

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

AS-1-15 REVISED 7/17/2015
 AS-2-15 REVISED 1/18/2019
 DS-1-92 REVISED 7/15/2022
 PCB-91 REVISED 07/17/2020
 SB-1-08 REVISED 1/15/2021
 TST-2-21 DATED 7/16/2021

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE 9TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020, AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

LOAD MODIFIER FOR OPERATIONAL IMPORTANCE

A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN LOADING

HL-93 WITH FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/SQ.FT.

DESIGN DATA

THE FOLLOWING DESIGN DATA IS ASSUMED:
 CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)
 CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)
 CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.0 KSI (DRILLED SHAFT)
 EPOXY COATED REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

DRILLED SHAFTS

THE MAXIMUM FACTORED LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 132 KIPS. THIS LOAD IS RESISTED BY SIDE RESISTANCE WITHIN A PORTION OF THE BEDROCK SOCKET AND BY TIP RESISTANCE. THE FACTORED RESISTANCE DEVELOPED BY SIDE RESISTANCE IS 0 KIPS, ASSUMED TO ACT ALONG THE BOTTOM 5 FEET OF THE BEDROCK SOCKET. THE FACTORED RESISTANCE PROVIDED BY THE DRILLED SHAFT TIP IS 132 KIPS.

ITEM 503 - UNCLASSIFIED EXCAVATION, INCLUDING SHALE, AS PER PLAN

THIS ITEM IS TO PERFORM ALL EXCAVATION, INCLUDING EXCAVATION OF SHALE, TO THE LIMITS NECESSARY TO CONSTRUCT THE STRUCTURE AS PER THE DETAILS IN THE PLANS AND MEET THE REQUIREMENTS OF C&MS 503. THIS ITEM SHALL ALSO INCLUDE THE BACKFILL OF THE EXCAVATED AREAS PER C&MS 503.08.

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	GEN	ABUT	PIER	SUPER	SEE SHEET NO.
202	11003	LS		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					10/114
202	22900	80	SY	APPROACH SLAB REMOVED	80				
202	23500	80	SY	WEARING COURSE REMOVED	80				
503	11100	LS		COFFERDAMS AND EXCAVATION BRACING					
503	21100	374	CY	UNCLASSIFIED EXCAVATION	374				
503	21303	LS		UNCLASSIFIED EXCAVATION, INCLUDING SHALE, AS PER PLAN					2/12
503	31120	152	CY	SHALE EXCAVATION		152			
509	10000	33835	LB	EPOXY COATED REINFORCING STEEL		16179		17656	
511	33412	90	CY	GLASS QC2 CONCRETE, SUPERSTRUCTURE				90	
511	43512	333	CY	GLASS QC1 CONCRETE WITH QC/QA, ABUTMENT INCLUDING FOOTING		333			
512	10100	202	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)		191		11	
516	13600	44	SF	1" PREFORMED EXPANSION JOINT FILLER				44	
516	14020	102	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL				102	
516	43200	12	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE) (11 3/4"x11 3/4"x2")				12	
517	70100	78	FT	RAILING (THREE STEEL TUBE BRIDGE RAILING)				78	
518	21200	200	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC		200			
SPECIAL	51822300	50	FT	STEEL DRIP STRIP				50	10/12
518	40000	202	FT	6" PERFORATED CORRUGATED PLASTIC PIPE		202			
518	40012	40	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE		40			
524	94804	140	FT	DRILLED SHAFTS, 42" DIAMETER, INTO BEDROCK		140			
526	30000	293	SY	REINFORCED CONCRETE APPROACH SLABS (T=17")	293				
526	90010	88	FT	TYPE A INSTALLATION	88				
613	41200	60	CY	LOW STRENGTH MORTAR BACKFILL		60			

ABBREVIATIONS

- | | | | | | |
|--------|---|--|-----------|---|--------------------|
| STA. | - | STATION | JT. | - | JOINT |
| F.A. | - | FORWARD ABUTMENT | C.J. | - | CONSTRUCTION JOINT |
| R.A. | - | REAR ABUTMENT | EF | - | EACH FACE |
| EL. | - | ELEVATION | STD. DWG. | - | STANDARD DRAWING |
| SPA. | - | SPACED | CLR. | - | CLEAR |
| PEJF | - | PREFORMED EXPANSION JOINT FILLER | T | - | TOP |
| F | - | FRONT | B | - | BOTTOM |
| B | - | BACK | LT. | - | LEFT |
| TYP. | - | TYPICAL | RT. | - | RIGHT |
| NPCPP | - | NON-PERFORATED CORRUGATED PLASTIC PIPE | N.F. | - | NEAR FACE |
| PCPP | - | PERFORATED CORRUGATED PLASTIC PIPE | F.F. | - | FAR FACE |
| PROP. | - | PROPOSED | BRG. | - | BEARING |
| CONST. | - | CONSTRUCTION | | | |
| EX. | - | EXISTING | | | |

REV. BY	DATE	DESCRIPTION
BSM	8-8-23	REVISED EXCAVATION PAY ITEM
DATE COMPLETED	08-08-2023	

DESIGN AGENCY
 FISHER ENGINEERING
 28366 KENSINGTON LANE, SUITE 3
 PERRYSBURG, OHIO 43051
 PHONE: (419) 841-4704 FAX: (419) 841-2979

REVIEWED DATE
 EEC 1-20-23
 STRUCTURE FILE NUMBER
 5200483

DESIGNED
 BSM
 CHECKED
 JBD

GENERAL NOTES AND ESTIMATED QUANTITIES
 BRIDGE NO. MED-18-0172
 SR 18 OVER CENTER CREEK

MED-18-(1.71)(1.92)
 (2.41)
 PID No. 88876

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

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DESIGN LOADING

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 CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.0 KSI (DRILLED SHAFT)
 EPOXY COATED REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

DRILLED SHAFTS

THE MAXIMUM FACTORED LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 157 KIPS. THIS LOAD IS RESISTED BY SIDE RESISTANCE WITHIN A PORTION OF THE BEDROCK SOCKET AND BY TIP RESISTANCE. THE FACTORED RESISTANCE DEVELOPED BY SIDE RESISTANCE IS 0 KIPS, ASSUMED TO ACT ALONG THE BOTTOM 5 FEET OF THE BEDROCK SOCKET. THE FACTORED RESISTANCE PROVIDED BY THE DRILLED SHAFT TIP IS 157 KIPS.

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202	11003	LS		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					10/114
202	22900	80	SY	APPROACH SLAB REMOVED	80				
202	23500	259	SY	WEARING COURSE REMOVED	259				
503	11100	LS		COFFERDAMS AND EXCAVATION BRACING					
503	21100	184	CY	UNCLASSIFIED EXCAVATION		184			
503	21303	LS		UNCLASSIFIED EXCAVATION, INCLUDING SHALE, AS PER PLAN					2/12
503	31120	135	CY	SHALE EXCAVATION		135			
509	10000	26841	LB	EPOXY COATED REINFORCING STEEL		10993		15848	
511	33412	84	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE				84	
511	43512	189	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT INCLUDING FOOTING		189			
512	10100	138	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)		128		10	
516	13600	41	SF	1" PREFORMED EXPANSION JOINT FILLER				41	
516	14020	102	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL				102	
516	43200	10	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE)(11 3/4" X 11 3/4" X 2")				10	
517	70100	72	FT	RAILING (THREE STEEL TUBE BRIDGE RAILING)				72	
518	21200	142	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC		142			
SPECIAL	51822300	44	FT	STEEL DRIP STRIP				44	10/12
518	40000	172	FT	6" PERFORATED CORRUGATED PLASTIC PIPE		172			
518	40012	40	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE		40			
524	94704	98	FT	DRILLED SHAFTS, 36" DIAMETER, INTO BEDROCK		98			
526	30000	293	SY	REINFORCED CONCRETE APPROACH SLABS (T=17")	293				
526	90010	88	FT	TYPE A INSTALLATION	88				
613	41200	30	CY	LOW STRENGTH MORTAR BACKFILL		30			

ABBREVIATIONS

STA.	-	STATION	JT.	-	JOINT
F.A.	-	FORWARD ABUTMENT	C.J.	-	CONSTRUCTION JOINT
R.A.	-	REAR ABUTMENT	EF	-	EACH FACE
EL.	-	ELEVATION	STD. DWG.	-	STANDARD DRAWING
SPA.	-	SPACED	CLR.	-	CLEAR
PEJF	-	PREFORMED EXPANSION JOINT FILLER	T	-	TOP
F	-	FRONT	B	-	BOTTOM
B	-	BACK	LT.	-	LEFT
TYP.	-	TYPICAL	RT.	-	RIGHT
NPCPP	-	NON-PERFORATED CORRUGATED PLASTIC PIPE	N.F.	-	NEAR FACE
PCPP	-	PERFORATED CORRUGATED PLASTIC PIPE	F.F.	-	FAR FACE
PROP.	-	PROPOSED	BRG.	-	BEARING
CONST.	-	CONSTRUCTION			
EX.	-	EXISTING			

REV. BY	DATE	DESCRIPTION
BSM	8-8-23	REVISED EXCAVATION PAY ITEM
BSM	7-12-23	REVISED DRILLED SHAFT QUANTITY
DATE COMPLETED		08-08-2023

DESIGN AGENCY: FISHBECK KENNINGTON LANE, SUITE 3, PERRYSBURG, OHIO 43051, PHONE: (419) 841-4704, FAX: (419) 841-2979

DATE: 1-20-23

REVIEWED: EEC

DRAWN: BSM

DESIGNED: BSM

CHECKED: JBD

STRUCTURE FILE NUMBER: 5200548

ESTIMATED QUANTITIES

BRIDGE NO.: MED-18-0242

SR 18 OVER CENTER CREEK

MED-18-(1.71)(1.92)
(2.41)

PID No. 88876

2 / 12

86

114