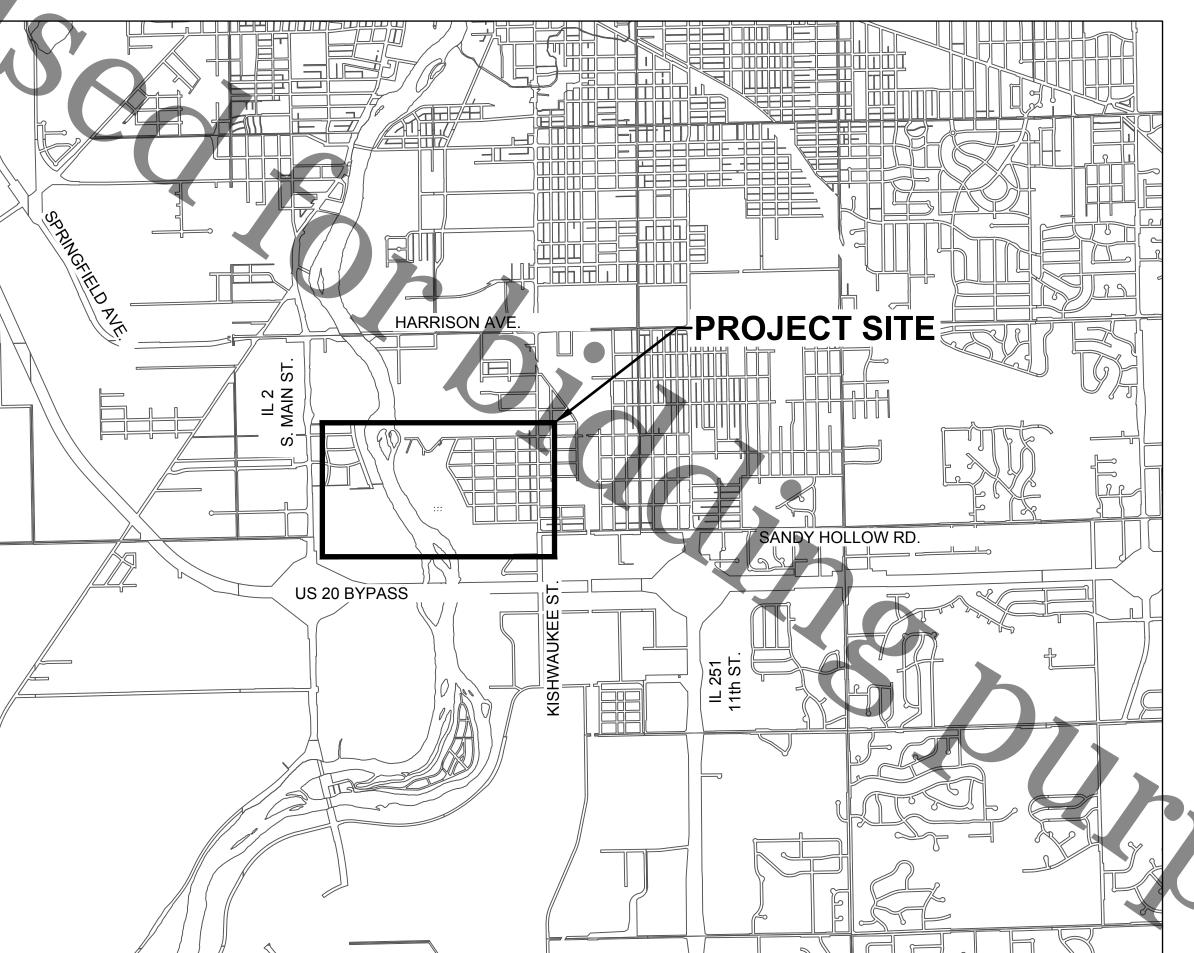
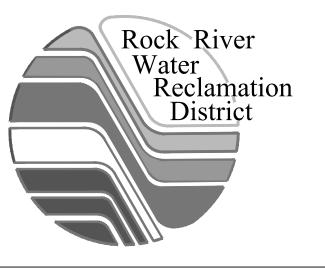
		ER \ AS F RSF PITAL
	BOARD OF TRUSTEES DONALD MASSIER PRESIDENT ELMER JONES VICE-PRESIDENT RICHARD POLLACK CLERK/TREASURER JOHN SWEENEY TRUSTEE BEN BERNSTEN TRUSTEE DEN BERNSTEN TRUSTEE	NONTACIE PD.
ine: I. Justific Frojects (200 Frainp 176place - 176pair 1009/Lingineering/Lowes/1009 - 1770 Fr sheet set: RAS PUMP PH 2		

WATER RECLAMATION DISTRICT

PUMP REPLACEMENT PHASE 2 P-1, 2, 3, 4, 7, 8, 9, 10, 11, & 12 _ IMPROVEMENT PROJECT #1859 2019





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- 1 COVER
- 2 LEGEND GENERAL NOTES & SITE LOCATION MAP
- **3 DEMOLITION PLAN & EXISTING CONDITIONS**
- DEMOLOTION BUILDING ELEVATIONS, TYPICAL ALL 5 BLDGS
- DEMOLITION ENLARGED PLAN VIEW, DETAILS, & SECTIONS
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- 7 PROPOSED ENLARGED PLAN VIEWS, DETAILS, & SECTIONS
- 8 PROPOSED ELECTRICAL SITE PLAN & DETAILS
- 9 PROPOSED ELECTRICAL DETAILS
- 10 AERATION CONTROL BUILDING ELECTRICAL
- 11 PROPOSED SITE PLAN & YARD HYDRANT DETAIL





	LEGEND		
EXISTING	PROPOSED		EXISTING
		RIGHT OF WAY LINE	(((
		PROPERTY LINE	((⊖∞((
	<u> </u>	BUILDING	FM
		WATER EDGE	
		EASEMENT - SANITARY	
][][EASEMENT - TEMPORARY CONSTRUCTION	
		BRUSH OR TREE LINE	W
>	>	DITCH FLOWLINE	WS
		CONTOUR - MAJOR	
		CONTOUR - MINOR	\bigcirc
XXX	XX	FENCE	
[]][]][]][]][]][]][]]_[]][]]	[]][]][]][]][]][]]_[]][][][][][][][][][]][]	FENCE - TEMPORARY CONSTRUCTION	
SF	SF	FENCE - SILT	-9-
· ·	· ·	ROADWAY CENTERLINE	
		EDGE OF PAVEMENT	
		CURB & GUTTER	
1111	III	GUARD RAIL	
		RAILROAD TRACKS	
OC		CABLE - OVERHEAD	
UC		CABLE - UNDERGROUND	
OE		ELECTRIC - OVERHEAD	
UE		ELECTRIC - UNDERGROUND	
FO		FIBER OPTIC	
G		GAS LINE	
ОТ		TELEPHONE - OVERHEAD	SAN. = SANITARY
UT		TELEPHONE - UNDERGROUND	MH = MANHOLE C.O. = CLEANOUT VCP = VITRIFIED CLA
TV E T HH GM EM HH		PEDESTALS (CATV, ELEC, TELE), HANDHOLE, GAS METER, ELEC. METE	LINCIPP = LINED WITH CU
		SOIL BORING	DI = DUCTILE IRON CMP = CORRUGATED
●BM 1		BENCHMARK	ABD.= ABANDON(ED) REM.= REMOVE(D) REPL.= REPLACE(D)
\bigtriangleup		MAILBOX	
>		UTILITY POLE W/ GUY WIRE & MAST ARM LIGHT POLE	
$\bigcirc \qquad \bigstar$	\odot	TREE (DECIDUOUS & CONIFEROUS	DTL DETAIL SHT SCALE: AS
	\$ *	BRUSH & SHRUB	SEC
XXX.XX	XXX.XX	SPOT ELEVATION	
HMA AGG. CONC. TURF		EXISTING SURFACE TYPE (HOT-MIX ASPHALT, AGGREGAT CONCRETE, TURF)	E. DTL SHT
Reclamation RECL District 3501 H	OCK RIVER WATER LAMATION DISTRICT KISHWAUKEE STREET FORD, ILLINOIS 61109 (815) 387-7660	No. DATE REVISION	

	CAPITA	AL IM	PROVEMENT PROJECT	
	RAS	PUM	P REPLACEMENT PHAS	SE 2 LEGEND GENERAL NOTE
^	= DETAIL # AND POI	•	DETAIL IS SHOWN ON, IEW.	
IL DESC.	SECTION I DESCRIPT	IS ORIGII FION, ANI	TION #, SHEET DETAIL OR NATED FROM, D SCALE. ET SECTION IS SHOWN ON.	CONTRACTOR'S FIELD OFFICE
N D METAL PIPE)		TY.: UNK.: EL.: EX.:	= PAVEMENT = TYPE = UNKNOWN = ELEVATION = EXISTING = PROPOSED	PROJECT SITE
ABE AY PIPE URED IN PLACE CONCRETE PIP	Έ	LF = FT = SY = EA = CY = LS =	= LINEAR FEET = FEET = SQUARE YARD(S) = EACH = CUBIC YARD(S) = LUMP SUM	CONTRACTOR STAGING AREA
			RIP RAP	ALT. ENTRANCE FROM BROOKE RD.
]	AGGREGATE REPLACEMENT	
Ŀ	••••••••••••	j	× 6	THE CONTRACTOR SHALL PROVIDE A FIELD OFFICE IN THE LOCATION SHOWN IN THE MAP BELC PROJECT LOCATION & A
• •	·····		SEEDING AREA	FOR RUN OFF TO DRAIN. <u>FIELD OFFICE</u> 1. THE CONTRACTOR SHALL PROVIDE A FIELD OFFICE IN THE LOCATION SHOWN IN THE MAP BELC
E E			ENTRANCE EROSION CONTROL BLANKET	 ALL DISTURBED VEGETATED AREAS SHALL BE REPLACED WITH COMPACTED AGGREGATE CA-6 CONTRACTOR SHALL MINIMIZE PAVEMENT REMOVAL AND PROVIDE CLEAN SAW CUT EDGES. BACKFILL IN PAVED AREAS SHALL BE COMPACTED TO 95% MODIFIED PROCTOR PER SECTION 0
R	⊠ 57577		INLET OR PIPE PROTECTION STABILIZED CONSTRUCTION	RESTORATION 1. EXCAVATED MATERIAL IS GENERALLY NOT ACCEPTABLE AS TRENCH BACKFILL. TRENCH BACK CONTRACT DOCUMENTS.
N K			DITCH CHECK	 8. ONE INCH MINIMUM REMOVAL DEPTH REQUIRED IN ALL AREAS OF FORMED CONCRETE REPAIR 9. BONDING AGENT SHALL BE APPLIED TO EXISTING CONCRETE PRIOR TO PLACING ADJACENT NE
	-		FIRE HYDRANT	 ALL CONCRETE WORK OF ALL CONFORM TO ACTION, OF LOW CONTROL FOR OTHER OF ALL CONCRETE AND A CONTRACTOR OF A CONCRETE REPAIR IS ADJACENT TO EXISTING CONTROL JOINT, CONTRACTOR SHALL OF THE FORMED CONCRETE REPAIR. COST SHALL BE INCIDENTAL.
			WATER MAIN VALVE WITH VAULT	 ALL REINFORCEMENT SHALL BE FABRICATED IN ACCORDANCE WITH THE ACI DETAILING MANUA PROTECTIVE CONCRETE COVER FOR REINFORCEMENT BARS SHALL BE AS FOLLOWS UNLESS (ALL CONCRETE WORK SHALL CONFORM TO ACI 301, SPECIFICATION FOR STRUCTURAL CONCR
			WATER MAIN VALVE WITH BOX	 ALL NEW REINFORCEMENT BARS SHALL CONFORM TO ASTM A615, GRADE 60. ALL EXISTING REINFORCEMENT BARS EXPOSED AT CONCRETE REPAIRS SHALL BE FIELD COAT ZINCRICH BY FOSROC, OR ZINCRICH REBAR PRIMER BY MBTP PROTECTION AND REPAIR. APPL
	M		VALVE WATER MAIN VALVE	SUFFICIENT FOR LOADINGS REQUIRED. PORTABLE GENERATORS ARE REQUIRED FOR THE CO
	w	0	WATER MAIN WATER SERVICE & WATER SERVICE	 REMOVING THE 14" 90° BEND AT THE TOP OF THE EXISTING PIPING CONFIGURATION AND LOWE COMPLETED WITHIN 24 HOURS, AS THE 4 TANKS CAN ONLY BE OFFLINE FOR 24 HOURS. 8. 480 VOLT ELECTRIC WILL NOT BE AVAILABLE FOR USE BY THE CONTRACTOR. MINIMAL 120 VOL
	{	<	DRAINAGE CULVERT	7. IN ORDER TO ISOLATE THE DISCHARGE PIPING ON ANY ONE TANK, ALL 4 TANKS IN THE TRAIN N UPON 48 HOUR NOTIFICATION BY THE CONTRACTOR, RRWRD PLANT OPERATIONS WILL SHUT D SHALL PUMP OUT AND EMPTY THE 14" DISCHARGE PIPES IN ORDER TO PERFORM THE PROPOS
	§ 📼		STORM MANHOLE, CATCH BASIN, CURB INLET, INLET SPECIAL	WILL LIKELY LET GROUNDWATER INTO THE TANKS WHILE THEY ARE EMPTY. THE EXISTING LIN CONTRACTOR SHOULD CONSIDER A TEMPORARY DAM WITH PUMPS TO KEEP GROUNDWATER A BE INCLUDED IN THE CONTRACT LUMP SUM PRICE.
	FM €		SANITARY FORCEMAIN STORM SEWER	6. UPON 48 HOUR NOTIFICATION BY THE CONTRACTOR, RRWRD PLANT OPERATIONS WILL PERFO AT SUCH TIME, THE TANKS WILL BE TURNED OVER TO THE CONTRACTOR, WHO WILL BE RESPO MAINTAINING THE TANKS FOR THE WORKING CONDITIONS REQUIRED TO COMPLETE THE PROJ
	— (—● [∞] (——	- (SANITARY SEWER SERVICE & CLEANOUT	 CONTRACTOR IS RESPONSIBLE FOR ADEQUACY OF TEMPORARY SHORING. CONTRACTOR SHALL BE RESPONSIBLE FOR TRUCKING ALL DEBRIS FROM ROCK RIVER WATER PAD WILL BE PROVIDED NOR SPACE FOR EXCAVATED MATERIAL.
(-	-••	- (SANITARY MANHOLE & SANITARY SEWER	 THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO ANY DISCREPANCY. THE CONTRACTOR SHALL PROVIDE SUPPLEMENTARY SHORING TO THE EXISTING STRUCTURE
PR				GENERAL 1. THE CONTRACTOR SHALL COORDINATE UTILITY LOCATES WITH WARREN ADAM, (815) 871-0787,
	LEGEN	חו		GENERAL NOTE

ENERAL NOTES

ADAM, (815) 871-0787, AT LEAST 72 HOURS IN ADVANCE. CONDITIONS PRIOR TO CONSTRUCTION. NOTIFY OWNER'S REPRESENTATIVE IMMEDIATELY OF

XISTING STRUCTURE AS REQUIRED TO SUPPORT THE CONSTRUCTION LOADS.

I ROCK RIVER WATER RECLAMATION DISTRICT PROPERTY AS WORK IS PERFORMED. NO DEBRIS

RATIONS WILL PERFORM THE TANK PUMP DOWN TO EL. 83.75 AS SHOWN IN DETAIL 8 SHEET 7. , WHO WILL BE RESPONSIBLE FOR PUMPING OUT THE REMAINDER OF THE TANKS, AND COMPLETE THE PROJECT. THERE ARE 'POP-OFF' VALVES IN THE BOTTOM OF EACH TANK THAT YTY. THE EXISTING LINE SHAFT PUMPS SHALL NOT BE USED TO DEWATER THE TANKS. EEP GROUNDWATER AWAY FROM THE WORK. ALL COSTS ASSOCIATED WITH THIS WORK SHALL

TANKS IN THE TRAIN NEED TO HAVE THE PUMPS SHUTDOWN AND DISCHARGE VALVES CLOSED. RATIONS WILL SHUT DOWN AND CLOSE VALVES OF THE ASSOCIATED TANKS. THE CONTRACTOR ERFORM THE PROPOSED PIPING CONNECTIONS. THIS CAN POTENTIALLY BE ACCOMPLISHED BY IGURATION AND LOWERING A SUBMERSIBLE PUMP INTO THE PIPE. THIS WORK MUST BE OR 24 HOURS.

TOR. MINIMAL 120 VOLT POWER IS AVAILABLE FOR THE CONTRACTOR'S USE, BUT MAY NOT BE EQUIRED FOR THE CONTRACTOR'S PUMPS AND TOOLS.

SHALL BE FIELD COATED WITH A ZINC-RICH PRIMER. ACCEPTABLE PRODUCTS ARE NITOPRIME ON AND REPAIR. APPLY PRIMER IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. ACI DETAILING MANUAL, AND SHALL BE CLEAN AND FREE OF GREASE AND SCALING RUST. AS FOLLOWS UNLESS OTHERWISE NOTED ON THE PLANS: SLABS = 2" WALLS = 2". STRUCTURAL CONCRETE FOR BUILDINGS, AND SECTION 03300 OF THE CONTRACT DOCUMENTS. FED OTHERWISE.

T, CONTRACTOR SHALL SAWCUT A CONTROL JOINT IN THE SAME LOCATION TO THE FULL DEPTH

ED CONCRETE REPAIR. LACING ADJACENT NEW CONCRETE.

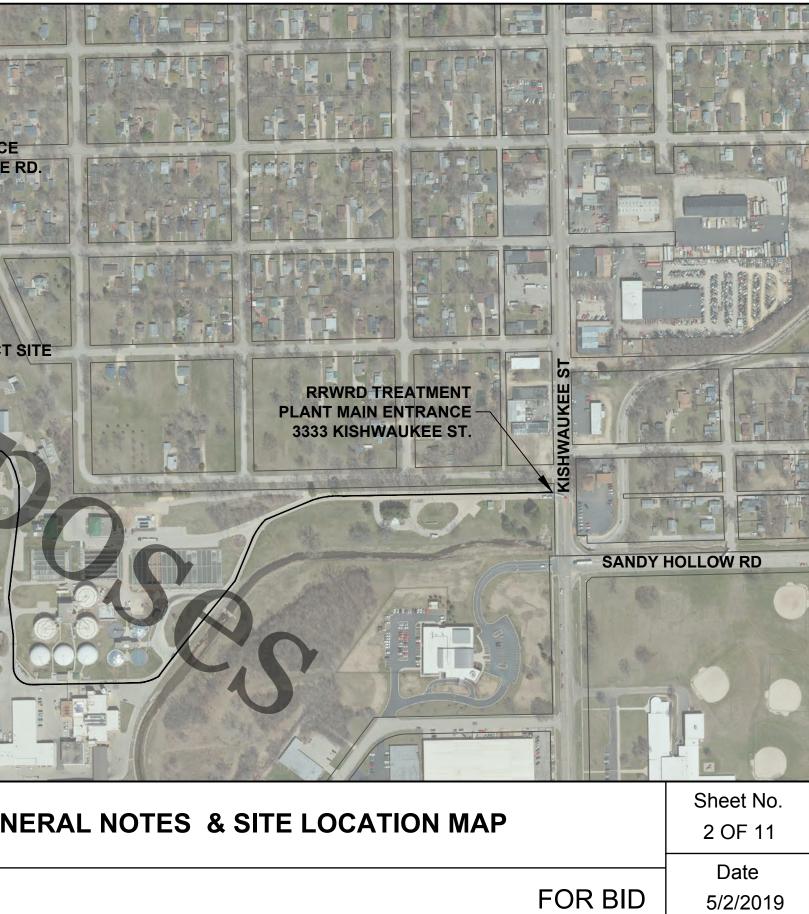
CKFILL. TRENCH BACKFILL IS REQUIRED IN ALL EXCAVATIONS. SEE SECTION 02210 OF THE

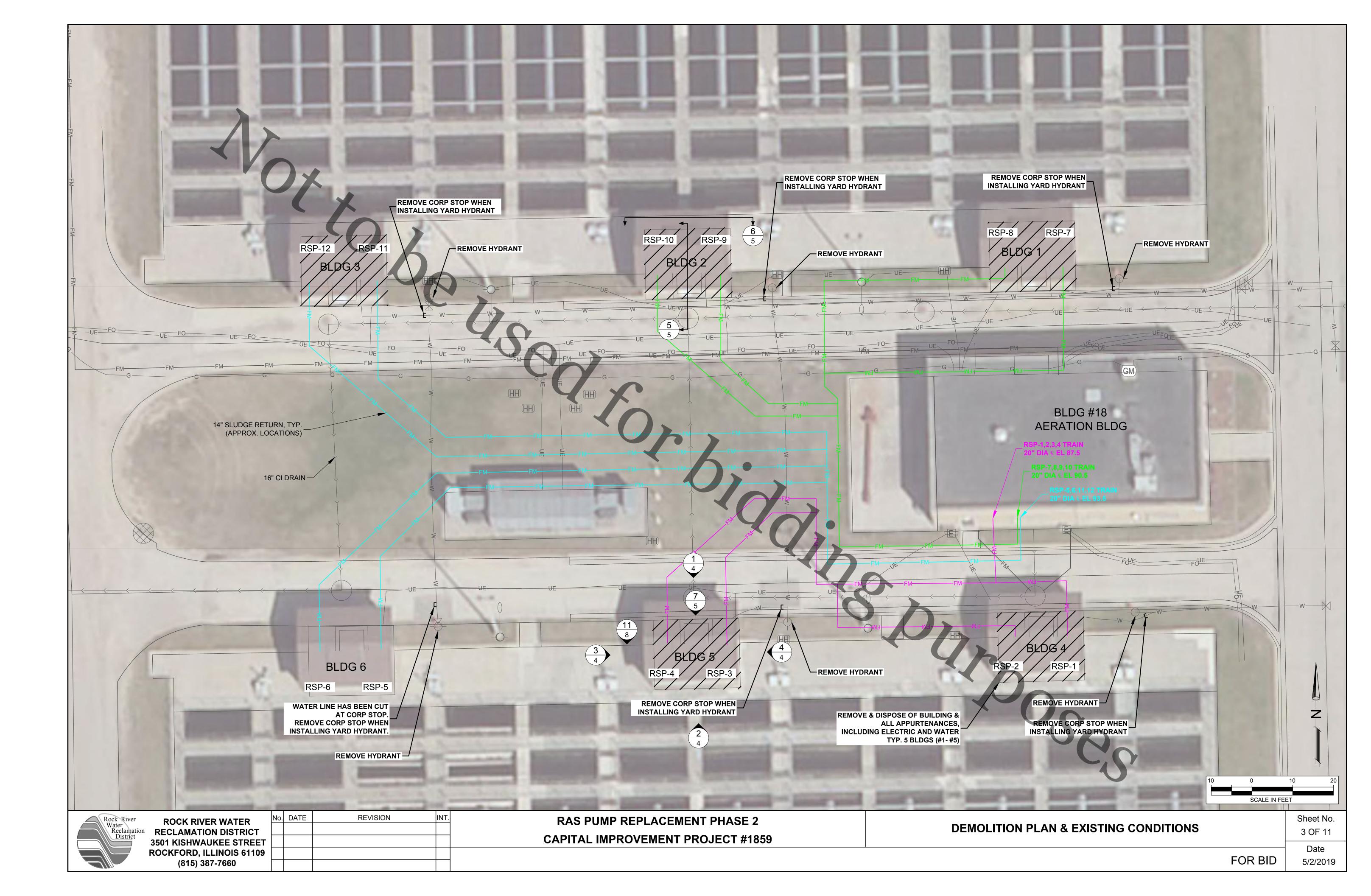
TED AGGREGATE CA-6 PER SECTION 02210 OF THE CONTRACT DOCUMENTS.

CTOR PER SECTION 02210 WITH THE TOP 12" BEING COMPACTED BITUMINOUS MILLINGS GRADED

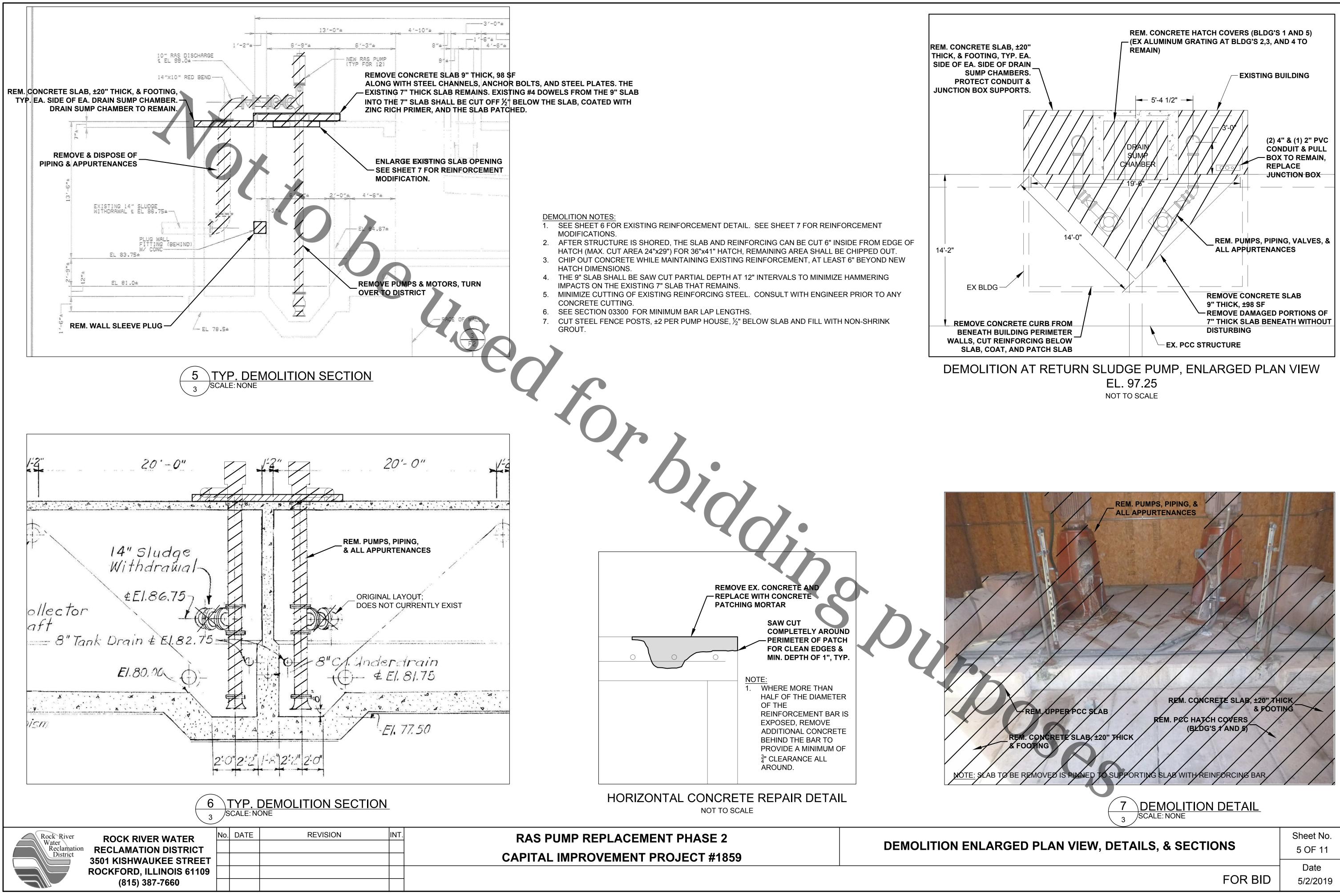
OWN IN THE MAP BELOW.

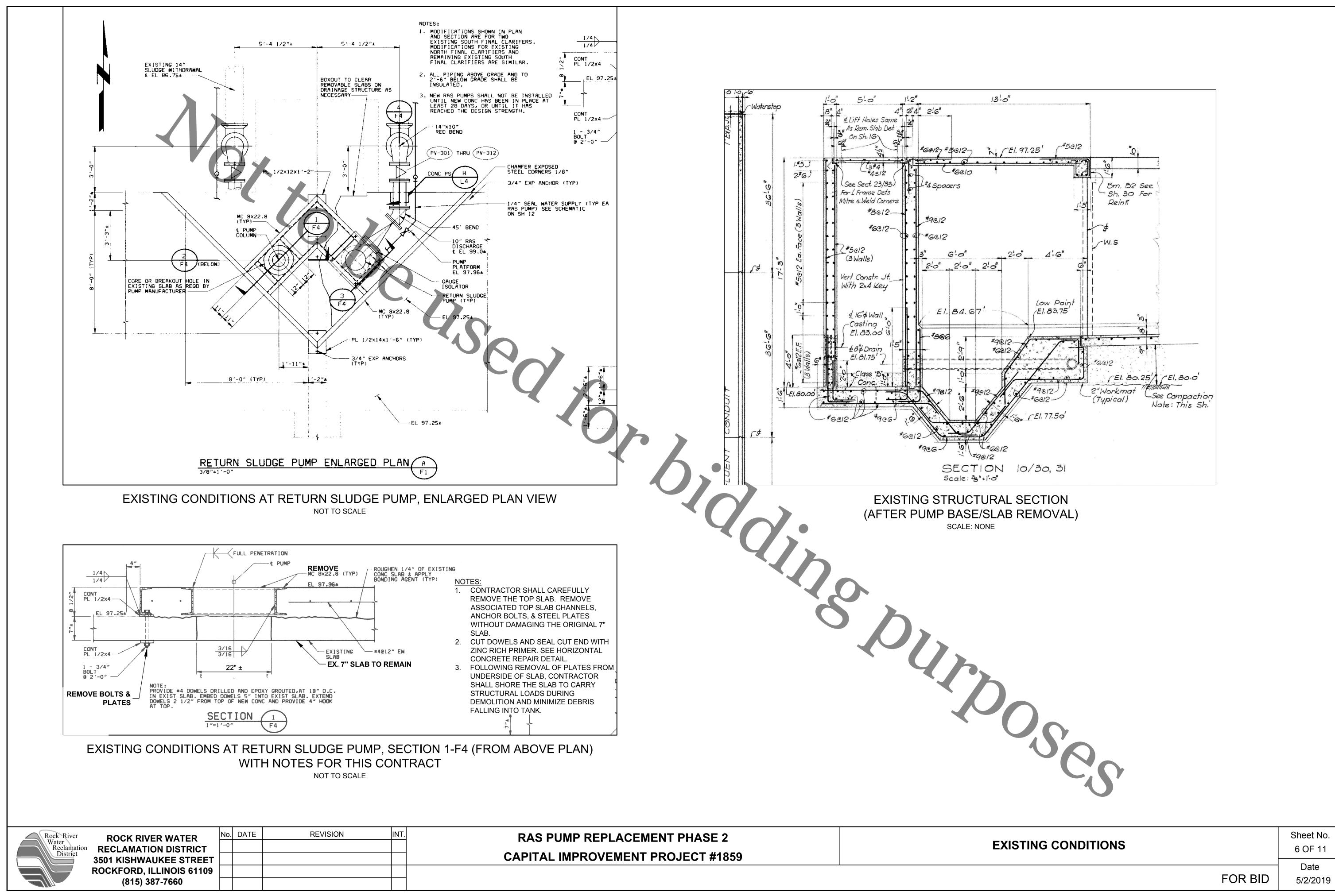
OCATION & ACCESS MAP



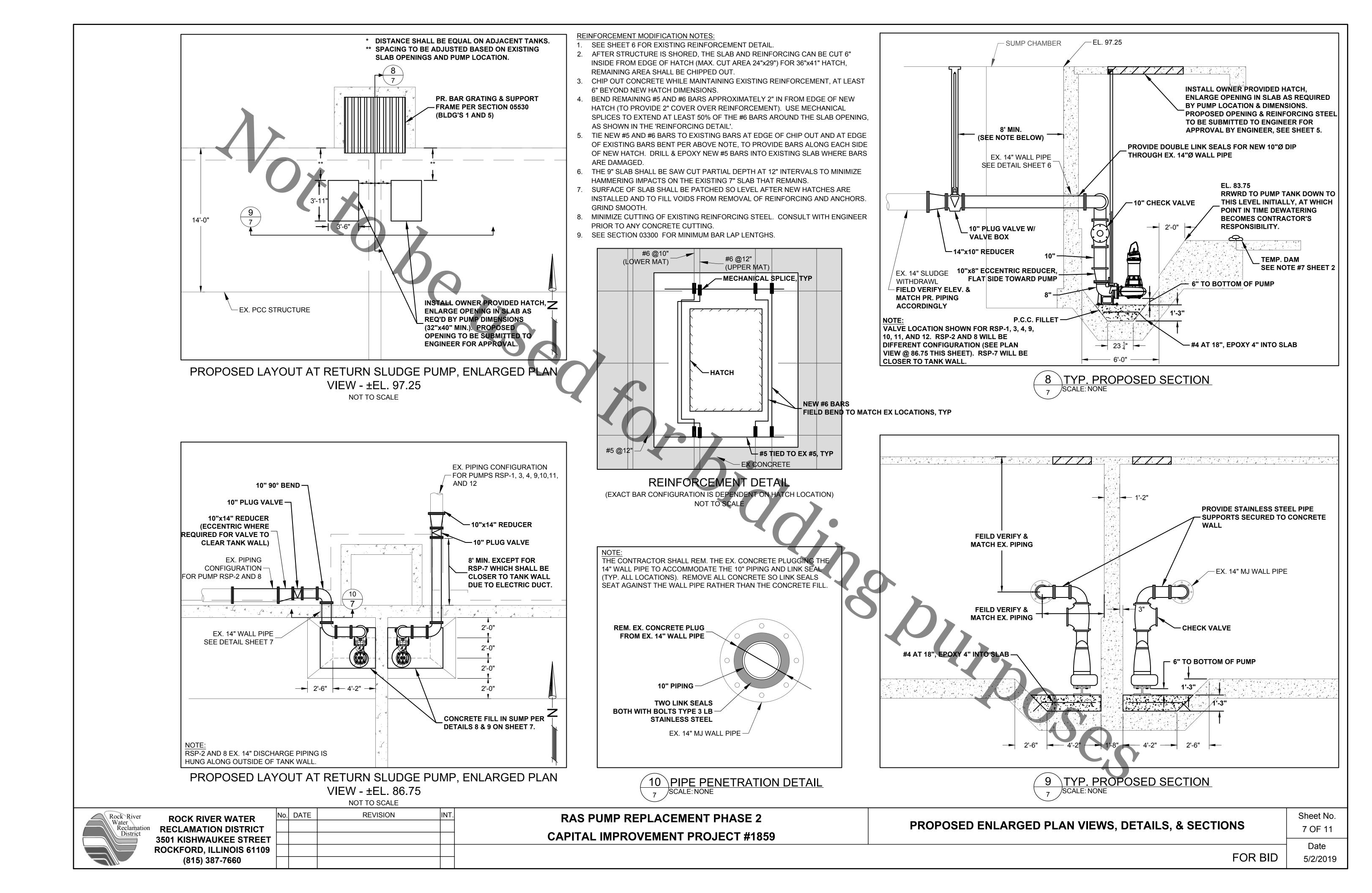


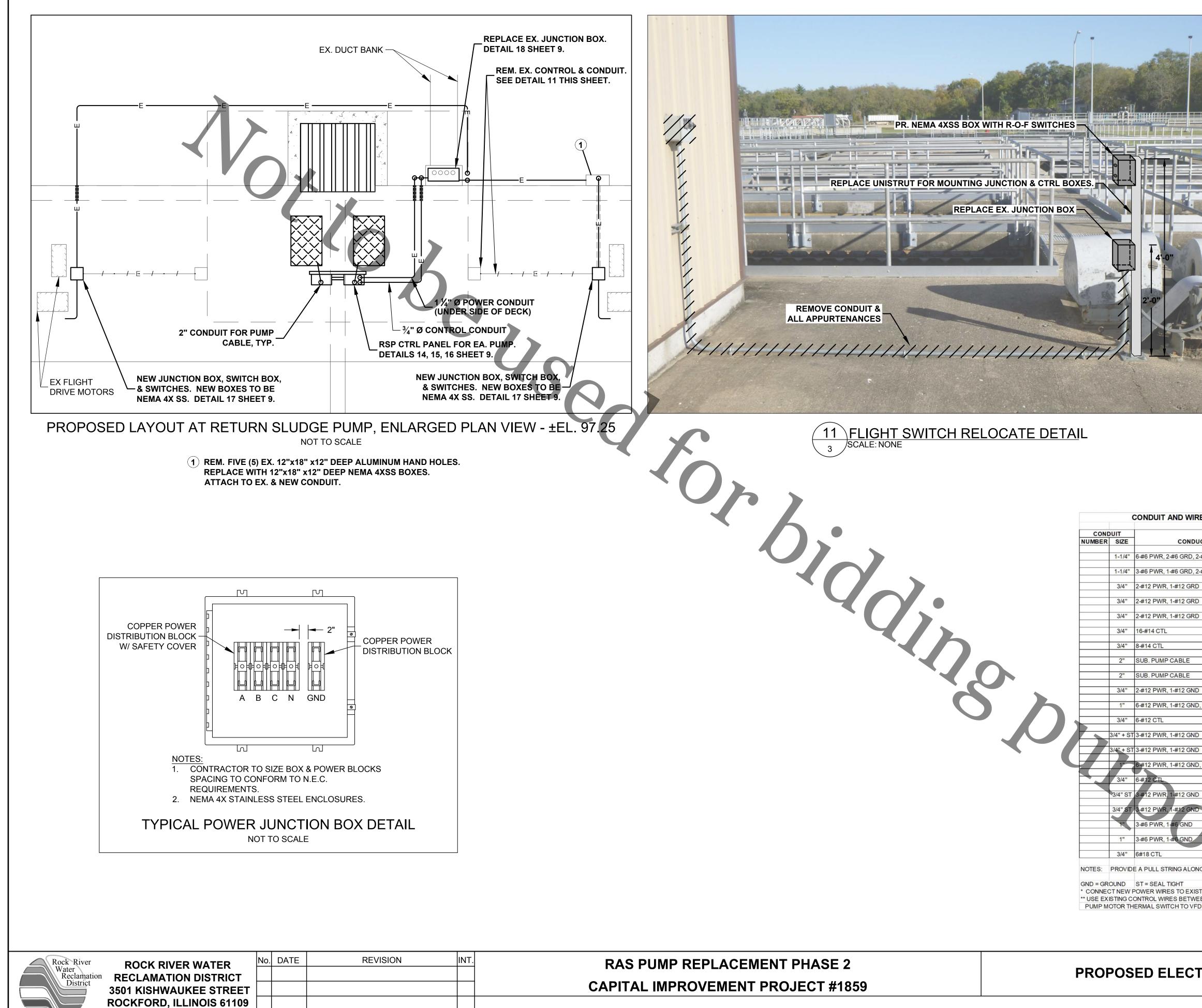






RAS PUMP REPLACEMENT PHASE 2	
CAPITAL IMPROVEMENT PROJECT #1859	





(815) 387-7660

ELECTRICAL NOTES:

- REMOVE THE EXISTING STAINLESS STEEL JUNCTION BOX. REPLACE WITH A NEW NEMA 4X STAINLESS STEEL BOX, ADEQUATELY SIZED TO HOUSE POWER DISTRIBUTION BLOCKS AND CONDUITS AS NEEDED. PROVIDE NEW SUPPORTS TO ACCOMMODATE THE NEW BOX.
- 2. MODIFY THE NEW JUNCTION BOX TO ACCOMMODATE EXISTING AND NEW CONDUIT AS SHOWN. CONDUIT SEALS SHALL BE WATER-TIGHT.
- 3. THE FINAL CLARIFIER LONGITUDINAL FLIGHT DRIVE MOTOR AND THE CROSS FLIGHT DRIVE MOTOR SWITCHES (REVERSE-OFF-FORWARD) SHALL BE REPLACED IN A NEW NEMA 4X STAINLESS STEEL BOX. THE BOX SHALL BE INSTALLED TO NEW CONDUIT SUPPORTS NEAR THE MOTORS. A SEPARATE OR A COMBINED BOX CAN BE USED FOR DISTRIBUTING POWER TO THE MOTORS. TYPICAL FOR FINAL CLARIFIERS. 3-#12 POWER, 1-#12 GROUND, AND 3-#12 CONTROL WIRES FOR EACH MOTOR ORIGINATE AT MCC8 AND CAN BE EXTENDED FROM THE NEW JUNCTION BOX TO THE NEW SWITCH BOXES.
- ³/₄" DIAMETER CONDUIT TO CLARIFIER FLIGHT DRIVE SWITCHES AND MOTORS SHALL BE MOUNTED ON STAINLESS STEEL PREFORMED CHANNELS WITH STAINLESS STEEL HARDWARE. 1¹/₄" CONDUIT TO NEW PUMP CONTROL PANELS FOR RSP'S SHALL BE MOUNTED AS SHOWN.
- 5. CONDUIT SUPPORT SPACING SHALL BE BASED ON CHANNEL SIZE UTILIZED.
- MOUNT THE PUMP CONTROL PANELS ON A PREFORMED CHANNEL SUPPORT, SIMILAR TO THE EQUIPMENT MOUNTING STAND DETAIL. CHANNELS AND HARDWARE TO BE STAINLESS STEEL.
- SUBMERSIBLE PUMP CABLES TO BE ROUTED THROUGH NEW 2" CONDUITS NEAR THE HATCHES AND ROUTED TO PUMP CONTROL PANELS FOR TERMINATION IN THE PUMP CONTROL PANELS USING POWER BLOCKS SIMILAR TO ATTACHED DETAIL. THE CABLES SHALL HAVE WIRE MESH CABLE SUPPORTS.
- FOR EXISTING WIRING THAT IS TOO SHORT TO REACH RELOCATED DEVICES, INSTALL POWER DISTRIBUTION BLOCKS PER DETAIL AND NEW WIRE TO THE RELOCATED DEVICES.
- 9. PROVIDE A WEATHER-TIGHT ENCLOSURE WITH METAL LID HOUSING A 20 AMP 120 VOLT GFCI DUPLEX RECEPTACLE, MOUNTED NEAR THE NEW STAINLESS STEEL JUNCTION BOX.

	DESCRIPTION		
CONDUCTORS	FROM	то	
PWR, 2-#6 GRD, 2-#12 PWR, 1-#12 GRD	NEW JUNCTION BOX AT PUMP HOUSE	EAST PUMP CONTROL PANEL	
PWR, 1-#6 GRD, 2-#12 PWR, 1-#12 GRD	EAST PUMP CONTROL PANEL	WEST PUMP CONTROL PANEL	
2 PWR, 1-#12 GRD	NEW JUNCTION BOX AT GRADE LEVEL*	NEW JUNCTION BOX AT PUMP HOUS	
2 PWR, 1-#12 GRD	NEW JUNCTION BOX AT PUMP HOUSE	EAST PUMP CONTROL PANEL	
2 PWR, 1-#12 GRD	EAST PUMP CONTROL PANEL	WEST PUMP CONTROL PANEL	
14 CTL	NEW JUNCTION BOX AT PUMP HOUSE**	EAST PUMP CONTROL PANEL	
4 CTL	EAST PUMP CONTROL PANEL	WEST PUMP CONTROL PANEL	
. PUMP CABLE	EAST PUMP CONTROL PANEL	WETWELL/PUMP	
. PUMP CABLE	WEST PUMP CONTROL PANEL	WETWELL/PUMP	
2 PWR, 1-#12 GND	NEW JUNCTION BOX AT PUMP HOUSE	RECEPTACLE BOX	
2 PWR, 1-#12 GND, 6#12 CTL	NEW JUNCTION BOX AT PUMP HOUSE	JUNCTION BOX NEAR FLIGHT DRIVES	
2 CTL	JUNCTION BOX NEAR FLIGHT DRIVES	SWITCH BOX NEAR FLIGHT DRIVES	
2 PWR, 1-#12 GND	JUNCTION BOX NEAR FLIGHT DRIVES	LONGITUDINAL FLIGHT DRIVE MOTOF	
2 PWR, 1-#12 GND	JUNCTION BOX NEAR FLIGHT DRIVES	CROSS FLIGHT DRIVE MOTOR	
2 PWR, 1-#12 GND, 6#12 CTL	NEW JUNCTION BOX AT PUMP HOUSE	JUNCTION BOX NEAR FLIGHT DRIVES	
2 CTL	JUNCTION BOX NEAR FLIGHT DRIVES	SWITCH BOX NEAR FLIGHT DRIVES	
2 PWR, 1-#12 GND	JUNCTION BOX NEAR FLIGHT DRIVES	LONGITUDINAL FLIGHT DRIVE MOTOF	
2 PWR, 1-#12 GND	JUNCTION BOX NEAR FLIGHT DRIVES	CROSS FLIGHT DRIVE MOTOR	
PWR, 1-#6/GND	VFD PANEL	VFD	
PWR, 1-#6 GND	VFD PANEL	VFD	
BCTL	VED PANEL	VFD	
ULL STRING ALONG WITH THE WIRES IN	EACH CONDUIT.		
SEAL TIGHT	P = PWR = POWER	C = CTL = CONTROL	

CONDUIT AND WIRE SCHEDULE - TYPICAL FOR EACH OF FIVE (5) PUMP HOUSE AREAS

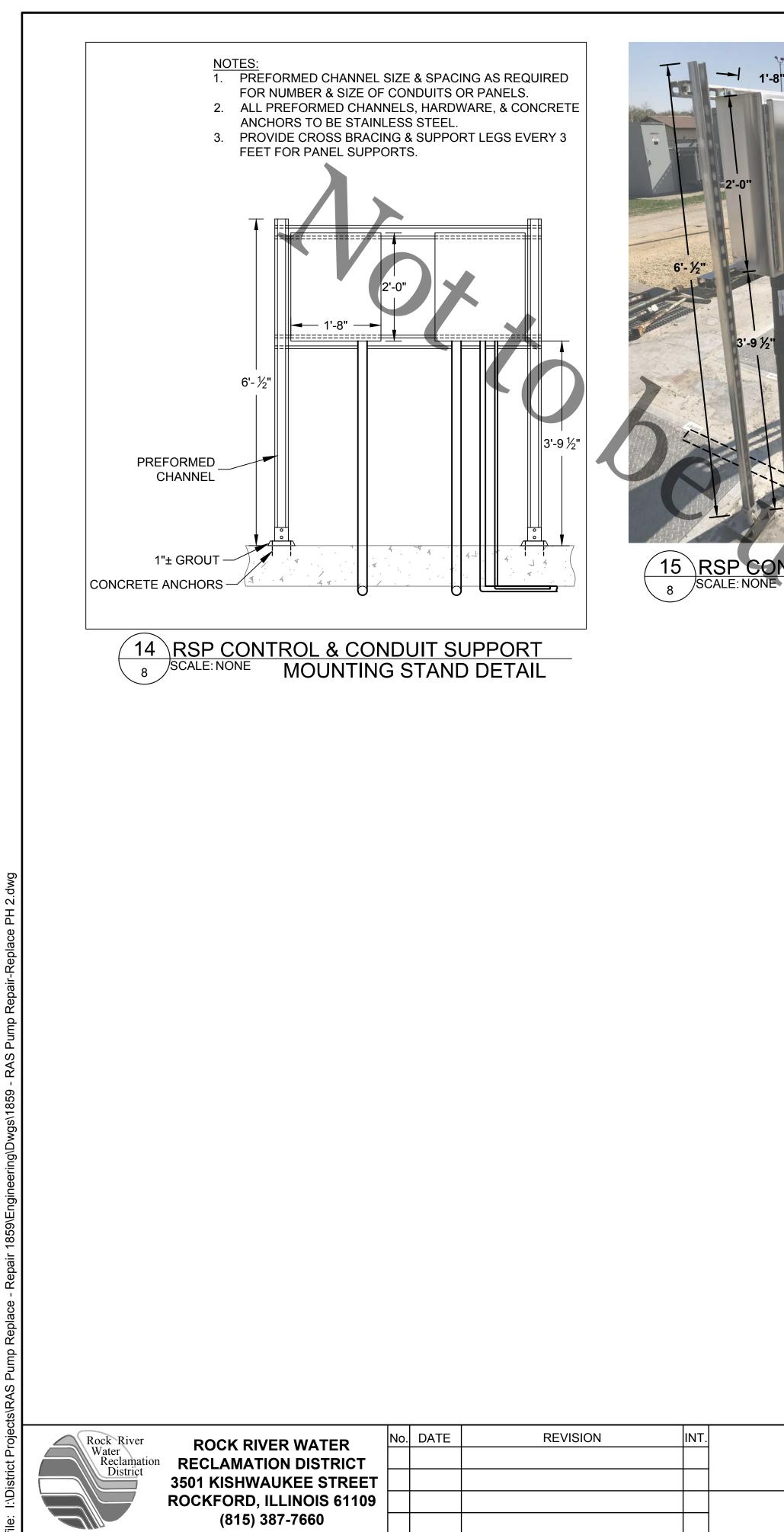
** USE EXISTING CONTROL WIRES BETWEEN JUNCTION BOX AND VFD PANEL (OLD MOTOR THERMAL SWITCH, OLD VIBRATION SWITCH, ETC) FOR PUMP MOTOR THERMAL SWITCH TO VFD AND FOR NEW PUMP SEAL LEAK AND SWITCH POSITIONS TO VFD BOX THEN TO PLANT CONTROL SYST

PROPOSED ELECTRICAL SITE PLAN & DETAILS

Sheet No. 8 OF 11

Date FOR BID

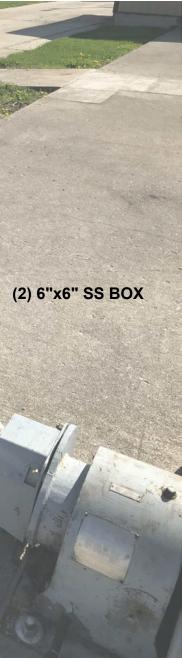
5/2/2019



ELECTRICAL HAZARD ANTHORIZED PHILIDOWNEL ONLY CROSS CAUTION RISK OF ELECTRIC SHOCK **REV-OFF-FWD** MORE THAN ONE DISCONNECT MAY BE REQUIRED TO PUMP LONG HAND-OFF-AUTO REV-OFF-FWD RUNNING STOPPED RESET OVERTEMP -1¹/₄" TO JCN BOX SEAL FAIL 2'-0" - 3/4" TO JCN BOX 2" SLEEVE TO PUMP 90° UNDER DECK & EXTEND TO MIDDLE OF HATCH 16 RSP CONTROL PANEL LAYOUT SCALE: NONE 17 FLIGHT CONTROL BOX ⁸ SCALE: NONE 15 RSP CONTROL PANELS

> **RAS PUMP REPLACEMENT PHASE 2 CAPITAL IMPROVEMENT PROJECT #1859**

PROF



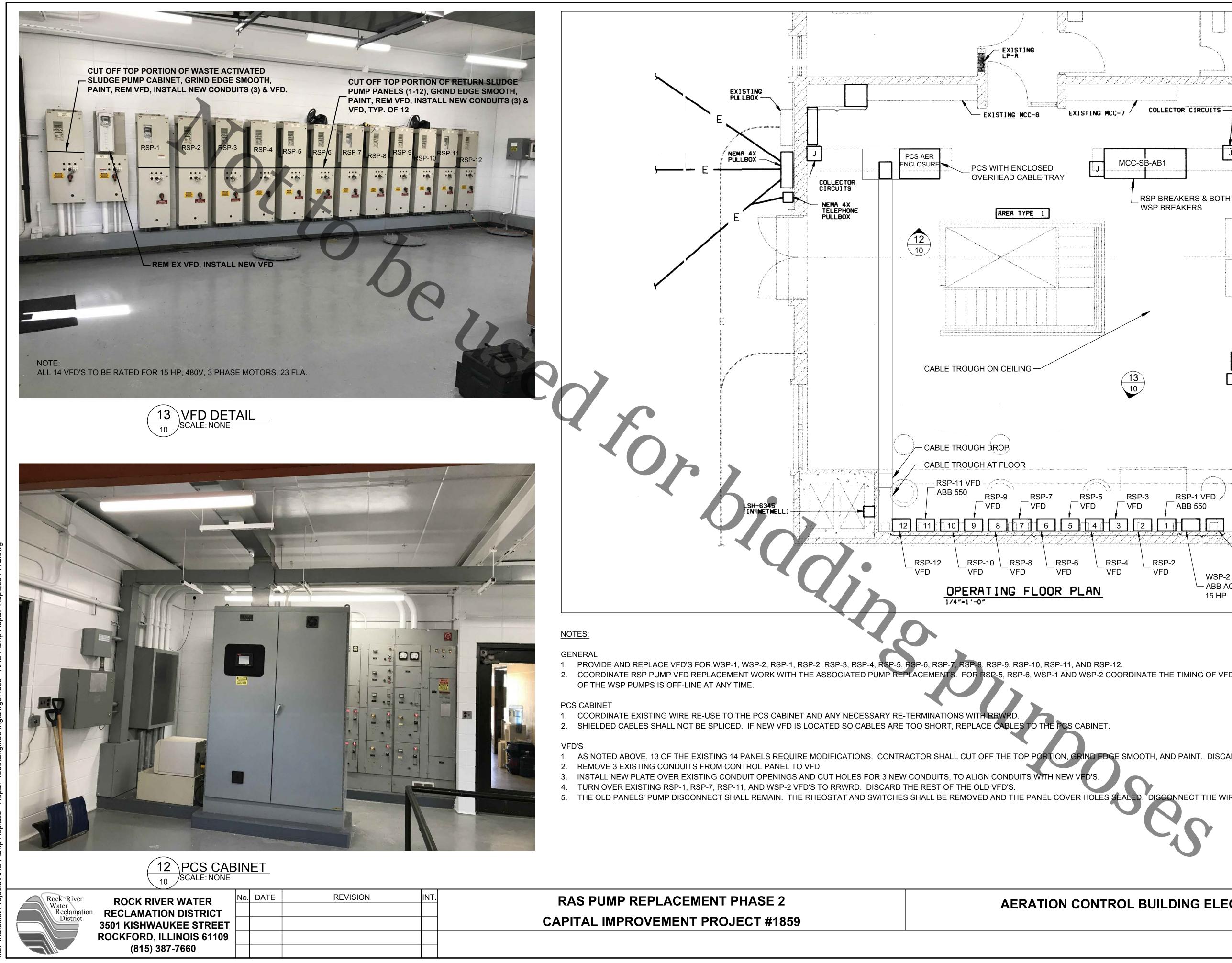








OPOSED ELECTRICAL DETAILS	Sheet No. 9 OF 11
FOR BID	Date 5/2/2019



	В
E	
EXISTING LP-B	
	c
13 10 10 10 10 10 10 10 10 10 10 10 10 10	
RSP-5 RSP-3 RSP-1 VFD	D
P-6 RSP-4 RSP-2 WSP-1 ABB ACS 500	
D VFD VFD WSP-2 5 HP OR 7.5 HP	<u></u>
PLAN ABB ACS 500 15 HP	
PLAN 15 HP	
15 HP - N N	T ONLY ONE
15 HP N N N N N N N N N N N N N N N N N N	T ONLY ONE
15 HP	T ONLY ONE
15 HP 11, AND RSP-12. AND WSP-2 COORDINATE THE TIMING OF VFD REPLACEMENT WITH RRWRD SO THAN CS CABINET. A, GRIND EDGE SMOOTH, AND PAINT. DISCARD OLD TOP PORTION OF PANELS. EW VFD'S.	TONLYONE
15 HP 1, AND RSP-12. ND WSP-2 COORDINATE THE TIMING OF VFD REPLACEMENT WITH RRWRD SO THAN S CABINET. , GRIND EDGE SMOOTH, AND PAINT. DISCARD OLD TOP PORTION OF PANELS. W VFD'S.	TONLYONE
15 HP 1, AND RSP-12. ND WSP-2 COORDINATE THE TIMING OF VFD REPLACEMENT WITH RRWRD SO THAN S CABINET. C, GRIND EDGE SMOOTH, AND PAINT. DISCARD OLD TOP PORTION OF PANELS. W VFD'S. VER HOLES SEALED. DISCONNECT THE WIRES AND SECURE.	Sheet No.
15 HP 11, AND RSP-12. ND WSP-2 COORDINATE THE TIMING OF VFD REPLACEMENT WITH RRWRD SO THAN SS CABINET. A, GRIND EDGE SMOOTH, AND PAINT. DISCARD OLD TOP PORTION OF PANELS.	

- NEMA 4X PULLBOX

MCC-SB-AB1

