



INDEX

SHEET NUMBER DRAWING NUMBER DRAWING DESCRIPTION
001 - GENERAL

1	001-G-0	COVER
2	001-G-1	DRAWING INDEX
3	001-G-2	GENERAL LEGEND, SYMBOLS, AND ABBREVIATIONS
4	001-G-3	CIVIL LEGEND

002 - SITE DEVELOPMENT

15

16

17

5	002-CK-1	SITE KEY
6	002-CK-2	SURVEY KEY
7	002-CER-1	EROSION CONTROL & RESTORATION PLAN
8	002-CER-2	RESTORATION PLAN, SMS ENGINEERS
9	002-CP-1	CIPP REHABILITATION PLAN AND PROFILE
10	002-CP-2	RIVERSIDE EFFLUENT PIPING PLAN AND PROFILE
11	002-CP-2-ALT	RIVERSIDE EFFLUENT PIPING PLAN AND PROFILE ALTERNATE
999 - DETAILS		
12	999-CD-1	CIVIL DETAILS
13	999-CD-2	DETAILS BY OTHERS
14	999-CD-3	CIVIL DETAILS

999-CD-4 CIVIL DETAILS

999-MD-1 PROCESS DETAILS

999-SD-1 STRUCTURAL DETAILS

	~		Checked Date By	
JEFFREY ALAN GRATZER 062-069787 Jebber 10 Junet	TIMOTHY J. BATES TIMOTHY J. BATES 081.007911		ion Description By By	
JEFFREY A. GRATZER NAME SENIOR ENGINEER TITLE DONOHUE & ASSOCIATES, INC. FIRM DATE10/30/2024	TIMOTHY J. BATES NAME STRUCTURAL ENGINEER TITLE DONOHUE & ASSOCIATES, INC. FIRM DATE10/30/2024	NOT STAMPED OR DESIGNED BY DONOHUE	line and a second secon	REK
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002-CP-2-ALT 999-CD-3 999-CD-4 999-MD-1			WOOD RIVER DRAINAGE AND LEVEE DISTRICT RAND AVENUE PUMP STATION EFFLUENT PIPING REPLACEMENT AND REHABILITATION	HARTFORD, IL GENERAL DRAWING INDEX
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001-G-2

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\bowtie	м	(SHOWN ACTUAL SIZE)			GUARDRAIL		SANITARY SEWER WATER MAIN
	Z	GAS VALVE GUY WIRE			PIPE, ABANDON		STORM SEWER FORCE MAIN
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	\frown	HEADWALL			PIPE OVER 24" (SHOWN ACTUAL SIZE)		GENERAL NOTES AND STANDS
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I.P.			+++++++++++++++++++++++++++++++++++++++		RAILROAD		CIVIL
	igodot	MARSH		0	SILT FENCE		CONSTRUCTION DETAILS KEY PLAN OR OVERALL PLAN
M	м	METER			WATERS EDGE		EROSION CONTROL GENERAL
Ø		UTILITY POLE			WETLAND		PAVING DETAILS
xx		UTILITY POLE WITH LIGHT					PAVEMENT MARKING PLAN
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		<u>ONS</u>		<u>SYMBOLS</u>			NOTE: STANDARD DETAILS ARE BEEN ASSIGNED A SITE I
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B/C BACK OF C BIT BITUMINOU	CURB OF US/ASPHALT	OVERHEAD UTILITY					
CIP CAST IRON	PC N PIPE PE	POINT OF CURVATURE POLYETHYLENE PIPE		REMOVE & REPLACE ASPHA	LTIC PAVEMENT & BASE		
CO CLEANOUT CONC CONCRETI	F PI E PL	POINT OF INTERSECTION PROPERTY LINE		REMOVE & REPLACE GRAVE	L		
CSP CONCRETI	E SEWER PIPE PV	C POLYVINYL CHLORIDE PIPE					
DIA DIAMETER DIP DUCTILE IF	RON PIPE R	RADIUS		EXISTING GRAVEL			
DW DEWATER	ING PIPE RC RIM	P REINFORCED CONCRETE PIPE TOP OF CASTING ELEVATION					
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F/C FACE OF C	SA SURB ST	N SANITARY SEWER M STORM SEWER					
F-F FACE TO F F/G FINISHED	ACE SD GRADE	SUMP DISCHARGE					
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NT BK. 2542 PG. 746  R REFINING CO. EASEMENT  Checked Rv  ICH	
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002-CK-1

### PLAN

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- TRACI 2.
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- 25' SHI IN PRC 6.





## **GENERAL NOTES:**

- 1. SURVEY WITHIN RESTRICTED AREA WAS COMPLETED BY WRDLD IN JULY 2024. THE SITE WEST OF IL ROUTE 3 WAS SURVEYED BY SHEPPARD, MORGAN & SCHWAAB, INC. THE EAST SIDE OF IL ROUTE 3 IS BASED ON RECORD INFORMATION.
- 2. STAGING AREAS TO BE COORDINATED WITH OWNER AND PHILLIPS 66.

	ILLINOIS ST	ATE PLANE	WEST ZONE,	NAVD88
CP#	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	792034.24	2316097.84	448.62	MAG NAIL
2	791438.40	2316068.92	440.32	MAG NAIL
3	791683.14	2316047.28	428.2	MAG NAIL
4	791804.53	2315978.96	425.39	MAG NAIL
20	791637.60	2316115.68	443.59	ALUMINUM TAB
21	791592.16	2316089.29	443.57	ALUMINUM TAB
200	791689.74	2316114.08	430.49	CUT CROSS
201	791741.69	2316113.97	443.38	CUT CROSS

NOTE: SURVEYOR HAS A LEADER POINTING TO CP #201 WITH THE LETTERS "B.M.".

Sheet N	<b>)</b>	WOOD RIVER DRAINAGE AND LEVEE DISTRICT	Project Project	Approv	Drawn	Revision	Revision Description By	Checke By	d Date
lo.	DO	EEI LIENT DIDING BEDI ACEMENT AND BEHABII ITATION	No. Date	ed By	By d By	ed By			
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		<b>D</b> D		
3. 4. 5. 6. 7. 8. 9. 10.	WITH STONE THAT MATCHES EXISTING. (C130) SILT FENCE (C031) FILL DITCH OVER PIPE, MINIMUM 1 FOOT COVER. REMOVE AND REPLACE CHAIN LINK FENCE AS REQUIRED FOR CONSTRUCTION, AND REINSTALL AFTER REGRADING. REPLACE AS NECESSARY, IN KIND. FOR ALTERNATE DESIGN, EXTEND DRIVEWAY EAST AROUND PROPOSED MH#2-ALT. CONTRACTOR TO PROVIDE MEANS TO ISOLATE WORK AREA (COFFER DAM) RESTORE TOPSOIL WITH SEED AND SOD. REMOVE AND REPLACE EXISTING ASPHALT TRAIL FROM STA. 51+50 TO S3+50 OF SMS ENGINEERING TRAIL RESTORATION PLAN. TRAIL RESTORATION PROJECT ANTICIPATED TO OCCUR PRIOR TO PROPOSED WORK, THIS SEGMENT OF REPARI IS COMBINED WITH THIS PROJECT. SEE DETAIL: (125) BOLLARDS/GATES TO BE REMOVED. RAND AVE ROAD RESTORATION, PER DETAIL (128)	WOOD RIVER DRAINAGE AND LEVEE DISTRICT RAND AVENUE PUMP STATION	EFFLUENT PIPING REPLACEMENT AND REHABILITATION HARTFORD, IL	SITE DEVELOPMENT EROSION CONTROL & RESTORATION PLAN
	REMOVE AND REPLACE EXISTING ASPHALT C120	Project No. Project Date	14317.0 OC	2 / 14317.03 T 2024
ь.	IRAIL RESTORATION AND RAND AVE ROAD RESTORATION NOTED ON THIS SHEET WAS COMPLETED BY SMS ENGINEERS WITH PLANS TITLED "CONFLUENCE TRAIL IMPROVEMENTS", SEALED ON 9-10-2024. SEE APPENDIX FOR FULL SET OF THESE PLANS.	Checked By Approved By Filename	002-	JCH JAG CP.DWG
5.	CONSTRUCTION. RESTORE LEVEE IN ACCORDANCE WITH USACE REQUIREMENTS.	Designed By		REK
3. 4.	RESTORE LAGOON AS DIRECTED BY PHILLIPS 66. RESTORATION AREA IS INTENDED TO BE CENTERED ON THE PIPE AND MANHOLE LOCATIONS, AND IS APPROXIMATE. IF AN ALTERNATE DESIGN IS SELECTED, THE RESTORATION AREA WILL MOVE WITH THE PIPE LOCATION. CONTRACTOR SHALL RESTORE ALL SURFACES DISTURBED BY	wision		
2.	DATUM (NGVD 29 TO NAVD 88). SEE SECTION 01 11 00 FOR CONSTRUCTION SEQUENCING REQUIREMENTS.			
<b>GI</b> 1.	ENERAL NOTES: ORIGINAL PLANS AND RECORDS ARE FROM 1958, WHICH WAS OBSERVED IN A DIFFERENT VERTICAL	Revision Description		
	0 20'			
		By		
		Checked By		
		Date		

ROAD AND TRAIL DESIGN FROM "CONFLUENCE TRAIL IMPROVEMENTS" MADISON COUNTY MASS TRANSIT DISTRICT, HARTFORD, ILLINOIS / WOOD RIVER, ILLINOIS MCT NO. 21-1-21301

DESIGNED BY SMS ENGINEERS, SHEPPARD, MORGAN & SCHWAAB, INC. # 184-000992 SEALED BY COEY D. DANIELS ON 9-10-2024

DETAILS FROM THE SMS DESIGN HAVE BEEN ADDED TO DONOHUE'S 999-CD-2, FROM PAGE 6 OF 21. THE INFORMATION ON THIS PAGE IS FROM PAGES 10 AND 18 OF 21.

STATIONING FROM THE TRAIL RESTORATION PROJECT IS SHOWN ON 002-CER-1. STATIONS 51+50 TO 53+50 WILL BE INSTALLED IN CONJUNCTION WITH WOOD RIVER LEVEE PROJECT DUE TO CONSTRUCTION TIMELINES.

INSTALL TRAFFIC CONTROL AND TRAIL CLOSURE PER THE CONFLUENCE TRAIL IMPROVEMENTS PLANS IN THE APPENDIX.

QUESTIONS REGARDING THE ROAD AND TRAIL RESTORATION SHOULD BE DIRECTED TO COEY D. DANIELS cdaniels@smsengineers.com 618-462-9755







#### GENERAL NOTES:

- 1. ALL EXISTING PIPING AND UTILITIES SHALL BE FIELD VERIFIED FOR LOCATION AND ELEVATION. CONTACT ENGINEER IF UNKNOWN CONFLICTS EXIST.
- ORIGINAL PLANS AND RECORDS ARE FROM 1956, WHICH WAS OBSERVED IN A DIFFERENT VERTICAL DATUM (NGVD 29 TO NAVD 88).
- 3. SEE SECTION 01 11 00 FOR CONSTRUCTION SEQUENCING REQUIREMENTS.
- 4. REMOVE AND REINSTALL EXISTING GRATING AT GATEWELL STRUCTURE AND PUMP STATION HEADBOX AS REQUIRED FOR CONSTRUCTION ACCESS. SEE RAND AVE PUMP STATION RECORD DRAWINGS INCLUDED IN THE PROJECT MANUAL FOR ADDITIONAL INFORMATION ON EXISTING GRATING.

PLAN NOTES:  $\langle \rangle$ 

- 1. CONSTRUCT TEMPORARY BULKHEAD. SEE SPECIFICATION 01 11 00 FOR ADDITIONAL INFORMATION.
- 2. REHABILITATE EXISTING CAST IRON EFFLUENT PIPES WITH CIPP LINER. HEAVY MECHANICAL CLEANING REQUIRED. SEE SPECIFICATION 33 01 30.72. ACCESS FOR CLEANING AND CIPP LINING INSTALLATION SHALL BE THROUGH EXISTING GATEWELL AND PUMP STATION HEADBOX.

Sheet N	<b>)</b>	WOOD RIVER DRAINAGE AND LEVEE DISTRICT	Project Project	Approve Filenam	Drawn E Checke	Designe	Revision Number	Revision Description	Drawn By	Checked By	Date
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	HI	CIPP REHABILITATION	20	AG P.DV	CH	 REK					
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ES SHALL BE FIELD VERIFIED FOR	Date			
Y OF THE EXISTING PIPES HAVE NOT BEEN ON RECORD. CONTACT ENGINEER IF	cked			
E WITH APPROPRIATE TRENCHING, EMENTS. C500 C505	CHe			
ARE FROM 1956, WHICH WAS OBSERVED IN NGVD 29 TO NAVD 88).	Drawn By			
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ED, REFERENCE THE GEOTECHNICAL CT MANUAL FOR INFORMATION ON HOW 0 20'				
CAVATE ALONG THE ENTIRE PATH OF THE PATTERN THAT CROSSES THE WIDTH OF FEET. HYDRO-EXCAVATE TO A DEPTH OF 1 HE PROPOSED PIPE. SEE SECTION 31 10 00				
>	Description			
CAST IRON EFFLUENT PIPE (MOSTLY FULL OF CONCRETE) AND EN STATIONS 23+00 AND GATEWELL STRUCTURE. GROUT FILL END OF	Revision			
STING PIPE OPENING. SEE S300				
OPEN TRENCH.				
E - CP-1. CONTRACTOR TO CORE DRILL TWO 6-INCH HOLES IN THE LL STRUCTURE. INVERT ELEVATION OF THE HOLES SHALL MATCH TOP EXISTING 24-INCH PIPE FROM THE HEADBOX ENTERS THE GATEWELL 3E FIELD LOCATED TO AVOID DAMAGE TO THE EXISTING WALL				
IN 01 11 00. IENT PIPE AND EXISTING MANHOLE STRUCTURE WITH GROUT AND	Revision Number			
GRATE PER IDOT STANDARD 542311-07. CONTRACTOR TO REPLACE	Designed By		REK	
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IE WITH OWNER TO RELOCATE EXISTING GUARD SHACK DURING	Checked By			
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ST IRON EFFLUENT PIPE (MOSTLY FULL OF CONCRETE) AND GATEWELL STRUCTURE. REPLACE WITH 38" RCP AS EXISTING OVERFLOW MANHOLE #2 TO SEAL OFF PIPE.				
NG PIPE OPENING. SEE S300				
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P-1. CONTRACTOR TO CORE DRILL TWO 6-INCH HOLES IN IELL STRUCTURE. INVERT ELEVATION OF THE HOLES	Revision Number			
ION WHERE THE EXISTING 24-INCH PIPE FROM THE STRUCTURE. THE HOLES SHALL BE FIELD LOCATED TO IALL REINFORCING. SEE SPECIFICATION 01 11 00.	Designed By Drawn By		REK REK	
IT PIPE AND EXISTING MANHOLE STRUCTURE WITH GROUT	Checked By		JCH	
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HI	CIVIL DETAILS	JCH JAG D1.D\ 2 / 14: T 20.	REK REK					
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ROAD AND TRAIL DESIGN FROM "CONFLUENCE TRAIL IMPROVEMENTS" MADISON COUNTY MASS TRANSIT DISTRICT, HARTFORD, ILLINOIS / WOOD RIVER, ILLINOIS MCT NO. 21-1-21301

DESIGNED BY SMS ENGINEERS, SHEPPARD, MORGAN & SCHWAAB, INC. # 184-000992 SEALED BY COEY D. DANIELS ON 9-10-2024

DETAIL C128 FROM PAGE 6 OF 21. DETAIL C125 WAS PROVIDED BY MADISON COUNTY MASS TRANSIT DISTRICT.

QUESTIONS REGARDING THE ROAD AND TRAIL RESTORATION SHOULD BE DIRECTED TO COEY D. DANIELS cdaniels@smsengineers.com 618-462-9755

MADISON COUNTY MASS TRANSIT DISTRICT CONTACT: MARK STEYER msteyer@mct.org 618-797-4600, ext. 2303



TRAIL RESTORATION	C125
NTS	PER MCT

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MIXTUR	E REQUIREN	MENTS
MIXTURE USE	SURFACE	BINDER/BASE
PG	PG 64-22	PG 64-22
RAP % (MAX.)	10%	15%
DESIGN AIR VOIDS	4.0% O Ndes = 50	4.0% • Ndes = 50
MIX COMPOSITION (GRADATION MIXTURE)	IL−9.5	IL—19.0
FRICTION AGG.	MIXTURE C	MIXTURE B
MIXTURE WEIGHT	112 LB/SQ YD/IN	112 LB/SQ YD/IN







Revision Description By Checked Date By By Checked			
5         Jag           Designed By           Drawn By           Checked By           Approved By           Filename           Project No.           Project Date	999C 14317.0	REK REK JCH 2/14317.03 T 2024	•
WOOD RIVER DRAINAGE AND LEVEE DISTRICT RAND AVENUE PUMP STATION	HARTFORD, IL	CIVIL DETAILS	
Sheet No. Drawing No. 9	15 99-CF	HUE	





WOOD RIVER DRAINAGE AN RAND AVENUE PUM EFFLUENT PIPING REPLACEMEN HARTFORD PROCESS DET	PROCESS DET Process DET Proces	ID LEVEE DISTRICT Particip Description Particip Description Particip Description Particip Description Particip Description Particip Description By Drawn BA Data Martin Drawn BA Drawn Drawn Drawn BA Drawn Drawn Dr		REK REK JCH JAG CD1.DU Z/14: T 20	
	DONOHUE Sheet No. 16 Drawing No.	IVER DRAINAGE A Rand Avenue pu Ding redi aceme	HARTFOR	PROCESS DE	

#### MINIMUM REINFORCEMENT BAR SPLICE AND ANCHORAGE LENGTH (INCHES) S010 **GENERAL STRUCTURAL NOTES** LAPPED SPLICE EMBEDMEN BAR GENERAL SIZE LENGTH LENGTH 1. THE GENERAL STRUCTURAL NOTES AND STANDARD STRUCTURAL DETAILS APPLY TO TOP BARS OTHERS TOP BARS OTHERS THE ENTIRE PROJECT UNLESS SPECIFICALLY NOTED OTHERWISE. 16 16 12 12 3 DESIGN CRITERIA 4 19 16 14 12 1. DESIGN AND CONSTRUCT IN CONFORMANCE WITH THE INTERNATIONAL BUILDING CODE, 2021 EDITION. 27 21 21 16 2. SUPERIMPOSED DESIGN LOADS 29 29 22 38 A. LIVE LOADS (OTHER THAN SUPPORTED ON FILL) H20 TRUCK LOADING 61 47 47 36 3. SEISMIC DESIGN DATA: 59 59 45 A. RISK CATEGORY 92 71 71 55 B IMPORTANCE FACTOR 1.25 C. MAPPED SPECTRAL RESPONSE ACCELERATIONS 10 110 84 84 65 0.398 1. Ss 2. S1 0.148 11 128 98 98 76 D. SITE CLASS D E. SPECTRAL RESPONSE COEFFICIENTS NOTES: 1. Sds 2. Sd1 0.394 TOP BARS ARE HORIZONTAL BARS SO PLACED THAT MORE THAN 0.227 D 12" OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR. F. SEISMIC DESIGN CATEGORY FOR BARS SPACED LESS THAN 6 BAR DIAMETER OC INCREASE FOUNDATIONS LENGTH BY 25%. GEOTECHNICAL INVESTIGATION BY GEOTECHNOLOGY, LLC, DBA UES WHEN LAPPING TWO DIFFERENT SIZE BARS USE THE LAP LENGTH OF THE SMALLER BAR UNLESS NOTED OTHERWISE. NET ALLOWABLE SOIL BEARING CAPACITIES: 1000 PSF PLACE FOOTINGS ON NATURAL UNDISTURBED EARTH OR STRUCTURAL FILL TO MINIMIZE LATERAL FORCES AGAINST THE STRUCTURE DUE TO WEDGING ACTION OF THE SOIL, BEGIN EMBEDMENT LENGTH IS MINIMUM LENGTH OF EMBEDMENT FOR COMPACTION OF EACH LAYER AT THE STRUCTURE WALL. STRAIGHT DOWELS WHERE END HOOK IS NOT SHOWN, UNLESS OTHERWISE NOTED. REINFORCEMENT COMPRESSION LAP LENGTH FOR VERTICAL COLUMN BARS ONLY. REINFORCEMENT STEEL: DEFORMED BARS, ASTM A615 - GRADE 60 UNLESS NOTED OTHERWISE PROVIDE CLEAR COVER FOR REINFORCEMENT AS FOLLOWS: HOOKS SHALL BE ACI STANDARD UNLESS OTHERWISE NOTED. A. CAST AGAINST FOR EPOXY COATED REINFORCEMENT, INCREASE LENGTH BY 20% FOR TOP BARS AND 50% FOR OTHERS. 1. EARTH 3 INCHES 2. MUD SLAB 2 INCHES B. EXPOSED TO EARTH, WEATHER, OR WATER 1. SLABS A. #5 BARS OR SMALLER: 1 1/2 INCHES B. #6 THROUGH #11 BARS: 2 INCHES - EXISTING STRUCTURE 2. WALLS: 3. PLACE DOWELS BEFORE PLACING CONCRETE. 4. DO NOT FIELD WELD OR FIELD BEND REINFORCING BARS. 2 INCHES DOWEL ADHESIVE - ROUGHEN SURFACE, CLEAN AND CONCRETE APPLY BONDING COMPOUND DESIGN STRENGTH, CLASS A: F'C = 4500 PROVIDE WATERSTOP IN CONSTRUCTION JOINTS WHERE SHOWN ON DRAWINGS. F'C = 4500 PSI DOWEL BAR AS NOTED - NEW CONSTRUCTION BEFORE CONCRETE IS PLACED, CONSTRUCTION JOINTS SHALL BE CLEANED, LAITANCE REMOVED, AND SURFACE WETTED. REMOVE STANDING WATER. CONSTRUCTION JOINTS SHALL HAVE ROUGHENED SURFACES. SURFACE SHALL HAVE AMPLITUDE OF 1/4 IN. MIN. 5. PROVIDE 3/4 IN. CHAMFER ON EXTERNAL CORNERS OF EXPOSED EDGES OF CONSTRUCTION JOINTS STEEL "X" LAPPED SPLICE LENGTH SEE S010 A. W SHAPES ASTM A992 B. S, C, AND MC SHAPES C. SQUARE OR RECTANGULAR TUBE: ASTM A36 ASTM A500, GRADE B, 46 KSI D. PIPE: ASTM A53 E. PLATES AND BARS ASTM A36 F. BOLTED CONNECTIONS FOR STEEL MEMBERS: G. BOLTED CONNECTIONS FOR ALUMINUM MEMBERS: ASTM F3125 GRADE A325, GALVANIZED STAINLESS STEEL H. STAINLESS STEEL 1. EXTERIOR AND SUBMERGED USES 2. INTERIOR AND ARCHITECTURAL USES AISI, TYPE 316 AISI, TYPE 304 3. CAST-IN-PLACE ANCHOR RODS AISI, TYPE 316 ALUMINUM A. SHAPES AND PLATES: ALLOY 6061-T6 OR 6063-T6 NOTES: 1. EMBEDMENT "X"=16 BAR DIAMETERS MIN. 2. HOLE DIAMETER "D"=PER ADHESIVE MFR. ANCHOR RODS, 1/2" MINIMUM DIA: STAINLESS STEEL WELD STRUCTURAL STEEL WITH E70XX ELECTRODES IN ACCORDANCE WITH AWS REQUIREMENTS. WELD ALUMINUM IN ACCORDANCE WITH AWS AND AA REQUIREMENTS. COAT ALUMINUM SURFACES IN CONTACT WITH CONCRETE IN ACCORDANCE WITH AA REQUIREMENTS. UNDER NO CIRCUMSTANCES SHALL ALUMINUM CONTACT DISSIMILAR METALS. MISCELLANEOUS DRILLED IN DOWEL DETAIL S385 1. VERIFY PERTINENT EXISTING CONDITIONS AND DIMENSIONS BEFORE STARTING CONSTRUCTION AND/OR FABRICATION. 2. FOR ADDITIONAL OPENINGS, ANCHORS, AND EMBEDDED ITEMS SEE CIVIL DRAWINGS. REMOVALS - RAILING POST SEE SPECS SAWCUT AND REMOVE CONCRETE TO LIMITS NOTED. REMOVE CONCRETE AND REINFORCEMENT A MINIMUM 1" BEYOND FINISHED SURFACE AT ANY LOCATION WHERE NEW PROVIDE SPECIAL CONNECTION THAT DEVELOPS FULL STRENGTH OF PIPE CONCRETE WILL NOT COVER ROUGH SURFACE OF REMOVAL. PATCH BACK TO FINISHED SURFACE WITH PATCHING MORTAR 1/4" X 4" TOE PLATE BASE FLANGE 2" MIN

3.

4.

1.

2.

METALS









S525

CONC ANCHORS

**RAILING DETAIL** 

4" MIN

SURFACE MOUNT

NTS

COMPRESSION

8

9

12

14

18

21

23

25

LAP LENGTH

SIDE VIEW LADDER DETAIL NTS

> 5'-0" MAX SPACING

RAILING

- TOE PLATE

S531

T/ FLOOR

## NEW CONNECTION

# CONNECTION COLLAR DETAIL \$300

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Project Date		00	СТ	20	24	
WOOD RIVER DRAINAGE AND LEVEE DISTRIC RAND AVENUE PUMP STATION	EFFLUENT PIPING REPLACEMENT AND REHABII	HAK I FURD, IL		STRUCTURAL	DETAILS	
WOOD RIVER DRAINAGE AND LEVEE DISTRIC RAND AVENUE PUMP STATION	EFFLUENT PIPING REPLACEMENT AND REHABII					