	3
Class B Concrete (substructure)	cu. yard	23.1
✳ Reinforcing Steel (Bridges)	lbs.	8320

Cost of any excavation required for construction of Drilled Shafts will be considered completely covered by the Contract Unit Price for Drilled Shafts (3'-6" Dia.)

Note:
These quantities are included in the estimated quantities table on sheet no. 2.

✳ All reinforcement in the Drilled Shafts and Rock Sockets are included in the Substructure Quantities. An additional 4 feet has been added to V-bar lengths and an additional 6-#4P201 bars have been added in the quantities, if required, for possible change in drilled shaft or rock socket length. The additional V-bar length shall be cut off or included in the reinforcement lap if not required. The additional P-bars shall be spaced similarly to that shown in elevation, if required, or to a lesser spacing if not required, but not less than 6" cts.

The contract unit price for "Drilled Shafts (3'-6" Ø)" shall be full compensation for construction of the drilled shafts including Class B2 Concrete and Permanent Casing within the pay limits shown here and Sheet No. 2. The contract price does not include reinforcing steel.

Thickness of Permanent Steel Casing shall be ½" in accordance with Sec. 701.

The contract unit price for "Rock Sockets (3'-0" Ø)" shall be full compensation for construction of the rock sockets including Class B2 Concrete within the pay limits shown here and Sheet No. 2. The contract price does not include reinforcing steel.

Sonic logging testing shall be performed on all drilled shafts and rock sockets.

Concrete Coring, if needed, will be per Standard Specifications Section 109.15 Fixed Cost Items.

DETAILS OF INTERMEDIATE BENT NO. 2

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

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NUMBER E-24698
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED 3/11/2020
STATE MO | SHEET NO. 20
ROUTE CHARTER CHURCH
COUNTY JEFFERSON
JOB NO. 17-6026
PROJECT NO. STP-5403 (673)
BRIDGE NO. 35500101

DATE | DESCRIPTION | REV.

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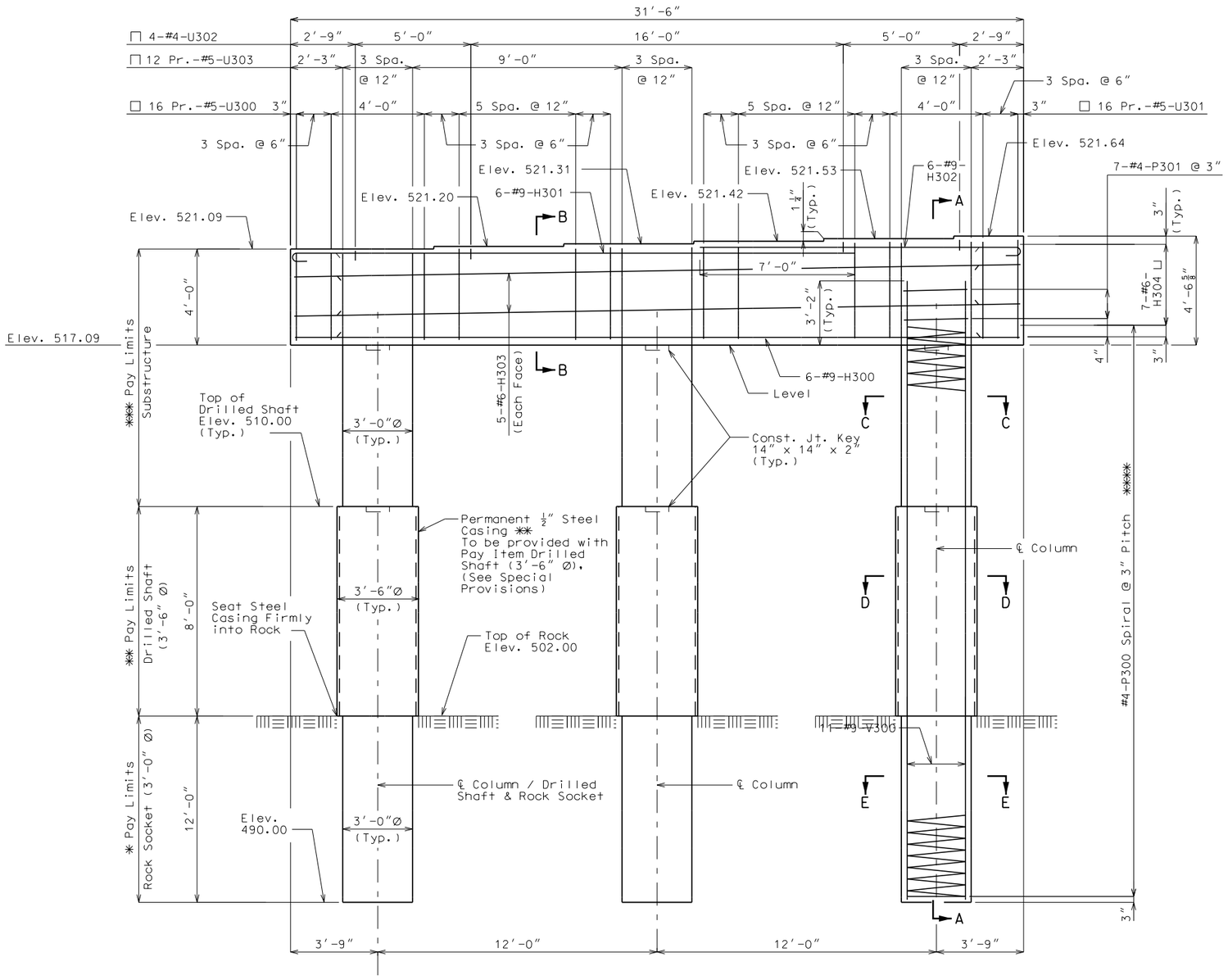
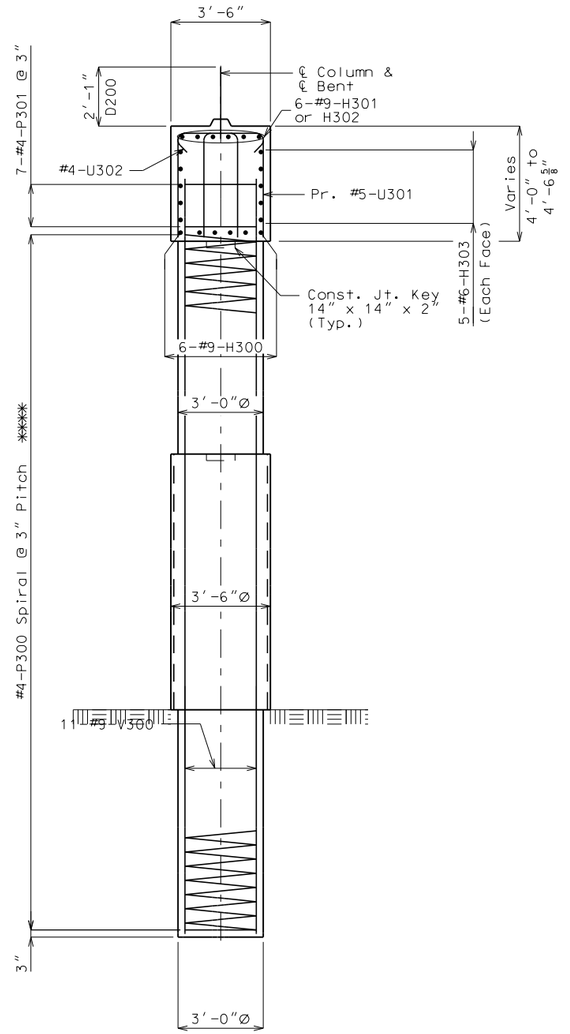


ELEVATION

(Looking ahead Station)

Note: 6″x3″ Key not shown for clarity.



SECTION A-A

Notes:

For details of Intermediate Bent No. 3 not shown, see Sheets No. 11 and 12.

For Substructure Quantity Table for Bent No. 3, see Sheet No. 9.

✳ Indicates Pay Limits for Rock Socket (3′-0″ Ø)

✳✳ Indicates Pay Limits for Drilled Shaft (3′-6″ Ø) (Permanent Casing to be Provided)

✳✳✳ Indicates Pay limits for Substructure

✳✳✳✳ The spiral bars shall be continued for a distance of 1½″ from the column connection into the beam cap.

DETAILS OF INTERMEDIATE BENT NO. 3

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
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3/11/2020

STATE MO | SHEET NO. 21

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17-6026

PROJECT NO.
STP-5403 (673)

BRIDGE NO.
35500101

DATE	DESCRIPTION
.	.

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

JEFFERSON COUNTY PUBLIC WORKS
DEPARTMENT
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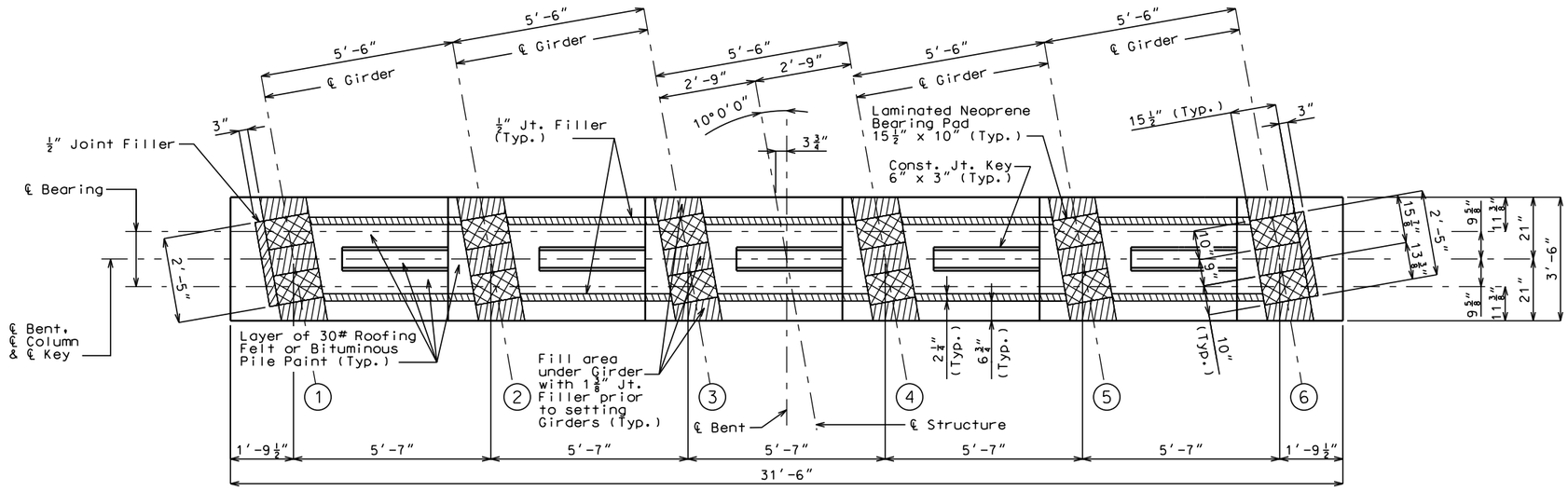
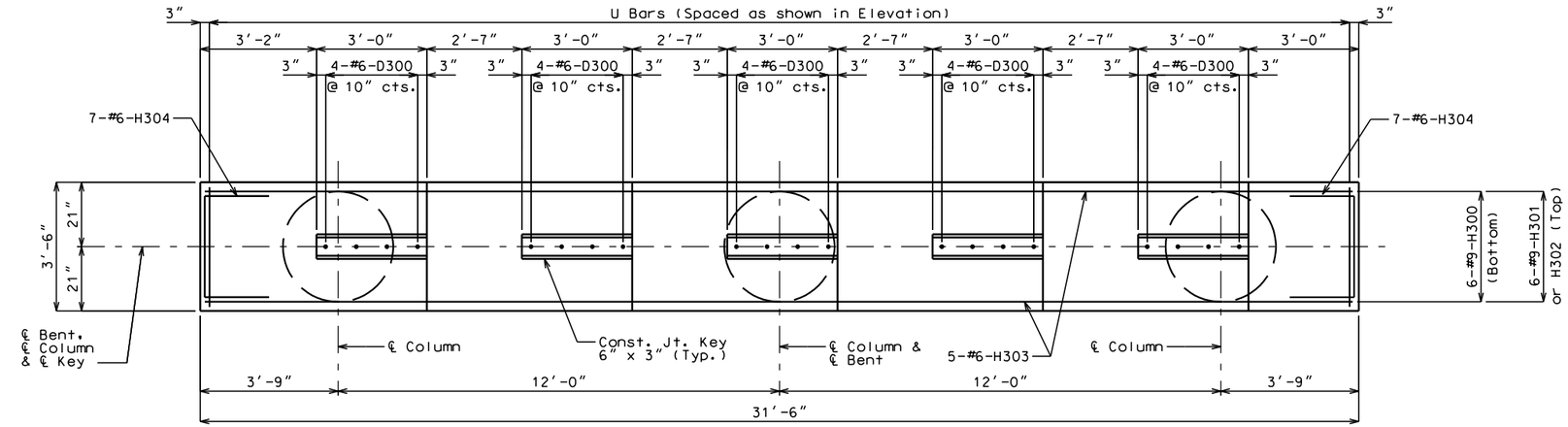
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

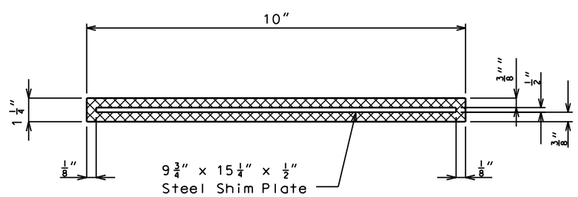
REV.



PART PLAN OF BEAM



PART PLAN SHOWING REINFORCEMENT



TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PAD
(12 Required)

Notes:
For details of Intermediate Bent No. 3 not shown, see Sheet No. 10 and 12.

DETAILS OF INTERMEDIATE BENT NO. 3

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24698
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED
3/11/2020

STATE	SHEET NO.
MO	22

ROUTE
CHARTER CHURCH

COUNTY
JEFFERSON

JOB NO.
17-6026

PROJECT NO.
STP-5403 (673)

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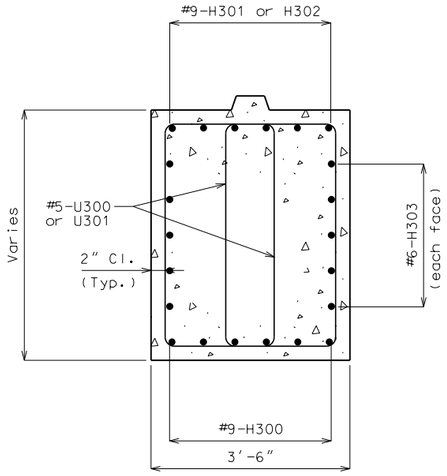
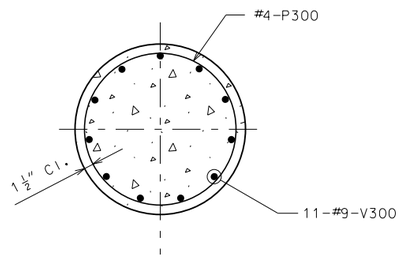
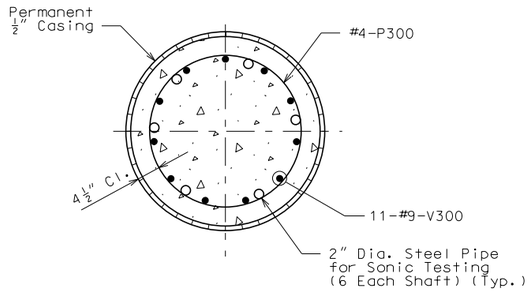


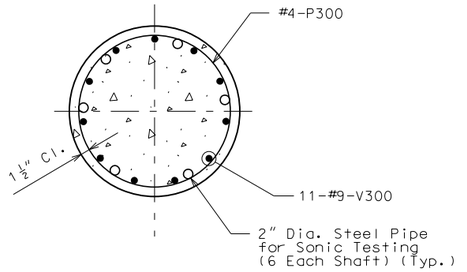
SECTION B-B



SECTION C-C

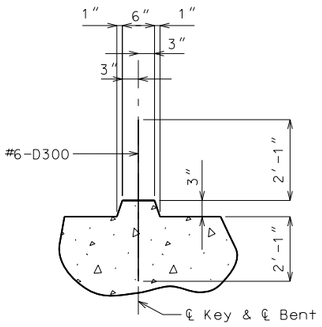


SECTION D-D

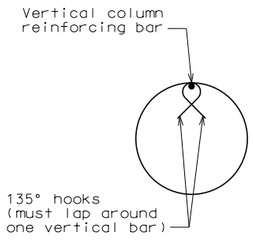


SECTION E-E

Note: Steel pipe shall be placed as shown from bottom of shaft to 12" above permanent casing.



TYPICAL SECTION
THRU KEY



DETAIL OF SEISMIC
STIRRUP BAR

Substructure Quantity Table for Bent No. 3

	Item		Quantity
	Drilled Shafts (3'-6" Dia.)	linear foot	24.0
	Rock Sockets (3'-0" Dia.)	linear foot	36.0
	Supplementary Television Camera Inspection	each	3
	Foundation Test Holes	linear foot	30
	Sonic Logging Testing	each	3
	Class B Concrete (substructure)	cu. yard	23.1
*	Reinforcing Steel (Bridges)	lbs.	8820

Cost of any excavation required for construction of Drilled Shafts will be considered completely covered by the Contract Unit Price for Drilled Shafts (3'-6" Dia.)

Note:
These quantities are included in the estimated quantities table on sheet no. 2.

* All reinforcement in the Drilled Shafts and Rock Sockets are included in the Substructure Quantities. An additional 4 feet has been added to V-bar lengths and an additional 6-#4P301 bars have been added in the quantities, if required, for possible change in drilled shaft or rock socket length. The additional V-bar length shall be cut off or included in the reinforcement lap if not required. The additional P-bars shall be spaced similarly to that shown in elevation, if required, or to a lesser spacing if not required, but not less than 6" cts.

The contract unit price for "Drilled Shafts (3'-6" Ø)" shall be full compensation for construction of the drilled shafts including Class B2 Concrete and Permanent Casing within the pay limits shown here and Sheet No. 2. The contract price does not include reinforcing steel.

Thickness of Permanent Steel Casing shall be ½" in accordance with Sec. 701.

The contract unit price for "Rock Sockets (3'-0" Ø)" shall be full compensation for construction of the rock sockets including Class B2 Concrete within the pay limits shown here and Sheet No. 2. The contract price does not include reinforcing steel.

Sonic logging testing shall be performed on all drilled shafts and rock sockets.

Concrete Coring, if needed, will be per Standard Specifications Section 109.15 Fixed Cost Items.

DETAILS OF INTERMEDIATE BENT NO. 3

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24698
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED
3/11/2020

STATE	SHEET NO.
MO	23

ROUTE
CHARTER CHURCH

COUNTY
JEFFERSON

JOB NO.
17-6026

PROJECT NO.
STP-5403 (673)

BRIDGE NO.
35500101

DATE	DESCRIPTION

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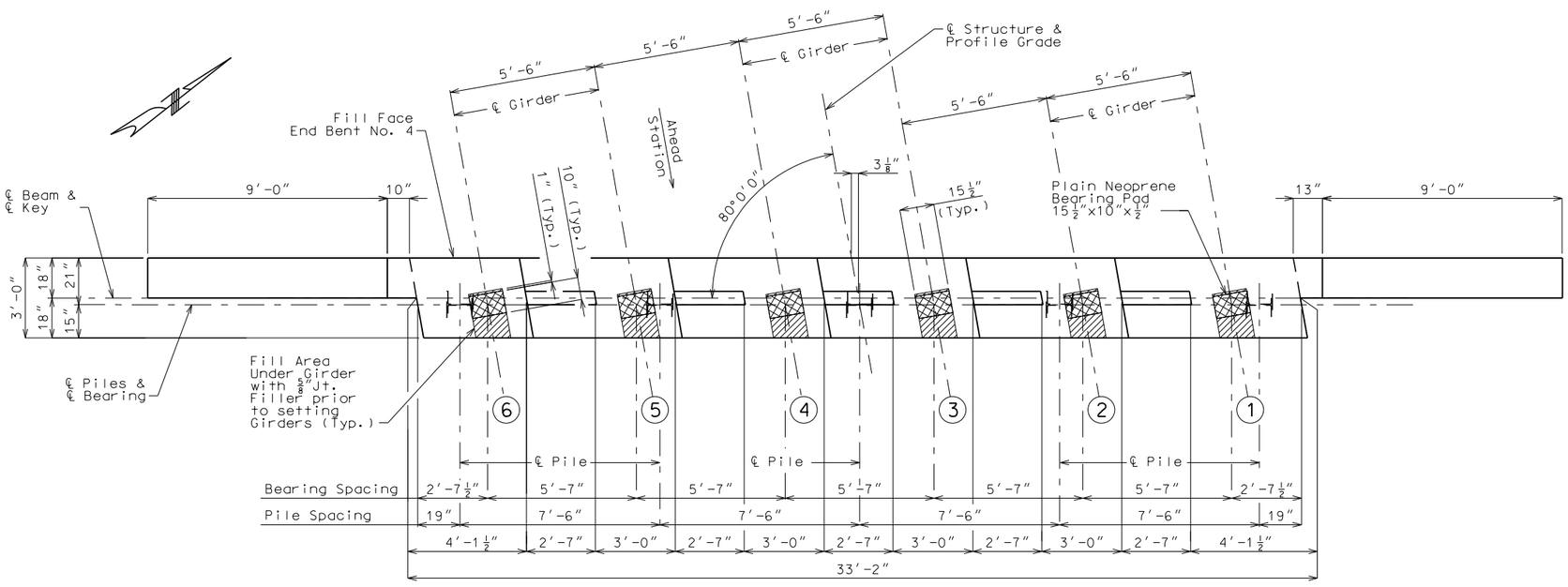
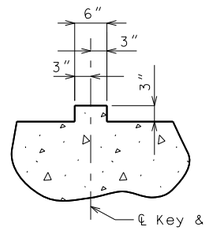
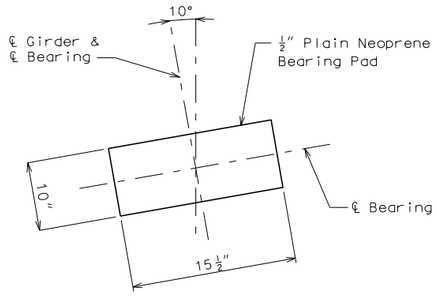


PLAN OF BEAM SHOWING DIMENSIONS

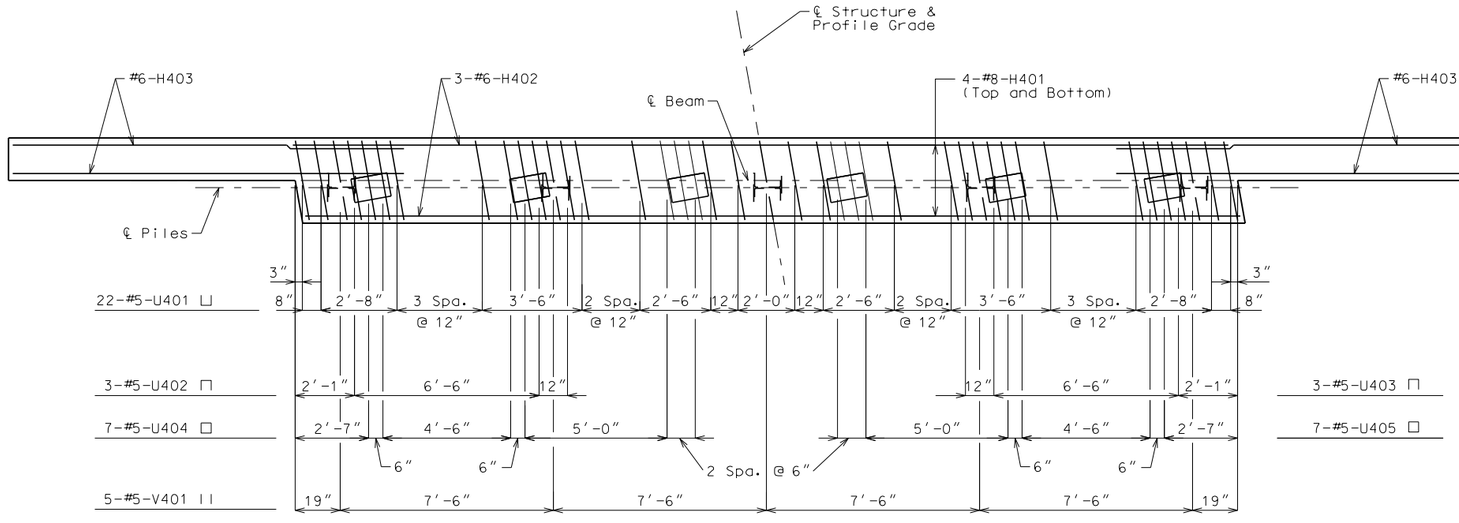


TYPICAL SECTION THRU KEY



TYPICAL PLAN OF BEARINGS

6 Required



PLAN OF BEAM SHOWING REINFORCEMENT

Notes:

Work this Sheet with Sheets No. 14 and 15.

For details of Pile Anchors, see Sheet No. 2.

For details of Vertical Drain at End Bents, see Sheet No. 6.

Reinforcing steel shall be shifted to clear piles. U bars shall clear piles by at least 1½″.

The U-Bars, Pairs V-Bars shall be placed parallel to centerline of roadway.

Substructure Quantity Table for End Bent No. 4		
Item		Quantity
Class 1 Excavation	cu. yard	63
Structural Steel Pile (10 in.)	linear foot	105
Pre-Bore For Piling	linear foot	95
Pile Point Reinforcement	each	5
Class B Concrete (substructure)	cu. yard	20.8

PLAN DETAILS - END BENT NO. 4

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24698
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED 3/11/2020
STATE MO
SHEET NO. 24
ROUTE CHARTER CHURCH
COUNTY JEFFERSON
JOB NO. 17-6026
PROJECT NO. STP-5403 (673)
BRIDGE NO. 35500101

DESCRIPTION
DATE

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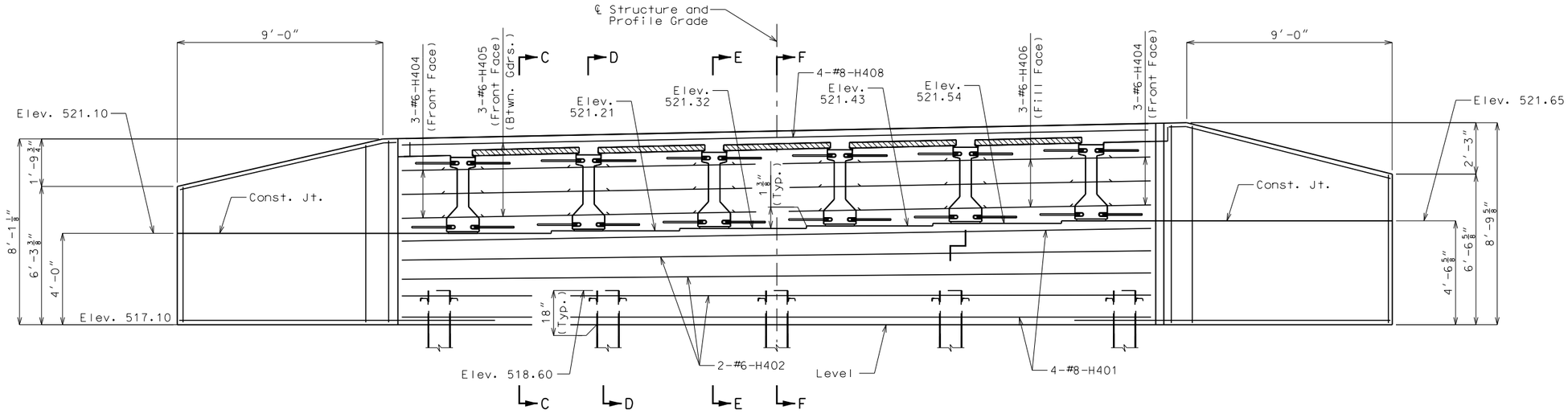
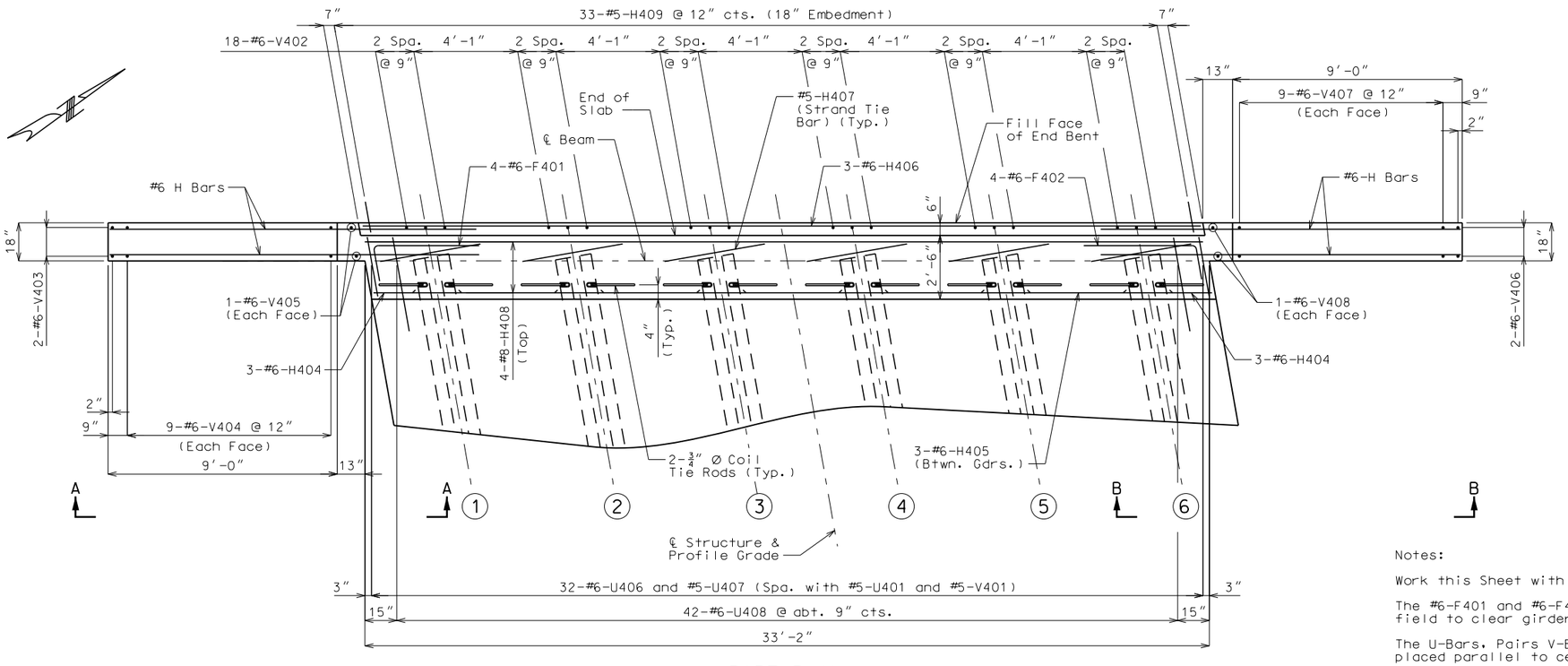


SECTION NEAR END BENT

(Looking Back Station)

Note: Construction joint key 6″x3″ not shown.



PART PLAN

DETAILS OF END BENT NO. 4

Notes:

Work this Sheet with Sheets No. 13 and 15.

The #6-F401 and #6-F402 bars shall be bent in the field to clear girders.

The U-Bars, Pairs V-Bars and #5-H409 bars shall be placed parallel to centerline of roadway.

All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

Strands at end of the girders shall be field bent or, if necessary, cut in field to maintain 1½″ minimum clearance to fill face of end bent.

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24698
REGISTERED PROFESSIONAL ENGINEER

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MO	25

ROUTE CHARTER CHURCH

COUNTY JEFFERSON

JOB NO. 17-6026

PROJECT NO. STP-5403 (673)

BRIDGE NO. 35500101

DATE	DESCRIPTION	REV.

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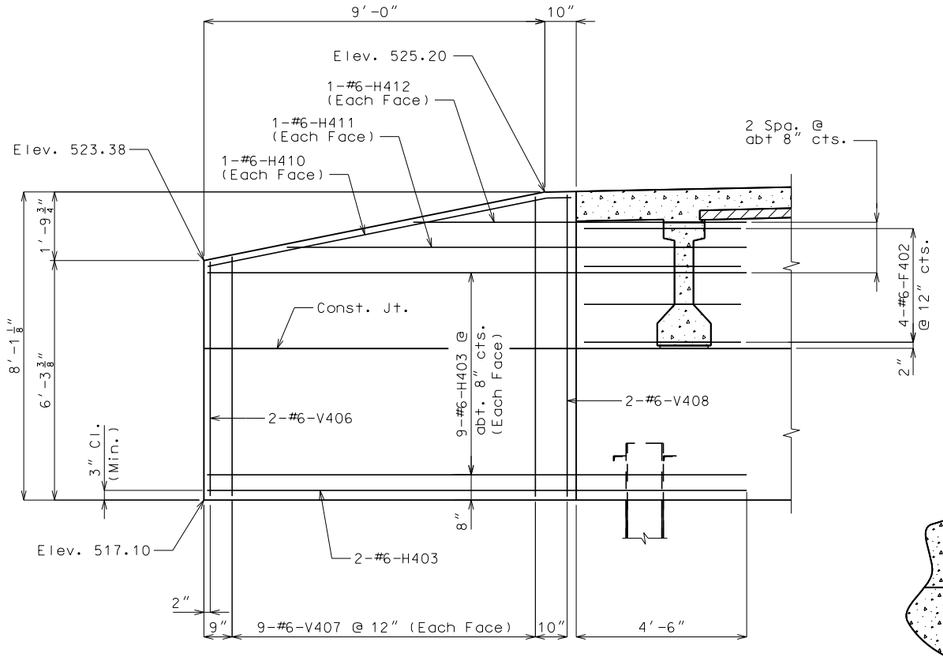
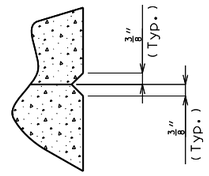
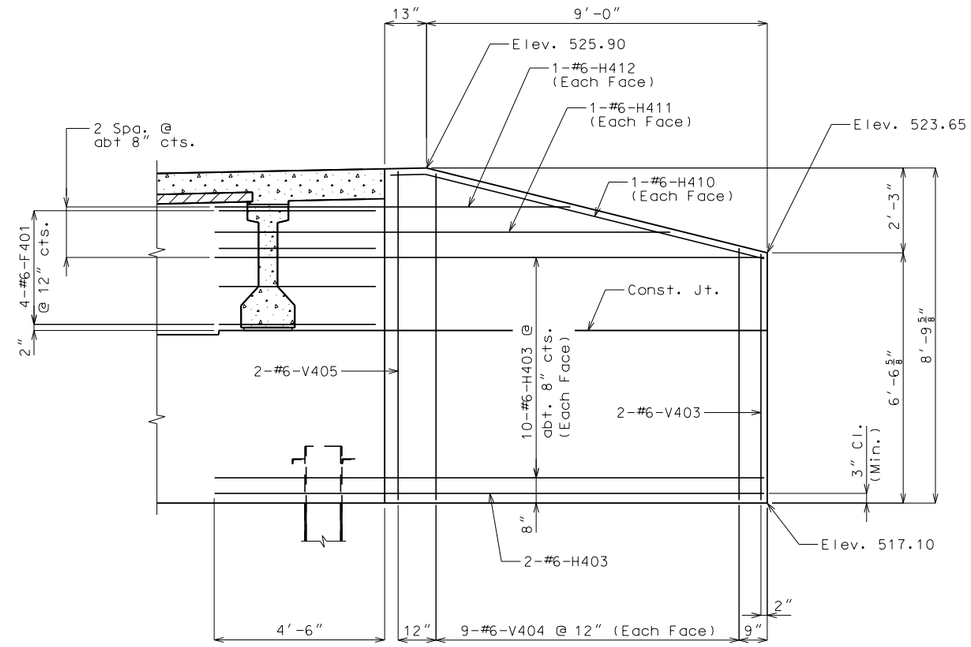


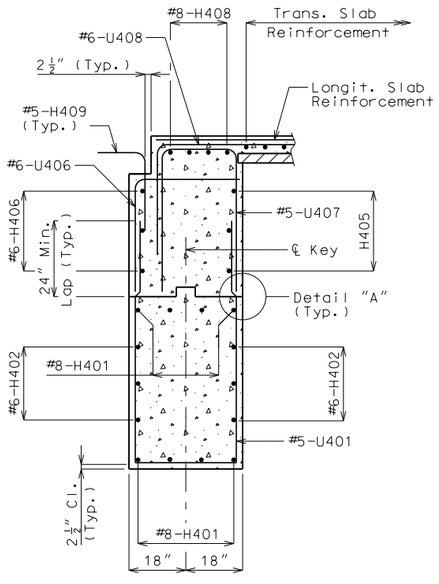
ELEVATION A-B



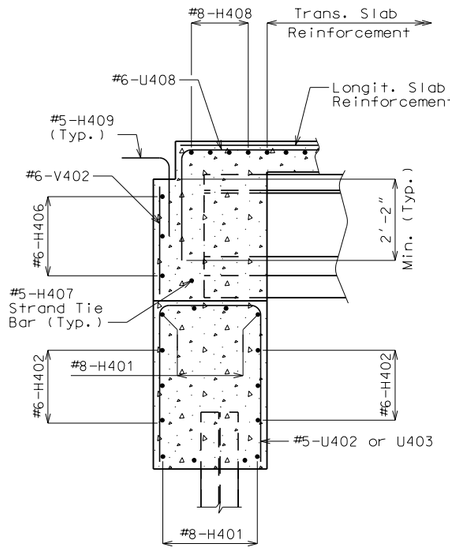
DETAIL "A"



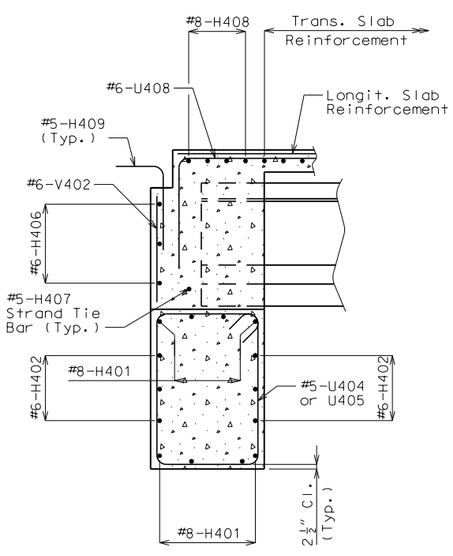
ELEVATION B-B



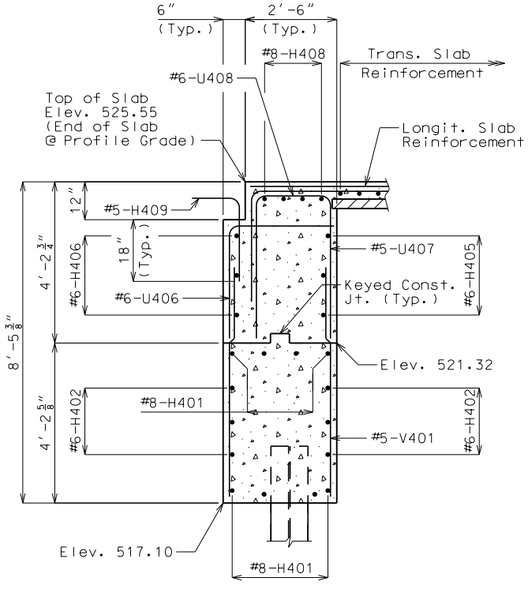
SECTION C-C



SECTION D-D



SECTION E-E



SECTION F-F

SECTIONS OF END BENT NO. 4

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

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STATE OF MISSOURI
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REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED
3/11/2020

STATE MO | SHEET NO. 26

ROUTE
CHARTER CHURCH

COUNTY
JEFFERSON

JOB NO.
17-6026

PROJECT NO.
STP-5403 (673)

BRIDGE NO.
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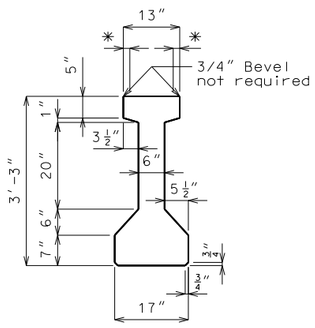
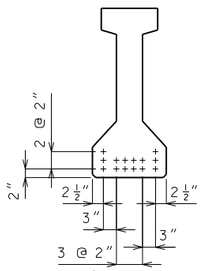
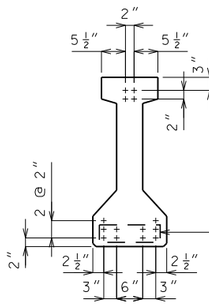


GIRDER DIMENSIONS



℄ GIRDER



END OF GIRDER

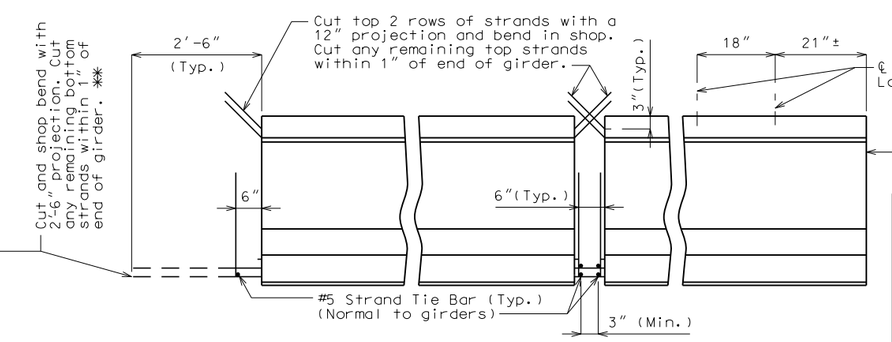
STRAND ARRANGEMENTS

Concrete for prestressed girders shall be Class A-1 with f'c = 7000 psi and f'ci = 5000 psi.

(+) indicates prestressing strand.

Use 14 strands with an initial prestress force of 434 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter in accordance with AASHTO M 203, Grade 270. Pretensioned members shall be in accordance with Sec 1029.



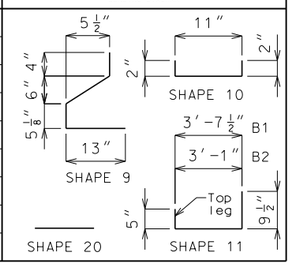
END BENT INTERMEDIATE BENT

STRAND DETAILS AT GIRDER ENDS

Fabricator shall be responsible for location and design of lifting devices.

LOCATION OF LIFTING LOOPS

BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM
2	6 A1	50'-5"	20	
168	5 B1	4'-8"	11	
16	6 B2	4'-0"	11	
92	4 C1	13"	10	
184	4 D1	2'-5"	9	



* At contractor's option a 1 1/2" to 1 3/4" smooth finish strip is permitted to facilitate placement of preformed fiber expansion joint material or expanded or extruded polystyrene bedding material for the prestressed panels.

** At the contractor's option the location for bent-up strands may be varied from that shown for fully bonded strands only. The total number of bent-up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.

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.

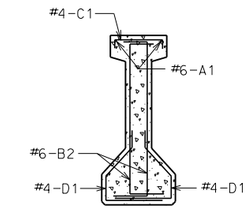
Actual lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1".

All reinforcement shall be Grade 60.

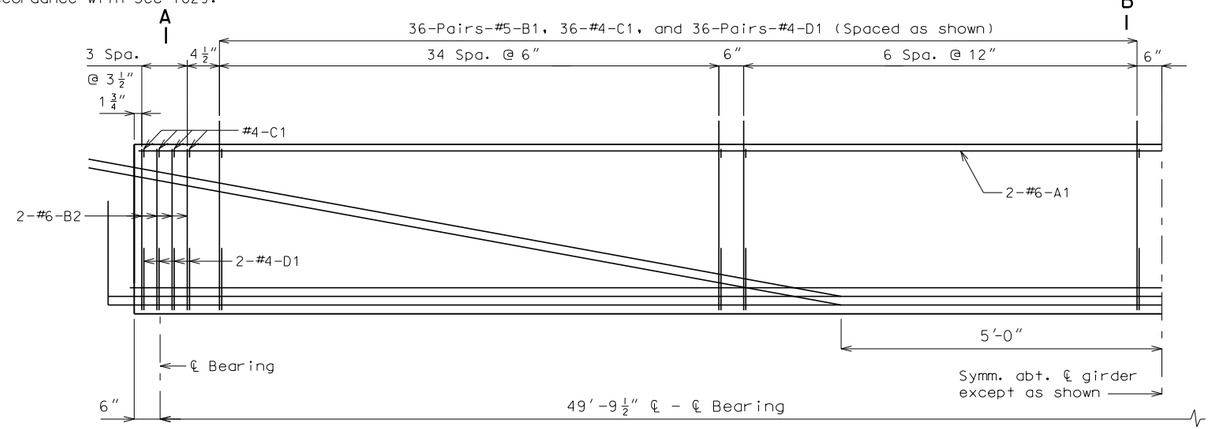
The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.



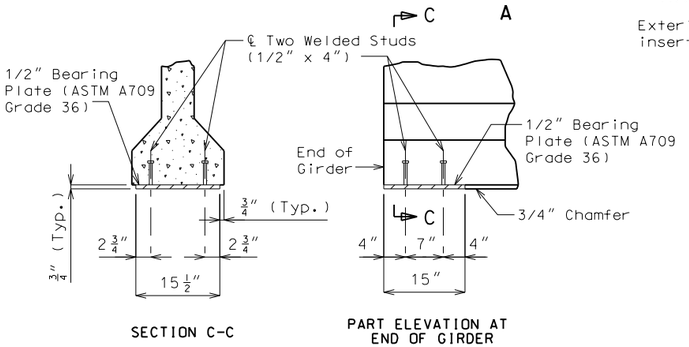
SECTION A-A

Strands not shown for clarity.



HALF ELEVATION OF GIRDER SPAN (1-2) & SPAN (3-4)

Exterior and interior girders are the same, except for coil ties, and coil inserts for slab drains and holes for steel intermediate diaphragms.



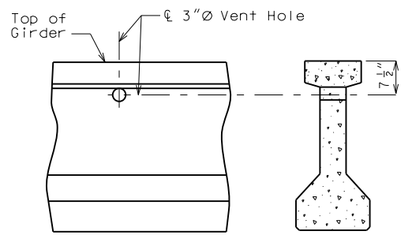
SECTION C-C

PART ELEVATION AT END OF GIRDER

BEARING PLATE DETAILS

Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing, and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder will be considered completely covered by the contract unit price for Prestressed Concrete I-Girder.

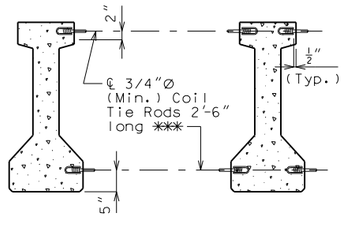


PART ELEVATION OF GIRDER

PART SECTION NEAR VENT HOLE

DETAILS OF VENT HOLE

Place vent holes at or near upgrade 1/3 point of girders and clear reinforcing steel or strands by 1 1/2" minimum and steel intermediate diaphragm bolt connections by 6" minimum.



EXTERIOR GIRDERS AT INT. BENTS

EXTERIOR GIRDERS AT END BENTS INTERIOR GIRDERS AT ALL BENTS

DETAILS OF COIL TIES

*** Length of coil tie rods at exterior girders at end bents = 1'-8".

Cost of 3/4"Ø coil tie rods placed in diaphragms will be considered completely covered by the contract unit price for Prestressed Concrete I-Girder.

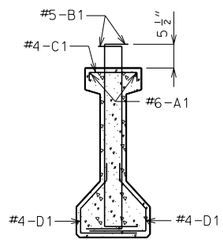
Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting through forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

For location of coil inserts at slab drains, see Sheet No. 25.

For location of coil ties at concrete bent diaphragms, see Sheets No. 19 & 20.

The 1 1/2"Ø holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed. For location of holes and details of steel intermediate diaphragms, see Sheet No. 18.

For Girder Camber Diagram, see Sheet No. 22.



SECTION B-B

Strands not shown for clarity.

STATE OF MISSOURI STEPHEN ALSBURY NUMBER E-24698 REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED 3/11/2020

STATE MO SHEET NO. 27

ROUTE CHARTER CHURCH

COUNTY JEFFERSON

JOB NO. 17-6026

PROJECT NO. STP-5403 (673)

BRIDGE NO. 35500101

DESIGNED DRAWN CHECKED

DATE

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CERTIFICATE/LICENSE NO. 001501

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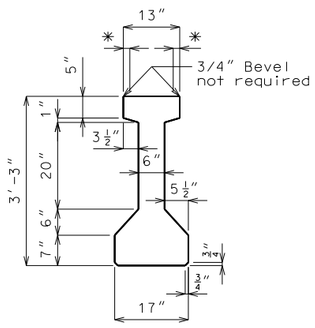
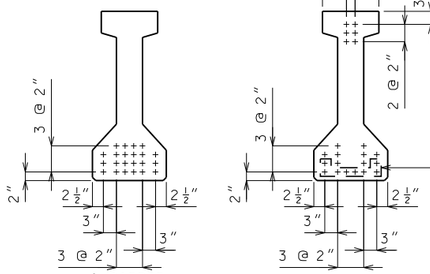
J:\2017\6026\Cadd\Design\Bridge\B_36900031_016_Girder 1.dgn 1:09:02 PM 3/11/2020



GIRDER DIMENSIONS



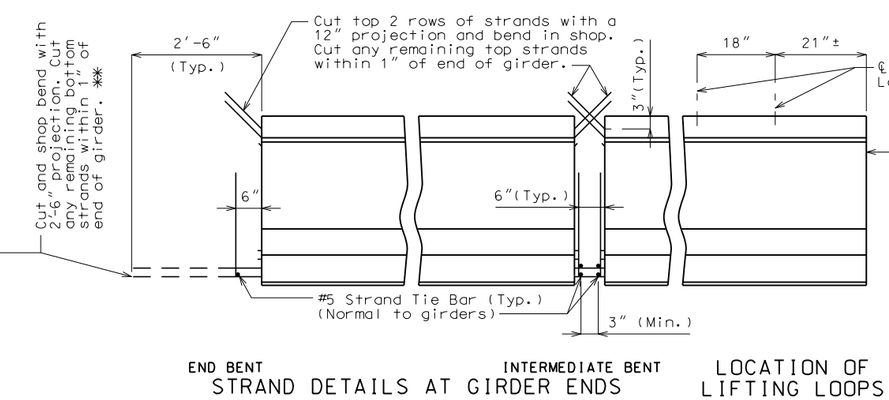
STRAND ARRANGEMENTS

Concrete for prestressed girders shall be Class A-1 with f'c = 7000 psi and f'ci = 5000 psi.

(+) indicates prestressing strand.

Use 22 strands with an initial prestress force of 682 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter in accordance with AASHTO M 203, Grade 270. Pretensioned members shall be in accordance with Sec 1029.

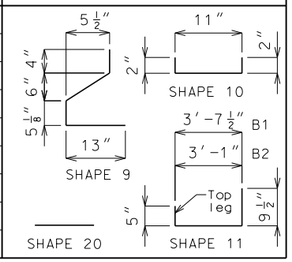


STRAND DETAILS AT GIRDER ENDS

Fabricator shall be responsible for location and design of lifting devices.

LOCATION OF LIFTING LOOPS

BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM
4	6 A1	38'-9"	20	
232	5 B1	4'-8"	11	
16	6 B2	4'-0"	11	
124	4 C1	13"	10	
248	4 D1	2'-5"	9	



* At contractor's option a 1 1/2" to 1 3/4" smooth finish strip is permitted to facilitate placement of preformed fiber expansion joint material or expanded or extruded polystyrene bedding material for the prestressed panels.

** At the contractor's option the location for bent-up strands may be varied from that shown for fully bonded strands only. The total number of bent-up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.

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.

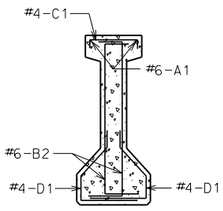
Actual lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1".

All reinforcement shall be Grade 60.

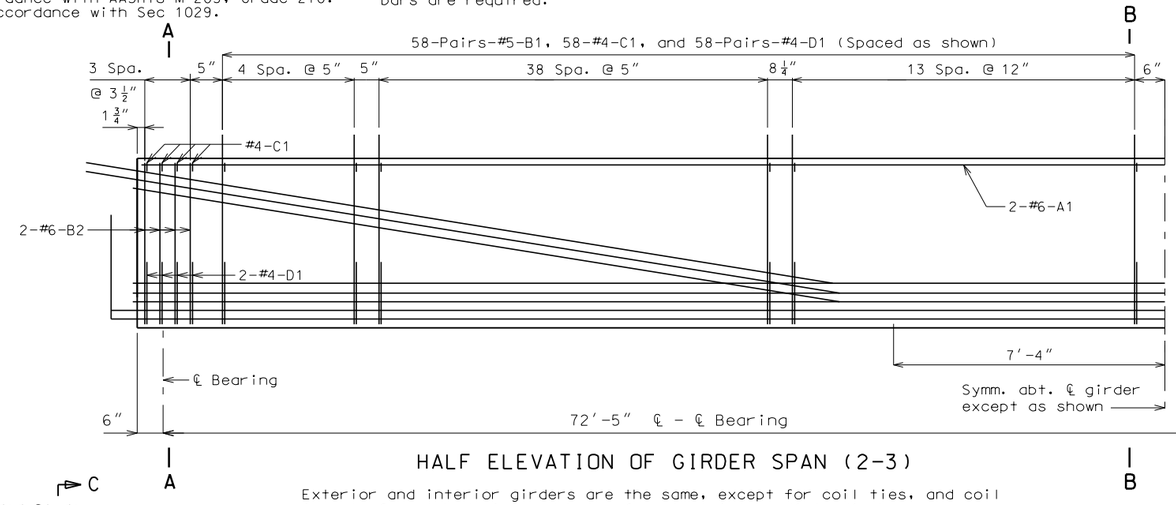
The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.



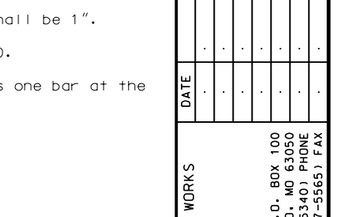
SECTION A-A

Strands not shown for clarity.



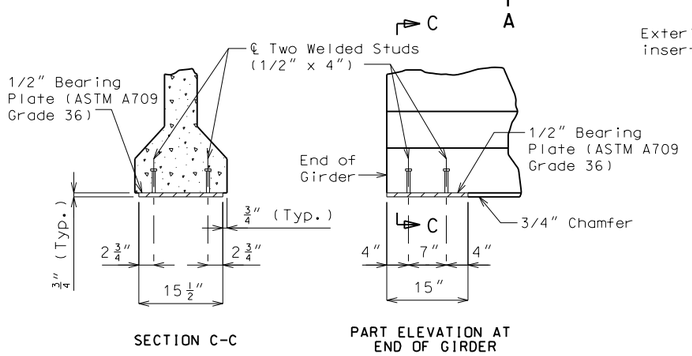
HALF ELEVATION OF GIRDER SPAN (2-3)

Exterior and interior girders are the same, except for coil ties, and coil inserts for slab drains and holes for steel intermediate diaphragms.



SECTION B-B

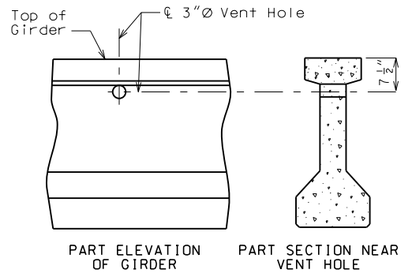
Strands not shown for clarity.



BEARING PLATE DETAILS

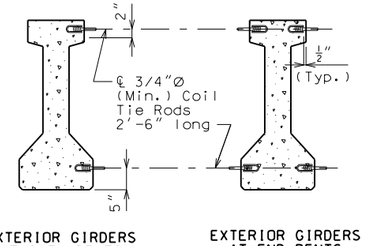
Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing, and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder will be considered completely covered by the contract unit price for Prestressed Concrete I-Girder.



DETAILS OF VENT HOLE

Place vent holes at or near upgrade 1/3 point of girders and clear reinforcing steel or strands by 1 1/2" minimum and steel intermediate diaphragm bolt connections by 6" minimum.



DETAILS OF COIL TIES

Cost of 3/4"Ø coil tie rods placed in diaphragms will be considered completely covered by the contract unit price for Prestressed Concrete I-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting through forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

For location of coil inserts at slab drains, see Sheet No. 25.

For location of coil ties at concrete bent diaphragms, see Sheets No. 19 & 20.

The 1 1/2"Ø holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed. For location of holes and details of steel intermediate diaphragms, see Sheet No. 18.

For Girder Camber Diagram, see Sheet No. 22.

STATE OF MISSOURI STEPHEN ALSBURY NUMBER E-24698 REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED 3/11/2020

STATE MO | SHEET NO. 28

ROUTE CHARTER CHURCH

COUNTY JEFFERSON

JOB NO. 17-6026

PROJECT NO. STP-5403 (673)

BRIDGE NO. 35500101

DESCRIPTION | DATE

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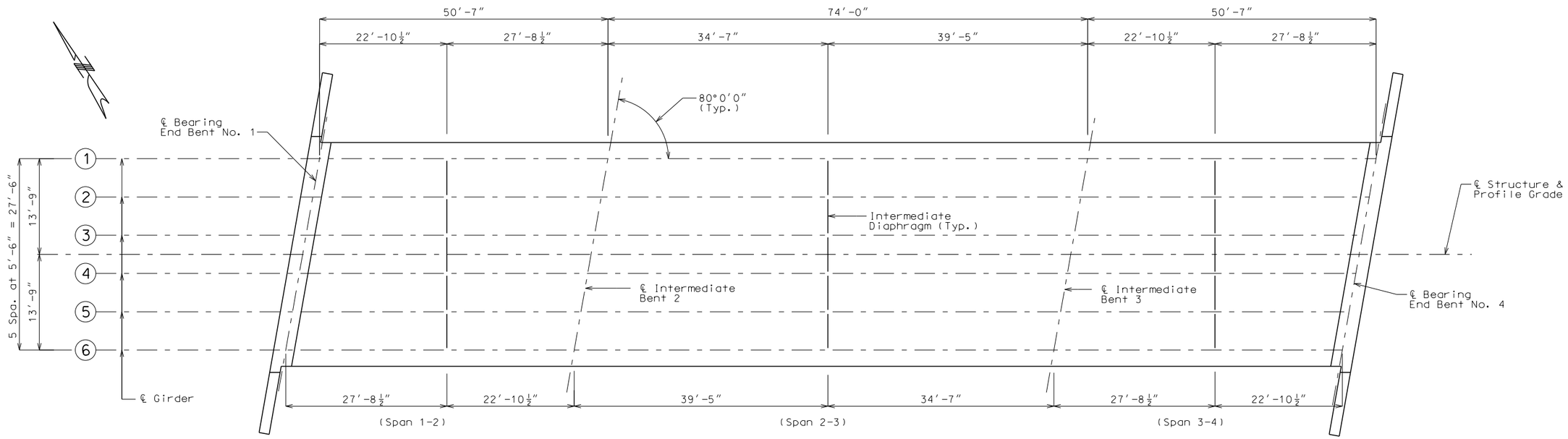
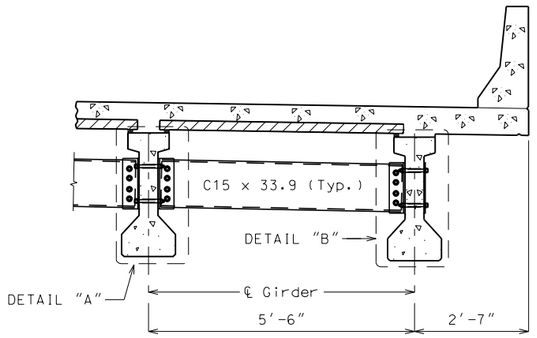
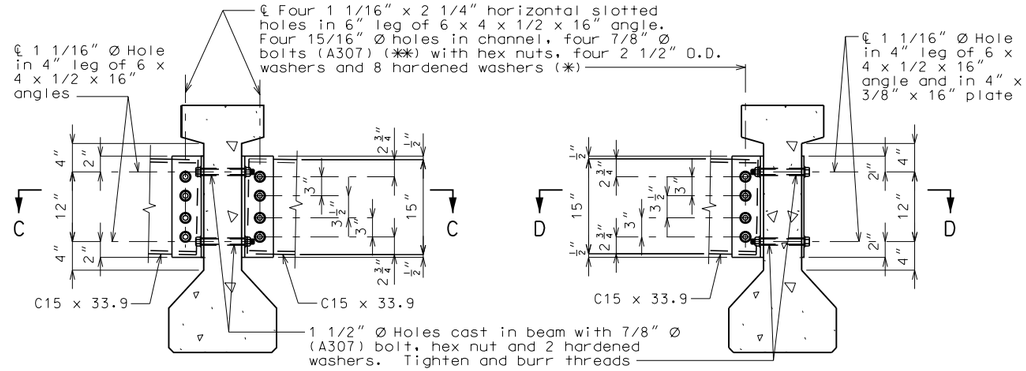


LOCATION OF INTERMEDIATE DIAPHRAGMS

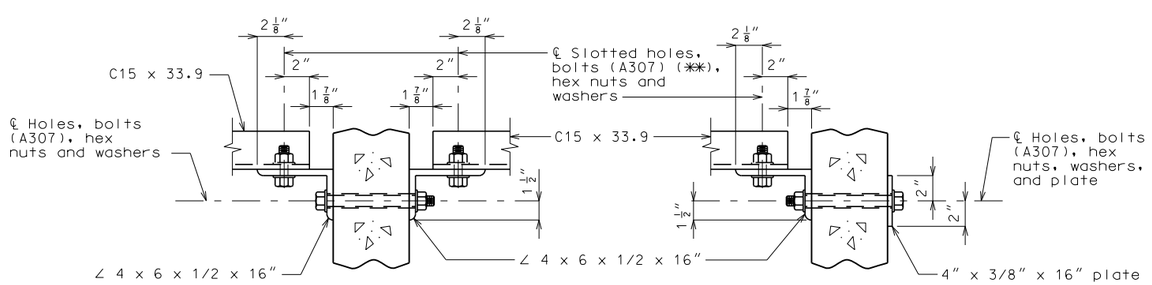
Note: Longitudinal dimensions are measured horizontal.



PART SECTION SHOWING INTERMEDIATE DIAPHRAGMS



DETAIL "A" DETAIL "B"



SECTION C-C SECTION D-D

STEEL DIAPHRAGM NOTES:

(✱) In lieu of 2 1/2″ outside diameter washers, contractor may substitute a 3/16″ (Min. thickness) plate with four 15/16″ Ø holes and one hardened washer per bolt.

(✱✱) Bolts shall be tightened to provide a tension of one-half that specified in Sec 712 for high strength bolt installation. A325 bolts may be substituted for and installed in accordance with the requirements for the specified A307 bolts.

All diaphragm materials including bolts, nuts, and washers shall be galvanized.

Fabricated structural steel shall be ASTM A709 Grade 36 except as noted.

Payment for furnishing and installing steel intermediate diaphragms will be considered completely covered by the contract unit price for Steel Intermediate Diaphragm for P/S Concrete Girders.

Shop drawings will not be required for steel intermediate diaphragms and angle connections.

STEEL INTERMEDIATE DIAPHRAGMS

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI — STEPHEN ALSBURY — NUMBER E-24698 — REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED 3/11/2020

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ROUTE CHARTER CHURCH

COUNTY JEFFERSON

JOB NO. 17-6026

PROJECT NO. STP-5403 (673)

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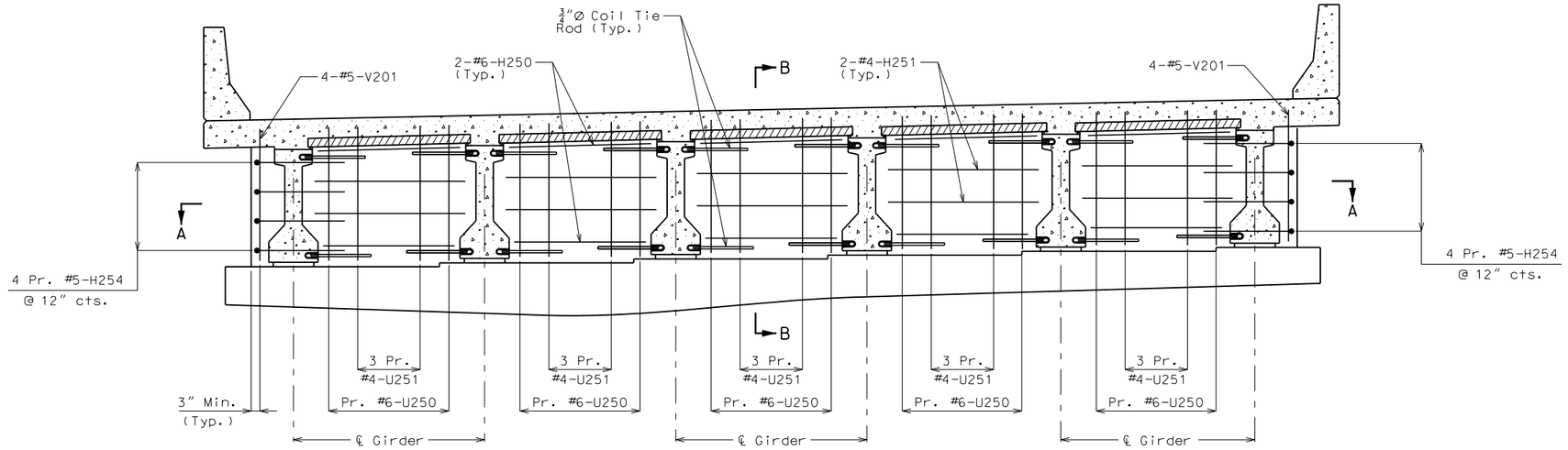
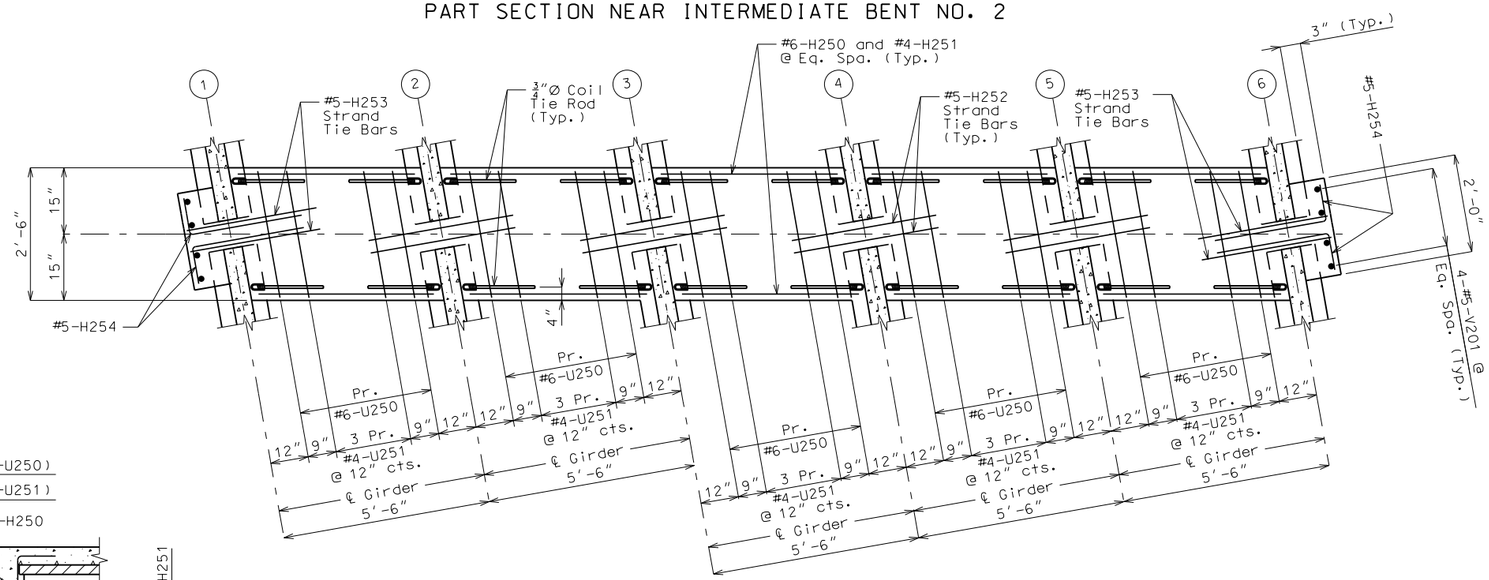
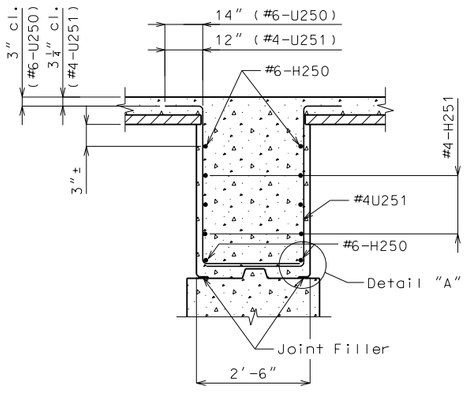


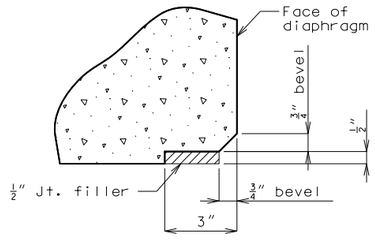
PART SECTION NEAR INTERMEDIATE BENT NO. 2



SECTION A-A



SECTION B-B



DETAIL "A"

Notes:

Diaphragms at Intermediate Bents shall be built vertical.

For location of #5-H252 and #5-H253 (Strand Tie Bars), see Sheet Nos. 16 and 17.

For location of Coil Ties, see Sheet No. 16 and 17.

Place U-bars parallel to ℄ Structure.

For steps 2" or more, use 1/2" Joint Filler up vertical face.

DETAILS OF DIAPHRAGM AT INTERMEDIATE BENT NO. 2

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

J:\2017\6026\Cadd\Design\Bridge\B_36900031_019_Int Diaphragm 2.dgn 1:12:23 PM 3/11/2020

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STEPHEN ALSBURY
NUMBER E-24698
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED
3/11/2020

STATE	SHEET NO.
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ROUTE
CHARTER CHURCH

COUNTY
JEFFERSON

JOB NO.
17-6026

PROJECT NO.
STP-5403 (673)

BRIDGE NO.
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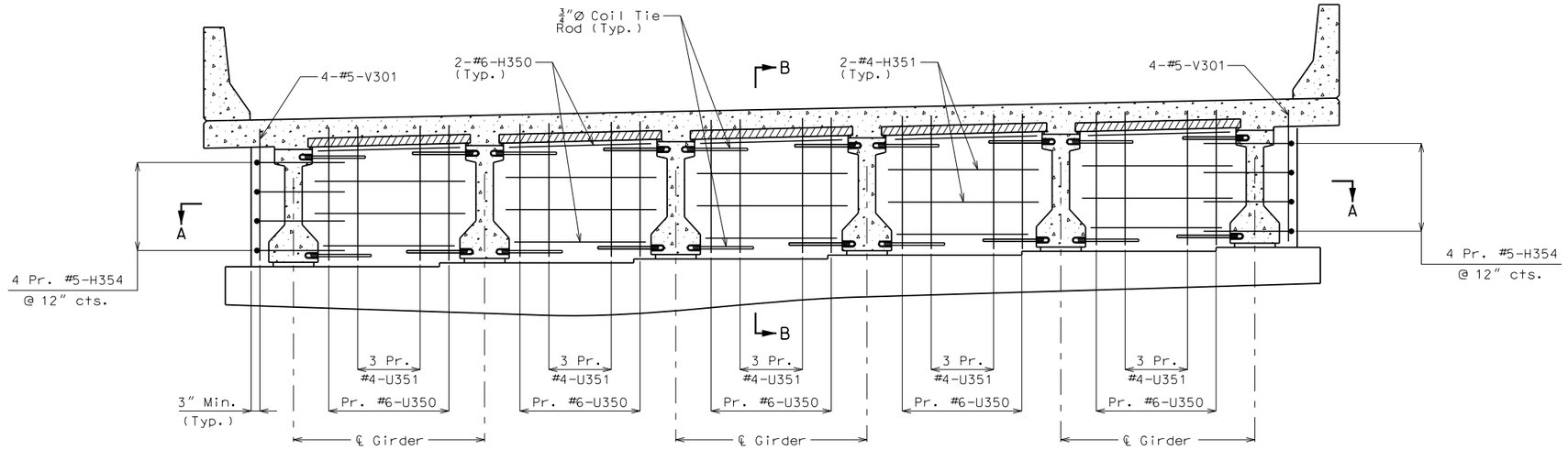
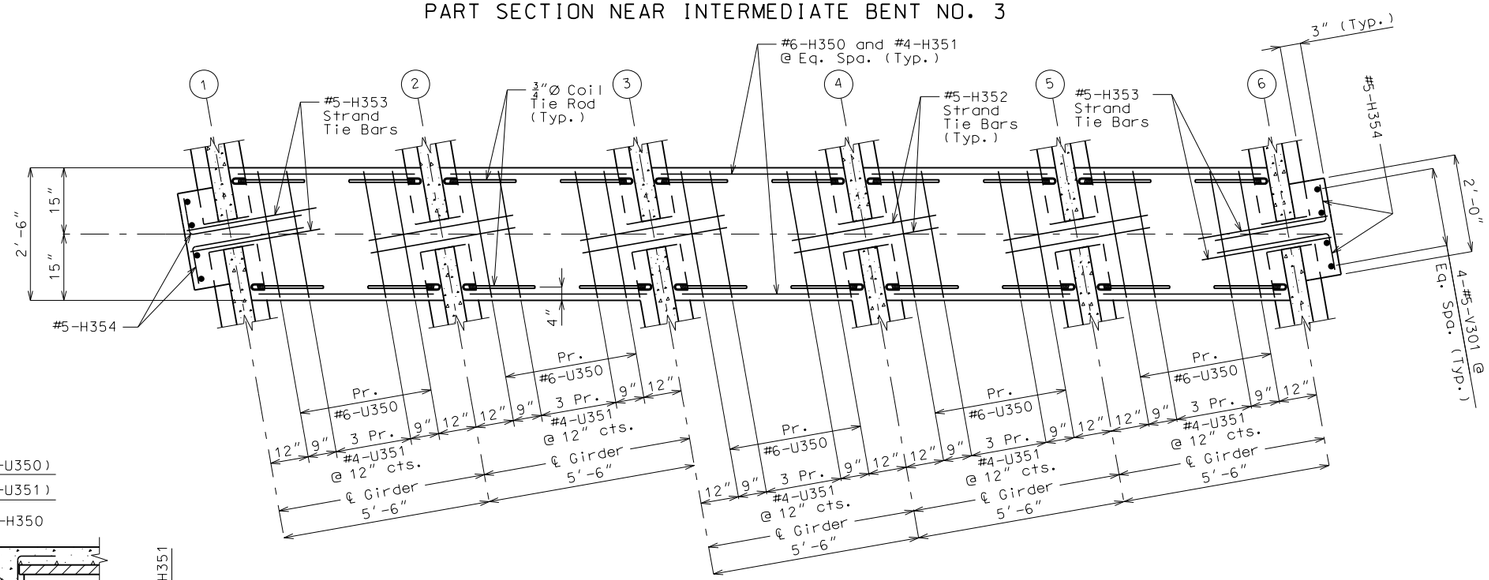
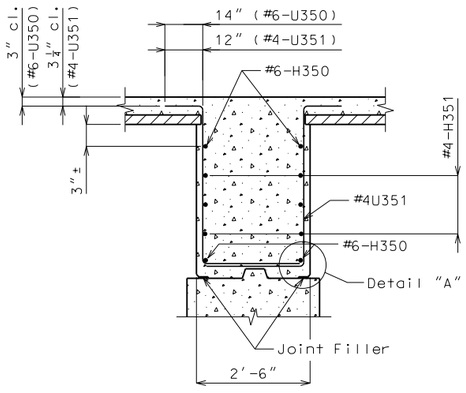


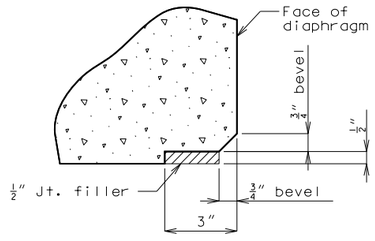
PART SECTION NEAR INTERMEDIATE BENT NO. 3



SECTION A-A



SECTION B-B



DETAIL "A"

Notes:

Diaphragms at Intermediate Bents shall be built vertical.

For location of #5-H352 and #5-H353 (Strand Tie Bars), see Sheet Nos. 16 and 17.

For location of Coil Ties, see Sheet No. 16 and 17.

Place U-bars parallel to ℄ Structure.

For steps 2" or more, use 1/2" Joint Filler up vertical face.

DETAILS OF DIAPHRAGM AT INTERMEDIATE BENT NO. 3

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

J:\2017\6026\Cadd\Design\Bridge\B_36900031_020_Int Diaphragm 3.dgn 1:13:21 PM 3/11/2020

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STEPHEN ALSBURY
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REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED
3/11/2020

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CHARTER CHURCH

COUNTY
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JOB NO.
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PROJECT NO.
STP-5403 (673)

BRIDGE NO.
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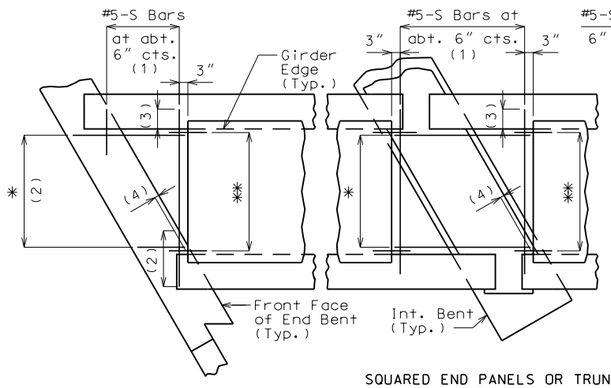
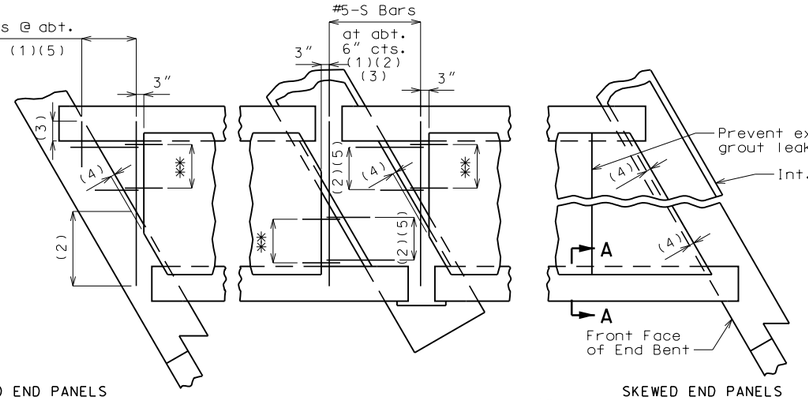


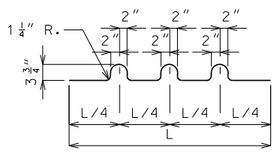


SQUARED END PANELS OR TRUNCATED END PANELS

SKEWED END PANELS

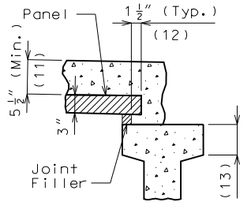
PLAN SHOWING PANELS PLACEMENT

✱ #5-S Bars at abt. 9" cts. (1)
✱✱ #3-P1 at 12" cts. (End panels only)



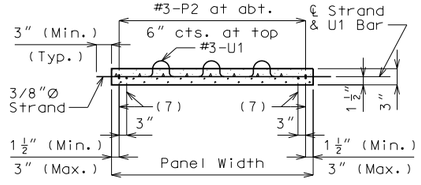
U1 Bars may be oriented at right angles to location and spacing shown. U1 Bars shall be placed between P1 bars.

BENDING DIAGRAM FOR U1 BAR

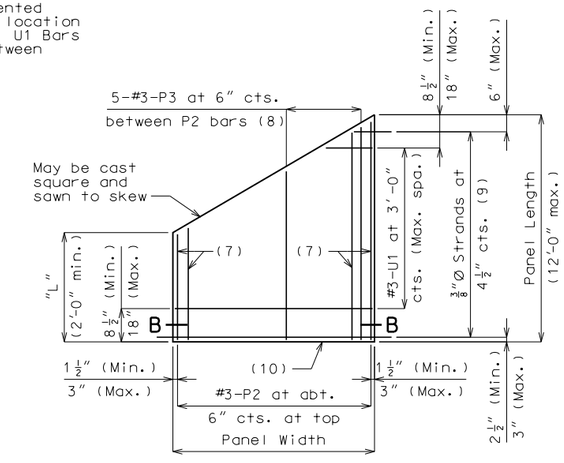


SECTION A-A

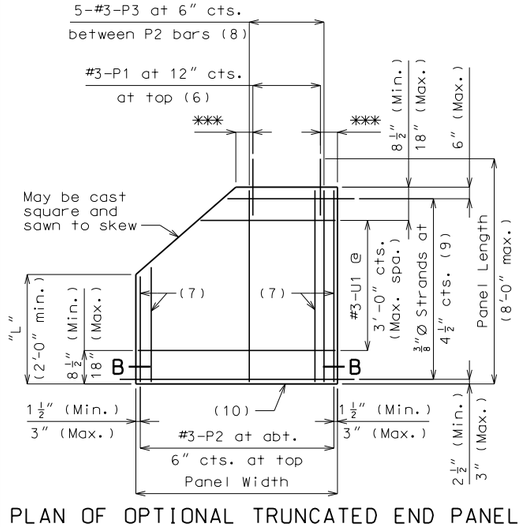
Joint Filler Dimensions		
Width	Height	
	Min.	Max.
1½"	1"	2"



SECTION B-B

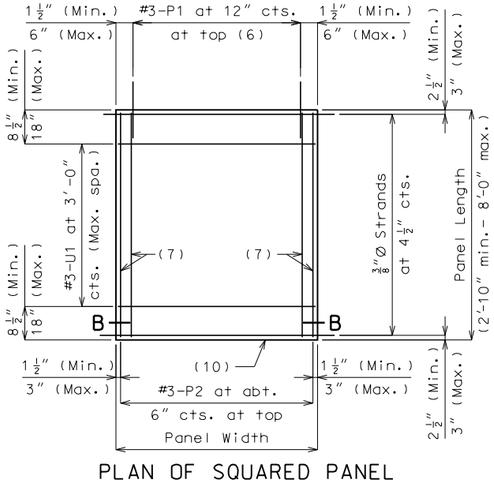


PLAN OF OPTIONAL SKEWED END PANEL



PLAN OF OPTIONAL TRUNCATED END PANEL

✱✱✱ 3" (Min.), 6" (Max.)



PLAN OF SQUARED PANEL

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.

Welded wire reinforcement 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 or bar 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 reinforcing steel shall be tied securely to the 3/8"Ø strands with the following maximum spacing in each direction:
#3-P2 bars at 16 inches.
Welded wire reinforcement at 2'-0".

Tie the #3-U1 bars to the #3-P2 bars, or to the welded wire reinforcement, or to the strands at about 3'-0" 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 on Sheet No. 12 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.

STATE OF MISSOURI
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REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED 3/11/2020
STATE MO
SHEET NO. 32
ROUTE CHARTER CHURCH
COUNTY JEFFERSON
JOB NO. 17-6026
PROJECT NO. STP-5403 (673)
BRIDGE NO. 35500101

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

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DETAILS OF PRESTRESSED PANELS

Note: This drawing is not to scale. Follow dimensions.

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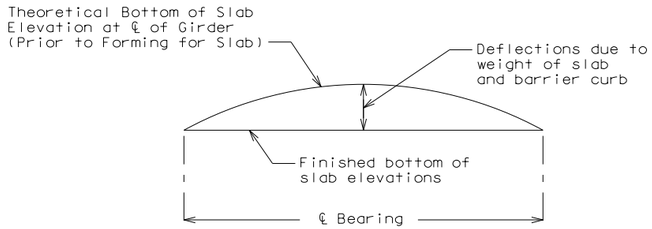
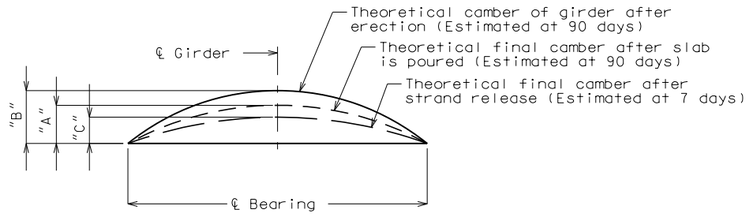
THEORETICAL BOTTOM OF SLAB ELEVATIONS AT CENTERLINE OF GIRDER (Prior to Forming Slab) (Estimated 90 Days)

	Span (1-2)				
	℄ Brg	0.25	0.50	0.75	℄ Brg
Girder No. 1	524.57	524.59	524.60	524.59	524.57
Girder No. 2	524.68	524.70	524.71	524.70	524.68
Girder No. 3	524.79	524.81	524.82	524.81	524.79
Girder No. 4	524.90	524.92	524.93	524.92	524.90
Girder No. 5	525.01	525.03	525.04	525.03	525.01
Girder No. 6	525.12	525.14	525.15	525.14	525.12
	Span (2-3)				
	℄ Brg	0.25	0.50	0.75	℄ Brg
Girder No. 1	524.57	524.70	524.75	524.70	524.57
Girder No. 2	524.68	524.81	524.86	524.81	524.68
Girder No. 3	524.79	524.92	524.97	524.92	524.79
Girder No. 4	524.90	525.03	525.08	525.03	524.90
Girder No. 5	525.01	525.14	525.19	525.14	525.01
Girder No. 6	525.12	525.25	525.30	525.25	525.12
	Span (3-4)				
	℄ Brg	0.25	0.50	0.75	℄ Brg
Girder No. 1	524.57	524.59	524.60	524.59	524.57
Girder No. 2	524.68	524.70	524.71	524.70	524.68
Girder No. 3	524.79	524.81	524.82	524.81	524.79
Girder No. 4	524.90	524.92	524.93	524.92	524.90
Girder No. 5	525.01	525.03	525.04	525.03	525.01
Girder No. 6	525.12	525.14	525.15	525.14	525.12

(**) Elevations are based on constant slab thickness of $8\frac{1}{2}$" and include allowance for theoretical dead load deflections due to weight of slab (including prestressed panel) and rail.



TYPICAL SLAB ELEVATIONS DIAGRAM



GIRDER CAMBER DIAGRAM

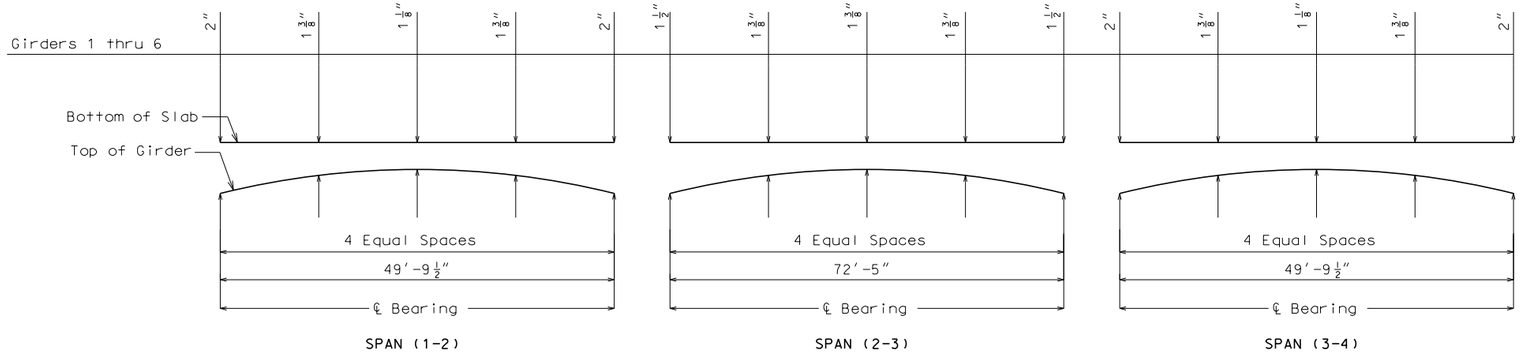
	Span (1-2)			Span (2-3)			Span (3-4)		
	"A"	"B"	"C"	"A"	"B"	"C"	"A"	"B"	"C"
Ext. Girder	$\frac{5}{8}$"	1"	$\frac{5}{8}$"	$\frac{1}{8}$"	$2\frac{3}{8}$"	$1\frac{3}{8}$"	$\frac{5}{8}$"	1"	$\frac{5}{8}$"
Int. Girder	$\frac{5}{8}$"			$\frac{1}{8}$"			$\frac{5}{8}$"		

If girder camber is different from that shown in the camber diagram, in order to maintain minimum slab thickness, an adjustment of the slab haunches, an increase in slab thickness or a raise in grade uniformly throughout the structure shall be necessary. No payment will be made for additional labor or materials required for variation in haunching, slab thickness or grade adjustment.

Concrete in the slab haunches is included in the Estimated Quantities for Slab on Concrete I-Girders.

Conversion factors for girder camber
0.1 pt. = 0.314 x 0.5 pt.
0.2 pt. = 0.593 x 0.5 pt.
0.3 pt. = 0.813 x 0.5 pt.
0.4 pt. = 0.952 x 0.5 pt.

0.25 pt. = 0.7125 x 0.5 pt.



THEORETICAL SLAB HAUNCHING DIAGRAM

Concrete in the slab haunches is included in the Estimated Quantities for Slab on Concrete I-Girders.

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Note: This drawing is not to scale. Follow dimensions.

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STEPHEN ALSBURY
NUMBER E-24698
REGISTERED PROFESSIONAL ENGINEER

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DATE PREPARED 3/11/2020
STATE MO
SHEET NO. 33
ROUTE CHARTER CHURCH
COUNTY JEFFERSON
JOB NO. 17-6026
PROJECT NO. STP-5403 (673)
BRIDGE NO. 35500101

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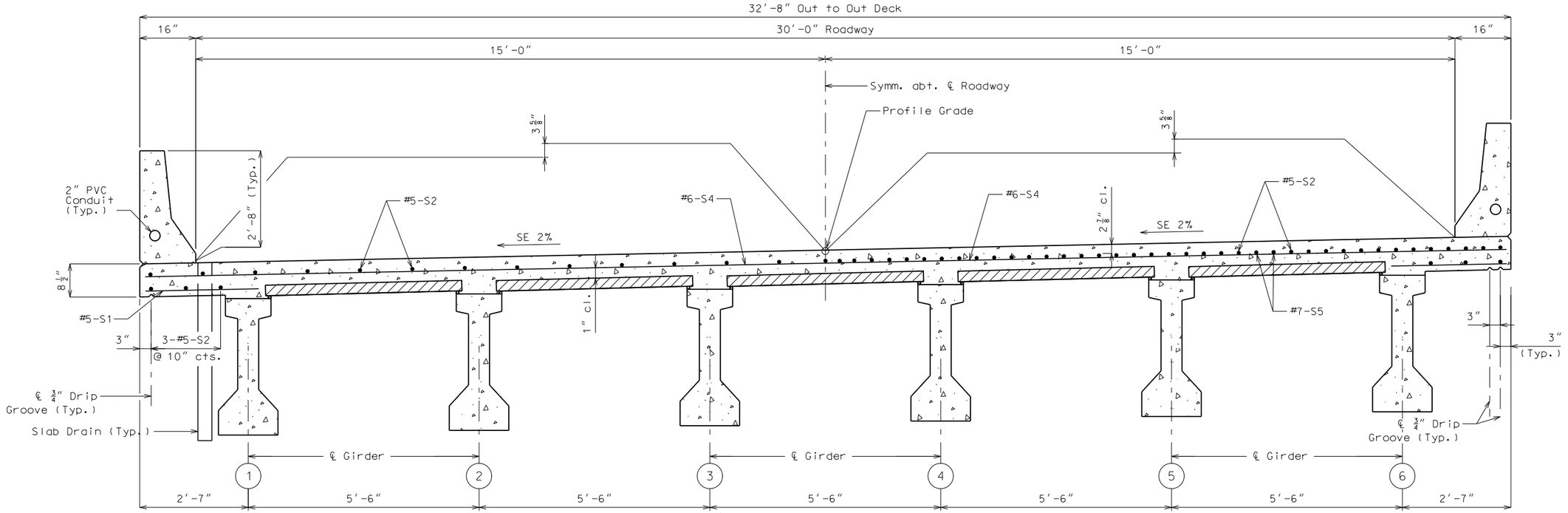
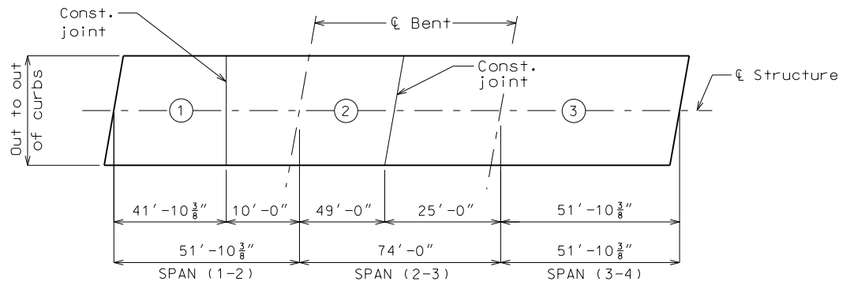


HALF SECTION NEAR ℄ SPAN

HALF SECTION NEAR INTERMEDIATE BENT

TYPICAL CROSS SECTION



	Sequence of Pours			Min. rate of pour cu. yds./hr.
	Direction			With retarder
Basic sequence	1	2	3	25
	End to 2	1 to 3	2 to end	
Alternate pours to the basic sequence are subject to the approval of the engineer in accordance with Sec 703.				
Alternate "A" pours	1 + 2		3	25
	End to 3		2 to end	
Alternate "B" pours	1 + 2 + 3			25
	End to end			

Note: The contractor shall furnish an approved retarder to retard the set of the concrete to 2.5 hours, and shall pour and satisfactorily finish the slab pours at the rate given.

The concrete diaphragm at the intermediate bents and integral end bents shall be poured a minimum of 30 minutes and a maximum of 2 hours before the slab is poured.

SLAB POURING SEQUENCE

TYPICAL SLAB SECTION

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MO	34

ROUTE
CHARTER CHURCH

COUNTY
JEFFERSON

JOB NO.
17-6026

PROJECT NO.
STP-5403 (673)

BRIDGE NO.
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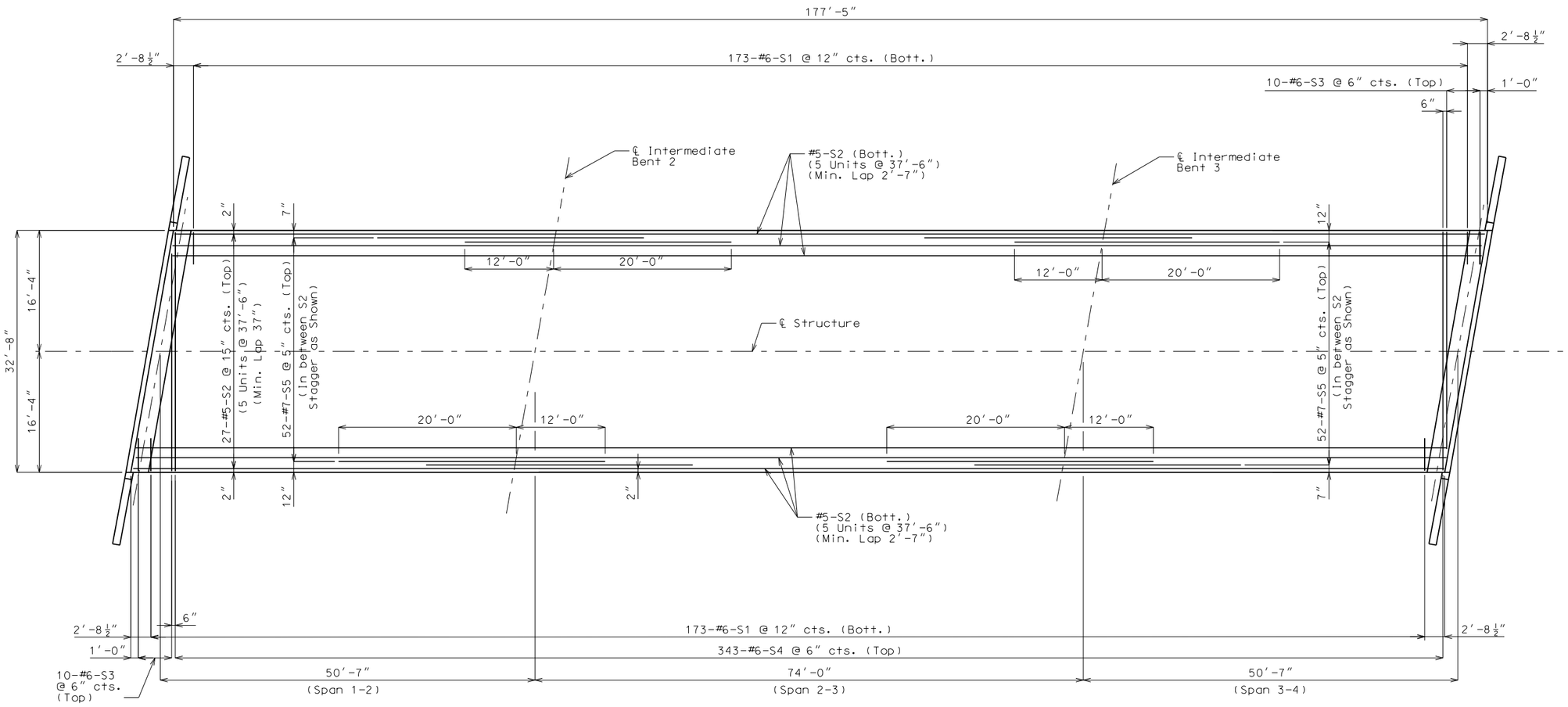

SLAB PLAN

Detailed Oct 2019
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Note: This drawing is not to scale. Follow dimensions.

Sheet No. 24 of 36

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24698
REGISTERED PROFESSIONAL ENGINEER

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3/11/2020

STATE MO | SHEET NO. 35

ROUTE
CHARTER CHURCH

COUNTY
JEFFERSON

JOB NO.
17-6026

PROJECT NO.
STP-5403 (673)

BRIDGE NO.
35500101

DATE	DESCRIPTION
.	.

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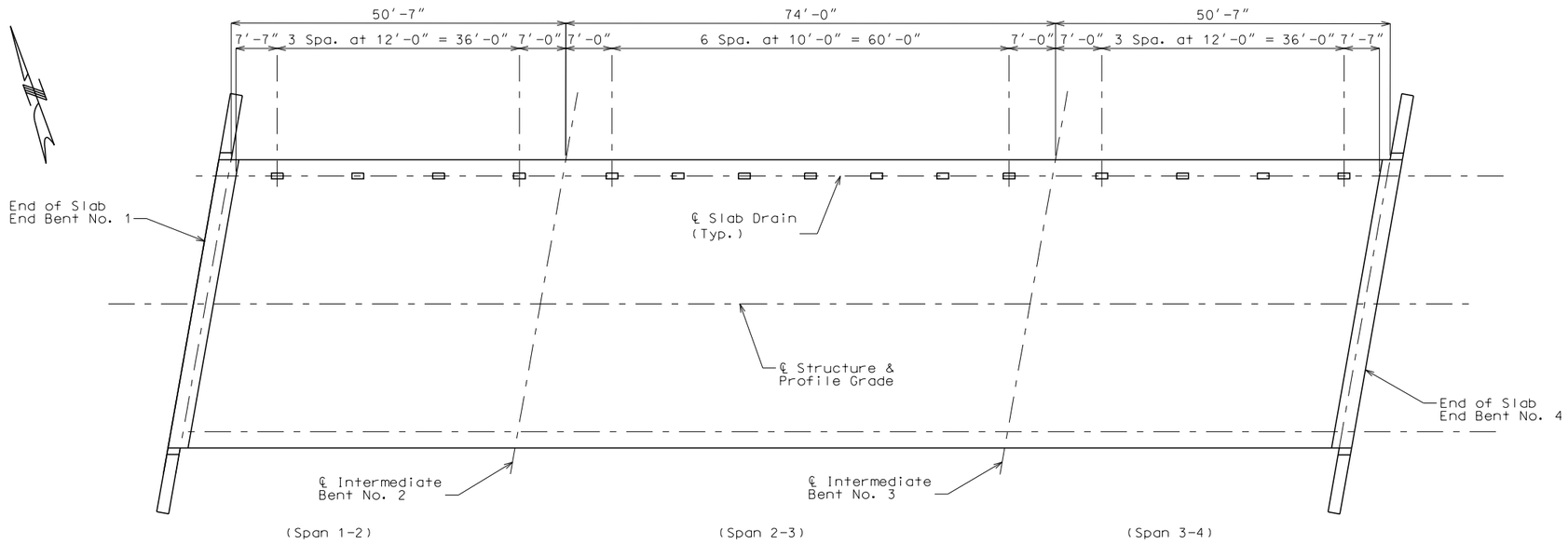
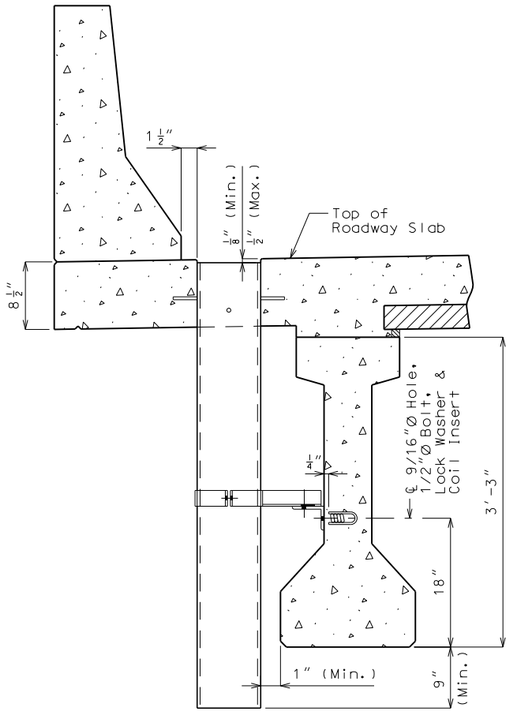
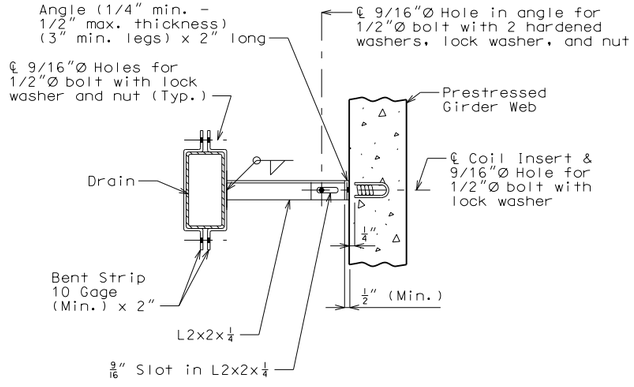


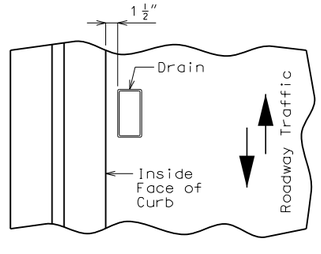
PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS



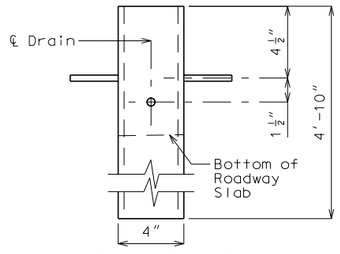
PART SECTION NEAR DRAIN



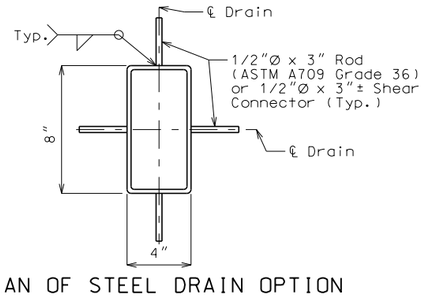
PART SECTION SHOWING BRACKET ASSEMBLY



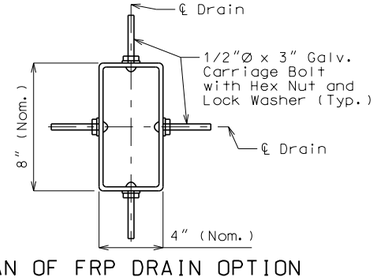
PART PLAN OF SLAB AT DRAIN



ELEVATION OF DRAIN



PLAN OF STEEL DRAIN OPTION



PLAN OF FRP DRAIN OPTION

SLAB DRAIN DETAILS

General Notes:

The contractor shall have the option to construct either steel or FRP slab drains. All drains shall be of same type.

Slab drain bracket assembly shall be ASTM A709 Grade 36 steel.

Locate drains in slab by dimensions shown in Part Section Near Drain.

Reinforcing steel shall be shifted to clear drains.

The coil inserts and bracket assembly shall be galvanized in accordance with ASTM A123.

All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with ASTM A153.

Shop drawings will not be required for the slab drains and the bracket assembly.

The coil insert required for the bracket assembly attachment shall be located on the prestressed girder shop drawings.

Coil inserts shall have a concrete pull-out strength (ultimate load) of at least 2,500 pounds in 5,000 psi concrete.

The bolt required to attach the slab drain bracket assembly to the prestressed girder web shall be supplied by the prestressed girder fabricator.

Notes (Steel Drain):

Slab drains may be fabricated of either 1/4" welded sheets of ASTM A709 Grade 36 steel or from 1/4" structural steel tubing ASTM A500 or A501.

Outside dimensions of drains are 8" x 4".

The drains shall be galvanized in accordance with ASTM A123.

Notes (FRP Drain)

Drains shall be machine filament-wound thermosetting resin tubing meeting the requirements of ASTM D2996 with the following exceptions:

Shape of drains shall be rectangular with outside nominal dimensions of 8" x 4".

Minimum reinforced wall thickness shall be 1/4 inch.

The resin used shall be ultraviolet (UV) resistant and/or have UV inhibitors mixed throughout. Drains may have an exterior coating for additional UV resistance.

The color of the slab drain shall be Gray (Federal Standard #26373). The color shall be uniform throughout the resin and any coating used.

The combination of materials used in the manufacture of the drains shall be tested for UV resistance in accordance with ASTM D4329 Cycle A. The representative material shall withstand at least 500 hours of testing with only minor discoloration and without any physical deterioration. The contractor shall furnish the results of the required ultraviolet testing prior to acceptance of the slab drains.

At the contractor's option, drains may be field cut. The method of cutting FRP slab drain shall be recommended by the manufacturer to ensure a smooth, chip free cut.

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3/11/2020

STATE	SHEET NO.
MO	36

ROUTE
CHARTER CHURCH

COUNTY
JEFFERSON

JOB NO.
17-6026

PROJECT NO.
STP-5403 (673)

BRIDGE NO.
35500101

DESCRIPTION	DATE

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Detailed Oct 2019
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Note: This drawing is not to scale. Follow dimensions.

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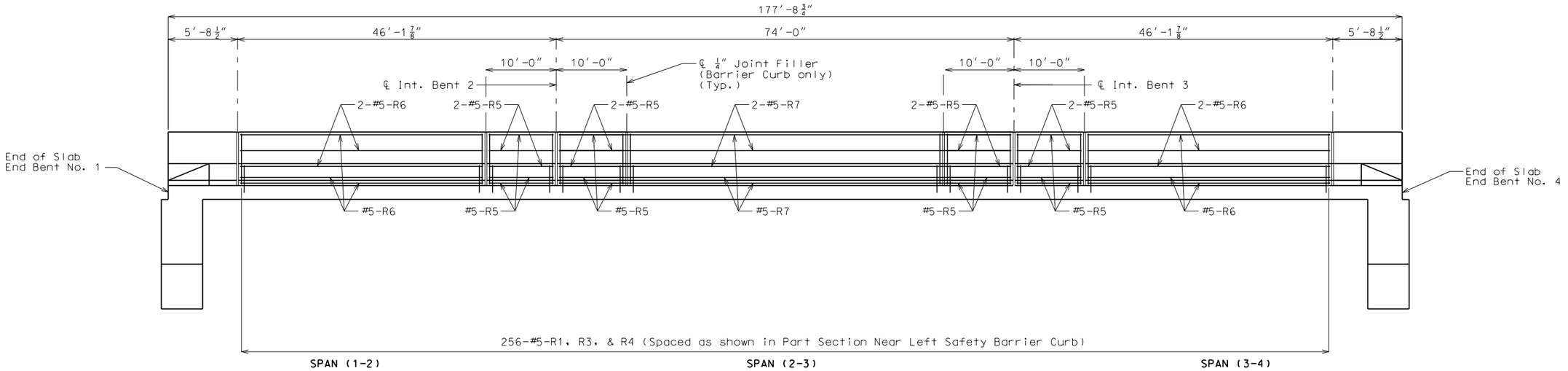
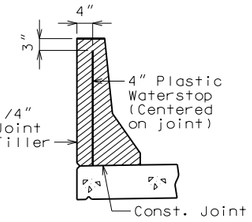


ELEVATION OF SAFETY BARRIER CURB

(Left barrier curb shown, right barrier curb similar)

Longitudinal dimensions are horizontal.

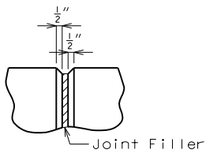
Note:
For details of Safety Barrier Curb at End Bents, see Sheet No. 27.



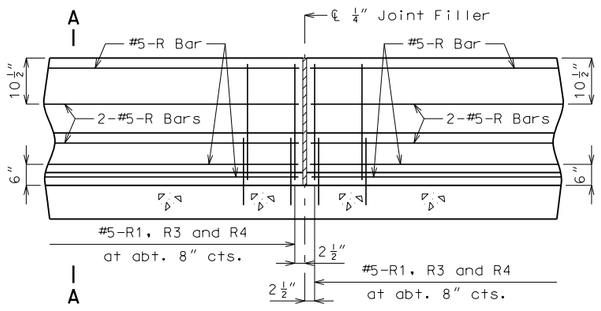
PLASTIC WATERSTOP DETAIL

Plastic waterstop shall be placed in all safety barrier curb filled joints, except structures with superelevation, use on all lower safety barrier curb joints only.

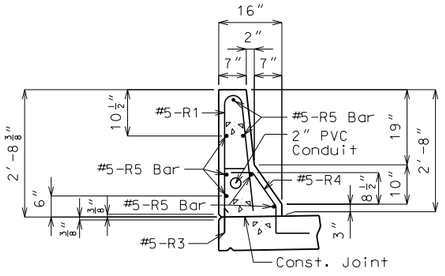
Cost of plastic waterstop, complete in place, will be considered completely covered by the contract unit price for Safety Barrier Curb.



FILLED JOINT DETAIL



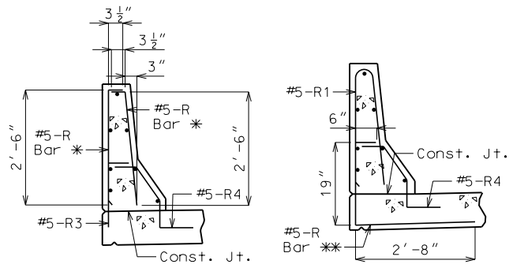
PART ELEVATION OF SAFETY BARRIER CURB



SECTION A-A

Use a minimum lap of 3′-1″ for #5 horizontal safety barrier curb Type C bars.

The cross-sectional area for each curb 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 SAFETY BARRIER CURB

General Notes

Top of safety barrier curb Type C shall be built parallel to grade with barrier curb joints (except at end bents) normal to grade.

All exposed edges of safety barrier curb Type C 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 Type C 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 wing to end of wing.

Concrete traffic barrier delineators shall be placed on top of the safety barrier curb Type C 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 Type C.

Except for Section A-A, conduit is not shown for clarity.

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

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STEPHEN ALSBURY
NUMBER E-24698
REGISTERED PROFESSIONAL ENGINEER

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DATE PREPARED 3/11/2020
STATE MO
SHEET NO. 37
ROUTE CHARTER CHURCH
COUNTY JEFFERSON
JOB NO. 17-6026
PROJECT NO. STP-5403 (673)
BRIDGE NO. 35500101

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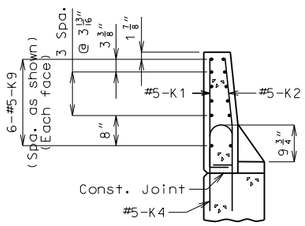
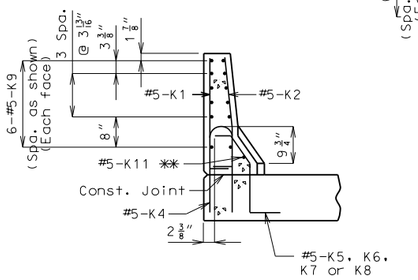
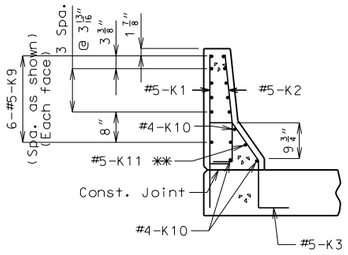


SECTION A-A



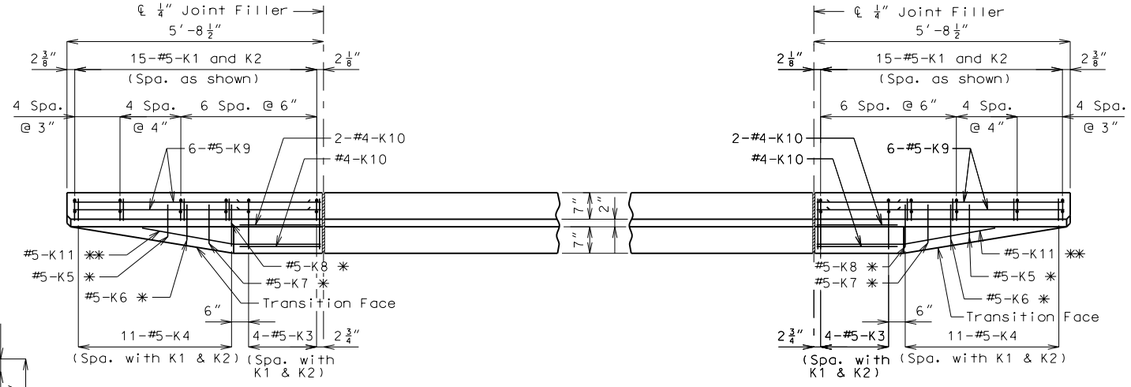
SECTION B-B



SECTION C-C

DETAILS OF GUARD RAIL ATTACHMENT

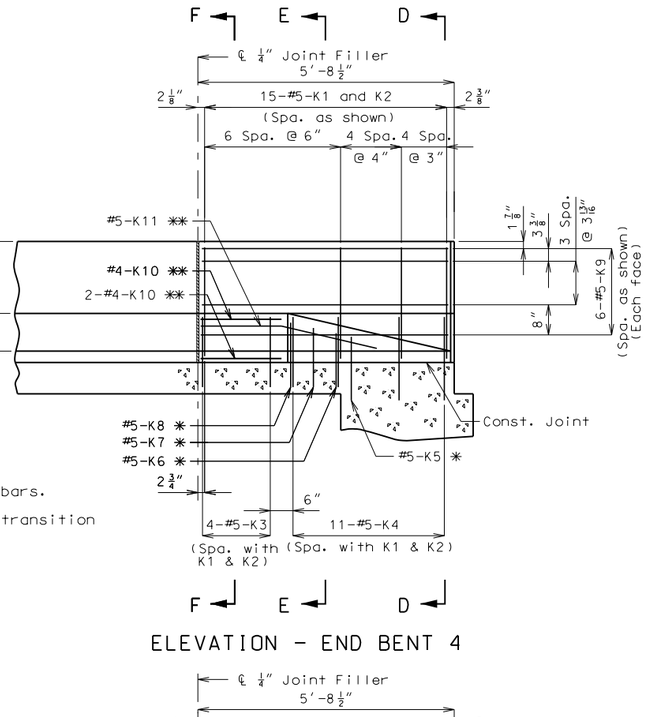
ELEVATION - END BENT 1



PLAN - END BENT 1

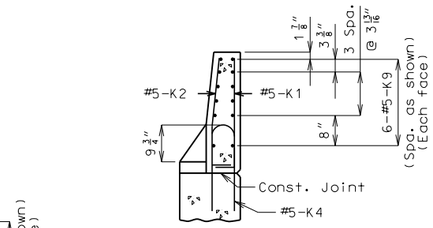
* Spaced with #5-K4 bars.

** Fit bar to follow transition face of curb.

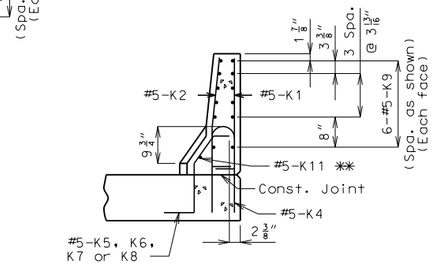


ELEVATION - END BENT 4

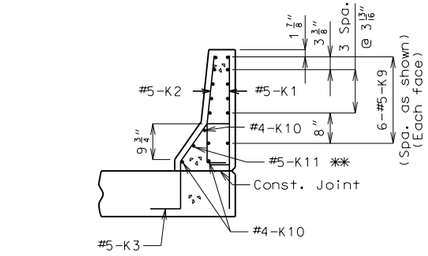
PLAN - END BENT 4



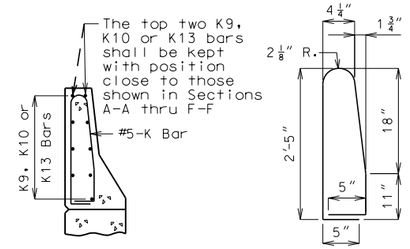
SECTION D-D



SECTION E-E



SECTION F-F



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.

Note: Use a minimum lap of 2'-7" between K9 and K10 or K13 bars.

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.

CONVENTIONAL-FORMED SAFETY BARRIER CURB AT END BENTS

(Left barrier curb shown, right barrier curb similar)

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24698
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED
3/11/2020

STATE MO | SHEET NO. 38

ROUTE
CHARTER CHURCH

COUNTY
JEFFERSON

JOB NO.
17-6026

PROJECT NO.
STP-5403 (673)

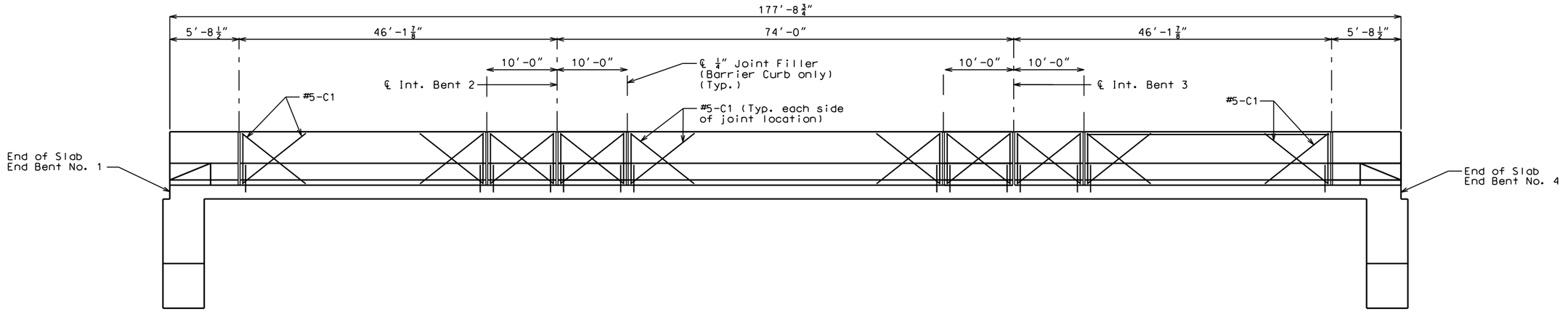
BRIDGE NO.
35500101

DATE	DESCRIPTION	REV.
.	.	.

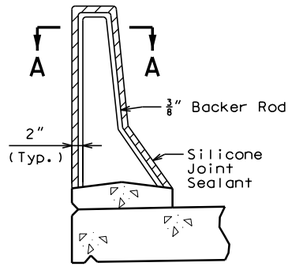
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

JEFFERSON COUNTY PUBLIC WORKS DEPARTMENT
P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

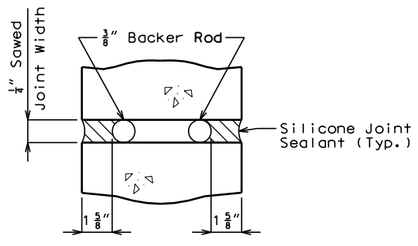
HABNA
4140 LINDELL BOULEVARD
ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501



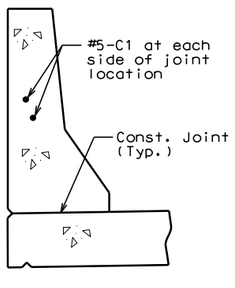
TYPICAL ELEVATION OF SAFETY BARRIER CURB AT SUPPORT LOCATIONS



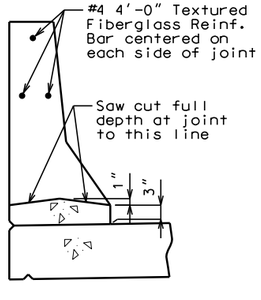
SECTION THRU JOINT



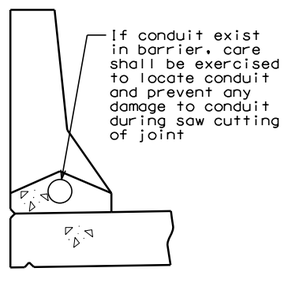
SECTION A-A



SECTION B-B



SECTION C-C



SECTION C-C
(Use when conduit required)

OPTIONAL SLIP-FORMED SAFETY BARRIER CURB

Use R bars and K bars similarly as shown for conventional-formed safety 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 wing to end of wing.

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 used on all slip-form barrier curbs instead of joint filler and shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

Plastic waterstop shall not be used with slip-form option.

For slip-form option, all sides of the safety barrier curb Type C shall have a vertically broomed finish and the curb top shall have a transversely broomed finish.

Cost of silicone joint sealant and backer rod, complete in place, will be considered completely covered by the contract unit price for Safety Barrier Curb Type C.

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24698
REGISTERED PROFESSIONAL ENGINEER

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

DATE PREPARED 3/11/2020
STATE MO | SHEET NO. 39
ROUTE CHARTER CHURCH
COUNTY JEFFERSON
JOB NO. 17-6026
PROJECT NO. STP-5403 (673)
BRIDGE NO. 35500101

DESCRIPTION	DATE

JEFFERSON COUNTY PUBLIC WORKS DEPARTMENT
P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

ABNA
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ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

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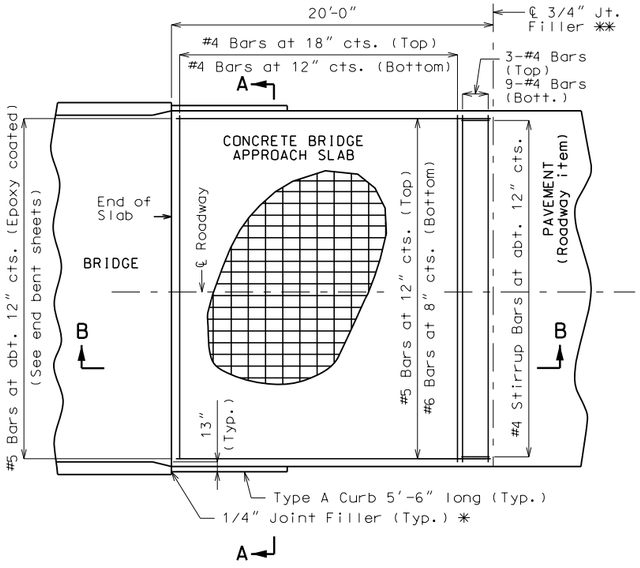
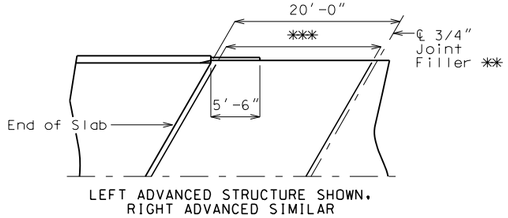
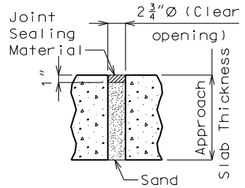


PART PLAN OF SQUARED STRUCTURE

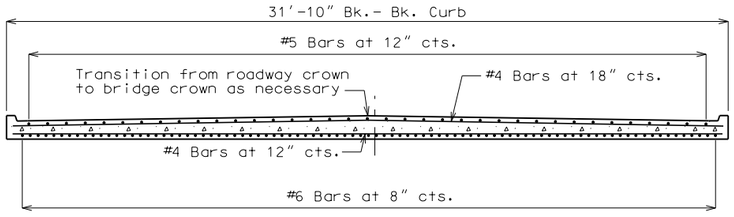


LEFT ADVANCED STRUCTURE SHOWN, RIGHT ADVANCED SIMILAR

PART PLAN OF SKEWED STRUCTURE

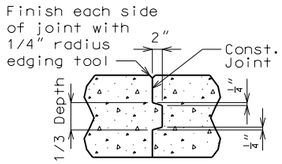


TYPICAL UNDERSEAL ACCESS HOLE DETAIL



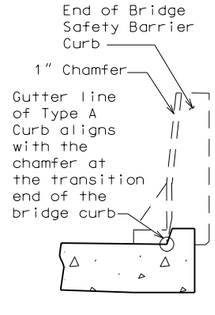
SECTION A-A

With the approval of the engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.

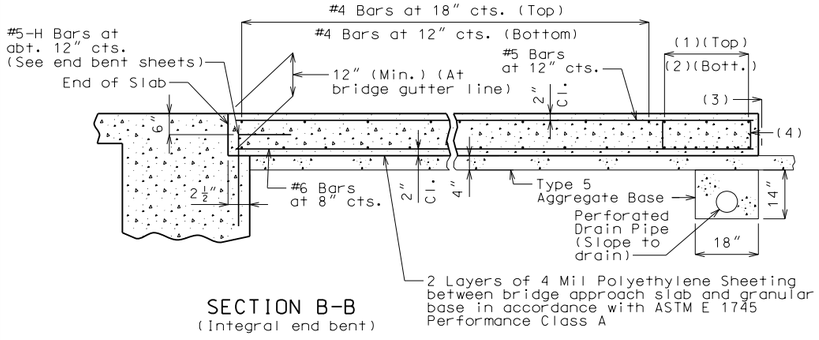


CONCRETE CONST. JOINT DETAIL

(If required)



4" TYPE A CURB



SECTION B-B

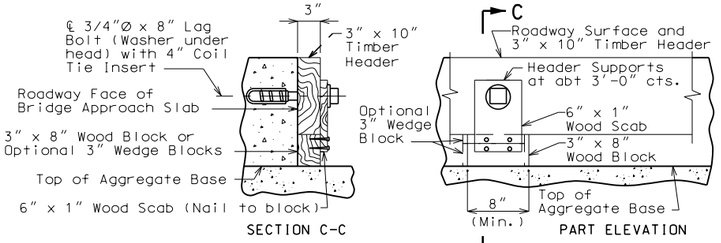
(Integral end bent)

(1) 3-#4 Bars

(2) 9-#4 Bars

(3) ℄ 3/4" Jt. Filler **

(4) #4 Stirrup Bars at abt. 12" cts.; 2'-0"x 8" (Min.) out to out; Actual length = 5'-10" (Min.); 90° stirrup hook at bottom; Stirrup height (8") and actual length vary due to crown.



DETAILS OF TIMBER HEADER

Remove timber header when concrete pavement is placed.

General Notes:

The contractor shall pour and satisfactorily finish the bridge slab before placing the bridge approach slab.

Drain pipe may be either 6" diameter corrugated metallic-coated pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

All concrete for the bridge approach slab shall be in accordance with Sec 503 (f'c = 4,000 psi).

The reinforcing steel in the bridge approach slab shall be epoxy coated Grade 60 with fy = 60,000 psi.

Longitudinal construction joints in bridge approach slab shall be aligned with longitudinal construction joints in bridge slab.

Minimum clearance to reinforcing steel shall be 1½", unless otherwise shown.

The reinforcing steel in the bridge approach slab shall be continuous. The transverse reinforcing steel may be made continuous by lap splicing the #4 bars 23".

All joint filler shall be in accordance with Sec 1057 for preformed fiber expansion joint filler except as noted.

Payment for furnishing all materials, labor and excavation necessary to construct the concrete bridge approach slab, including the timber header, underdrain, Type 5 aggregate base, joint filler, and all other appurtenances and incidental work as shown on this sheet, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab (Minor Road) per square yard.

See Missouri Standard Plans Drawing 609.00 for details of Type A Curb.

* Seal joint between vertical face of bridge approach slab and wing with "Silicone Joint Sealant for Saw Cut and Formed Joints" in accordance with Sec 717.

** Except not allowed with asphalt pavement.

*** Transverse reinforcing bars shall be placed parallel to end bents.

Minor Road Asphalt Alternate Not Allowed.

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24698
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED
3/11/2020

STATE	SHEET NO.
MO	40

ROUTE
CHARTER CHURCH

COUNTY
JEFFERSON

JOB NO.
17-6026

PROJECT NO.
STP-5403 (673)

BRIDGE NO.
35500101

DATE	DESCRIPTION

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JEFFERSON COUNTY PUBLIC WORKS DEPARTMENT
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HILLSBORO, MO 63050
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HNA
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ST. LOUIS, MO 63108
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CERTIFICATE/LICENSE NO. 001501

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DETAILS OF BRIDGE APPROACH SLAB (MINOR ROAD)

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 29 of 36

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BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
			END BENT 1																									
4	6	F101	DIAPHRAGM		32							4	5.000	2	4.000					2	4.000	0	6.000	6	9	6	7	40
4	6	F102	DIAPHRAGM		15							4	5.000	2	4.000	2	4.000	5.000						6	9	6	8	40
8	8	H101	BEAM		20					32	11.000													32	11	32	11	703
6	6	H102	BEAM		20					32	11.000													32	11	32	11	297
42	6	H103	WINGWALL		20					14	7.000													14	7	14	7	920
6	6	H104	DIAPHRAGM		20						19.000													1	7	1	7	14
15	6	H105	DIAPHRAGM		20					3	11.000													3	11	3	11	88
3	6	H106	DIAPHRAGM		20					33	2.000													33	2	33	2	149
6	5	H107	STRAND TIE		20					4	0.000													4	0	4	0	25
4	8	H108	DIAPHRAGM	E	20					32	11.000													32	11	32	11	352
33	5	H109	APP HAUNCH	E	19					2	0.000	15	0.000											3	3	3	1	106
4	6	H110	WINGWALL	E	20					13	9.000													13	9	13	9	83
4	6	H111	WINGWALL		20					10	6.000													10	6	10	6	63
4	6	H112	WINGWALL		20					7	6.000													7	6	7	6	45
22	5	U101	BEAM		10							6	8.000	2	9.000									16	1	15	10	363
3	5	U102	BEAM		10							4	0.000	2	9.000									10	9	10	6	33
3	5	U103	BEAM		10							3	9.000	2	9.000									10	3	9	12	31
7	5	U104	BEAM		13	S				2	9.000	4	1.000	2	9.000	4	1.000							14	7	14	3	104
7	5	U105	BEAM		13	S				2	9.000	3	9.000	2	9.000	3	9.000							13	11	13	7	99
32	6	U106	DIAPHRAGM		19					2	11.000	2	9.000											5	8	5	6	264
32	5	U107	DIAPHRAGM	E	10							3	7.000	2	3.000									9	5	9	2	306
42	6	U108	DIAPH / SLAB	E	19					3	8.000	4	10.000											8	6	8	4	525
10	5	V101	BEAM		20					6	8.000													6	8	6	8	70
18	6	V102	DIAPHRAGM		20					2	11.000													2	11	2	11	79
2	6	V103	WING	E	20					6	3.000													6	3	6	3	19
18	6	V104	WING		20			V	2	6	6.000													6	6	6	6	
			INCR=3IN							8	6.000													8	6	8	6	203
2	6	V105	WING		20					8	6.000													8	6	8	6	26
2	6	V106	WING		20					5	11.000													5	11	5	11	18
18	6	V107	WING		20			V	2	7	9.000													7	9	7	9	
			INCR=2.375IN							6	2.000													6	2	6	2	231
2	6	V108	WING		20					7	9.000													7	9	7	9	23

BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
			END BENT 4																									
4	6	F401	DIAPHRAGM		32							4	5.000	2	4.000					2	4.000	0	6.000	6	9	6	7	40
4	6	F402	DIAPHRAGM		15							4	5.000	2	4.000	2	4.000	5.000						6	9	6	8	40
8	8	H401	BEAM		20					32	11.000													32	11	32	11	703
6	6	H402	BEAM		20					32	11.000													32	11	32	11	297
42	6	H403	WINGWALL		20					14	7.000													14	7	14	7	920
6	6	H404	DIAPHRAGM		20						19.000													1	7	1	7	14
15	6	H405	DIAPHRAGM		20					3	11.000													3	11	3	11	88
3	6	H406	DIAPHRAGM		20					33	2.000													33	2	33	2	149
6	5	H407	STRAND TIE		20					4	0.000													4	0	4	0	25
4	8	H408	DIAPHRAGM	E	20					32	11.000													32	11	32	11	352
33	5	H409	APP HAUNCH	E	19					2	0.000	15	0.000											3	3	3	1	106
4	6	H410	WINGWALL	E	20					13	9.000													13	9	13	9	83
4	6	H411	WINGWALL		20					10	6.000													10	6	10	6	63
4	6	H412	WINGWALL		20					7	6.000													7	6	7	6	45
22	5	U401	BEAM		10							6	8.000	2	9.000									16	1	15	10	363
3	5	U402	BEAM		10							4	0.000	2	9.000									10	9	10	6	33
3	5	U403	BEAM		10							3	9.000	2	9.000									10	3	9	12	31
7	5	U404	BEAM		13	S				2	9.000	4	1.000	2	9.000	4	1.000							14	7	14	3	104
7	5	U405	BEAM		13	S				2	9.000	3	9.000	2	9.000	3	9.000							13	11	13	7	99
32	6	U406	DIAPHRAGM		19					2	11.000	2	9.000											5	8	5	6	264
32	5	U407	DIAPHRAGM	E	10							3	7.000	2	3.000									9	5	9	2	306
42	6	U408	DIAPH / SLAB	E	19					3	8.000	4	10.000											8	6	8	4	525
10	5	V401	BEAM		20					6	8.000													6	8	6	8	70
18	6	V402	DIAPHRAGM		20					2	11.000													2	11	2	11	79
2	6	V403	WING	E	20					6	3.000													6	3	6	3	19
18	6	V404	WING		20			V	2	6	6.000													6	6	6	6	
			INCR=3IN							8	6.000													8	6	8	6	203
2	6	V405	WING		20					8	6.000													8	6	8	6	26
2	6	V406	WING		20					5	11.000													5	11	5	11	18
18	6	V407	WING		20			V	2	7	9.000													7	9	7	9	
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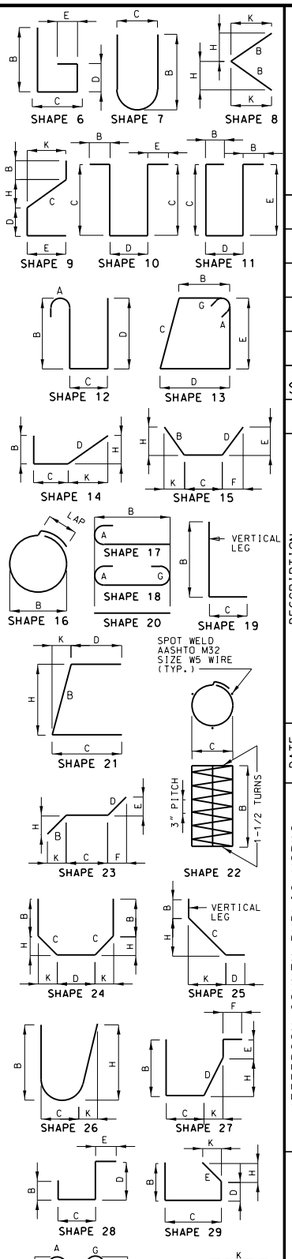
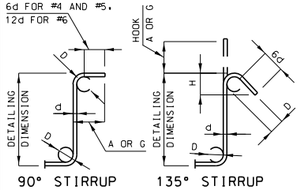
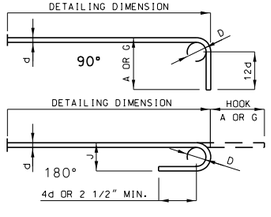


BENDING DIAGRAMS



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

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



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

NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.
E = EPOXY COATED REINFORCEMENT.
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X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
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NO. EA. = NUMBER OF BARS OF EACH LENGTH.
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REINFORCING STEEL (GRADE 60) FY = 60,000 PSI.

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24698
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED
3/11/2020

STATE	SHEET NO.
MO	41

ROUTE
CHARTER CHURCH

COUNTY
JEFFERSON

JOB NO.
17-6026

PROJECT NO.
STP-5403 (673)

BRIDGE NO.
35500101

DATE	DESCRIPTION
. . . . .	. . . . .

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

JEFFERSON COUNTY PUBLIC WORKS
DEPARTMENT
P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

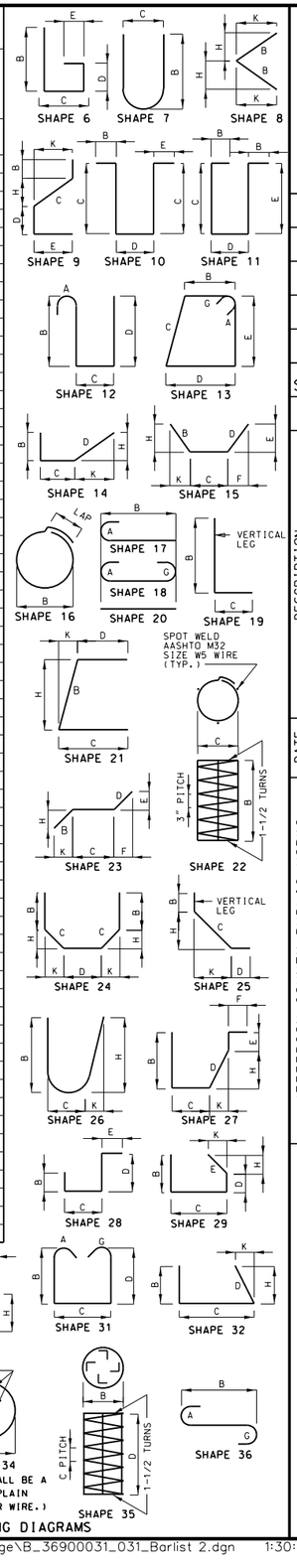
ABNA
4140 LINDELL BOULEVARD
ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

BILL OF REINFORCING STEEL

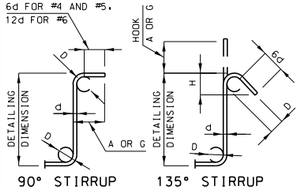
NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
			INT BENT 2																
20	6	D200	BEAM	E	20					4 2.000							4 2	4 2	125
6	9	H200	BEAM		20					31 3.000							31 3	31 3	638
6	9	H201	BEAM		17					24 3.000							25 6	25 6	520
6	9	H202	BEAM		17					13 11.000							15 2	15 2	309
10	6	H203	BEAM		20					31 3.000							31 3	31 3	470
14	6	H204	BEAM		10						22.000	3 1.000					6 9	6 5	135
32	5	U200	BEAM		13	S				2 2.000	3 8.000	2 2.000	3 8.000				12 7	12 3	408
32	5	U201	BEAM		13	S				2 2.000	4 0.000	2 2.000	4 0.000				13 3	12 11	431
4	5	U202	BEAM		10						2 0.000	3 2.000					7 2	6 11	29
24	5	U203	BEAM		10						3 8.000	2 2.000					9 6	9 3	232
33	9	V200	COLUMN		20					31 0.000							30 0	30 0	3478
3	4	P200	COLUMN		35					2 9.000	4.000	24 0.000					616 0	616 0	1234
27	4	P201	COLUMN/BEAM		34					2 9.000							9 7	9 7	186

BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
			INT BENT 3																
20	6	D300	BEAM	E	20					4 2.000							4 2	4 2	125
6	9	H300	BEAM		20					31 3.000							31 3	31 3	638
6	9	H301	BEAM		17					24 3.000							25 6	25 6	520
6	9	H302	BEAM		17					13 11.000							15 2	15 2	309
10	6	H303	BEAM		20					31 3.000							31 3	31 3	470
14	6	H304	BEAM		10						22.000	3 1.000					6 9	6 5	135
32	5	U300	BEAM		13	S				2 2.000	3 8.000	2 2.000	3 8.000				12 7	12 3	408
32	5	U301	BEAM		13	S				2 2.000	4 0.000	2 2.000	4 0.000				13 3	12 11	431
4	5	U302	BEAM		10						2 0.000	3 2.000					7 2	6 11	29
24	5	U303	BEAM		10						3 8.000	2 2.000					9 6	9 3	232
33	9	V300	COLUMN		20					34 0.000							30 0	30 0	3815
3	4	P300	COLUMN		35					2 9.000	4.000	27 0.000					616 0	616 0	1234
27	4	P301	COLUMN/BEAM		34					2 9.000							9 7	9 7	186



BENDING DIAGRAMS



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"
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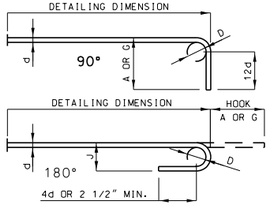
#6	4 1/2"	12"	8"	4 1/2"

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



END HOOK DIMENSIONS				
BAR SIZE	D (IN.)	ALL GRADES		
		180° HOOKS		90° HOOKS
		A OR G	J	A OR G
#3	2 1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3 3/4"	7"	5"	10"
#6	4 1/2"	8"	6"	12"
#7	5 1/4"	10"	7"	14"
#8	6"	11"	8"	16"
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REINFORCING STEEL (GRADE 60) FY = 60,000 PSI.

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24698
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED
3/11/2020

STATE	SHEET NO.
MO	42

ROUTE
CHARTER CHURCH

COUNTY
JEFFERSON

JOB NO.
17-6026

PROJECT NO.
STP-5403 (673)

BRIDGE NO.
35500101

DESCRIPTION	DATE

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

JEFFERSON COUNTY PUBLIC WORKS
DEPARTMENT
P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
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ABNA
4140 LINDELL BOULEVARD
ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

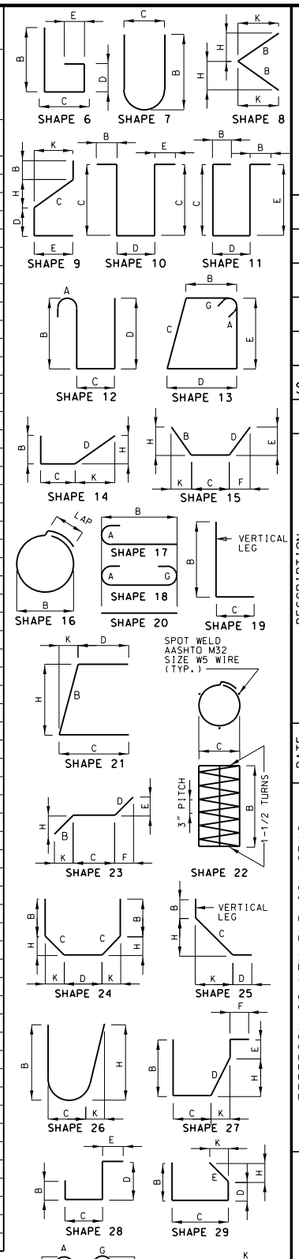
J:\2017\6026\Cadd\Design\Bridge\B_36900031_031_Barlist 2.dgn 1:30:12 PM 3/11/2020

BILL OF REINFORCING STEEL

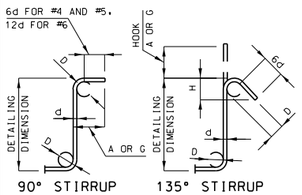
NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
INT BENT 2 DIAPHRAGM																												
20	6	H250	DIAPHRAGM		20					3														3	9	3	9	113
20	4	H251	DIAPHRAGM		20					3	9.000													3	9	3	9	50
16	5	H252	STRAND TIE		20					4	9.000													4	0	4	0	67
8	5	H253	STRAND TIE		20					2	0.000													2	10	2	10	24
16	5	H254	DIAPHRAGM		19					2	10.000		8.000											3	3	3	1	51
											7.000																	
20	6	U250	DIAPHRAGM	E	28							3	4.000	2	3.000	14.000								6	9	6	5	193
30	4	U251	DIAPHRAGM	E	28							3	4.000	2	3.000	12.000								6	7	6	4	127
8	5	V201	DIAPHRAGM	E	20					3	7.000													3	7	3	7	30
INT BENT 3 DIAPHRAGM																												
20	6	H350	DIAPHRAGM		20					3	9.000													3	9	3	9	113
20	4	H351	DIAPHRAGM		20					3	9.000													3	9	3	9	50
16	5	H352	STRAND TIE		20					4	0.000													4	0	4	0	67
8	5	H353	STRAND TIE		20					2	10.000													2	10	2	10	24
16	5	H354	DIAPHRAGM		19					2	7.000		8.000											3	3	3	1	51
20	6	U350	DIAPHRAGM	E	28							3	4.000	2	3.000	14.000								6	9	6	5	193
30	4	U351	DIAPHRAGM	E	28							3	4.000	2	3.000	12.000								6	7	6	4	127
8	5	V301	DIAPHRAGM	E	20					3	7.000													3	7	3	7	30
SAFETY BARRIER CURB																												
512	5	R1	SBC	E	26					2	6.000		4.250							2	6.000	3.000		5	4	5	3	2804
512	5	R3	SBC	E	19						17.000		6.000											1	11	1	9	935
512	5	R4	SBC	E	27								6.000	11.250		7.000		12.000		9.250		6.375		3	0	2	10	1513
56	5	R5	SBC	E	20					9	9.000													9	9	9	9	569
28	5	R6	SBC	E	20					35	10.000													35	10	35	10	1046
14	5	R7	SBC	E	20					53	9.000													53	9	53	9	785
60	5	K1	SBC	E	19					2	5.000		5.125											2	10	2	9	172
60	5	K2	SBC	E	14						5.125		11.125	18.000						2.000		17.875		2	10	2	9	172
16	5	K3	SBC	E	27					3	4.125		5.125	12.000		2	6.250			9.875		6.875		7	3	7	1	118
44	5	K4	SBC	E	7					3	4.125		6.000											6	12	6	11	317
4	5	K5	SBC	E	25					2	7.000		6.750	4.375						5.500		4.000		3	6	3	5	14
4	5	K6	SBC	E	25					2	7.250		8.000	4.375						6.500		4.500		3	8	3	7	15
4	5	K7	SBC	E	25					2	7.250		9.625	4.375						7.875		5.500		3	9	3	9	16
4	5	K8	SBC	E	25					2	6.750		11.250	4.375						9.250		6.500		3	10	3	10	16
48	5	K9	SBC	E	20					5	5.000													5	5	5	5	271
12	4	K10	SBC	E	20					2	3.000													2	3	2	3	18
4	5	K11	SBC	E	8					2	2.000									2	2.000	2.375		4	4	4	4	18
40	5	C1	SLIP FORM	E	20					10	0.000													10	0	10	0	418

BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
			SLAB																									
346	5	S1	SLAB	E	20					2	7.000													2	7	2	7	932
165	5	S2	SLAB	E	20					37	6.000													37	6	37	6	6454
10	5	S3	SLAB	E	20			V	2	29	10.000													29	10	29	10	
			INCR=34.0IN							4	3.000													4	3	4	3	445
343	6	S4	SLAB	E	20					32	5.000													32	5	32	5	16701
104	7	S5	SLAB	E	20					32	0.000													32	0	32	0	6802



BENDING DIAGRAMS



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"
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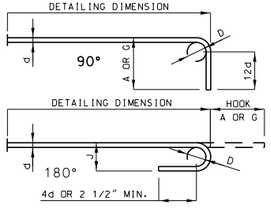

END HOOK DIMENSIONS				
BAR SIZE	D (IN.)	ALL GRADES		
		180° HOOKS		90° HOOKS
		A OR G	J	A OR G
#3	2 1/4"	5"	3"	6"
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#5	3 3/4"	7"	5"	10"
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REINFORCING STEEL (GRADE 60) FY = 60,000 PSI.

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24698
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED
3/11/2020

STATE	SHEET NO.
MO	43

ROUTE
CHARTER CHURCH

COUNTY
JEFFERSON

JOB NO.
17-6026

PROJECT NO.
STP-5403 (673)

BRIDGE NO.
35500101

DESCRIPTION	DATE
. . . . .	. . . . .

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JEFFERSON COUNTY PUBLIC WORKS
DEPARTMENT

P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
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ABNA
4140 LINDELL BOULEVARD
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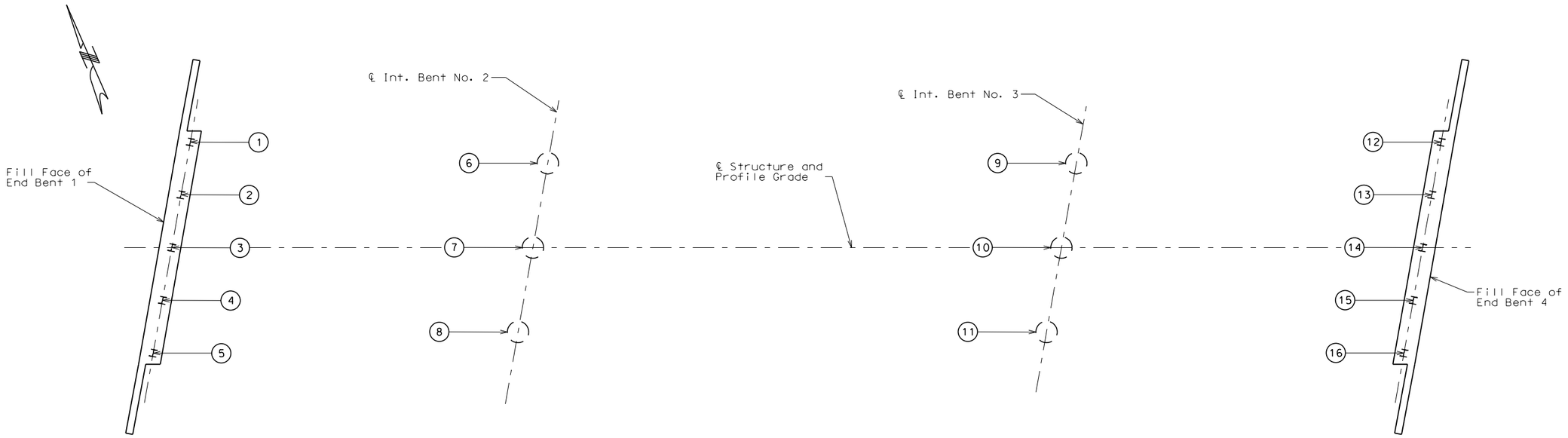

PART PLAN SHOWING
PILE NUMBERING FOR RECORDING
"AS BUILT PILE" DATA

NOTE: INDICATE IN REMARKS COLUMN:
A.) IF PILING WERE DRIVEN TO PRACTICAL REFUSAL.
B.) PILE BATTER IF OTHER THAN SHOWN ON BENT DETAIL SHEET.
C.) TYPE OF PILING USED.

NOTE: THIS SHEET TO BE COMPLETED BY CONSTRUCTION PERSONNEL.

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (KIPS)	REMARKS
			END BENT NO. 1
1			
2			
3			
4			
5			

"ROCK SOCKET" DATA			
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (KIPS)	REMARKS
			INTERMEDIATE BENT NO. 2
6			
7			
8			
			INTERMEDIATE BENT NO. 3
9			
10			
11			

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (KIPS)	REMARKS
			END BENT NO. 4
12			
13			
14			
15			
16			

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24698
REGISTERED PROFESSIONAL ENGINEER

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

DATE PREPARED: 3/11/2020
STATE: MO | SHEET NO.: 44
ROUTE: CHARTER CHURCH
COUNTY: JEFFERSON
JOB NO.: 17-6026
PROJECT NO.: STP-5403 (673)
BRIDGE NO.: 35500101

DESCRIPTION | DATE

JEFFERSON COUNTY PUBLIC WORKS
DEPARTMENT
P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

ABNA
4140 LINDELL BOULEVARD
ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

REV.

ABNA

DAILY FIELD REPORT BOREHOLE LOG

SHEET 1 OF 2
PROJECT NUMBER: 17-6026
HOLE NUMBER: BH-1

PROJECT: Charter Church Road Bridge | Location: Location: 29.5 feet west of existing West Abutment of the Bridge
COORDINATES: | DRILLING CONTRACTOR: Terracon
DRILL MAKE AND MODEL: CME - ATV Drill Rig | DEPTH TOP OF ROCK: 19' | DEPTH CASING & SIZE: 9' - HAS | HOLE SIZE: 3.25"
ELEVATION: 524.66 | ANGLE FROM VERT. AND BEARING: 0 | DEPTH BOTTOM OF HOLE: 27'
WATER LEVEL: 18.5' | FLUIDS AND ADDITIVES: Water for Coring | DATE START: 1/30/18 | DATE FINISH: 1/30/18 | LOGGER: RJS

ELEVATION	DEPTH BELOW SURFACE (Feet)	SAMPLE INTERVAL	SAMPLE TYPE & NUMBER	SAMPLE RECOVERY	STANDARD PENETRATION TEST RESULT / Pocket Penetrometer tons/ft²	SYMBOLIC LOG	MOISTURE %	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	SOIL DESCRIPTION (NAME, GRADATION OR PLASTICITY, PARTICLE SIZE DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL)
	1										Asphalt for Roadway
	2	1-2.5	SS-1	14"	9 - 13 - 12 PP = 0						Dark Brown Gravelly Sand, Dense Angular, Dry Fill Material
	3										
	4	3.5-5	SS-2	11"	5 - 7 - 9 PP = 0						Dark Brown Gravel - Sand - Clay, Medium Dense, Angular, Dry Fill Material
	5										
	6										
	7	6-7.5	SS-3	11"	22 - 50/3" PP = 1.75						Dark Brown Gravel - Sand - Clay, Very Dense (Very Stiff), Angular, Dry Fill Material
	8										
	9	8.5-9	SS-4	5"	50/5.5"						Dark Brown, Gravely Sand, Very Dense, Angular, Fill Material
		9-9.5	Core								Concrete Fill
	10										Brown Gravelly Sand
	11										
	12										
	13										
	14										
	15										
	16										
	17										
	18										
	19										Top of Rock at 19'
	20	19-22	Core	2'/3'							2' Limestone, Hard, Pitted to Dense, Very Finely Crystalline, Slightly to Moderately Weathered, Poor RQD

ABNA

DAILY FIELD REPORT BOREHOLE LOG

SHEET 2 OF 2
PROJECT NUMBER: 17-6026
HOLE NUMBER: BH-1

PROJECT: Charter Church Road Bridge | Location: 29.5 feet west of existing West Abutment of the Bridge
COORDINATES: | DRILLING CONTRACTOR: Terracon
DRILL MAKE AND MODEL: CME - ATV Drill Rig | DEPTH TOP OF ROCK: 19' | DEPTH CASING & SIZE: 9' - HAS | HOLE SIZE: 3.25"
ELEVATION: 524.66 | ANGLE FROM VERT. AND BEARING: 0 | DEPTH BOTTOM OF HOLE: 27'
WATER LEVEL: 18.5' | FLUIDS AND ADDITIVES: Water for Coring | DATE START: 1/30/18 | DATE FINISH: 1/30/18 | LOGGER: RJS

ELEVATION	DEPTH BELOW SURFACE (Feet)	SAMPLE INTERVAL	SAMPLE TYPE & NUMBER	SAMPLE RECOVERY	STANDARD PENETRATION TEST RESULT / Pocket Penetrometer tons/ft²	SYMBOLIC LOG	MOISTURE %	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	SOIL DESCRIPTION (NAME, GRADATION OR PLASTICITY, PARTICLE SIZE DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL)
	21	19-22	Core	2'/3'							2' Limestone, Hard, Pitted to Dense, Very Finely Crystalline, Slightly to Moderately Weathered, Poor RQD
	22										1' Void or Very Soft Sandstone
	23										4" Sandstone, Soft, Finely Crystalline, Very Poor RQD
	24										
	25										
	26										
	27										8" Limestone, Hard, Finely Crystalline, Very Poor RQD
											Bottom of the Hole at 27 feet

Note: For location of borings see Sheet No. 2.

BORING LOGS

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24698
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED: 3/11/2020
STATE: MO | SHEET NO.: 45
ROUTE: CHARTER CHURCH
COUNTY: JEFFERSON
JOB NO.: 17-6026
PROJECT NO.: STP-5403 (673)
BRIDGE NO.: 35500101

DESCRIPTION
DATE

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

JEFFERSON COUNTY PUBLIC WORKS
DEPARTMENT
P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

ABNA
4140 LINDELL BOULEVARD
ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

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DAILY FIELD REPORT BOREHOLE LOG

SHEET 1 OF 1
PROJECT NUMBER: 17-6026
HOLE NUMBER: BH-2

PROJECT: Charter Church Road Bridge | Location: Proposed West Pier
COORDINATES: | DRILLING CONTRACTOR: Terracon
DRILL MAKE AND MODEL: CME - ATV Drill Rig | DEPTH TOP OF ROCK: 11.5' | DEPTH CASING & SIZE: 7.5' - HSA | HOLE SIZE: 3.25"
ELEVATION: 512.44 | ANGLE FROM VERT. AND BEARING: ~5° | DEPTH BOTTOM OF HOLE: 20'
WATER LEVEL: 1' | FLUIDS AND ADDITIVES: Water for Coring | DATE START: 1/31/18 | DATE FINISH: 1/31/18 | LOGGER: RJS

ELEVATION	DEPTH BELOW SURFACE (Feet)	SAMPLE INTERVAL	SAMPLE TYPE & NUMBER	SAMPLE RECOVERY	STANDARD PENETRATION TEST RESULT / Pocket Penetrometer tons/ft²	SYMBOLIC LOG	MOISTURE %	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	SOIL DESCRIPTION (NAME, GRADATION OR PLASTICITY, PARTICLE SIZE DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL)
	1										Cobbles, Gravel and Sand
	2										
	3										
	4										
	5										
	6										
	7										Auger refusal at 7.5'
	8	7' -12'	Core	20"/60"							6" Boulder Sand and Clay
	9										
	10										
	11										
	12										1' Limestone, Hard, Moderately Weathered
	13	12'-15'	Core	2'/3'							2' Chert, Very Hard, Fresh, Dense, Fair RQD
	14										
	15										
	16										3' Limestone, Moderately Hard, Finely Crsytalline, Dense to Vuggy, RQD Poor to Fair
	17										
	18	15'-20'	Core	3'/5'							
	19										
	20										Bottom of the Hole at 20 feet

DAILY FIELD REPORT BOREHOLE LOG

SHEET 1 OF 1
PROJECT NUMBER: 17-6026
HOLE NUMBER: BH-3

PROJECT: Charter Church Road Bridge | Location: Existing East Pier
COORDINATES: | DRILLING CONTRACTOR: Terracon
DRILL MAKE AND MODEL: CME - ATV Drill Rig | DEPTH TOP OF ROCK: 7' | DEPTH CASING & SIZE: 4' - HSA | HOLE SIZE: 3.25"
ELEVATION: 509.76 | ANGLE FROM VERT. AND BEARING: 0 | DEPTH BOTTOM OF HOLE: 21'
WATER LEVEL: 0 | FLUIDS AND ADDITIVES: Water for Coring | DATE START: 1/31/18 | DATE FINISH: 1/31/18 | LOGGER: RJS

ELEVATION	DEPTH BELOW SURFACE (Feet)	SAMPLE INTERVAL	SAMPLE TYPE & NUMBER	SAMPLE RECOVERY	STANDARD PENETRATION TEST RESULT / Pocket Penetrometer tons/ft²	SYMBOLIC LOG	MOISTURE %	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	SOIL DESCRIPTION (NAME, GRADATION OR PLASTICITY, PARTICLE SIZE DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL)
	1										Boulders, Cobbles, Gravel and Sand
	2										
	3										
	4										Auger refusal at 4'
	5										6" Boulder - Limestone, Hard, Vuggy, Weathered Gravel / Sand
	6										
	7										
	8	6'-11'	Core	2'/5'							1.5' Limestone, Hard, Finely Crystalline, Fair RQD
	9										3" Sandstone, Soft 1.5' Drop
	10										
	11										
	12										3' Limestone, Moderately Hard to Hard, Finely Crystalline, Por to Fair RQD
	13	11'-16'	Core	3'/5'							
	14										
	15										
	16										
	17										18" Limestone, Moderately Hard, Finely Crystalline, Dense, Poor RQD Ancient Weathering that was refilled and hardened.
	18										
	19	16'-21'	Core	18"/60"							
	20										Bottom of the Hole at 21 feet

Note: For location of borings see Sheet No. 2.

BORING LOGS

STATE OF MISSOURI — STEPHEN ALSBURY — NUMBER E-24698 — REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED 3/11/2020
STATE MO | SHEET NO. 46
ROUTE CHARTER CHURCH
COUNTY JEFFERSON
JOB NO. 17-6026
PROJECT NO. STP-5403 (673)
BRIDGE NO. 35500101

DESCRIPTION | DATE

JEFFERSON COUNTY PUBLIC WORKS
DEPARTMENT
P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

ABNA
4140 LINDELL BOULEVARD
ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

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

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

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ABNA

DAILY FIELD REPORT BOREHOLE LOG

SHEET 1 OF 1

PROJECT NUMBER: 17-6026

HOLE NUMBER: BH-4

PROJECT: Charter Church Road Bridge		Location: 40' East of current Eastern Bridge Abutment	
COORDINATES:		DRILLING CONTRACTOR: Terracon	
DRILL MAKE AND MODEL: CME - ATV Drill Rig	DEPTH TOP OF ROCK: 16' ?	DEPTH CASING & SIZE: 16' - HAS	HOLE SIZE: 3.25"
ELEVATION: 524.70	ANGLE FROM VERT. AND BEARING: 0	DEPTH BOTTOM OF HOLE: 16'	
WATER LEVEL: 18.5'	FLUIDS AND ADDITIVES: Water for Coring	DATE START: 1/30/18 / DATE FINISH: 1/30/18	LOGGER: RJS

ELEVATION	DEPTH BELOW SURFACE (Feet)	SAMPLE INTERVAL	SAMPLE TYPE & NUMBER	SAMPLE RECOVERY	STANDARD PENETRATION TEST RESULT / Pocket Penetrometer tons/ft²	SYMBOLIC LOG	MOISTURE %	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	SOIL DESCRIPTION (NAME, GRADATION OR PLASTICITY, PARTICLE SIZE DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL)
	1										Asphalt for Roadway
	2	1-2.5	SS-1	11"	15 - 16 - 50/3" PP = 0						Dark Brown Gravelly Sand, Very Dense, Angular, Dry
	3										
	4	3.5-5	SS-2	1"	8 - 10 - 10 PP = 0						Dark Brown Gravelly Sand, Medium Dense, Angular, Dry
	5										
	6										
	7	6-7.5	SS-3	18"	12 - 16 - 37 PP = 0.75						6" Clayey Gravely, Very Dense 12" Sandy Gravel, Very Dense
	8										
	9	8.5-10	SS-4	15"	13 - 8 - 6 PP = 2.5						6" Gravel, Medium Dense 3" Cobble 6" Dark Brown Clay, Stiff
	10										
	11										
	12										
	13										
	14	13.5-15		0	16 - 14 - 3						No Recovery Medium Dense
	15										
	16										Auger Refusal at 16 feet - Bottom of the Hole
	17										Unable to drill past this point due to a worn out bit. Top of Bridge Abutment to Bedrock in creek was also aproximately 16 feet.
	18										
	19										
	20										

Note: For location of borings see Sheet No. 2.

BORING LOGS

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24698
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED 3/11/2020

STATE MO | SHEET NO. 47

ROUTE CHARTER CHURCH

COUNTY JEFFERSON

JOB NO. 17-6026

PROJECT NO. STP-5403 (673)

BRIDGE NO. 35500101

DESCRIPTION	DATE

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

JEFFERSON COUNTY PUBLIC WORKS
DEPARTMENT

P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

ABNA
4140 LINDELL BOULEVARD
ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

Detailed Oct 2019
Checked Oct 2019

Note: This drawing is not to scale. Follow dimensions.

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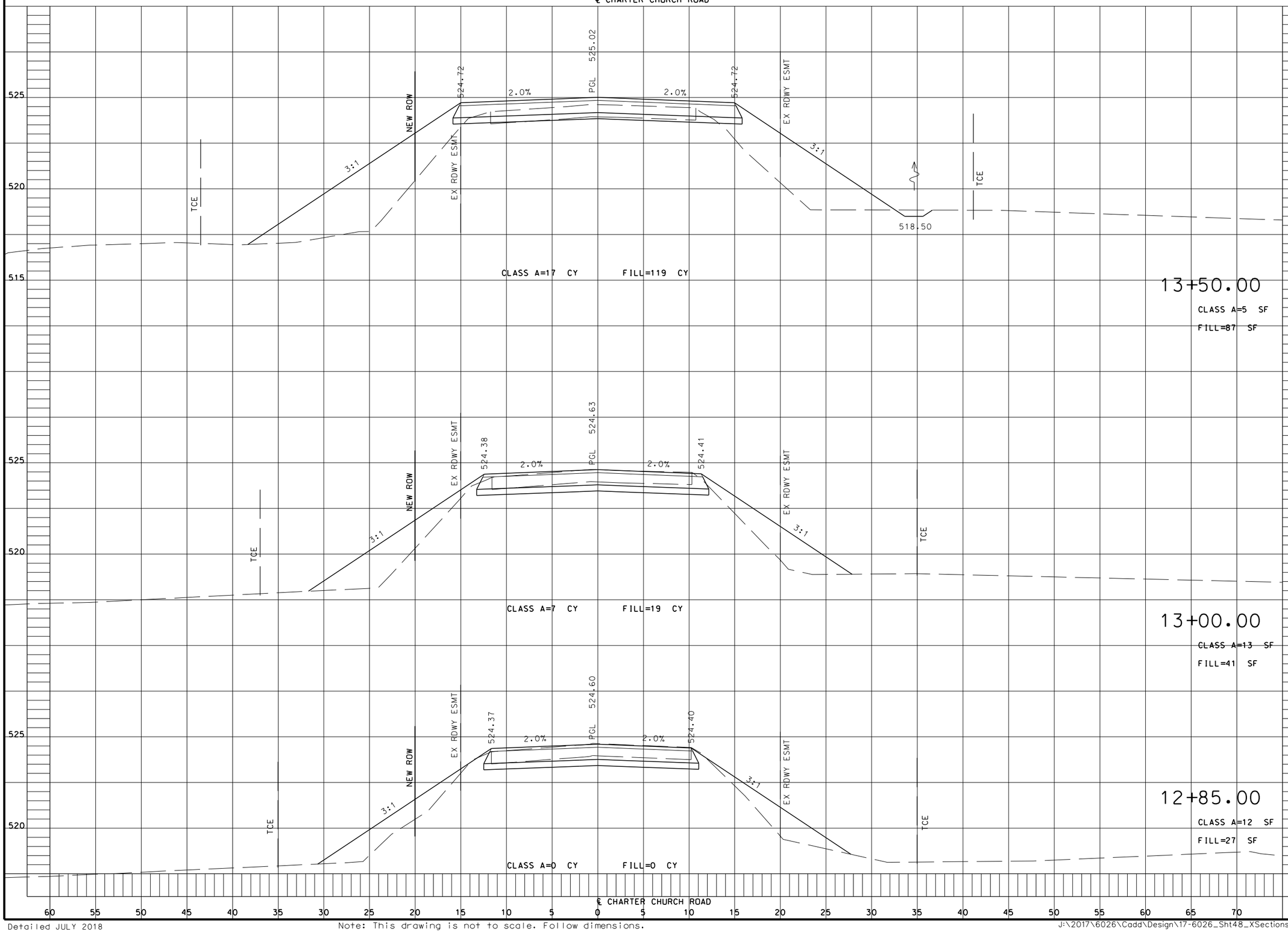
℄ CHARTER CHURCH ROAD



℄ CHARTER CHURCH ROAD

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24688
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED
3/11/2020

STATE	SHEET NO.
MO	48

ROUTE
CHARTER CHURCH

COUNTY
JEFFERSON

JOB NO.
17-6026

PROJECT NO.
STP-5403 (673)

BRIDGE NO.
35500101

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

DESCRIPTION	DATE

JEFFERSON COUNTY PUBLIC WORKS
DEPARTMENT
P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

ABNA
4140 LINDELL BOULEVARD
ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

REV.

Detailed JULY 2018
Checked JULY 2018

Note: This drawing is not to scale. Follow dimensions.

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℄ CHARTER CHURCH ROAD

℄ MITCH SWEET RD
14+16.03

SEE SHEETS 53-54 MITCH SWEET RD
CROSS SECTION END AREAS

CLASS A=2 SF
FILL=21 SF

525.24
525.54
525.45
520.73
517.37
525.19
525.49
525.19
518.00

1.9%
0.6%
8.7%
2.0%
2.0%

NEW ROW
EX RDWY ESMT
EX RDWY ESMT
NEW ROW
EX RDWY ESMT
NEW ROW
PGL
PGL
TCE
TCE
PDE

3:1
3:1
3:1

SEE SHEET 54 FOR
CULVERT PROFILE

CLASS A=4 CY FILL=26 CY

CLASS A=14 CY FILL=144 CY

14+00.00
CLASS A=10 SF
FILL=68 SF

525
520
515
525
520
515

60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

℄ CHARTER CHURCH ROAD

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24688
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED
3/11/2020

STATE	SHEET NO.
MO	49

ROUTE
CHARTER CHURCH

COUNTY
JEFFERSON

JOB NO.
17-6026

PROJECT NO.
STP-5403 (673)

BRIDGE NO.
35500101

DATE	DESCRIPTION

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

JEFFERSON COUNTY PUBLIC WORKS
DEPARTMENT

P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

ABNA
4140 LINDELL BOULEVARD
ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

Detailed JULY 2018
Checked JULY 2018

Note: This drawing is not to scale. Follow dimensions.

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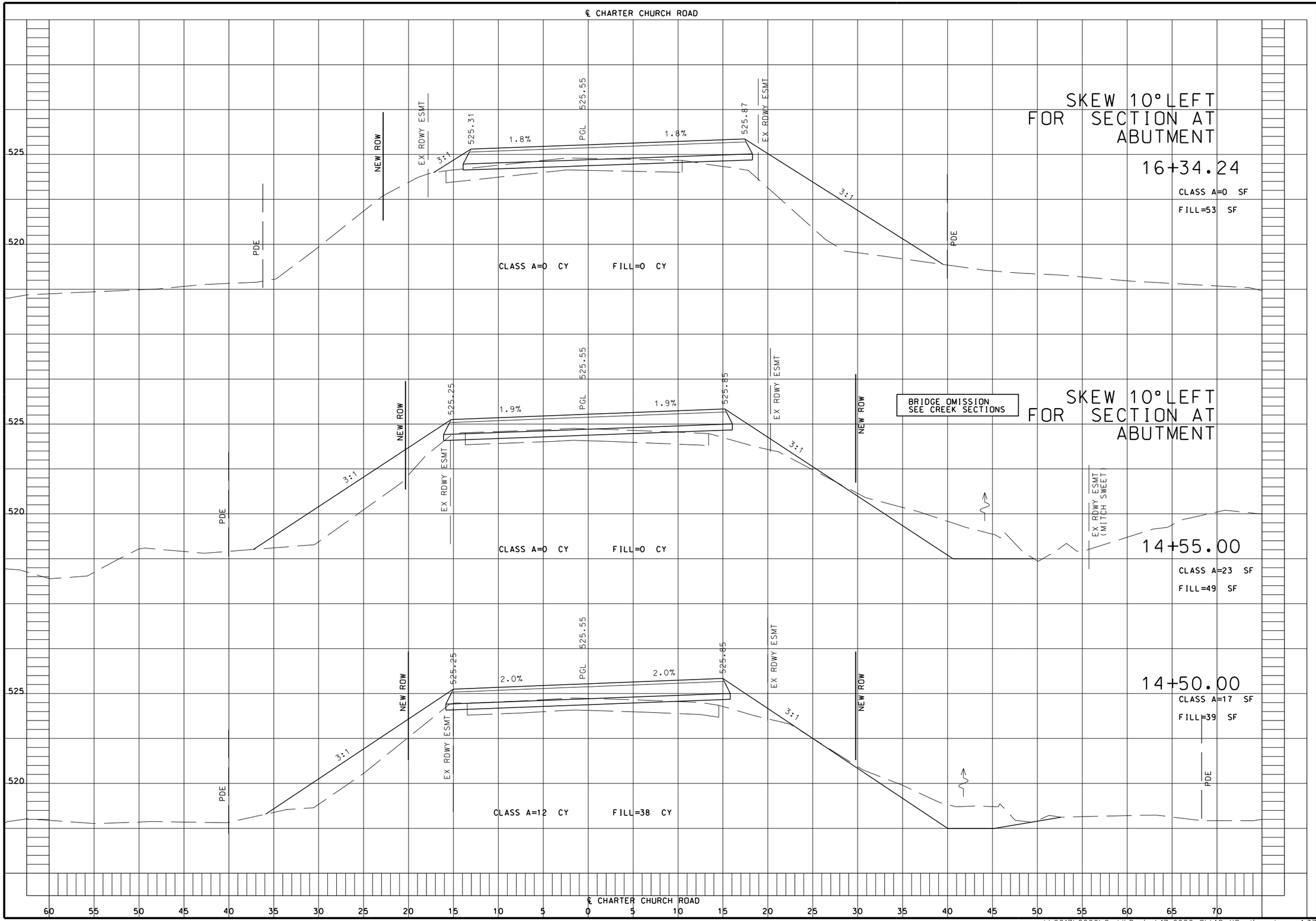
REV.

℄ CHARTER CHURCH ROAD



SKEW 10° LEFT
FOR SECTION AT
ABUTMENT

16+34.24

CLASS A=0 SF

FILL=53 SF

SKEW 10° LEFT
FOR SECTION AT
ABUTMENT

14+55.00

CLASS A=23 SF

FILL=49 SF

14+50.00

CLASS A=17 SF

FILL=39 SF

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24688
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED
3/11/2020

STATE	SHEET NO.
MO	50

ROUTE
CHARTER CHURCH

COUNTY
JEFFERSON

JOB NO.
17-6026

PROJECT NO.
STP-5403 (673)

BRIDGE NO.
35500101

DATE	DESCRIPTION

JEFFERSON COUNTY PUBLIC WORKS
DEPARTMENT

P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

ABNA
4140 LINDELL BOULEVARD
ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

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

REV.

Detailed JULY 2018
Checked JULY 2018

Note: This drawing is not to scale. Follow dimensions.

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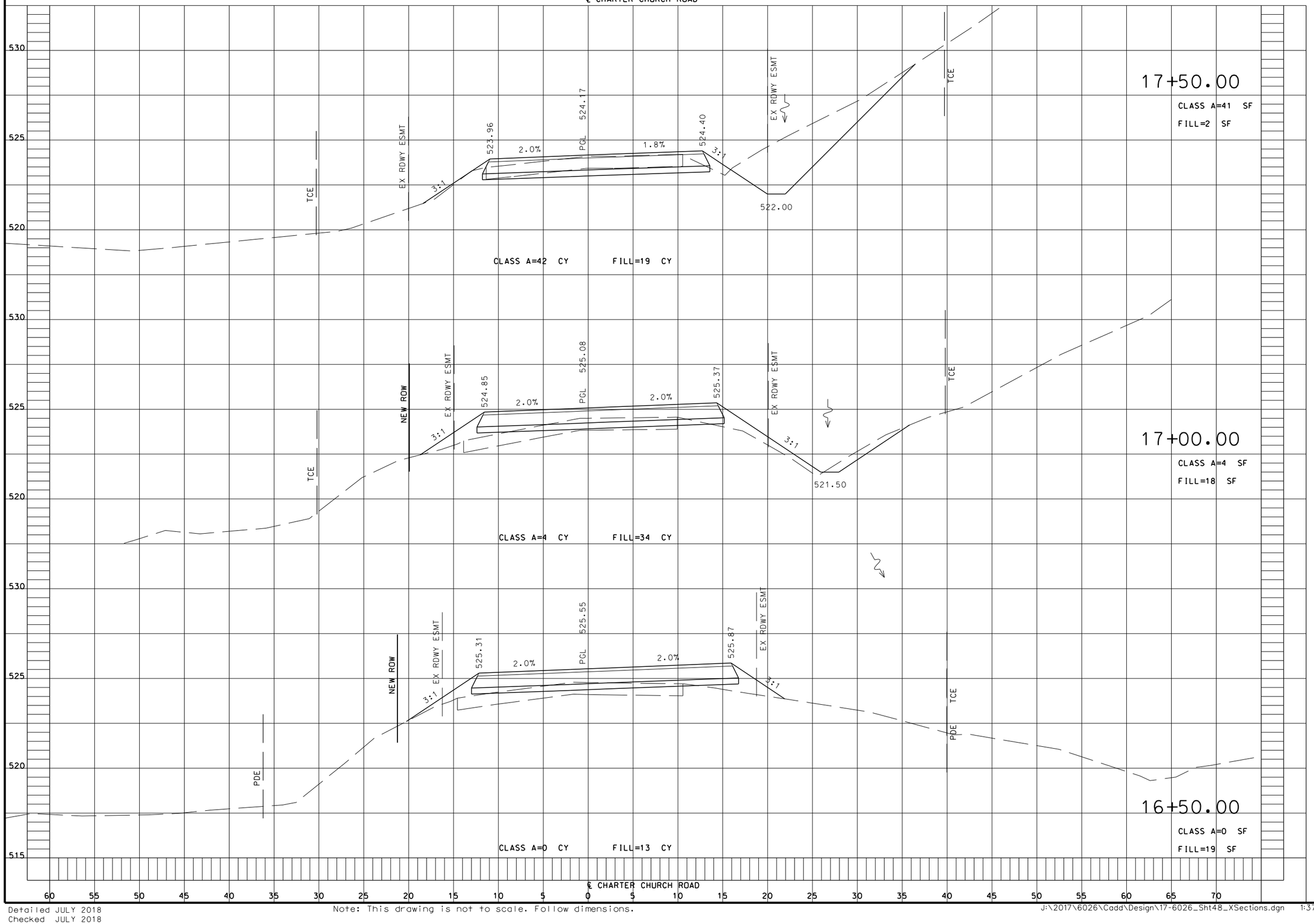
℄ CHARTER CHURCH ROAD



STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24688
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED
3/11/2020

STATE	SHEET NO.
MO	51

ROUTE
CHARTER CHURCH

COUNTY
JEFFERSON

JOB NO.
17-6026

PROJECT NO.
STP-5403 (673)

BRIDGE NO.
35500101

DATE	DESCRIPTION	REV.

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

JEFFERSON COUNTY PUBLIC WORKS
DEPARTMENT

P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

ABNA
4140 LINDELL BOULEVARD
ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

Detailed JULY 2018
Checked JULY 2018

Note: This drawing is not to scale. Follow dimensions.

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℄ CHARTER CHURCH ROAD

18+30.00

EX RDWY ESMT

EX RDWY ESMT

522.5

530
525
520
535
530
525
520
515

TCE

EX RDWY ESMT

3:1

523.59

2.0%

523.80

PGL

2.0%

523.58

3:1

EX RDWY ESMT

522.30

TCE

18+00.00

CLASS A=36 SF

FILL=2 SF

CLASS A=71 CY FILL=4 CY

60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

℄ CHARTER CHURCH ROAD

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24688
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED
3/11/2020

STATE MO | SHEET NO. 52

ROUTE
CHARTER CHURCH

COUNTY
JEFFERSON

JOB NO.
17-6026

PROJECT NO.
STP-5403 (673)

BRIDGE NO.
35500101

DESCRIPTION | DATE | REV.

JEFFERSON COUNTY PUBLIC WORKS
DEPARTMENT

P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

JEFFERSON COUNTY 1818 MISSOURI

ABNA
4140 LINDELL BOULEVARD
ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

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

Detailed JULY 2018
Checked JULY 2018

Note: This drawing is not to scale. Follow dimensions.

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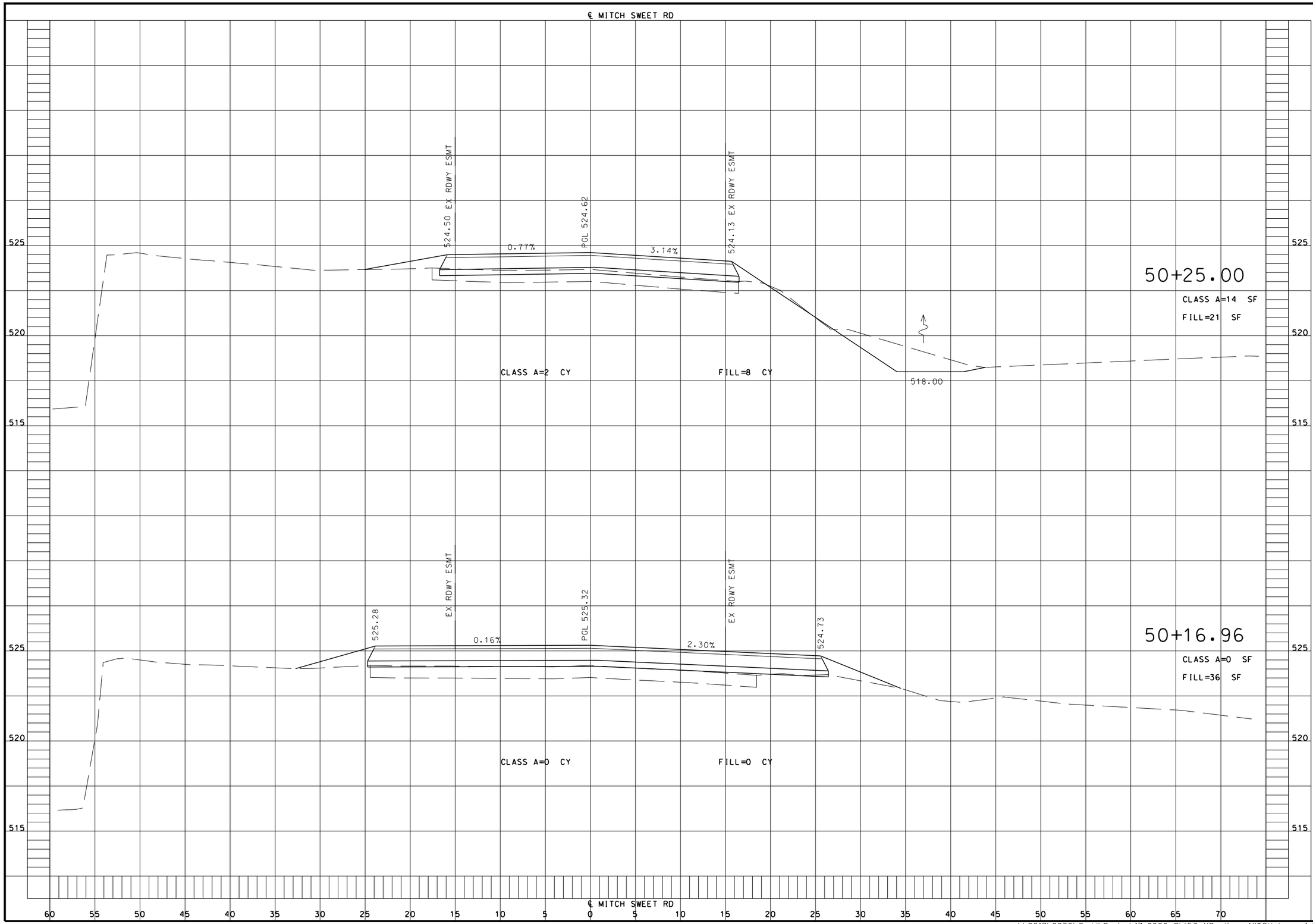


STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24688
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED
3/11/2020

STATE	SHEET NO.
MO	53

ROUTE
CHARTER CHURCH

COUNTY
JEFFERSON

JOB NO.
17-6026

PROJECT NO.
STP-5403 (673)

BRIDGE NO.
35500101

DATE	DESCRIPTION

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

JEFFERSON COUNTY PUBLIC WORKS
DEPARTMENT
P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

ABNA
4140 LINDELL BOULEVARD
ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

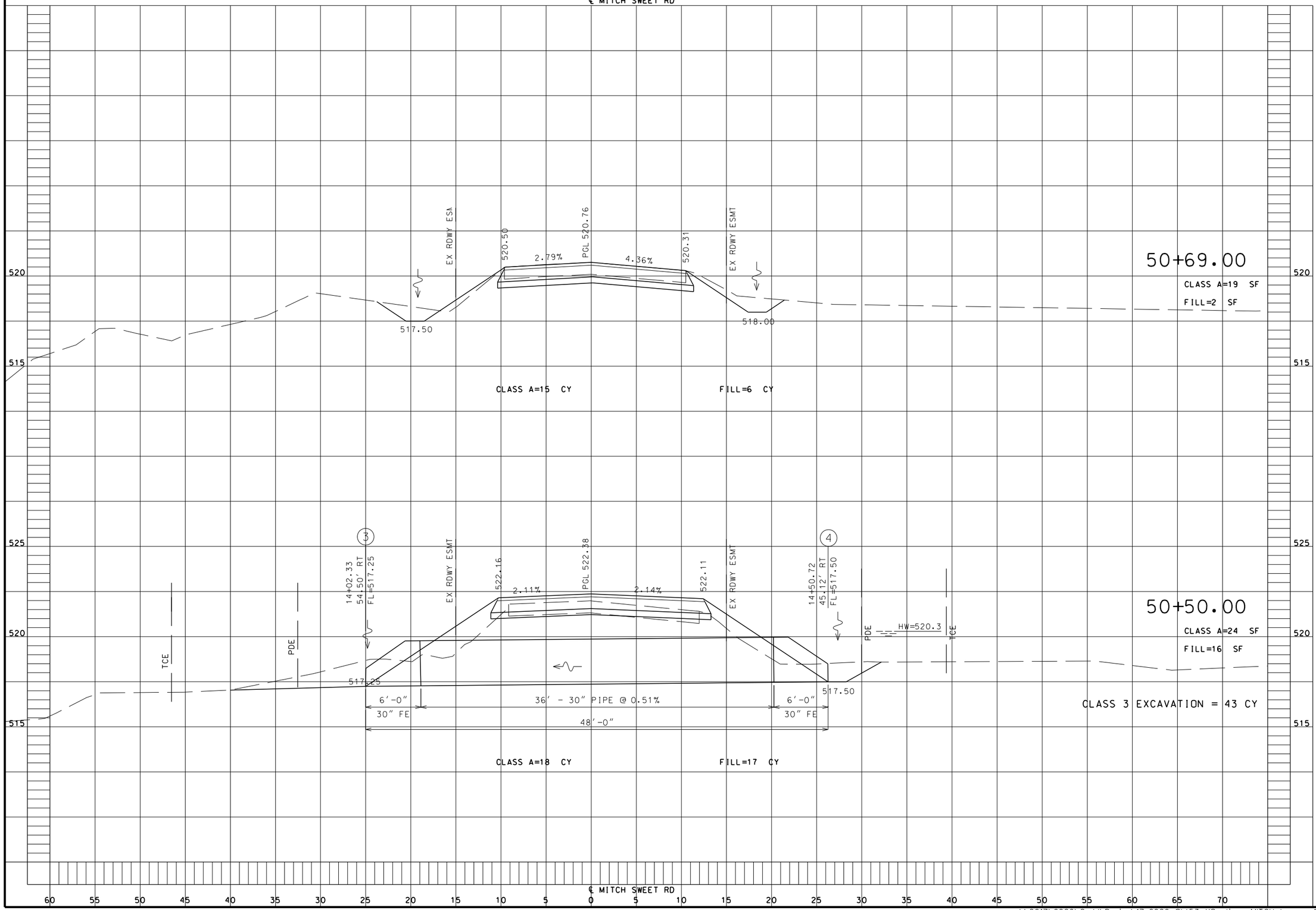
REV.

Detailed JULY 2018
Checked JULY 2018

Note: This drawing is not to scale. Follow dimensions.

J:\2017\6026\Cadd\Design\17-6026_Sht53_XSections_MITCH.dgn 1:40:27 PM 3/11/2020

℄ MITCH SWEET RD



℄ MITCH SWEET RD

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24688
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED
3/11/2020

STATE	SHEET NO.
MO	54

ROUTE
CHARTER CHURCH

COUNTY
JEFFERSON

JOB NO.
17-6026

PROJECT NO.
STP-5403 (673)

BRIDGE NO.
35500101

DATE	DESCRIPTION

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

JEFFERSON COUNTY PUBLIC WORKS
DEPARTMENT
P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

ABNA
4140 LINDELL BOULEVARD
ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

REV.

Detailed JULY 2018
Checked JULY 2018

Note: This drawing is not to scale. Follow dimensions.

J:\2017\6026\Cadd\Design\17-6026_Sht53_XSections_MITCH.dgn 1:41:01 PM 3/11/2020

℄ PLATTIN CRREK

CL BRIDGE
CLASS A= 907_SF
FILL=0_SF

CLASS A=494_CY

FILL=0_CY

15' DOWN STREAM
CLASS A= 871_SF
FILL=0_SF

CLASS A=353_CY

FILL=0_CY

30' DOWN STREAM
CLASS A= 400_SF
FILL=0_SF

CLASS A=0_CY

FILL=0_CY

525 520 515 510 505 525 520 515 510 525 520 515 510 530 525 520 515 510

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100

℄ PLATTIN CRREK

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24688
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED
3/11/2020

STATE	SHEET NO.
MO	55

ROUTE
CHARTER CHURCH

COUNTY
JEFFERSON

JOB NO.
17-6026

PROJECT NO.
STP-5403 (673)

BRIDGE NO.
35500101

DESCRIPTION	DATE

JEFFERSON COUNTY PUBLIC WORKS
DEPARTMENT

P.O. BOX 100
HILLSBORO, MO 63050
(636-797-5340) PHONE
(636-797-5565) FAX

ABNA
4140 LINDELL BOULEVARD
ST. LOUIS, MO 63108
PH. 314-454-0222
CERTIFICATE/LICENSE NO. 001501

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

Detailed JULY 2018
Checked JULY 2018

Note: This drawing is not to scale. Follow dimensions.

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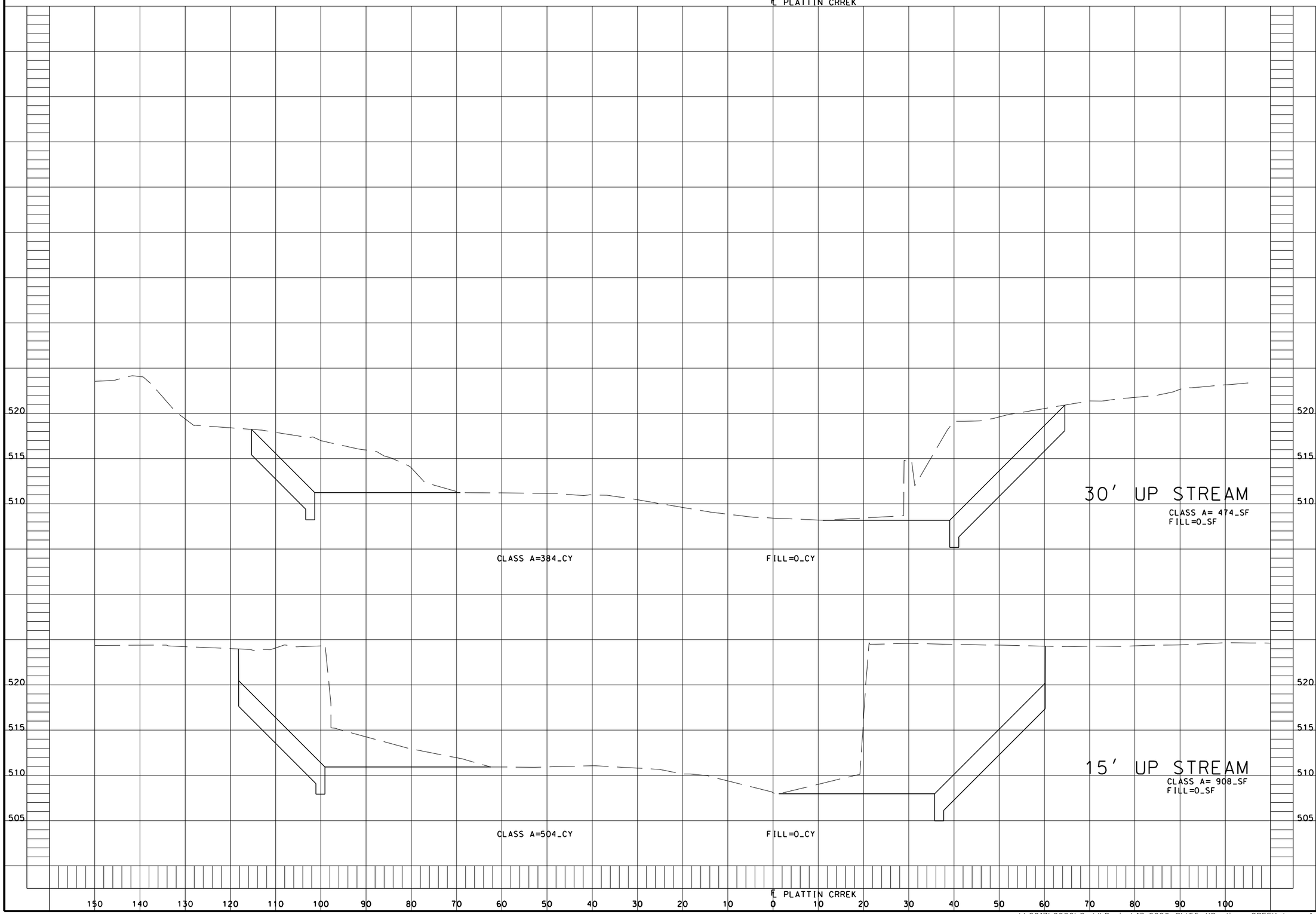
REV.

℄ PLATTIN CRREK



℄ PLATTIN CRREK

STATE OF MISSOURI
STEPHEN ALSBURY
NUMBER E-24688
REGISTERED PROFESSIONAL ENGINEER

DATE PREPARED
3/11/2020

STATE	SHEET NO.
MO	56

ROUTE
CHARTER CHURCH

COUNTY
JEFFERSON

JOB NO.
17-6026

PROJECT NO.
STP-5403 (673)

BRIDGE NO.
35500101

DESCRIPTION	DATE

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