



STATE OF OHIO DEPARTMENT OF TRANSPORTATION

GUE-70-6.55

CAMBRIDGE TOWNSHIP **GUERNSEY COUNTY**

INDEX OF SHEETS:

TITLE SHEET	1
GENERAL NOTES	2
GENERAL SUMMARY	3
STRUCTURES OVER 20 FT. (SFN 3001059)	4-8

	STANDARD CONSTRUCTION DRAWINGS	SUPPLEMENTAL SPECIFICATIONS
		800 1/20/17
ENGINEERS SEAL:	DM-4.3 1/15/16 DM-4.4 1/15/16	832 1/17/14
CHRISTOPHER + (CHRISTOPHER PHILIP SHONK E-17785	MT-97.10 7/18/14	
9 COSTERED ON		SPECIAL PROVISIONS
SIGNED: Chintenh P Short DATE: 12-15-16		
DATE: 12 13 10		

 \bigcirc

 \bigcirc

 \bigcirc

PROJECT DESCRIPTION

ABUTMENT REPAIRS AND RELATED WORK.

PROJECT EARTH DISTURBED AREA: N/A ACRES ESTIMATED CONTRACTOR EARTH DISTURBED AREA: N/A ACRES NOTICE OF INTENT EARTH DISTURBED AREA: N/A ACRES

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2016 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED Songe Sempro DATE 14/6/16 DISTRICT DEPUTY DIRECTOR

APPROVED DATE_

DIRECTOR, DEPARTMENT OF TRANSPORTATION

ð ω 4 6 ŏ 9 ш ဖ ิด 3 6 ONE Ζ S S Q 0 2 ш GU

 $\overline{}$

CONSTRUCTION NOTIFICATION

THE CONTRACTOR WILL ADVISE THE PROJECT ENGINEER A MINIMUM OF TWENTY ONE (21) DAYS PRIOR TO THE FOLLOWING: THE START OF CONSTRUCTION ACTIVITIES, LANE RESTRICTIONS, LANE CLOSURES, AND OR ROAD CLOSURES. THE PROJECT ENGINEER WILL FORWARD THIS INFORMATION TO THE FOLLOWING:

DISTRICT PUBLIC INFORMATION OFFICER (PIO) BY FAX AT (614) 887-4510 OR EMAIL AT: D05.PlO@dot.state.oh.us

DISTRICT PERMIT SECTION BY FAX AT (614) 887-4525 OR EMAIL AT: brian.bosch@dot.state.oh.us

CENTRAL OFFICE SPECIAL HAUL PERMITS SECTION BY FAX AT (614) 728-4099 OR EMAIL AT: hauling.permits@dot.state.oh.us

DEBBIE ROBINSON WITH THE VISTORS & CONVENTION BUREAU FOR GUERNSEY COUNTY @ (740) 432-2022

THE PIO WILL, IN TURN, NOTIFY THE PUBLIC, THE LOCAL EMERGENCY SERVICES, AFFECTED SCHOOLS AND BUSINESSES, AND ANY OTHER IMPACTED LOCAL PUBLIC AGENCY OF ANY OF THE ABOVE MENTIONED ITEMS, VIA MEDIA SOURCES

UTILITY OWNERSHIP

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

COLUMBIA GAS OF OHIO 98 STEUBENVILLE AVENUE CAMBRIDGE, OHIO 43725 ATTN: WILLIAN RICH 740-648-0079 GUERNSEY MUSKINGUM ELECTRIC COOPERATIVE, INC. 17 SOUTH LIBERTY STREET NEW CONCORD, OHIO 43762 ATTN: BOB CAMPBELL 740-826-7661

WINDSTREAM COMMUNICATIONS 32699 OLD NATIONAL RD. BARNSVILLE, OHIO 43713 ATTN: GREG KUHNASH 740-758-5819 TIME WARNER CABLE 4547 NORTH LEEDOM ROAD CHANDLERSVILLE, OHIO 43727 ATTN: BRAD ST. CLAIR 740-303-3100

GUERNSEY COUNTY WATER 11272 EAST PIKE CAMBRIDGE, OHIO 43725 ATTN: CLARENCE RIDGLY 740-439-1269

THE LOCATION OF THE UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

ELEVATION DATUM

ALL ELEVATIONS ARE ORTHOMETRIC HEIGHTS USING THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) AND THE GEOIDO3 GEOID. HORIZONTAL POSITIONS ARE BASED ON THE OHIO STATE PLANE SOUTH ZONE, A LAMBERT CONFORMAL CONIC MAP PROJECTION, THE NORTH AMERICAN DATUM OF 1983 ADJUSTED TO THE NATIONAL SPATIAL REFERENCE SYSTEM OF 2007 (NAD 83 (NSRS 2007)), AND THE GRS80 ELLIPSOID.

MOBILIZATION

THE CONTRACTOR SHALL ON ANY CONTRACT FOR WHICH HIS BID EXCEEDS \$50,000.00 INCLUDE AN AMOUNT TO COVER ANY APPLICABLE EXPENDITURES REFERRED TO UNDER ITEM 624 OF THE 2016 CONSTRUCTION AND MATERIAL SPECIFICATIONS. PAYMENT SHALL BE THE LUMP SUM BID PRICE FOR ITEM 624, MOBILIZATION.

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

ITEM 601 CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN

CRUSHED AGGREGATE SLOPE PROTECTION, A.P.P. SHALL BE PLACED FRONT OF THE ABUTMENTS AS DETAILED IN THE BRIDGE PLAN AND IN AREAS DESIGN-ATED BY THE ENGINEER. CONCRETE REMOVED FROM THE EXISTING ABUTMENT MAY BE PLACED ON THE EMBANKMENT SLOPES PROVIDING THAT ALL RE-STEEL FROM THE CONCRETE IS REMOVED. EXISTING CRUSHED AGGREGATE SLOPE PROTECTION MAY BE USED AS LONG AS IT IS FREE OF FOREIGN DEBIS AND OR EMBANKMENT AND IS DEEMED ACCEPTABLE BY THE ENGINEER. ALL CRUSHED AGGREGATE SLOPE PROTECTION SHALL BE AS PER 601.06. AN ESTIMATED AMOUNT OF 34 C.Y. HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR BIDDING PURPOSES, BUT FINAL PAYMENT SHALL BE FOR THE ACTUAL AMOUNT USED AS DIRECTED BY THE ENGINEER.

ITEM 614, MAINTAINING TRAFFIC (AT ALL TIMES)

A MINIMUM OF I LANE OF TRAFFIC IN EACH DIRECTION ON C.R. 15 SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT. FLAGGERS SHALL BE USED TO TEMPORARY CLOSE LANES AS SHOWN IN STD. DWG. MT-97.10

EXISTING GUARDRAIL SECTIONS LOCATED ON THE C.R. IS GUARDRAIL SHALL BE TEMPORARILY REMOVED AS DIRECTED BY THE ENGINEER TO ACCESS THE BRIDGE ABUMENTS. ALL EXISTING GUARDRAIL SECTIONS MUST BE REINSTALLED IN THEIR ORIGINAL LOCATIONS BY THE END OF THE SAME WORK DAY. ALL WORK AND MATERIALS TO PERFORM THE DESCRIBED WORK SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 614.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH C&MS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

ITEM 659 SEEDING AND MULCHING, CLASS 2

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS: 0655 RIGHT

ITEM 659 - SEEDING AND MULCHING, CLASS 2	300 SQ. YD.
ITEM 659 - COMMERCIAL FERTILIZER	0.04 TON
ITEM 659 - LIME	0.062 ACRES
ITEM 659 - WATER	1.62 M.GAL.

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

<u>CALCULATIONS</u>

ITEM 601 CRUSHED AGGREGATE SLOPE PROTECTION, A.P.P.

KLAK ABUTMENT-(2 x (9.33' x 3.17' x 1.00' ÷ 27) + (43.67' x 8.00' x 1.00' ÷ 27)) x (SLOPE FACTOR 1.12) = 16.95 CU. YD. FORWARD ABUTMENT-(2 x (9.33' x 3.17' x 1.00' ÷ 27)) + (43.67' x 8.00' x 1.00' ÷ 27)) x (SLOPE FACTOR 1.12) = 16.95 CU. YD. SUB-TOTAL = 33.90 CU. YD.

ITEM 659 SEEDING AND MULCHING, CLASS 2

ESTIMATED QUANTITIES: N.W. CORNER = 75.0 SO. YD. S.W. CORNER = 75.0 SO. YD. N.E. CORNER = 75.0 SO. YD. S.E. CORNER = 75.0 SO. YD. SUB-TOTAL = 300.0 SO. YD.

ITEM 659 COMMERCIAL FERTILIZER

(300 SQ.YD.) (9) (30) ÷ ((1000) (2000)) = 0.04 TON

<u>ITEM 659 LIME</u>

(300 SQ.YD.) (9) ÷ 43,560 = 0.062 ACRE

<u>ITEM 659 WATER</u>

(300 SQ.YD.) x 0.0027 x (2 WATERINGS) = 1.62 M. GALLON

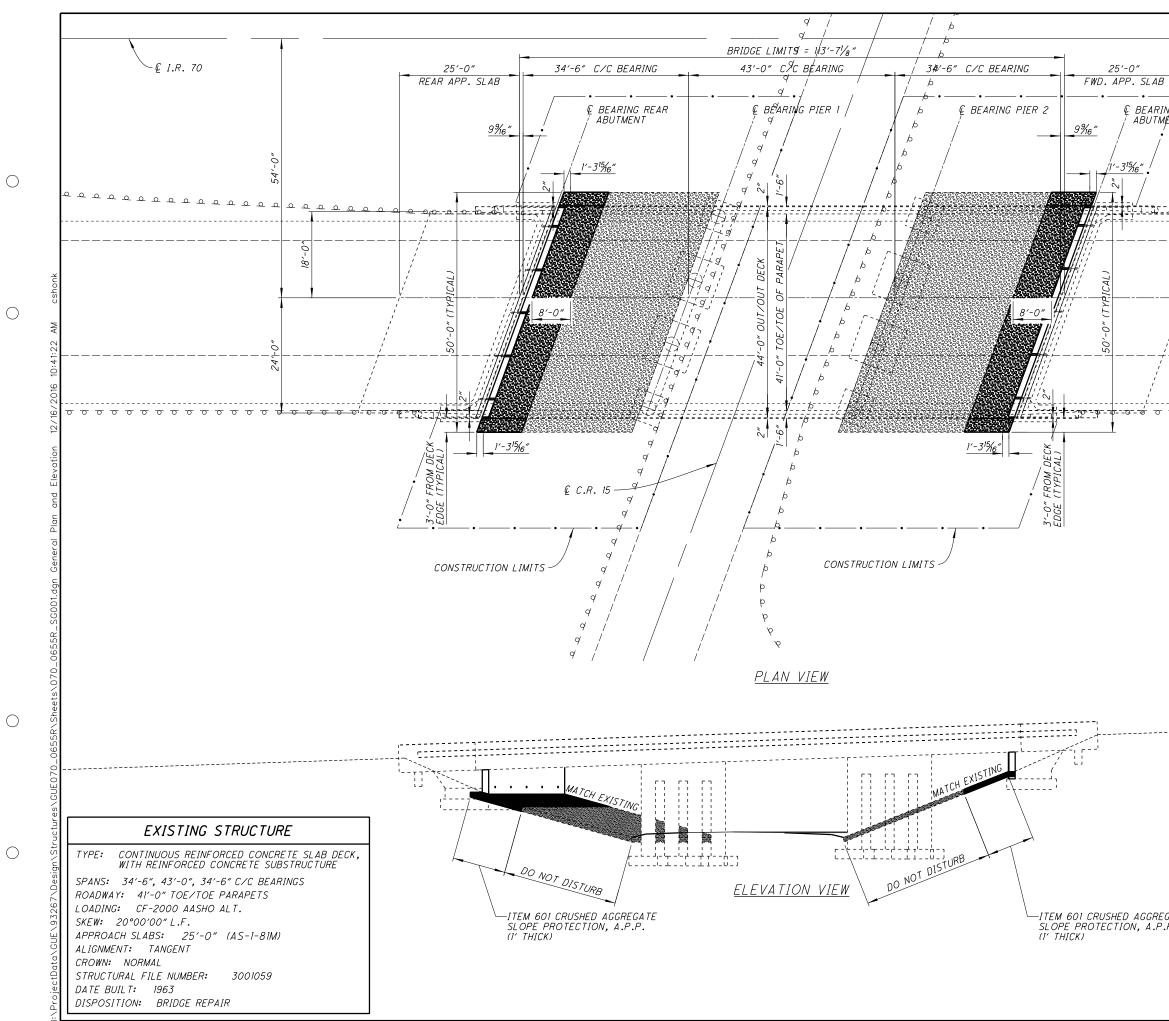
 \bigcirc

 \bigcirc

CALCULATED CPS CHECKED JDR
0
. NOTE
GENERAL NOTES
5
GUE-70-6.55
GUE
28

				SH	IEET NU	JM.			PART.	ITEM	ITEM	GRAND	UNIT	
	2	8							01/BRO/BR		ЕХТ	TOTAL	UNIT	
										201	11000	10		
									LS	201	11000	LS		CLEARING AND GRUBBING
\bigcirc	34								34	601	20011	34	СҮ	CRUSHED AGGREGATE SLOPE PROTECTION, AS
0														
	300 0.04								300 0.04	659 659	00510 20000	300 0.04	SY TON	SEEDING AND MULCHING, CLASS 2 COMMERCIAL FERTILIZER
	0.06								0.06	659	31000	0.06	ACRE	LIME
	1.62								1.62	659	35000	1.62	MGAL	WATER
									2,000	832	30000	2,000	EACH	EROSION CONTROL
\bigcirc	yno													STRUCT
	csh								3	202	11301	3	СҮ	PORTIONS OF STRUCTURE REMOVED, AS PER
	W								LS	503	21300	LS		UNCLASSIFIED EXCAVATION
	41:20	4,586							4,586	509	10000	4,586	LB	EPOXY COATED REINFORCING STEEL
	<u></u>								 395	510	10000	395	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIG
	/2016								35	511	71100	35		CONCRETE, MISC.: PUMPED SELF CONSOLIDAT
	12/16.													
	~													
	umar								LS	614	11000	LS		MAINTAINING TRAFFIC
	al Sur													
	Genero								LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEY
									LS	624	10000	LS		MOBILIZATION
	101.dgn													
	355R.													
	0_06													
	s/07													
~	heet													
\bigcirc	SR\Sh													
	065													
	070													
	COLE													
	ures													
~	truct													
\bigcirc	gn\S													
	Desid													
	267													
	E \ 93													
	tDati													
	lojec													

DESCRIPTION	SEE Sheet No.	CALCULATED CPS CHECKED JDR
ROADWAY		
n Cadma I		
EROSION CONTROL		
AS PER PLAN	2	
UCTURE REPAIR (GUE-70-0655R)		۲
ER PLAN (SUBSTRUCTURE)	5	AF
		Σ
		Ν
		SL
LIC GROUT		
		AI
DATING CONCRETE	5	R
		N
INCIDENTALS		GENERAL SUMMARY
	2	Ċ
'EYING		
	2	
		55
		۰ و
		ò
		2-
		GUE-70-6.55
		D (5
		$\boxed{3}$
		8



B ING REAR MENT		DRAWN REVIEWED DATE DESIGN AGENCY CPS CPS 12/19/2016 OHIO DEPARTMENT OF REVISED STRUCTURE FILE NUMBER TRANSPORTATION, DISTRICT 5 3001059
, 		GENERAL PLAN & ELEVATION DESIGNED BRIDGE NO. GUE-70-0655 (RIGHT BRIDGE) TAG TAG OVER C.R. 15 OVER C.R. 15 JDR
EGATE P.P.	REHABILITATED STRUCTURE TYPE: CONTINUOUS REINFORCED CONCRETE SLAB DECK, WITH REINFORCED CONCRETE SUBSTRUCTURE SPANS: 34'-6", 43'-0", 34'-6" C/C BEARINGS ROADWAY: 41'-0" TOE/TOE PARAPETS LOADING: CF-2000 AASHO ALT. SKEW: 20°00'00" L.F. APPROACH SLABS: 25'-0" (AS-1-8IM) ALIGNMENT: TANGENT CROWN: NORMAL STRUCTURAL FILE NUMBER: 3001059	GUE-70-6.55 PID No. 93267

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS: N/A DATED: N/A

AND THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS: 800 DATED: 01-20-17 832 DATED: 01-17-14

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATED OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17TH EDITION (2002), AND THE ODOT BRIDGE DESIGN MANUAL. 2004.

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02, AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

ITEM 202 PORTIONS OF STRUCTURE REMOVED, AS PER PLAN (SUBSTRUCTURE)

THERE SHALL BE NO SAWCUTS BELOW THE TOP OF EXISTING FOOTER ELEVATIONS AT ANY LOCATION EXCEPT AS DETAILED IN THE PLAN OR AS DIRECTED BY THE ENGINEER. ALL CONCRETE REMOVED FROM THE SAWCUT DOWN TO THE TOP OF FOOTER SHALL BE REMOVED BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. NO REMOVALS SHALL BE DEEPER THAN 6" FROM THE FACE OF THE EXISTING ABUTMENTS OR BEYOND THE ASSUMED EXISTING € BEARING AS SHOWN IN THE ABUTMENT DETAILS. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

CUT LINE AND CONSTRUCTION JOINT(S) PREPARATION

FOR ABUTMENT BACKWALL REMOVALS SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS I INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH. BUT REMOVE PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

ITEM 511 - CONCRETE, MISC .: PUMPED SELF CONSOLIDATING CONCRETE

IN ADDITION TO THE WORK ITEMS REQUIRED IN 511. THIS ITEM WILL INCLUDE THE DEVELOPMENT, DELIVERY AND PLACEMENT OF A CLASS QC2 SELF CONSOLIDATING CONCRETE MIX DESIGN AS DESCRIBED IN THE FOLLOWING NOTE:

PROVIDE A CONCRETE MIX WITH THE FOLLOWING PROPERTIES:

SELF-CONSOLIDATING CONCRETE (SCC): WHEN REQUIRED IN THE DESIGN PLANS OR APPROVED BY THE ENGINEER, PROVIDE AN SCC MIX WITH AGGREGATE GRADATIONS WITHIN ZONE II OF THE COARSENESS FACTOR CHART THAT IS FLOWABLE, NON-SEGREGATING CONCRETE THAT CAN SPREAD INTO PLACE, FILL THE FORMWORK, AND ENCAPSULATE THE REINFORCEMENT WITHOUT MECHANICAL CONSOLIDATION. INCREASING THE AMOUNT OF AN APPROVED 705.12 (SCC) ADMIXTURE OF AN APPROVED JMF TO ACHIEVE THE DESIRED CONSISTENCY; RE-PROPORTIONING THE AGGREGATES WITHIN ZONE II; ADDING CEMENTITIOUS MATERIAL; AND INCLUDING A VISCOSITY MODIFYING ADMIXTURE (VMA) ARE ACCEPTABLE METHODS OF IMPROVING THE STABILITY OF THE MIX. A NEW MIX DESIGN IS NOT REQUIRED.

SLUMP REQUIREMENTS OF TABLE 499.04-1 DO NOT APPLY.

ESTABLISH QUALITY CONTROL PROCEDURES IN THE QUALITY CONTROL PLAN FOR SCC CONCRETE. SET THE TARGET SLUMP FLOW FOR THE MIX AND MAINTAIN THE FLOW WITHIN ± 2 INCHES. VISUALLY INSPECT THE STABILITY OF THE MIX TO ENSURE THAT THERE IS NO AGGREGATE PILE IN THE MIDDLE OF, NOR MORTAR HALO IN EXCESS OF ½ INCH ON THE LEADING EDGE OF THE SLUMP FLOW TEST PILE. TEST THE SLUMP FLOW ACCORDING TO ASTM C1611.

GRADATION:

PROVIDE A WELL-GRADED CONCRETE MIX BY MAINTAINING THE GRADATION OF THE COMBINATION OF AGGREGATES WITHIN ZONE II (OPTIMAL) OF THE COARSENESS FACTOR CHART (FIGURE 1) AS DEFINED IN THE COMPASS OR EQUAL SOFTWARE. USE A 1 INCH NOMINAL MAXIMUM SIZE AGGREGATE. ENSURE THAT THE DESIGN YIELD IS 27.0 CU. FT.

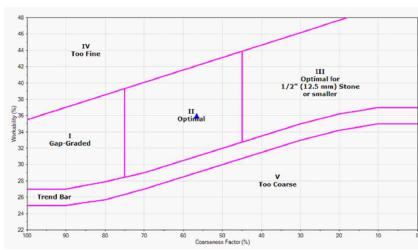


FIGURE 1- COARSENESS FACTOR CHART

USE THE FOLLOWING SIEVE SIZES TO DETERMINE THE GRADATION OF THE AGGREGATES:

1 1/2 INCH	#	8
1 INCH	#	16
3/4 INCH	#	30
1/2 INCH	#	50
3/8 INCH	#	100
#4	#	200
IN THE CHART:		

WORKABILITY FACTOR (%) REFERS TO THE PERCENT OF THE COMBINED AGGREGATE THAT PASSES THE NO. 8 SIEVE. COARSENESS FACTOR (%) REFERS TO THE PERCENT OF THE COMBINED AGGREGATE THAT IS RETAINED ON THE NO. 8 SIEVE THAT IS ALSO RETAINED ON THE 3/8 IN. SIEVE. THE CHART IS BASED ON A CEMENT CONTENT OF 564 LBS /CU.YD. ADJUST TO WORKABILITY PROPORTIONATELY AND DIRECTLY BY 2.5% PER 94 LBS. OF CEMENT WHEN USING EITHER LESS OR MORE. ENSURE THAT THE CONCRETE MIX DESIGN IS WORKABLE AND FINISHABLE DURING THE TRIAL PROCESS. WHEN THE MIX IS DETERMINED TO HAVE ISSUES RELATING TO WORKABILITY OR FINISHABILITY IN THE FIELD, THE DEPARTMENT MAY RESCIND THE MIX DESIGN ACCEPTANCE.

ADDITIONALLY. PROVIDE A CONCRETE MIX AT A SLUMP THAT ALLOWS THE CONCRETE MIX TO BE PUMPED THROUGH AN ACCESS HOLE(S) IN THE FACE OF A VERTICAL FORMISI, SELF CONSOLIDATED, AND THEN PRESSURIZED, FILLING THE FORMWORK TIGHT TO THE UNDERSIDE OF THE DECK SLAB OR DIAPHRAGM.

ACCEPTANCE.

ENGINEER.

PUMP THE CONCRETE INTO THE FORMS UNTIL FULL AND ALL AIR VOIDS ARE DETERMINED TO HAVE BEEN ELIMINATED. THE ENGINEER WILL USE THE I INCH BREATHING/MONITORING HOLES DRILLED INTO THE VERTICAL FORMS TO DETERMINE WHEN THE AIR VOIDS HAVE BEEN ELIMINATED, (I.E. WHEN CONCRETE SEEPS FROM THE BREATHING/MONITORING HOLES).

ASSURE THE CONCRETE HAS COMPLETELY FILLED THE FORMS UP TO THE BOTTOM OF THE DECK BEFORE MOVING OPERATIONS TO ANOTHER POUR. USE VIBRATION EQUIPMENT TO HELP CONSOLIDATE THE CONCRETE MIX.

THE CONTRACTOR SHALL PROVIDE FORMWORK TO WITHSTAND THE PRESSURE REQUIRED TO PLACE CONCRETE BY THIS PUMPING/PRESSURIZATION METHOD.

PLACEMENT

A PROPOSED FORM PUMPING SYSTEM MEETING ALL REOURIEMENTS OF THIS ITEM MUST BE SUBMITTED AND ACCEPTED BY THE PROJECT ENGINEER PRIOR TO THE INSTALLATION OF ANY FORMWORK. A TEST AREA ON THE FIRST BRIDGE ABUTMENT TO BE DONE SHALL BE USED TO DETERMINE THE PERFORMANCE OF ABUTMENT TO BE DUNE SHALL BE OSED TO DETERMINE THE TENT ONWARDS OF THE PROPOSED PUMPING SYSTEM. UPON COMPLETING THE TEST SECTION, THE PROJECT ENGINEER SHALL INSPECT THE AREA FOR THE PRESENCE OF AIR VOIDS TO ENSURE THAT ALL AREAS ARE FILLED. UPON APPROVAL OF THE TEST AREA BY THE PROJECT ENGINEER, THE CONTRACTOR MAY USE THE APPROVED FORM PUMPING SYSTEM.

STRUCTURE.

 \bigcirc

 \bigcirc

 \bigcirc

ITEM 511 - CONCRETE, MISC.: PUMPED SELF CONSOLIDATING CONCRETE (CONTINUED

SUBMIT THE MIX DESIGN AND TEST RESULTS TO THE ENGINEER FOR REVIEW AND

ACCESS HOLES MAY BE PROVIDED AT A MINIMUM SPACING OF 6 FEET. USE THE ACCESS HOLES TO DELIVER THE CONCRETE. IF MULTIPLE ACCESS HOLES ARE UTILIZED, THOSE NOT USED FOR FINAL CONCRETE DELIVERY SHALL BE BLOCKED PRIÓR TO PRESSURE FILLING THE UPPER PORTION OF THE FORMWORK. DRILL 1" BREATHING/MONITORING HOLES IN THE VERTICAL FORMS WITHIN 6 INCHES OF THE TOP OF THE FORMS (BOTTOM OF THE DECK) SPACED BETWEEN 3 AND 5 FEET AND ELSEWHERE THROUGHOUT THE FORMWORK AS DIRECTED BY THE

DURING THE CONCRETE OPERATIONS, ASSURE THE REPRESENTATIVES OF THE READY MIX PRODUCER AND THE CHEMICAL ADMIXTURE MANUFACTURER ARE ON SITE TO DETERMINE ANY ADJUSTMENTS REOURIED TO COMPLETE THE CONCRETE

WHEN THE FORMWORK IS REMOVED, THE PROJECT ENGINEER WILL DETERMINE IF THE NEW CONCRETE IS FLUSH WITH THE UNDERSIDE OF THE CONCRETE ABOVE. IF THERE ARE VOIDS FOUND BETWEEN THE NEW CONCRETE AND THE UNDERSIDE OF THE CONCRETE ABOVE, THEN THE CONTRACTOR WILL PRESSURE GROUT THE VOIDS UNTIL ALL MATERIAL IS FOUND TO BE IN CONTACT WITH ONE ANOTHER. THE GROUT MATERIAL WILL ACHIEVE AT LEAST 4000 PSI IN 7 DAYS AND CONSIST OF CEMENT AND SAND MEETING ODOT MATERIALS SPECIFICATIONS.

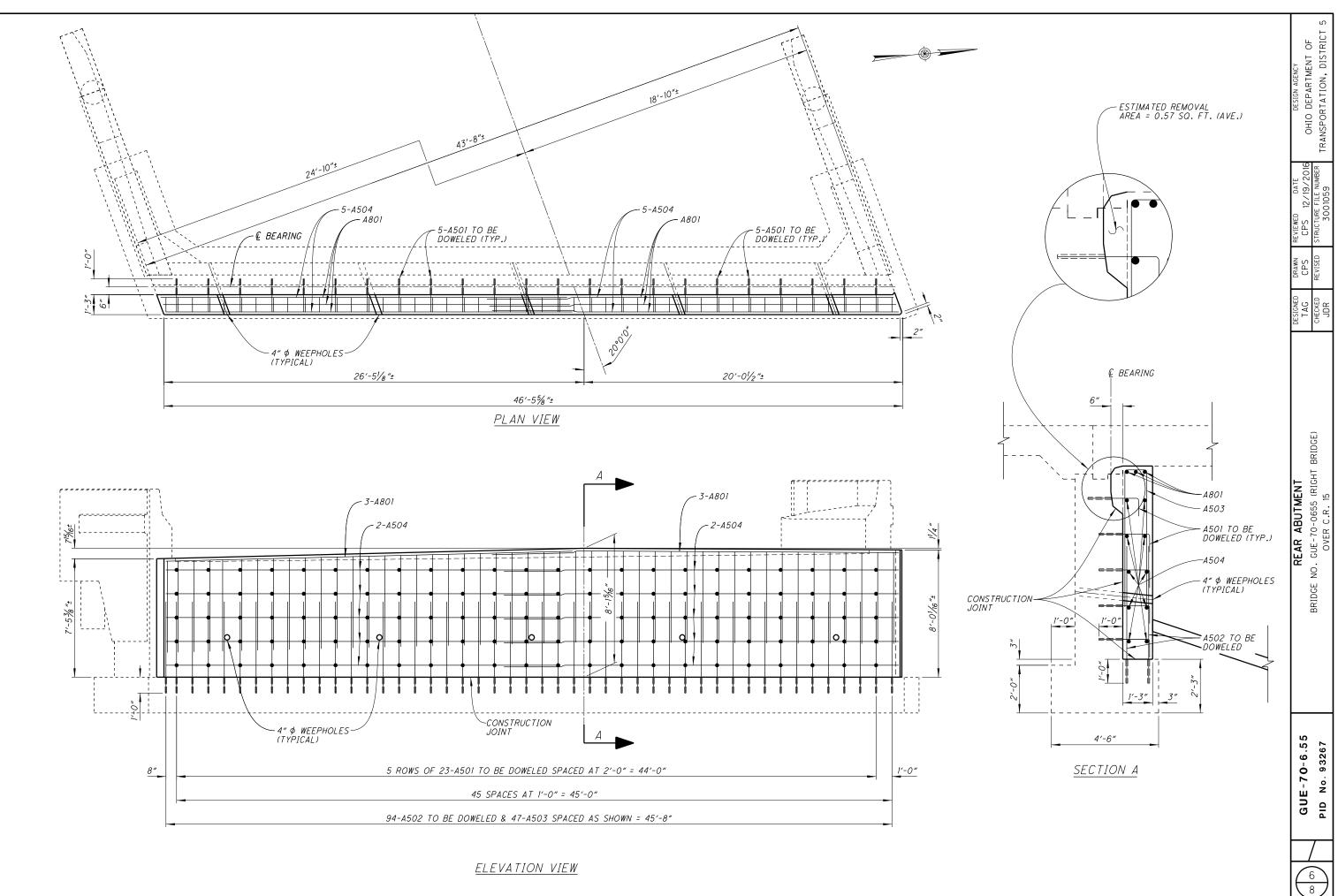
ALL PROPOSED CONCRETE WORK IS TO BE PERFORMED FROM BENEATH THE

ALL EXISTING 4" DIAMETER WEEP HOLES SHALL BE MAINTAINED (EXTENDED) AS SHOWN IN THE ABUTMENT DETAILS. ALL FORMWORK/WORK NECESSARY AS DESCRIBED ABOVE SHALL BE INCIDENTAL TO ITEM 511.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITY OF CUBIC YARDS.

PAYMENT WILL INCLUDE FORMWORK, DEVELOPMENT AND PLACEMENT OF THE SELF CONSOLIDATING CONCRETE MIX, PRESSURE GROUTING, EXCAVATION AND ALL OTHER INCIDENTAL WORK PERTAINING TO THIS ITEM.

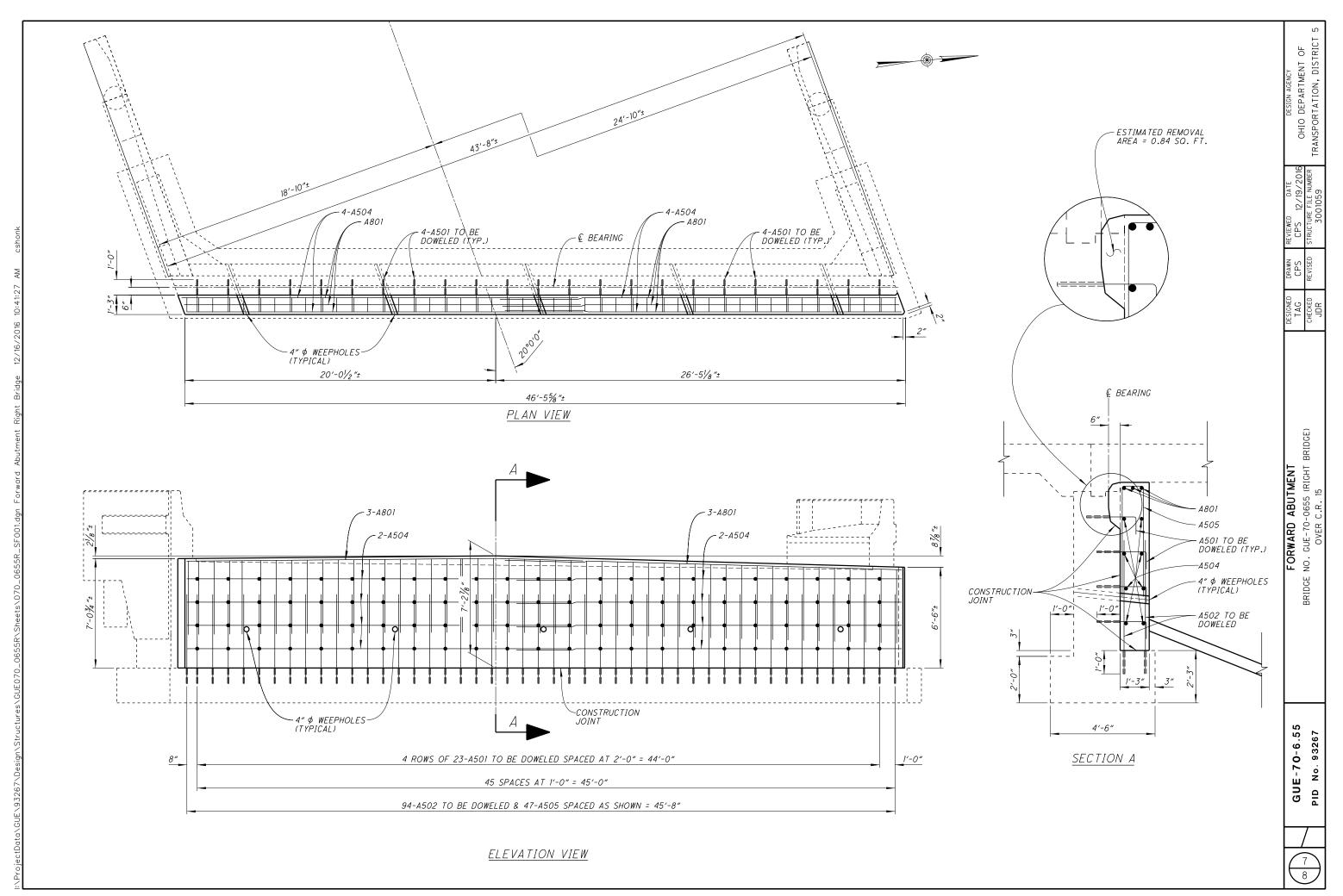
DATE 12 /10 / 2016		3001059 TRANSPORTATION, DISTRICT 5
DRAWN REVIEWED	REVISED STRUC	
DESIGNED TAG	CHECKED	
BRIDGE NOTES	BRIDGE NO. GUE-70-0655 (RIGHT BRIDGE)	OVER C.R. 15
GUE-70-6,55		PID No. 93267
	T	



 \bigcirc

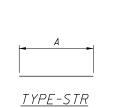
 \bigcirc

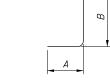
 \bigcirc



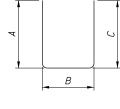
 \bigcirc

IOTAL A B C D E R REAR ABUTMENT (RIGHT BRIDGE) A501 115 2'-10" 340 1 0'-10" 2'-1"	NUMBER				ų	DIMENSIONS							
A501 II5 2'-10" 340 I 0'-10" 2'-1" Image: constraint of the state of the stat		MARK	LENGTH	WEIGHT	ТҮРЕ	A	В	С	D	E	E R INC		
A501 II5 2'-10" 340 I 0'-10" 2'-1" Image: constraint of the state of the stat			<u>+</u>	RI	EAR A	BUTMENT	(RIGHT BR	IDGE)					
A502 94 5'-9" 564 STR. 5'-9" 0'-11" 5'-9" A503 47 12'-2" 596 2 5'-9" 0'-11" 5'-9" 1 A504 20 24'-10" 518 STR. 24'-10" 1 1 A505 ** NOT USED ON REAR ABUTMENT ** 1 1 1 1 1 A801 6 25'-7" 410 STR. 25'-7" 1 1 1 A801 6 25'-7" 410 STR. 25'-7" 1 1 1 1 A801 6 25'-7" 410 STR. 25'-7" 1 <td>115</td> <td>4501</td> <td>2'-10"</td> <td></td> <td>1</td> <td></td> <td></td> <td> </td> <td></td> <td></td> <td></td> <td></td>	115	4501	2'-10"		1								
A503 47 12'-2" 596 2 5'-9" 0'-11" 5'-9" A504 20 24'-10" 518 STR. 24'-10"					STR		2,						
A504 20 24'-10" 518 STR. 24'-10" Image: Constraint of the state of							0'-11"	5'-9"					
A505 ** NOT USED ON REAR ABUTMENT ** A801 6 25'-7" 410 STR. 25'-7" REAR ABUTMENT SUB-TOTAL 2,428 1 1 1 REAR ABUTMENT SUB-TOTAL 2,428 1 1 1 A501 92 2'-10" 272 1 0'-10" 2'-1" A501 92 2'-10" 272 1 0'-10" 2'-1" 1 A502 94 5'-9" 564 STR. 5'-9" 1 1 A503 ** NOT USED ON FORWARD ABUTMENT ** A504 16 24'-10" 414 STR. 24'-10" 4'-9" 1 A505 47 10'-2" 498 2 4'-9" 1 1 A801 6 25'-7" 410 STR. 25'-7" 1 1 CRWARD ABUTMENT SUB-TOTAL 2,158 1 1 1 1 1 REAR ABUTMENT SUB-TOTAL 2,428 1 1 1 1 1 CRWARD ABUTMENT SUB-TOTAL 2,428 1 1 1							•						
REAR ABUTMENT SUB-TOTAL 2,428 Image: Constraint of the second secon			DT USED ON					I					
A501 92 2'-10" 272 1 0'-10" 2'-1" A502 94 5'-9" 564 STR. 5'-9" A503 ** NOT USED ON FORWARD ABUTMENT ** A504 16 24'-10" 414 STR. 24'-10" A505 47 10'-2" 498 2 4'-9" O'-11" 4'-9" A801 6 25'-7" 410 STR. 25'-7" FORWARD ABUTMENT SUB-TOTAL 2,158 <td>6</td> <td>A801</td> <td>25'-7"</td> <td>410</td> <td>STR.</td> <td>25'-7″</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	6	A801	25'-7"	410	STR.	25'-7″							
A501 92 2'-10" 272 1 0'-10" 2'-1" Image: constraint of the state	ABUTMENT S	REAR AB	B-TOTAL	2,428									
A502 94 5'-9" 564 STR. 5'-9"	92	4501	2'-10"		WARD			BRIDGE)					
A503 ** NOT USED ON FORWARD ABUTMENT ** A504 16 24'-10" 414 STR. 24'-10" 4'-9" A505 47 10'-2" 498 2 4'-9" 0'-11" 4'-9" A501 6 25'-7" 410 STR. 25'-7" 10'-2" 10'-2" A801 6 25'-7" 410 STR. 25'-7" 10'-2" 10'-2" FORWARD ABUTMENT SUB-TOTAL 2,158 10'-2" 10'-2" 10'-2" 10'-2" 10'-2" FORWARD ABUTMENT SUB-TOTAL 2,428 10'-2" 10'-2" 10'-2" 10'-2" 10'-2" FORWARD ABUTMENT SUB-TOTAL 2,428 10'-2" 10'-2" 10'-2" 10'-2" REAR ABUTMENT SUB-TOTAL 2,428 10'-2" 10'-2" 10'-2" 10'-2" FORWARD ABUTMENT SUB-TOTAL 2,158 10'-2" 10'-2" 10'-2" 10'-2"					STR		2 1						
A504 16 24'-10" 414 STR. 24'-10" Image: Constraint of the system of the syste													
A801 6 25'-7" 410 STR. 25'-7" FORWARD ABUTMENT SUB-TOTAL 2,158		A504											
FORWARD ABUTMENT SUB-TOTAL 2,158 REAR ABUTMENT SUB-TOTAL 2,428 FORWARD ABUTMENT SUB-TOTAL 2,428 FORWARD ABUTMENT SUB-TOTAL 2,158	5 47	A505	10'-2"	498	2	4′-9″	0'-11"	4'-9"					
REAR ABUTMENT SUB-TOTAL 2,428 FORWARD ABUTMENT SUB-TOTAL 2,158	6	A801	25'-7"	410	STR.	25'-7″							
FORWARD ABUTMENT SUB-TOTAL 2,158	RD ABUTMENT	FORWARD .	SUB-TOTAL	2,158									
RIGHT BRIDGE GRAND TOTAL 4,586				2,158									
	T BRIDGE GRA	RIGHT BI	ID TOTAL	4,586									





<u> TYPE-1</u>



<u> TYPE-2</u>

 \bigcirc

 \bigcirc

₹

10:41:28

12/16/2016

 \bigcirc

DESIGN AGENCY OHIO DFPARTMENT OF	TRA	
CPS CPS 12/19/2016	REVISED	
JLE DESIGNED		
REINFORCING STEEL SCHEDULE	BRIDGE NO. GUE-70-0655 (RIGHT BRIDGE) OVER C.R. 15	
GUE-70-6.55	PID No. 93267	