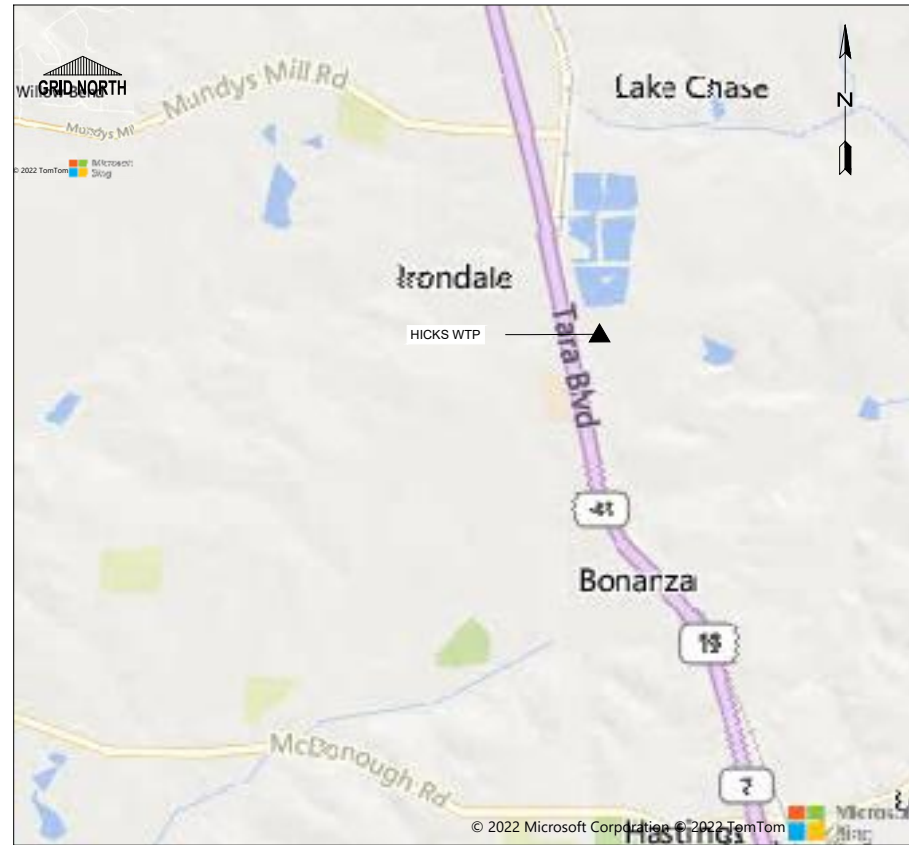
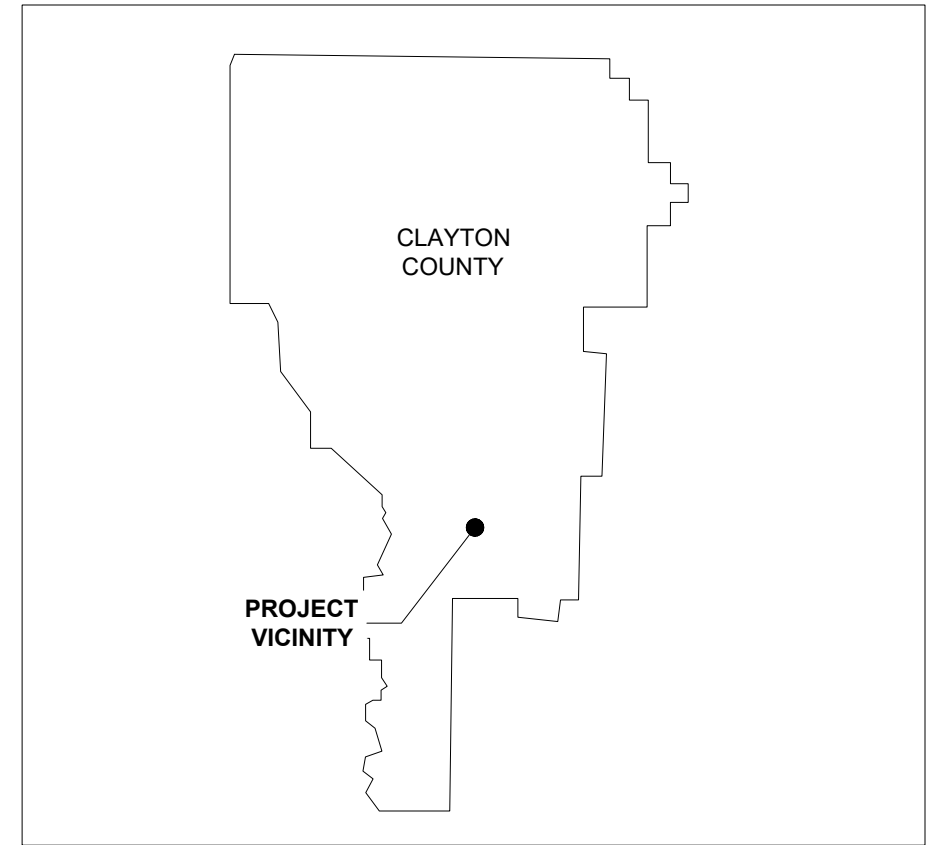


# CONSTRUCTION PLANS FOR: HICKS WPP BLOWER UPGRADE

DECEMBER 2022



PROJECT LOCATION MAP



PROJECT VICINITY MAP

PROJECT LOCATION:

TERRY R HICKS WTP  
1693 FREEMAN ROAD  
JONESBORO, GA 30236  
DISTRICT 6; LL 95  
PARCEL NO. 06094 095010

ZONING: AG

OWNER:

**CLAYTON COUNTY WATER AUTHORITY**

1600 BATTLE CREEK ROAD,  
MORROW, GA 30260

CONSULTING ENGINEER:

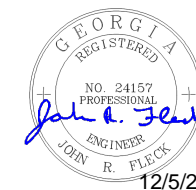
**ENGINEERING STRATEGIES, INC.**

**ESI**

3855 Shallowford Road, Suite 525

Marietta, GA 30062

Phone: (770) 429-0001



COLOR CODES  
FOR  
UTILITY LOCATING

RED	ELECTRIC
YELLOW	GAS-OIL
ORANGE	TELEPHONE/CATV
BLUE	WATER
GREEN	SEWER

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ISSUE FOR BID



PROJECT NUMBER: ES-RE-21-17  
 PROJECT DATE: DECEMBER 2022

REVISION	DATE

DESIGNED BY: BDL  
 DRAWN BY: BDL  
 REVIEWED BY: JRF

BAR BELOW IS 1" LONG FOR SCALE. IF NOT PLONG ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

HICKS WTP BLOWER UPGRADE

GENERAL NOTES, LEGEND & ABBREVIATIONS

G1

**STANDARD LINE TYPES**

_____	EXISTING CONTOUR - MAJOR
_____	EXISTING CONTOUR - MINOR
_____	EXISTING EASEMENT
-X-	EXISTING FENCE
-R-	EXISTING PROPERTY LINE
-R/W-	EXISTING RIGHT-OF-WAY
-TV-	EXISTING UTILITY - CABLE TELEVISION
-G-	EXISTING UTILITY - GAS
-OHP-	EXISTING UTILITY - OVERHEAD POWER
-U-	EXISTING UTILITY - MISCELLANEOUS
-S-	EXISTING UTILITY - SANITARY SEWER
-T-	EXISTING UTILITY - TELEPHONE
-W-	EXISTING UTILITY - WATER
_____	PROPOSED CONTOUR - MAJOR
_____	PROPOSED CONTOUR - MINOR
_____	PROPOSED EASEMENT - PERMANENT
_____	PROPOSED EASEMENT - TEMPORARY
-X-	PROPOSED FENCE
-R-	PROPOSED PROPERTY LINE
-R/W-	PROPOSED RIGHT-OF-WAY
-FM-	PROPOSED SANITARY SEWER FORCE MAIN
-S-	PROPOSED SANITARY SEWER
-U-	PROPOSED UTILITY - MISCELLANEOUS
_____	PROPOSED WATER
-SF-	TYPE "S" SILT FENCE

**STANDARD HATCH PATTERNS**

	DEMOLITION
	ASPHALT PAVEMENT
	CONCRETE

**ABBREVIATIONS**

ACP	ASBESTOS CEMENT PIPE	MAX	MAXIMUM
ASPH	ASPHALT	MB	MAIL BOX
BF	BLIND FLANGE	MH	MANHOLE
BFV	BUTTERFLY VALVE	MIN	MINIMUM
BOC	BACK OF CURB	MJ	MECHANICAL JOINT
BV	BALL VALVE	NC	NORMALLY CLOSED
CFM	CUBIC FEET PER MINUTE	NF	NOW OR FORMERLY
CIP	CAST IRON PIPE	NO	NORMALLY OPEN
CJ	CONSTRUCTION JOINT	NTS	NOT TO SCALE
CL	CENTER LINE	OC	ON CENTER
CL	CLASS	OD	OUTSIDE DIAMETER
CMP	CORRUGATED METAL PIPE	OHP	OVERHEAD POWER
CO	CLEANOUT	PCCP	PRE-STRESSED CONCRETE CYLINDER PIPE
CONC	CONCENTRIC	PE	PLAIN END
CPP	CORRUGATED POLYPROPYLENE PIPE	PE	POLYETHYLENE
CS	CARBON STEEL	PL	PROPERTY LINE
CU	COPPER	PP	PROPOSED
CV	CHECK VALVE	PROP	PROPOSED
DIA	DIAMETER	PRV	PRESSURE REDUCING VALVE
DIP	DUCTILE IRON PIPE	PSF	POUNDS PER SQUARE FOOT
ECC	ECCENTRIC	PSI	POUNDS PER SQUARE INCH
EF	EACH FACE	PV	PLUG VALVE
EL	ELEVATION	PVC	POLYVINYL CHLORIDE
ELEV	ELEVATION	R	RADIUS
EOP	EDGE OF PAVEMENT	RCP	REINFORCED CONCRETE PIPE
EW	EACH WAY	RED	REDUCER
EX	EXISTING	RJ	RESTRAINED JOINT
FD	FLOOR DRAIN	R/W	RIGHT-OF-WAY
FF	FINISHED FLOOR	RPM	REVOLUTIONS PER MINUTE
FH	FIRE HYDRANT	S	SEWER
FLG	FLANGE OR FLANGED	SCH	SCHEDULE
FM	FORCE MAIN	SQ	SQUARE
FRP	FIBERGLASS REINFORCED PLASTIC	SS	STAINLESS STEEL
FT	FEET	STA	STATION
G	GAS	STD	STANDARD
GAL	GALLON	STL	STEEL
GALV	GALVANIZED	SW	STORMWATER
GM	GAS METER	T	TELEPHONE
GPM	GALLONS PER MINUTE	T&B	TOP AND BOTTOM
GV	GATE VALVE	TEMP	TEMPORARY
HB	HOSE BIBB	TOW	TOP OF WALL
HP	HIGH POINT	TP	TELEPHONE POLE
HP	HORSEPOWER	TYP	TYPICAL
ID	INSIDE DIAMETER	VB	VALVE BOX
IN	INCHES	VCP	VITRIFIED CLAY PIPE
INV	INVERT	VTR	VENT THROUGH ROOF
JT	JOINT	W	WATER
KW	KILOWATT	W	WITH
LBS	POUNDS	W/O	WITHOUT
LF	LINEAR FEET	WM	WATER METER OR WATER MAIN
LOC	LIMIT-OF-CONSTRUCTION	YH	YARD HYDRANT
LP	LOW POINT		
LR	LONG RADIUS		

**STANDARD SYMBOLS**

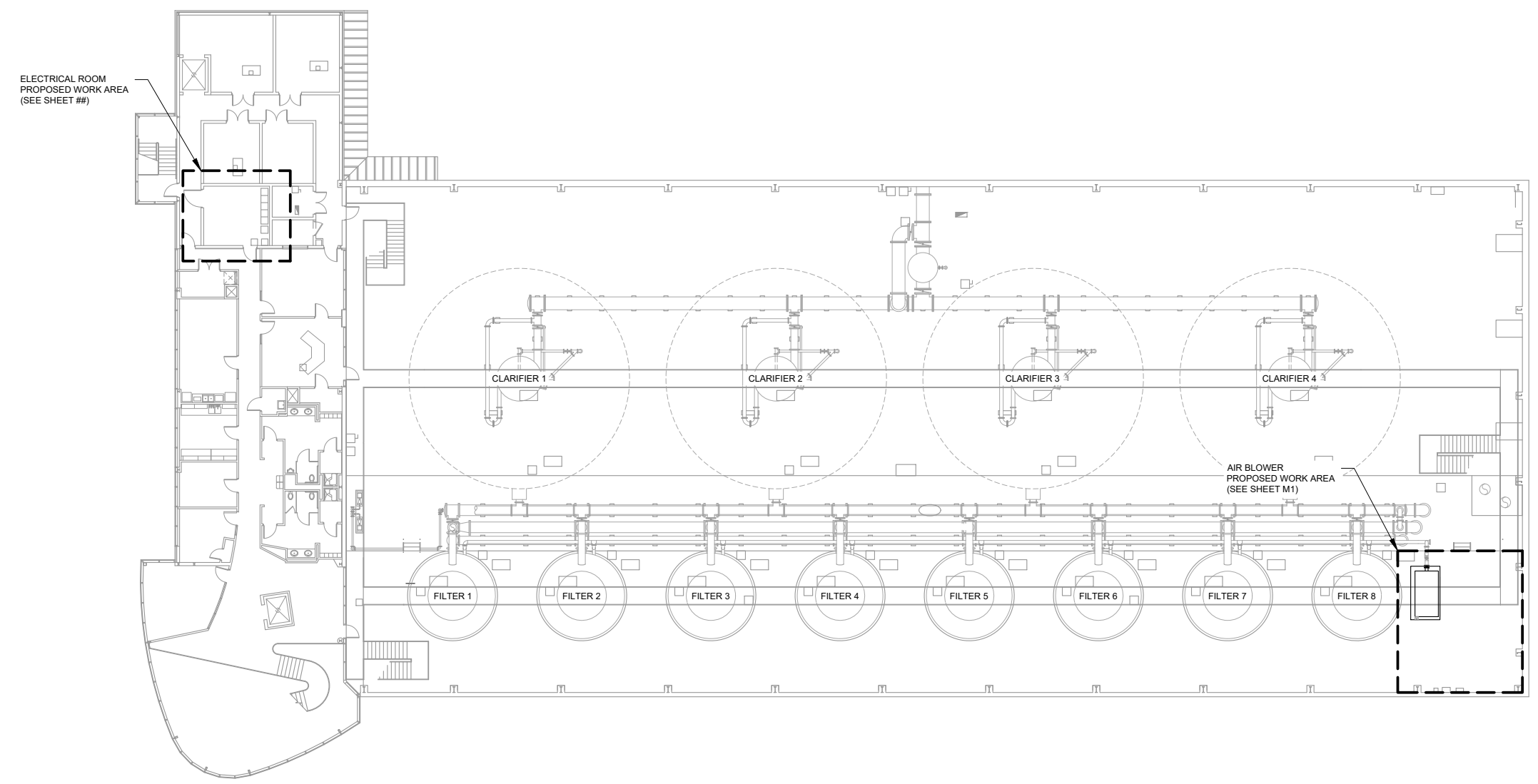
	FIRE HYDRANT
	YARD HYDRANT
	VALVE - EXISTING
	VALVE - PROPOSED
	WATER METER
	GAS METER
	LIGHT POLE
	POWER POLE WITH GUY WIRE
	POWER POLE WITHOUT GUY WIRE
	TELEPHONE POLE WITH GUY WIRE
	TELEPHONE WITHOUT GUY WIRE
	SANITARY SEWER MANHOLE
	SANITARY SEWER CLEANOUT
	STORM SEWER CATCH BASIN
	STORM SEWER DROP INLET
	UTILITY BOX - CABLE TELEVISION
	UTILITY BOX - TELEPHONE
	UTILITY MANHOLE - ELECTRICAL
	UTILITY MANHOLE - TELEPHONE

**GENERAL NOTES**

- THE EXISTING WATER TREATMENT PLANT WILL REMAIN IN OPERATION THROUGHOUT THE WORK. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID DISRUPTION TO THE TREATMENT PROCESS.
- THE CONTRACTOR SHALL NOT OPERATE ANY VALVES OR EQUIPMENT WITHOUT THE WRITTEN AUTHORIZATION OF CCWA.
- THE CONTRACTOR SHALL COORDINATE WITH CCWA OPERATING PERSONNEL FOR THE SHUTDOWN OF THE EXISTING BLOWER SYSTEM A MINIMUM OF SEVEN (7) DAYS IN ADVANCE.
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO MINIMIZE THE CREATION OF DUST AND DEBRIS WITHIN THE FACILITY DURING THE WORK. THE WORK AREA SHALL BE CLEANED UP AT THE END OF EACH WORK DAY AND ALL HAZARDOUS AREAS/CONDITIONS SHALL BE MADE SAFE OR BARRICADED OFF TO PREVENT UNAUTHORIZED PERSONNEL ENTRY.
- THE FACILITY HAS BEEN TESTED TO OPERATE WITHOUT THE NEED FOR THE EXISTING BLOWER DURING THE BACKWASH CYCLE FOR THE FILTERS. HOWEVER, IF IN THE OPINION OF CCWA IT BECOMES NECESSARY TO HAVE AIR SCOUR AVAILABLE FOR THE FILTER BACKWASH, THE CONTRACTOR WILL BE REQUIRED TO PROVIDE A TEMPORARY BLOWER AND PIPING FOR THE BACKWASH CYCLE. COST WILL BE PAID USING THE LINE ITEM BID FOR THE TEMPORARY BLOWER.
- IF THE CONTRACTOR CHOOSES TO UTILIZE THE EXISTING 5-TON LIFT WITHIN THE FACILITY FOR ANY ASPECT OF THE WORK, THE CONTRACTOR SHALL HAVE THE LIFT INSPECTED BY A CCWA APPROVED MANUFACTURER SERVICE PROVIDER PRIOR TO AND AFTER USE OF THE LIFT. THE INSPECTION SHALL IDENTIFY ANY DEFECTS OR ISSUES WITH THE LIFT AND SPECIFICALLY STATE IT IS IN PROPER WORKING CONDITION BOTH BEFORE AND AFTER USE.

SHEET INDEX	
SHEET NUMBER	SHEET TITLE
-	COVER
G1	GENERAL NOTES, LEGEND & ABBREVIATIONS
C1	OVERALL PLAN
M1	EXISTING BLOWER PLAN
M2	EXISTING BLOWER SECTION
M3	PROPOSED BLOWER PLAN
M4	PROPOSED BLOWER SECTION
E1	ELECTRICAL LAYOUT AND SINGLE-LINE DIAGRAM
E2	ELECTRICAL LAYOUT

- NOTES:
1. THE WATER TREATMENT FACILITY SHALL REMAIN IN OPERATION AT ALL TIMES DURING THE REMOVAL AND REPLACEMENT OF THE BLOWER. THERE SHALL BE NO IMPACT TO WATER PRODUCTION DURING THE WORK.
  2. CONTRACTOR SHALL COORDINATE WITH CCWA OPERATIONS PERSONNEL PRIOR TO REMOVAL OF ANY EQUIPMENT FROM SERVICE.
  3. CONTRACTOR SHALL NOT OPERATE ANY VALVES OR EQUIPMENT WITHOUT WRITTEN APPROVAL OF CCWA PERSONNEL.



**SECOND FLOOR OVERALL PLAN**  
 1/16" = 1'-0"

PROJECT NUMBER: ES-RE-21-17  
 PROJECT DATE: DECEMBER 2022

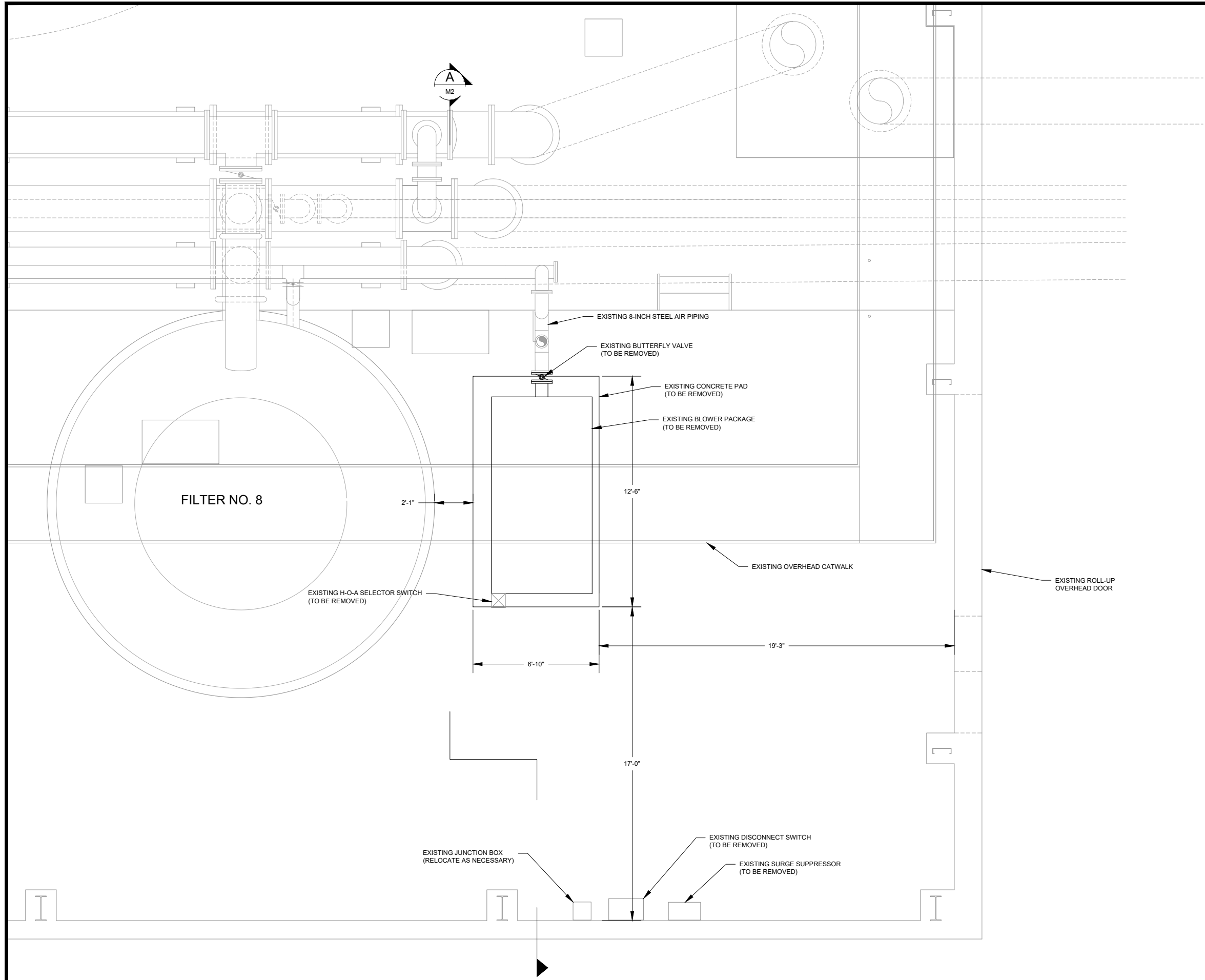
DESIGNED BY:	BDL
DRAWN BY:	BDL
REVIEWED BY:	JRF

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**HICKS WPP BLOWER UPGRADE**  
**OVERALL PLAN**

C1

- NOTES:
- ONCE APPROVED BY CCWA, CONTRACTOR SHALL REMOVE THE EXISTING BLOWER PACKAGE AND CONCRETE HOUSEKEEPING PAD TO ACCOMMODATE INSTALLATION OF THE NEW HOUSEKEEPING PAD AND BLOWERS. CARE SHALL BE TAKEN IN REMOVING THE CONCRETE PAD TO MINIMIZE DAMAGE TO THE CONCRETE FLOOR.
  - THE EXISTING AIR PIPING SHALL BE REMOVED FROM THE BLOWER DISCHARGE THROUGH THE EXISTING BUTTERFLY VALVE. CONTRACTOR SHALL PROTECT THE OPEN END OF THE REMAINING AIR PIPING WITH A BLIND FLANGE TO PREVENT DEBRIS FROM ENTERING THE PIPING UNTIL THE NEW PIPING IS CONNECTED.
  - THE EXISTING CONCRETE BUILDING SLAB SHALL BE SAW CUT AND REMOVED AS NECESSARY TO ALLOW INSTALLATION OF THE REQUIRED CONDUITS FROM THE CONTROL PANEL TO THE BLOWER LOCATIONS. PRIOR TO CUTTING THE SLAB, CONTRACTOR SHALL PERFORM AN X-RAY SCAN OF THE SLAB TO VERIFY THERE ARE NO CONDUITS OR WIRING IN THE AREA CRITICAL TO THE OPERATION OF THE FACILITY. THE CONCRETE SLAB SHALL BE PATCHED WITH 4,000 PSI CONCRETE AND FINISHED TO MATCH THE EXISTING SLAB.
  - THE EXISTING DISCONNECT SWITCH AND SURGE SUPPRESSOR SHALL BE REMOVED AND DISPOSED OF IN A LEGAL MANNER. THE EXISTING CONDUITS TO THE DISCONNECT SWITCH SHALL BE PROTECTED FROM DAMAGE FOR USE IN PROVIDING POWER FEED TO THE NEW BLOWER CONTROL PANEL.



PLAN  
 3/8" = 1'-0"

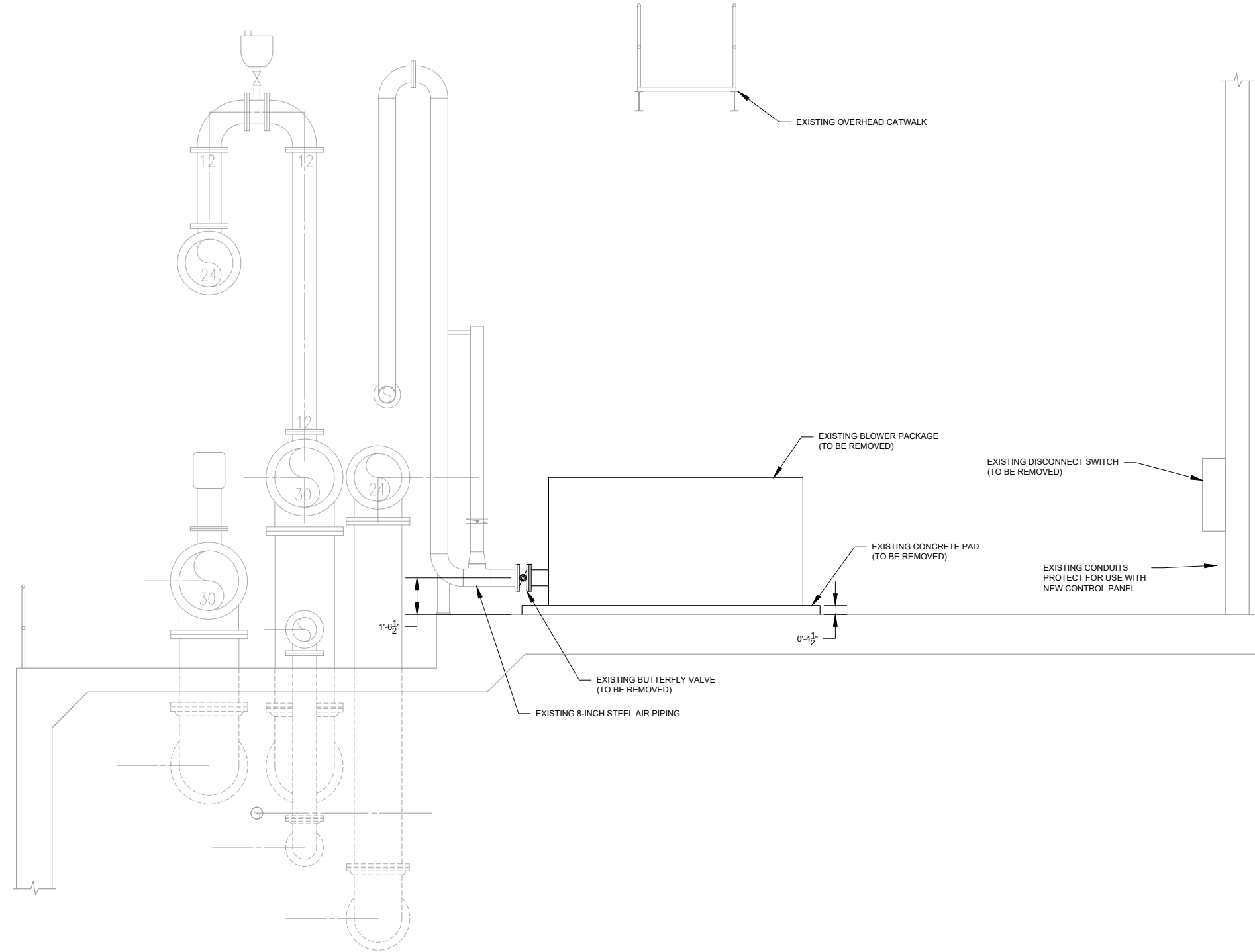
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 PROJECT DATE: DECEMBER 2022

DESIGNED BY:	BDL
DRAWN BY:	BDL
REVIEWED BY:	JRF

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HICKS WPP BLOWER UPGRADE  
 EXISTING BLOWER PLAN

M1



SECTION A  
SCALE: 3/8" = 1'-0"  
M1

- NOTES:
- ONCE APPROVED BY CCWA, CONTRACTOR SHALL REMOVE THE EXISTING BLOWER PACKAGE AND CONCRETE HOUSEKEEPING PAD TO ACCOMMODATE INSTALLATION OF THE NEW HOUSEKEEPING PAD AND BLOWERS. CARE SHALL BE TAKEN IN REMOVING THE CONCRETE PAD TO MINIMIZE DAMAGE TO THE CONCRETE FLOOR.
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ENGINEERING STRATEGIES, INC.

DESIGNED BY:	BDL
DRAWN BY:	BDL
REVIEWED BY:	JRF
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PROJECT DATE:	DECEMBER 2022
REVISION	DATE

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0 1"

HICKS WPP BLOWER UPGRADE

EXISTING BLOWER SECTION

M2

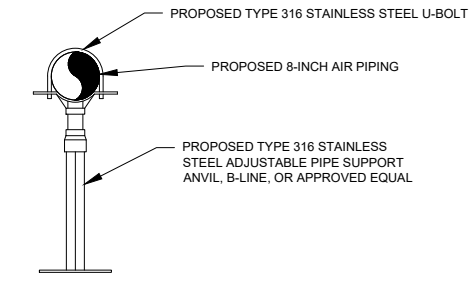
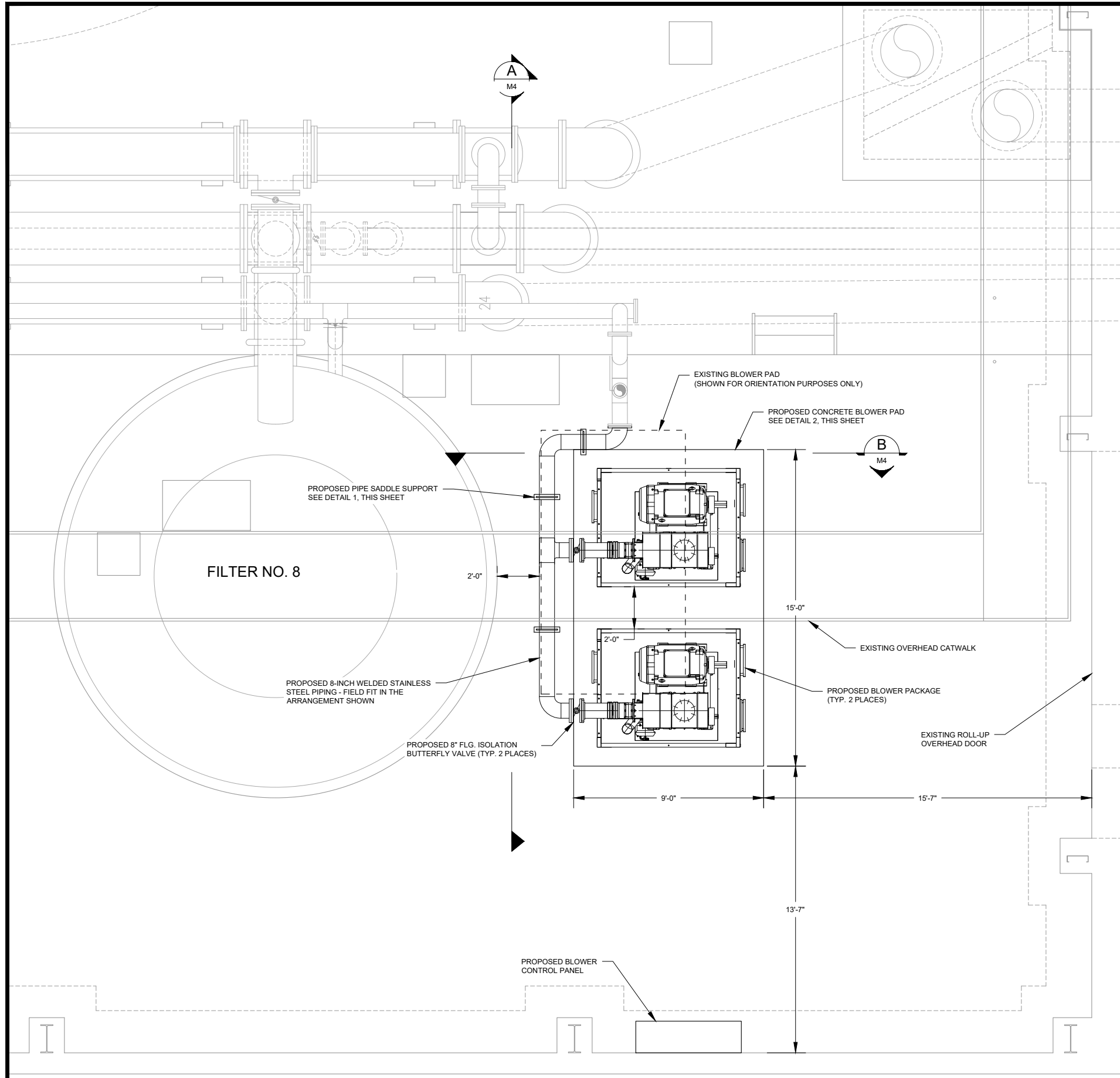
REVISION	DATE

PROJECT NUMBER: ES-RE-21-17  
 PROJECT DATE: DECEMBER 2022

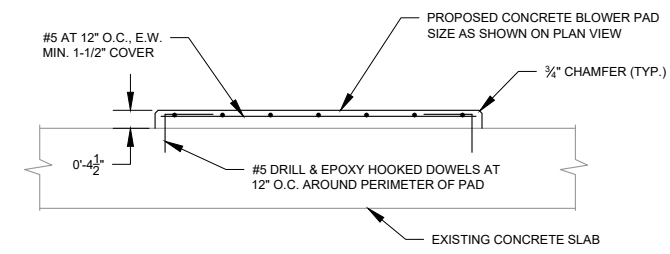
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REVIEWED BY:	JRF
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HICKS WPP BLOWER UPGRADE  
 PROPOSED BLOWER PLAN

M3



**ADJUSTABLE PIPE SADDLE SUPPORT** 1  
 SCALE: 3/4" = 1'-0"



**BLOWER PAD DETAIL** 2  
 SCALE: 1/2" = 1'-0"

- NOTES:
- THE PROPOSED BLOWER LAYOUT IS BASED ON THE AERZEN BLOWER PACKAGE. IF A DIFFERENT BLOWER MANUFACTURER IS USED, THE CONCRETE HOUSEKEEPING PAD AND PIPING CONFIGURATION SHALL BE COORDINATED TO ACCOMMODATE THE DIMENSIONS AND CONFIGURATION OF THE ALTERNATE BLOWERS. CONTRACTOR SHALL SUBMIT THE PROPOSED LAYOUT FOR THE ALTERNATE BLOWERS TO THE ENGINEER FOR REVIEW AND APPROVAL.
  - PROPOSED 8-INCH AIR PIPING SHALL BE SCHEDULE 5S TYPE 316 STAINLESS STEEL EXCEPT WHERE FLANGED JOINTS ARE SHOWN FOR CONNECTION OF VALVES AND TO THE BLOWERS, JOINTS MAY BE WELDED OR GROOVED JOINT FITTINGS WITH VITON GASKETS SUITABLE FOR 350°F TEMPERATURES. PIPING SHALL BE PAINTED TO MATCH THE EXISTING PIPING.
  - FLANGED JOINTS SHALL HAVE VITON GASKETS SUITABLE FOR 350°F TEMPERATURES.
  - AT A MINIMUM, ADJUSTABLE PIPE SADDLE SUPPORTS SHALL BE PROVIDED AS SHOWN ON THE DRAWINGS. CONTRACTOR SHALL PROVIDE PROPOSED LAYOUT IF ALTERNATE LOCATIONS ARE PLANNED.
  - THE CLEARANCE BETWEEN THE INTERIOR WESTERN WALL OF THE BUILDING AND THE EDGE OF THE HOUSEKEEPING PAD FOR THE NEW BLOWERS SHALL BE A MINIMUM OF 13'-6". THE CLEARANCE BETWEEN THE INTERIOR SOUTHERN WALL OF THE BUILDING AND THE EDGE OF THE HOUSEKEEPING PAD FOR THE NEW BLOWERS SHALL BE A MINIMUM OF 15'-6".
  - CONTRACTOR SHALL VERIFY THE THICKNESS OF THE CONCRETE BUILDING SLAB FOR VERIFYING THERE IS SUITABLE DEPTH FOR THE REBAR DOWELS FOR THE BLOWER EQUIPMENT PAD. THE CONFIRMED THICKNESS SHALL ALSO BE USED TO DETERMINE THE REQUIRED SAW CUTTING OF THE SLAB FOR THE INSTALLATION OF THE REQUIRED CONDUITS FROM THE CONTROL PANEL TO THE BLOWERS.
  - ALL DISTURBED AREAS OF THE EXISTING CONCRETE SLAB OR AREAS WHICH PREVIOUSLY WERE COVERED BY HOUSE KEEPING PADS SHALL BE RESTORED TO MATCH THE EXISTING CONDITION OF THE CONCRETE SLAB.

**PLAN**  
 3/8" = 1'-0"

PROJECT NUMBER: ES-RE-21-17  
 PROJECT DATE: DECEMBER 2022

DESIGNED BY:	BDL
DRAWN BY: <td>BDL</td>	BDL
REVIEWED BY: <td>JRF</td>	JRF

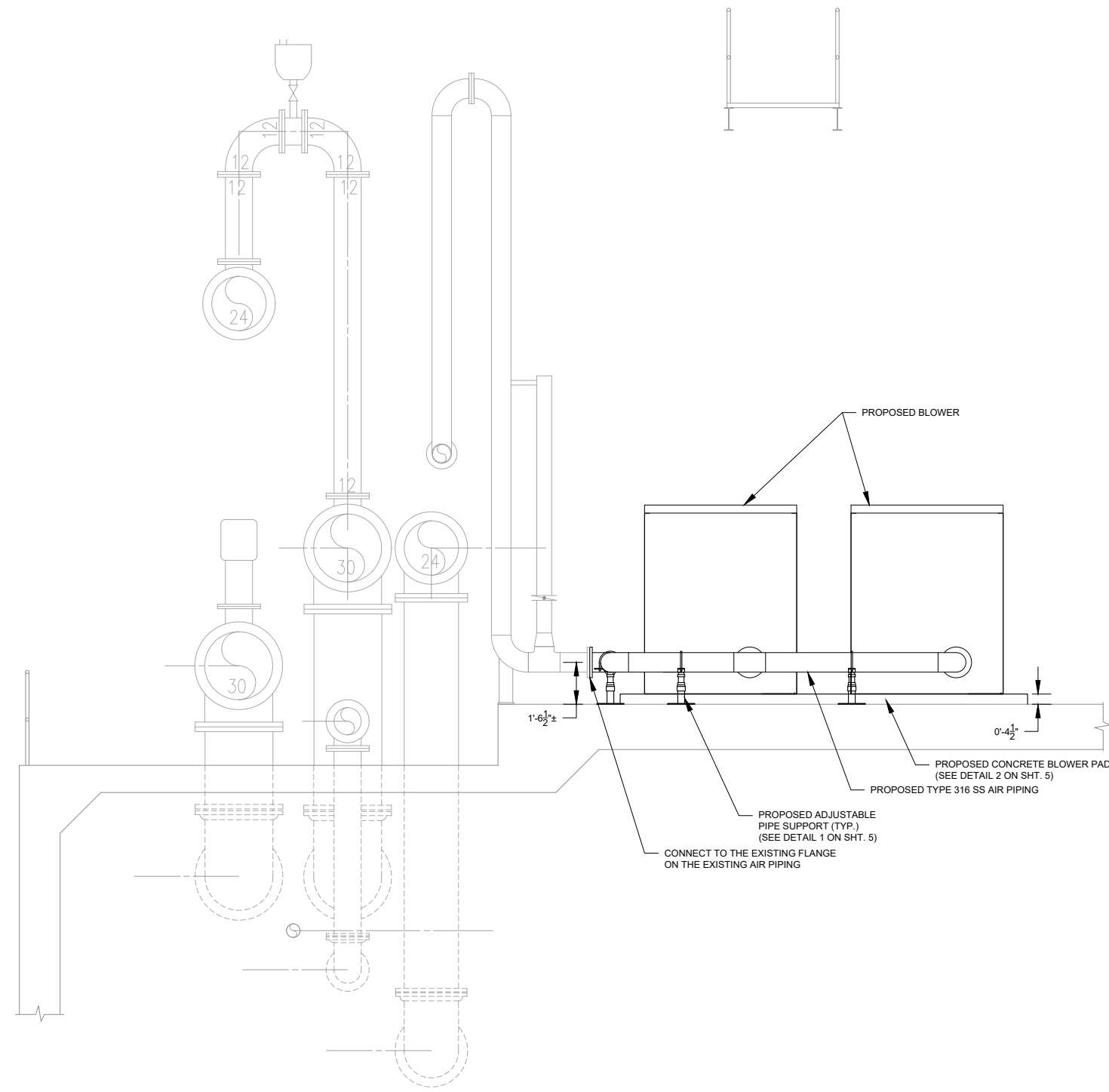
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REVISION	DATE

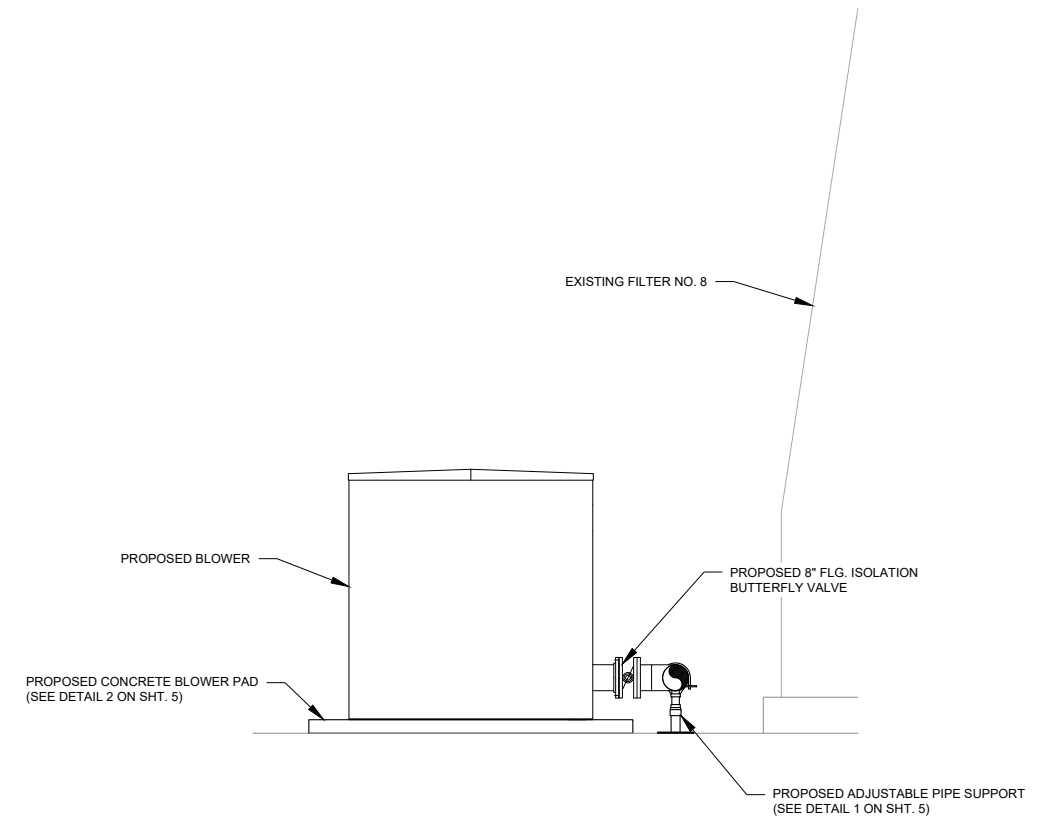
HICKS WPP BLOWER UPGRADE  
 PROPOSED BLOWER SECTION

M4

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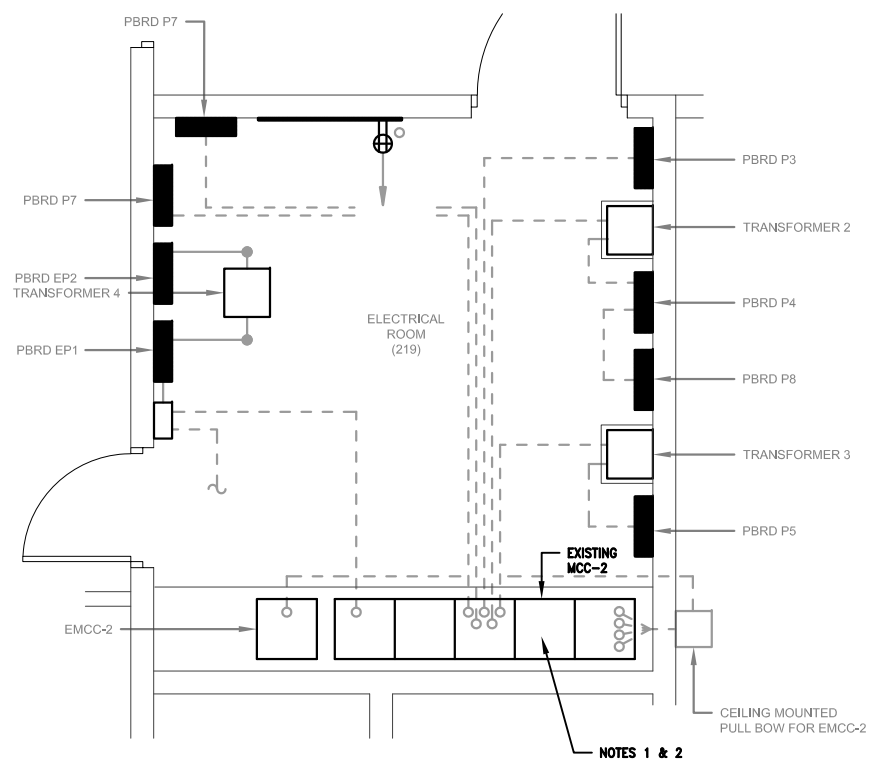
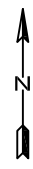


SECTION A  
 SCALE: 3/8" = 1'-0"  
 M3



- NOTES:
1. THE PROPOSED BLOWER LAYOUT IS BASED ON THE AERZEN BLOWER PACKAGE. IF A DIFFERENT BLOWER MANUFACTURER IS USED, THE CONCRETE HOUSEKEEPING PAD AND PIPING CONFIGURATION SHALL BE COORDINATED TO ACCOMMODATE THE DIMENSIONS AND CONFIGURATION OF THE ALTERNATE BLOWERS. CONTRACTOR SHALL SUBMIT THE PROPOSED LAYOUT FOR THE ALTERNATE BLOWERS TO THE ENGINEER FOR REVIEW AND APPROVAL.
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  3. FLANGED JOINTS SHALL HAVE VITON GASKETS SUITABLE FOR 350°F TEMPERATURES.
  4. AT A MINIMUM, ADJUSTABLE PIPE SADDLE SUPPORTS SHALL BE PROVIDED AS SHOWN ON THE DRAWINGS. CONTRACTOR SHALL PROVIDE PROPOSED LAYOUT IF ALTERNATE LOCATIONS ARE PROPOSED.

SECTION B  
 SCALE: 3/8" = 1'-0"  
 M3



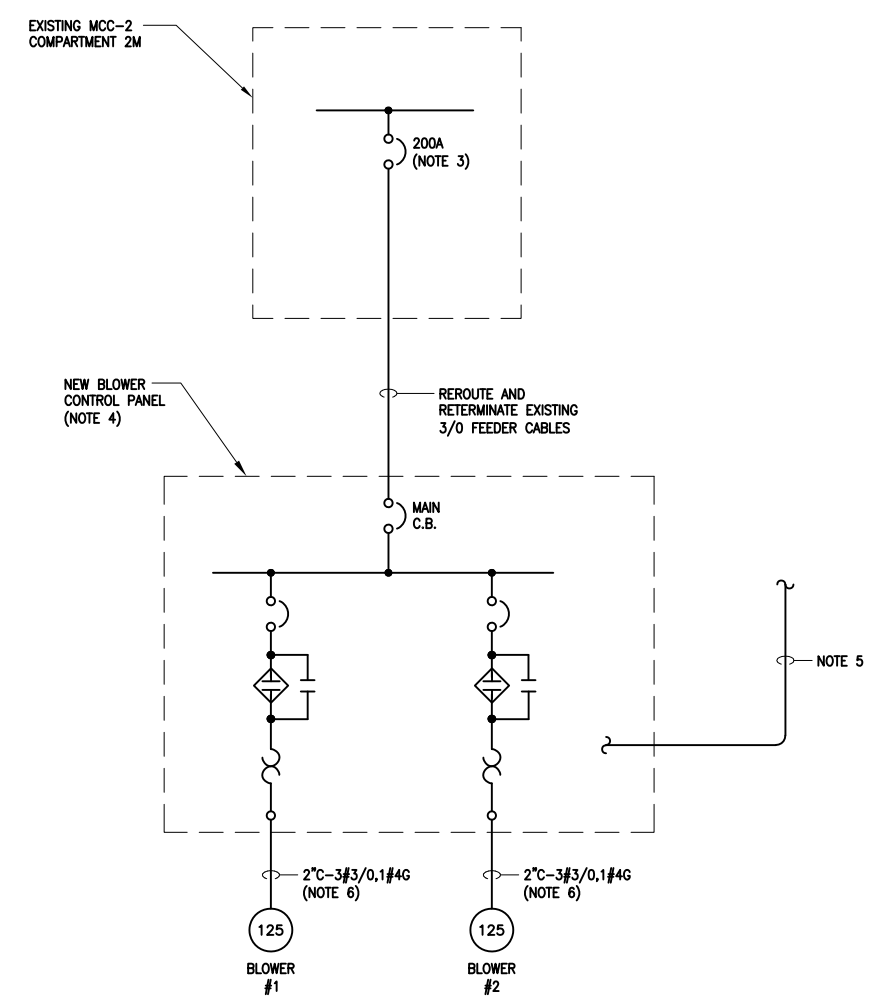
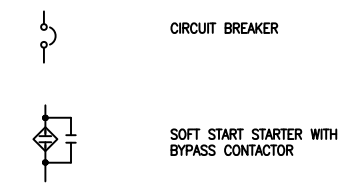
**ELECTRICAL ROOM LAYOUT**  
3/8" = 1'-0"

NOTES 1 & 2

**NOTES:**

1. REMOVE EXISTING SIZE 4 STARTER FOR EXISTING BLOWER AND TURN OVER TO THE OWNER. REMOVE FROM EXISTING MCC-2, COMPARTMENT 2M.
2. DISCONNECT EXISTING #3/0 MOTOR CABLES FROM THE STARTER. THESE WILL BE REUSED TO FEED THE NEW BLOWER CONTROL PANEL.
3. PROVIDE A NEW 200A CIRCUIT BREAKER, EATON CAT #HJD3200 IN A COMPARTMENT FOR INSTALLATION IN THIS VERTICAL SECTION. PROVIDE MOUNTING HARDWARE AND COMPARTMENT DOOR. PROVIDE A NAMEPLATE ON THE COMPARTMENT DOOR TO READ: "BLOWER CONTROL PANEL".
4. INSTALL THE CONTROL PANEL SUPPLIED BY THE BLOWER SUPPLIER.
5. CAT 6 ETHERNET CABLE TO FILTER #8 CONTROL PANEL IN 1" CONDUIT. COORDINATE TERMINATIONS AS REQUIRED FOR THE EXISTING NETWORK. THE CAT 6 CABLE SHALL CONSIST OF FOUR BRAIDED PAIR, 23 AWG SOLID BARE CONDUCTORS, POLYOLEFIN INSULATION, PVC JACKET. THE CABLE SHALL BE UL LISTED, 300V, BELDEN 7851A, OR ENGINEER APPROVED EQUAL.
6. THE CABLES SHALL BE STRANDED COPPER CONDUCTORS WITH "XHWW" INSULATION AND SHALL BE UL LISTED.

**LEGEND**



**SINGLE LINE DIAGRAM**



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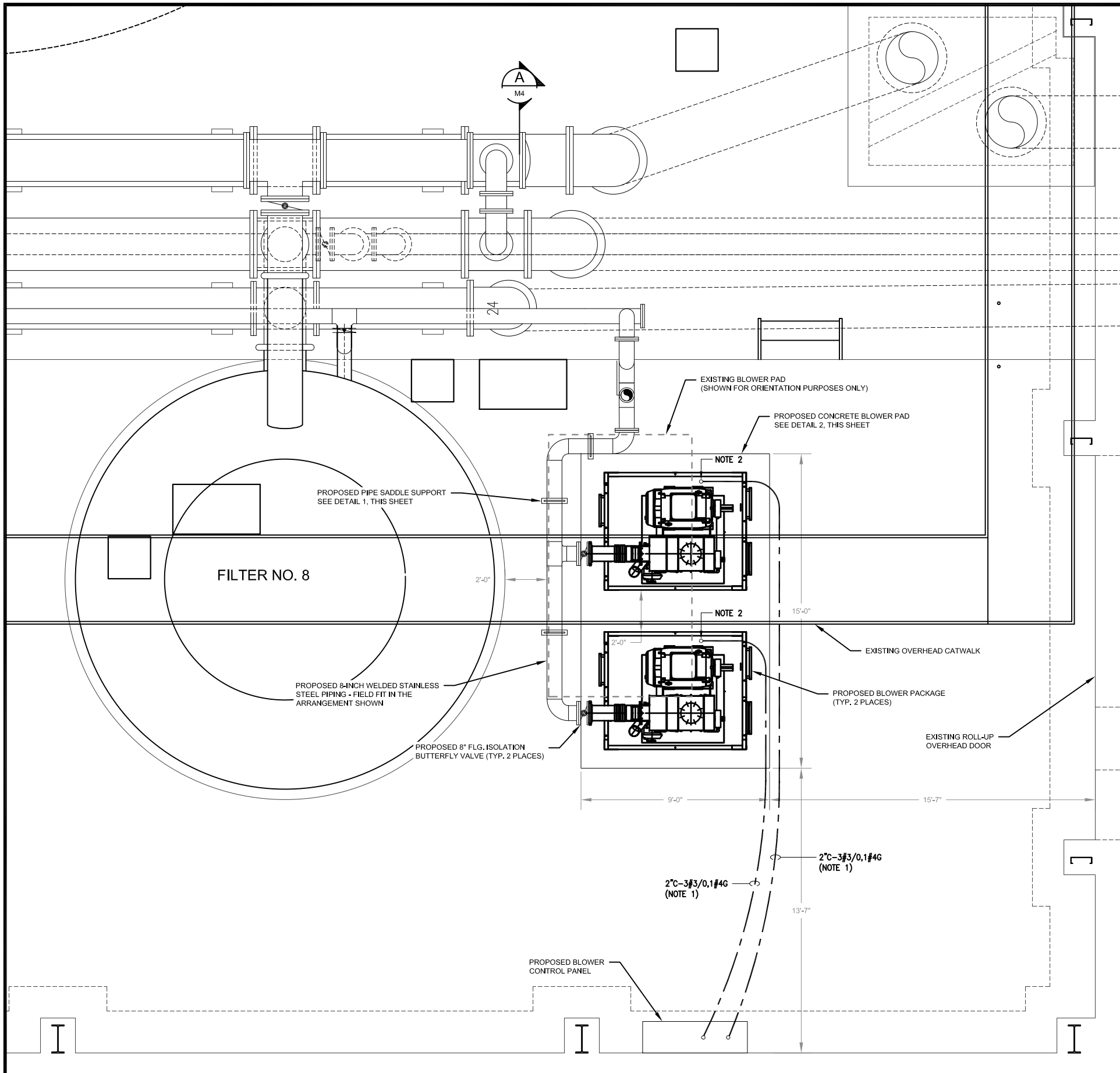
PROJECT NUMBER: ES-RE-21-17  
PROJECT DATE: DECEMBER 2022

DESIGNED BY:	SNK
DRAWN BY:	PYB
REVIEWED BY:	SNK

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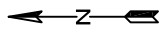
HICKS WPP BLOWER UPGRADE  
ELECTRICAL LAYOUT AND  
SINGLE LINE DIAGRAM





**NOTES:**

1. TRENCH THE FLOOR AND INSTALL THE CONDUITS CONCEALED. THE CONDUITS SHALL BE SCHEDULE 40 PVC BELOW GRADE AND TRANSITION TO PVC COATED RIGID METAL CONDUIT SWEEPS AND ABOVE GRADE. FINAL CONNECTION TO THE MOTOR SHALL BE MADE USING LIQUIDTIGHT FLEXIBLE METAL CONDUIT. RESTORE THE FLOOR.
2. COORDINATE EXACT STUBUP LOCATIONS FROM APPROVED BLOWER SHOP DRAWINGS.



**ESI**  
ENGINEERING STRATEGIES, INC.

PROJECT NUMBER: ES-RE-21-17  
PROJECT DATE: DECEMBER 2022

REVISION	DATE

DESIGNED BY: SNK  
DRAWN BY: PYB  
REVIEWED BY: SNK

BAR BELOW IS 1" LONG FOR SCALE. IF NOT 1" LONG ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

HICKS WPP BLOWER UPGRADE  
ELECTRICAL LAYOUT