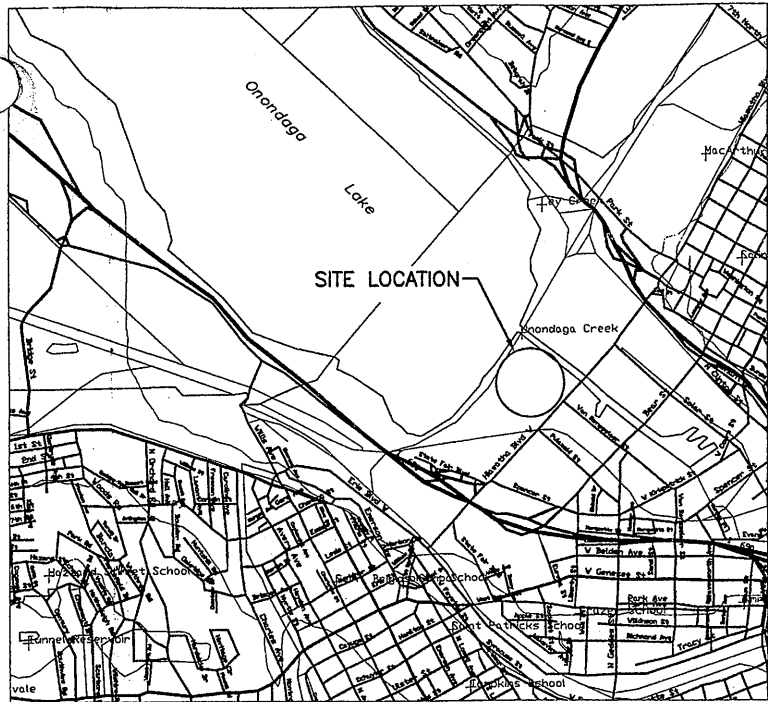
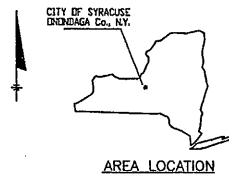


STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT METROPOLITAN SYRACUSE WWTP



LOCATION PLAN
SCALE: 1"=2000'



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12/21/2005
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RICHARD L. ELANDER, PE
COMMISSIONER

DATE

CONTRACT NO. 4A - GENERAL
CONTRACT NO. 4B - ELECTRIC
CONTRACT NO. 4C - HVAC
CONTRACT NO. 4D - PLUMBING & FIRE PROTECTION

BID REFERENCE 4841
PROJECT NUMBER 587961-001

ONONDAGA COUNTY
DEPARTMENT OF DRAINAGE AND SANITATION
SYRACUSE, NEW YORK



AUGUST 2001

ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP
SYRACUSE, NEW YORK

(RECORD DRAWING: MADE FROM DRAWING NO. CVR4ARD, FILE NO. 0659CVR4ARD, DATED AUGUST 2001) DATE 12/21/05 BY PCG

RECORD DRAWINGS
TO THE BEST OF OUR KNOWLEDGE,
INFORMATION AND BELIEF, THESE RECORD
DRAWINGS SUBSTANTIALLY REPRESENT
THE PROJECT AS CONSTRUCTED.

ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP

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RECORD DRAWINGS TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, THESE RECORD DRAWINGS SUBSTANTIALLY REPRESENT THE PROJECT AS CONSTRUCTED.
ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP

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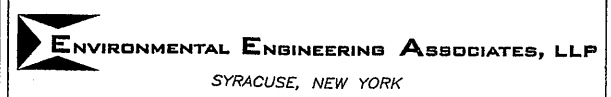
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DATE 12/12/05 BY RCG

02/26/01 OBG JAS
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No.	Date	Revisions	Init
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1	7/9/01	AS BID	RCG
2	5/22/03	REVISED FOR MODIFICATION 4A-164	RCG
3	8/31/05	RECORD DRAWING	

In charge of - AHS
Designed by - AJS
Drawn by - JAS
Checked by - AJS



ONONDAGA COUNTY • DEPARTMENT OF DRAINAGE AND SANITATION • SYRACUSE, NEW YORK
METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT

File Number 00659
Date APRIL 2001
Signature: Robert Crowley

G-001

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NO ALTERATIONS PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW

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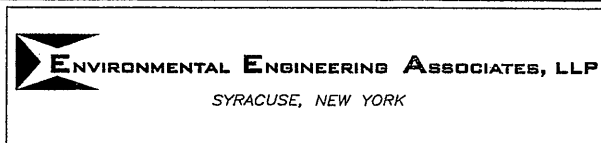
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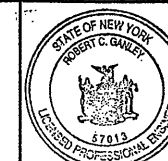
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STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT



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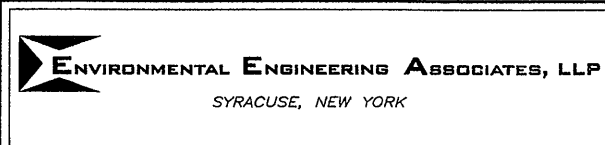
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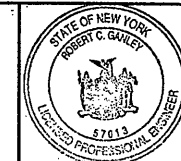
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GENERAL



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PIPE AND FITTING SYMBOLS

	EXISTING PIPING
	NEW PIPING
	CONTAINMENT AND FEED PIPING
	FLANGED JOINT
	WELDED JOINT
	MECHANICAL JOINT
	SLEEVE-TYPE MECHANICAL COUPLING
	ARCHED BAND TYPE PIPE COUPLING
	ELBOW UP
	ELBOW DOWN
	90° ELBOW IN PLANE
	45° ELBOW IN PLANE
	TEE UP
	TEE DOWN
	TEE IN PLANE
	CROSS
	LATERAL WYE IN PLANE
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	UNION
	WYE
	STRAINER
	SEDIMENT TRAP
	TRAP
	CLEANOUT
	DRAIN
	QUICK CONNECTION

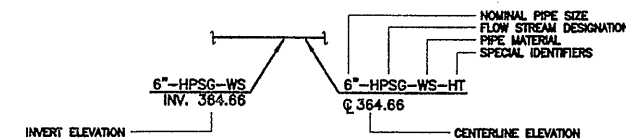
VALVE AND GATE SYMBOLS

	FLEX CONNECTION
	BUTTERFLY VALVE
	CHECK VALVE
	BALL VALVE
	GLOBE VALVE
	GATE VALVE
	PLUG VALVE
	COCK VALVE
	NEEDLE VALVE
	KNIFE GATE VALVE
	BALANCING VALVE
	DIAPHRAGM VALVE
	PINCH VALVE
	PRESSURE REDUCING VALVE
	BACK PRESSURE VALVE
	ANGLE VALVE
	ANGLE GATE VALVE
	ANGLE GLOBE VALVE
	3 WAY VALVE
	3 WAY GLOBE VALVE
	TELESCOPING VALVE
	RELIEF SAFETY VALVE
	BACKFLOW VALVE
	RPZ BACKFLOW VALVE
	MUD VALVE
	HOSE BIBB
	FLUSHING CONNECTION
	SAMPLE TAP
	SLUICE GATE
	SLIDE GATE
	MOTOR OPERATED
	SOLENOID OPERATED
	CYLINDER-HYDRAULIC
	CYLINDER-PNEUMATIC

MISCELLANEOUS SYMBOLS

	FLEXIBLE HOSE
	PRESSURE GAUGE WITH SEAL
	CALIBRATION PIPE STAND
	POINT OF CONNECTION
	AIR VENT-AUTO
	AIR VENT-MANUAL
	ROTOMETER
	RUPTURE DISK
	FLOW DIRECTION - SINGLE LINE PIPE
	FLOW DIRECTION - DOUBLE LINE PIPE
	FLOW STREAM CONTINUATION
	CONNECTING LINES
	NON-CONNECTING LINES
	ELECTRICAL SIGNAL
	COMPRESSED AIR
	CENTRIFUGAL PUMP
	DIAPHRAM PUMP
	BLOWER
	POSITIVE DISPLACEMENT COMPRESSOR
	METERING PUMP
	SUMP PUMP
	MIXERS
	UNION

PIPE DESIGNATIONS



FLOW STREAM DESIGNATIONS

AGP	AIR GRID PURGE
ASPH	AIR GRID PURGE HEADER
AGL	AIR GRID LATERAL
AGH	AIR GRID HEADER
AHP	AIR, HIGH PRESSURE
ALP	AIR, LOW PRESSURE
BAFB	BIOLOGICAL AERATED FILTER BACKWASH
BAFE	BIOLOGICAL AERATED FILTER EFFLUENT
BAFI	BIOLOGICAL AERATED FILTER INFLUENT
BAFBW	BIOLOGICAL AERATED FILTER BACKWASH WASTE
BAFCM	BIOLOGICAL AERATED FILTER CELL MANFOLD
BAFC/O	BIOLOGICAL AERATED FILTER CELL INLET/OUTLET
BAFCI	BIOLOGICAL AERATED FILTER CELL INFLUENT
DPE	DISINFECTED PLANT EFFLUENT
DBSW	DISINFECTED BYPASS STORM WATER
DR	DRAIN
EMO	EMERGENCY OVERFLOW
EW	EFFLUENT WATER SYSTEM
FCD	FERRIC CHLORIDE DRAIN
FCF	FERRIC CHLORIDE FEED
FCT	FERRIC CHLORIDE TRANSFER
FW	FIRE WATER
HPSG	HIGH PRESSURE SLUDGE GAS
HRESS	HIGH-RATE FLOCCULATED SETTLING SYSTEM SLUDGE
MSF	MICROSAND SLURRY FEED
MSR	MICROSAND RECIRCULATION
NAHSO3	SODIUM BISULFITE
NAOCL	SODIUM HYPOCHLORITE
PD	PLANT DRAIN
PDS	POLYMER DILUTED SOLUTION
PF	POLYMER FEED
PLW	PLANT WATER
PMS	POLYMER NEAT SOLUTION
PRD	PROCESS DRAIN
PSD	PURGE SUMP DISCHARGE
PW	POTABLE WATER
SAN	SANITARY SEWER
SE	SECONDARY EFFLUENT
SMP	SAMPLE
SWB	STORM WATER BYPASS
SD	STORM DRAIN
SW	SEAL WATER
SSF	SAND SILO FILL
UVE	ULTRAVIOLET DISINFECTION SYSTEM EFFLUENT
UM	ULTRAVIOLET DISINFECTION SYSTEM INFLUENT

ABBREVIATIONS

AE	ANALYTIC ELEMENT
A.F.F.	ABOVE FINISHED FLOOR
AIT	ANALYTIC INDICATOR/TRANSMITTER
A.R.	RELIEF VALVE (MANUAL)
BFV	BUTTERFLY VALVE
BPV	BACK PRESSURE VALVE
BV	BALL VALVE
CF	FERRIC CHLORIDE FEED PUMPS
COORD	COORDINATE
CTR	CONTRACT
D	DISCHARGE
DR	DRAIN (LOW POINT IN A PIPE)
EWP	EFFLUENT WATER PUMP
FC	FLUSH CONNECTION
FCP	FERRIC CHLORIDE PUMPS
FE	FLOW ELEMENT
FI	FLOW INDICATOR
FIT	FLOW INDICATOR/TRANSMITTER
FM	FLOW METER
HP	HORSEPOWER
HR	HOSE REEL
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
LG	LONG
LT	LEVEL TRANSMITTER
M.H.	MAN HOLE
PIT	PRESSURE INDICATOR/TRANSMITTER
PRV	PRESSURE RELIEF VALVE
PS	PRESSURE SWITCH
PSH	PRESSURE SWITCH HIGH
PSL	PRESSURE SWITCH LOW
ORP	OXYGEN REDUCTION POTENTIAL
QTY	QUANTITY
REQ'D	REQUIRED
S	SUCTION
SQ	SQUARE
SP	SUMP PUMP
SRP	SAND RECIRCULATION PUMP
STP	SLUDGE TRANSFER PUMP
STP	SLUDGE TRANSFER PUMP
TIT	TEMPERATURE INDICATOR/TRANSMITTER
TM	TRADEMARK
T.O.W.	TOP OF WALL
UTIL	UTILITY
VFD	VARIABLE FREQUENCY DRIVE

PIPE MATERIAL

BI	BLACK IRON
CPVC	CHLORINATED POLYVINYL CHLORIDE
CS	CARBON STEEL
CU	COPPER
DIP	DUCTILE IRON PIPE
FRP	FIBERGLASS REINFORCED PLASTIC
GS	GALVANIZED STEEL
HDPE	HIGH DENSITY POLYETHYLENE
PCCP	PRESTRESSED CONCRETE CYLINDER PIPE
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
SS	STAINLESS STEEL
WS	WELDED STEEL

SPECIAL IDENTIFIERS

HT	HEAT TRACE ELECTRIC
JI	JACKET AND INSULATION

NOTES:

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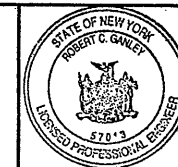
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	2	8/31/05	RECORD DRAWING	RCG	JAS
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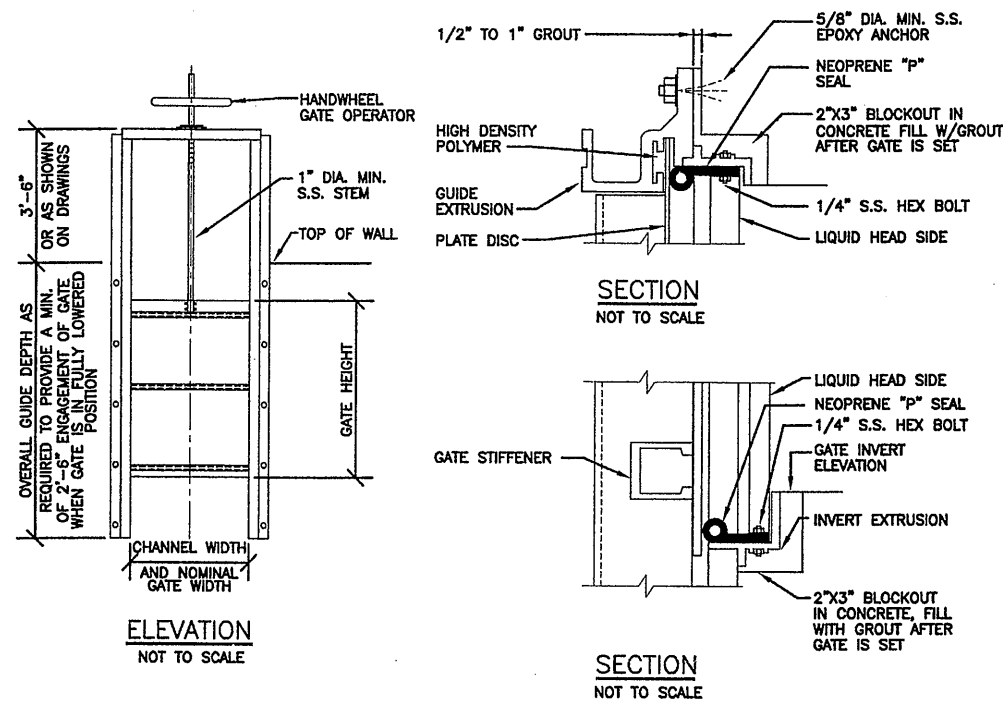
ONONDAGA COUNTY • DEPARTMENT OF DRAINAGE AND SANITATION • SYRACUSE, NEW YORK
 METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
 STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT



File Number	00659
Date	APRIL 2001
Signature	<i>Robert C. Ganey</i>

SYMBOLS & ABBREVIATIONS
MECHANICAL

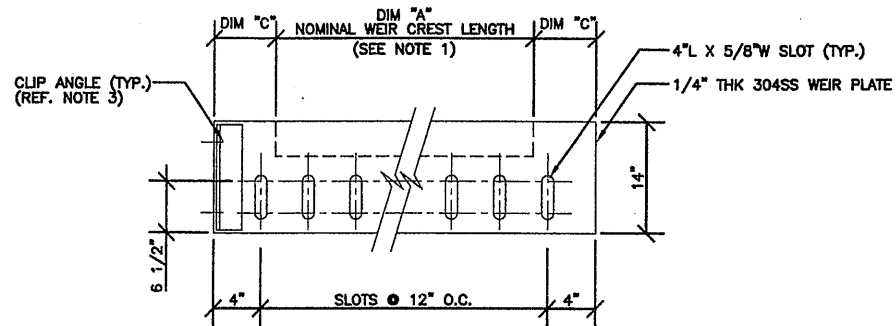
M-001



FABRICATED ALUMINUM WEIR/SLIDE GATE DETAILS

NOTES

1. COAT ALL ALUMINUM SURFACES EMBEDDED IN OR IN DIRECT CONTACT WITH CONCRETE WITH ONE COAT OF COAL TAR EPOXY.
2. OPERATORS SHOWN ARE REPRESENTATIVE AND ARE NOT RELATED TO STYLE OF GATE.
3. FOR EMBEDDED WEIR CROSS SECTION PROVIDE 5"x7" BLOCKOUT IN CONCRETE AND FILL WITH GROUT AFTER GATE IS SET.

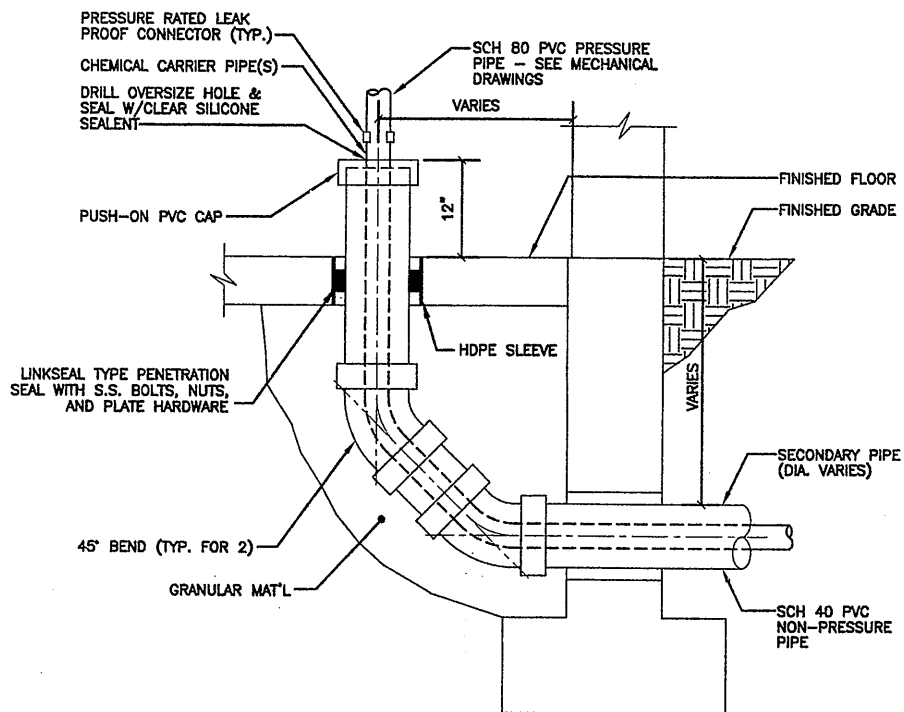


STRAIGHT EDGE WEIR PLATE DETAIL

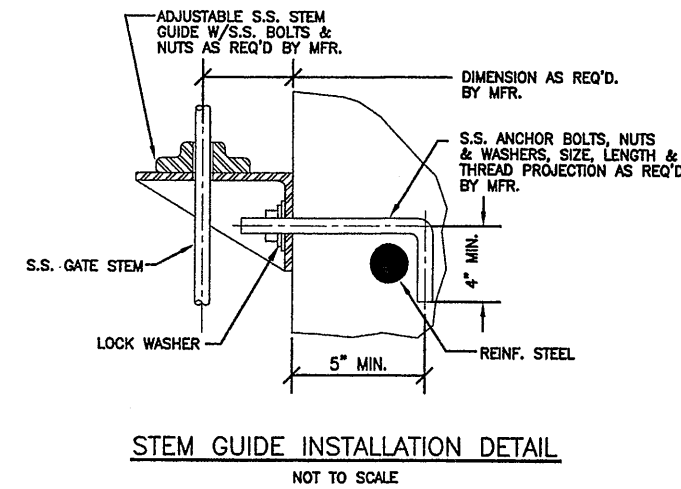
NOTES:

1. OVERALL LENGTH OF OPENING (DIM "A") IS NOMINAL AND SHALL BE VERIFIED BY CONTRACTOR IN FIELD.
2. MOUNTING HARDWARE (BOLTS, NUTS, SPECIAL WASHERS, CLIP ANGLES TO BE 304SS.
3. EACH WEIR TO BE PROVIDED WITH 2-1 1/2"x2 1/2"x1/4"x14" LG CLIP ANGLES WITH NEOPRENE GASKETS FOR WEIR PLATE ATTACHMENT TO CHANNEL SIDE WALLS WITH 2-5/8"x6" EPOXY ANCHORS. WELD CLIP ANGLE TO WEIR PLATE.

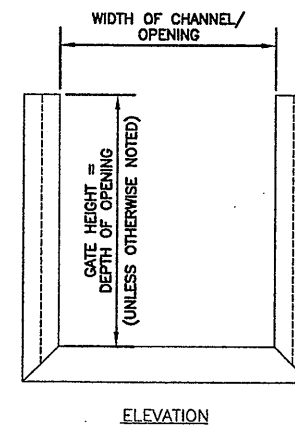
WEIR QUANTITY	DESCRIPTION	MATERIAL	DIM. "A"	DIM. "B"	DIM. "C"	TOP WEIR ELEVATION	SEE NOTES
4	HRFS INFLUENT DROP BOX WEIR	R 1/4" x 14" TYPE 304 S.S.	12'-0"	3'	6"	394.80	1, 2
18	BAF INLET FEED BOX	R 1/4" x 14" TYPE 304 S.S.	5'-0"	4'	-	403.62	1, 2, 3
8	BAF INLET CHANNEL OVERFLOW	R 1/4" x 14" TYPE 304 S.S.	10'-0"	4'	6"	405.26	1, 2



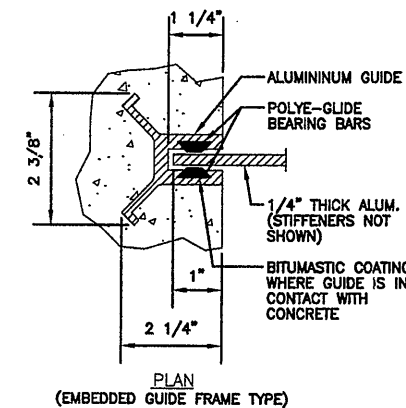
CHEMICAL SECONDARY PIPE TERMINATION DETAIL



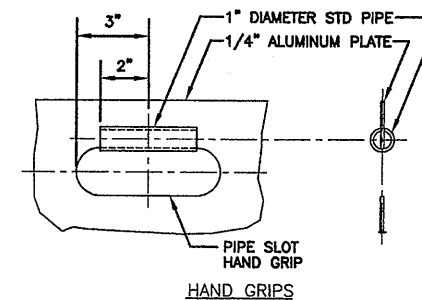
STEM GUIDE INSTALLATION DETAIL



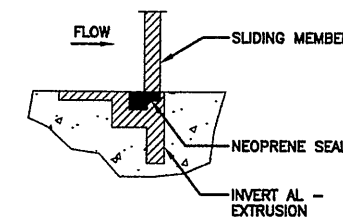
ELEVATION



PLAN (EMBEDDED GUIDE FRAME TYPE)



HAND GRIPS



INVERT (EMBEDDED GUIDE FRAME TYPE)

HAND LIFT STOP PLATE DETAIL

NOTES:

NOTES:

1. STOP PLATES SHALL BE OF THE FABRICATED ALUMINUM SLIDE GATE TYPE AS MANUFACTURED BY WASHINGTON ALUMINUM COMPANY (WACO) - SERIES 4000.
2. GUIDE FRAME SHALL BE EMBEDDED AND SHALL BE EXTRUDED ALUMINUM, INCORPORATING ULTRA HIGH MOLECULAR WEIGHT POLYMER (UHMW) BEARING BARS. THE UHMW BEARING BARS SHALL REDUCE THE COEFF. OF FRICTION TO 0.125. FRAME SHALL HAVE FLUSH BOTTOM INVERT.
3. THE SLIDING MEMBER SHALL BE 1/4" ALUMINUM PLATE, REINFORCED AS REQUIRED TO LIMIT DEFLECTION TO 1/360 OR LESS OF THE SPAN OF THE PLATE UNDER THE DESIGN HEAD. ALL OTHER PARTS OF THE GATE SHALL HAVE MIN. THICKNESS OF 1/4". GATES WIDER THAN 7'-0" SHALL BE DESIGNED FOR DEFLECTION OF LESS THAN 1/720 OF THE SPAN OF THE GATE UNDER THE DESIGN HEAD.
4. HAND LIFT PLATES SHALL BE PROVIDED WITH A SINGLE PIPE HANDSLOT FOR PLATES UP TO 3'-0" WIDE AND DUAL PIPE HAND SLOTS IF WIDER THAN 3 FEET. PROVIDE EXTENDED LIFT HANDLES WHERE SHOWN ON THE DRAWINGS.

RECORD DRAWINGS TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, THESE RECORD DRAWINGS SUBSTANTIALLY REPRESENT THE PROJECT AS CONSTRUCTED.

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DATE 7/20/01 BY RLG

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02/26/01 OBG JAS 0659m002

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Designed by AJS/SED
Drawn by JAS
Checked by AJS/AHS

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SYRACUSE, NEW YORK

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STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT

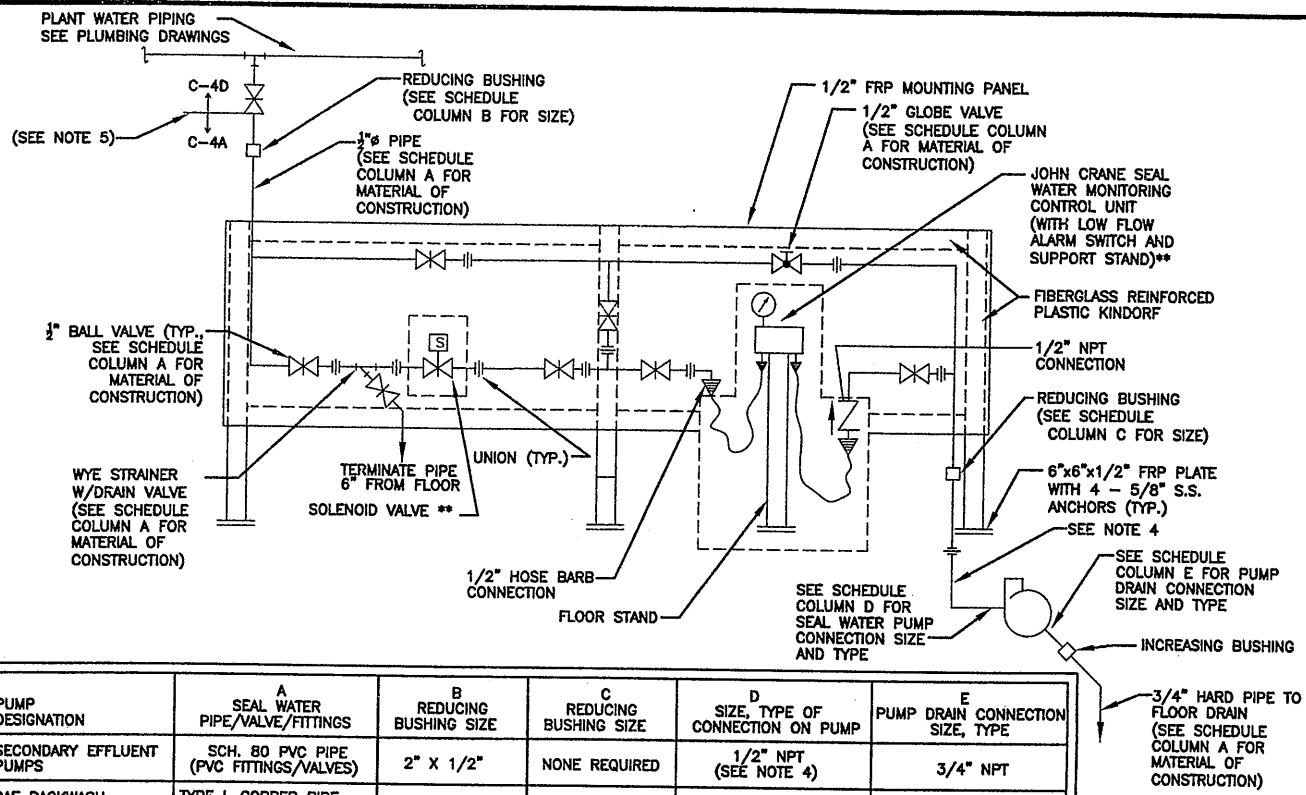


File Number 00659
Date APRIL 2001

M-002

MISCELLANEOUS DETAILS
MECHANICAL

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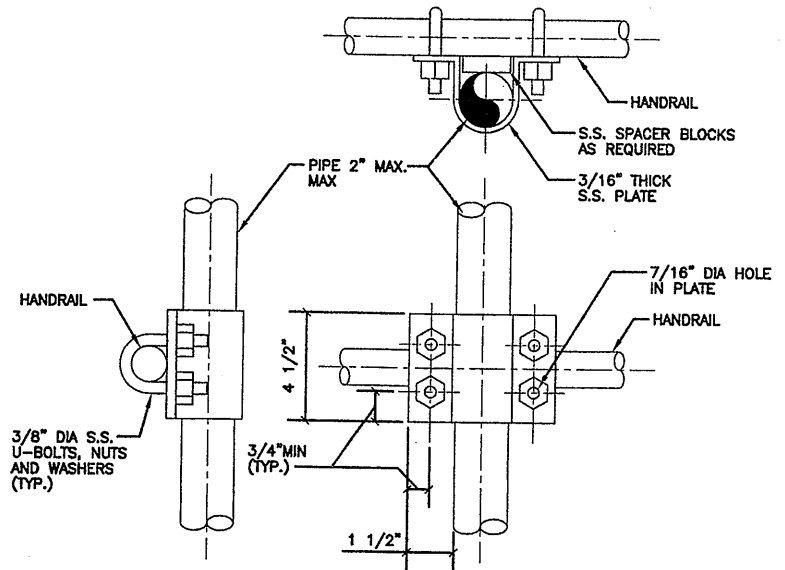
PUMP DESIGNATION	A SEAL WATER PIPE/VALVE/FITTINGS	B REDUCING BUSHING SIZE	C REDUCING BUSHING SIZE	D SIZE, TYPE OF CONNECTION ON PUMP	E PUMP DRAIN CONNECTION SIZE, TYPE
SECONDARY EFFLUENT PUMPS	SCH. 80 PVC PIPE (PVC FITTINGS/VALVES)	2" X 1/2"	NONE REQUIRED	1/2" NPT (SEE NOTE 4)	3/4" NPT
BAF BACKWASH PUMPS	TYPE L COPPER PIPE (BRONZE FITTINGS/VALVES)	3/4" X 1/2"	1/2" X 1/4"	1/4" NPT	3/4" NPT
HRFS SAND RECIRCULATION PUMPS	TYPE L COPPER PIPE (BRONZE FITTINGS/VALVES)	3/4" X 1/2"	1/2" X 3/8"	3/8" NPT	3/8" NPT
HRFS TRANSFER PUMPS	TYPE L COPPER PIPE (BRONZE FITTINGS/VALVES)	3/4" X 1/2"	1/2" X 3/8"	3/8" NPT	3/8" NPT
HRFS SAND SLURRY PUMPS	SCH. 80 PVC PIPE (PVC FITTINGS/VALVES)	3/4" X 1/2"	1/2" X 3/8"	3/8" NPT	3/8" NPT

TYPICAL SEAL WATER PIPING DETAIL

NOT TO SCALE

NOTES:

- SEAL WATER PANEL SHALL BE 1/2" FIBERGLASS REINFORCED PLASTIC (FRP). FLOOR MOUNT PANEL SUPPORT STRUCTURE AS SHOWN ON DETAIL OR ATTACH PANEL TO WALL WITH FRP WALL BRACKETS, AND S.S. HARDWARE, SIZE AS REQUIRED. COORDINATE EXACT MOUNTING LOCATION/METHOD WITH ENGINEER/OWNER IN THE FIELD.
- SUPPORT SEAL WATER PIPING, BETWEEN PANEL AND PUMP STUFFING BOX, FROM STAINLESS STEEL SUPPORT CHANNELS. COORDINATE EXACT ROUTING WITH ENGINEER/OWNER IN THE FIELD.
- ROUTE AND FASTEN SEAL WATER DRAIN ALONG PUMP SUPPORT LEGS AND PUMP PAD. DRAIN PIPING SHALL BE ROUTED TO FLOOR DRAINS AND EQUIPPED WITH CLEAN-OUTS AT ALL BENDS > 45°.
- A MECHANICAL FLOWMETER AND SEAL WATER PIPING ASSEMBLY IS PROVIDED WITH EACH SECONDARY EFFLUENT PUMP ONLY. CONNECT SEAL WATER PIPING TO 1/2" NPT INLET CONNECTION ON MECHANICAL FLOWMETER.
- CONTRACT 4A IS RESPONSIBLE FOR PROVIDING AND INSTALLING ALL PLANT SEAL WATER PIPING IN SECONDARY EFFLUENT PUMP STATION ONLY. THERE IS NO BREAK IN CONTRACT RESPONSIBILITY FOR SEAL WATER PIPING IN THIS AREA.

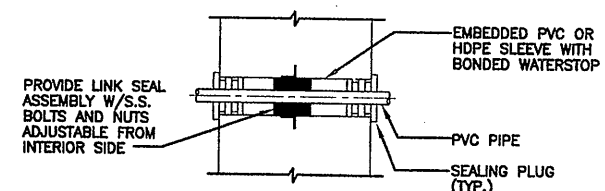


HANDRAIL MOUNTED S.S. PIPE DETAIL

NOT TO SCALE

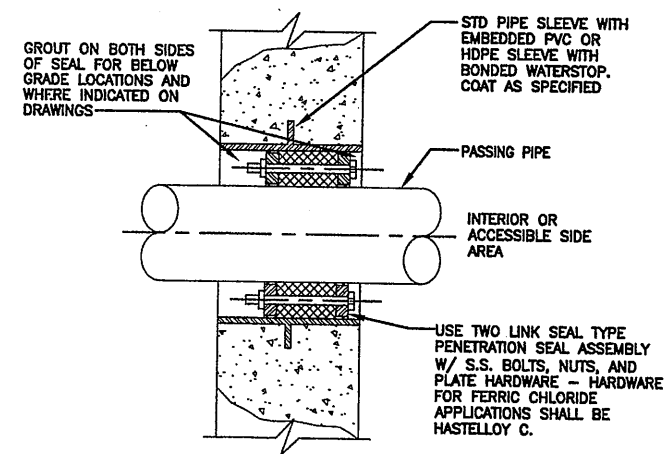
NOTES:

- USE NEOPRENE SLEEVE BETWEEN DISSIMILAR MATERIALS.



PVC PIPE WALL PENETRATION DETAIL

NOT TO SCALE

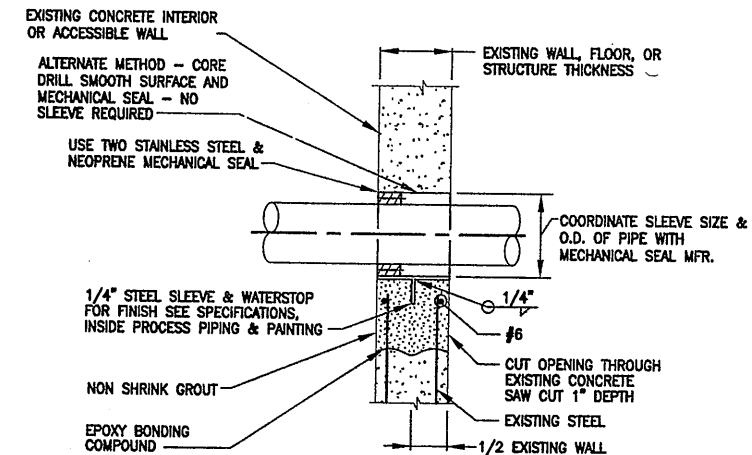


LINK SEAL TYPE PIPE WALL PENETRATION DETAIL

NOT TO SCALE

NOTES:

- TYPICAL FOR "FLOOR SLEEVE" AND "WALL SLEEVE" WHERE TO THE BEST OF OUR KNOWLEDGE, INDICATED. INFORMATION AND BELIEF, THESE RECORD DRAWINGS SUBSTANTIALLY REPRESENT THE PROJECT AS CONSTRUCTED.



TYPICAL SLEEVE THRU EXISTING STRUCTURE DETAIL

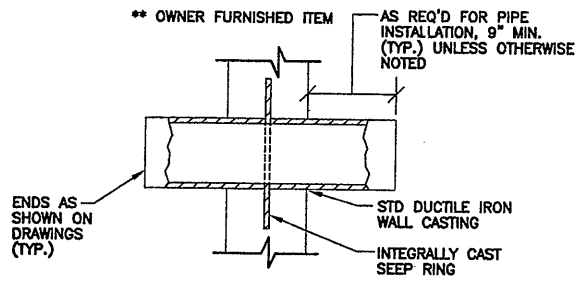
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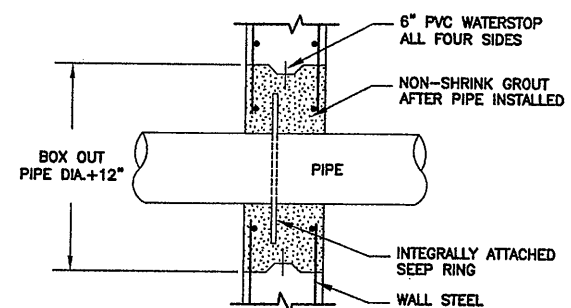


WALL CASTING TYPE PENETRATION DETAIL

NOT TO SCALE

NOTES:

- COAT WALL CASTING WITH SPECIFIED PAINT SYSTEM PRIOR TO CONCRETE REPLACEMENT (DUCTILE IRON ONLY).



GROUTED TYPE PENETRATION DETAIL

NOT TO SCALE

02/26/01 OBG JAS 0659M003

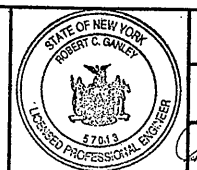
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2	8/31/05	RECORD DRAWING	RCG

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Checked by AJS/AHS

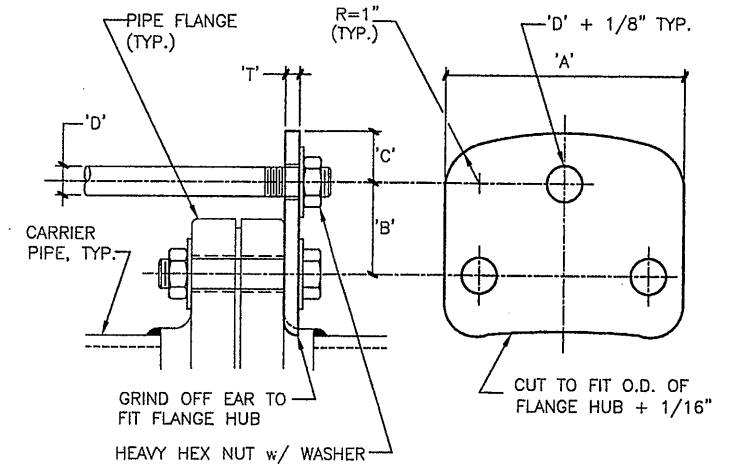
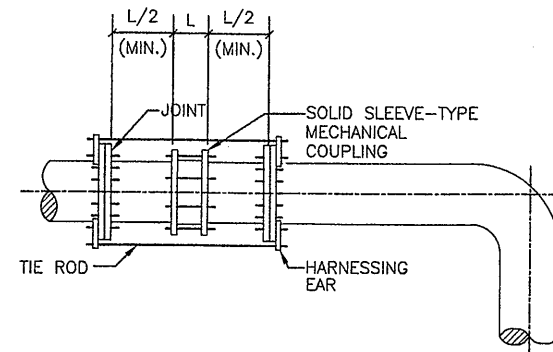
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METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT



File Number 00659
Date APRIL 2001
M-003

MISCELLANEOUS DETAILS
MECHANICAL



EAR DIMENSION SCHEDULE

PIPE SIZE	PRESS. (psi)	NO. of RODS	'A'	'B'	'C'	'D'	'T'
4"	≤150	2	7"	2 1/2"	1 1/4"	5/8"	1"
6"	≤150	2	7"	2 1/2"	1 1/4"	5/8"	1"
8"	≤150	2	7 1/2"	2 1/2"	1 1/4"	5/8"	1"
10"	≤150	2	7 1/2"	2 1/2"	1 1/4"	5/8"	1"
12"	≤150	2	7 1/2"	2 1/2"	1 1/4"	5/8"	1"
14"	≤150	2	8 1/2"	3"	1 1/2"	3/4"	1 1/8"
16"	≤150	4	8 1/2"	3"	1 1/4"	5/8"	1"
18"	≤150	4	8 1/2"	3"	1 1/2"	3/4"	1 1/8"
20"	≤150	4	8"	3"	1 1/2"	3/4"	1 1/8"
24"	≤150	4	9"	3"	1 1/2"	1"	1 1/2"
30"	≤150	6	9"	3"	1 1/2"	1"	1 1/2"
36"	≤150	8	9"	3"	1 1/2"	1"	1 1/2"
42"	≤150	10	9 1/2"	3 1/2"	1 1/2"	1"	1 1/2"
48"	≤150	10	9 1/2"	3 1/2"	1 3/4"	1 1/4"	1 3/4"

HARNESSING EAR & TIE ROD DETAIL

NOTES:

NOT TO SCALE

- ALL DIMENSIONS GIVEN IN HARNESS EAR SCHEDULE ARE IN INCHES.
- HARNESSING EAR & TIE ROD MATERIAL SHALL CONFORM TO A.S.T.M. A-499.
- HARNESSING EARS SHALL BE EQUALLY SPACED AROUND PIPE.

ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP
 SYRACUSE, NEW YORK

ONONDAGA COUNTY DEPARTMENT OF WATER ENVIRONMENT PROTECTION
 METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT

STAGE III AMMONIA AND STAGE II PHOSPHOROUS REMOVAL PROJECT

FIGURE 1

Modification No. 4B-011XXXX

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 0659M003A

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 Checked by AJS/AHS

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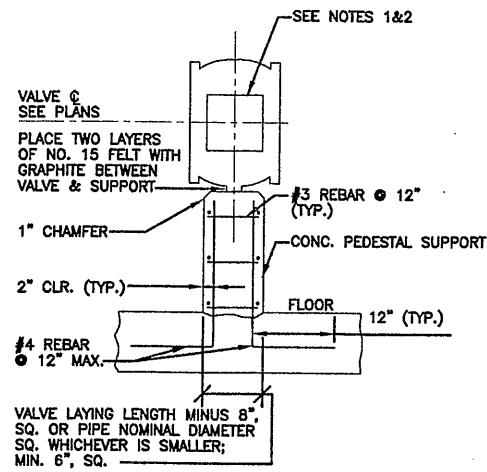
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 STAGE III AMMONIA AND STAGE II PHOSPHOROUS REMOVAL PROJECT

MISCELLANEOUS DETAILS
 MECHANICAL

STATE OF NEW YORK
 ROBERT C. GUNLEY
 LICENSED PROFESSIONAL ENGINEER
 57013

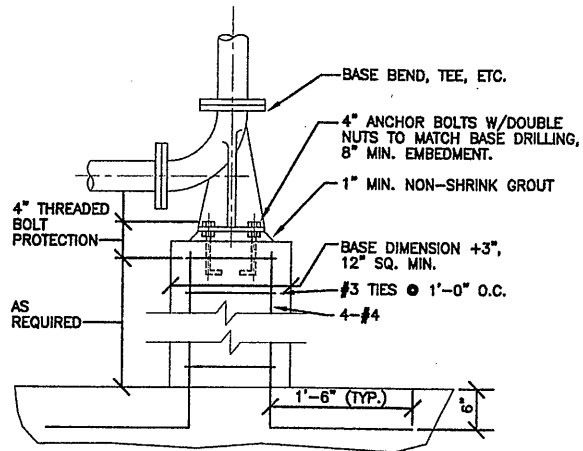
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M-003A



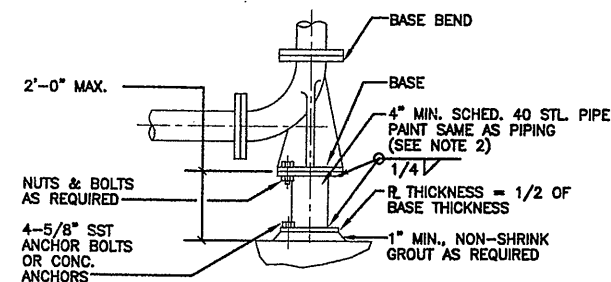
VALVE SUPPORT DETAIL
NOT TO SCALE

- NOTES:
1. INSTALL ECCENTRIC PLUG VALVES WITH STEMS HORIZONTAL.
 2. THE PLUG SHALL STORE IN THE TOP WHEN THE VALVE IS OPEN.
 3. INSTALL BUTTERFLY VALVES WITH STEMS HORIZONTAL.
 4. CONFIRM PLACEMENT OF SEAT END WITH ENGINEER.



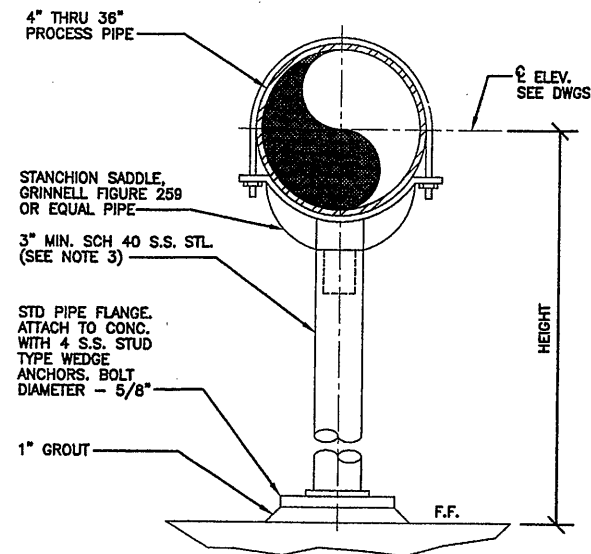
BASE BEND DETAIL - TYPE "A"
NOT TO SCALE

- NOTES:
1. ALSO USE FOR SUPPORT OF HORIZONTAL TEE OR CROSS.
 2. ANCHOR BOLTS MUST BE AT LEAST 6 DIAMETERS FROM EDGE OF CONCRETE.



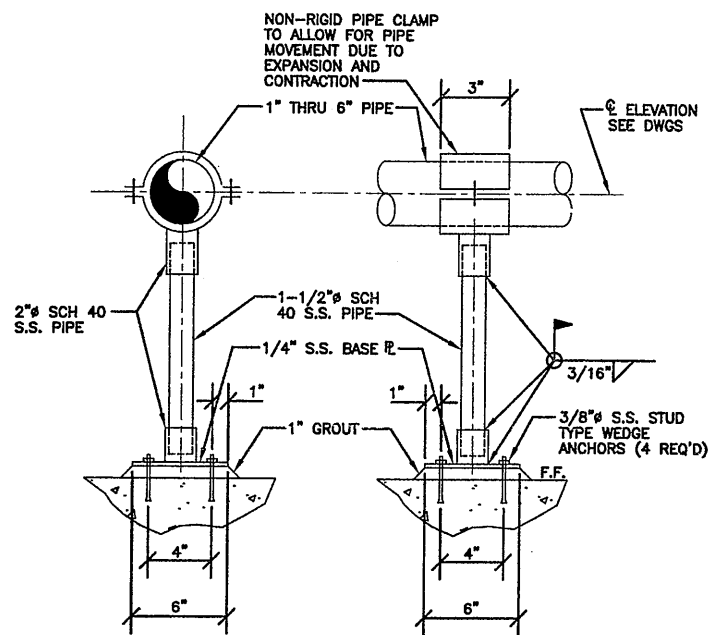
BASE BEND DETAIL - TYPE "B"
NOT TO SCALE

- NOTES:
1. ALSO USE FOR SUPPORT OF HORIZONTAL TEE OR CROSS.
 2. PIPE SUPPORT DIA. SHALL BE NO LESS THAN 1/2 THE PIPE DIA.



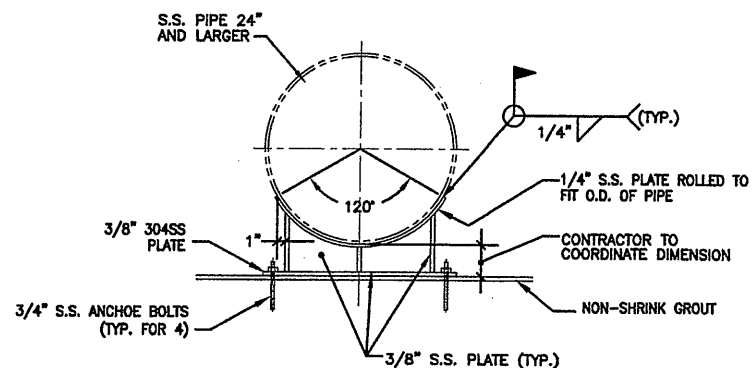
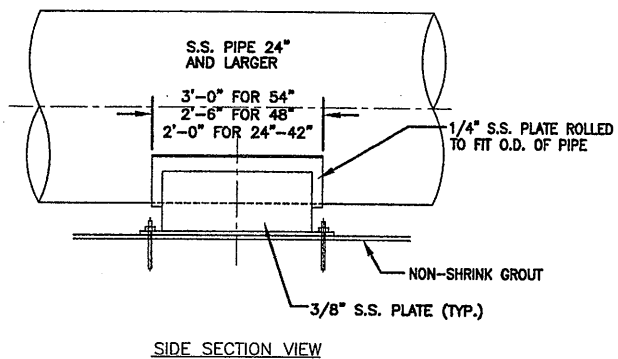
STANCHION TYPE PIPE SUPPORT DETAIL
NOT TO SCALE

- NOTES:
1. EMBEDMENT DEPTH, PER ANCHOR MANUFACTURER'S RECOMMENDATIONS.
 2. PROVIDE BITUMASTIC COATING BETWEEN PIPE FLANGE AND GROUT.
 3. THE PIPE SUPPORT DIAMETER SHALL BE NO LESS THAN 1/4 OF THE PROCESS PIPE DIAMETER.

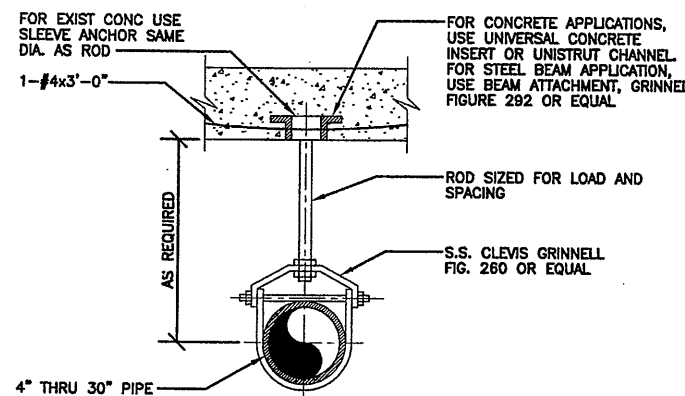


PIPE SUPPORT DETAIL
NOT TO SCALE

- NOTES:
1. EMBEDMENT DEPTH PER MANUFACTURER'S RECOMMENDATIONS.
 2. PROVIDE BITUMASTIC COATING BETWEEN BASE PLATE AND GROUT.
 3. FOR EXTERIOR LOCATIONS, PROVIDE 1'-8"x1'-8"x6" DEEP CONCRETE PAD, WITH TOP OF PAD AT FINISHED GRADE.

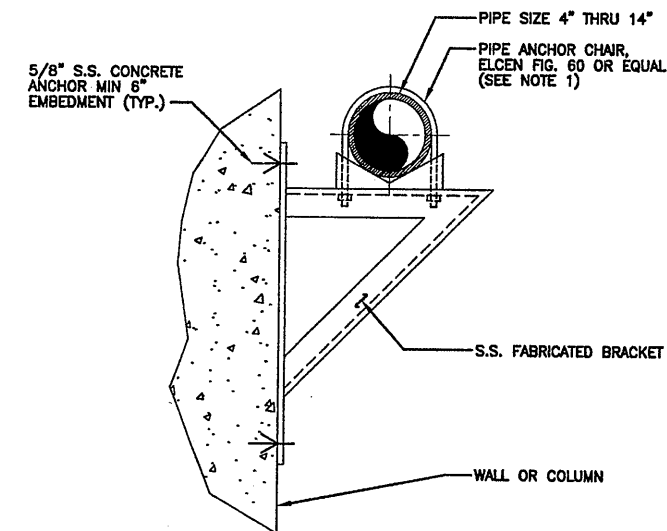


FABRICATED CRADLE PIPE SUPPORT DETAIL
NOT TO SCALE



CLEVIS TYPE PIPE HANGER DETAIL
NOT TO SCALE

- NOTES:
1. FOR INSULATED PIPES USE INSULATION PROTECTION SHIELD, GRINNELL FIGURE 167 OR EQUAL.
 2. TOTAL LOADING SHALL NOT EXCEED MANUFACTURER'S RECOMMENDED LOADING.



WALL BRACKET TYPE PIPE SUPPORT DETAIL
NOT TO SCALE

- NOTES:
1. PROVIDE STAINLESS STEEL U-BOLT FOR ALL LOCATIONS.

1/26/01 OBG JAS
59M004

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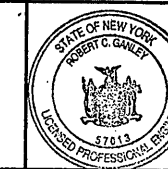
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2	8/31/05	RECORD DRAWING	RCG

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Drawn by JAS
Checked by AJS/AHS

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METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT

MISCELLANEOUS DETAILS
MECHANICAL

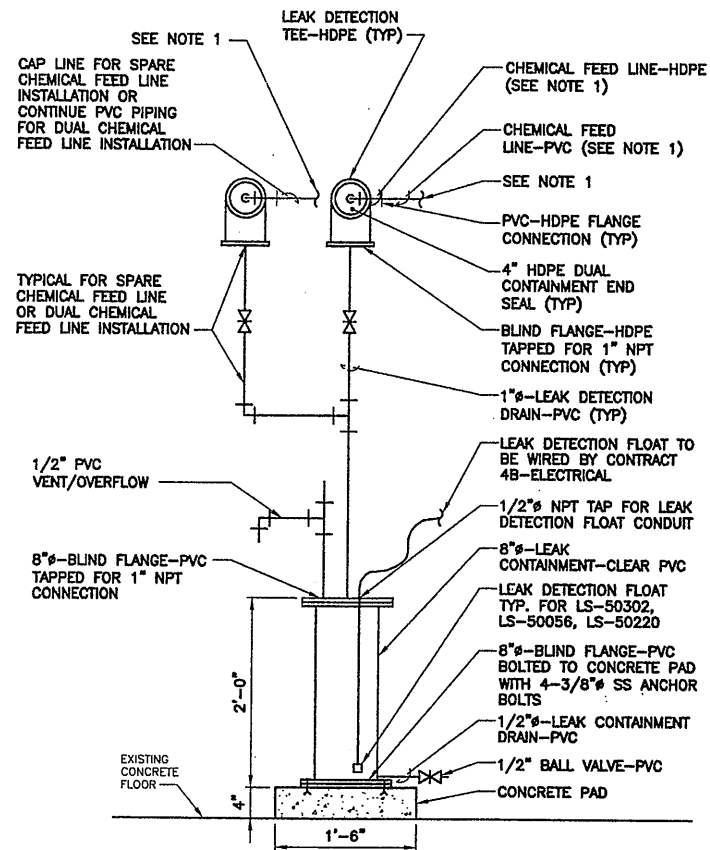


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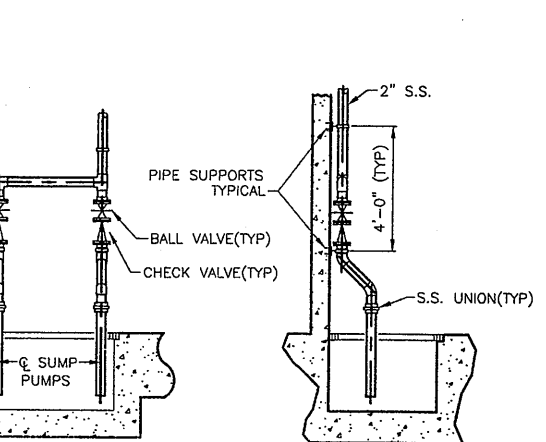
Date
APRIL 2001

M-004

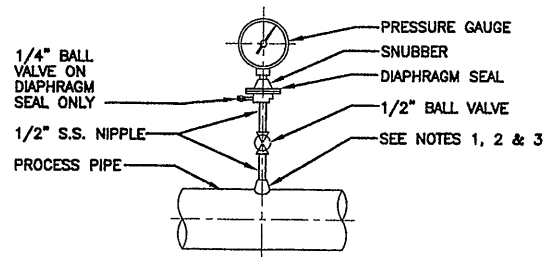
Robert C. Galey



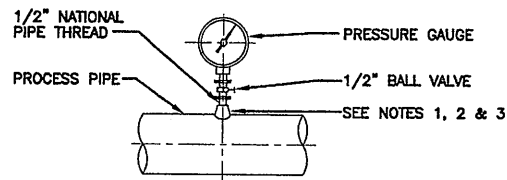
LEAK DETECTION DETAIL
NOT TO SCALE



TYPICAL SUMP PUMP DISCHARGE ELEVATIONS
NOT TO SCALE



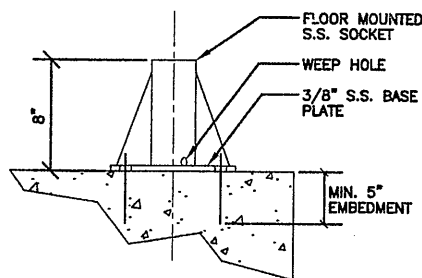
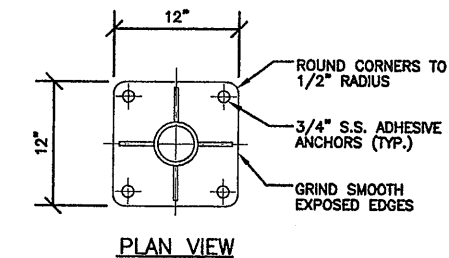
DIAPHRAGM PRESSURE GAUGE
(ALL WASTE WATER PROCESS LINES)



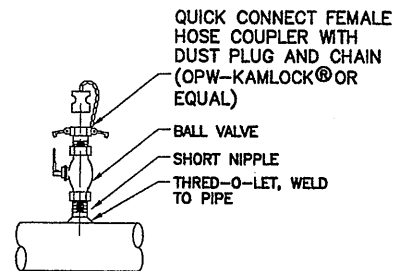
PRESSURE GAUGE

PRESSURE GAUGE MOUNTING DETAIL
NOT TO SCALE

- NOTES:**
1. FOR STEEL, GALV. STEEL, AND PVC 2 1/2" AND SMALLER USE A BUSHING IN A TEE.
 2. FOR DUCTILE IRON AND FIBERGLASS REINFORCED PLASTIC PIPE, ALL SIZES, USE PIPE SADDLE WITH BUSHING.
 3. FOR STEEL AND STAINLESS STEEL PIPES 3" AND LARGER, AND PRESSURE VESSELS, USE THRED-O-LET AS SHOWN.
 4. PROVIDE SNUBBER FOR ALL INSTALLATIONS.
 5. FIELD THREADING OF PIPELINE (TAPPING) IS NOT ACCEPTABLE.



FLOOR MOUNTED HOIST SOCKET DETAIL
NOT TO SCALE

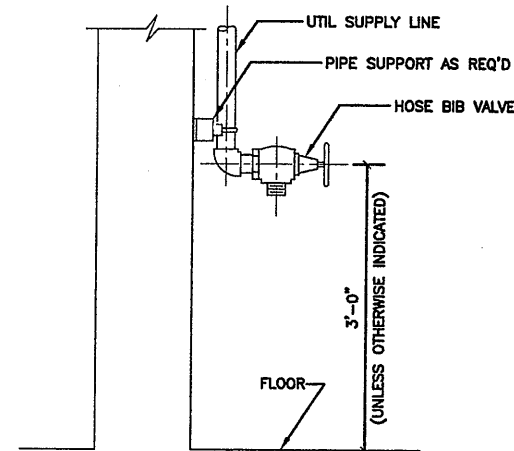


TYPICAL FLUSHING CONNECTION DETAILS
NOT TO SCALE

FLUSHING CONNECTION MATERIALS SCHEDULE

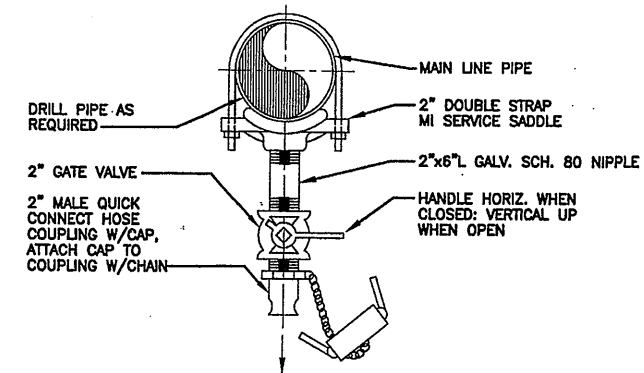
PIPE	NIPPLE	BALL VALVE	FEMALE HOSE COUPLER
SS	SS	BRASS/BRONZE	BRASS/BRONZE
DI	BRASS/BRONZE	BRASS/BRONZE	BRASS/BRONZE
PVC	PVC	PVC	PVC/PP

- NOTES:**
1. FLUSHING CONNECTION TYPE AND SIZE SHALL BE AS INDICATED ON THE CONTRACT DRAWINGS AND/OR AS NOTED ON APPROVED PIPING SYSTEMS SHOP DRAWINGS.
 2. QUICK CONNECT, FEMALE HOSE COUPLER WITH DUST PLUG ARE NOT REQUIRED FOR FLUSHING CONNECTS INDICATED ON THE CONTRACT DRAWINGS TO BE HARD PIPED TO EFFLUENT OR PLANT WATER SUPPLY SOURCES.

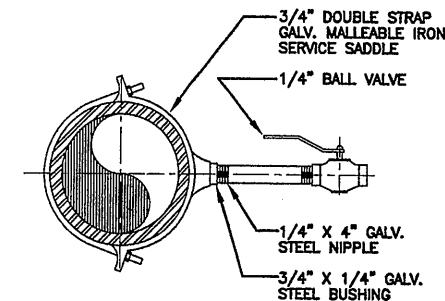


INTERIOR HOSE BIBB VALVE DETAIL
NOT TO SCALE

- NOTES:**
1. ROTATE HOSE BIBB VALVE 30° OFF WALL.
 2. SEE MECHANICAL DRAWINGS FOR SIZES OF UTIL SUPPLY LINES AND HOSE BIBB VALVES.
 3. PROVIDE STAINLESS STEEL HOSE RACK, INSTALL 4'-0" ABOVE FLOOR UNLESS OTHERWISE INDICATED.

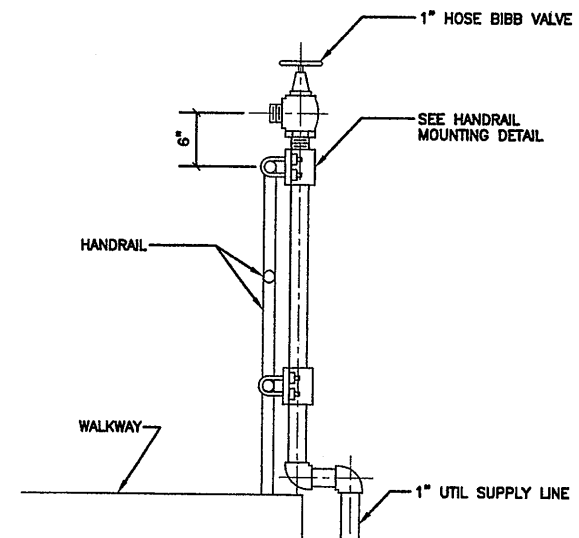


LINE DRAIN VALVE INSTALLATION DETAIL
NOT TO SCALE



PRESSURE TEST POINT DETAIL
NOT TO SCALE

- NOTES:**
1. FOR LINE SIZE 2" & SMALL, FITTINGS AND VALVES SHALL BE SAME AS LINE.



HANDRAIL MOUNTED HOSE BIBB VALVE DETAIL
NOT TO SCALE

- NOTES:**
1. SEE MECHANICAL DRAWINGS FOR SIZES OF UTIL SUPPLY LINES AND HOSE BIBB VALVES.

RECORD DRAWINGS TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, THESE RECORD DRAWINGS SUBSTANTIALLY REPRESENT THE PROJECT AS CONSTRUCTED.

ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP

THIS DRAWING WAS PREPARED AT THE SCALE INDICATED IN THE TITLE BLOCK. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR IN THE TITLE BLOCK TO DETERMINE THE ACTUAL SCALE OF THIS DRAWING.

02/26/01 OBG JAS
0659M005

(RECORD DRAWING: MADE FROM DRAWING NO. M-005RD, FILE NO. 0659M005RD, DATED JULY 2001)

DATE 12/12/05 BY PCL

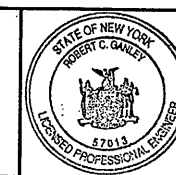
N. T. S.

No.	Date	Revisions	Init
0	4/20/01	ISSUED FOR APPROVAL	RCG
1	7/9/01	AS BID	RCG
2	8/31/05	RECORD DRAWING	RCG

In charge of --- AHS
Designed by --- AJS/SED
Drawn by --- JAS
Checked by --- AJS/AHS

ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP
SYRACUSE, NEW YORK

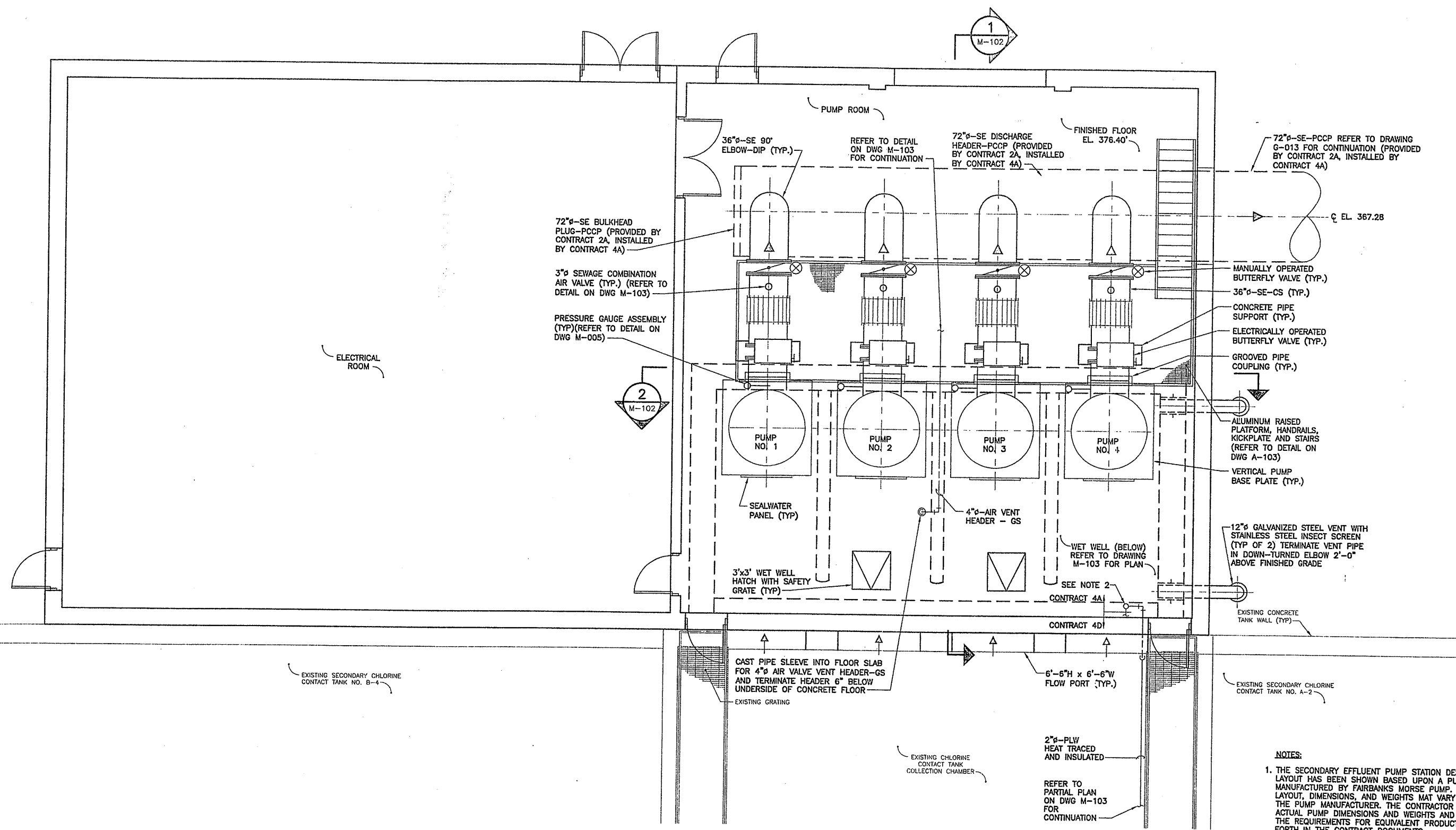
ONONDAGA COUNTY • DEPARTMENT OF DRAINAGE AND SANITATION • SYRACUSE, NEW YORK
METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT



File Number
00659
Date
APRIL 2001

M-005

MISCELLANEOUS DETAILS
MECHANICAL



PLAN AT EL. 394.40'
SCALE: 1/4"=1'-0"

- NOTES:**
1. THE SECONDARY EFFLUENT PUMP STATION DESIGN AND LAYOUT HAS BEEN SHOWN BASED UPON A PUMPING UNIT AS MANUFACTURED BY FAIRBANKS MORSE PUMP. ACTUAL LAYOUT, DIMENSIONS, AND WEIGHTS MAY VARY DEPENDING ON THE PUMP MANUFACTURER. THE CONTRACTOR SHALL VERIFY ACTUAL PUMP DIMENSIONS AND WEIGHTS AND COMPLY WITH THE REQUIREMENTS FOR EQUIVALENT PRODUCTS AS SET FORTH IN THE CONTRACT DOCUMENTS.
 2. THE 2" PLW PIPING AND SEALWATER PIPING ARE BY CONTRACT 4A, THE HOSE BIB, WASH SINK, AND SUPPLY PIPING ARE BY CONTRACT 4D.

RECORD DRAWING
THESE DRAWINGS HAVE BEEN REVISED TO REFLECT MAJOR CHANGES, IF ANY, WHICH OCCURRED DURING CONSTRUCTION. REVISIONS ARE BASED UPON INFORMATION SUPPLIED BY CONTRACTOR.
DATE: 9/26/05 PER: Donald F. G.

THIS DRAWING WAS PREPARED AT THE SCALE INDICATED IN THE TITLE BLOCK. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR IN THE TITLE BLOCK TO DETERMINE THE ACTUAL SCALE OF THIS DRAWING.

Layer: ON=*, OFF=**REF*
X: 0659X101.DWG
1/16/05 BBL DCC DCC DJP
503081/RECORD/0659M101.DWG

No.	Date	Revisions	Init
0	4/20/01	ISSUED FOR APPROVAL	DR
1	7/3/01	AS BID	DF
2	8/15/05	FOR RECORDS	DF

In charge of: DFG
Designed by: SS
Drawn by: DCC
Checked by: JCP

ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP
SYRACUSE, NEW YORK

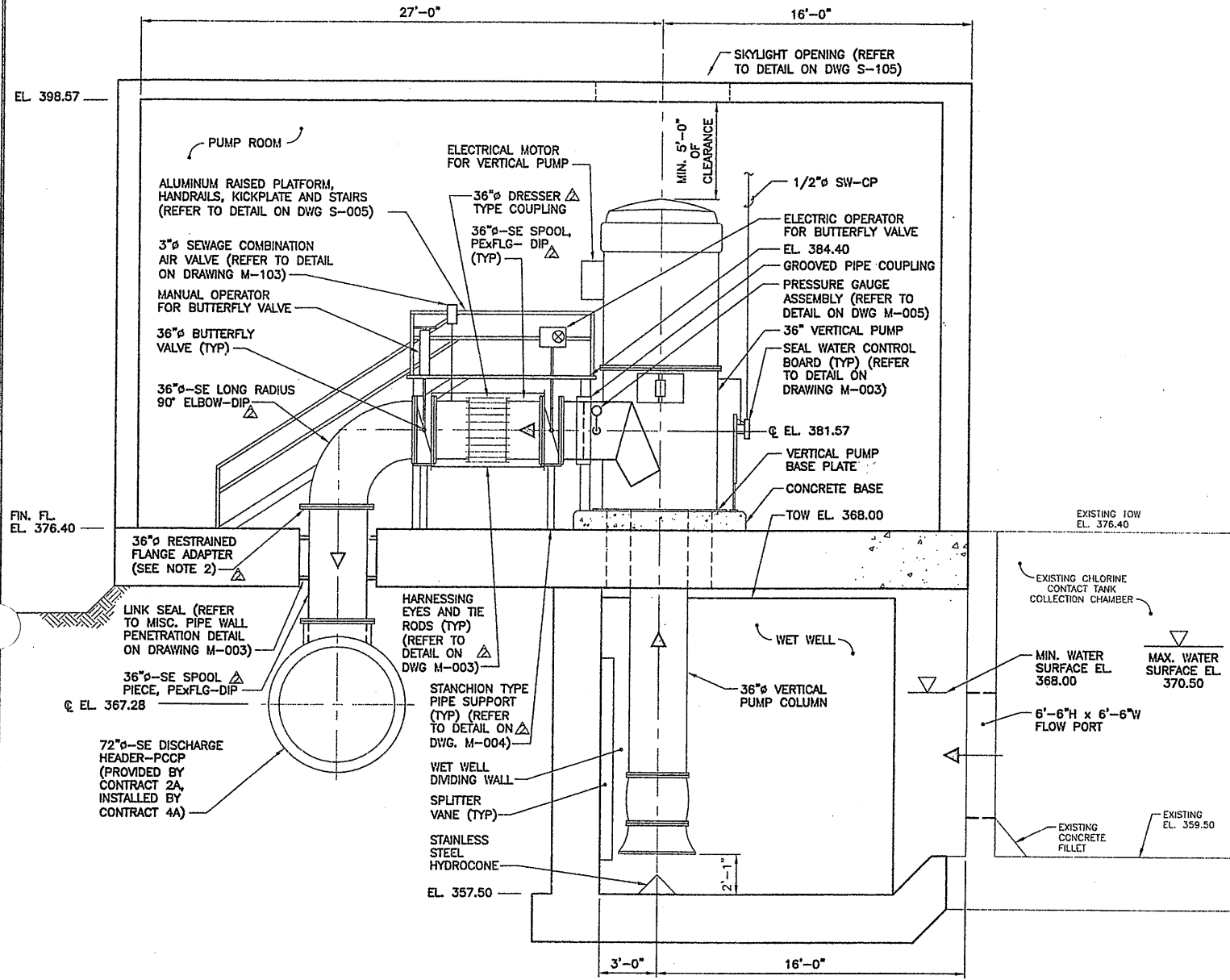
ONONDAGA COUNTY • DEPARTMENT OF DRAINAGE AND SANITATION • SYRACUSE, NEW YORK
METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
SECONDARY EFFLUENT PUMPING STATION
SECONDARY EFFLUENT PUMPING STATION PLAN
MECHANICAL

STATE OF NEW YORK
DONALD F. GIBSON
LICENSED PROFESSIONAL ENGINEER

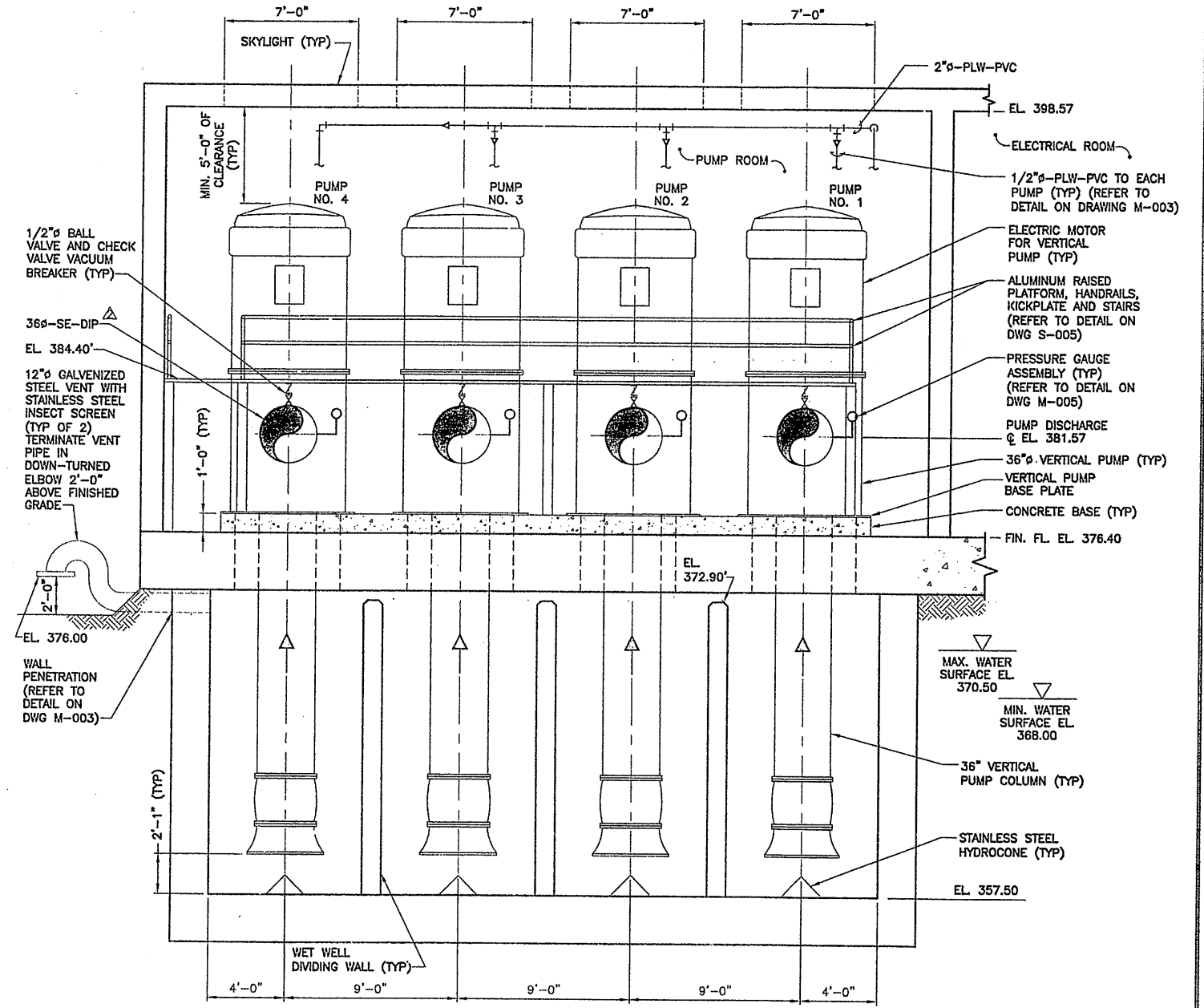
File Number: 00659
Date: APRIL 2001
M-101

Donald F. G.

NO ALTERATIONS PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW



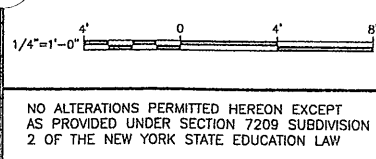
SECTION 1
SCALE: 1/4"=1'-0" M-101



SECTION 2
SCALE: 1/4"=1'-0" M-101

- NOTE:**
1. THE SECONDARY EFFLUENT PUMPING STATION DESIGN AND LAYOUT HAS BEEN SHOWN BASED UPON A PUMPING UNIT AS MANUFACTURED BY FAIRBANKS MORSE PUMP. ACTUAL LAYOUT, DIMENSIONS, AND WEIGHTS MAY VARY DEPENDING ON THE PUMP MANUFACTURER. THE CONTRACTOR SHALL VERIFY ACTUAL PUMP DIMENSIONS AND WEIGHTS AND COMPLY WITH THE REQUIREMENTS FOR EQUIVALENT PRODUCTS AS SET FORTH IN THE CONTRACT DOCUMENTS.
 2. RESTRAINED FLANGE ADAPTER SHALL BE MEGAFLANGE SERIES 2100 AS MANUFACTURED BY EBAA IRON OR APPROVED EQUAL. CONTRACTOR SHALL MAINTAIN NECESSARY CLEARANCES TO INSTALL FLANGE ADAPTER.

Layer: ON=; OFF=REF*
1/16/05 BBL DCC GMS DJP
503081/RECORD/0659M102.DWG



No.	Date	Revisions	Init
0	4/20/01	ISSUED FOR APPROVAL	DFG
1	7/02/01	AS BID	DFG
2	1/19/01	ADDENDUM NO. 2	DFG
3	8/15/05	FOR RECORDS	DFG

In charge of DFG
Designed by SS
Drawn by DCC
Checked by JCP

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SYRACUSE, NEW YORK

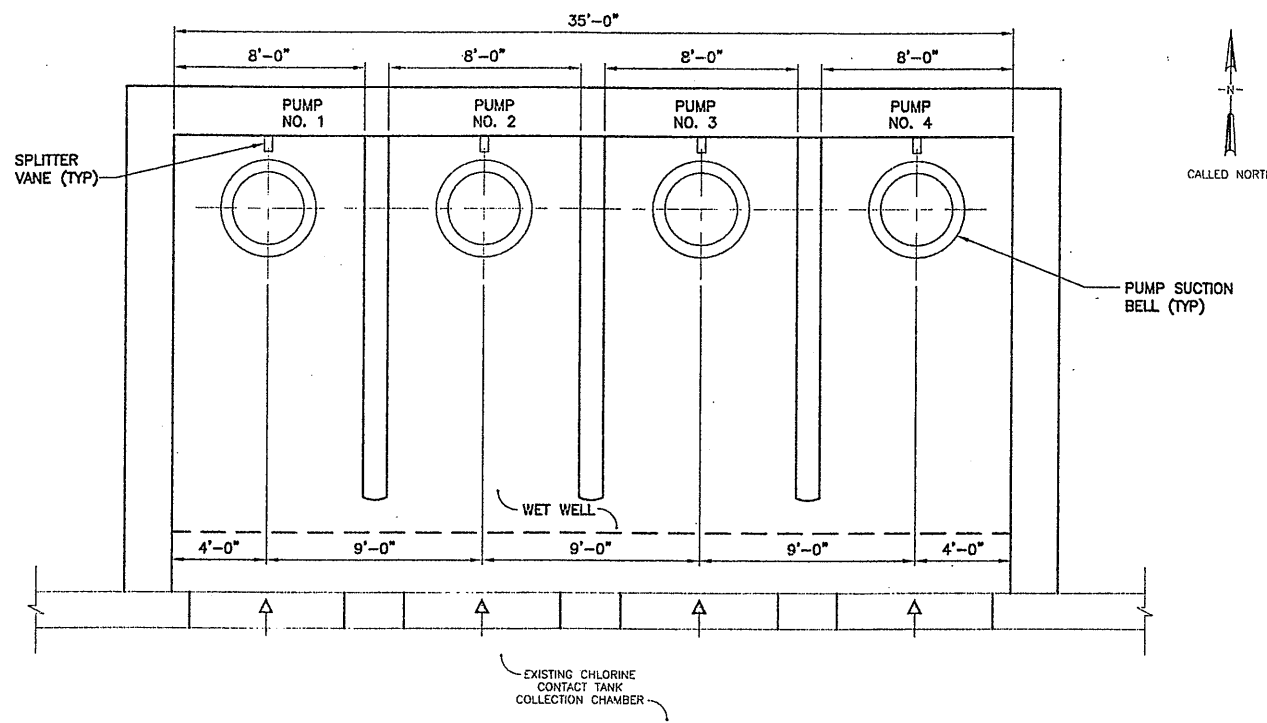
ONONDAGA COUNTY • DEPARTMENT OF DRAINAGE AND SANITATION • SYRACUSE, NEW YORK
METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
SECONDARY EFFLUENT PUMPING STATION - SECTIONS
MECHANICAL



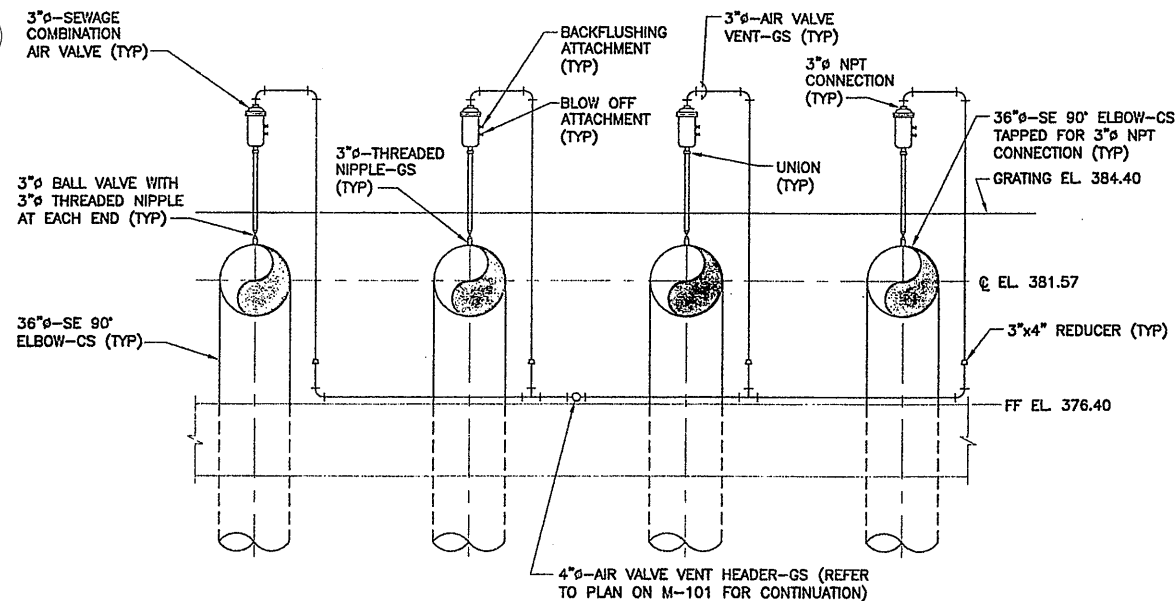
File Number	00659
Date	APRIL 2001
M-102	

RECORD DRAWING
THESE DRAWINGS HAVE BEEN REVISED TO REFLECT MAJOR CHANGES, IF ANY, WHICH OCCURRED DURING CONSTRUCTION. REVISIONS ARE BASED UPON INFORMATION SUPPLIED BY CONTRACTOR.
DATE: 9/26/05 PER: Donald F. Duggan

THIS DRAWING WAS PREPARED AT THE SCALE INDICATED IN THE TITLE BLOCK. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR IN THE TITLE BLOCK TO DETERMINE THE ACTUAL SCALE OF THIS DRAWING.

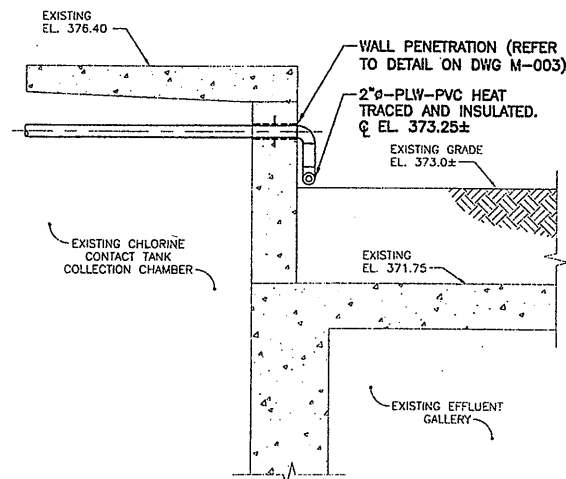


WET WELL PLAN AT EL. 366.0'
SCALE: 1/4"=1'-0"



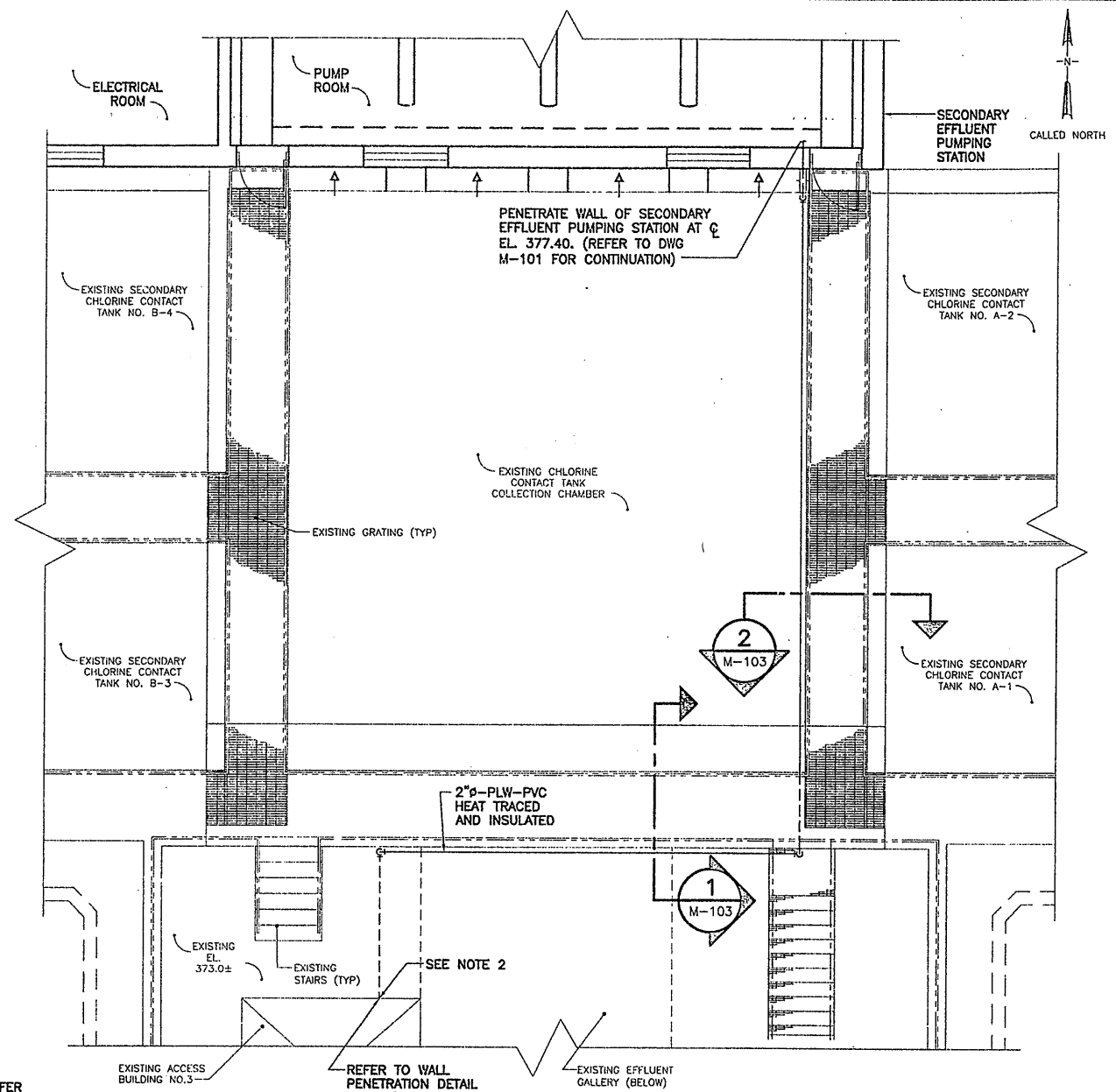
NOTE:
1. SEWAGE COMBINATION AIR VALVES SHALL BE SUPPORTED SECURELY TO ALUMINUM RAISED PLATFORM.

SEWAGE COMBINATION AIR VALVE DETAIL
SCALE: 1/4"=1'-0"

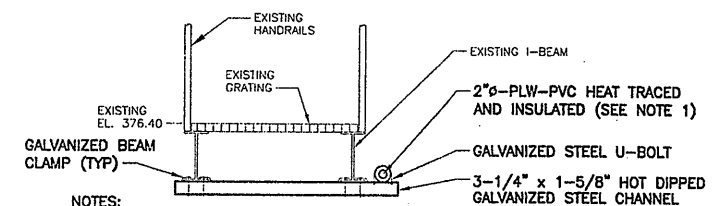


SECTION 1
NOT TO SCALE
M-103

RECORD DRAWING
THESE DRAWINGS HAVE BEEN REVISED TO REFLECT MAJOR CHANGES, IF ANY, WHICH OCCURRED DURING CONSTRUCTION. REVISIONS ARE BASED UPON INFORMATION SUPPLIED BY CONTRACTOR.
DATE: 9/26/05 PER: [Signature]



PARTIAL PLAN
SCALE: 3/16"=1'-0"



NOTES:
1. PIPE SUPPORT SPACING SHALL BE IN ACCORDANCE WITH MP SECTION 15140 AND AN INSULATION PROTECTION SHIELD, GRINNEL FIGURE 167 OR EQUAL, SHALL BE USED AS NECESSARY.
2. CONNECT 2" PLW-PVC TO EXISTING 4" PLW IN EXISTING ACCESS BUILDING NO. 3 BY CUTTING THE EXISTING LINE AND INSTALLING 2"x4" DIP TEE WITH A 2" GATE VALVE. PENETRATE ACCESS BUILDING WALL AT THE APPROXIMATE LOCATION SHOWN ON THIS PLAN AND AT THE EL. 371.00. LOCATE TEE AND GATE VALVE INSIDE EXISTING ACCESS BUILDING NO. 3 AND PROVIDE HEAT TRACING AND INSULATION TO INSIDE OF WALL PENETRATION.

SECTION 2
NOT TO SCALE
M-103

THIS DRAWING WAS PREPARED AT THE SCALE INDICATED IN THE TITLE BLOCK. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR IN THE TITLE BLOCK TO DETERMINE THE ACTUAL SCALE OF THIS DRAWING.

Layer: ON=*; OFF=*REF*
8/16/05 BBL SDL DCC DJP
5503081/RECORD/0659M103.DWG

No.	Date	Revisions	Init
0	4/20/01	ISSUED FOR APPROVAL	DF
1	7/3/01	AS BID	DF
2	8/15/05	FOR RECORDS	DF

In charge of: DFG
Designed by: SS
Drawn by: SDL
Checked by: JCP

ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP
SYRACUSE, NEW YORK

ONONDAGA COUNTY • DEPARTMENT OF DRAINAGE AND SANITATION • SYRACUSE, NEW YORK
METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
SECONDARY EFFLUENT PUMPING STATION - PLANS, SECTIONS AND DETAIL
MECHANICAL



File Number 00659	M-103
Date APRIL 2001	

NOTES:

- FOR CONTINUATION OF AHP TO BUTTERFLY VALVE PNEUMATIC OPERATORS, REFER TO SHEET M-211.
- FOR PIPING DETAIL OF BACKWASH PUMP SEAL WATER, REFER TO SHEET M-003. CONNECT TO 3/4" PLW, REF. DRAWING P-201.
- CONNECT BAF GALLERY SUMP PUMPS (6 TOTAL) TO 4" AGPH.
- CONTRACTOR TO PROVIDE Fx F S.S. SPOOL PIECE FOR USE WHEN FLOW METER IS REMOVED FROM SERVICE.
- CONNECT DUPLEX BACKWASH PUMP ROOM SUMP PUMPS TO PURGE SUMP WITH 2" DISCHARGE LINE. SEE TYPICAL SUMP PUMP DISCHARGE ELEVATIONS, SHEET M-005.
- PROVIDE VALVE SUPPORT FOR 48" BUTTERFLY VALVES.
- COUPLINGS ON BAFCM, BAFB, BAFCl/O, BAFCl, AGPH, BAFI, BAFE, PSD, TO BE BRICO, DEPEND-O-LOCK, ALTERNATING Fx F AND Fx E COUPLINGS OR EQUAL ALONG PIPE LENGTH. COUPLINGS ADJACENT TO VALVES 24" AND LARGER SHALL BE Fx F OR EQUAL.
- COUPLINGS ON ALP TO BE BRICO, DEPEND-O-LOCK, ALTERNATING Fx F AND Fx E COUPLINGS ALONG PIPE LENGTH OR EQUAL. COUPLINGS ADJACENT TO VALVES 24" AND LARGER SHALL BE Fx F OR EQUAL.
- SUPPORTS TO BE LOCATED AS SHOWN AND ARE TYPICAL FOR ALL CELL MANIFOLDS. SEE SUPPORT DETAIL ON SHEET M-004.
- PROVIDE STIFFENING RINGS ON ALL PIPE 48" AND LARGER AS NECESSARY TO MAINTAIN PIPE IN ROUND DURING TRANSPORTATION AND INSTALLATION.

PREFABRICATED, CAST-IN-PLACE, S.S. BAF CELL FEED/BACKWASH CHANNELS (TYP.) SEE SHEET M-215

BACKWASH WASTE TANK NO.1

- **1 1/4"-AGL-SS @376.30 (TYP.)
- **4"-AGP-SS @376.30 (TYP.)
- **8"-AGH-SS @376.30 (TYP.)

LIT-20021** BACKWASH TANK #1 LEVEL INDICATING TRANSMITTER (TYP. FOR TANK #2)
 LSL-20021 AND LSH-20021** BACKWASH TANK #1 LEVEL INDICATING TRANSMITTER (TYP. FOR TANK #2)

BACKWASH WASTE** TRANSFER PUMPS (TYP.)

16" CHECK VALVE**
 16" BFV (TYP.)**
 16"-BAFW-SS @361.33

FIT-20020** BAF BACKWASH WASTE TRANSFER FLOW METER (REF. NOTE 4)

4"-AGPH-SS @370.00

BAF MANIFOLD PIPE SUPPORT (TYP.) SEE NOTE 9

3/4"x1" RED.
 **PIT-20101A (UPPER)
 **PIT-20101B (LOWER)

PRESSURE TRANSMITTER INSTRUMENT** PORT INSERTS (TWO REQUIRED PER BAF CELL) AND SAMPLE PORT INSERTS (SIX REQUIRED FOR BAF CELLS 3, 4, 13&14 ONLY) (TYP.)

36" MAINWAY (ONE REQUIRED** PER BAF CELL) (TYP.)

**30" BFV (TYP.) W/ MANUAL WHEEL OPERATOR
 30"x16" RED. TEE (TYP.)

18"-BAFSW-SS @367.00
 16"x12" RED. (TYP.)
 16" BFV (TYP.)**
 NO.1
 NO.2
 NO.3
 18"x16" RED.
 4" BFV (TYP.)

12"-PD-SS @368.38
 SUMP PIT (REF. NOTE 5)
 **12" BFV W/ CHAIN WHEEL OPERATOR
 18"x16" RED. TEE (TYP.)

3/4"-AHP-SS @387.75 (TYP.)
 **30" BFV (TYP.) WITH PNEUMATIC OPERATOR
 54"x48"x48" TEE

4" CHECK VALVE (TYP.)
 48" BACKWASH HEADER** BFV (WITH PNEUMATIC OPERATOR) (TYP.) (REF. NOTE 6)

30"-BAFB-SS @372.58 (TYP.)
 8"-ALP-SS @390.58 (TYP.)
 54"-BAFB-SS @372.58 (TYP.)
 24"-BAFCl-SS (TYP.)

1/2"-AHP-SS (TYP.)
 REF. NOTE 1

PIT-20301A (UPPER)**
 PIT-20301B (LOWER)**

1"-AHP-SS @387.75 (TYP.)
 16"-ALP-SS @388.75 (TYP.)
 BAND TYPE COUPLING (TYP.)

1/2"-AHP-SS (TYP.)
 REF. NOTE 1

48"-BAFCM-SS @372.58 (TYP.)
 24"x18" RED.
 24"-ALP-SS @388.50 (TYP.)

SUMP PIT (REF. NOTE 3)

**PIT-20501A (UPPER)
 **PIT-20501B (LOWER)
 **PIT-20701A (UPPER)
 **PIT-20701B (LOWER)

**PIT-20601A (UPPER)
 **PIT-20601B (LOWER)

1/2"-PLW-CU TO PUMP-SEAL WATER. REF. NOTE 2.

4"-PSD-SS @367.00
 4"-PSD-SS @379.0

48"-BAFB-SS @372.58
 4"-AGPH-SS @370.00

30"-BAFCl/O-SS @372.58 (TYP.)

SEE AIR GRID PURGE CONNECTION DETAIL SHEET M-212 (TYP.)

**16" # SIGHT-GLASS WALL INSERT (TYP.) (2 REQ'D PER BAF CELL)
 **PIT-20201A (UPPER)
 **PIT-20201B (LOWER)

PIT-20401A (UPPER)**
 PIT-20401B (LOWER)**

1"-AHP-SS @387.75 (TYP.)
 REF. NOTE 1

48"-BAFCM-SS @372.58 (TYP.)

SUMP PIT (REF. NOTE 3)

**PIT-20801A (UPPER)
 **PIT-20801B (LOWER)
 **PIT-20601A (UPPER)
 **PIT-20601B (LOWER)

24"x18" RED.
 24"-ALP-SS @388.50 (TYP.)

24"x18" RED.
 24"-ALP-SS @388.50 (TYP.)

PLAN
 SCALE: 3/16"=1'-0"

(RECORD DRAWING: MADE FROM DRAWING NO. M-201RD, FILE NO. 0659M201RD, DATED JULY 2001)

0659x201, 0659x212
 19/01 OBG JAS
 m201

NO ALTERATIONS PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW

No.	Date	Revisions	Init
0	4/20/01	ISSUED FOR APPROVAL	RCG
1	7/09/01	AS BID	RCG
2	9/24/01	REVISED PER ADDENDUM #3	RCG
3	8/31/05	RECORD DRAWING	

In charge of AHS
 Designed by AJS/SED
 Drawn by JAS
 Checked by AJS/AHS

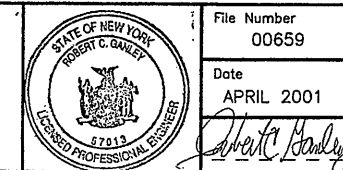


ONONDAGA COUNTY • DEPARTMENT OF DRAINAGE AND SANITATION • SYRACUSE, NEW YORK
 METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
 STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
 BAF

PARTIAL LOWER PLAN
 MECHANICAL

RECORD DRAWINGS TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, THESE RECORD DRAWINGS SUBSTANTIALLY REPRESENT THE PROJECT AS CONSTRUCTED.
 ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP
 DATE 12/12/05 BY REG

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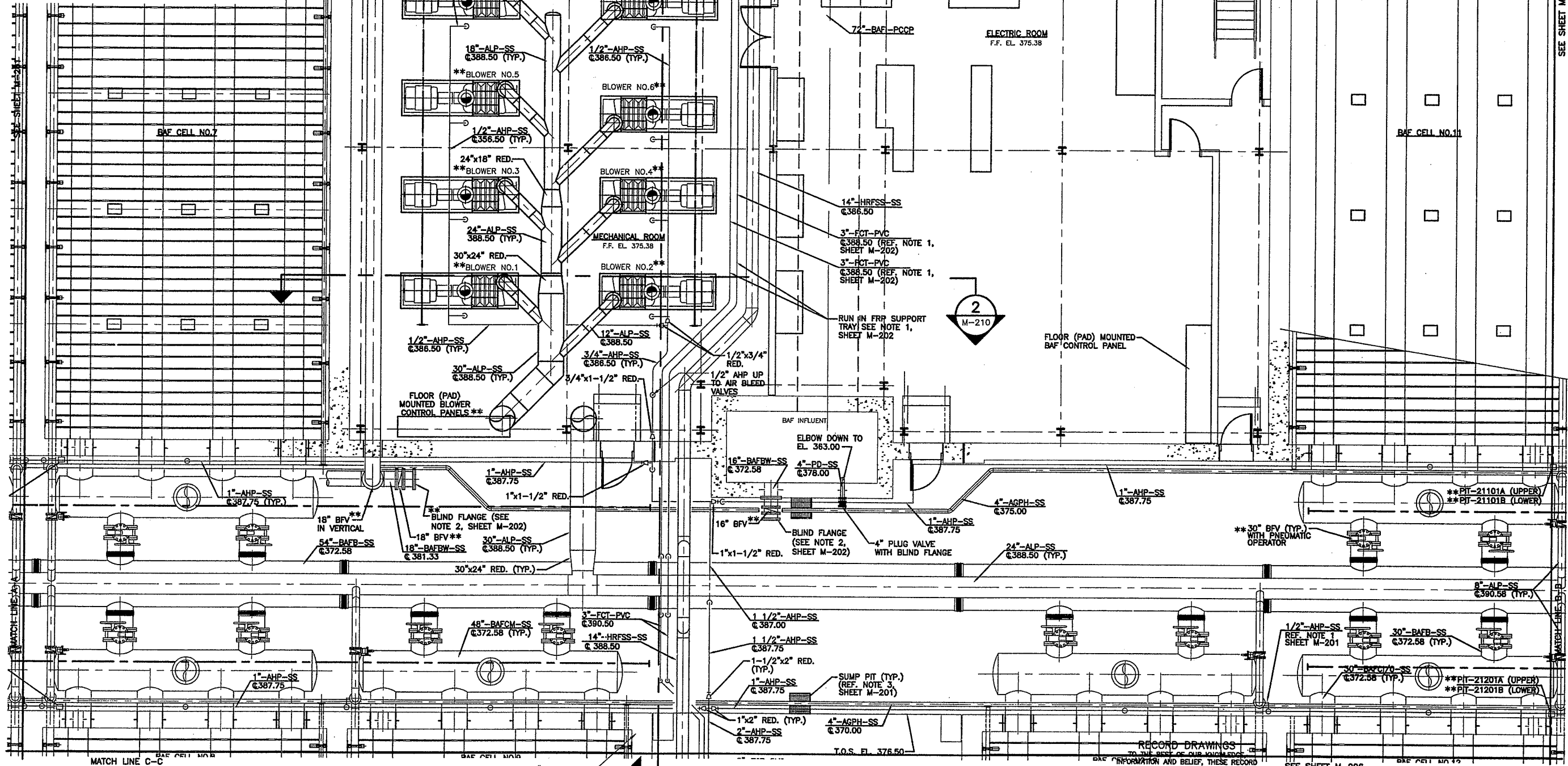


File Number 00659
 Date APRIL 2001

M-201

NOTES:

1. PROVIDE FRP SUPPORT TRAY FOR OVERHEAD FCT LINES. SEE M-313 FOR TYPICAL SUPPORT REQUIREMENTS.
2. GENERAL CONTRACTOR TO PROVIDE TEMPORARY PIPING (SCH. 80 PVC) AND PIPING SUPPORTS BETWEEN BLIND FLANGES FOR START-UP ACTIVITIES. AT COMPLETION OF START-UP, GENERAL CONTRACTOR TO REMOVE AND DISPOSE OF TEMPORARY PIPING AND REINSTALL BLIND FLANGES.
3. COUPLINGS ON BAFCM, BAFB, BAFCI/O, BAFCI, AGPH, BAFI, BAFE, PSD, TO BE BRICO, DEPEND-O-LOCK, ALTERNATING F x F AND F x E COUPLING OR EQUAL ALONG PIPE LENGTH. COUPLINGS ADJACENT TO VALVES 24" AND LARGER SHALL BE F x F TYPE.
4. COUPLINGS ON AGL TO BE BRICO, DEPEND-O-LOCK, ALTERNATING F x F AND F x E COUPLINGS OR EQUAL ALONG PIPE LENGTH. COUPLINGS ADJACENT TO VALVES 24" AND LARGER SHALL BE F x F TYPE.
5. SUPPORTS TO BE LOCATED AS SHOWN ON REVISED CONTRACT DRAWING M-201 (REVISION 2) AND ARE TYPICAL FOR ALL CELL MANIFOLDS. SEE SUPPORT DETAIL ON SHEET M-004.
6. PROVIDE STIFFENING RINGS ON ALL PIPE 48" AND LARGER AS NECESSARY TO MAINTAIN PIPE IN ROUND DURING TRANSPORTATION AND INSTALLATION.



PLAN

SCALE: 3/16"=1'-0"

(RECORD DRAWING: MADE FROM DRAWING NO. M-202RD, FILE NO. 0659M202RD, DATED JULY 2001)

ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP
 DATE 12/20/05 BY RCG

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0659M201, 0659M212
 19/01 OBG JAS
 8m202

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No.	Date	Revisions	Init
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1	7/9/01	AS BID	RCG
2	8/31/05	AS BID	RCG

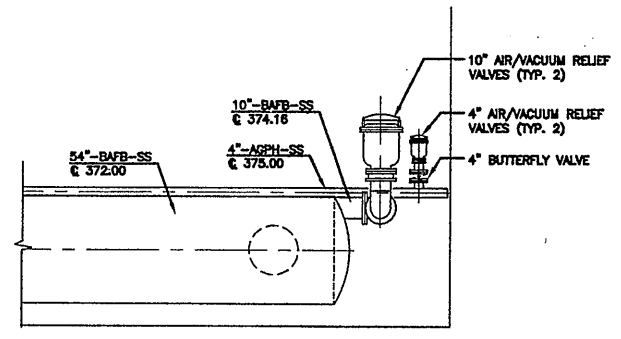
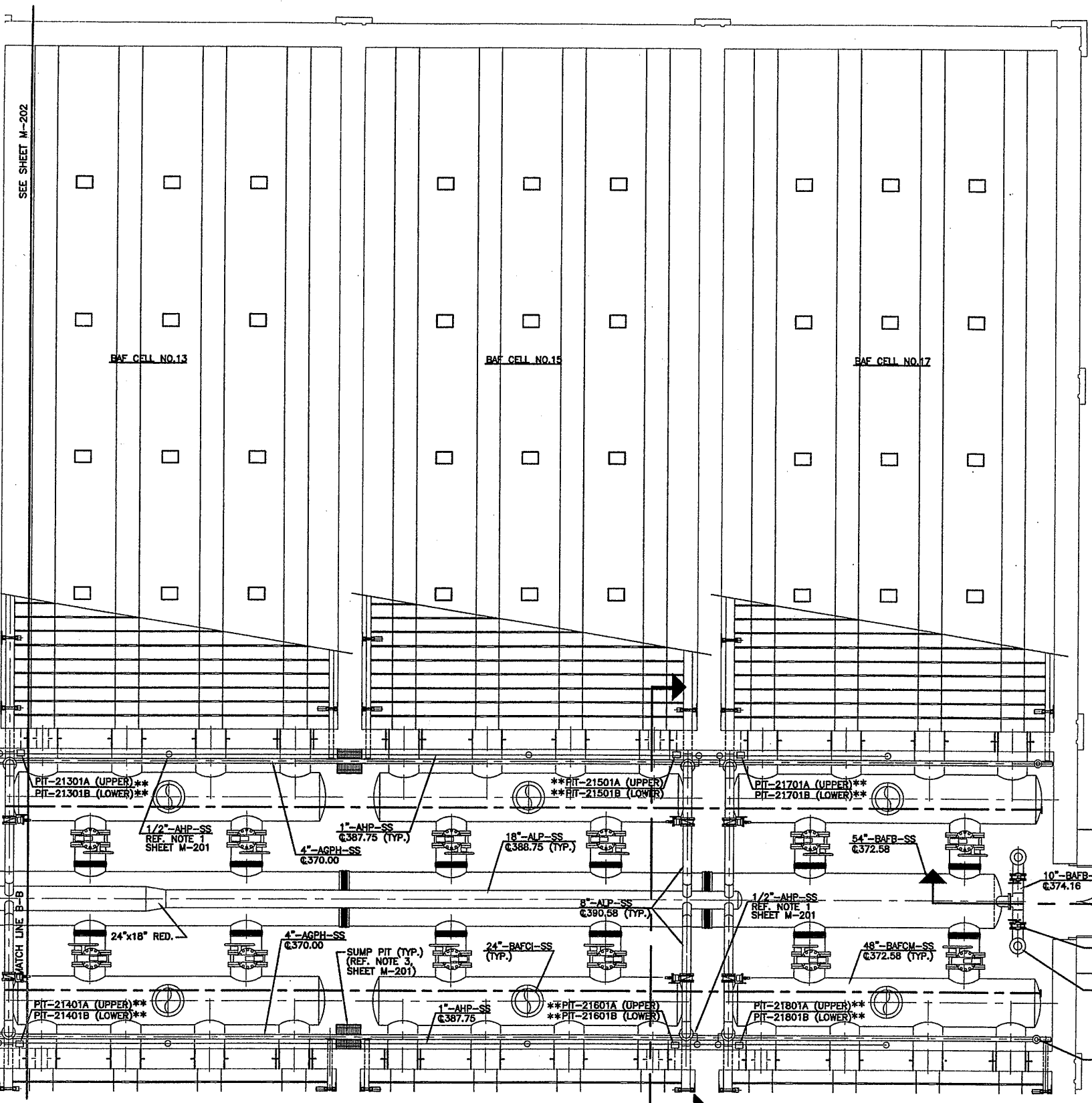
In charge of AHS
 Designed by AJS/SED
 Drawn by JAS
 Checked by AJS/AHS

ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP
 SYRACUSE, NEW YORK

ONONDAGA COUNTY • DEPARTMENT OF DRAINAGE AND SANITATION • SYRACUSE, NEW YORK
 METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
 STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
 BAF

PARTIAL LOWER PLAN
 MECHANICAL

File Number 00659
 Date APRIL 2001
 M-202



SECTION 3
SCALE: 1/4"=1'-0" M-203

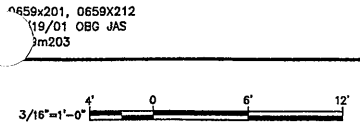
- NOTES:**
1. COUPLINGS ON BAFCM, BAFB, BAFCI/O, BAFCI, AGPH, BAFI, BAFE, PSD, TO BE BRICO, DEPEND-O-LOCK, ALTERNATING F x F AND F x E COUPLING OR EQUAL ALONG PIPE LENGTH. COUPLINGS ADJACENT TO VALVES 24" AND LARGER SHALL BE F x F TYPE.
 2. COUPLINGS ON AGL TO BE BRICO, DEPEND-O-LOCK, ALTERNATING F x F AND F x E COUPLINGS OR EQUAL ALONG PIPE LENGTH. COUPLINGS ADJACENT TO VALVES 24" AND LARGER SHALL BE F x F TYPE.
 3. SUPPORTS TO BE LOCATED AS SHOWN ON REVISED CONTRACT DRAWING M-201 (REVISION 2) AND ARE TYPICAL FOR ALL CELL MANIFOLDS. SEE SUPPORT DETAIL ON SHEET M-004.
 4. PROVIDE STIFFENING RINGS ON ALL PIPE 48" AND LARGER AS NECESSARY TO MAINTAIN PIPE IN ROUND DURING TRANSPORTATION.

PLAN
SCALE: 3/16"=1'-0" M-207

RECORD DRAWINGS
TO THE BEST OF OUR KNOWLEDGE,
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THE PROJECT AS CONSTRUCTED.

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DATE 12/14/05 BY [Signature]

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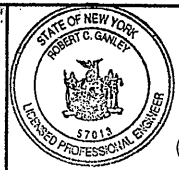


No.	Date	Revisions	Init
0	4/20/01	ISSUED FOR APPROVAL	RCC
1	7/9/01	AS BID	RCC
2	8/31/05	RECORD DRAWING	RCC

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Designed by AJS/SED
Drawn by JAS
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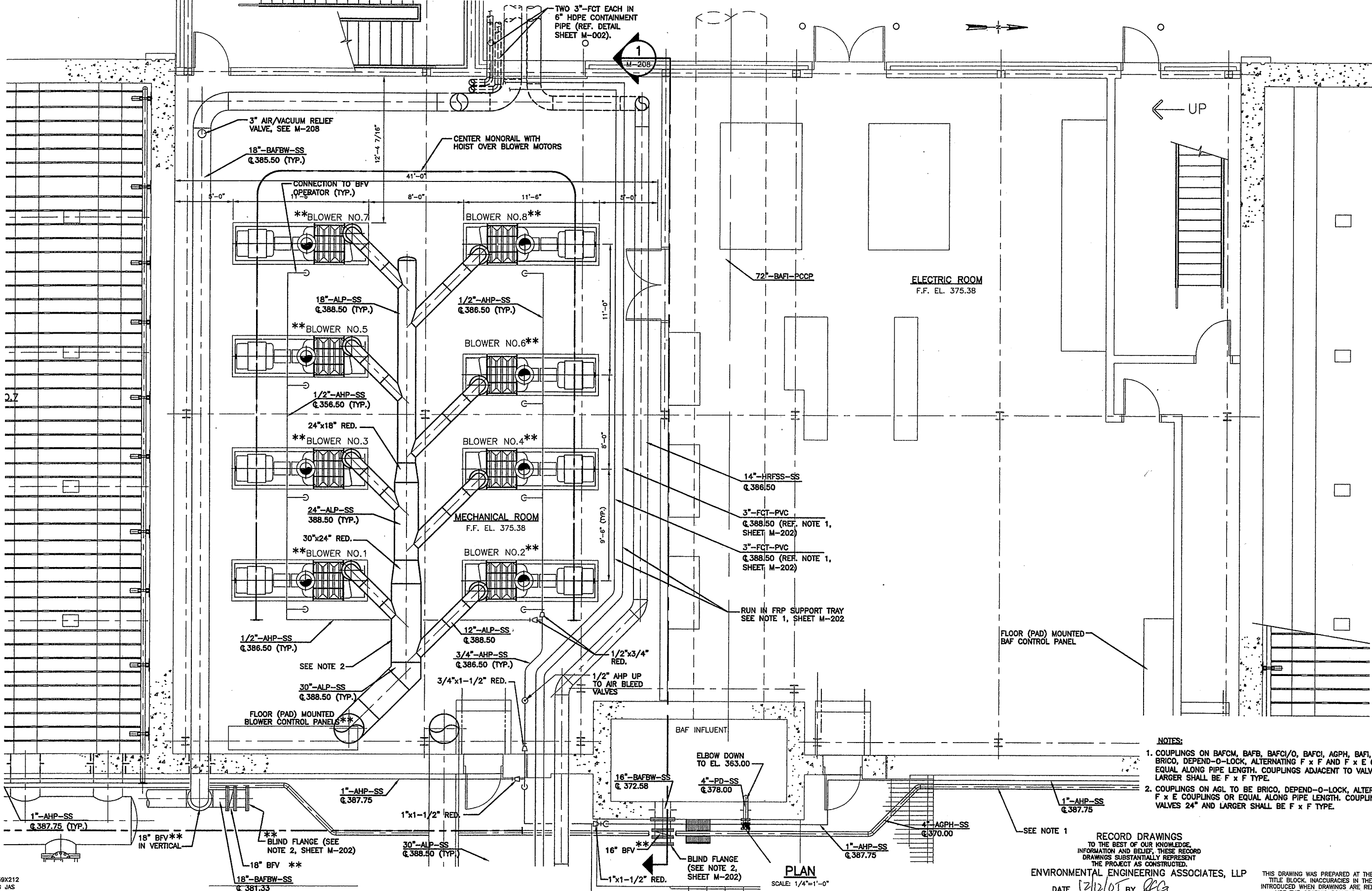
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METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
BAF



File Number 00659
Date APRIL 2001
M-203

PARTIAL LOWER PLAN
MECHANICAL

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- NOTES:**
1. COUPLINGS ON BAFCM, BAFB, BAFCI/O, BAFCI, AGPH, BAFI, BAFE, PSD, TO BE BRICO, DEPEND-O-LOCK, ALTERNATING F x F AND F x E COUPLING OR EQUAL ALONG PIPE LENGTH. COUPLINGS ADJACENT TO VALVES 24" AND LARGER SHALL BE F x F TYPE.
 2. COUPLINGS ON AGL TO BE BRICO, DEPEND-O-LOCK, ALTERNATING F x F AND F x E COUPLINGS OR EQUAL ALONG PIPE LENGTH. COUPLINGS ADJACENT TO VALVES 24" AND LARGER SHALL BE F x F TYPE.

RECORD DRAWINGS
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INFORMATION AND BELIEF, THESE RECORD
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THE PROJECT AS CONSTRUCTED.

ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP
DATE 12/2/01 BY *RCG*

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0659x201, 0659x212
19/01 OBG JAS
m204

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0	4/20/01	ISSUED FOR APPROVAL	RCG
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2	8/31/05	RECORD DRAWING	RCG

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Designed by AJS/SED
Drawn by JAS
Checked by AJS/AHS



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STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
BAF

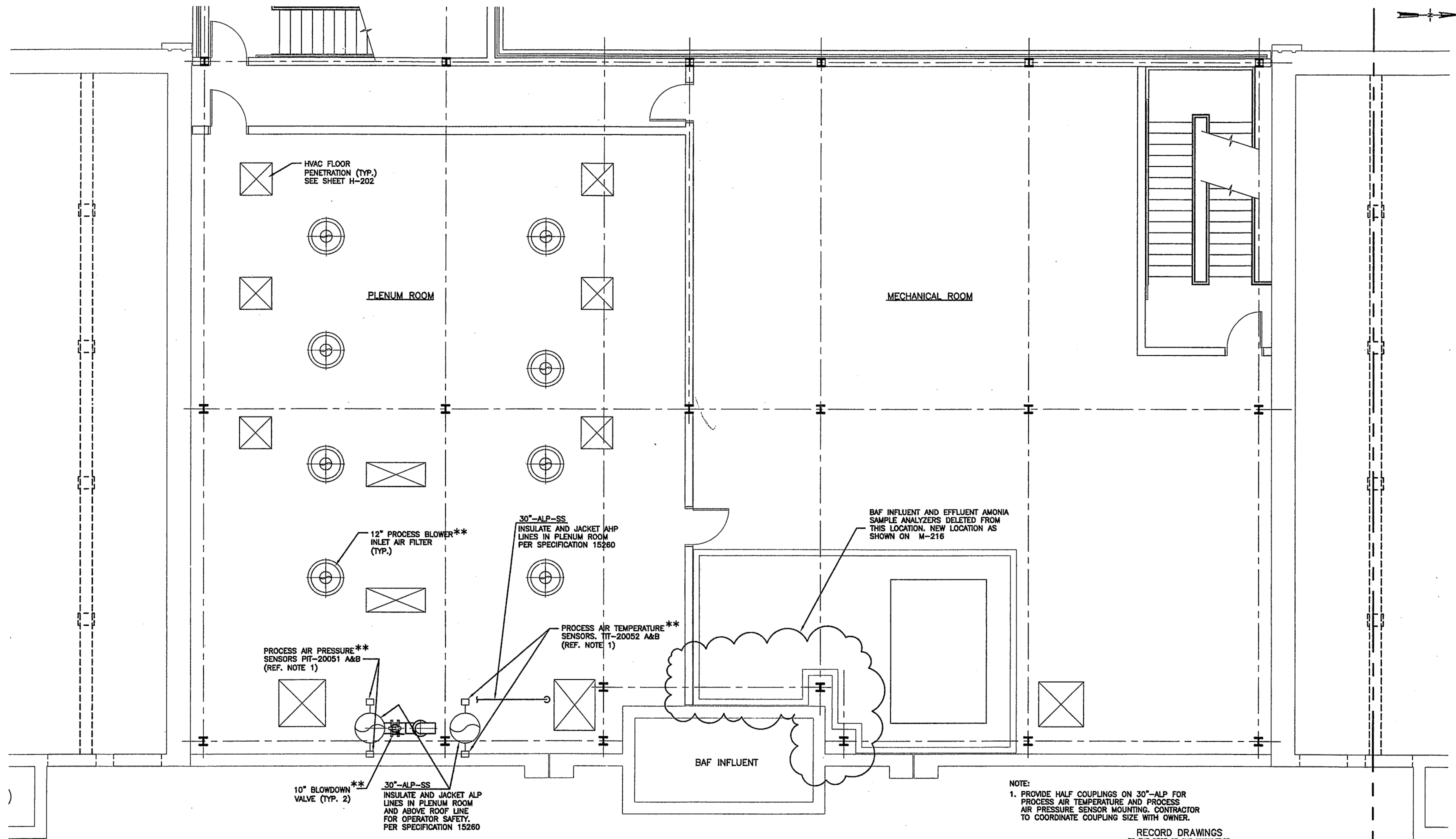


File Number 00659
Date APRIL 2001
M-204

BLOWER ROOM PLAN
MECHANICAL

(RECORD DRAWING: MADE FROM DRAWING NO. M-204RD, FILE NO. 0659M204RD, DATED JULY 2001)

PLAN
SCALE: 1/4"=1'-0"



HVAC FLOOR PENETRATION (TYP.) SEE SHEET H-202

PLENUM ROOM

MECHANICAL ROOM

12" PROCESS BLOWER**
INLET AIR FILTER (TYP.)

30"-ALP-SS
INSULATE AND JACKET AHP LINES IN PLENUM ROOM PER SPECIFICATION 15260

BAF INFLUENT AND EFFLUENT AMONIA SAMPLE ANALYZERS DELETED FROM THIS LOCATION. NEW LOCATION AS SHOWN ON M-216

PROCESS AIR PRESSURE**
SENSORS PIT-20051 A&B (REF. NOTE 1)

PROCESS AIR TEMPERATURE**
SENSORS, TIT-20052 A&B (REF. NOTE 1)

10" BLOWDOWN VALVE (TYP. 2)
30"-ALP-SS
INSULATE AND JACKET ALP LINES IN PLENUM ROOM AND ABOVE ROOF LINE FOR OPERATOR SAFETY. PER SPECIFICATION 15260

BAF INFLUENT

NOTE:
1. PROVIDE HALF COUPLINGS ON 30"-ALP FOR PROCESS AIR TEMPERATURE AND PROCESS AIR PRESSURE SENSOR MOUNTING. CONTRACTOR TO COORDINATE COUPLING SIZE WITH OWNER.

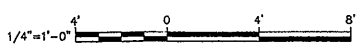
PLAN
SCALE: 1/4"=1'-0"

RECORD DRAWINGS
TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, THESE RECORD DRAWINGS SUBSTANTIALLY REPRESENT THE PROJECT AS CONSTRUCTED.
ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP
DATE 12/1/05 BY JCS

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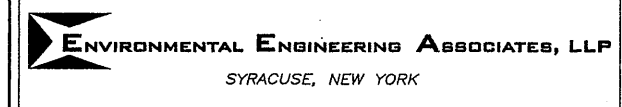
0659X202
1/19/01 OBG JAS
59M205

(RECORD DRAWING: MADE FROM DRAWING NO. M-205RD, FILE NO. 0659205RD, DATED JULY 2001)



No.	Date	Revisions	Init
0	4/20/01	ISSUED FOR APPROVAL	RCG
1	7/9/01	AS BID	RCG
2	8/31/05	RECORD DRAWING	RCG

In charge of AHS
Designed by AJS/SED
Drawn by JAS
Checked by AJS/AHS

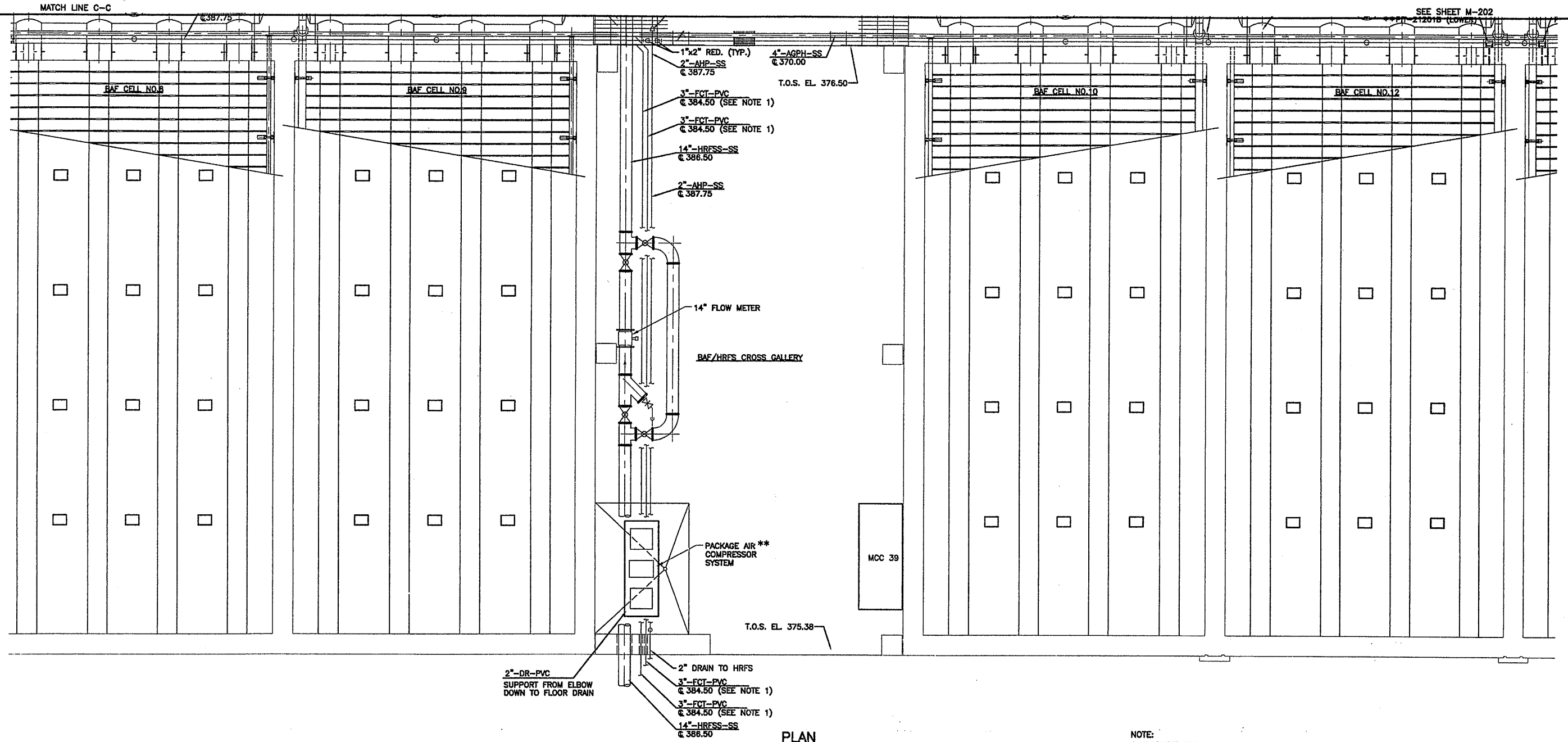
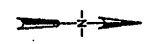


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STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
BAF
PLENUM ROOM & MECHANICAL ROOM
PARTIAL PLAN
MECHANICAL



File Number
00659
Date
APRIL 2001
M-205

NO ALTERATIONS PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW



SEE SHEET M-202
PT-212018 (LOWER)

PLAN
SCALE: 3/16"=1'-0"

NOTE:
1. PROVIDE FRP SUPPORT TRAY FOR OVERHEAD FCT LINES.
SEE M-313 FRO TYPICAL SUPPORT REQUIREMENTS.

RECORD DRAWINGS
TO THE BEST OF OUR KNOWLEDGE,
INFORMATION AND BELIEF, THESE RECORD
DRAWINGS SUBSTANTIALLY REPRESENT
THE PROJECT AS CONSTRUCTED.

ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP

DATE 12/12/05 BY *llca*

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(RECORD DRAWING: MADE FROM DRAWING NO. M-206RD, FILE NO. 0659M206RD, DATED JULY 2001)

0659X212
19/01 OBG JAS
m206

3/16"=1'-0"
0 6 12
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AS PROVIDED UNDER SECTION 7209 SUBDIVISION
2 OF THE NEW YORK STATE EDUCATION LAW

No.	Date	Revisions	Init
0	4/20/01	ISSUED FOR APPROVAL	RCG
1	7/9/01	AS BID	RCG
2	8/31/05	RECORD DRAWING	RCG

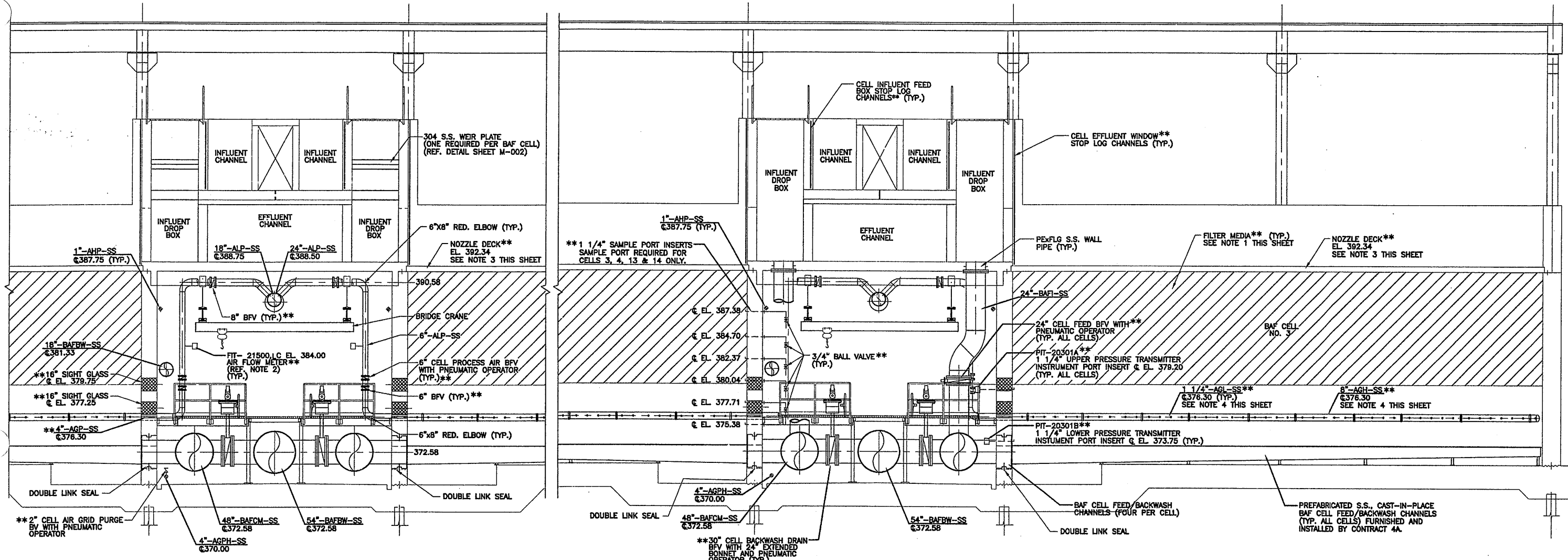
In charge of AHS
Designed by AJS/SED
Drawn by JAS
Checked by AJS/AHS

ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP
SYRACUSE, NEW YORK

ONONDAGA COUNTY • DEPARTMENT OF DRAINAGE AND SANITATION • SYRACUSE, NEW YORK
METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
BAF
CROSS GALLERY
PARTIAL LOWER PLAN
MECHANICAL

File Number
00659
Date
APRIL 2001
M-206

STATE OF NEW YORK
ROBERT C. GANLEY
LICENSED PROFESSIONAL ENGINEER
57813



SECTION 2
3/16'-1'-0" M-203

SECTION 1
3/16'-1'-0" M-201

- NOTES:
- BAF CELL FILTER MEDIA SHALL BE FURNISHED AND INSTALLED BY OWNER AFTER COMPLETION OF ALL WORK IN BAF CELL AND INSTALLATION AND STARTUP OF ALL BAF SYSTEM COMPONENTS.
 - CONTRACT 4A TO PROVIDE HALF COUPLING ON 6"-ALP FOR AIRFLOW METER MONITORING. CONTRACTOR TO COORDINATE COUPLING SIZE WITH OWNER.
 - OWNER SHALL FURNISH 7000 NOZZLES AND NOZZLE GASKETS, FOR EACH BAF CELL, FOR INSTALLATION BY THE CONTRACTOR (4A).
 - OWNER SHALL FURNISH ALL INTERNAL BAF CELL AIR PIPING AND AIR PIPING SUPPORTS FOR INSTALLATION BY THE CONTRACTOR (4A). THE CONTRACTOR (4A) SHALL FURNISH AND INSTALL ALL NECESSARY ANCHORING HARDWARE. SEE SHEETS M-213 AND M-214 FOR AIR GRID DETAILS.

RECORD DRAWINGS
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INFORMATION AND BELIEF, THESE RECORD
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THE PROJECT AS CONSTRUCTED.

ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP

(RECORD DRAWING; MADE FROM DRAWING NO. M-207RD, FILE NO. 0659M207RD, DATED JULY 2001)

DATE 12/2/06 BY [Signature]

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1659x210
12/01 OBG JAS
69m207

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No.	Date	Revisions	Init
0	4/20/01	ISSUED FOR APPROVAL	RCG
1	7/9/01	AS BID	RCG
2	8/31/05	RECORD DRAWING	RCG

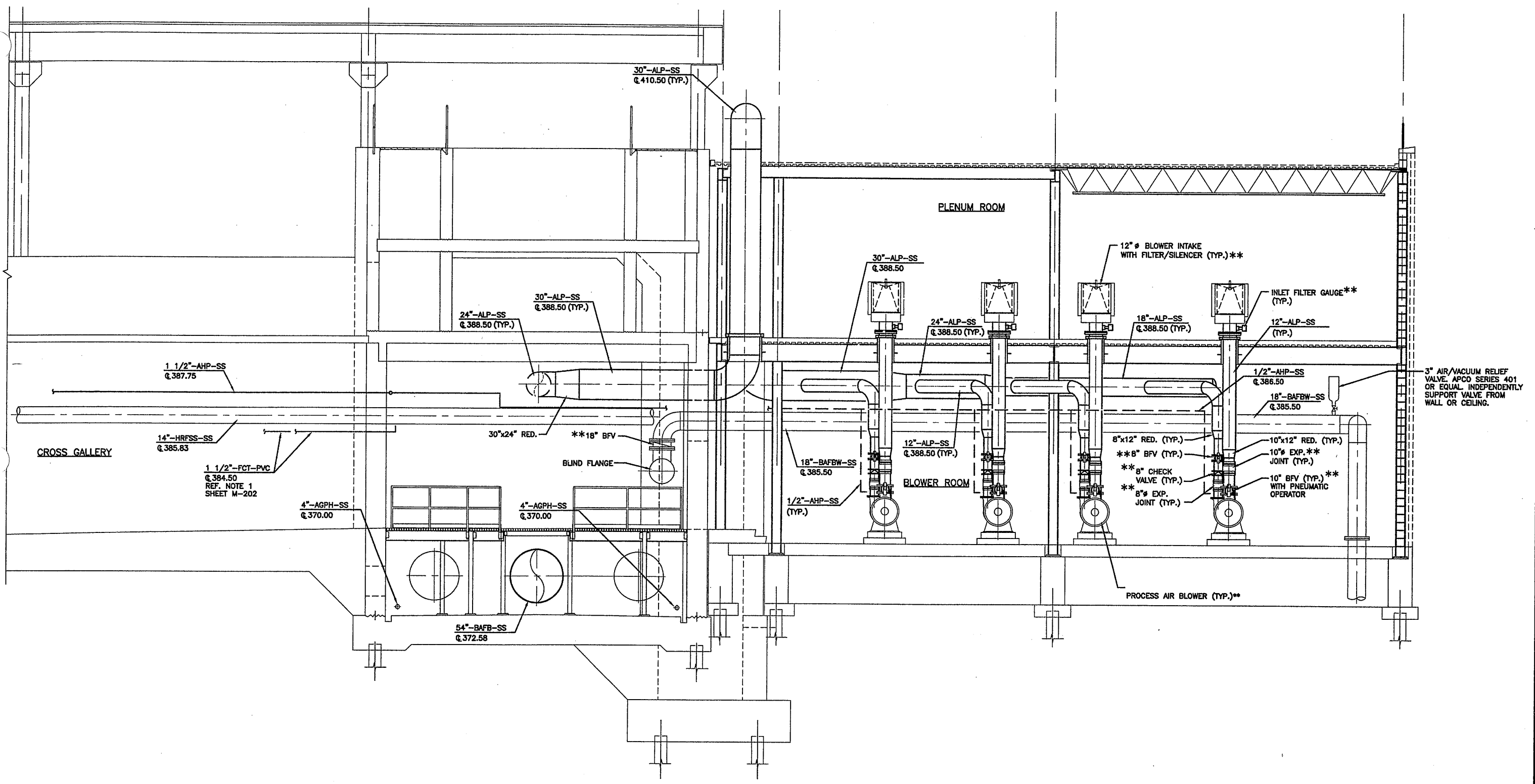
In charge of AHS
Designed by AJS/SED
Drawn by JAS
Checked by AJS/AHS

ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP
SYRACUSE, NEW YORK

ONONDAGA COUNTY • DEPARTMENT OF DRAINAGE AND SANITATION • SYRACUSE, NEW YORK
METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
BAF

File Number 00659
Date APRIL 2001
M-207

SECTION MECHANICAL



SECTION 1 1
1/4"=1'-0" M-202 M-204

RECORD DRAWINGS
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INFORMATION AND BELIEF, THESE RECORD
DRAWINGS SUBSTANTIALLY REPRESENT
THE PROJECT AS CONSTRUCTED.
ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP
DATE 12/1/05 BY *KCA*

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(RECORD DRAWING: MADE FROM DRAWING NO. M-208RD, FILE NO. 0659M208RD, DATED JULY 2001)

0659x211
2/26/01 OBG JAS
59m208

1/4"=1'-0"

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2 OF THE NEW YORK STATE EDUCATION LAW

No.	Date	Revisions	Init
0	4/20/01	ISSUED FOR APPROVAL	RCG
1	7/9/01	AS BID	RCG
2	8/31/05	RECORD DRAWING	RCG

In charge of AHS
Designed by AJS/SED
Drawn by JAS
Checked by AJS/AHS

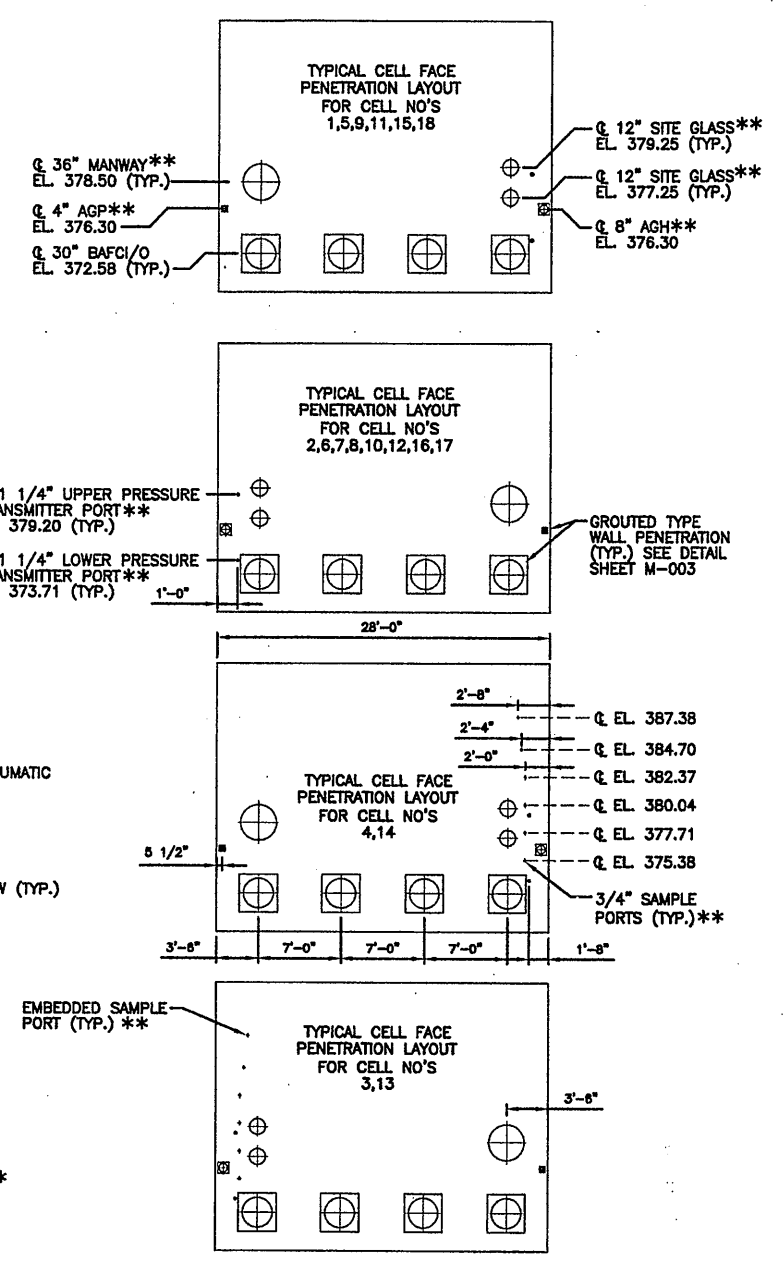
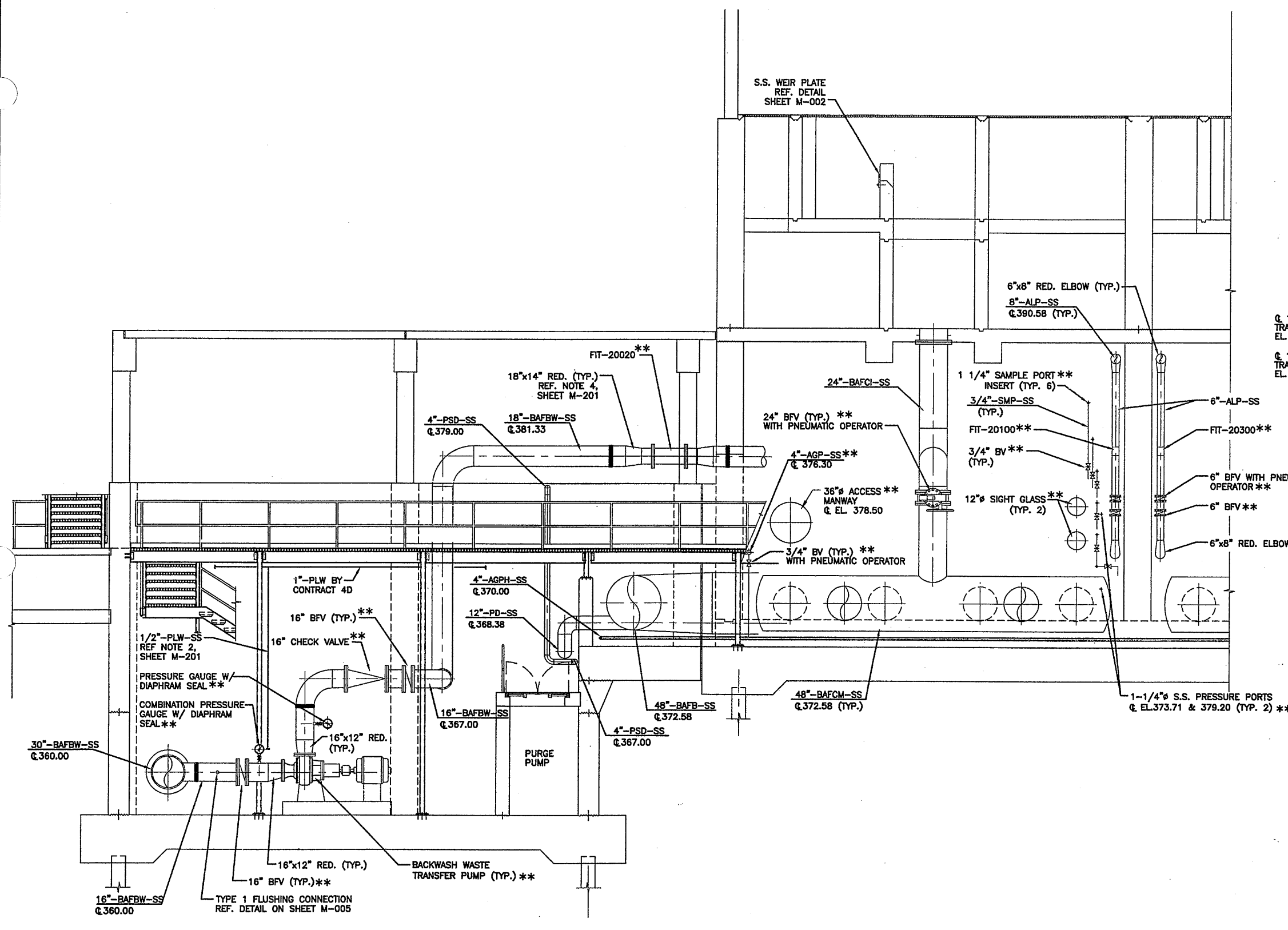
ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP
SYRACUSE, NEW YORK

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METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
BAF



File Number
00659
Date
APRIL 2001
M-208

BLOWER ROOM SECTION
MECHANICAL



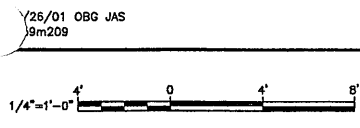
BAF CELL FACE PENETRATION LOCATIONS
(N.T.S.)

SECTION 1
1/4" - 1'-0" M-201

(RECORD DRAWING: MADE FROM DRAWING NO. M-209RD, FILE NO. 0659M209RD, DATED JULY 2001)

RECORD DRAWINGS
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THE PROJECT AS CONSTRUCTED.
ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP
DATE *4/15/01* BY *RCG*

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1	7/9/01	AS BID	RCG
2	8/31/05	RECORD DRAWING	RCG

In charge of AHS
Designed by AJS/SED
Drawn by JAS
Checked by AJS/AHS

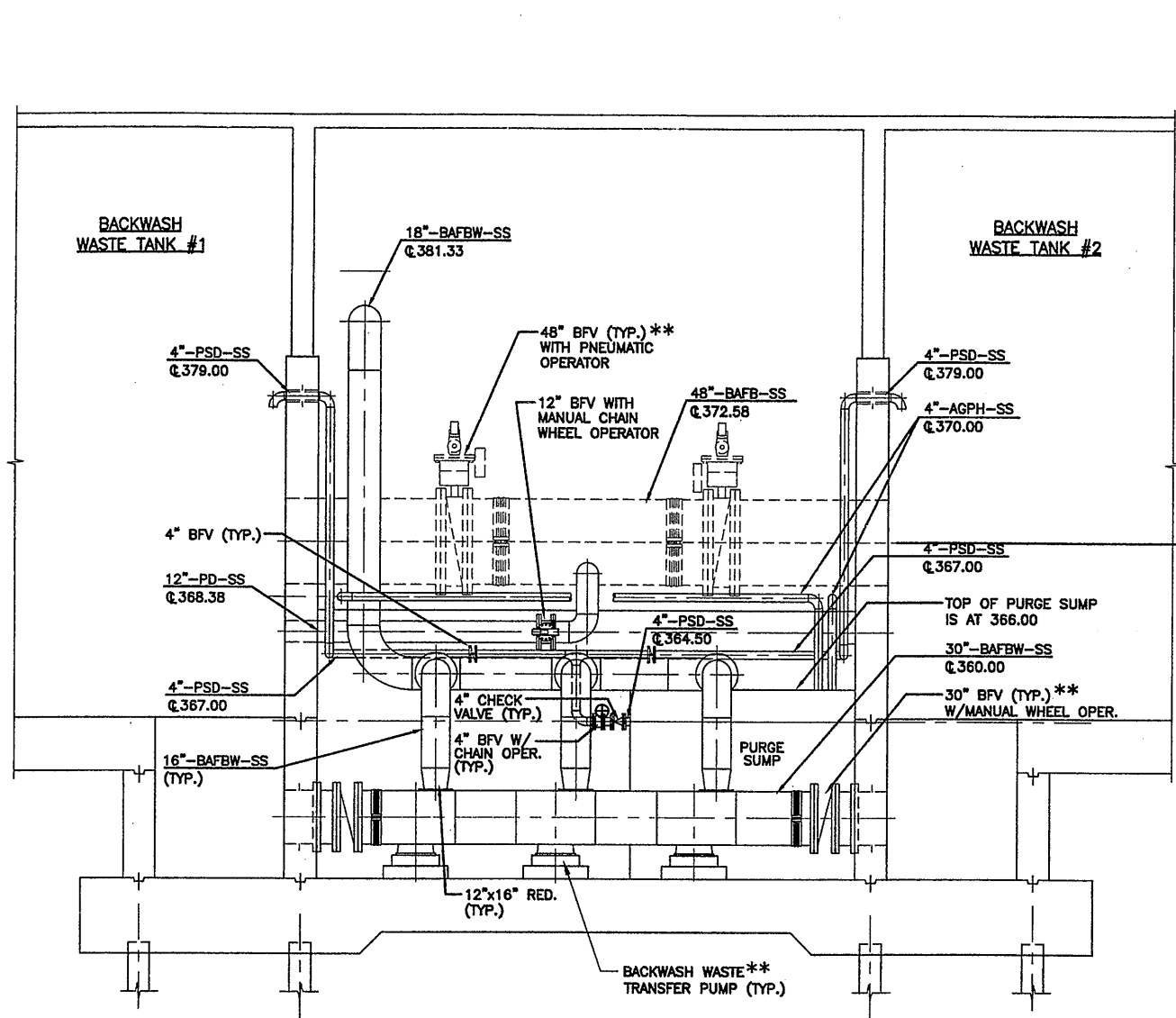


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METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT

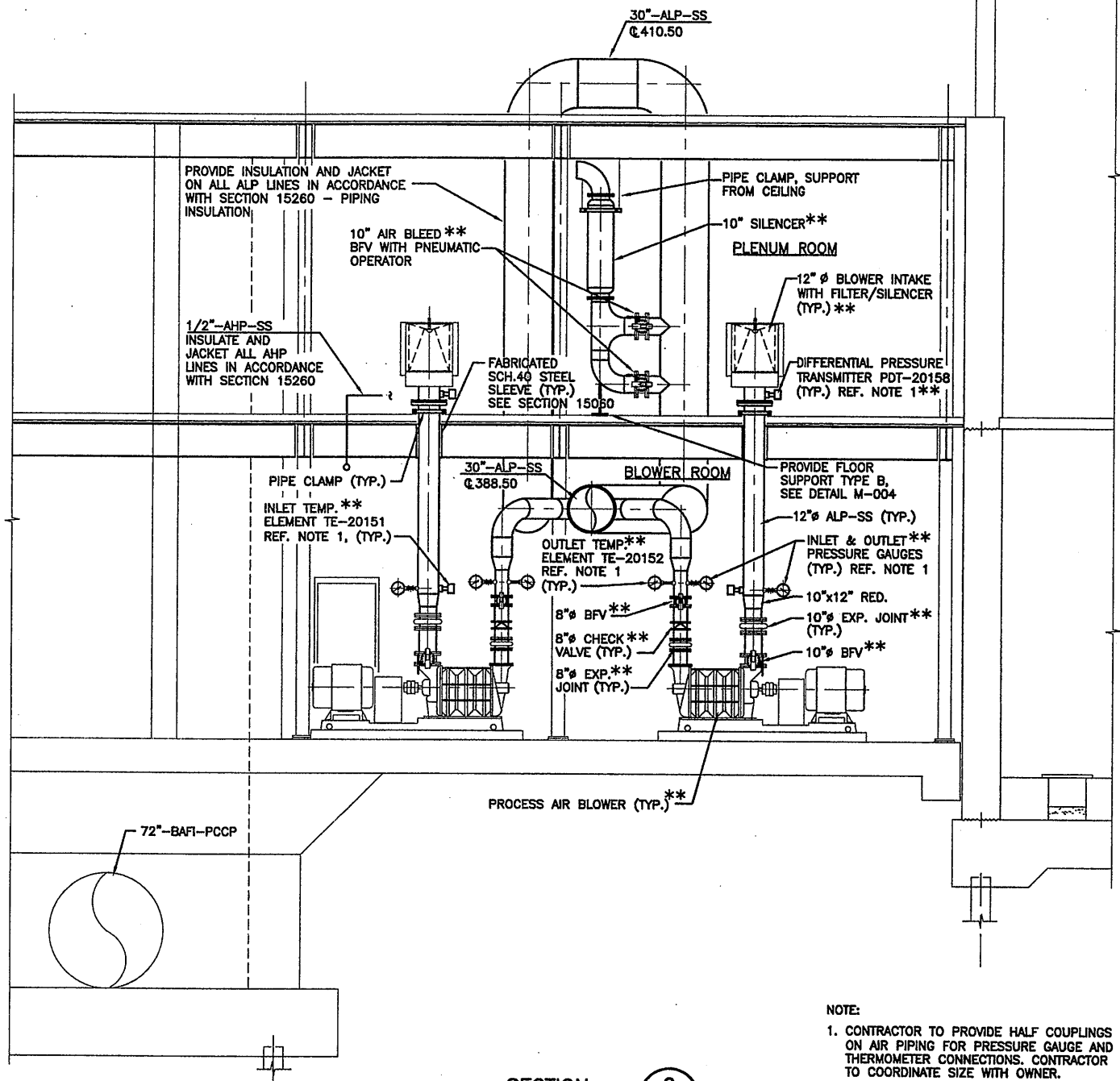
BACKWASH PUMP ROOM SECTIONS
MECHANICAL

File Number 00659
Date APRIL 2001
M-209

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SECTION 2
1/4"-1'-0" M-201



SECTION 2
1/4"-1'-0" M-202

NOTE:
1. CONTRACTOR TO PROVIDE HALF COUPLINGS ON AIR PIPING FOR PRESSURE GAUGE AND THERMOMETER CONNECTIONS. CONTRACTOR TO COORDINATE SIZE WITH OWNER.

1/26/01 OBG JAS
59m210

(RECORD DRAWING: MADE FROM DRAWING NO. M-210RD, FILE NO. 0659M210RD, DATED JULY 2001)

RECORD DRAWINGS
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THE PROJECT AS CONSTRUCTED.
ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP
DATE 12/14/05 BY RCG

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1/4"-1'-0"
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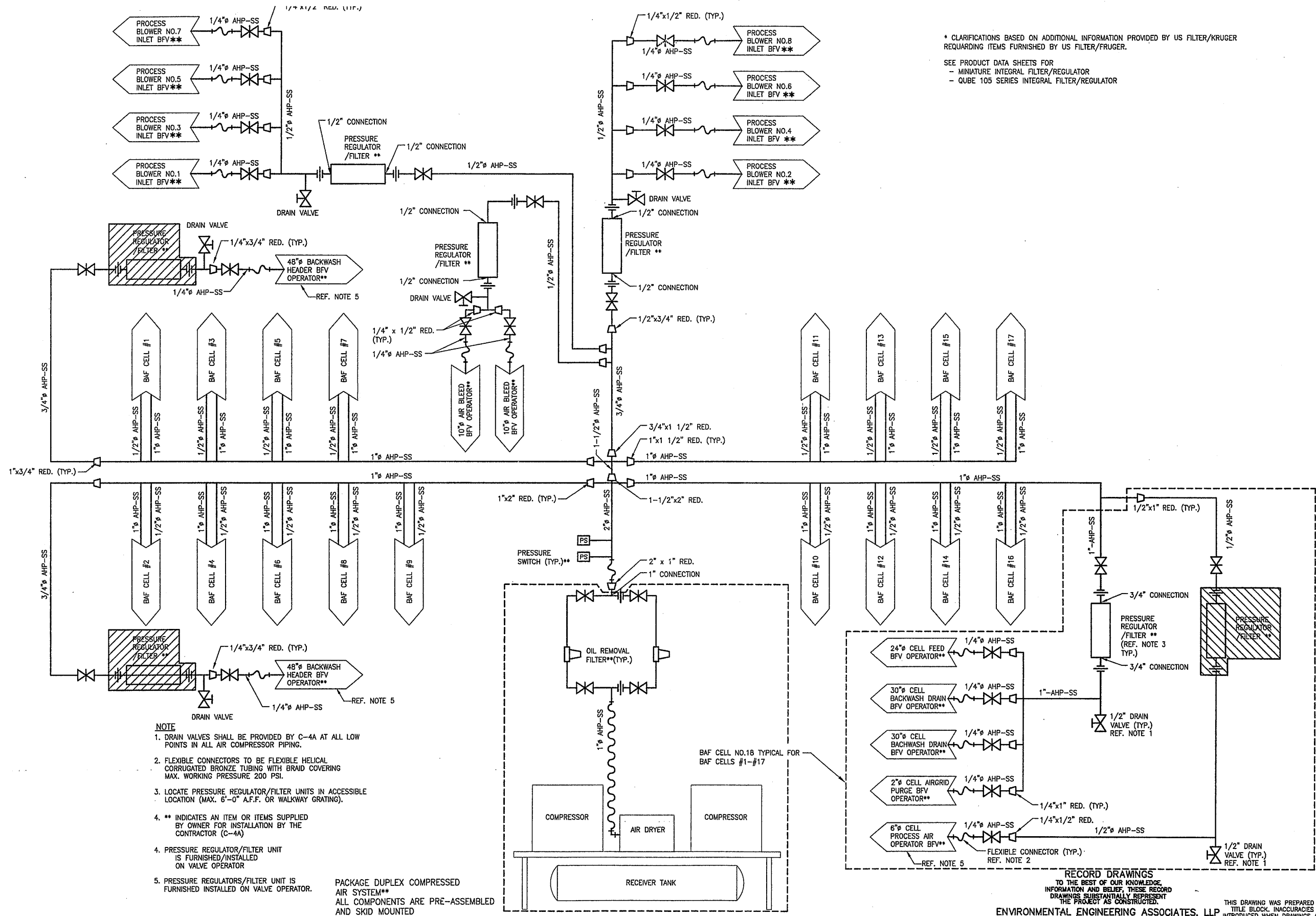
In charge of AHS
Designed by AJS/SED
Drawn by JAS
Checked by AJS/AHS



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METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
BAF

MISCELLANEOUS SECTIONS
MECHANICAL

File Number 00659
Date APRIL 2001
M-210
Professional Engineer Seal: STATE OF NEW YORK, ROBERT C. GANLEY, 57013, LICENSED PROFESSIONAL ENGINEER



* CLARIFICATIONS BASED ON ADDITIONAL INFORMATION PROVIDED BY US FILTER/KRUGER REGARDING ITEMS FURNISHED BY US FILTER/FRUGER.
 SEE PRODUCT DATA SHEETS FOR
 - MINATURE INTEGRAL FILTER/REGULATOR
 - QUBE 105 SERIES INTEGRAL FILTER/REGULATOR

- NOTE**
1. DRAIN VALVES SHALL BE PROVIDED BY C-4A AT ALL LOW POINTS IN ALL AIR COMPRESSOR PIPING.
 2. FLEXIBLE CONNECTORS TO BE FLEXIBLE HELICAL CORRUGATED BRONZE TUBING WITH BRAID COVERING MAX. WORKING PRESSURE 200 PSI.
 3. LOCATE PRESSURE REGULATOR/FILTER UNITS IN ACCESSIBLE LOCATION (MAX. 6'-0" A.F.F. OR WALKWAY GRATING).
 4. ** INDICATES AN ITEM OR ITEMS SUPPLIED BY OWNER FOR INSTALLATION BY THE CONTRACTOR (C-4A)
 4. PRESSURE REGULATOR/FILTER UNIT IS FURNISHED/INSTALLED ON VALVE OPERATOR
 5. PRESSURE REGULATORS/FILTER UNIT IS FURNISHED INSTALLED ON VALVE OPERATOR.

PACKAGE DUPLEX COMPRESSED AIR SYSTEM** ALL COMPONENTS ARE PRE-ASSEMBLED AND SKID MOUNTED

(RECORD DRAWING: MADE FROM DRAWING NO. M-211RD, FILE NO. 0659M211RD, DATED JULY 2001)

RECORD DRAWINGS TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, THESE RECORD DRAWINGS SUBSTANTIALLY REPRESENT THE PROJECT AS CONSTRUCTED.
 ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP
 DATE 12/20/05 BY [Signature]
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N. T. S.
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No.	Date	Revisions	Init
0	4/20/01	ISSUED FOR APPROVAL	RCG
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2	8/31/05	RECORD DRAWING	RCG

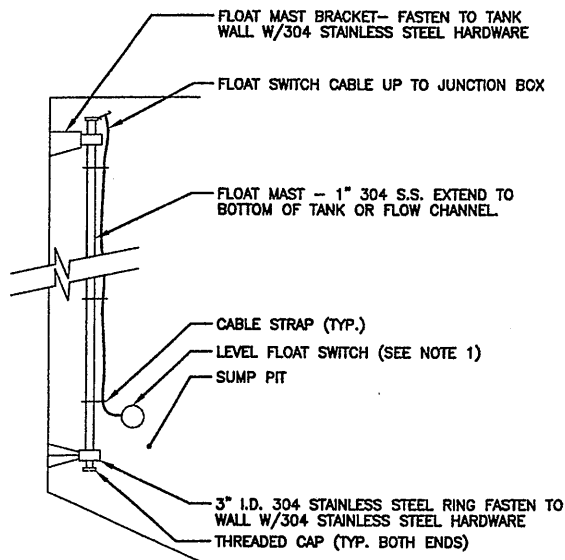
In charge of AHS
 Designed by AJS/SED
 Drawn by JAS
 Checked by AJS/AHS



ONONDAGA COUNTY • DEPARTMENT OF DRAINAGE AND SANITATION • SYRACUSE, NEW YORK
 METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
 STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT

File Number 00659
 Date APRIL 2001
 M-211
 [Professional Engineer Seal: Robert C. Gully, State of New York, License No. 57013]

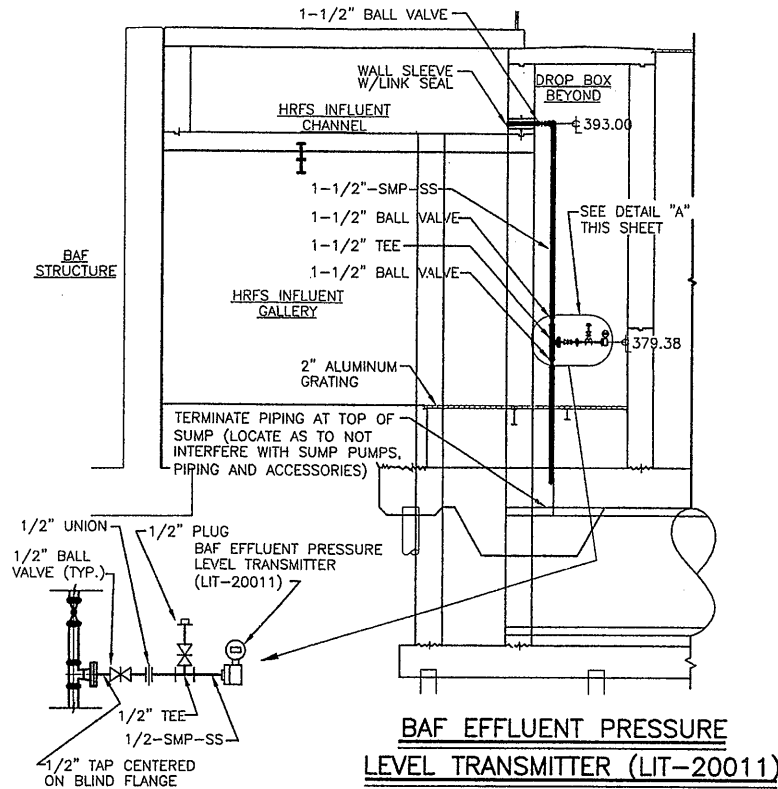
PLANT AIR SCHEMATIC
 MECHANICAL



FLOAT SWITCH/MAST INSTALLATION DETAIL

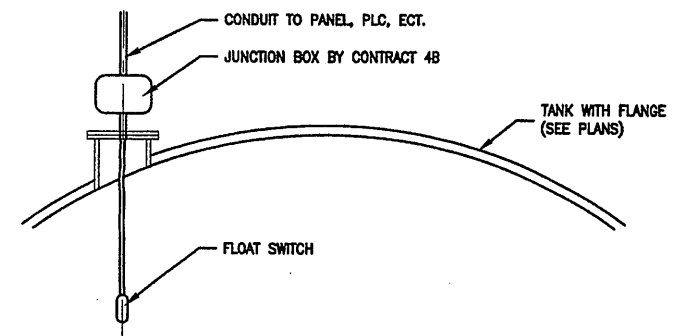
NOT TO SCALE
 TYPICAL FOR LSH-20001, LSL-20011, LSL-20021, LSH-20022, LSH-20022, LSH-29048, LSL-30081, LSH-30081, LSH-50102

- NOTES:
- REFER TO INSTRUMENTATION DRAWINGS FOR FLOAT QUANTITIES AND MOUNTING ELEVATIONS.



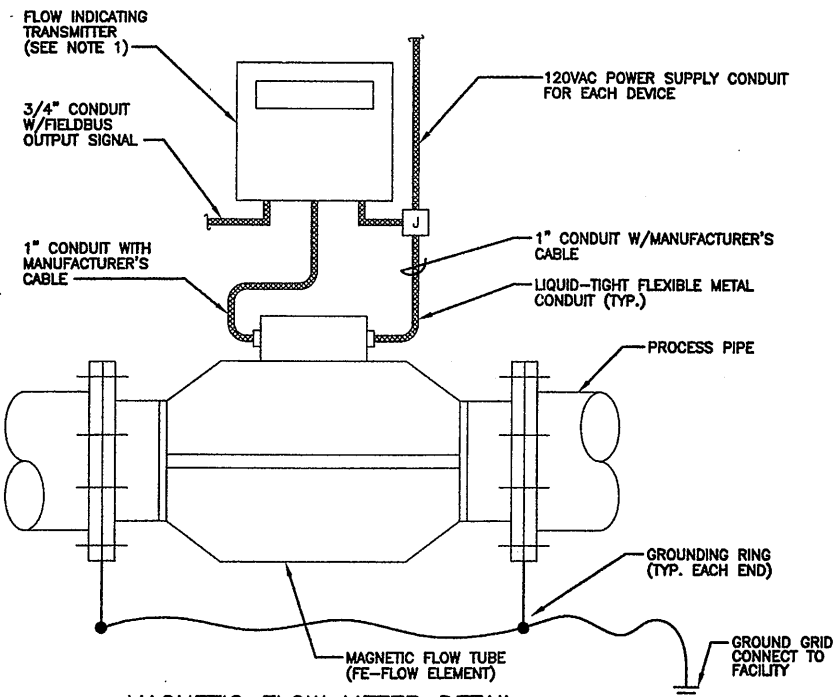
DETAIL "A"

- NOTES:
- SUPPORT FROM ELEVATED SLAB OR WALLS AS NECESSARY.
 - PIPING SHALL SLOPE TOWARDS DROP LEG INTO SUMP.
 - INDEPENDENTLY SUPPORT BAF LEVEL TRANSMITTER FROM WALL OR FLOOR.



TANK FLOAT SWITCH MOUNTING DETAIL

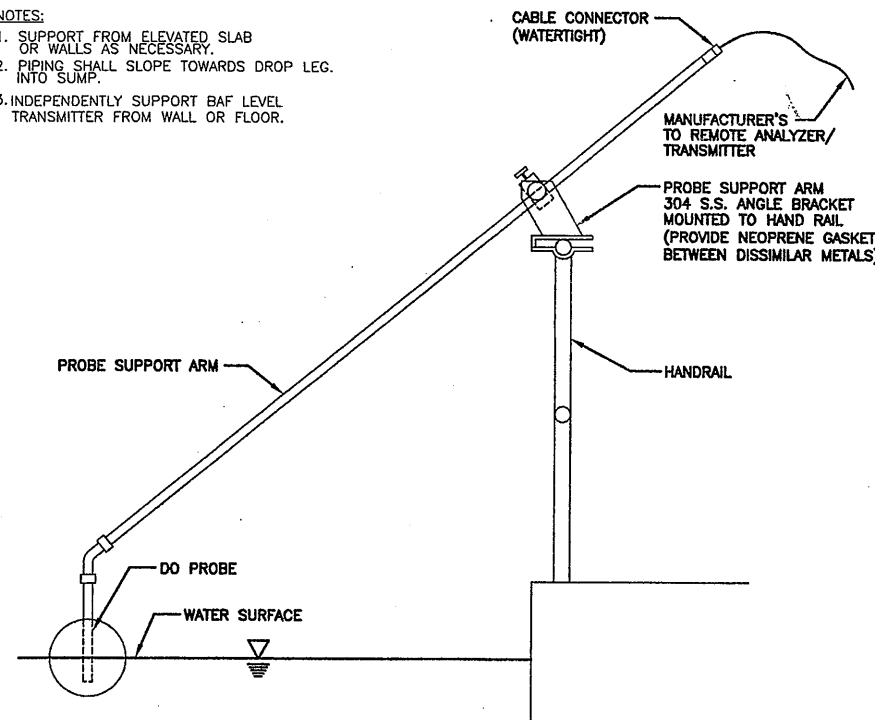
NOT TO SCALE
 TYPICAL FOR LSH-50035A, LSH-50038A, LSH-30037A, LSH-30040A



MAGNETIC FLOW METER DETAIL

NOT TO SCALE
 TYPICAL FOR FIT-20020, FIT-30043, FIT-30044, FIT-30045, FIT-30046, FIT-30080, FIT-30082, FIT-50105, FIT-50108

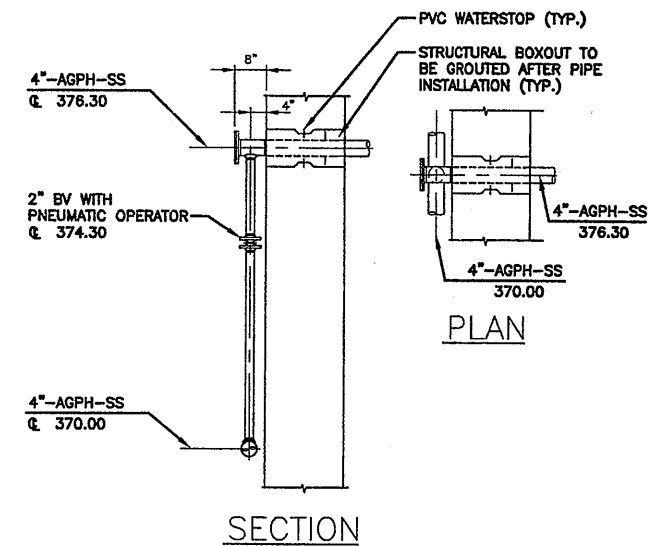
- NOTES:
- FLOW INDICATING TRANSMITTER SHALL BE EITHER WALL MOUNTED OR EQUIPMENT RACK MOUNTED AS SHOWN ON PLANS. UNITS SHALL BE FASTENED W/304 STAINLESS STEEL MOUNTING BRACKET AND HARDWARE.



DO PROBE DETAIL

NOT TO SCALE
 TYPICAL FOR AIT-20014A, AIT-20014B

- NOTES:
- WATER SURFACE ELEVATION SHALL BE FIELD VERIFIED TO OBTAIN APPROPRIATE SENSOR CABLE LENGTH & PROBE SUPPORT ARM CONFIGURATION.



AIR GRID PURGE CONNECTION DETAIL

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

RECORD DRAWINGS TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, THESE RECORD DRAWINGS SUBSTANTIALLY REPRESENT THE PROJECT AS CONSTRUCTED.
 ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP

(RECORD DRAWING: MADE FROM DRAWING NO. M-212RD, FILE NO. 0659M212RD, DATED JULY 2001) DATE 12/10/05 BY RCB

THIS DRAWING WAS PREPARED AT THE SCALE INDICATED IN THE TITLE BLOCK. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR IN THE TITLE BLOCK TO DETERMINE THE ACTUAL SCALE OF THIS DRAWING.

2/09/01 OBG JAS
 659M212

N.T.S.	No.	Date	Revisions	Init
	0	4/20/01	ISSUED FOR APPROVAL	RCG
	1	7/9/01	AS BID	RCG
	2	8/31/05	RECORD DRAWING	RCG
NO ALTERATIONS PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW				

In charge of AHS

Designed by AJS/SED

Drawn by JAS

Checked by AJS/AHS

ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP
 SYRACUSE, NEW YORK

ONONDAGA COUNTY • DEPARTMENT OF DRAINAGE AND SANITATION • SYRACUSE, NEW YORK
 METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
 STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
 BAF

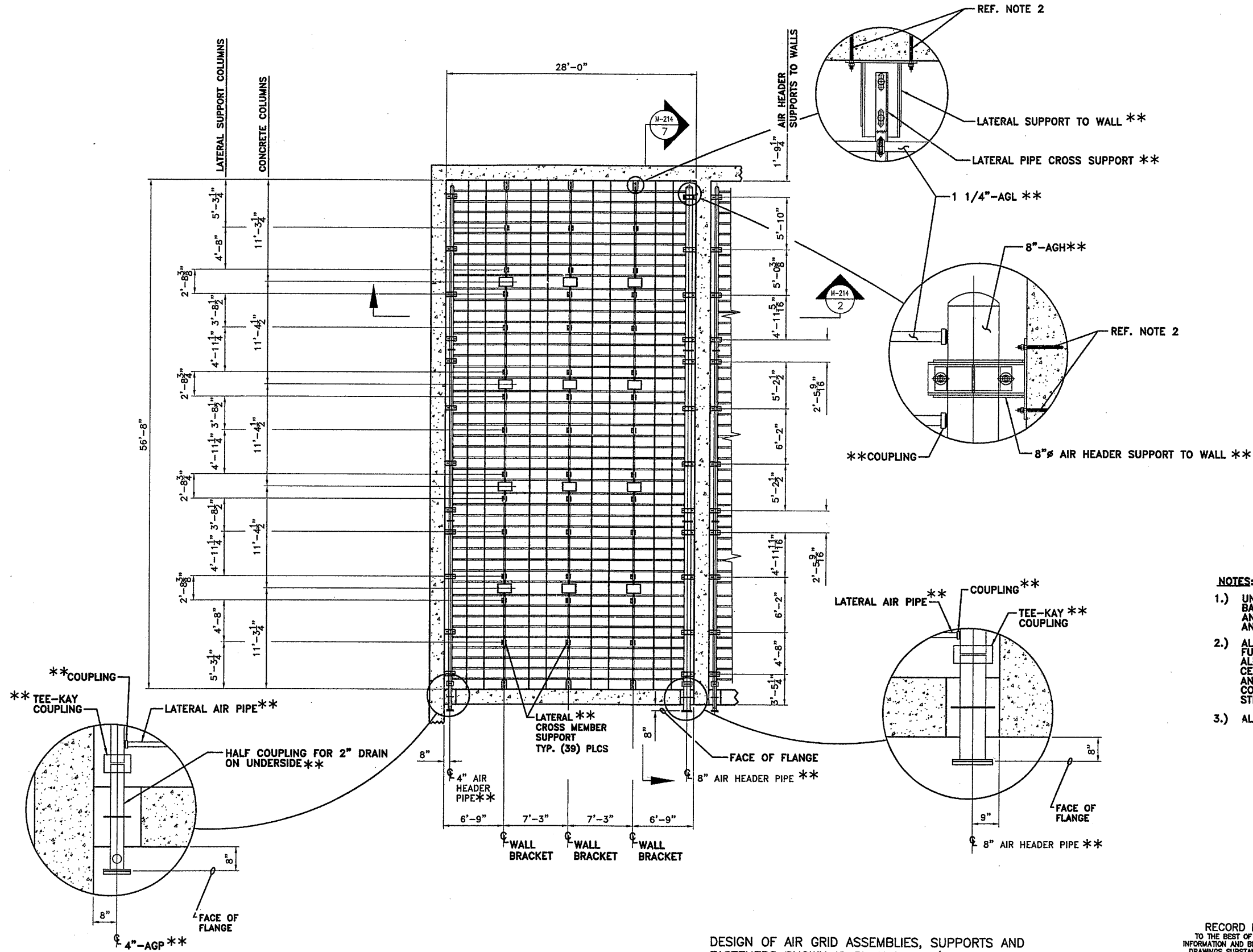
MISCELLANEOUS DETAILS
 MECHANICAL

STATE OF NEW YORK
 ROBERT C. GANEY
 LICENSED PROFESSIONAL ENGINEER
 52715

File Number
 00659

Date
 APRIL 2001

M-212



NOTES:

- 1.) UNLESS OTHERWISE SPECIFIED ALL INTERNALS OF BAF CELL FORMING THE AIR GRID, SUPPORTS, AND FASTENERS ARE 316L STAINLESS STEEL, AND ARE FURNISHED BY THE OWNER.
- 2.) ALL ANCHOR BOLTS, NUTS AND WASHERS TO BE FURNISHED AND INSTALLED BY CONTRACT 4A. ALL ANCHOR BOLTS SHOWN SHALL UTILIZE EPCON CERAMIC 6 (ITW RAMSET/REDHEAD) EPOXY ADHESIVE ANCHORING SYSTEM. CONTRACTOR TO APPLY ANTI-SIEZE TO ALL STAINLESS STEEL FASTENERS.
- 3.) ALL FLANGE BOLT HOLES TO STRADDLE CENTERLINES.

DESIGN OF AIR GRID ASSEMBLIES, SUPPORTS AND FASTENERS SHOWN IS BY USFILTER/KRUGER.

(RECORD DRAWING: MADE FROM DRAWING NO. M-213RD, FILE NO. 0659M213RD, DATED JULY 2001)

RECORD DRAWINGS TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, THESE RECORD DRAWINGS SUBSTANTIALLY REPRESENT THE PROJECT AS CONSTRUCTED.

ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP

DATE 12/12/05 BY RCG

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1/20/01 OBG JAS
59m213

N.T.S.

No.	Date	Revisions	Init
0	4/20/01	ISSUED FOR APPROVAL	RCG
1	7/9/01	AS BID	RCG
2	8/31/05	RECORD DRAWING	RCG

In charge of AHS
 Designed by AJS
 Drawn by JAS
 Checked by AJS/AHS



ONONDAGA COUNTY • DEPARTMENT OF DRAINAGE AND SANITATION • SYRACUSE, NEW YORK
 METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
 STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT

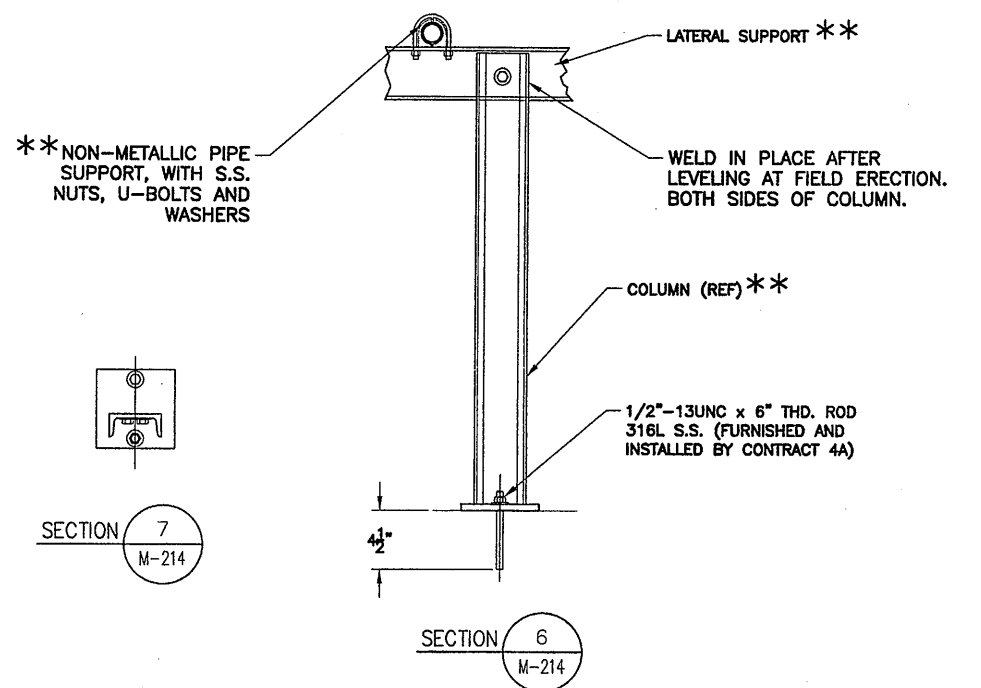
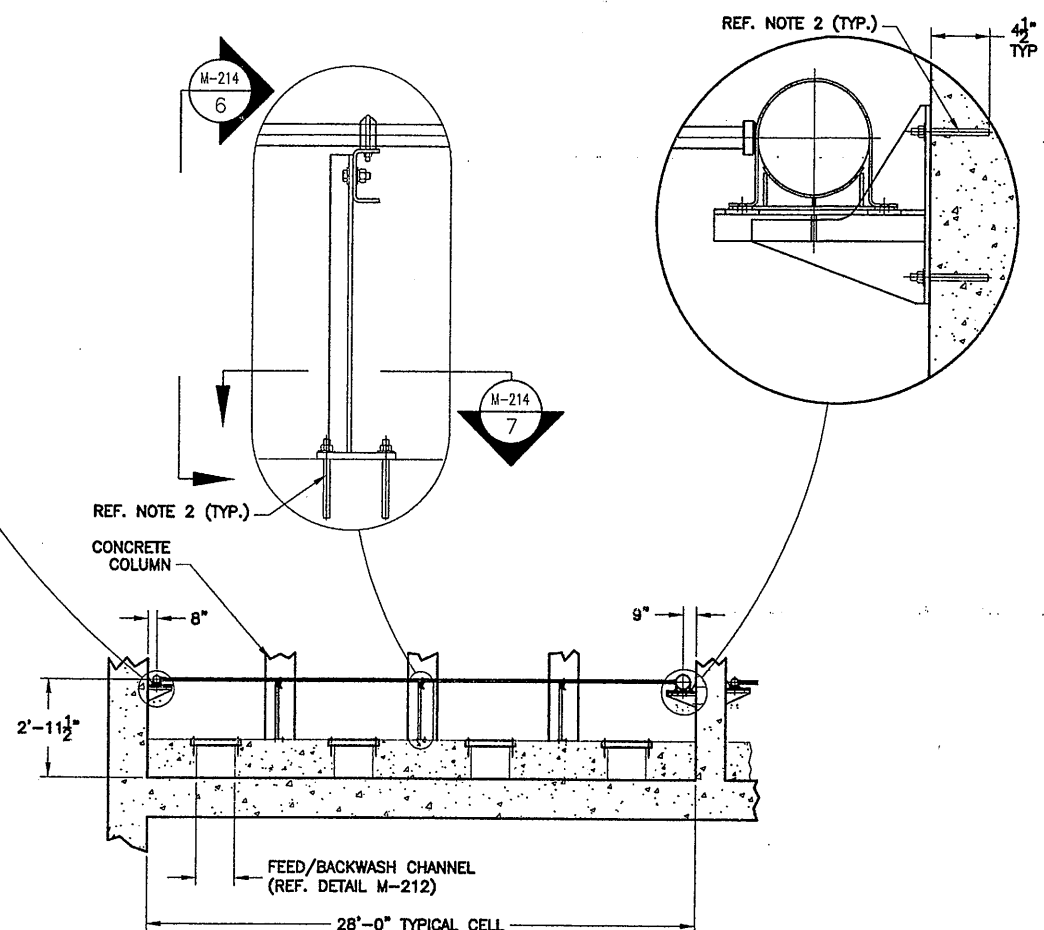
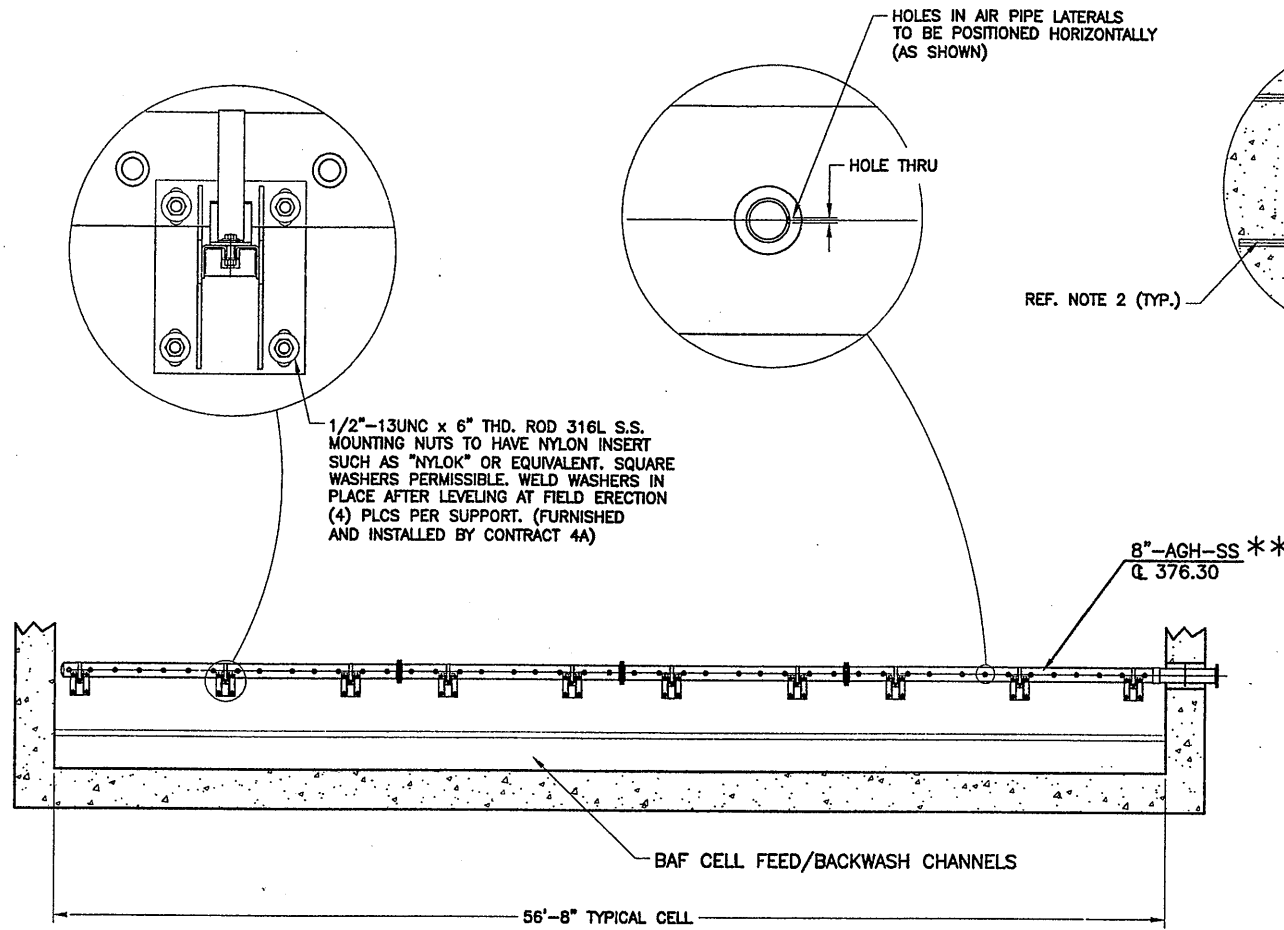
**BAF
 AIR GRID
 MISCELLANEOUS DETAILS**
 MECHANICAL



File Number
00659
 Date
APRIL 2001

M-213

NO ALTERATIONS PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW



SECTION 1
M-213

SECTION 2
M-213

SECTION 7
M-214

SECTION 6
M-214

- NOTE:**
- UNLESS OTHERWISE SPECIFIED ALL INTERNALS OF BAF CELL FORMING THE AIR GRID, SUPPORTS, AND FASTENERS ARE 316L STAINLESS STEEL AND ARE FURNISHED BY THE OWNER.
 - ALL ANCHOR BOLTS, NUTS, NYLOK NUTS AND WASHERS TO BE FURNISHED AND INSTALLED BY CONTRACT 4A. ALL ANCHOR BOLTS SHOWN SHALL UTILIZE EPICON® CERAMIC 6" (TW RAMSET/REDHEAD) EPOXY ADHESIVE ANCHORING SYSTEM. CONTRACTOR TO APPLY ANTI-SIEZE TO ALL STAINLESS STEEL FASTENERS.
 - ALL FLANGE BOLT HOLES TO STRADDLE CENTERLINES.

DESIGN OF AIR GRID ASSEMBLIES, SUPPORTS AND FASTENERS SHOWN IS BY USFILTER/KRUGER.

(RECORD DRAWING: MADE FROM DRAWING NO. M-214RD, FILE NO. 0659M214RD, DATED JULY 2001)

RECORD DRAWINGS
TO THE BEST OF OUR KNOWLEDGE,
INFORMATION AND BELIEF, THESE RECORD
DRAWINGS SUBSTANTIALLY REPRESENT
THE PROJECT AS CONSTRUCTED.

ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP

DATE *revised* BY *RLC*

THIS DRAWING WAS PREPARED AT THE SCALE INDICATED IN THE TITLE BLOCK. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR IN THE TITLE BLOCK TO DETERMINE THE ACTUAL SCALE OF THIS DRAWING.

N.T.S.

NO ALTERATIONS PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW

No.	Date	Revisions	Init
0	4/20/01	ISSUED FOR APPROVAL	RCG
1	7/9/01	AS BID	RCG
2	8/31/05	RECORD DRAWING	RCG

In charge of AHS
Designed by AJS
Drawn by JAS
Checked by AJS/AHS

ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP
SYRACUSE, NEW YORK

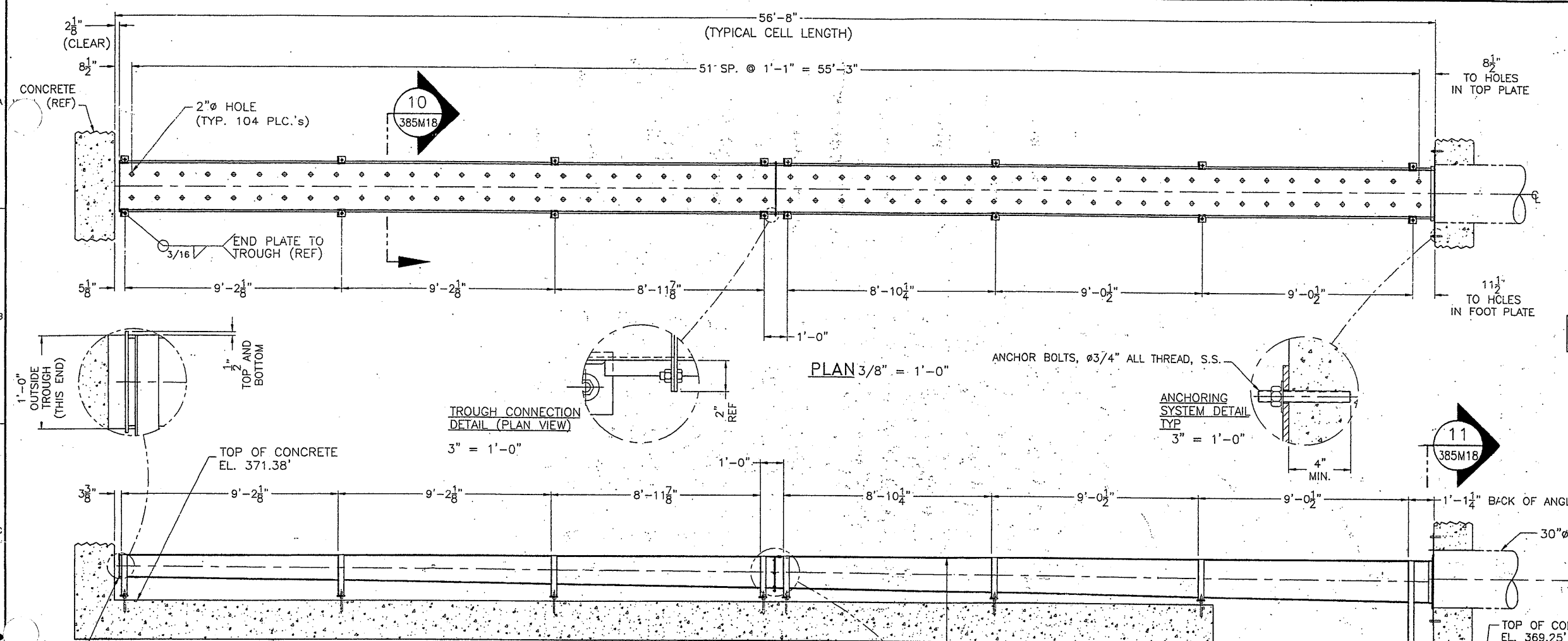
ONONDAGA COUNTY • DEPARTMENT OF DRAINAGE AND SANITATION • SYRACUSE, NEW YORK
METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT

**BAF
AIR GRID
MISCELLANEOUS DETAILS**
MECHANICAL

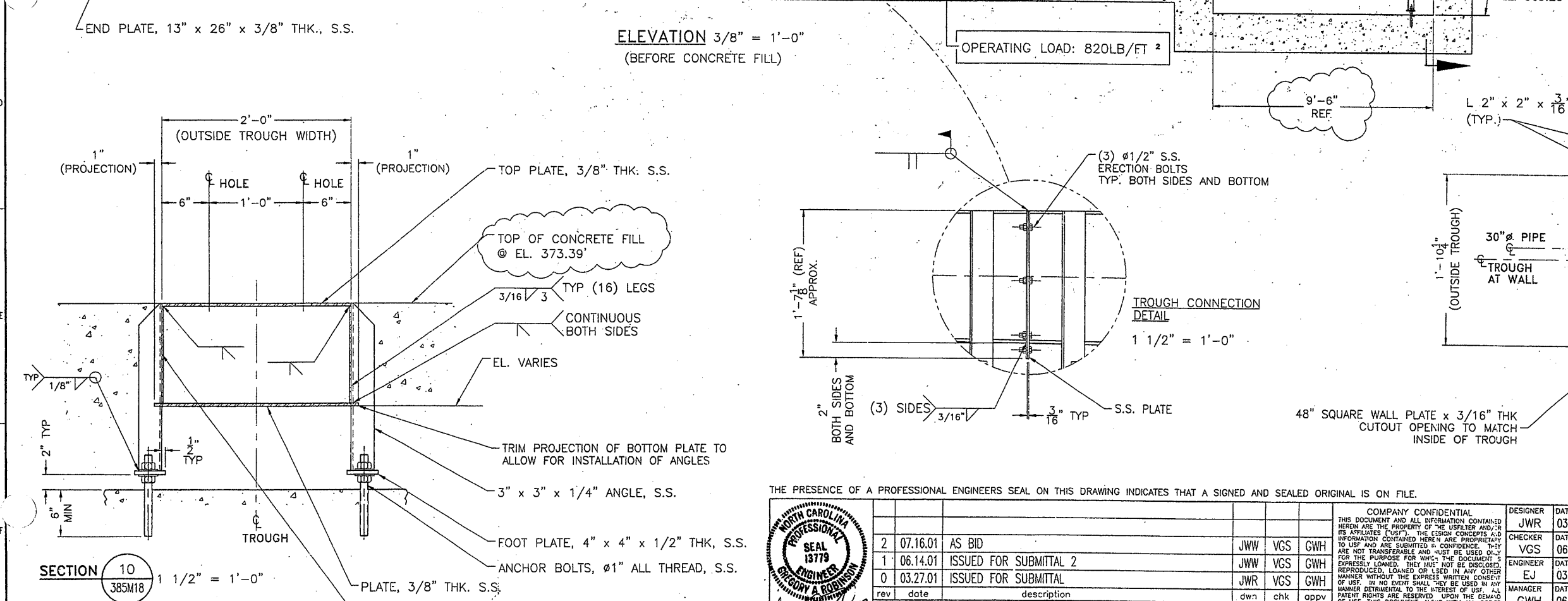
File Number
00659

Date
APRIL 2001

M-214

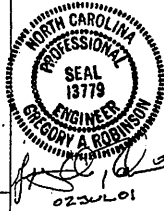


- NOTE:**
- DESIGN OF ANCHORAGE SYSTEM FOR THE 4 FT. BY 4 FT. WALL TROUGH PLATE AND TROUGH IS BY ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP.
 ALL ANCHOR BOLTS SHOWN SHALL UTILIZE EPCON® CERAMIC 6™ (ITW RAMSET/REDHEAD) EPOXY ADHESIVE ANCHORING SYSTEM (OR EQUAL).
 APPLY ANTI-SEIZE TO ALL STAINLESS STEEL FASTENERS.
 - TROUGH AND WALL PLATE WITH ANGLES SHALL BE FABRICATED OF 316L STAINLESS STEEL.
 - STAINLESS STEEL FABRICATED ITEMS INDICATED (TROUGH, ANCHORAGE SYSTEMS AND HARDWARE, AND WALL PLATE AND ASSEMBLY) ON THIS DRAWING ARE THE RESPONSIBILITY OF THE (GENERAL) CONTRACTOR TO PROVIDE, FABRICATE, AND INSTALL.
- ** ALTERNATE DRAWING NO. WHEN INCORPORATED INTO EEA DRAWING PACKAGE : M-215**



RECORD DRAWING
 THESE DRAWINGS HAVE BEEN REVISED TO REFLECT MAJOR CHANGES, IF ANY, WHICH OCCURRED DURING CONSTRUCTION. REVISIONS ARE BASED UPON INFORMATION SUPPLIED BY CONTRACTOR.
 DATE: 12/12/01 PER: RLG

THE PRESENCE OF A PROFESSIONAL ENGINEERS SEAL ON THIS DRAWING INDICATES THAT A SIGNED AND SEALED ORIGINAL IS ON FILE.



rev	date	description	dwn	chk	appv
2	07.16.01	AS BID	JWW	VGS	GWH
1	06.14.01	ISSUED FOR SUBMITTAL 2	JWW	VGS	GWH
0	03.27.01	ISSUED FOR SUBMITTAL	JWR	VGS	GWH

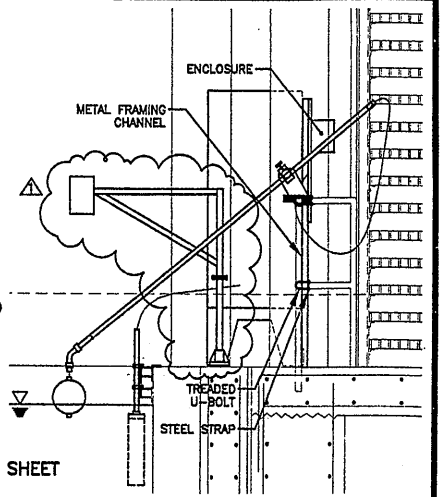
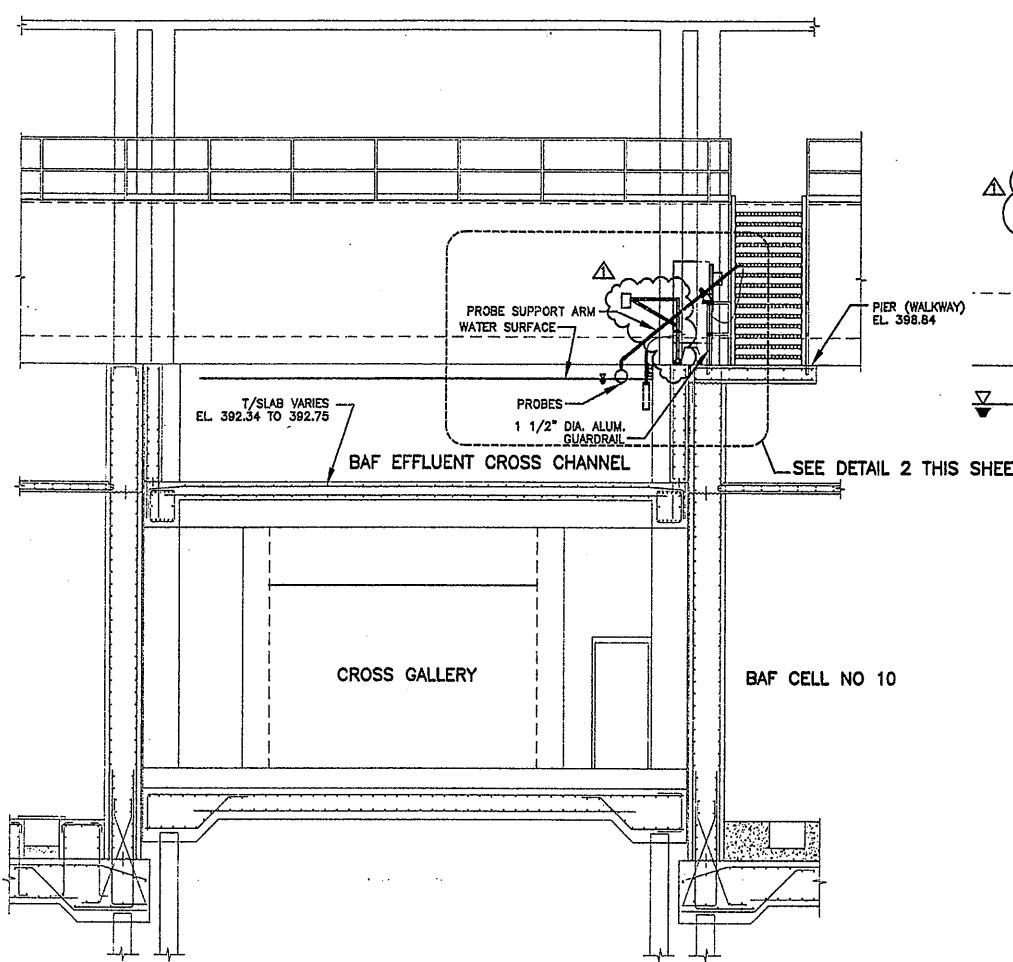
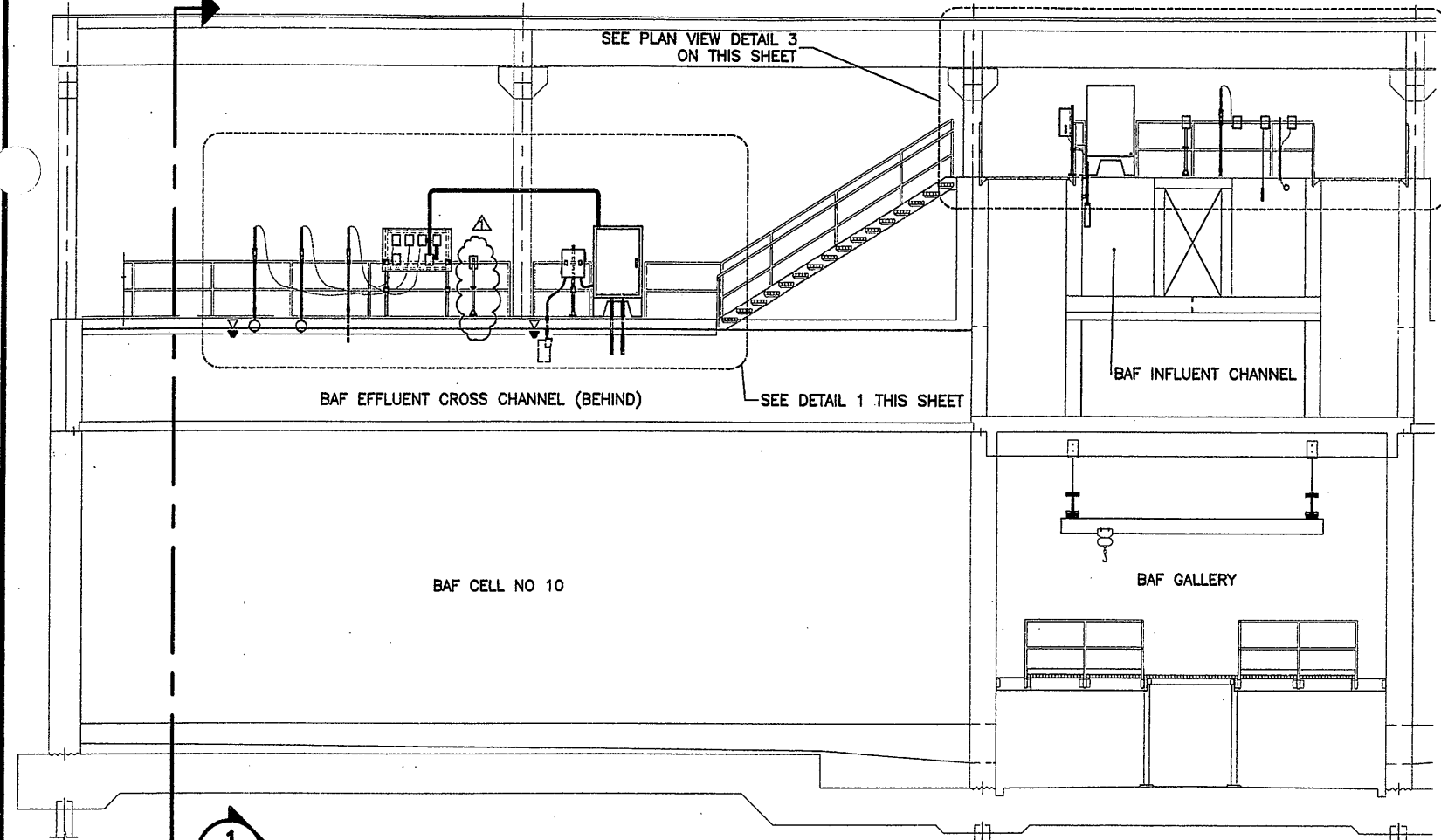
GRAPHICAL SCALE: 0 0.5 1 2 3 6

DESIGNER	DATE	TITLE
JWR	03.22.01	Biostyr Process Cell Feed / Backwash Channels Assembly
CHECKER	DATE	CLIENT
VGS	06.13.01	Onondaga County, NY
ENGINEER	DATE	CLASSIFICATION
EJ	03.26.01	PROJECT No. 329908
MANAGER	DATE	DRAWING
GWH	06.14.01	** 385M18
FILE:	SCALE:	SHEET
	1:32	1 OF 1

US Filter KRUGER PRODUCTS
 401 HARRISON OAKS BLVD CARY, NC, 27513
 (919) 677-8310 FAX (919) 677-0082

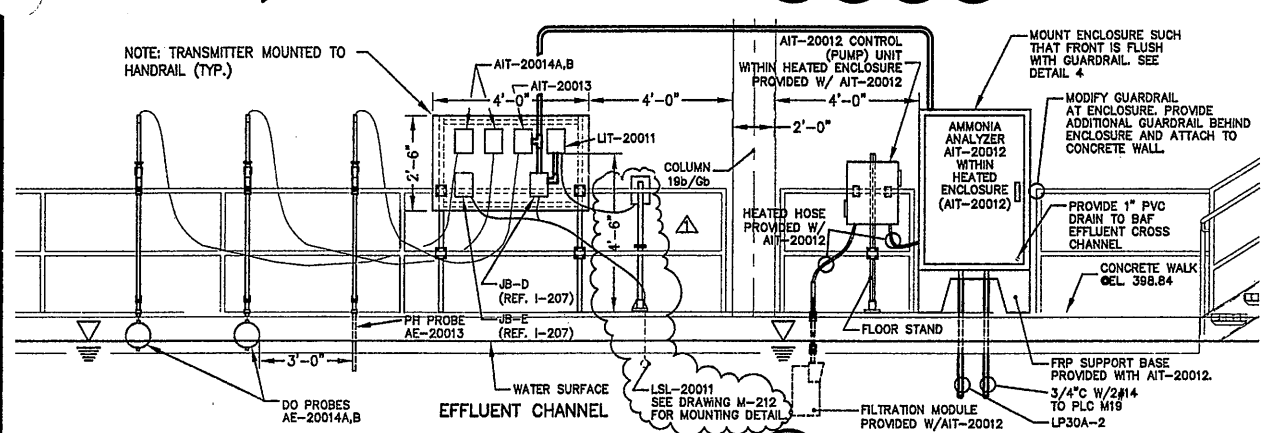
CLASSIFICATION: PROJECT No. 329908
 DRAWING: ** 385M18
 SHEET: 1 OF 1

INTERNAL REF NO: IF BAR IS NOT 1", ADJUST SCALE ACCORDINGLY



DETAIL 2
SCALE: 1/2"=1'-0"
M-216

SECTION 1
SCALE: 3/16"=1'-0"
S-201 S-208 S-218 S-222



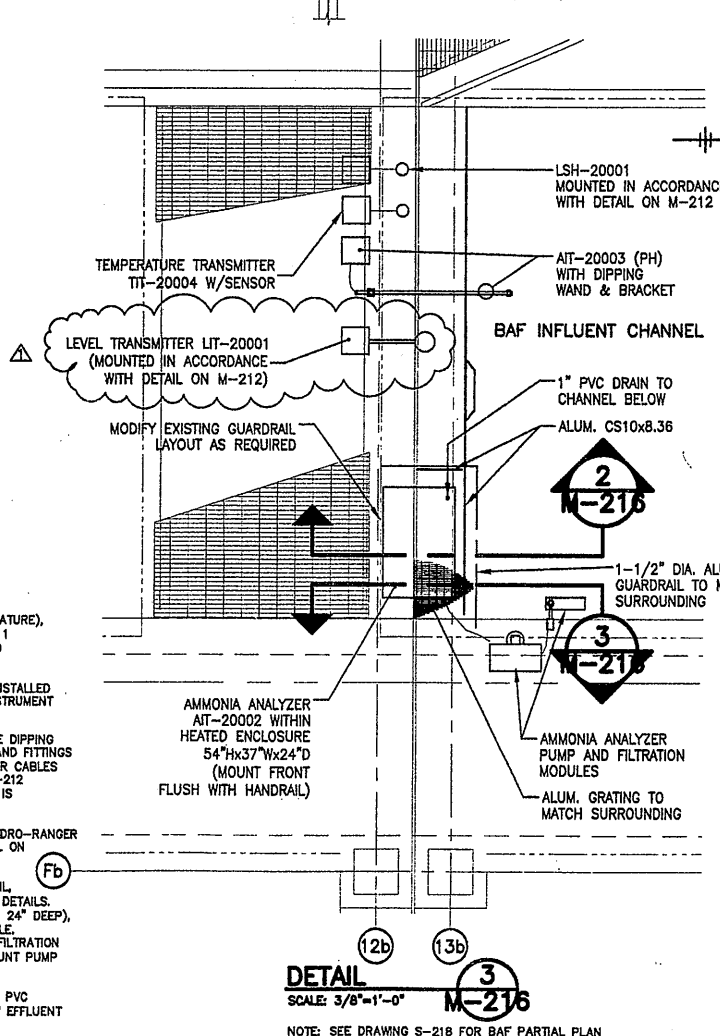
GENERAL NOTES:

- BAF EFFLUENT CHANNEL INSTRUMENTATION NOTES:
 - EFFLUENT CHANNEL INSTRUMENTS AIT-20013 (PH), AIT-20014A & B (DO), LIT-20011 (LEVEL), AND LSL-20011 (LOW LEVEL FLOAT SWITCH) ARE PROVIDED BY CONTRACT 1 (US FILTER / KRUGER). RESPONSIBILITY FOR INSTALLATION AND CONNECTIONS ARE IN ACCORDANCE WITH SPECIFICATION 16900.
 - DIPPING WAND TYPE INSTRUMENT BRACKETS PROVIDED WITH DO PROBE AE-20014A & AE-20014B / PH PROBE AE-20013 SHALL BE INSTALLED AS SHOWN ON THIS DRAWING. BRACKETS SHALL BE MOUNTED SUCH THAT INSTRUMENT PROBES CAN BE REMOVED FOR SERVICING, CLEANING, ETC.
 - GUARDRAIL BRACKETS FOR DO PROBES AE-20014A & AE-20014B ARE PROVIDED WITH PROBES. CONTRACT 4A SHALL PROVIDE 1-1/2" SCHEDULE 80 PVC PIPE FOR CONNECTING FLOATING PROBE TO GUARDRAIL BRACKET. MOUNT PIPE AND BRACKET SUCH THAT DO PROBES PROVIDED BY US FILTER / KRUGER (DANFOSS EVTA OXY FLOATING BALL TYPE) FLOAT ON SURFACE OF EFFLUENT CHANNEL. REFER TO O&M MANUAL FOR DETAILS. PROBE CABLE BETWEEN PROBE AND TRANSMITTER (PROVIDED WITH DANFOSS EVTA OXY INSTRUMENT) IS 33 FEET IN LENGTH.
 - BRACKET FOR PH PROBE AE-20013 SHALL BE PROVIDED BY CONTRACT 4A. THE DIPPING WAND AND ANGLE BRACKET ARE TO BE CONSTRUCTED FROM 304 STAINLESS STEEL. ALL PIPE AND FITTINGS SHALL BE 304 STAINLESS STEEL AND LARGE ENOUGH IN DIAMETER TO HOUSE THREE 1/2" SENSOR CABLES EASILY. PROVIDE NEOPRENE GASKET BETWEEN DISSIMILAR METALS. SEE CONTRACT DRAWING M-212 FOR ADDITIONAL CONSTRUCTION DETAILS. (PER RFI #4A-292). MOUNT SUCH THAT PH PROBE IS ALWAYS SUBMERGED.
- LEVEL TRANSMITTER LIT-20011 WAS ORIGINALLY SUBMITTED BY CONTRACT 1 (US FILTER / KRUGER) AS A PRESSURE TYPE DEVICE (THIS IS AN ERROR). THIS DEVICE WILL BE A MILLTRONICS HYDRO-RANGER ULTRASONIC LEVEL TRANSMITTER INSTALLED IN ACCORDANCE WITH THE DETAIL ON DRAWING M-212.
- REFER TO US FILTER / KRUGER SUBMITTAL FOR AMMONIA ANALYZER DETAILS. ANALYZER CONSISTS OF UNIT WITHIN HEATED ENCLOSURE (APPROXIMATELY 54" H X 37" WIDE X 24" DEEP), FILTRAX CONTROL UNIT WITHIN HEATED ENCLOSURE (PUMP UNIT), AND FILTRATION INTAKE MODULE. MOUNT FILTRATION MODULE TO CHANNEL WALL IN ACCORDANCE WITH MANUFACTURERS DETAILS. MOUNT PUMP UNIT ADJACENT TO ANALYZER USING FLOOR STAND PROVIDED WITH UNIT.

DETAIL 1
SCALE: 3/8"=1'-0"
M-216

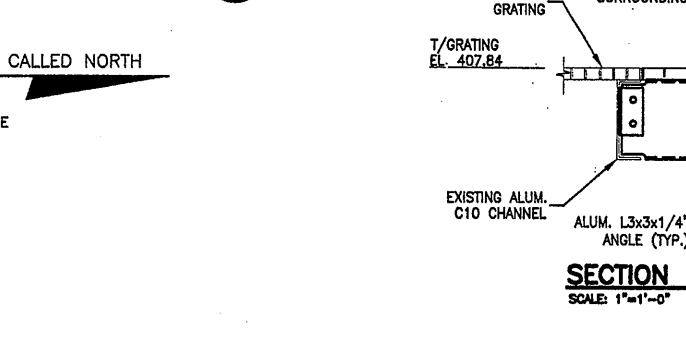
BAF INFLUENT CHANNEL INSTRUMENTATION NOTES:

- INFLUENT CHANNEL INSTRUMENTS AIT-20003 (PH), AIT-20002 (AMMONIA), TIT-20004 (TEMPERATURE), LIT-20001 (LEVEL), AND LSH-20001 (HIGH LEVEL FLOAT SWITCH) ARE PROVIDED BY CONTRACT 1 (US FILTER / KRUGER) AS SHOWN ON DRAWING I-208. RESPONSIBILITY FOR INSTALLATION AND CONNECTIONS ARE IN ACCORDANCE WITH SPECIFICATION 16900.
- DIPPING WAND TYPE INSTRUMENT BRACKET (PH PROBE AE-20003) SHALL BE PROVIDED AND INSTALLED BY CONTRACT 4A AS SHOWN ON THIS DRAWING. BRACKET SHALL BE MOUNTED SUCH THAT INSTRUMENT PROBES CAN BE REMOVED FOR SERVICING, CLEANING, ETC.
- DIPPING WAND BRACKET FOR PH PROBE AE-20003 SHALL BE PROVIDED BY CONTRACT 4A. THE DIPPING WAND AND ANGLE BRACKET ARE TO BE CONSTRUCTED FROM 304 STAINLESS STEEL. ALL PIPE AND FITTINGS SHALL BE 304 STAINLESS STEEL AND LARGE ENOUGH IN DIAMETER TO HOUSE THREE 1/2" SENSOR CABLES EASILY. PROVIDE NEOPRENE GASKET BETWEEN DISSIMILAR METALS. SEE CONTRACT DRAWING M-212 FOR ADDITIONAL CONSTRUCTION DETAILS. (PER RFI #4A-292). MOUNT SUCH THAT PH PROBE IS ALWAYS SUBMERGED.
- LEVEL TRANSMITTER LIT-20001, PROVIDED BY US FILTER / KRUGER WILL BE A MILLTRONICS HYDRO-RANGER ULTRASONIC LEVEL TRANSMITTER INSTALLED BY CONTRACT 4A IN ACCORDANCE WITH THE DETAIL ON DRAWING M-212.
- INFLUENT AMMONIA ANALYZER SHALL BE MOUNTED SIMILAR TO EFFLUENT ANALYZER (SEE DETAIL THIS SHEET). REFER TO US FILTER / KRUGER SUBMITTAL FOR AMMONIA ANALYZER AIT-20002 DETAILS. ANALYZER CONSISTS OF UNIT WITHIN HEATED ENCLOSURE (APPROXIMATELY 54" H X 37" WIDE X 24" DEEP), FILTRAX CONTROL UNIT WITHIN HEATED ENCLOSURE (PUMP UNIT), AND FILTRATION INTAKE MODULE. PROVIDE CATWALK EXTENSION FOR MOUNTING ANALYZER ENCLOSURE. MOUNT PUMP UNIT AND FILTRATION MODULE TO CHANNEL WALL / GUARDRAIL IN ACCORDANCE WITH MANUFACTURERS DETAILS. MOUNT PUMP UNIT USING FLOOR STAND PROVIDED WITH UNIT.
- TEMPERATURE TRANSMITTER SHALL BE MOUNTED TO HANDRAIL. PROVIDE 1 1/2" SCHEDULE 80 PVC PIPE EXTENSION FOR TEMPERATURE SENSOR TE-20002 AND SUBMERGE MINIMUM OF 2'0" BELOW EFFLUENT CHANNEL WATER SURFACE.

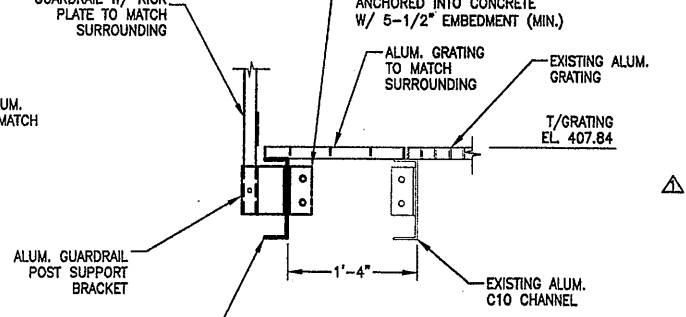


DETAIL 3
SCALE: 3/8"=1'-0"
M-216
NOTE: SEE DRAWING S-218 FOR BAF PARTIAL PLAN

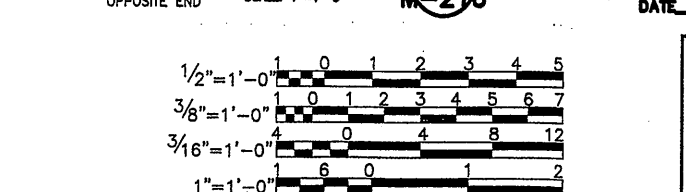
SECTION 1
SCALE: 3/16"=1'-0"
M-216



SECTION 2
SCALE: 1"=1'-0"
M-216



SECTION 3
SCALE: 1"=1'-0"
M-216



SECTION 3
SCALE: 1"=1'-0"
M-216

LEVEL TRANSMITTER CHANGED FROM ULTRASONIC TO PRESSURE TRANSDUCER. FOR DETAILS SEE BAF MISCELLANEOUS DETAILS SHEET M-212

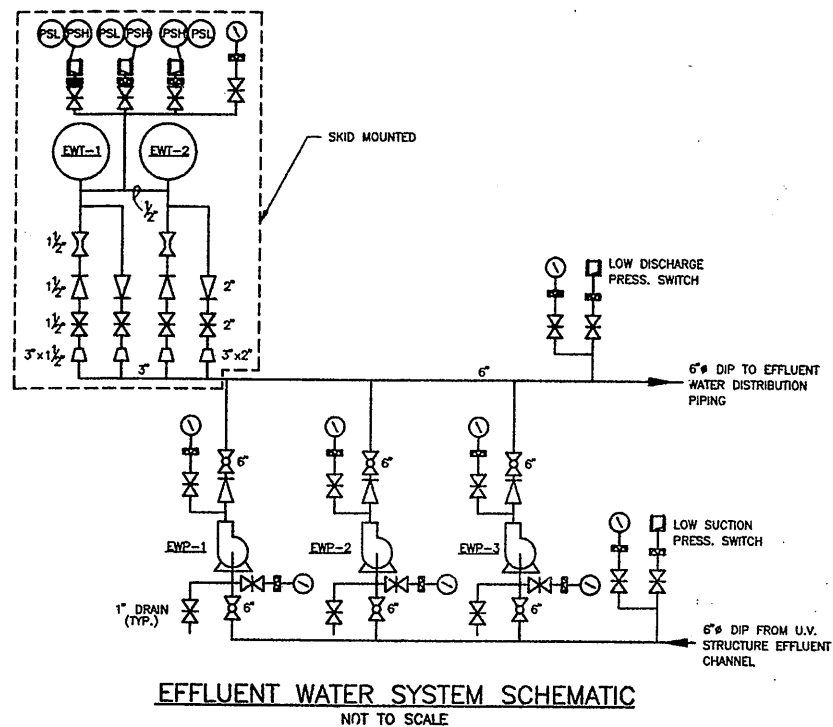
RECORD DRAWINGS
TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, THESE RECORD DRAWINGS SUBSTANTIALLY REPRESENT THE PROJECT AS CONSTRUCTED.

ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP
DATE: 12/12/05 BY: R.G.

ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP
SYRACUSE, NEW YORK

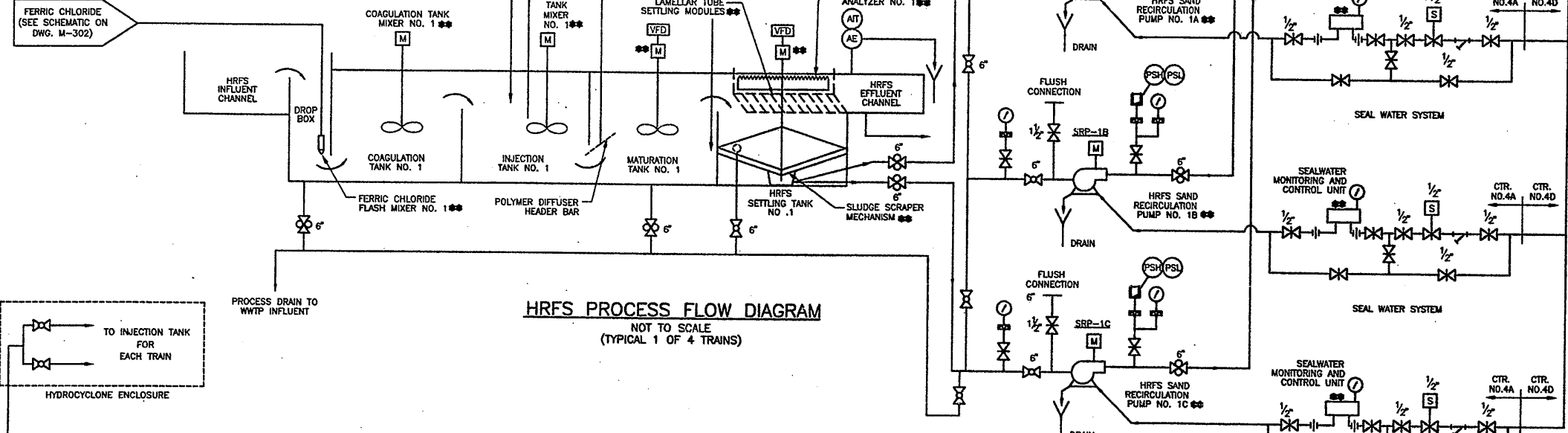
ONONDAGA COUNTY DEPARTMENT OF WATER ENVIRONMENT PROTECTION
METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT

STAGE III AMMONIA AND STAGE II PHOSPHOROUS REMOVAL PROJECT | M-216

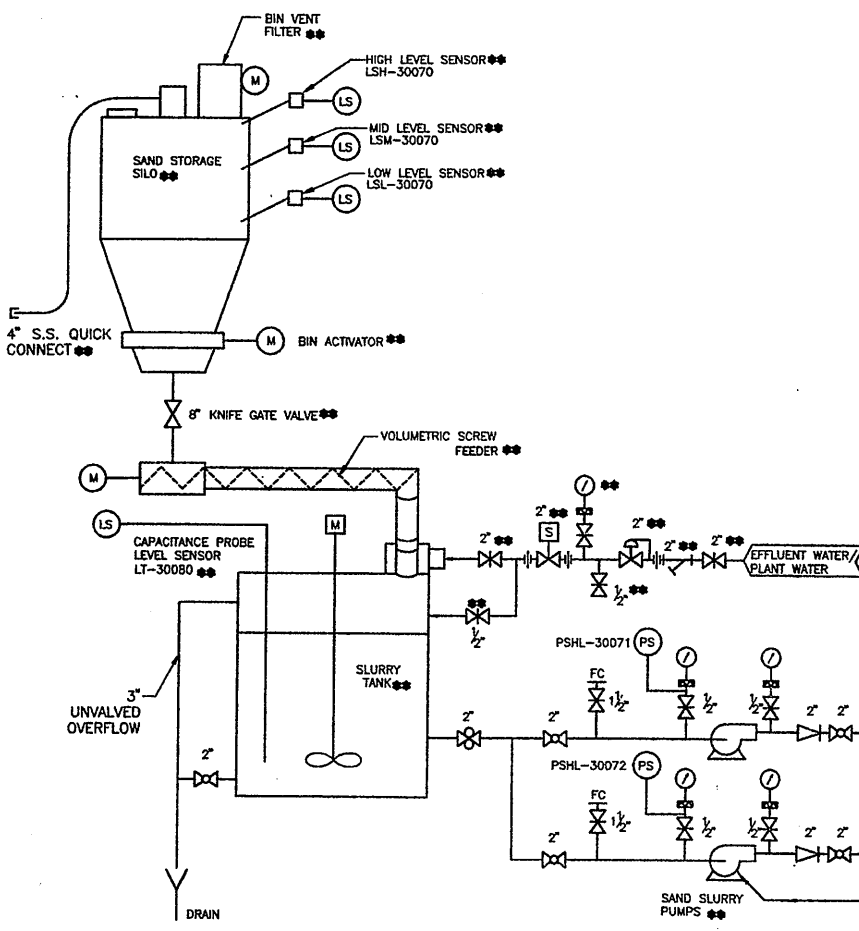


EFFLUENT WATER SYSTEM SCHEMATIC
NOT TO SCALE

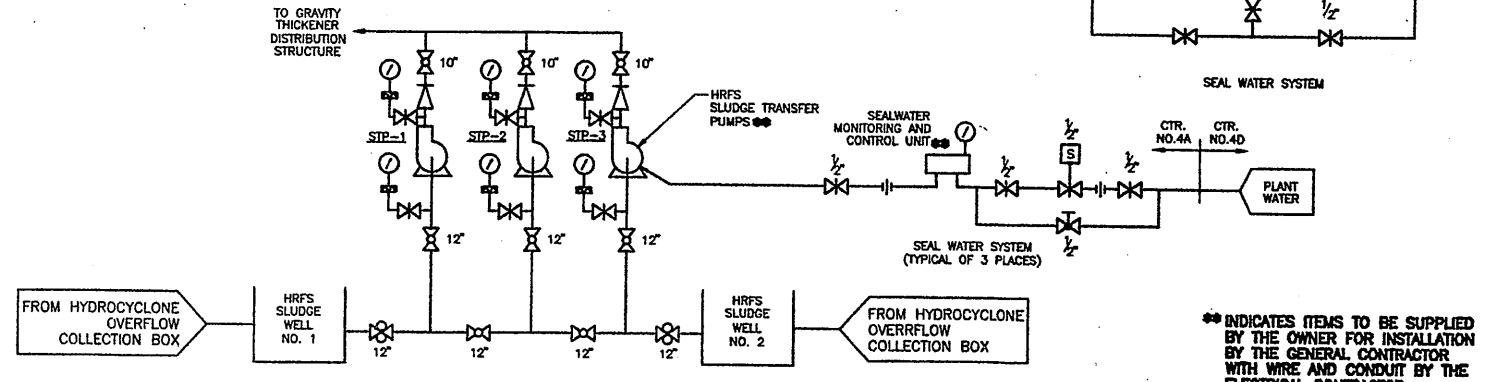
- OVERFLOW SLUDGE (SEE SLUDGE TRANSFER FEED SCHEMATIC ON DWG. M-301)
- POLYMER SOLUTION (SEE SCHEMATIC ON DWG. M-303)
- MAKEUP SAND (SEE SAND SILO AND SLURRY FEED SCHEMATIC ON DWG. M-301)
- FERRIC CHLORIDE (SEE SCHEMATIC ON DWG. M-302)



HRFS PROCESS FLOW DIAGRAM
NOT TO SCALE
(TYPICAL 1 OF 4 TRAINS)



SAND STORAGE SILO AND SLURRY FEED SYSTEM
NOT TO SCALE



SLUDGE TRANSFER PUMP DIAGRAM
NOT TO SCALE

** INDICATES ITEMS TO BE SUPPLIED BY THE OWNER FOR INSTALLATION BY THE GENERAL CONTRACTOR WITH WIRE AND CONDUIT BY THE ELECTRICAL CONTRACTOR.

RECORD DRAWING
THESE DRAWINGS HAVE BEEN REVISED TO REFLECT MAJOR CHANGES, IF ANY, WHICH OCCURRED DURING CONSTRUCTION. REVISIONS ARE BASED UPON INFORMATION SUPPLIED BY CONTRACTOR.
DATE: 4/23/05 PER: GCH

THIS DRAWING WAS PREPARED AT THE SCALE INDICATED IN THE TITLE BLOCK. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR IN THE TITLE BLOCK TO DETERMINE THE ACTUAL SCALE OF THIS DRAWING.

10/25/00 S&W JRH
0659M301

No.	Date	Revisions	Init
0	3/30/01	ISSUED FOR APPROVAL	
1	6/26/01	AS BID	
2	05/05	FOR RECORDS	

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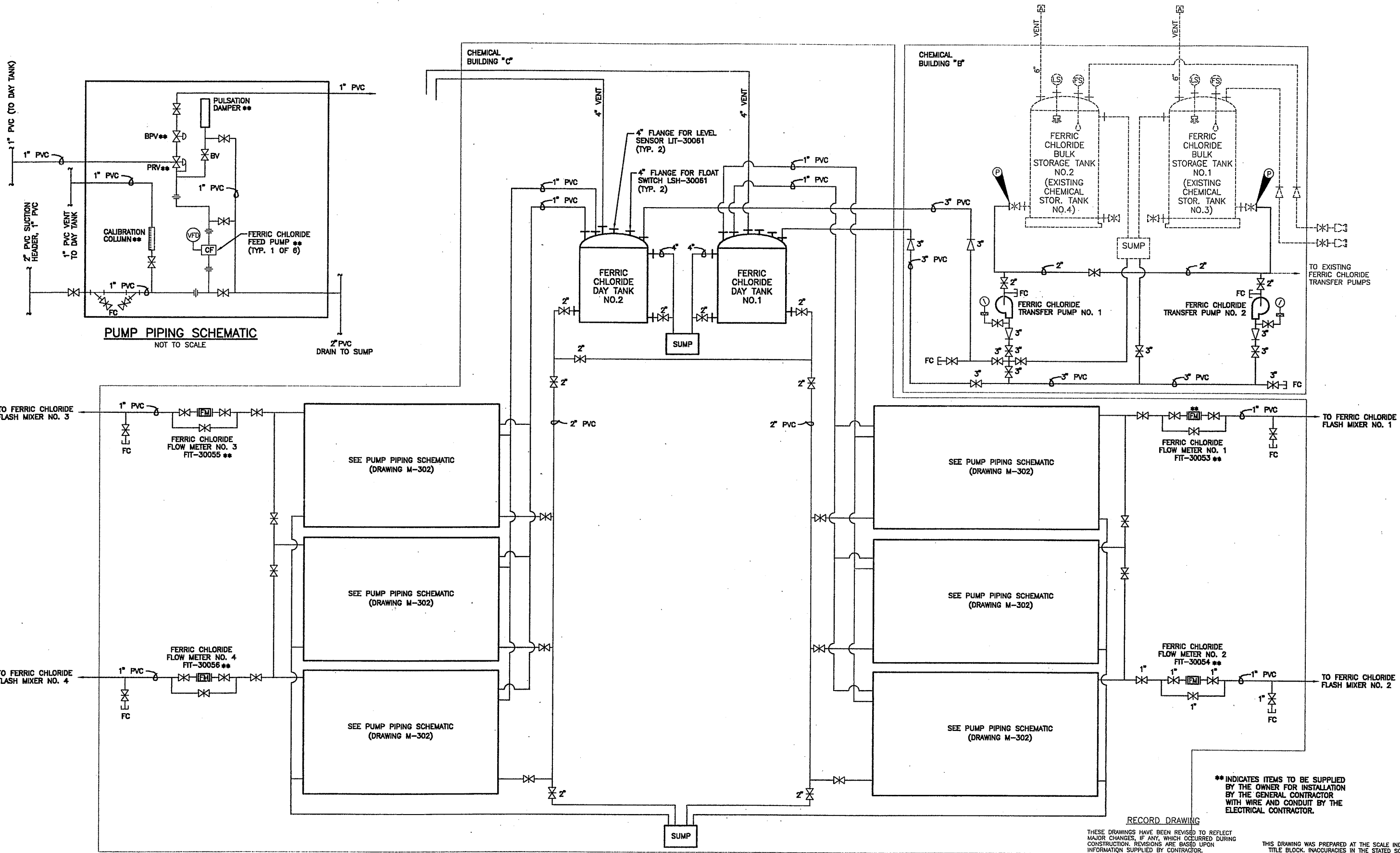
In charge of - AHS
Designed by - NGH
Drawn by - JRH
Checked by - AHS



ONONDAGA COUNTY • DEPARTMENT OF DRAINAGE AND SANITATION • SYRACUSE, NEW YORK
METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
HRFS COMPLEX
PROCESS FLOW SCHEMATICS
HRFS & SAND MAKE-UP SYSTEMS
MECHANICAL



File Number
00659
Date
APRIL 2001
M-301
G. C. Holt



10/25/00 S&W JRH
0659M302

NOT TO SCALE

NO ALTERATIONS PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW

No.	Date	Revisions	Init
0	3/30/01	ISSUED FOR APPROVAL	
1	6/26/01	AS BID	
2	05/05	FOR RECORDS	

In charge of AHS
 Designed by NGH
 Drawn by JRH
 Checked by AHS



ONONDAGA COUNTY • DEPARTMENT OF DRAINAGE AND SANITATION • SYRACUSE, NEW YORK
 METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
 STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
HRFS COMPLEX
PROCESS FLOW SCHEMATIC
FERRIC CHLORIDE FEED SYSTEM
 MECHANICAL

RECORD DRAWING

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 DATE: 4/23/05 PER: GCH

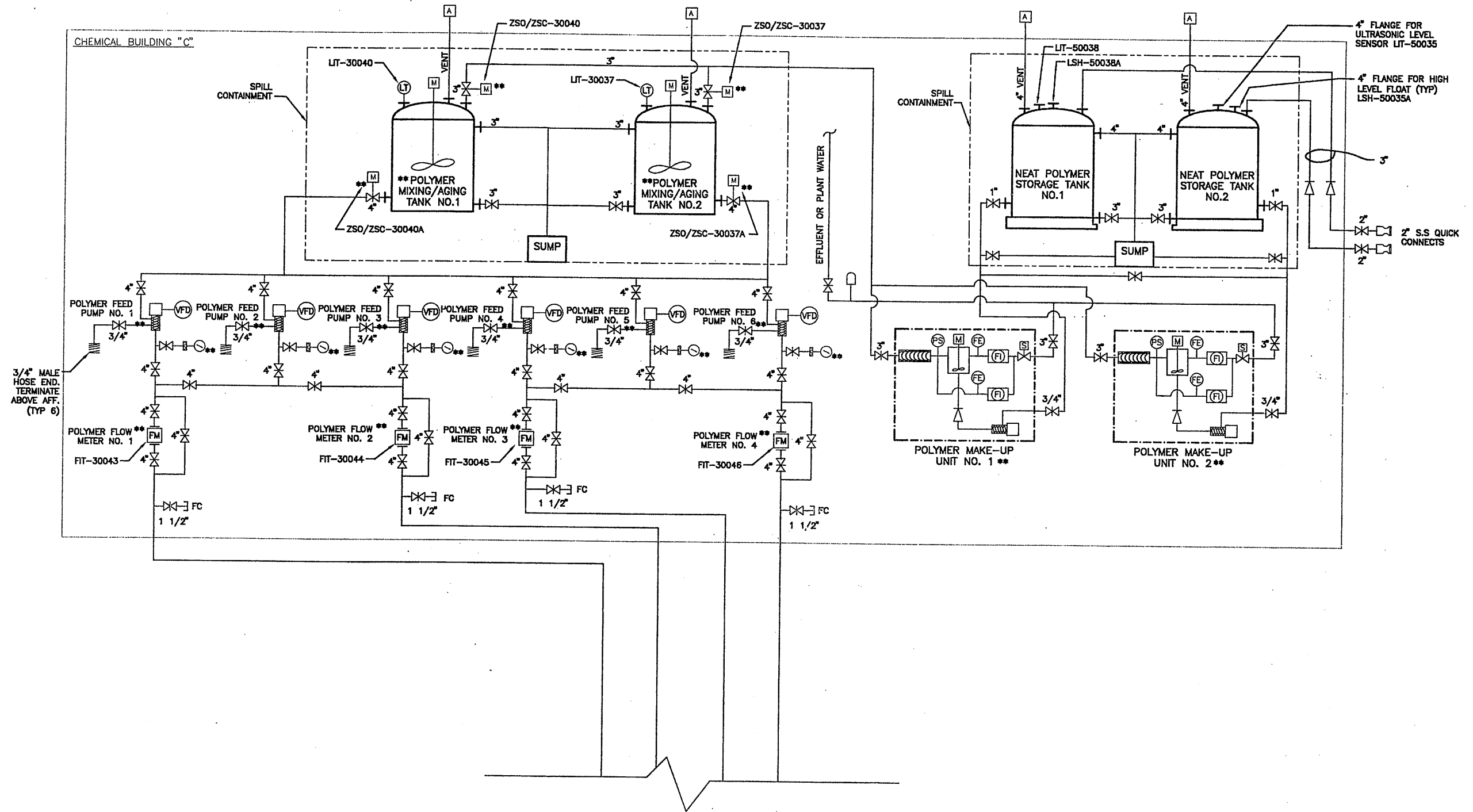
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File Number
00659

Date
APRIL 2001

M-302

GCH



FOR CONTINUATION
SEE ELEVATION 4 ON
SHEET M-304

RECORD DRAWING

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10/25/00 S&W JRH
0659M303

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No.	Date	Revisions	Init
0	3/30/01	ISSUED FOR APPROVAL	
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In charge of — AHS
Designed by — NGH
Drawn by — JRH
Checked by — AHS

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SYRACUSE, NEW YORK

ONONDAGA COUNTY • DEPARTMENT OF DRAINAGE AND SANITATION • SYRACUSE, NEW YORK
METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT

HRFS COMPLEX
**PROCESS FLOW SCHEMATIC
POLYMER FEED SYSTEM**
MECHANICAL

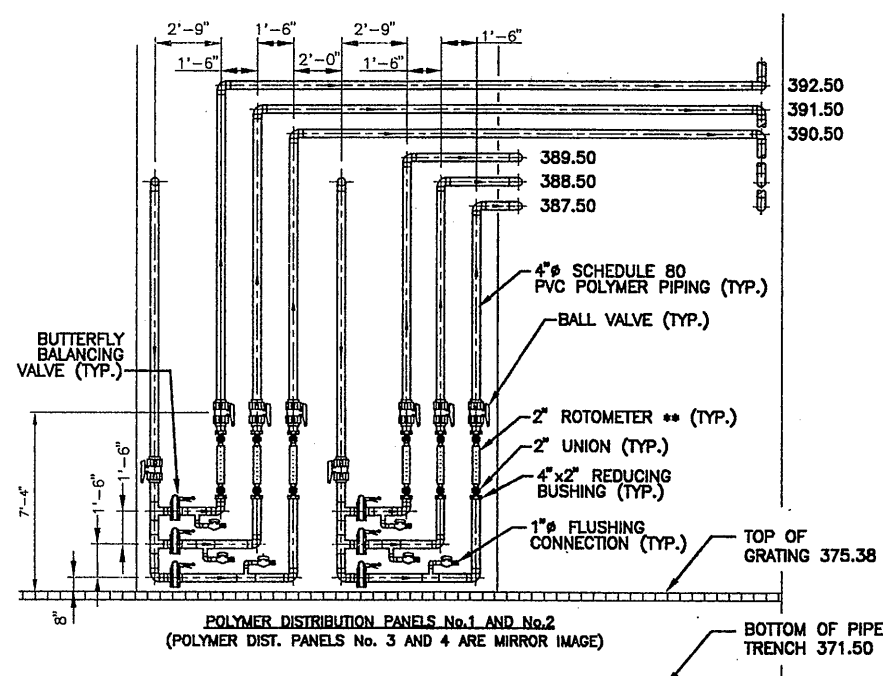
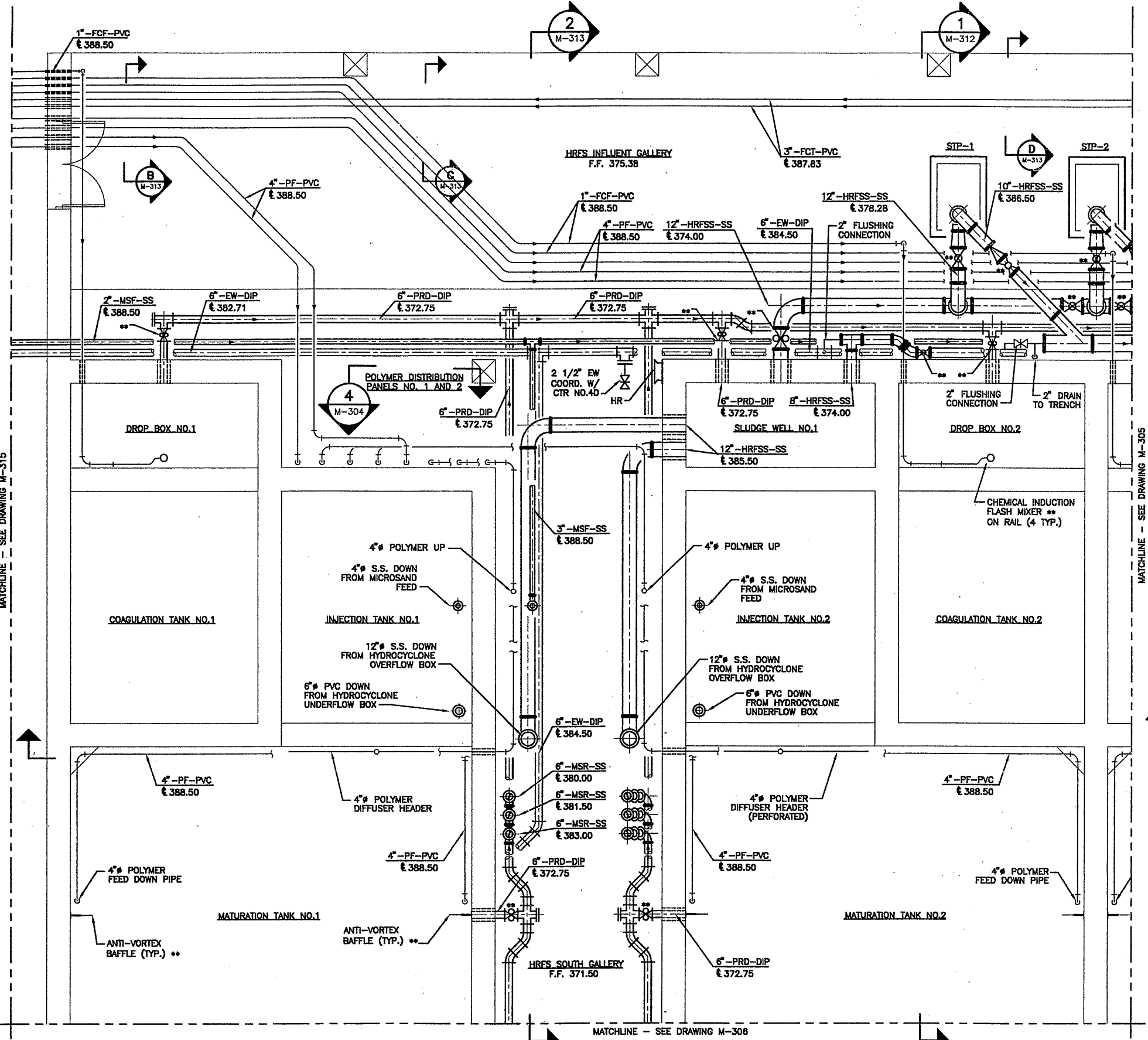


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00659
Date
APRIL 2001

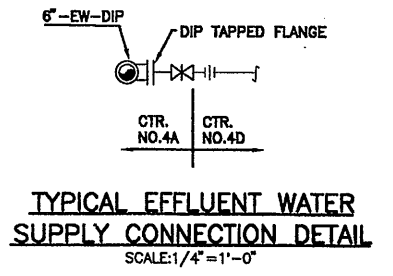
M-303

Gerald Hoke

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ELEVATION 4
SCALE: 1/4" = 1'-0" M-304



TYPICAL EFFLUENT WATER SUPPLY CONNECTION DETAIL
SCALE: 1/4" = 1'-0"

** INDICATES ITEMS TO BE SUPPLIED BY THE OWNER FOR INSTALLATION BY THE GENERAL CONTRACTOR WITH WIRE AND CONDUIT BY THE ELECTRICAL CONTRACTOR.

RECORD DRAWING

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X070
10/25/00 S&W JRH
0659M304

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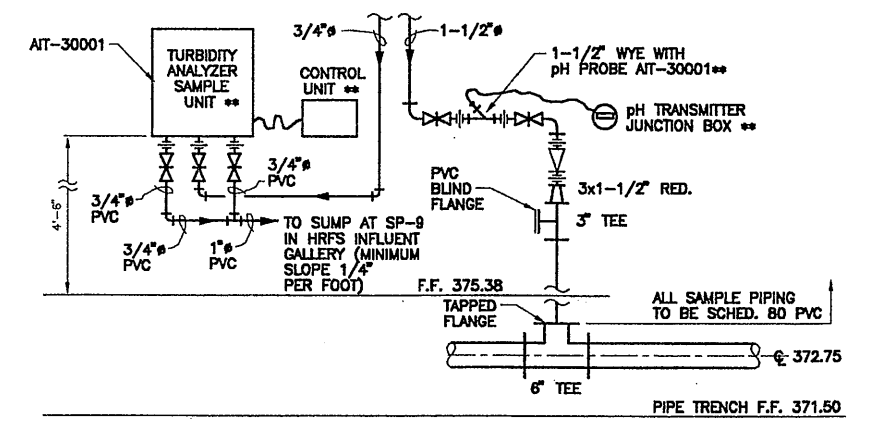
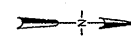
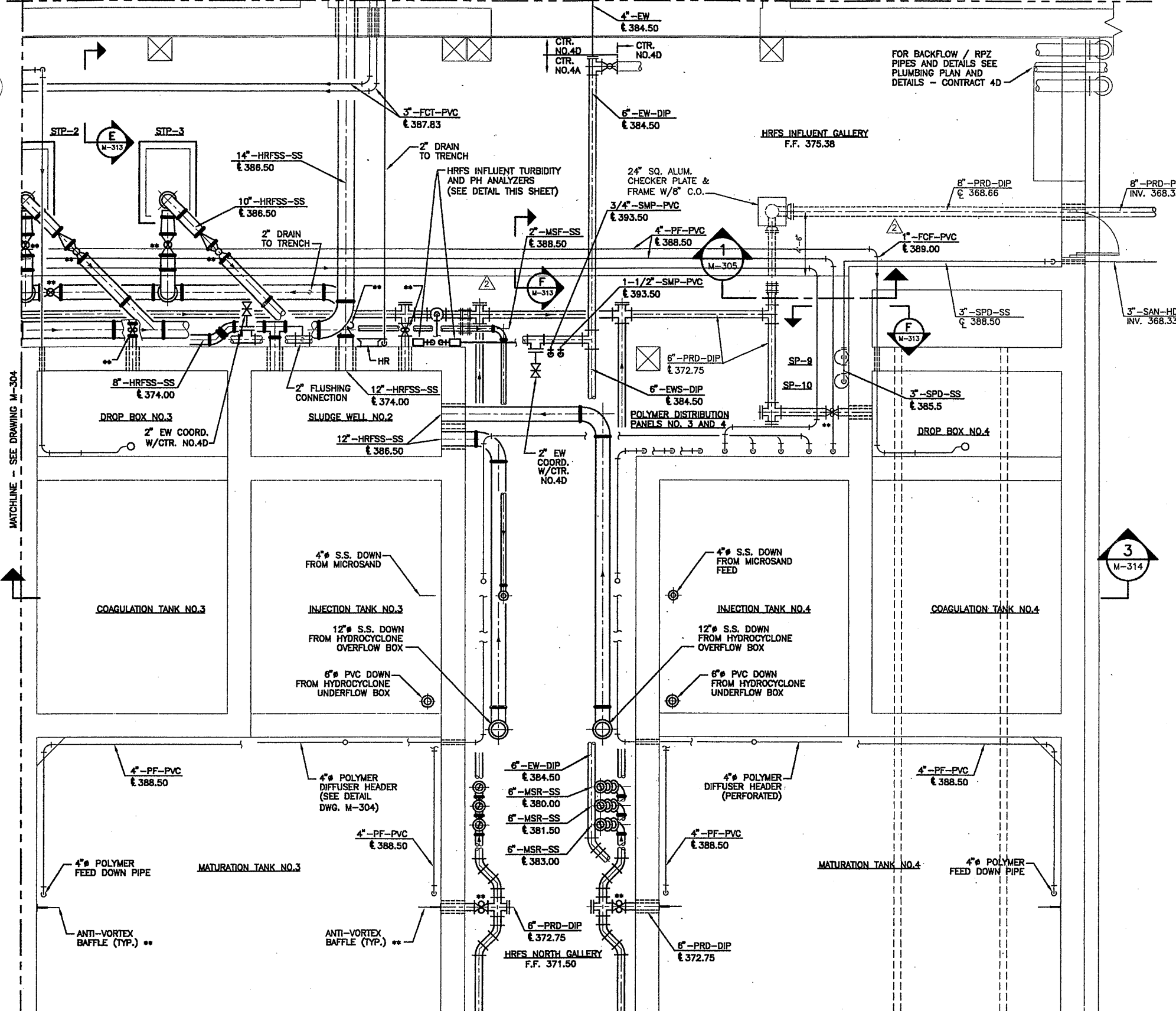
In charge of: AHS
Designed by: NGH
Drawn by: JRH
Checked by: AHS

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STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
HRFS COMPLEX LOWER PLAN (PARTIAL)
MECHANICAL

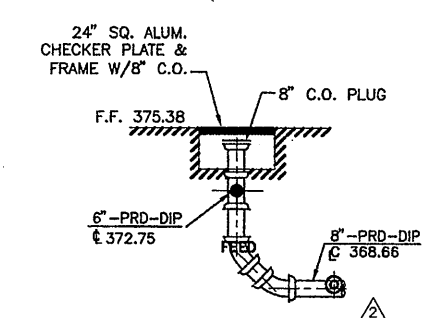
File Number: 00659
Date: APRIL 2001
M-304
Professional Engineer Seal: STATE OF NEW YORK, LICENSED PROFESSIONAL ENGINEER, No. 57504, C. C. Hood

MATCHLINE - SEE DRAWING M-206



HRFS INFLUENT TURBIDITY AND PH ANALYZER DETAIL (1 REQ'D)
SCALE: 3/8"=1'-0"

- NOTES:**
1. ALL SAMPLE PIPING SHALL BE SCHEDULE 80 PVC WITH SOLVENT WELDED JOINTS



SECTION 1
NOT TO SCALE

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RECORD DRAWING

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MATCHLINE - SEE DRAWING M-307

PLAN (PARTIAL)
SCALE: 1/4"=1'-0"

X070
10/25/00 S&W JRH
0659M305

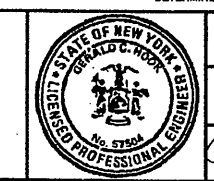
No.	Date	Revisions	Init
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1	6/26/01	AS BID	
2	8/18/03	REVISED FOR MODIFICATION 4A-185	
3	05/05	FOR RECORDS	

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Designed by: NGH
Drawn by: JRH
Checked by: AHS

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STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT

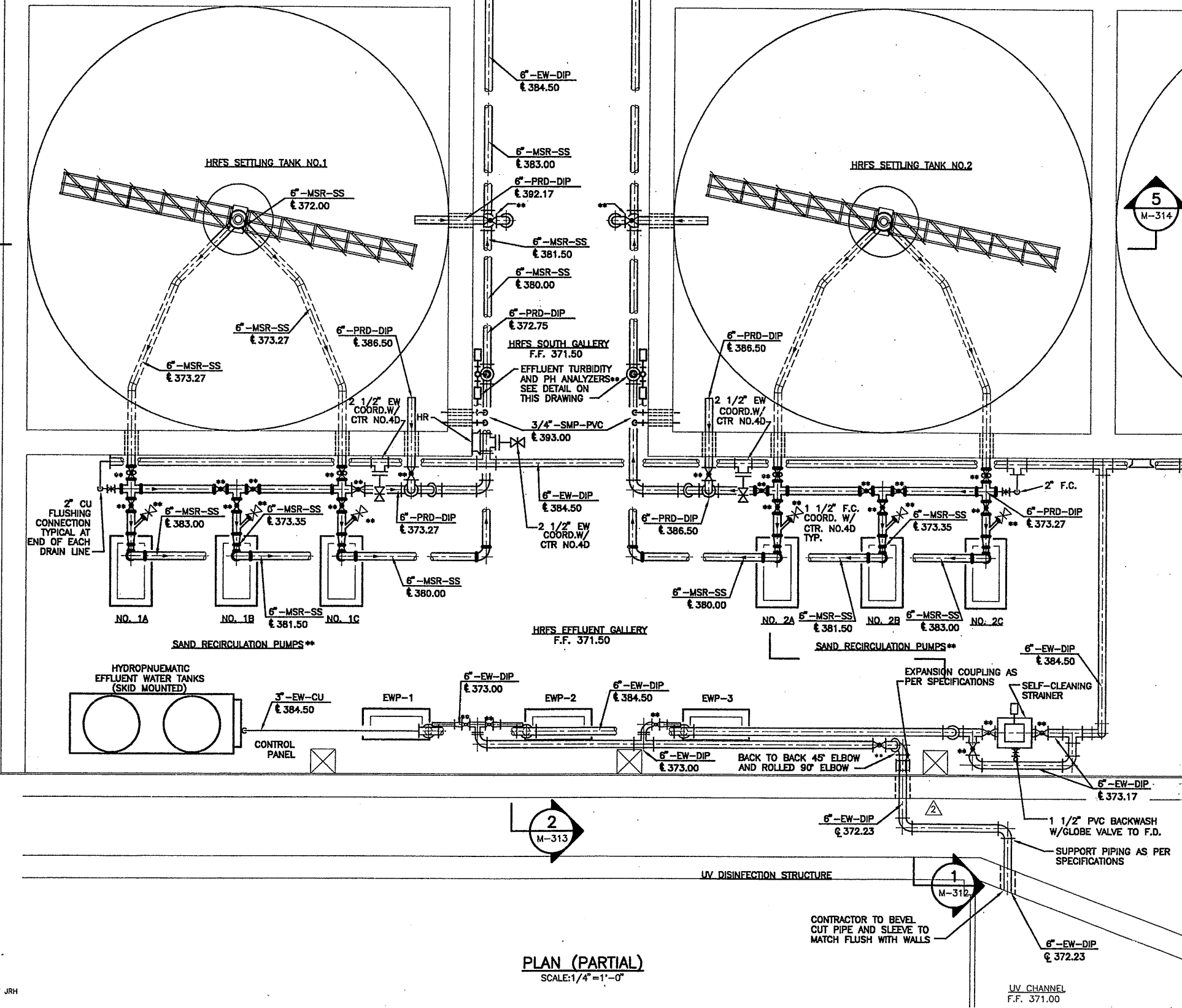
HRFS COMPLEX LOWER PLAN (PARTIAL)
MECHANICAL



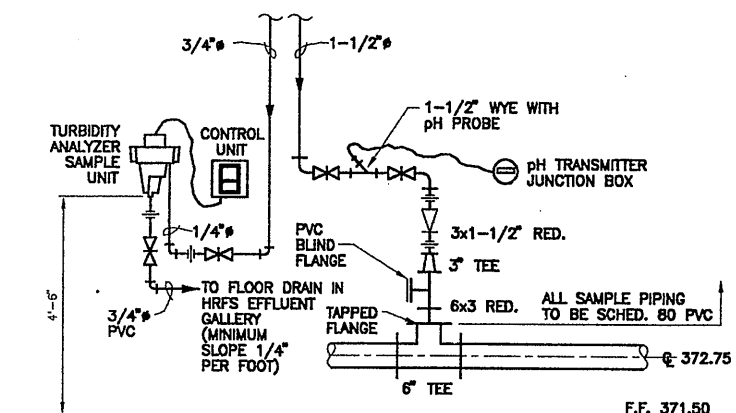
File Number: 00659
Date: APRIL 2001
M-305

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MATCHLINE - SEE DRAWING M-304



PLAN (PARTIAL)
 SCALE: 1/4" = 1'-0"



NOTE:
 1. ALL SAMPLE PIPING SHALL BE SCHEDULE 80 PVC WITH SOLVENT WELDED.

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X070
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 0659M306

1/4" = 1'-0"

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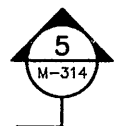
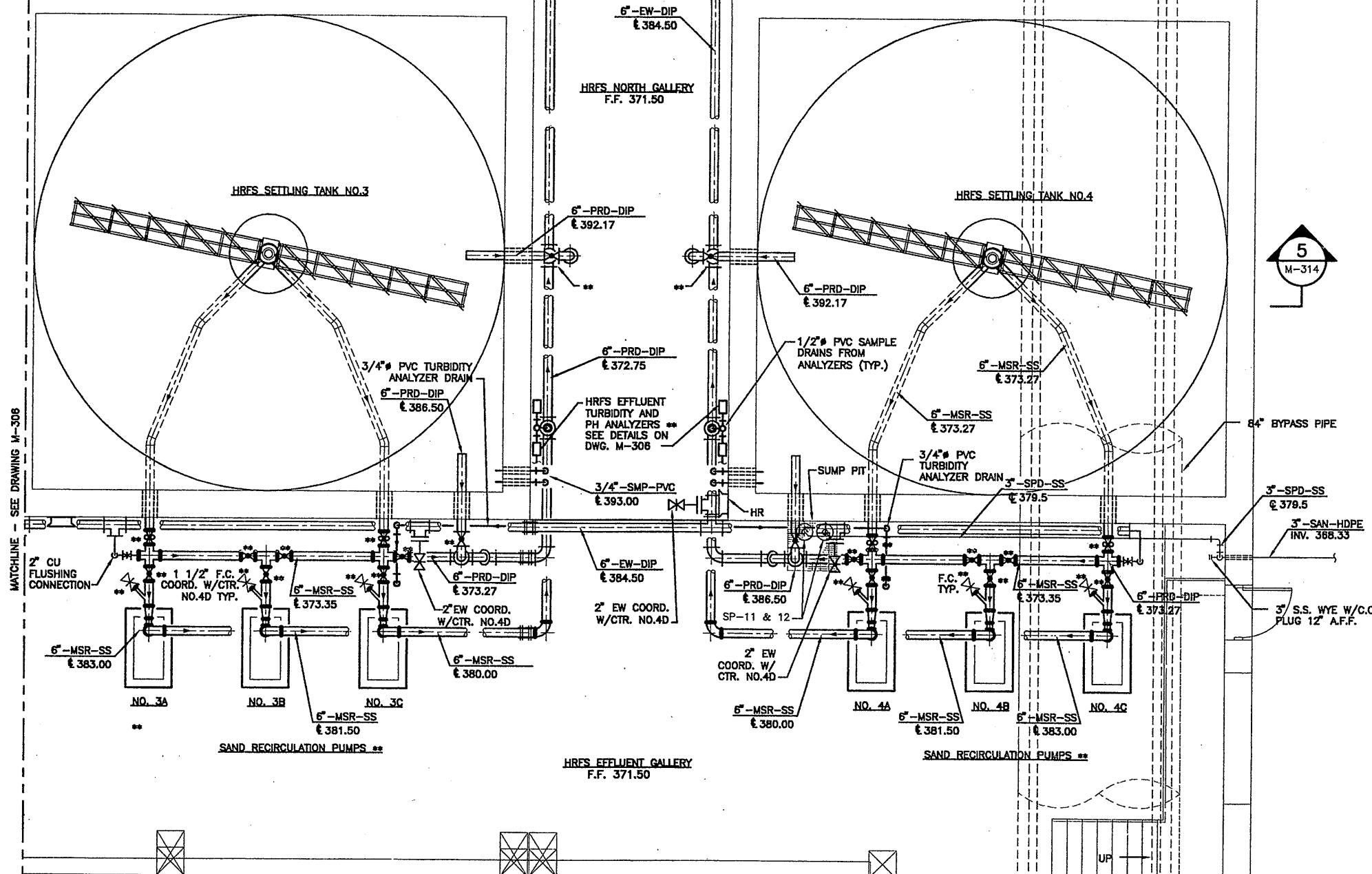
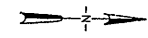
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 STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
HRFS COMPLEX LOWER PLAN (PARTIAL)
 MECHANICAL

File Number: 00659
 Date: APRIL 2001
 M-306

Professional Engineer Seal: STATE OF NEW YORK, SEWARD G. HOOK, No. 5750

MATCHLINE - SEE DRAWING M-305



** INDICATES ITEMS TO BE SUPPLIED BY THE OWNER FOR INSTALLATION BY THE GENERAL CONTRACTOR WITH WIRE AND CONDUIT BY THE ELECTRICAL CONTRACTOR.

PLAN (PARTIAL)
SCALE: 1/4" = 1'-0"

RECORD DRAWING

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X070
10/25/00 S&W JRH
1659M307

1/4" = 1'-0"
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Drawn by ___ JRH
Checked by ___ AHS

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STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT

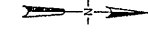
HRFS COMPLEX
LOWER PLAN
(PARTIAL)
MECHANICAL



File Number
00659
Date
APRIL 2001
M-307
Gerald C. Troop

2
M-313

1
M-312



HRES INFLUENT CHANNEL

SLIDE GATE NO.1

SLIDE GATE NO.2

FLAT PLATE WEIR - TYPICAL 4 PLACES
SEE DETAILS ON SHEET M-005

HANDRAIL AND KICKPLATE
SYSTEM (TYPICAL)

PORTABLE
BOOM HOIST **

FERRIC CHLORIDE
FLASH MIXER **
ON RAIL (4 TYP)

BASE FOR PORTABLE
BOOM HOIST (TYP.)

COAGULATION TANK
MIXER NO. 1 **

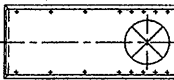
INJECTION TANK
MIXER NO. 1 **

INJECTION TANK
MIXER NO. 2 **

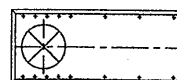
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MIXER NO. 2 **

F.D.

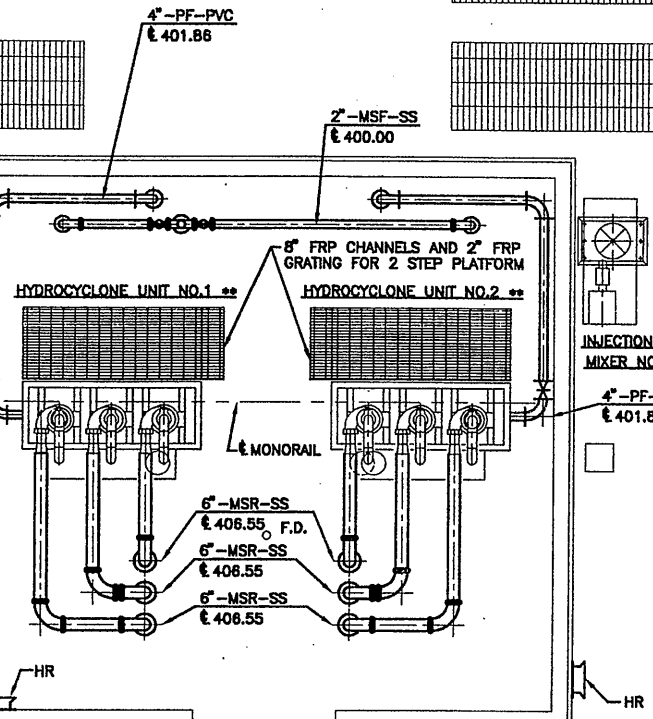
F.D.



MATURATION TANK
MIXER NO. 1 **



MATURATION TANK
MIXER NO. 2 **



MATCHLINE - SEE DRAWING M-309

3
M-314

** INDICATES ITEMS TO BE SUPPLIED
BY THE OWNER FOR INSTALLATION
BY THE GENERAL CONTRACTOR
WITH WIRE AND CONDUIT BY THE
ELECTRICAL CONTRACTOR.

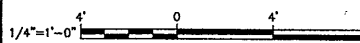
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X071
10/25/00 S&W JRH
0659M308

PLAN (PARTIAL)
SCALE: 1/4" = 1'-0"



No.	Date	Revisions	Init
0	3/30/01	ISSUED FOR APPROVAL	
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Designed by - NGH
Drawn by - JRH
Checked by - AHS



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METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT

HRFS COMPLEX
UPPER PLAN
(PARTIAL)
MECHANICAL

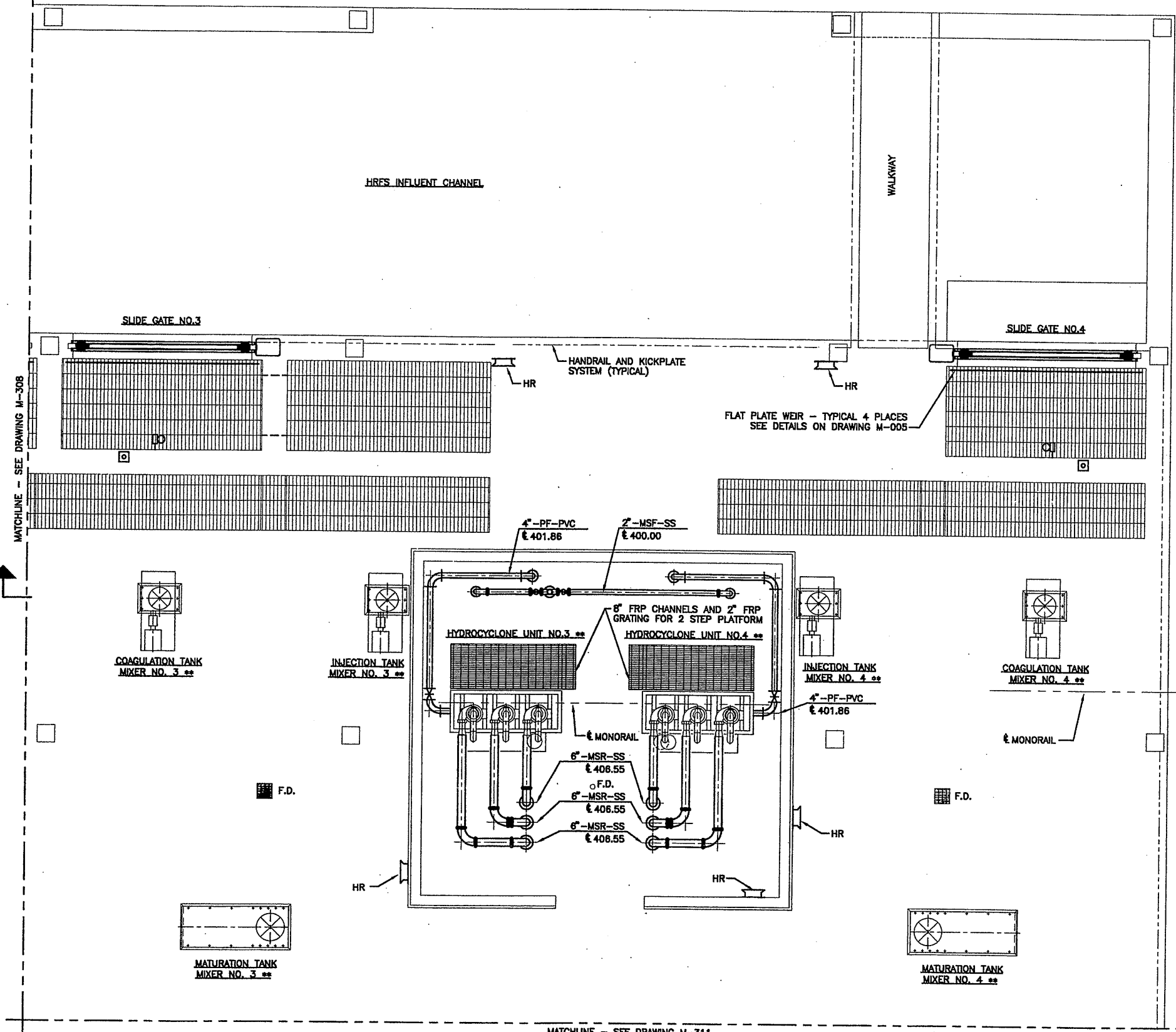
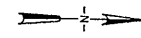


File Number
00659
Date
APRIL 2001

M-308

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GCH



** INDICATES ITEMS TO BE SUPPLIED BY THE OWNER FOR INSTALLATION BY THE GENERAL CONTRACTOR WITH WIRE AND CONDUIT BY THE ELECTRICAL CONTRACTOR.

RECORD DRAWING

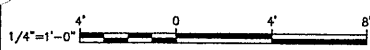
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X071
10/25/00 S&W JRH
0659M309

MATCHLINE - SEE DRAWING M-311

PLAN (PARTIAL)
SCALE: 1/4" = 1'-0"



No.	Date	Revisions	Init
0	3/30/01	ISSUED FOR APPROVAL	
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 STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT

HRFS COMPLEX
 UPPER PLAN
 (PARTIAL)
 MECHANICAL

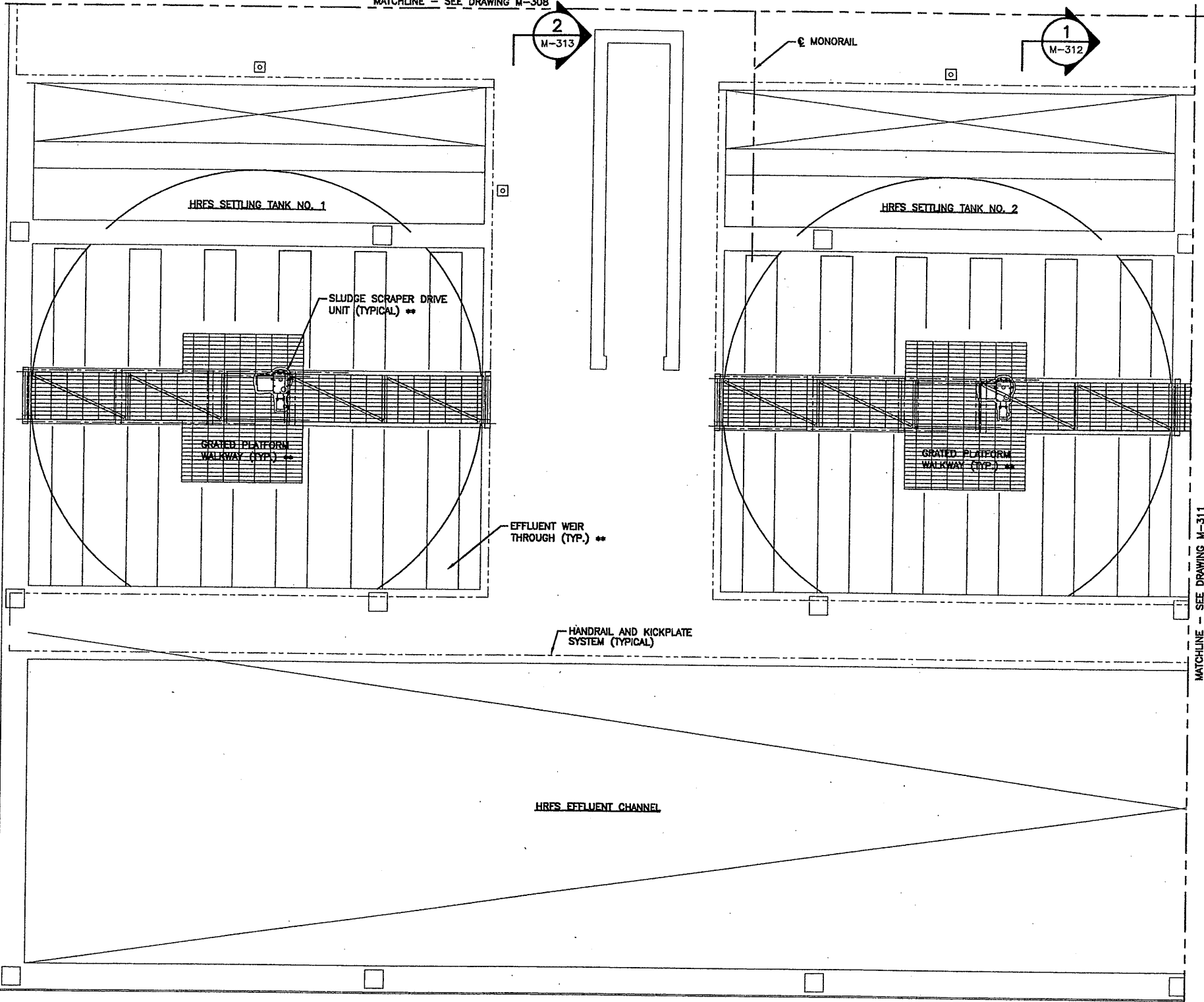


File Number 00659	M-309
Date APRIL 2001	

Carol C. Hoff

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MATCHLINE - SEE DRAWING M-308

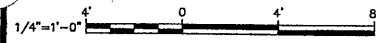


PLAN (PARTIAL)
SCALE: 1/4" = 1'-0"

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X071
10/25/00 CAZ JRH
0659M310



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STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT

HRFS COMPLEX
UPPER PLAN
(PARTIAL)
MECHANICAL

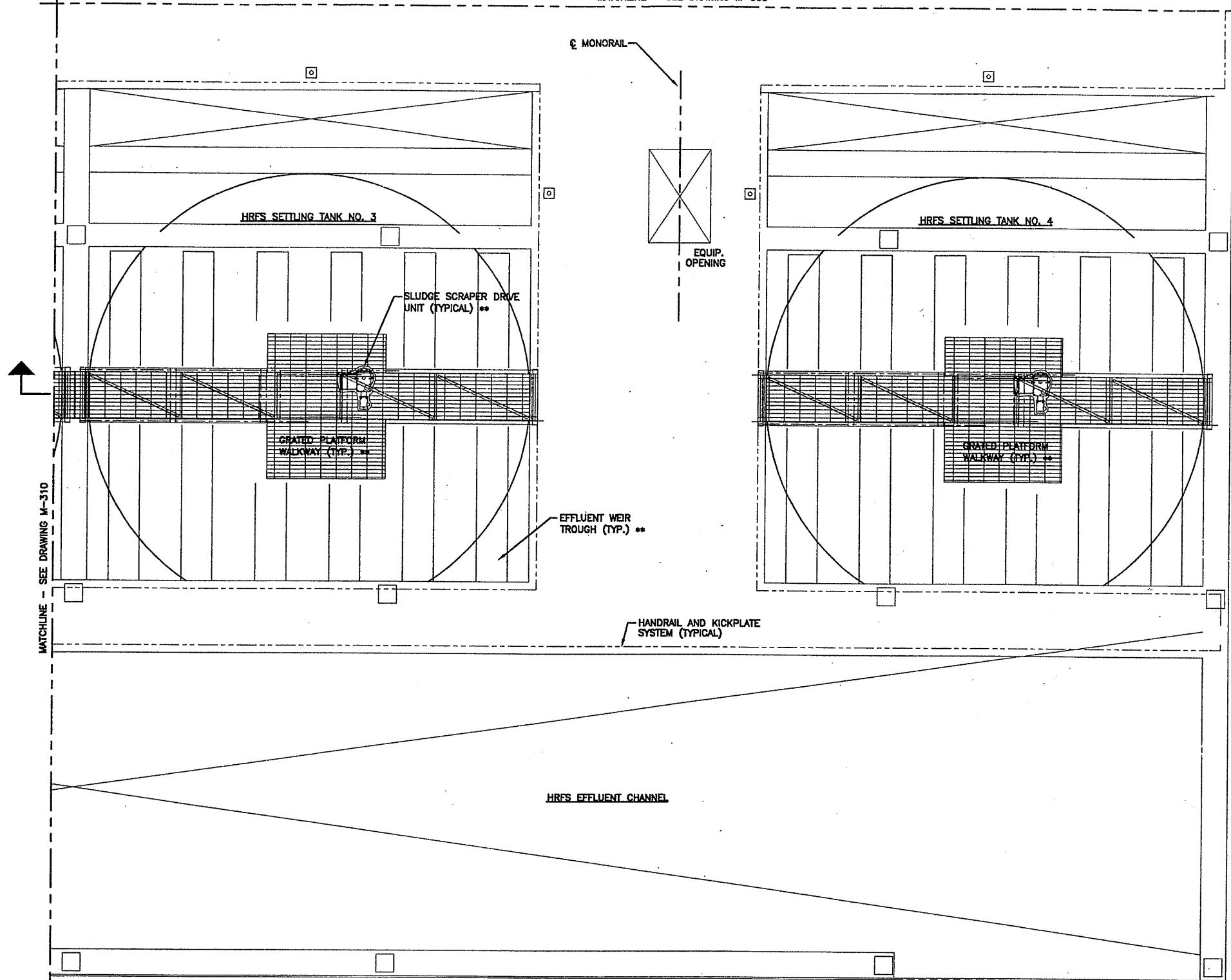


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Date: APRIL 2001
Samuel Hoot

M-310

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MATCHLINE - SEE DRAWING M-309



5
M-314

** INDICATES ITEMS TO BE SUPPLIED BY THE OWNER FOR INSTALLATION BY THE GENERAL CONTRACTOR WITH WIRE AND CONDUIT BY THE ELECTRICAL CONTRACTOR.

PLAN (PARTIAL)
SCALE: 1/4" = 1'-0"

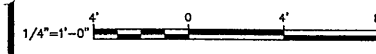
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X071
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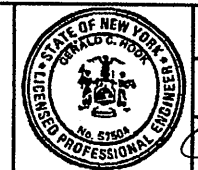
In charge of AHS
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Checked by AHS



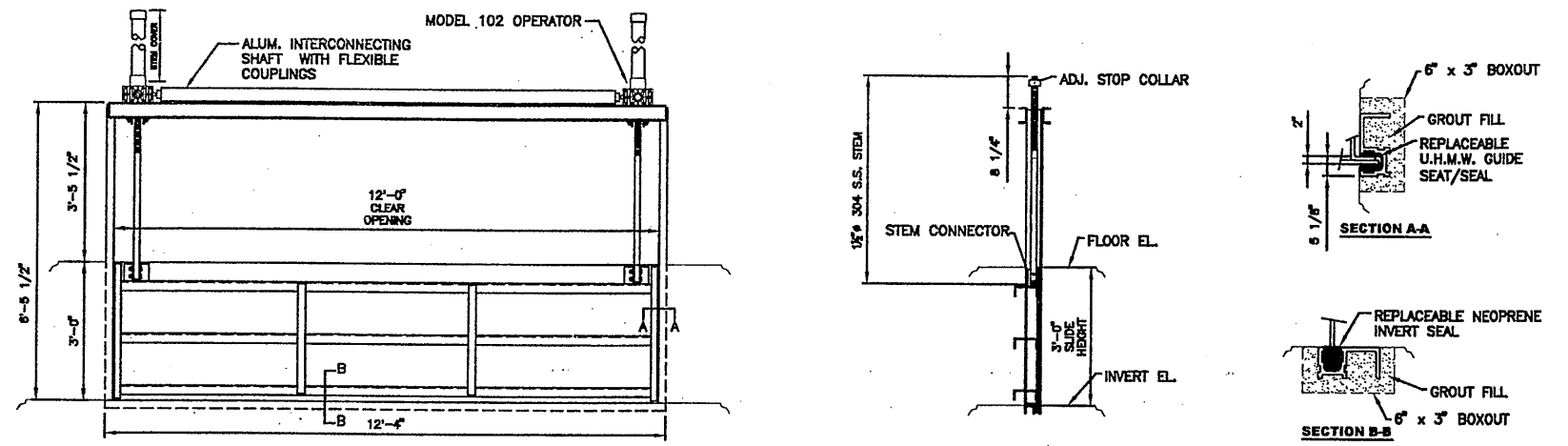
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STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
**HRFS COMPLEX
UPPER PLAN
(PARTIAL)**
MECHANICAL



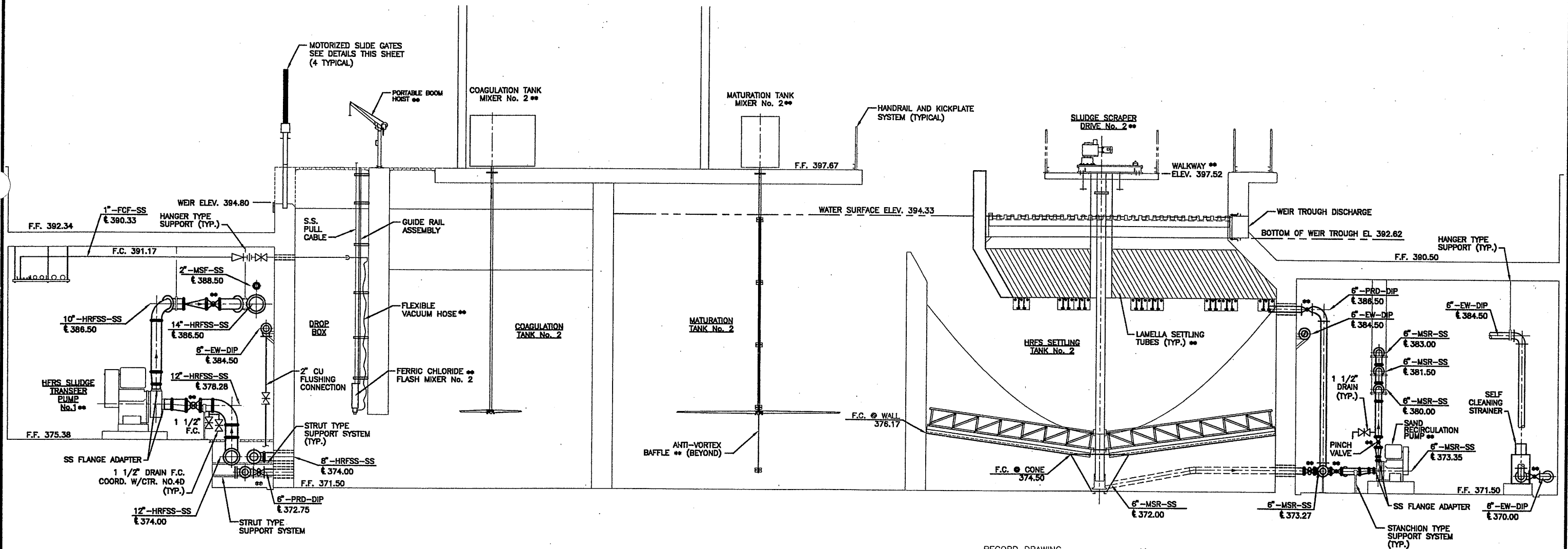
File Number
00659
Date
APRIL 2001
M-311



ELEVATION

SLIDE GATE DETAILS
SCALE: 1/2"=1'-0"

SECTION



SECTION 1 1 1 1
SCALE: 1/4"=1'-0" M-304 M-306 M-308 M-310

RECORD DRAWING

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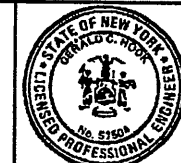
10/25/00 S&W JRH
0659M312

No.	Date	Revisions	Init
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1	6/26/01	AS BID	
2	05/05	FOR RECORDS	

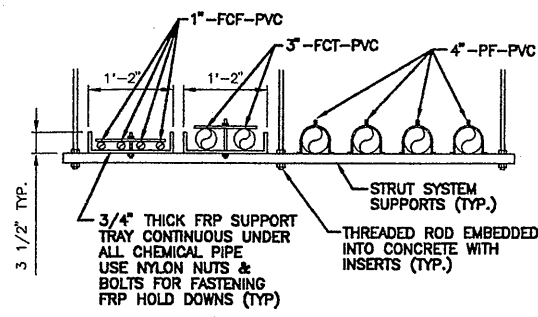
In charge of: AHS
Designed by: NGH
Drawn by: JRH
Checked by: AHS

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SYRACUSE, NEW YORK

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STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
HRFS COMPLEX
PROCESS TANKS
SECTION
MECHANICAL

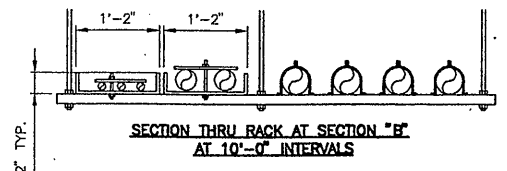


File Number 00659	M-312
Date APRIL 2001	

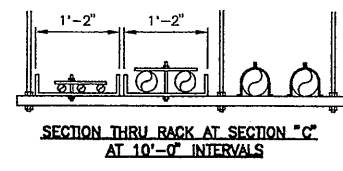


SECTION THRU RACK AT SECTION "A" AT 10'-0" INTERVALS

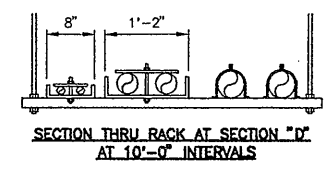
NOTES AND PIPING ARE TYPICAL FOR ALL SECTIONS SHOWN ON THIS SHEET



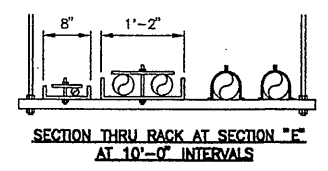
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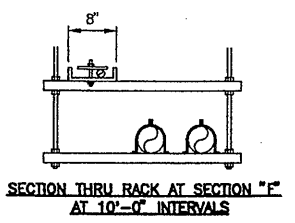
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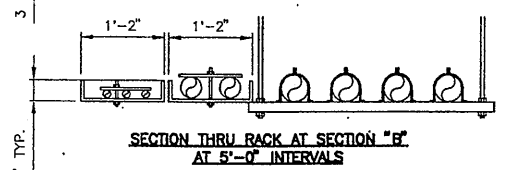
SECTION THRU RACK AT SECTION "D" AT 10'-0" INTERVALS



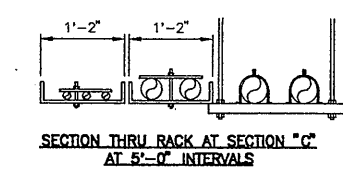
SECTION THRU RACK AT SECTION "E" AT 10'-0" INTERVALS



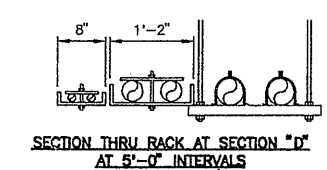
SECTION THRU RACK AT SECTION "F" AT 10'-0" INTERVALS



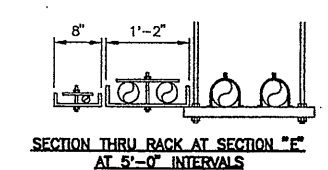
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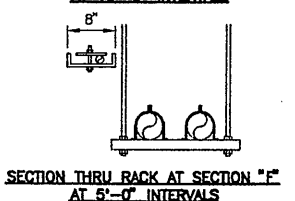
SECTION THRU RACK AT SECTION "C" AT 5'-0" INTERVALS



SECTION THRU RACK AT SECTION "D" AT 5'-0" INTERVALS

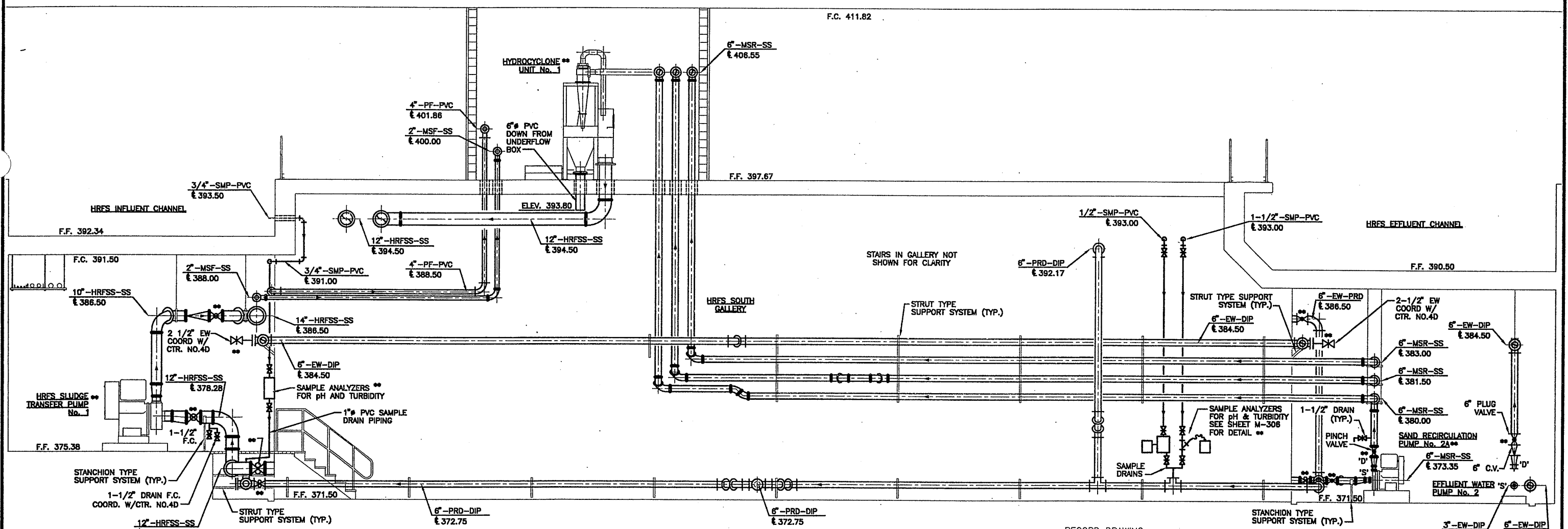


SECTION THRU RACK AT SECTION "E" AT 5'-0" INTERVALS



SECTION THRU RACK AT SECTION "F" AT 5'-0" INTERVALS

PIPE RACK SECTIONS
SCALE: 3/4" = 1'-0"



** INDICATES ITEMS TO BE SUPPLIED BY THE OWNER FOR INSTALLATION BY THE GENERAL CONTRACTOR WITH WIRE AND CONDUIT BY THE ELECTRICAL CONTRACTOR.

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

RECORD DRAWING
THESE DRAWINGS HAVE BEEN REVISED TO REFLECT MAJOR CHANGES, IF ANY, WHICH OCCURRED DURING CONSTRUCTION. REVISIONS ARE BASED UPON INFORMATION SUPPLIED BY CONTRACTOR.
DATE: 1/23/05 PER: CCH

THIS DRAWING WAS PREPARED AT THE SCALE INDICATED IN THE TITLE BLOCK. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR IN THE TITLE BLOCK TO DETERMINE THE ACTUAL SCALE OF THIS DRAWING.

10/25/00 S&W JRH 0659M313

1/4" = 1'-0"
3/4" = 1'-0"

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0	3/30/01	ISSUED FOR APPROVAL	
1	6/26/01	AS BID	
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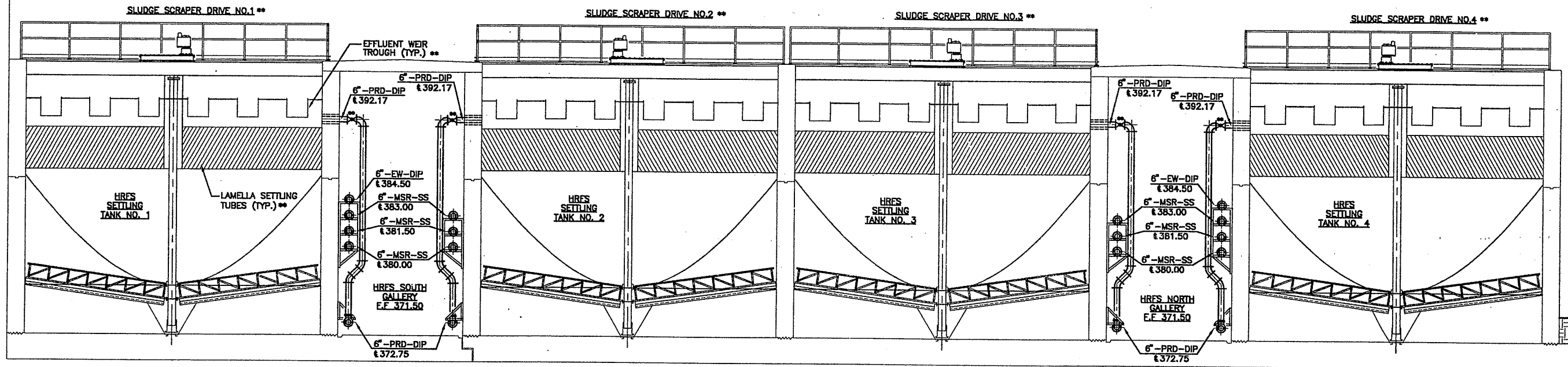
In charge of	AHS
Designed by	NGH
Drawn by	JRH
Checked by	AHS

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SYRACUSE, NEW YORK

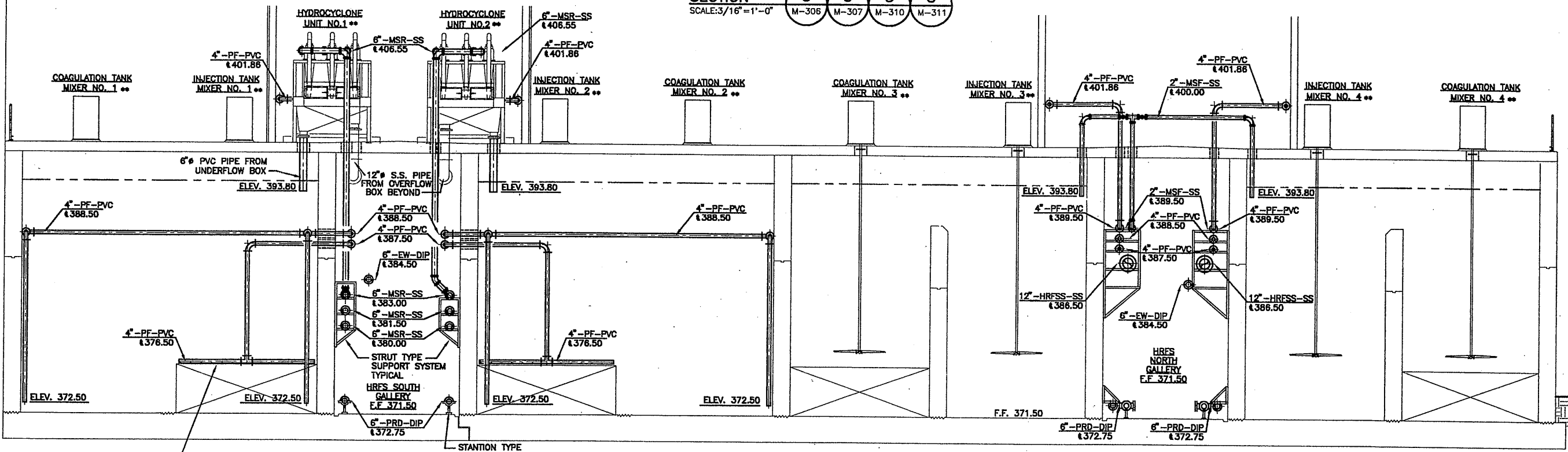
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STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
**HRFS COMPLEX
PROCESS TANKS
SECTION**
MECHANICAL



File Number	00659
Date	APRIL 2001
M-313	



SECTION 5
SCALE: 3/16" = 1'-0"
M-306 M-307 M-310 M-311



SECTION 3
SCALE: 3/16" = 1'-0"
M-304 M-305 M-308 M-309

FACE HOLES DOWNWARD
5 SPACES, SPACED 1'-0"
APART 3/8" THRU
(1) WALL ONLY (TYP.)

** INDICATES ITEMS TO BE SUPPLIED
BY THE OWNER FOR INSTALLATION
BY THE CONTRACTOR.

RECORD DRAWING

THESE DRAWINGS HAVE BEEN REVISED TO REFLECT
MAJOR CHANGES, IF ANY, WHICH OCCURRED DURING
CONSTRUCTION. REVISIONS ARE BASED UPON
INFORMATION SUPPLIED BY CONTRACTOR.
DATE: 11/23/05 PER: SCJ

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0659M314

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In charge of - AHS
Designed by - NGH
Drawn by - JRH
Checked by - AHS



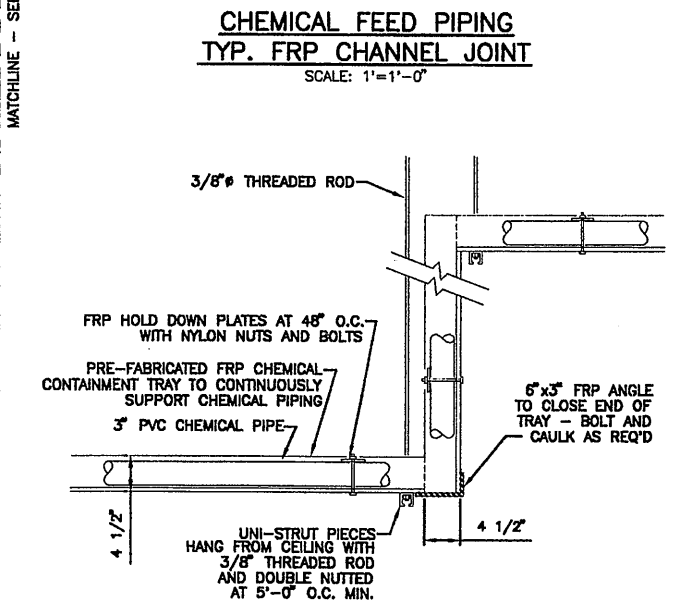
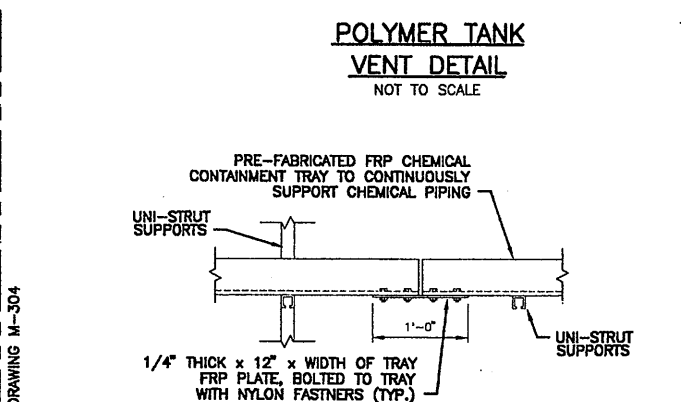
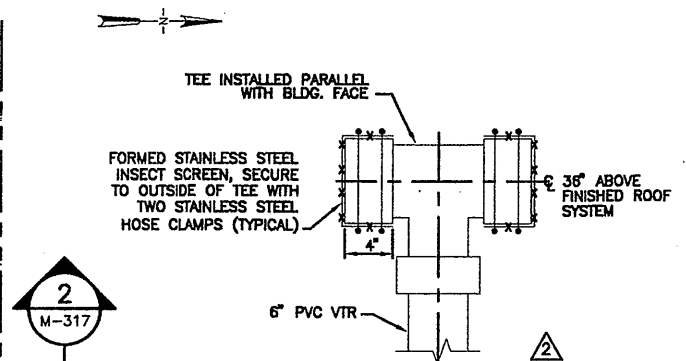
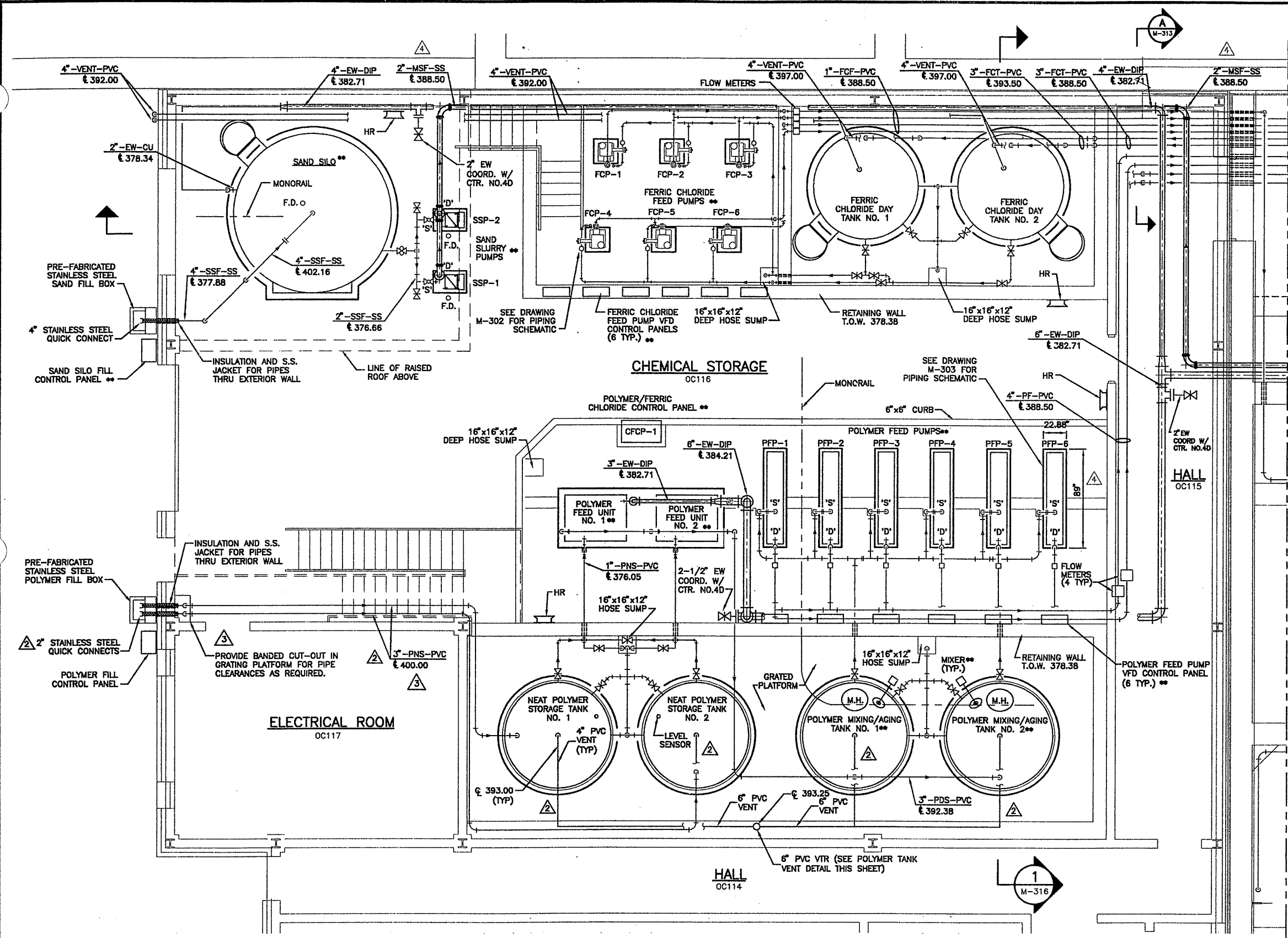
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STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT

HRFS COMPLEX
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SECTIONS
MECHANICAL



File Number
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Date
APRIL 2001
M-314

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PLAN
SCALE: 1/4" = 1'-0"

RECORD DRAWING

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DATE: 4/23/05 PER: [Signature]

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1	6/26/01	AS BID	
2	1/4/02	ADD POLYMER TANK VENT	
3	5/22/02	REVISED FOR MODIFICATION 4A-004	
4	8/18/03	REVISED FOR MODIFICATION 4A-185	
5	05/05	FOR RECORDS	

In charge of	AHS
Designed by	NGH
Drawn by	JRH
Checked by	AHS

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SYRACUSE, NEW YORK

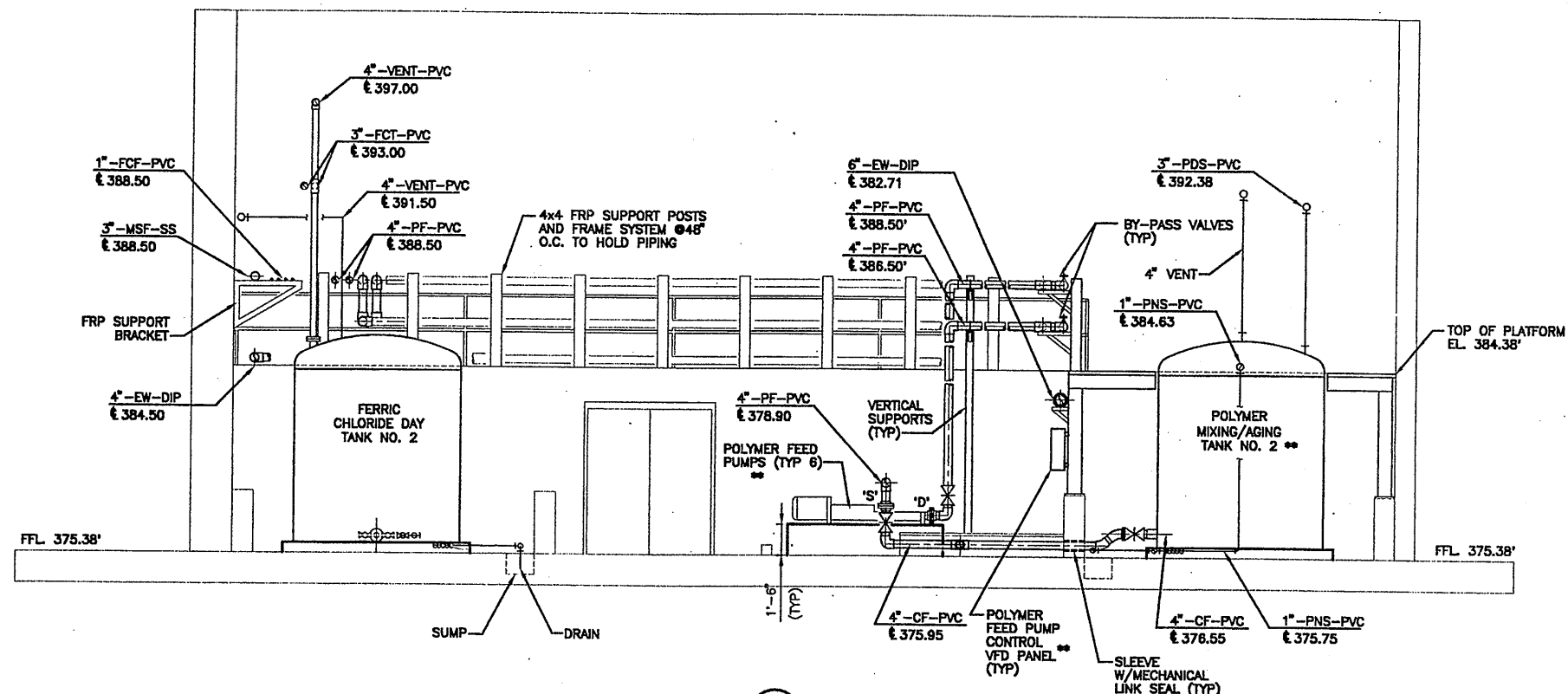
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METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
HRFS COMPLEX
CHEMICAL BUILDING "C"
PLAN
MECHANICAL

STATE OF NEW YORK
LICENSED PROFESSIONAL ENGINEER
No. 57506

File Number
00659
Date
APRIL 2001
M-315

[Signature]

X070, X301, X501
10/25/00 S&W JRH
0659M315



SECTION 1
SCALE: 1/4" = 1'-0" M-315

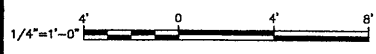
** INDICATES ITEMS TO BE SUPPLIED BY THE OWNER FOR INSTALLATION BY THE CONTRACTOR.

RECORD DRAWING

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01 S&W CTM JRH
116



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In charge of AHS
Designed by NGH
Drawn by JRH
Checked by AHS

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METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT

HRFS COMPLEX
CHEMICAL BUILDING "C"
SECTION
MECHANICAL



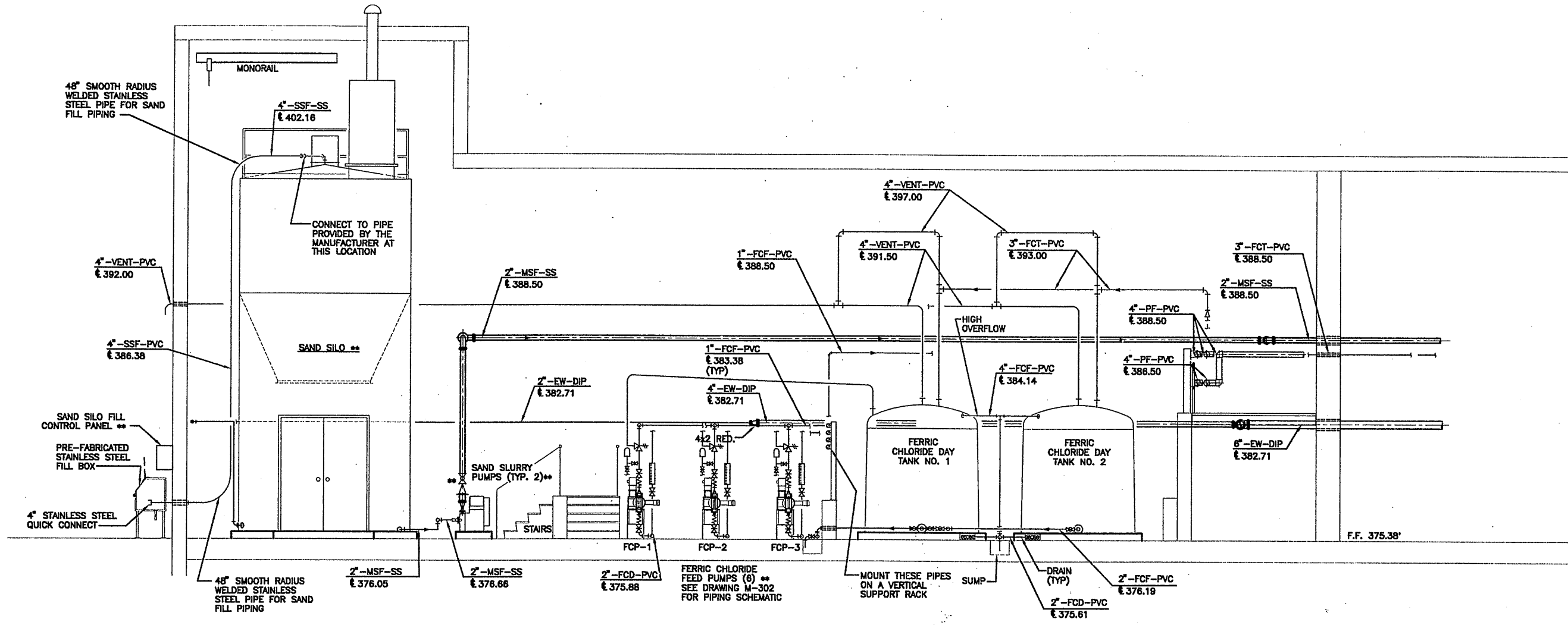
File Number
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M-316

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SECTION 2
SCALE: 1/4" = 1'-0" M-315

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01/23/01 S&W CTM JRH
0659M317

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2	05/05	FOR RECORDS	

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Designed by ___ NGH ___
Drawn by ___ JRH ___
Checked by ___ AHS ___

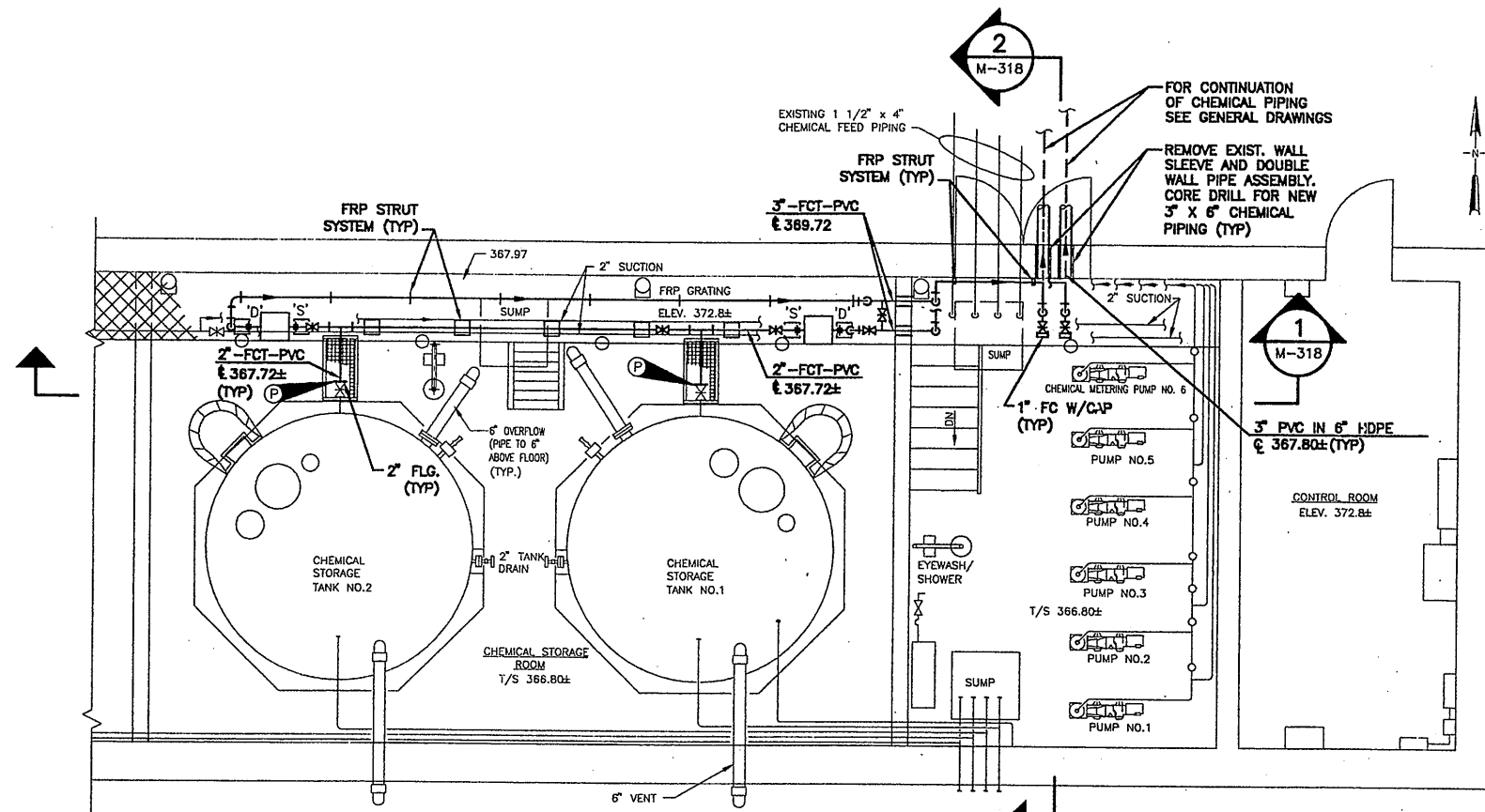
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METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
HRFS COMPLEX
CHEMICAL BUILDING "C"
SECTION
MECHANICAL



File Number
00659
Date
APRIL 2001
M-317
B. C. Hoyt

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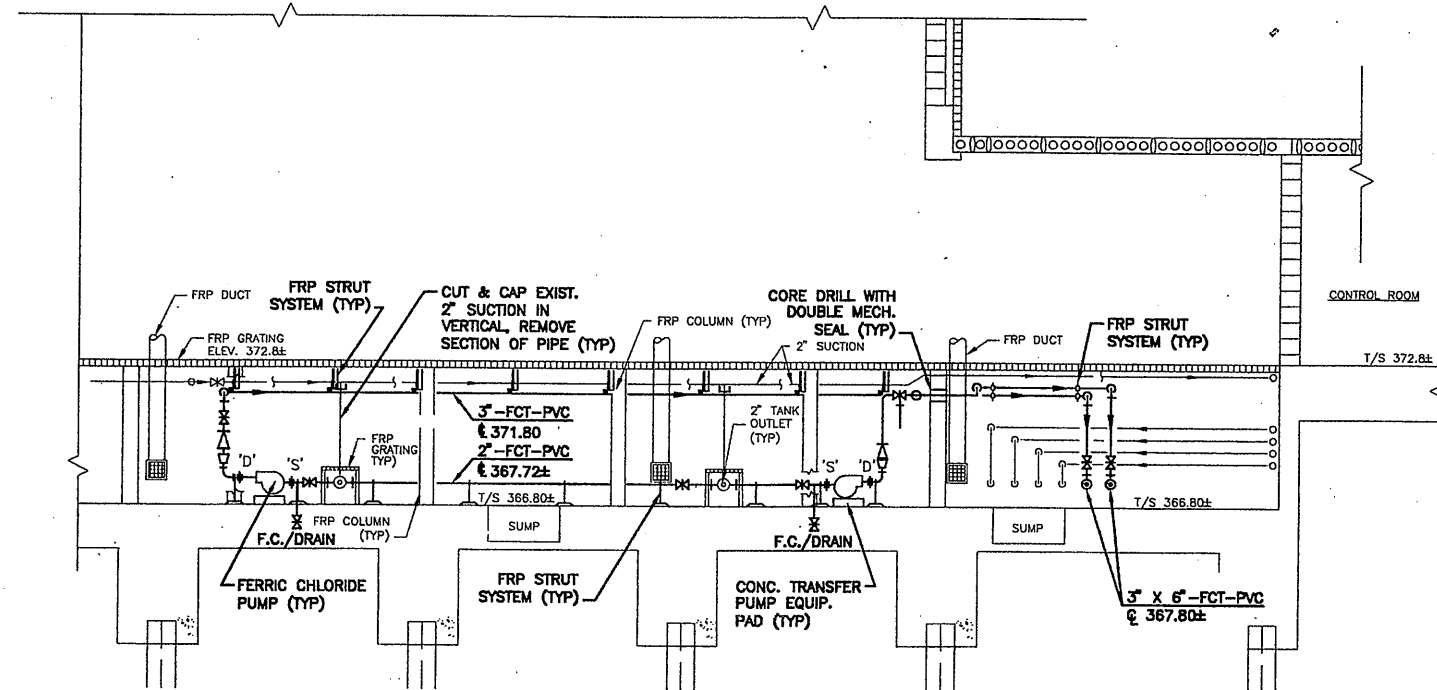


PARTIAL PLAN AT ELEV. 372.80
SCALE: 1/4" = 1'-0"

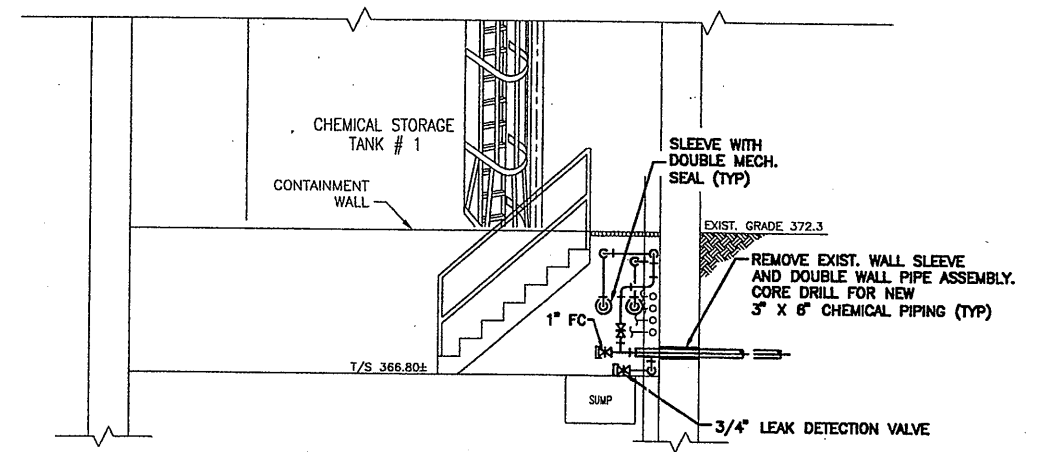
NOTE:
SUCTION OF NEW TRANSFER PUMPS SHALL BE INSTALLED AT SAME CENTERLINE ELEV. AS EXISTING CHEMICAL STORAGE TANK OUTLETS.

NOTES:

1. CONTRACTOR SHALL PROVIDE ADAPTERS FOR TRANSITIONS BETWEEN DIFFERENT PIPE MATERIALS. ADAPTERS SHALL BE COMPATIBLE FOR USE WITH FERRIC CHLORIDE SOLUTION.
2. CONTRACTOR SHALL SUPPLY ALL BENDS REQUIRED TO MAINTAIN SMOOTH FLOW LINES, CHANGES IN ELEVATION AND TO MEET ALL TRANSITIONS.
3. DRAWING M-318 PROVIDED FROM FIELD EDITS AND ORIGINAL CONTRACT DRAWINGS M-1 AND M-2 TITLED CHEMICAL FEED BUILDING - PLAN AND SECTIONS DESIGNED BY C & S ENGINEERS, INC. DATED DECEMBER, 1998
4. CONTRACTOR SHALL VERIFY AND COORDINATE ALL EXISTING STRUCTURE AND PIPING.
5. POSITIVE DRAINAGE SHALL BE PROVIDED IN ALL CHEMICAL FEED PIPING BACK TO PUMPS.
6. CONTRACTOR SHALL MAINTAIN CHEMICAL (FERRIC CHLORIDE/FERRIC SULFATE) WITHOUT INTERRUPTION THROUGHOUT THE CONSTRUCTION PERIOD.
7. ALL EXPOSED, DAMAGED AND NEWLY INSTALLED SURFACES SHALL BE COATED WITH CHEMICAL RESISTANT FINISH (CRF) TO MATCH EXISTING MATERIAL AND COLOR.



SECTION 1
SCALE: 1/4" = 1'-0" M-318



SECTION 2
SCALE: 1/4" = 1'-0" M-318

RECORD DRAWING

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01/25/01 S&W MRY
0659M318



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Designed by: NGH
Drawn by: MRY/JRH
Checked by: AHS

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SYRACUSE, NEW YORK

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STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT

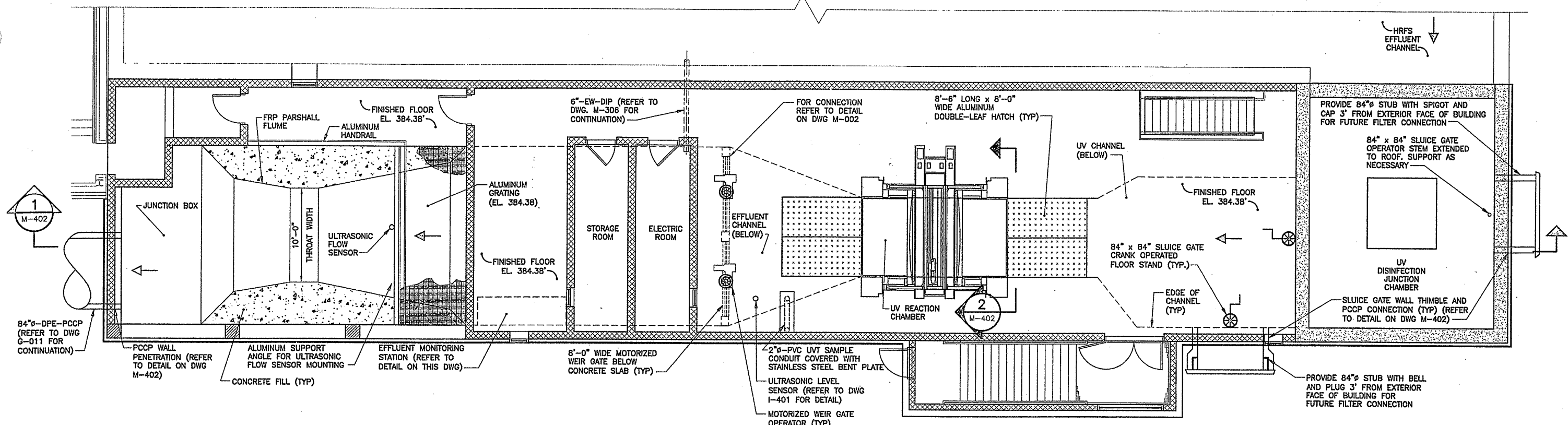
HRFS COMPLEX
CHEMICAL BUILDING "B"
PARTIAL PLAN AND SECTIONS
MECHANICAL



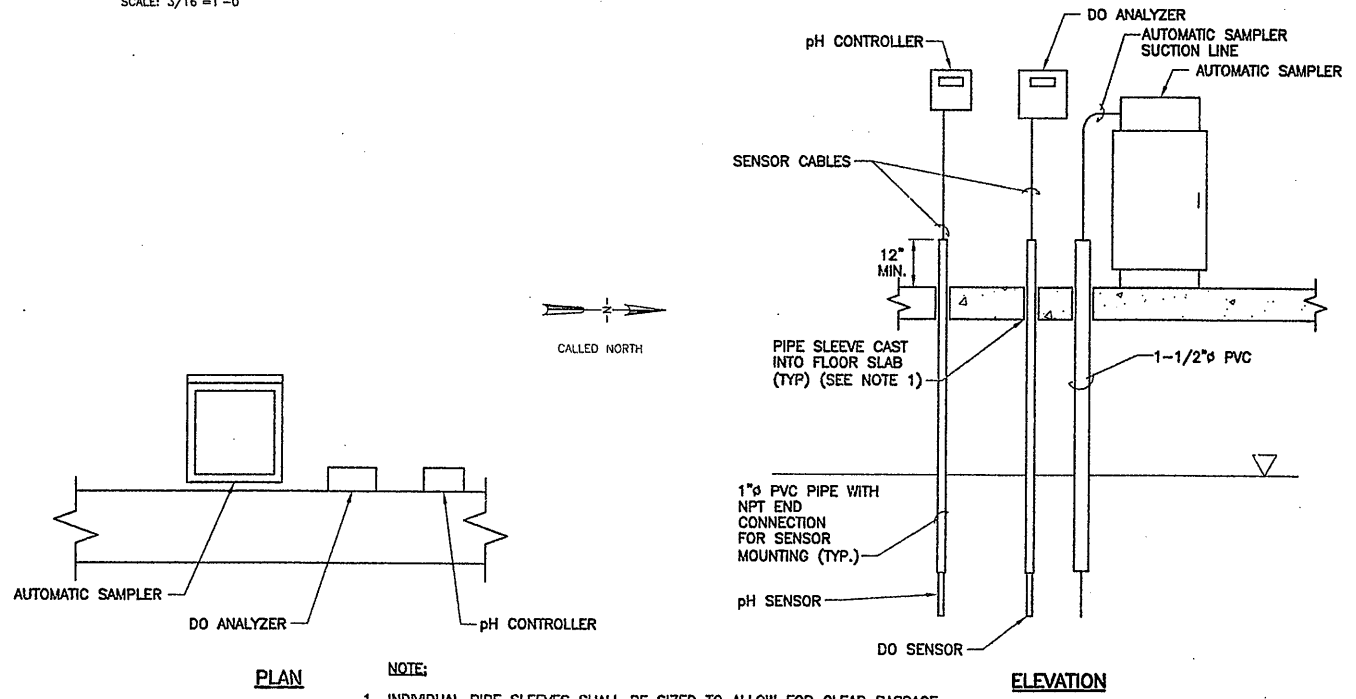
File Number
00659
Date
APRIL 2001

M-318

CALLLED NORTH



PLAN AT EL. 396.00'
SCALE: 3/16"=1'-0"



NOTE:
1. INDIVIDUAL PIPE SLEEVES SHALL BE SIZED TO ALLOW FOR CLEAR PASSAGE OF THE EQUIPMENTS RESPECTIVE SENSORS AND/OR SAMPLE LINE. ALL PROBES AND SAMPLE LINES SHALL BE MOUNTED IN A RIGIDLY SUPPORTED PIPE WHICH CAN BE REMOVED FROM EFFLUENT MONITORING STATION ROOM.

EFFLUENT MONITORING SYSTEM DETAIL
NOT TO SCALE

RECORD DRAWING
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DATE: 8/26/05 PER: Donald F. J.

Layer: ON=*, OFF=**REF*
X: 0659X402.DWG
8/16/05 BBL KLN DCC DJP
5503081/RECORD/0659M401

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0	4/20/01	ISSUED FOR APPROVAL	DFG
1	7/3/01	AS BID	DFG
2	8/15/05	FOR RECORDS	DFG

In charge of DFG
Designed by SS
Drawn by KLN
Checked by JCP

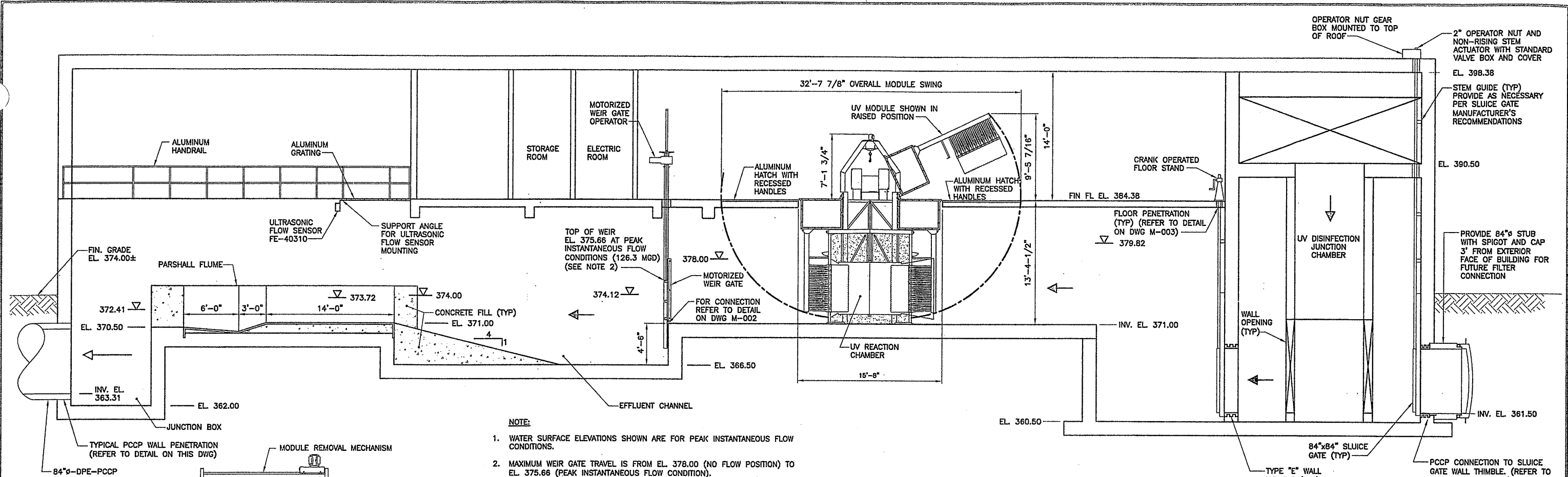


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METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
UV DISINFECTION
UV DISINFECTION PLAN



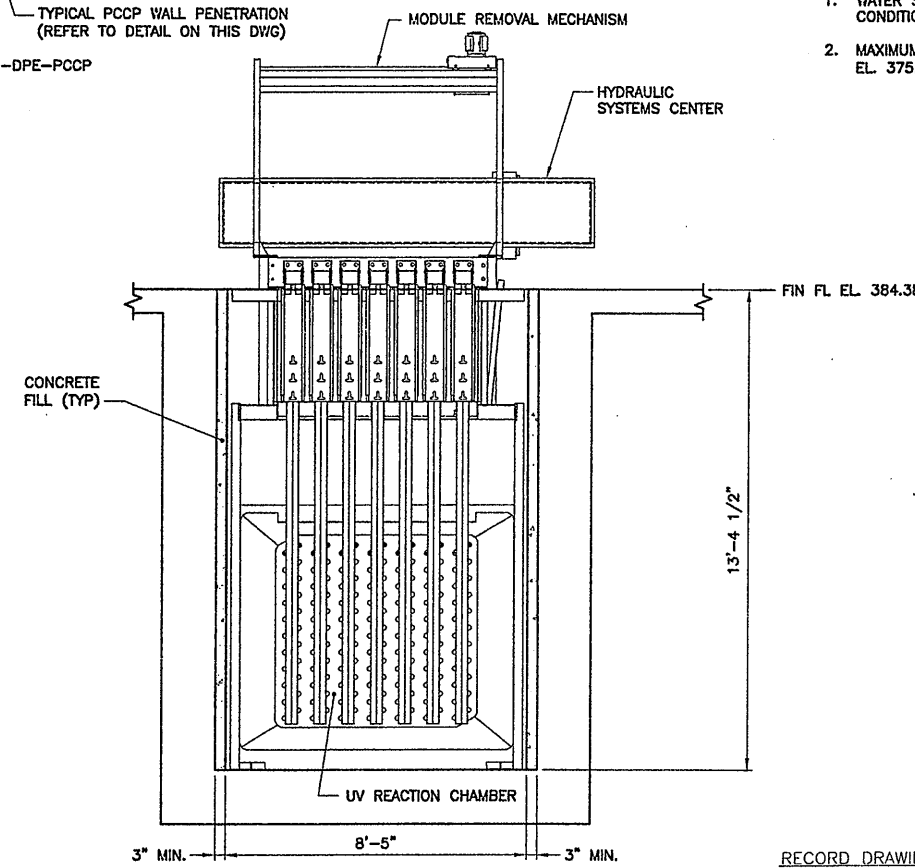
File Number 00659
Date APRIL 2001
M-401

MECHANICAL

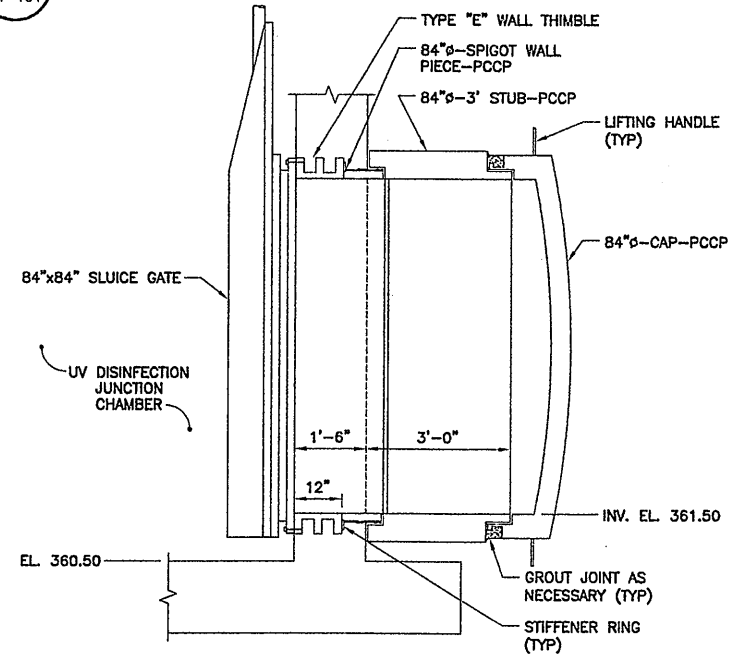


- NOTE:**
1. WATER SURFACE ELEVATIONS SHOWN ARE FOR PEAK INSTANTANEOUS FLOW CONDITIONS.
 2. MAXIMUM WEIR GATE TRAVEL IS FROM EL. 378.00 (NO FLOW POSITION) TO EL. 375.66 (PEAK INSTANTANEOUS FLOW CONDITION).

SECTION 1
SCALE: 3/16"=1'-0" M-401

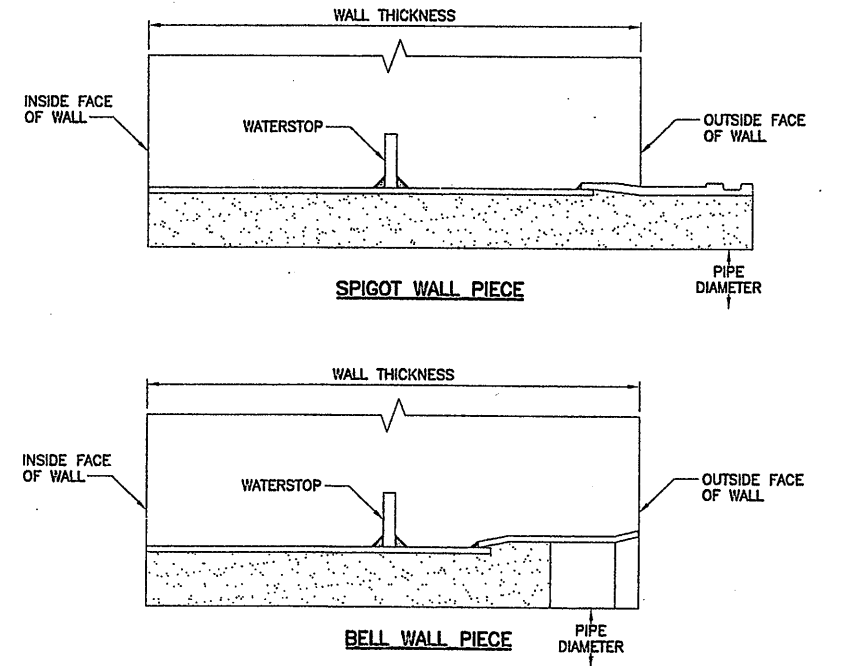


SECTION 2
NOT TO SCALE M-401



SLUICE GATE WALL THIMBLE AND PCCP CONNECTION DETAIL
1/2"=1'-0"

- NOTE:**
1. CONTRACTOR SHALL COORDINATE WITH SLUICE GATE MANUFACTURER AND PCCP MANUFACTURER FOR PROPER INSTALLATION.



TYPICAL PCCP WALL PENETRATION DETAIL
NOT TO SCALE

Layer: ON=*, OFF=*REF*
8/15/05 BBL KLN DCC DJP
05503081/RECORD/0659M402

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DATE: 9/26/05 PER: Donald F. J.

In charge of: JCP
Designed by: SS
Drawn by: KLN
Checked by: JCP

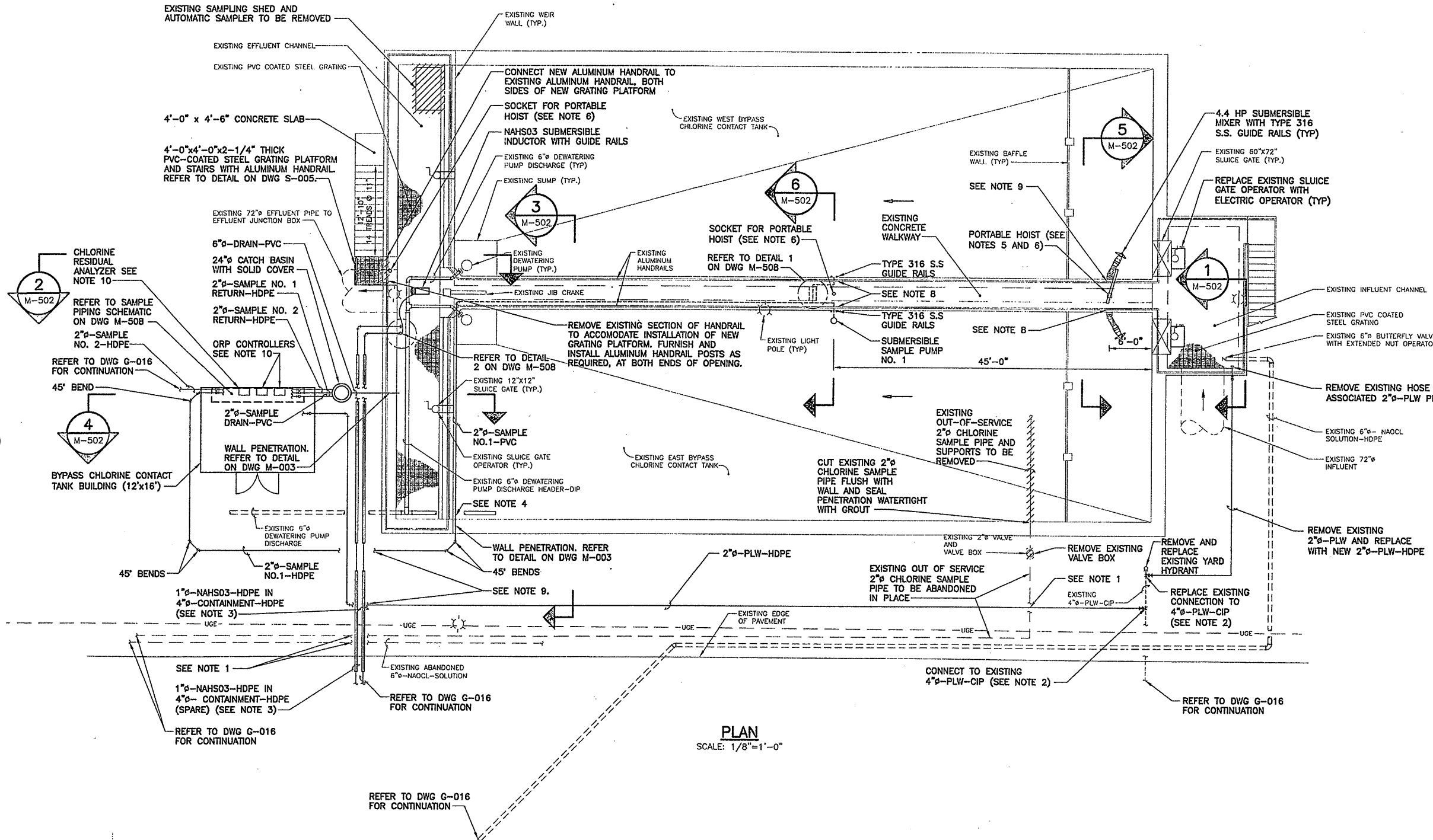
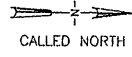


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METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
UV DISINFECTION
SECTION AND DETAILS
MECHANICAL

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STATE OF NEW YORK
DONALD F. J.
LICENSED PROFESSIONAL ENGINEER

File Number: 00659
Date: APRIL 2001
M-402



- NOTES:**
- REMOVE EXISTING ABANDONED/OUT-OF-SERVICE PIPING AS REQUIRED TO INSTALL NEW PIPING. INSTALL WATERTIGHT PLUG OR CAP ON EXPOSED ENDS OF ABANDONED/OUT-OF-SERVICE PIPING. PLUG OR CAP SHALL MATCH EXISTING PIPE MATERIAL.
 - CONNECT TO EXISTING 4" PLW-CIP WITH 4"x4"x2" TEE (D1) AND 2" GATE VALVE. TRANSITION TO HDPE AT GATE VALVE. PROVIDE VALVE BOX AND COVER IN ACCORDANCE WITH MP SECTION 02510.
 - NAHSO3 CONTAINMENT PIPES SHALL BE INSTALLED AT A 1% SLOPE FROM THE BYPASS CHLORINE CONTACT TANKS TO THE PRIMARY DISTRIBUTION STRUCTURE "B". REFER TO PROFILE ON DWG G-019.
 - TRANSITION FROM PVC TO HDPE PIPE WITH PVC FLANGE TO HDPE FLANGE CONNECTION PRIOR TO WALL PENETRATION. FLANGE HARDWARE SHALL BE TYPE 316 S.S.
 - PORTABLE HOIST SHALL BE TYPE 316 SS AND SHALL BE CAPABLE OF HOISTING THE SUBMERSIBLE MIXERS, THE SUBMERSIBLE SAMPLE PUMPS, AND THE SUBMERSIBLE INDUCTOR.
 - HOIST SOCKET SHALL BE TYPE 316 SS AND SHALL BE PROVIDED WITH A REMOVABLE CAP OR PLUG. THE TOP OF THE SOCKET AND CAP OR PLUG SHALL BE FLUSH WITH THE EXISTING WALKWAY, WALL, OR SLAB.
 - CONTRACTOR SHALL FURNISH AND INSTALL TYPE 316 SS GUIDE RAILS AND SUPPORTS, AND PUMP DISCHARGE CONNECTION IN THE WEST BYPASS CHLORINE CONTACT TANK, IDENTICAL TO THE EAST BYPASS CHLORINE CONTACT TANK, SUCH THAT SUBMERSIBLE SAMPLE PUMP NO. 1 CAN BE USED IN EITHER TANK.
 - REMOVE 3'-0" WIDE SECTION OF EXISTING ALUMINUM HANDRAIL AT GUIDE RAILS TO ACCOMMODATE REMOVAL OF SUBMERSIBLE SAMPLE PUMPS AND MIXERS. INSTALL TWO SECTIONS OF TYPE 316 SS SAFETY CHAIN ACROSS OPENING ALIGNED WITH TOP AND INTERMEDIATE RAILS OF EXISTING HANDRAIL. FURNISH AND INSTALL ALUMINUM HANDRAIL POSTS, AS REQUIRED, AT BOTH ENDS OF OPENING.
 - CONTRACTOR SHALL ADJUST PIPE ELEVATION AND/OR INSTALL VERTICAL FITTINGS (45° BEND PAX.) AS REQUIRED TO INSTALL 2" SAMPLE NO.1 AND 2" PLW UNDER THE 1" NAHSO3 FEED AND CONTAINMENT PIPING.
 - CHLORINE RESIDUAL ANALYZER AND ORP CONTROLLER LOCATIONS SHOWN ARE APPROXIMATE. COORDINATE WITH CONTRACT 4B-ELECTRICAL AND CONTRACT 4C-HVAC AND CONFIRM FINAL LOCATIONS WITH THE OWNER. PROVIDE MINIMUM 30-INCHES OF CLEARANCE BETWEEN PANELS.

- GENERAL NOTES (DWGS M-501 TO M-510):**
- ALL NEW BURIED PIPING SHALL BE INSTALLED WITH 5'-0" MIN COVER, UNLESS INDICATED OTHERWISE.
 - THE BYPASS CHLORINE CONTACT TANK AND EFFLUENT JUNCTION BOX HANDLE AND TREAT PRIM COMBINED SEWER OVERFLOWS. THESE FACILITIES GENERALLY OPERATE INTERMITTENTLY DURING WET EVENTS. NO SHUTDOWNS OF THESE FACILITIES ARE ALLOWED. THE CONTRACTOR SHALL SCHEDULE PERFORMANCE OF THE WORK ACCORDINGLY AND SHALL COORDINATE WITH THE OWNER. THE CONTRACTOR IS ADVISED THAT THESE FACILITIES ARE SUBJECT TO HIGH FLOWS AND VELOCITIES DURING OPERATION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT PERSONNEL, EQUIPMENT, AND MATERIALS FROM DAMAGE.
 - THE CONTRACTOR IS ADVISED THAT THE BYPASS CHLORINE CONTACT TANK AND EFFLUENT JUNCTION BOX MAY CONTAIN WATER DURING PERIODS OF INOPERATION, BASED ON THE WATER LEVEL OF ONONDAGA LAKE AND PRECIPITATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING TEMPORARY PLUGS ON CONNECTING PIPES (OR OTHER APPROPRIATE MEASURES) AND FOR THE REMOVAL OF WATER FROM THESE FACILITIES AS REQUIRED TO PERFORM THE WORK. TEMPORARY PLUGS AND/OR OTHER MEASURES USED BY THE CONTRACTOR SHALL BE REMOVED AS REQUIRED TO ALLOW UNRESTRICTED OPERATION OF THESE FACILITIES.

RECORD DRAWING
 THESE DRAWINGS HAVE BEEN REVISED TO REFLECT MAJOR CHANGES, IF ANY, WHICH OCCURRED DURING CONSTRUCTION. REVISIONS ARE BASED UPON INFORMATION SUPPLIED BY CONTRACTOR.
 DATE: 9/26/05 PER: [Signature]

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2	8/15/05	FOR RECORDS	DFG

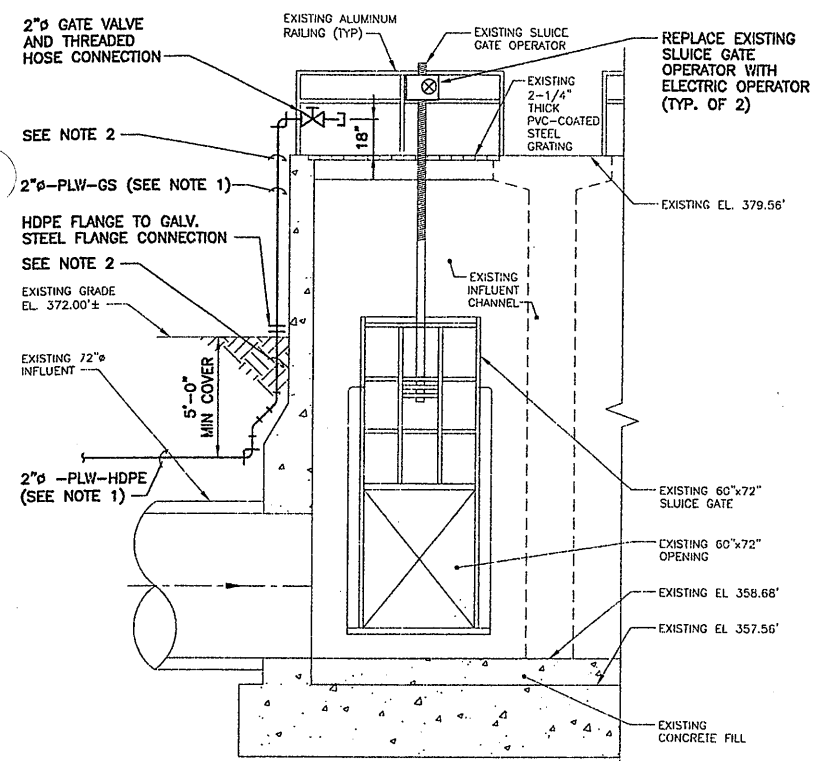
In charge of - DFG
 Designed by - CJL
 Drawn by - DCC
 Checked by - JCP



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 METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
 STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
OUTFALL 002 DECHLORINATION SYSTEM
BYPASS CHLORINE CONTACT TANK
MODIFICATIONS - PLAN
 MECHANICAL

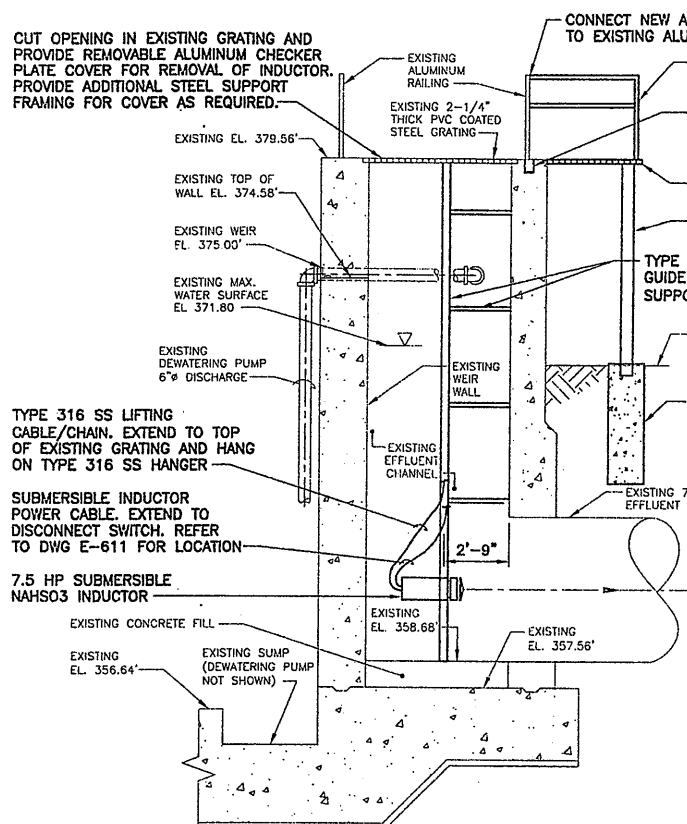
	File Number 00659	M-501
	Date APRIL 2001	

1/8"=1'-0"
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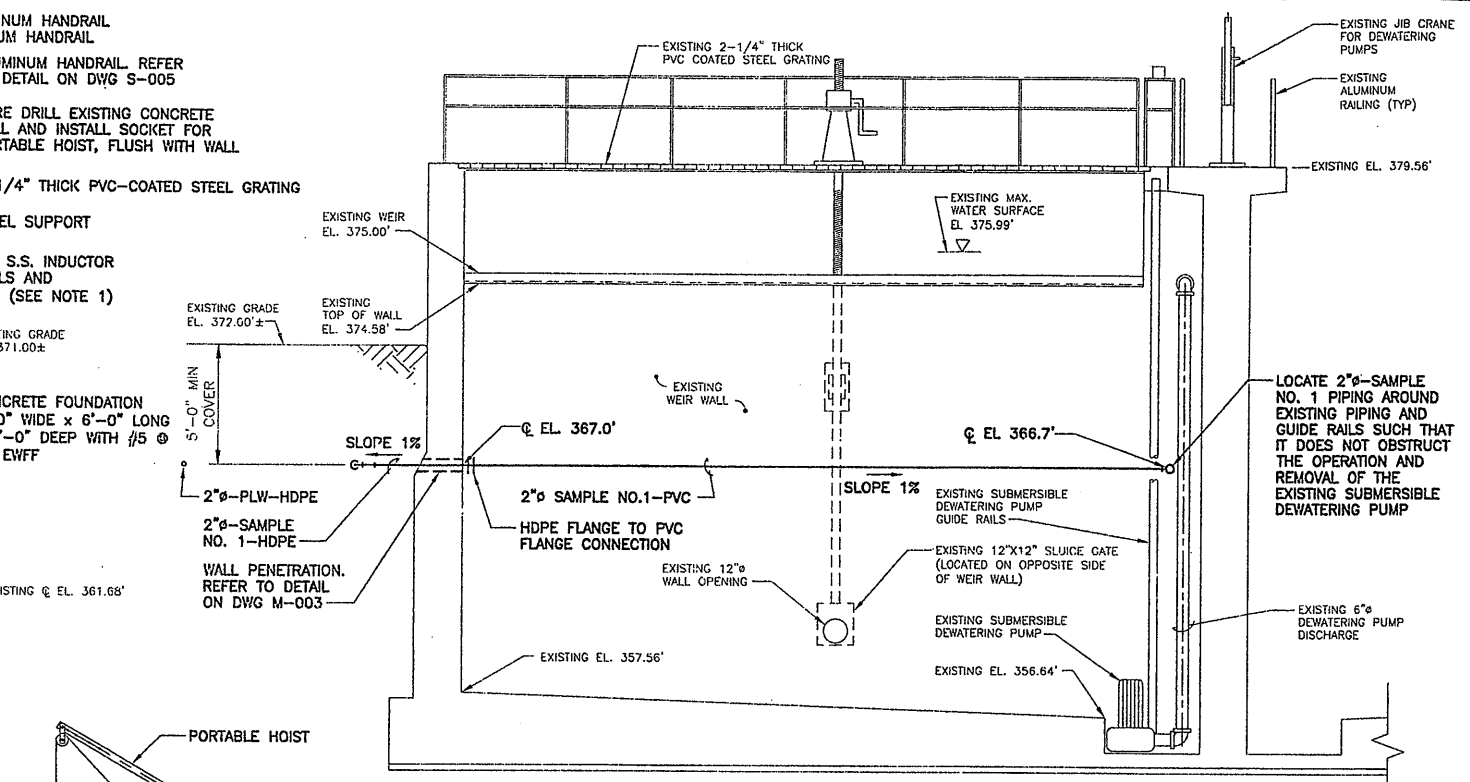
- NOTES:
1. REMOVE EXISTING 2" PLW (NOT SHOWN) TO INSTALL NEW 2" PLW.
 2. HEAT TRACE AND INSULATE ALL EXPOSED AND BURIED 2" PLW WITH LESS THAN 5'-0" COVER.

SECTION 1
1/4"=1'-0" M-501

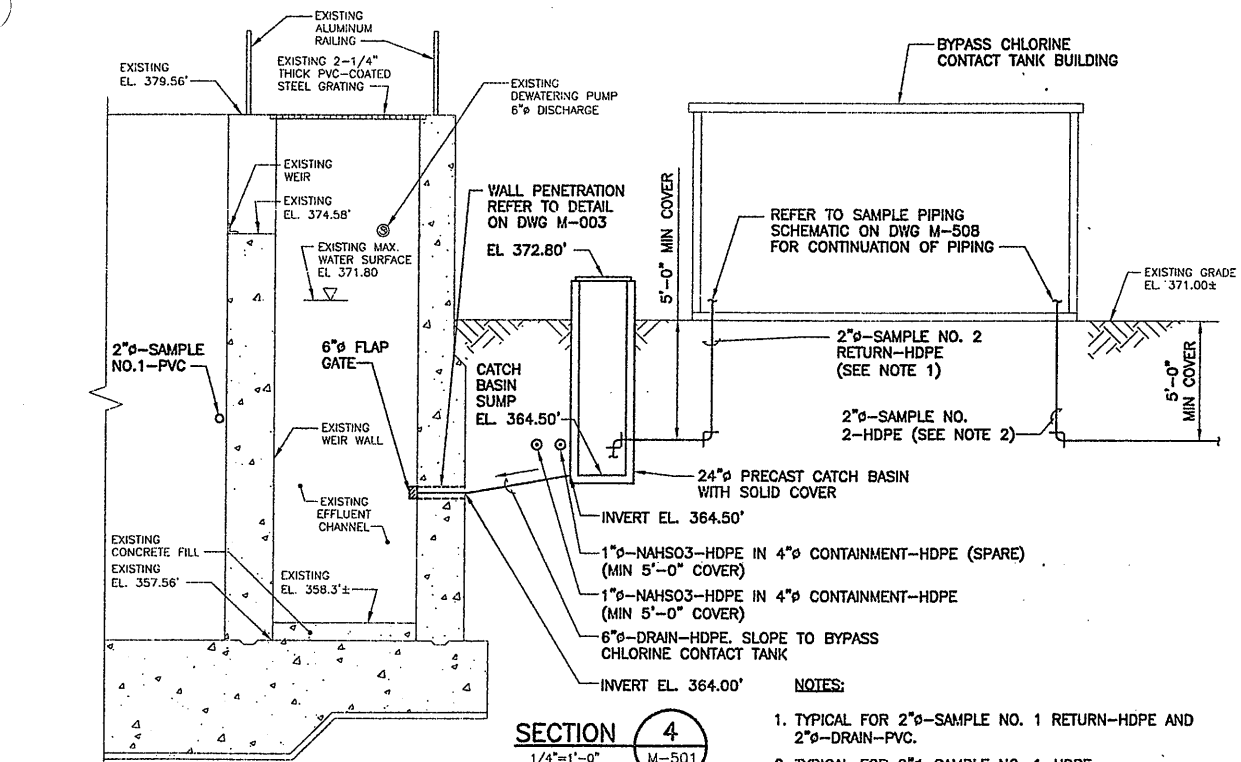


- NOTE:
1. SIZE AND NUMBER OF INDUCTOR GUIDE RAILS AND SUPPORTS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. MOUNTING HARDWARE FOR SUPPORTS SHALL BE TYPE 316 SS.

SECTION 2
1/4"=1'-0" M-501

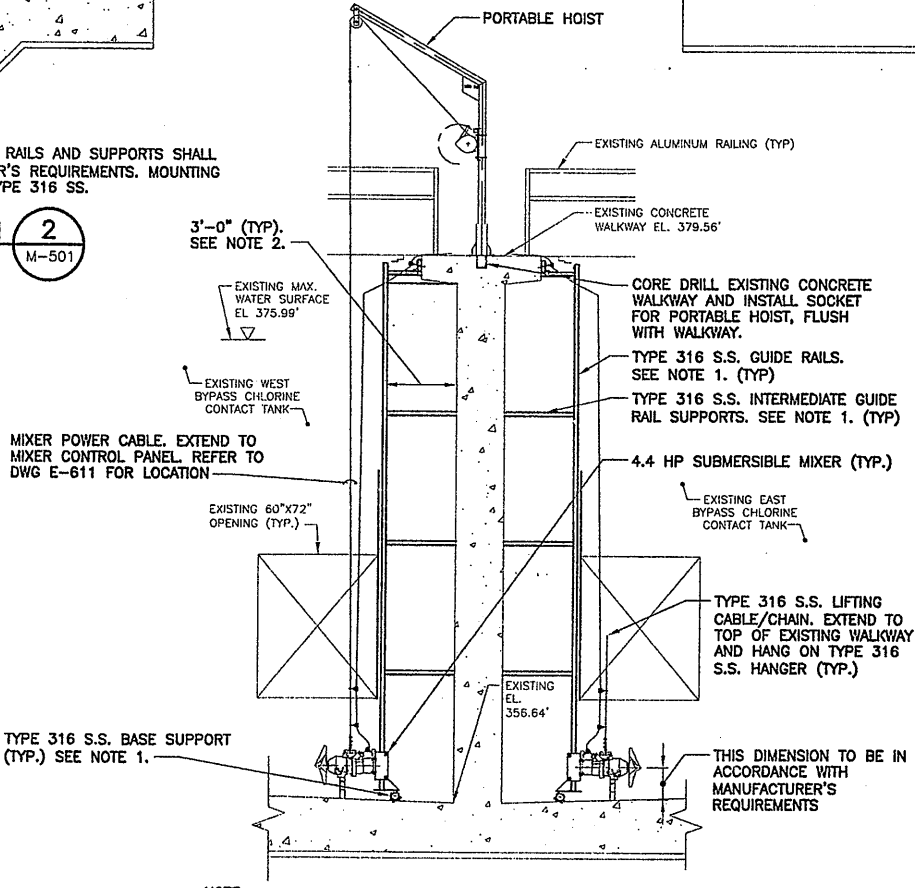


SECTION 3
1/4"=1'-0" M-501



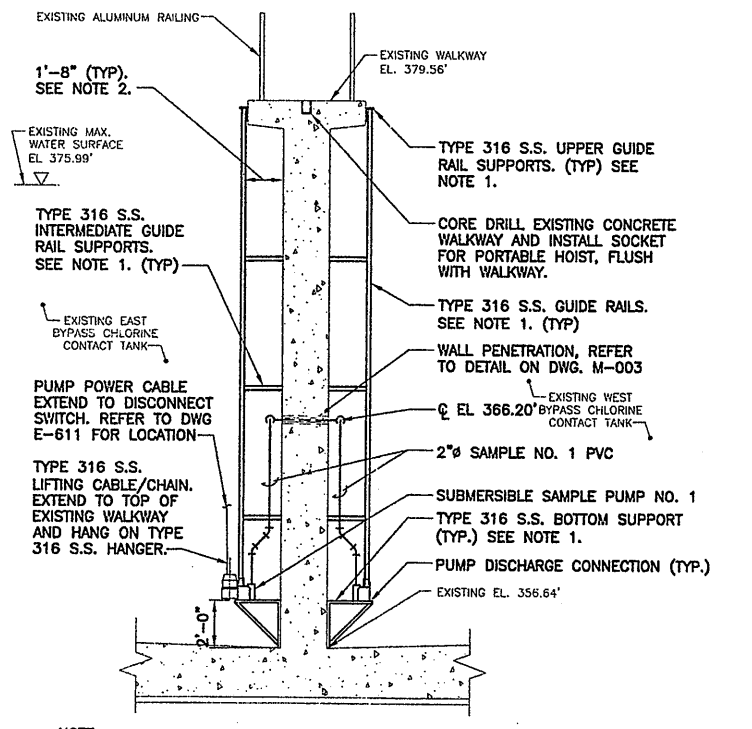
- NOTES:
1. TYPICAL FOR 2" SAMPLE NO. 1 RETURN-HDPE AND 2" DRAIN-PVC.
 2. TYPICAL FOR 2" SAMPLE NO. 1-HDPE.

SECTION 4
1/4"=1'-0" M-501



- NOTE:
1. SIZE AND NUMBER OF SUBMERSIBLE MIXER GUIDE RAILS AND SUPPORTS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. ALL MOUNTING HARDWARE FOR SUPPORTS SHALL BE TYPE 316 SS.
 2. THIS DIMENSION SHALL BE ADJUSTED AS REQUIRED TO MEET MANUFACTURER'S REQUIREMENTS.

SECTION 5
1/4"=1'-0" M-501



- NOTE:
1. SIZE AND NUMBER OF SUBMERSIBLE MIXER GUIDE RAILS AND SUPPORTS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. ALL MOUNTING HARDWARE FOR SUPPORTS SHALL BE TYPE 316 SS.
 2. THIS DIMENSION SHALL BE ADJUSTED AS REQUIRED TO MEET MANUFACTURER'S REQUIREMENTS.

SECTION 6
1/4"=1'-0" M-501

Layer: ON=*, OFF=REF
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5503081/RECORD/0659M502.DWG

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Designed by CJL
Drawn by KLN
Checked by JCP

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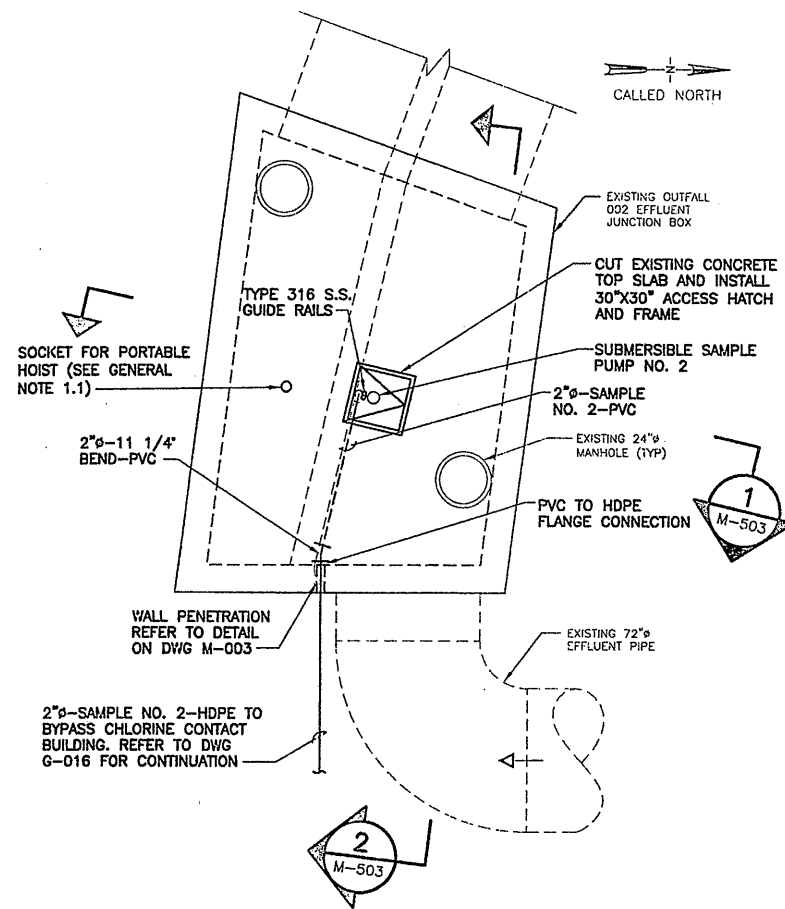
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STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
OUTFALL 002 DECHLORINATION SYSTEM
BYPASS CHLORINE CONTACT TANK
MODIFICATIONS - SECTIONS
MECHANICAL

STATE OF NEW YORK
LICENSED PROFESSIONAL ENGINEER
7879

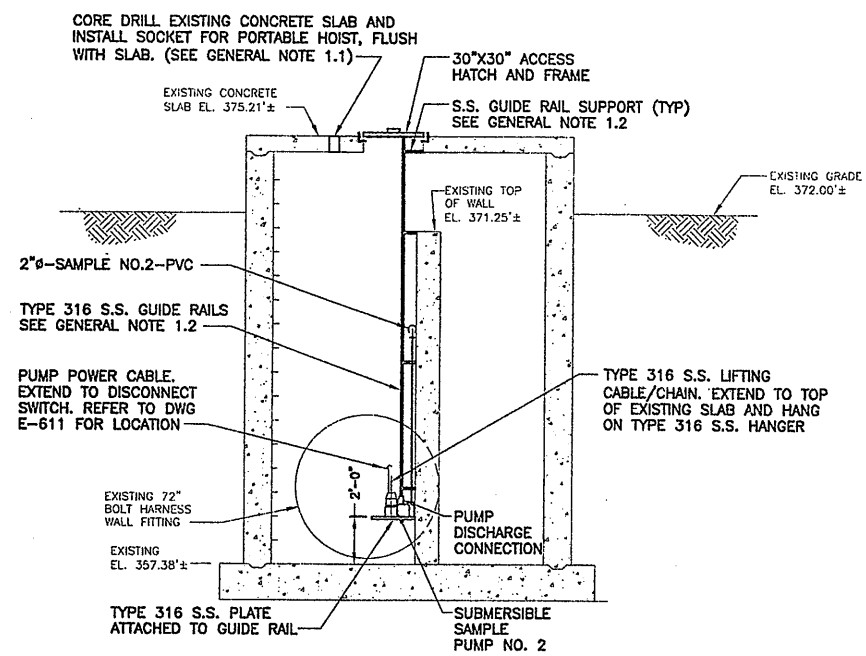
File Number 00659
Date APRIL 2001
M-502

RECORD DRAWING
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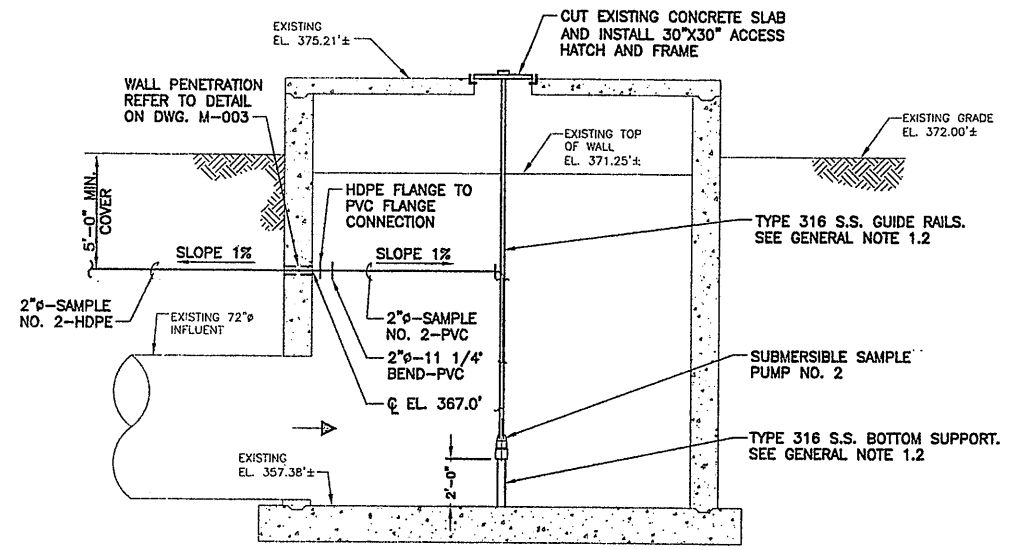
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EFFLUENT JUNCTION BOX PLAN
SCALE: 1/4"=1'-0"



SECTION 1
SCALE: 1/4"=1'-0" M-503



SECTION 2
SCALE: 1/4"=1'-0" M-503

- GENERAL NOTE (THIS DRAWING):**
- 1.1. HOIST SOCKET SHALL BE TYPE 316 SS AND SHALL BE PROVIDED WITH A REMOVABLE CAP OR PLUG. THE TOP OF THE SOCKET AND CAP OR PLUG SHALL BE FLUSH WITH THE EXISTING WALKWAY, WALL, OR SLAB.
 - 1.2. SIZES AND NUMBER OF PUMP GUIDE RAILS AND SUPPORTS SHALL BE IN ACCORDANCE WITH THE PUMP MANUFACTURER'S REQUIREMENTS. ALL SUPPORT MOUNTING HARDWARE SHALL BE TYPE 316 S.S.

RECORD DRAWING

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DATE: 9/26/05 PER: Donald F. J.

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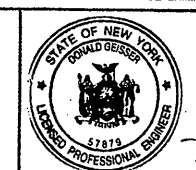
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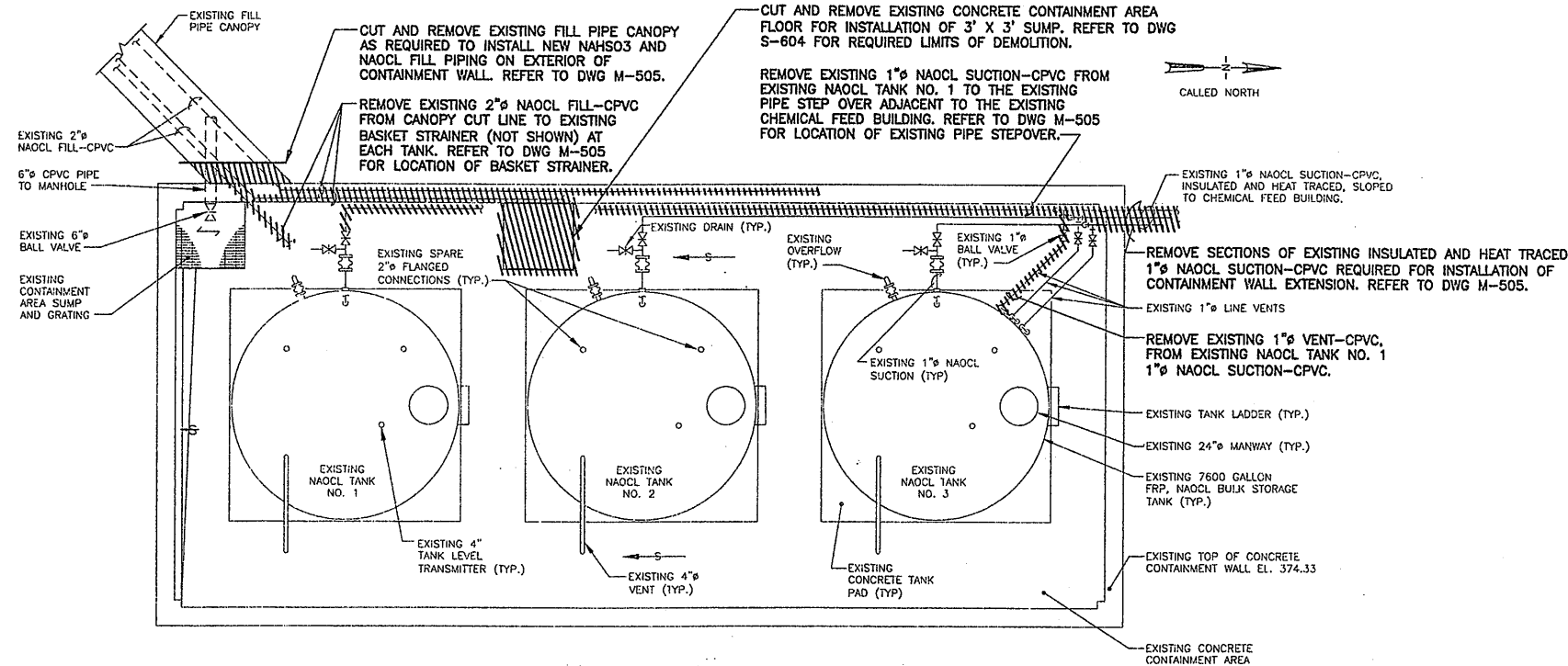
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Drawn by KLN
Checked by JCP



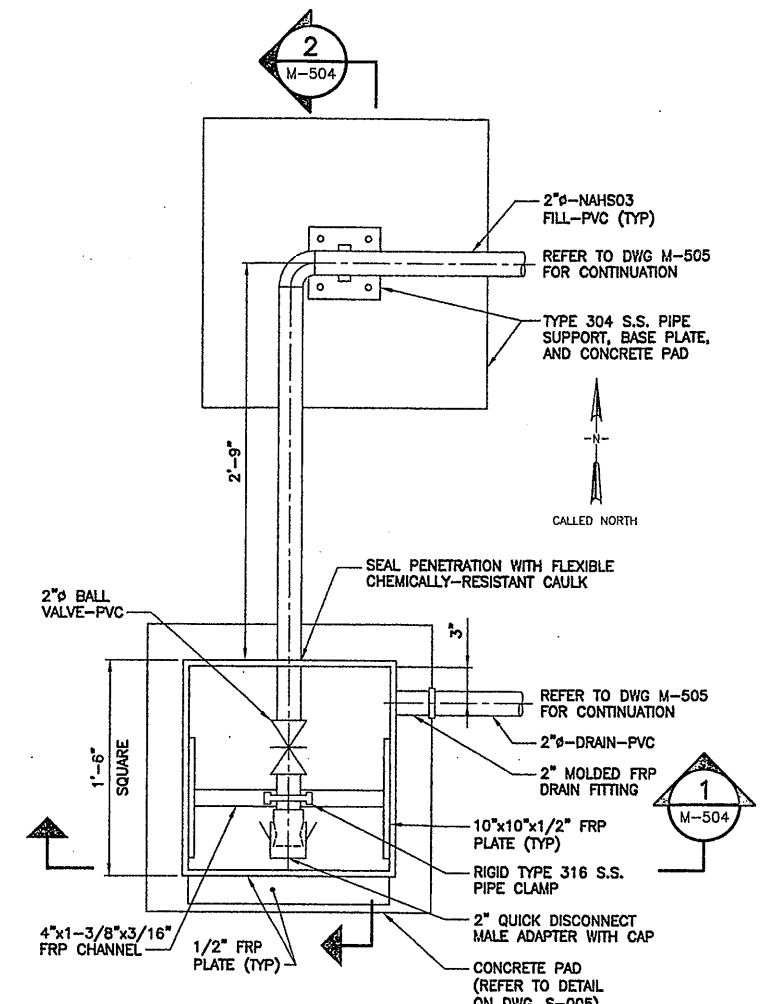
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STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
OUTFALL 002 DECHLORINATION SYSTEM
EFFLUENT JUNCTION BOX
PLAN AND SECTIONS
MECHANICAL



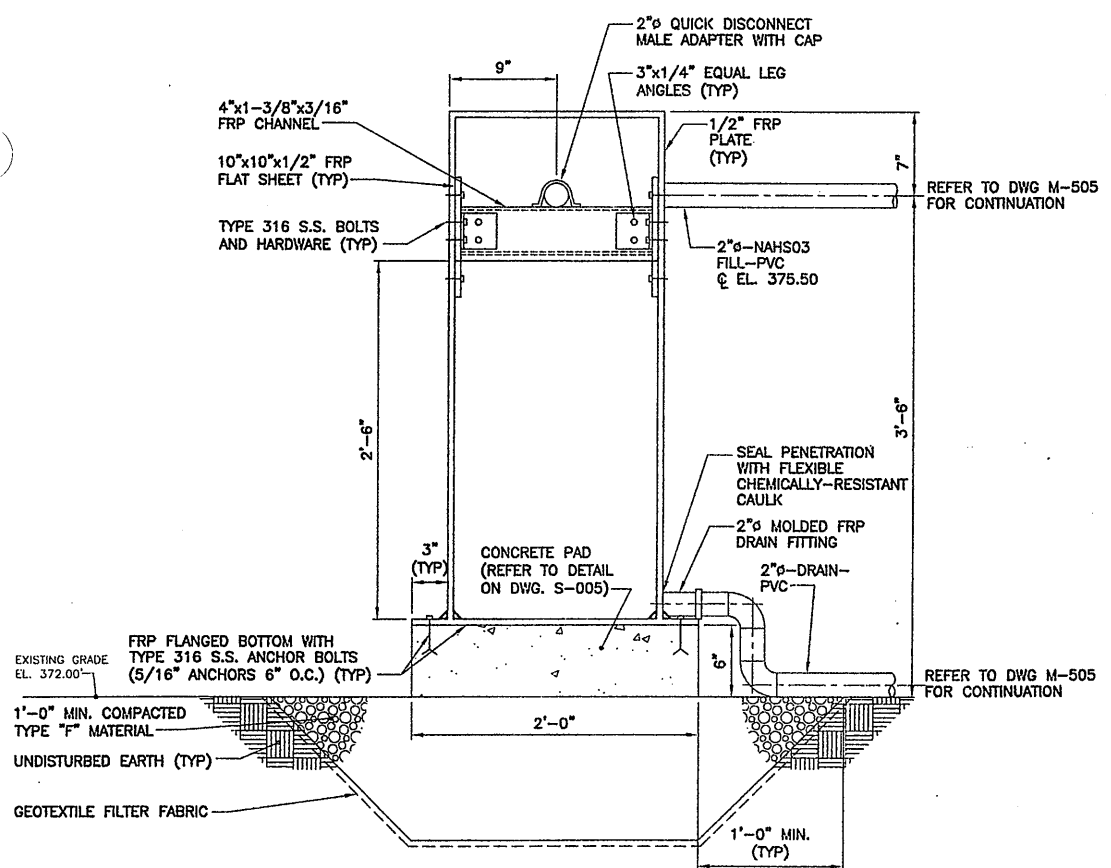
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Date
APRIL 2001
M-503



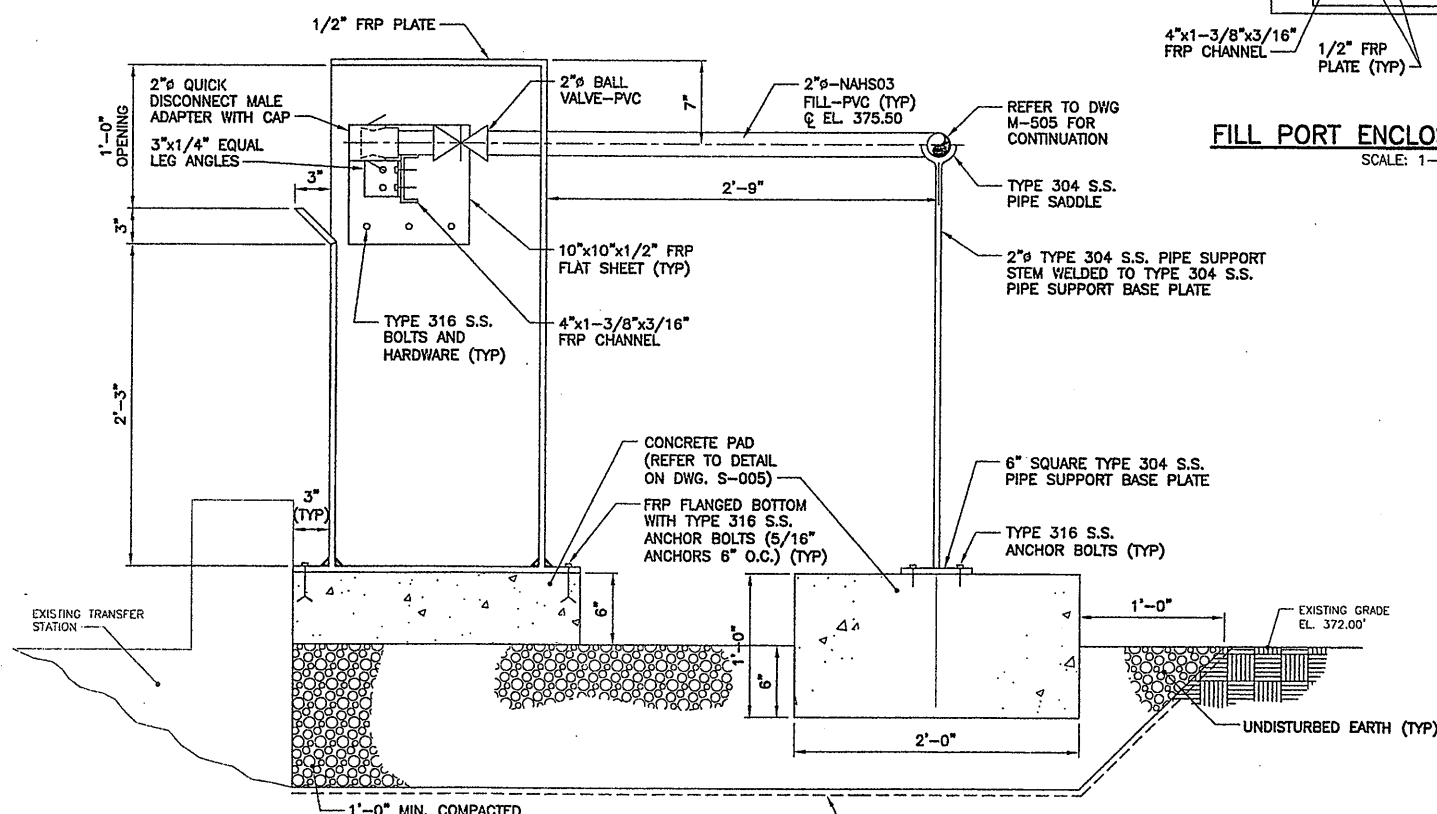
DEMOLITION PLAN
SCALE: 1/4"=1'-0"



FILL PORT ENCLOSURE DETAIL PLAN
SCALE: 1-1/2"=1'-0"



SECTION 1
SCALE: 1-1/2"=1'-0" M-504



SECTION 2
SCALE: 1-1/2"=1'-0" M-504

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METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
OUTFALL 002 DECHLORINATION SYSTEM
BULK CHEMICAL STORAGE, & TRANSFER AREA
DEMOLITION PLAN, DETAIL & SECTIONS

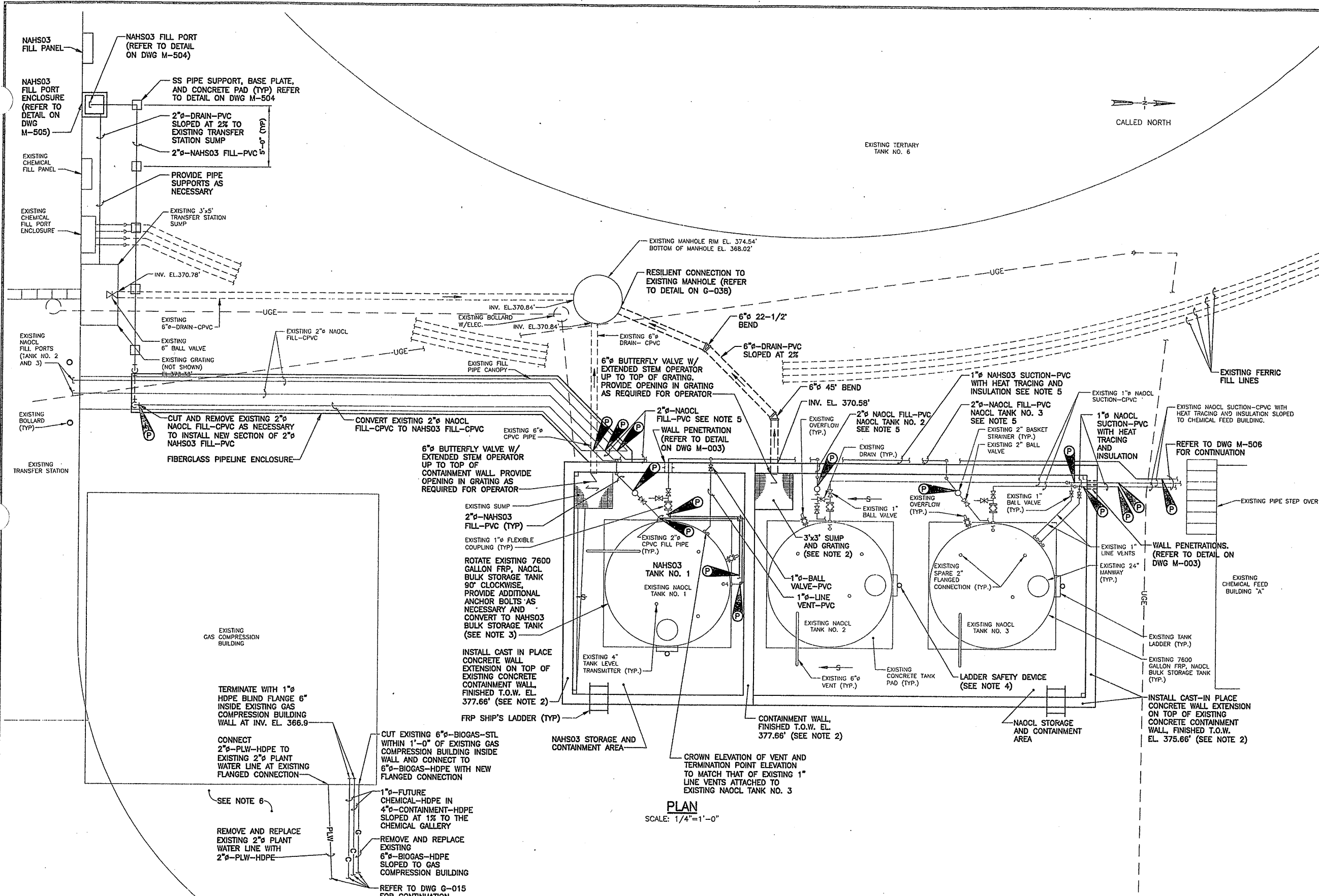
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Date: APRIL 2001
M-504

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37875

RECORD DRAWING
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- NOTES:**
- REFER TO DEMOLITION PLAN ON DWG M-504 FOR EXISTING PIPING AND FACILITY DEMOLITION AND REMOVAL REQUIREMENTS.
 - REFER TO DWG S-604 FOR CHEMICAL STORAGE AND CONTAINMENT AREA STRUCTURAL MODIFICATIONS.
 - EXISTING FRP NAOCL BULK STORAGE TANK SHALL BE CLEANED AND PREPARED PER TANK MANUFACTURER'S RECOMMENDATIONS FOR CONVERSION TO NAHSO3 BULK STORAGE TANK. TANK SHALL BE RELABELLED FOR NAHSO3. TANK PAD SHALL BE MODIFIED TO ACCOMMODATE EXISTING SIDE BOTTOM DRAIN BY REMOVING A PORTION OF THE EXISTING CONCRETE TANK PAD AS REQUIRED AND PATCHING SMOOTH WITH NON-SHRINK GROUT.
 - LADDER SAFETY DEVICE SHALL INCLUDE A STAINLESS STEEL FLEXIBLE CABLE SYSTEM, A SAFETY SLEEVE WITH CARABINER AND HARNESS AS MANUFACTURED BY DBI SYSTEMS OR EQUAL.
 - 2" NAOCL FILL-PVC AND 1" NAOCL SUCTION-PVC (WITH HEAT TRACING AND INSULATION) SHALL BE SUPPORTED ON WEST WALL OF CONTAINMENT AREA WITH FRP ANGLE BRACKETS, B-LINE NO. BF400 SERIES OR EQUAL, AND FRP HOLD-DOWN PIPE CLAMPS, B-LINE NO. BFP2000N SERIES, OR EQUAL. SUPPORTS SHALL BE SPACED AT 5'-0" MAXIMUM.
 - REFER TO DWG G-015 FOR EXISTING AND NEW UTILITIES IN THIS AREA.

PLAN
SCALE: 1/4"=1'-0"

RECORD DRAWING
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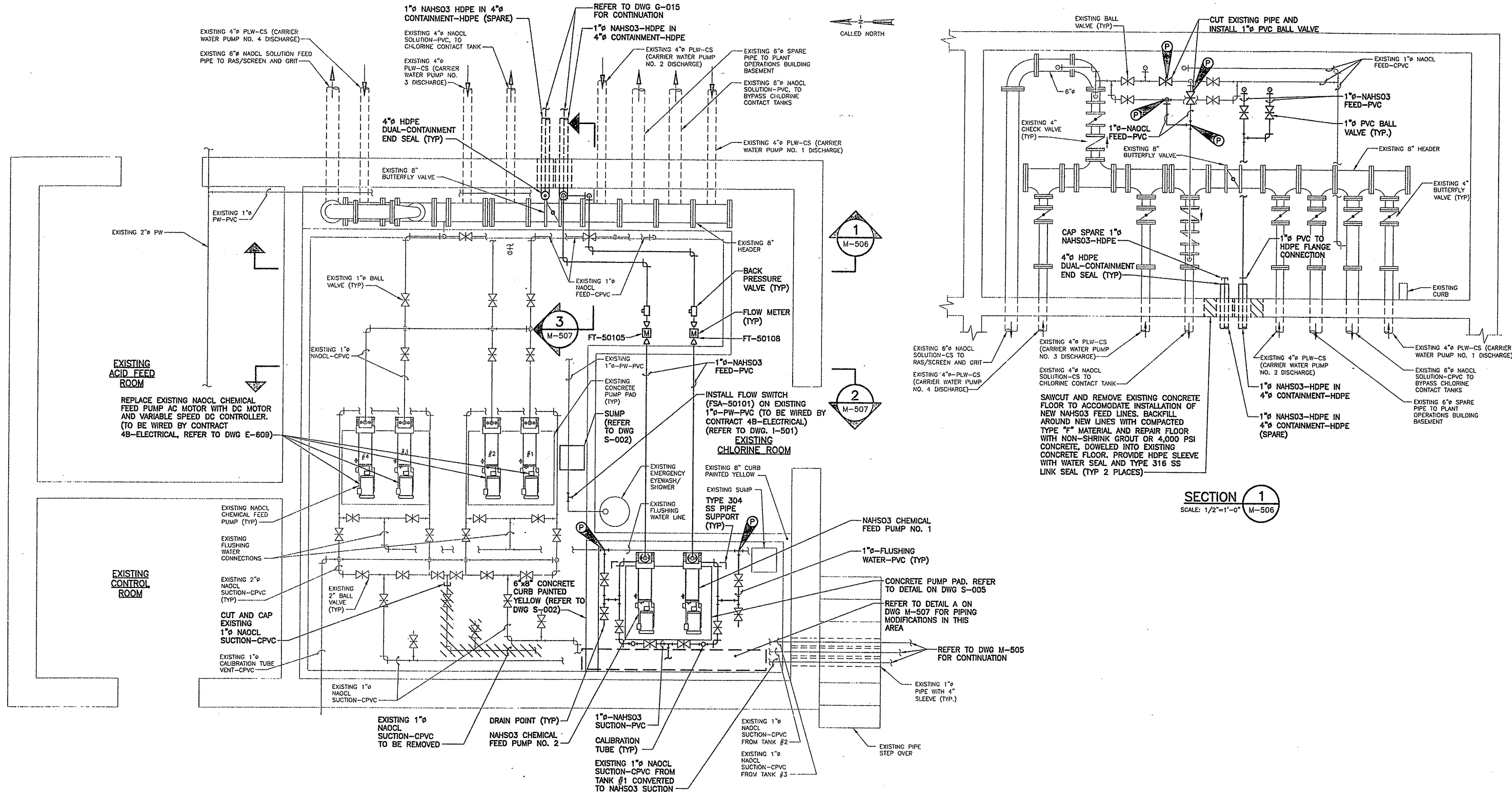
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METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
OUTFALL 002 DECHLORINATION SYSTEM
BULK CHEMICAL STORAGE, CONTAINMENT AND TRANSFER AREA-PLAN
MECHANICAL

STATE OF NEW YORK
LICENSED PROFESSIONAL ENGINEER
72879

File Number: 00659
Date: APRIL 2001
M-505



PLAN
SCALE: 1/2"=1'-0"

SECTION 1
SCALE: 1/2"=1'-0" M-506

RECORD DRAWING
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DATE: 9/26/05 PER: Donald FJ

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No.	Date	Revisions	Init
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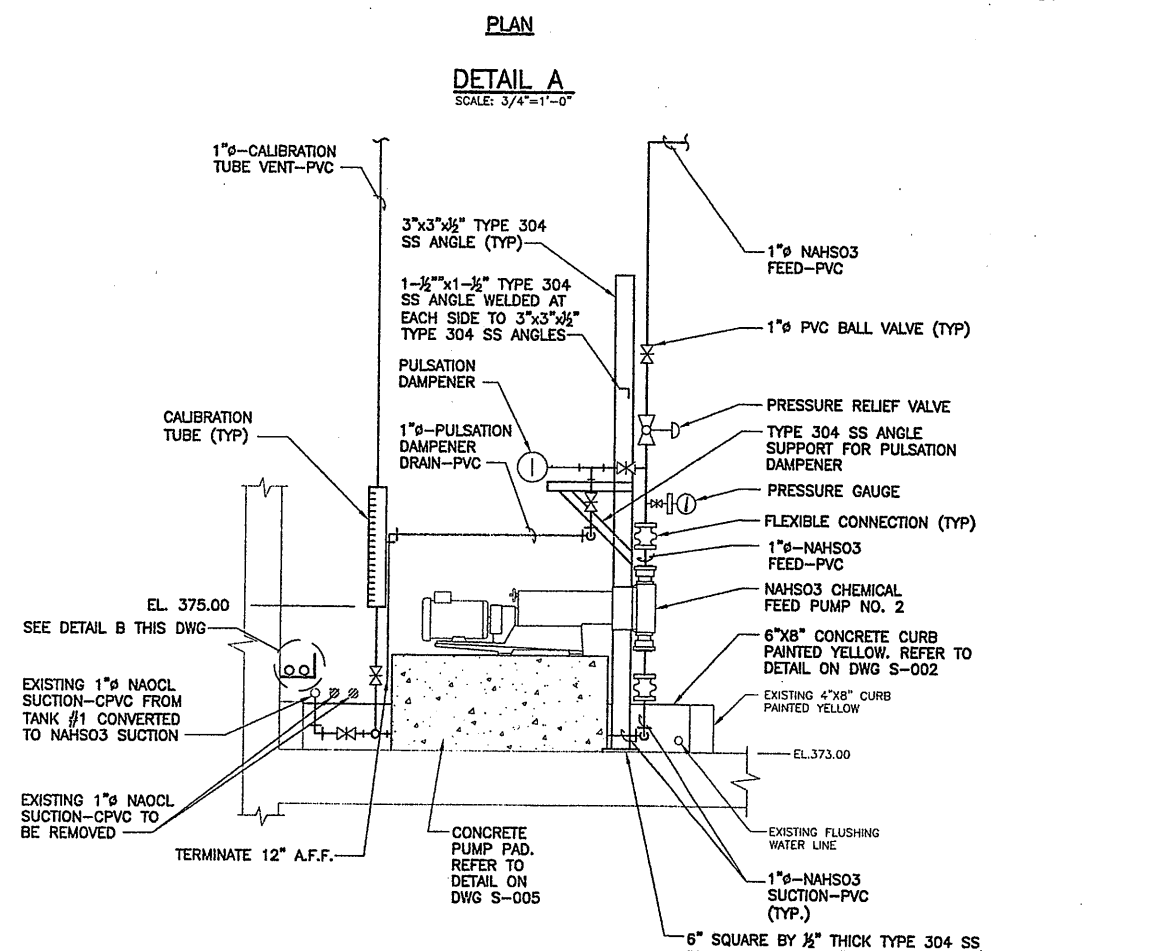
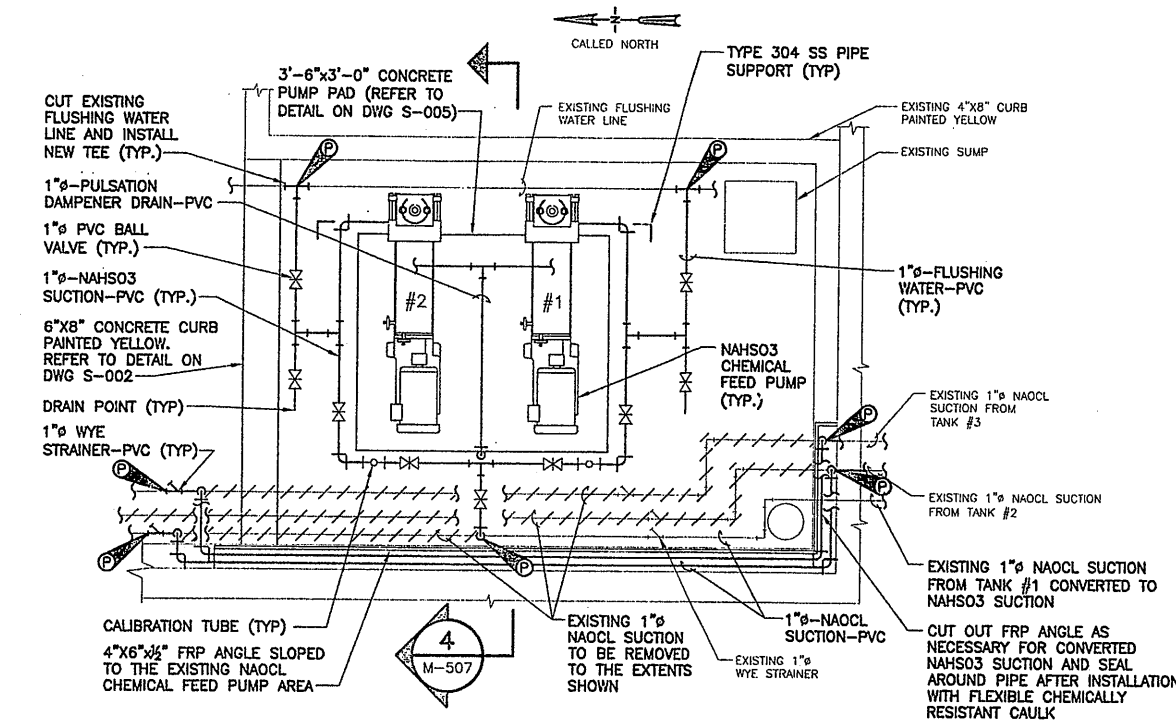
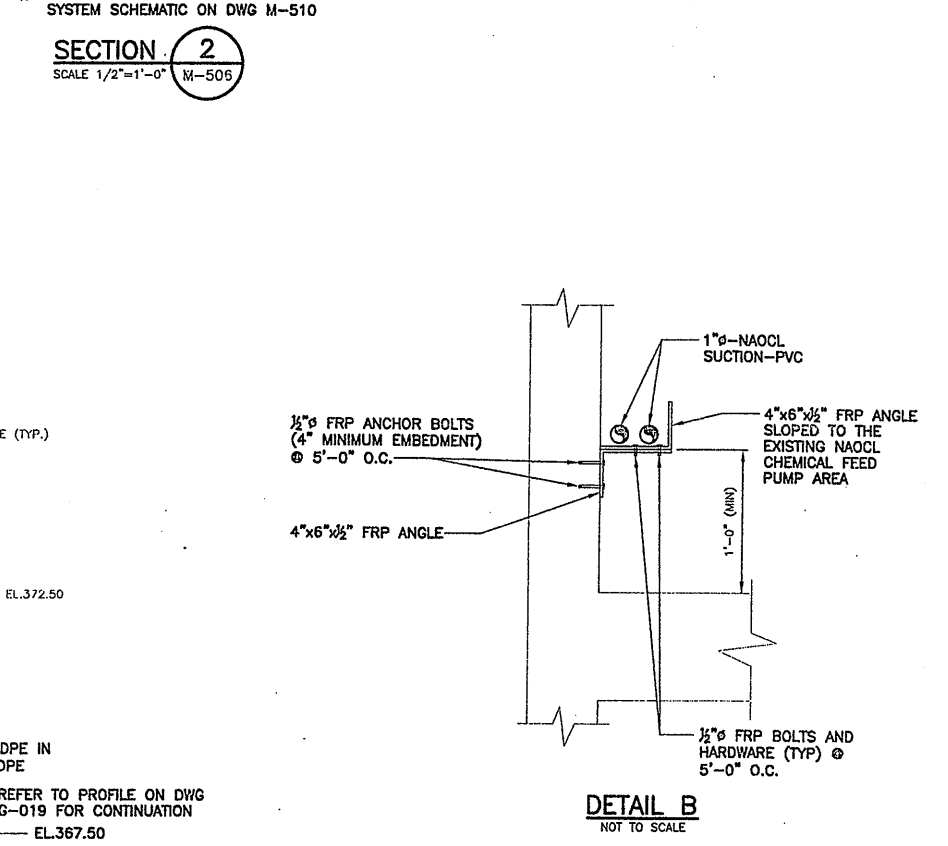
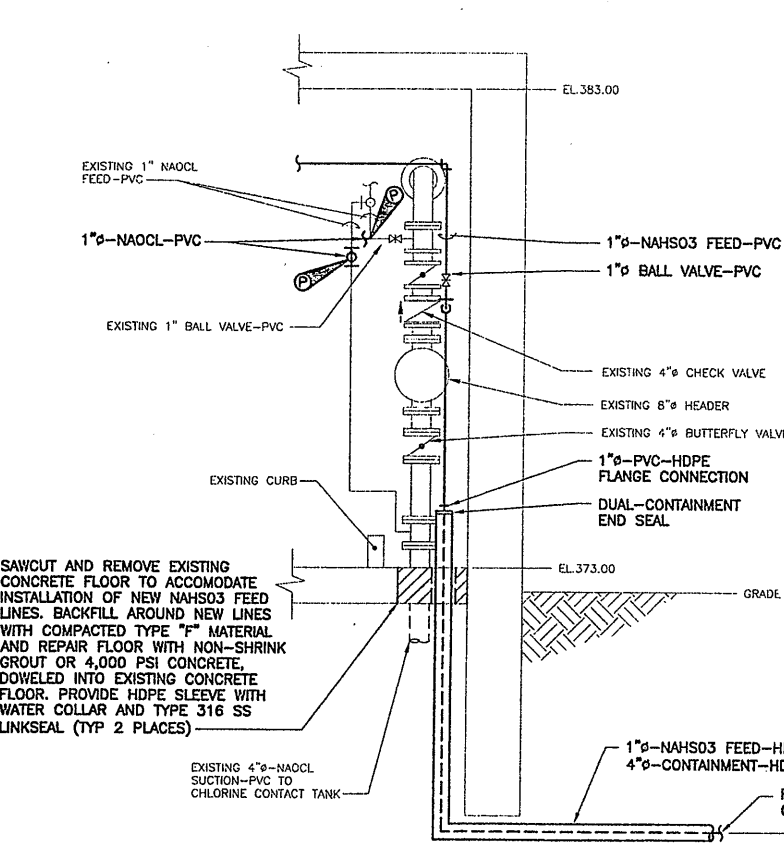
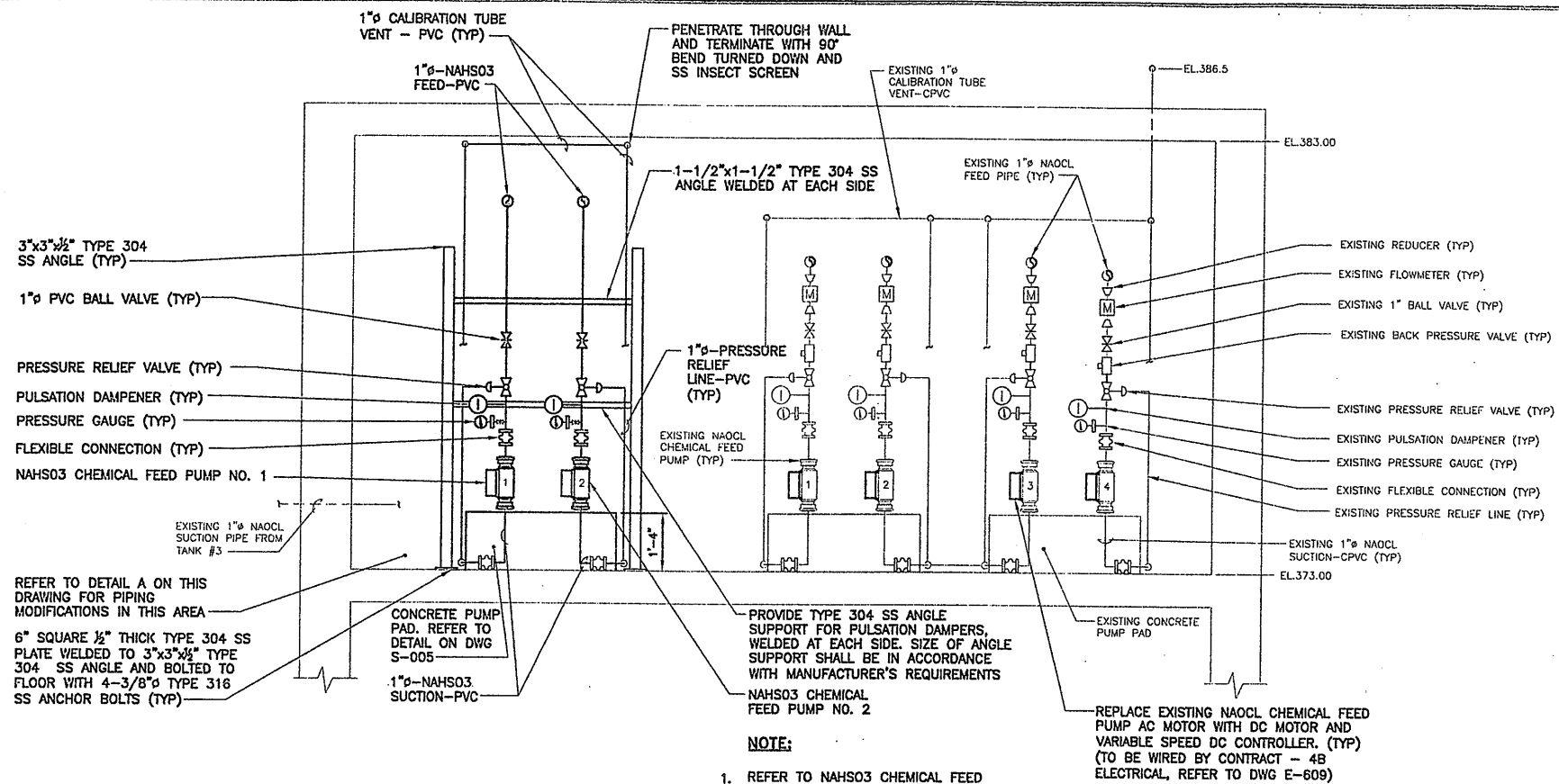
In charge of: DFG
Designed by: C.J.L.
Drawn by: DCC
Checked by: JCP

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METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
OUTFALL 002 DECHLORINATION SYSTEM
CHEMICAL FEED BUILDING "A"
PLAN AND SECTION
MECHANICAL

File Number: 00659
Date: APRIL 2001
M-506

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NOTE:
1. REFER TO NAHSO3 CHEMICAL FEED SYSTEM SCHEMATIC ON DWG M-510

SECTION 2
SCALE 1/2"=1'-0" M-506

DETAIL B
NOT TO SCALE

PLAN
DETAIL A
SCALE: 3/4"=1'-0"

SECTION 4
SCALE: 3/4"=1'-0" M-507

RECORD DRAWING
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DATE: 9/16/05 PER: [Signature]

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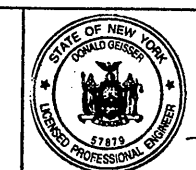
SECTION 3
SCALE 1/2"=1'-0" M-506

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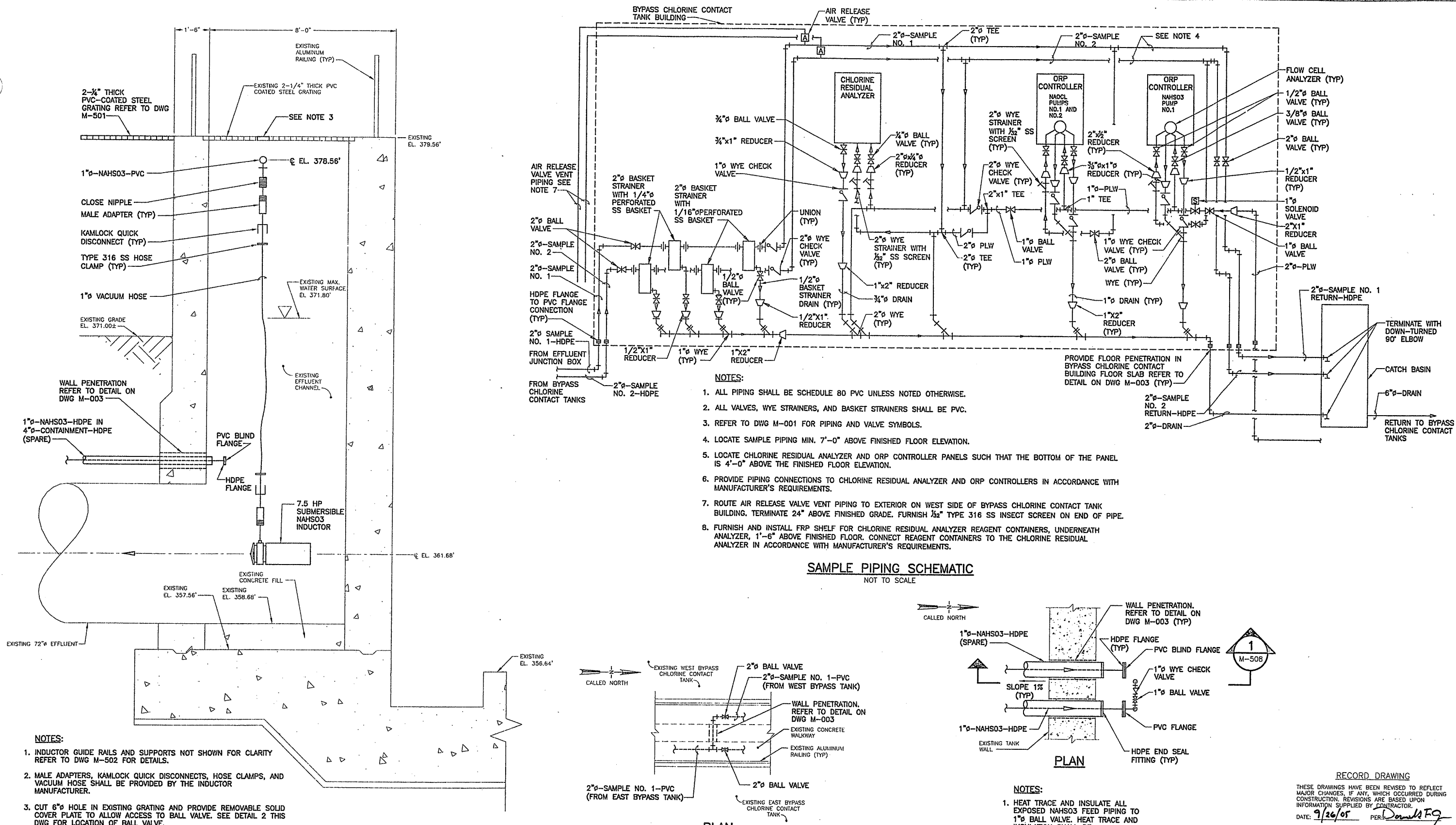


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STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
OUTFALL 002 DECHLORINATION SYSTEM
CHEMICAL FEED BUILDING "A"
SECTIONS AND DETAIL
MECHANICAL



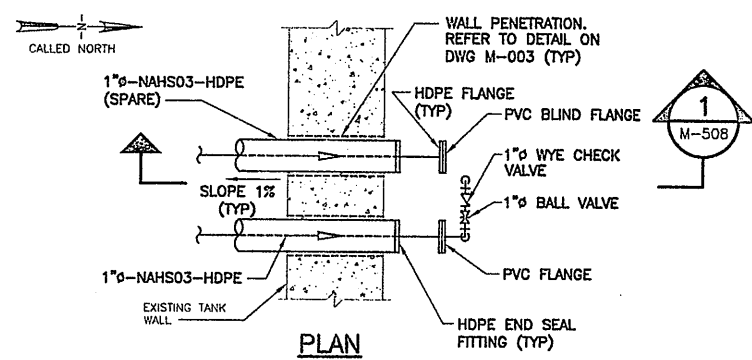
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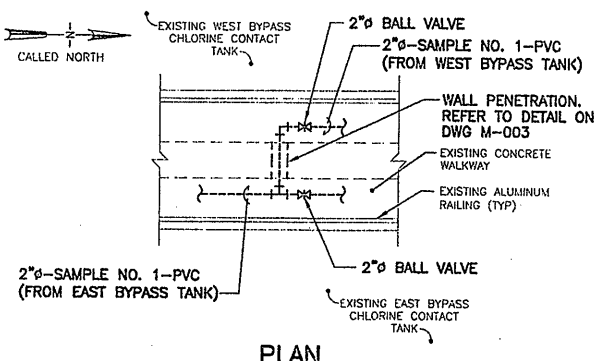
- NOTES:**
1. ALL PIPING SHALL BE SCHEDULE 80 PVC UNLESS NOTED OTHERWISE.
 2. ALL VALVES, WYE STRAINERS, AND BASKET STRAINERS SHALL BE PVC.
 3. REFER TO DWG M-001 FOR PIPING AND VALVE SYMBOLS.
 4. LOCATE SAMPLE PIPING MIN. 7'-0" ABOVE FINISHED FLOOR ELEVATION.
 5. LOCATE CHLORINE RESIDUAL ANALYZER AND ORP CONTROLLER PANELS SUCH THAT THE BOTTOM OF THE PANEL IS 4'-0" ABOVE THE FINISHED FLOOR ELEVATION.
 6. PROVIDE PIPING CONNECTIONS TO CHLORINE RESIDUAL ANALYZER AND ORP CONTROLLERS IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
 7. ROUTE AIR RELEASE VALVE VENT PIPING TO EXTERIOR ON WEST SIDE OF BYPASS CHLORINE CONTACT TANK BUILDING. TERMINATE 24" ABOVE FINISHED GRADE. FURNISH 1/2" TYPE 316 SS INSECT SCREEN ON END OF PIPE.
 8. FURNISH AND INSTALL FRP SHELF FOR CHLORINE RESIDUAL ANALYZER REAGENT CONTAINERS, UNDERNEATH ANALYZER, 1'-6" ABOVE FINISHED FLOOR. CONNECT REAGENT CONTAINERS TO THE CHLORINE RESIDUAL ANALYZER IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.

SAMPLE PIPING SCHEMATIC
NOT TO SCALE



- NOTES:**
1. HEAT TRACE AND INSULATE ALL EXPOSED NAHSO3 FEED PIPING TO 1" BALL VALVE. HEAT TRACE AND INSULATION SHALL BE SUBMERSIBLE-TYPE.

DETAIL 2
NOT TO SCALE
M-501



DETAIL 1
NOT TO SCALE
M-501

- NOTES:**
1. INDUCTOR GUIDE RAILS AND SUPPORTS NOT SHOWN FOR CLARITY REFER TO DWG M-502 FOR DETAILS.
 2. MALE ADAPTERS, KAMLOCK QUICK DISCONNECTS, HOSE CLAMPS, AND VACUUM HOSE SHALL BE PROVIDED BY THE INDUCTOR MANUFACTURER.
 3. CUT 6" HOLE IN EXISTING GRATING AND PROVIDE REMOVABLE SOLID COVER PLATE TO ALLOW ACCESS TO BALL VALVE. SEE DETAIL 2 THIS DWG FOR LOCATION OF BALL VALVE.

SECTION 1
NOT TO SCALE
M-508

RECORD DRAWING
THESE DRAWINGS HAVE BEEN REVISED TO REFLECT MAJOR CHANGES, IF ANY, WHICH OCCURRED DURING CONSTRUCTION. REVISIONS ARE BASED UPON INFORMATION SUPPLIED BY CONTRACTOR.
DATE: 9/26/05 PER: Donald E. G.

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8/16/05 BBL SDL DCC DJP
5503081/RECORD/0659M508.DWG

No.	Date	Revisions	Init
0	4/20/01	ISSUED FOR APPROVAL	DFG
1	7/3/01	AS BID	CJL
2	8/15/05	FOR RECORDS	SDL

In charge of --- DFG
Designed by --- CJL
Drawn by --- SDL
Checked by --- JCP

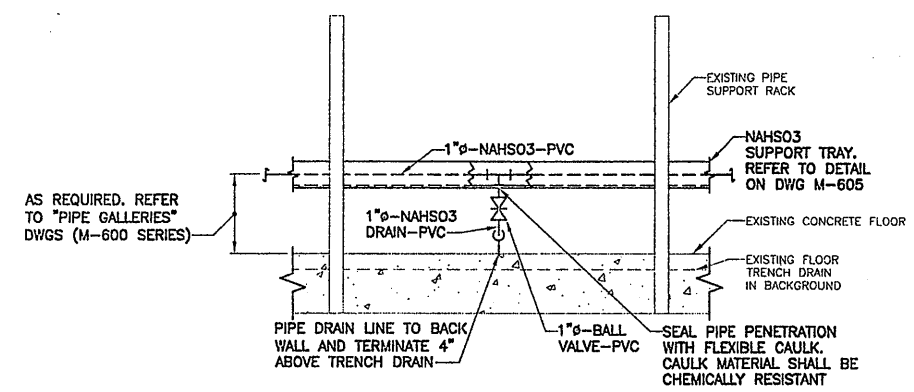
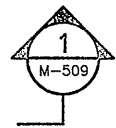
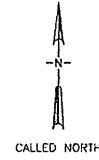
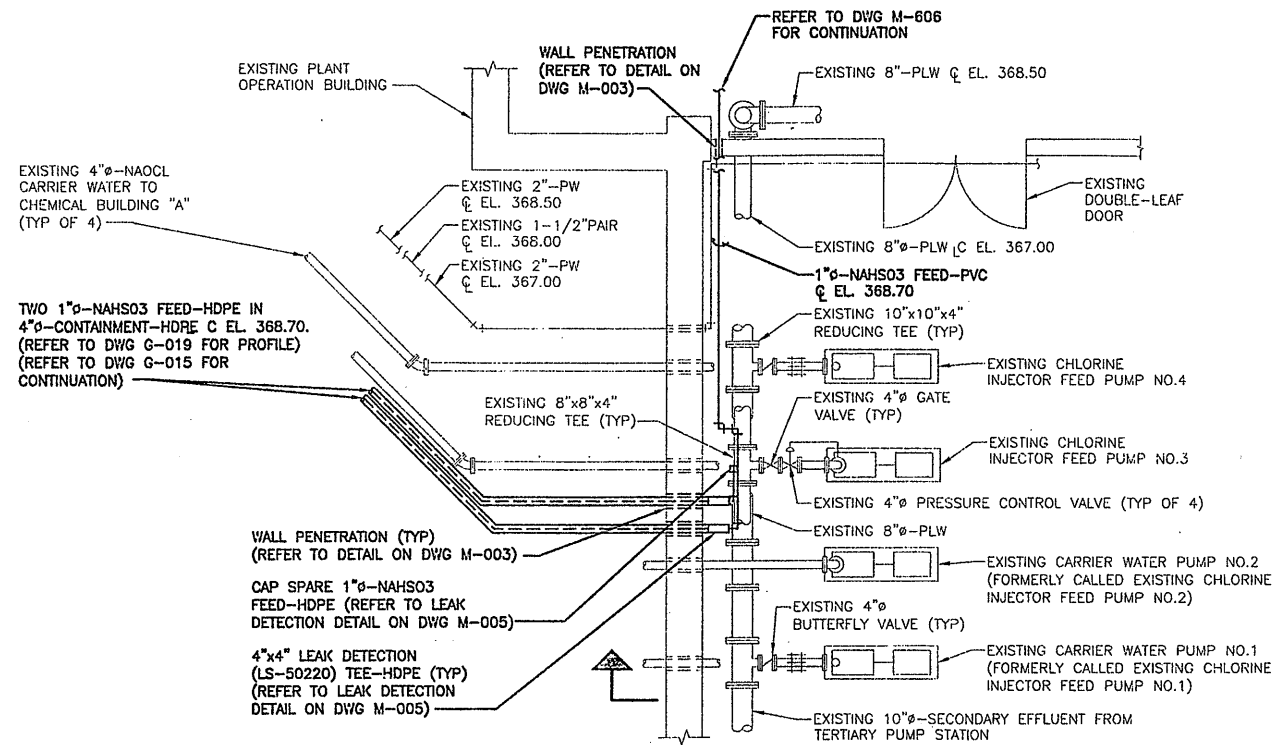
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SYRACUSE, NEW YORK

ONONDAGA COUNTY • DEPARTMENT OF DRAINAGE AND SANITATION • SYRACUSE, NEW YORK
METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
OUTFALL 002 DECHLORINATION SYSTEM
DETAILS AND SCHEMATIC



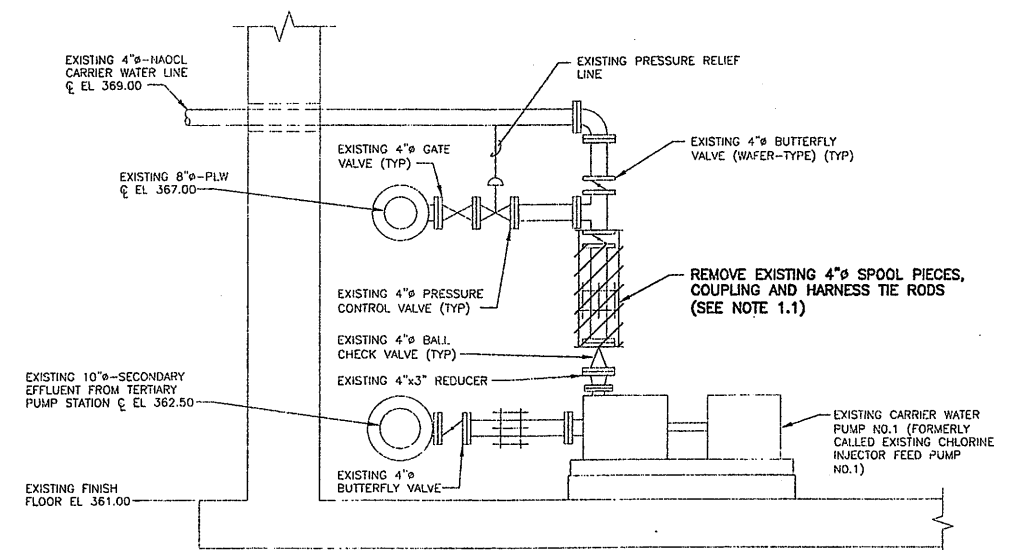
File Number 00659
Date APRIL 2001
M-508

MECHANICAL



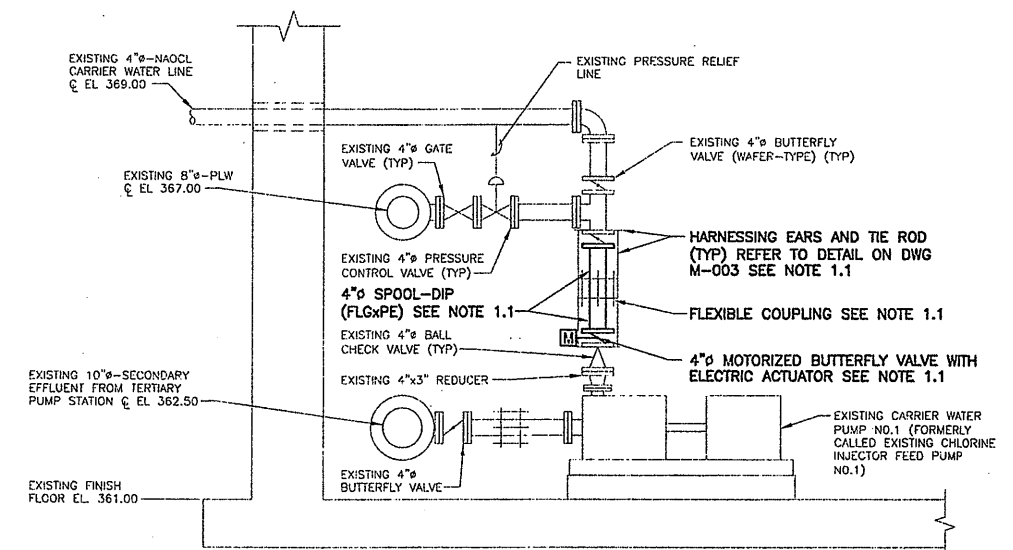
**CHEMICAL FEED LINE
DRAIN DETAIL**
NOT TO SCALE

EXISTING PLANT OPERATION BUILDING MODIFICATIONS DETAIL
SCALE 1/4"=1'-0"



DEMOLITION

SECTION 1
SCALE 1/2"=1'-0"
M-509



MODIFICATIONS

SECTION 1
SCALE 1/2"=1'-0"
M-509

RECORD DRAWING
THESE DRAWINGS HAVE BEEN REVISED TO REFLECT MAJOR CHANGES, IF ANY, WHICH OCCURRED DURING CONSTRUCTION. REVISIONS ARE BASED UPON INFORMATION SUPPLIED BY CONTRACTOR.
DATE: 9/26/05 PER: Donald F. J.

- NOTES (SECTION 1):**
1. TYPICAL FOR EXISTING CARRIER WATER PUMP NO. 2 DISCHARGE.

Layer: ON=*, OFF=*REF*
1/16/05 BBL SDL DCC DJP
3503081/RECORD/0659M509.DWG

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No.	Date	Revisions	Init
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1	7/3/01	AS BID	DF
2	8/15/05	FOR RECORDS	DF

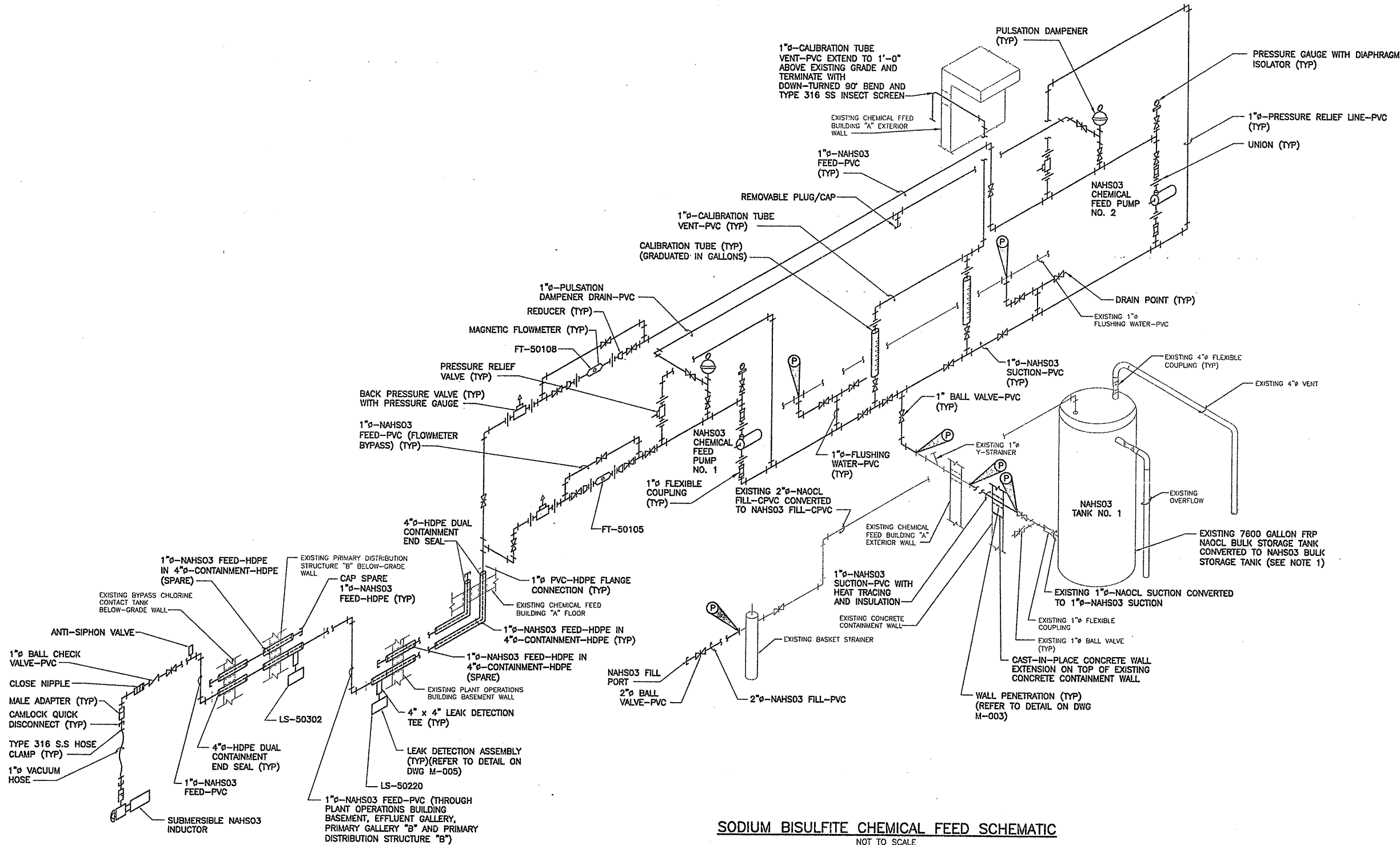
In charge of: DFG
Designed by: CJL
Drawn by: SDL
Checked by: JCP

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METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
**OUTFALL 002 DECHLORINATION SYSTEM
DETAIL AND SECTIONS**

STATE OF NEW YORK
DONALD F. J.
LICENSED PROFESSIONAL ENGINEER
File Number: 00659
Date: APRIL 2001
M-509

MECHANICAL



SODIUM BISULFITE CHEMICAL FEED SCHEMATIC
NOT TO SCALE

NOTES:

- EXISTING FRP NAOCL BULK STORAGE TANK SHALL BE CLEANED AND PREPARED PER TANK MANUFACTURE'S RECOMMENDATIONS FOR CONVERSION TO NAHSO3 BULK STORAGE TANK.
- ALL INTERIOR AND ABOVE GRADE NAHSO3 PIPING SHALL BE SCH 80 PVC.
- ALL BURIED NAHSO3 PIPING SHALL BE DR11 HDPE CARRIER PIPE INSIDE DR17 HDPE CONTAINMENT PIPE.

RECORD DRAWING

THESE DRAWINGS HAVE BEEN REVISED TO REFLECT MAJOR CHANGES, IF ANY, WHICH OCCURRED DURING CONSTRUCTION. REVISIONS ARE BASED UPON INFORMATION SUPPLIED BY CONTRACTOR.
DATE: 9/26/05 PER: *Donald FG*

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05503081/RECORD/0659M510.DWG

No.	Date	Revisions	Init
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Checked by ___ JCP ___

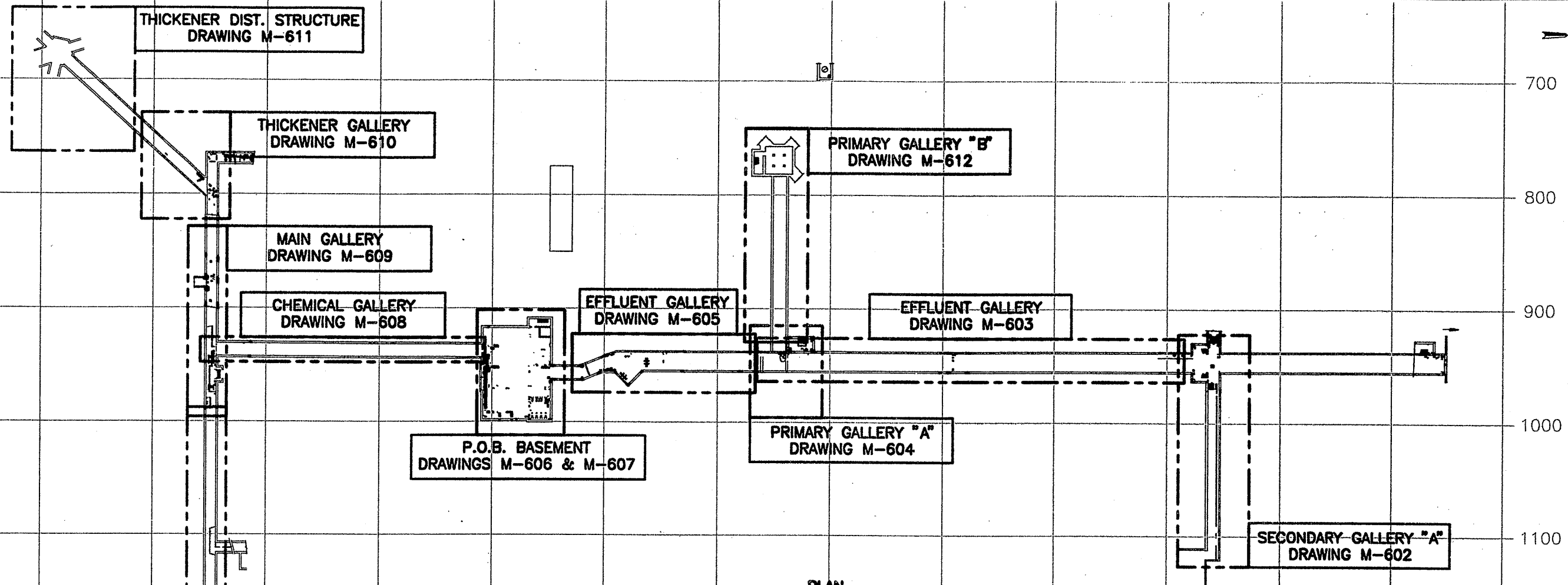


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METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
SODIUM BISULFITE CHEMICAL FEED SCHEMATIC
MECHANICAL



File Number: 00659
Date: APRIL 2001
M-510
Donald FG

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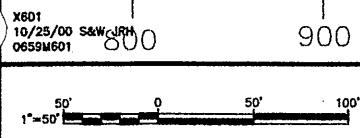
PLAN
SCALE: 1" = 50'-0"

NOTES:

1. EXISTING CONDITIONS SHOWN ON DRAWINGS M-601 THRU M-614 ARE BASED ON INFORMATION OBTAINED FROM CONTRACT DRAWINGS BY O'BRIEN & GERE, DATED JUNE 1, 1971, ONONDAGA COUNTY DEPARTMENT OF PUBLIC WORKS, DIVISION OF DRAINAGE AND SANITATION, METROPOLITAN SYRACUSE SEWAGE TREATMENT PLANT. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, EQUIPMENT LOCATIONS, PIPING MATERIALS AND CONTENT, PRIOR TO CONSTRUCTION.
2. USE OF THE EXISTING PIPE SUPPORTS IN GALLERIES MAY BE UTILIZED WHEREVER POSSIBLE. FOR NEW PIPING, CONTRACTOR SHALL VERIFY AND PROVIDE NEW SUPPORTS WHERE NEEDED AND WHERE EXISTING SUPPORTS ARE NOT AVAILABLE OR SUFFICIENT.
3. CONTRACTOR TO PROVIDE 3/4" AIR RELIEF AT ALL HIGH POINTS IN PIPING. AIR RELIEF SHALL BE 3/4" TAP WITH MANUAL GATE VALVE. (3/4" A.R.)
4. CONTRACTOR TO PROVIDE 3/4" DRAIN AT ALL LOW POINTS IN PIPING. DRAIN SHALL BE 3/4" TAP WITH MANUAL GATE VALVE. (3/4" DR.)

RECORD DRAWING
THESE DRAWINGS HAVE BEEN REVISED TO REFLECT MAJOR CHANGES, IF ANY, WHICH OCCURRED DURING CONSTRUCTION. REVISIONS ARE BASED UPON INFORMATION SUPPLIED BY CONTRACTOR.
DATE: 1/23/05 PER: GCH

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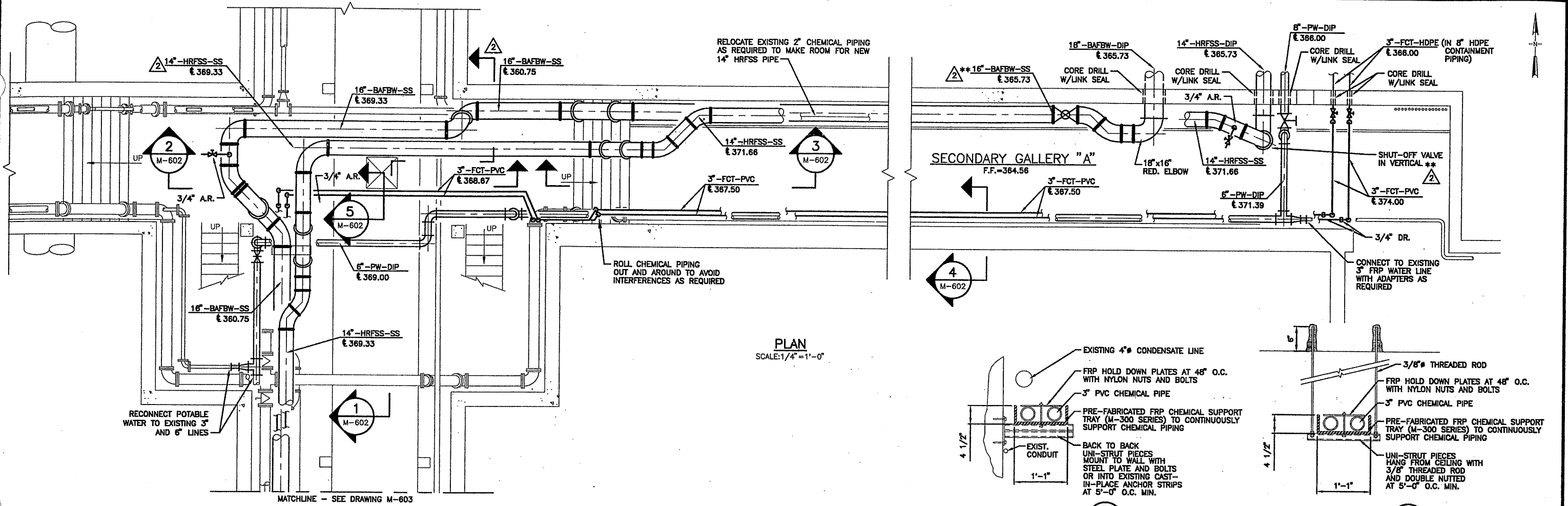
No.	Date	Revisions	Init
0	3/30/01	ISSUED FOR APPROVAL	GCH
1	6/26/01	AS BID	GCH
2	05/05	FOR RECORDS	GCH

In charge of: AHS
Designed by: NGH
Drawn by: JRH
Checked by: AHS

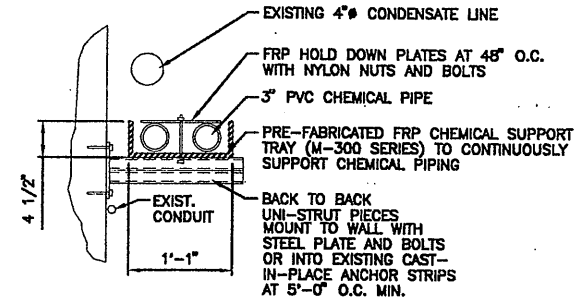
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SYRACUSE, NEW YORK

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STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
**PIPE GALLERIES
GALLERY MODIFICATIONS
KEY PLAN**
MECHANICAL

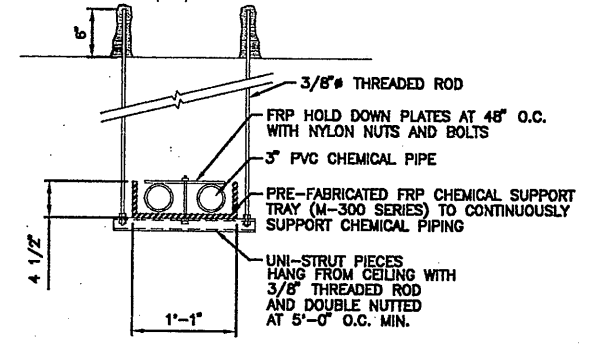
File Number: 00659
Date: APRIL 2001
M-601



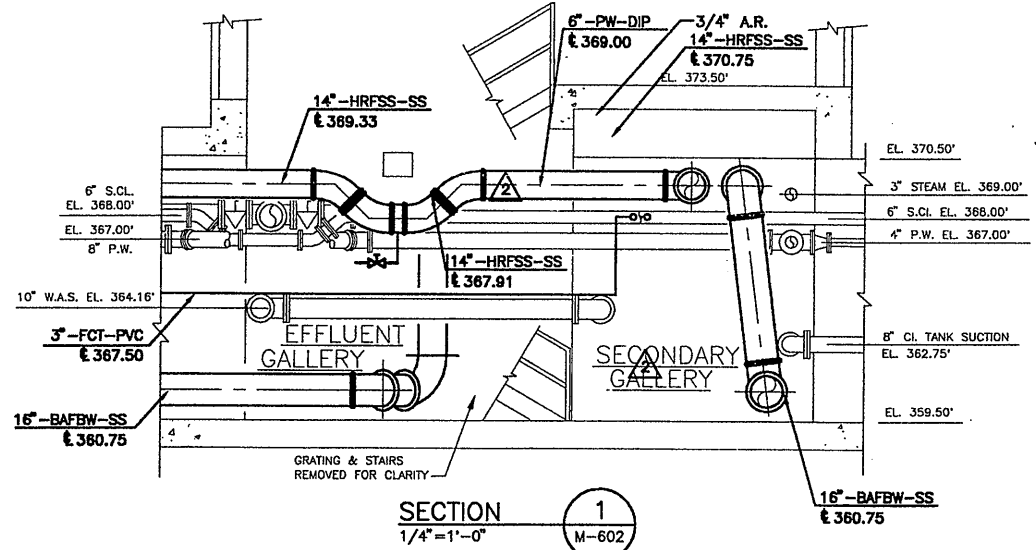
PLAN
SCALE: 1/4" = 1'-0"



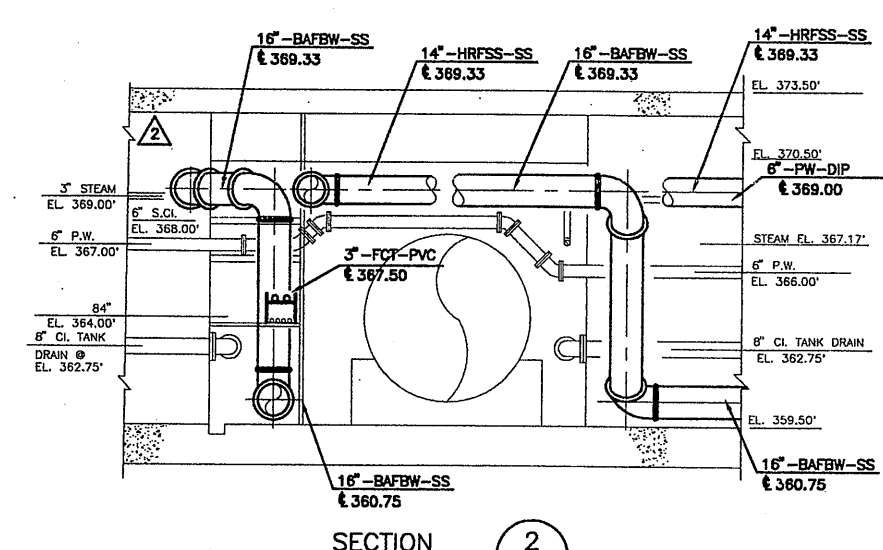
SECTION 4
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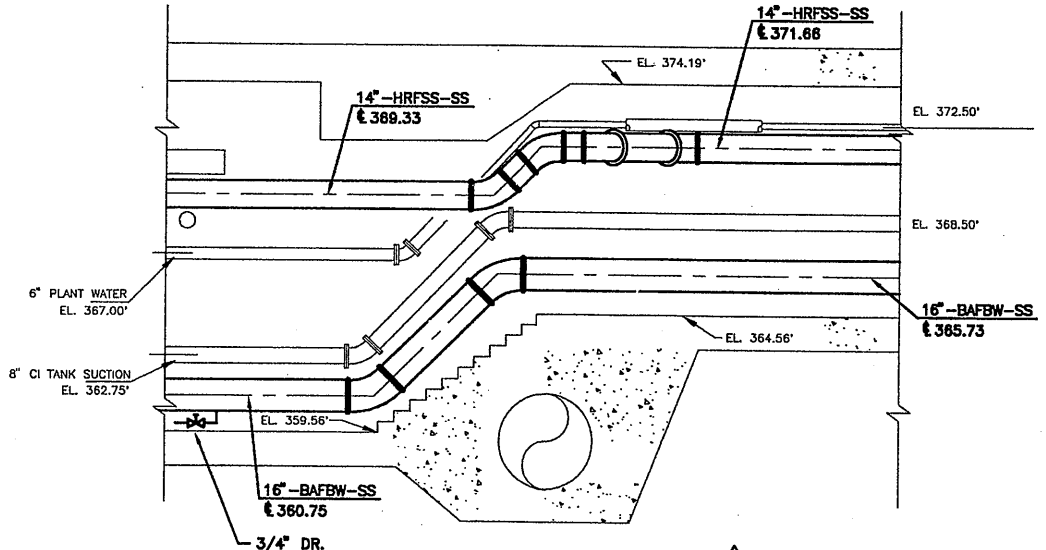
SECTION 5
SCALE: 1/2" = 1'-0"



SECTION 1
SCALE: 1/4" = 1'-0"



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



SECTION 3
SCALE: 1/4" = 1'-0"

△** INDICATES ITEMS TO BE SUPPLIED BY THE OWNER FOR INSTALLATION BY THE GENERAL CONTRACTOR WITH WIRE AND CONDUIT BY THE ELECTRICAL CONTRACTOR.

RECORD DRAWING
THESE DRAWINGS HAVE BEEN REVISED TO REFLECT MAJOR CHANGES, IF ANY, WHICH OCCURRED DURING CONSTRUCTION. REVISIONS ARE BASED UPON INFORMATION SUPPLIED BY CONTRACTOR.
DATE: 4/23/05 PER: GCH

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X601
10/25/00 S&W JRH
0659M602

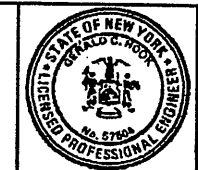
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No.	Date	Revisions	Init
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1	6/26/01	AS BID	GCH
2	1/4/02	REISSUED TO REVISE 14\"/>	

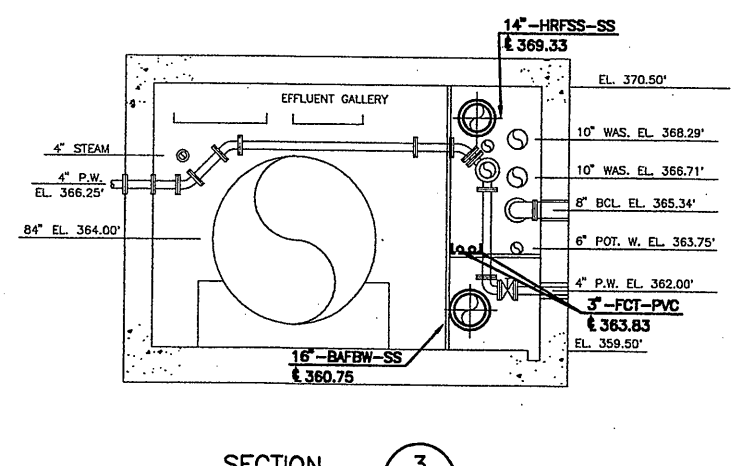
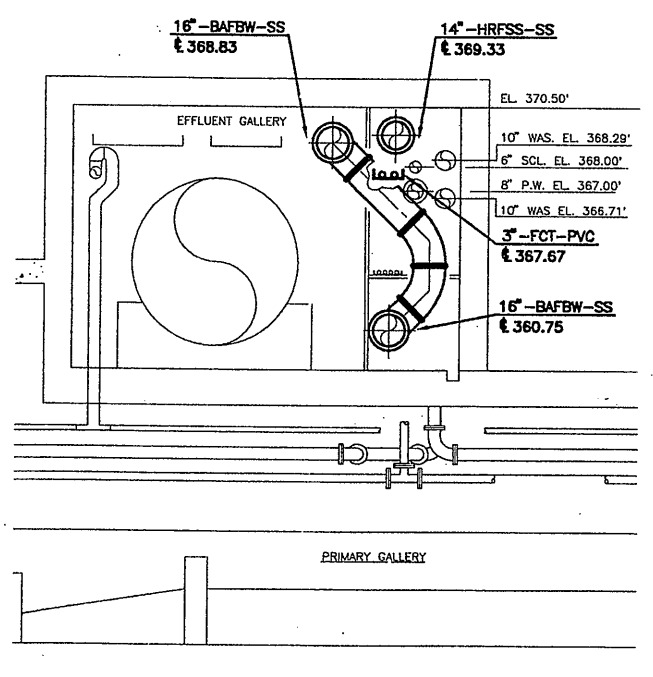
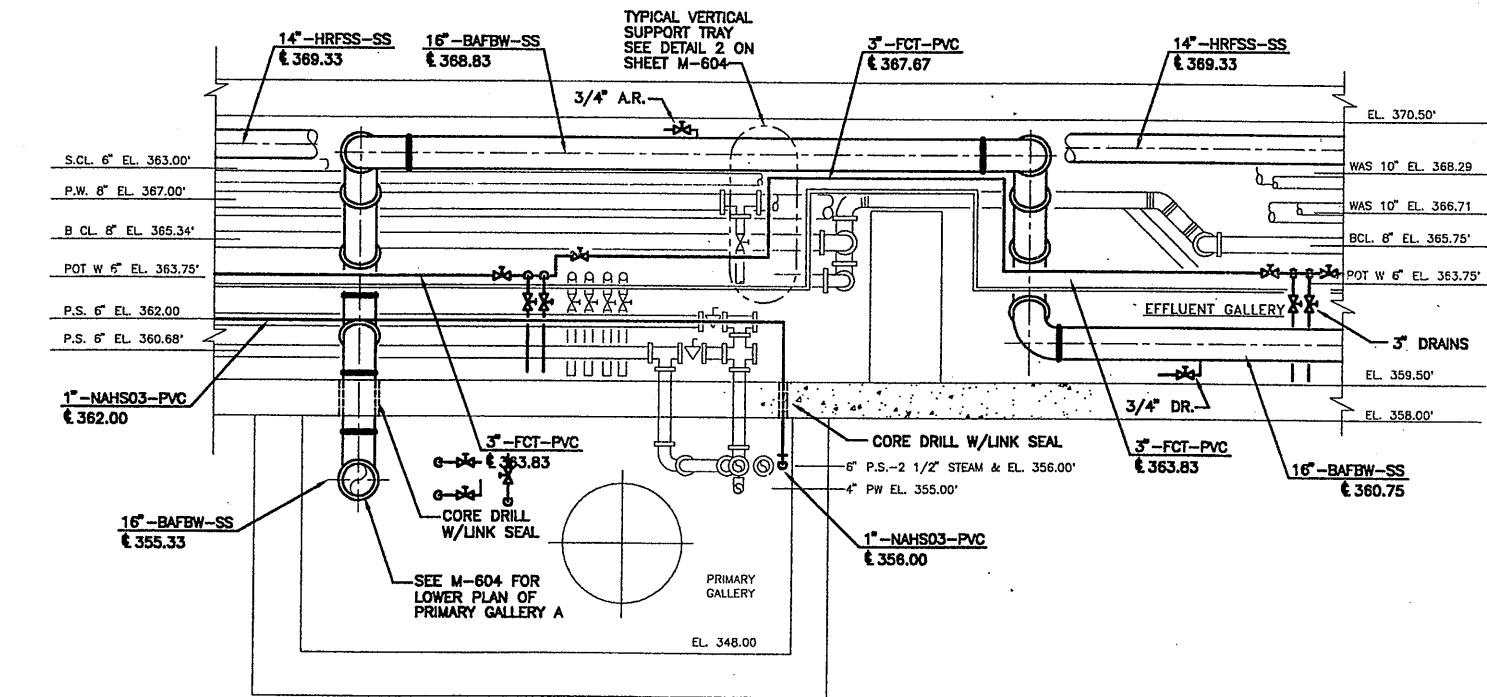
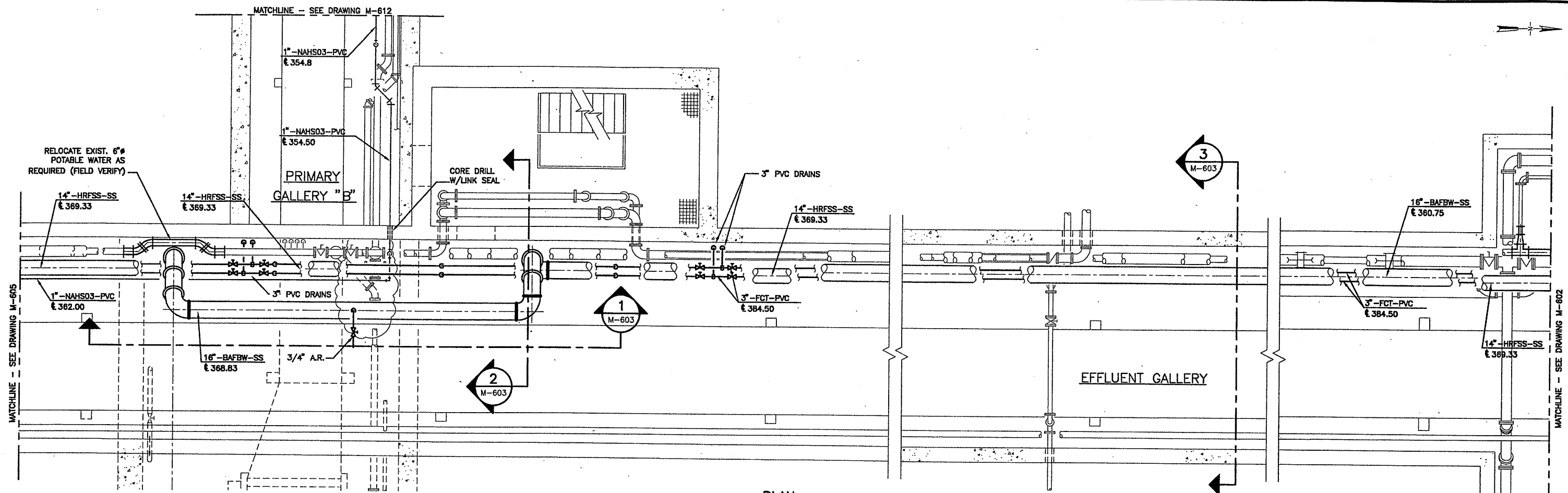
In charge of: AHS
Designed by: NGH
Drawn by: JRH
Checked by: AHS

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METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
PIPE GALLERIES
SECONDARY GALLERY "A" MODIFICATIONS
PLAN AND SECTIONS
MECHANICAL



File Number: 00659
Date: APRIL 2001
M-602



X601
10/25/00 S&W JRH
0659M603

No.	Date	Revisions	Init
0	3/30/01	ISSUED FOR APPROVAL	
1	6/26/01	AS BID	
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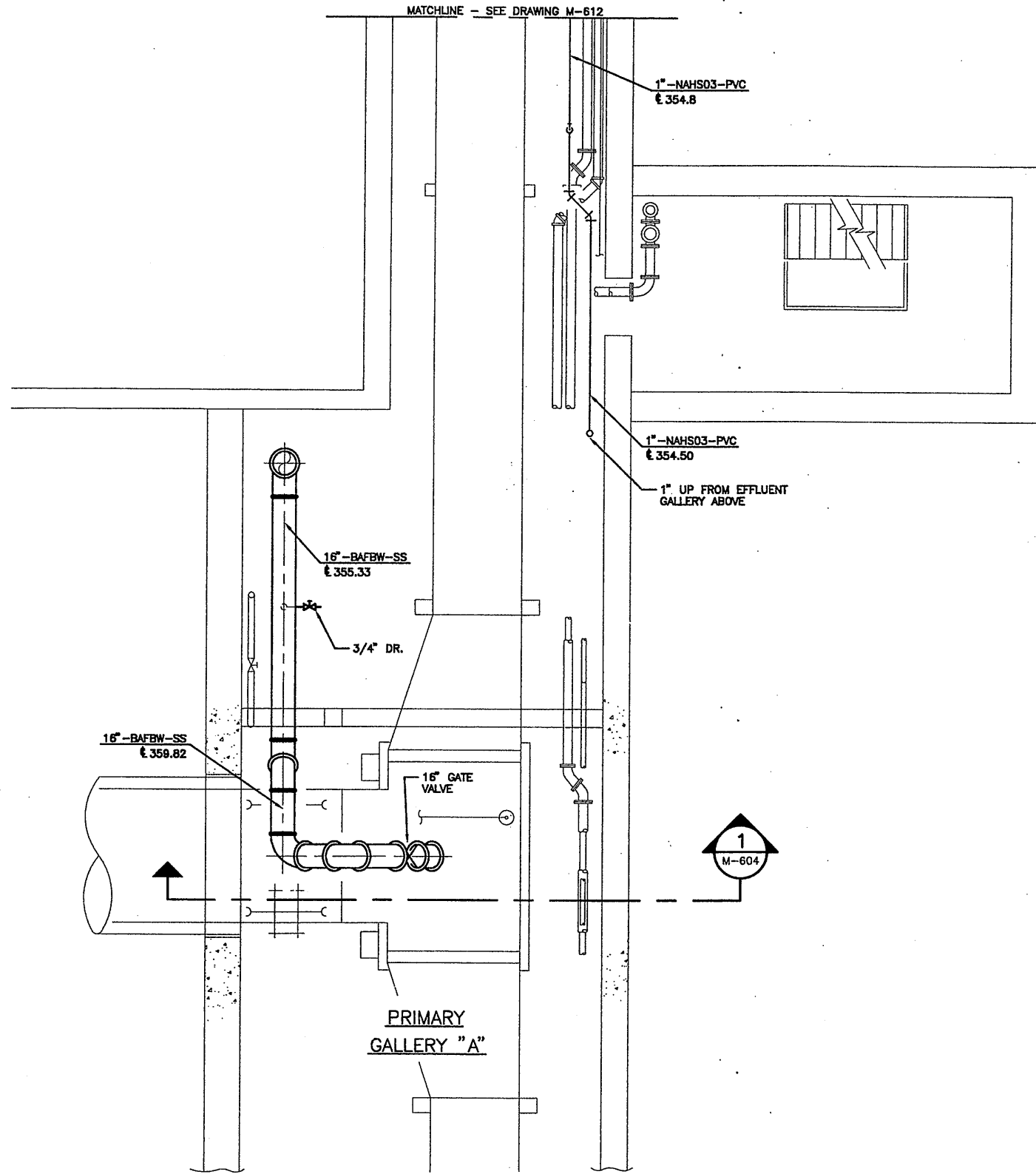
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METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
PIPE GALLERIES
EFFLUENT GALLERY MODIFICATIONS
PLAN AND SECTIONS
MECHANICAL



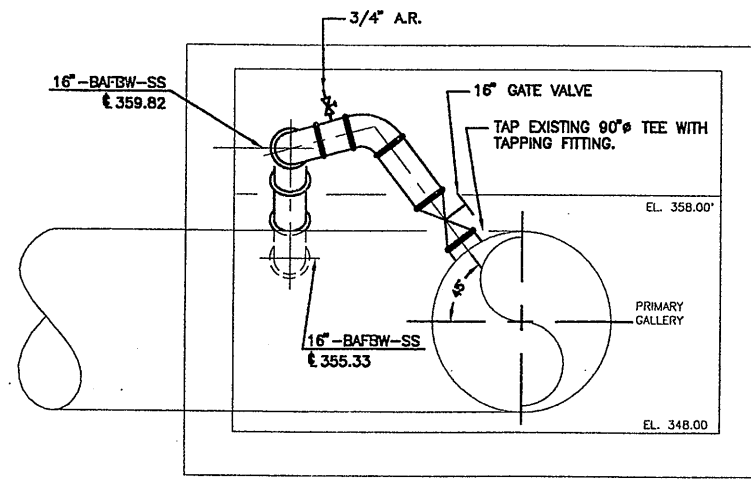
File Number
00659
Date
APRIL 2001
M-603

RECORD DRAWING
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DATE: 11/23/05 PER: GCH
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MATCHLINE - SEE DRAWING M-612

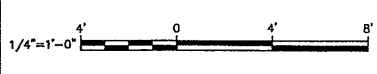


PLAN
SCALE: 1/4"=1'-0"



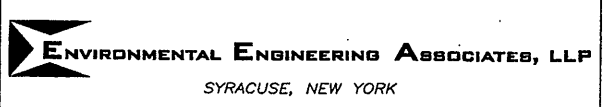
SECTION 1
1/4"=1'-0" M-604

X601
10/25/00 S&W JRH
0659M604



No.	Date	Revisions	Init
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1	6/26/01	AS BID	
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 Drawn by JRH
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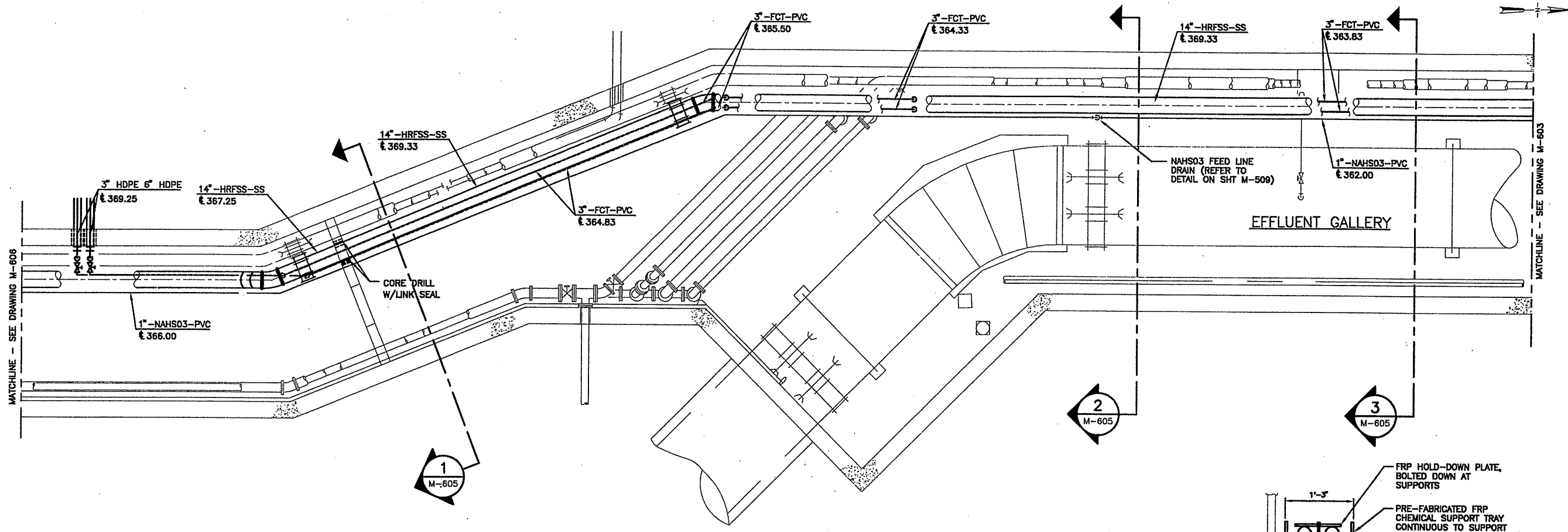
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 STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
PIPE GALLERIES
PRIMARY GALLERY "A" MODIFICATIONS
PLAN AND SECTIONS
 MECHANICAL



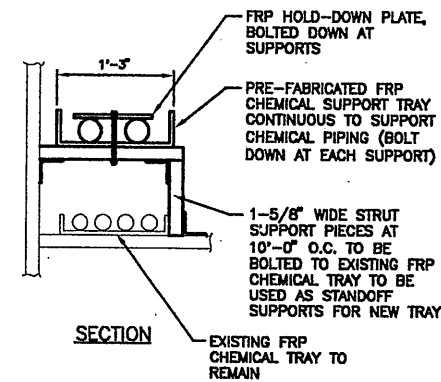
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APRIL 2001
M-604

RECORD DRAWING
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 DATE: 11/23/05 PER: GCH

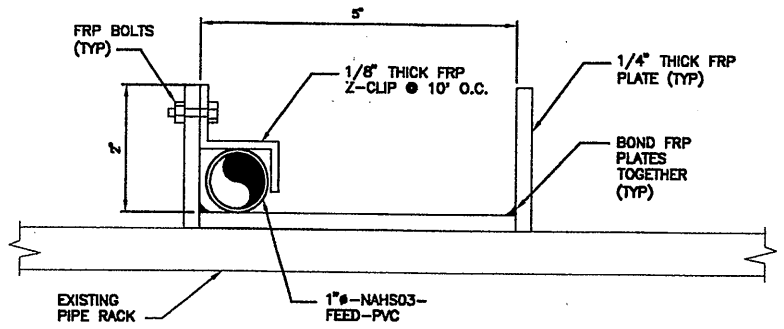
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PLAN
SCALE: 1/4" = 1'-0"

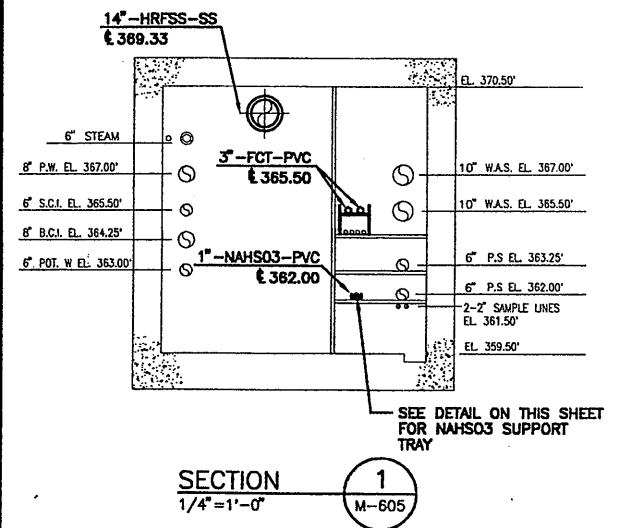


FERRIC CHLORIDE SUPPORT TRAY DETAIL
NOT TO SCALE

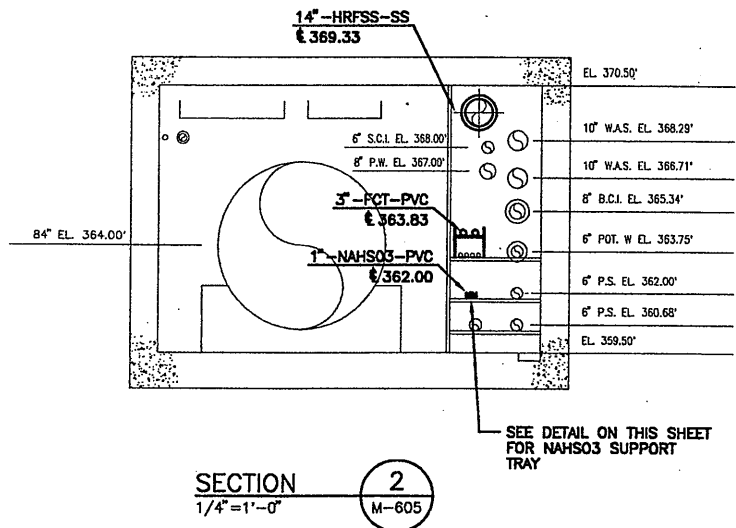


NAHSO3 SUPPORT TRAY DETAIL
NOT TO SCALE

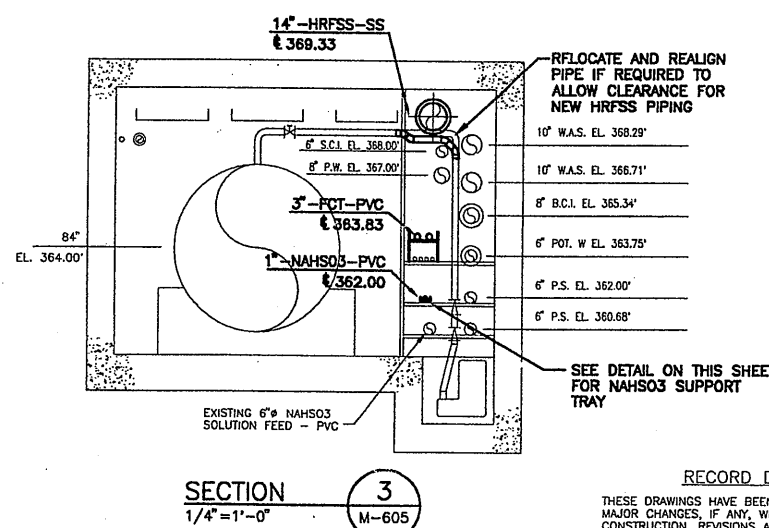
NOTE:
1. TRAY SHALL PROVIDE CONTINUOUS SUPPORT ON EXISTING PIPE RACK.



SECTION 1
1/4" = 1'-0" M-605



SECTION 2
1/4" = 1'-0" M-605



SECTION 3
1/4" = 1'-0" M-605

RECORD DRAWING
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DATE: 11/23/05 PER: ECH

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X601
10/25/00 S&W JRH
0659M605

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1	6/26/01	AS BID	
2	05/05	FOR RECORDS	

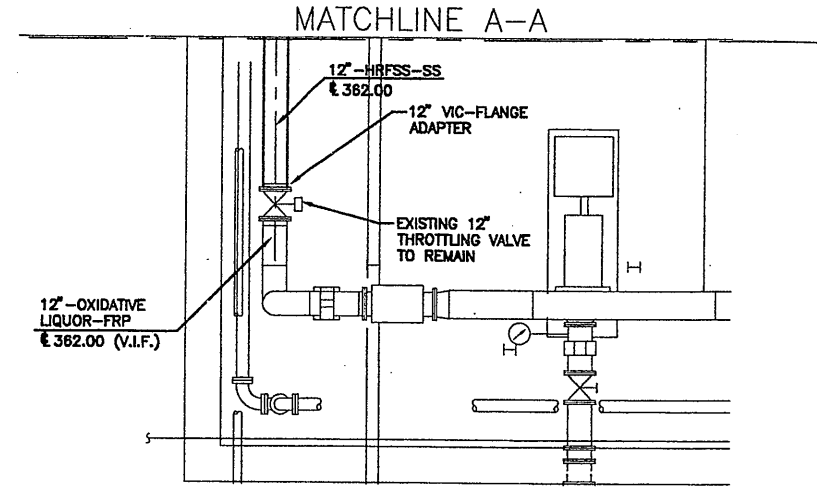
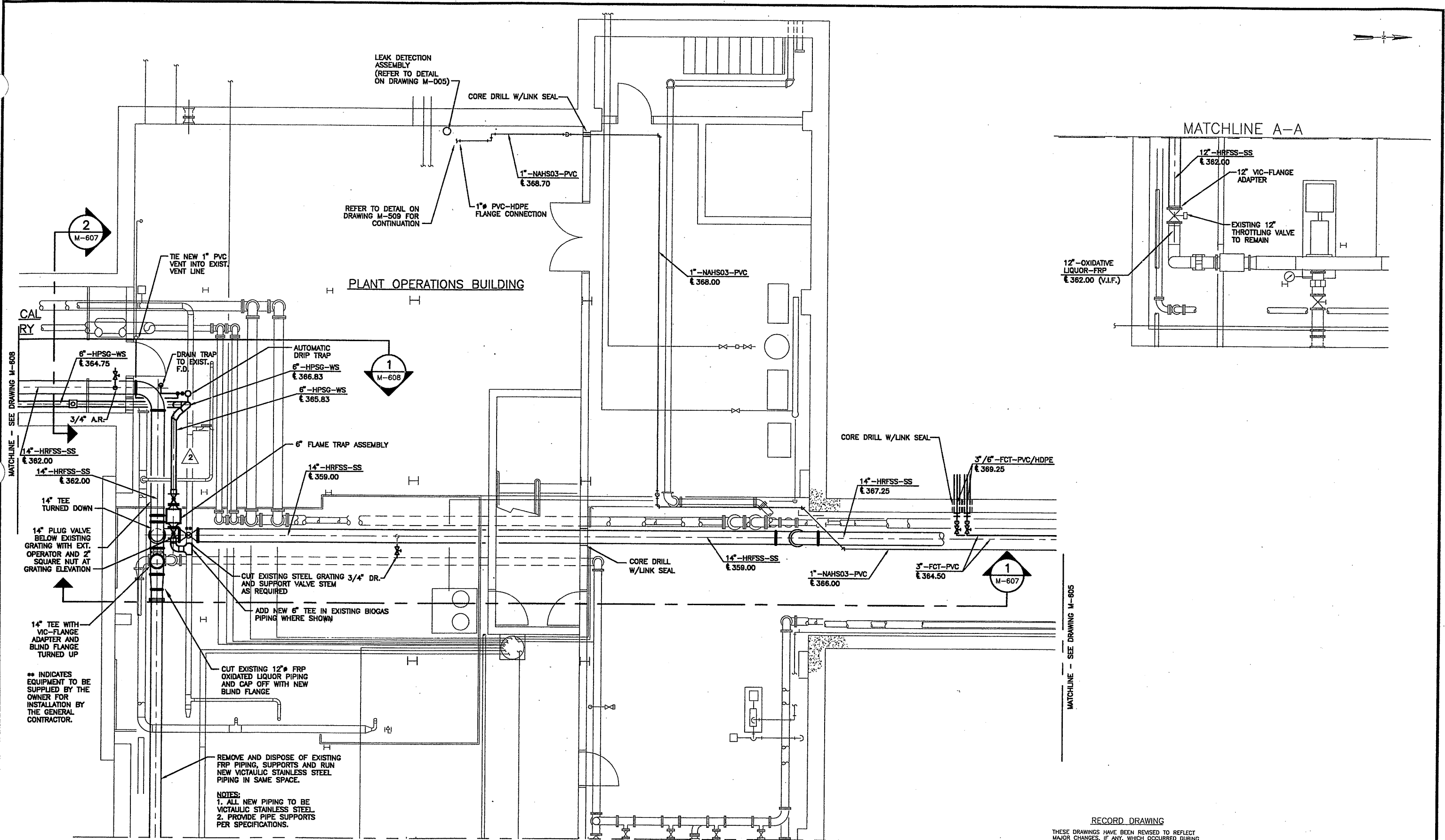
In-charge of: AHS
Designed by: NGH/JCP
Drawn by: JRH
Checked by: AHS

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SYRACUSE, NEW YORK

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METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
PIPE GALLERIES
EFFLUENT GALLERY MODIFICATIONS
PLAN AND SECTIONS
MECHANICAL



File Number: 00659
Date: APRIL 2001
M-605



PLAN
SCALE: 1/4" = 1'-0"

RECORD DRAWING
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No.	Date	Revisions	Init
0	3/30/01	ISSUED FOR APPROVAL	
1	6/26/01	AS BID	
2	8/18/03	REVISED FOR MODIFICATION 4A-185	
3	05/05	FOR RECORDS	

In charge of: AHS
Designed by: NGH/JCP
Drawn by: JRH
Checked by: AHS

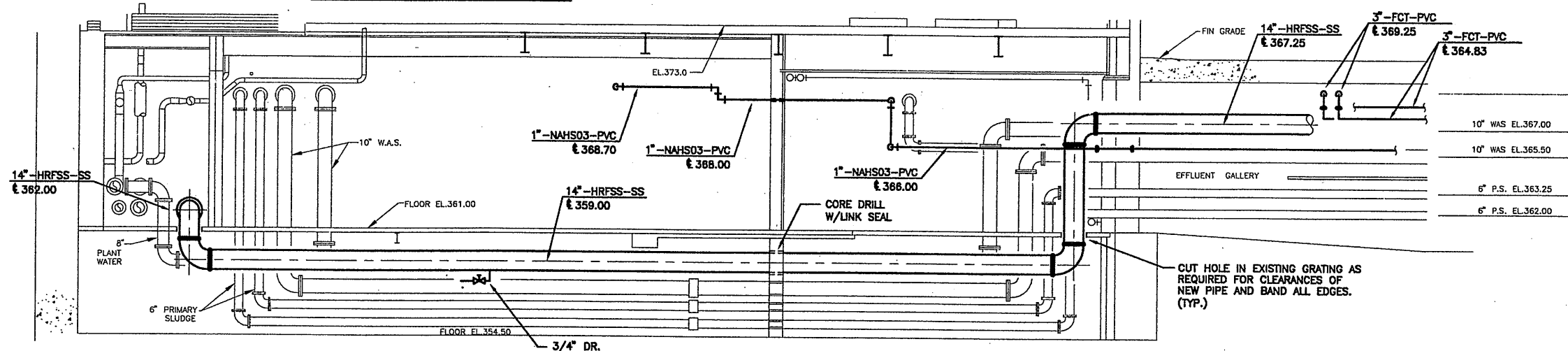
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ONONDAGA COUNTY • DEPARTMENT OF DRAINAGE AND SANITATION • SYRACUSE, NEW YORK
METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
PIPE GALLERIES
PLANT OPERATIONS BUILDING
MODIFICATIONS—BASEMENT PARTIAL PLAN
MECHANICAL

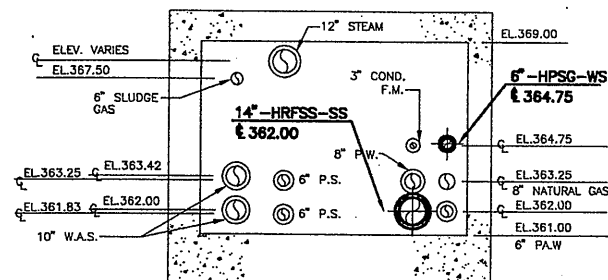
File Number: 00659
Date: APRIL 2001
M-606

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PLANT OPERATIONS BUILDING



SECTION 1
1/4" = 1'-0" M-606



SECTION 2
1/4" = 1'-0" M-606

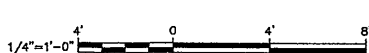
RECORD DRAWING

THESE DRAWINGS HAVE BEEN REVISED TO REFLECT MAJOR CHANGES, IF ANY, WHICH OCCURRED DURING CONSTRUCTION. REVISIONS ARE BASED UPON INFORMATION SUPPLIED BY CONTRACTOR.

DATE: 4/23/05 PER: GTH

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X601
10/25/00 S&W JRH
0659M607



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No.	Date	Revisions	Init
0	3/30/01	ISSUED FOR APPROVAL	
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2	05/05	FOR RECORDS	

In charge of AHS
Designed by NGH/JCP
Drawn by JRH
Checked by AHS



ONONDAGA COUNTY • DEPARTMENT OF DRAINAGE AND SANITATION • SYRACUSE, NEW YORK
METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
PIPE GALLERIES
PLANT OPERATIONS BUILDING
MODIFICATIONS - BASEMENT SECTIONS
MECHANICAL

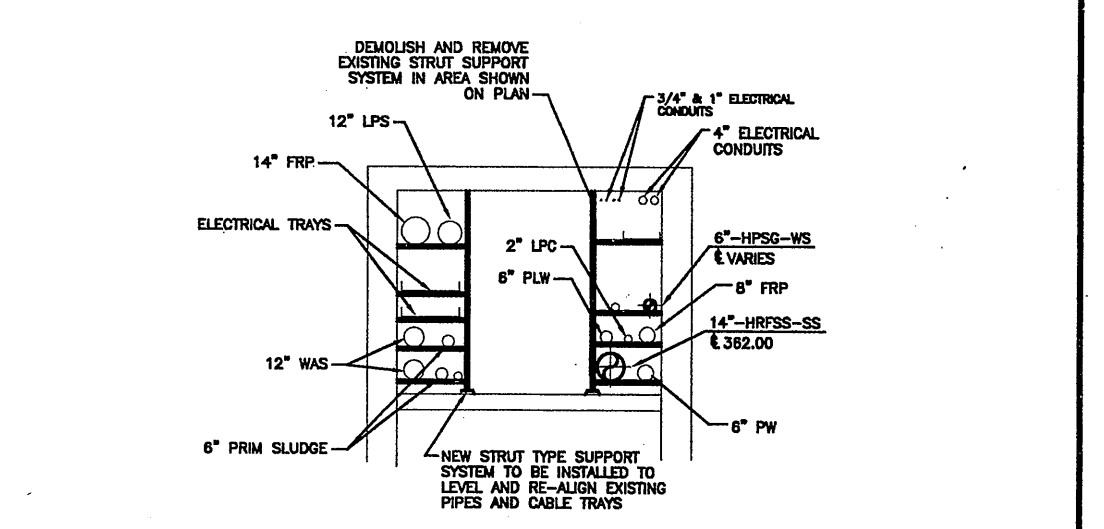
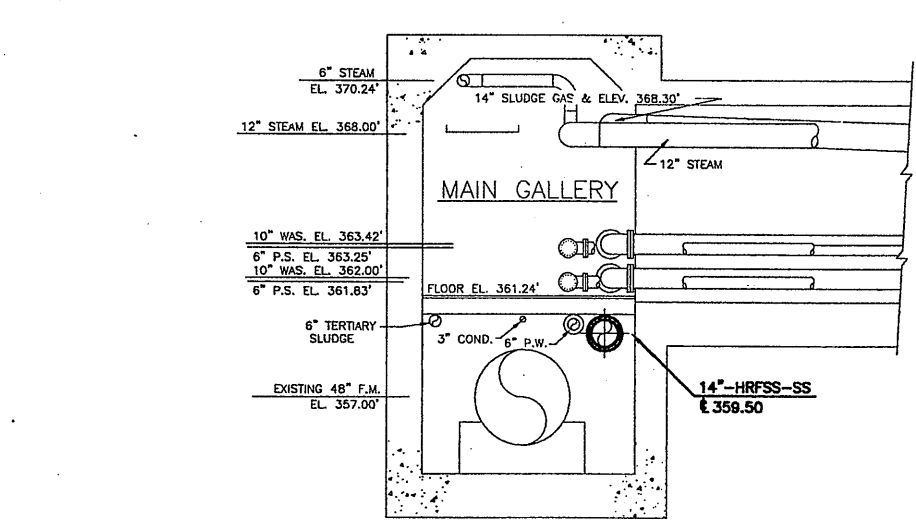
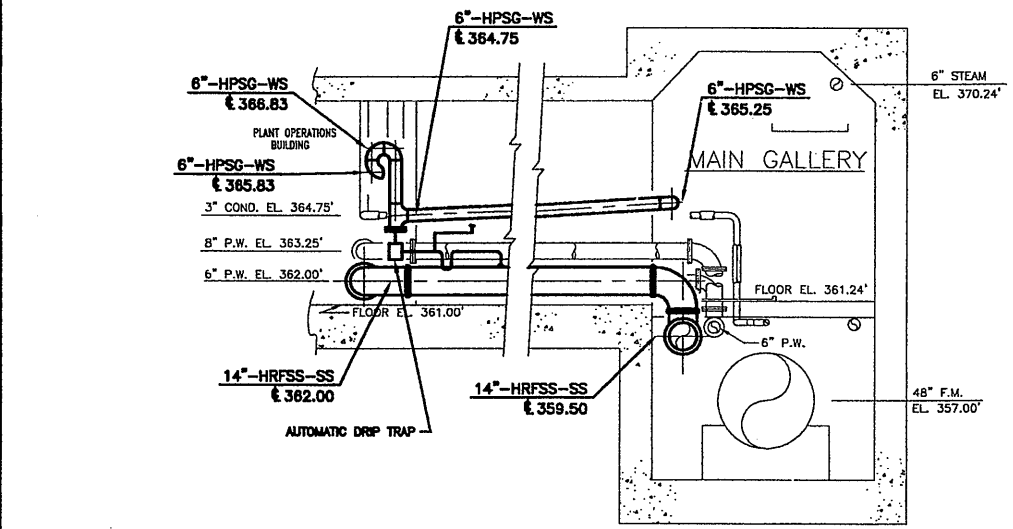
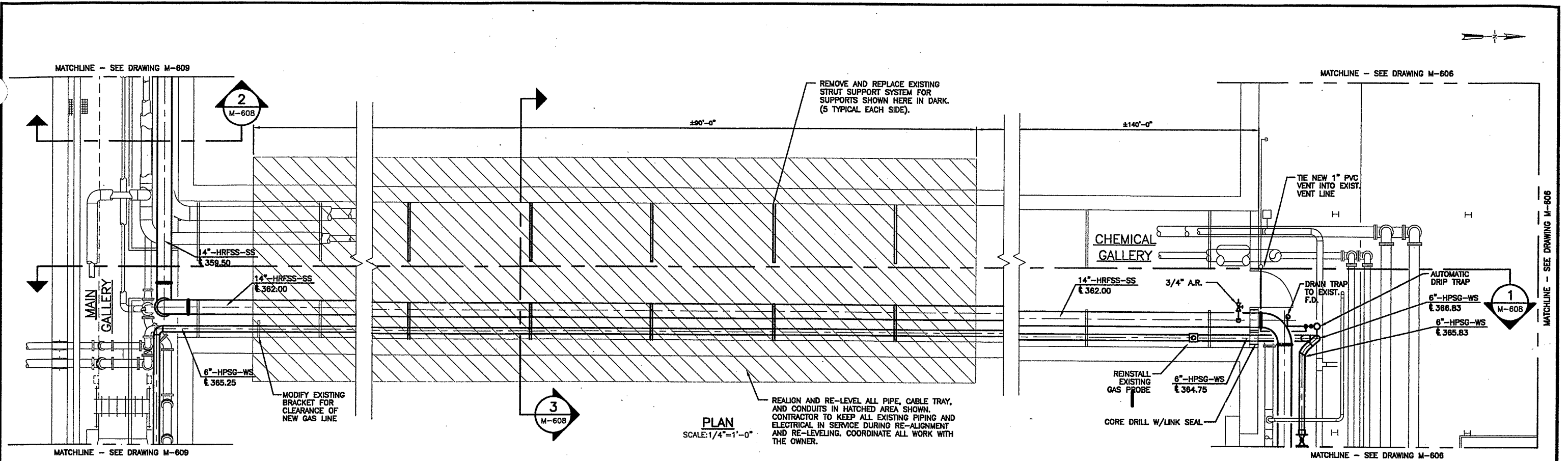


File Number
00659

Date
APRIL 2001

Gerald C. Hood

M-607



SECTION 1
1/4"=1'-0"
M-608

SECTION 2
1/4"=1'-0"
M-608

SECTION 3
1/4"=1'-0"
M-608

X601
10/25/00 S&W JRH
0659M608

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In charge of AHS
 Designed by NGH/PKW
 Drawn by JRH
 Checked by AHS

ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP
 SYRACUSE, NEW YORK

RECORD DRAWING

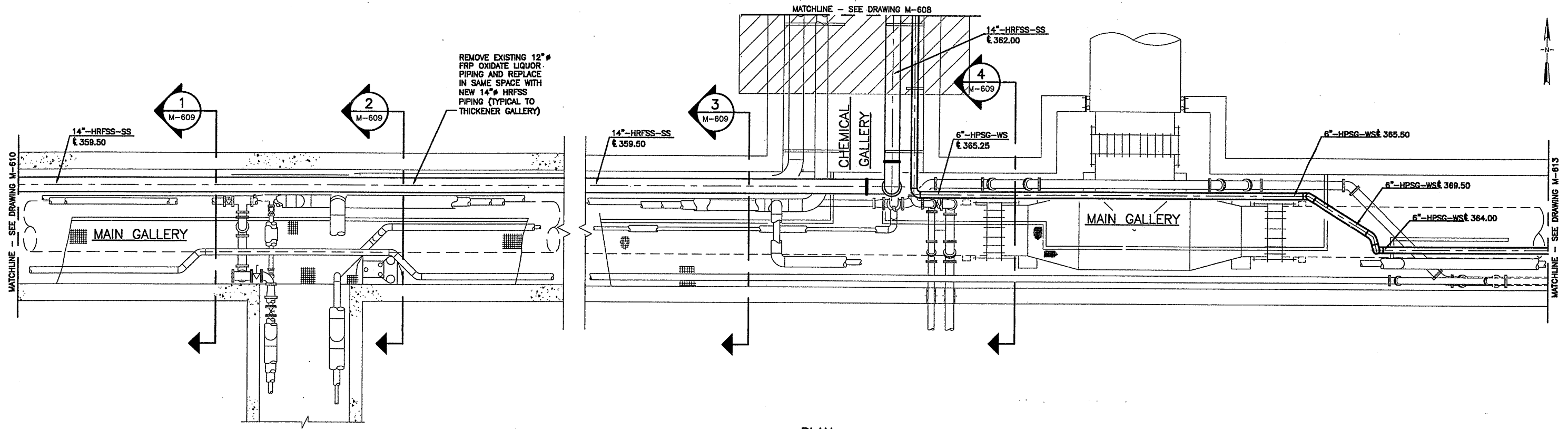
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DATE: 11/23/05 PER: GCH

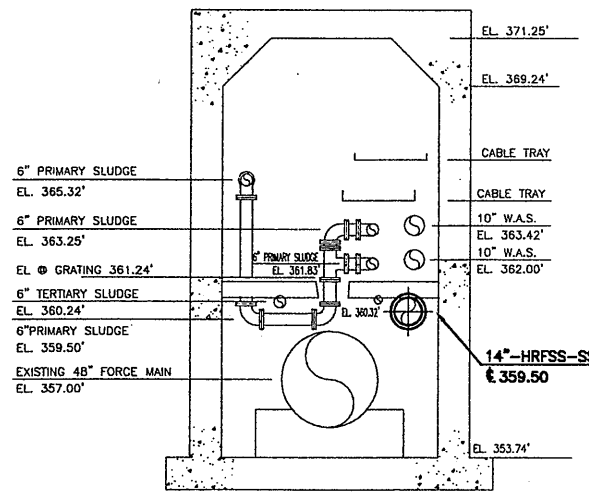
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 METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
 STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
**PIPE GALLERIES
 CHEMICAL GALLERY
 MODIFICATIONS - PLAN AND SECTIONS**
 MECHANICAL

STATE OF NEW YORK
 SEAL OF PROFESSIONAL ENGINEER

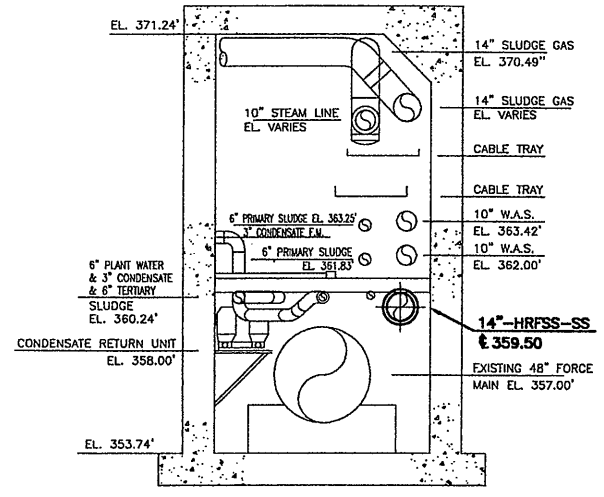
File Number 00659
 Date APRIL 2001
M-608



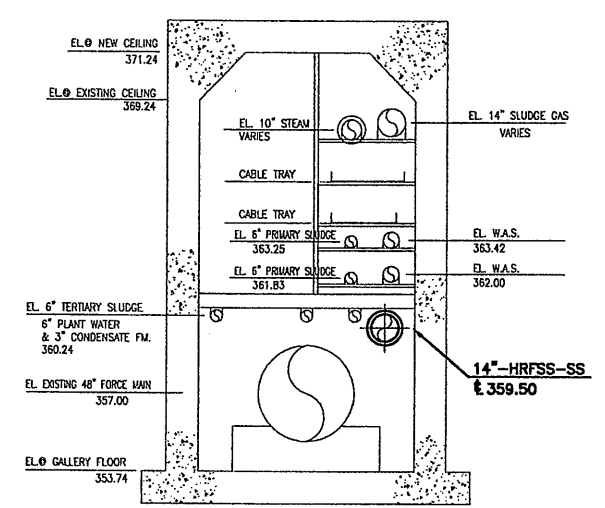
PLAN
SCALE: 1/4"=1'-0"



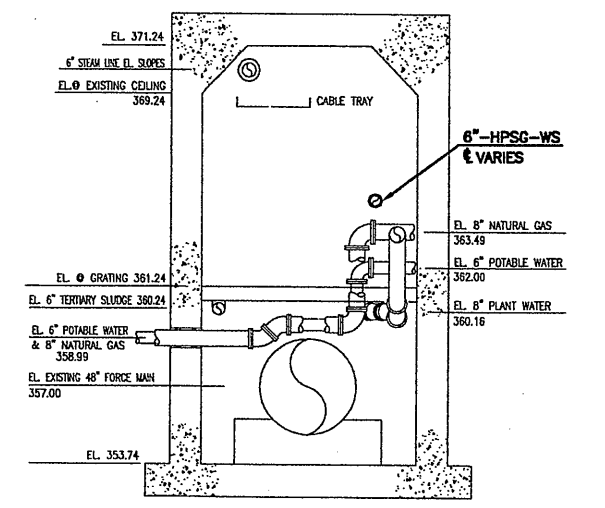
SECTION 1
1/4"=1'-0" M-609



SECTION 2
1/4"=1'-0" M-609



SECTION 3
1/4"=1'-0" M-609



SECTION 4
1/4"=1'-0" M-609

RECORD DRAWING
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DATE: 4/23/05 PER: CCH

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X601
10/25/00 S&W JRH
0659M609

No.	Date	Revisions	Init
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In charge of AHS
Designed by NGH/PKW
Drawn by JRH
Checked by AHS

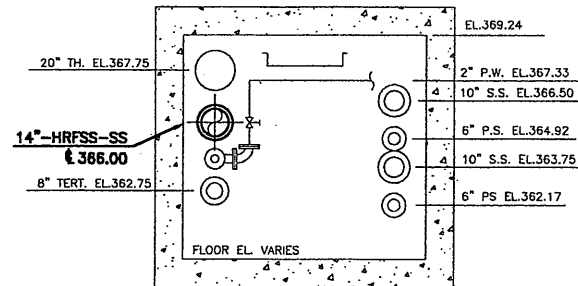


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METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
PIPE GALLERIES
MAIN GALLERY MODIFICATIONS
PLAN AND SECTIONS
MECHANICAL

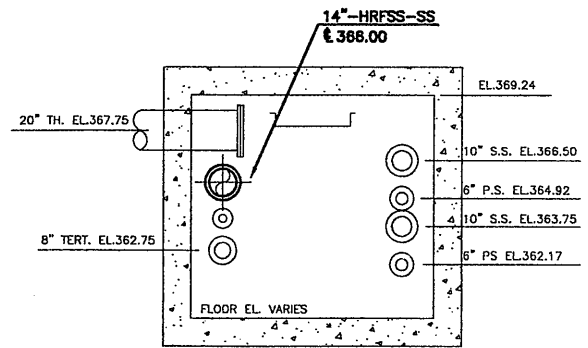
Professional Engineer Seal for State of New York, No. 57504, dated April 2001.

File Number: 00659
Date: APRIL 2001
M-609

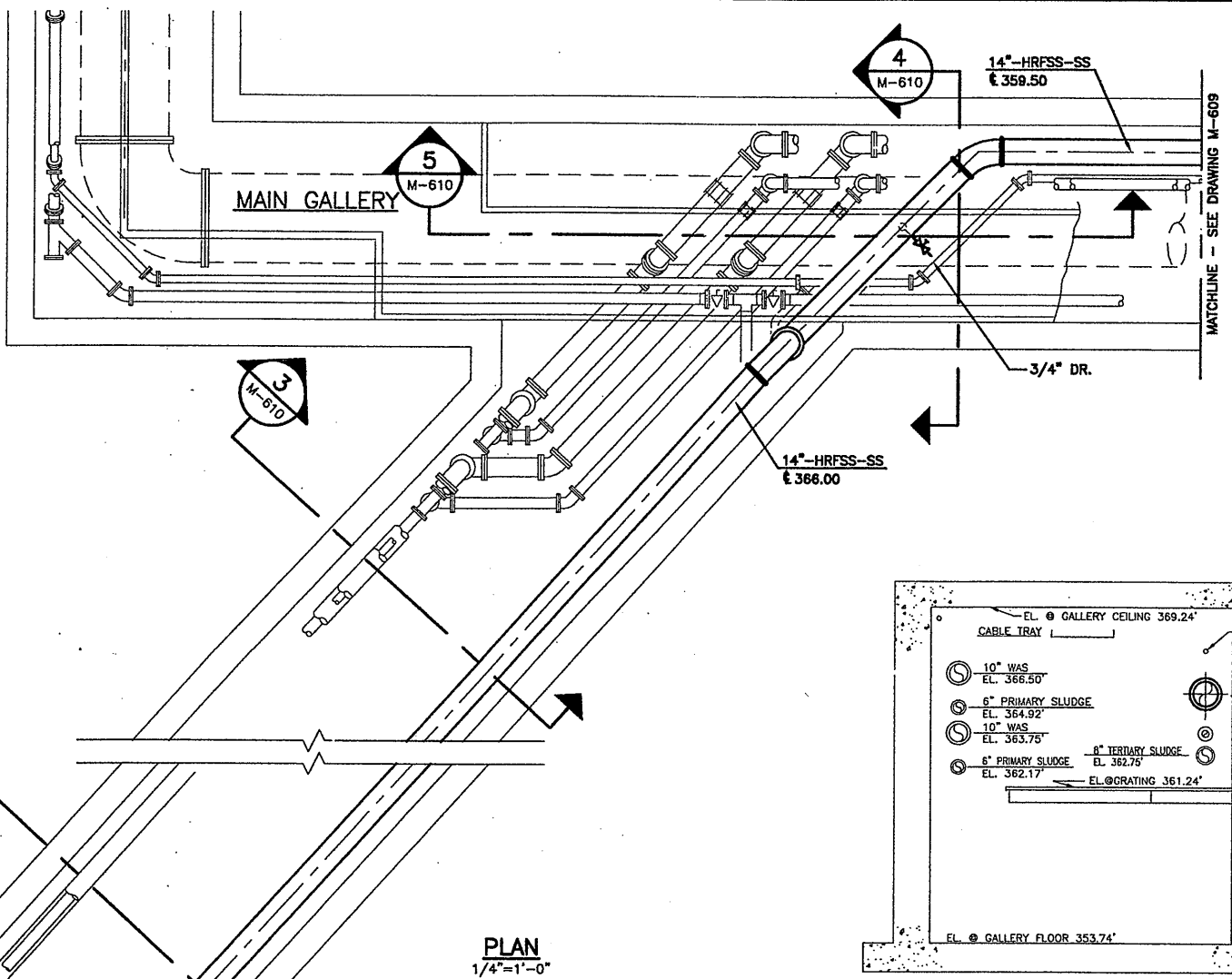
NO ALTERATIONS PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW



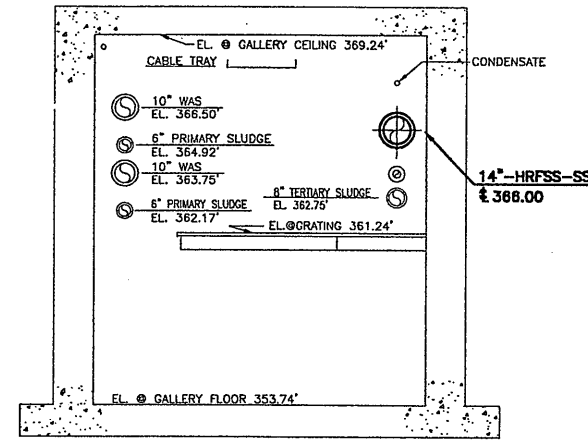
SECTION 1
1/4"=1'-0" M-610



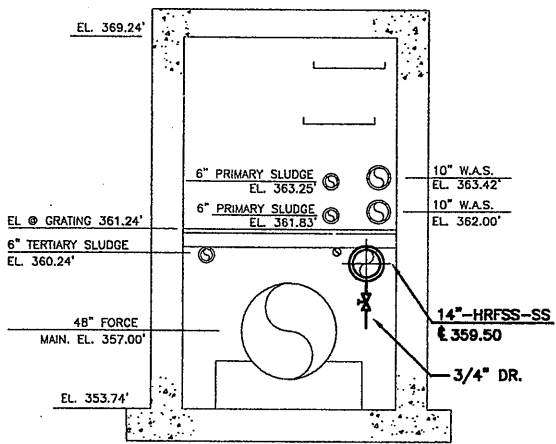
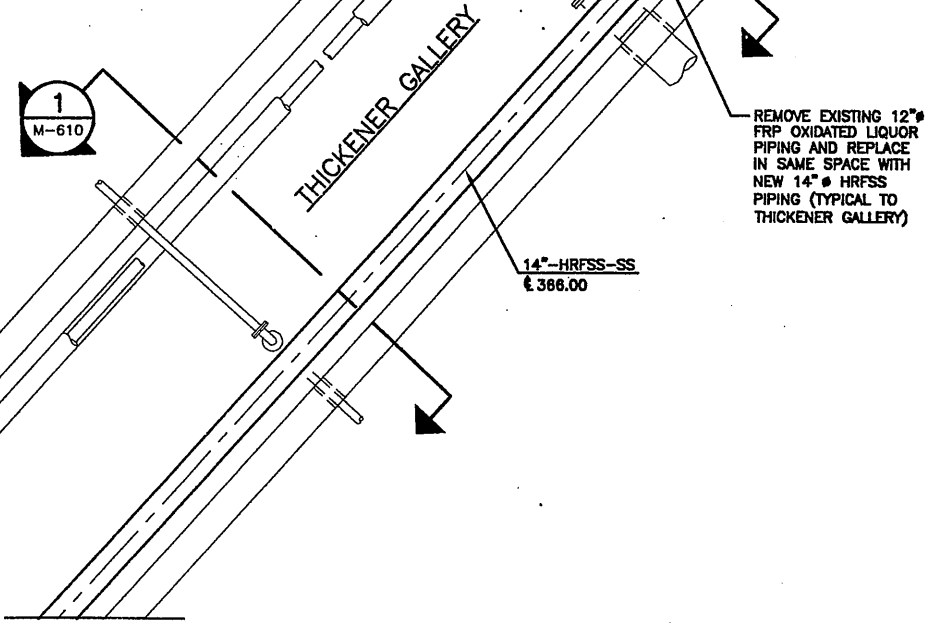
SECTION 2
1/4"=1'-0" M-610



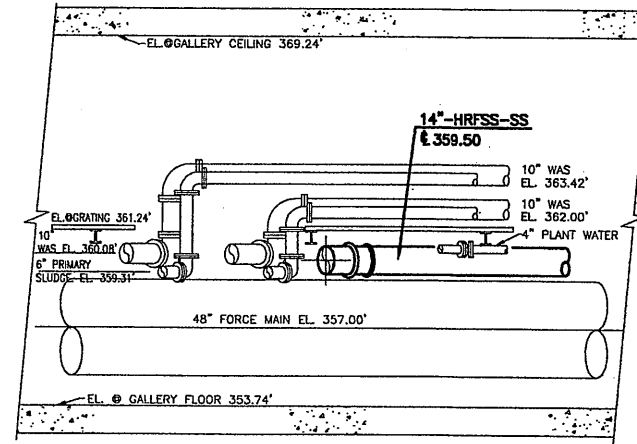
PLAN
1/4"=1'-0"



SECTION 3
1/4"=1'-0" M-610



SECTION 4
1/4"=1'-0" M-610



SECTION 5
1/4"=1'-0" M-610

RECORD DRAWING
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X601
10/25/00 S&W JRH
0659M610

MATCHLINE - SEE DRAWING M-611

1/4"=1'-0"

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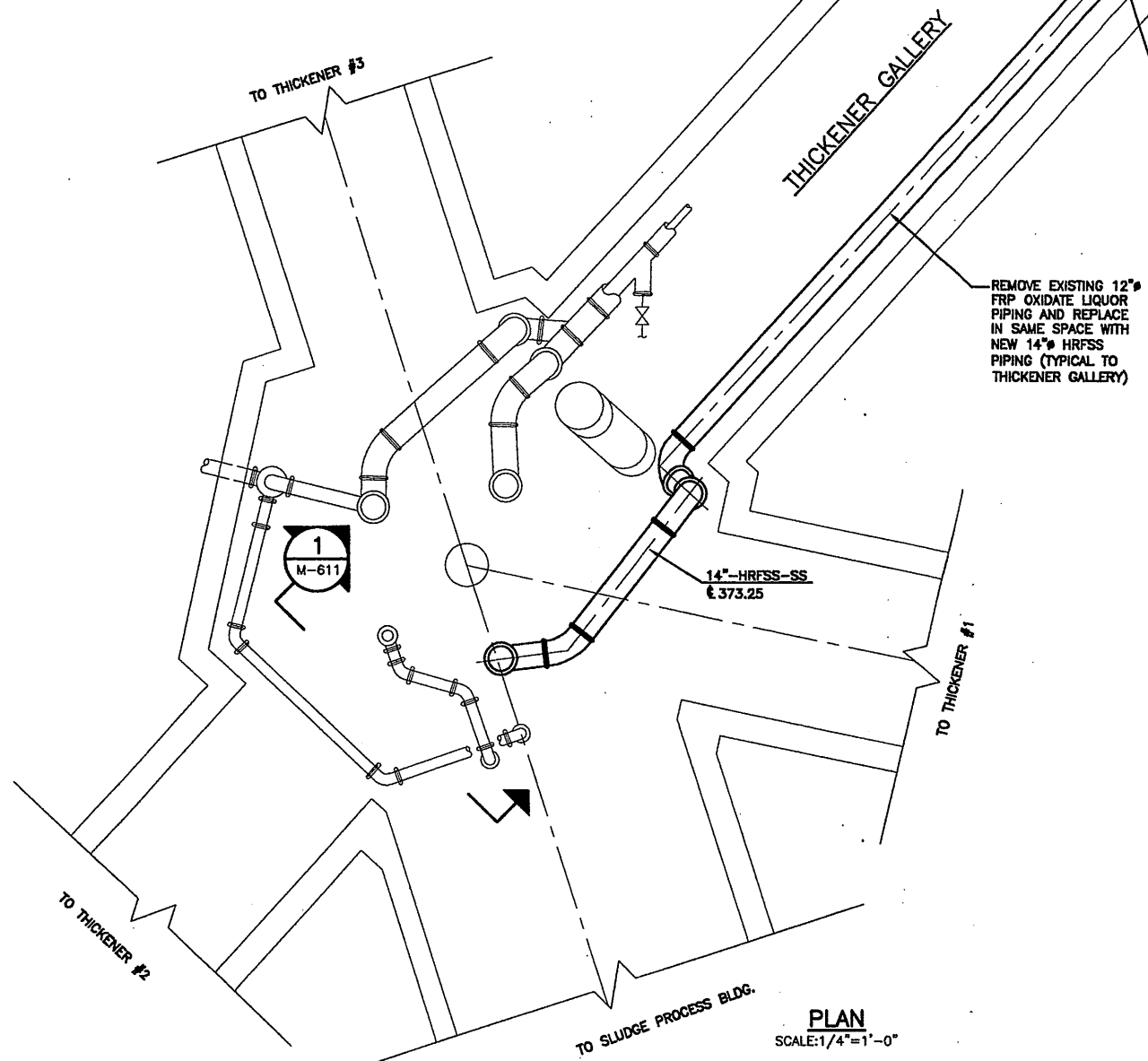
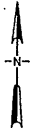
In charge of AHS
Designed by NGH
Drawn by JRH
Checked by AHS



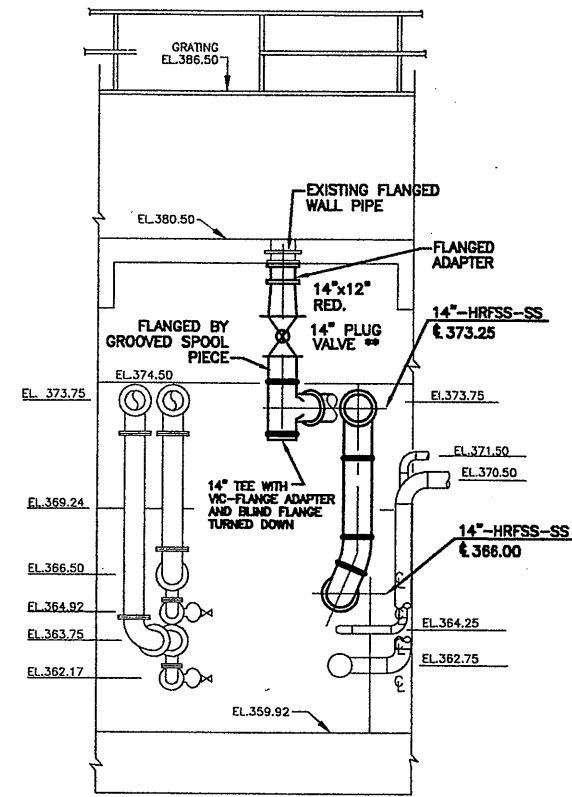
ONONDAGA COUNTY • DEPARTMENT OF DRAINAGE AND SANITATION • SYRACUSE, NEW YORK
METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
PIPE GALLERIES
THICKENER GALLERY MODIFICATIONS
PLAN AND SECTIONS
MECHANICAL

File Number 00659
Date APRIL 2001
M-610

MATCHLINE - SEE DRAWING M-610



PLAN
SCALE: 1/4"=1'-0"



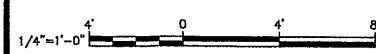
SECTION 1
1/4"=1'-0"

RECORD DRAWING

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X801
10/25/00 S&W JRH
0659M611



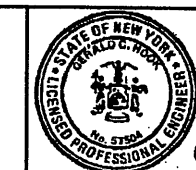
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2	05/05	FOR RECORDS	

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Designed by NGH
Drawn by JRH
Checked by AHS

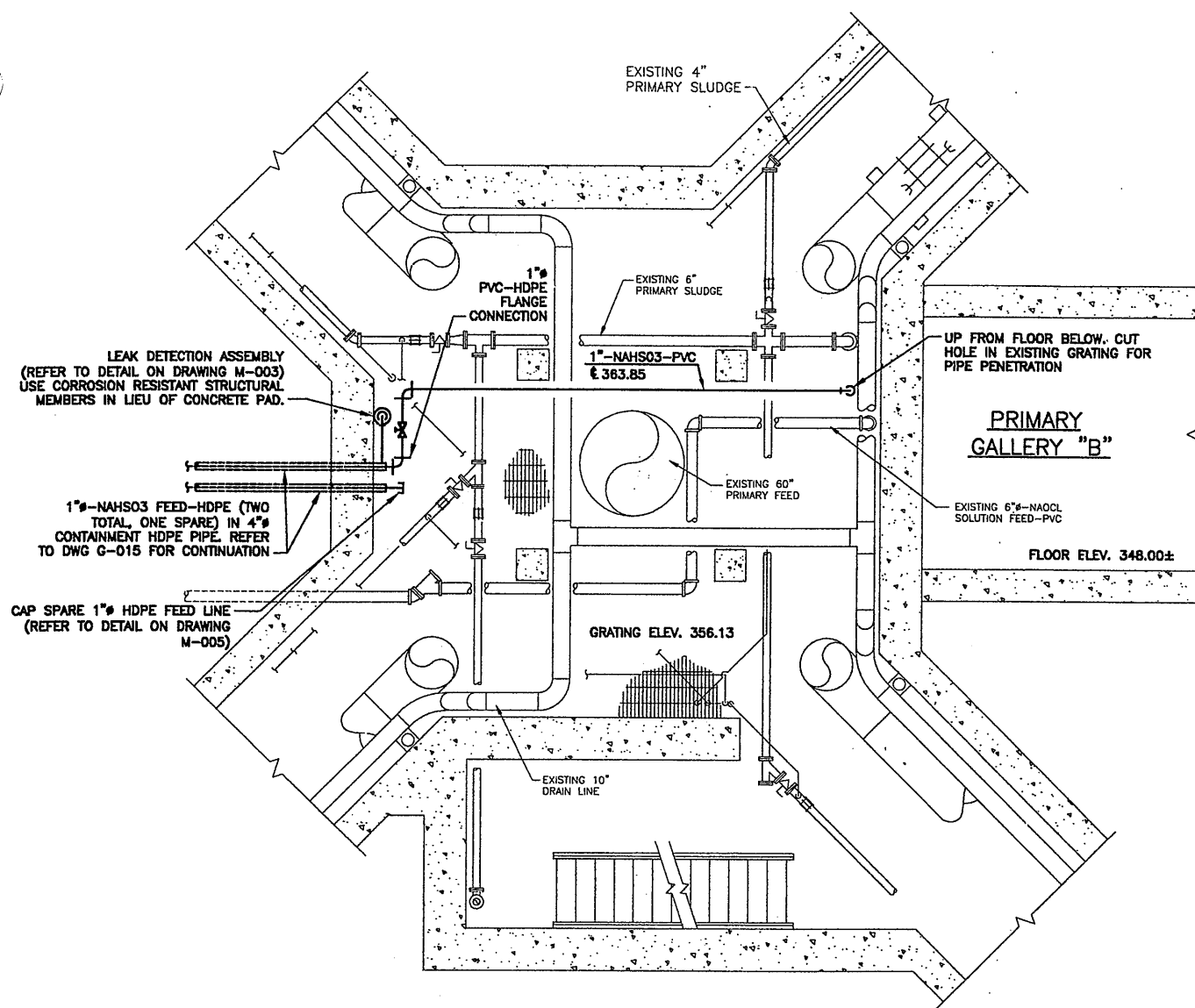
ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP
SYRACUSE, NEW YORK

ONONDAGA COUNTY • DEPARTMENT OF DRAINAGE AND SANITATION • SYRACUSE, NEW YORK
METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
PIPE GALLERIES
THICKENER DISTRIBUTION STRUCTURE
MODIFICATIONS - PLAN AND SECTIONS
MECHANICAL

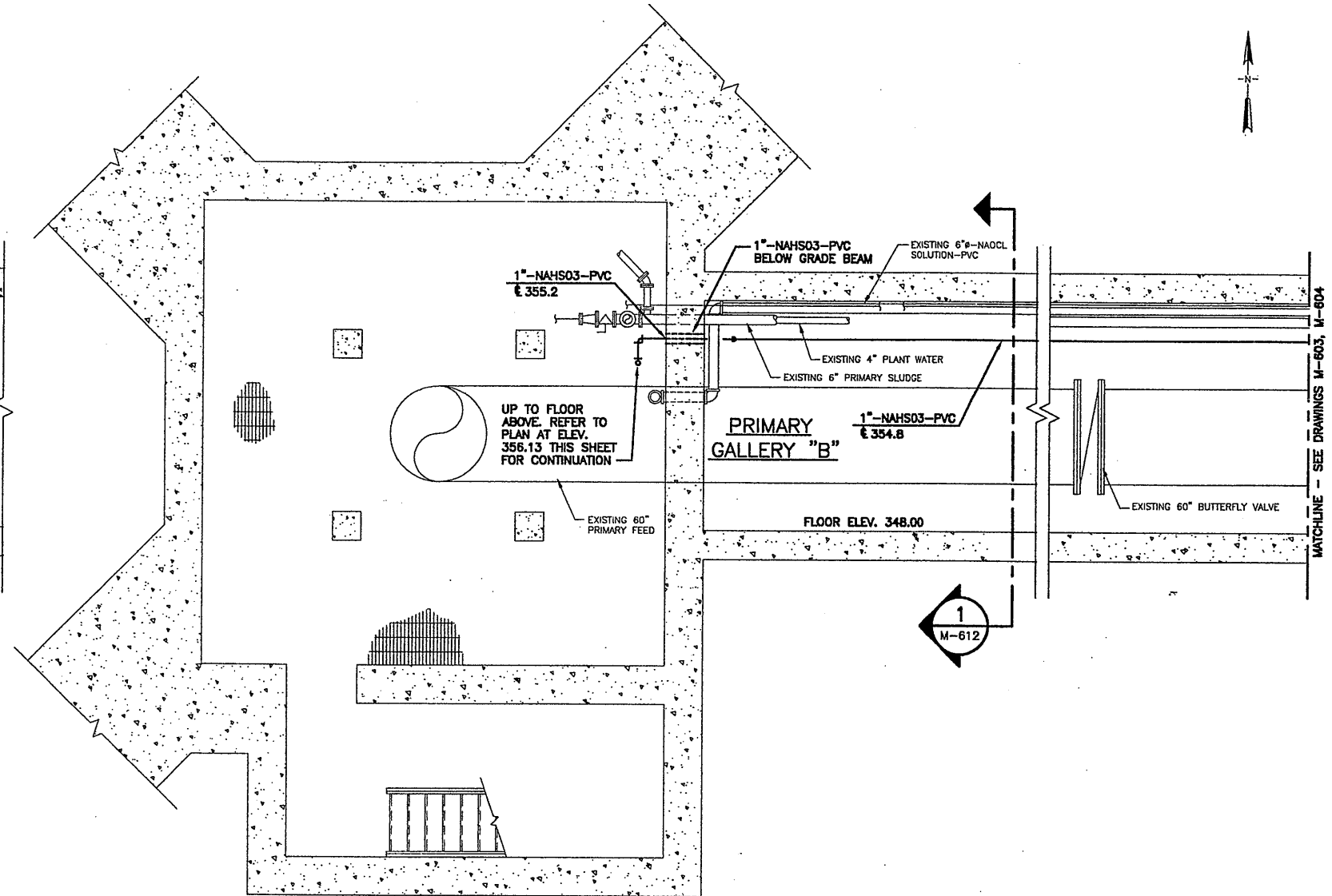


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00659
Date
APRIL 2001

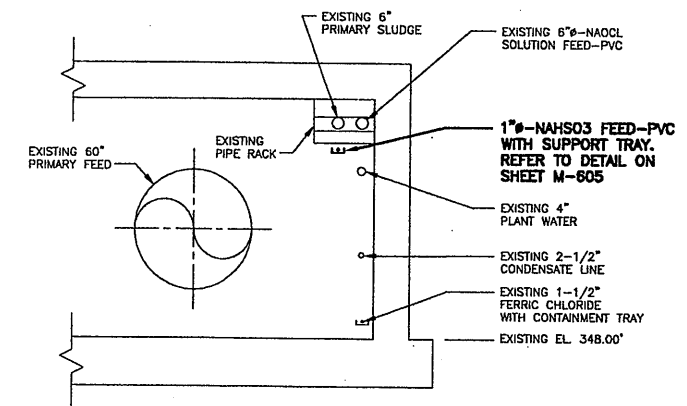
M-611



PARTIAL PLAN AT GRATING ELEV. 356.13
SCALE: 1/4"=1'-0"



PARTIAL PLAN AT FLOOR ELEV. 348.00
SCALE: 1/4"=1'-0"



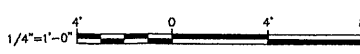
SECTION 1
SCALE: 1/4"=1'-0"

RECORD DRAWING

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X601
10/25/00 S&W JRH
0659M612

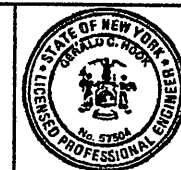


No.	Date	Revisions	Init
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2	05/05	FOR RECORDS	

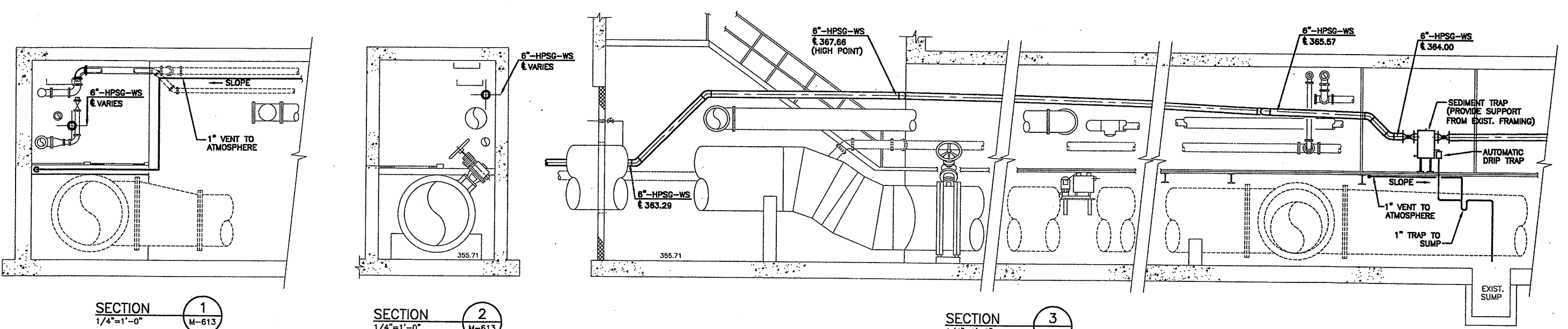
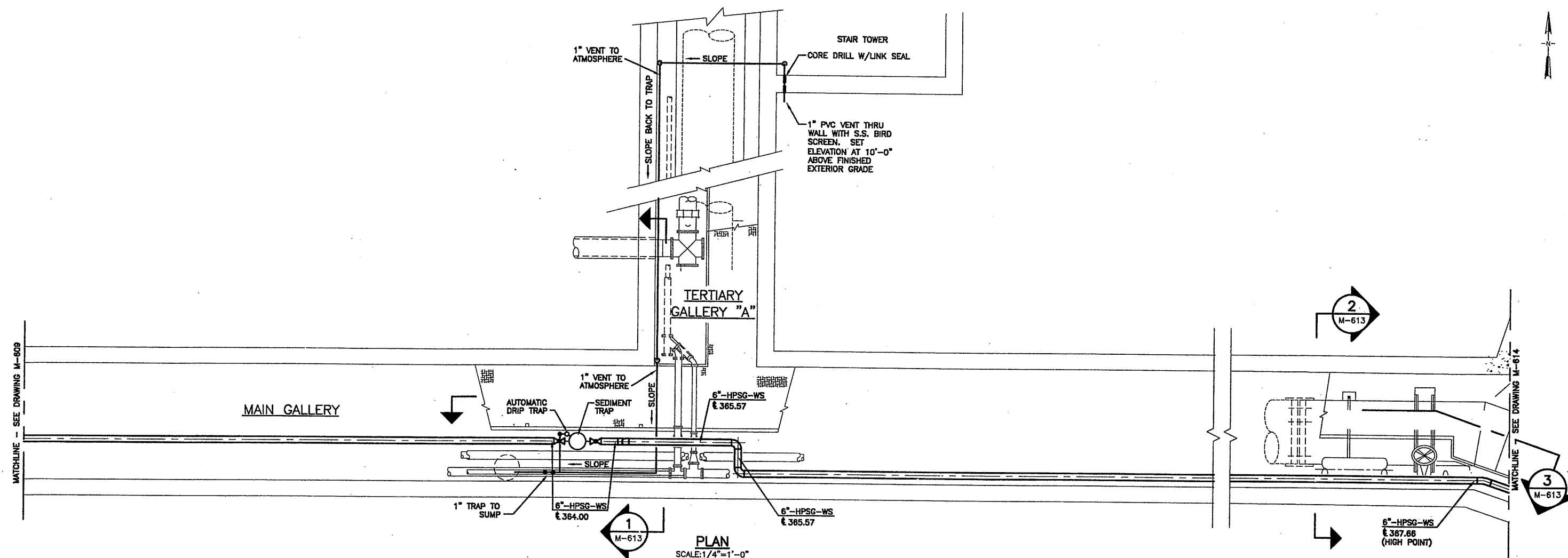
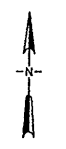
In charge of: AHS
Designed by: JCP
Drawn by: JRH
Checked by: AHS

ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP
SYRACUSE, NEW YORK

ONONDAGA COUNTY • DEPARTMENT OF DRAINAGE AND SANITATION • SYRACUSE, NEW YORK
METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
PIPE GALLERIES
PRIMARY GALLERY "B" MODIFICATIONS
PLAN AND SECTIONS
MECHANICAL



File Number: 00659
Date: APRIL 2001
M-612



RECORD DRAWING
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X601
 10/25/00 S&W JRH
 0659M613

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In charge of: AHS
 Designed by: PKW
 Drawn by: JRH
 Checked by: BGM

ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP
 SYRACUSE, NEW YORK

ONONDAGA COUNTY • DEPARTMENT OF DRAINAGE AND SANITATION • SYRACUSE, NEW YORK
 METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
 STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
PIPE GALLERIES
MAIN GALLERY MODIFICATIONS
PLAN AND SECTIONS
 MECHANICAL

File Number: 00659
 Date: APRIL 2001
M-613

Signature

MATCHLINE - SEE DRAWING M-613

3
M-613

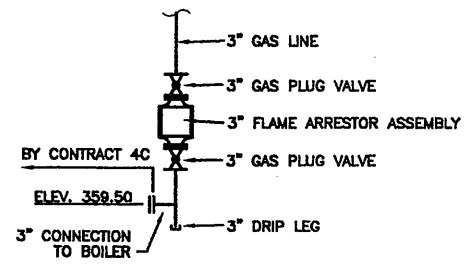
MAIN GALLERY

6"-HPSG-WS
£ 367.66

CORE DRILL
W/LINK SEAL

6"-HPSG-WS
£ 363.28

ROLL DIGESTER GAS
LINE DOWN



DETAIL
SCALE: NONE
A
M-614

DROP DOWN TO
BOILER CONNECTION
WITH FLAME ARRESTOR
AND VALVES (TYP.)
SEE DETAIL "A" THIS SHEET

3"-HPSG-WS
£ 363.29

4"-HPSG-WS
£ 363.29

3"-HPSG-WS
£ 367.50

3"-HPSG-WS
£ 387.50

BOILER ROOM
F.F. 357.50'

EXIST.
SUMP

DRAIN DRIP
TRAP TO SUMP
WITH 1" PVC

DIGESTER GAS PRESSURE
SENSOR/TRANSMITTER
BY CONTRACT 4C

3"-HPSG-WS
£ 367.50

1" TAP AND
SHUT OFF VALVE

AUTOMATIC
DRIP TRAP

CORE DRILL
W/LINK SEAL

1" PVC VENT
TO EXTERIOR

6"-HPSG-WS
£ 363.28

SEDIMENT TRAP
(PROVIDE SUPPORT
FROM FLOOR)

RUN 1" PVC VENT PIPING UP TO
GRADE FLOOR AND THRU
EXTERIOR WALL AND TERMINATE
AT 10'-0" MIN. ABOVE GRADE
WITH SCREEN CAP

PLAN
SCALE: 1/4"=1'-0"

RECORD DRAWING

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MAJOR CHANGES, IF ANY, WHICH OCCURRED DURING
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X601
10/25/00 S&W JRH
0659M614

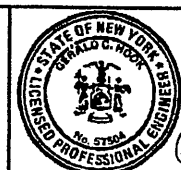
1/4"=1'-0"	
No.	Date
0	3/30/01
1	6/26/01
2	05/05
Revisions	
ISSUED FOR APPROVAL	
AS BID	
FOR RECORDS	
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In charge of	AHS
Designed by	PKW
Drawn by	JRH
Checked by	BGM

Init	

ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP
SYRACUSE, NEW YORK

ONONDAGA COUNTY • DEPARTMENT OF DRAINAGE AND SANITATION • SYRACUSE, NEW YORK
METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT
STAGE III AMMONIA AND STAGE II PHOSPHORUS REMOVAL PROJECT
PIPE GALLERIES
LOW LIFT PUMP STATION MODIFICATIONS
PLAN AND SECTIONS
MECHANICAL



File Number
00659
Date
APRIL 2001
M-614