

2003 SEWAGE IMPROVEMENTS VILLAGE of WINCHESTER, OHIO

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M.M. SCHIRTZINGER @ ASSOC.
CHILlicoTHE, OHIO

GENERAL BUILDING SPECIFICATION

1. THE BUILDING HAS BEEN DESIGNED FOR THE FOLLOWING LOADS:
SNOW 25 PSF
DL CEILING 10 PSF
DL ROOF 5 PSF
LL FLOOR 100 PSF
WIND 90 MPH EXPOSURE B IMPORTANCE FACTOR 1.0
- SPECTRAL RESPONSE ACCELERATION
 $S_s = 0.20$
 $S_i = 0.08$
- SITE COEFFICIENTS
 $F_a = 1.6$
 $F_l = 2.4$
- 5% DAMP SPECTRAL
 $S_{ds} = 0.215$
 $S_{d1} = 0.128$
- SEISMIC CATEGORY A
SEISMIC USE GROUP C
BASE SHEAR COEFFICIENT
 $C_s = 5 S_{ds} / (R / I_e) = 0.036$
where
 $I_e = 1.0$ (category 1)
 $R = 6$ (WOOD SHEAR PANELS)
2. THE FOOTINGS & BASE SLAB WERE BASED ON AN ALLOWABLE SOIL BEARING PRESSURE OF 3000 PSF.
3. ALL CONCRETE SHALL COMPLY WITH ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS", LATEST EDITION.
4. ALL CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI. EXTERIOR CONCRETE SHALL HAVE AN AIR ENTRAINMENT ADMIXTURE TO YIELD A 5 TO 7% AIR ENTRAINMENT.
5. MINIMUM CONCRETE REINFORCEMENT COVER SHALL BE:
3" FOR CONCRETE PLACED AGAINST THE GROUND
2" FOR FORMED SURFACES EXPOSED TO WEATHER
1 1/2" FOR ALL OTHER
6. REINFORCING STEEL SHALL CONFORM TO ASTM A615, A616 OR A617 GRADE 60.
7. THE PROPOSED CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF CHAPTER 11 OBC AND THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG) AS MODIFIED BY SECTIONS 1102.0 & 1103.0 OBC. DOORS SHALL COMPLY WITH ADAAG SECTION 4.13. WATER CLOSETS SHALL COMPLY WITH ADAAG SECTION 4.16. LAVATORIES SHALL COMPLY WITH ADAAG SECTION 4.19. GRAB BARS SHALL COMPLY WITH ADAAG SECTION 4.26
8. REST ROOM FIXTURES SHALL BE DESIGNED FOR THE PHYSICALLY HANDICAPPED.
A. WATER CLOSET SEATS SHALL BE 17" TO 19" ABOVE THE FLOOR.
B. THE MAX. LAVATORY HEIGHT SHALL BE 34" & HAVE AN UNOBSTRUCTED KNEE CLEARANCE BELOW THE UNIT. WATER SUPPLY & DRAIN SHALL BE INSULATED OR COVERED TO PREVENT BURNS.
C. GRAB BARS SHALL BE 3'-6" LONG AND 33" ABOVE THE FLOOR.
9. HOLLOW LOAD BEARING MASONRY UNITS SHALL CONFORM TO ASTM C90, GRADE N, TYPE II, NORMAL WEIGHT BLOCK OR BETTER. MORTAR SHALL CONFORM TO ASTM C290, TYPE S. HORIZONTAL REINFORCEMENT SHALL BE 9 GA DURO-WALL, INSTALLED EVERY SECOND ROW BLOCK.
10. WELDED WIRE FABRIC SHALL BE 6"X6"-10/10, $F_y = 40$ KSI MIN. LAP 6".

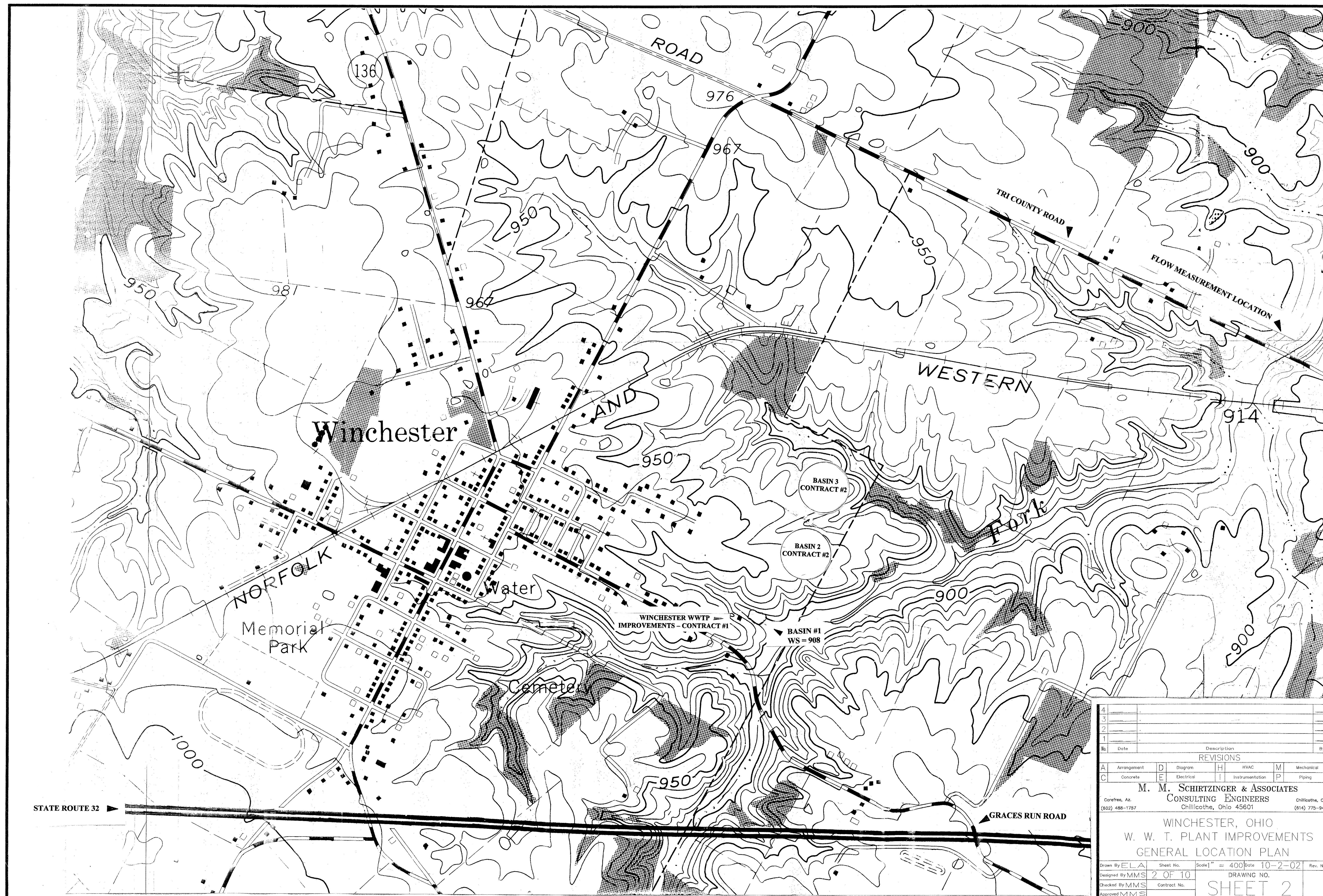
USE GROUP: F-(FACTORY & INDUSTRIAL)
TYPE OF CONSTRUCTION: 3B
FLOOR LOADING: 100 PSF
OCCUPANCY: 4 PERSONS

SEE BIDDING DOCUMENTS FOR EQUIPMENT SPECIFICATIONS, GENERAL, GENERAL ELECTRICAL SPECIFICATION

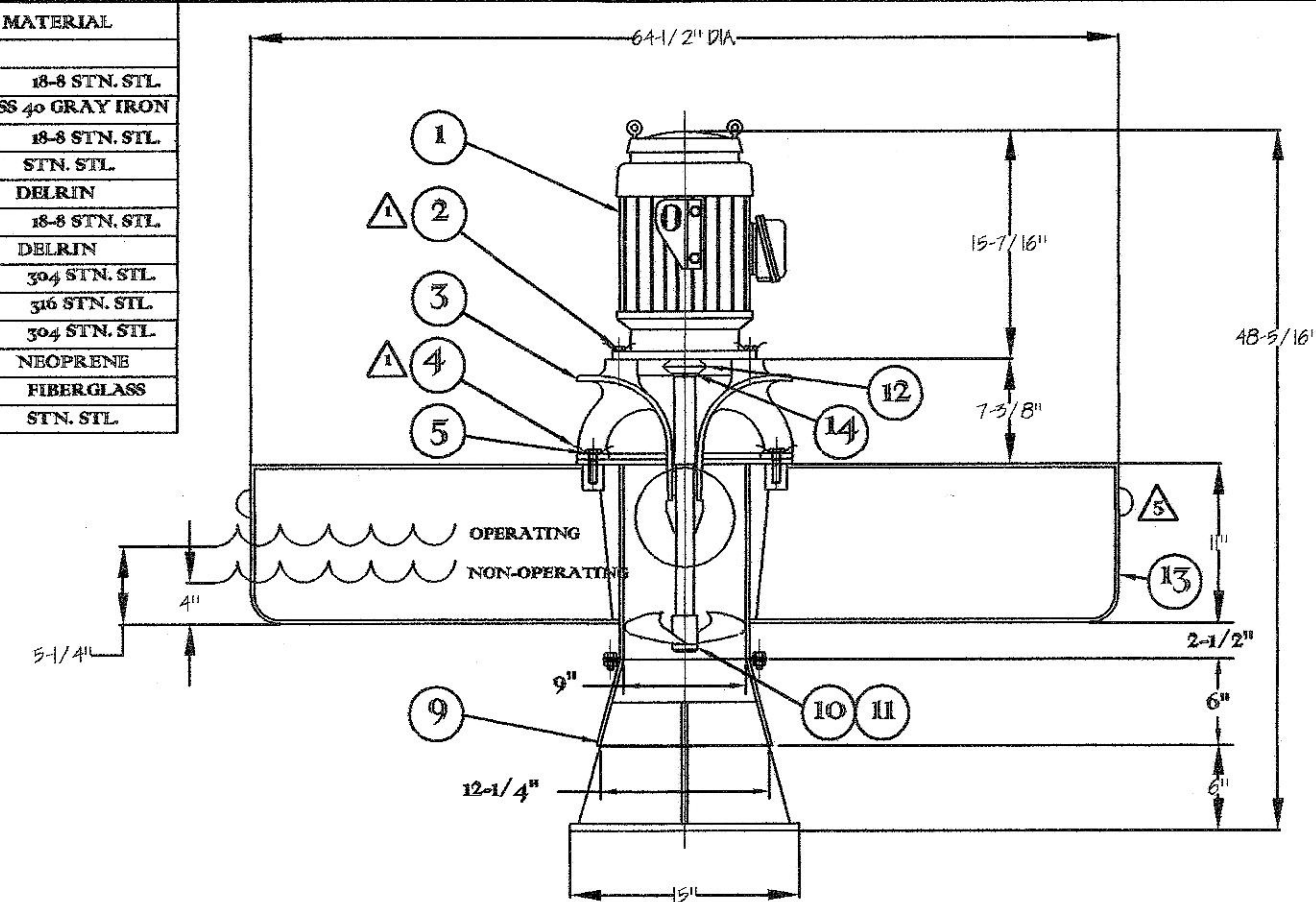
AS BUILT PLANS



M.M. Schirtzinger
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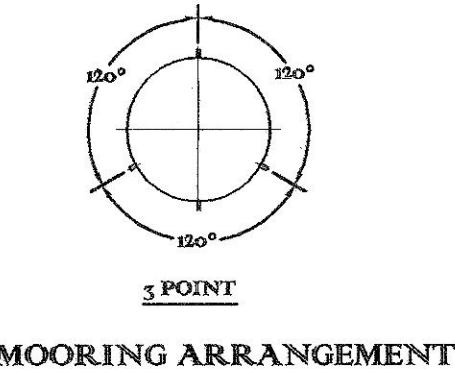


ITEM NO.	DESCRIPTION	MATERIAL
1	MOTOR	5 HP, 3 PHASE, 230/460 VOLT, 60 HERTZ, 1800 NOM. RPM.
2	BOLT AND LOCKWASHER	1/2" X 6" STN. STL.
3	DISCHARGE CONE	CLASS 40 GRAY IRON
4	BOLT AND LOCKWASHER	1/2" X 6" STN. STL.
5	SAFETY WIRE (OPTIONAL)	STN. STL.
6	ANTI-DEFLECTION INSERT	DELAIN
7	SET SCREW	1/4" X 1/2" STN. STL.
8	FLUID DEFLECTOR	DELAIN
9	ANTI-EROSION ASSY.	3/4" STN. STL.
10	PROPELLER	3/4" STN. STL.
11	LOCKING NUT	3/4" STN. STL.
12	LABYRINTH SEAL GUARD	NEOPRENE
13	FLOAT ASSY.	FIBERGLASS
14	HOSE CLAMP	STN. STL.

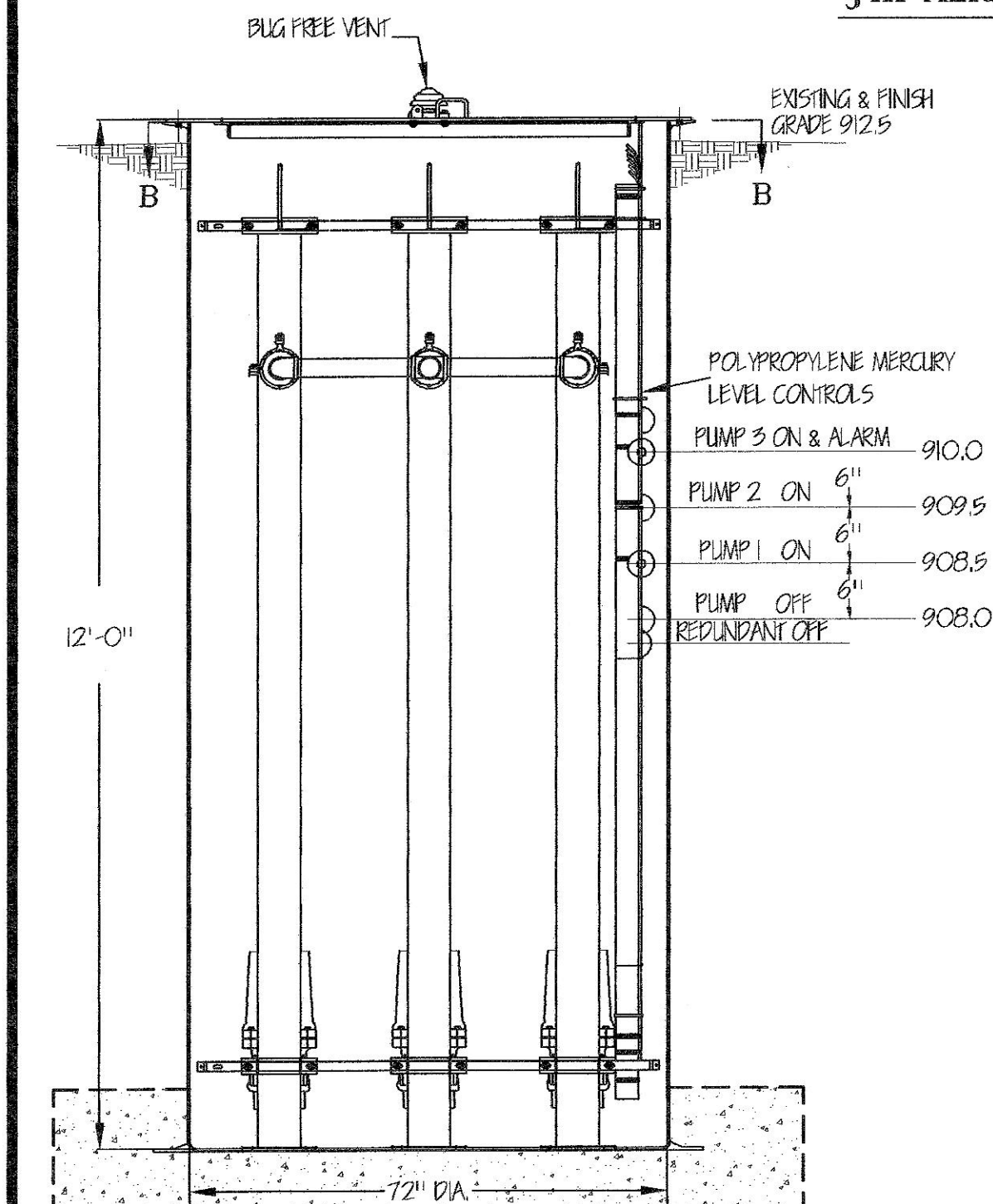


5 HP AERATOR DETAIL

- NOTES:
- THESE FASTENERS CAN BE SAFETY WIRED IN PLACE.
 - FLOAT IS FILLED WITH TWO COMPONENT POLYURETHANE FOAM.
 - ELECTRICAL CABLE RECOMMENDED SIZE AWG# 4/0.
- MOORING EAR OF 3/4" STN. STL. QUANTITY OF 6.
- MOTOR SPECIFICATIONS:
- 5 HP, 3 PHASE, 230/460 VOLT, 60 HERTZ, 1800 NOM. RPM.
- TEFC, 115 SERVICE FACTOR, CLASS F INSULATION, CONTINUOUS DUTY, NEMA DESIGN LETTER B, NONREVERSIBLE WINDINGS, CORROSION RESISTANT PAINT, ONE-PIECE 1/4" PH STN. STL. SHAFT.



MOORING ARRANGEMENT



WATER-TIGHT DIRECT BURIAL CABLE GRIPS SUPPLIED LOOSE FOR FIELD INSTALLATION.

DIRECT BURIAL CABLE SUPPLIED BY OTHERS MUST BE ROUND TYPE "10" CABLE TO FIT BASIN WALL AND J-BOX CORDGRIPS SIZE BY MANUFACTURER.

POLYPROPYLENE MERCURY LEVEL CONTROLS:

PUMP 3 ON & ALARM 910.0

PUMP 2 ON 909.5

PUMP 1 ON 908.5

PUMP OFF REDUNDANT OFF 908.0

4" CONDUIT TO CONTROL BUILDING

4" NPT 5.5" DISCHARGE COUPLING

(3) 2" NPT PVC TRUE UNION BALL VALVE

(3) 5.5" GUIDE RAIL ASSY. W/ BAF-2

2" NPT 5.5" DISCHARGE PIPING INCLUDING NIPPLES, ELBOW, AND ANTI-SIPHON PORT

6" CAST IRON CALLKING HUB (ELEV. 905.0)

8" CAST IRON CALLKING HUB (ELEV. 909.0)

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CONCRETE ANTI-SEEP DAM

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4" D.I.

4" CHECK VALVE

4" GATE VALVE

1/2" DIA. MANHOLE WITH LID

TURN VERTICALLY

4" PVC SDR 21

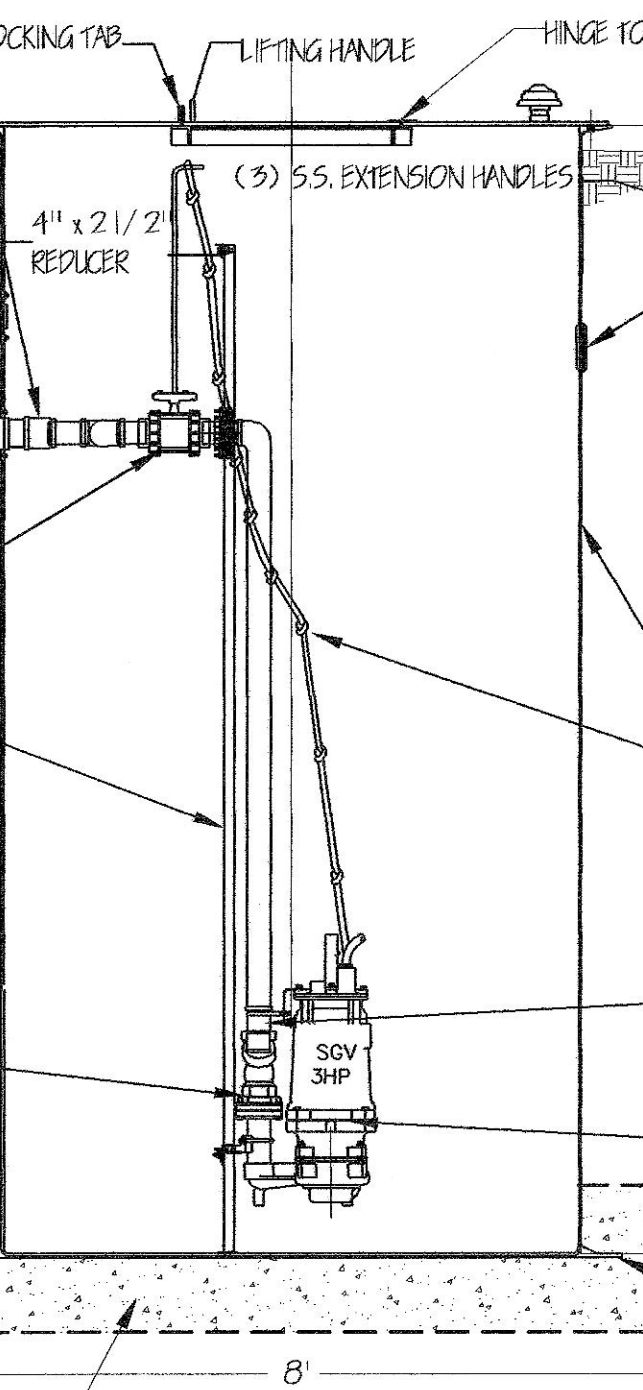
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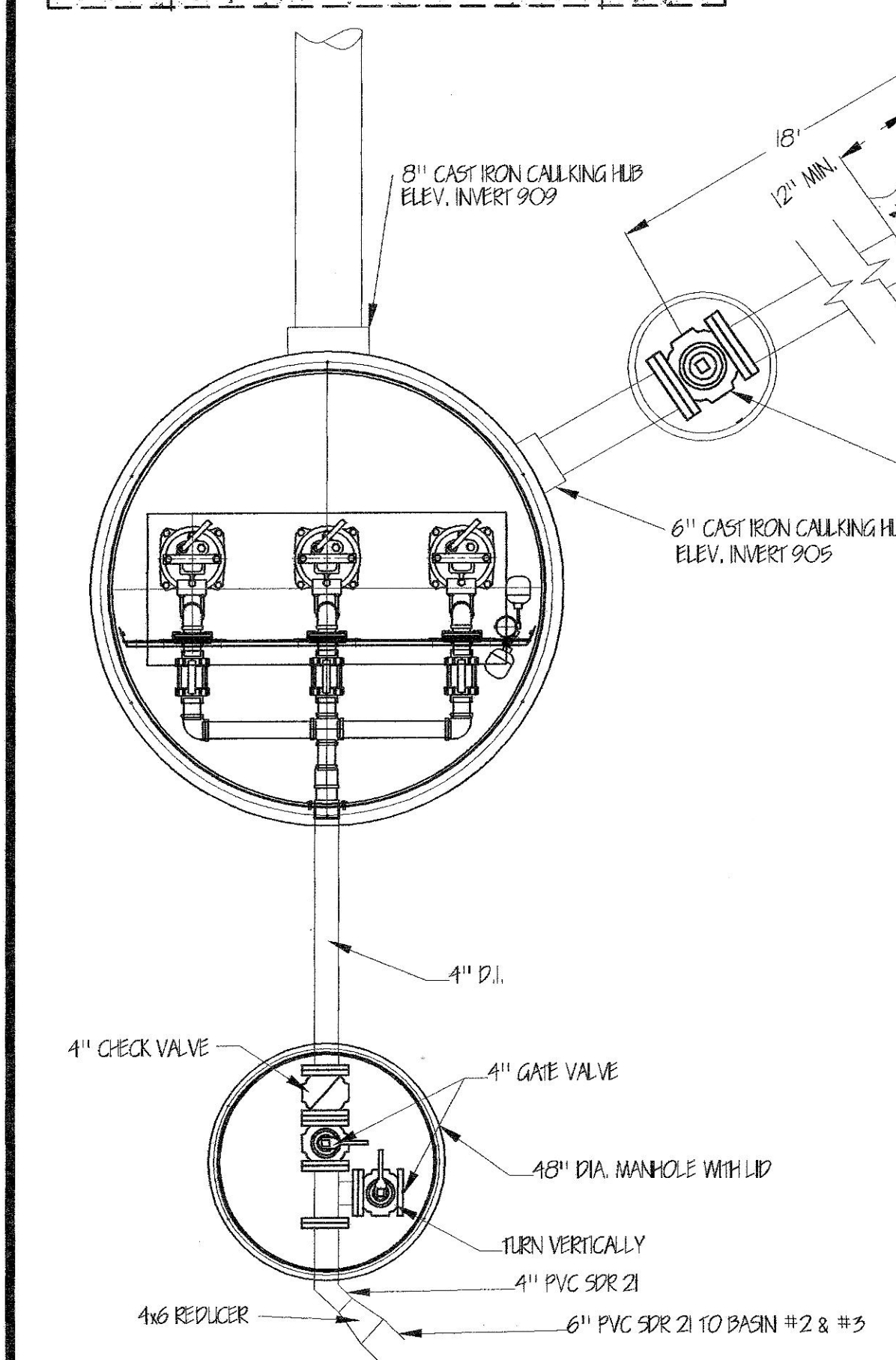
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NOTE:

INTERMEDIATE SUPPORT BRACKET REQUIRED ON GUIDES FOR BASINS 12 FT



CENTERLINE SECTION



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ALUMINUM COVER WITH ACCESS DOOR

COVER HAS A RATING OF 150# PER SQ. FT.

5X (6) 3/8-16 SS. HX. HD. BOLTS ON A 63.00 DIA. B.C.

NEW 10" DRIVEWAY

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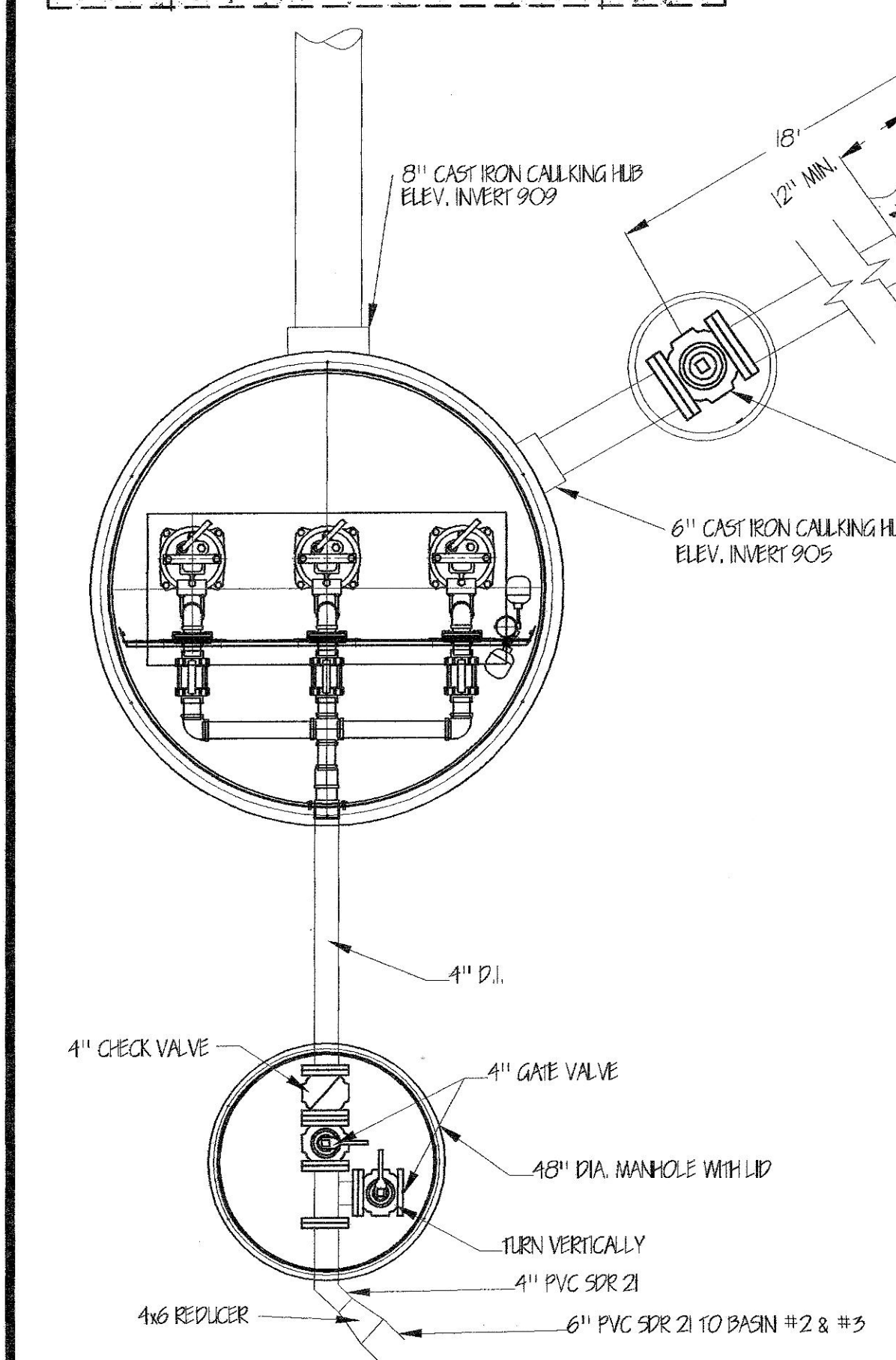
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NEW CONTROL BUILDING SEE SHEET DETAILS 5, 6 OF 10

ANCHOR PIPE WITH CONCRETE BLOCKING

OUTSIDE PIPING PLAN

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



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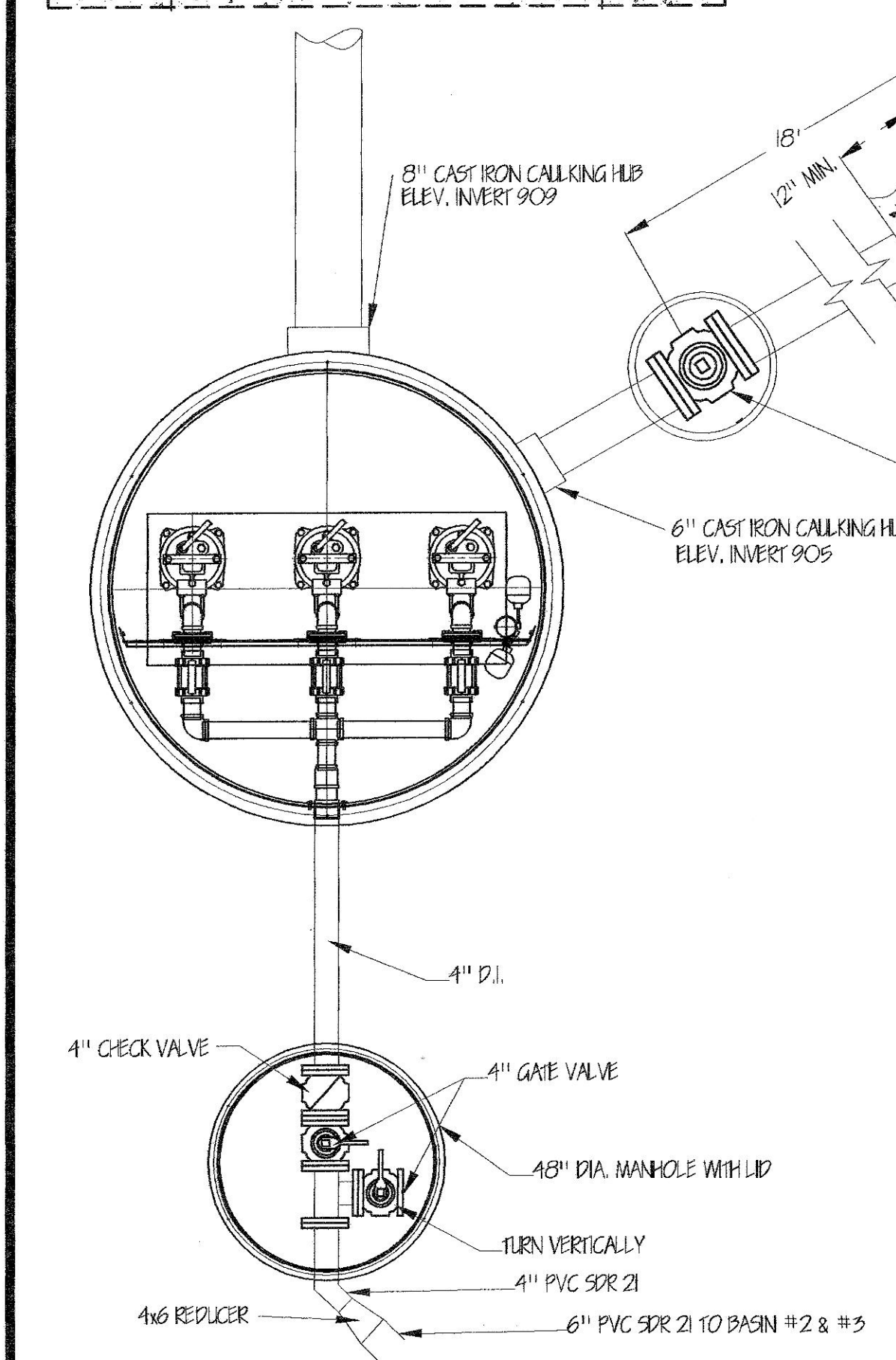
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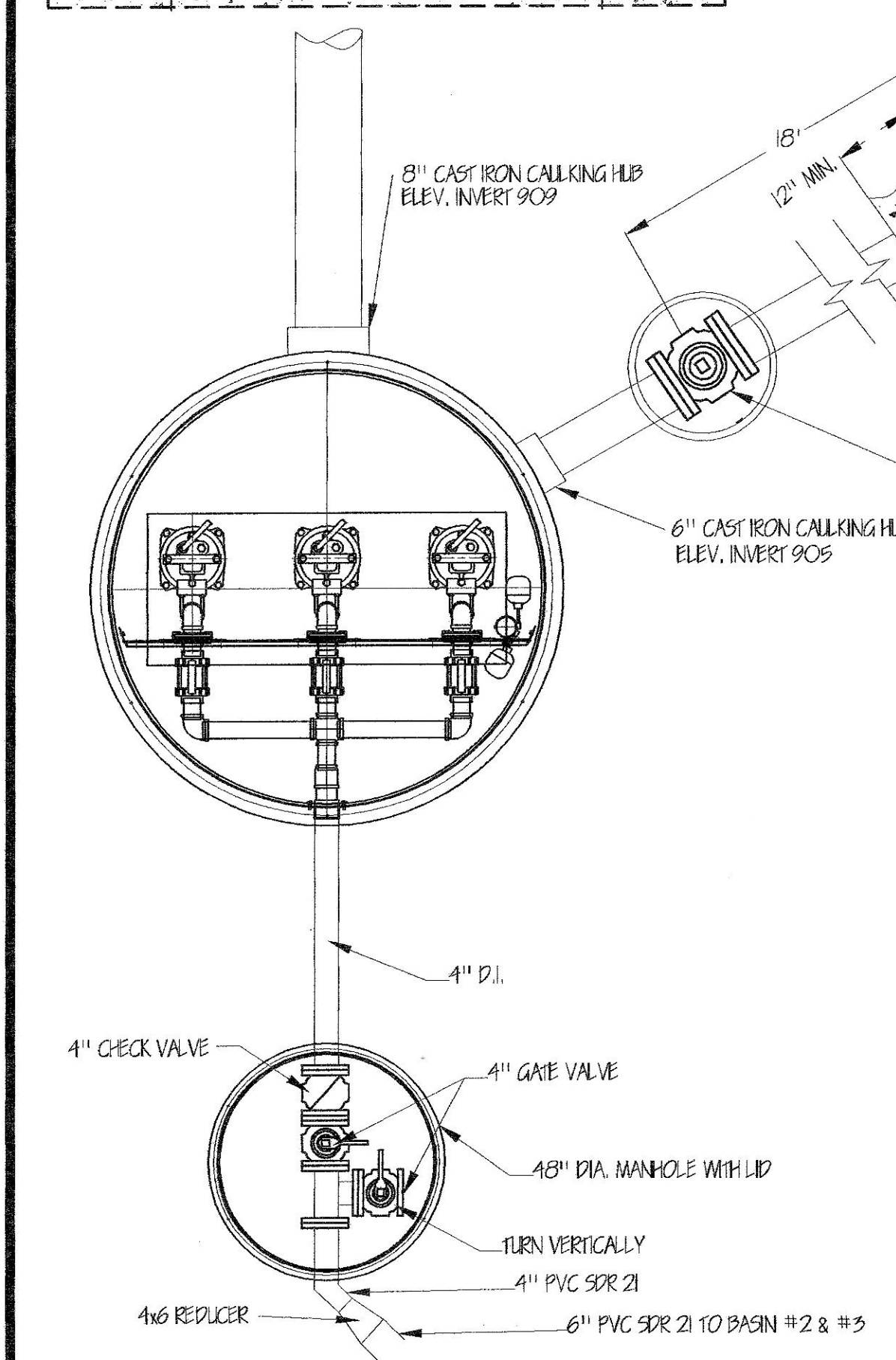
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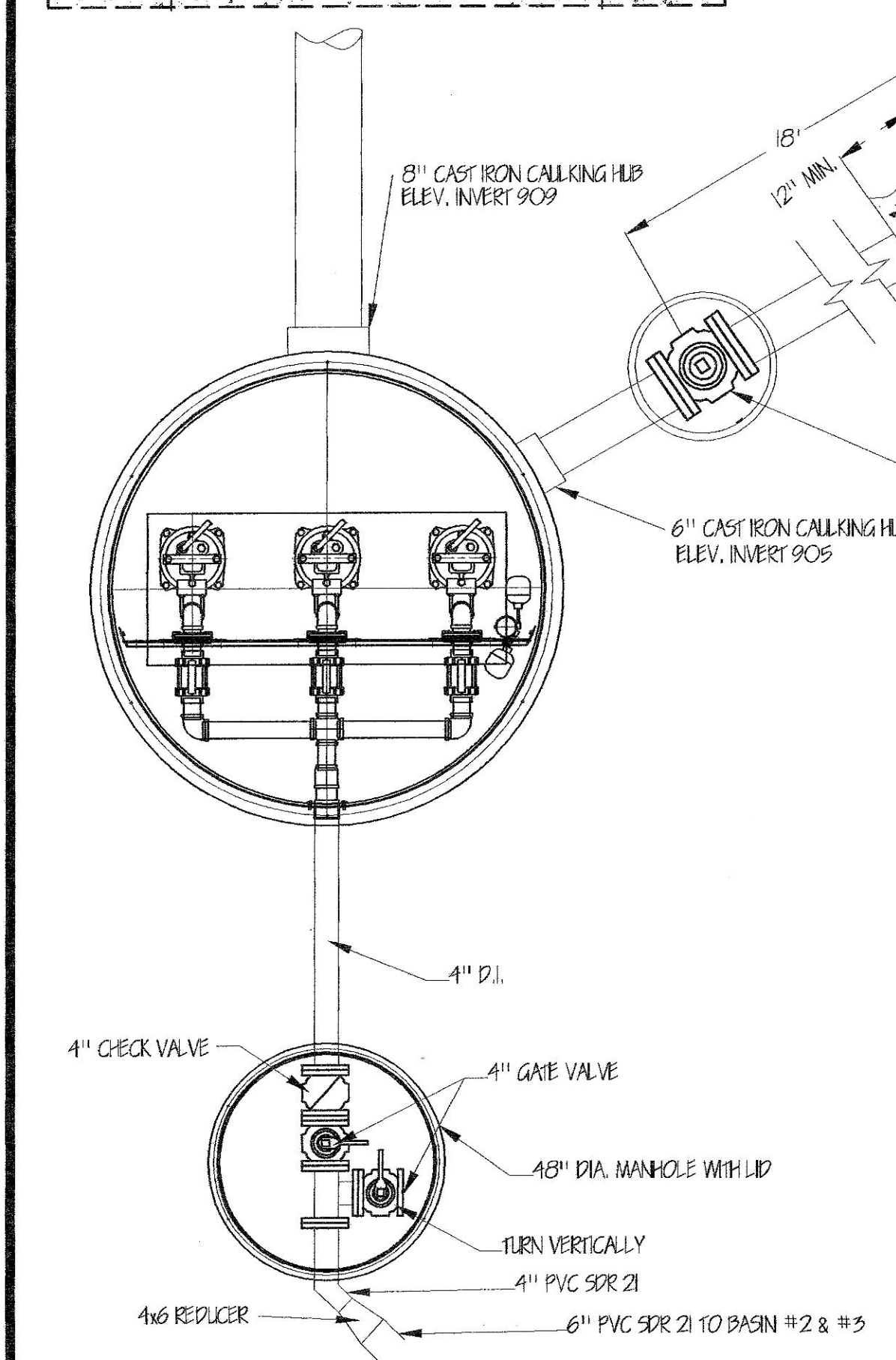
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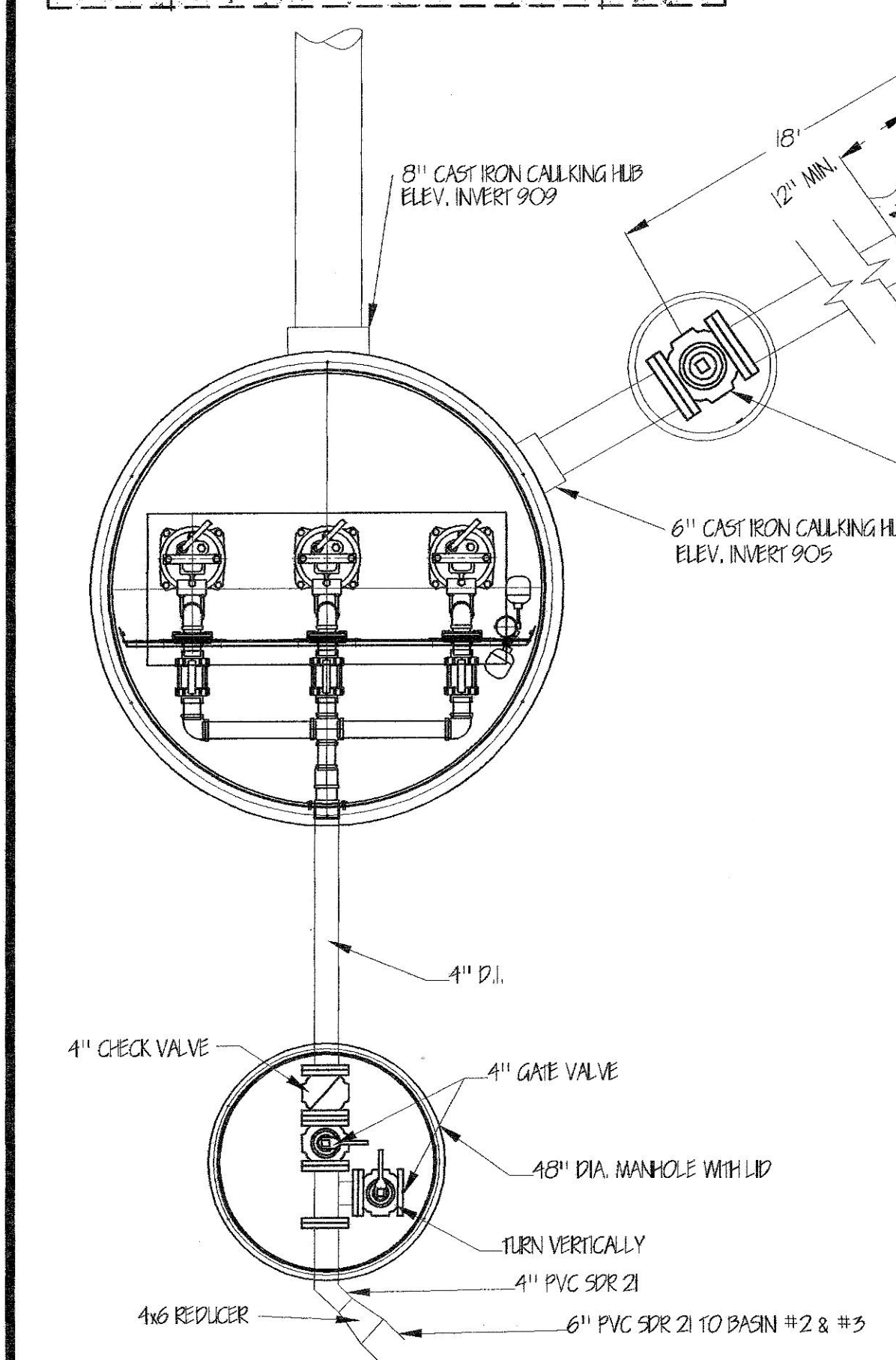
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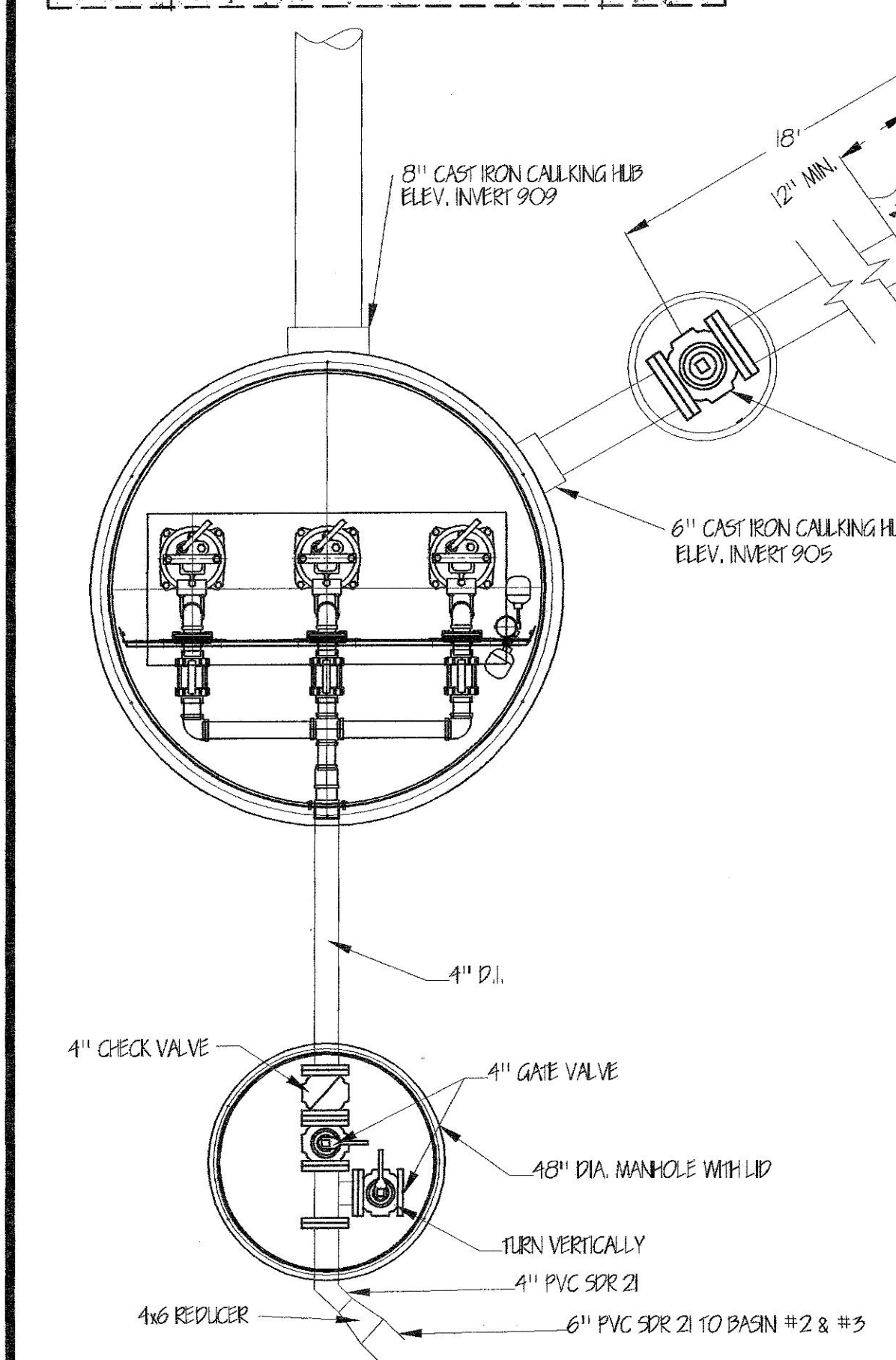
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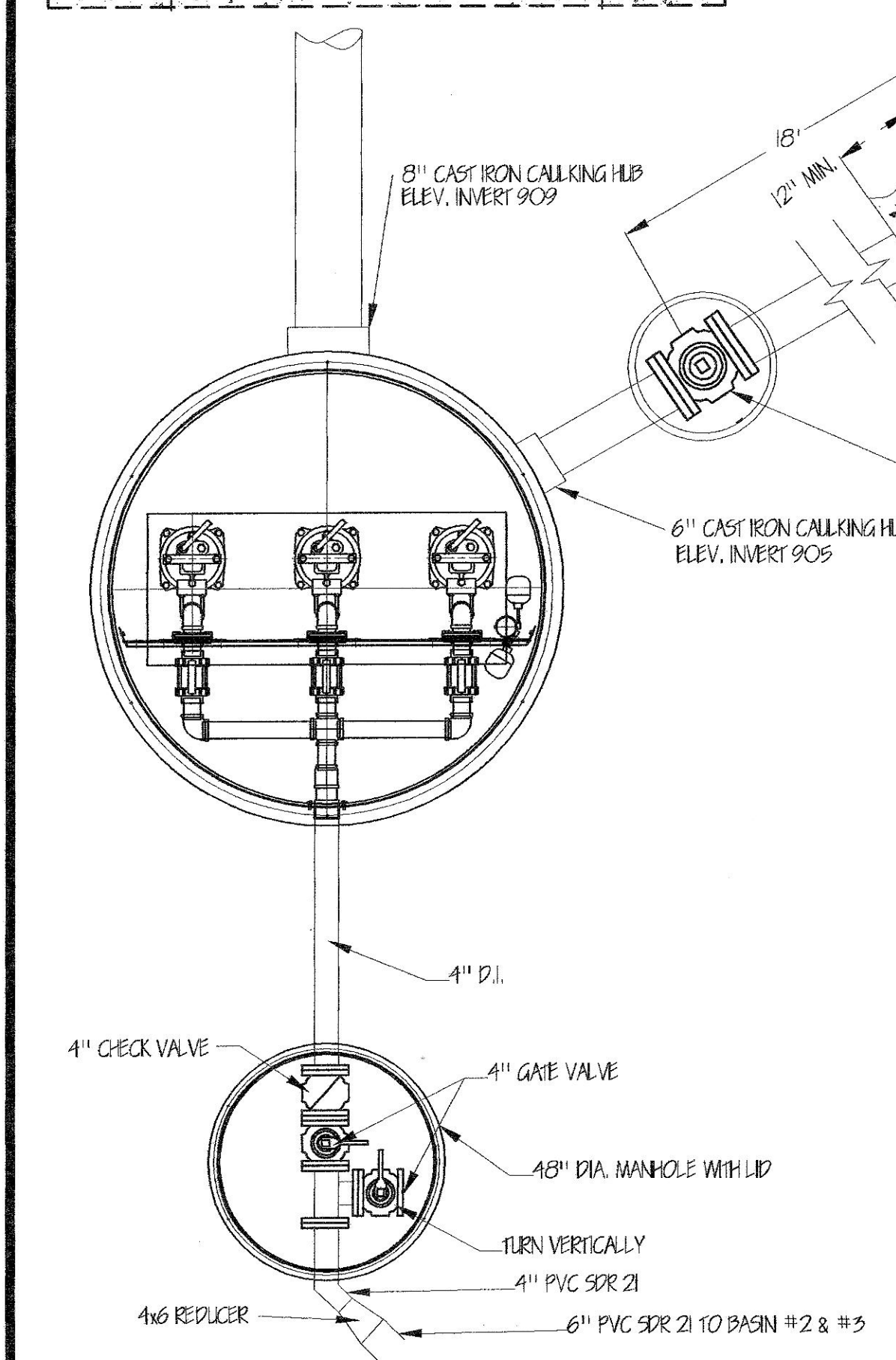
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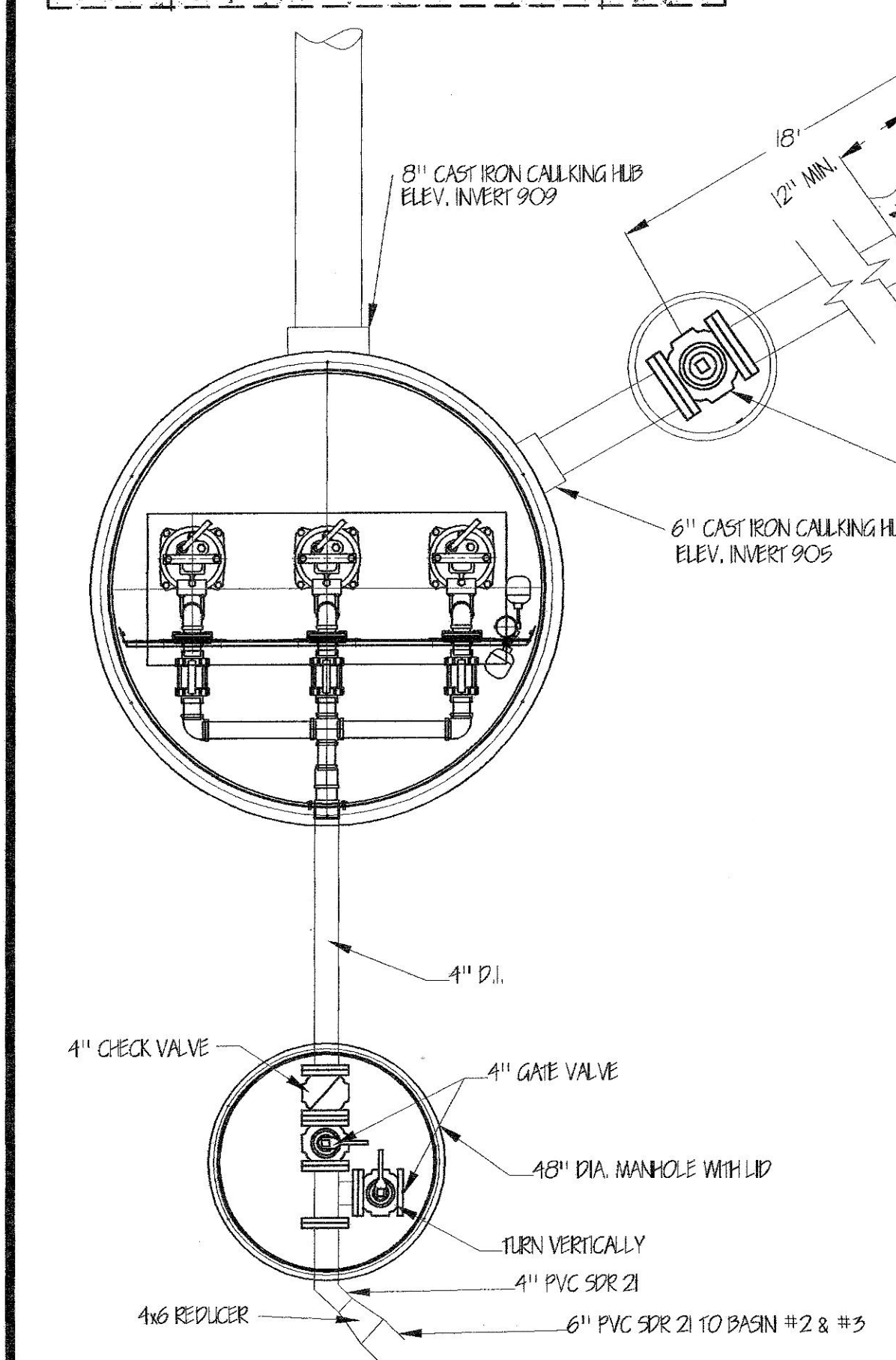
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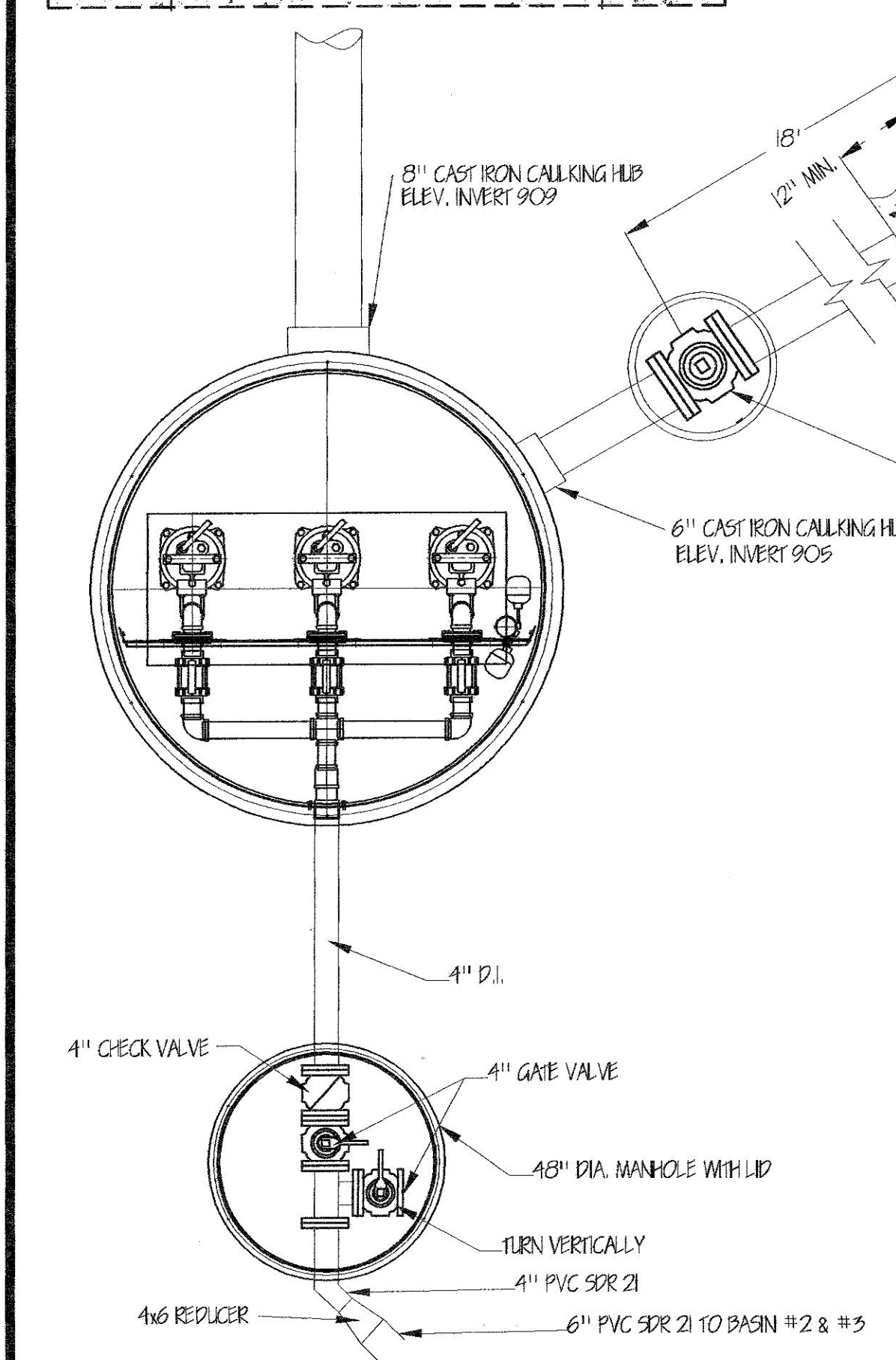
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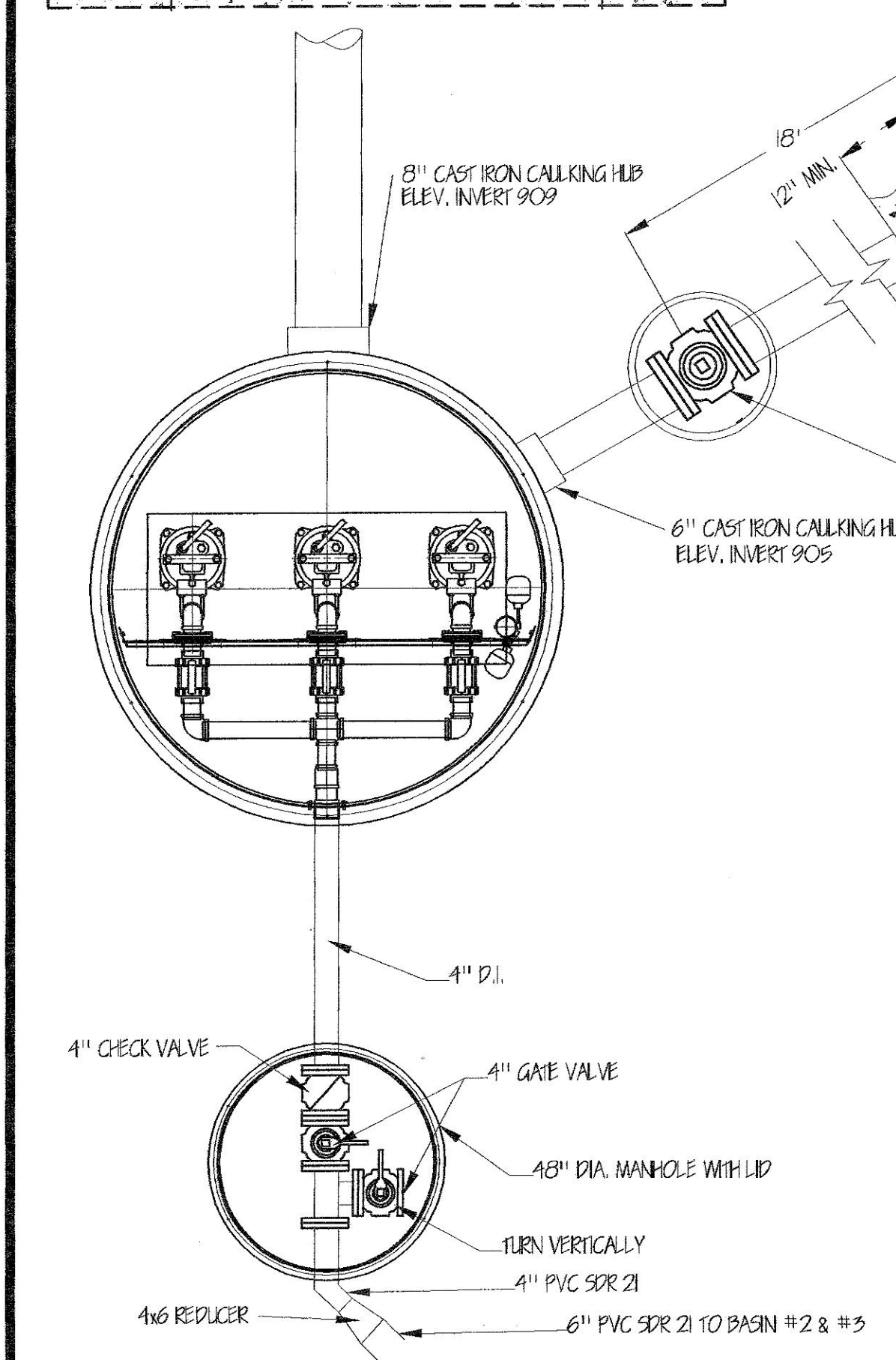
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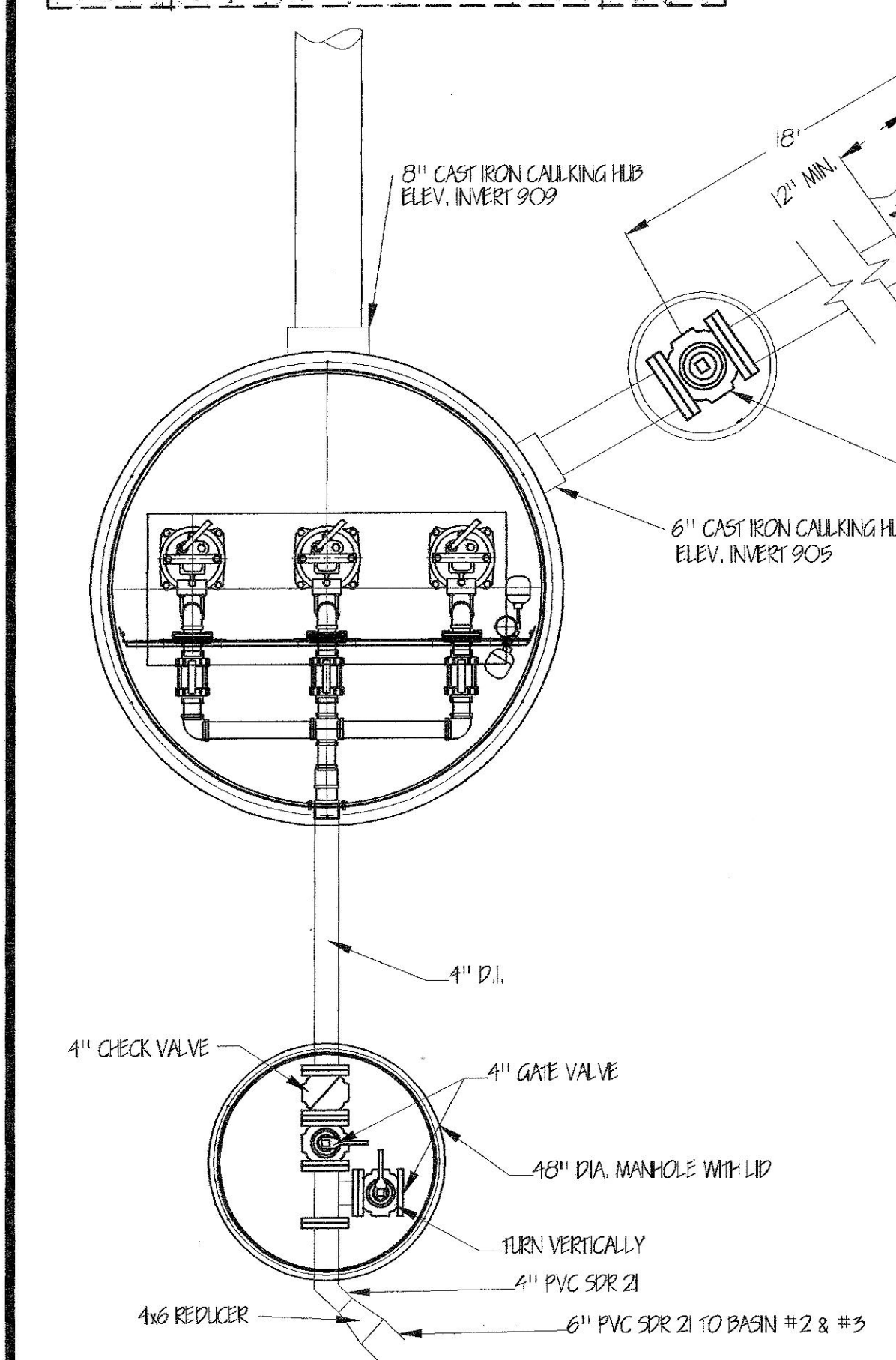
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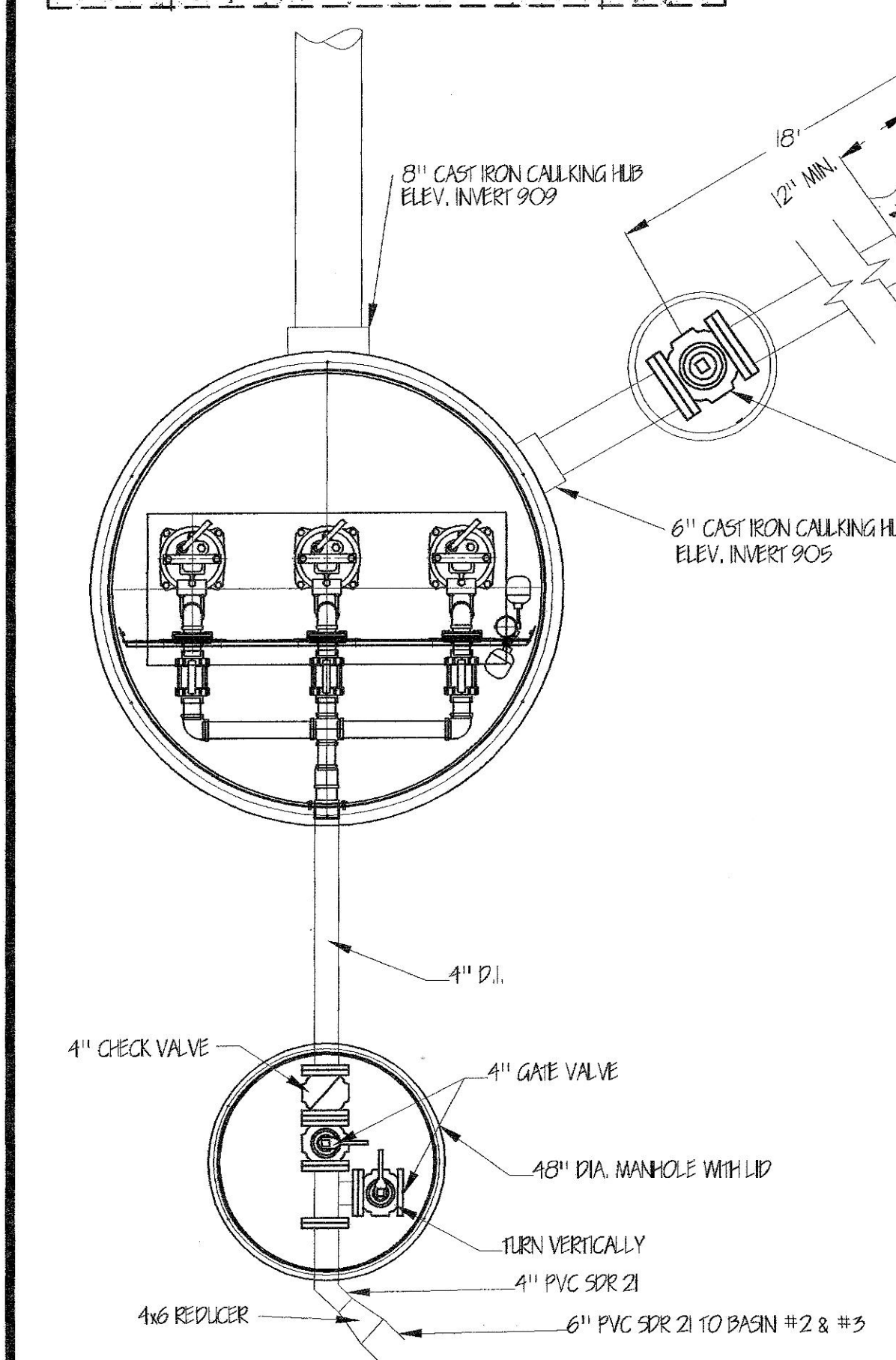
NEW 10" DRIVEWAY

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NEW 8" LINE TO HAVE MIN. 30" COVER AND DISCHARGE ONTO RP RAP

NEW CONTROL BUILDING SEE SHEET DETAILS 5, 6 OF 10

ANCHOR PIPE WITH CONCRETE BLOCKING



4 CU YARDS CONCRETE BALLAST REQUIRED

CONCRETE ANTI-SEEP DAM

ONE LENGTH 6" D.I. PIPE 4" BELOW EXISTING WATER LEVEL

6" PLUG VALVE IN BOX

6" CAST IRON CALLKING HUB (ELEV. 905.0)

8" CAST IRON CALLKING HUB (ELEV. 909.0)

INLET PIPE FITTING SHIPPED LOOSE FOR FIELD INSTALLATION BY CONTRACTOR

4" D.I.

4" CHECK VALVE

4" GATE VALVE

1/2" DIA. MANHOLE WITH LID

TURN VERTICALLY

4" PVC SDR 21

4" REDUCER

6" PVC SDR 21 TO BASIN #2 & #3

4" CONDUIT TO CONTROL BUILDING

ALUMINUM COVER WITH ACCESS DOOR

COVER HAS A RATING OF 150# PER SQ. FT.

5X (6) 3/8-16 SS. HX. HD. BOLTS ON A 63.00 DIA. B.C.

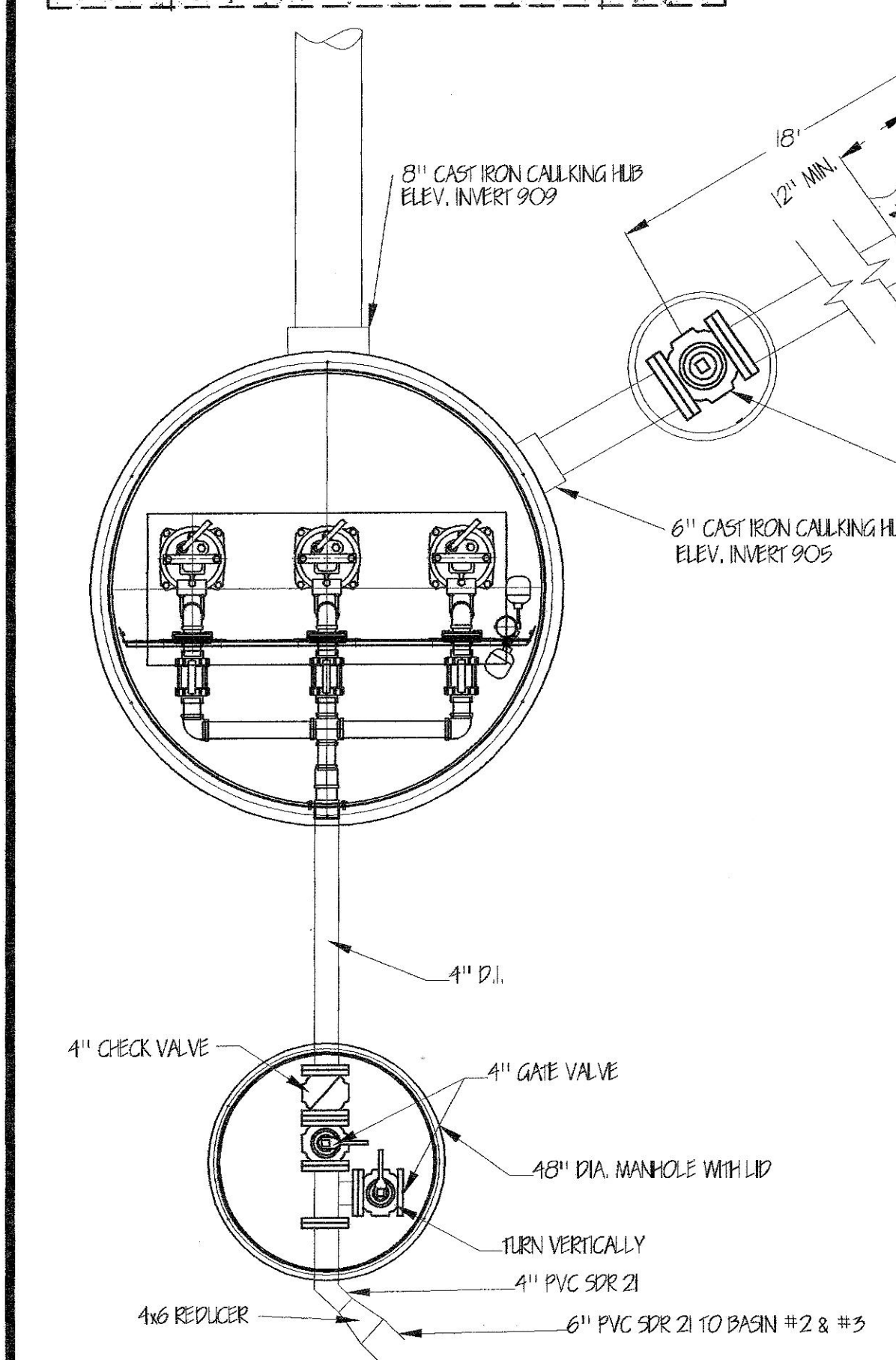
NEW 10" DRIVEWAY

NEW 10" DRIVEWAY

NEW 8" LINE TO HAVE MIN. 30" COVER AND DISCHARGE ONTO RP RAP

NEW CONTROL BUILDING SEE SHEET DETAILS 5, 6 OF 10

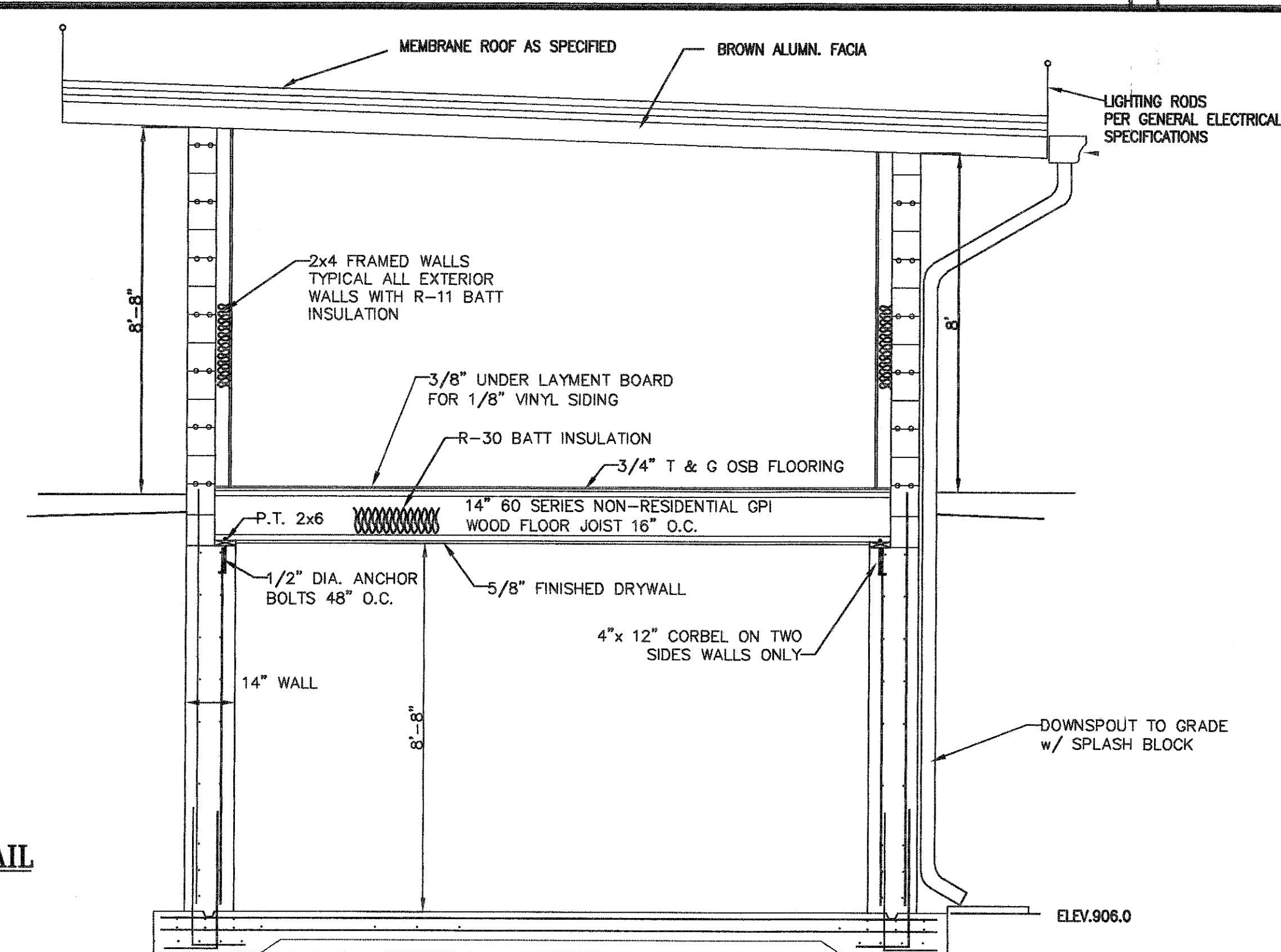
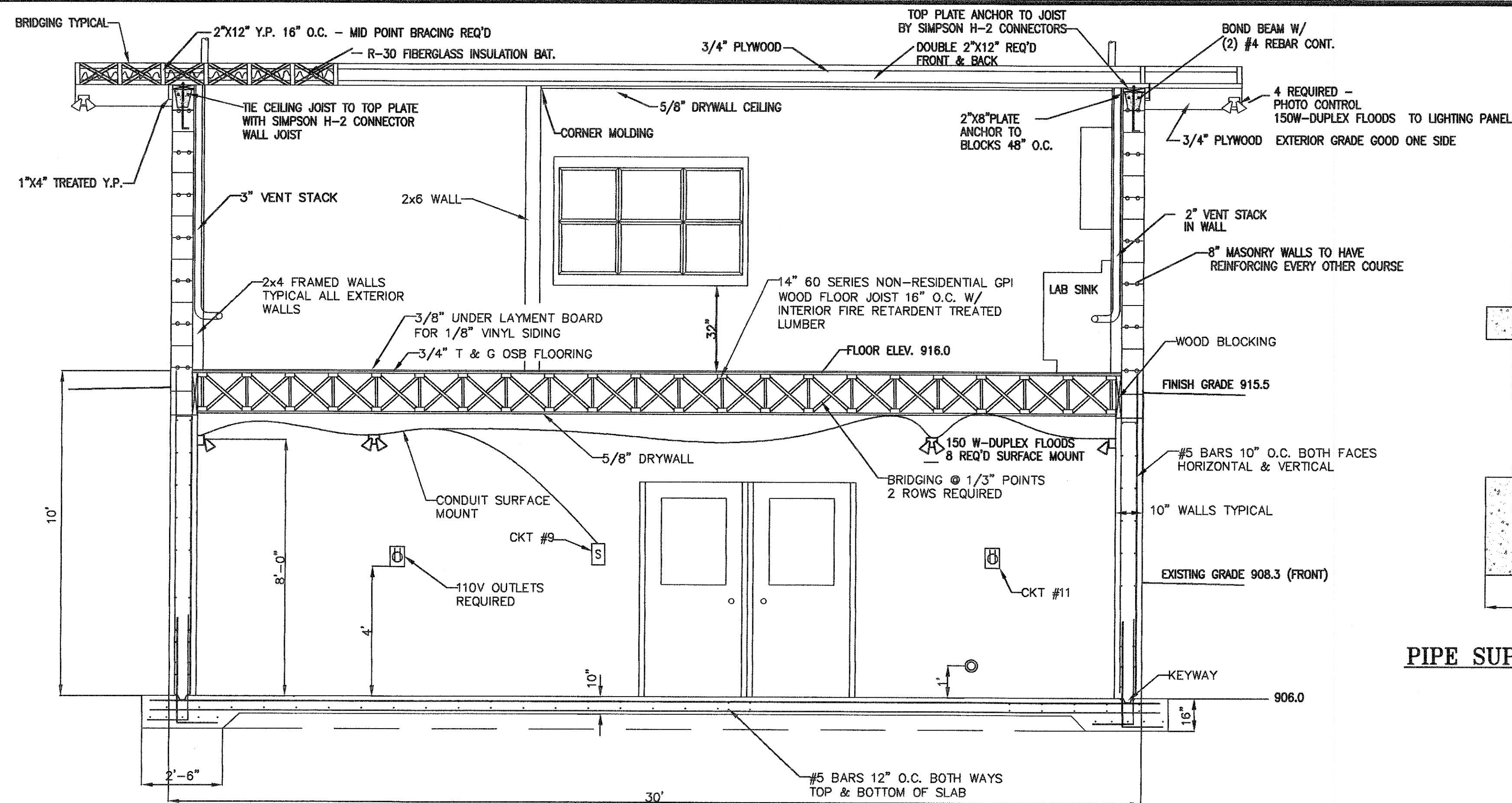
ANCHOR PIPE WITH CONCRETE BLOCKING



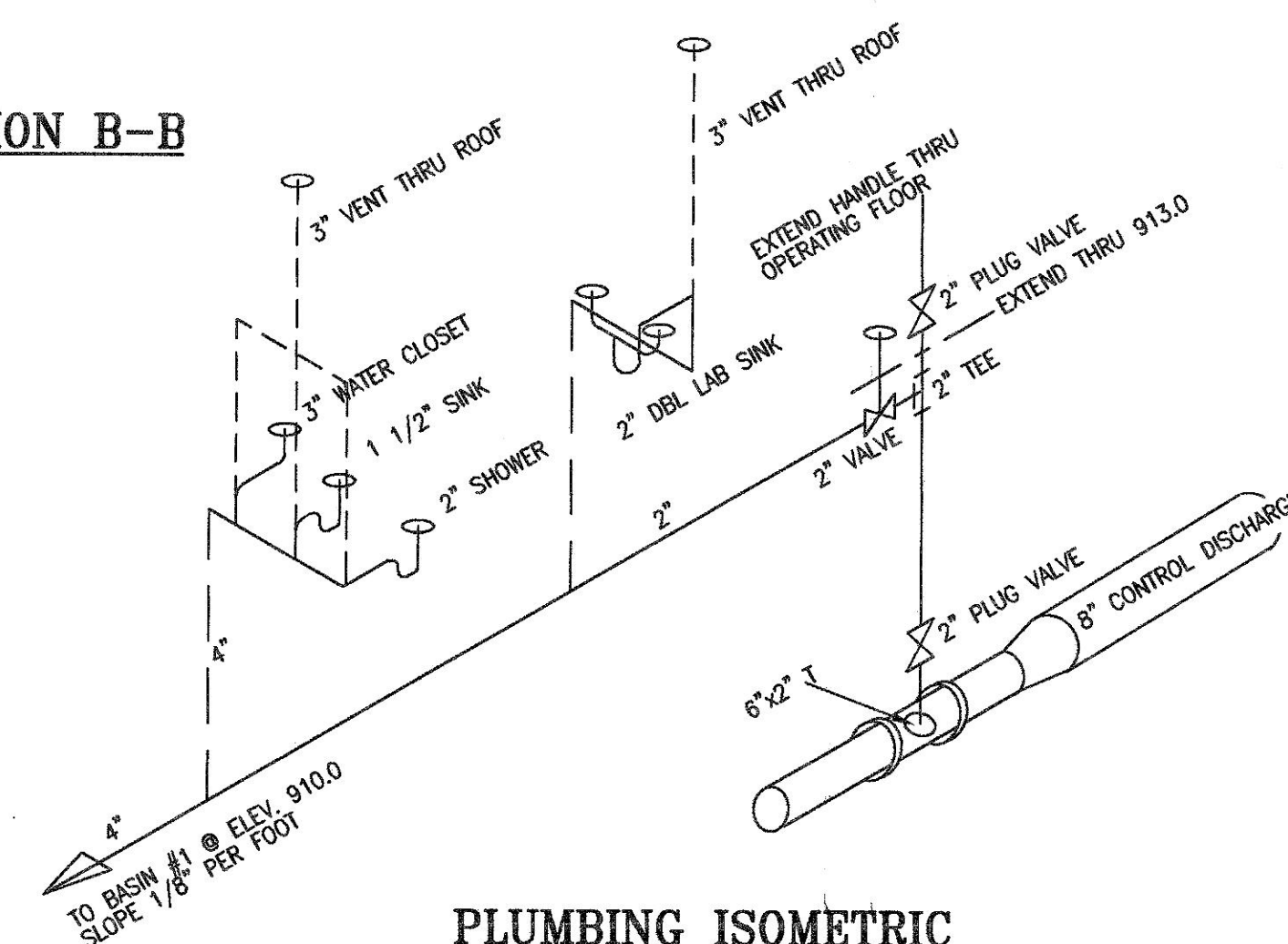
4 CU YARDS CONCRETE BALLAST REQUIRED

CONCRETE ANTI-SEEP DAM

ONE LENGTH 6" D.I. PIPE 4" BELOW EXISTING WATER LEVEL

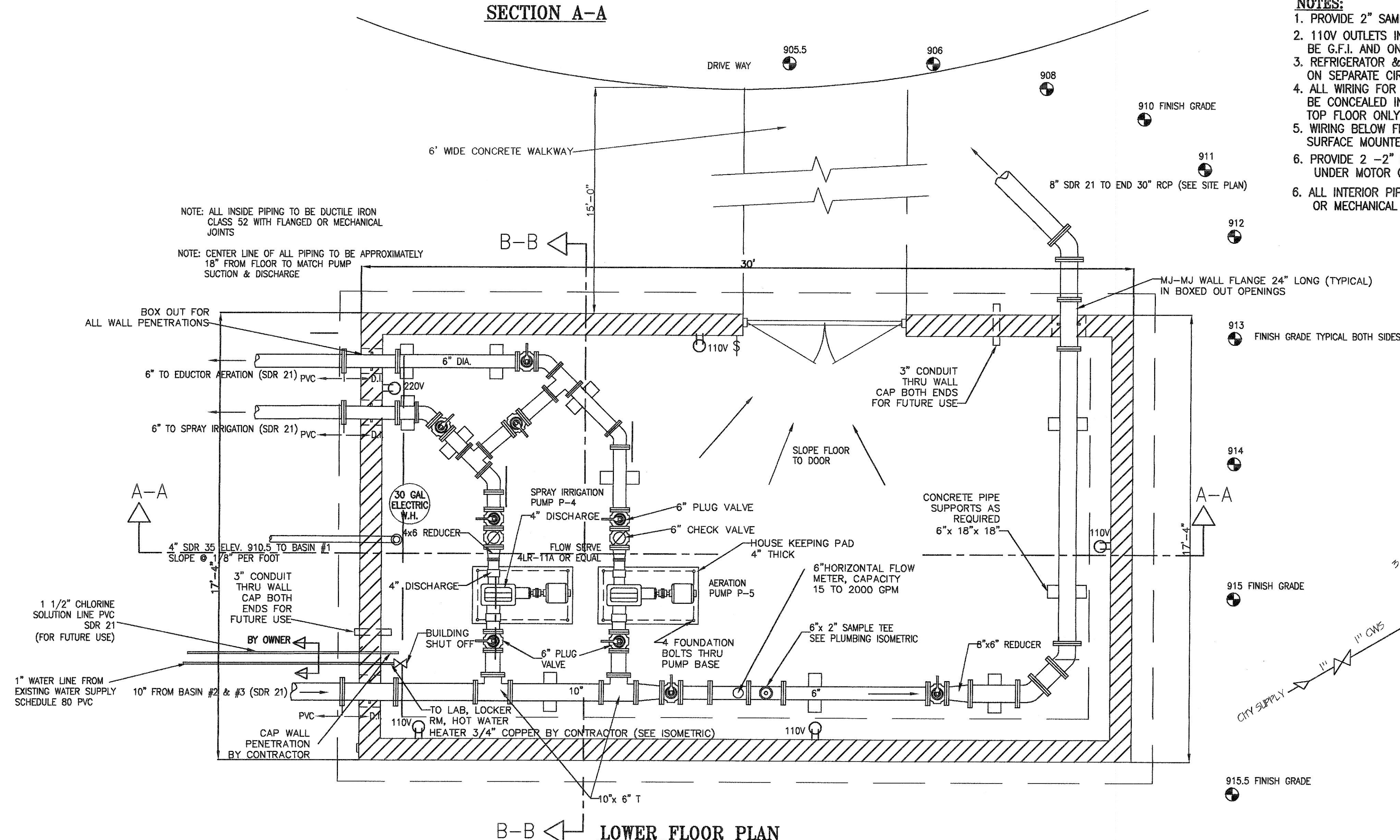
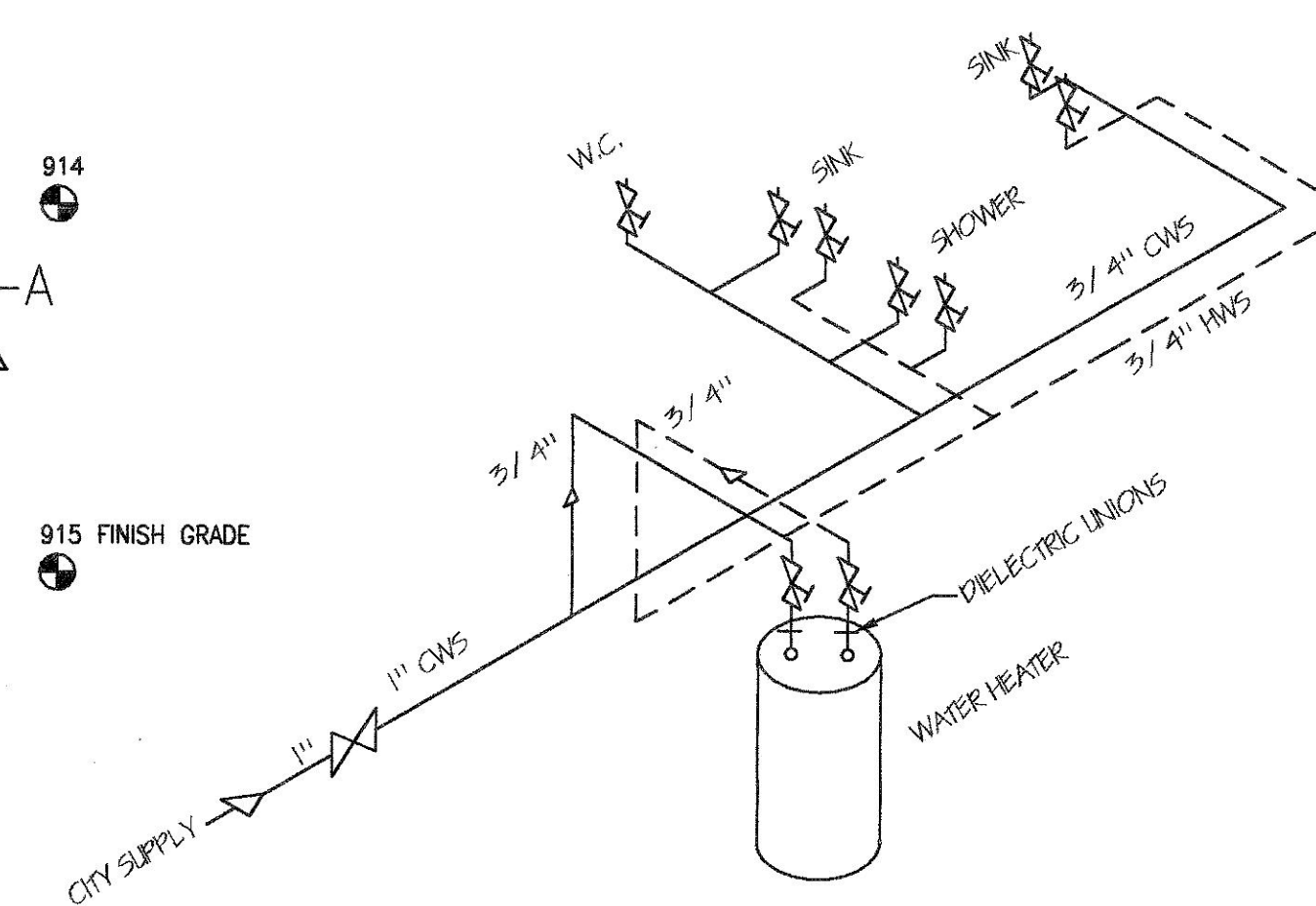


- NOTES:**
1. PROVIDE 2" SAMPLE PIPE THRU FLOOR W/ VALVES AS SHOWN
 2. 110V OUTLETS IN LAB & WASH ROOM TO BE G.F.I. AND ON SEPARATE CIRCUITS.
 3. REFRIGERATOR & BOD INCUBATOR (BY OWNER) TO BE ON SEPARATE CIRCUITS.
 4. ALL WIRING FOR ELECTRICAL DEVICES SHALL BE CONCEALED IN WALLS OR CEILING ON TOP FLOOR ONLY.
 5. WIRING BELOW FIRST FLOOR SHALL BE SURFACE MOUNTED.
 6. PROVIDE 2 -2" STUB CONDUITS FOR FUTURE USE UNDER MOTOR CONTROL CENTER -CAP, IDENTIFY
 6. ALL INTERIOR PIPING TO BE DUCTILE IRON FLANGED OR MECHANICAL JOINT (WITH RESTRAINTS AS REQUIRED)

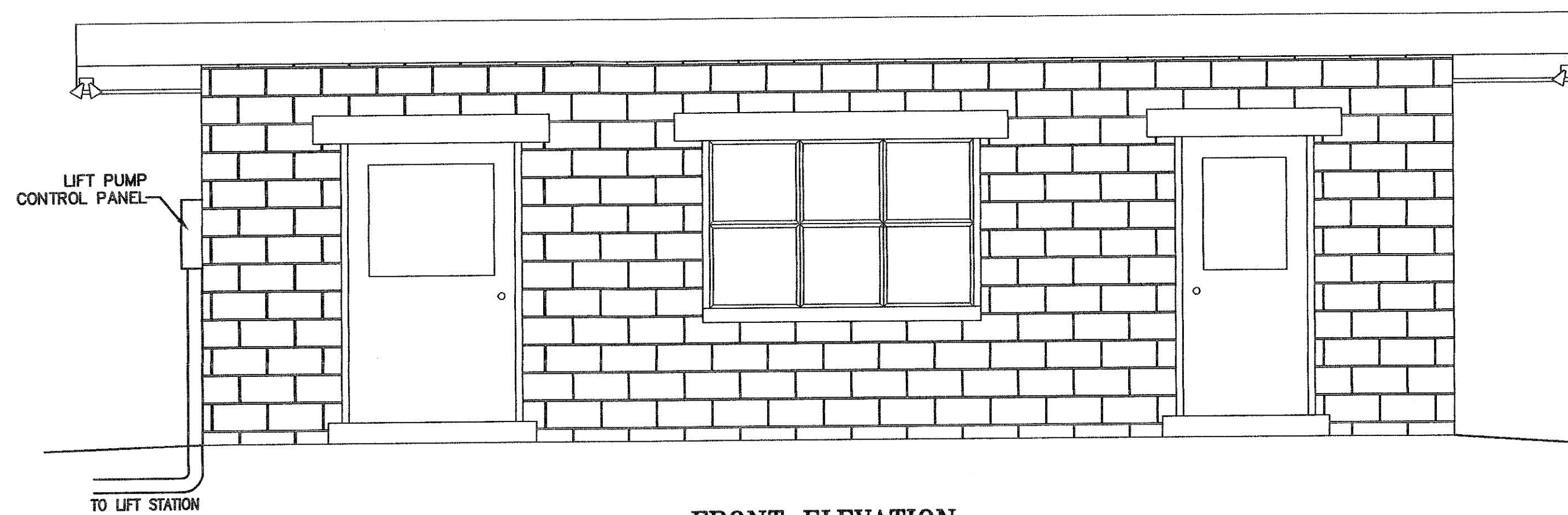


DOOR & WINDOW, MISC. SCHEDULE

1. PROVIDE LOCKS ON ALL WINDOWS
2. ALL ENTRY DOORS SHALL HAVE LEVER TYPE KNOBS, SCHLAGE OR EQUAL
3. PROVIDE WALL MOUNT FIRE EXTINGUISHERS AS SHOWN



4							
3							
2	8/12/03	C. O. #1	REVISION				
1	6-25-03A	GENERAL	REVISION FOR REBID				MM:
No.	Date	Description					By
REVISONS							
A	Arrangement	D	Diagram	H	HWAC	M	Mechanical
C	Concrete	E	Electrical	I	Instrumentation	P	Piping
M. M. SCHIRTZINGER & ASSOCIATES CONSULTING ENGINEERS Carafree, Az. Chillicothe, Ohio (602) 488-1757 Chillicothe, Ohio 45601 (614) 775-9400							
WINCHESTER, OHIO W.W.T. PLANT IMPROVEMENTS CONTROL BUILDING DETAILS							
Drawn by	ELA	Sheet No.	Scale 3/8"=1"		Date	10-2-02	Rev. No.
Designed By	MMS	5 OF 10	DRAWING NO. SHEET 5				
Checked By	MMS	Contract No.					
Approved	MMS						



FRONT ELEVATION

LEGEND

- (A) AUTO-MANUAL SELECTOR SWITCH
- (R) RESET BUTTON
- (R) RED INDICATING LIGHT
- (G) GREEN INDICATING LIGHT

4 REQUIRED - PHOTO CONTROL 150W-DUPLEX FLOODS TO LIGHTING PANEL CKT #8

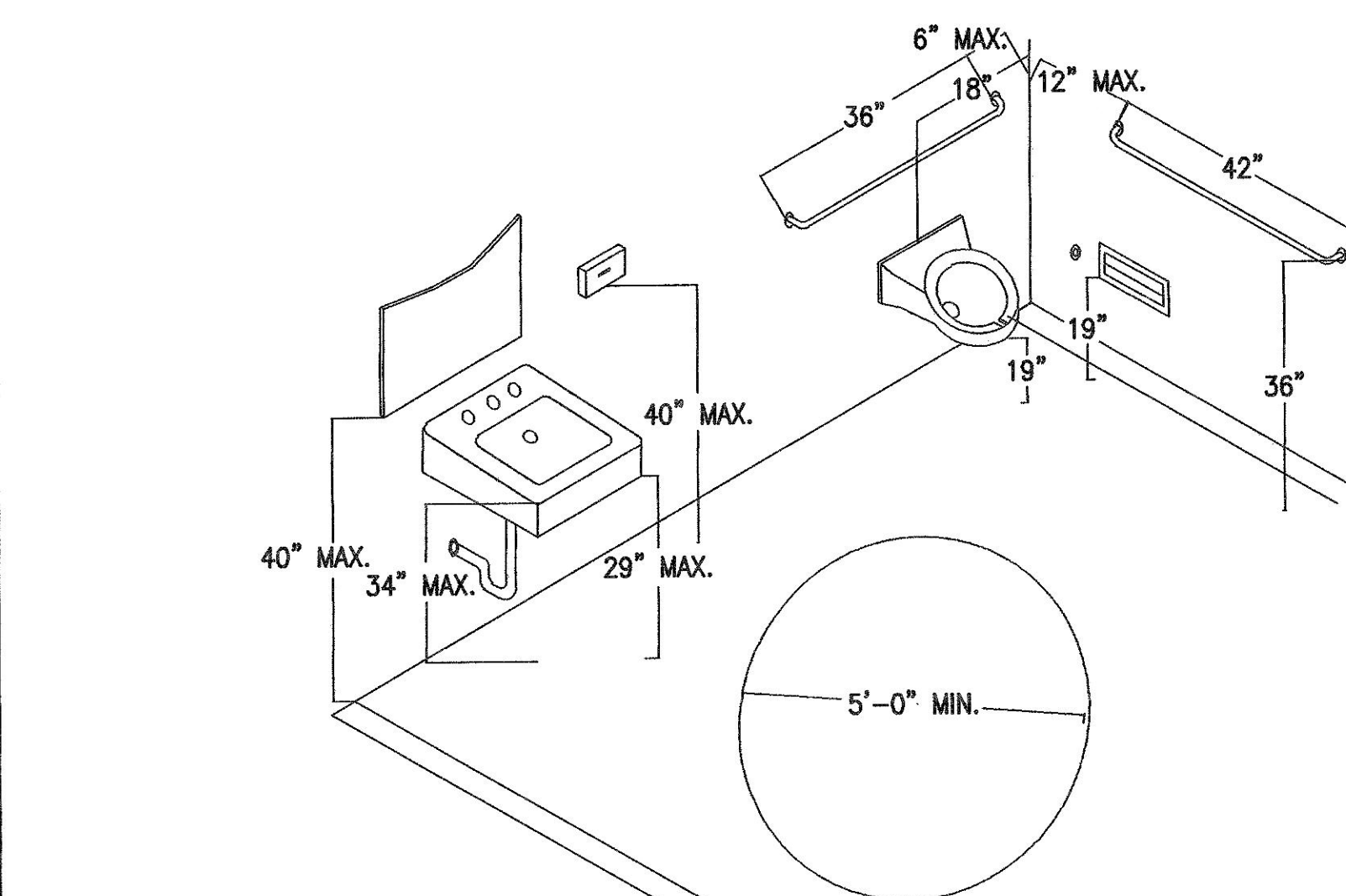
(2) #5 REBAR VERTICAL TO TOP OF BLOCK GROUT CORES OF BLOCK SOLID (SPACED 4'-0" O.C. MAX.)

INTERNAL PILASTER DETAIL

NOTE: ALL INTERIOR & EXTERIOR DOORS TO BE LEVER ACTION HARDWARE WITH LOCK & CLOSURE

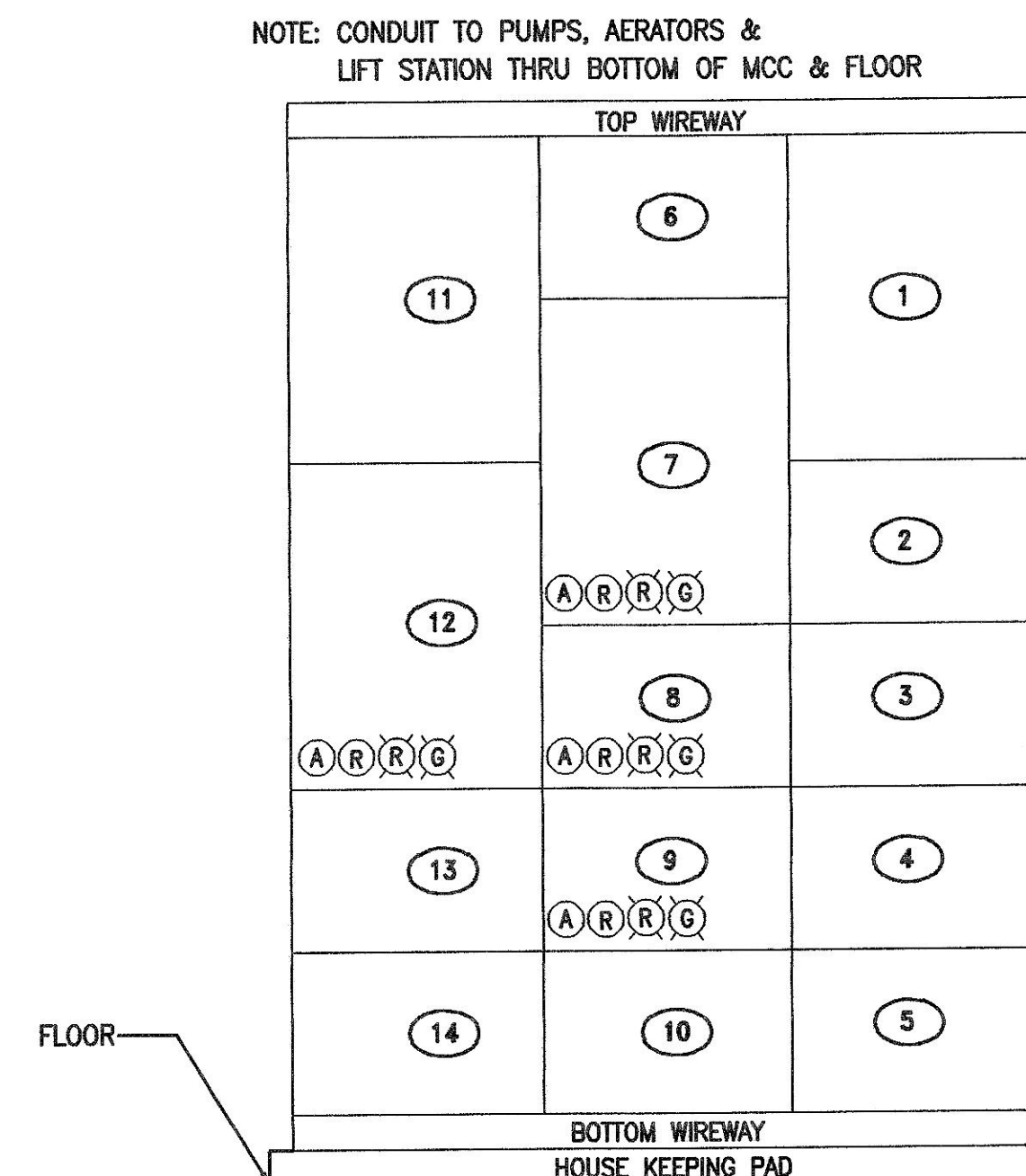
\$ SINGLE WAY SWITCH
T- THERMOSTAT
⊖ 110V DUPLEX OUTLET (GROUND)

NOTE: ALL WIRING TO BE CONCEALED ON 1 ST LEVEL & SURFACE MOUNTED IN LOWER LEVEL



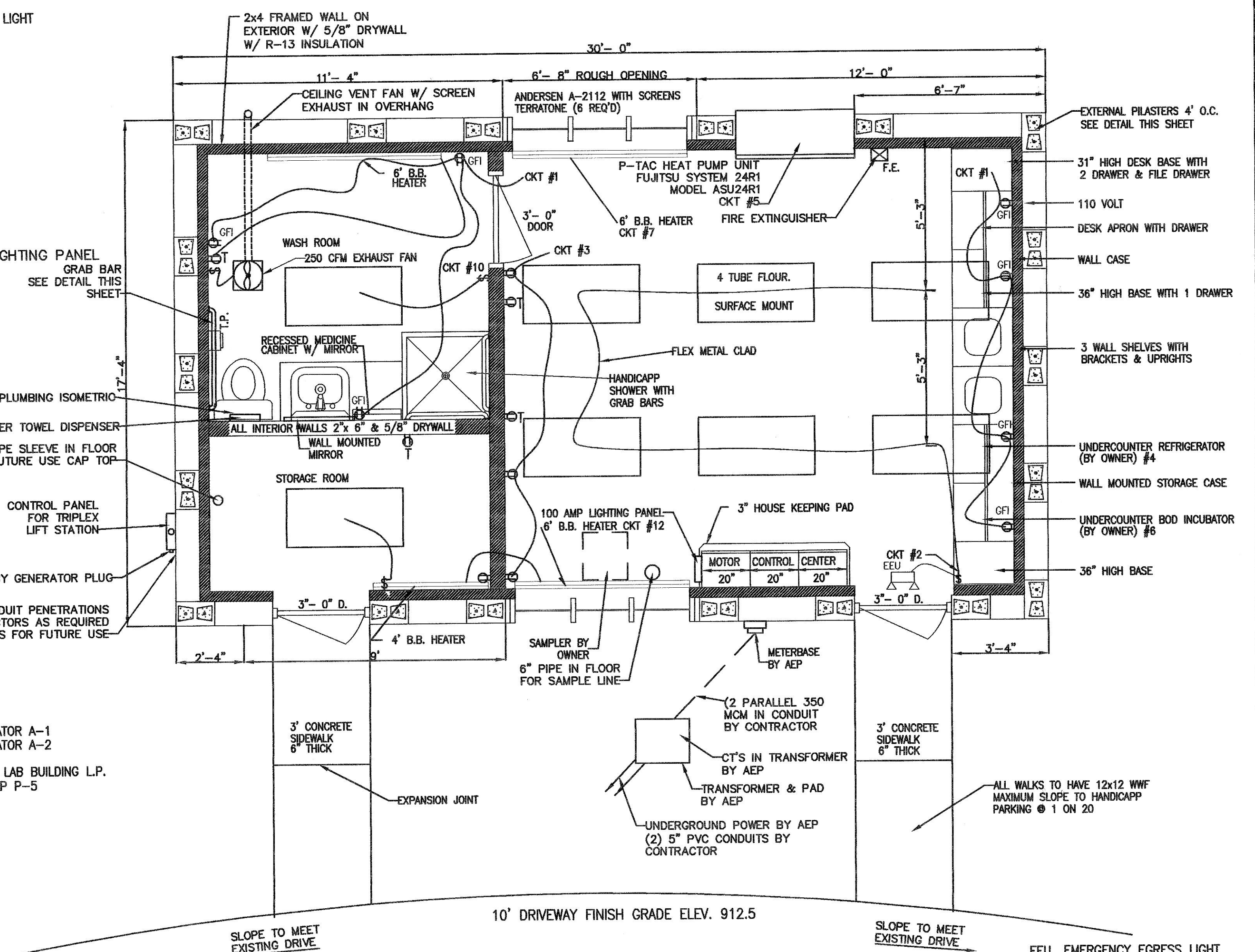
NOTE SEE HANDICAPP SPECIFICATIONS ON COVER SHEET

HANDICAPP RESTROOM DETAIL
NOT TO SCALE:



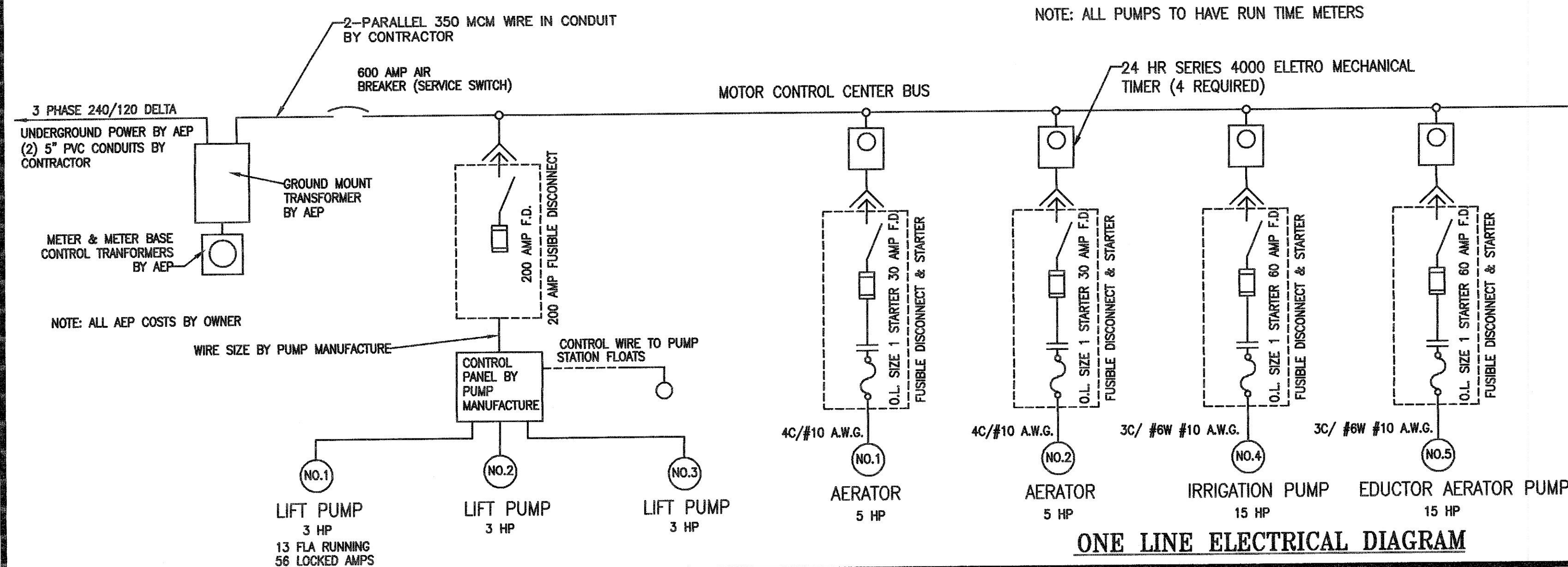
MOTOR CONTROL CENTER
DIAGRAM

- 1 MAIN BREAKER 600 AMP
- 2 DISCONNECT FOR LIFT PUMP CONTROL PANEL
- 3 SPARE
- 4 SPARE
- 5 L.P. BREAKER & RELAYS
- 6 SIZE 2 FOR 15 HP SPRAY IRRIGATION PUMP P-4
- 8 SIZE 1 STARTER FOR 5 HP FLOATING AERATOR A-1
- 9 SIZE 1 STARTER FOR 5 HP FLOATING AERATOR A-2
- 10 SPARE
- 11 100 AMP FUSED DISCONNECT FOR EXISTING LAB BUILDING L.P.
- 12 SIZE 2 FOR 15 HP EDUCTOR AERATOR PUMP P-5
- 13 TIMER COMPARTMENT (FOR AERATORS)
- 14 TIMER COMPARTMENT (FOR 15 HP. PUMPS)

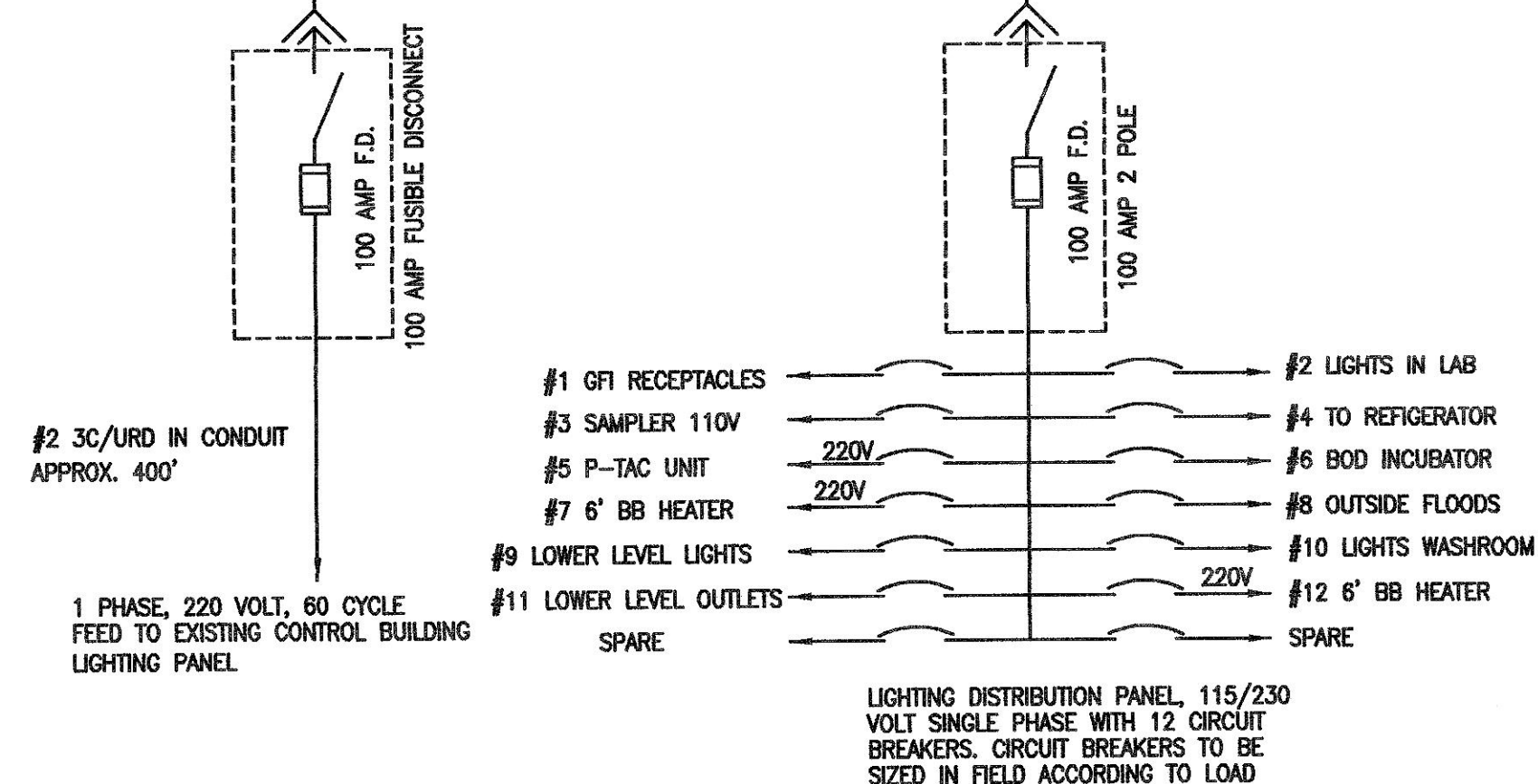


FIRST FLOOR PLAN

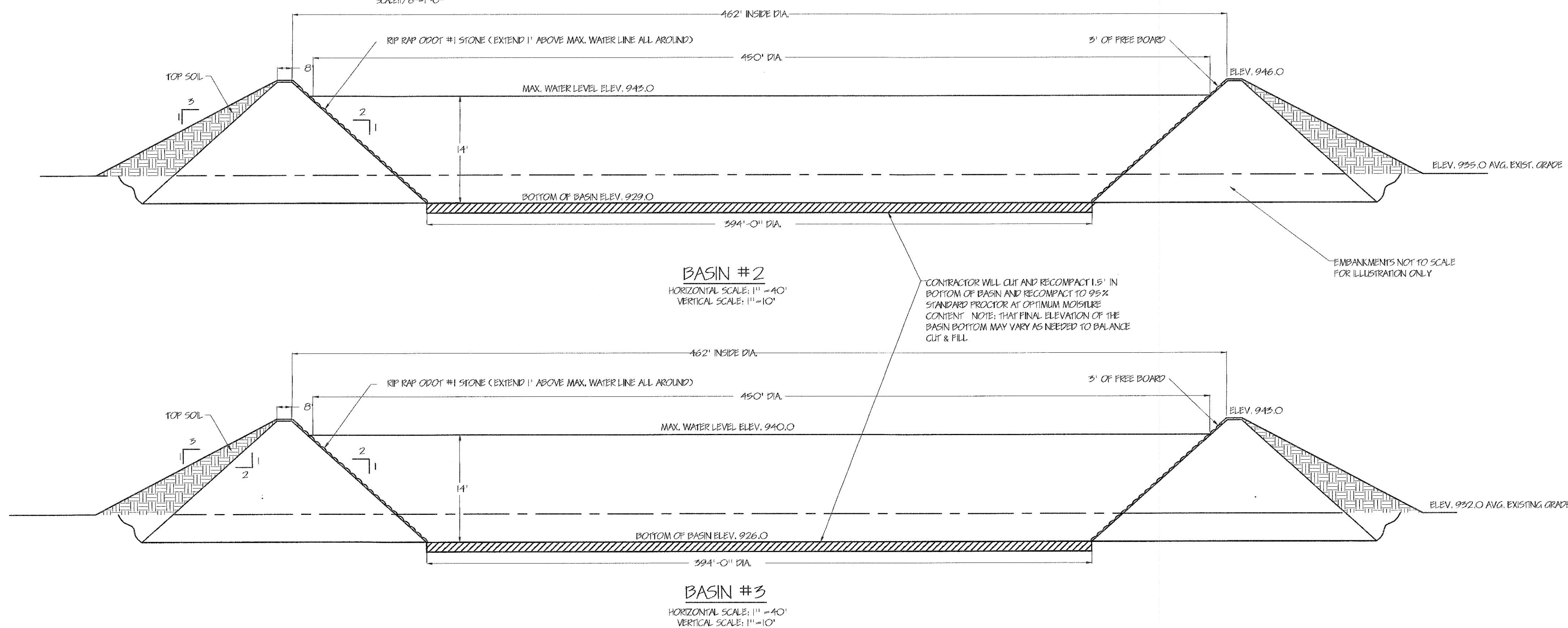
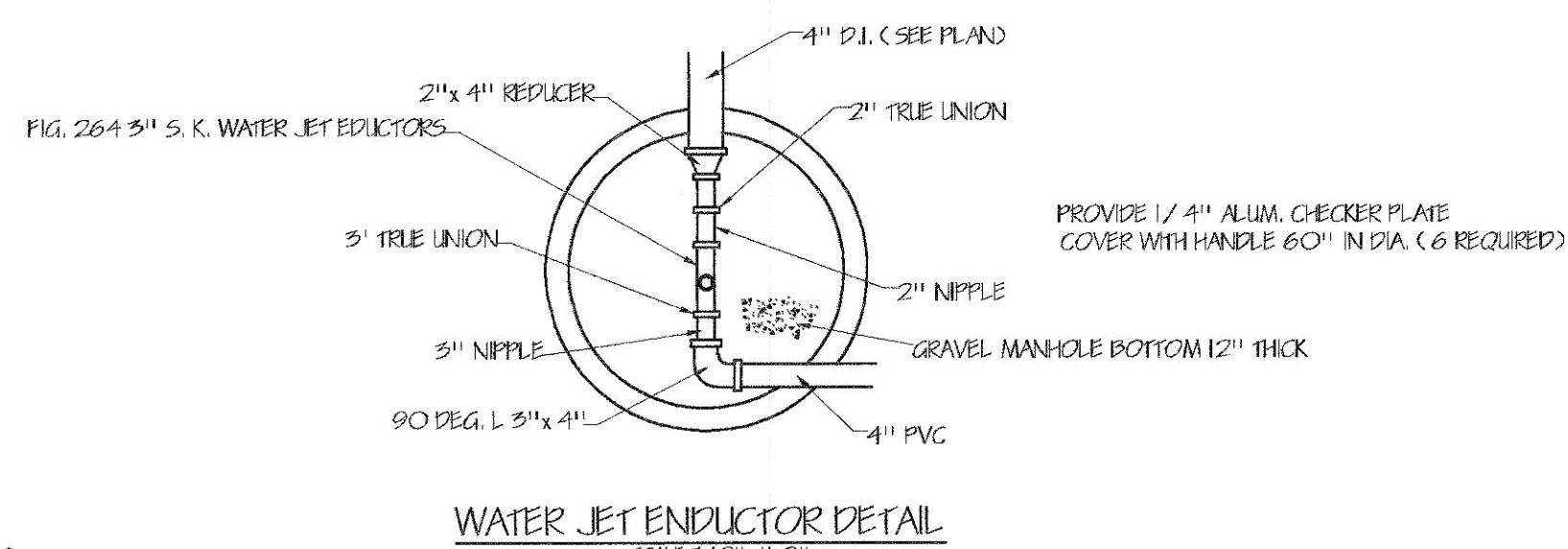
EEU EMERGENCY EGRESS LIGHT MIN. CIRCUIT SIZE
20 AMP #12 CU
30 AMP #10 CU
40 AMP #8 CU



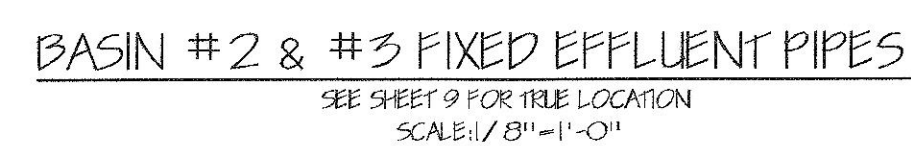
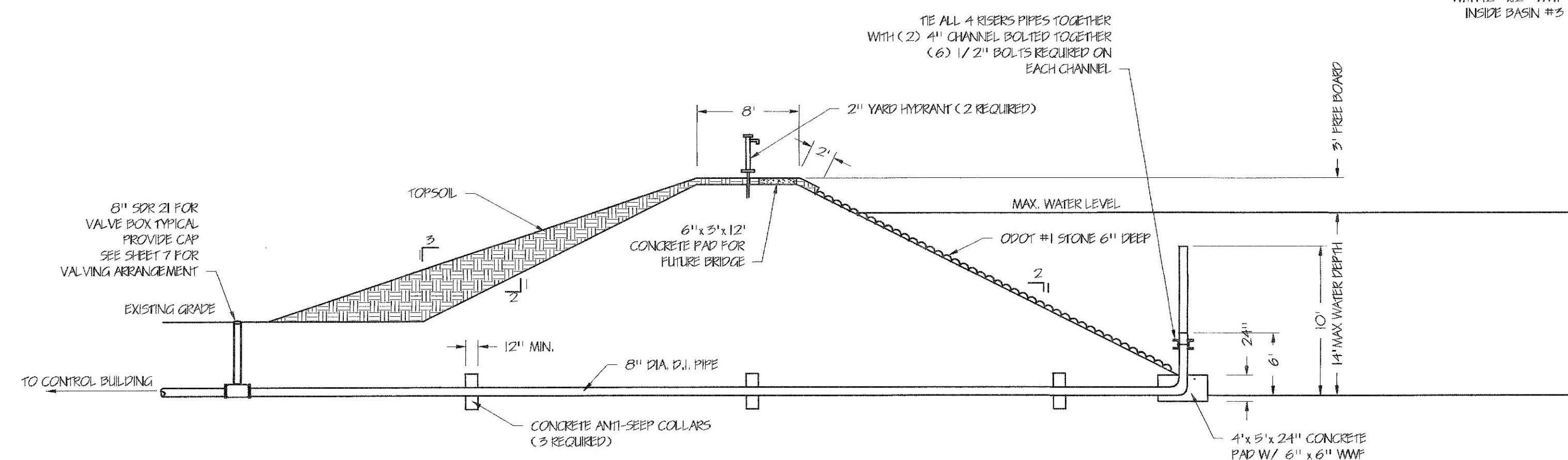
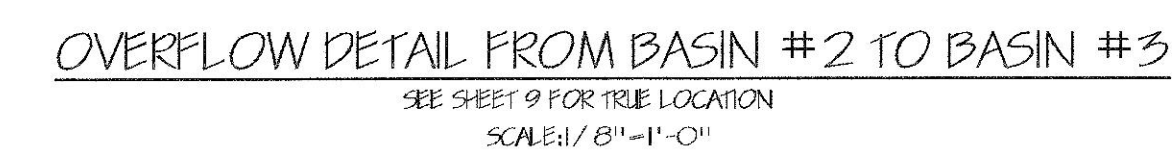
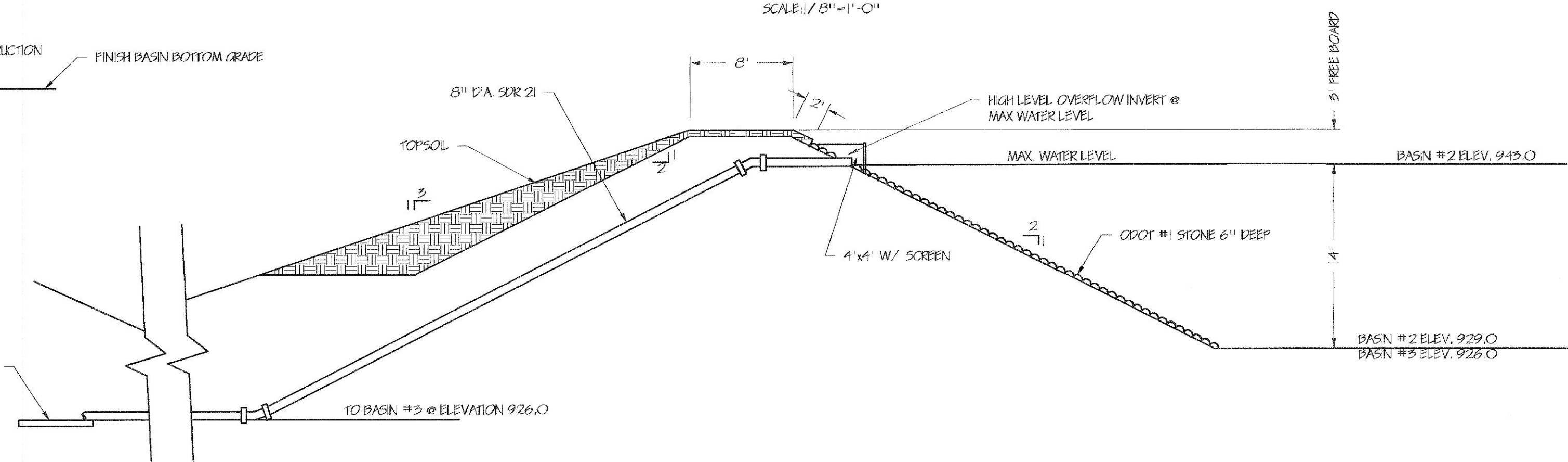
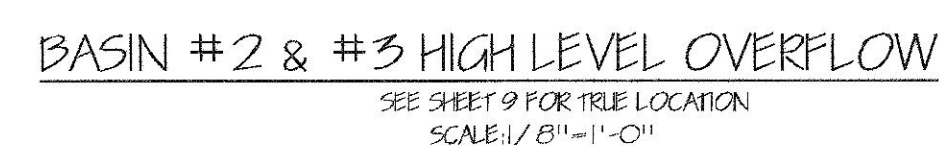
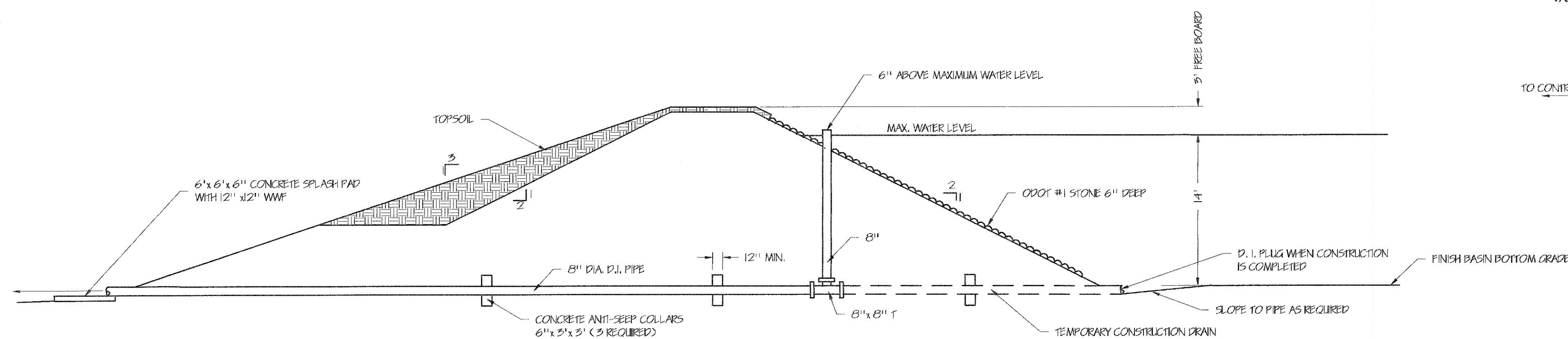
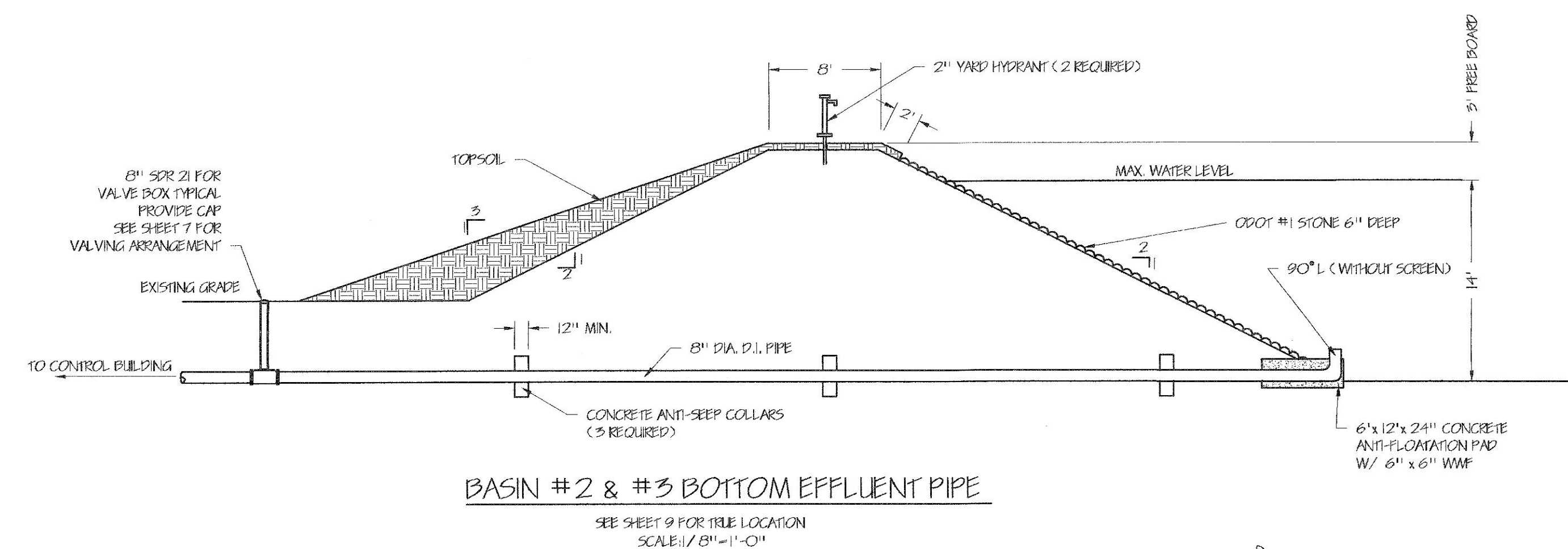
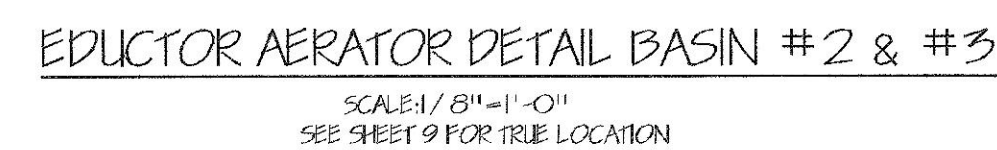
ONE LINE ELECTRICAL DIAGRAM



4					
3					
2	8/12/03	C.O. #1 REVISIONS			
1	6-25-03	GENERAL REVISION FOR REBID			MMS
No.	Date	Description			By
REVISIONS					
A	Arrangement	D	Diagram	H	HVAC
C	Concrete	E	Electrical	I	Instrumentation
				P	Piping
M. M. SCHIRTZINGER & ASSOCIATES CONSULTING ENGINEERS Chillicothe, Ohio 45601 (602) 488-1757					
WINCHESTER, OHIO W.W.T. PLANT IMPROVEMENTS CONTROL BUILDING DETAILS					
Drawn By	ELA	Sheet No.	6 OF 10	Scale	3/8" = 1'
Designed By	MMS	Contract No.		Date	10-2-02
Checked By	MMS			DRAWING NO.	
Approved	MMS			SHEET	6



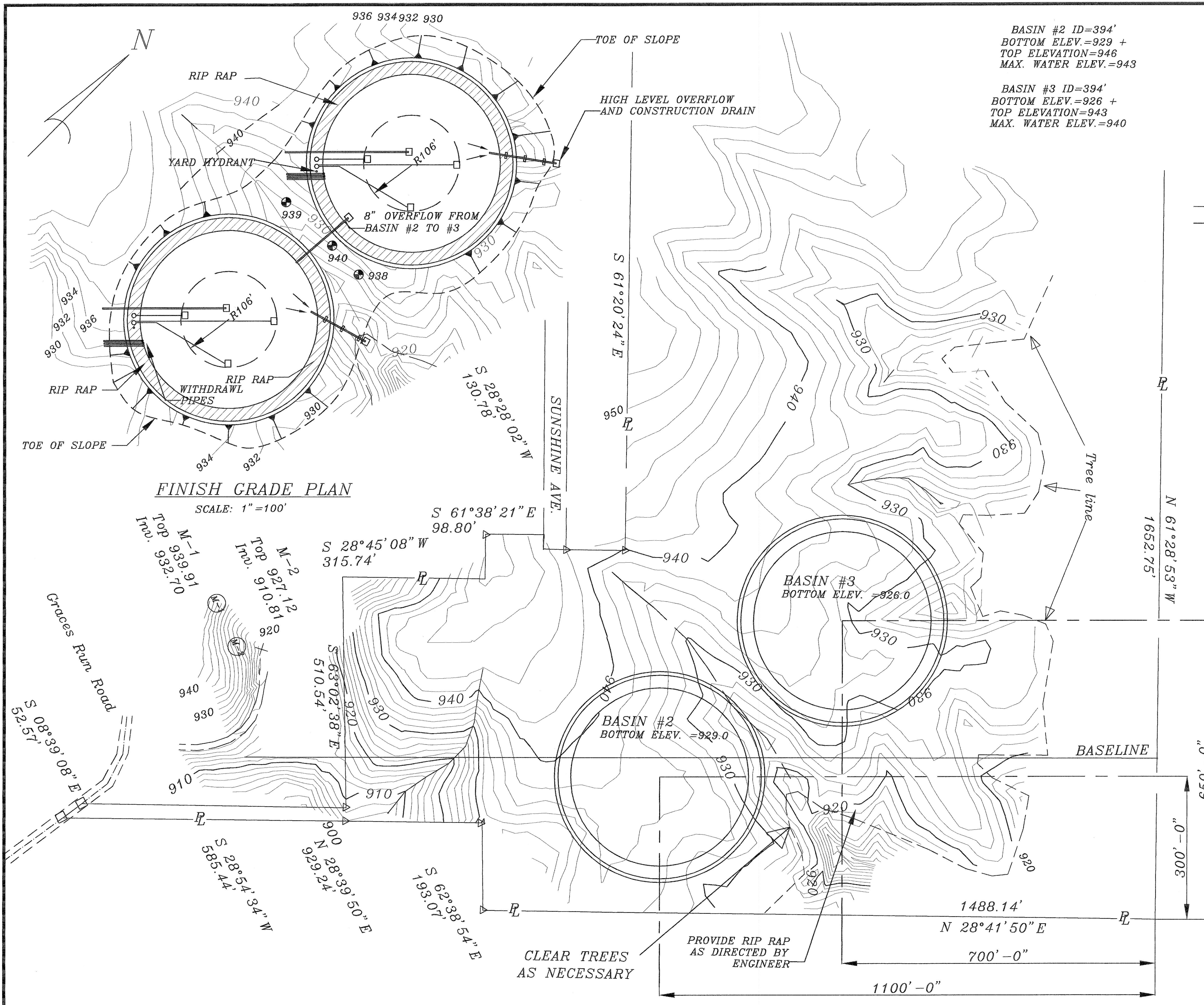
4							
3							
2	8/12/03	C.O. #1 REVISION					
1	6-25-03	GENERAL REVISIONS FOR REBID					MM
No.	Date	Description					By
REVISIONS							
A	Arrangement	D	Diagram	H	HVAC	M	Mechanical
C	Concrete	E	Electrical	I	Instrumentation	P	Piping
M. M. SCHIRTZINGER & ASSOCIATES CONSULTING ENGINEERS Corfeore, Az. Chillicothe, Ohio 45601 (602) 488-1757 (614) 775-94							
WINCHESTER, OHIO W. W. T. PLANT IMPROVEMENTS BASIN #2, #3 & PIPING LAYOUT							
Drawn By	ELA	Sheet No.	Scale AS NOTED Date 10-2-02			Rev.	M
Designed By	MMS	7 OF 10	DRAWING NO. SHEET 7				
Checked By	MMS	Contract No.					
Approved	MMS						



ALL PIPING CONTRACT #1

ALL BASIN CONSTRUCTION CONTRACT #2

4							
3							
2	8/12/03	C.O. #1 REVISIONS					
1	6-25-03	GENERAL REVISION FOR REBID					
No.	Date	Description					By
REVISIONS							
A	Arrangement	D	Diagram	H	HWAC	M	Mechanical
C	Concrete	E	Electrical	I	Instrumentation	P	Piping
M. M. SCHIRTZINGER & ASSOCIATES CONSULTING ENGINEERS Corelco, Az. Chillicothe, Ohio 45601 (602) 488-1757 (614) 775-9441							
WINCHESTER, OHIO W. W. T. PLANT IMPROVEMENTS BASEIN DETAILS							
Drawn By	ELA	Sheet No.	Scale	1/8"	Date	10-2-02	Rev. No.
Designed By	MMS	8 OF 10	DRAWING NO. SHEET 8				
Checked By	MMS	Contract No.					
Approved	MMS						



- LEGEND**
- SPIKE (SET)
 - SPIKE (FOUND)
 - ⊠ 5/8" REBAR (SET)
 - ◁ 5/8" REBAR (FOUND)

Centerline Ditch
FINISH CONTOUR

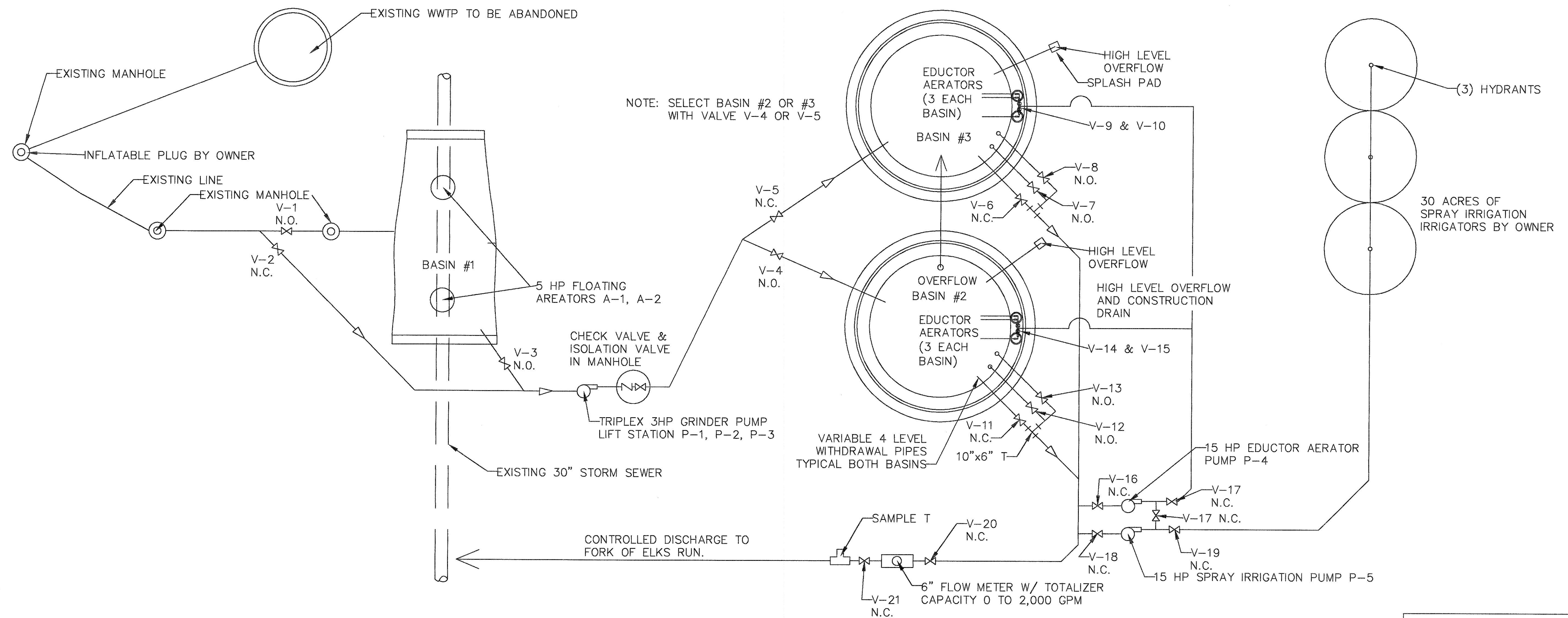
BASED ON 2002 SURVEY BY TY PELL
OF WEST UNION, OHIO

FINISH GRADE PLAN
SCALE: 1"=100'

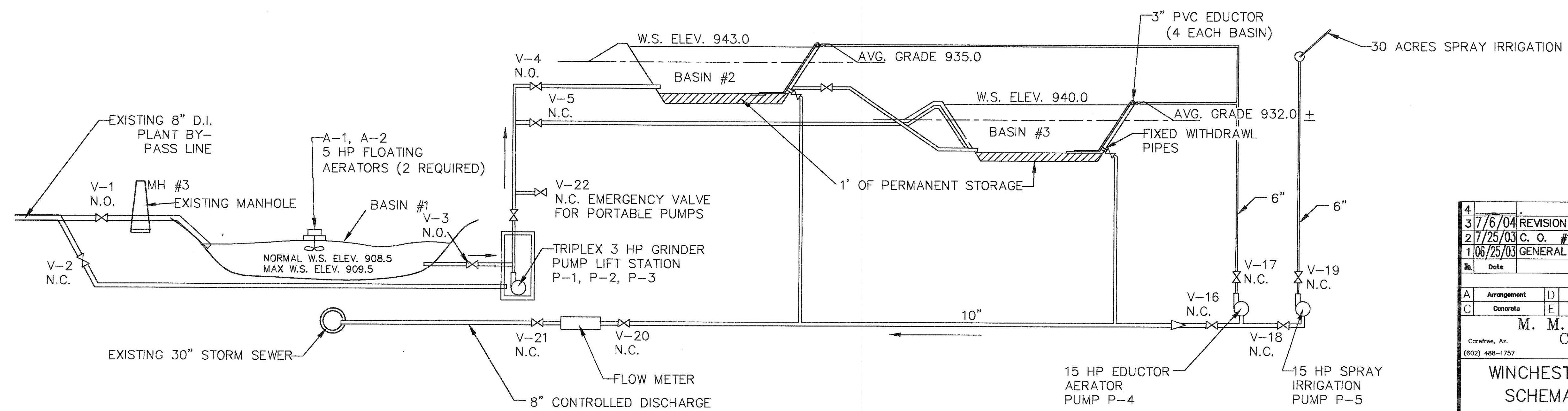
NOTE: CONTRACTOR SHALL PLACE
SURPLUS EXCAVATION UNCOMPACTED
IN SWALES AS SHOWN

CONTOUR INTERVAL = 2'
SCALE: 1"=100'

4							
3							
2	8-27-03	C.O. #1 REVISIONS CONTRACT #2					
1	06/25/03	GENERAL REVISION FOR REBID			MMS		
No.	Date	Description			By		
REVISIONS							
A	Arrangement	D	Diagram	H	HVAC	M	Mechanical
C	Concrete	E	Electrical	I	Instrumentation	P	Piping
M. M. SCHIRTZINGER & ASSOCIATES							
Carefree, Az.				Chillicothe, Ohio			
(602) 488-1757				(614) 775-9400			
CONSULTING ENGINEERS							
Chillicothe, Ohio 45601							
WINCHESTER, OHIO							
W.W.T. P. CONTRACT #2							
BASIN #2 & #3 LOCATION PLAN							
Drawn By	ELA	Sheet No.	Scale 1"=100'	Date	10-2-02	Rev. No.	
Designed By	MMS	9 OF 10		DRAWING NO.			
Checked By	MMS	Contract No.		SHEET 9			
Approved	MMS						



LEGEND	
N.O.	NORMALY OPEN
N.C.	NORMALY CLOSED



REVISIONS		
No.	Date	Description
4		
3	7/6/04	REVISION FOR AS BUILT PLANS
2	7/25/03	C. O. #1 REVISION
1	06/25/03	GENERAL REVISION FOR REBID
		By
A	Arrangement	D
C	Concrete	E
	Diagram	H
	Electrical	I
	Instrumentation	P
	HVAC	M
	Mechanical	P
	Piping	
M. M. SCHIRTZINGER & ASSOCIATES		
CONSULTING ENGINEERS		
Chillicothe, Ohio 45601		
Winchester, OH W.W.T.P. PLANT		
SCHEMATIC FLOW DIAGRAM		
& HYDRAULIC PROFILE		
Drawn By	ELA	Sheet No.
Designed By	MMS	10 of 10
Checked By	MMS	Contract No.
Approved	MMS	
Scale		NO SCALE
Date		10-1-02
Rev. No.		
DRAWING NO.		
SHEET 10		