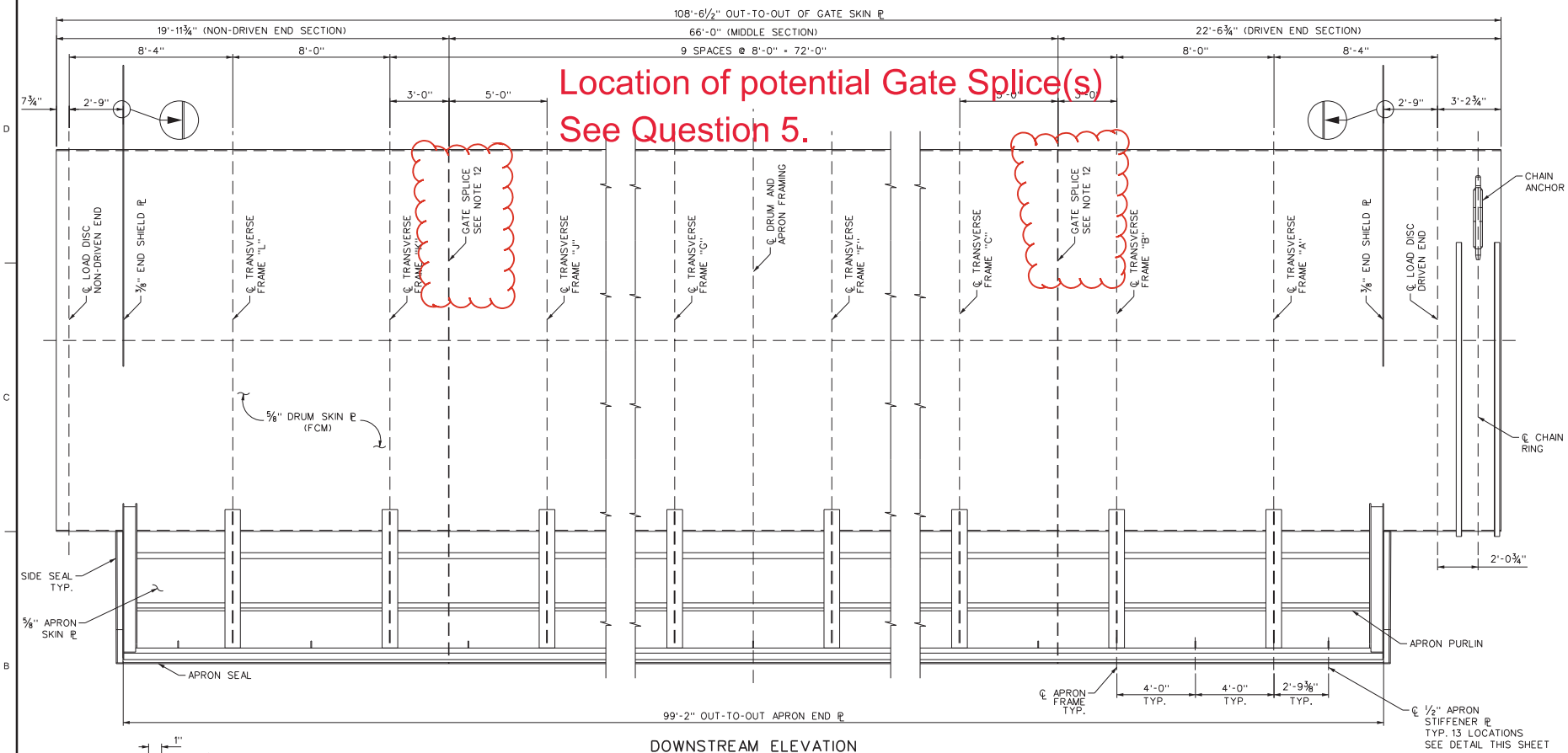
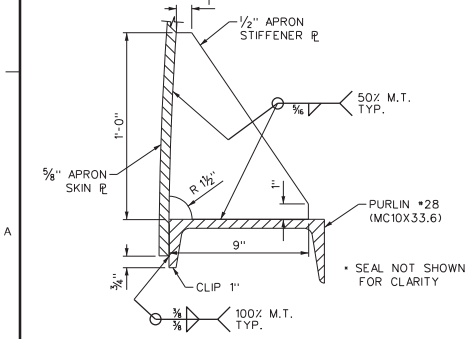


DOWNSTREAM ELEVATION

SCALE: ⅜"=1'-0"



APRON STIFFENER DETAIL

SCALE: 3"=1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE SHEET S-001.
2. DRAIN HOLES, CLEANOUT HOLES, AND REMOVABLE HATCH OPENINGS NOT SHOWN FOR CLARITY.
3. RIM GEARS NOT SHOWN FOR CLARITY.
4. TRANSVERSE SPLICES IN DRUM SKIN PLATE AND APRON SKIN PLATE SHALL NOT BE LOCATED WITHIN 2'-6" OF TRANSVERSE FRAMES, LOAD DISCS, OR GATE SPLICES.
5. LONGITUDINAL SPLICES IN DRUM SKIN PLATE AND APRON SKIN PLATE SHALL NOT BE LOCATED WITHIN 1'-0" OF PURLINS.
6. TRANSVERSE SPLICES IN DRUM SKIN PLATE SHALL NOT BE LOCATED WITHIN 5'-0" OF ENDS OF GATE DRUM.
7. SKIN PLATE SPLICES SHALL HAVE A MINIMUM SPACING OF 3'-0".
8. ALL SPLICE WELDS IN SKIN PLATES SHALL BE COMPLETE JOINT PENETRATION GROOVE WELDS AND SHALL BE GROUND FLUSH.
9. SEE SHEET S-502 FOR TYPICAL SKIN PLATE SPLICE WELD.
10. LOCATIONS OF SPLICES AND JOINT DETAILS SHALL BE SUBMITTED TO THE CONTRACTING OFFICER FOR APPROVAL.
11. ALL WELDS SHALL BE CONTINUOUS UNLESS OTHERWISE NOTED.
12. FOR SPLICE DETAILS, SEE SHEET S-508.
13. WEIGHTS PROVIDED ARE APPROXIMATE AND ARE FOR INFORMATION ONLY.

APPROXIMATE GATE SECTION WEIGHTS	
SECTION	WEIGHT (KIPS)
NON-DRIVEN END SECTION	112.3
MIDDLE SECTION	217.3
DRIVEN SECTION	132.0

SCALE: 3" = 1'-0"

0 3" 6" 9" 12"

SCALE: ⅜" = 1'-0"

0 1' 2' 4'

US Army Corps of Engineers® Huntington District

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
HUNTINGTON DISTRICT
HUNTINGTON, WEST VIRGINIA

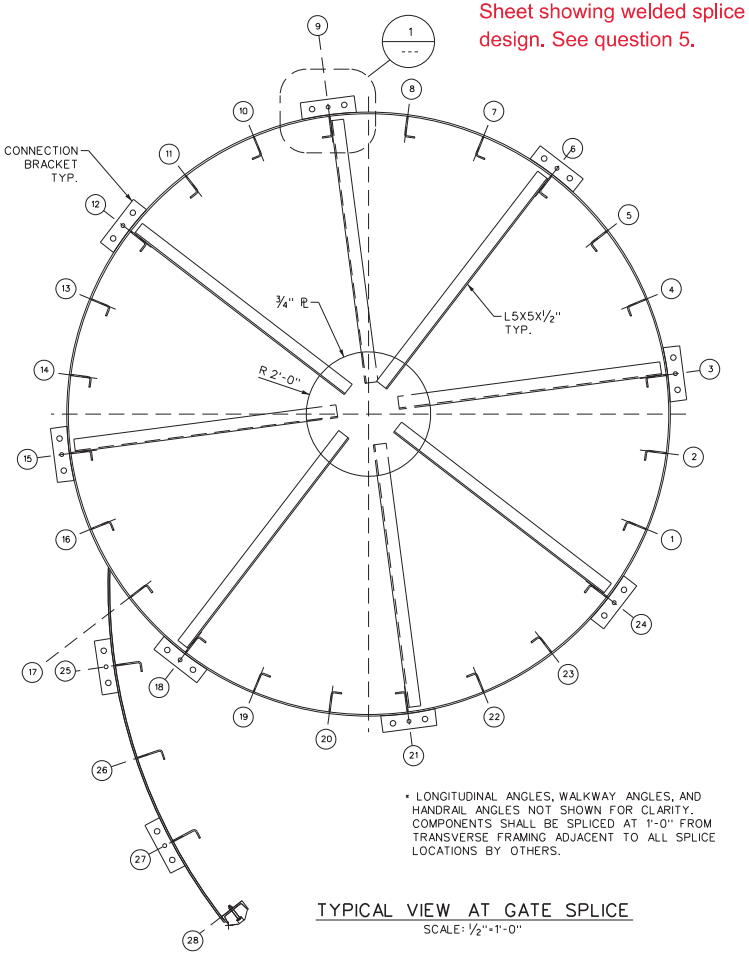
DESIGNED BY: MAS
DRAWN BY: JJA
SUBMITTED BY:
CHKD BY: DTC
PLOT SCALE: 1.000000
PLOT DATE: 3/15/2019
SIZE:
FILE NAME: S-201 DOWNSTREAM ELEVATION.dgn
DATE:
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:

CREMEANS.RO
DNET.G.12297
23932

KANAWHA RIVER
ELEANOR, WV
WINFIELD LOCKS AND DAM
STANDARD ROLLER GATE
DOWNSTREAM ELEVATION

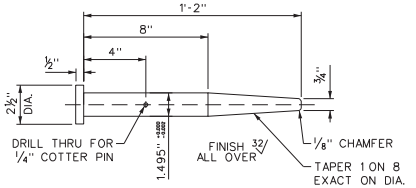
SHEET IDENTIFICATION
S-201
SHEET 4 OF 17

Sheet showing welded splice design. See question 5.



* LONGITUDINAL ANGLES, WALKWAY ANGLES, AND HANDRAIL ANGLES NOT SHOWN FOR CLARITY. COMPONENTS SHALL BE SPLICED AT 1'-0" FROM TRANSVERSE FRAMING ADJACENT TO ALL SPLICE LOCATIONS BY OTHERS.

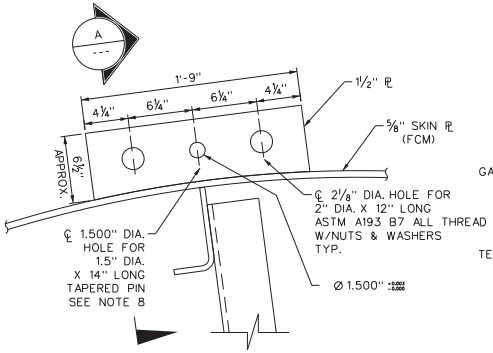
TYPICAL VIEW AT GATE SPLICE
SCALE: ½"=1'-0"



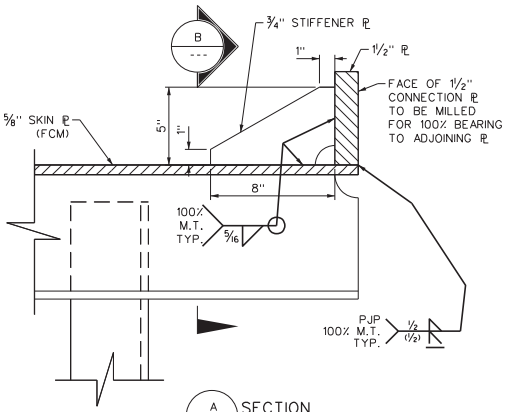
TAPERED ALIGNMENT PIN - ASTM A193, GR B7
SCALE: 3"=1'-0"
MAKE TWENTY (20)

SCALE: 3" = 1'-0"
0 3" 6" 9" 12"

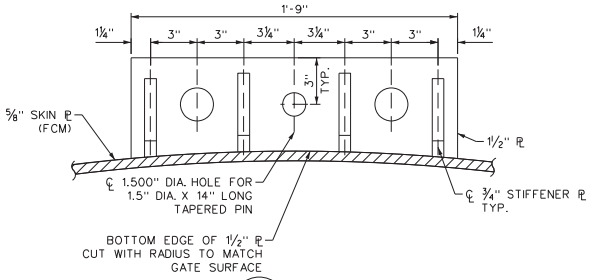
SCALE: ½" = 1'-0"
0 1' 2' 4'



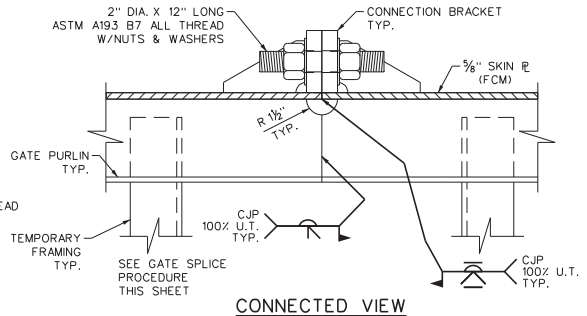
1 DETAIL
N.T.S.



A SECTION
SCALE: 3"=1'-0"



B SECTION
SCALE: 3"=1'-0"



CONNECTED VIEW
N.T.S.

NOTES:

1. FOR GENERAL NOTES, SEE SHEET S-001.
2. FOR GATE SPLICE LOCATIONS, SEE SHEET S-201.
3. TEMPORARY INTERNAL FRAMING IS SHOWN FOR REFERENCE ONLY. ACTUAL FRAMING TO BE USED SHALL BE INCLUDED IN THE DELIVERY/SHIPPING PLAN AND DELIVERY DRAWINGS IN ACCORDANCE WITH CONTRACT SPECIFICATIONS. AT MINIMUM, THE FRAMING SHALL BRACE THE GATE AT EVERY THIRD PURLIN. FRAMING SHALL NOT ATTACH TO GATE SKIN AND ACCESS THROUGH FRAMING SHALL BE ENSURED.
4. L3½X3½X⅜" LONGITUDINAL ANGLES SHALL BE SPLICED SIMILAR PURLINS SHOWN.
5. MILLED SURFACES SHALL NOT BE PAINTED.
6. GATE SHALL BE FULLY ASSEMBLED AT SHOP PRIOR TO SHIPMENT.
7. FOR SHOP ASSEMBLY, FOLLOW GATE SPLICE PROCEDURE BELOW ONLY THROUGH STEP 3.
8. TOLERANCE FOR MACHINED PIN SHALL BE +0.000/-.002
9. SKIN PLATES SHALL BE SHOP-PREPPED AT SPLICES PRIOR TO SHIPMENT.

GATE SPLICE PROCEDURE:

1. MATING GATE SECTIONS SHALL BE BROUGHT TOGETHER.
2. 1½" DIA. TAPERED ALIGNMENT PIN SHALL BE INSTALLED IN EACH CONNECTION BRACKET TO ENSURE PROPER ALIGNMENT AND COTTER PINS SHALL BE INSTALLED IN ALIGNMENT PINS.
3. 2" DIA. STUDS SHALL BE INSTALLED AND TIGHTENED IN EACH CONNECTION BRACKET TO MAINTAIN 100% CONTACT BETWEEN MILLED BRACKET SURFACES.
4. ⅝" SKIN PLATE GATE SECTIONS SHALL BE JOINED BY WELDING IN ACCORDANCE WITH CONTRACT PLANS IN AREAS OTHER THAN CONNECTION BRACKETS.
5. CONNECTION BRACKETS SHALL BE REMOVED. CUT IN CONNECTION BRACKETS SHALL BE MADE A MINIMUM ½" AWAY FROM GATE SURFACES. THE REMAINDER OF THE BRACKETS SHALL BE GROUND FLUSH TO GATE SURFACE.
6. SKIN PLATE SPLICE WELD SHALL BE COMPLETED AND GROUND FLUSH.
7. THE COOLING RATE OF THE SKIN PLATE SPLICE WELDS SHALL BE CONTROLLED. POST HEAT MAY BE REQUIRED.
8. U.T. AND R.T. SHALL BE COMPLETED ON 100% OF THE SKIN PLATE SPLICE WELDS. HOLD TIME PRIOR TO FINAL U.T., R.T., AND VISUAL INSPECTION SHALL BE 48 HOURS AFTER WELD REACHES AMBIENT TEMPERATURE.
9. PURLIN SPLICE SECTIONS AND LONGTIDUNAL ANGLE SPLICE SETIONS SHALL BE INSTALLED AND WELDS TESTED IN ACCORDANCE WITH CONTRACT PLANS.
10. TEMPORARY FRAMING SHALL BE REMOVED AND 6'-0" SECTIONS OF LOGITUDINAL ANGLES, WALKWAY ANGLES, AND FRAMING ANGLES SHALL BE INSTALLED UTILIZING COMPLETE JOINT PENETRATION GROOVE WELDS.
11. ALL MEMBERS OF THE GATE AFFECTED BY THE SPLICE PROCEDURE SHALL BE METALLIZED PER CONTRACT SPECIFICATION 09 97 10.00 10 AND/OR PAINTED PER CONTRACT SPECIFICATION 09 97 02.

US Army Corps of Engineers® Huntington District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
HUNTINGTON DISTRICT
HUNTINGTON, WEST VIRGINIA

DESIGNED BY: JWS | DATE:
DWN BY: JJA | CKD BY: DTC | SOLICITATION NO.:
SUBMITTED BY: | CONTRACT NO.:
PLOT SCALE: 1.0000 '=1" | PLOT DATE: 3/14/2019 | FILE NUMBER:
SIZE: | FILE NAME: S-509 GATE SPLICE - DETAILS & SECTIONS.dgn

CREMEANS, RO Digitally signed by CREMEANS.RODNEY.G.1229723932 Date: 2019.09.23 16:45:34 -04'00'
DNEY.G.1229723932

KANAWHA RIVER
ELEANOR, WV
WINFIELD LOCKS AND DAM
STANDARD ROLLER GATE
GATE SPLICE
DETAILS & SECTIONS

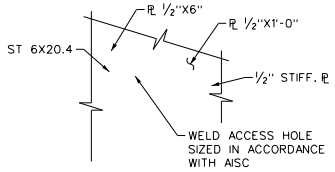
SHEET IDENTIFICATION
S-509
SHEET 26 OF 78

I:\ECK\JAW\P_PWP-201910665\S-509 GATE SPLICE - DETAILS & SECTIONS.dgn

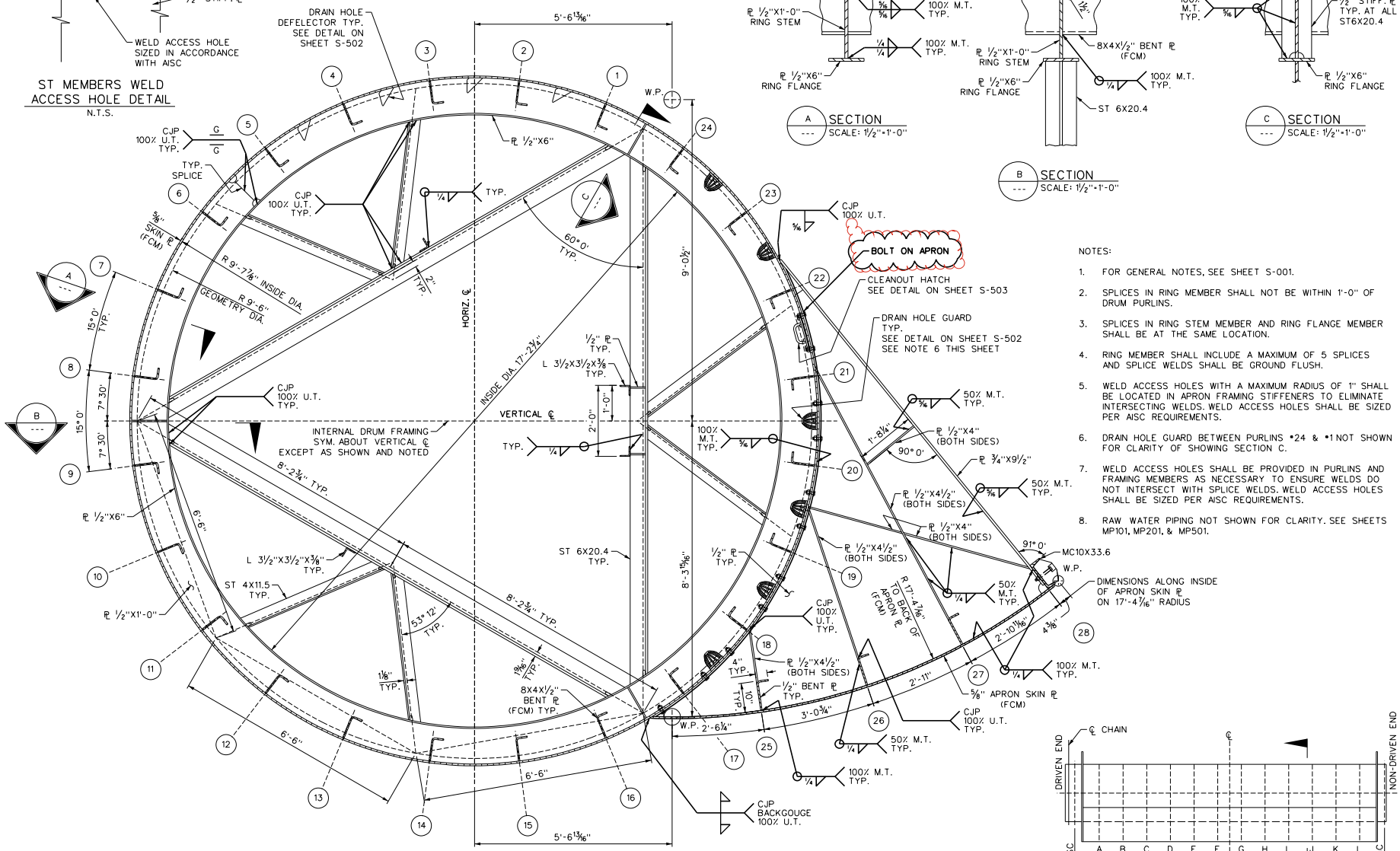
P_PWP-201910665-S509.dgn

CUI//SP-PROCURE/FED ONLY

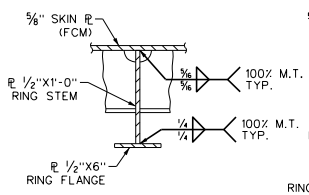
Conceptual detail of bolted on Apron.
See Question 6.



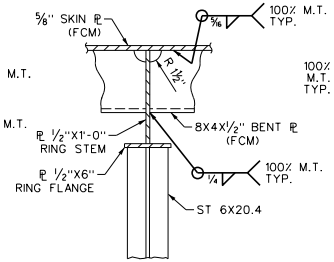
ST MEMBERS WELD ACCESS HOLE DETAIL
N.T.S.



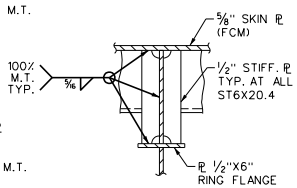
TRANSVERSE FRAMING
SCALE: ¾"=1'-0"



A SECTION
SCALE: 1½"=1'-0"



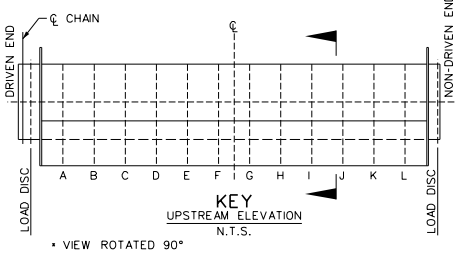
B SECTION
SCALE: 1½"=1'-0"



C SECTION
SCALE: 1½"=1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE SHEET S-001.
2. SPLICES IN RING MEMBER SHALL NOT BE WITHIN 1'-0" OF DRUM PURLINS.
3. SPLICES IN RING STEM MEMBER AND RING FLANGE MEMBER SHALL BE AT THE SAME LOCATION.
4. RING MEMBER SHALL INCLUDE A MAXIMUM OF 5 SPLICES AND SPLICE WELDS SHALL BE GROUND FLUSH.
5. WELD ACCESS HOLES WITH A MAXIMUM RADIUS OF 1" SHALL BE LOCATED IN APRON FRAMING STIFFENERS TO ELIMINATE INTERSECTING WELDS. WELD ACCESS HOLES SHALL BE SIZED PER AISC REQUIREMENTS.
6. DRAIN HOLE GUARD BETWEEN PURLINS •24 & •1 NOT SHOWN FOR CLARITY OF SHOWING SECTION C.
7. WELD ACCESS HOLES SHALL BE PROVIDED IN PURLINS AND FRAMING MEMBERS AS NECESSARY TO ENSURE WELDS DO NOT INTERSECT WITH SPLICE WELDS. WELD ACCESS HOLES SHALL BE SIZED PER AISC REQUIREMENTS.
8. RAW WATER PIPING NOT SHOWN FOR CLARITY. SEE SHEETS MP101, MP201, & MP501.



KEY
UPSTREAM ELEVATION
N.T.S.
• VIEW ROTATED 90°

US Army Corps of Engineers® Huntington District

MARK	DESCRIPTION	DATE

DESIGNED BY:
DRAWN BY:
CHECKED BY:
SUBMITTED BY:
ISSUE DATE:
SOLICITATION NO.:
CONTRACT NO.:
SIZE:

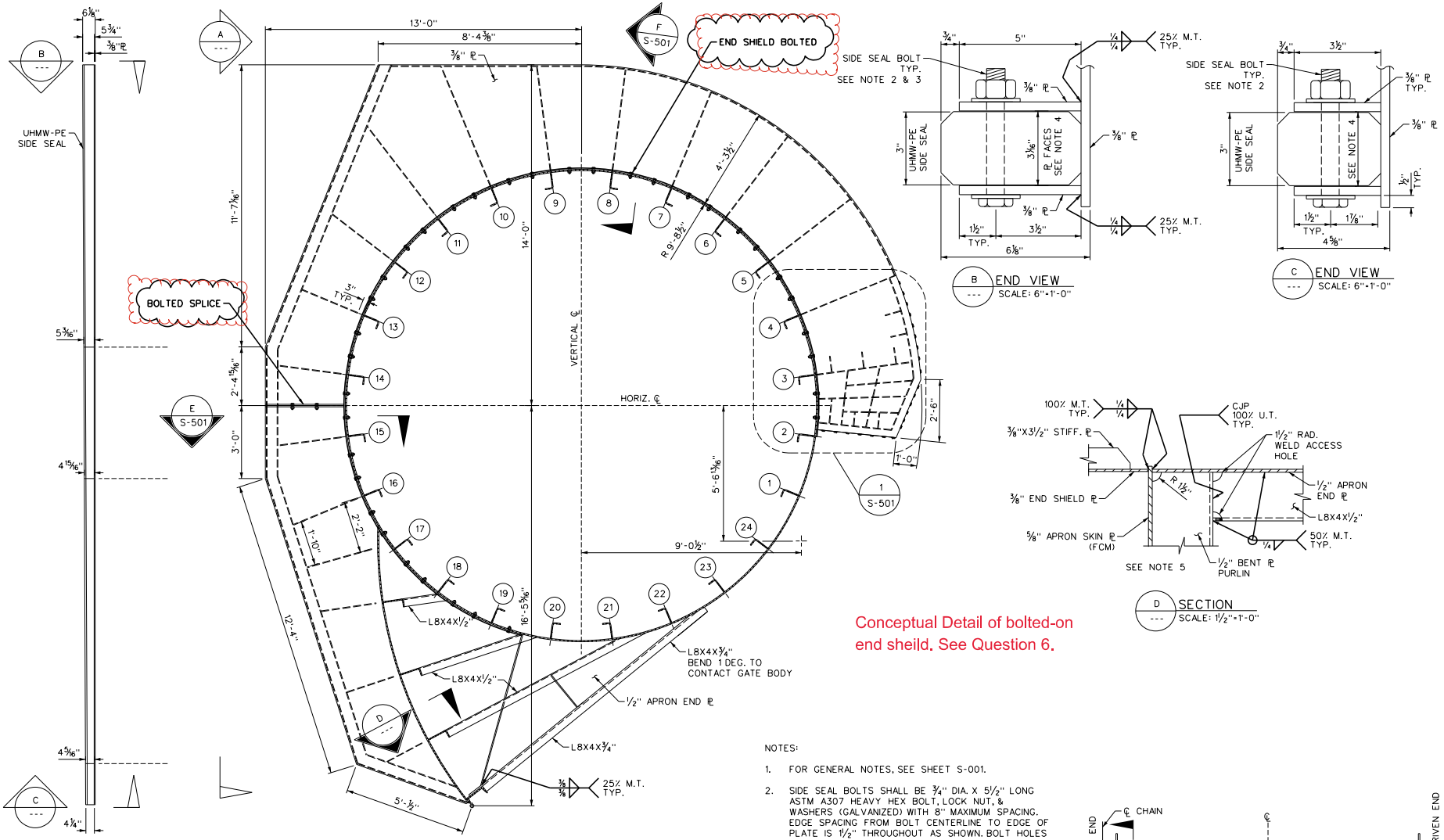
HUNTINGTON DISTRICT
HUNTINGTON, WEST VIRGINIA

KANAWHA RIVER
ELEANOR, WV
WINFIELD LOCK AND DAM
STANDARD ROLLER GATE

TRANSVERSE FRAMING

SHEET ID
S-302

CUI//SP-PROCURE/FED ONLY



A ELEVATION VIEW
SCALE: 1/2"=1'-0"

TYPICAL SECTION AT END SHIELD
SCALE: 1/2"=1'-0"
DRIVEN END SHOWN
NON-DRIVEN END OPPOSITE HAND

B END VIEW
SCALE: 6"=1'-0"

C END VIEW
SCALE: 6"=1'-0"

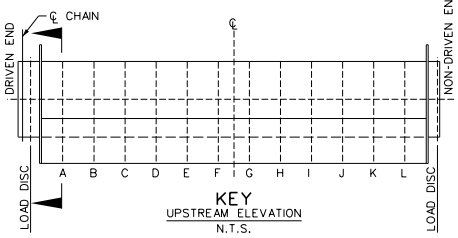
D SECTION
SCALE: 1 1/2"=1'-0"

Conceptual Detail of bolted-on end sheild. See Question 6.

SCALE: 6" = 1'-0"
0 1" 2" 4"
SCALE: 1- 1/2" = 1'-0"
0 6" 1' 2'
SCALE: 1/2" = 1'-0"
0 1' 2' 4'

NOTES:

1. FOR GENERAL NOTES, SEE SHEET S-001.
2. SIDE SEAL BOLTS SHALL BE 3/4" DIA. X 5 1/2" LONG ASTM A307 HEAVY HEX BOLT, LOCK NUT, & WASHERS (GALVANIZED) WITH 8" MAXIMUM SPACING. EDGE SPACING FROM BOLT CENTERLINE TO EDGE OF PLATE IS 1 1/2" THROUGHOUT AS SHOWN. BOLT HOLES IN FRAMING SIDE SEAL FRAMING PLATES AND SEAL SHALL BE 13/16" DIA. TIGHTEN BOLTS TO SNUG TIGHT FIT.
3. SIDE SEALS SHALL BE DRILLED AND FIT-UP IN SHOP FOR FIELD INSTALL.
4. SIDE SEAL WIDTH IS 3". SPACING BETWEEN SIDE SEAL FRAMING PLATES IS 31/16"
5. OUTSIDE EDGE OF 1/2" APRON END PLATE COPLANAR WITH OUTISDE EDGE OF 3/8" END SHIELD PLATE.
6. SIDE SEALS MUST CONTACT OUTSIDE FACE OF APRON SEAL.



KEY
UPSTREAM ELEVATION
N.T.S.

US Army Corps of Engineers
Huntington District

MARK	DESCRIPTION	DATE

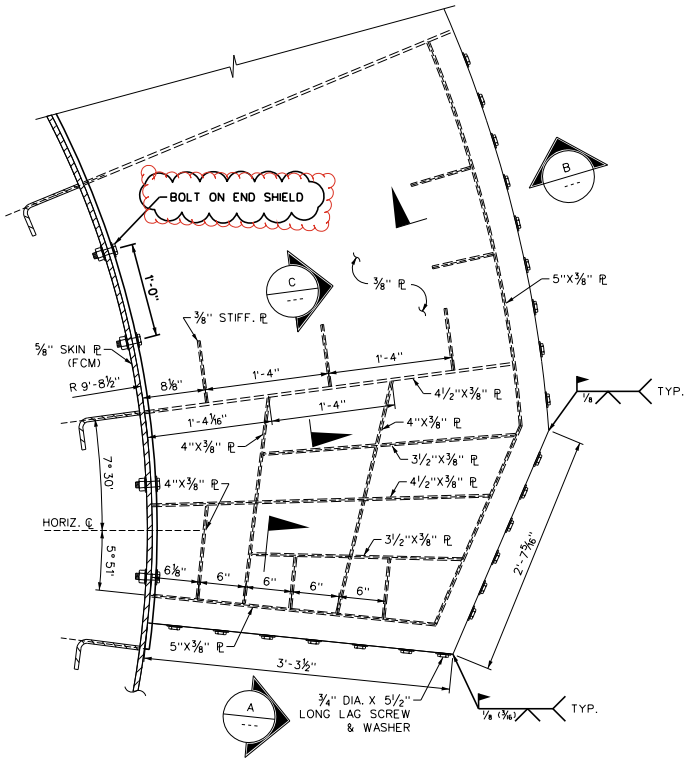
DESIGNED BY:
DRAWN BY:
CHECKED BY:
ISSUE DATE:
SOLICITATION NO.:
CONTRACT NO.:
SUBMITTED BY:
SIZE:

HUNTINGTON DISTRICT
HUNTINGTON, WEST VIRGINIA

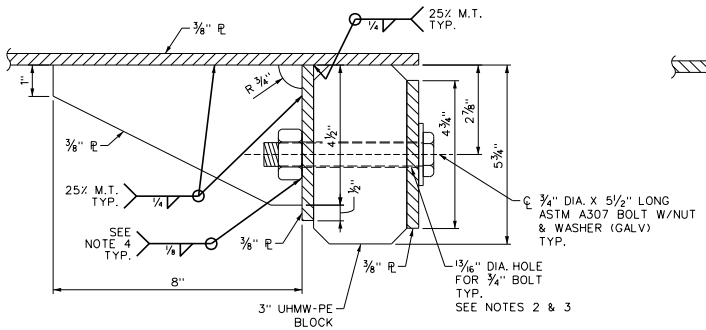
KANAWHA RIVER
ELEANOR, WV
WINFIELD LOCK AND DAM
STANDARD ROLLER GATE

END SHIELD

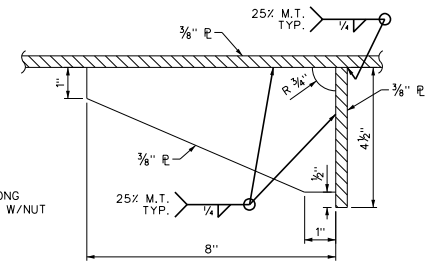
SHEET ID
S-307



1 S-307 DETAIL
SCALE: 1½"=1'-0"

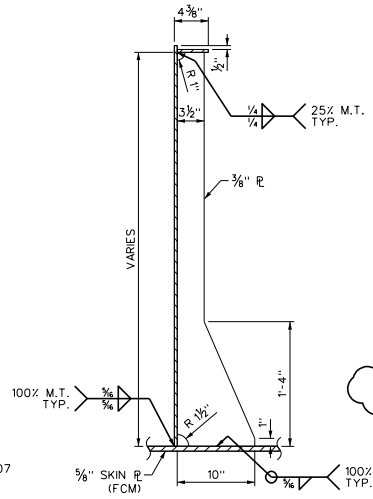


B SECTION
SCALE: 6"=1'-0"

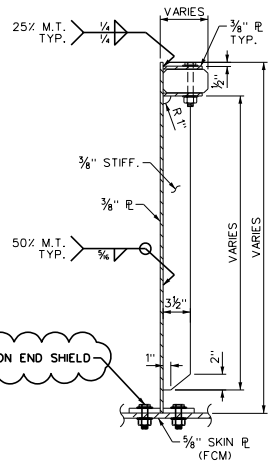


C SECTION
SCALE: 6"=1'-0"

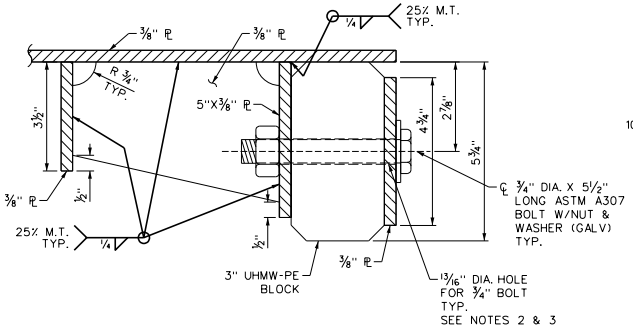
conceptual Detail of bolt-on
End shield. See Question 6.



F S-307 SECTION
SCALE: 1½"=1'-0"



E S-307 SECTION
SCALE: 1½"=1'-0"



A SECTION
SCALE: 6"=1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE SHEET S-001.
2. BOLTS TO BE SPACED TO FIT WITH NO BOLTS FURTHER THAN 4" FROM PLATE ENDS AND SPACING NO GREATER THAN 8". TIGHTEN BOLTS TO SNUG TIGHT FIT.
3. UHMW-PE SEALS SHALL BE DRILLED AND FIT-UP IN SHOP FOR FIELD INSTALL.
4. WELD NUTS TO PLATE USING SHEILDED METAL ARC WELDING PROCESS UTILIZING E7018 ELETRODES. WELDS SHALL BE VISUALLY INSPECTED.

SCALE: 6" = 1'-0"
0 1" 2" 4"

SCALE: 1- ½" = 1'-0"
0 6" 1' 2'

US Army Corps of Engineers
Huntington District

MARK	DESCRIPTION	DATE

DESIGNED BY:
DRAWN BY:
CHECKED BY:
SUBMITTED BY:
SIZE:
ISSUE DATE:
SOLICITATION NO.:
CONTRACT NO.:

HUNTINGTON DISTRICT
502 8TH STREET
HUNTINGTON, WEST VIRGINIA

KANAWHA RIVER
ELEANOR, WV
WINFIELD LOCK AND DAM
STANDARD ROLLER GATE

END SHIELD DETAILS

SHEET ID
S-501