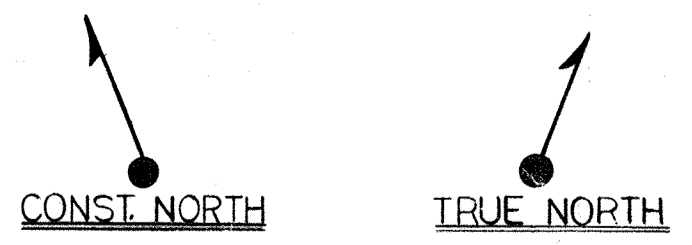




**YARD PIPING KEY PLAN**  
SCALE N.T.S.



▲	6-13-94	AS BUILT
▲	3-12-13	PART PLAN PK-5
▲	12-07-92	ADDED PK-41
▲	11-07-78	REVISE PER ENG. NOTES FOR APPROVAL
NO.	DATE	REVISION

The Poole & Keel Co./James V. Miller, Inc.  
(A Joint Venture)  
4830 Hollins Ferry Road  
Baltimore, MD 21227

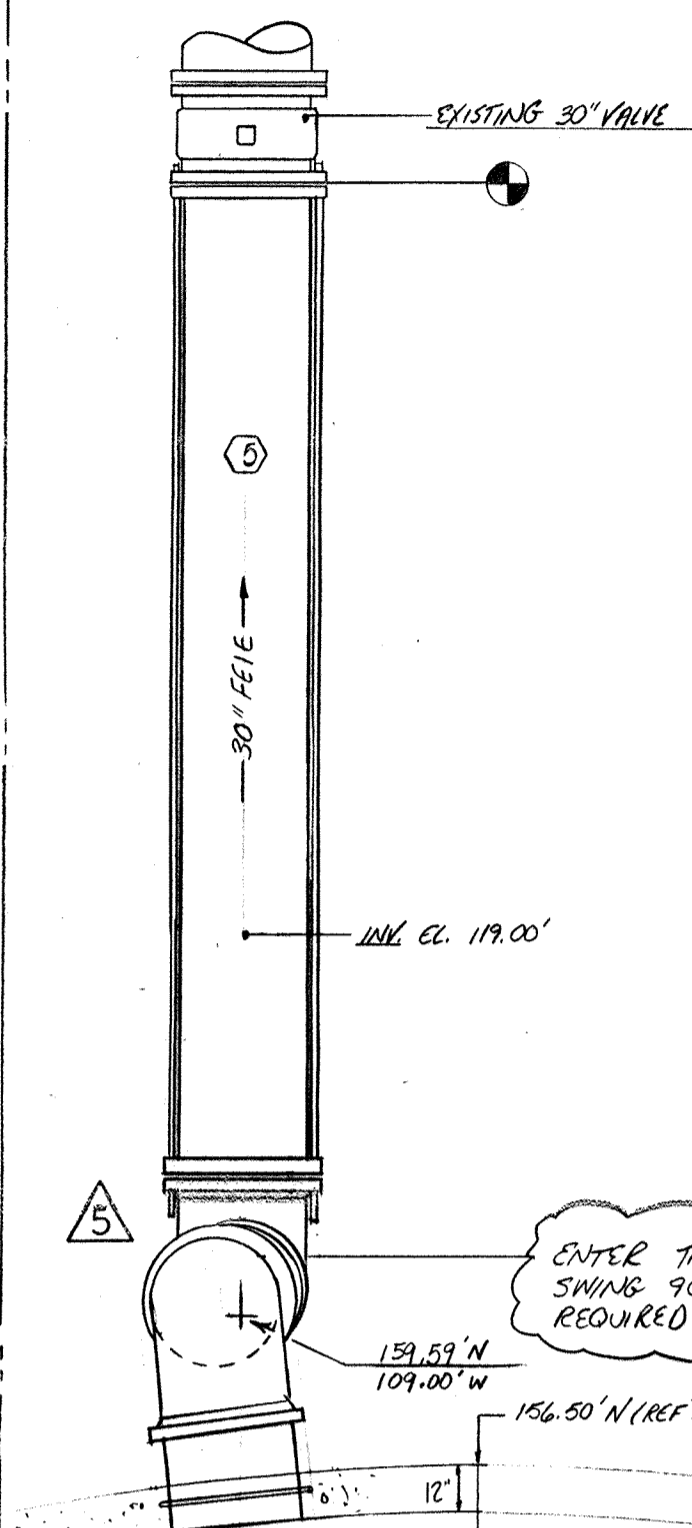
**LITTLE PATUXENT  
WASTEWATER TREATMENT PLANT EXPANSION  
ADDITION NO. 5**  
HOWARD COUNTY, MARYLAND

TITLE: **YARD PIPING  
KEY PLAN**

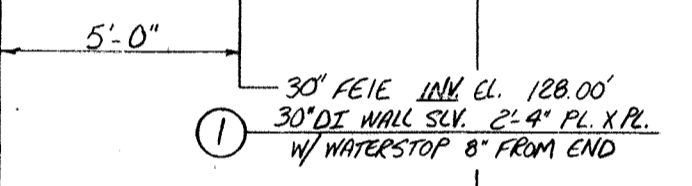
JOB: PK-92125	DRAWING:
DRAWN: M. OXBBS	PK-1
SCALE: NONE	
DATE: 7-6-92	

MATCH LINE 114.00' W

MATCH LINE 0.00' E



EXISTING 30" VPIPE  
 30" FEIE  
 119.00' CL  
 134.53' N  
 109.00' W  
 156.50' N (REF)  
 CENTER TANK @ 90° TANGENT SWING 90° CL'S TO ESTABLISH REQUIRED SET



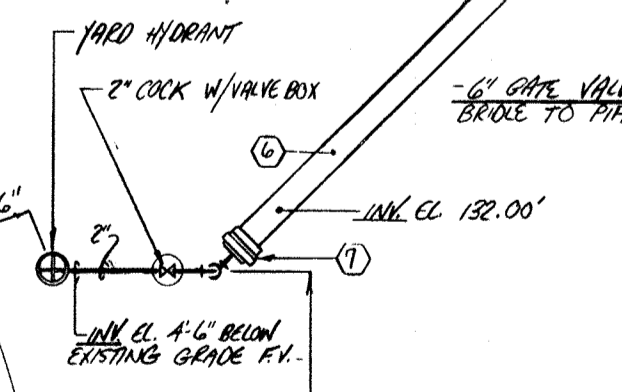
5'-0"  
 30" FEIE 119.00' CL 128.00'  
 30" DI WALL SLV 2" PL X PL  
 W/ WATERSTOP 8" FROM END



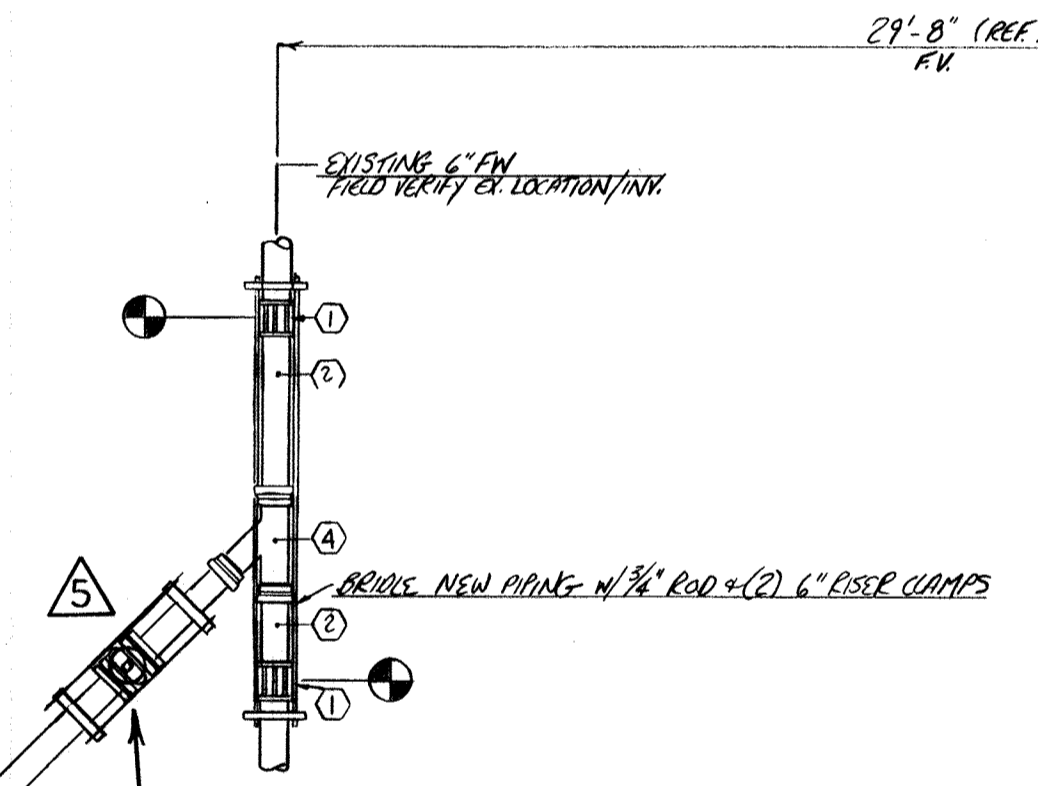
10'-0" @ ELEV 104.00' W

**FLOW EQUALIZATION BASIN NO. 3**  
 SEE SUBM. NO. 528 FOR PIPING THIS AREA

NOTE: FOR ALL BURIED NON-RESTRAINT PIPING, BRANDS, TEES AND OTHER FITTINGS MUST BE BRACKETED UP WITH CLASS B CONCRETE. (SEE DWG. PK-40 OR SUBMITTAL NO. 86 FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT, BRIDGE JOINT WITH 3/4" ROD + CLAMPS (PROVIDE 2 COATS OF BITUMINOUS PAINT AFTER ASSEM.)



YARD HYDRANT  
 2" COCK W/ VALVE BOX  
 6" GATE VALVE W/ VALVE BOX  
 15'-0"  
 122.00' CL  
 1/2" FROM END



EXISTING 6" DIA FIELD TEE/EL TO MANHOLE  
 29'-8" (REF) FROM  
 BEARING NEW PIPING W/ 3/4" ROD + (2) 6" RISER CLAMPS

6" FLUSHING WATER		
MARK	DESCRIPTION	QUANTITY
1	6" SLEEVE TYPE COUPLING	2
2	6" FR 2'-0" FR X PL (REV)	2
3	6" X 4" FR TEE	1
4	6" FR W/VE	1
5	6" FR (FIELD MEASURE) H X FR	1
6	6" FR 4'-6" H X PL	1
7	6" FR RUS W/ 1" IPS OUTLET	1
8	4" FR (FIELD MEASURE) H X FR	1
9	4" FR 1'-6" FR X PL	2

30" FLOW EQUALIZATION INFLUENT / EFFLUENT		
MARK	DESCRIPTION	QUANTITY
1	30" AF 4'-6" H X PL	1
2	30" M5 30" CL	2
3	30" AF 2'-4 3/4" R I PL (H)	2
4	30" SLEEVE TYPE COUPLING	1
5	30" AF (FIELD MEASURE) PL X PL	1

AF - AMERICAN FASTITE  
 FR - FLEX-RING  
 MJ - MECHANICAL JOINT  
 H - HUB  
 PL - PLAIN END



MATCH LINE 110.00' N

NO.	DATE	REVISION
1	2-15-93	AS BUILT
2	2-15-93	REVISE PER RFI NO 167
3	12-31-92	APPROVED AS NOTED / ISSUE FOR CONST.
4	11-11-92	SUBM. IBC ENG. NOTES FOR APPROVAL
5	8-13-92	EDISEL PER SUBMITTAL 15A

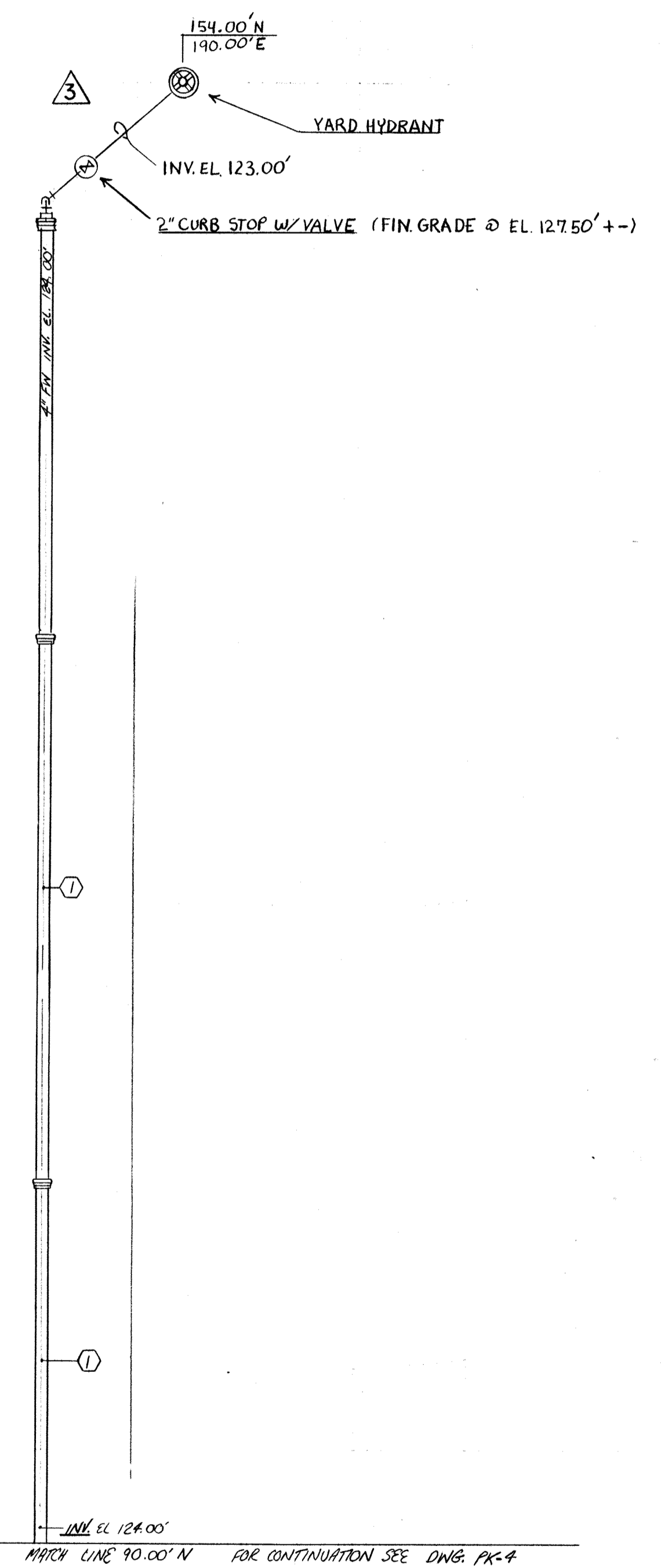
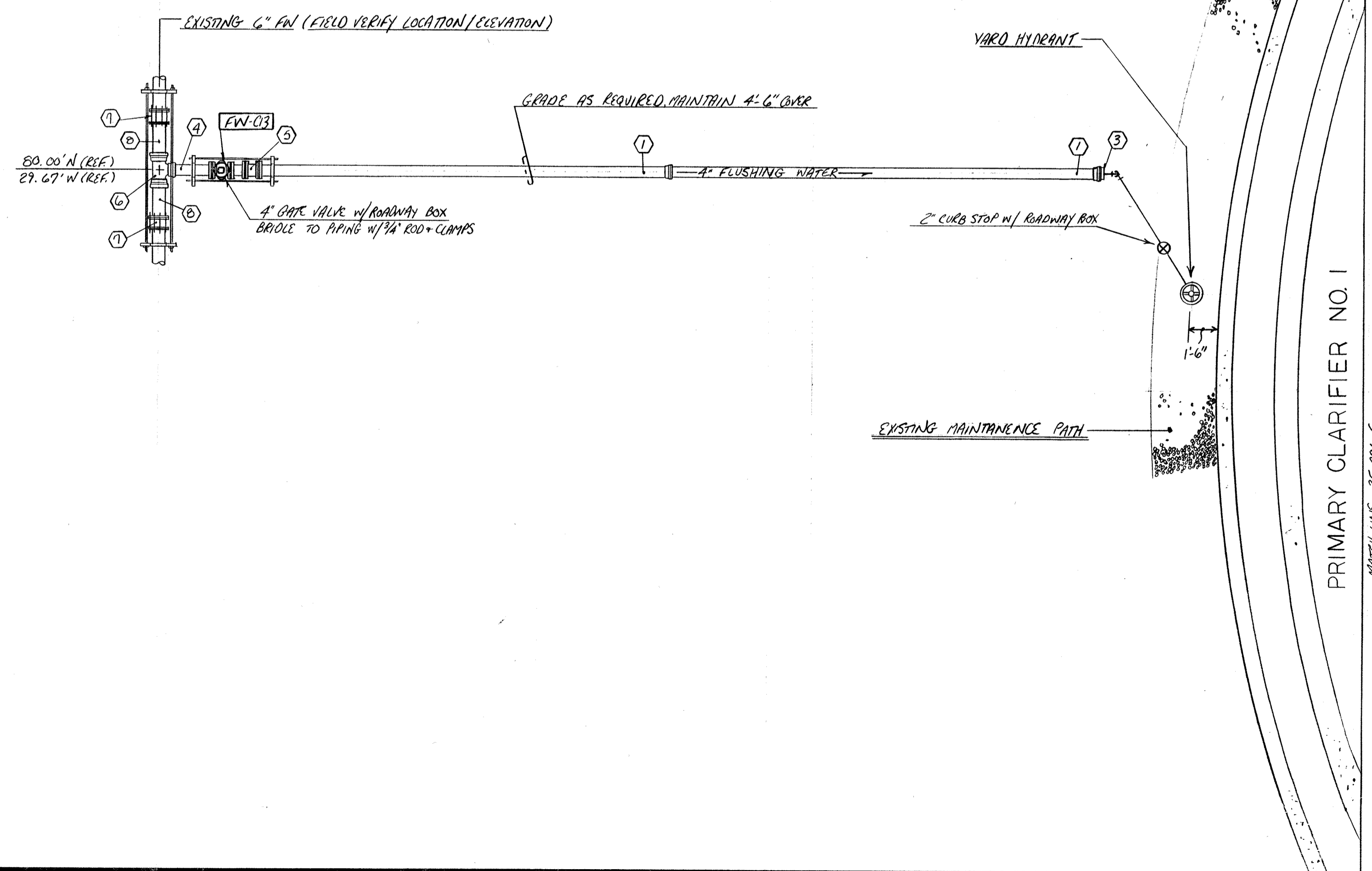
The Poole & Kent Co./James W. Miller, Inc.  
 (A Joint Venture)  
 4530 Hollins Ferry Road  
 Baltimore, MD 21227

**LITTLE PATUXENT  
 WASTEWATER TREATMENT PLANT EXPANSION  
 ADDITION NO. 5**  
 HOWARD COUNTY, MARYLAND

TITLE:  
**YARD PIPING**

JOB: PK-2025  
 DRAWN: M. DOBBS  
 SCALE: 1/4" = 1'-0"  
 DATE: 7-13-92

DRAWING:  
**PK-2**



FR - FLEX RING  
 H - HUB  
 PL - FLAM END  
 AF - AMERICAN EASDITE  
 MJ - MECHANICAL JOINT

MARK	DESCRIPTION	QUANTITY
1	4" FR 18' 0" H X FR	4
2	4" FR 15' 0" H X FR	1
3	4" FR RUB W/ 2" IS OUBET	2
4	4" FR 2' 0" FR X PL	1
5	4" COORDINATION SLEEVE	1
6	6" X 4" FR TEE	1
7	6" SLEEVE TYPE COUPLING	2
B	6" FR 2' 0" FR X PL	2

NOTE: FOR ALL BURIED NON RESTRAINT PIPING, BENDS, TEES AND OTHER FITTINGS MUST BE BACKED UP WITH CLASS B CONCRETE. (SEE SUBMITTAL NO 86 FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT, BRIDGE JOINT WITH 3/4" ROD + CLAMPS. (PROVIDE 2 COATS OF BITUMINOUS PAINT AFTER ASSEMBLY.)



NO.	DATE	REVISION
10-12-94		AS BUILT
3-12-95		APPROVED / ISSUE FOR CONSTRUCTION
2-15-93		REVISE PER ENG. NOTES FOR APPROVAL

The Poole & Keel Co./James V. Miller, Inc.  
 (A Joint Venture)  
 4530 Hollins Ferry Road  
 Baltimore, MD 21227

**LITTLE PATUXENT  
 WASTEWATER TREATMENT PLANT EXPANSION  
 ADDITION NO. 5**  
 HOWARD COUNTY, MARYLAND

TITLE:  
**YARD PIPING**

JOB: PK-9225  
 DRAWN: M. DOBBS  
 SCALE: 1/4" = 1'-0"  
 DATE: 9-3-92

DRAWING:  
**PK-3**

FOR CONTINUATION SEE DWG. PK-3

MATCH LINE 900.0' N

4" PUMPED DISCHARGE		
MARK	DESCRIPTION	QUANTITY
1	4" FR 19'-6" H X FR	1

4" FLUSHING WATER		
MARK	DESCRIPTION	QUANTITY
1	4" FR 6'-10" H X FR	1
2	4" FR 45° EL	2
3	4" FR 4'-13 3/4" FR X FR	1
4	4" FR 2'-0" FR X FR	1
5	4" FR 3'-10" H X PL	1
6	4" FR 19'-6" H X FR	6
7	4" FR 3'-8" H X FR	1
8	4" FR 8'-11 1/2" H X FR	1
9	4" FR 22 1/2° EL	2
10	4" FR 2'-0" FR X PL	1

6" PRIMARY SLUDGE		
MARK	DESCRIPTION	QUANTITY
1	6" FR (FIELD MEASURE) PL X PL	2
2	6" FR 2'-0" FR X PL	2
3	6" X 6" FR TEE	1
4	6" FR (FIELD MEASURE) FR X FR	2
5	6" FR 45° EL	2
6	6" FR 4'-8" H X FR	1
7	6" FR 19'-6" H X FR	1
8	6" FR 2'-0" FR X FR	2
9	6" FR 90° EL	2
10	6" FR 3'-8" FR X FR	1
11	6" SLEEVE TYPE COUPLING	2

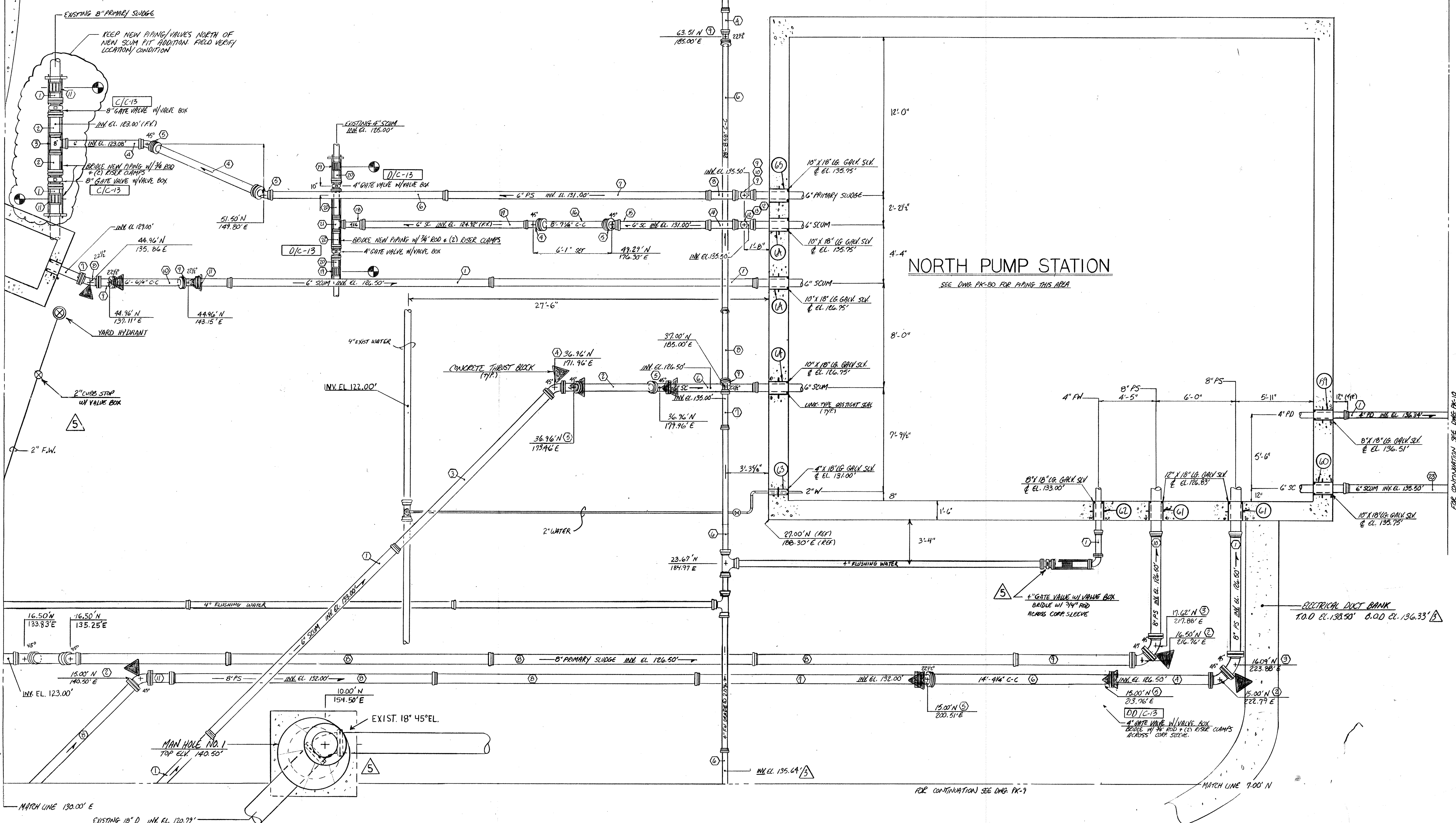
8" PRIMARY SLUDGE		
MARK	DESCRIPTION	QUANTITY
1	8" AF 9'-5 7/8" H X PL	1
2	8" MJ 45° EL	3
3	8" MJ 45° EL MJ X PL	2
4	8" AF 8'-1 1/2" PL X PL	1
5	8" MJ 22 1/2° EL	2
6	8" AF 13'-5 1/8" PL X PL	1
7	8" AF 17'-1" H X PL	1
8	8" AF 20'-0" H X PL	6
9	8" AF 9'-1" H X PL	1
10	8" AF 7'-11" H X PL	1
11	8" AF 2'-0" PL X PL	1

6" SCUM		
MARK	DESCRIPTION	QUANTITY
1	6" AF 20'-0" H X PL	4
2	6" AF 8'-4 3/8" PL X PL	1
3	6" AF 16'-8" H X PL	1
4	6" MJ 45° EL H X PL	1
5	6" MJ 45° EL	2
6	6" AF 6'-11" H X PL	1
7	6" AF (FIELD MEASURE) PL X PL	1
8	6" MJ 22 1/2° EL MJ X PL	1
9	6" MJ 22 1/2° EL	2
10	6" AF 5'-0 3/4" PL X PL	1
11	6" AF 3'-8 3/4" H X PL	1
12	6" FR 90° EL	2
13	6" FR 3'-7" FR X FR	1
14	6" FR 2'-0" FR X FR	1
15	6" FR 8'-1" H X FR	1
16	6" FR 8'-11 1/4" FR X FR	1
17	6" FR (FIELD MEASURE) H X FR	1
18	6" X 4" FR RED. LG. H X SHAR	1
19	4" SLEEVE TYPE COUPLING	2
20	8" AF (FIELD MEASURE) PL X PL	2
21	4" FR TEE	1
22	4" FR 2'-0" FR X PL	1
23	4" FR 19'-6" H X FR	1
24		

AF - AMERICAN FASTITE  
FR - FLEX RING  
MJ - MECHANICAL JOINT  
H - HUB  
PL - PLAIN END

**PRIMARY CLARIFIER NO. 1**

SEE DWG. PK-4A FOR MECHANICAL DETAILS



MATCH LINE 240.00' E

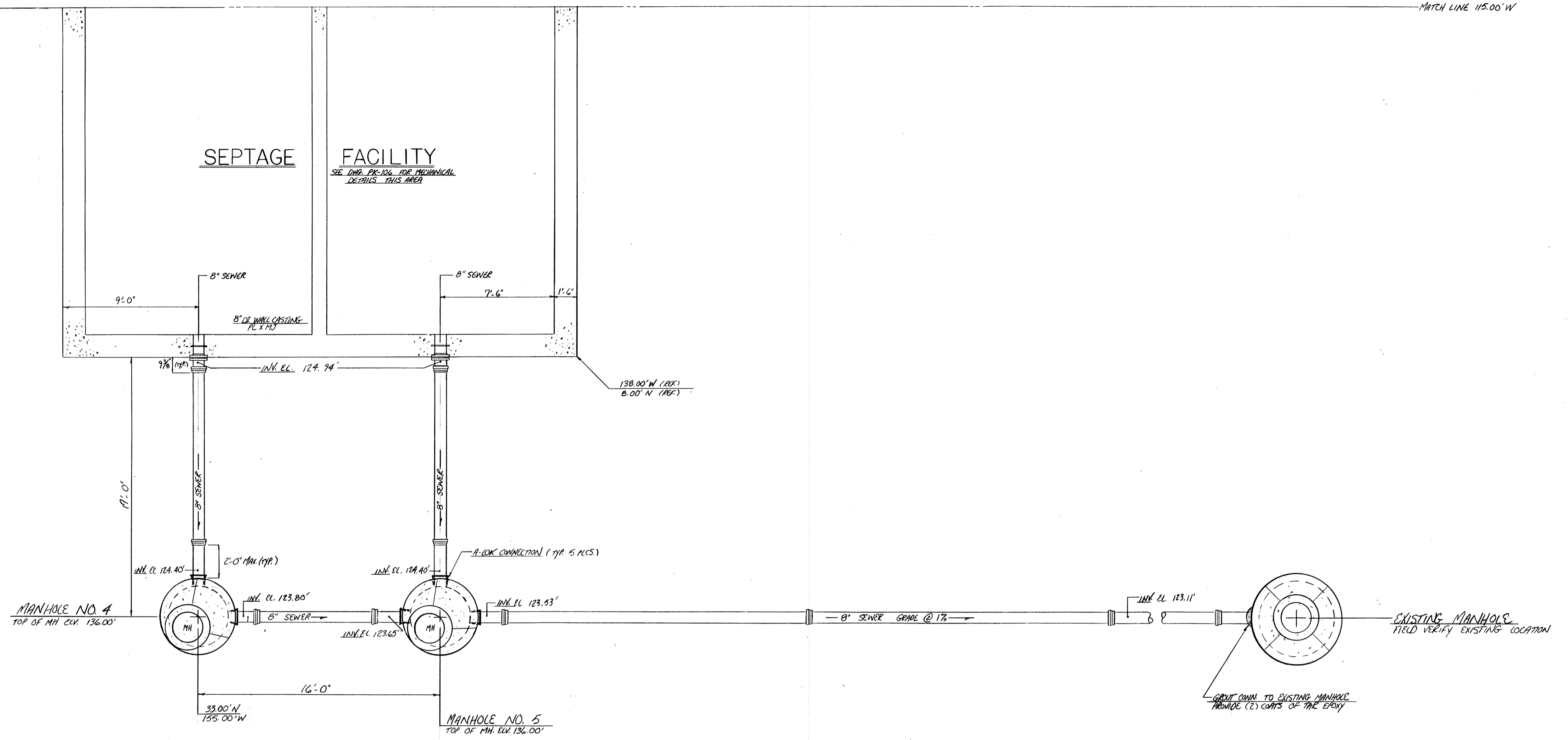
NOTE: FOR ALL BURIED NON RESTRAINT PIPING, BENDS, TEES AND OTHER FITTINGS MUST BE BACKED UP WITH CLASS B CONCRETE. (SEE DWG. PK-40 OR SUBMITTAL NO. 86 FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT, BRIDGE JOINT WITH 3/4\"/>

**NORTH PUMP STATION**

SEE DWG. PK-80 FOR PIPING THIS AREA

10-1294	AS BUILT	
12-31-92	APPROVED AS NOTED / ISSUE FOR CONST.	
11-17-92	COORDINATE W/ DUCTBANK ELM	
11-12-92	REVISED PER ENG. NOTES FOR APPROVAL	
8-14-92	REVISED PER SUBMITTAL 15A	
NO.	DATE	REVISION
The Poole & Kent Co./James V. Miller, Inc.		
(A Joint Venture)		
4330 Hollins Ferry Road Baltimore, MD 21227		
<b>LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5</b> HOWARD COUNTY, MARYLAND		
TITLE:		
YARD PIPING		
JOB: PK: 92126	DRAWING: M: D0895	DRAWING: PK-4
SCALE: 1/2" = 1'-0"	DATE: 7-17-92	

MATCH LINE 115.00' W

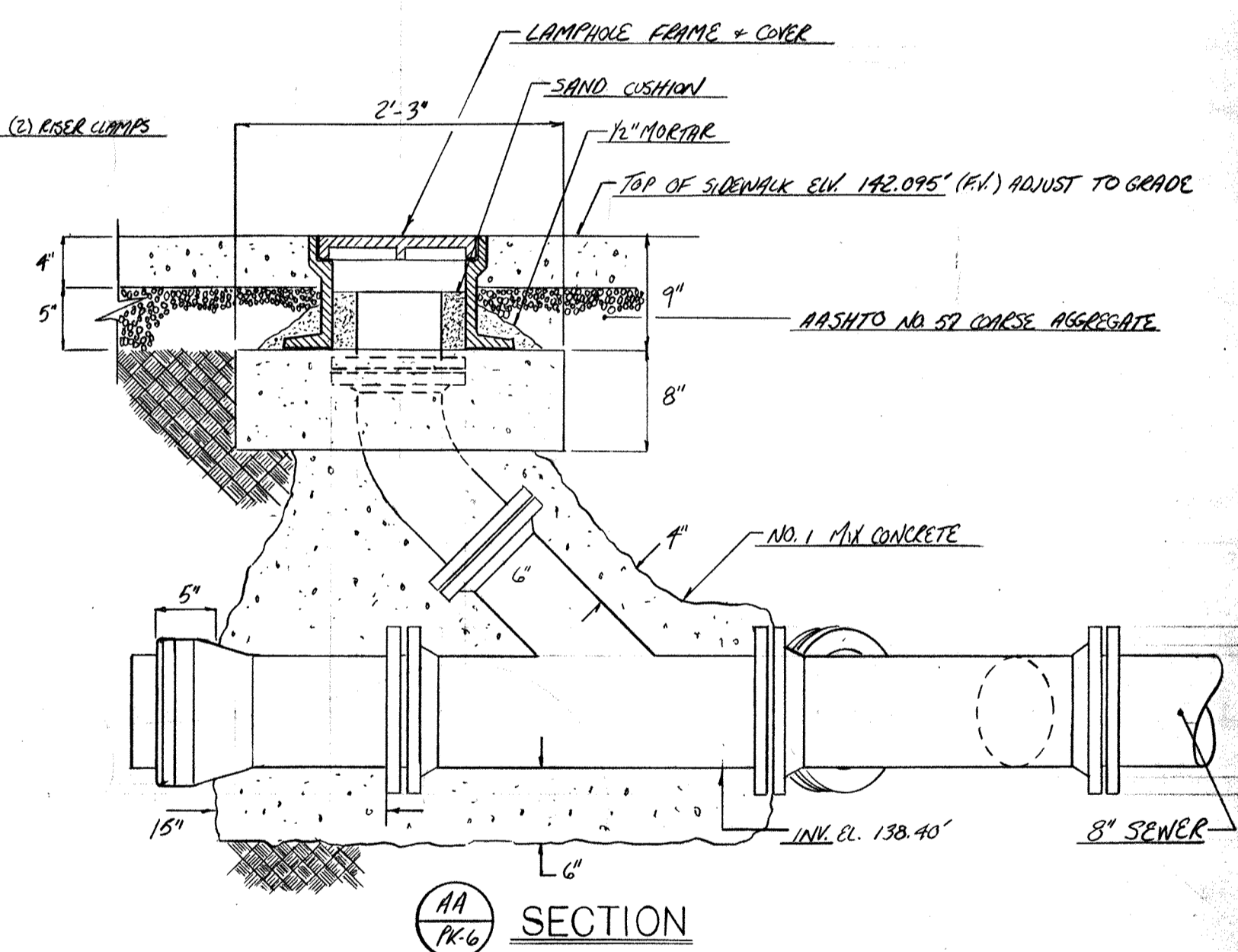
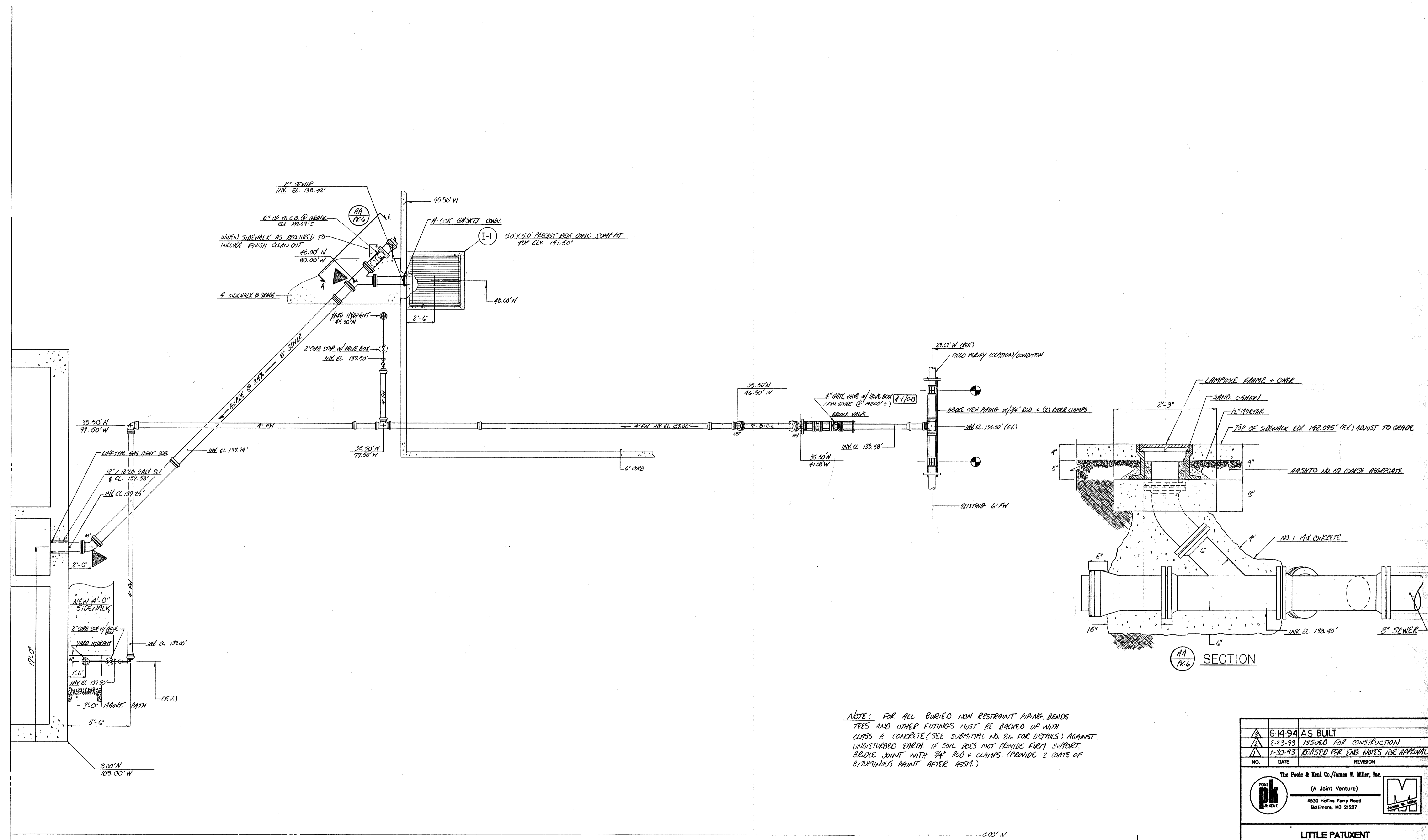


MATCH LINE 61.83' N



NO.	DATE	REVISION
6-14-94		AS BUILT
2-17-95		ISSUED FOR CONSTRUCTION
1-30-93		REVISE PER ENG. NOTES FOR APPROVAL
The Poole & Kenl Co./James W. Miller, Inc. (A Joint Venture) 4530 Hollins Ferry Road Baltimore, MD 21227		
<b>LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5</b> HOWARD COUNTY, MARYLAND		
TITLE: <b>YARD PIPING</b>		
JOB: PK: 92125	DRAWING:	
DRAWN: M. DOBBS	PK-5	
SCALE: 1/4" = 1'-0"	DATE: NOV 23, 1992	

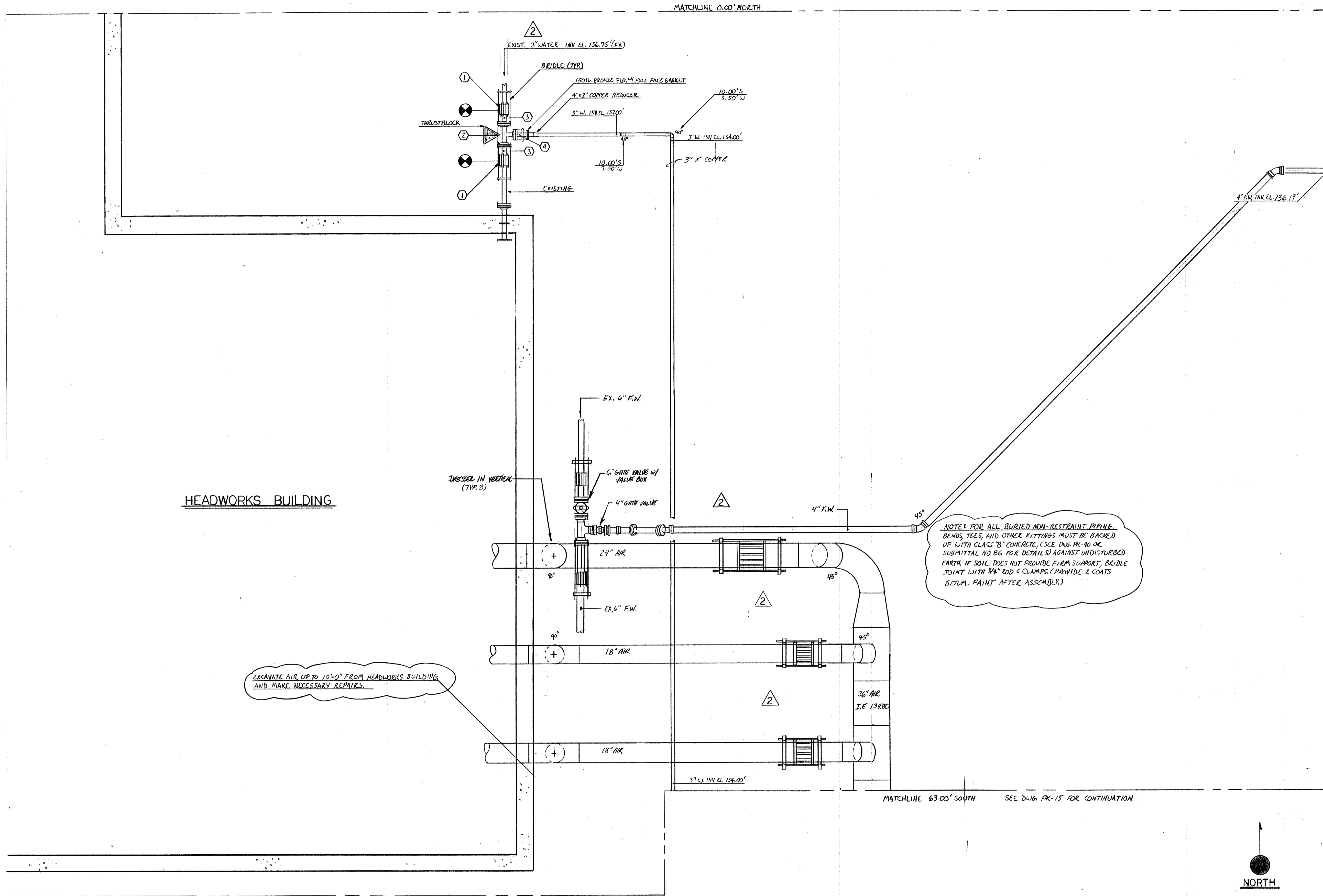
SEPTAGE FACILITY



NOTE: FOR ALL BURIED NON RESTRAINT PIPING, BENDS TEES AND OTHER FITTINGS MUST BE BACKED UP WITH CLASS B CONCRETE (SEE SUBMITTAL NO. 86 FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT, BEDDLE JOINT WITH 3/4" ROD + CLAMPS. (PROVIDE 2 COATS OF BIRMINGHAM PAINT AFTER ASST.)



6-14-94	AS BUILT	
2-23-93	ISSUED FOR CONSTRUCTION	
1-30-93	REVISED PER ENG. NOTES FOR APPROVAL	
NO.	DATE	REVISION
The Poole & Kent Co./James W. Miller, Inc. (A Joint Venture) 4530 Hoffman Ferry Road Baltimore, MD 21227		
<b>LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5</b> HOWARD COUNTY, MARYLAND		
TITLE: <b>YARD PIPING</b>		
JOB: PK-9225	DRAWING:	PK-6
DRAWN: M. COBBES	SCALE: 1/2" = 1'-0"	DATE: 11-17-92



4" x 6" FLUSHING WATER		
MARK	DESCRIPTION	QUANTITY
1	4" F.R. 19'-6" H x F.R.	1
2	4" F.R. 13'-1 7/8" H x F.R.	1
3	4" F.R. 45" EL.	3
4	4" F.R. 6'-3 1/4" F.R. x P.E.	1
5	4" F.R. 14'-7" F.R. x P.E.	1
6	4" F.R. 3'-0" F.R. x P.E.	1
7	4" F.R. 7'-1 7/8" F.R. x P.E. (FN)	1
8	6" SLEEVE TYPE COUPLING	1
9	6" x 4" F.R. WYE	1
10	6" F.R. 1'-6" F.R. x P.E.	2
11	4" CORPORATION SLEEVE	1

6" WATER		
MARK	DESCRIPTION	QUANTITY
1	6" SLEEVE TYPE COUPL.	2
2	6" x 4" M.J. TEE	1
3	6" A.F. 1'-6" P.E. x P.E.	2
4	4" A.F. 1'-6" P.E. x FLG.	1

F.R. - FLEX RING  
 P.E. - PLAIN END  
 M.J. - MECHANICAL JOINT  
 A.F. - AMERICAN FASTITE  
 H. - HUB  
 FLG. - FLANGE

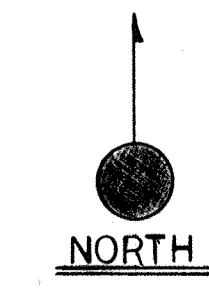
NOTES FOR ALL BURIED NON-RESTRAINT PIPING:  
 BENDS, TEES, AND OTHER FITTINGS MUST BE BACKED UP WITH CLASS "B" CONCRETE, (SEE DWG. PK-40 OR SUBMITTAL NO. 86 FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT, BRIDLE JOINT WITH 3/4" ROD & CLAMPS (PROVIDE 2 COATS BITUM. PAINT AFTER ASSEMBLY.)

EXCAVATE AIR UP TO 10'-0" FROM HEADWORKS BUILDING AND MAKE NECESSARY REPAIRS.

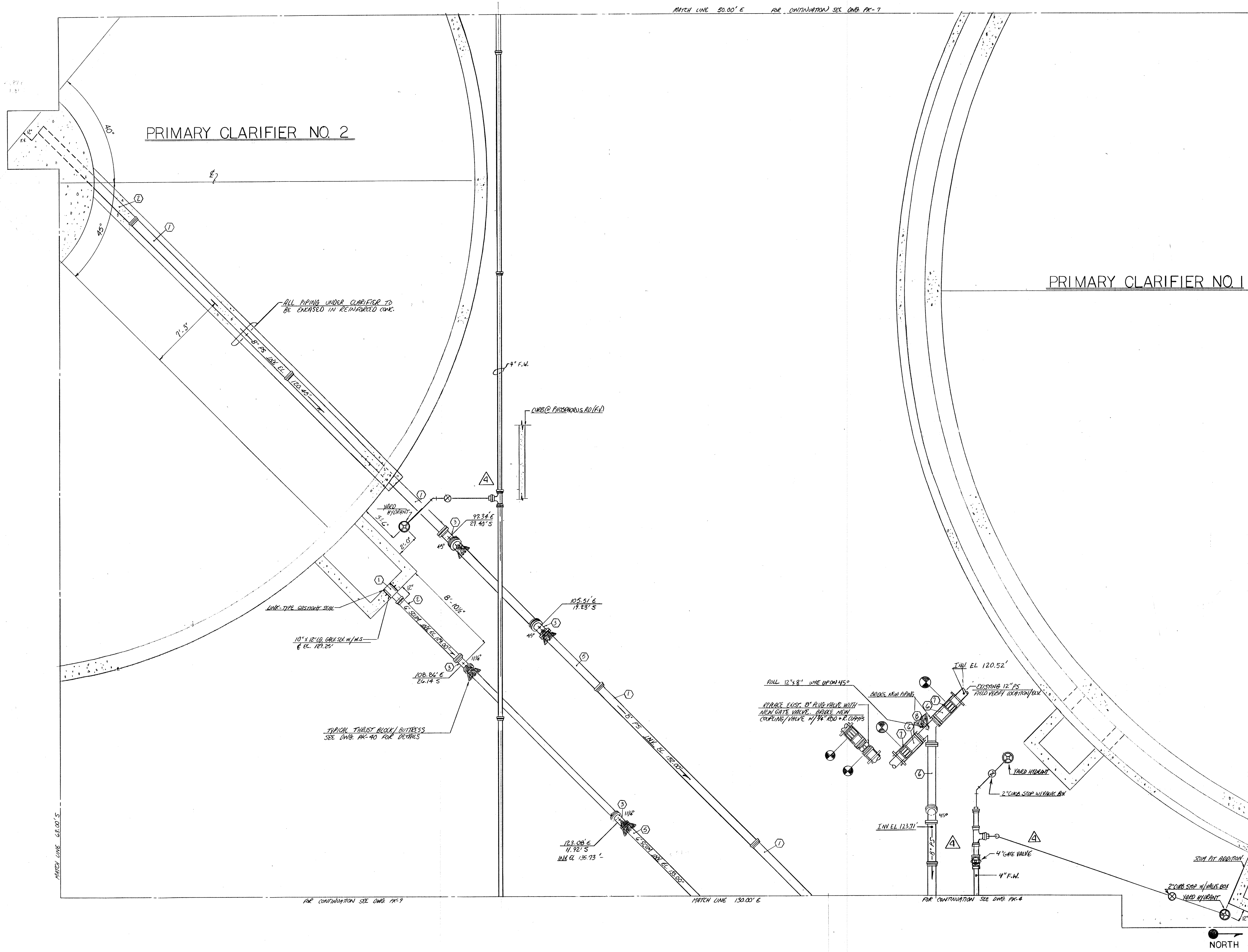
MATCHLINE 50.00' EAST SEE DWG. PK-8 FOR CONTINUATION

MATCHLINE 63.00' SOUTH SEE DWG. PK-15 FOR CONTINUATION

101294	AS BUILT
2-23-93	REVISE PER ENG. NOTES/ISSUE FOR COR.
NO.	DATE
The Poole & Kent Co./James V. Miller, Inc. (A Joint Venture)	
4530 Mattine Ferry Road Baltimore, MD 21227	
LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5 HOWARD COUNTY, MARYLAND	
TITLE: <b>YARD PIPING</b>	
JOB: 492125	DRAWING: PK-7
DRAWN: D. OTTE	
SCALE: 1/4" = 1'-0"	
DATE: 1-25-93	



MATCH LINE 50.00' E FOR CONTINUATION SEE DWG. PK-7



4" FLUSHING WATER

MARK	DESCRIPTION	QUANTITY
1	4" FR 19'-6" H X FR	1
2	4" FR 18'-6" H X FR	1
3	4" FR 12'-8" FR X PL	1
4	4" FR 10'-0 1/2" FR X PL	1
5	4" FR 45° EL	3
6	4" FR PLUG W/ 2" IPS OUTLET	2
7	4" FR CROSS	1
8	4" FR 6'-9" FR X FR	1
9	4" FR 12'-0" FR X PL (FP)	1
10	4" FR 45° EL H X FR	1
11	4" FR 2'-10 1/2" FR X FR	1
12	4" FR (FIELD MEASURE) FR X PL	1
13	4" X 2" FR THROD TEE	1
14	4" FR (FRUD MEASURE) H X FR	1
15	4" FR 12'-19 1/2" FR X FR	1

8" PRIMARY SLUDGE

MARK	DESCRIPTION	QUANTITY
1	8" AF 20'-0" H X PL	2
2	8" AF 12'-5 1/2" PL X PL (FP)	1
3	8" MJ 45° EL	2
4	8" AF 15'-5" PL X PL	1
5	8" AF 7'-5 1/2" PL X PL	1
6	8" AF (FIELD MEASURE) PL X PL	3
7	8" STEEL TYPE COUPLING	2
8	8" MJ WYE	1

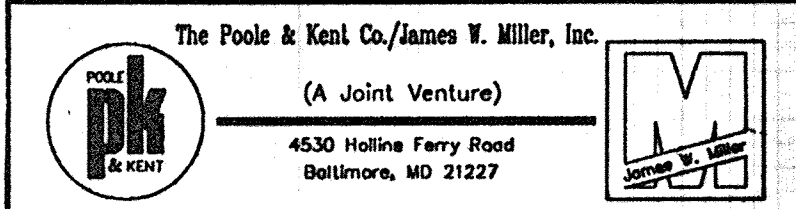
6" SCUM

MARK	DESCRIPTION	QUANTITY
1	6" AF 2'-0" PL X PL	1
2	6" AF 7'-5 1/2" PL X PL	1
3	6" MJ 11 1/4" EL	2
4	6" AF 17'-8" PL X PL	1
5	6" AF 20'-0" H X PL	1

AF - AMERICAN CASTITE  
 MJ - MECHANICAL JOINT  
 FR - FLEX RING  
 H - HUB  
 PL - PLAIN END

NOTE: FOR ALL BURIED NON RESTRAINT PIPING, BENDS, TEE'S AND OTHER FITTINGS MUST BE BACKED UP WITH CLASS B CONCRETE. (SEE DWG. PK-40 OR SUBMITTAL NO. 86 FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT BRIDGE JOINT WITH 3/4" ROD + CLAMPS. (PROVIDE 2 COATS OF BITUM. PAINT AFTER ASSY.)

AS BUILT	01294	
APPROVED AS NOTED / ISSUE FOR CONST.	12-31-92	
COORDINATE OUTBANK ELEVATIONS	11-17-92	
REVISED PER ENG. NOTES FOR APPROVAL	11-12-92	
NO.	DATE	REVISION



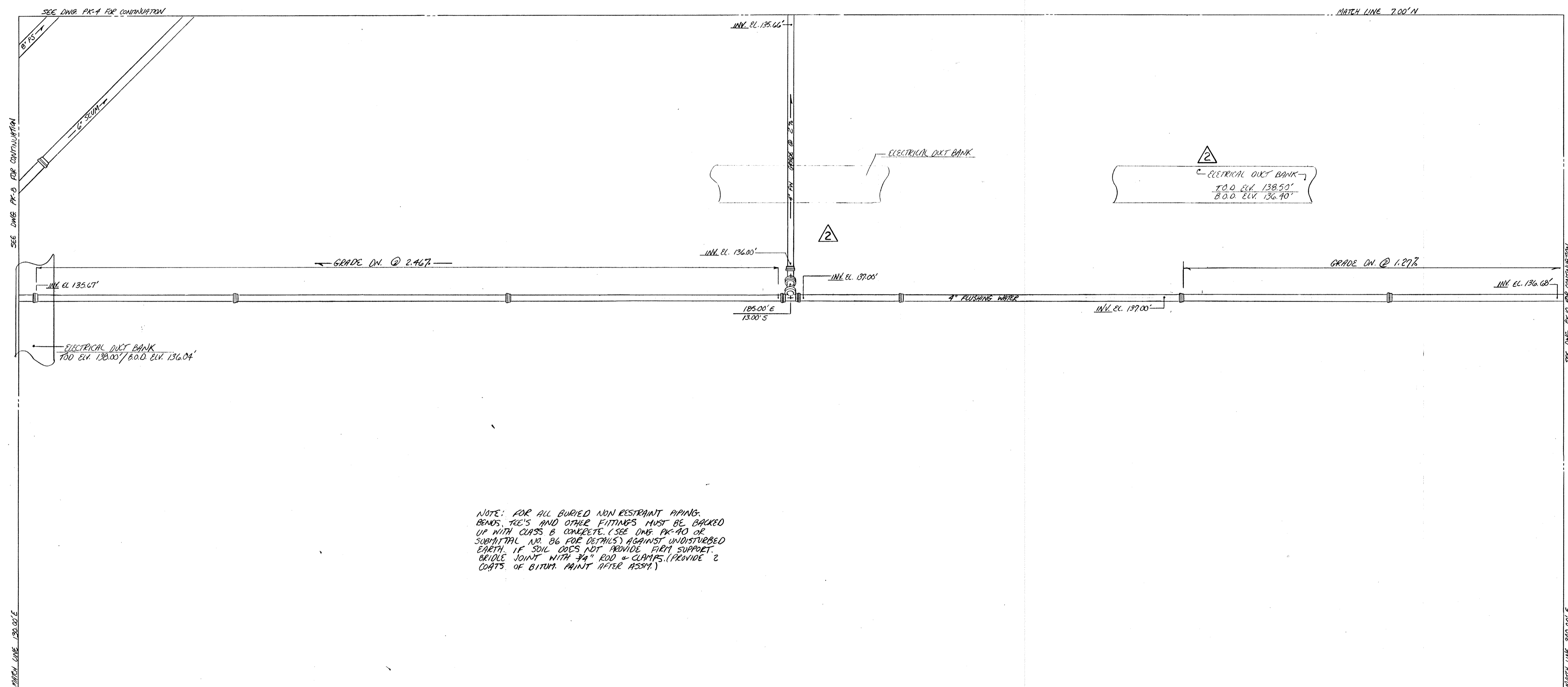
LITTLE PATUXENT  
 WASTEWATER TREATMENT PLANT EXPANSION  
 ADDITION NO. 5  
 HOWARD COUNTY, MARYLAND

TITLE:  
 YARD PIPING

JOB: PK-92125  
 DRAWN: M. DOBES  
 SCALE: 1/4" = 1'-0"  
 DATE: 9-1-92

DRAWING:  
 PK-8



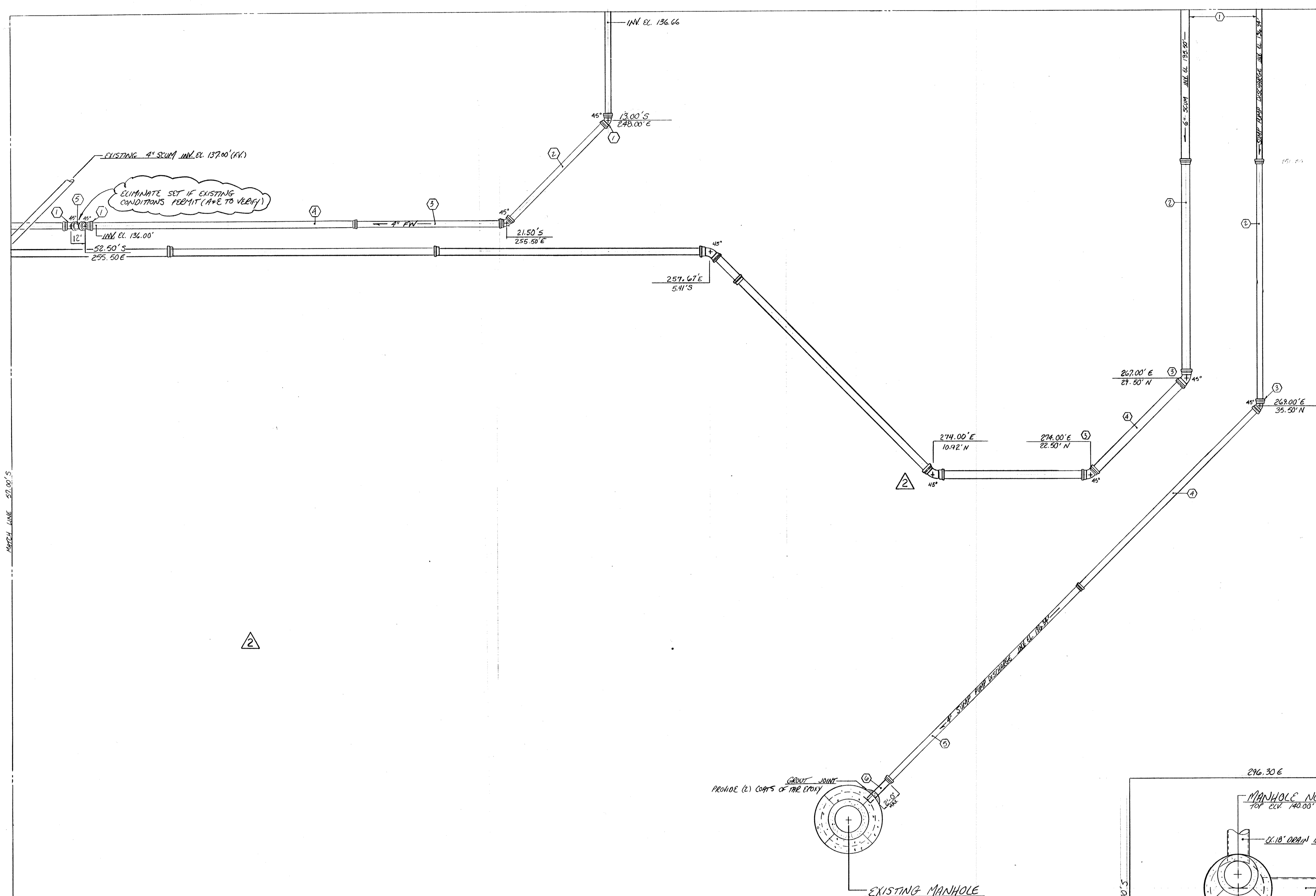


NOTE: FOR ALL BURIED NON RESTRAINT PIPING, BONDS, TEE'S AND OTHER FITTINGS MUST BE BACKED UP WITH CLASS B CONCRETE. (SEE DWG. PK-40 OR SUBMITTAL NO. B6 FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT, BRIDGE JOINT WITH 3/4" ROD & CLAMPS. (PROVIDE 2 COATS OF BITUM. PAINT AFTER ASSY.)

**GENERAL NOTE:**  
 THE LOCATION OF EXISTING UTILITIES ARE APPROXIMATE. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING LINES AND STRUCTURES AND MAINTAIN UNINTERRUPTED SUPPLY. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY.



6-15-94 AS BUILT	
NO.	REVISION
1	APPROVED AS NOTED/ISSUE FOR CONSTRUCTION
2	
The Poole & Kent Co./James W. Miller, Inc. (A Joint Venture) 4530 Hollins Ferry Road Baltimore, MD 21227	
<b>LITTLE PATUXENT          WASTEWATER TREATMENT PLANT EXPANSION          ADDITION NO. 5</b> HOWARD COUNTY, MARYLAND	
TITLE: <b>YARD PIPING</b>	
JOB: PK: 42125	DRAWING:
DRAWN: M. DOBBS	<b>PK-9</b>
SCALE: 1/4" = 1'-0"	
DATE: NOV. 17, 1992	



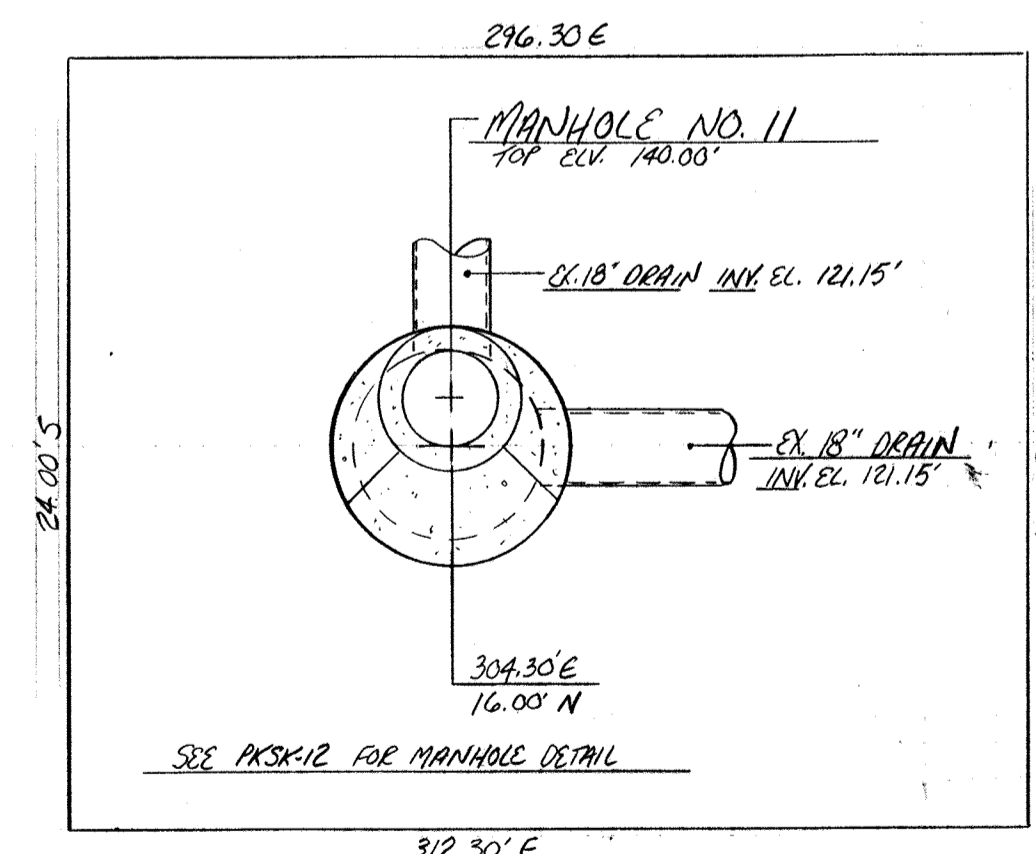
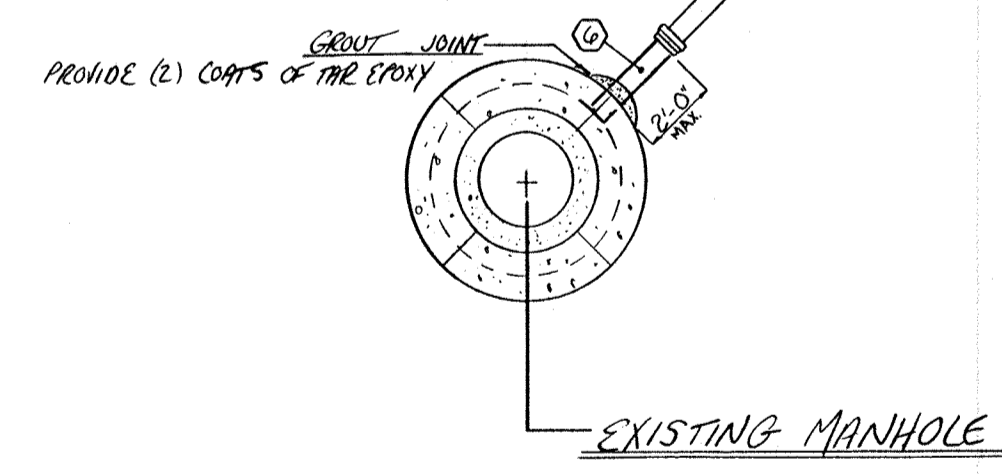
4" FLUSHING WATER		
MARK	DESCRIPTION	QUANTITY
1	4" FR 45° EL	1
2	4" FR 11" 8/4" FR X FR	1
3	4" FR 11" 2" FR X FR	1
4	4" FR 17" 6" H X FR	1
5	4" FR 12" 1" FR X FR	1

6" SCUM		
MARK	DESCRIPTION	QUANTITY
1	SEE DWG. PK-4	1
2	6" FR 11" 3/4" H X FR	1
3	6" FR 45° EL	2
4	6" FR 9" 3/4" FR X FR	1
5	6" FR 2" 0" FR X FR	1
6	6" FR 19" 6" H X FR	4

4" SUMP PUMP DISCHARGE		
MARK	DESCRIPTION	QUANTITY
1	SEE DWG. PK-4	1
2	4" FR 17" 0" 3/4" H X FR	1
3	4" FR 45° EL	1
4	4" FR (PRESSURE) FR X FR	1
5	4" FR 19" 6" H X FR	1
6	4" FR 2" 0" H X PL	1

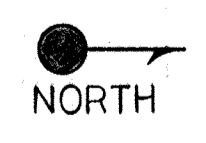
12" SPRAYWATER		
MARK	DESCRIPTION	QUANTITY
1	12" AF (PRESSURE) PL X PL	1
2	12" MT 45° EL	2
3	12" AF 10" 3/8" PL X PL	1
4	12" AF 16" 7/8" H X PL	1

AF AMERICAN CASTLE  
FR FLEX RING  
MT MECHANICAL JOINT  
H HUB  
PL PLAIN END

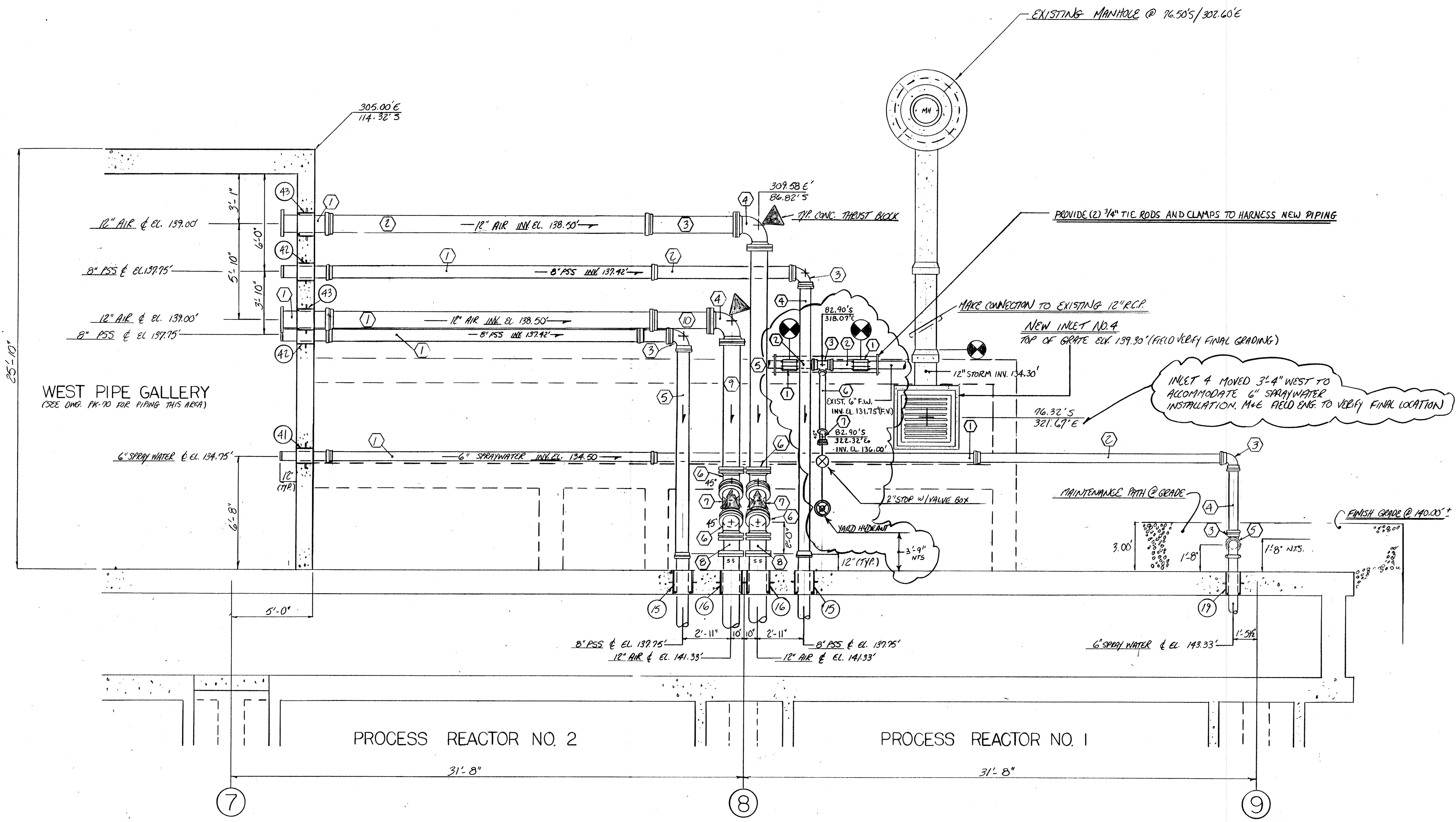


PART PLAN

NOTE: FOR ALL BURIED NON RESTRAINT PIPING, BENDS, TEES AND OTHER FITTINGS MUST BE BACKED UP WITH CLASS B CONCRETE (SEE DWG. PK-40 OR SUBMITTAL NO. 86 FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT, BRIDGE JOINT WITH 3/4\"/>



6-16-94 AS BUILT	
12-31-92 APPROVED AS NOTED / ISSUE FOR CONST.	
NO.	REVISION
The Poole & Kint Co./James W. Miller, Inc. (A Joint Venture)	
4530 Haines Ferry Road Baltimore, MD 21227	
LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5 HOWARD COUNTY, MARYLAND	
TITLE: YARD PIPING	
JOB: PK: 92125	DRAWING:
DRAWN: M. DOBBS	PK-10
SCALE: 1/4" = 1'-0"	
DATE: NOV. 19, 1992	



G GROOVE  
 AF AMERICAN FASTITE  
 MJ MECHANICAL JOINT  
 FR FLEX RING  
 H HUB  
 PL PLAIN END  
 DI DUCTILE IRON

12" AIR		
MARK	DESCRIPTION	QUANTITY
1	12" DF 3'-0" FL X PL	2
2	12" AF 20'-0" H X PL	2
3	12" AF 5'-6" H X PL	1
4	12" AF 7'-0" EL	2
5	12" AF 14'-3/4" PL X PL	1
6	12" AF 4'-0" EL	4
7	12" AF 2'-0 1/2" PL X PL	2
8	12" DF 1'-4 1/2" PL X PL	2
9	12" AF 8'-5 1/2" PL X PL	1
10	12" AF 3'-10" H X PL	1

8" PHOSPHORUS STRIPPED SLUDGE		
MARK	DESCRIPTION	QUANTITY
1	8" FR 19'-6" H X FR	2
2	8" FR 9'-4 3/4" H X FR	1
3	8" FR 9'-0" EL	2
4	8" FR 16'-9 1/2" H X FR	1
5	8" FR 12'-11 1/2" H X FR	1
6	8" FR 1'-10 1/2" H X FR	1

6" SPRAY WATER		
MARK	DESCRIPTION	QUANTITY
1	6" FR 19'-6" H X FR	2
2	6" FR 16'-5 1/2" H X FR	1
3	6" FR 9'-0" EL	2
4	6" FR 4'-2" FR X FR	1
5	6" FR 7'-5 3/4" FR X G	1

4" FLUSHING WATER		
MARK	DESCRIPTION	QUANTITY
1	6" SLEEVE TYPE COUPLING	4
2	6" FR 2'-0" TE X PL	4
3	6" X 4" FL TEE	2
4	4" FR 5'-0" H X FR	1
5	4" FR PLUG W/ 2" IPS TAP	1
6	4" FR 5'-5" FR X FR	1
7	4" FR 4'-5" EL	1
8	4" FR 6'-3" FR X FL	1
9	4" BLIND FLANGE	1

NOTE: FOR ALL BURIED NON RESTRAINT PIPING, BENDS, TEE'S AND OTHER FITTINGS MUST BE BACKED UP WITH CLASS B CONCRETE. (SEE DWG PK-40 OR SUBMITTAL NO. 86 FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIELD SUPPORT, BRIDGE JOINT WITH 3/4" ROD + CLAMPS (PROVIDE 2 COATS OF BITUM. PAINT AFTER ASSM.)

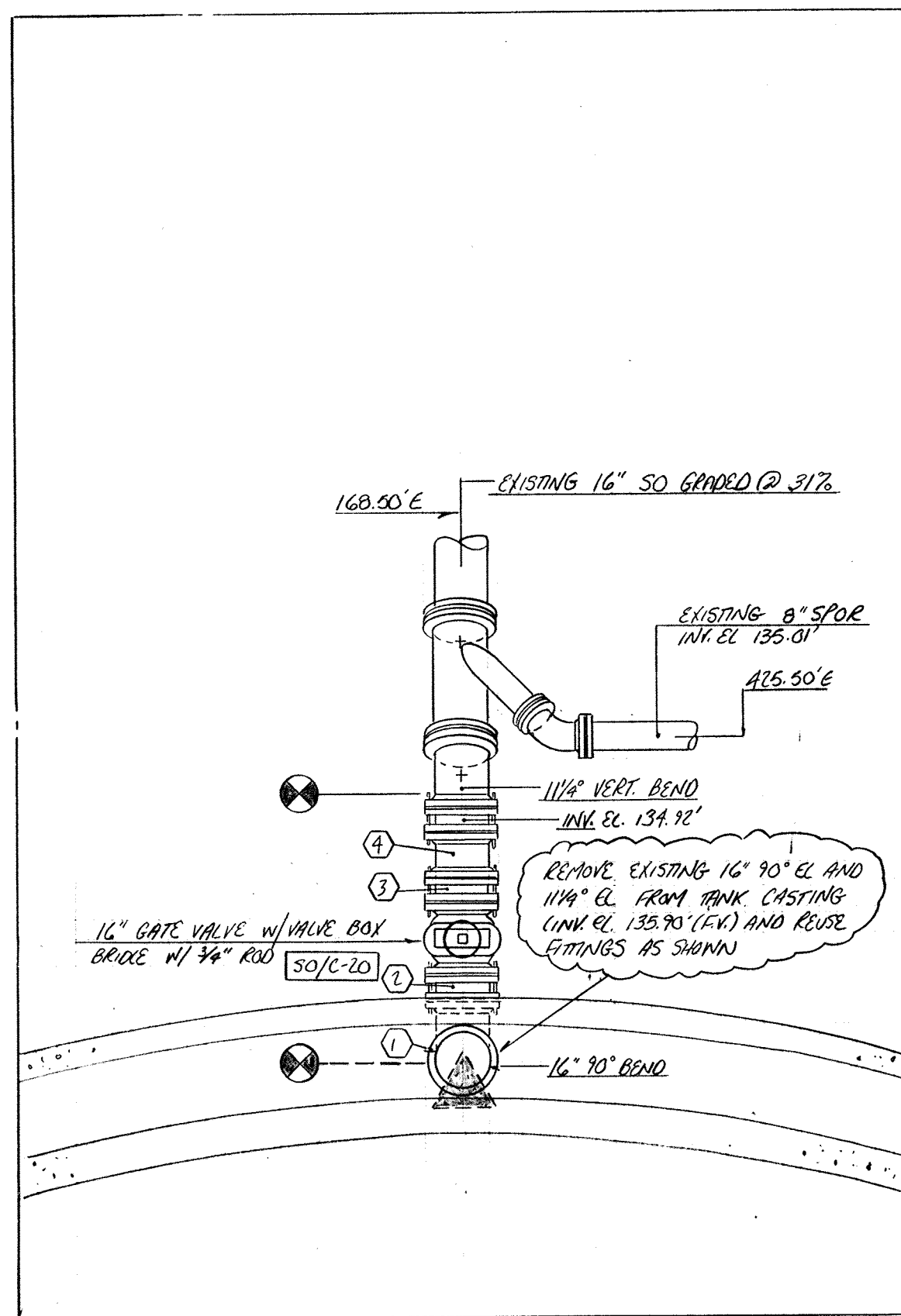
NO.	DATE	REVISION
1	10-12-94	AS BUILT
2	2-2-93	REVISE PER REI NO. 160
3	12-28-92	APPROVED AS NOTED / ISSUE FOR CONSTR.

The Poole & Kent Co./James W. Miller, Inc.  
 (A Joint Venture)  
 4530 Hollins Ferry Road  
 Baltimore, MD 21227

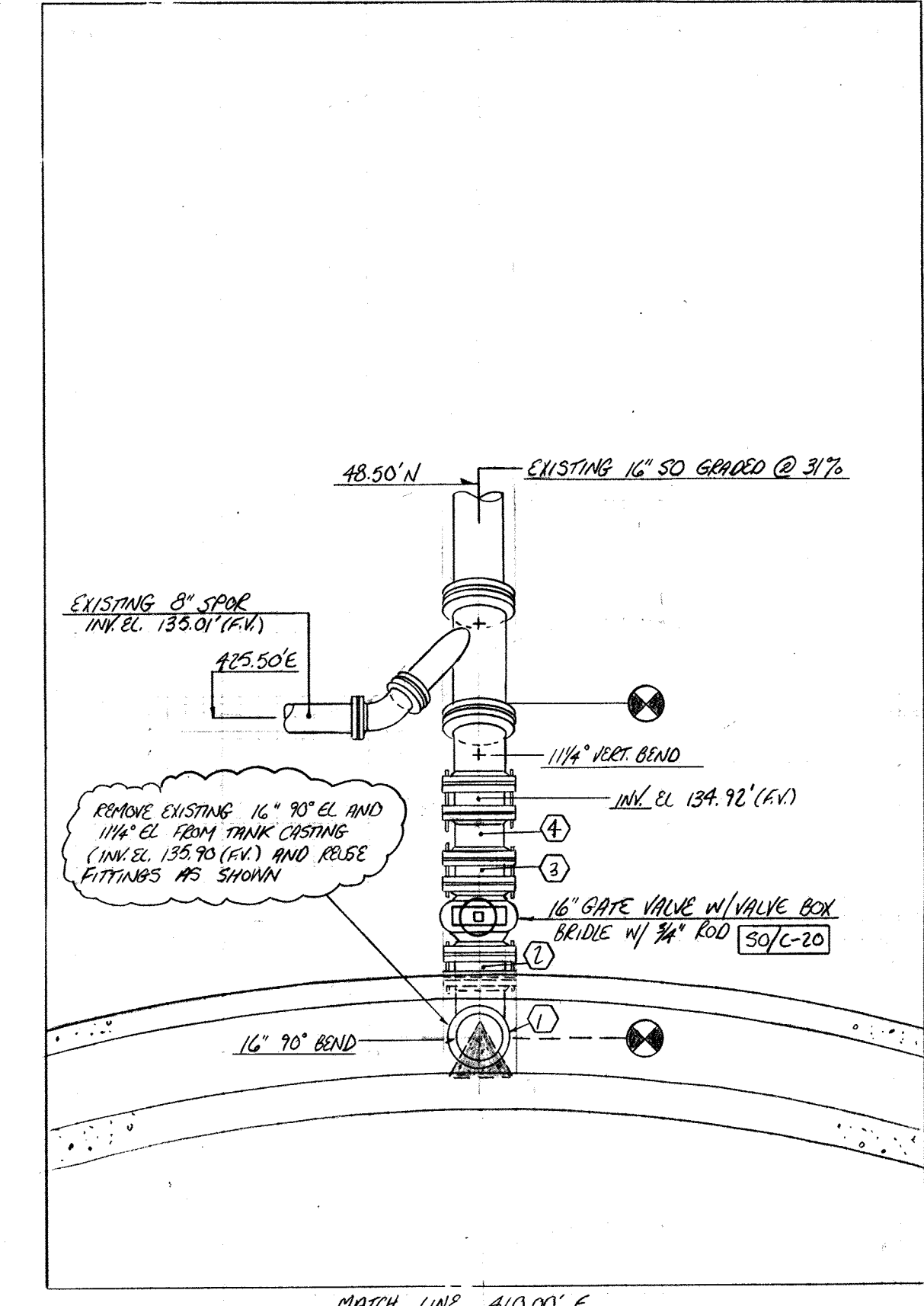
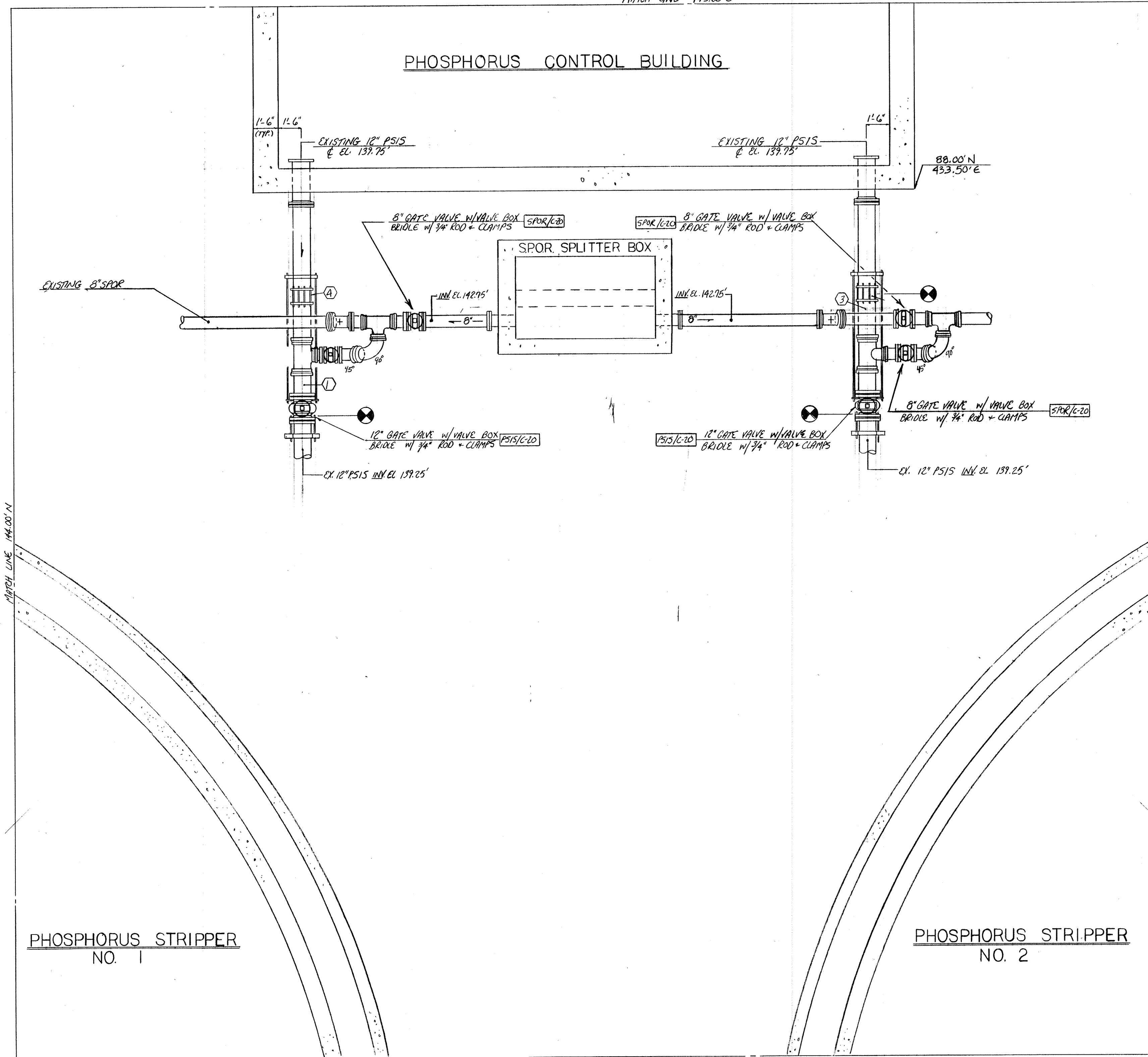
**LITTLE PATUXENT  
 WASTEWATER TREATMENT PLANT EXPANSION  
 ADDITION NO. 5**  
 HOWARD COUNTY, MARYLAND

TITLE:  
**YARD PIPING**

JOB: PK: 92/25	DRAWING:
DRAWN: M. DOBBS	PK-11
SCALE: 1/4" = 1'-0"	
DATE: 11-4-92	



PART PLAN



PART PLAN

8" SLUDGE PROCESS OVERFLOW RETURN			
MARK	DESCRIPTION	QUANTITY	
1	8" SLEEVE TYPE COUPLING	4	
2	8" AF (FIELD MEASURE) PL X PL	8	
3	8" MJ TEE	2	
4	8" MJ 90° EL	2	
5	8" MJ 45° EL	2	

12" PHOSPHORUS STRIPPER INFLUENT SLUDGE			
MARK	DESCRIPTION	QUANTITY	
1	12" FR 2'-0" FR X PL	2	
2	12" X 8" FR TEE	2	
3	12" FR (FIELD MEASURE) FR X PL	2	
4	12" SLEEVE TYPE COUPLING	2	
5	8" FR 2'-0" FR X PL	2	

16" STRIPPER OVERFLOW			
MARK	DESCRIPTION	QUANTITY	
1	16" AF 0'-11 3/4" H X PL	2	
2	16" AF 1'-4" PL X PL	2	
3	16" AF (FIELD MEASURE) PL X PL	2	
4	16" CORROSION SLEEVE	2	

10" STRIPPER ELUSTRANT SUPPLY			
MARK	DESCRIPTION	QUANTITY	
1	10" CORROSION SLEEVE	2	
2	10" AF (FIELD MEASURE) PL X PL	2	
3	10" AF 1'-6" PL X PL	2	

AF - AMERICAN FASTITE  
 MJ - MECHANICAL JOINT  
 FR - FLEX BEND  
 PL - PLAIN END  
 H - HUB END

NOTE: FOR ALL BURIED NON RESTRAINT PIPING, BENDS, TEE'S AND OTHER FITTINGS MUST BE BACKED UP WITH CLASS B CONCRETE. (SEE DWG. PK-40 OR SUBMITTAL NO. 86 FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT, BRIDGE JOINT WITH 3/4" ROD + CLAMPS. (PROVIDE (L) COATS OF BITUM. PAINT AFTER ASSY.)



NO.	DATE	REVISION
1	12-6-94	AS BUILT
2	1-22-95	APPROVED ISSUE FOR CONSTRUCTION

The Poole & Kent Co./James W. Miller, Inc.  
 (A Joint Venture)  
 4530 Hollins Ferry Road  
 Baltimore, MD 21227

**LITTLE PATUXENT  
 WASTEWATER TREATMENT PLANT EXPANSION  
 ADDITION NO. 5**  
 HOWARD COUNTY, MARYLAND

TITLE:  
**YARD PIPING**

JOB: PK-92125  
 DRAWN: M. DOBBS  
 SCALE: 1/4" = 1'-0"  
 DATE: 12-1-92

DRAWING:  
**PK-12**

MATCH LINE 515.0'E

SEE DWG. PK-14 FOR CONTINUATION

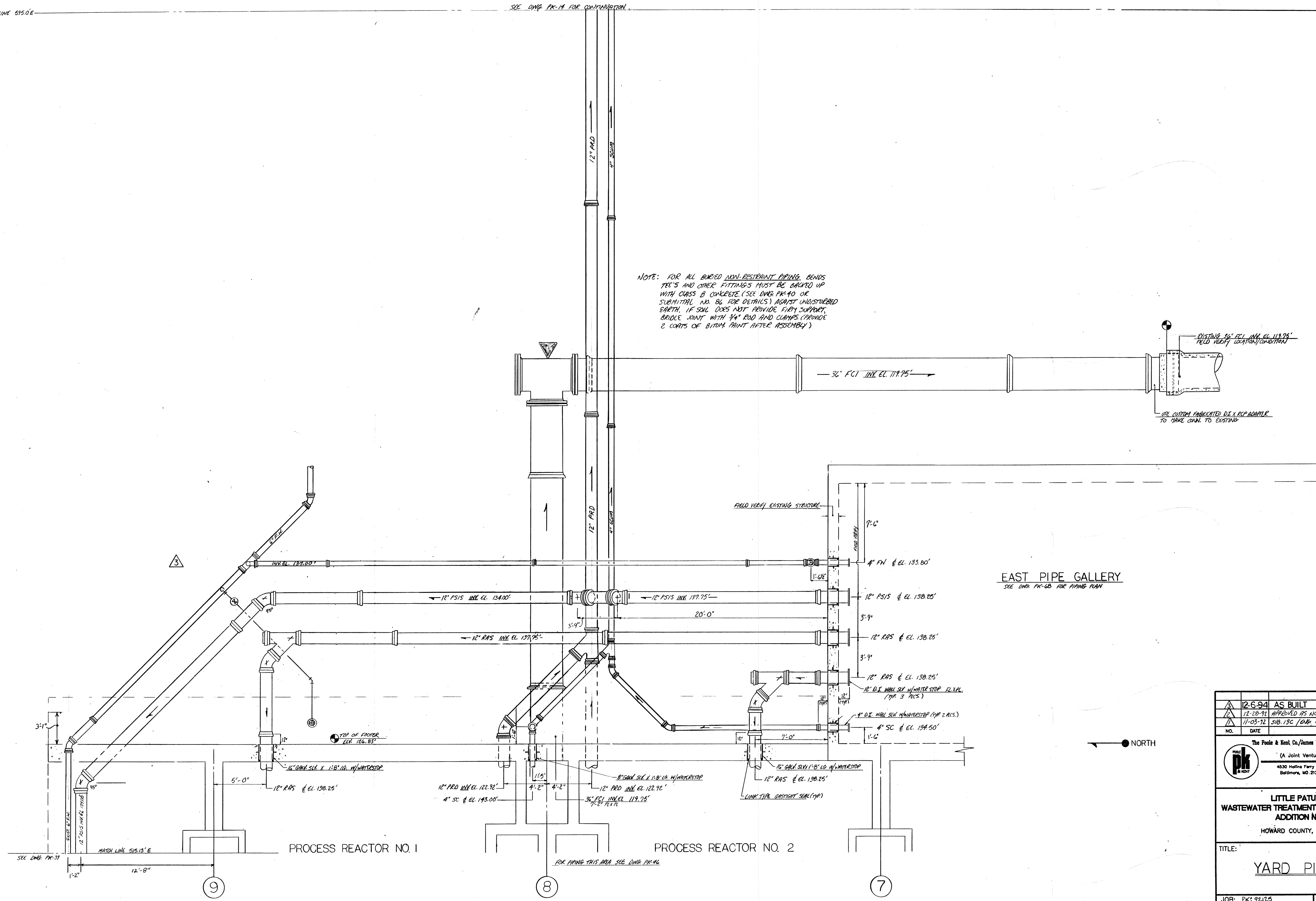
NOTE: FOR ALL BURIED NON-RESTRAINT PIPING, BENDS, TEE'S AND OTHER FITTINGS MUST BE BACKED UP WITH CLASS B CONCRETE. (SEE DWG. PK-10 OR SUBMITTAL NO. 86 FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT, BRIDGE JOINT WITH 3/4" ROD AND CLAMPS. (PROVIDE 2 COATS OF BITUM. PAINT AFTER ASSEMBLY)

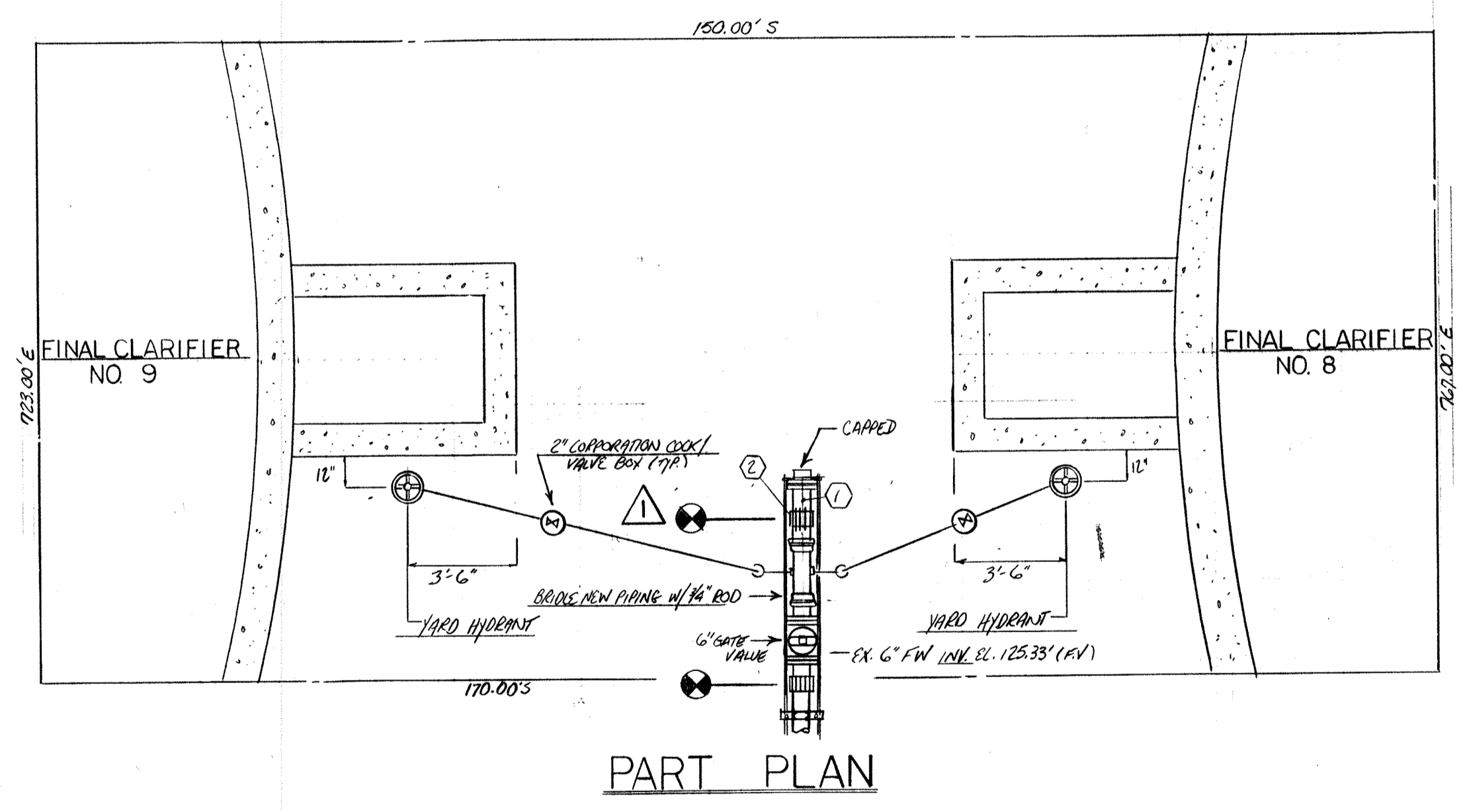
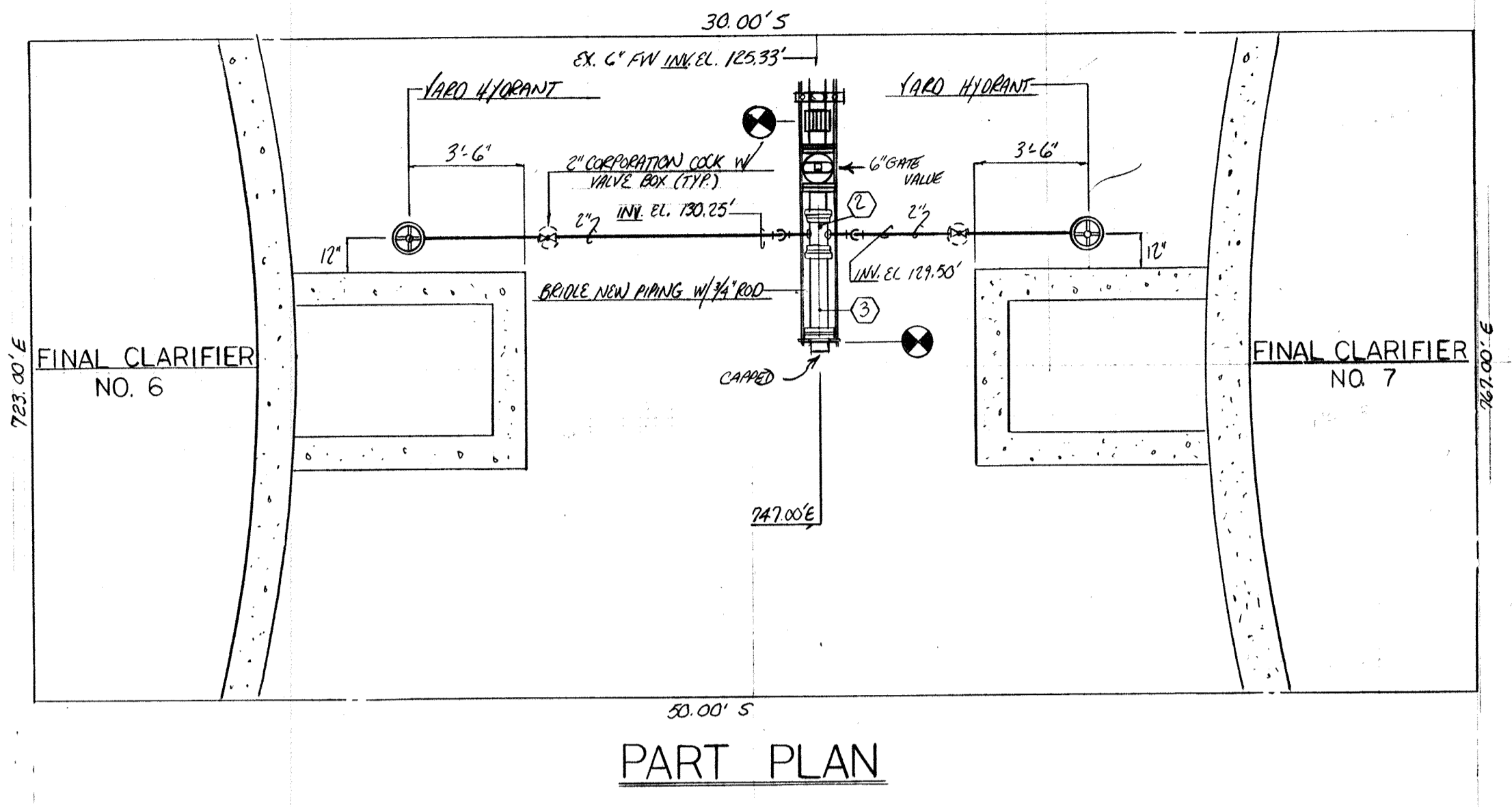
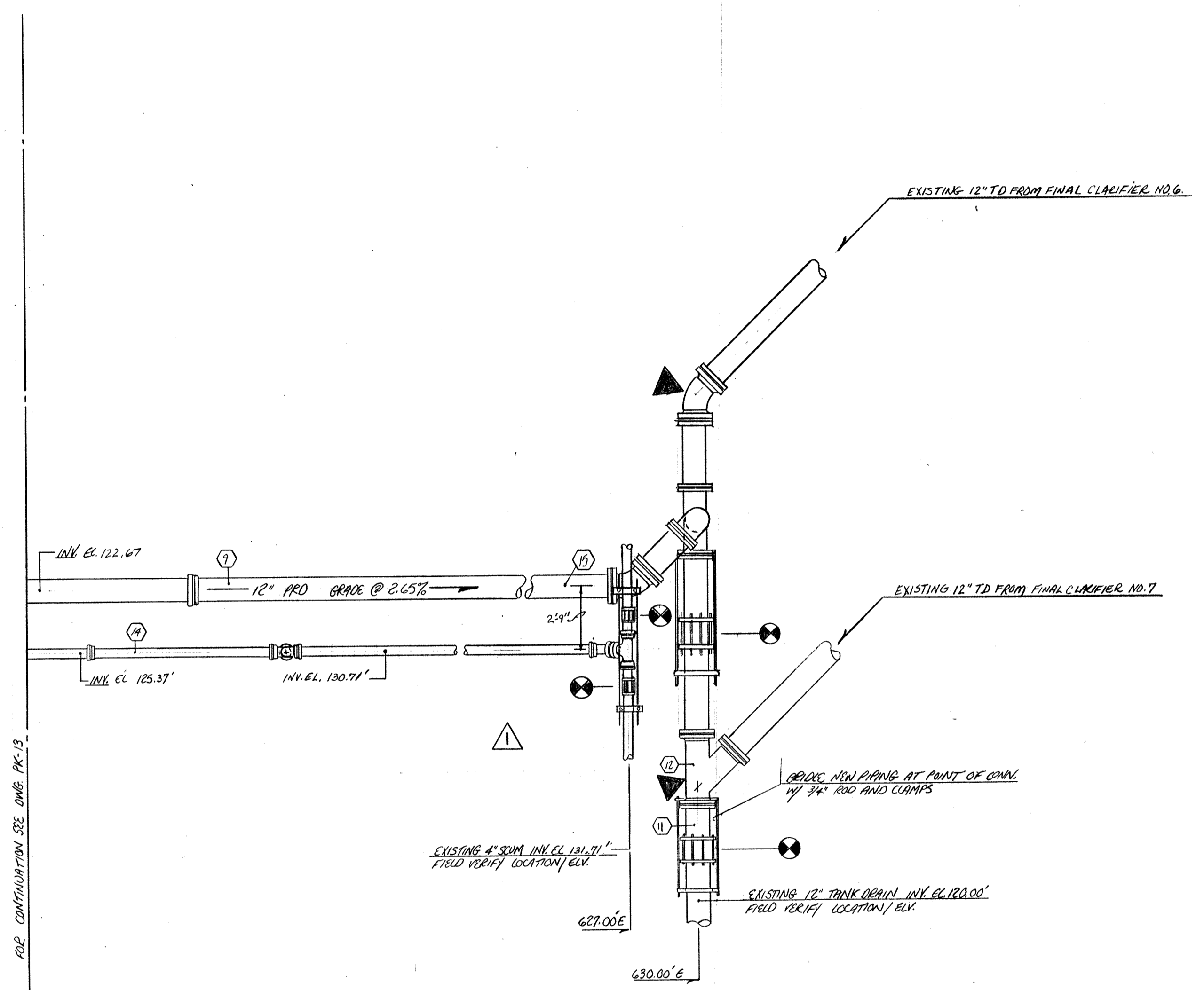
EXISTING 36" FCI INH. EL. 119.75'  
FIELD VERIFY LOCATION/CONDITION  
USE CUSTOM FABRICATED DIE X RCP ADAPTER TO MAKE CONN. TO EXISTING

EAST PIPE GALLERY  
SEE DWG. PK-6B FOR PIPING PLAN

NORTH

12-6-94	AS BUILT	
12-20-92	APPROVED AS NOTED / ISSUE FOR CONSTR.	
11-03-92	SUB. 13C / O&G NOTES FOR APPROVAL	
NO.	DATE	REVISION
The Poole & Keel Co./James W. Miller, Inc. (A Joint Venture)		
4630 Hollins Ferry Road Baltimore, MD 21227		
LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5 HOWARD COUNTY, MARYLAND		
TITLE: <b>YARD PIPING</b>		
JOB: PK1 92125	DRAWN: M. DOBBS	DRAWING:
SCALE: 1/4" = 1'-0"	DATE: 8-12-92	<b>PK-13</b>





MATCH LINE 595.00' E FOR CONTINUATION SEE DWG PK-13

FR - FLEX RING  
 MJ - MECHANICAL JOINT  
 AF - AMERICAN FASTING  
 H - HUB  
 PL - PLAIN END

4" SCUM		
MARK	DESCRIPTION	QUANTITY
14	4" FR 14" 6" H X FR	1
15	4" FR 45" EL	1
16	4" SIEVE TYPE COUPLING	2
17	4" FR (FIELD MEASURE) FR X PL	2
18	4" FR W/E	1
19	4" FR 4'-5 7/8" FR X FR	1
20	4" FR 5'-2 7/8" H X FR	1

12" PROCESS REACTOR DRAIN		
MARK	DESCRIPTION	QUANTITY
9	12" AF 30'-0" H X PL	1
10	12" AF 45" EL	3
11	12" AF (FIELD MEASURE) PL X PL	4
12	12" MT W/E	1
13	12" SIEVE TYPE COUPLING	2
14	12" MT 45" 6" M X PL	1
15	12" AF 4'-2 3/8" H X PL	1
16	12" AF 2'-7 3/4" PL X PL (H)	1

6" PUSHING WATER		
MARK	DESCRIPTION	QUANTITY
1	6" FR 11'-6" FR X PL	3
2	6" X 2" FR CROSS FR X IPS	2
3	6" (FIELD MEASURE) FR X PL	1
4	6" SIEVE TYPE COUPLING	2

NOTE: FOR ALL BURIED NON RESTRAINT PIPING BENDS, TEES AND OTHER FITTINGS MUST BE BACKED UP WITH CLASS B CONCRETE (SEE DWG PK-10 OR SUBMITTAL NO. 86 FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT, BRIDGE JOINT WITH 3/4" ROD + CLAMPS, PROVIDE 2 COATS OF BITUM. PAINT AFTER ASST.



NO. 12-6-94 AS BUILT		
NO.	DATE	REVISION
The Poole & Kent Co./James W. Miller, Inc. (A Joint Venture) 4530 Hollins Ferry Road Baltimore, MD 21227		
LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5 HOWARD COUNTY, MARYLAND		
TITLE: YARD PIPING		
JOB: PK-92125	DRAWING: M. DOBBS	DRAWING: PK-14
SCALE: 1/4" = 1'-0"	DATE: 11-18-92	

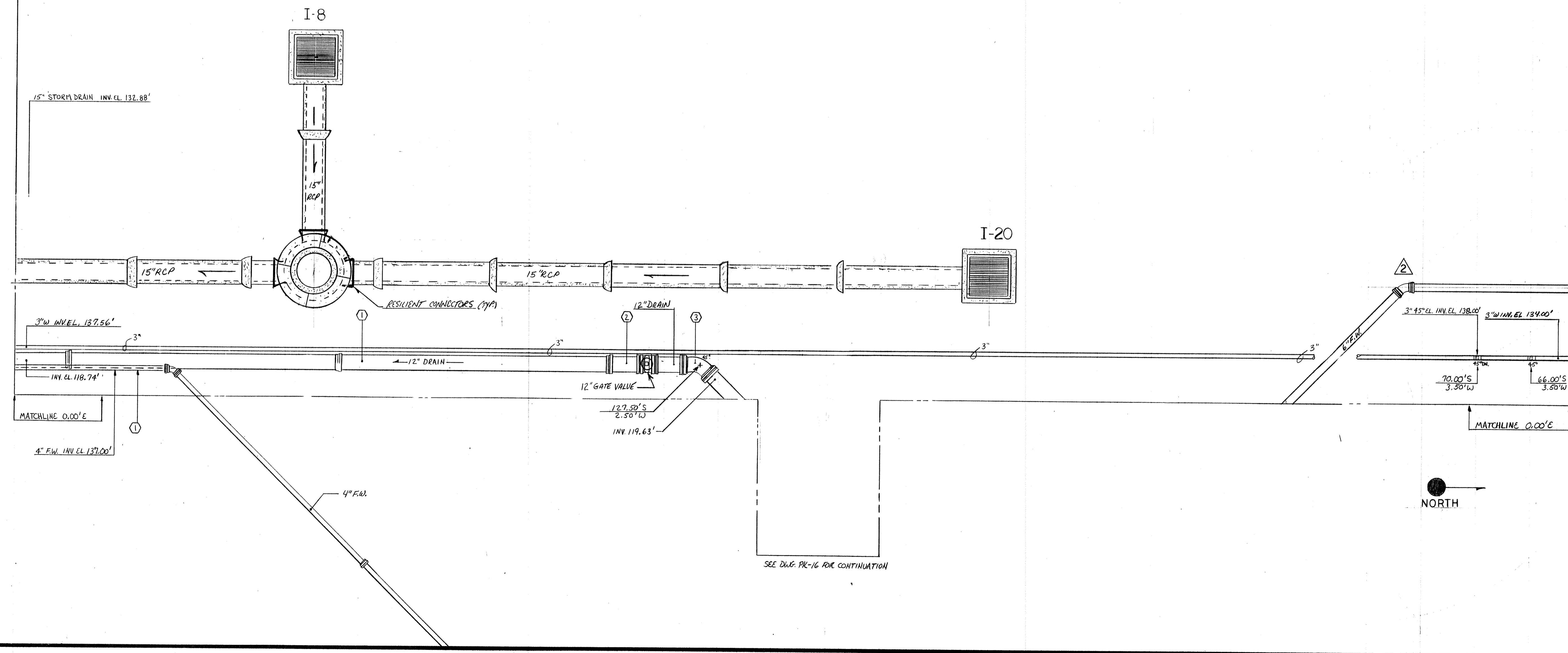
MATCHLINE 178.00'S

MATCHLINE 63.00'S

SEE DWG. PK-19 FOR CONTINUATION

SEE DWG. PK-7 FOR CONTINUATION

NOTE: FOR ALL BURIED NON-RESTRAINT PIPING, BENDS, TEES, AND OTHER FITTINGS MUST BE BACK-ED UP WITH CLASS "B" CONCRETE (SEE DWG. PK-40 OR SUBMITTAL NO. 86 FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT BRIDLE JOINT #3/4" ROD & CLAMPS. (PROVIDE 2 COATS BITUM. PAINT AFTER ASSEMBLY.)

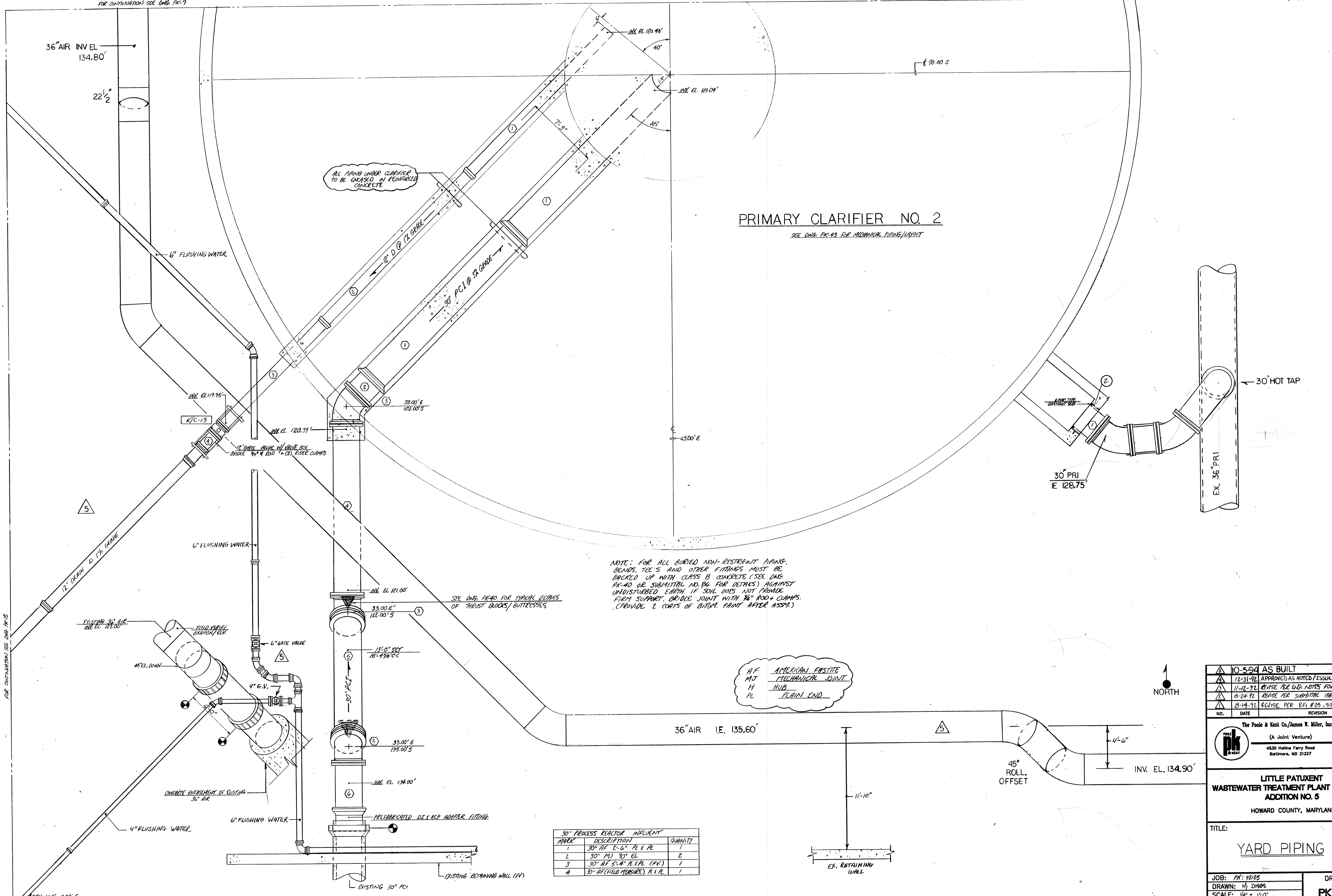


4" FLUSHING WATER		
MARK	DESCRIPTION	QUANTITY
1	4" F.R. 19'-6" H x F.R.	2
2	4" F.R. 16'-4 1/8" F.R. x F.R.	1
3	4" F.R. 90° EL.	2
4	4" F.R. 3'-3 1/8" PE x PE	1
5	4" F.R. FIELD MEASURE	1
6	4" F.R. 1'-6" F.R. x P.E.	1
7	6" x 4" F.R. WJVE	1
8	6" F.R. 1'-6" F.R. x PE	1
9	6" SLEEVE TYPE COUP.	1
10	6" F.R. FIELD MEASURE	1
11	NOT USED	0
12	6" F.R. 2'-0" P.E. x P.E.	1
13	6" F.R. 1'-6" P.E. x P.E.	1

12" DRAIN		
MARK	DESCRIPTION	QUANTITY
1	12" AF. 20'-0" H x PE	2
2	12" AF. 6'-10 1/8" PE x PE	1
3	12" M.T. 45° EL. M.S. x PE	1

10-7-94 AS BUILT	
2-23-93 REVISE PER ENG. NOTES/ISSUE FOR CONSTR.	
NO.	DATE
REVISION	
The Pool & Kent Co./James W. Miller, Inc. (A Joint Venture) 4530 Halpine Ferry Road Baltimore, MD 21227	
LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5 HOWARD COUNTY, MARYLAND	
TITLE: <u>YARD PIPING</u>	
JOB: #92/25	DRAWING: PK-15
DRAWN: D. OTTE	
SCALE: 1/4" = 1'-0"	
DATE: 1-20-93	

FOR CONTINUATION SEE DWG. PK-7



**PRIMARY CLARIFIER NO. 2**

SEE DWG. PK-43 FOR MECHANICAL PIPING LAYOUT

NOTE: FOR ALL BURIED NON-RESTRAINT PIPING, BENDS, TEE'S AND OTHER FITTINGS MUST BE BACKED UP WITH CLASS B CONCRETE (SEE DWG. PK-40 OR SUBMITTAL NO. B6 FOR DETAILS) AGAINST UNDISTURBED EARTH IF SOIL DOES NOT PROVIDE FIRM SUPPORT. OR DUE JOINT WITH 3/8" ROD + CLAMPS. (PROVIDE 2 COATS OF BITUM. PAINT AFTER ASSY.)

AF AMERICAN FASTITE  
 MJ MECHANICAL JOINT  
 H HUB  
 PL PLAIN END

MARK	DESCRIPTION	QUANTITY
1	30" AF 2'-6" PL X PL	1
2	30" MJ 90° EL	2
3	30" AF 5'-4" R.X.P.L. (PV)	1
4	30" AF (FIELD MEASURE) R.X.P.L.	1

NO.	DATE	REVISION
10-594		AS BUILT
12-31-92		APPROVED AS NOTED / ISSUE FOR CONST.
11-12-92		REVISE PER ENG. NOTES FOR APPROPRIAL
8-24-92		REVISE PER SUBMITTAL 13B
8-14-92		REVISE PER PERI #25 - SUBMITTAL 13A

The Poole & Kent Co./James W. Miller, Inc.  
 (A Joint Venture)  
 4530 Hollins Ferry Road  
 Baltimore, MD 21227

**LITTLE PATUXENT  
 WASTEWATER TREATMENT PLANT EXPANSION  
 ADDITION NO. 5**  
 HOWARD COUNTY, MARYLAND

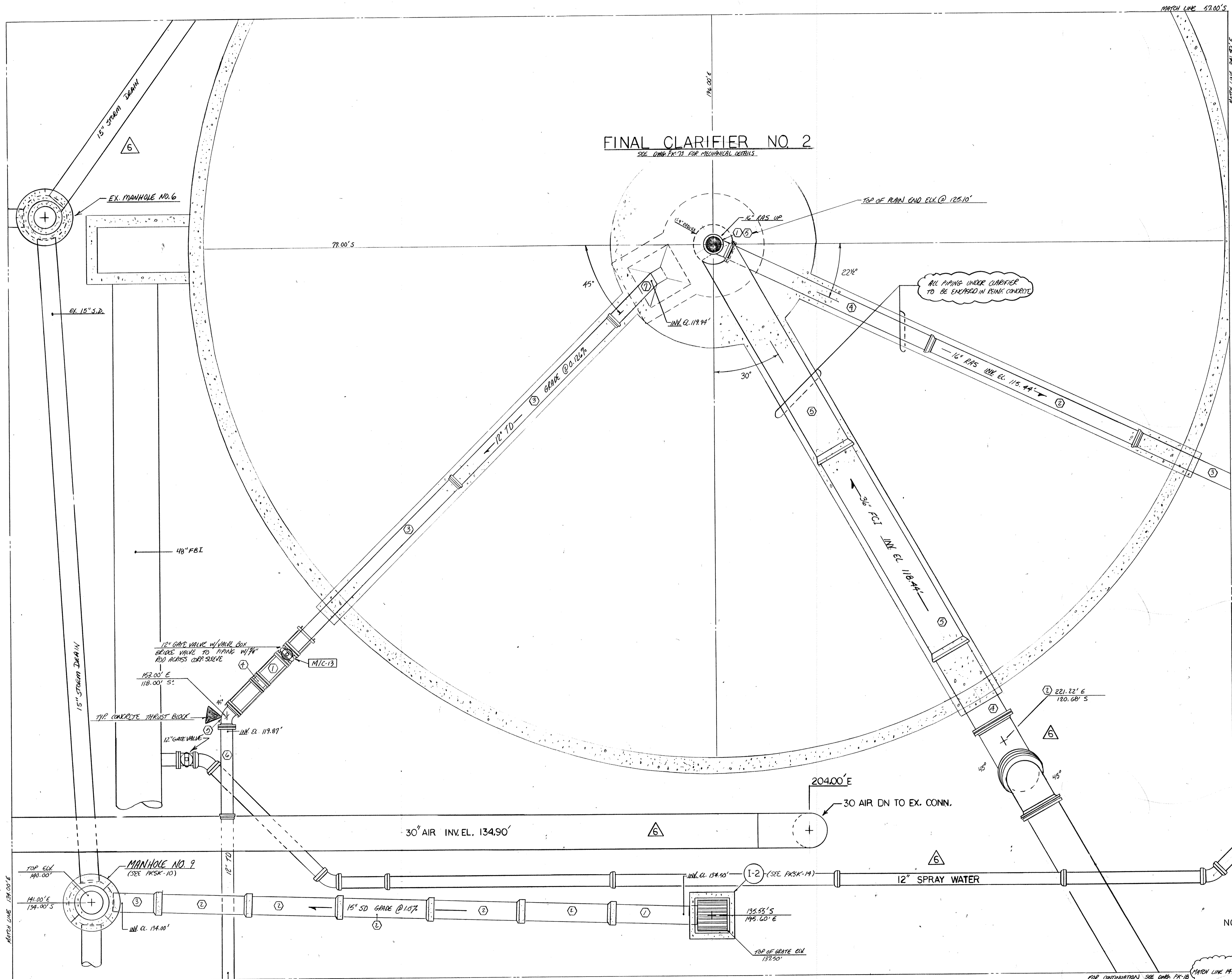
TITLE:  
**YARD PIPING**

JOB: PK: 9225	DRAWING:
DRAWN: M. DOBBS	PK-16
SCALE: 1/4" = 1'-0"	
DATE: 7-14-92	



# FINAL CLARIFIER NO 2

SEE DWG. PK-73 FOR MECHANICAL DETAILS



AF - AMERICAN FASTITE  
 MJ - MECHANICAL JOINT  
 H - HUB  
 PL - PLAIN END

15" STORM DRAIN			
MARK	DESCRIPTION	QUANTITY	
1	15" RCP IV 8'-0" PL X PL	1	
2	15" RCP IV 8'-0" H X PL	6	
3	15" RCP IV (FIELD MEASURE)	2	
4	15" RCP IV 45° EL H X PL	1	

12" TANK DRAIN			
MARK	DESCRIPTION	QUANTITY	
1	12" AF 6'-8" PL X PL (H)	1	
2	12" AF (FIELD MEASURE) H X PL	1	
3	12" AF 20'-0" H X PL	3	
4	12" COORDINATION SLEEVE	1	
5	12" MJ 45° EL	1	
6	12" AF 8'-0" PL X PL (H)	1	
7	12" AF (FIELD MEASURE) PL X PL	1	

36" FINAL CLARIFIER INFLOW			
MARK	DESCRIPTION	QUANTITY	
1	36" AF (FIELD MEASURE) PL X PL	2	Δ
2	36" MJ 45° EL	2	
3			Δ
4	36" AF 8'-2 1/4" PL X PL	1	
5	36" AF 20'-0" H X PL	2	

16" RETURN ACTIVATED SLUDGE			
MARK	DESCRIPTION	QUANTITY	
1	16" MJ 90° EL	1	
2	16" AF 20'-0" H X PL	1	
3	16" AF 10'-0" H X PL	1	
4	16" AF 10'-0" PL X PL	1	
5	16" AF 7'-9" PL X PL	1	

NOTE: FOR ALL BURIED NON RESTRAINT PIPING, BENDS, TEE'S AND OTHER FITTINGS MUST BE BACKED UP WITH CLASS B CONCRETE. (SEE DWG. PK-90 OR SUBMITTAL NO. 86 FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT, BRIDGE JOINT W/ 3/4" ROD & CLAMPS (PROVIDE (2) COATS OF BITUM. PAINT AFTER ASST.)

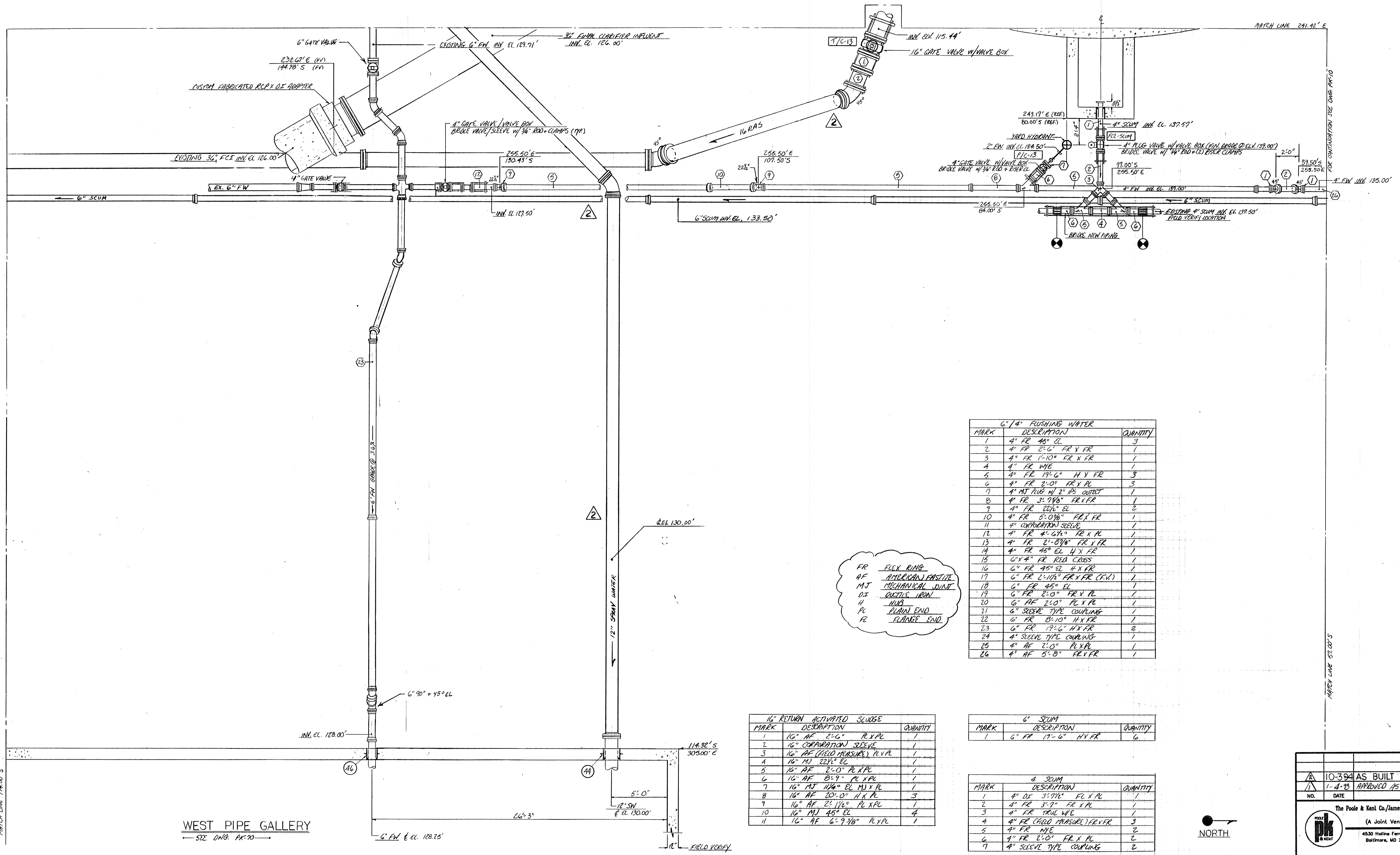
NO.	DATE	REVISION
1	10-3-94	AS BUILT
2	1-4-93	APPROVED AS NOTED/ISSUE FOR CONST.
3	11-23-92	COORDINATE W/ DWG. PK-18
4	11-14-92	REVISE PER ENG. NOTES FOR APPROVAL
5	8-24-92	REVISED PER SUBMITTAL 13B
6	8-14-92	REVISED PER SUBMITTAL 13A

The Pooles & Kenil Co./James W. Miller, Inc.  
 (A Joint Venture)  
 4530 Hollins Ferry Road  
 Baltimore, MD 21227

LITTLE PATUXENT  
 WASTEWATER TREATMENT PLANT EXPANSION  
 ADDITION NO. 5  
 HOWARD COUNTY, MARYLAND

TITLE:  
**YARD PIPING**

JOB: PK-42125	DRAWING: PK-17
DRAWN: M. DOBBS	DATE: 7-23-92
SCALE: 1/4" = 1'-0"	



FR FLEX RING  
AF AMERICAN FASTENER  
MJ MECHANICAL JOINT  
DI QUILL IRON  
H HUB  
PL PLAIN END  
FL FLANGE END

6" / 4" PUSHING WATER		
MARK	DESCRIPTION	QUANTITY
1	4" FR 45° EL	3
2	4" FR 2'-6" FR X FR	1
3	4" FR 1'-10" FR X FR	1
4	4" FR W/6"	1
5	4" FR 17'-6" H X FR	3
6	4" FR 2'-0" FR X PL	3
7	4" MJ HUB W/ 2" HS. OUTLET	1
8	4" FR 3'-9/8" FR X FR	1
9	4" FR 22 1/2" EL	2
10	4" FR 5'-0 1/4" FR X FR	1
11	4" COMPARTMENT SLEEVE	1
12	4" FR 2'-6 1/4" FR X PL	1
13	4" FR 2'-8 3/8" FR X FR	1
14	4" FR 45° EL H X FR	1
15	6" X 4" FR RED CROSS	1
16	6" FR 45° EL H X FR	1
17	6" FR 2'-11 1/4" FR X FR (F.W.)	1
18	6" FR 45° EL	1
19	6" FR 2'-0" FR X PL	1
20	6" AF 2'-0" PL X PL	1
21	6" SLEEVE TYPE COUPLING	1
22	6" FR 8'-10" H X FR	1
23	6" FR 17'-6" H X FR	2
24	4" SLEEVE TYPE COUPLING	1
25	4" AF 2'-0" PL X PL	1
26	4" AF 5'-0" FR X FR	1

16" RETURN ACTIVATED SLUDGE		
MARK	DESCRIPTION	QUANTITY
1	16" AF 2'-6" PL X PL	1
2	16" COMPARTMENT SLEEVE	1
3	16" AF (FIELD MEASURE) PL X PL	1
4	16" MJ 22 1/2" EL	1
5	16" AF 2'-0" PL X PL	1
6	16" AF 8'-9" PL X PL	1
7	16" MJ 11 1/4" EL MJ X PL	1
8	16" AF 20'-0" H X PL	3
9	16" AF 2'-1 1/4" PL X PL	1
10	16" MJ 45° EL	4
11	16" AF 6'-9 3/8" PL X PL	1

6" SCUM		
MARK	DESCRIPTION	QUANTITY
1	6" FR 17'-6" H X FR	6

4" SCUM		
MARK	DESCRIPTION	QUANTITY
1	4" DI 3'-0 1/4" FL X PL	1
2	4" FR 3'-7" FR X PL	1
3	4" FR TRUE W/6"	1
4	4" FR (FIELD MEASURE) FR X FR	3
5	4" FR W/6"	2
6	4" FR 2'-0" FR X PL	2
7	4" SLEEVE TYPE COUPLING	2

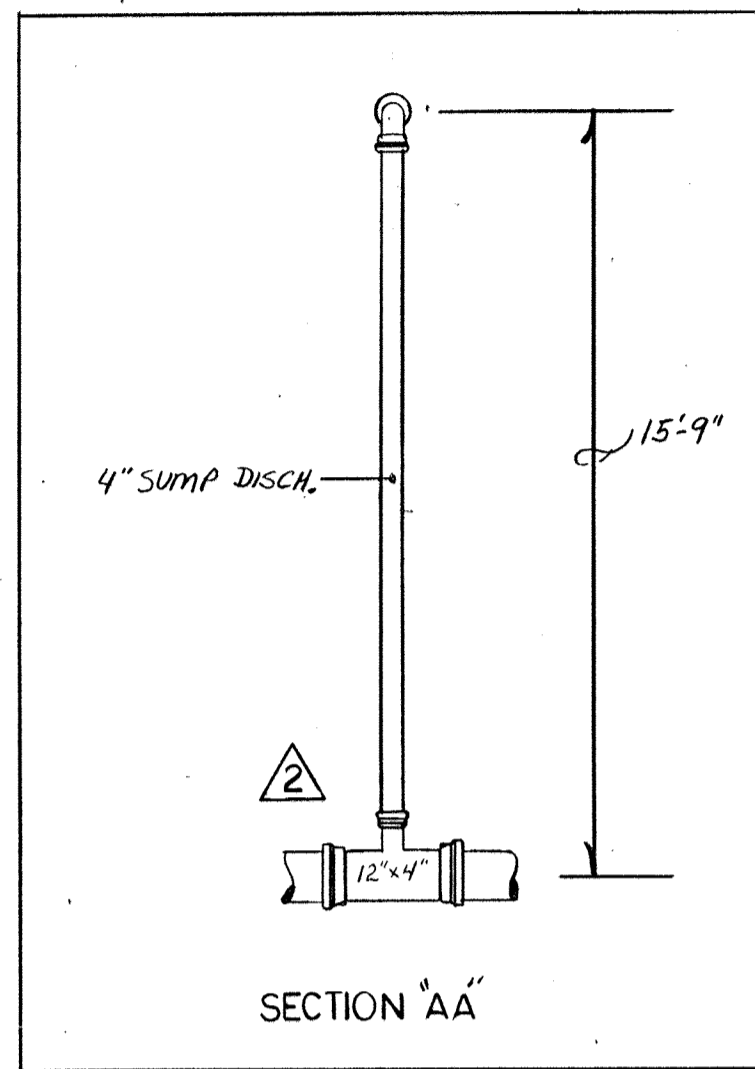
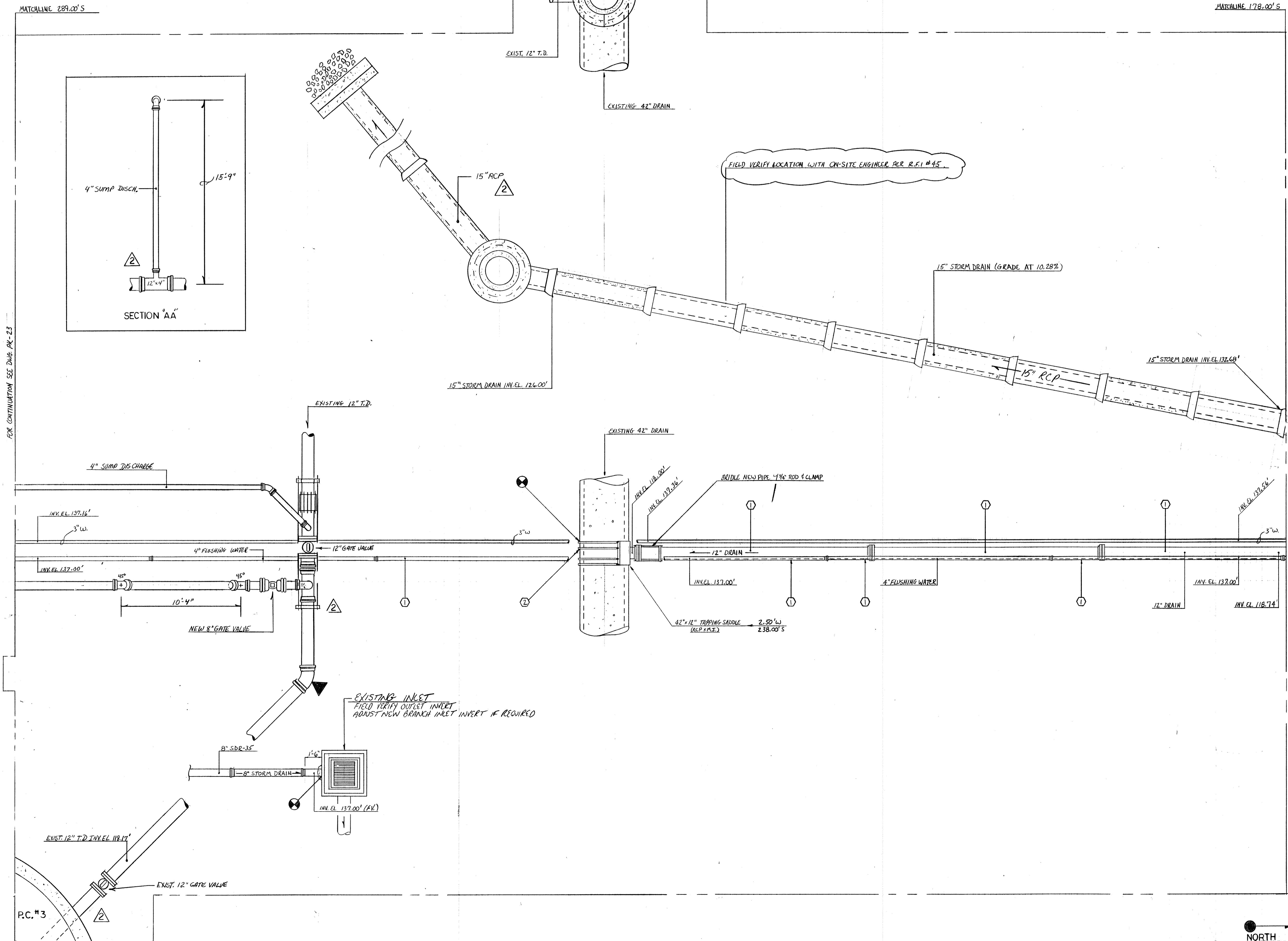
12" SPRAY WATER		
MARK	DESCRIPTION	QUANTITY
1	12" AF 20'-0" H X PL	3
2	12" MJ 45° EL	2
3	12" AF 2'-11 3/8" PL X PL	1

NOTE: FOR ALL BURIED NON RESTRAINT PIPING, BENDS, TEES AND OTHER FITTINGS MUST BE BACKED UP WITH CLASS B CONCRETE. SEE DWG. PK-40 OR SUBMITTAL NO. 66 FOR DETAILS. AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT, BRIDGE JOINT W/ 3/4" RSD AND CLAMPS (PROVIDE 2 COATS OF BITUM. PAINT AFTER ASS'N.)

10-394	AS BUILT	
1-A-95	APPROVED AS NOTED (ISSUE FOR CONSTRUCTION)	
NO.	DATE	REVISION
The Poole & Kent Co./James W. Miller, Inc. (A Joint Venture) 4530 Hollins Ferry Road Baltimore, MD 21227		
<b>LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5</b> HOWARD COUNTY, MARYLAND		
TITLE:		
<b>YARD PIPING</b>		
JOB: PK: 92125	DRAWING:	
DRAWN: M. DOBBS		
SCALE: 1/4" = 1'-0"		<b>PK-18</b>
DATE: NOV 23 1992		

MATCHLINE 289.00'S

MATCHLINE 178.00'S



4" FLUSHING WATER		
MARK	DESCRIPTION	QUANTITY
1	4" F.R. 19'-6" H x F.R.	5

4" PUMP DISCHARGE		
MARK	DESCRIPTION	QUANTITY
1	4" F.R. 5'-5 7/8" F.R. x F.R.	1
2	4" F.R. 45° EL	1
3	4" F.R. B-B" F.R. x F.R.(W)	1
4	12" x 4" F.R. WYE	1
5	12" SLEEVE TYPE COUP.	2
6	12" F.R. 1'-6" F.R. x P.E.	2

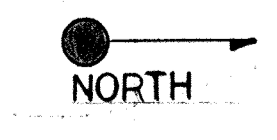
8" PRIMARY SLUDGE		
MARK	DESCRIPTION	QUANTITY
1	8" A.F. 9'-10 1/8" P.E. x P.E.	1
2	8" M.J. 45° EL	1
3	8" A.F. FIELD MEASURE	1
4	8" A.F. 1'-6" P.E. x P.E.	1
5	12" A.F. 2'-0" P.E. x P.E.	2
6	12" SLEEVE TYPE COUP.	1
7	12" x 8" M.J. TEE	1

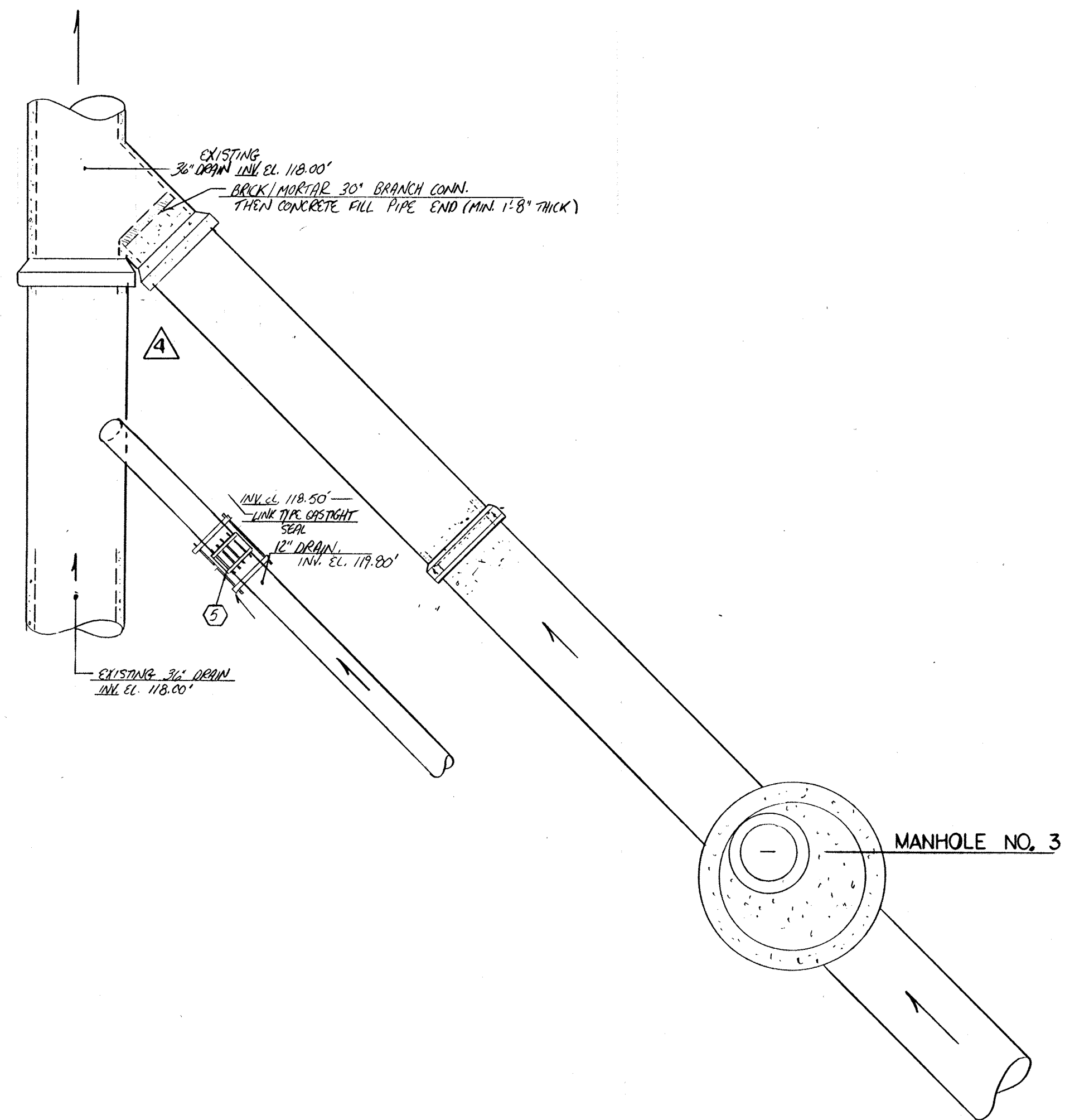
12" DRAIN		
MARK	DESCRIPTION	QUANTITY
1	12" A.F. 20'-0" H x P.E.	3
2	42" x 12" TAPPING SADDLE	1

FOR CONTINUATION SEE DWG. PK-23

FOR CONTINUATION SEE DWG. PK-15

6-21-94 AS BUILT	
2-23-93 REVISE PER ENG. NOTES / ISSUE FOR CONSTR.	
NO.	DATE
REVISION	
The Poole & Kent Co./James W. Miller, Inc. (A Joint Venture) 4530 Hollins Ferry Road Baltimore, MD 21227	
LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5 HOWARD COUNTY, MARYLAND	
TITLE: <b>YARD PIPING</b>	
JOB: #92125	DRAWN: D. OTTE
SCALE: 1/4" = 1'-0"	DATE: 1-16-93
DRAWING: <b>PK-19</b>	





12" TANK DRAIN		
MARK	DESCRIPTION	QUANTITY
1	12" AF 5'-9" H X R	1
2	12" MJ 45° EL	2
3	12" AF 3'-0" R X PL	1
4	12" AF (FIELD MEASURE) PL X PL	1
5	12" SLEEVE TYPE COUPLING	1

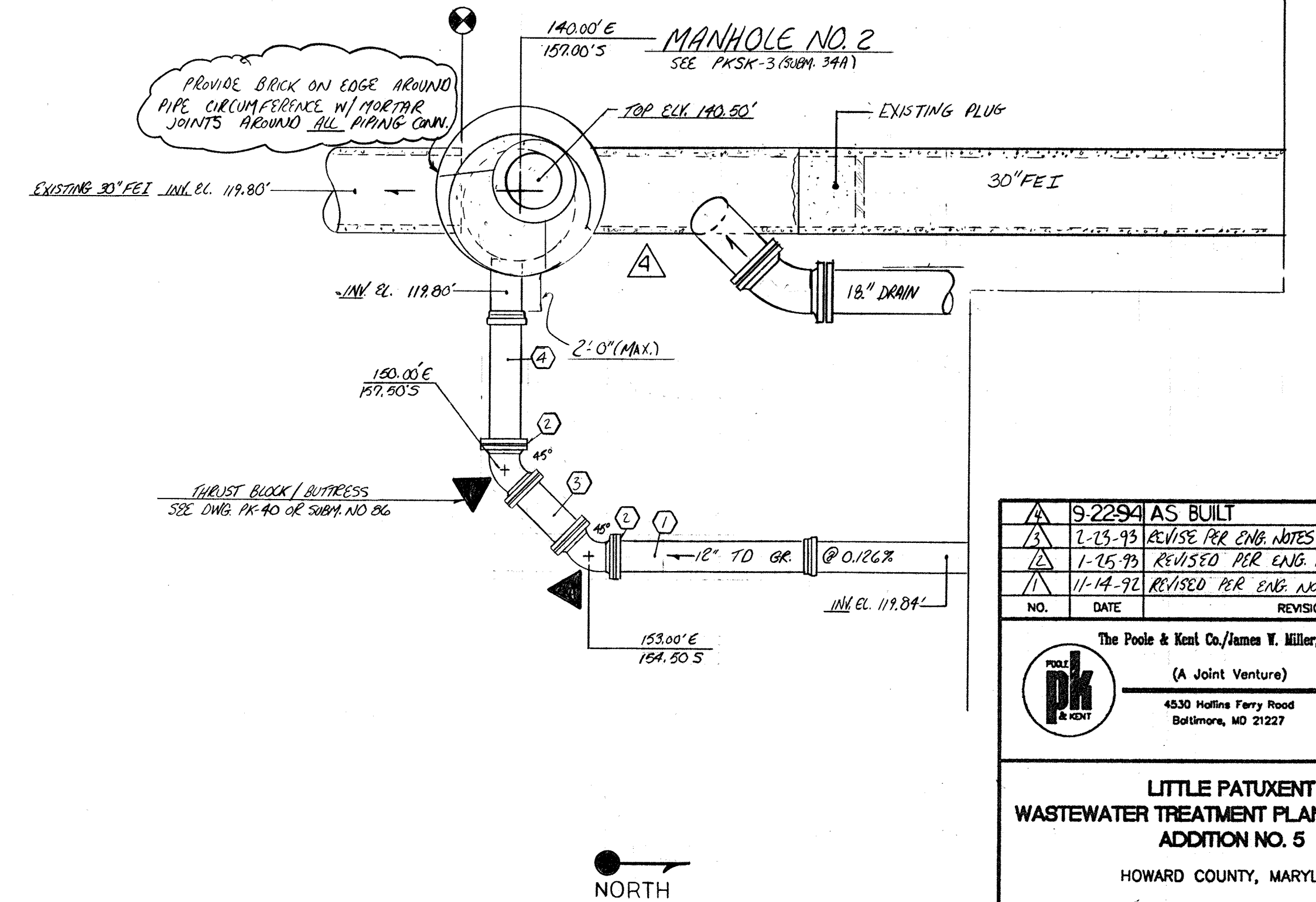
AF - AMERICAN FASTITE  
 MJ - MECHANICAL JOINT  
 R - RIGID END  
 H - HUB

30" FLOW EQUALIZATION INFLUENT		
MARK	DESCRIPTION	QUANTITY
1	30" AF (FIELD MEASURE) PL X PL	2
2	30" MJ 45° EL	1

18" DRAIN		
MARK	DESCRIPTION	QUANTITY
1	18" AF (FIELD MEASURE) PL X PL	1
2	18" MJ 45° EL	1

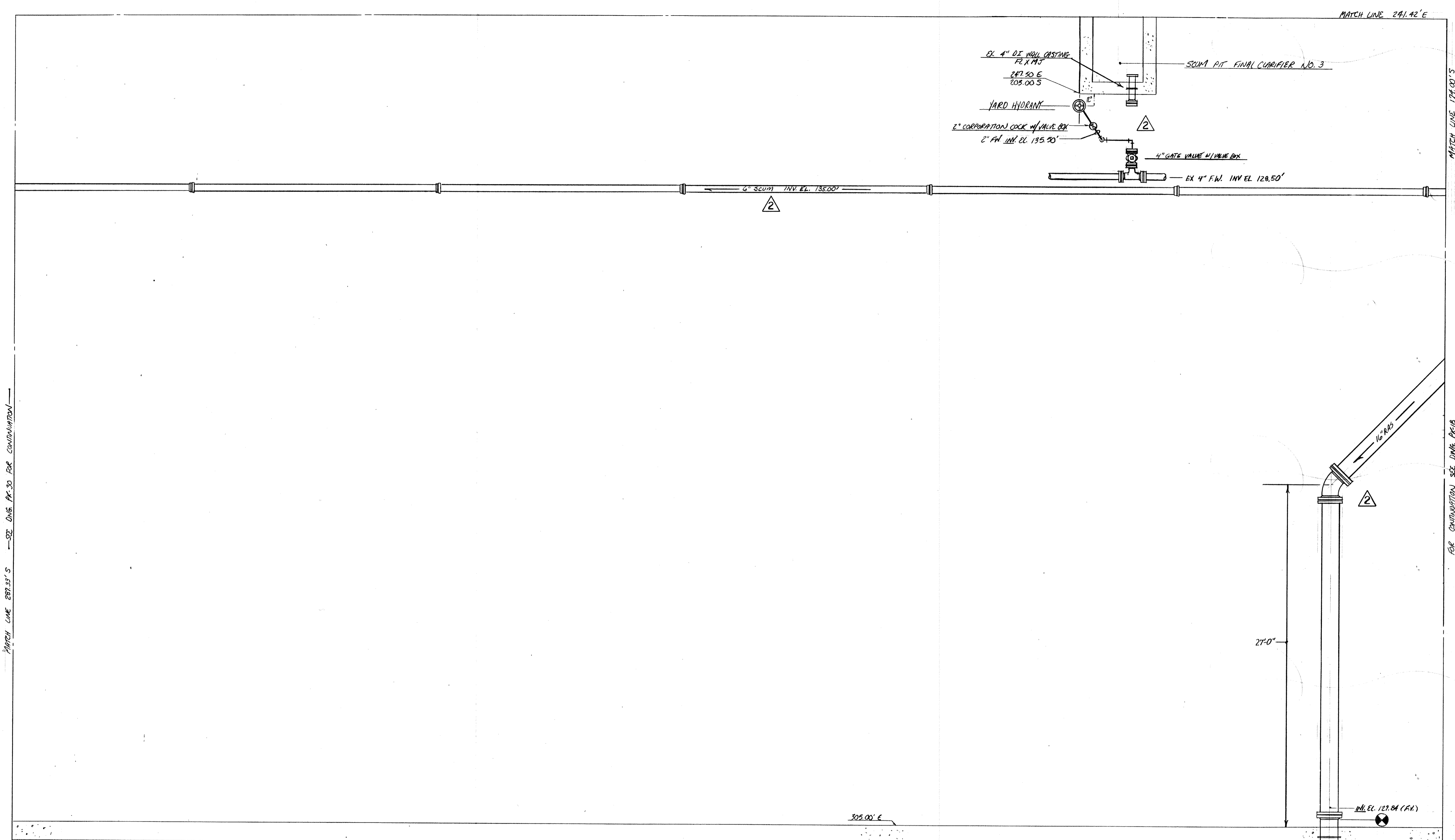
NOTE: FOR ALL BURIED NON RESTRAINT PIPING, BENDS, TEE'S AND OTHER FITTINGS MUST BE BACKED UP WITH CLASS B CONCRETE. (SEE DWG. PK-40 OR SUBMITTAL NO. 86 FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT, BRIDGE JOINT WITH 3/4" ROD + CAPS (PROVIDE 2 COATS OF BITUM. PAINT AFTER ASSY.)

1. COORDINATE MANHOLE TOP SECTION OPENING LOCATIONS WITH COMMENTS IN ACCORDANCE WITH TRANSMITTAL NO. 39



FOR CONTINUATION SEE DWG. PK-17 MATCH LINE 141.00'S

9-22-94 AS BUILT		
2-25-95 REVISE PER ENG. NOTES / ISSUE FOR CONSTRUCTION		
1-15-99 REVISED PER ENG. NOTES FOR APPROVAL		
11-14-92 REVISED PER ENG. NOTES FOR APPROVAL		
NO.	DATE	REVISION
The Poole & Kent Co./James V. Miller, Inc. (A Joint Venture) 4530 Hoffman Ferry Road Baltimore, MD 21227		
<b>LITTLE PATUXENT          WASTEWATER TREATMENT PLANT EXPANSION          ADDITION NO. 5</b> HOWARD COUNTY, MARYLAND		
TITLE: <b>YARD PIPING</b>		
JOB: PK-9225	DRAWING: PK-20	
DRAWN: M. DOBBS	SCALE: 1/4" = 1'-0"	
DATE: 7-4-92		



MATCH LINE 287.33'S - SEE DWG. PK-20 FOR CONTINUATION

MATCH LINE 194.00'S FOR CONTINUATION SEE DWG. PK-18

WEST PIPE GALLERY  
SEE DWG. PK-71 FOR PIPING THIS AREA

6" SCUM			
MARK	DESCRIPTION	QUANTITY	
1	6" FR 17' 6" H X FR	6	

4" FLUSHING WATER			
MARK	DESCRIPTION	QUANTITY	
1	4" AF 12-1" PL X PL	1	
2	4" MJ RUG w/ 2" IPS OUTLET	1	
3	4" MJ RUG	1	

16" RETURN ACTIVATED SLUDGE			
MARK	DESCRIPTION	QUANTITY	
2	16" MJ 1 1/4" EL	1	
3	16" MJ 45° EL MJ X PL	1	
4	16" MJ 45° EL	2	
5	16" AF 6'-3 3/4" PL X PL	1	
7	16" AF (FIELD MEASURE) PL X PL	1	

FR - FLEX RING  
MJ - MECHANICAL JOINT  
AF - AMERICAN FIBERITE  
PL - PLAIN END  
H - HUB

NOTE: FOR ALL BURIED NEW RESTRAINT PIPING, BENDS TEES AND OTHER FITTINGS MUST BE BACKED UP WITH CLASS B CONCRETE, (SEE DWG. PK-10 OR SUBMITTAL NO. 86 FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT, BRIDE JOINT WITH 3/4" BOLD + CLAMPS. (PROVIDE (2) COATS OF BITUM. PAINT AFTER ASSY.)

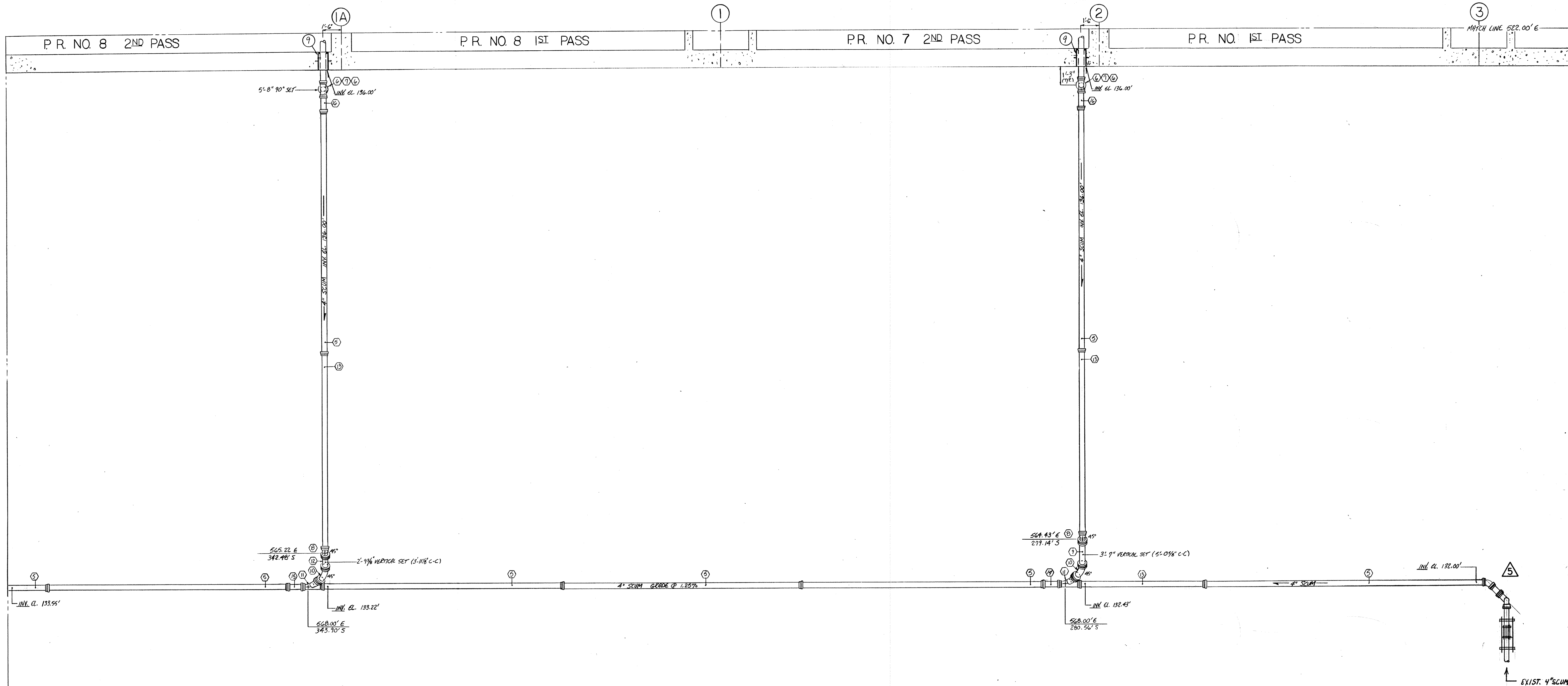
NO.	DATE	REVISION
7-28-94	AS BUILT	
1-04-92	APPROVED AS NOTED ISSUE FOR CONSR	

The Poole & Kent Co./James W. Miller, Inc.  
(A Joint Venture)  
4530 Mullins Ferry Road  
Baltimore, MD 21227

**LITTLE PATUXENT  
WASTEWATER TREATMENT PLANT EXPANSION  
ADDITION NO. 5**  
HOWARD COUNTY, MARYLAND

TITLE:  
**YARD PIPING**

JOB: PK- 92125	DRAWING:
DRAWN: M. DOBBS	PK- 21
SCALE: 1/4" = 1'-0"	
DATE: Nov. 27, 1992	



FR - FLEX RING  
 H - HUB  
 PL - PLAIN END

MARK	DESCRIPTION	QUANTITY
1	4" FR (FIELD MEASURE) FR X PL	1
2	4" FR 2'-0" FR X PL	3
3	4" FR TEE	1
4	4" SIEVE TYPE COUPLING	1
5	4" FR 1 1/2" - 6" H X FR	8
6	4" FR 90° EL	4
7	4" FR 5'-0" FR X FR	2
8	4" FR 45° EL	2
9	4" FR 3'-1/2" FR X FR	1
10	4" FR 45° EL H X PL	2
11	4" FR WYE	2
12	4" FR 103/8" FR X FR	1
13	4" (FIELD MEASURE) H X FR	3
14	4" FR 3'-9" FR X FR	1
15	4" FR 2'-0" FR X FR	1
16	4" FR (FIELD MEASURE) FR X PL	2

NOTE: FOR ALL BURIED NON RESTRAINT PIPING, BENDS, TEE'S AND OTHER FITTINGS MUST BE BACKED UP WITH CLASS B CONCRETE. (SEE OMS PK-A0 OR SUBMITTAL NO. 86 FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT, BRIDGE JOINT W/ 3/4" ROD + CLAMPS. (PROVIDE 2 COATS OF BIRN. PAINT AFTER ASST.)

NO.	DATE	REVISION
1	12-5-94	ASBUILT
2	1-4-93	APPROVED AS NOTED / ISSUE FOR CONST.
3	11-14-92	REVISE PER ENG. NOTES FOR APPROVAL
4	8-24-92	REVISE PER SUBMITTAL 13B
5	8-17-92	REVISE PER SUBMITTAL 13A

The Poole & Kent Co./James W. Miller, Inc.  
 (A Joint Venture)  
 4530 Hollins Ferry Road  
 Baltimore, MD 21227

**LITTLE PATUXENT  
 WASTEWATER TREATMENT PLANT EXPANSION  
 ADDITION NO. 5**  
 HOWARD COUNTY, MARYLAND

TITLE:  
**YARD PIPING**

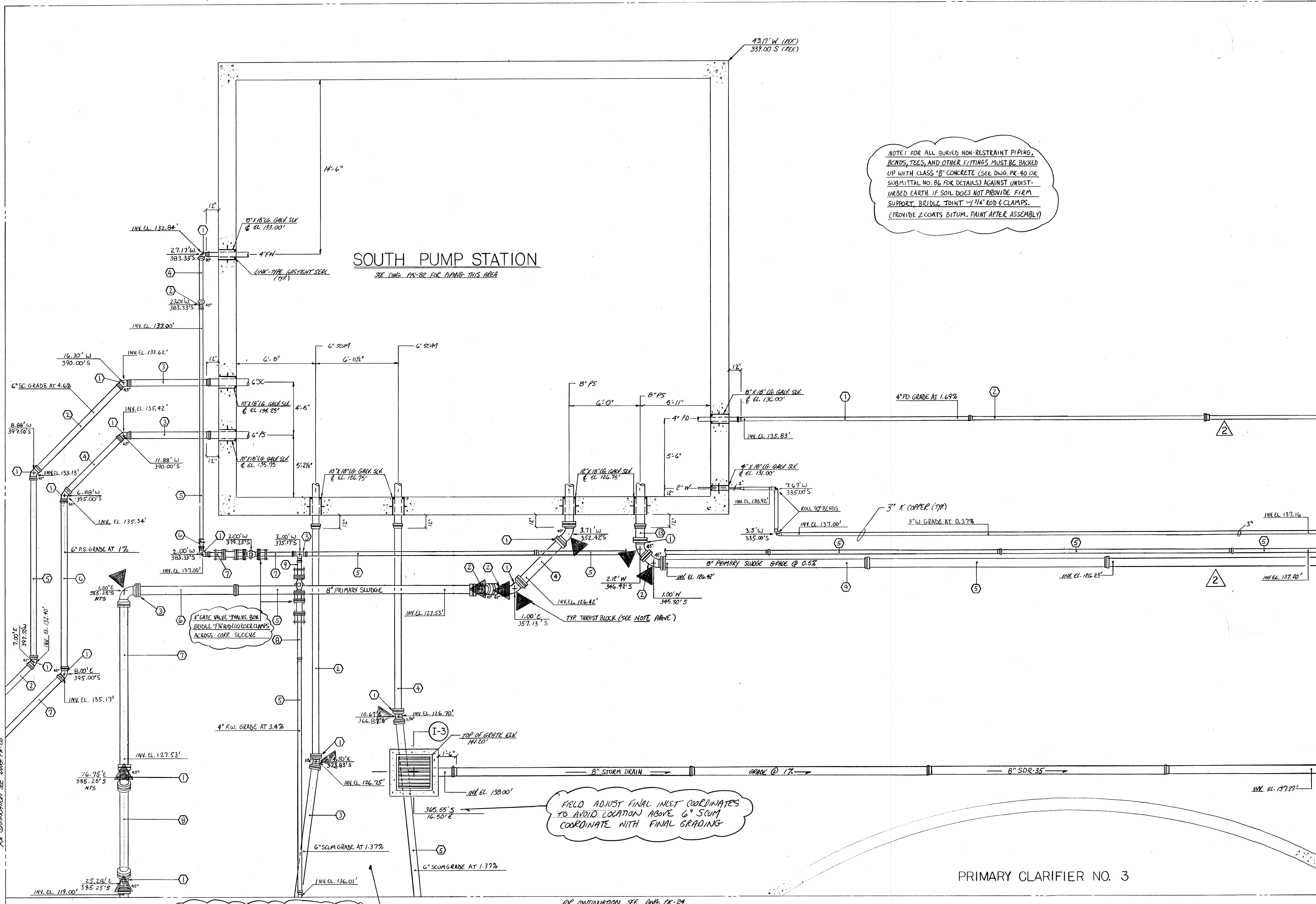
JOB: PK-92125	DRAWING: PK-22
DRAWN: M. OUBBS	
SCALE: 1/4" = 1'-0"	
DATE: 7-24-92	



MATCH LINE 367.00' S

MATCH LINE 238.00' S

MATCH LINE 289.00'S



NOTE: FOR ALL BURIED NON-RESTRAINT PIPING, BONDS, TEES, AND OTHER FITTINGS MUST BE BACKED UP WITH CLASS "B" CONCRETE (SEE DWG. PK-40 OR SUBMITTAL NO. B6 FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT, BRIDLE JOINT 1/2" ROD & CLAMPS. (PROVIDE 2 COATS BITUM. PAINT AFTER ASSEMBLY)

**SOUTH PUMP STATION**  
SEE DWG. PK-82 FOR PIPING THIS AREA

FIELD ADJUST FINAL INLET COORDINATES TO AVOID LOCATION ABOVE 6" SCUM COORDINATE WITH FINAL GRADING

FIELD COORDINATE PIPING THIS AREA WITH SHEET PILING

4" FLUSHING WATER		
MARK	DESCRIPTION	QUANTITY
1	4" FR. 90° EL.	2
2	4" FR. 45° EL.	1
3	4" FR. TEE	1
4	4" FR. 5'-4 3/8" FR x FR.	1
5	4" FR. 19'-6" H x FR.	1
6	4" FR. 11'-6 1/8" FR x FR.	1
7	4" FR. 3'-3 3/4" FR x PE.	1
8	4" FR. 1'-9" FR x PE.	2
9	4" FR. 5'-0" FR x PE.	1

4" PUMP DISCHARGE		
MARK	DESCRIPTION	QUANTITY
1	4" FR. 19'-6" H x FR.	2
2	4" FR. 8'-6" H x FR.	1
3	4" FR. 45° EL.	1
4	4" FR. 11'-7 1/8" FR x FR.	1

6" SC & 6" P.S. DISCHARGE		
MARK	DESCRIPTION	QUANTITY
1	6" FR. 45° EL.	6
2	6" FR. 10'-1 1/8" FR x FR.	1
3	6" FR. 7'-0" H x FR.	2
4	6" FR. 6'-6 3/8" FR x FR.	1
5	6" FR. 15'-4 3/8" FR x FR.	1
6	6" FR. 14'-4 3/8" FR x FR.	1
7	6" FR. 12'-2 3/8" FR x FR.	1

6" SCUM		
MARK	DESCRIPTION	QUANTITY
1	6" M.J. 11 1/4" EL.	2
2	6" A.F. 18'-3" H x PE.	1
3	6" A.F. 20'-0" H x PE.	1
4	6" A.F. 14'-5" H x PE.	1
5	6" A.F. 10'-0 7/8" (EV) H x PE.	1

8" PRIMARY SLUDGE		
MARK	DESCRIPTION	QUANTITY
1	8" M.J. 45° EL.	7
2	8" M.J. x PE. 45° EL.	3
3	8" M.J. 90° CL.	1
4	8" A.F. 5'-8 3/4" PE x PE.	1
5	8" A.F. 20'-0" H x PE.	2
6	8" A.F. 10'-1" H x PE.	1
7	8" A.F. 14'-6 1/2" PE x PE.	1
8	8" A.F. 11'-13 1/4" PE x PE.	1
9	8" A.F. 17'-4" H x PE.	1
10	8" A.F. 2'-0 5/8" PE x PE.	1
11	8" A.F. 17'-9" H x PE.	1
12	8" A.F. 2'-4" PE x PE.	1
13	8" A.F. 1'-7 1/8" H x PE.	1

ABBREVIATIONS	
M.J.	MECHANICAL
A.F.	AMERICAN FASTITE
F.R.	FLEX RING
P.E.	PLAIN END
H.	HUB

**8-1-94 ASBUILT**  
2-13-95 REVISE PER ENG. NOTES / ISSUE FOR CONSTR.

NO.	DATE	REVISION

The Poole & Kent Co./James W. Miller, Inc.  
(A Joint Venture)  
4530 Hollins Ferry Road  
Baltimore, MD 21227

**LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5**  
HOWARD COUNTY, MARYLAND

TITLE:  
**YARD PIPING**

JOB: PK-92126	DRAWING: PK-23
DRAWN: D. OTTE	SCALE: 1/4" = 1'-0"
DATE: 1-13-93	



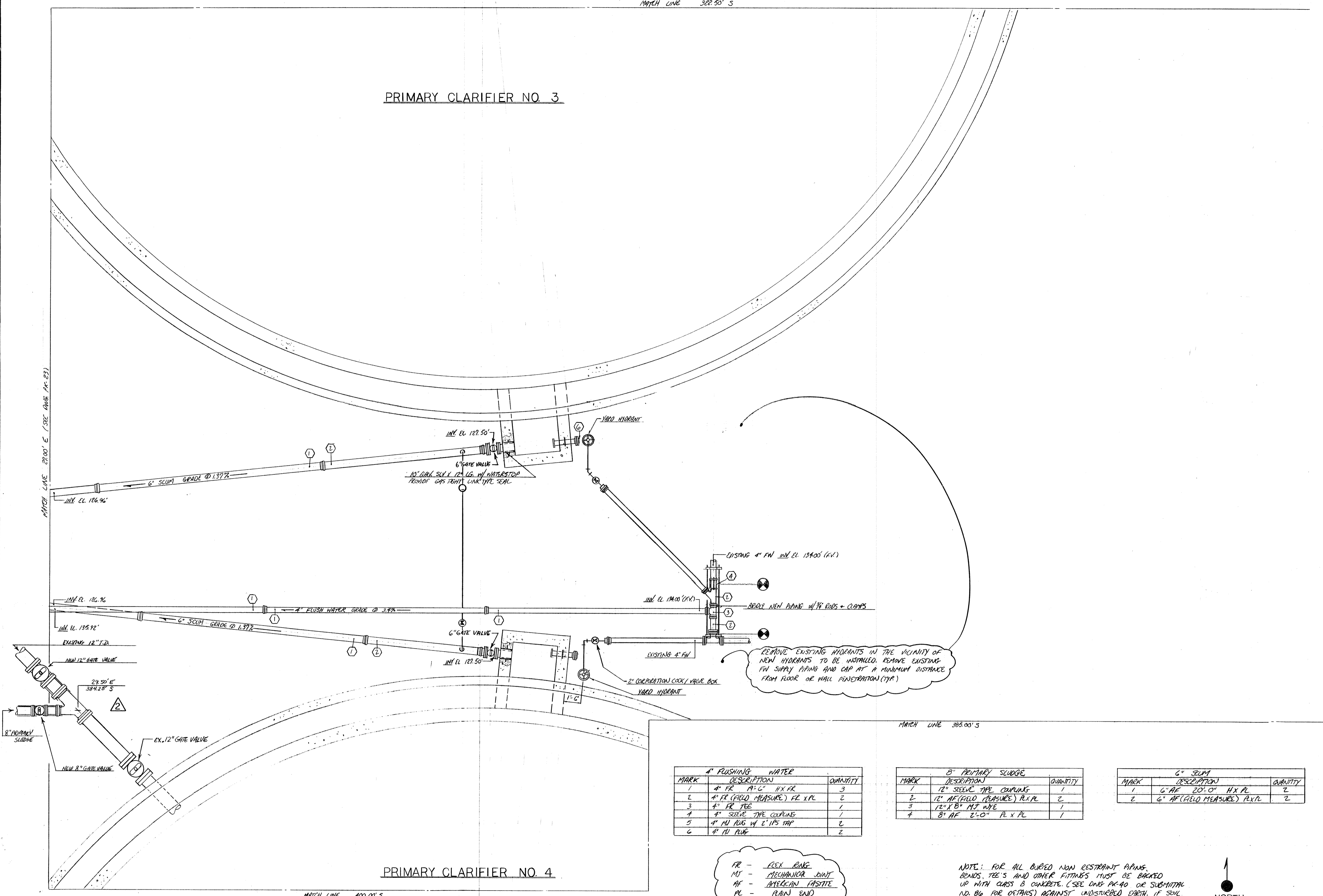
MATCH LINE 400.00'S

FOR CONTINUATION SEE DWG. PK-19

FOR CONTINUATION SEE DWG. PK-24

MATCH LINE 382.50' S

PRIMARY CLARIFIER NO. 3



PRIMARY CLARIFIER NO. 4

MATCH LINE 400.00' S

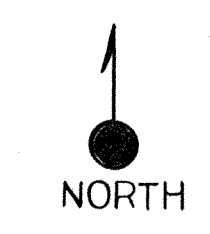
4" FLUSHING WATER		
MARK	DESCRIPTION	QUANTITY
1	4" FR 12' 6" HX FR	3
2	4" FR (FIELD MEASURE) FL X PL	2
3	4" FR TEE	1
4	4" SEEVIE TYPE COUPLING	1
5	4" NU RUG W/ 6" HS TAP	2
6	4" NU RUG	2

8" PRIMARY SLUDGE		
MARK	DESCRIPTION	QUANTITY
1	12" SEEVIE TYPE COUPLING	1
2	12" AF (FIELD MEASURE) FL X PL	2
3	12" X 8" MT PIPE	1
4	8" AF 2'-0" PL X PL	1

6" SCUM		
MARK	DESCRIPTION	QUANTITY
1	6" AF 20'-0" HX PL	2
2	6" AF (FIELD MEASURE) FL X PL	2

FR - FLEX RING  
 MJ - MECHANICAL JOINT  
 AF - AMERICAN FASTITE  
 PL - PLAIN END  
 H - HUB END

NOTE: FOR ALL BURIED NON RESTRAINT PIPING, BENDS, TEES AND OTHER FITTINGS MUST BE BACKED UP WITH CLASS B CONCRETE. (SEE DWG PK-40 OR SUBMITTAL NO. B6 FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT, BACKE JOINT WITH 3/4" BOD + CLAMPS (PROVIDE (2) COATS OF BIRK. PAINT AFTER ASST.)

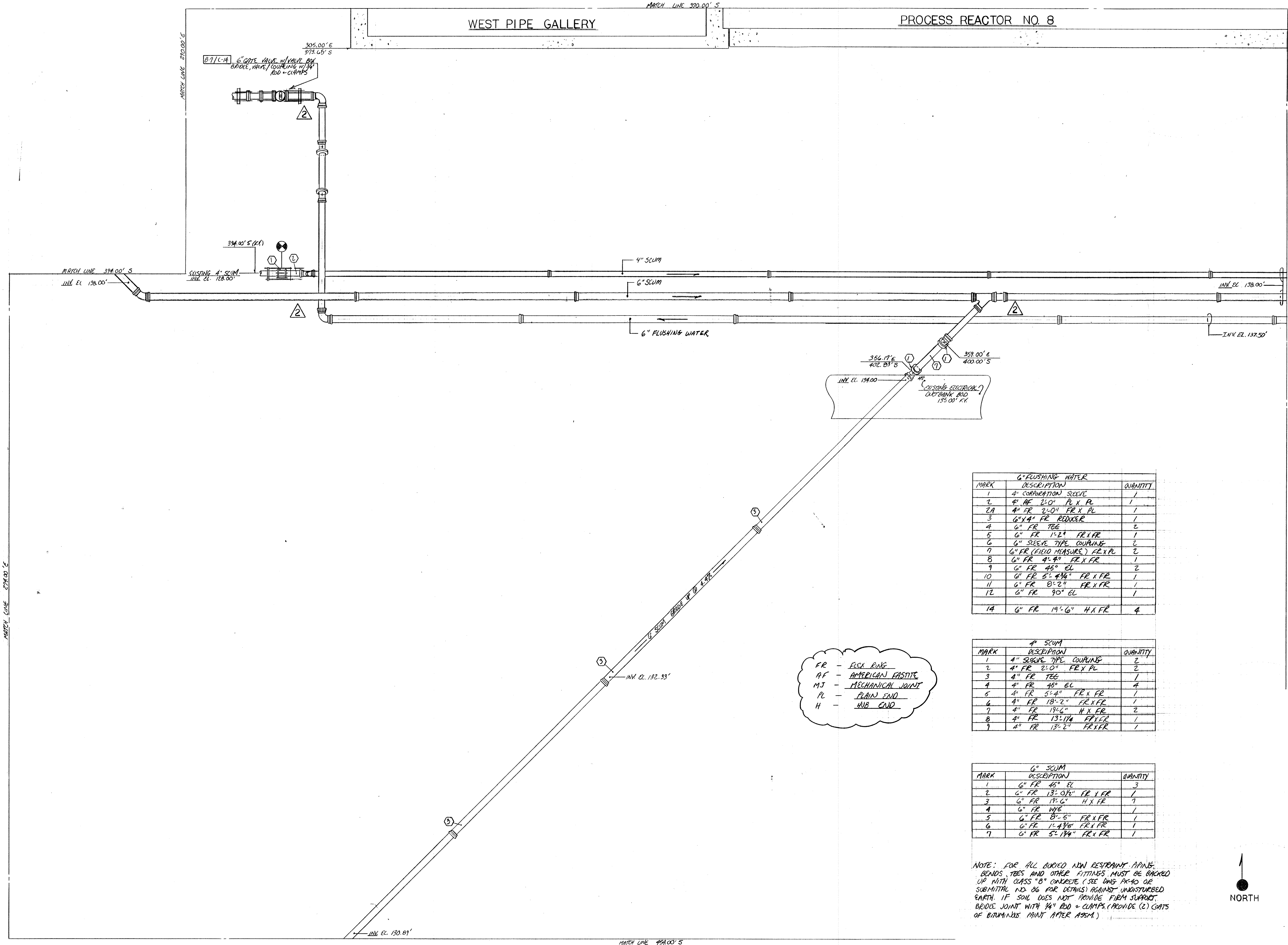


9-2294 AS BUILT	
NO.	DATE
APPROVED AS NOTED / ISSUE FOR CONSTRUCTION	
REVISION	
The Poole & Kent Co./James W. Miller, Inc. (A Joint Venture)	
4530 Hoffman Ferry Road Baltimore, MD 21227	
LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5 HOWARD COUNTY, MARYLAND	
TITLE: YARD PIPING	
JOB: PK-2425	DRAWING:
DRAWN: M. DOBBS	PK-24
SCALE: 1/4" = 1'-0"	
DATE: 12-15-72	



WEST PIPE GALLERY

PROCESS REACTOR NO. 8



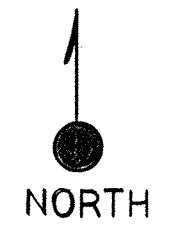
MARK	DESCRIPTION	QUANTITY
1	4" CORROSION SLEEVE	1
2	4" AF 2'-0" PL X PL	1
2A	4" FR 2'-0" FR X PL	1
3	6" X 4" FR REDUCER	1
4	6" FR TEE	2
5	6" FR 1'-2" FR X FR	1
6	6" SLEEVE TYPE COUPLING	2
7	6" FR (FIELD MEASURE) FR X PL	2
8	6" FR 4'-4" FR X FR	1
9	6" FR 45° EL	2
10	6" FR 5'-4 3/4" FR X FR	1
11	6" FR 8'-2" FR X FR	1
12	6" FR 90° EL	1
14	6" FR 19'-6" H X FR	4

MARK	DESCRIPTION	QUANTITY
1	4" SLEEVE TYPE COUPLING	2
2	4" FR 2'-0" FR X PL	2
3	4" FR TEE	1
4	4" FR 45° EL	4
5	4" FR 5'-4" FR X FR	1
6	4" FR 18'-2" FR X FR	1
7	4" FR 19'-6" H X FR	2
8	4" FR 13'-1 1/4" FR X PL	1
9	4" FR 13'-2" FR X FR	1

MARK	DESCRIPTION	QUANTITY
1	6" FR 45° EL	3
2	6" FR 13'-0 1/4" FR X FR	1
3	6" FR 19'-6" H X FR	7
4	6" FR WYE	1
5	6" FR 8'-5" FR X FR	1
6	6" FR 12'-4 3/8" FR X FR	1
7	6" FR 5'-1 3/4" FR X FR	1

FR - FLEX RING  
 AF - AMERICAN FASSTIC  
 MJ - MECHANICAL JOINT  
 PL - PLAIN END  
 H - HUB END

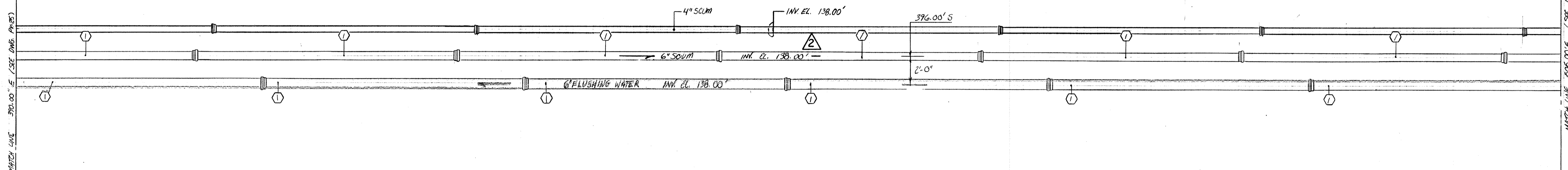
NOTE: FOR ALL BURIED NON RESTRAINT APINS, BENDS, TEES AND OTHER FITTINGS, MUST BE BACKED UP WITH CLASS "B" CONCRETE (SEE DWG PK-40 OR SUBMITTAL NO. 06 FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT, BRIDGE JOINT WITH 3/4" ROD + CLUMPS (PROVIDE (2) COATS OF BITUMINOUS PAINT AFTER ASSEMBLY)



9-22-94 AS BUILT	
1-23-93 APPROVED ISSUE FOR CONSTRUCTION	
NO.	DATE
REVISION	
The Poole & Kennel Co./James W. Miller, Inc. (A Joint Venture)	
4530 Hatfield Ferry Road Baltimore, MD 21227	
LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5 HOWARD COUNTY, MARYLAND	
TITLE: YARD PIPING	
JOB: PK-92125	DRAWING:
DRAWN: M. DOBBS	PK-25
SCALE: 1/4" = 1'-0"	DATE: 12-11-92

MATCH LINE 370.00'S  
**PROCESS REACTOR NO. 8**

373.65' (ELEV)

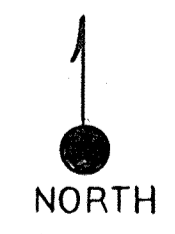



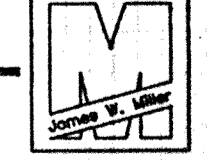
6" FLUSHING WATER		
MARK	DESCRIPTION	QUANTITY
1	6" FR 19'6" HX FR	6

6" SCUM		
MARK	DESCRIPTION	QUANTITY
1	6" FR 19'6" HX FR	6

4" SCUM		
MARK	DESCRIPTION	QUANTITY
1	4" FR 19'6" HX FR	6

FR - FLEX RING  
 H - HUB END  
 PL - PLAIN END  
 AF - AMERICAN EPASTE  
 MJ - MECHANICAL JOINT

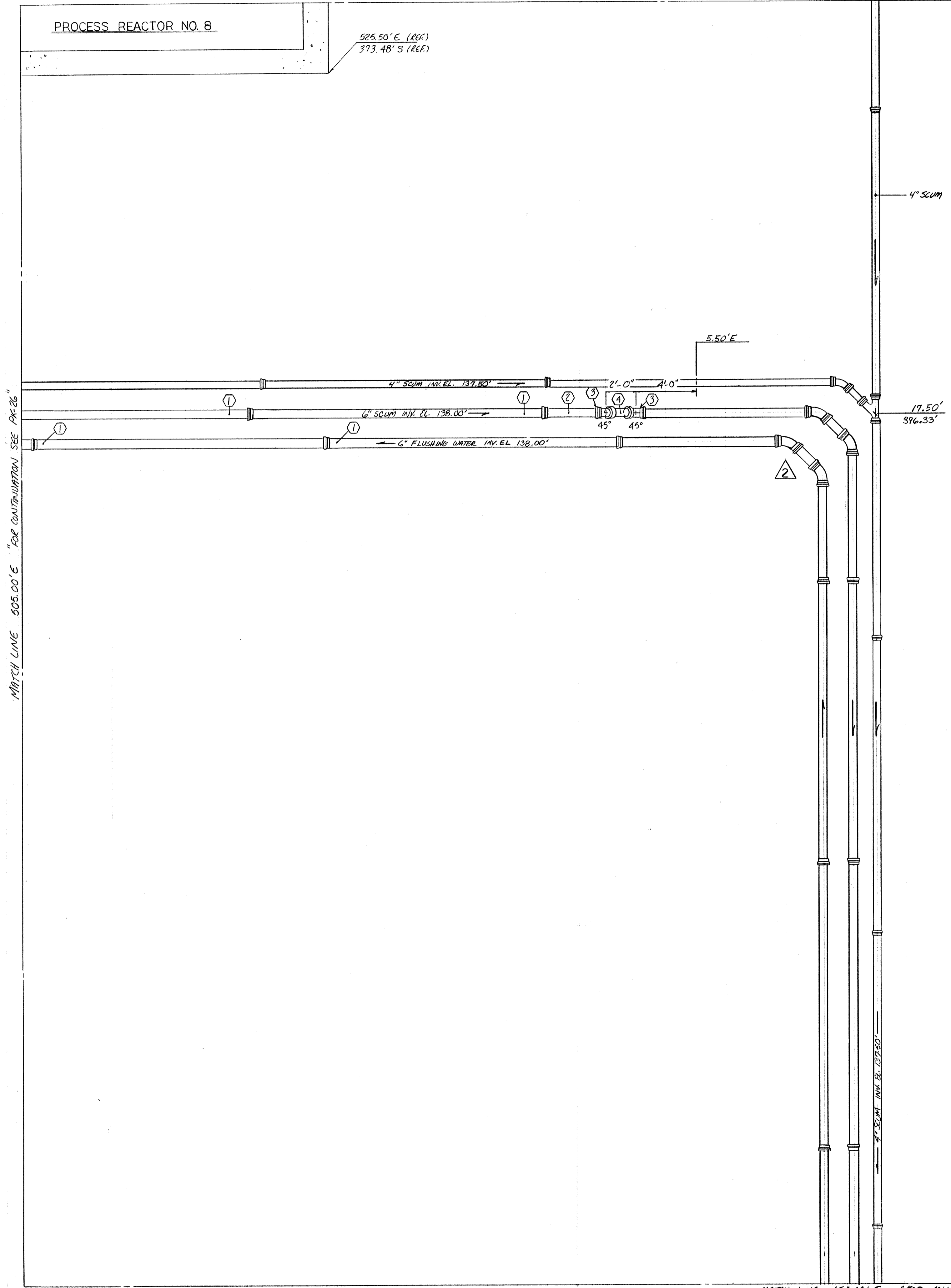


8-4-94 AS BUILT	
1-23-93 APPROVED ISSUE FOR CONSTRUCTION	
NO.	REVISION
The Poole & Kent Co./James W. Miller, Inc. (A Joint Venture) 4530 Hollins Ferry Road Baltimore, MD 21227	
 	
<b>LITTLE PATUXENT                  WASTEWATER TREATMENT PLANT EXPANSION                  ADDITION NO. 5</b> HOWARD COUNTY, MARYLAND	
TITLE: <b>YARD PIPING</b>	
JOB: PK: 92125	DRAWING:
DRAWN: M. DeBBS	PK-26
SCALE: 1/4" = 1'-0"	
DATE: 12-17-92	

"FOR CONTINUATION SEE PK-22" MATCH LINE 369.00' S

PROCESS REACTOR NO. 8

526.50'E (REF)  
373.48'S (REF)



MATCH LINE 508.00' E "FOR CONTINUATION SEE PK-26"

6" FLUSHING WATER		
MARK	DESCRIPTION	QUANTITY
1	6" FR 18" 6" H X FR	5
2	6" FR 4" 1" FR X FR	1
3	6" FR 45° EL	6
4	6" FR 2" 4" FR X FR	3
5	6" FR 3" 6" FR X FR	1
6	6" FR 2" 6" FR X FR	1

6" SCUM		
MARK	DESCRIPTION	QUANTITY
1	6" FR 18" 6" H X FR	5
2	6" FR 16" 6 1/2" H X FR	1
3	6" FR 45° EL	2
4	6" FR 2" 4" FR X FR	1
5	6" FR 2" 0" FR X FR	1

4" SCUM		
MARK	DESCRIPTION	QUANTITY
1	4" FR 18" 6" H X FR	3
2	4" FR 18" 6" H X FR	1
3	4" FR 45° EL	5
4	4" FR 2" 6" FR X FR	1
5	4" FR 2" 10" FR X FR	1
6	4" FR WYE	1
7	4" FR 1" 3 3/4" FR X FR	1
8	4" FR 1" 10" FR X FR	1
9	4" FR 4" 9 1/2" FR X FR	2
10	4" FR 9" 2 1/2" H X FR	1

FR - FLEX RING  
AF - AMERICAN FASTITE  
MJ - MECHANICAL JOINT  
PL - PLAIN END  
H - HUB END

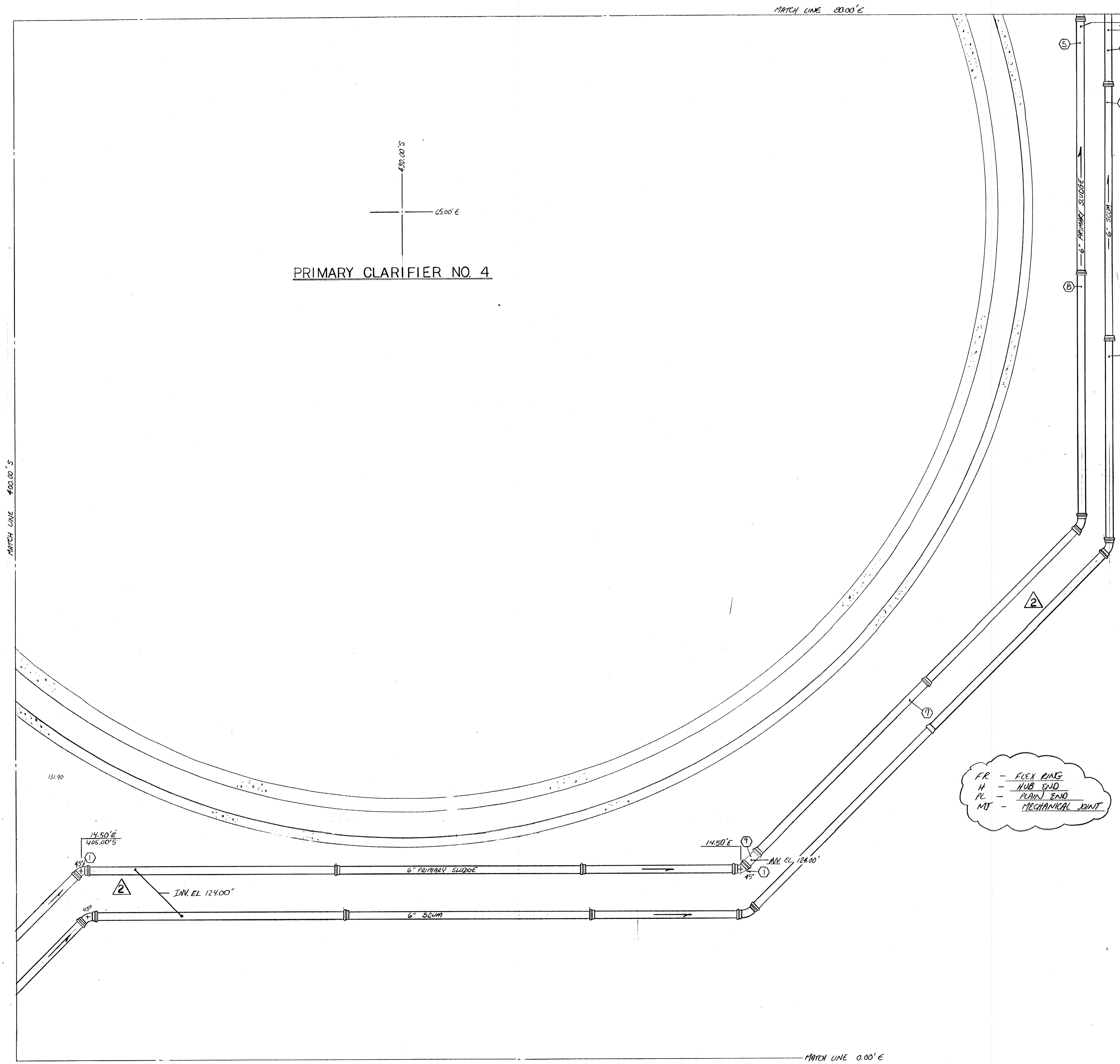
NOTE: FOR ALL BURIED NON RESTRAINT PIPING, BENDS, TEE'S AND OTHER FITTINGS MUST BE BACKED UP WITH CLASS "B" CONCRETE (SEE SUBMITTAL NO. 86 FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT BIDDLE JOINT WITH 3/4" ROD + CLAMPS (PROVIDE 2 COATS OF BITUMINOUS PAINT AFTER ASSM.)



8-5-94 AS BUILT	
2/23/93 APPROVED/ISSUE FOR CONSTRUCTION	
NO.	REVISION
The Poole & Kent Co./James W. Miller, Inc. (A Joint Venture) 4530 Hollins Ferry Road Baltimore, MD 21227	
LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5 HOWARD COUNTY, MARYLAND	
TITLE: <b>YARD PIPING</b>	
JOB: PK: 92125	DRAWING:
DRAWN: M. DOBBS	PK-27
SCALE: 1/4" = 1'-0"	
DATE: 1-29-93	

MATCH LINE 454.00' S "FOR CONTINUATION SEE DWG. PK-31"

PRIMARY CLARIFIER NO. 4



6" PRIMARY SLODGE		
MARK	DESCRIPTION	QUANTITY
1	6" FR 45° EL	3
2	6" FR 21.7° FR X FR	1
3	6" FR 23.4° EL	2
4	6" FR 8.11° FR X FR	1
5	6" FR 19.6° H X FR	4
6	6" FR 15.63° FR X FR	1
7	6" FR 18.1034° FR X FR	1
8	6" FR 15.6° FR X FR	1

6" SCUM		
MARK	DESCRIPTION	QUANTITY
1	6" FR 45° EL	3
2	6" FR 71.964° FR X FR	1
3	6" FR 112.4° EL	2
4	6" FR 15.3° FLEX R	1
5	6" FR 19.6° H X FR	5
6	6" FR 2.11° FR X FR	1
7	6" FR 18.6° H X FR	1
8	6" FR 12.0° FR X FR	1
9	6" FR 12.976° FR X FR	1

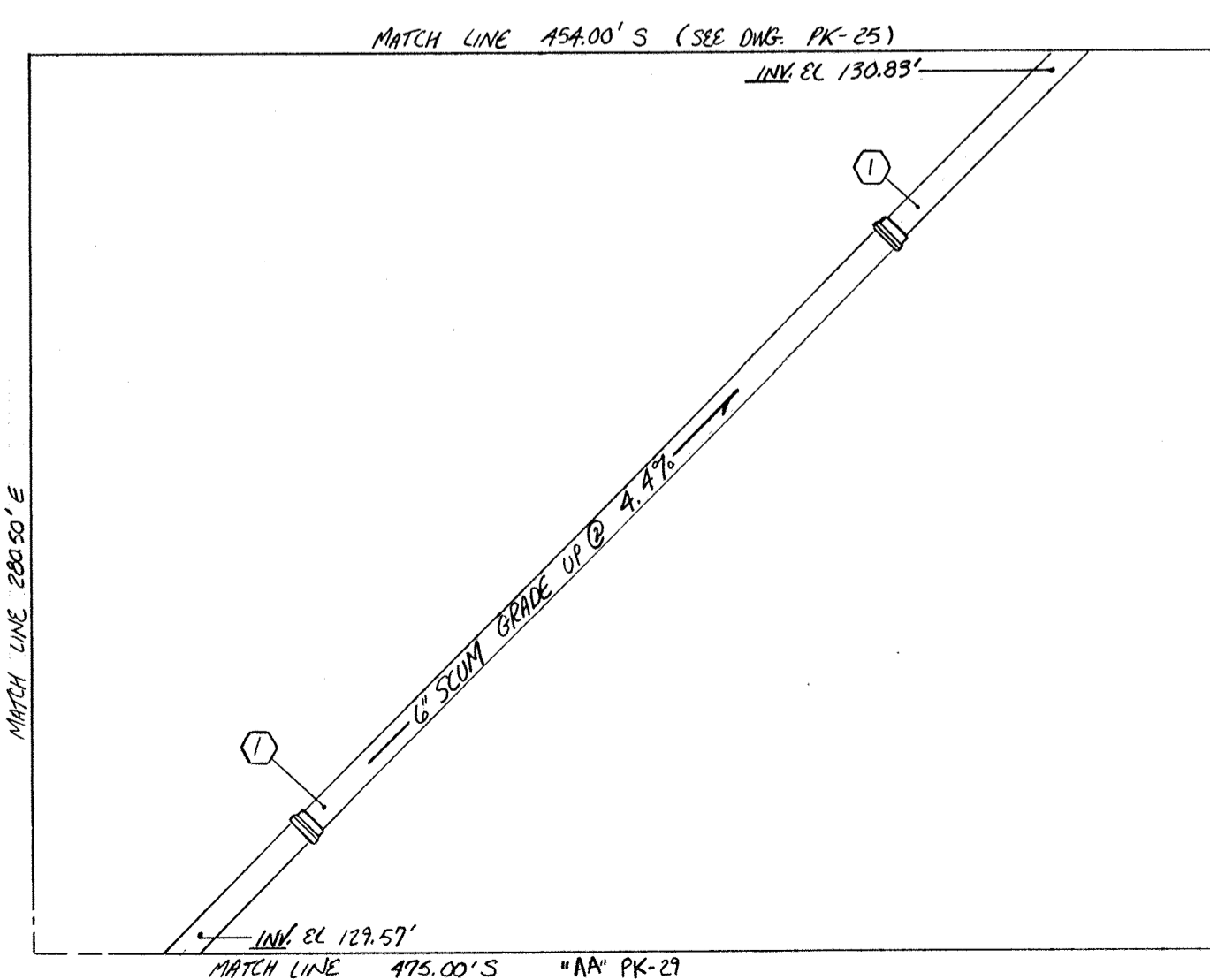
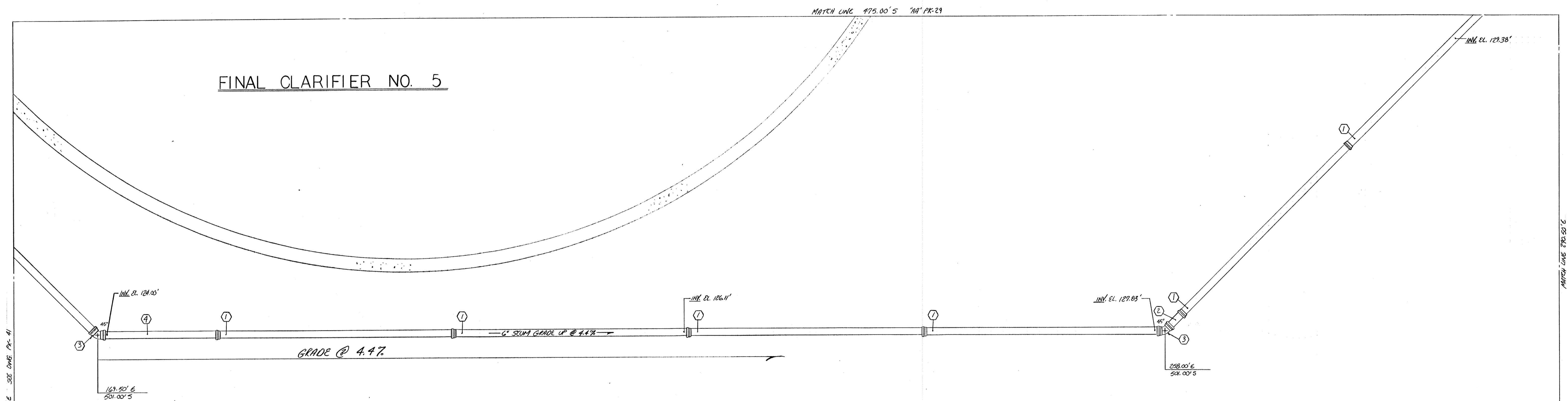
FR - FLEX RING  
H - HUB END  
PL - PLAIN END  
MJ - MECHANICAL JOINT

NOTE: FOR ALL BURIED NON RESTRAINT PIPING, BENDS, TEES AND OTHER FITTINGS MUST BE BACKED UP WITH CLASS B CONCRETE (SEE DWG. PK-90 OR SUBMITTAL NO. BE FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT, BRIDGE JOINT WITH 3/4" ROD + CLAMPS (PROVIDE (C) COATS OF BITUM. PAINT AFTER ASSY.)



		<b>6-5-94 AS BUILT</b> 1-30-93 APPROVED AS NOTED / ISSUE FOR CONST. NO. DATE REVISION	
The Poole & Kent Co./James W. Miller, Inc. (A Joint Venture) 4530 Hollins Ferry Road Baltimore, MD 21227			
<b>LITTLE PATUXENT          WASTEWATER TREATMENT PLANT EXPANSION          ADDITION NO. 5</b> HOWARD COUNTY, MARYLAND			
TITLE: <p style="text-align: center; font-size: 1.2em;"><b>YARD PIPING</b></p>			
JOB: PK: 92/25 DRAWN: M. DOBBS SCALE: 1/4" = 1'-0" DATE: 12-08-92		DRAWING: <p style="text-align: center; font-size: 1.2em;"><b>PK-28</b></p>	

FINAL CLARIFIER NO. 5

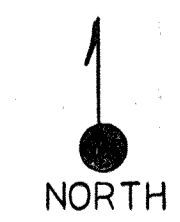


PART PLAN

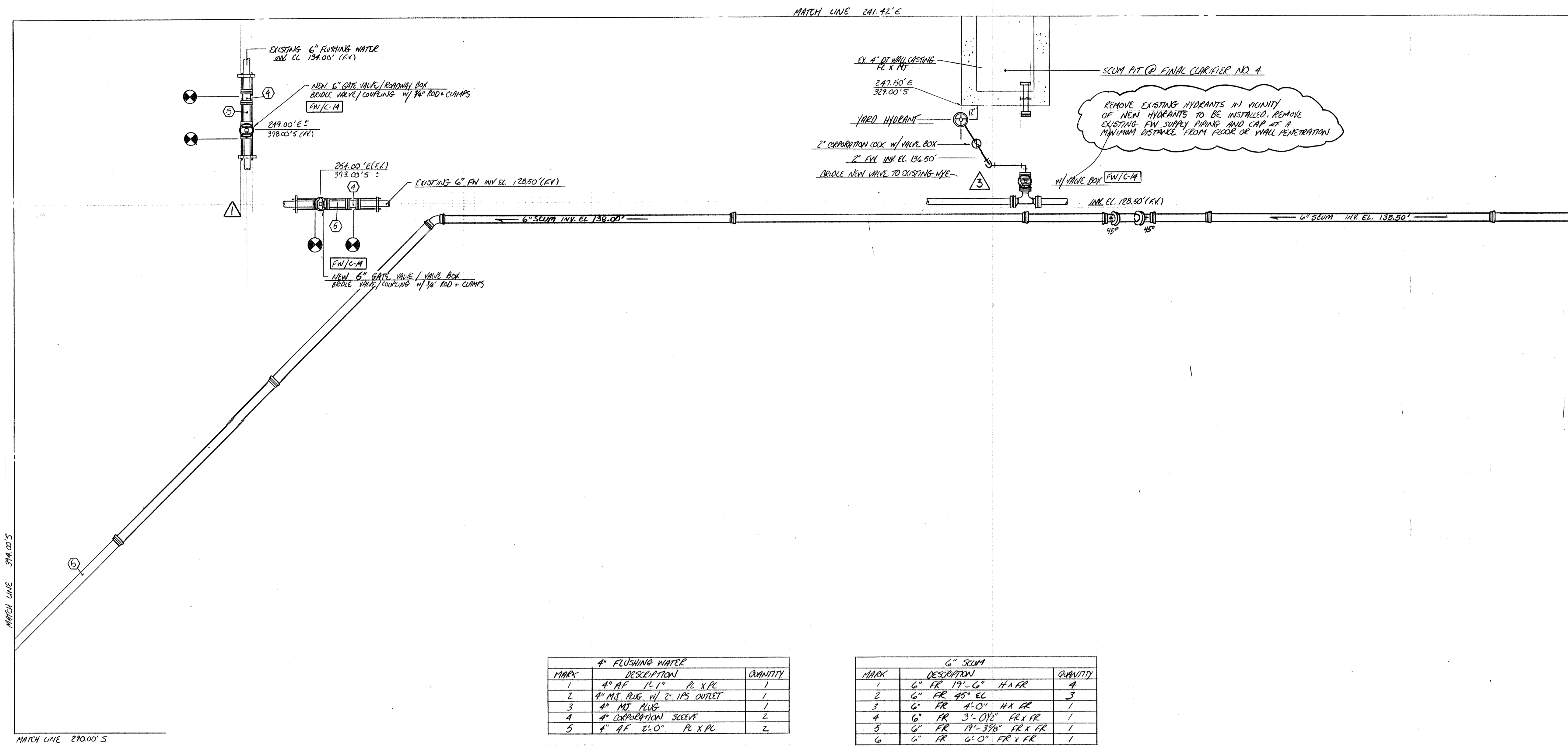
FR - FLEX RING  
 MJ - MECHANICAL JOINT  
 H - HUB  
 PL - PLAIN END  
 AF - AMERICAN FASTITE

MARK	DESCRIPTION	QUANTITY
1	6" FR 19.6" H X FR	8
2	6" FR 12.9 3/4" FR X FR	1
3	6" FR 45" EL	2
4	6" FR 10.0" FR X FR	1

NOTE: FOR ALL BURIED NON RESTRAINT PIPING, BENDS TEES AND OTHER FITTINGS MUST BE BACKED UP WITH CLASS B CONCRETE. (SEE DWG. PK-40 OR SUBMITTAL NO. 86 FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT BRIDGE JOINT WITH 3/4" ROD & CLAMPS. (PROVIDE 2 COATS OF BITUM. PAINT AFTER ASSY.)



8 5 94 AS BUILT	
1-25-93 APPROVED/ISSUE FOR CONSTRUCTION	
NO.	REVISION
The Poole & Kent Co./James W. Miller, Inc. (A Joint Venture) 4530 Hoffman Ferry Road Baltimore, MD 21227	
LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5 HOWARD COUNTY, MARYLAND	
TITLE: <b>YARD PIPING</b>	
JOB: PK- 92125	DRAWING:
DRAWN: M. DOBOS	PK-29
SCALE: 1/4" = 1'-0"	
DATE: 12-11-92	



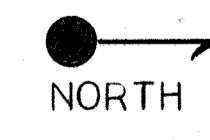
4" FLUSHING WATER		
MARK	DESCRIPTION	QUANTITY
1	4" AF 12'1" PL X PL	1
2	4" MS PLUG W/ 2" IPS OUTLET	1
3	4" MS PLUG	1
4	4" CORPORATION SCREEN	2
5	4" AF 2'0" PL X PL	2

6" SCUM		
MARK	DESCRIPTION	QUANTITY
1	6" FR 19'-6" H X FR	4
2	6" FR 45' EL	3
3	6" FR 4'-0" H X FR	1
4	6" FR 3'-0 1/2" FR X FR	1
5	6" FR 17'-3 3/8" FR X FR	1
6	6" FR 6'-0" FR X FR	1

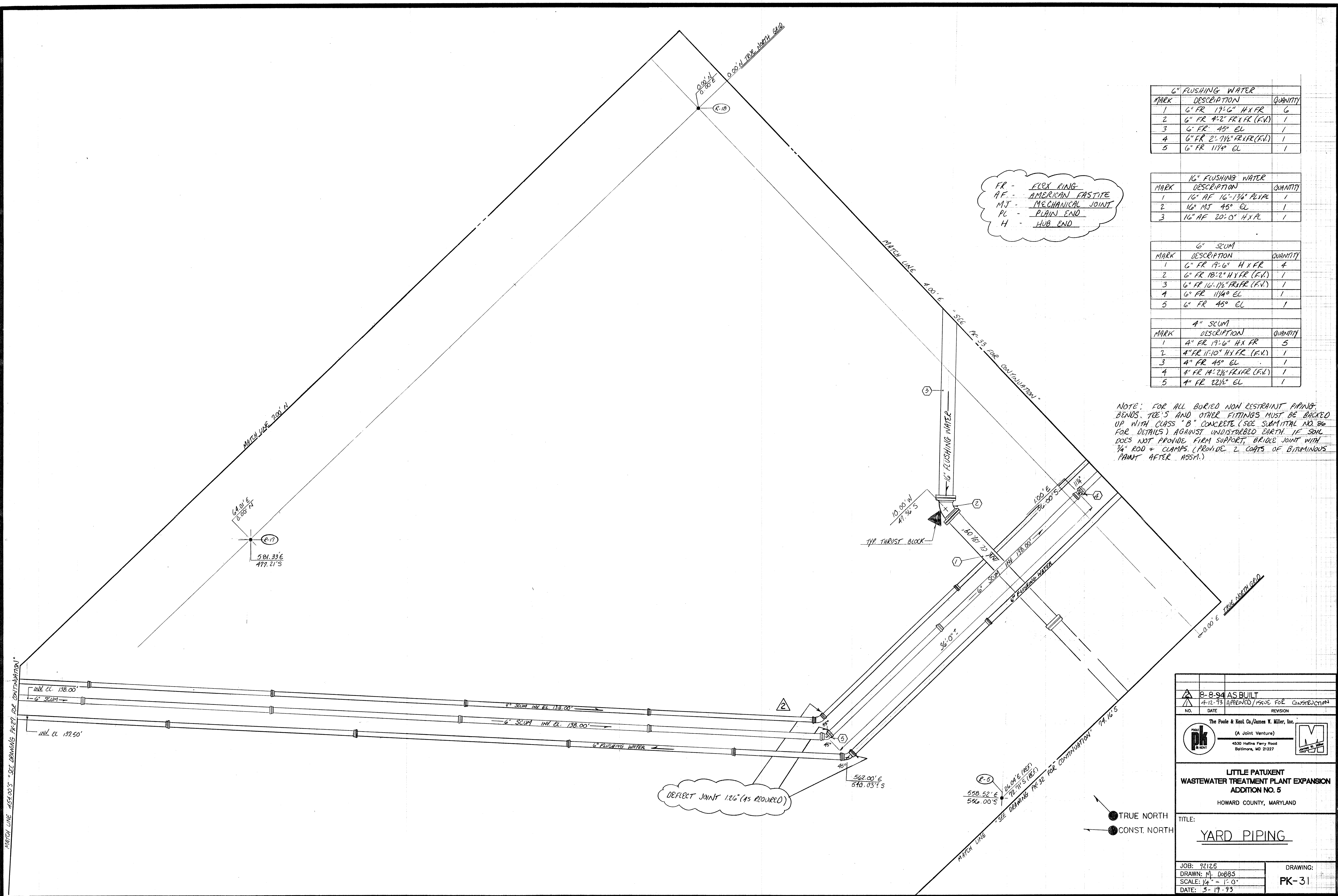
AF - AMERICAN ERCASTE  
 FR - FLEX LINE  
 H - HUB  
 PL - PLAIN END  
 MJ - MECHANICAL JOINT

REMOVE EXISTING HYDRANTS IN VICINITY OF NEW HYDRANTS TO BE INSTALLED. REMOVE EXISTING FM SUPPLY PIPING AND CAP AT A MINIMUM DISTANCE FROM FLOOR OR WALL PENETRATION

NOTE: FOR ALL BURIED NON RESTRAINT PIPING BENDS, TEES AND OTHER FITTINGS MUST BE BACKED UP WITH CLASS B CONCRETE. (SEE CWS PK-40 OR SUBMITTAL NO. 86 FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT, BRIDGE JOINT WITH 3/4" R/O AND CLAMPS (PROVIDE 2 COATS OF BUTYL PAINT AFTER ASSM)



2-5-94	AS BUILT	
1-04-91	APPENDED ISSUE FOR CONSTRUCTION	
12-10-92	ADDED 4" FM VALVES	
NO.	DATE	REVISION
The Poole & Kent Co./James W. Miller, Inc. (A Joint Venture) 4530 Hollins Ferry Road Baltimore, MD 21227		
<b>LITTLE PATUXENT          WASTEWATER TREATMENT PLANT EXPANSION          ADDITION NO. 5</b> HOWARD COUNTY, MARYLAND		
TITLE: <b>YARD PIPING</b>		
JOB: PK-92/25	DRAWING:	
DRAWN: M. DOBBS		
SCALE: 1/4" = 1'-0"		
DATE: Nov. 28, 1992		
		<b>PK-30</b>



FR - FLEX RING  
 AF - AMERICAN FASTITE  
 MJ - MECHANICAL JOINT  
 PL - PLAIN END  
 H - HUB END

6" FLUSHING WATER		
MARK	DESCRIPTION	QUANTITY
1	6" FR 17'-6" H X FR	6
2	6" FR 4'-2" FR X FR (F.V.)	1
3	6" FR 45° EL	1
4	6" FR 2'-7 1/2" FR X FR (F.V.)	1
5	6" FR 11 1/4° EL	1

16" FLUSHING WATER		
MARK	DESCRIPTION	QUANTITY
1	16" AF 16'-13 1/4" PL X PL	1
2	16" MJ 45° EL	1
3	16" AF 20'-0" H X PL	1

6" SCUM		
MARK	DESCRIPTION	QUANTITY
1	6" FR 19'-6" H X FR	4
2	6" FR 18'-2" H X FR (F.V.)	1
3	6" FR 16'-11 1/2" FR X FR (F.V.)	1
4	6" FR 11 1/4° EL	1
5	6" FR 45° EL	1

4" SCUM		
MARK	DESCRIPTION	QUANTITY
1	4" FR 19'-6" H X FR	5
2	4" FR 11'-10" H X FR (F.V.)	1
3	4" FR 45° EL	1
4	4" FR 14'-2 1/2" FR X FR (F.V.)	1
5	4" FR 22 1/2° EL	1

NOTE: FOR ALL BURIED NON RESTRAINT PIPING, BENDS, TEE'S AND OTHER FITTINGS MUST BE BACKED UP WITH CLASS "B" CONCRETE (SEE SUBMITTAL NO. 80 FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT, BRIDGE JOINT WITH 3/4" ROD + CLAMPS. (PROVIDE 2 COATS OF BITUMINOUS PAINT AFTER ASSM.)

8-8-94 AS BUILT	
4-12-93 APPROVED / ISSUE FOR CONSTRUCTION	
NO.	REVISION
The Poole & Kest Co./James V. Miller, Inc. (A Joint Venture)	
4530 Hollins Ferry Road Baltimore, MD 21227	
LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5 HOWARD COUNTY, MARYLAND	
TITLE: <b>YARD PIPING</b>	
JOB: 92125	DRAWING:
DRAWN: M. DOBBS	PK-31
SCALE: 1/4" = 1'-0"	
DATE: 3-19-93	

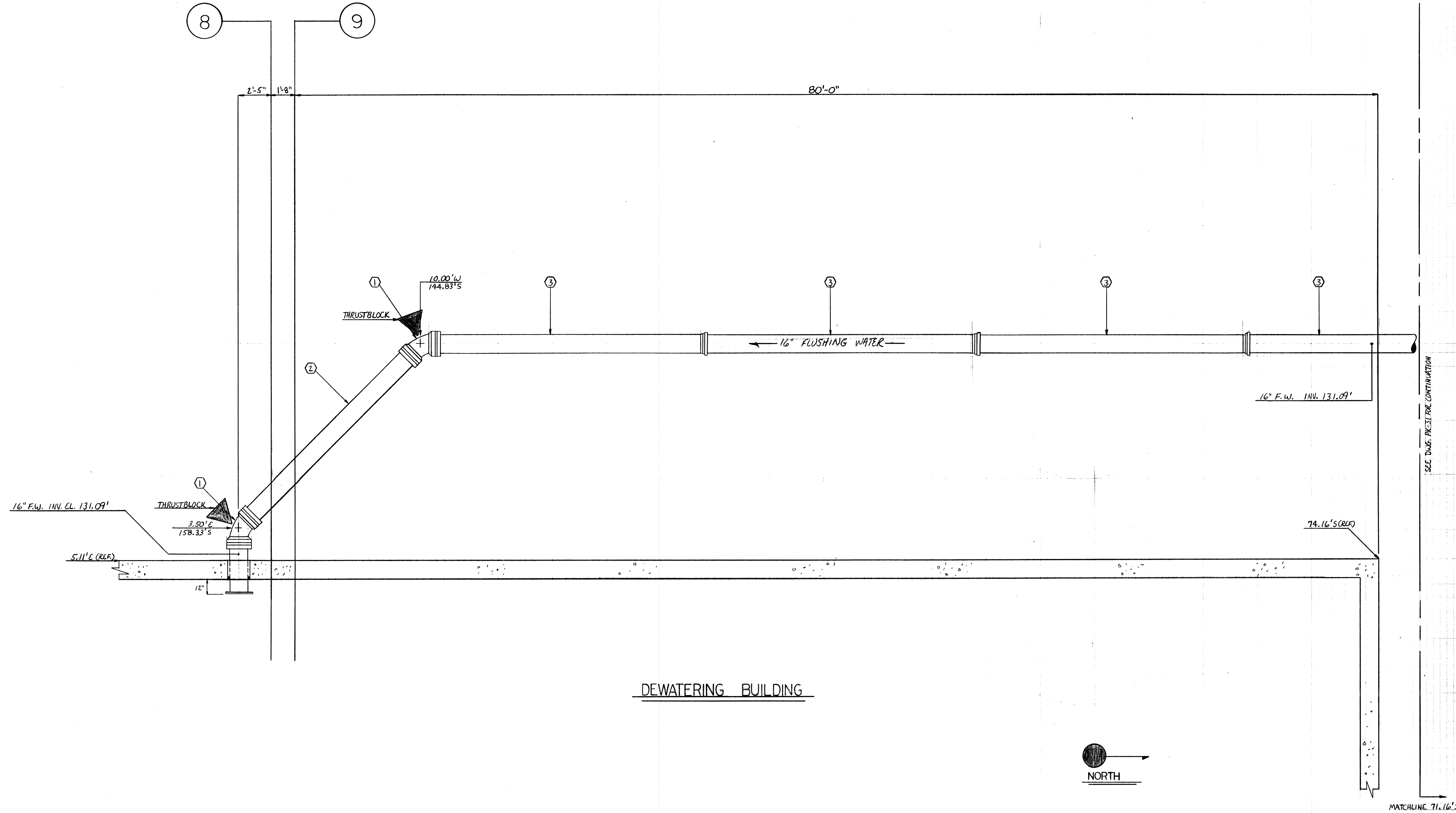
TRUE NORTH  
 CONST. NORTH

MATCHLINE 71.16'S

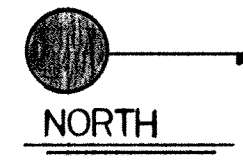
1/6" FLUSHING WATER		
MARK	DESCRIPTION	QTY.
1	1/6" M.J. 45° EL.	2
2	1/6" A.F. 17'-8 7/8" PE*PE	1
3	1/6" A.F. 20'-0" H*PE	4

NOTE: FOR ALL BURIED NON-RESTRAINT PIPING, BENDS, TEE'S, AND OTHER FITTINGS MUST BE BACKED UP WITH CLASS "B" CONCRETE. (SEE DWG. PK-40 OR SUBMITTAL NO. 86 FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT, BRIDLE JOINT WITH 3/4" ROD & CLAMPS. (PROVIDE 2 COATS BITUM. PAINT AFTER ASSEMBLY.)

ABBREVIATIONS	
M.J.	- MECHANICAL JOINT
A.F.	- AMERICAN FASTITE



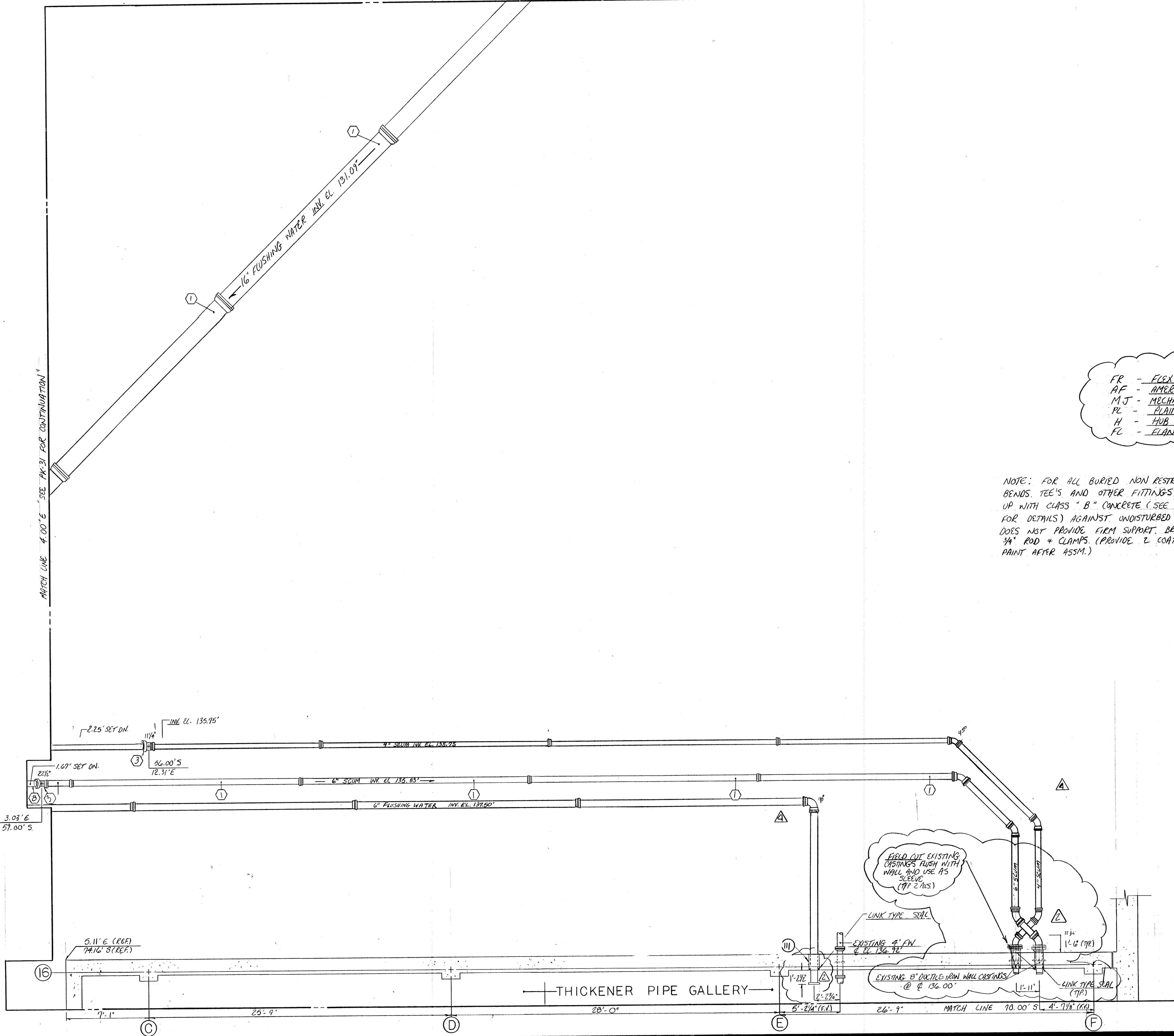
DEWATERING BUILDING



8-8-94 AS BUILT	
3-01-93 APPROVED / ISSUE FOR CONSTRUCTION	
NO.	REVISION
The Poole & Kent Co./James W. Miller, Inc. (A Joint Venture) 4530 Hollins Ferry Road Baltimore, MD 21227	
<b>LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5</b> HOWARD COUNTY, MARYLAND	
TITLE:	
<u>YARD PIPING</u>	
JOB: #92125	DRAWING:
DRAWN: D. OTTE	PK-32
SCALE: 1/4" = 1'-0"	
DATE: 2-8-93	



MATCH LINE 70.00' N "SEE DRAWING PK-34 FOR CONTINUATION"



FR - FLEX RING  
 AF - AMERICAN FASTTIE  
 MJ - MECHANICAL JOINT  
 PL - PLAIN END  
 H - HUB END  
 FL - FLANGE END

NOTE: FOR ALL BURIED NON RESTRAINT PIPING, BENDS, TEE'S AND OTHER FITTINGS MUST BE BACKED UP WITH CLASS "B" CONCRETE (SEE SUBMITTAL NO. 86 FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT, BRIDGE JOINT WITH 3/4" ROD + CLAMPS (PROVIDE 2 COATS OF BITUMINOUS PAINT AFTER ASSM.)

6" SCUM		
MARK	DESCRIPTION	QUANTITY
1	6" FR 19'-6" H X FR	3
2	6" FR 14'-10 3/8" (F.V.) FR X FR	1
3	6" FR 11 1/4" EL	1
4	6" FR 11'-3 3/8" FR X FR	1
5	6" FR 45° EL	2
6	6" FR 2'-4" FR X FR	1
7	6" FR 14'-5" FR X FR (F.V.)	1
8	6" FR 3'-6 1/8" H X G	1

4" SCUM		
MARK	DESCRIPTION	QUANTITY
1	4" FR 19'-6" H X FR	4
2	4" FR 2'-10 3/8" FR X FR (F.V.)	1
3	4" FR 22 1/2" EL	1
4	4" FR 45° EL	2
5	4" FR 2'-6" FR X FR	1
6	4" FR 11'-5" (F.V.) FR X FR	1
7	4" FR 3'-4" H X G	1
8	4" FR 4'-1 3/8" FR X FR	1

6" FLUSHING WATER		
MARK	DESCRIPTION	QUANTITY
1	6" FR 19'-6" H X FR	2
2	6" FR 6'-5 7/8" FR X FR	1
3	6" FR 11 1/4" EL	1
4	6" FR 16'-11 1/2" FR X FR (F.V.)	1
5	6" FR 45° EL	2
6	6" FR 3'-8 7/8" FR X FR	1
7	6" FR 4'-5 7/8" FL X FR	1

16" FLUSHING WATER		
MARK	DESCRIPTION	QUANTITY
1	16" AF 20'-0" H X PL	2

B-2294AS BUILT	5-6-93	COORDINATE W/ DRAWING PK-100
4-22-93	COORDINATE W/ DRAWING PK-100	
4-12-93	APPROVED AS NOTED / ISSUE FOR CONSTRUCTION	
NO.	DATE	REVISION

The Pools & Kent Co./James W. Miller, Inc.  
 (A Joint Venture)  
 4530 Hollins Ferry Road  
 Baltimore, MD 21227

LITTLE PATUXENT  
 WASTEWATER TREATMENT PLANT EXPANSION  
 ADDITION NO. 5  
 HOWARD COUNTY, MARYLAND

TITLE:  
**YARD PIPING**

JOB: 92125  
 DRAWN: M. DOBBS  
 SCALE: 1/4" = 1'-0"  
 DATE: MARCH 22, 1993

DRAWING:  
**PK-33**

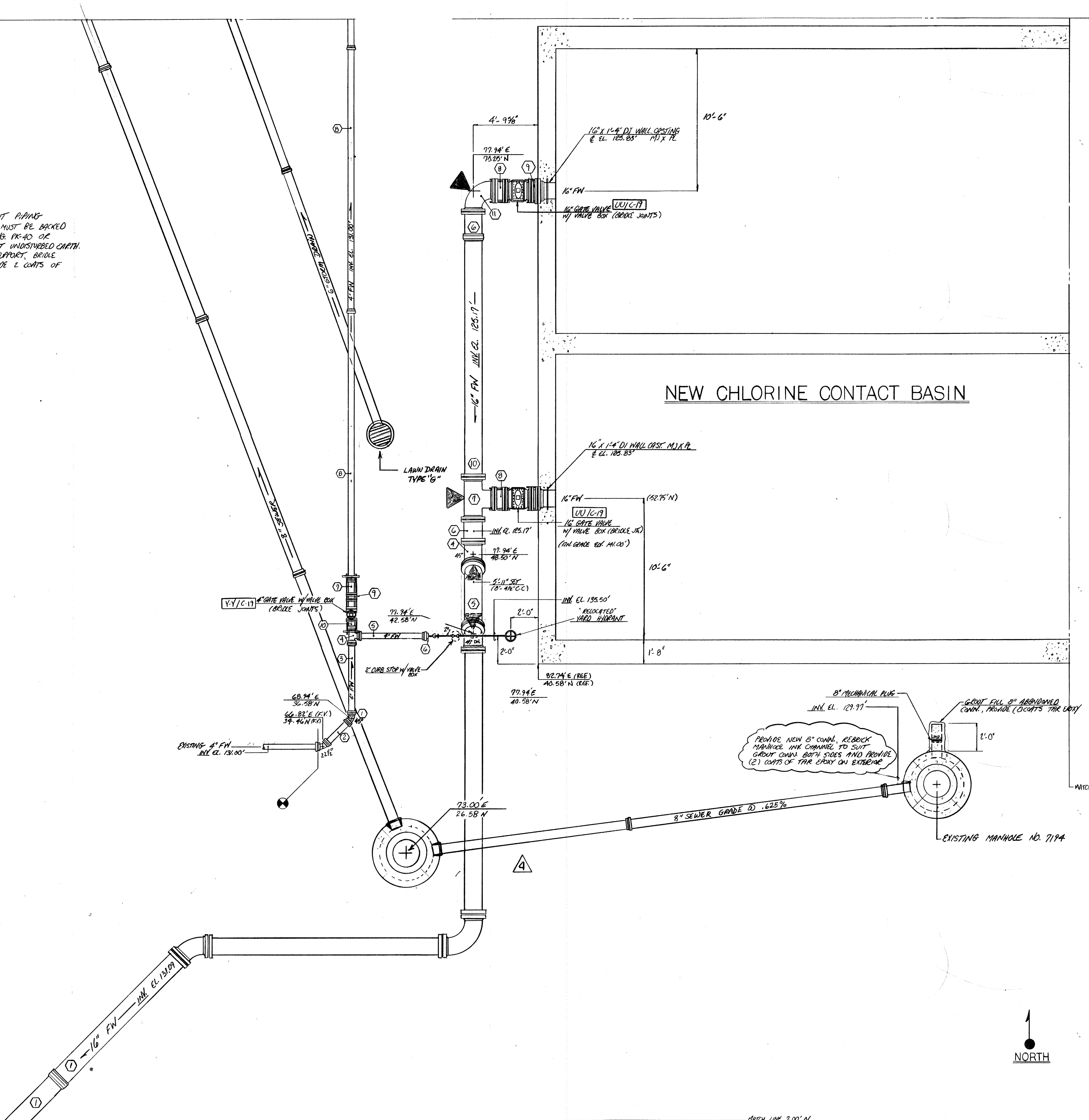
4" FLUSHING WATER		
MARK NO.	DESCRIPTION	QUANTITY
1	4" FR 45' EL	2
2	4" FE 2'-8" FR X FR (FW)	1
3	4" FR 5'-0" FR X FR	1
4	4" FR TEE	1
5	4" FR 5'-0" H X PL	1
6	4" FR PLUG W/ 2" IPS OUNDET	1
7	4" FR 2'-8" FR X PL	1
8	4" FR 19'-0" H X PL	2
9	4" CARBON STEEL SLEEVE	1
10	4" FR 14'-0" FE X PL	1

16" FLUSHING WATER		
MARK NO.	DESCRIPTION	QUANTITY
1	16" AF 30'-0" H X PL	3
2	16" AF 3'-0" H X PL	1
3	16" MS 45' EL 4 X PL	1
4	16" MS 45' EL	2
5	16" AF 2'-0" PL X PL	1
6	16" AF 2'-0" PL X PL	2
7	16" MJ TEE	1
8	16" AF 14'-3" PL X PL	2
9	16" AF 11'-3" PL X PL	2
10	16" AF 17'-8" H X PL	1
11	16" MJ 90' EL	1

F.R. - FLEX RING  
 AF - AMERICAN CASTING  
 MJ - MECHANICAL JOINT  
 PL - PLAIN END  
 H - HUB

NOTE: FOR ALL BURIED NON RESTRAINT PIPING BENDS, TEE'S AND OTHER FITTINGS MUST BE BACKED UP WITH CLASS B CONCRETE. (SEE DWG. PK-40 OF SUBMITTAL NO. 86 FOR DETAILS) AGAINST UNDISTURBED CAPTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT, BRIDGE JOINT WITH 3/4" ROD & CLAMPS (PROVIDE 2 COATS OF BOND. PAINT AFTER ASSY.)



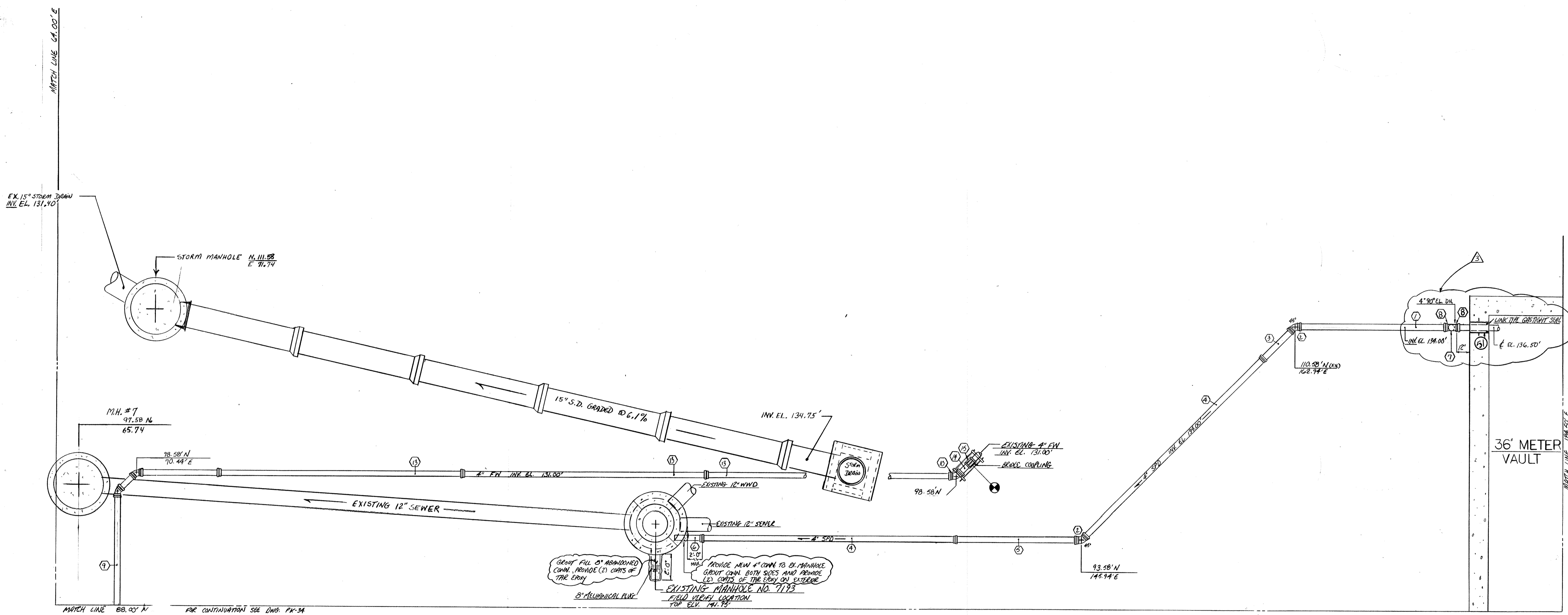
MATCH LINE 88.00' N

MATCH LINE 122.00' E

MATCH LINE 18.00' E

PROVIDE NEW 8" CORR. REBRICK MANHOLE INK CHANNEL TO SUIT GROUT CHAM. BOTH SIDES AND PROVIDE (2) COATS OF TAR EPXY ON EXTERIOR

9-15-94	AS BUILT	
12-31-92	APPROVED AS NOTED/ISSUE FOR CONST.	
11-16-92	REVISE PER ENG. NOTES FOR APPROVAL	
8-10-92	REVISE PER SUBMITTAL 13A	
NO.	DATE	REVISION
The Poole & Keel Co./James V. Miller, Inc. (A Joint Venture) 4530 Hollins Ferry Road Baltimore, MD 21227		
<b>LITTLE PATUXENT          WASTEWATER TREATMENT PLANT EXPANSION          ADDITION NO. 5</b> HOWARD COUNTY, MARYLAND		
TITLE: <b>YARD PIPING</b>		
JOB: PK: 92125	DRAWING: PK-34	
DRAWN: M. DOBBS	SCALE: 1/4" = 1'-0"	
DATE: 7-27-92		



4" SPD		
MARK	DESCRIPTION	QUANTITY
1	4" FR (FIELD MEASURE) HX FR	1
2	4" FR 45° EL	2
3	4" FR 4" 2 3/8" FR X FR	1
4	4" FR 1 1/2" 6" H X FR	2
5	4" FR (FIELD MEASURE) FR X FR	1
6	4" FR 2" 6" H X PL	1
7	4" FR 1" 8" FR X FR	1
8	4" FR 90° EL	2

15" STORM DRAIN		
MARK	DESCRIPTION	QUANTITY
1	15" RCP II - 8' 0" H X P	6
2	15" RCP II (FIELD MEASURE)	1

8" SEWER		
MARK	DESCRIPTION	QUANTITY
1	8" SDR 35 20' 0" H X PL	1
2	8" SDR 35 (FIELD MEASURE) HX FR	1

4" FLUSHING WATER		
MARK	DESCRIPTION	QUANTITY
9	4" FR 11" 3/4" H X FR	1
10	4" FR 45° EL	3
11	4" FR 1 1/2" 9/16" FR X FR	1
12	4" FR (FIELD MEASURE) FR X FR	1
13	4" FR 1 1/2" 6" H X FR	3
14	4" FR (FIELD MEASURE) FR X PL	1
15	4" SEEVIE TYPE COUPLING	1

FR FLEX RING  
 H HUB  
 PL PLAIN END

NOTE: FOR ALL BURIED NON RESISTANT PIPING, BENDS, TEES AND OTHER FITTINGS MUST BE BACKED UP WITH CLASS B CONCRETE (SEE DWG. PK-10 OR SUBMITTAL NO. 86 FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT, BRIDGE JOINT WITH 3/4" 200 # CLAMPS. (PROVIDE (2) COATS OF BITUM. PAINT AFTER BSM.)



AS BUILT	8-9-94	
REVISION	1-13-93 REVISED TO COORD. WITH PK-79	
REVISION	12-31-92 APPROVED AS NOTED / ISSUE FOR CONST.	
REVISION	11-16-91 REVISE PER ENG. NOTES FOR APPROVAL	
NO.	DATE	REVISION

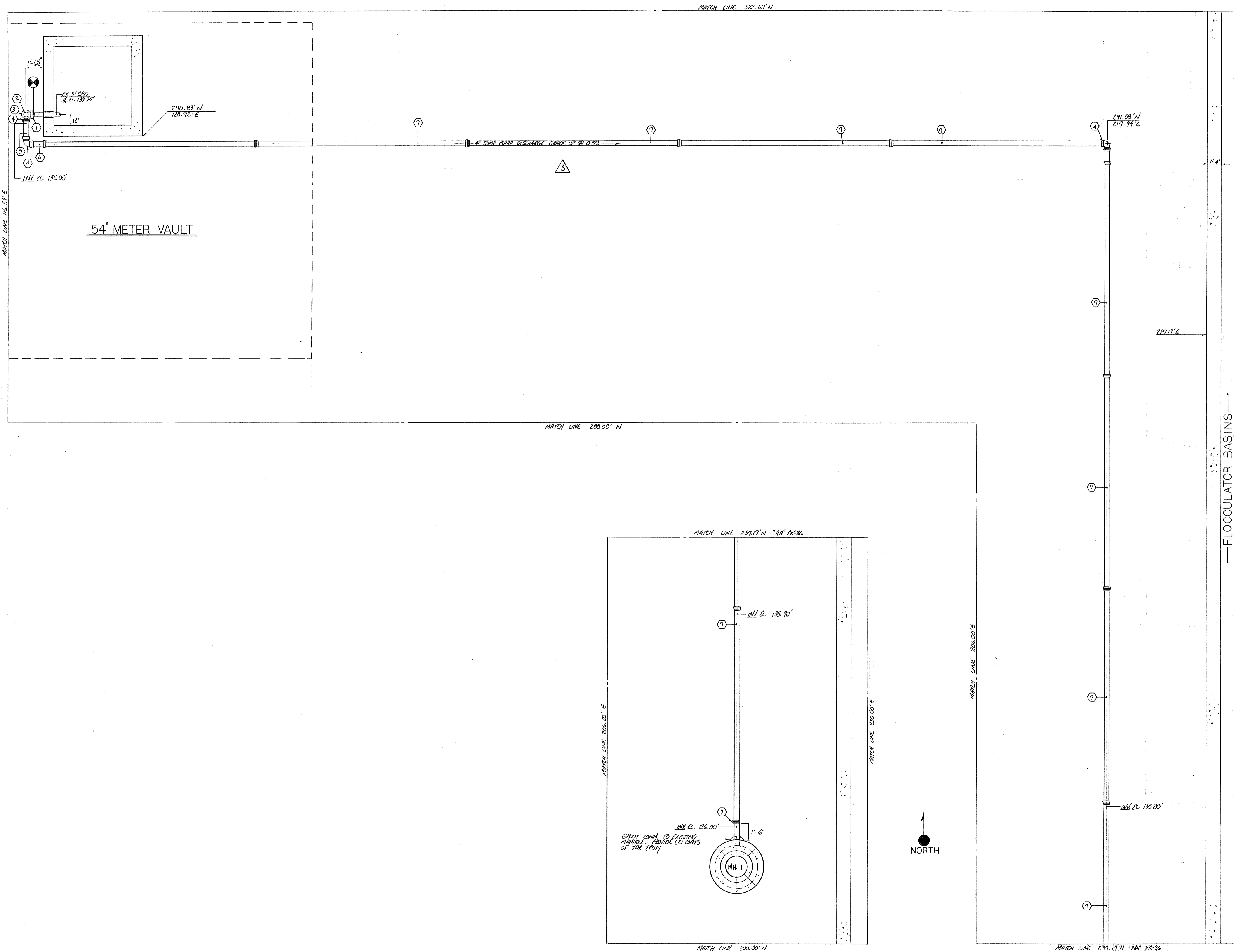
The Pool & Kent Co./James W. Miller, Inc.  
 (A Joint Venture)  
 4530 Hollins Ferry Road  
 Baltimore, MD 21227

**LITTLE PATUXENT  
 WASTEWATER TREATMENT PLANT EXPANSION  
 ADDITION NO. 5**  
 HOWARD COUNTY, MARYLAND

TITLE:  
**YARD PIPING**

JOB: PK-92125  
 DRAWN: M. DORRIS  
 SCALE: 1/4" = 1'-0"  
 DATE: 8-31-92

DRAWING:  
**PK-35**



4" SUMP PUMP DISCHARGE		
MARK	DESCRIPTION	QUANTITY
1	3" X 9'00 GAL BED COMPANION FL.	1
2	4" 90° EL. FL X FL	1
3	4" FR 3" Ø 1/2 FL X FR	1
4	4" FR 90° EL.	3
5	4" FR 2" 7" FR X FR	1
6	4" FR 1" 2 3/4" FR X FR	1
7	4" FR 19" 6" H X FR	10
8	4" FR (FIELD MEASURE) FR X FR	1
9	4" FR 2" 0" H X PL	1

FR - FLEX RING  
 FL - FLANGE END  
 H - HUB END  
 PL - FLANG END

NOTE: FOR ALL BURIED NON RESTRAINT PIPING, BRANDS, TESTS AND OTHER FITTINGS MUST BE BACKFILLED UP WITH CLASS B CONCRETE (SEE SPEC. PK-40 OR SUBMITTAL NO. 86 FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT, BRIDGE JOINT WITH 3/4" ROD + CHAIRS (PROVIDE 2 COURTS OF BITUM. PAINT AFTER ASSY.)

8-10-94 AS BUILT	
1-23-92 APPROVED	
12-31-92 REVISED PER RF1 # 143	
NO. DATE REVISION	
The Poole & Keel Co./James W. Miller, Inc. (A Joint Venture) 4530 Holms Ferry Road Baltimore, MD 21227	
<b>LITTLE PATUXENT          WASTEWATER TREATMENT PLANT EXPANSION          ADDITION NO. 5</b> HOWARD COUNTY, MARYLAND	
TITLE: <b>YARD PIPING</b>	
JOB: PK-92125	DRAWING: <b>PK-36</b>
DRAWN: M. DOBBS	SCALE: 1/4" = 1'-0"
DATE: 12-05-92	

MATCH LINE 0.00E @ 1" F"

NEW MAINTENANCE BUILDING ADDITION

7+38.75 @ 1" F (REF)  
11.33 W @ 1" F (REF)

15" SD GRADE @ 1.0%

6" SANITARY SEWER GRADE @ 2.7%

INK EL. 137.00'

INK EL. 135.98'

MATCH LINE 8+01 @ 1" F

MATCH LINE 7+01 @ 1" F

MATCH LINE 40.00 W @ 1" F

MATCH LINE 0.00 E @ 1" F

6+80.00 @ 1" F (REF)  
11.33 @ 1" F (REF)

NEW 4" SAN

6'-0"

6" SANITARY SEWER GRADE @ 2.7%

EX. MANHOLE NO. 7196

CONDUIT SHALL TO EXISTING  
MANHOLE PROVIDE 121 COATS  
OF TPE LINING

6+00.50 @ 1" F (REF)  
22.00 W @ 1" F (REF)

INK EL. 132.32'

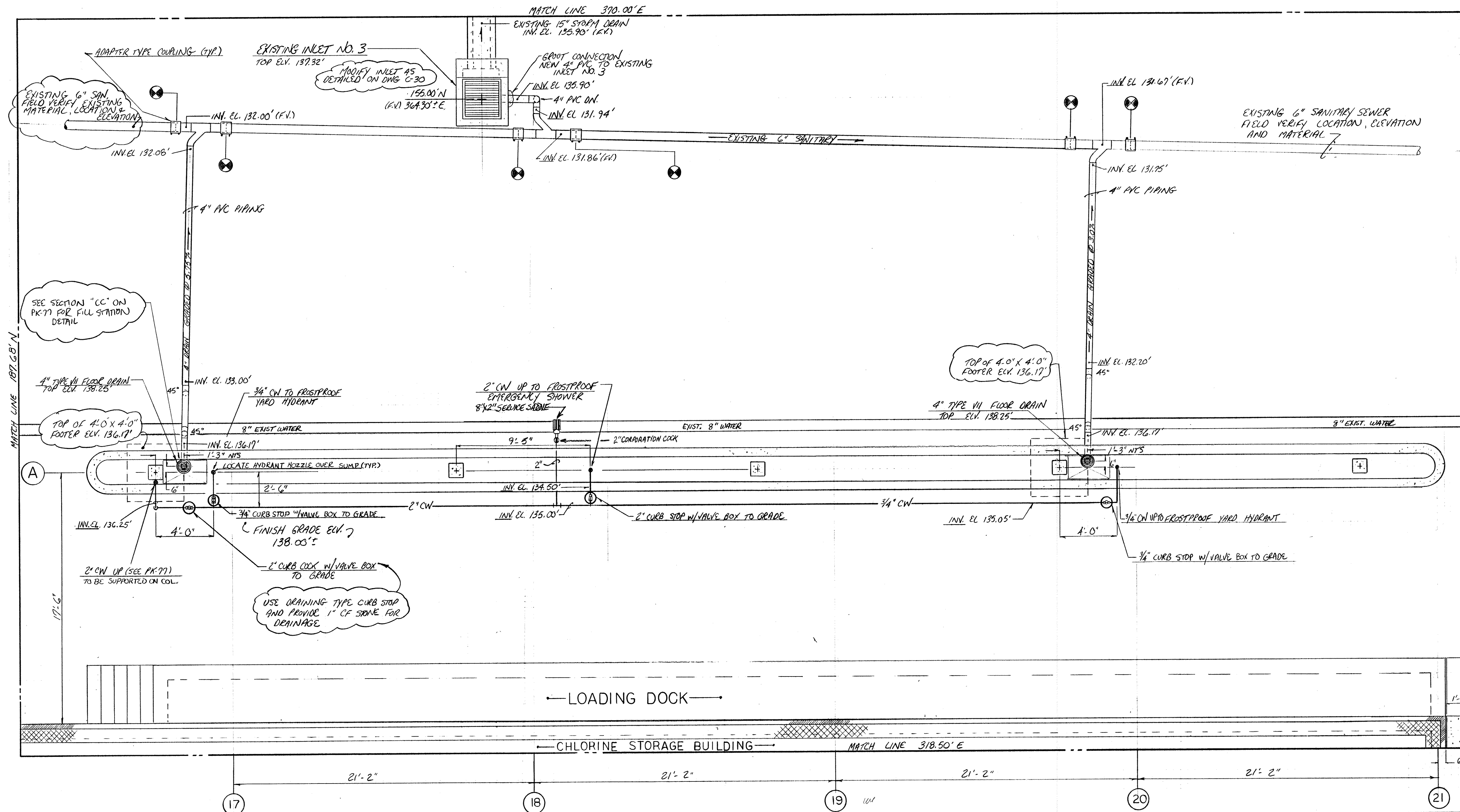
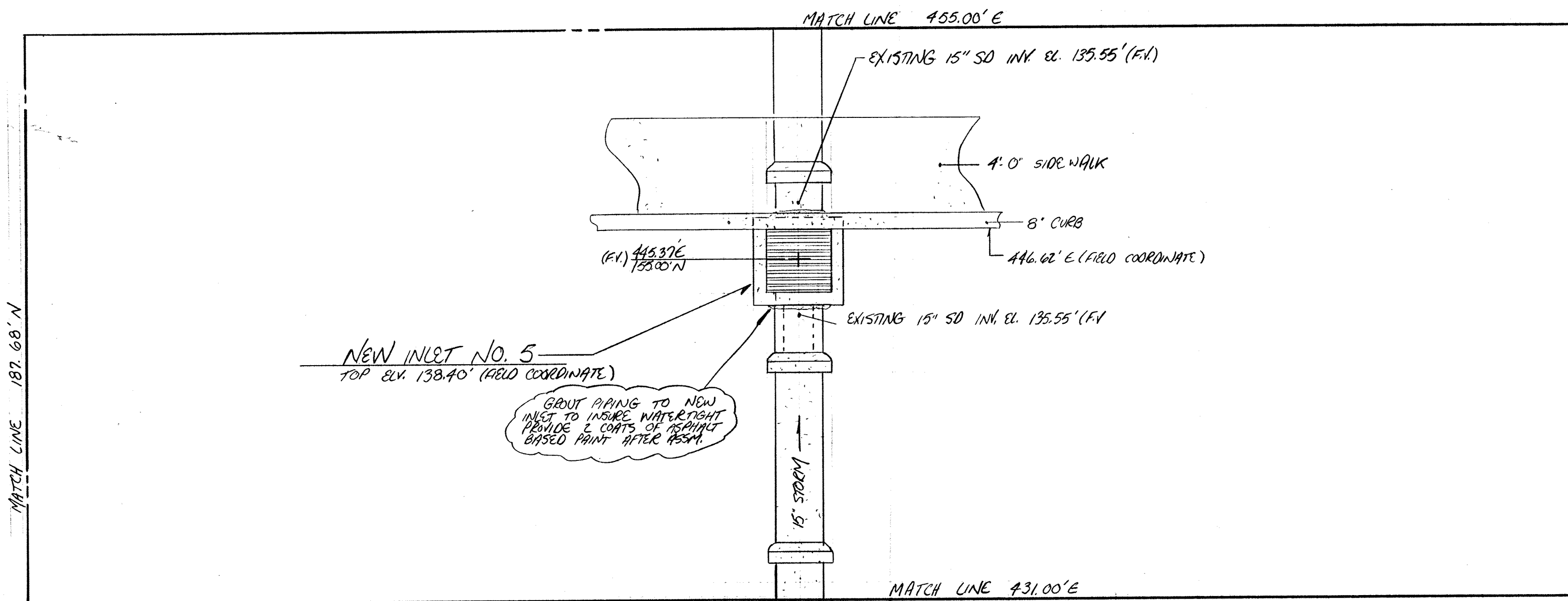
NORTH

MATCH LINE 7+01 @ 1" F

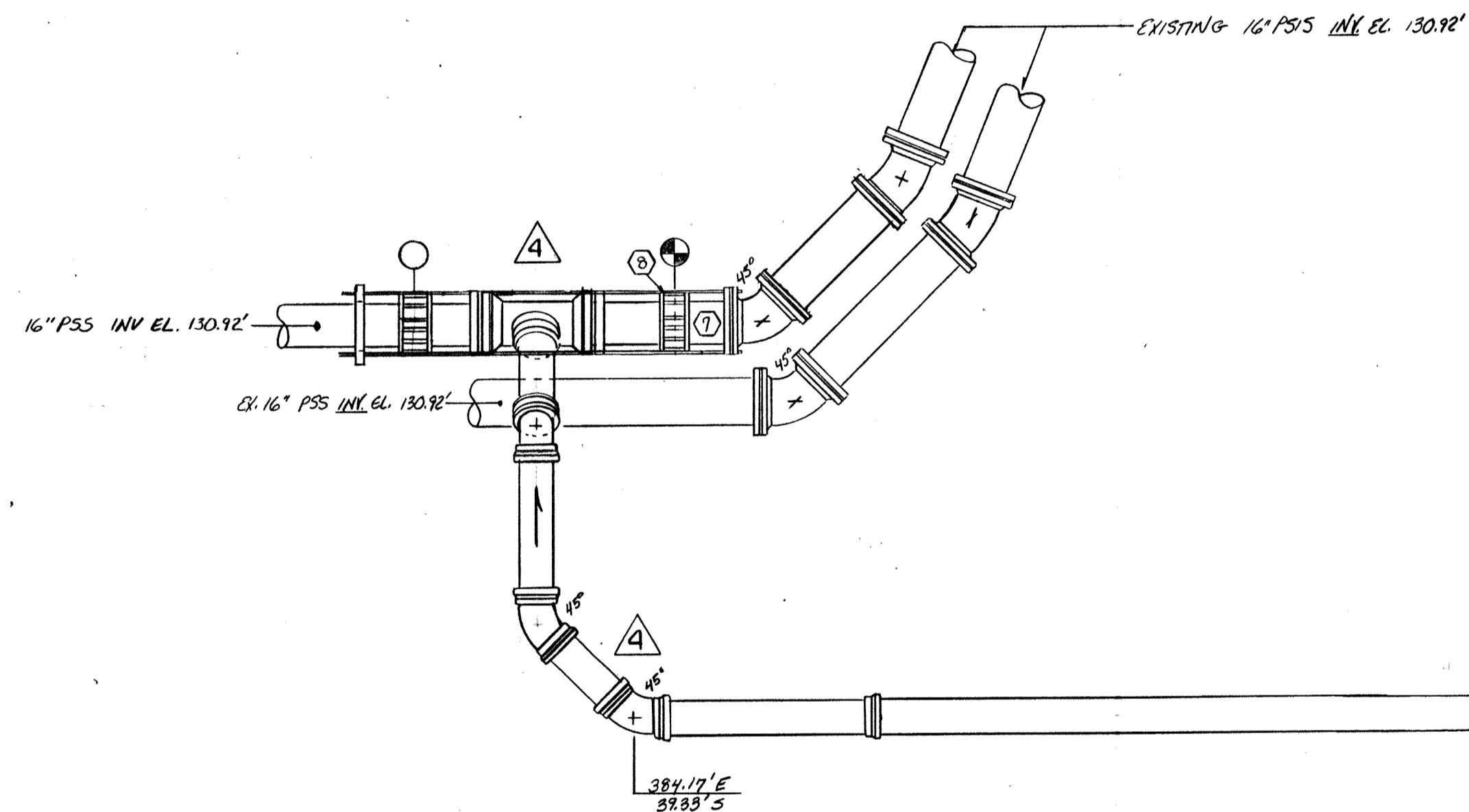
MATCH LINE 5+71 @ 1" F

MATCH LINE 40.00 W @ 1" F

9-13-94 ASBUILT	
NO.	DATE
1-23-93	APPROVED ISSUE FOR CONSTRUCTION
The Poole & Kent Co./James W. Miller, Inc. (A Joint Venture) 4530 Hollins Ferry Road Baltimore, MD 21227	
LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5 HOWARD COUNTY, MARYLAND	
TITLE: YARD PIPING	
JOB: PK: 92125	DRAWING:
DRAWN: P. DOBBS	PK-37
SCALE: 1/4" = 1'-0"	
DATE: 12-05-92	



9-9-94	AS BUILT
7-12-93	APPROVED AS NOTED/ISSUE FOR CONSTR.
5-24-93	REV. PER ENG. NOTES FOR APPROVAL
7-21-93	COORDINATE WITH PK-77
NO.	REVISION
The Poole & Kent Co./James T. Miller, Inc. (A Joint Venture) 4530 Hollins Ferry Road Baltimore, MD 21227	
<p style="text-align: center;"><b>LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5</b></p> <p style="text-align: center;">HOWARD COUNTY, MARYLAND</p>	
<p>TITLE: <b>YARD PIPING</b></p>	
JOB: PK-77	DRAWING: PK-38
DRAWN: M. DOBBS	SCALE: 1/4" = 1'-0"
DATE: APRIL 9, 1993	

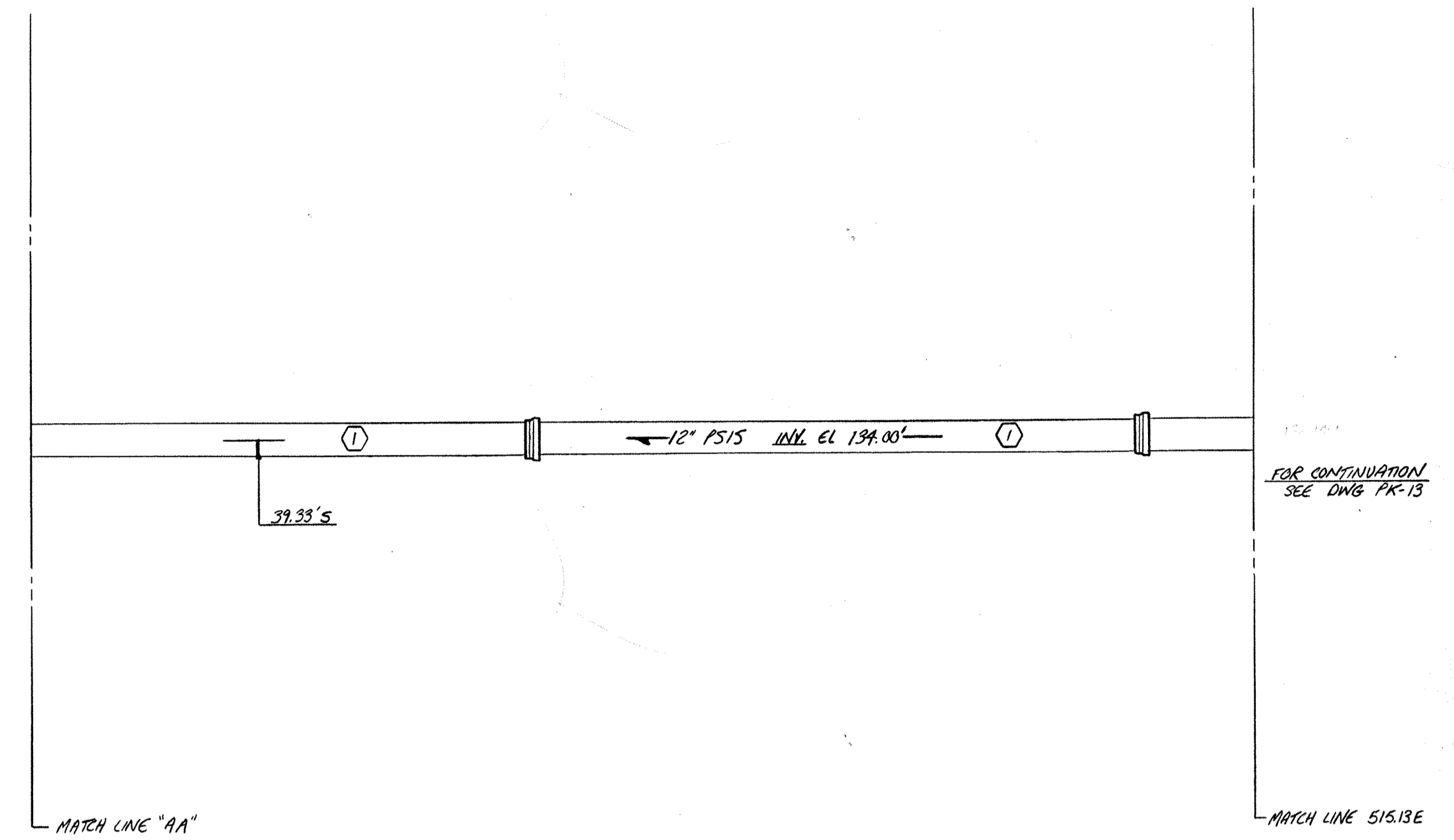


AF - AMERICAN CASITE  
 MJ - MECHANICAL JOINT  
 FR - FLEX RING  
 H - HUB  
 PL - PLAIN END

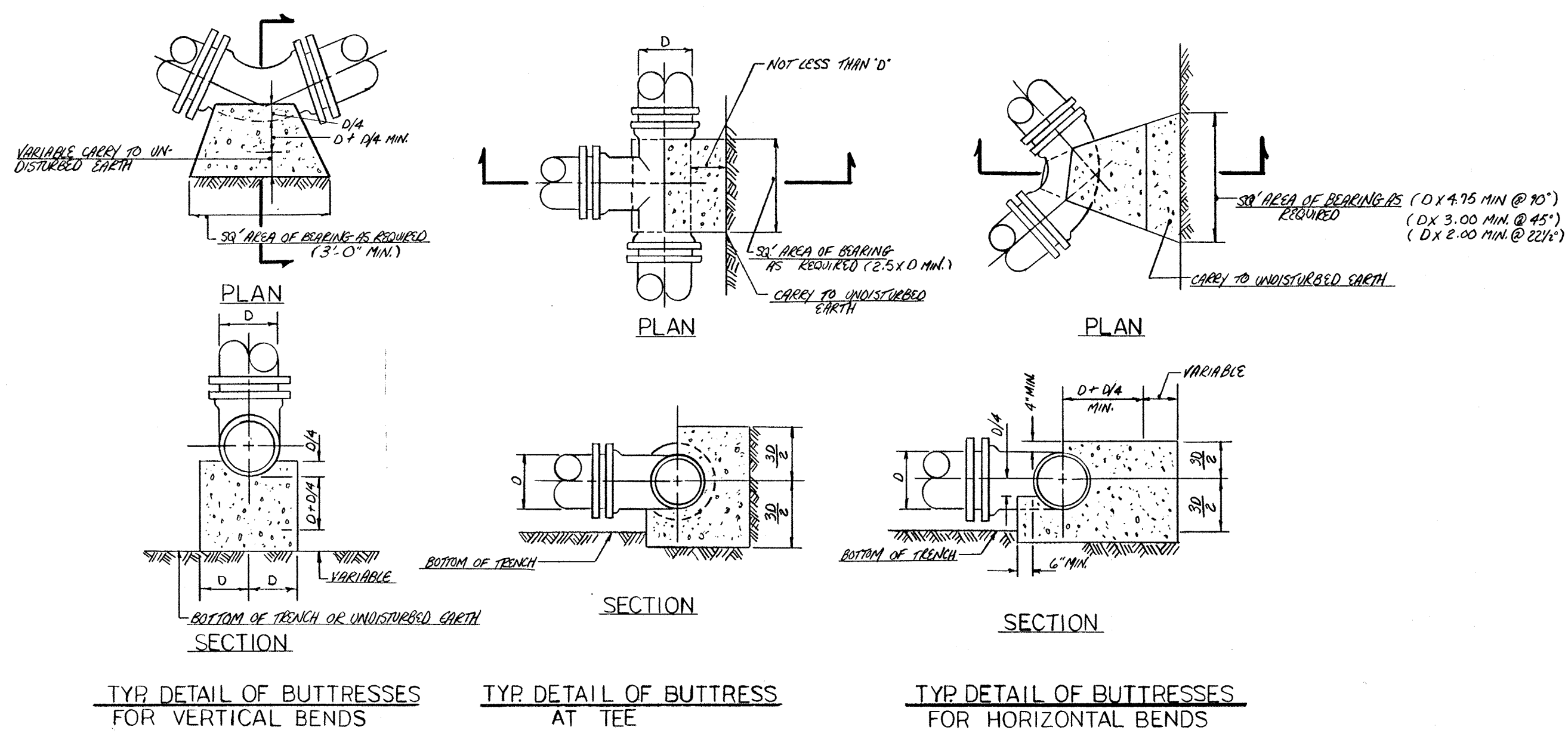
MARK	DESCRIPTION	QUANTITY
1	12" FR 20.0" HX FR	5
2	12" FR (FLUOROPOLYMER) HX FR	2
3	12" FR 45° EL	2
4	12" FR 2.0" FR X FR	1
5	12" FR 2.736" FR X FR	1
6	1/2" X 1/2" FR TEE	1
7	1/2" AF 2.0" FR X PL (H)	1
8	1/2" SLEEVE TYPE COUPLING	1

NOTE: FOR ALL BURIED NEW RESTRAINT PIPING, BENDS, TEES AND OTHER FITTINGS MUST BE BACKED UP WITH CLASS B CONCRETE. (SEE DWG. PK-40 OR SUBMITTAL NO. 64 FOR DETAILS) AGAINST UNDISTURBED EARTH. IF SOIL DOES NOT PROVIDE FIRM SUPPORT, BRIDGE JOINT WITH 3/4" ROD + CLAMPS (PROVIDE 2 COATS OF BITUM. PAINT AFTER ASSEM.)

NOTE: COORDINATES THIS SHEET ARE TAKEN FROM REFERENCE BENCH MARK ON DWG. PK-13. FIELD VERIFY EXISTING CONDITIONS.



△	8-10-92	AS BUILT
△	1-6-93	APPROVED AS NOTED / ISSUE FOR CONST.
△	11-03-92	SUB. 13C / ENGINEER'S NOTES FOR APPROVAL
△	8-15-92	REVISE PER SUBMITTAL 13A
NO.	DATE	REVISION
The Poole & Kent Co./James V. Miller, Inc. (A Joint Venture)		
4530 Hollins Ferry Road Baltimore, MD 21227		
<b>LITTLE PATUXENT          WASTEWATER TREATMENT PLANT EXPANSION          ADDITION NO. 5</b> HOWARD COUNTY, MARYLAND		
TITLE: <b>YARD PIPING</b>		
JOB: PK: 92/25 DRAWN: M. DOBBS SCALE: 1/4" = 1'-0" DATE: 7-10-92		DRAWING: <b>PK-39</b>



TYP DETAIL OF BUTTRESSES FOR VERTICAL BENDS

TYP DETAIL OF BUTTRESS AT TEE

TYP DETAIL OF BUTTRESSES FOR HORIZONTAL BENDS

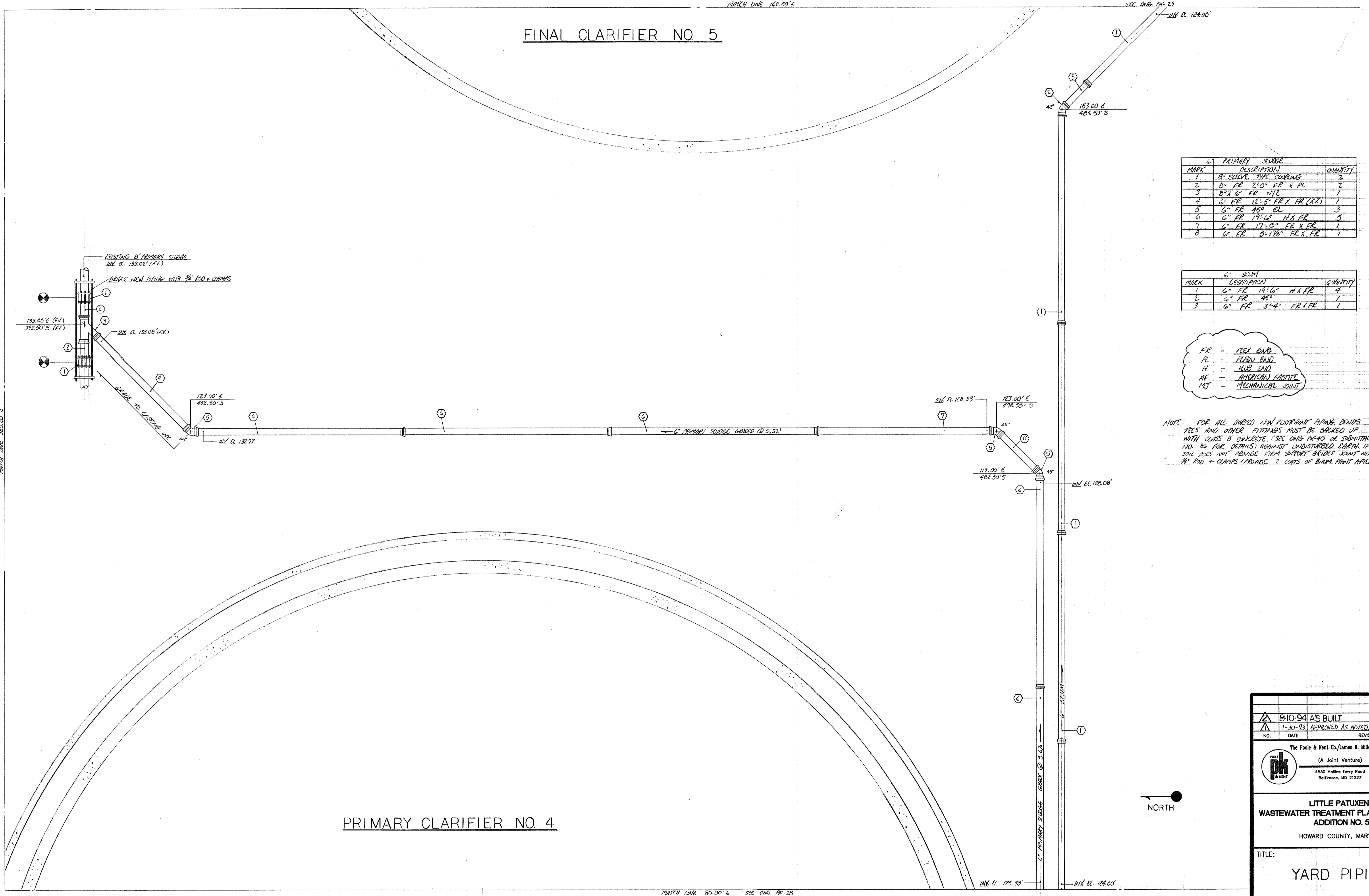
NOTE: IF SOIL DOES NOT PROVIDE FIRM SUPPORT BRIDGE JOINT WITH 3/8" ROD AND CLAMPS (PROVIDE (2) COATS OF BITUM MANT AFTER ASSEMBLY)

8-10-94 ASBUILT		REVISION
NO.	DATE	REVISION
The Poole & West Co./James W. Miller, Inc. (A Joint Venture) 4530 Hollins Ferry Road Baltimore, MD 21227		
<b>LITTLE PATUXENT          WASTEWATER TREATMENT PLANT EXPANSION          ADDITION NO. 5</b> HOWARD COUNTY, MARYLAND		
TITLE: <u>YARD PIPING</u>		
MISCELLANEOUS DETAILS		
JOB: PK: 92125	DRAWING:	
DRAWN: M. DUBOIS	PK-40	
SCALE: VARIES	DATE:	



FINAL CLARIFIER NO. 5

PRIMARY CLARIFIER NO. 4



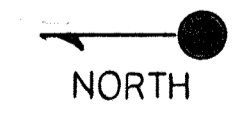
6" PRIMARY SLUDGE		
MARK	DESCRIPTION	QUANTITY
1	8" SLUDGE TIE COUPLING	2
2	8" FR 2'-0" FR X PL	2
3	8" X 6" FR WYE	1
4	6" FR 12'-5" FR X FR (RV)	1
5	6" FR 45° EL	3
6	6" FR 19'-6" H X FR	3
7	6" FR 17'-0" FR X FR	1
8	6" FR 3'-17/8" FR X FR	1

6" SCUM		
MARK	DESCRIPTION	QUANTITY
1	6" FR 19'-6" H X FR	4
2	6" FR 45°	1
3	6" FR 3'-4" FR X FR	1

FR - FLEX END  
 PL - PLAIN END  
 H - HUB END  
 AF - AMERICAN FASTITE  
 MJ - MECHANICAL JOINT

NOTE: FOR ALL BURRED NON RESTRAINT PIPER BONDS TIES AND OTHER FITTINGS MUST BE BARRICED UP WITH CLASS B CONCRETE (SEE DWG PK-40 OR SUBMITTAL NO. 86 FOR DETAILS) AGAINST UNDISTURBED EARTH IF SOIL DOES NOT PROVIDE FIRM SUPPORT BRIDGE JOINT WITH 3/4" ROD + CLAMPS (PROVIDE 2 COATS OF BITUM PAINT AFTER ASST.)

8-10-94 AS BUILT	
NO. 1-30-93	DATE APPROVED AS NOTED/ISSUE FOR CONST.
NO.	REVISION
The Poole & Kent Co./James W. Miller, Inc. (A Joint Venture) 4530 Hollins Ferry Road Baltimore, MD 21227	
LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5 HOWARD COUNTY, MARYLAND	
TITLE: YARD PIPING	
JOB: PK: 92125	DRAWING:
DRAWN: M. DOBBS	SCALE: 1/4" = 1'-0"
DATE: 12 07 92	PK-41

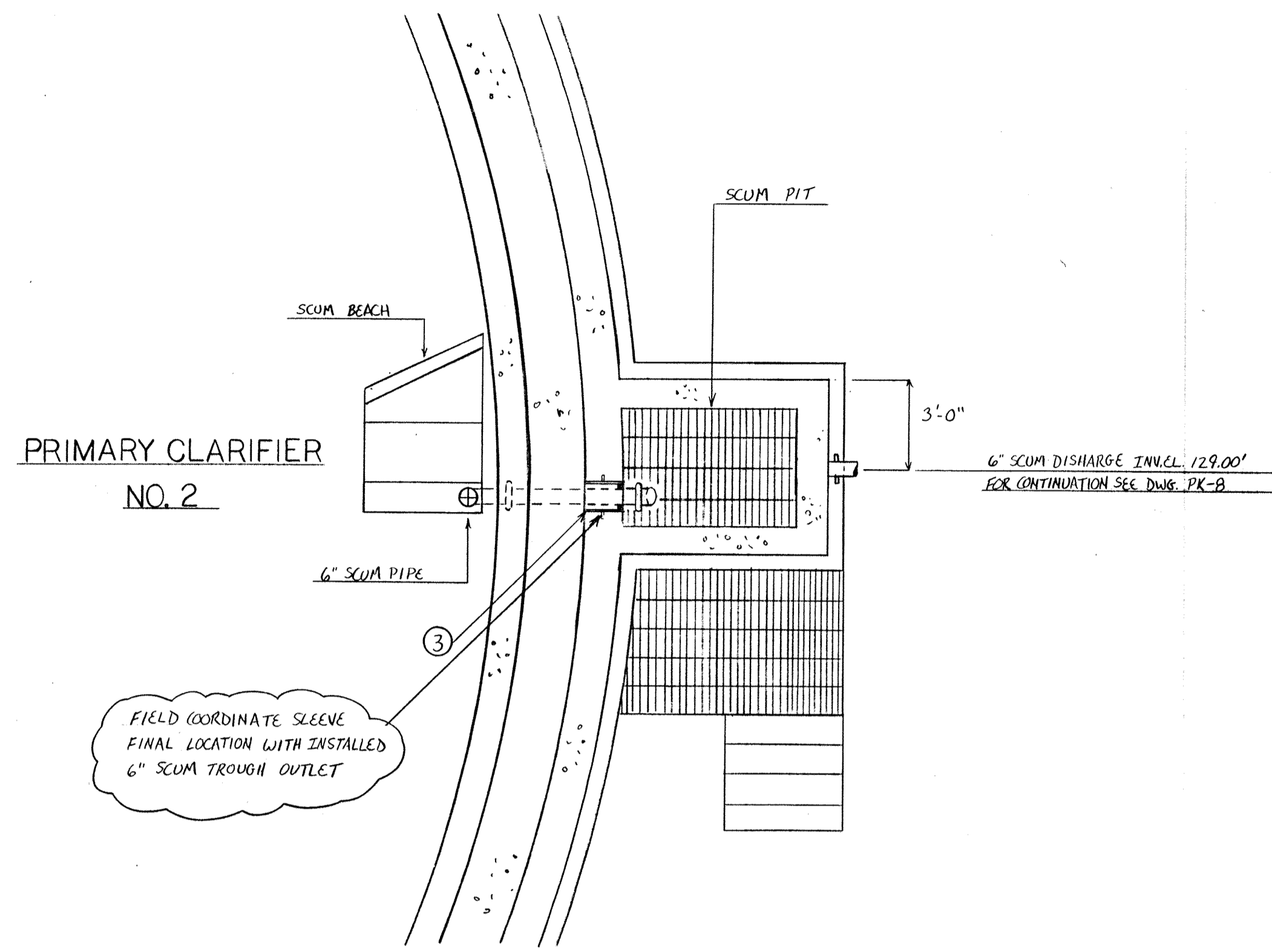


MATCH LINE 385.00' S

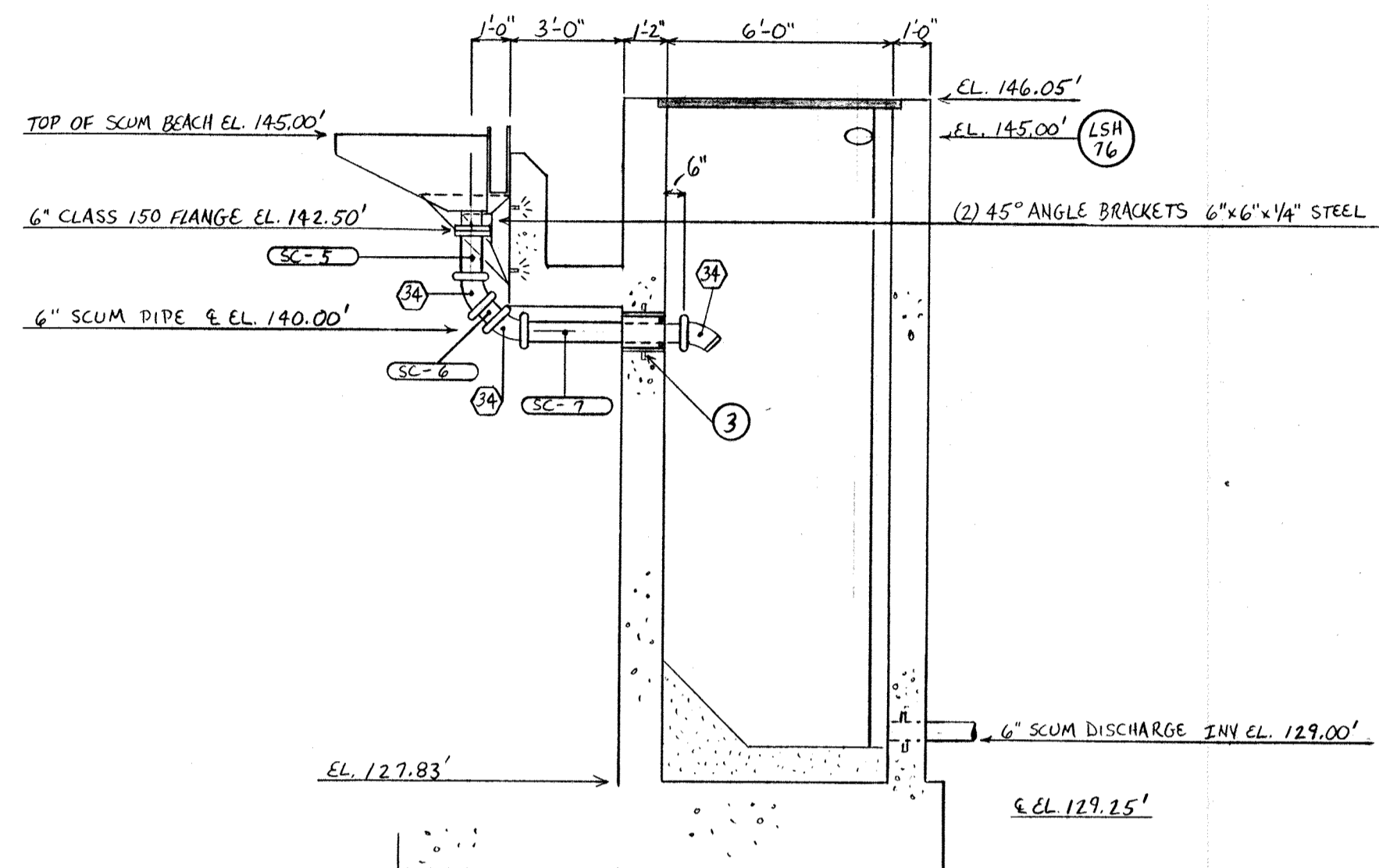
MATCH LINE 162.50' E

SEE DWG. PK-29  
 INK EL. 124.00'

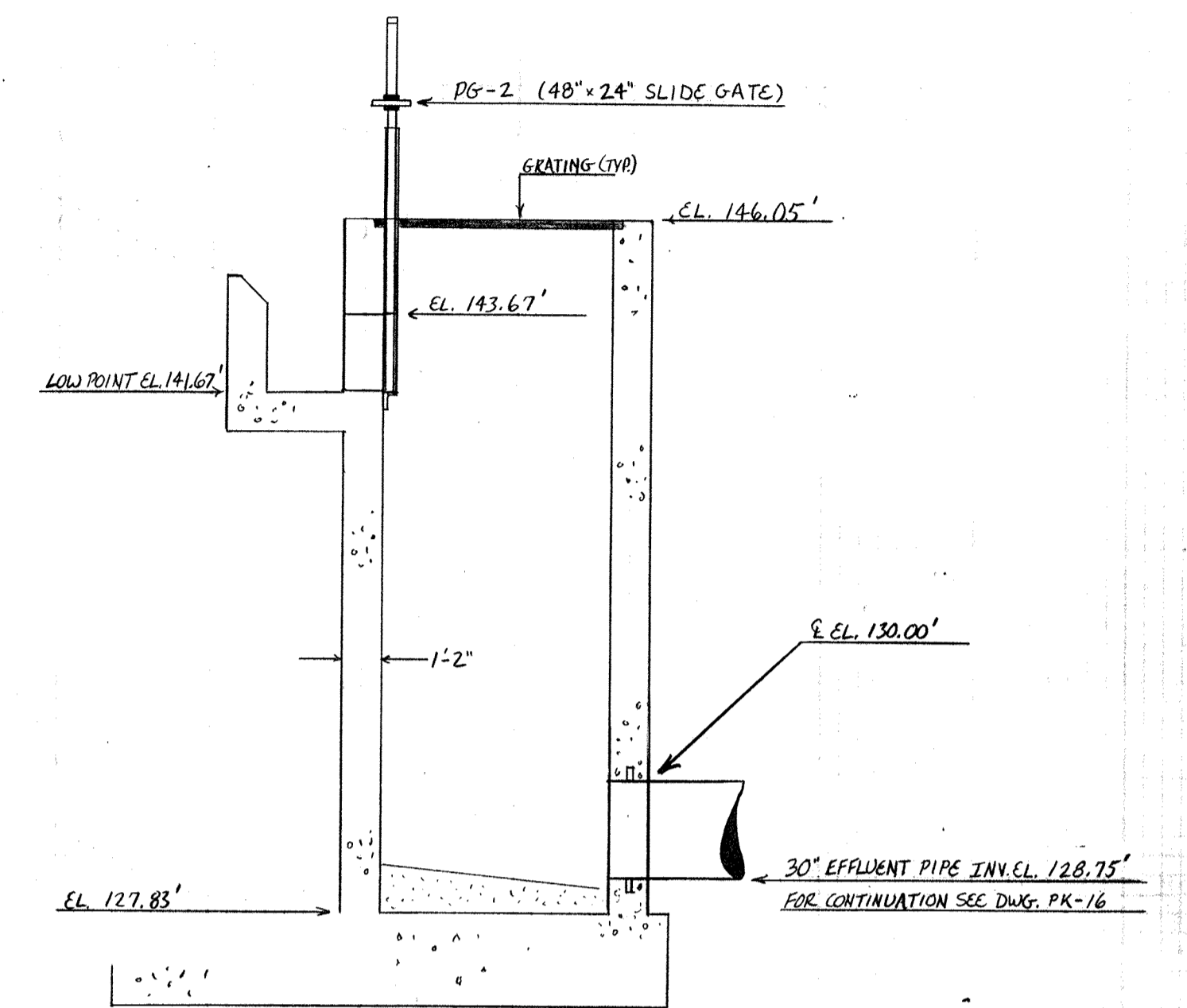
MATCH LINE 80.00' E SEE DWG. PK-28



SCUM PIT P.C. #2  
PLAN VIEW



SCUM PIT P.C. #2  
SECTION VIEW

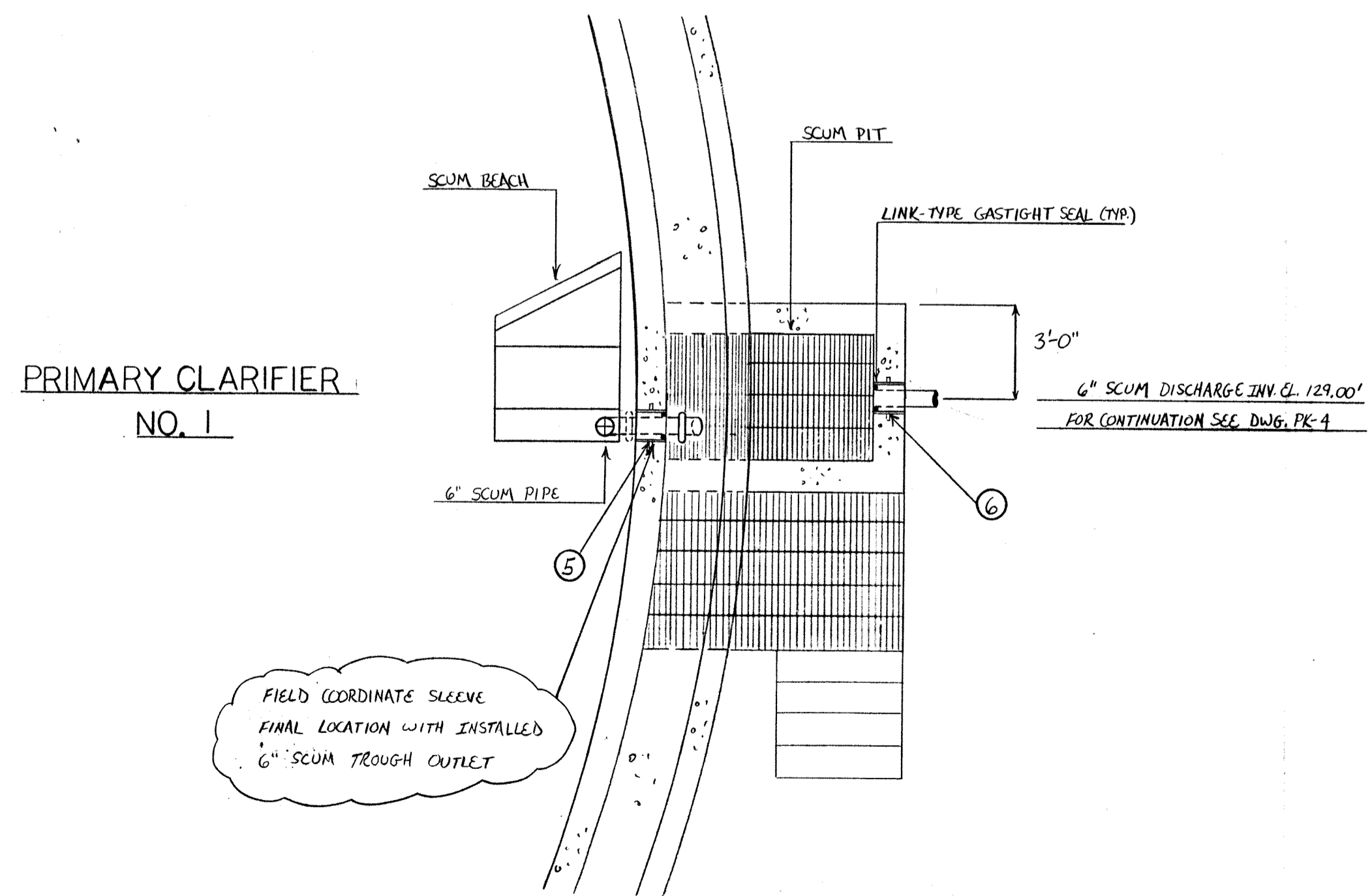


EFFLUENT PIT P.C. #2  
SECTION VIEW

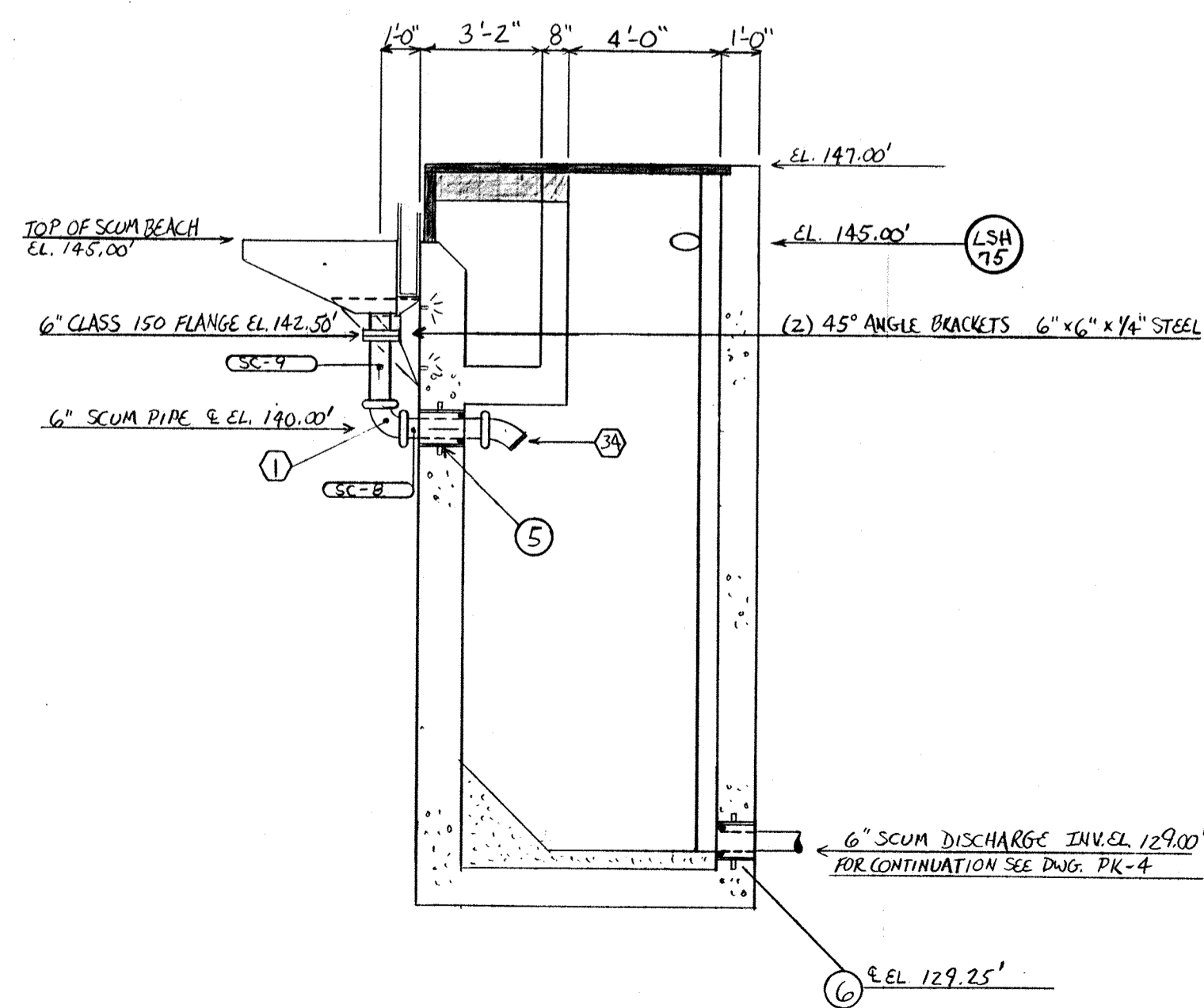
SLEEVE SCHEDULE				
MARK	SERVICE	DESCRIPTION	QTY.	
2	30\"/>			

DUCTILE IRON FITTING SCHEDULE		
MARK	DESCRIPTION	QTY.
34	6\"/>	

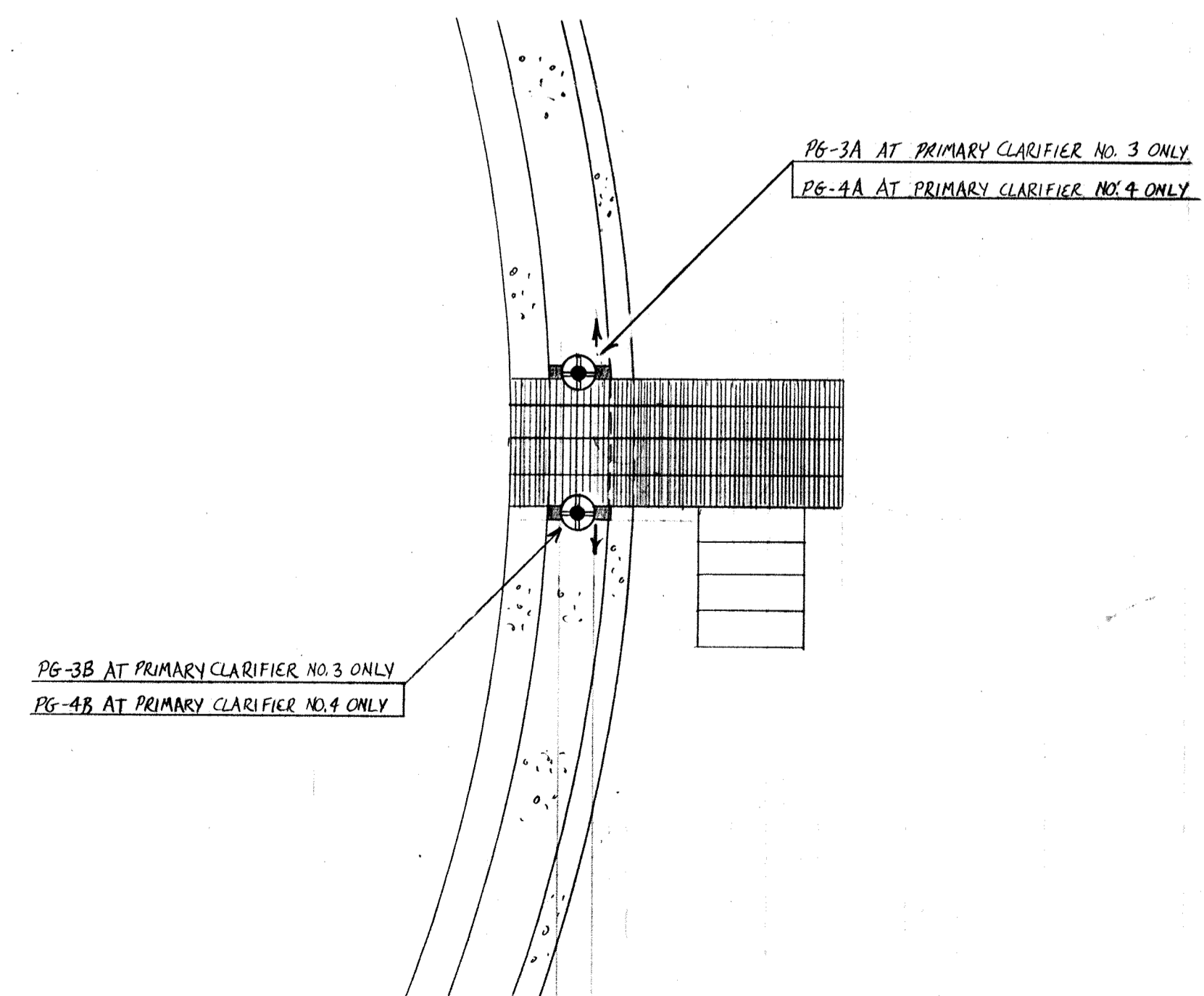
DUCTILE IRON PIPE SCHEDULE		
MARK	DESCRIPTION	QTY.
SC-5	6\"/>	



SCUM PIT P.C. #1  
PLAN VIEW



SCUM PIT P.C. #1  
SECTION VIEW



SLIDE GATES P.C. #3 & #4  
EFFLUENT PIT PLAN VIEW

NO.	DATE	REVISION
2	2-5-94	AS BUILT
1	1-6-93	APPROVED AS NOTED / ISSUE FOR CONST.

The Poole & Kent Co./James W. Miller, Inc.  
(A Joint Venture)  
4530 Holma Ferry Road  
Baltimore, MD 21227

**LITTLE PATUXENT  
WASTEWATER TREATMENT PLANT EXPANSION  
ADDITION NO. 5**  
HOWARD COUNTY, MARYLAND

TITLE: PRIMARY CLARIFIERS  
NO. 1, 2, 3, & 4  
SECTIONS/DETAILS

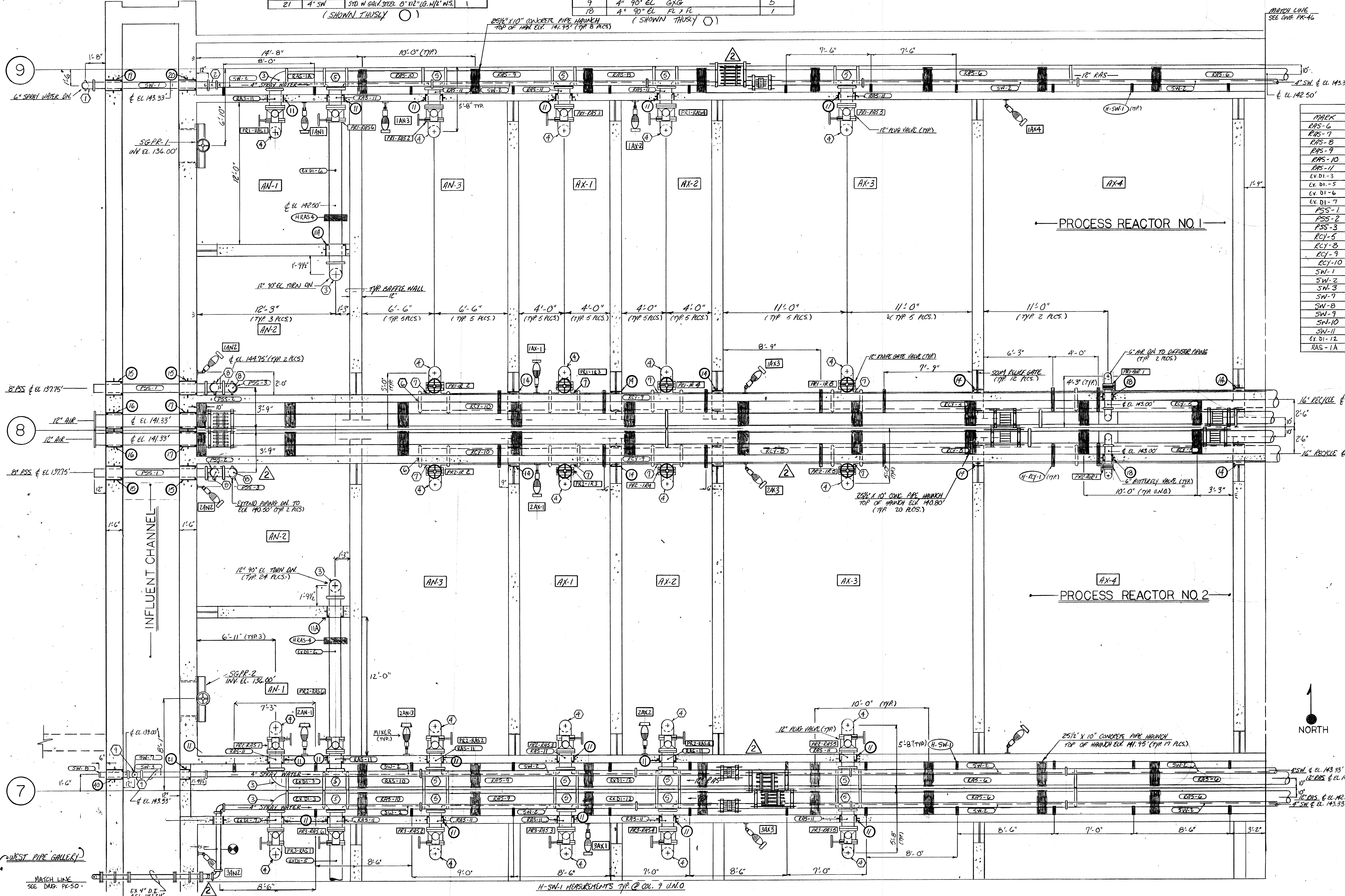
JOB: 92125	DRAWING: D. OTTE
SCALE: 1/4" = 1'-0"	DATE: 11-21-92

PK-43

SLEEVE SCHEDULE (W/P)			
MARK	SERVICE	SLEEVE DESCRIPTION	QUANTITY
19, 20	6" SW	STD. W. GALV. STEEL 10" X 18" @ 1/2" W/S	2
11	12" RAS	STD. W. GALV. STEEL 16" X 18" @ 1/2" W/S	18
11A	12" RAS	STD. W. GALV. STEEL 16" X 12" @ 1/2" W/S	2
18	6" AIR	STD. W. GALV. STEEL 10" X 18" @ 1/2" W/S	10
14	16" RELF	STD. W. GALV. STEEL 20" X 12" @ 1/2" W/S	10
15	8" PSS	STD. W. GALV. STEEL 12" X 18" @ 1/2" W/S	4
16, 17	12" AIR	STD. W. GALV. STEEL 16" X 18" @ 1/2" W/S	4
20	4" SW	STD. W. GALV. STEEL 8" X 18" @ 1/2" W/S	1
21	4" SW	STD. W. GALV. STEEL 8" X 18" @ 1/2" W/S	1

DUCTILE IRON FITTING SCHEDULE			
MARK	DESCRIPTION	QUANTITY	
1	6" 90° EL. G X G	1	
2	6" X 4" CON. RED. G X G	1	
3	12" 90° EL. G X G	5	
4	12" 90° EL. FL. X (FL.) OR (B)	23	
5	12" TEE G X G X G	15	
6	16" VIC. CAP	2	
7	16" X 12" TEE G X G X FL.	8	
8	8" 90° EL. G X G	6	
9	4" 90° EL. G X G	5	
10	4" 90° EL. FL. X FL.	1	

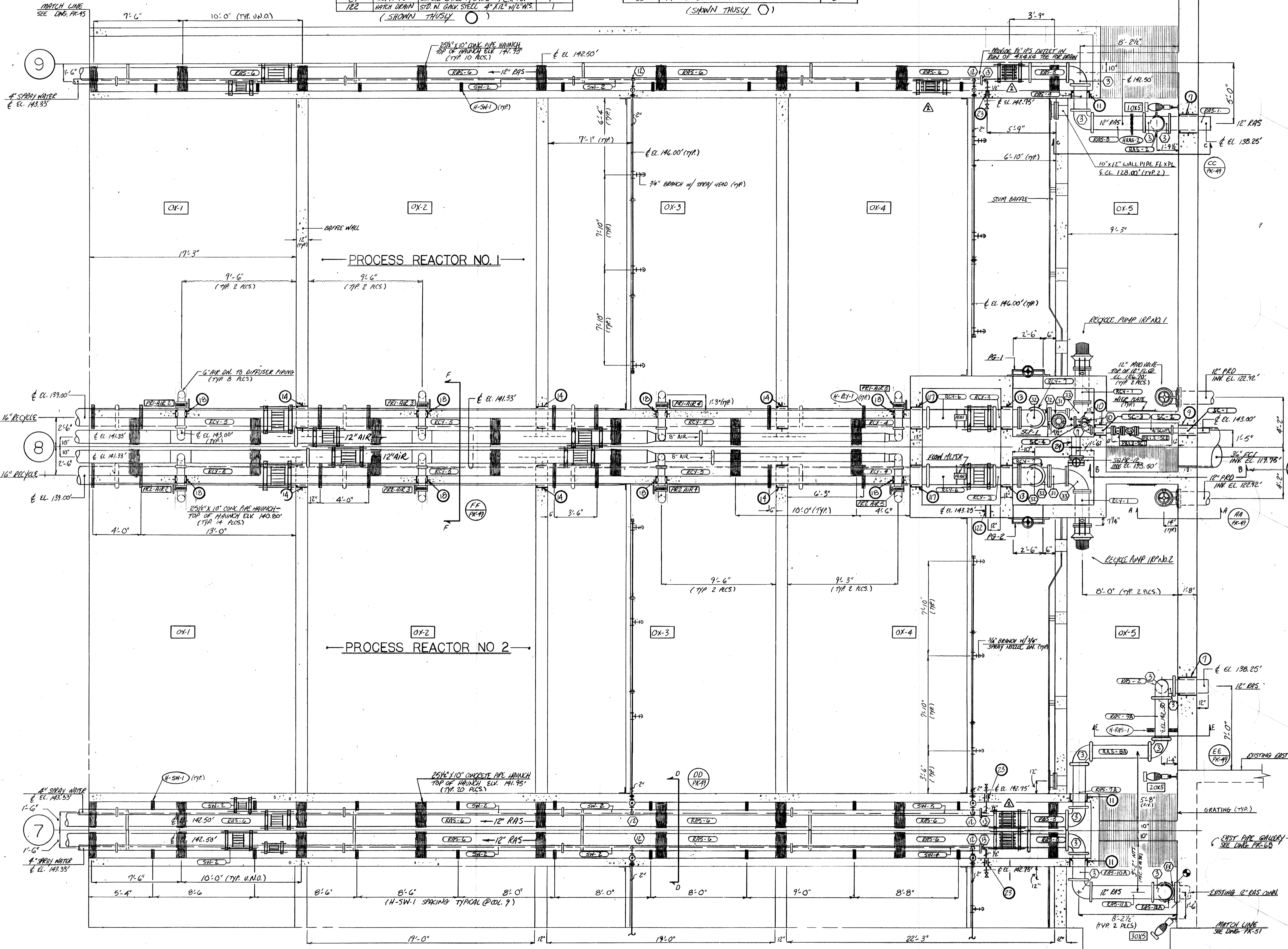
DUCTILE IRON PIPE SCHEDULE			
MARK	DESCRIPTION	QUANTITY	
RAS-6	12" 19'-0" G X G	6	
RAS-7	12" 14'-0" G X G	3	
RAS-8	12" 7'-0" G X G	1	
RAS-9	12" 9'-6" G X G	3	
RAS-10	12" 6'-9" G X G	3	
RAS-11	12" 15'-8" G X FL	17	
EX-DI-3	12" 3'-4" G X G	2	
EX-DI-5	12" 10'-4" FL X G	2	
EX-DI-6	12" 12'-11/2" FL X G	2	
EX-DI-7	12" 1'-8" FL X G	1	
PSS-1	8" 9'-9 1/2" G X G	2	
PSS-2	8" 5'-6" G X G	2	
PSS-3	8" 3'-6" G X FL	2	
RCY-5	16" 17'-0" G X G	4	
RCY-8	16" 13'-6" G X G	2	
RCY-9	16" 6'-6" G X G	2	
RCY-10	16" 9'-0" G X G	2	
SW-1	6" 10'-0" G X G	1	
SW-2	4" 19'-0" G X G	15	
SW-3	4" 5'-10" G X G	1	
SW-7	4" 3'-3" G X G	1	
SW-8	4" 2'-5 1/2" G X G	1	
SW-9	4" 12'-7 3/8" FL X G (F.K.)	1	
SW-10	4" FIELD MEASURE G X G	1	
SW-11	4" 0'-10 1/8" G X G	1	
EX-DI-12	12" 7'-0" G X G	2	
RAS-1A	12" 3'-4" G X G	1	



2 12-594 AS BUILT		
11-12-92 REVISED PER ENG. NOTES FOR APPROVAL		
NO.	DATE	REVISION
The Poole & Kant Co./James W. Miller, Inc. (A Joint Venture) 4530 Holms Ferry Road Baltimore, MD 21227		
<b>LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5</b> HOWARD COUNTY, MARYLAND		
TITLE: <b>PROCESS REACTORS 1 &amp; 2 WEST PLAN @ EL. 144.0'</b>		
JOB: PK: 92125	DRAWING:	PK-45
DRAWN: M. DOBBS	SCALE: 1/4" = 1'-0"	DATE: 7-28-92

SLEEVE SCHEDULE			
MARK	SERVICE	DESCRIPTION	QUANTITY
11	12" RAS	STD. WGT. GALV. STEEL 16' X 8" W/2" W.S.	3
18	6" AIR	STD. W. GALV. STEEL 10' X 8" W/2" W.S.	8
17, 14, 13	16" RECYCLE	STD. W. GALV. STEEL 20' X 12" W/2" W.S.	10
23	16" SW	STD. W. GALV. STEEL 2' X 8" W/2" W.S.	3
7	12" RAS	STD. W. GALV. STEEL 16' X 20" W/2" W.S.	2
9	4" SCUM	STD. W. GALV. STEEL 8' X 20" W/2" W.S.	1
10	4" SCUM	STD. W. GALV. STEEL 8' X 12" W/2" W.S.	1
12	12" RECYCLE	STD. W. GALV. STEEL 16' X 12" W/2" W.S.	0
24	SCPE-12	STD. W. GALV. STEEL 16' X 12" W/2" W.S.	1
122	WATCH DEBIN	STD. W. GALV. STEEL 4' X 12" W/2" W.S.	1

DUCTILE IRON FITTING SCHEDULE			
MARK	DESCRIPTION	QUANTITY	
3	12" 90° EL. G X G	12	
9	4" 90° EL. G X G	1	
10	4" 45° EL. G X G	1	
11	(NOT USED)	0	
12	4" X 2" SERVICE SADDLE	6	
13	4" VIG. CAP. W/ 1/2" IPS TAP (ECCENTRIC CO.)	3	
31	16" 90° EL. FL X FL	4	
32	16" X 14" REDUCER. FL X FL	2	
33	14" 90° EL. FL X FL	2	



(SHOWN THUSLY)

DUCTILE IRON PIPE SCHEDULE			
MARK	DESCRIPTION	QUANTITY	
RAS-1	12" 3L 5Y6" G X G	1	
RAS-2	12" 2L 3" G X G	2	
RAS-3	12" 4L 5" G X G	1	
RAS-4	12" 2L 2" G X G	1	
RAS-5	12" 3L 2 1/2" G X G	3	
RAS-6	12" 19L 0" G X G	12	
RAS-7A	12" 3L 8" G X G	1	
RAS-7B	12" 4L 10 1/2" G X G	1	
RAS-9A	12" 3L 5" G X G (RV)	1	
RAS-10A	12" 1L 2" G X G	1	
RAS-11A	12" FIELD MEASURE	1	
RAS-12A	12" FIELD MEASURE	1	
RCY-1	12" 2L 9 1/2" FL X FL	2	
RCY-2	NOT USED	0	
RCY-3	16" 2L 1" G X FL	2	
RCY-4	16" 10L 6" G X G	2	
RCY-5	16" 19L 0" G X G	6	
RCY-6	16" 5L 0" G X G	2	
RCY-7	12" 7L 8" FL X FL	2	
SN-2	4" 19L 0" G X G	9	
SN-4	4" 15L 0" G X G (RV)	1	
SN-5	4" 15L 8 1/2" G X G	1	
SN-6	4" 14L 10" G X G	1	
SC-1	4" 3L 4" G X F.R.	1	
SC-2	4" 3L 2" G X FL	1	
SC-3	4" 1L 9 1/2" G X FL	1	
SC-4	4" FIELD MEASURE G X FL	1	

ABBREVIATION KEY

G.	GROOVE END
FN.	FIELD VERIFY
FL.	FLANGED END
PL.	PLAIN END
FR.	FLEX RING

2	12-594	AS BUILT
1	11-13-92	REVISED PER CHG. NOTES FOR APPROVAL
NO.	DATE	REVISION

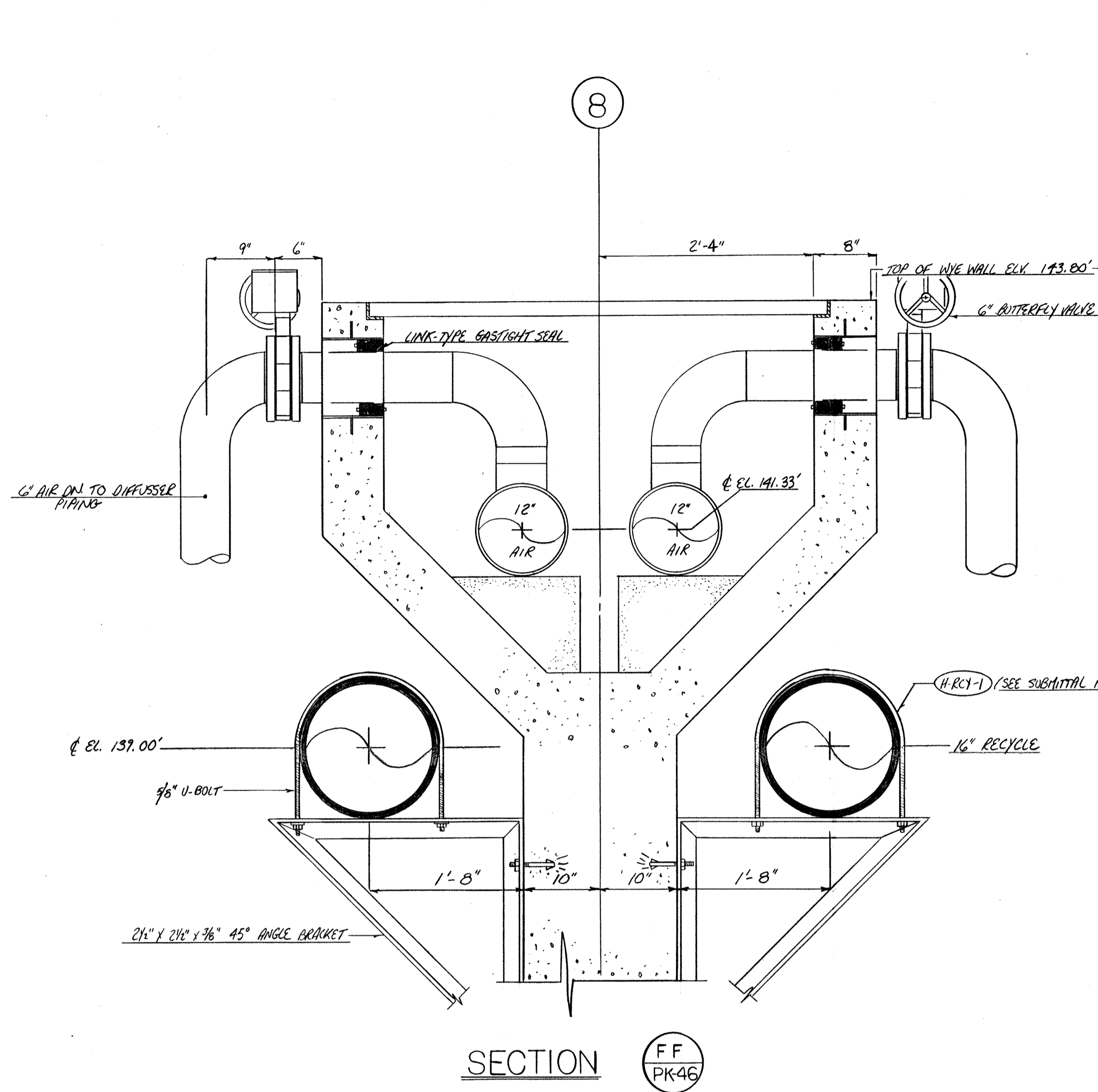
The Poole & Kent Co./James W. Miller, Inc.  
 (A Joint Venture)  
 4530 Hollins Ferry Road  
 Baltimore, MD 21227

**LITTLE PATUXENT  
 WASTEWATER TREATMENT PLANT EXPANSION  
 ADDITION NO. 5**  
 HOWARD COUNTY, MARYLAND

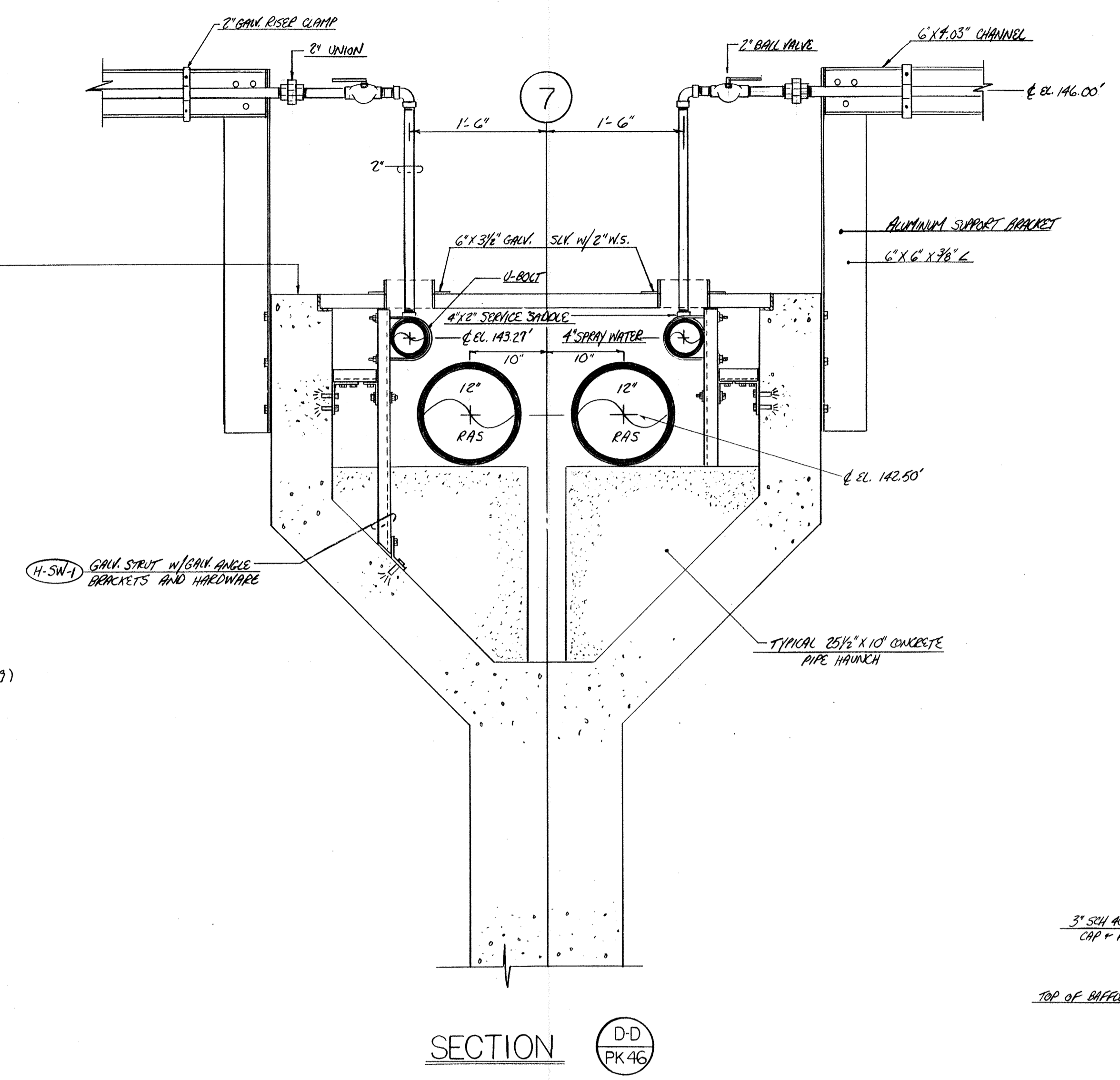
TITLE:  
**PROCESS REACTORS 1 & 2  
 EAST PLAN EL. 144.0'**

JOB: PK: 92125  
 DRAWN: M. DOEBBS  
 SCALE: 1/4" = 1'-0"  
 DATE: 10-5-92

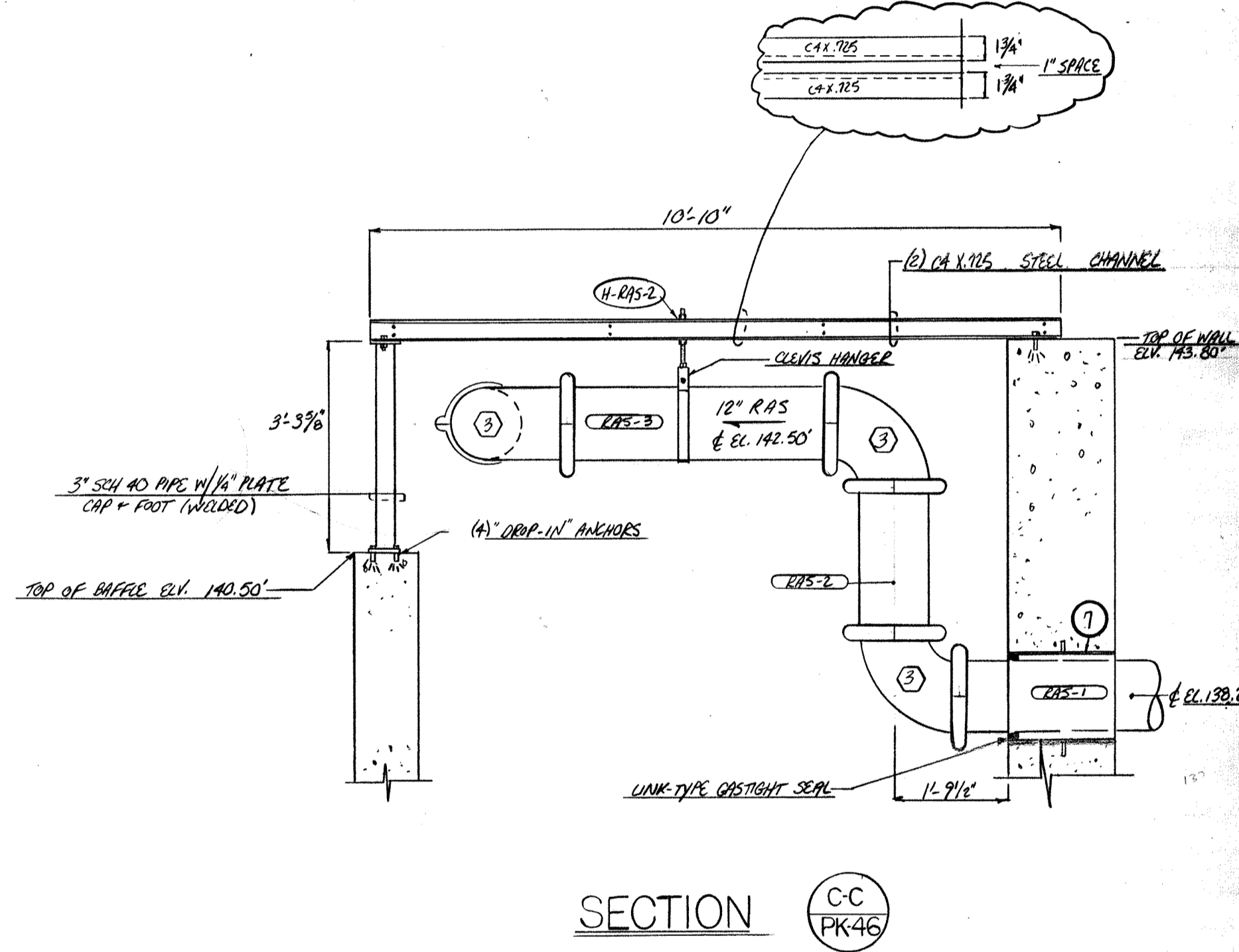
DRAWING:  
**PK-46**



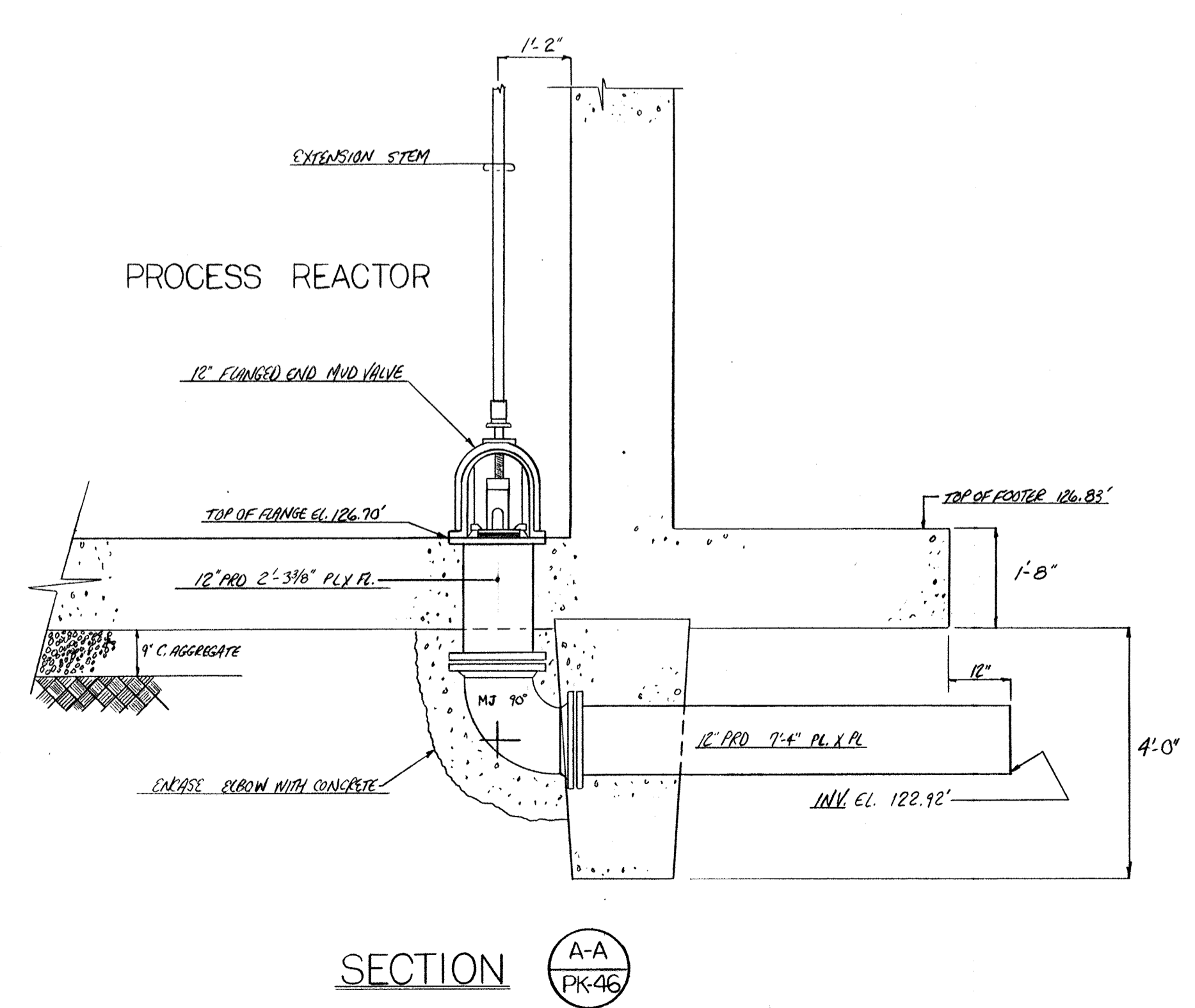
SECTION FF PK46



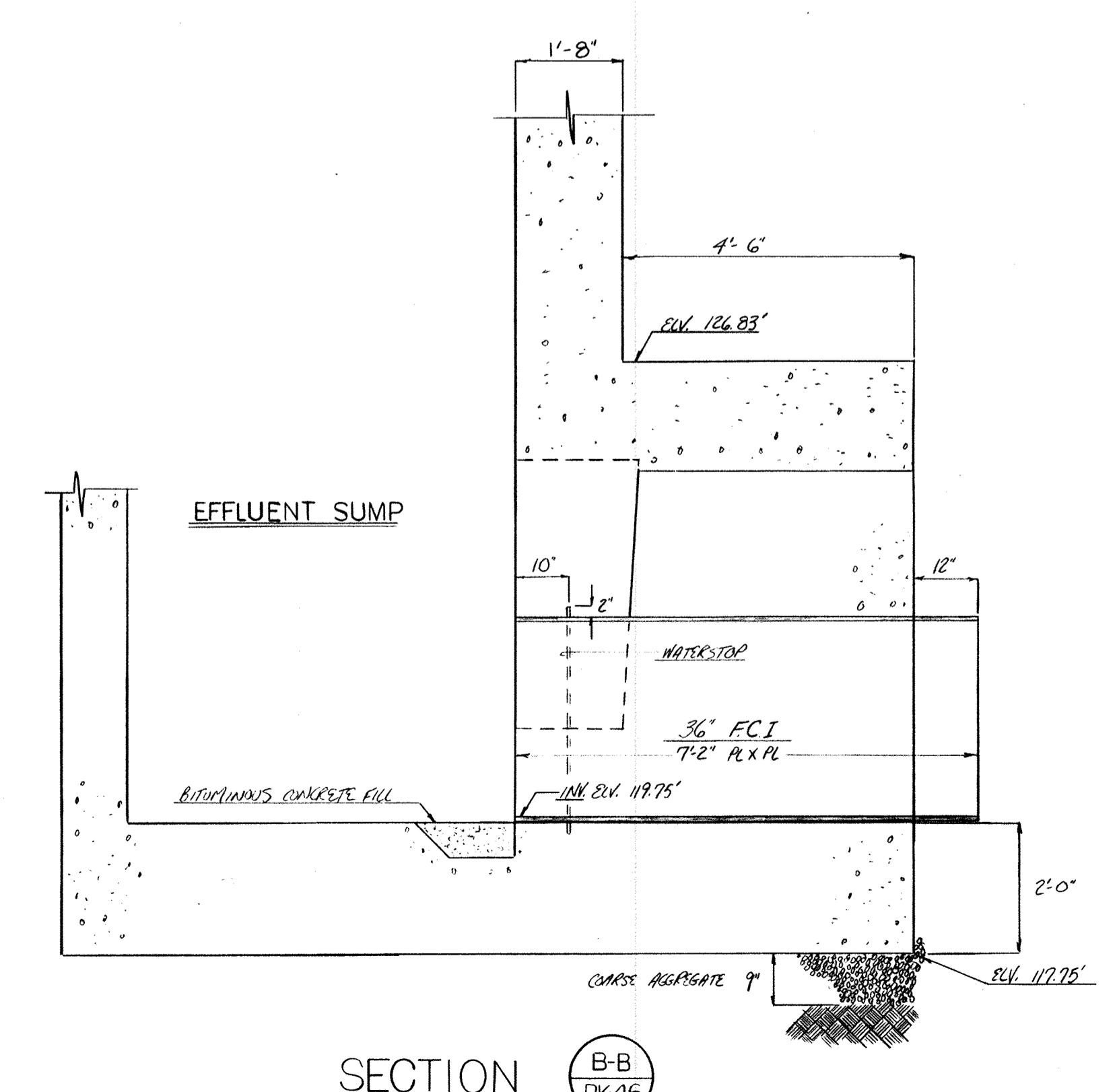
SECTION D-D PK46



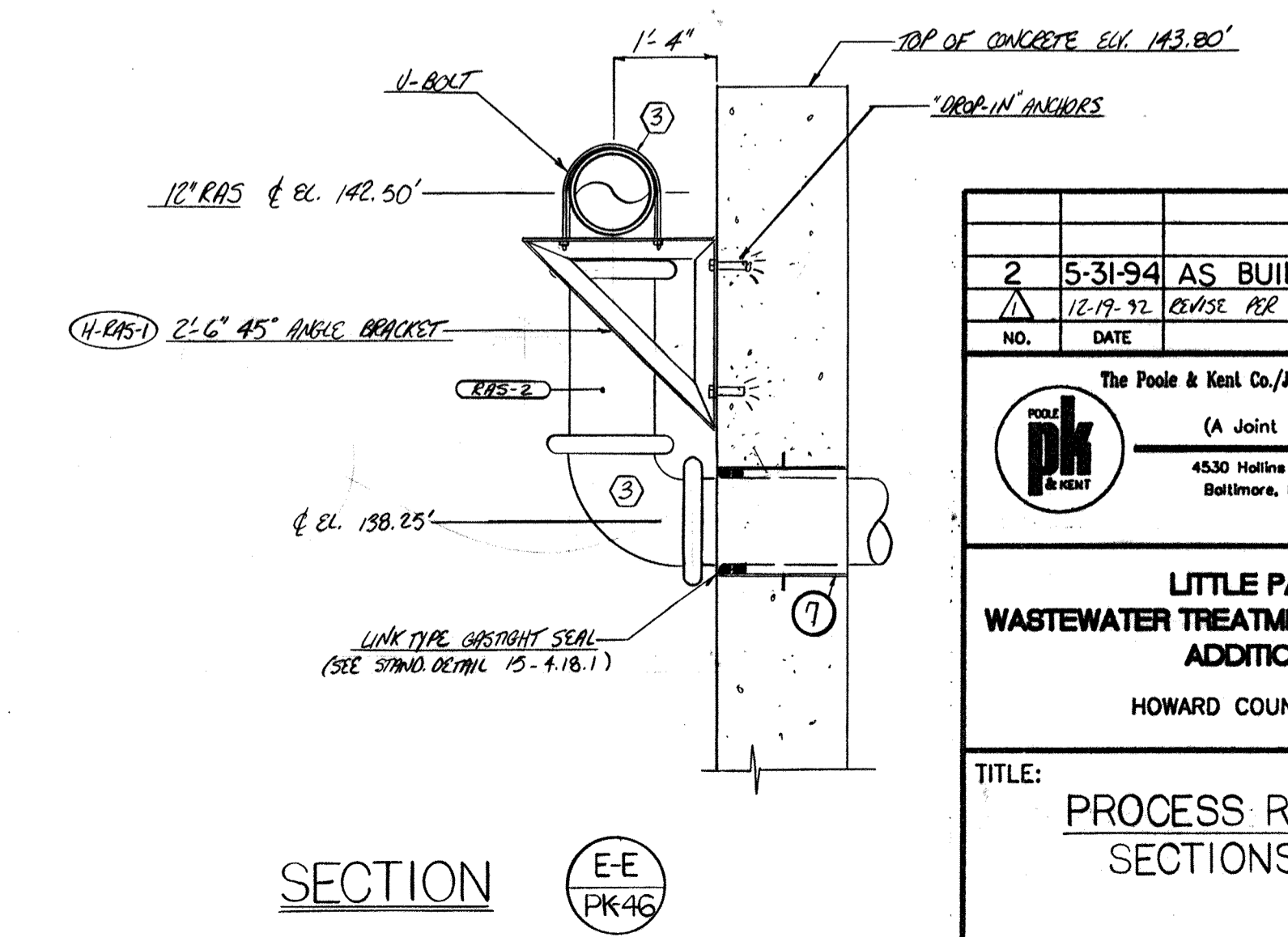
SECTION C-C PK46



SECTION A-A PK46



SECTION B-B PK46



SECTION E-E PK46

NO.	DATE	REVISION
2	5-31-94	AS BUILT
1	12-17-92	REVISE PER ENG. NOTES FOR APPROVAL

The Poole & Kent Co./James V. Miller, Inc.  
(A Joint Venture)  
4530 Holms Ferry Road  
Baltimore, MD 21227

**LITTLE PATUXENT  
WASTEWATER TREATMENT PLANT EXPANSION  
ADDITION NO. 5**  
HOWARD COUNTY, MARYLAND

TITLE: **PROCESS REACTORS 1 & 2  
SECTIONS / DETAILS**

JOB: PK-92125	DRAWING: PK-49
DRAWN: M. COBBES	SCALE: VARIES
DATE: 9-24-92	

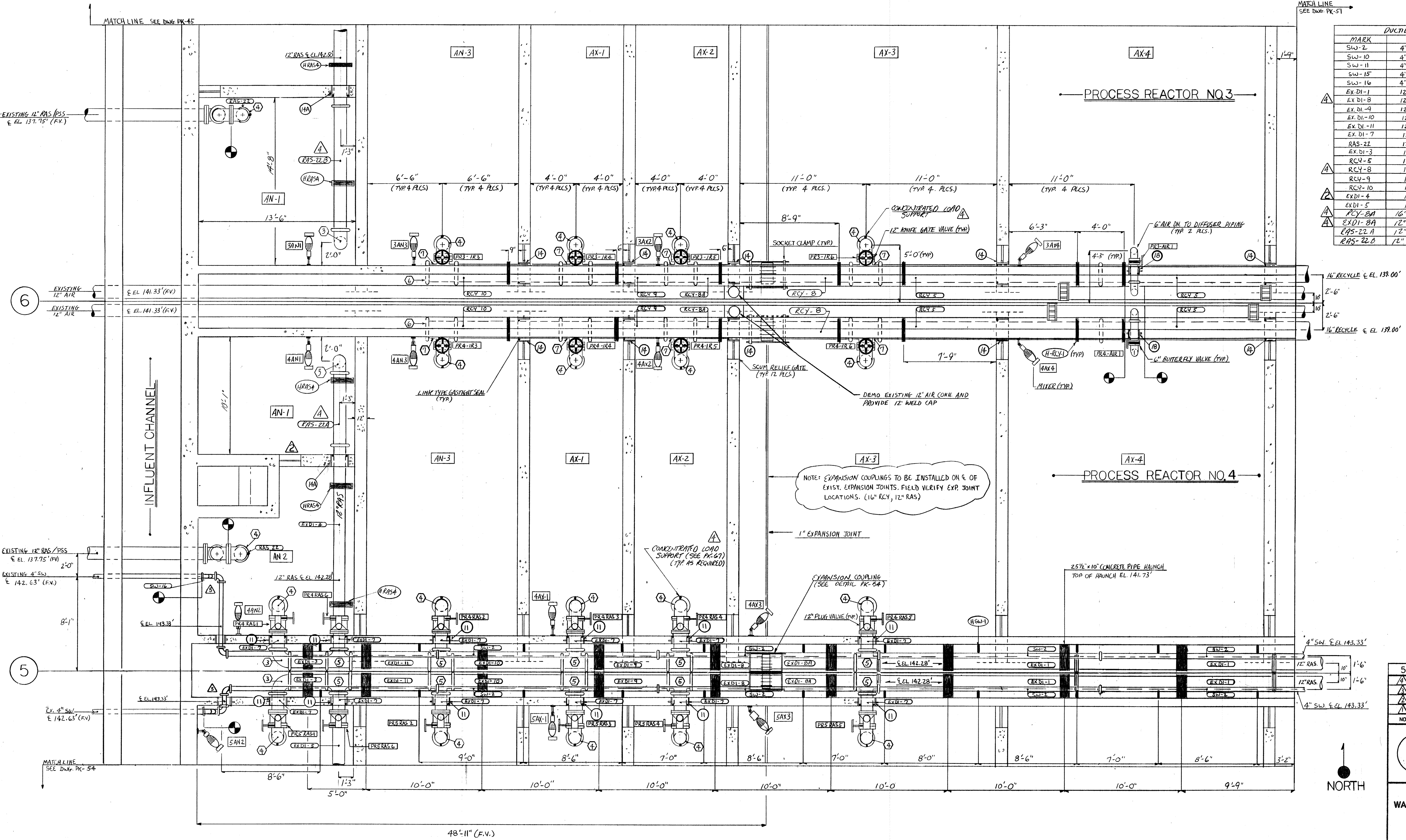
SLEEVE SCHEDULE (WP)			
MARK	SERVICE	DESCRIPTION	QUANTITY
14	12" RAS	STD. W. GALV. STEEL 20"x16" 1/2" W.S.	10
11	12" RAS	STD. W. GALV. STEEL 12"x8" 1/2" W.S.	12
18	6" AIR	STD. W. GALV. STEEL 10"x8" 1/2" W.S.	2
14A	12" RAS	STD. W. GALV. STEEL 10"x12" 1/2" W.S.	2

(SHOWN THUSLY ○)

DUCTILE IRON FITTING SCHEDULE			
MARK	DESCRIPTION	QUANTITY	
3	12" 90° EL. G×G	4	
4	12" 90° EL. FL.×FL	20	
5	12" TEE G×G×G	10	
6	16" VIC. CAP	2	
7	16"×12" TEE G×G×FL	8	
9	4" 90° EL. G×G	6	
18	4" 90° EL. FL.×FL	2	


(SHOWN THUSLY ○)

DUCTILE IRON PIPE SCHEDULE			
MARK	DESCRIPTION	QUANTITY	
SW-2	4" 19'0" G×G	10	
SW-10	4" FIELD MENSURE G×G	1	
SW-11	4" 0'10 1/8" G×G	2	
SW-15	4" 5'6" G×G	1	
SW-16	4" 1'6 3/4" G×FL	2	
EX-DI-1	12" 17'0" FL×FL	4	
EX-DI-8	12" 7'6" G×FL	2	
EX-DI-9	12" 7'0" G×G	2	
EX-DI-10	12" 9'6" G×G	2	
EX-DI-11	12" 6'9" G×G	2	
EX-DI-7	12" 1'8" FL×G	12	
RAS-22	12" 3'6" FL×PL	2	
EX-DI-3	12" 3'4" G×G	2	
RCY-5	16" 19'0" G×G	4	
RCY-8	16" 7'2" G×PL	2	
RCY-9	16" 6'6" G×G	2	
RCY-10	16" 9'0" G×G	2	
EXDI-4	12" 14'8 1/2" FL×G	1	
EXDI-5	12" 10'1 1/2" FL×G	1	
RCY-BA	16" 6'5" G×PL	2	
EXDI-8A	12" 6'5" G×PL	2	
RCY-22-A	12" 6'10 1/2" G×G	1	
RHS-22-B	12" 10'10 1/2" G×G	1	



5	5-31-94	AS BUILT
4	5-11-93	APPROVED ISSUE FOR CONSTRUCTION
3	1-4-93	REVISED PER ENGINEER'S NOTES FOR APPROVAL
2	11-27-92	REVISED PER RFI #135
1	11-16-92	POST SUBM. RFP'S / RE-MANF. PIPE
NO.	DATE	REVISION
<b>LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5</b> HOWARD COUNTY, MARYLAND		
<b>TITLE:</b> PROCESS REACTORS 3 & 4 WEST PLAN EL. 144.00'		
JOB:	92125	DRAWING:
DRAWN:	D OTTE	PK-50
SCALE:	1/4" = 1'-0"	
DATE:	10-14-92	

MARK	SERVICE	DESCRIPTION	QUANTITY
11	12" RAS	STD WEIGHT GALV STEEL 12"x12"x1/2"	2
18	6" AIR	STD WEIGHT GALV STEEL 6"x6"x1/2"	8
13, 14, 117	1/2" RECYLE	STD WEIGHT GALV STEEL 1/2"x1/2"x1/2"	10
23	1/2" SW	STD WEIGHT GALV STEEL 1/2"x1/2"x1/2"	2
12.2	HATCH DRAIN	STD WEIGHT GALV STEEL 4"x1/2"x1/2"	1
9	4" SCUM	STD WEIGHT GALV STEEL 4"x4"x1/2"	1
10	4" SCUM	STD WEIGHT GALV STEEL 4"x4"x1/2"	1
12	12" RECYLE	STD WEIGHT GALV STEEL 12"x12"x1/2"	0
24	5/8" PR-3.4	5/8" GALV 8"x20"x1/2" US PL X PL	1

(SHOWN THUSLY )

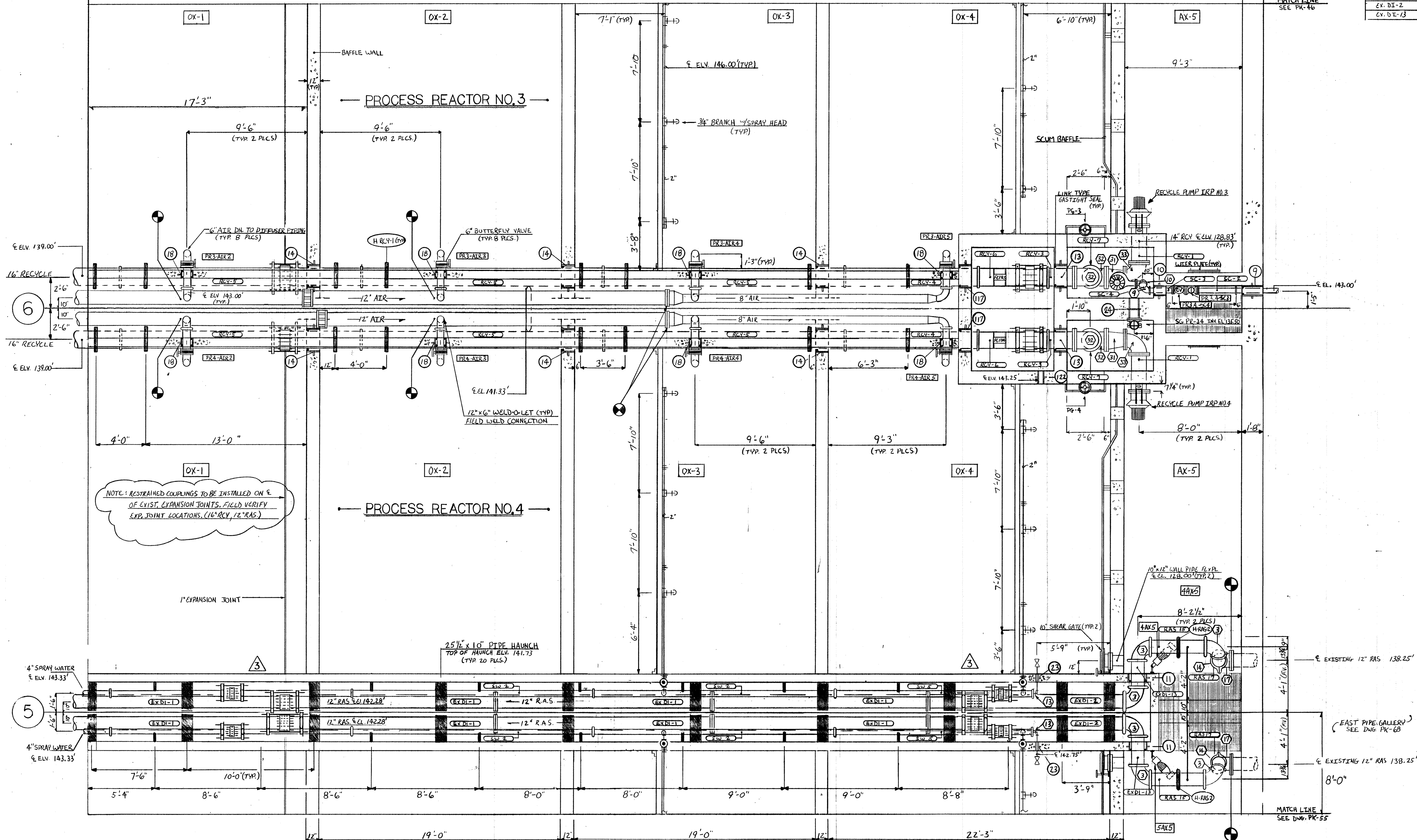
MARK	DESCRIPTION	QUANTITY
3	1/2" 90° EL GxG	6
9	4" 90° EL GxG	1
10	4" 45° EL GxG	1
11	NOT USED	0
12	4" x 2" SEWAGE SADDLE	4
13	4" VIC. CAP 1/4" IPS TAP (ECCENTRIC LOC)	2
14	12" 45° EL GxG	2
31	1/2" x 1/4" RED FLxFL	2
32	1/2" 90° EL FLxFL	4
17	12" 90° EL GxFL (F.V.)	2
33	1/4" 90° EL FLxFL	2

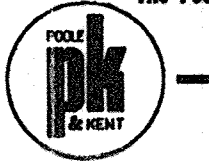
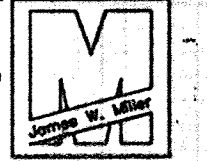
(SHOWN THUSLY )

MARK	DESCRIPTION	QUANTITY
RAS-5	NOT USED	0
RAS-6	NOT USED	0
RAS-15	12" FIELD MEASURE	2
RAS-16	NOT USED	0
RAS-17	12" 1'-3" GxFL (F.V.)	2
RCY-1	14" 2'-9 1/8" FLxFL	2
RCY-2	NOT USED	0
RCY-3	16" 2'-1" GxFL	2
RCY-4	16" 10'-6" GxG	2
RCY-5	16" 19'-0" GxG	6
RCY-6	16" 5'-6" GxG	2
SW-2	4" 19'-0" GxG	6
SW-5(5A)	4" 15'-8 1/2" GxG	2
SC-1	NOT USED	0
SC-2	4" 3'-2" GxFL	1
SC-3	4" 1'-9 1/4" GxG	1
SC-4	4" FIELD MEASURE GxFL	1
RCY-7	16" 7'-8" FLxFL	2
EX. DE-1	12" 17'-0" FLxFL	8
EX. DE-2	12" 15'-3 1/4" FLxFL	2
EX. DE-13	12" 2'-4 3/4" FLxG	2

MATCH LINE  
SEE DWG. PK-50

MATCH LINE  
SEE DWG. PK-46



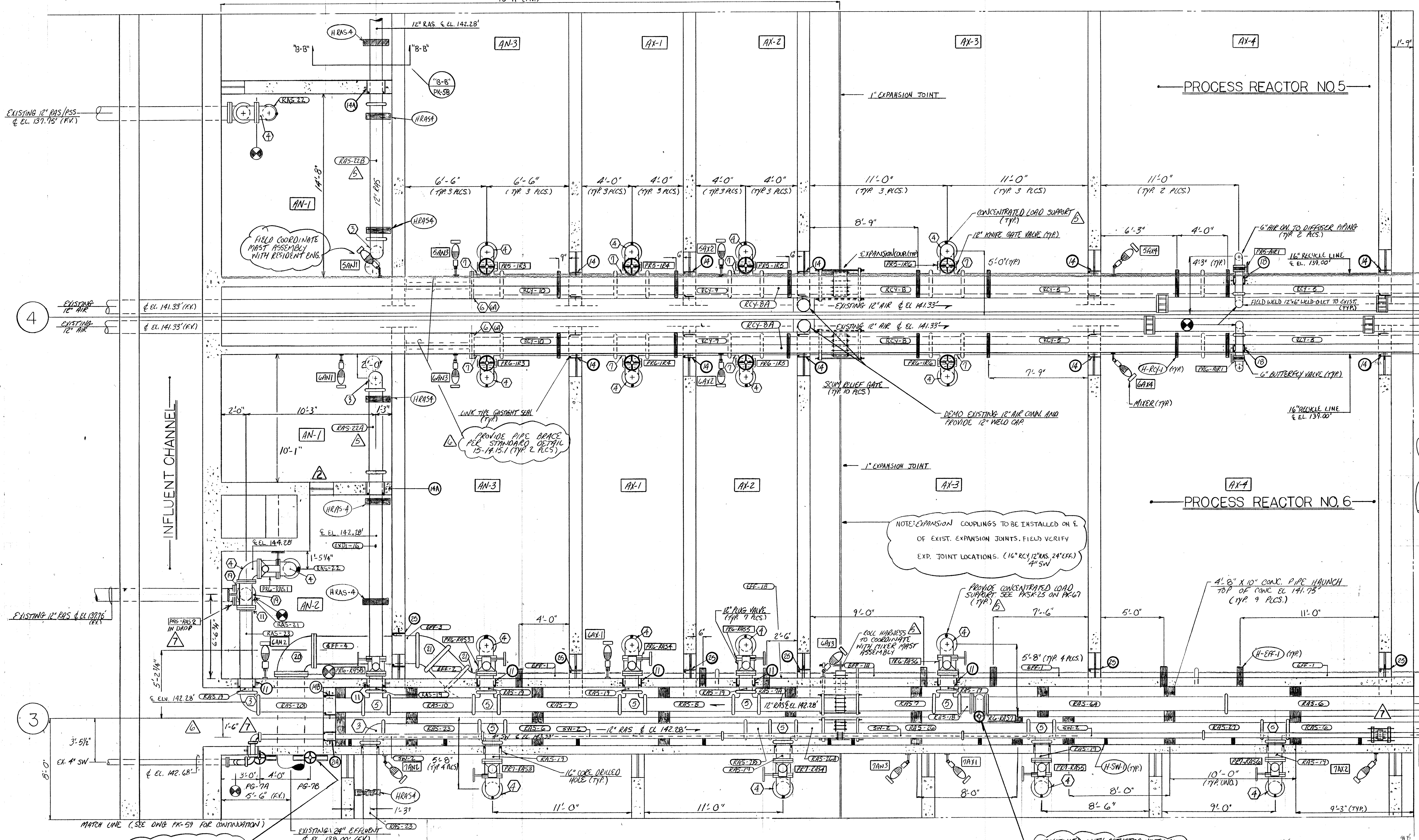
12-5-94	AS BUILT	
1-5-93	APPROVED AS NOTED / ISSUE FOR CONST.	
11-16-92	POST SUBM. RFP'S / REMAIN PIPE	
NO.	DATE	REVISION
The Poole & Kent Co./James V. Miller, Inc. (A Joint Venture) 4530 Hollins Ferry Road Baltimore, MD 21227		
 		
<b>LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5</b> HOWARD COUNTY, MARYLAND		
TITLE: <b>PROCESS REACTORS 3 &amp; 4 EAST PLAN EL. 144.0'</b>		
JOB: PK: 92125	DRAWING: D. OTTE	DRAWING: PK-51
SCALE: 1/4" = 1'-0"	DATE: 10-15-92	

SLEEVE SCHEDULE (WP)			
MARK	SIZE	DESCRIPTION	QUANTITY
11	12" RAS	1/2" CORE DRILLED HOLE	6
14	16" RAS	STD. W. GALV. STEEL 20"x12" W/2WS	10
14A	12" RAS	STD. W. GALV. STEEL 16"x12" W/2WS	2
14B	12" RAS	STD. W. GALV. STEEL 16"x12" W/2WS	1
18	6" AIR	10" CORE DRILLED HOLE	2
21A	4" SW	STD. W. GALV. STEEL 8"x12" W/2WS	1
25	24" RFE	STD. W. GALV. STEEL 30"x12" W/2WS	6

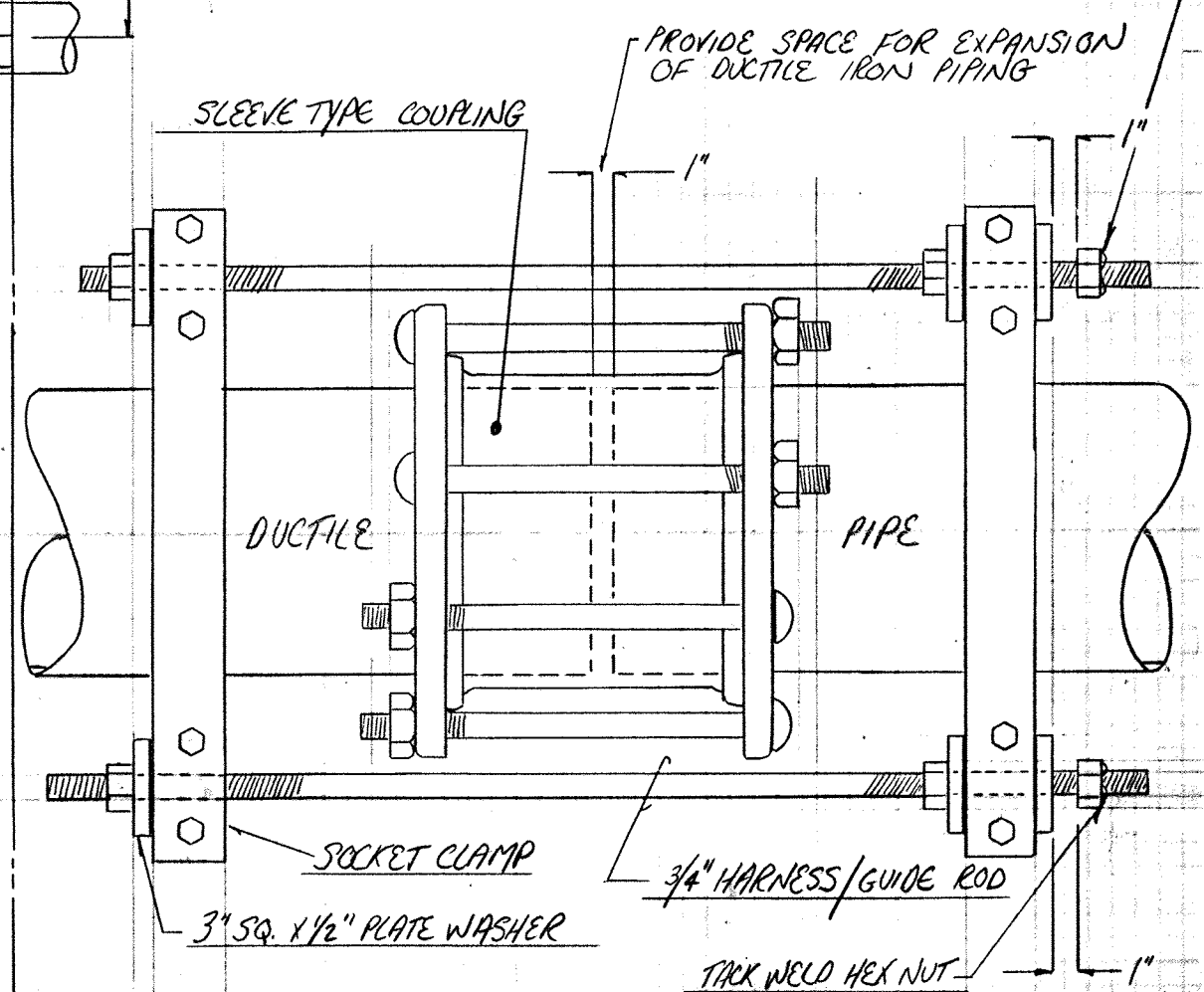
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DUCTILE IRON FITTING SCHEDULE		
MARK	DESCRIPTION	QUANTITY
3	12" 90° EL. GXG	4
4	12" 90° EL. FL. X. FL.	19
5	12" TEE. GXG X GXG	9
6	16" 241 VIC FLANGE	2
7	16" X 12" TEE. GXG X R.	8
9	4" 90° EL. GXG	2
6A	16" BLIND FLANGE	2
11	12" BLIND FLANGE	1
19	12" TEE. FL. X. FL. X. FL.	2
20	24" 90° EL. FL. X. FL.	1
21	24" 45° EL. GXG	2
22	4" 90° EL. G. G. TAPPED 1/2" NPT AT "Y"	1

(SHOWN THUSLY ○)



DUCTILE IRON PIPE SCHEDULE		
MARK	DESCRIPTION	QUANTITY
RAS-22A	12" 6'-10 1/2" GXG	1
RAS-22B	12" 10'-10 1/2" GXG	1
SW-12	4" 17'-0" GXG	5
SW-13	4" 15'-3 3/4" GXG	1
SW-14	4" 11'-2 3/4" GXG (F.V.)	1
RAS-6	12" 19'-0" GXG	3
RAS-6A	12" 19'-0" GXG FL.	1
RAS-9	12" 7'-6" GXG (F.V.)	1
RAS-9	12" 7'-0" GXG	1
RAS-9	12" 9'-6" GXG	1
RAS-18	12" 1'-0" FL. X. G.	1
RAS-17	12" 1'-6" FL. X. G.	10
RAS-20	12" 8'-5 1/2" GXG	1
RAS-21	12" FIELD MEASURE FL. X. FL.	1
RAS-22	12" 3'-6" FL. X. PL.	2
RCY-5	16" 19'-0" GXG	4
RCY-8	16" 7'-2" GXG (F.V.)	2
RCY-9	16" 6'-0" GXG	4
RCY-10	16" 9'-0" GXG	2
RAS-23	12" 3'-10 3/4" FL. X. FL.	1
EX-DI-16	12" 14'-8 3/4" FL. X. G.	1
RAS-10	12" 6'-9" GXG	1
EFF-1	24" 19'-0" GXG	3
EFF-2	24" 2'-6 1/4" GXG (F.V.)	1
EFF-3	24" 3'-0" GXG	1
EFF-4	24" 5'-2" FL. X. G.	1
EFF-1A	24" 9'-1" GXG (F.V.)	1
EFF-1B	24" 7'-10" GXG (F.V.)	1
RCY-8A	16" 6'-3" GXG (F.V.)	2
RAS-7A	12" 6'-5" GXG (F.V.)	1



TYP EXPANSION COUPLING DETAIL

DUCTILE IRON PIPE SCHEDULE		
MARK	DESCRIPTION	QUANTITY
RAS-23	12" 7'-9" GXG	2
RAS-24A	12" 3'-6" GXG (F.V.)	1
RAS-25	12" 2'-0" GXG	1
RAS-26	12" 15'-0" GXG (F.V.)	1
RAS-27	12" 16'-6" GXG	1

REVISIONS	
NO.	REVISION
1	2-5-94 AS BUILT
2	4-28-93 REUSE PER BFP 4-16-93
3	3-11-93 APPROVED ISSUE FOR CONSTRUCTION
4	1-29-93 REVISED PER SUBM. # 68A
5	1-4-93 REVISED PER ENGINEER'S NOTES FOR APPROVAL
6	11-27-92 REVISED PER REF # 135
7	11-18-92 POST SUBM. RFP'S REMAIN F. PIPE

The Poole & Kent Co./James W. Miller, Inc.  
 (A Joint Venture)  
 4530 Hollis Ferry Road  
 Baltimore, MD 21227

LITTLE PATUXENT  
 WASTEWATER TREATMENT PLANT EXPANSION  
 ADDITION NO. 5  
 HOWARD COUNTY, MARYLAND

TITLE: PROCESS REACTORS 5-6  
 WEST PLAN EL. 144.0'

JOB: PK: 92125  
 DRAWN: M. DOBBS  
 SCALE: 1/4" = 1'-0"  
 DATE: 10-8-92

DRAWING:  
 PK-54



SLEEVE SCHEDULE			
MARK	SERVICE	DESCRIPTION	QUANTITY
9	4" SCUM	STD. W. GALV. STEEL 8" x 12" x 1/2" US	1
10	4" SCUM	STD. W. GALV. STEEL 8" x 12" x 1/2" US	1
12	12" RECYCLE	STD. W. GALV. STEEL 16" x 12" x 1/2" US	0
13	16" RECYCLE	STD. W. GALV. STEEL 20" x 12" x 1/2" US	2
14	16" RAS	STD. W. GALV. STEEL 20" x 12" x 1/2" US	6
14A	12" RAS	STD. W. GALV. STEEL 16" x 12" x 1/2" US	2
18	6" AIR	STD. W. GALV. STEEL 10" x 8" x 1/2" US	8
24	5G-PRS.6	STD. W. GALV. STEEL 8" x 20" x 1/2" US PHM	1
25	24" EFFLUENT	STD. W. GALV. STEEL 30" x 12" x 1/2" US	5
117	16" RECYCLE	STD. W. GALV. STEEL 20" x 12" x 1/2" US	2
122	HATCH DRAIN	STD. W. GALV. STEEL 4" x 12" x 1/2" US	1

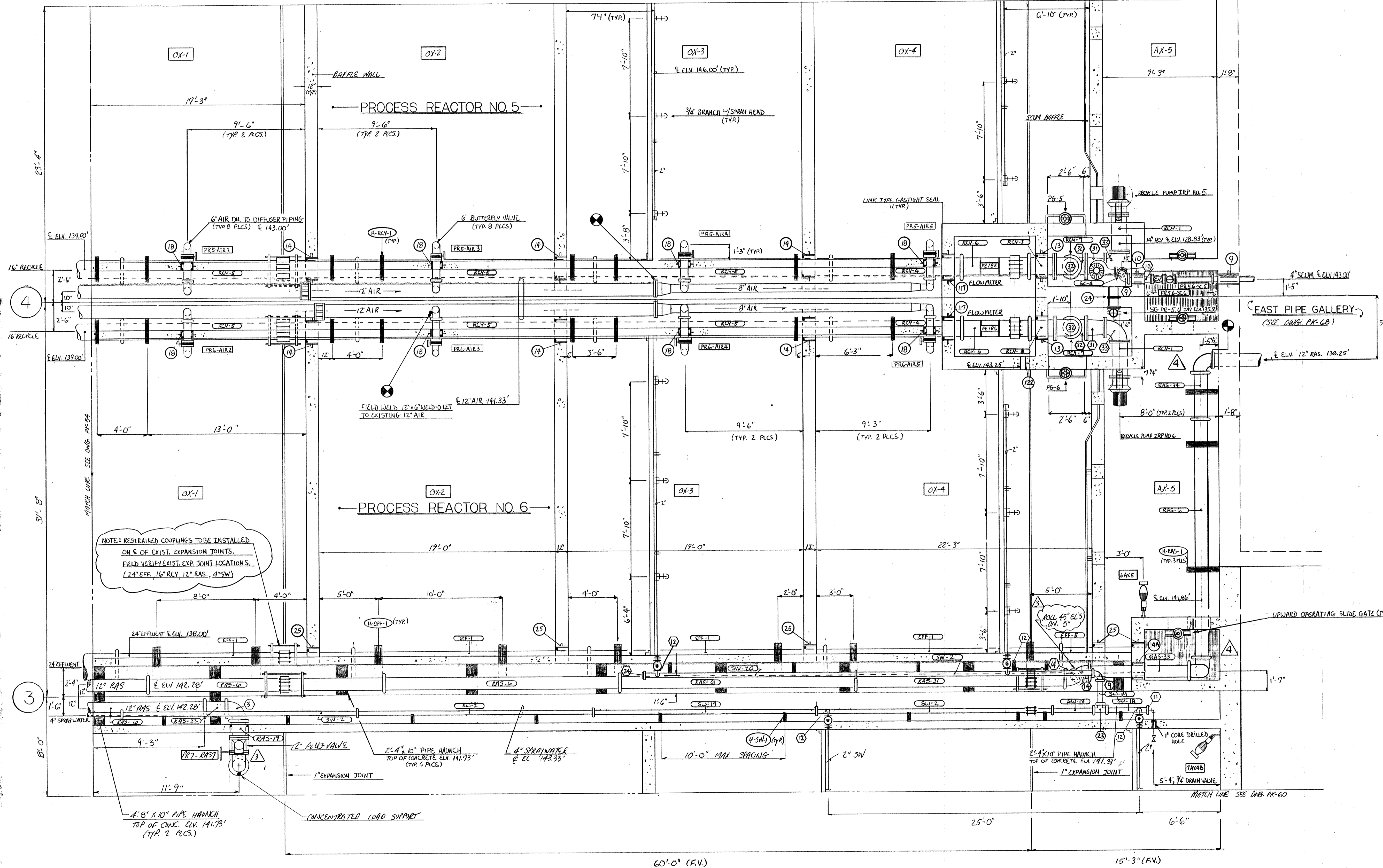
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DUCTILE IRON FITTING SCHEDULE		
MARK	DESCRIPTION	QUANTITY
10	4" 45° EL. GxG	1
3	12" 90° EL. GxG	3
9	4" 90° EL. GxG	2
11	4" VIC. CAP. 1/4" IPS. TAP (ECCENTRIC LOC.)	1
11	4" X 2" SERVICE SADDLE	4
14	4" 45° EL. GxG	2
31	16" x 14" REDUCER FLxFL	2
32	16" 90° EL. FLxFL	4
22	12" 90° EL. FLxFL	1
23	4" TEE FLxFLxFL	1
24	4" VIC. CAP.	1
33	14" 90° EL. FLxFL	2

(SHOWN THUSLY) ○

MATCH LINE SEE DWG. PK-51

DUCTILE IRON PIPE SCHEDULE		
MARK	DESCRIPTION	QUANTITY
SW-2	4" 19'-0" GxG	4
SW-17	4" 18'-0" GxG	1
SW-18	4" 3'-2 1/2" GxG	2
SW-19	4" 2'-0" GxG	1
SW-20	4" 17'-0" GxG	1
RAS-6	12" 19'-0" GxG	4
RAS-31	12" 16'-1 1/16" GxG	1
RAS-32	12" 1'-6" GxG	1
RAS-33	12" 7'-9 1/8" GxG (FN.)	1
RAS-34	12" 3'-10 1/8" GxG	1
RAS-35	12" 1'-7 1/8" GxG	1
RCV-1	14" 2'-9 1/8" FLxFL	2
RHS-19	12" 1'-6" FLxG	7
RCV-2	NOT USED	0
RCV-3	16" 2'-1" FLxG	2
RCV-4	16" 10'-6" GxG	2
RCV-5	16" 19'-0" GxG	6
RCV-6	16" 5'-6" GxG	2
RCV-7	16" 7'-8" FLxFL	2
SC-1	NOT USED	0
SC-2	4" 3'-2" GxFL	1
SC-3	4" 1'-9 1/2" GxFL	1
SC-4	4" FIELD MEASURE GxFL	1
EFF-1	24" 19'-0" GxG	4
EFF-5	24" FIELD MEASURE GxFL	1



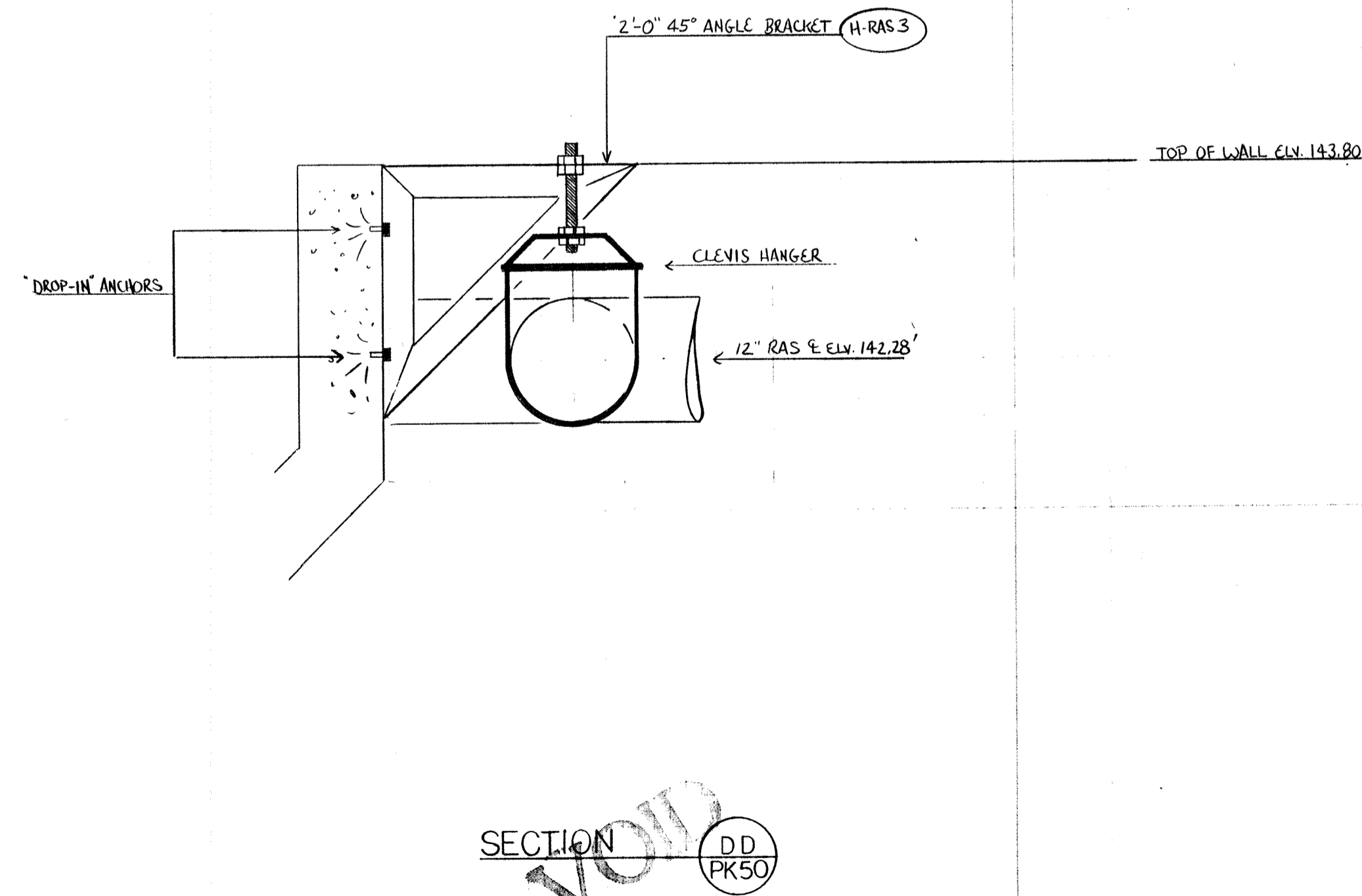
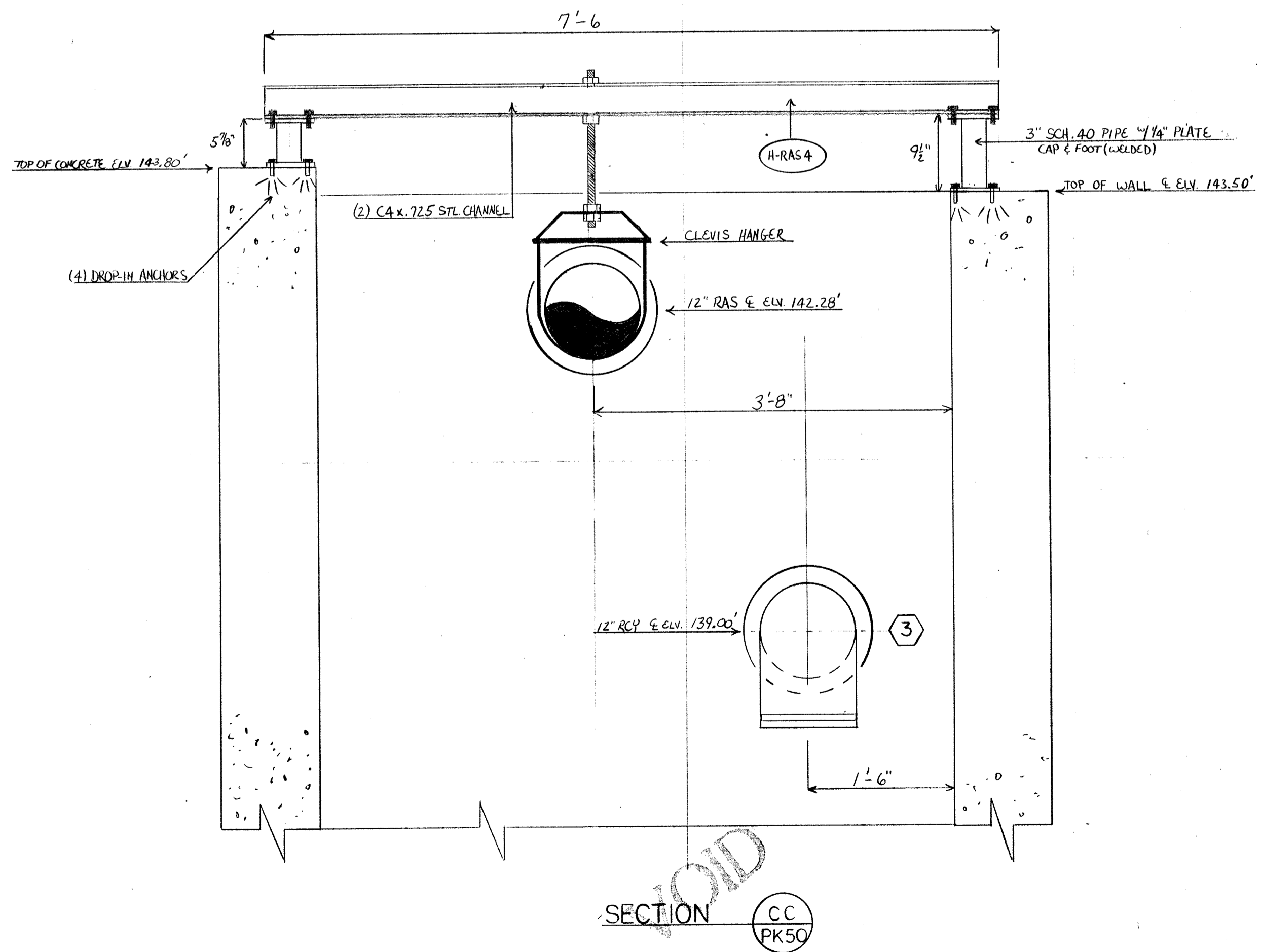
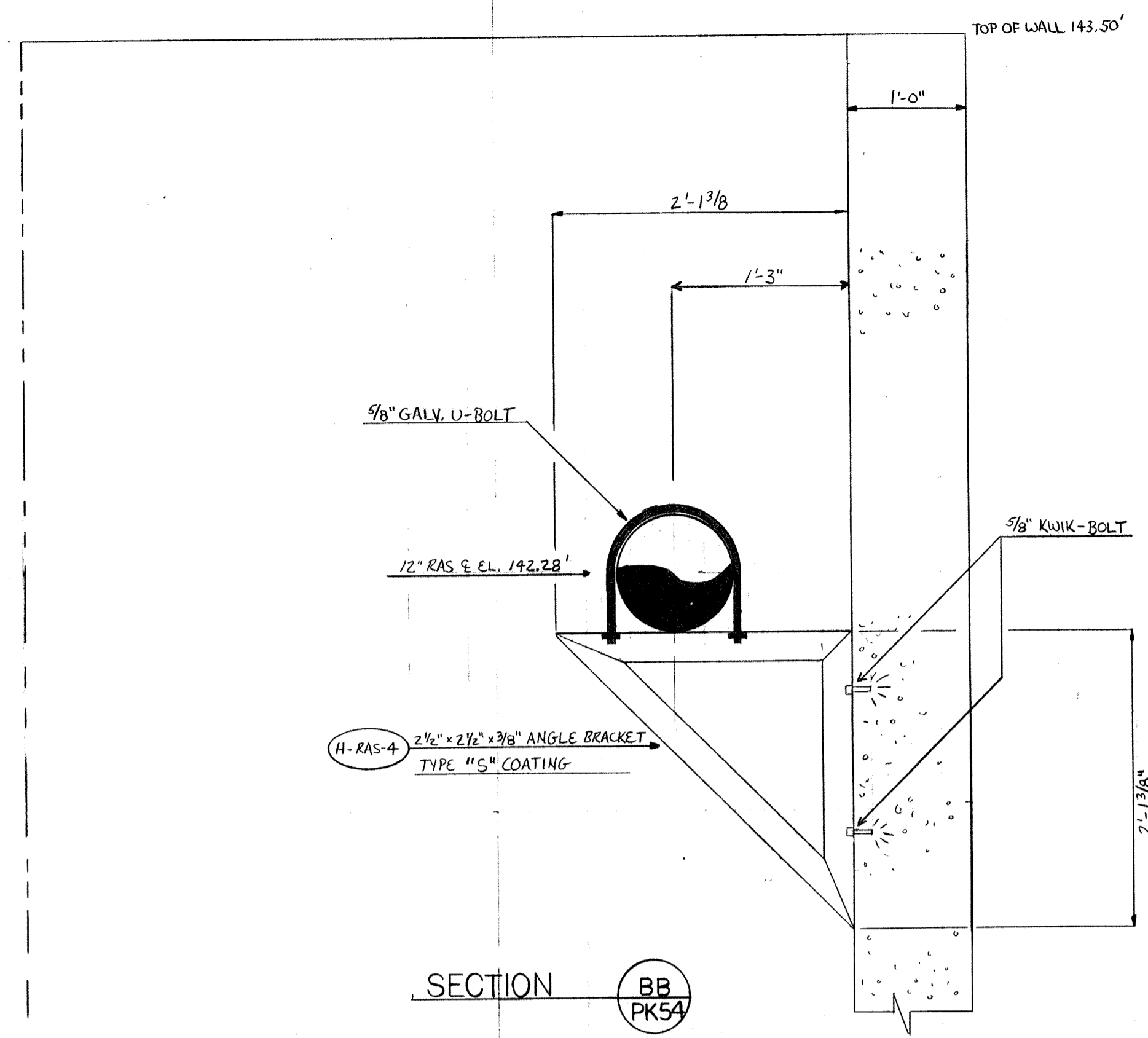
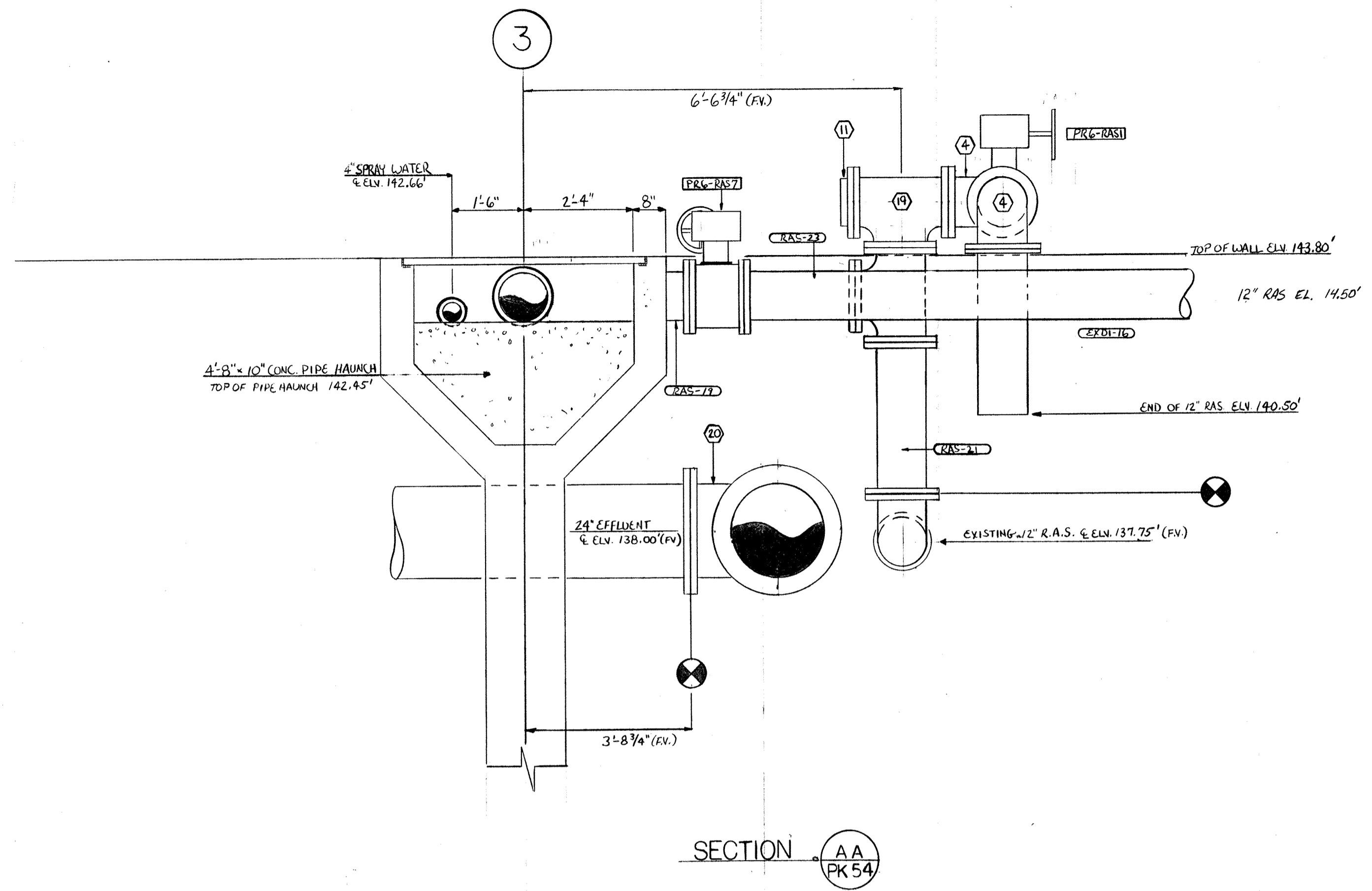
12-5-94	AS BUILT	
4-28-93	REVISE PER RFP APRIL 16, 1993	
1-2-93	APPROVED AS NOTED / ISSUE FOR CONST.	
11-18-92	POST SUBM. REV'S / REMAIN. PIPE	
NO.	DATE	REVISION

The Pools & Kent Co./James W. Miller, Inc.  
(A Joint Venture)  
4530 Holma Ferry Road  
Baltimore, MD 21227

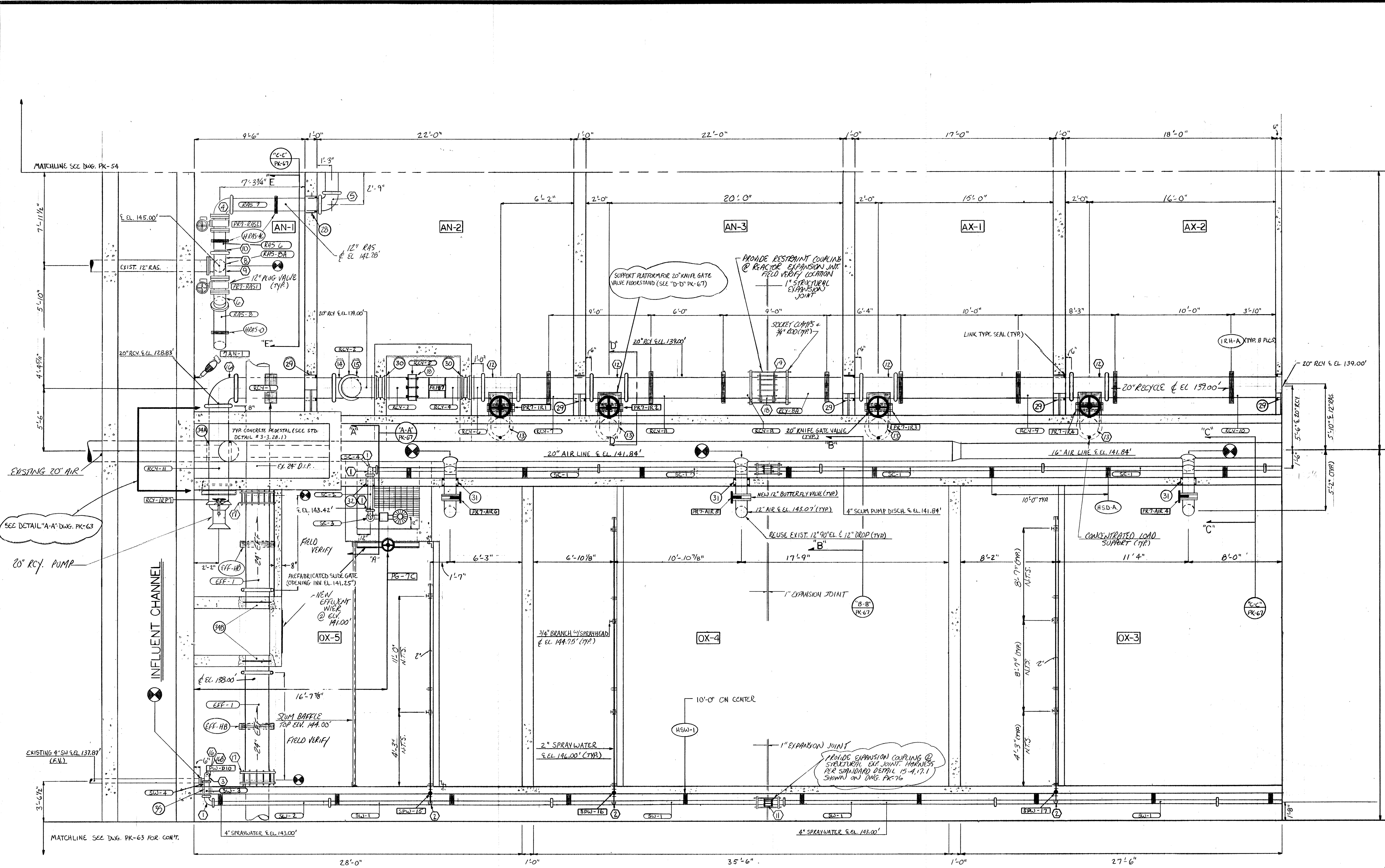
**LITTLE PATUXENT  
WASTEWATER TREATMENT PLANT EXPANSION  
ADDITION NO. 5**  
HOWARD COUNTY, MARYLAND

TITLE:  
**PROCESS REACTORS 5 + 6  
EAST PLAN EL. 144.00'**

JOB: PK: 92125	DRAWING: D. OTTE
SCALE: 1/8" = 1'-0"	PK-55
DATE: 10-15-92	



NO.	DATE	REVISION
1	2-2-94	AS BUILT
2	1-5-93	APPROVED AS NOTED / ISSUE FOR CONST.
The Poole & Kent Co./James W. Miller, Inc. (A Joint Venture) 4530 Hollins Ferry Road Baltimore, MD 21227		
<b>LITTLE PATUXENT          WASTEWATER TREATMENT PLANT EXPANSION          ADDITION NO. 5</b> HOWARD COUNTY, MARYLAND		
TITLE: <b>PROCESS REACTORS          3-4-5-6          SECTIONS/DETAILS</b>		
JOB:	92125	DRAWING:
DRAWN:	D. OTTE	SCALE:
SCALE:	VARIABLE	DATE:
DATE:	10-21-92	PK-58

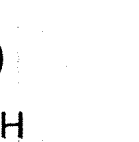


MATCHLINE SEE DWG. PK-60 FOR CONT.

MATCHLINE SEE DWG. PK-54

2

1



**NOTE**  
 1. HANGERS REFERENCED ON THIS DWG. ARE DETAILED IN SUBMITTAL # 109 PIPING SUPPORT SYSTEMS.  
 2. VERIFY EXPANSION COUPLING REQUIREMENTS AT WEST END OF REACTOR WITH RESIDENT ENGINEER.

NO.	DATE	REVISION
1	12-2-94	AS BUILT
2	6-10-93	APPROVED / ISSUE FOR CONSTRUCTION
3	4-27-93	REV. PER ENG. NOTES FOR APPROVAL

The Poole & Kent Co./James V. Miller, Inc.  
 (A Joint Venture)  
 4530 Hollins Ferry Road  
 Baltimore, MD 21227

**LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5**  
 HOWARD COUNTY, MARYLAND

TITLE: **PROCESS REACTOR #7**  
**WEST PLAN EL. 144.00'**

JOB: # 92125  
 DRAWN: D. OTE  
 SCALE: 1/4" = 1'-0"  
 DATE: 2-24-93

DRAWING: **PK-59**

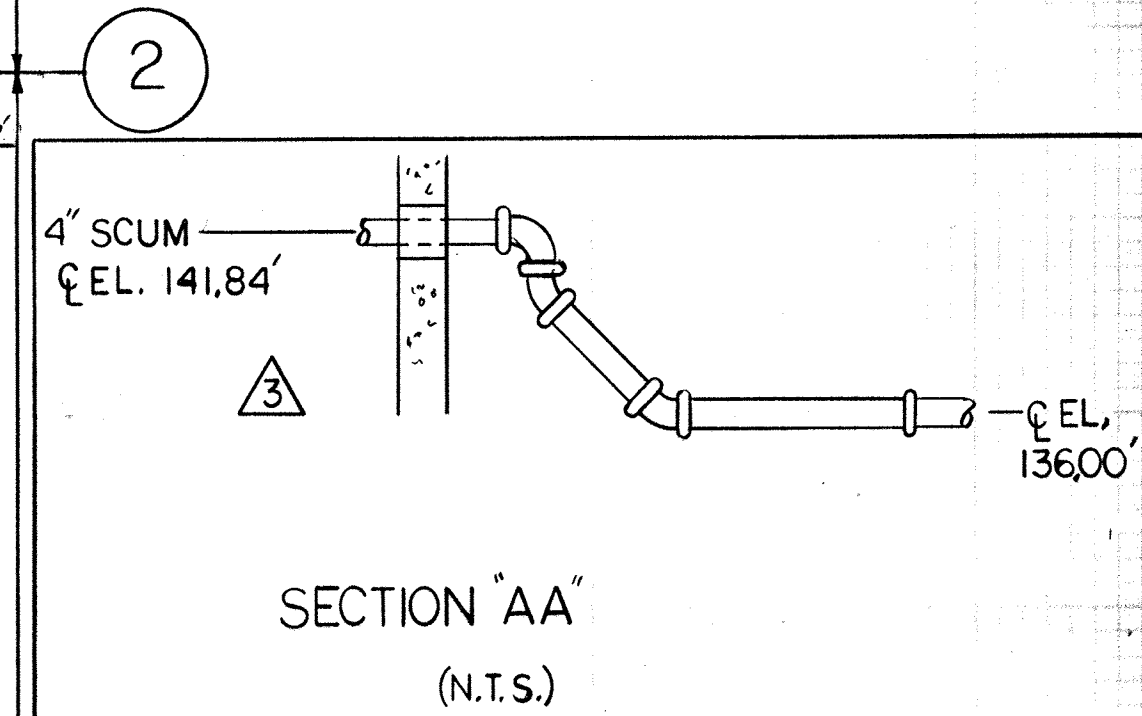
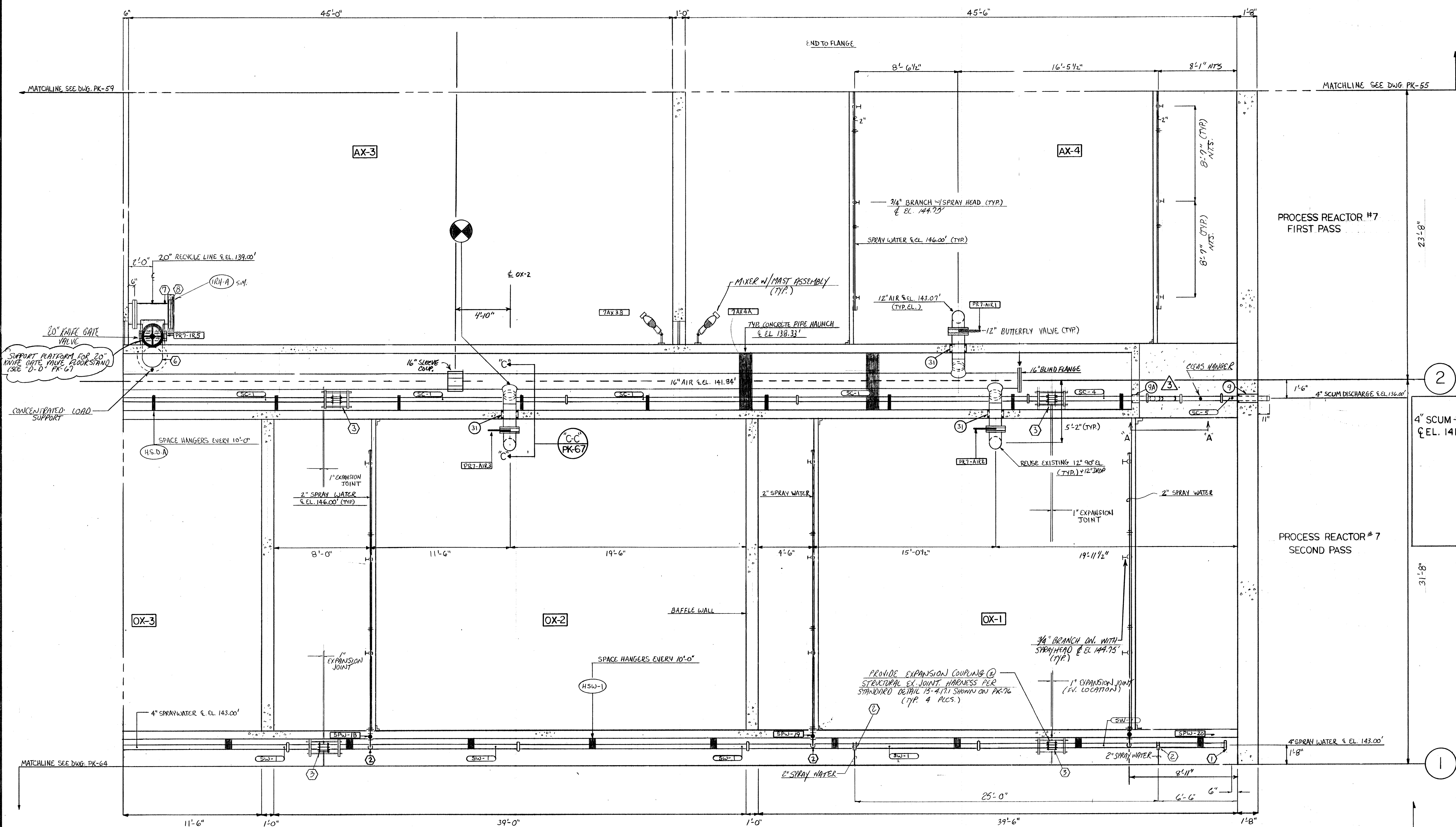
MARK	SERVICE	DESCRIPTION	QTY.
28	12" R.A.S.	STD. W. GAL. STEEL 16"x1'-0" w.s.	5
29	20" RCY.	STD. W. GAL. STEEL 26"x1'-0" w.s.	5
30	20" RCY.	STD. W. STL. 20"x1'-0" M.T.M. WALL PIPE	3
31	12" AIR	16"x8" CORE DRILLED HOLE	2
32	4" SCUM	8"x8" CORE DRILLED HOLE	1
34A	20" RCY.	25" CORE DRILLED HOLE	1
34B	24" D.I.P.	24"x18" DI. WALL CLIPPING PE X G WITH 2" WATER STOP G. FROM DE.	2
35	4" SW	8"x8" CORE DRILLED HOLE	1

12" 3/4" VIC FLANGES - 2  
 20" 3/4" VIC FLANGES - 4  
 4" 3/4" VIC FLANGES - 1

MARK	DESCRIPTION	QTY.
1	4" 90° EL. GxG	4
2	4"x2" SERVICE SADDLE	3
3	4" 90° EL. GxG TAPPED 1/2" N.P.T.	1
4	4" 3" 7/8" GxG (F.V.)	1
5	12" 90° EL. FL X G	1
6	12" 45° EL. GxG	1
7	12" TEE GxGxFL	1
8	12" TEE GxFLxG	1
9	12" TEE GxGxG	1
10	12" VIC CAP	1
11	4" SLEEVE TYPE COUPLING	2
12	20" TEE GxGxFL	4
13	20" 90° EL. FLxFL	4
14	20" 90° BASE EL. GxG	1
15	20" 90° EL. FLxPE	1
16	4" 90° EL. FLxG	1
16A	20" 90° GxG	1
16B	4" 75° EL. GxG	1
17	24" SLEEVE TYPE COUPLING	2
18	20" SLEEVE TYPE COUPLING	2
19	12" SLEEVE TYPE COUPLING	1

MARK	DESCRIPTION	QTY.
SW-1	4" 19'-0" GxG	4
SW-2	4" 11' 1/2" GxG	1
SW-3	4" 12'-5" GxG (F.V.)	1
SW-4	4" 3" 7/8" GxG (F.V.)	1
SC-1	4" 19'-0" GxG	4
SC-2	4" 3" 1" GxG (F.V.)	1
SC-3	4" 4" 3/4" FLxFL	1
RCY-1	20" 8'-5 3/8" GxG	1
RCY-2	20" 7'-7" GxFL	1
RCY-3	20" 2'-5 1/2" PE x PE	1
RCY-4	20" 4'-3 1/2" PE x PE	1
RCY-5	20" 0'-4" PE x PE (F.V.)	1
RCY-6	20" 1'-3 1/2" PE x G	1
RCY-7	20" 6'-2" GxG	1
RCY-8	20" 12'-6" GxPE	1
RCY-9	20" 15'-0" GxG	1
RCY-10	20" 16'-0" FLGxG	1
RCY-11	20" 7'-4" GxPE (SEE DETAIL 4A)	1
SC-4	4" 0'-6" GxG	1

MARK	DESCRIPTION	QTY.
RAS-G	12" 2" O.D. GxFL	1
RAS-7	12" 7" C.P. GxG	1
RAS-8	12" 5'-9" GxFL	1
RAS-BA	12" (FIELD MEASURE) FLxG	1
EFF-1	24" (FIELD MEASURE) GxPE	2
RAS-2A	12" 11'-4" GxG (FIELD VERIFY)	1
RCY-BA	20" 7'-6" GxPE (FIELD VERIFY)	1



**NOTE:**  
 1) HANGERS REFERENCED ON THIS DWG. ARE DETAILED IN SUBMITTAL #109 PIPING SUPPORT SYSTEMS.

SLEEVE SCHEDULE			
MARK	SERVICE	DESCRIPTION	QTY.
31	12" AIR	16" x 8" CORE DRILLED HOLE	3
9	4" SCUM	8" x 1'-8" CORE DRILLED HOLE	1
9A	4" SCUM	8" x 8" CORE DRILLED HOLE	1

DUCTILE IRON FITTING SCHEDULE		
MARK	DESCRIPTION	QTY.
1	4" VIC CAP	1
2	4"x2" SERVICE SADDLE	5
6	20" 90° EL. FLX FL.	1
7	20" TEE FLX FL X FL	1
8	20" BLIND FLANGE	1
3	4" SLEEVE TYPE COUPLING	4

DUCTILE IRON PIPE SCHEDULE		
MARK	DESCRIPTION	QTY.
SC-1	4" 19'-0" GxG	4
SC-4	4" 16'-0" GxG	1
SC-5	4" 4'-0 1/2" GxFRE	1
sw-1	4" 19'-0" GxG	5

NO.	DATE	REVISION
1	12-29-91	AS BUILT
2	6-10-93	APPROVED / ISSUE FOR CONSTRUCTION
3	4-27-93	REV. PER ENG. NOTES FOR APPROVAL

The Poole & Kent Co./James W. Miller, Inc.  
 (A Joint Venture)  
 4530 Hollins Ferry Road  
 Baltimore, MD 21227

**LITTLE PATUXENT  
 WASTEWATER TREATMENT PLANT EXPANSION  
 ADDITION NO. 5**  
 HOWARD COUNTY, MARYLAND

TITLE:  
**PROCESS REACTOR # 7  
 EAST PLAN EL. 144.00**

JOB: #92125  
 DRAWN: D. OTTE  
 SCALE: 1/4" = 1'-0"  
 DATE: 2-24-93

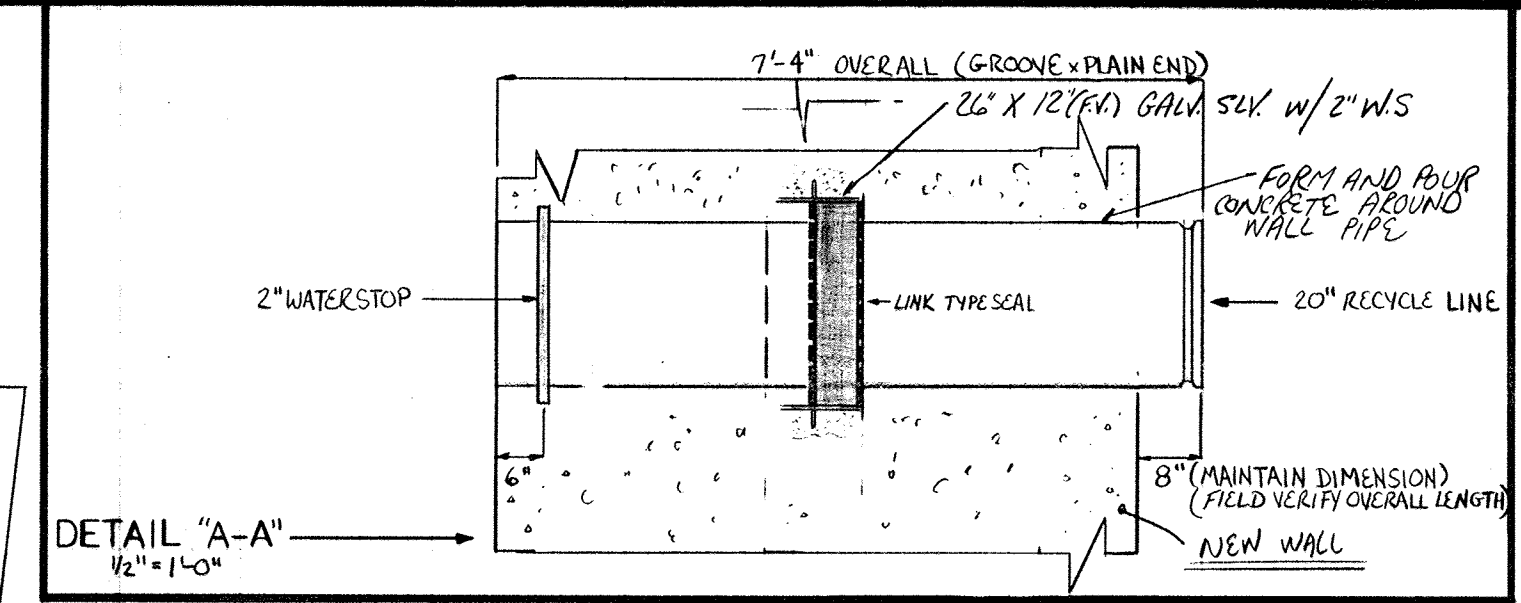
DRAWING:  
**PK-60**

SLEEVE SCHEDULE (W.P.)			
MARK	SERVICE	DESCRIPTION	QTY
29	20" RCY	STD. W. GAIN. STEEL 24" X 12" W/ 2" W.S.	5
30	20" RCY	STD. W. GAIN. STEEL 20" X 12" W/ 2" W.S.	2
31	12" AIR	16" CORE DRILLED HOLE	3
32	4" SCUM	B" CORE DRILLED HOLE	1
34A	20" RCY	26" X 12" GAIN. STEEL W/ 2" W.S.	1
32A	4" FW	STD. W. GAIN. STEEL 8" X 12" W/ 2" W.S.	1
34B	4" EFF	24" X 18" D1 W/ 1/2" W/ 2" W.S.	1
35	4" SW	6" X 8" CORE DRILLED HOLE	2
20A	12" RAS	16" CORE DRILLED HOLE	5
2D	12" RAS	16" X 12" GAIN. STEEL W/ 2" W.S.	1

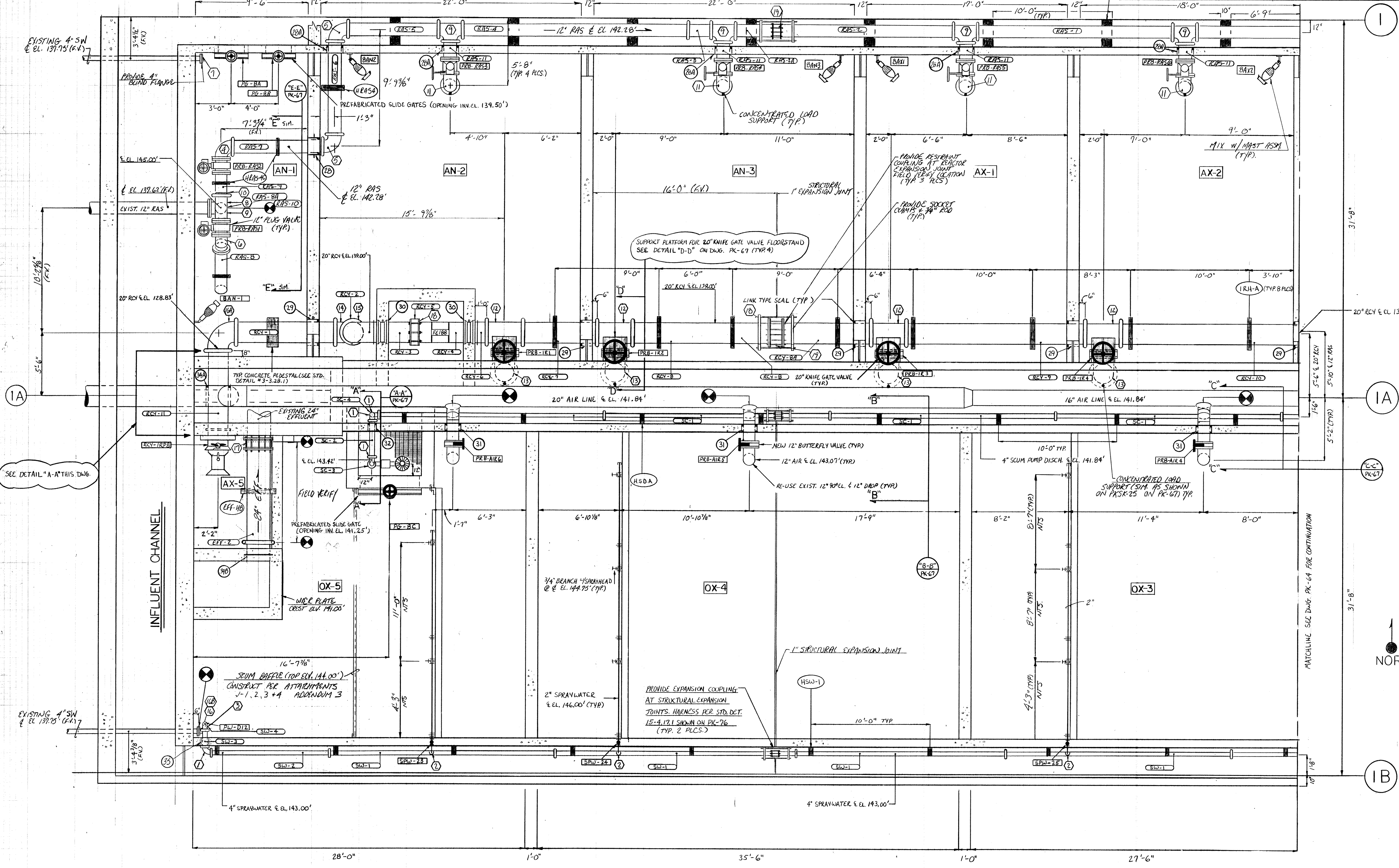
DUCTILE IRON FITTING SCHEDULE		
MARK	DESCRIPTION	QTY
1	4" 90° EL. G X G	4
2	4" 2" SERVICE SADDLE	3
3	4" 90° EL. G X G TAPPED POS'Y 1/2" NPT	1
4	12" 90° EL. G X G	1
5	12" 90° EL. G X G	2
6	12" 45° FL X G	1
7	4" BUND FLANGE	1
8	12" TEE G X FL X G	1
9	12" TEE G X G X G	5
10	12" VIC CAP	1
11	12" 90° EL. FL X FL	4
	4" 341 VIC FLANGES	1

DUCTILE IRON FITTING SCHEDULE		
MARK	DESCRIPTION	QTY
12	20" TEE G X G X FL	4
13	20" 90° EL. FL X FL	4
14	20" 90° BASE EL. G X G	1
15	20" 90° EL. FL X PE	1
16	4" 90° EL. FL X G	1
16A	20" 90° EL. G X G	1
17	24" SLEEVE TYPE COUPLING	1
18	20" SLEEVE TYPE COUPLING	1
19	12" SLEEVE TYPE COUPLING	1
	12" 341 VIC FLANGES	1
16B	4" 45° EL. G X G	4

DUCTILE IRON PIPE SCHEDULE		
MARK	DESCRIPTION	QTY
SW-1	4" 19.0" G X G	4
SW-2	4" 11.48" G X G	1
SW-3	4" 11.3" G X G (F.V.)	1
SW-4	4" 31.9" G X G (F.V.)	1
SC-1	4" 19.0" G X G	4
SC-2	4" 3" 1" G X G	1
SC-3	4" 4" 8 3/4" FLK FL	1
SC-4	4" 0.2" 6" G X G	1
RCY-1	20" 8" 5 1/2" G X G	1
RCY-2	20" 7" 2" G X FL	1
RCY-3	20" 2" 3 1/4" PE X PE	1



DUCTILE IRON PIPE SCHEDULE		
MARK	DESCRIPTION	QTY
RCY-4	20" 4" 3 1/4" PE X PE	1
RCY-5	20" 0" 4" PE X PE	1
RCY-6	20" 1" 3 1/4" PE X G	1
RCY-7	20" 6" 2" G X G	1
RCY-8	20" 12" 6" G X PE	1
RCY-8A	20" 7" 6" G X PE (F.V.)	1
RCY-9	20" 15" 0" G X G	1
RCY-10	20" 16" 0" G X G	1
RCY-11	20" 7" 4" G X PE W/ 2" W.S. (SEE DETAIL)	1
RAS-1	12" 16" 6" G X G	1
RAS-2	12" 15" 0" G X PL	1
RAS-2A	12" 3" 6" G X PL	1
RAS-3	12" 2" 0" G X G	1
RAS-4	12" 13" 0" G X G	1
RAS-5	12" 7" 9" G X G	1
RAS-6	12" 7" 9 3/8" G X G	1
RAS-7	12" 7" 6 3/4" G X G (F.V.)	1
RAS-8	12" 5" 9" G X PE	1
RAS-8A	12" 2" 7 3/4" FL X G (FIELD MEASURE)	1
EFF-2	24" (FIELD MEASURE) G X PE	1
RAS-9	12" RAS 3" 0" G X G	1
RAS-10	12" RAS 0" 8 3/4" G X G	1
RAS-11	12" RAS 1" 6" G X FL	4



**NOTE**

- HANGERS REFERENCED ON THIS DWG. ARE DETAILED IN SUBMITTAL #109 PIPING SUPPORT SYSTEMS.
- VERIFY EXPANSION COUPLING REQUIREMENTS AT WEST END OF REACTOR WITH RESIDENT ENGINEER.

NO.	DATE	REVISION
1	12-29-94	AS BUILT
2	6-10-93	APPROVED / ISSUE FOR CONST.
3	9-2-93	REVISE PER DWG. NOTES FOR APPROVAL

The Poole & Kent Co./James W. Miller, Inc.  
 (A Joint Venture)  
 4530 Hollins Ferry Road  
 Baltimore, MD 21227

**LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5**  
 HOWARD COUNTY, MARYLAND

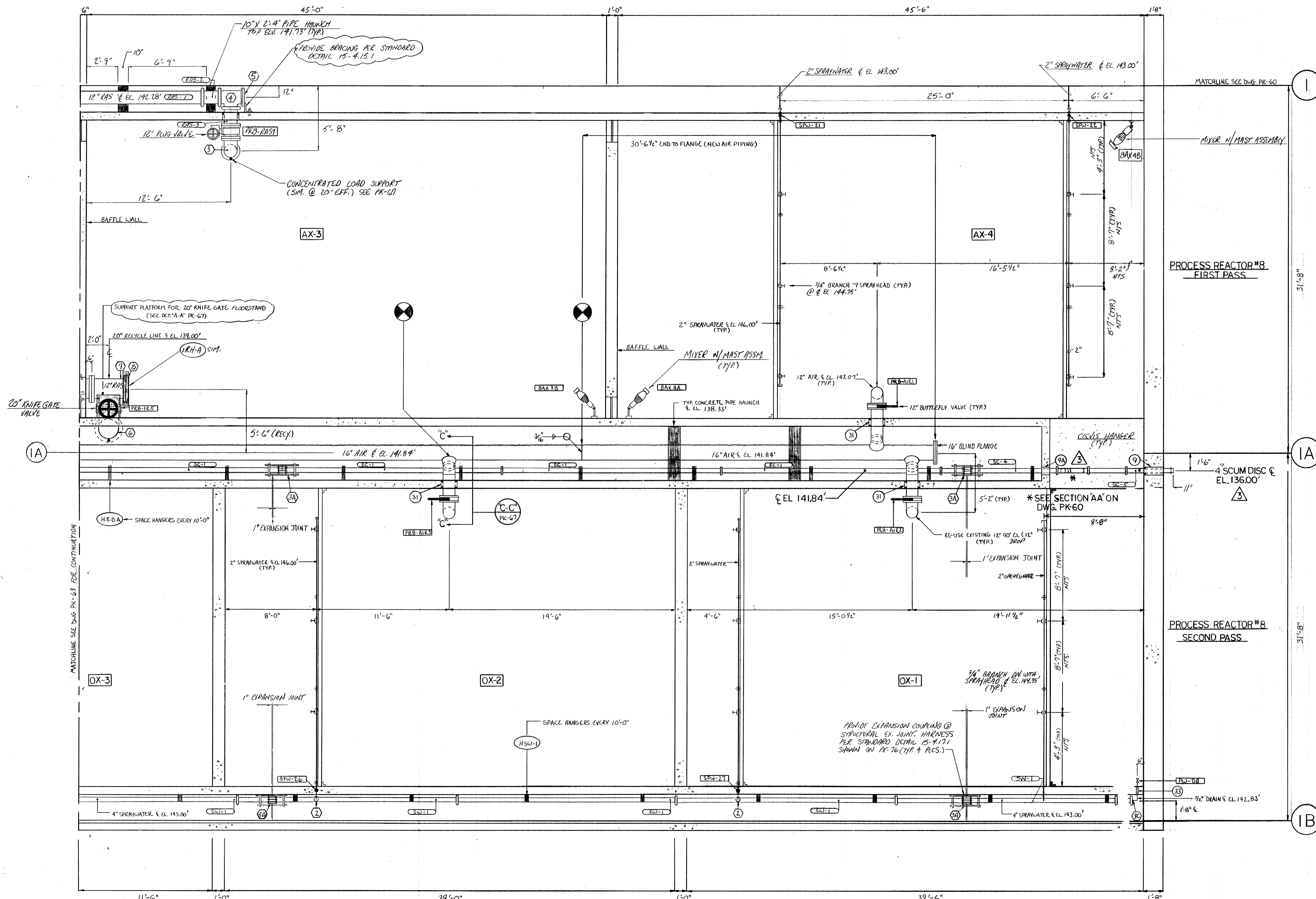
TITLE: **PROCESS REACTOR #8 WEST PLAN AT EL. 144.00'**

JOB: #92125	DRAWING: PK-63
DATE: 3-9-93	SCALE: 1/4" = 1'-0"

WALL PENETRATION SCHEDULE			
MARK	SERVICE	DESCRIPTION	QTY.
9	4" SC	8" x 1'-8" CORE DRILLED HOLE	1
9A	4" SC	8" x 8" CORE DRILLED HOLE	1
31	12" AIR	16" x 8" CORE DRILLED HOLE	3
33	4" SW	1" x 8" CORE DRILLED HOLE	2

DUCTILE IRON FITTING SCHEDULE			
MARK	DESCRIPTION	QTY.	
2	4" x 2" SERVICE SADDLE	5	
3B	4" 90° EL. G X G TAPPED "F" POS. 1/2" I.P.S.	1	
3C	4" VIC. CAP. 1/2" I.P.S. TAP (ECCENTRIC POS.)	1	
7	20" TEE FL X FL X FL	1	
8	20" BLIND FLANGE	1	
6	20" 90° EL. FL X FL	1	
3	12" 90° EL. FL X FL	1	
3A	4" SLEEVE TYPE COUPLING	4	
4	12" TEE G X G X G	1	
5	12" BLIND FLANGE	1	
	12" 341 VIC FLANGE	1	

DETICED IRON PIPE SCHEDULE			
MARK	DESCRIPTION	QTY.	
SW-1	4" 19'-0" G X G	10	
SW-5	4" 1'-4 1/2" G X G	2	
SW-6	4" 2'-3" G X G	1	
SC-1	4" 71'-0" G X G	4	
SC-4	4" 16'-0" G X G	1	
SC-5	4" 4'-0" G X G	1	
RAS-1	12" 19'-0" G X G	1	
RAS-2	12" 1'-6" G X G	1	
RAS-3	12" 1'-6" FL X G	1	



**NOTE**  
 1. HANGERS REFERENCED IN THIS DWG. ARE DETAILED IN SUBMITAL # 109 PIPING SUPPORT SYSTEMS.

NO.	DATE	REVISION
6-7-94		AS BUILT
7/10/93		APPROVED / ISSUE FOR CONST.
4/30/93		REV. PER ENG. NOTES FOR APPROVAL

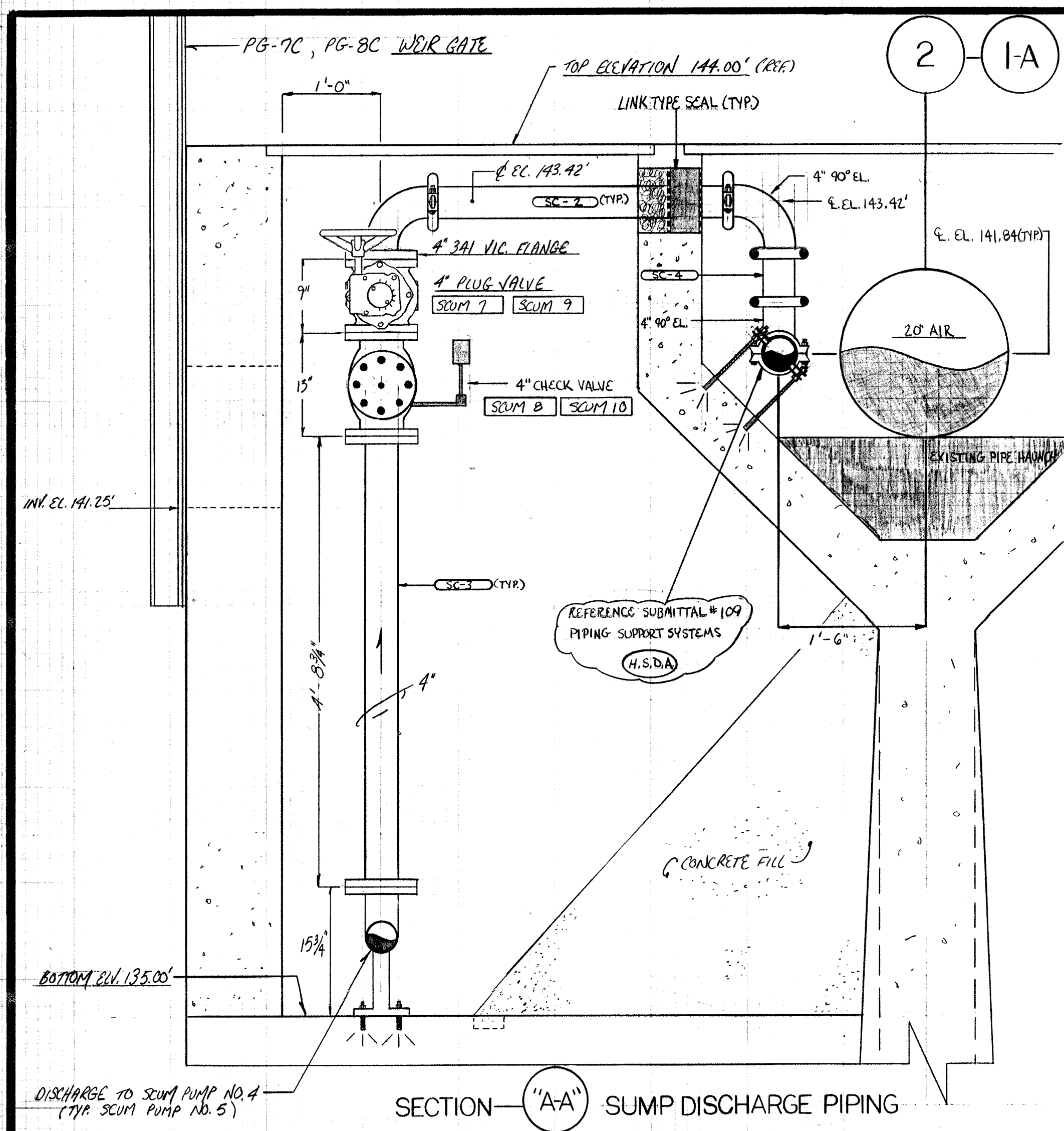
The Poole & Kent Co./James V. Miller, Inc.  
 (A Joint Venture)  
 4330 Mullins Ferry Road  
 Baltimore, MD 21227

**LITTLE PATUXENT  
 WASTEWATER TREATMENT PLANT EXPANSION  
 ADDITION NO. 5**  
 HOWARD COUNTY, MARYLAND

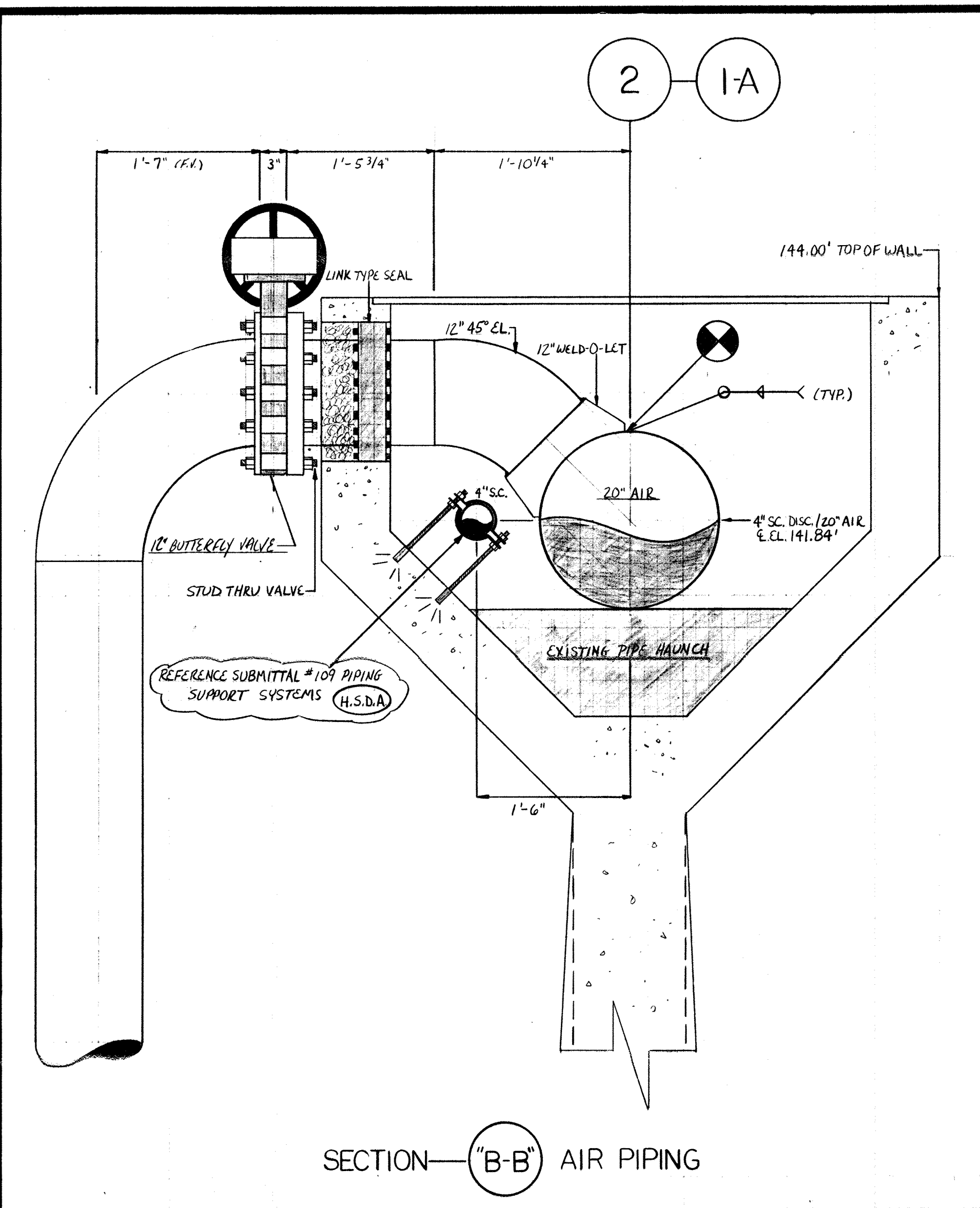
TITLE:  
**PROCESS REACTOR #8  
 EAST PLAN AT EL. 144.00'**

JOB: #92125  
 DRAWN: D. OTTE  
 SCALE: 1/4" = 1'-0"  
 DATE: 3-7-93

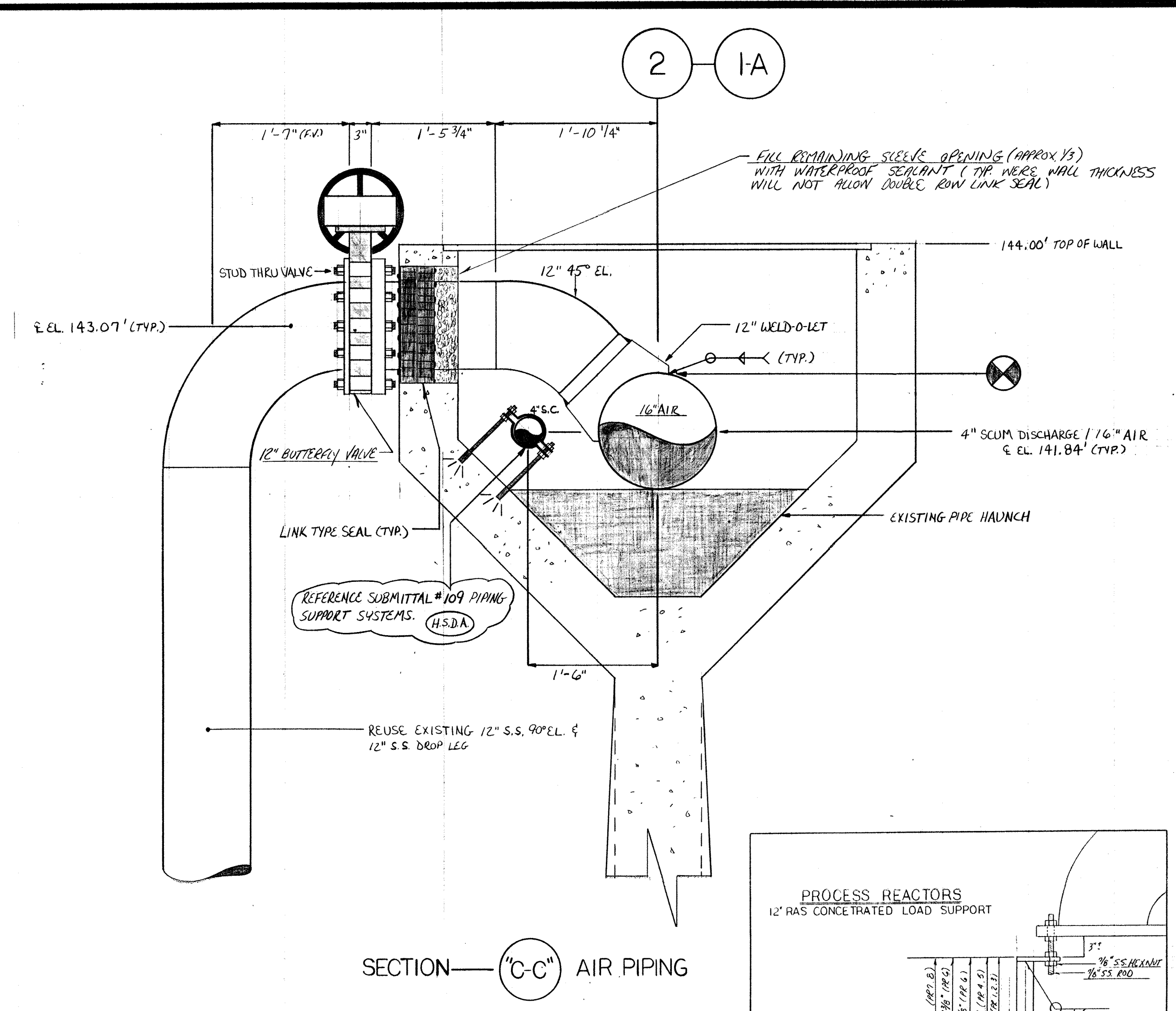
DRAWING:  
**PK-64**



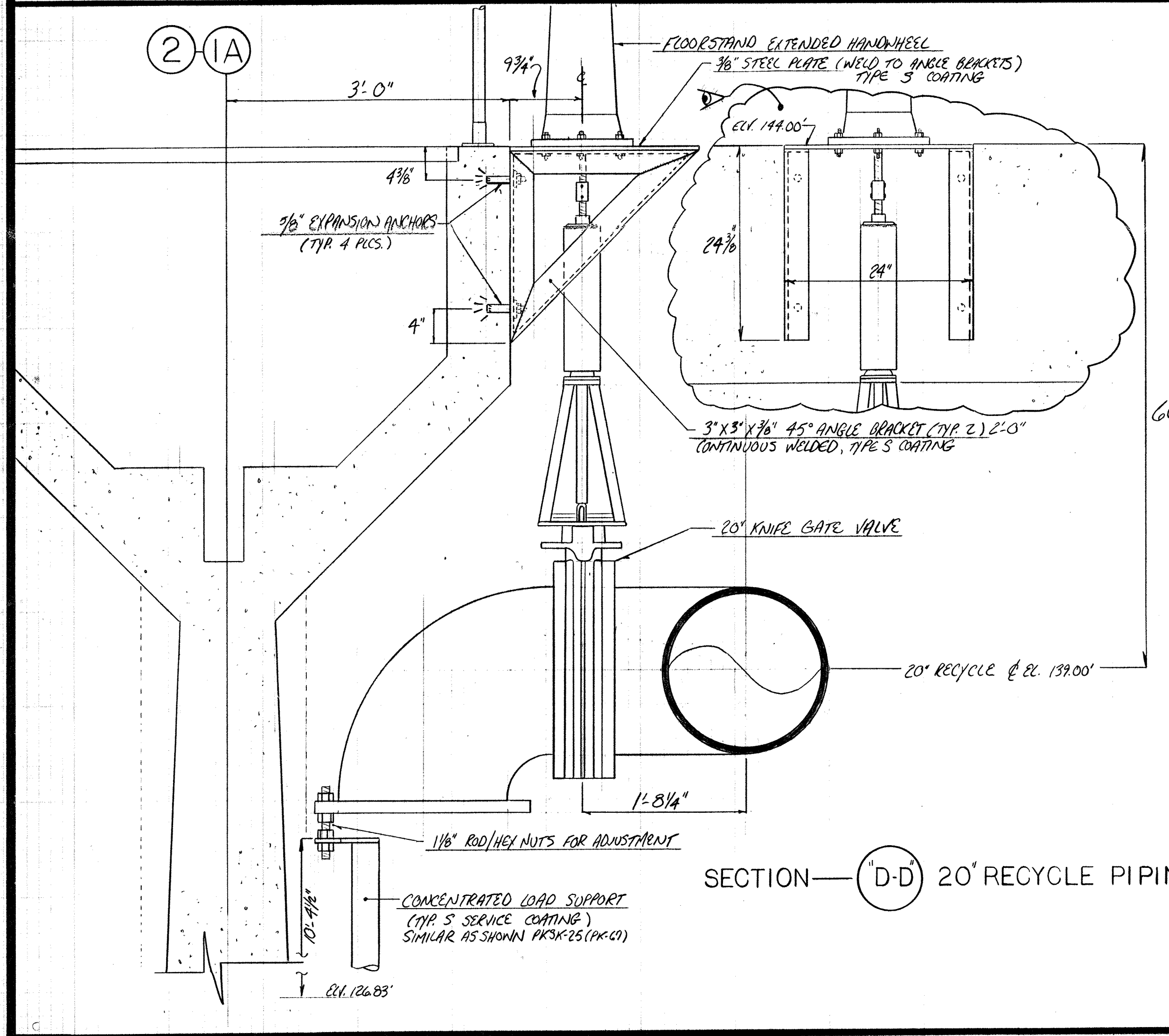
SECTION "A-A" SUMP DISCHARGE PIPING



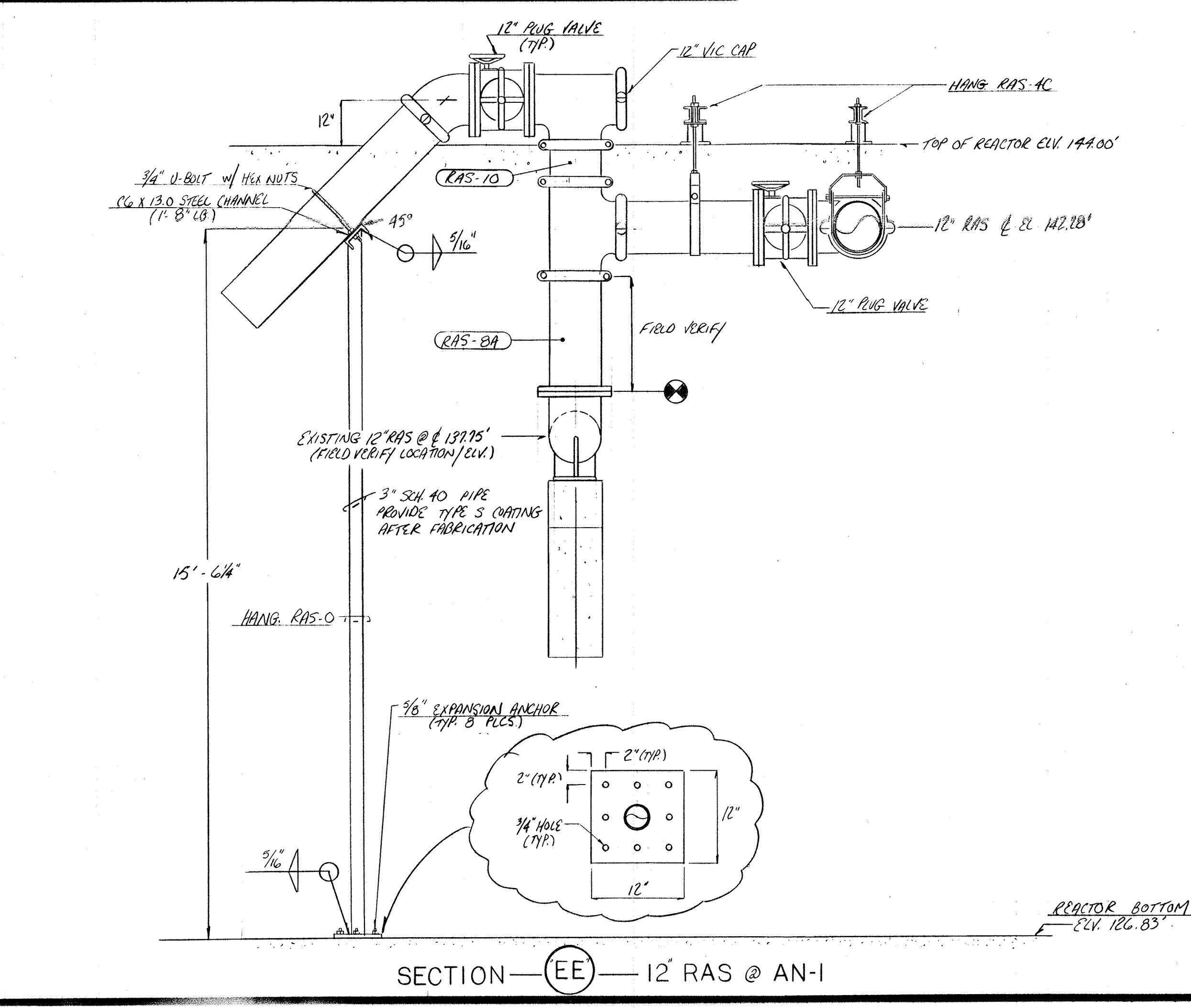
SECTION "B-B" AIR PIPING



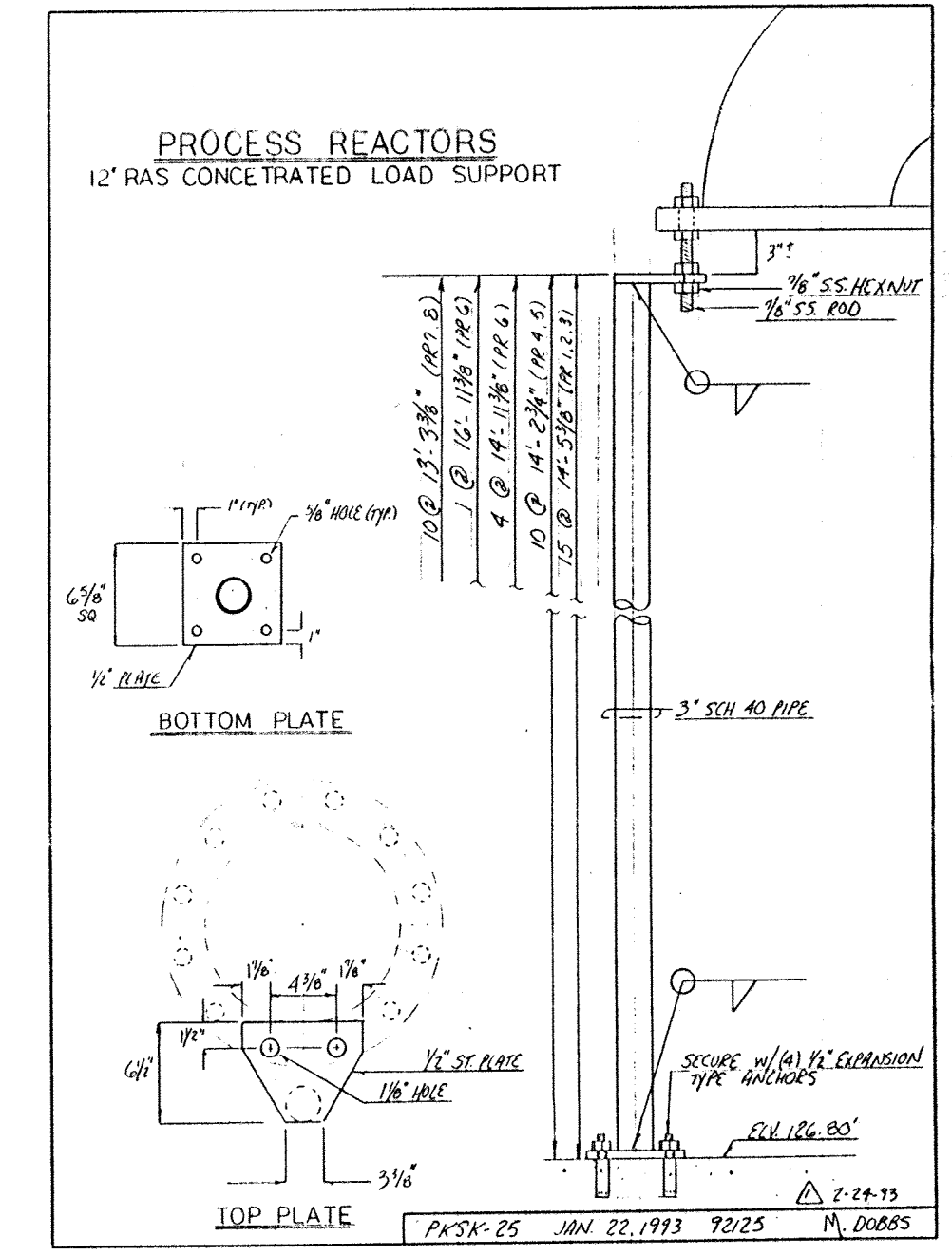
SECTION "C-C" AIR PIPING



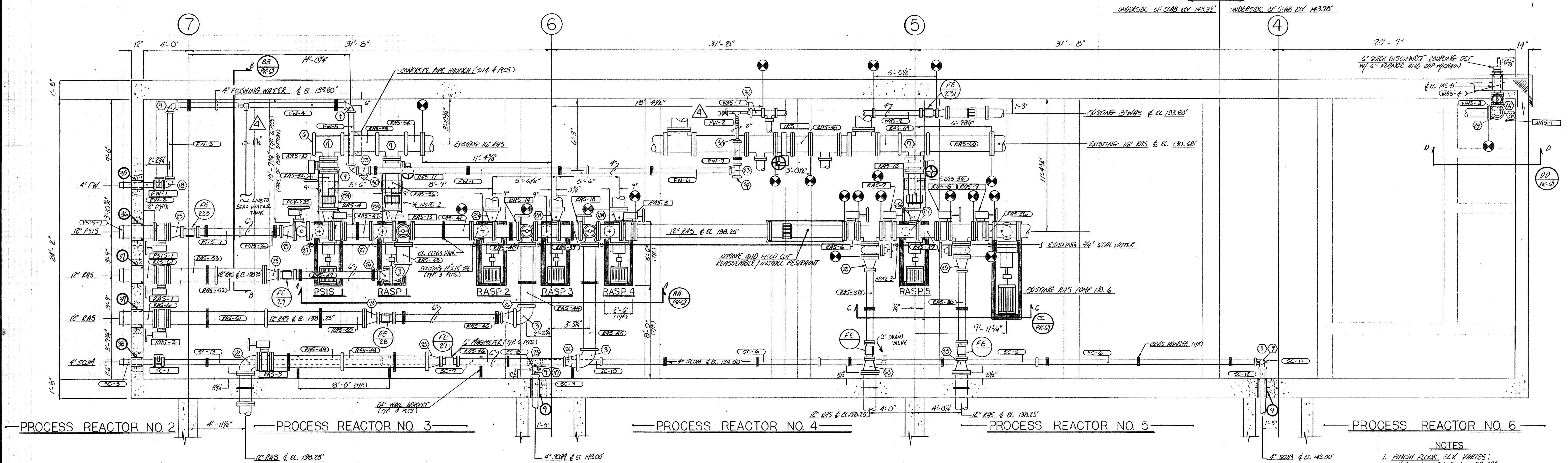
SECTION "D-D" 20" RECYCLE PIPING



SECTION "EE" 12" RAS @ AN-1



6-7-94	AS BUILT	
6-10-93	APPROVED / ISSUE FOR CONSTRUCTION	
5-3-93	REVISE PER ENG. NOTES FOR APPROVAL	
NO.	DATE	REVISION
The Poole & Kent Co./James W. Miller, Inc. (A Joint Venture) 4530 Hollis Ferry Road Baltimore, MD 21227		
LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5 HOWARD COUNTY, MARYLAND		
TITLE: PROCESS REACTORS 7+8 SECTIONS AND DETAILS		
JOB: #92125	DRAWN: D. OTTE	DRAWING: PK-67
SCALE: VARIES	DATE: 3-10-93	



WALL PENETRATION SCHEDULE			
MARK	SERVICE	DESCRIPTION	QUANTITY
9	4" SCUM	STD. W. GALV. STEEL 8" X 20" W/2" W/STAP	2
35	4" FW	STD. W. GALV. STEEL 8" X 12" W/2" W/STAP	1
36	12" PSIS	STD. W. GALV. STEEL 16" X 12" W/2" W/STAP	1
37	12" RAS	STD. W. GALV. STEEL 16" X 12" W/2" W/STAP	2
38	4" SCUM	STD. W. GALV. STEEL 8" X 12" W/2" W/STAP	1

DUCTILE IRON FITTING SCHEDULE			
MARK	DESCRIPTION	QUANTITY	
1A	6" 90° EL. FL X FL	1	
3	12" 90° EL. G X G	3	
6	16" VC CAP	1	
7	16" X 12" TEE G X G X FL	3	
9	4" 90° EL. G X G	6	
10	4" 45° EL. G X G	1	
18	4" 90° EL. FL X FL	1	
22	12" 90° EL. FL X FL	1	
25	4" TEE G X G X G	3	
24	4" VC CAP	1	
25	12" X 6" RED. FL X FL	9	
26	12" X 6" RED. G X G	3	
26A	12" VC ECC. RED. G/W/1/2" IPS TAP ON TOP/CENTER	0	
25A	12" VC ECC. RED. FL X FL W/1/2" IPS TAP ON TOP/CENTER	6	
27	12" X 8" TEE FL X FL X FL	3	
28	8" TEE FL X FL	1	
29	8" X 6" RED. G X G	1	
30	4X2 GALV. ST. NO. 52 RED. G X IPS W/ 307 COUPL.	3	

DUCTILE IRON PIPE SCHEDULE			
MARK	DESCRIPTION	QUANTITY	
SC-5	4" 3'-0" FL. X FR.	1	
SC-6	4" 19'-0" G X G	3	
SC-7	4" 12'-11 1/2" G X G	1	
SC-8	4" 7'-0" G X G	1	
SC-9	4" 2'-6" G X G	1	
SC-10	4" 5'-3/4" G X G	1	
SC-11	4" 7'-5" G X G	1	
SC-12	4" 3'-11 1/4" G X G	1	
SC-13	4" 19'-0" FL X G	1	
FW-1	4" 19'-0" G X G	1	
FW-2	4" 3'-0" FL X FP	1	
FW-3	4" 5'-11" FL X G	1	
FW-4	4" 14'-9" G X G	1	
FW-5	4" 4'-8" G X G	1	
FW-6	4" 12'-7" G X G	1	
FW-7	4" 2'-0" G X G	1	
NAS-1	4" 1'-0" FL X G	1	
NAS-2	4" 4'-0 1/4" FL X FL	1	
PSIS-1	12" 3'-0" FL X FE	1	
PSIS-2	6" 3'-7 1/8" FL X G	1	
PSIS-3	6" 3'-8" FL X G	1	
NAS-3	6" 9'-5 3/4" FL X G	1	
NAS-4	6" FIELD MEASURE	1	

DUCTILE IRON PIPE SCHEDULE			
MARK	DESCRIPTION	QUANTITY	
RAS-36	12" 0'-7 1/8" FL X FL	1	
RAS-37	12" 1'-7 3/8" FL X FL	1	
RAS-38	6" 6'-4" FL X FL	2	
RAS-39	12" 1'-10 3/8" FL X FL	1	
RAS-40	12" 1'-11 1/8" FL X FL	1	
RAS-41	12" 5'-1 3/8" FL X FL	1	
RAS-42	12" 2'-3 3/8" FL X FL	1	
RAS-43	12" 1'-7 1/4" FL X G	1	
RAS-44	12" 5'-3 1/4" FL X G	1	
RAS-45	12" 9'-1 3/4" FL X G	1	
RAS-46	6" 9'-3" FL X G	2	
RAS-47	6" 7'-3" FL X G	1	
RAS-48	12" 7'-5" FL X G	1	
RAS-49	12" 6'-4" FL X G	1	
RAS-50	12" 8'-7" FL X G	1	
RAS-51	12" 8'-7 3/8" FL X G	1	
RAS-52	12" 4'-2 1/2" FL X G	1	
RAS-53	12" 4'-3 3/8" FL X G	1	
RAS-54	16" 12'-4 3/8" FL X G	1	
RAS-55	16" 3'-0" G X G	1	
RAS-56	12" 3'-1 3/8" FL X FL	3	
RAS-57	NOT USED		
RAS-58	16" 1'-6 1/4" FL X FL	1	
RAS-59	16" 1'-8 3/8" FL X G	1	
RAS-60	16" 5'-6 1/2" FL X G	1	
RAS-61	12" 3'-0" FL X FR	2	

- NOTES**
- FINISH FLOOR ELEV. VARIES:  
HIGH POINT (FULL) 127.42'  
LOW POINT (FULL) 127.17'  
STRUCTURAL SUB 127.00'
  - SEE DRAWING PK-83 FOR TYPICAL RESTRAINT REQUIRED AT SLEEVE TYPE COUPLINGS
  - EXTEND 3/4" SEAL WATER MAIN AS REQUIRED BRANCH 1/2" DIA TO EACH NEW PUMP. PROVIDE PUMP ARRANGEMENT AS SHOWN DETAIL BS' PK-69

NO.	DATE	REVISION
6-7-94		AS BUILT
2-23-93		REVISE PER ENG. NOTES/ISSUE FOR CONST.
1-27-93		REVISE PER ENGINEER'S NOTES FOR APPROV.
10-23-92		FIELD REVIEW

The Poole & Kent Co./James V. Miller, Inc.  
(A Joint Venture)  
4530 Holma Ferry Road  
Baltimore, MD 21227

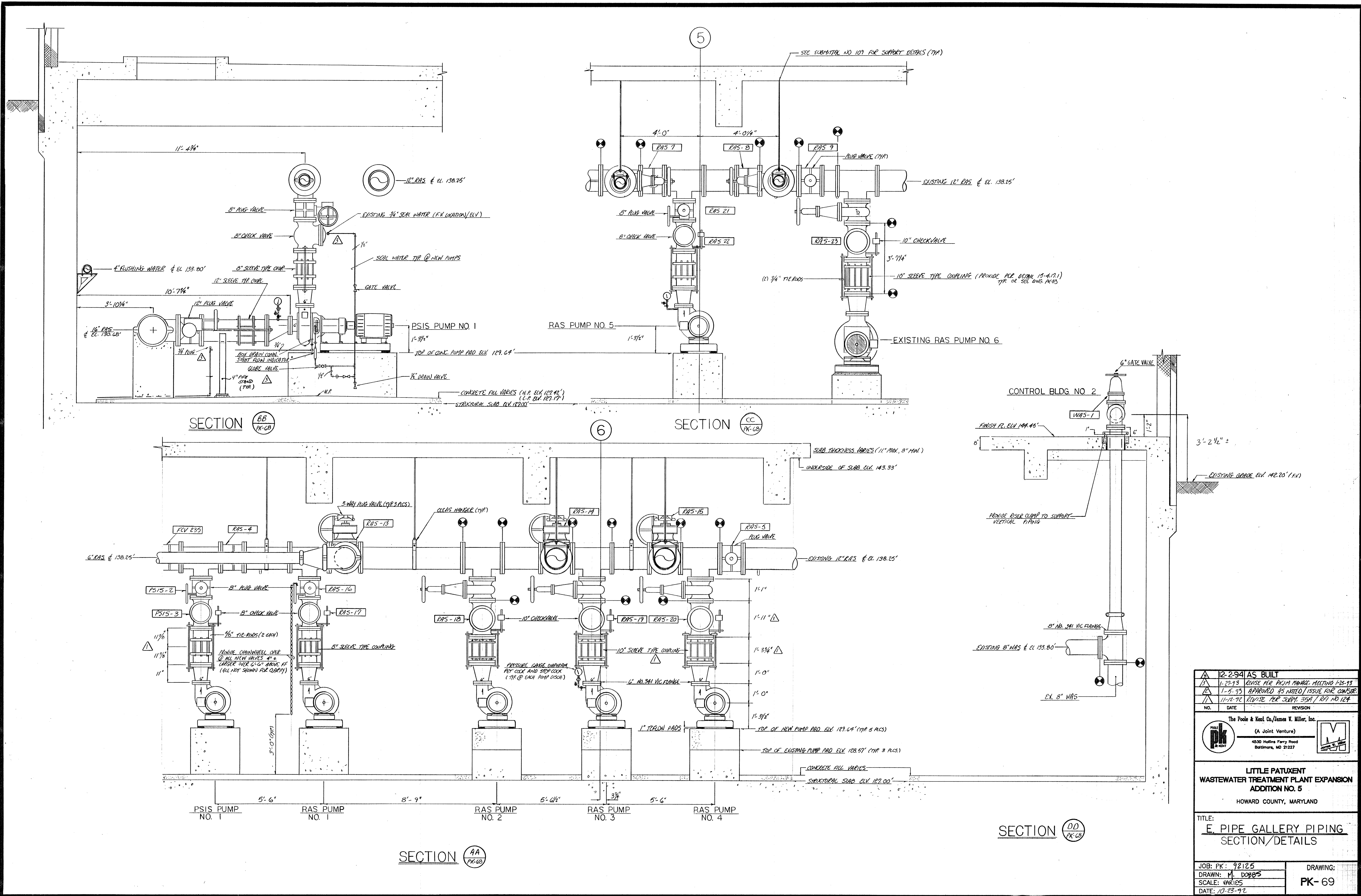
**LITTLE PATUXENT  
WASTEWATER TREATMENT PLANT EXPANSION  
ADDITION NO. 5**  
HOWARD COUNTY, MARYLAND

TITLE:  
**EAST PIPE GALLERY  
PIPING PLAN**

JOB: PK-92125	DRAWING: PK-68
DRAWN: M. DOBBS	
SCALE: 1/4" = 1'-0"	
DATE: 10-19-92	







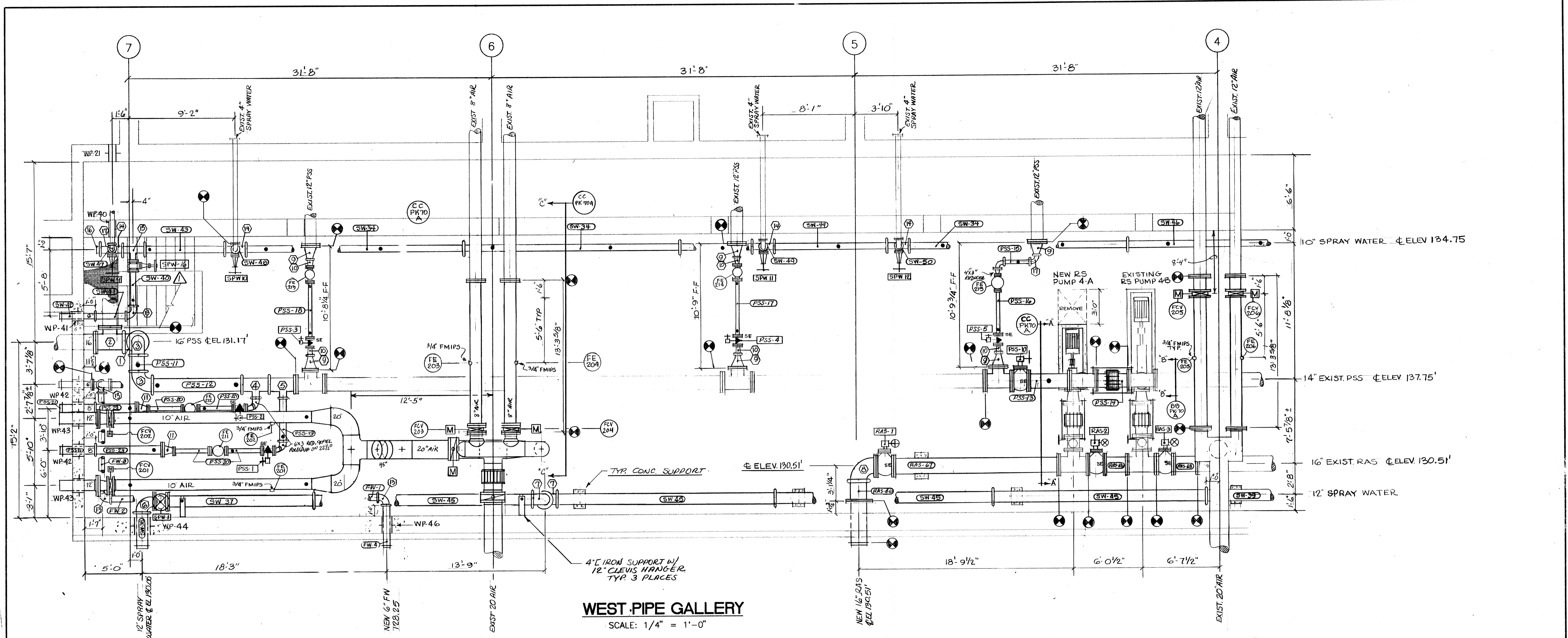
12-2-94	AS BUILT
1-20-93	REVISE PER DCJM MEETING 1/25/93
1-5-93	APPROVED AS NOTED / ISSUE FOR CONSTRUCTION
11-12-92	REVISE PER SUBM. 35A / R/F NO. 124
NO.	REVISION

The Poole & Keel Co./James V. Miller, Inc.  
 (A Joint Venture)  
 4530 Hollins Ferry Road  
 Baltimore, MD 21227

**LITTLE PATUXENT  
 WASTEWATER TREATMENT PLANT EXPANSION  
 ADDITION NO. 5**  
 HOWARD COUNTY, MARYLAND

TITLE:  
**E PIPE GALLERY PIPING  
 SECTION/DETAILS**

JOB: PK: 92125	DRAWING:
DRAWN: M. DOBBS	PK-69
SCALE: VARIES	
DATE: 10-23-92	



**WEST PIPE GALLERY**  
SCALE: 1/4" = 1'-0"

DUCTILE IRON FITTING SCHEDULE			DUCTILE IRON PIPE SCHEDULE			DUCTILE IRON PIPE SCHEDULE		
MARK	DESCRIPTION	QUAN.	MARK	DESCRIPTION	QUAN.	MARK	DESCRIPTION	QUAN.
1	16" 90° ELBOW GxG	1	RAS-66	16" x 1'-10 1/4" FXG	1	SW-40	6" x 2'-11 1/2" FxG	1
2	16" TEE FXGXF	1	RAS-67	16" x 14'-9 3/4" FXF	1	SW-41	6" x 2'-8" GxG	1
3	14" 90° ELBOW GxG	2	RAS-68	16" x 2'-0 1/8" FxF	2	SW-42	6" x 3'-0" GxFR	1
4	14" x 6" TEE GxGxG	1	PSS-11	14" x 1'-3" GxG	1	SW-43	10" x 7'-0"	1
5	14" x 6" TEE GxFxG	1	PSS-12	14" x 7'-11" GxG	1	SW-44	10" x 10'-1" GxG	1
6	12" 90° ELBOW GxF	1	PSS-13	14" x 3'-3 1/8" FxF	1	SW-45	12" x 19'-0" GxG	4
7	12" 90° ELBOW GxG	2	PSS-14	EXIST. 14" PIECE W/DRESSER (CUT TO SUIT)	1	SW-46	10" x 11'-0" GxG	1
8	16" 90° ELBOW FXG	1	PSS-15	4" x 2'-1 1/4" GxG	1	SW-47	4" x 2'-0 1/2" FXG	1
9	12" x 4" REDUCER FXG (CONC.)	6	PSS-16	4" x 4'-8 1/8" FxF	1	SW-48	4" x 5'-9 1/4" FxF	1
10	4" x 3" REDUCER GxF (CONC.)	5	PSS-17	4" x 5'-2 1/8" FxF	1	SW-49	4" x 5'-11" FxF	1
11	8" x 3" REDUCER FxF (CONC.)	2	PSS-18	4" x 5'-1 3/8" FxF	1	FW-1	6" x 19'-0" GxG	1
12	6" x 3" RED. 90° ELBOW GxF	2	PSS-19	6" x 3'-9" GxG	1	FW-2	6" x 4'-4" GxG	1
13	6" 90° ELBOW GxG	4	PSS-20	3" x 3'-0" FxF	4	FW-3	6" x 8'-6 7/8" GxG	1
14	10" x 4" TEE GxGxF	4	PSS-21	8" x 3'-0" GxFR	2	FW-4	6" x 3'-6" GxFR	1
15	10" x 6" TEE GxGxF	1	PSS-22	8" x 4'-3 1/2" GxF	1	SW-50	4" x 5'-10 1/2" FxF	1
16	10" CAP	1	PSS-23	8" x 6'-7 1/2" GxF	1			
17	4" 90° ELBOW GxG	2	SW-34	10" x 19'-0" GxG	3			
18	4" x 3" RED 90° ELBOW GxF	1	SW-37	12" x 12'-10" FXG	1			
			SW-38	12" x 3'-4 1/2" GxPL	1			
			SW-39	12" x 4'-0" GxG	1			

**NOTES:**

- INSTALL ALL PLUG VALVES WITH SCOT ON PRESSURE SIDE OF PLUG & PLUG UP WHEN IN OPEN POSITION
- DENOTES CONNECT TO EXIST.
- DENOTES APPROX. CLEVIS HANGER LOCATION

NO.	DATE	REVISION
12-2-94		AS BUILT
1-6-93		APPROVED AS NOTED / ISSUE FOR CONST.
11-12-92		REVISE PER RFI NO. 125

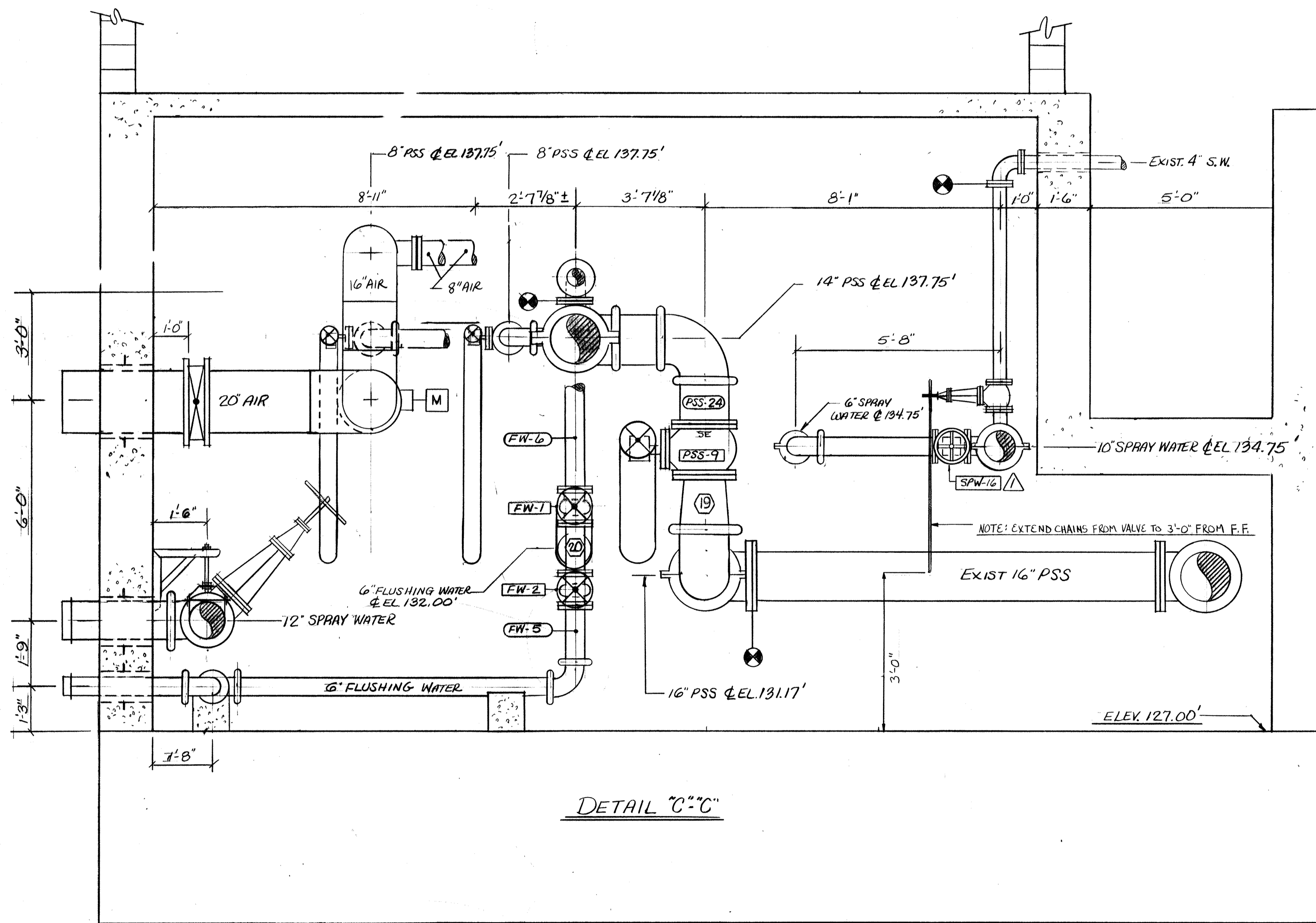
The Poole & Kent Co./James V. Miller, Inc.  
(A Joint Venture)  
4530 Holms Ferry Road  
Baltimore, MD 21227

**LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5**  
HOWARD COUNTY, MARYLAND

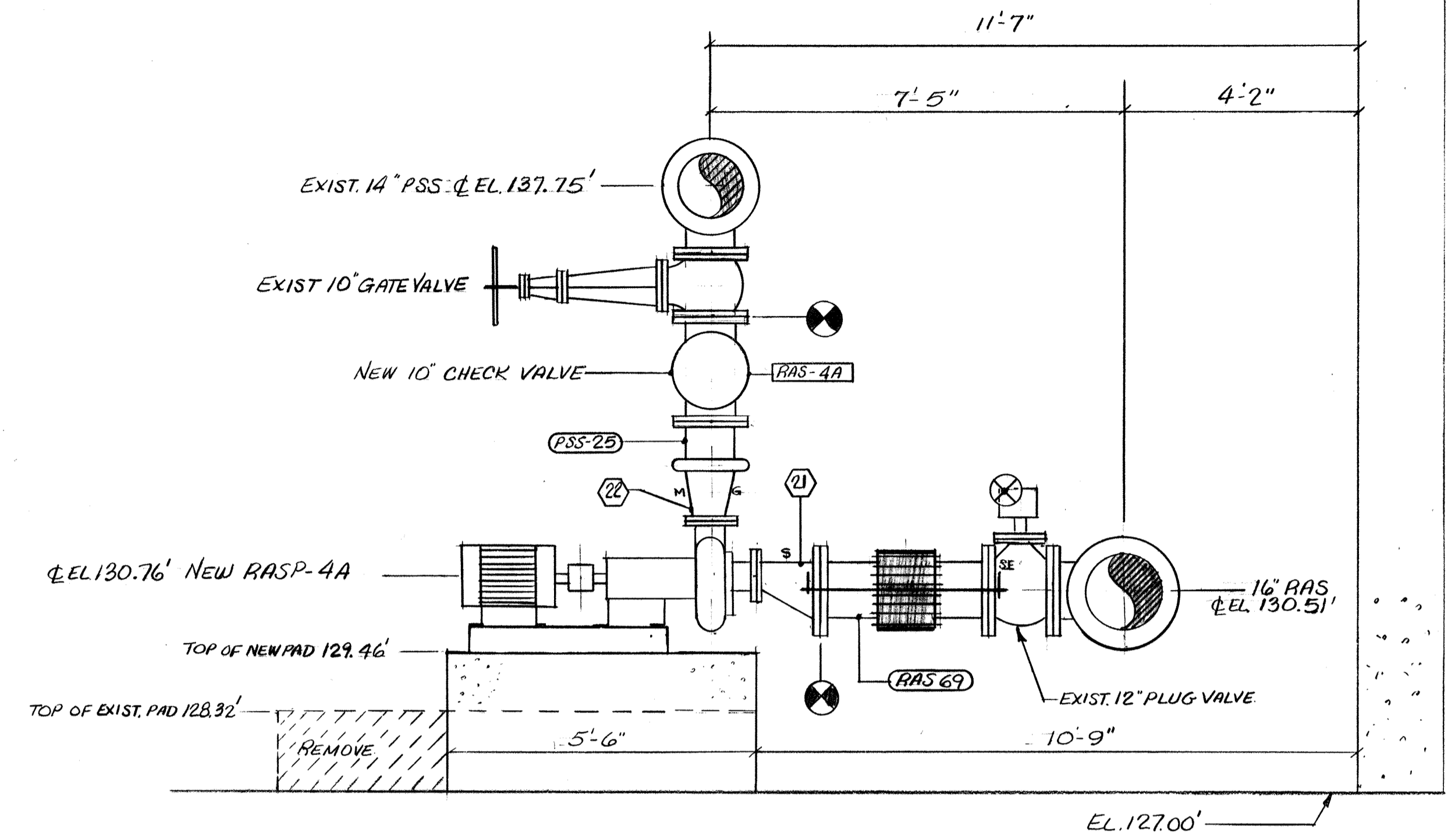
TITLE:  
**WEST PIPE GALLERY PART PLAN**

JOB:	92125	DRAWING:	RB
DRAWN:	WJP	SCALE:	1/4" = 1'-0"
DATE:	23 OCT 92		<b>PK-70</b>

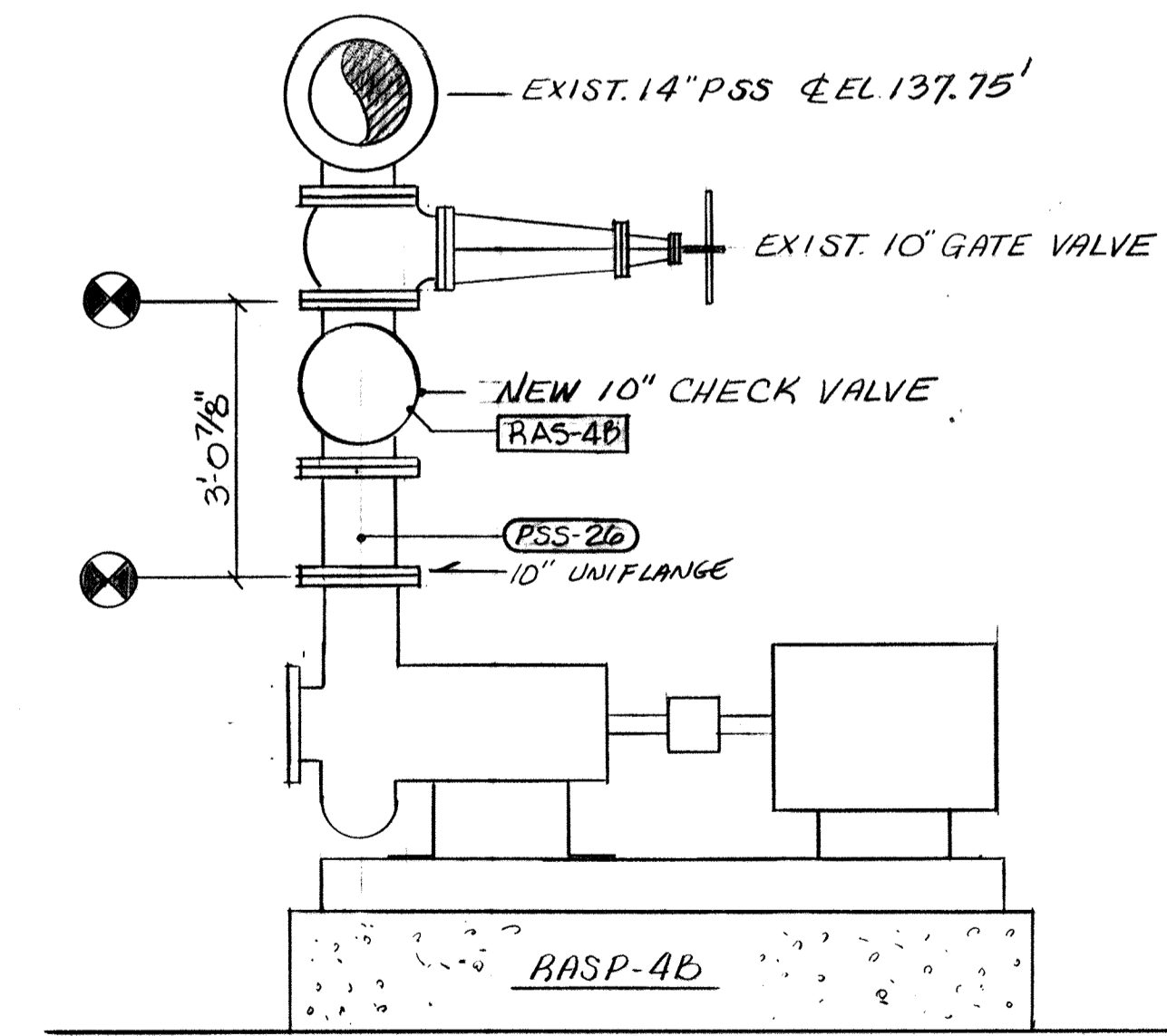
DUCTILE IRON FITTING SCHEDULE			DUCTILE IRON PIPE SCHEDULE		
MARK	DESCRIPTION	QUAN.	MARK	DESCRIPTION	QUAN.
19	16"X14" REDUCER GXF (CONC)	1	PSS-24	14"X1'-2 7/8" FxG	1
20	6" TEE FxFxF	1	FW-5	6" X 1'-6 7/16" GxF	1
21	12"X6" RED. FxF (ECC.) W/ 1/2" TAP POSITION	1	FW-6	6" X FxF	1
22	10"X6" RED. FxG (CONC)	1	RAS-69	12"X ADJUST TO SUIT	1
	W/ 1/2" TAPS G&M POSITIONS		PSS-25	10"X 9" 1/16" FLEX-GxF	1
			PSS-26	10"X 1'-1 1/16" FxF	1



DETAIL "C-C"



DETAIL "A-A"



DETAIL "B-B"

NOTE:  
 DENOTES CONNECT TO EXISTING.

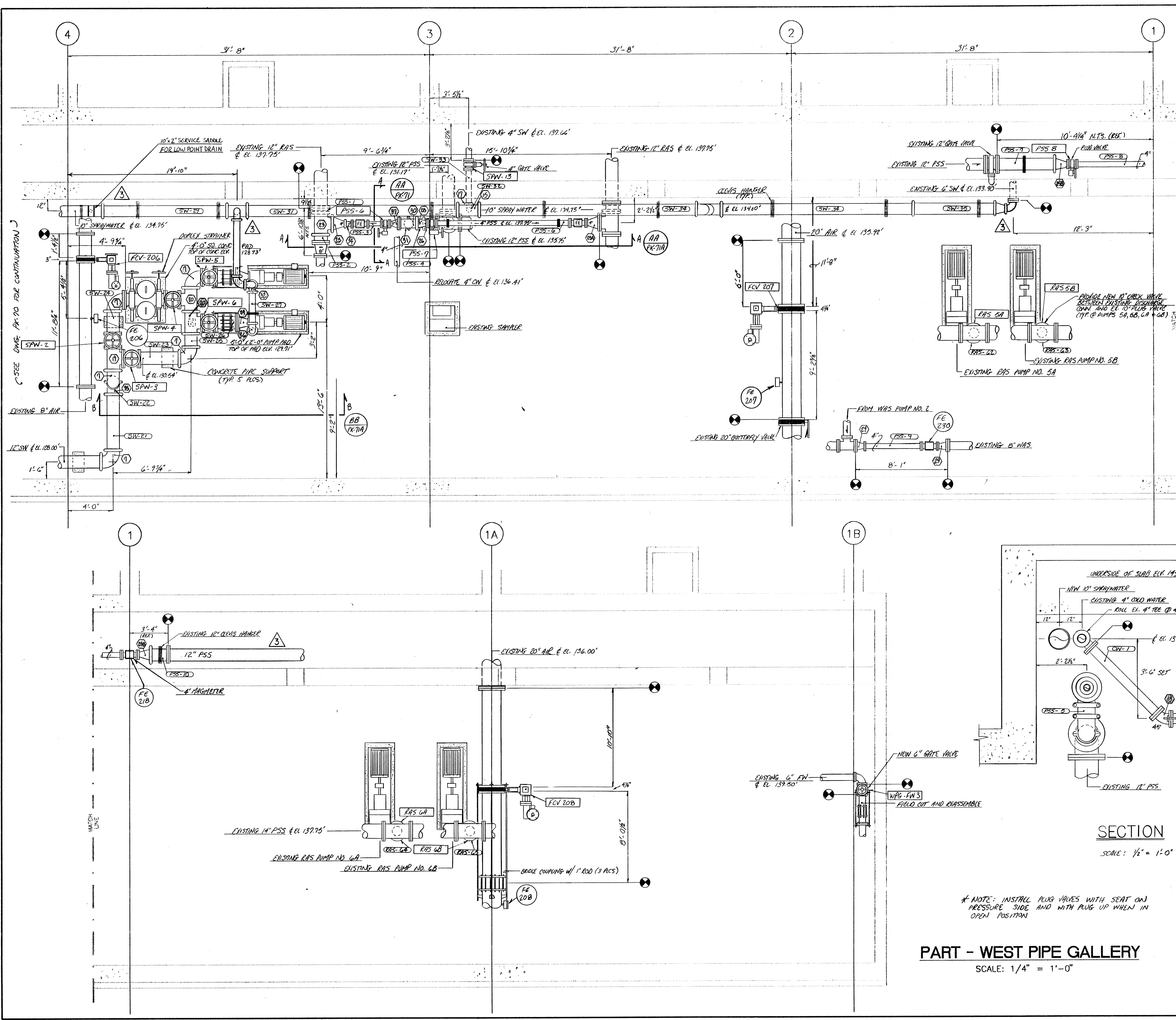
NO.	DATE	REVISION
1	12-7-94	AS BUILT
2	1-6-93	APPROVED AS NOTED / ISSUE FOR CONST.
3	11-12-92	PER RFP NO. 125 AND SUBMITTAL NO. 58A

The Poole & Kent Co./James W. Miller, Inc.  
 (A Joint Venture)  
 4530 Hollins Ferry Road  
 Baltimore, MD 21227

LITTLE PATUXENT  
 WASTEWATER TREATMENT PLANT EXPANSION  
 ADDITION NO. 5  
 HOWARD COUNTY, MARYLAND

TITLE:  
 WEST PIPE GALLERY  
 PIPING DETAILS

JOB:	92125	DRAWING:	PK-70A
DRAWN:	RB		
SCALE:	1/2" = 1'-0"		
DATE:	2 NOV 92		



VIC NO. 341 FLANGE

SIZE	QUANTITY
3"	1
4"	1
6"	4
12"	1
8"	1

SHOWN THUSLY:

MARK	DUCTILE IRON FITTING SCHEDULE	DESCRIPTION	QUANTITY
6	12" 90° EL	FL X G	2
7	12" 90° EL	G X G	3
15	10" X 4"	G X G X G	1
17	4" 90° EL	G X G	1
19	12" TEE	G X FL X FL	1
20	12" TEE	G X G X FL	2
21	10" 90° EL	G X G	3
22	10" X 6"	TEE G X G X G	1
23	12" TEE	G X G X G	1
24	12" X 6"	EL. RED. FL. W. 1/2" IPS TRIP(S)	2
25	12" X 4"	CON. RED. G X G	1
25A	12" X 4"	CON. RED. FL X FL	1
25B	12" X 4"	CON. RED. G X FL	2
26	12" X 8"	CON. RED. FL X G	1
27	10" X 6"	CON. RED. G X G	1
28	8" X 4"	CON. RED. G X FL	1
29	8" X 4"	CON. RED. FL X FL	2
30	8"	TEE FL X G X G	1
31	8" 90° EL	G X G	1
32	6" TEE	G X G X FL	1
33	4" 45° EL	FL X FL	1
34	4" X 3"	CON. RED. G X FL	1
35	12" 90° EL	G X G	1
36	6" 90° EL	G X FL	1
37	8" X 3"	CON. RED. FL X FL	1

SHOWN THUSLY:

MARK	DUCTILE IRON PIPE SCHEDULE	DESCRIPTION	QUANTITY
SW-21	12"	4'-10" G X G	1
SW-22	12"	0'-6 1/2" G X G	1
SW-23	12"	3'-2 3/4" FL X G	1
SW-24	12"	1'-11 7/8" FL X G	1
SW-25	12"	1'-2" G X G	1
SW-26	12"	1'-9 1/4" FL X FL	2
SW-27	6"	2'-8" G X G	1
SW-28	6"	5'-0 1/4" G X G	1
SW-29	10"	10'-4" G X G	1
SW-30	10"	3'-3 3/8" G X G	1
SW-31	10"	17'-1 1/2" G X G	1
SW-32	4"	0'-9 1/2" G X G	1
SW-33	4"	3'-0 1/4" G X FL	1
SW-34	10"	19'-0" G X G	2

**PART - WEST PIPE GALLERY**

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

SW-35	10"	7'-9 1/2" G X G	1
SW-36	6"	3'-5" G X FL	1
PSS-1	12"	0'-5" FL X G *	1
PSS-2	12"	3'-2 3/8" FL X G	1
PSS-3	3"	1'-2 1/4" FL X FL	1
PSS-4	8"	0'-7" G X G	1
PSS-5	8"	0'-6" G X G	1
PSS-6	4"	1'-8 1/2" FL X FL	1
PSS-7	12"	1'-8 3/8" FL X G	1
PSS-8	4"	6'-0" FL X FL	1
PSS-9	4"	4'-10 3/8" FL X FL	1
PSS-10	12"	1'-6" FL X G	1
RAS-62	10"	0'-8" FL X FL	1
RAS-63	10"	0'-7 3/8" FL X FL	1
RAS-64	10"	0'-10 1/8" FL X FL	1
RAS-65	10"	0'-10 3/8" FL X FL	1
CW-1	4"	4'-0 7/8" FL X FL	1
CW-2	4"	3'-0" FL X FL	1

\* IF PIECE IS UNAVAILABLE FROM FACTORY USE 12" 341 FLANGE WITH 5" OF FORNAGE FULLES

**SECTION**

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

\* NOTE: INSTALL PLUG VALVES WITH SEAT ON PRESSURE SIDE AND WITH PLUG UP WHEN IN OPEN POSITION

**PART - WEST PIPE GALLERY**

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

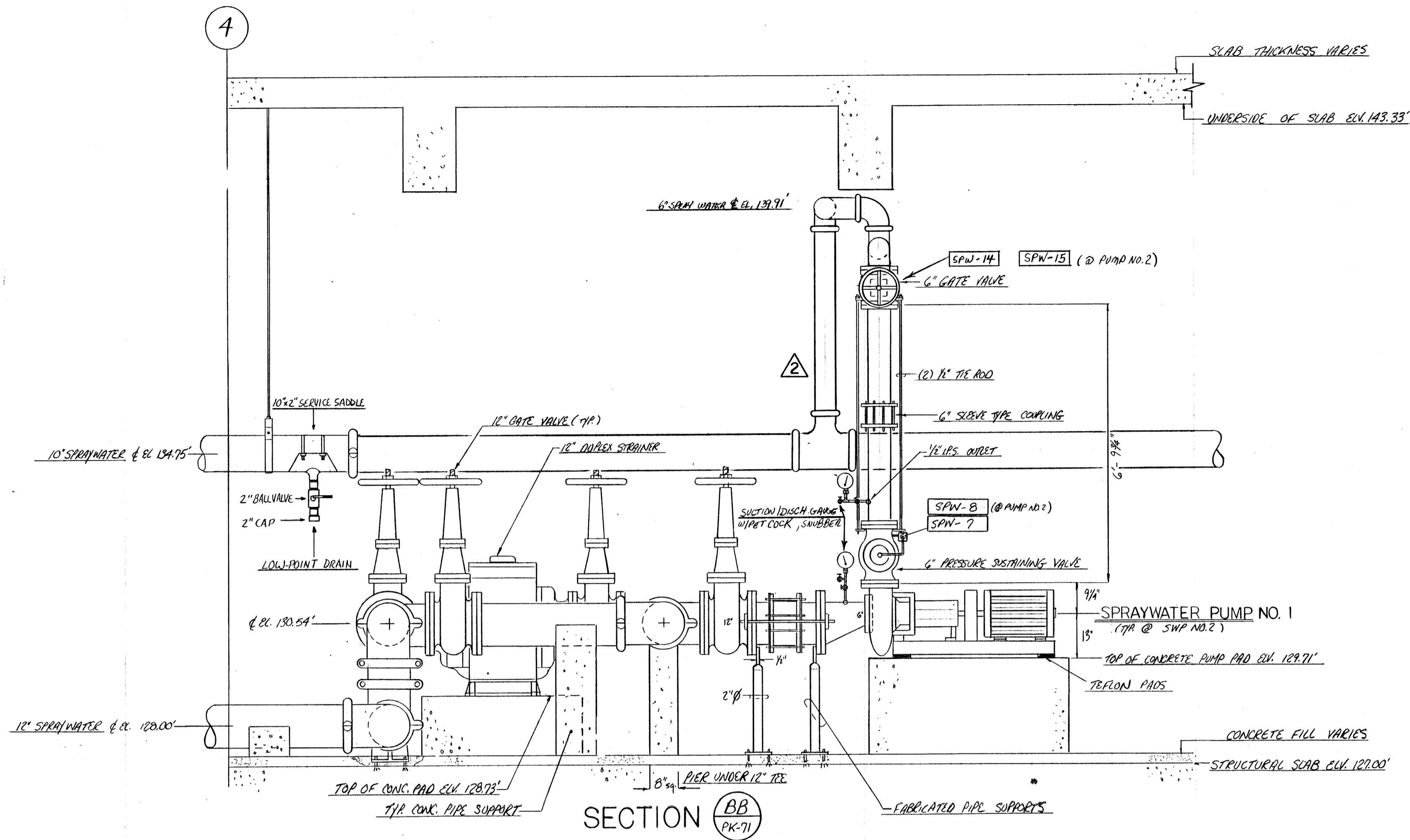
12-194	AS BUILT	
1-06-93	APPROVED AS NOTED/ISSUE FOR CONDI	
11-12-92	REVISE PER SUBMITTAL 35A	
NO.	DATE	REVISION

The Poole & Kent Co./James W. Miller, Inc.  
 (A Joint Venture)  
 4550 Hollins Ferry Road  
 Baltimore, MD 21227

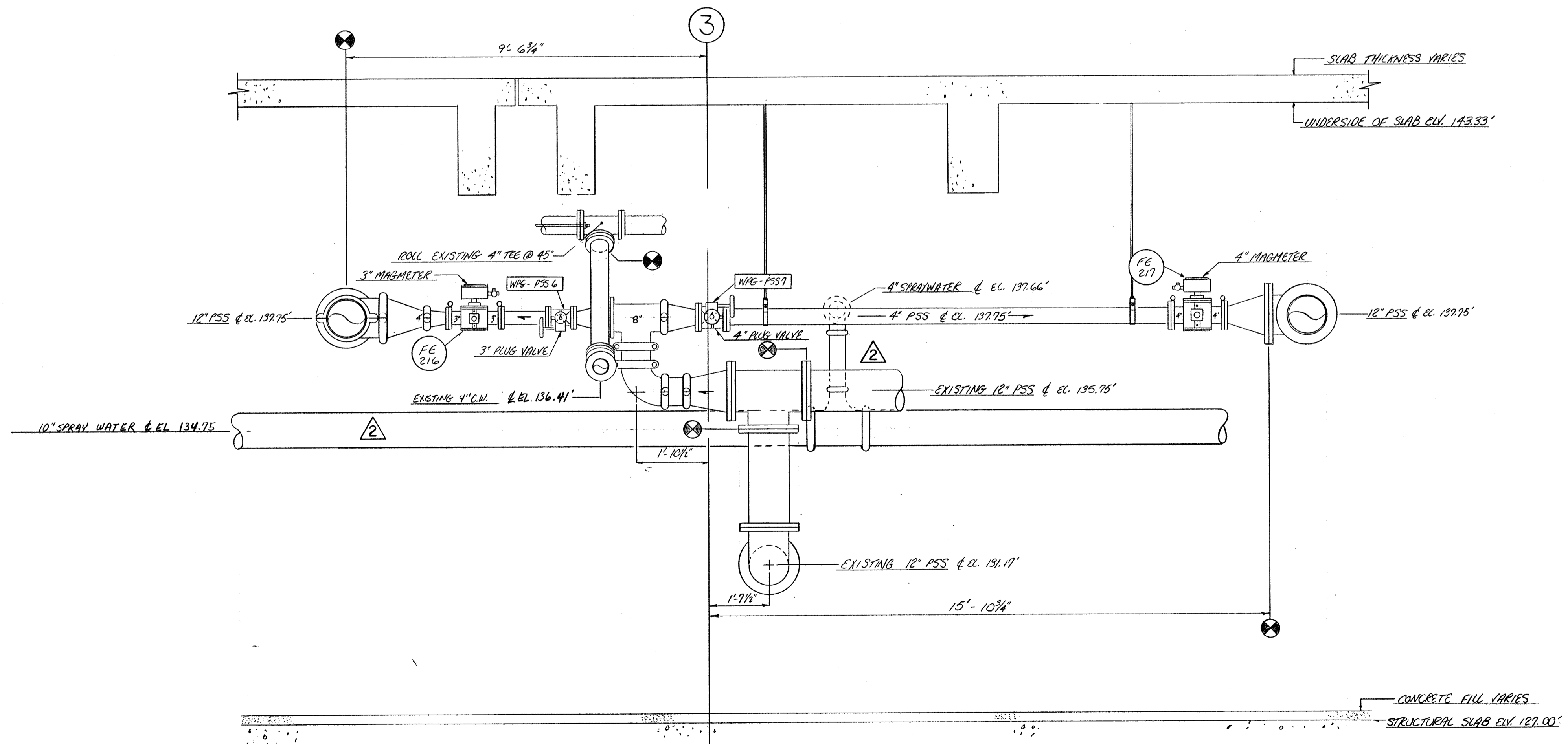
**LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5**  
 HOWARD COUNTY, MARYLAND

TITLE:  
**WEST PIPE GALLERY SOUTH PIPING PLAN**

JOB:	92125	DRAWING:	PK-71
DRAWN:	M. DOBBS		
SCALE:	1/4" = 1'-0"		
DATE:	10-30-92		



SECTION BB  
PK-71

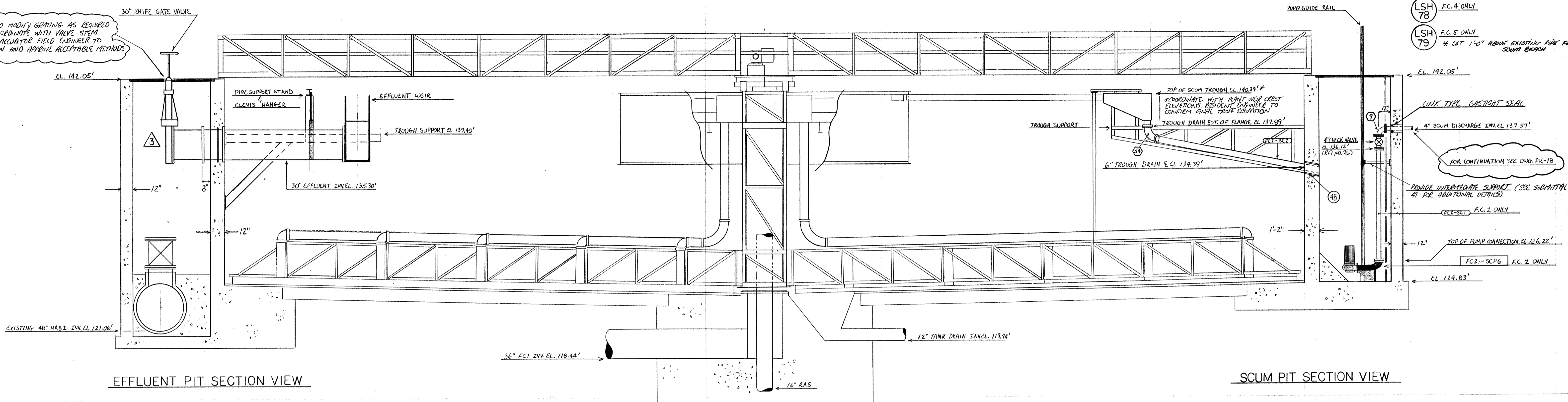


SECTION AA  
PK-71

6-8-94 AS BUILT		
NO.	DATE	REVISION
1	1-06-79	APPROVED AS NOTED / ISSUE FOR CONSTRUCTION
The Pools & Heat Co./James V. Miller, Inc. (A Joint Venture)		
4330 Melina Ferry Road Baltimore, MD 21227		
<b>LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5</b>		
HOWARD COUNTY, MARYLAND		
TITLE: <b>WEST PIPE GALLERY SECTION/DETAILS</b>		
JOB: PK-71725	DRAWING:	
DRAWN: M. DOBBS	PK-71A	
SCALE: 1/2" = 1'-0"	DATE: 11-02-72	

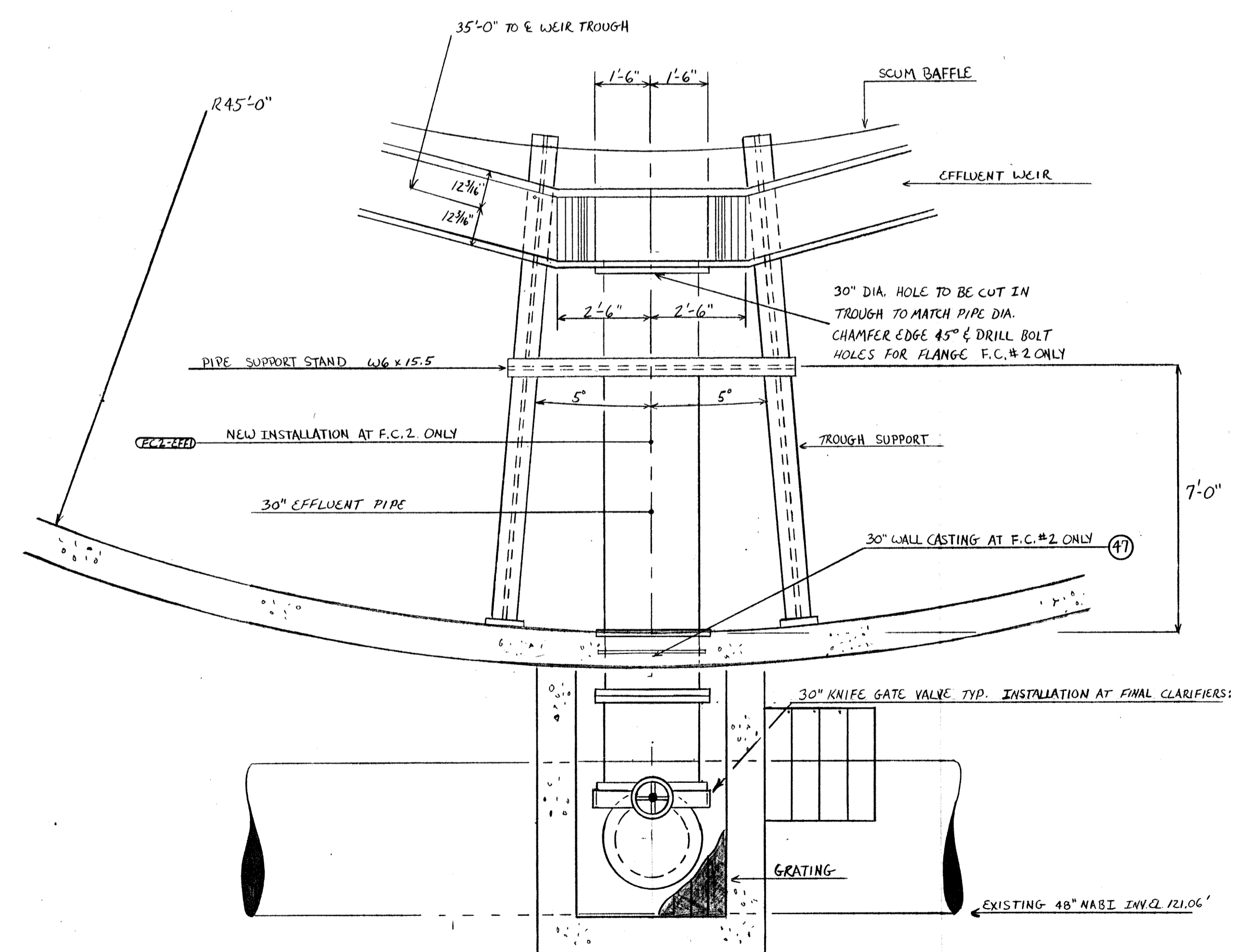
FIELD MODIFY GRATING AS REQUIRED TO COORDINATE WITH VALVE STEM AND ACTUATOR. FIELD ENGINEER TO REVIEW AND APPROVE ACCEPTABLE METHODS.

- LSH 77 F.C. 3 ONLY
- LSH 78 F.C. 4 ONLY
- LSH 79 F.C. 5 ONLY  
\* SET 1'-0" ABOVE EXISTING PIP FROM SCUM BEAM

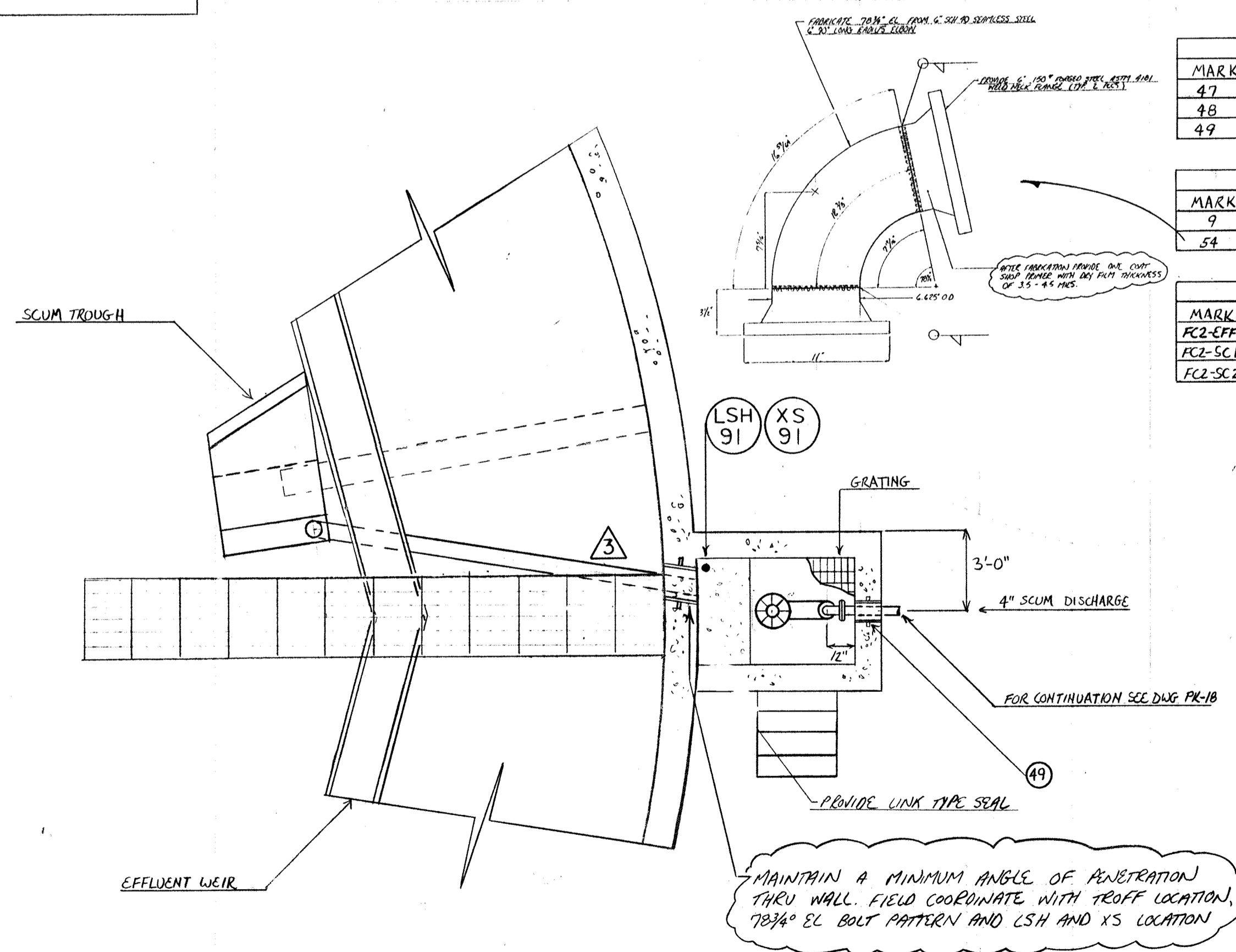


EFFLUENT PIT SECTION VIEW

SCUM PIT SECTION VIEW



EFFLUENT PIT PLAN VIEW



SCUM PIT PLAN VIEW F.C. #2 ONLY

SLEEVE SCHEDULE			
MARK	SERVICE	DESCRIPTION	QUANTITY
47	30" EFF	STD. WALL STL. 30" DIA. x 12' x 1/2" THK. W/CS. #4	1
48	6" SCUM DRAIN	STD. WALL STL. 10" x 12" x 1/2" THK. W/CS.	1
49	4" SCUM DISCH.	STD. WALL STL. 8" x 10" x 1/2" THK. W/CS. (SHOWN THUSLY)	1

DUCTILE IRON FITTING SCHEDULE			
MARK	DESCRIPTION	QUANTITY	
9	4" 90° EL. FLG. x FLG.	1	
54	6" 78 3/4° EL. FLG. x FLG. (SHOWN THUSLY)	1	

DUCTILE IRON PIPE SCHEDULE			
MARK	DESCRIPTION	QUANTITY	
FC2-EFF1	30" 8'-11 1/2" FLG. x FLG.	1	
FC2-SC1	4" 9'-10 3/8" FLG. x FLG.	1	
FC2-SC2	6" FIELD MEASURE FLG. x P.C. (SHOWN THUSLY)	1	

- F.C. #2 FC2-EFF  
 F.C. #3  
 F.C. #4  
 F.C. #5  
 F.C. #6  
 F.C. #7  
 F.C. #8  
 F.C. #9
- NEW OPERATOR INSTALLED ON EXISTING VALVES

12-1-94	AS BUILT	
2-16-93	APPROVED ISSUE FOR CONSTRUCTION	
1-05-93	REVISE PER ENG. NOTES FOR APPROVAL	
NO.	DATE	REVISION

The Pools & Kent Co./James W. Miller, Inc.  
 (A Joint Venture)  
 4530 Hollins Ferry Road  
 Baltimore, MD 21227

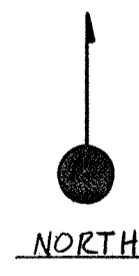
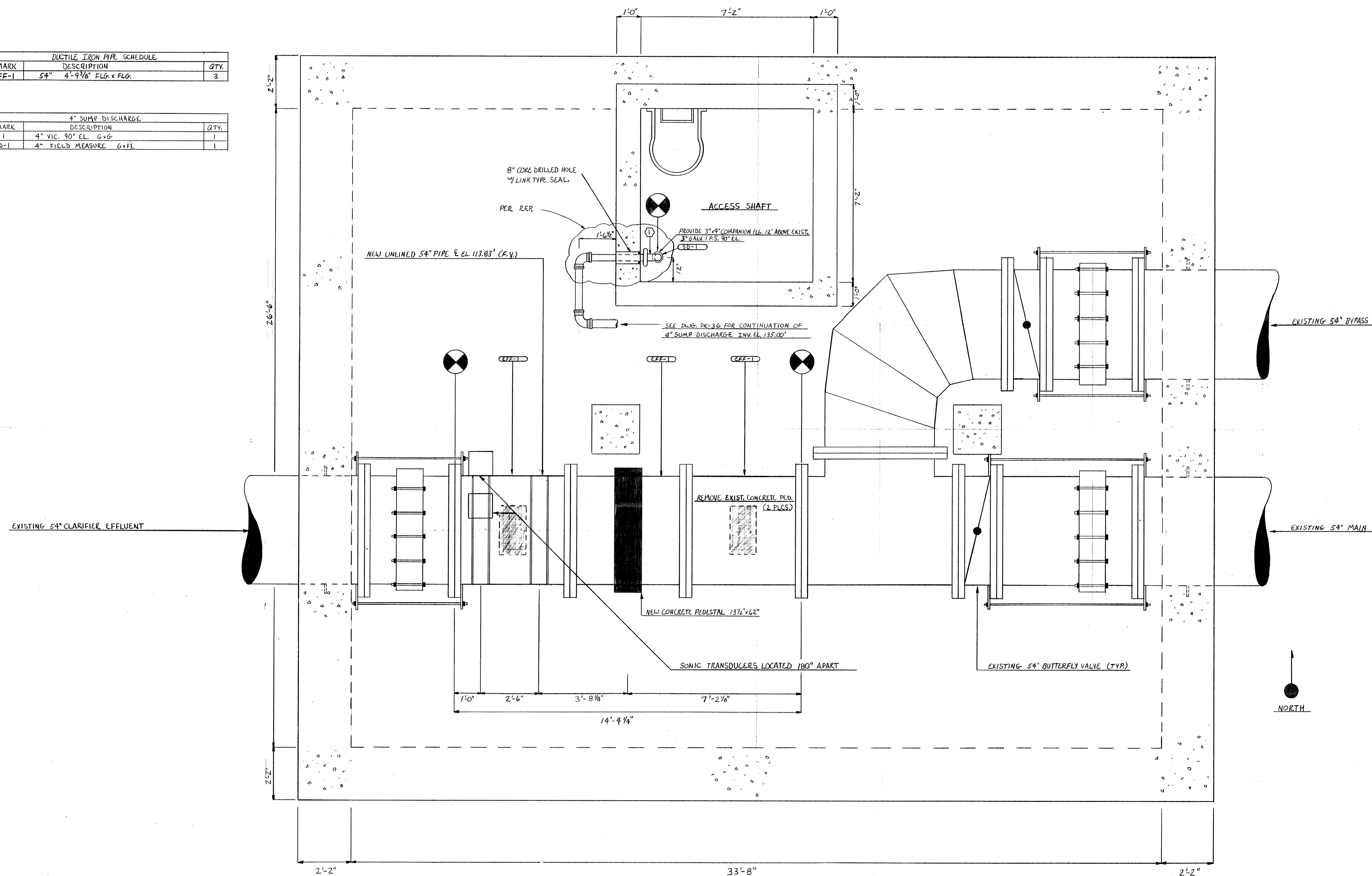
**LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5**  
 HOWARD COUNTY, MARYLAND

TITLE: **FINAL CLARIFIERS NO. 2, 3, 4, 5, 6, 7, 8, & 9 PLANS, SECTIONS, & DETAILS**

JOB: 92125	DRAWING: PK-74
DRAWN: D. OTTE	
SCALE: VARIES	
DATE: 11-25-92	

DUCTILE IRON PIPE SCHEDULE		
MARK	DESCRIPTION	QTY.
EFF-1	54" 4'-9 7/8" FLG. x FLG.	3

4" SUMP DISCHARGE		
MARK	DESCRIPTION	QTY.
I	4" VIC. 90° EL. GxG	1
SD-1	4" FIELD MEASURE GxFL	1



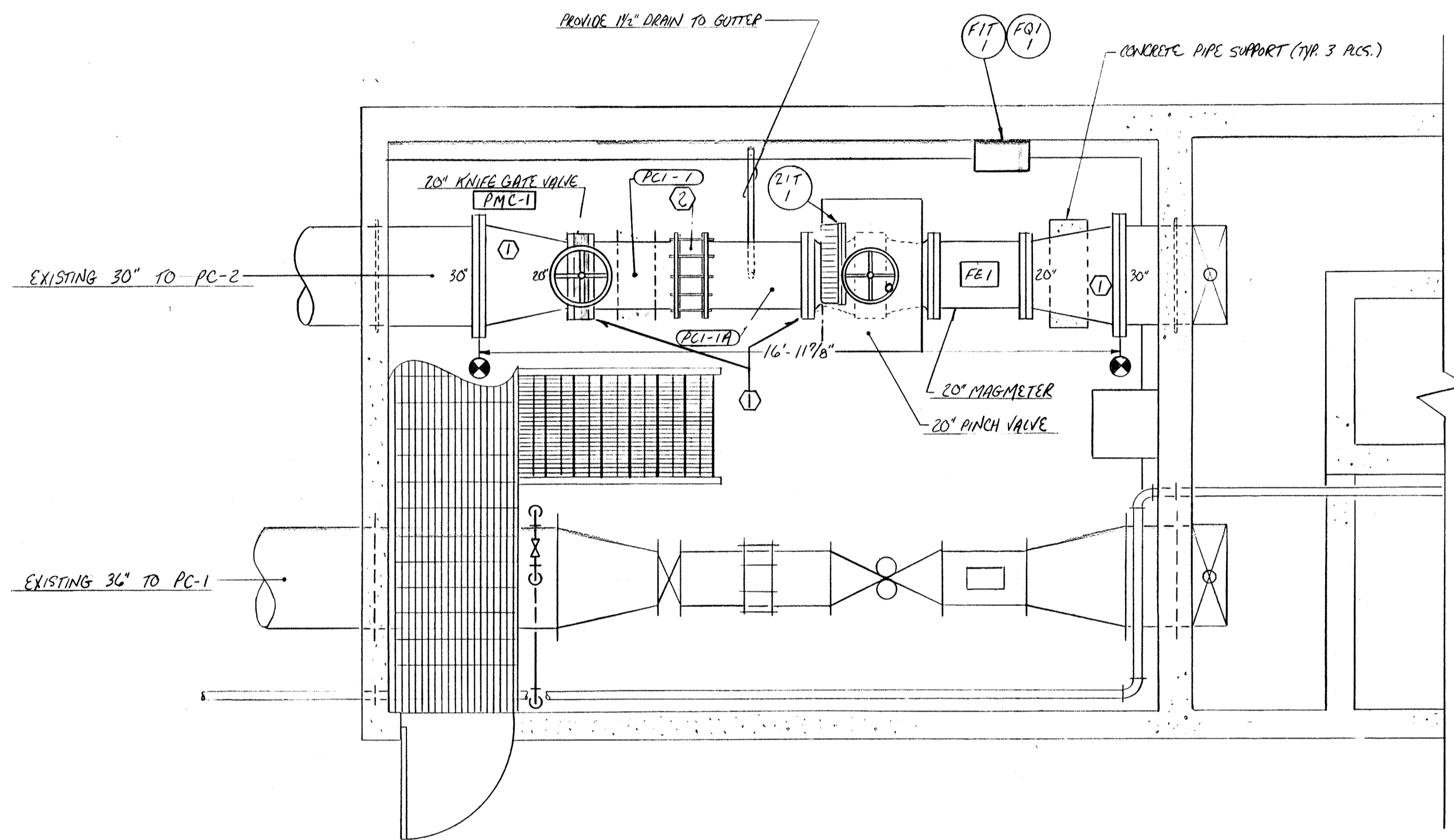
NO.	DATE	REVISION
12-1-94	AS BUILT	
1-27-93	APPROVED AS NOTED / ISSUE FOR CONST.	

The Poole & Kent Co./James W. Miller, Inc.  
(A Joint Venture)  
4530 Holme Ferry Road  
Baltimore, MD 21227

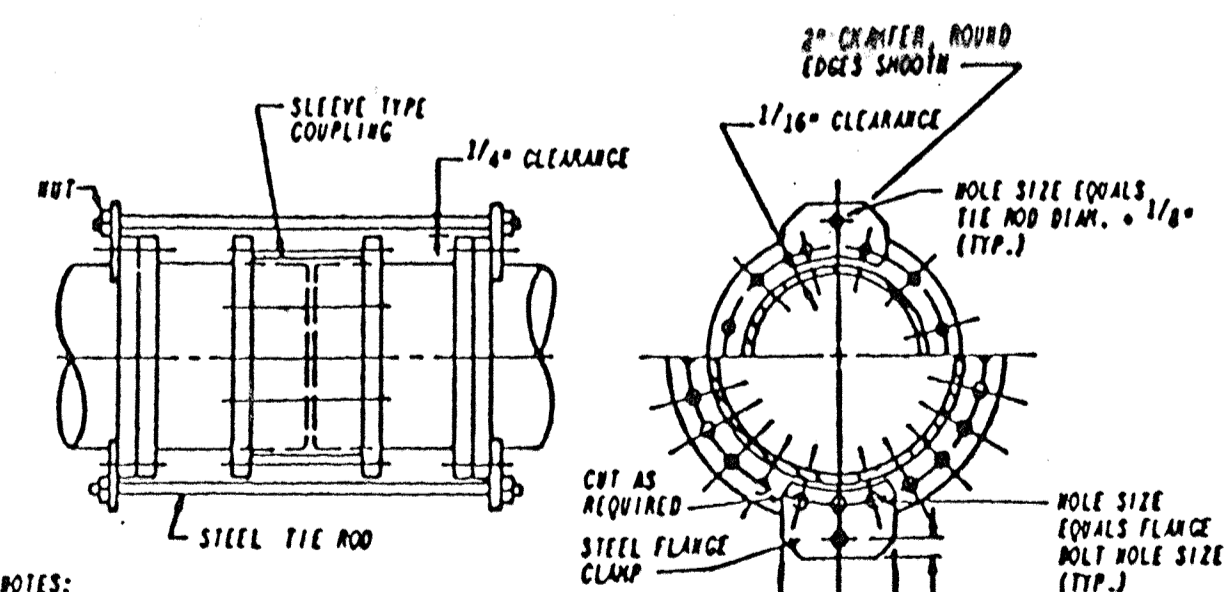
**LITTLE PATUXENT  
WASTEWATER TREATMENT PLANT EXPANSION  
ADDITION NO. 5**  
HOWARD COUNTY, MARYLAND

TITLE:  
**54" METER VAULT  
MODIFICATIONS**

JOB: #92125	DRAWING:
DRAWN: D. OTTE	PK-75
SCALE: 1/2" = 1'-0"	
DATE: 12-29-92	



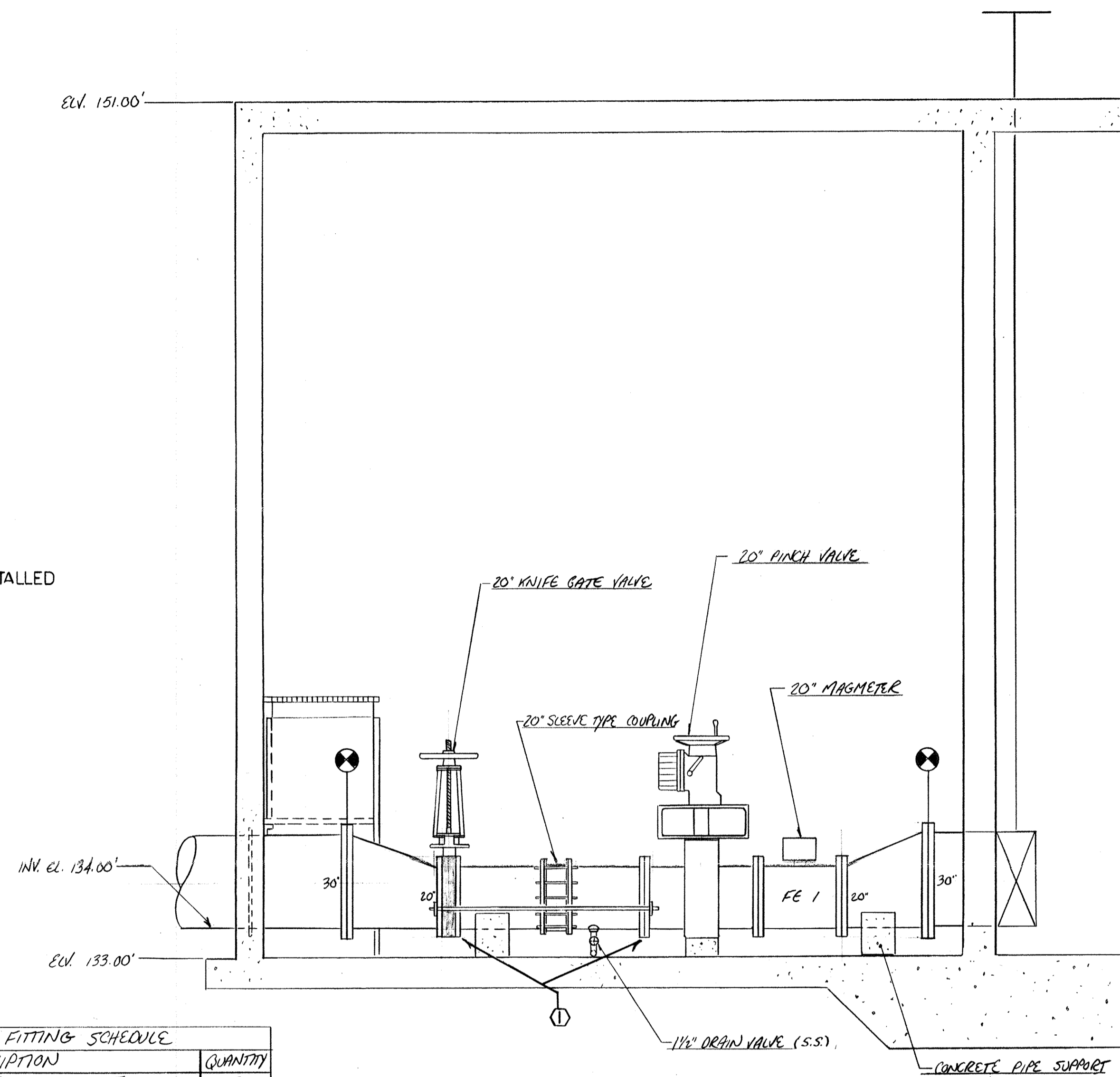
PLAN  
SCALE: 3/8"=1'-0"



- NOTES:  
 1. TIE RODS SHALL BE EQUALLY SPACED AROUND PIPE.  
 2. FOR STEEL FLANGE CLAMPS REQUIRING 3 BOLTS PER CLAMP, THE ORIENTATION OF THE STEEL FLANGE CLAMP AND PIPE FLANGE DRILLING IS PICTORIAL ONLY. EXACT ORIENTATION OF THE FLANGE CLAMP IS DETERMINED BY STANDARD FLANGE DRILLING.

PIPE SIZE	TIERODS			FLANGE CLAMP		
	NO.	DIA.	THICKNESS	NO. OF FLANGE BOLTS PER CLAMP	"A"	"B"
6"	2	1/2"	1/2"	2	2"	7 3/4"
8"	2	5/8"	1/2"	2	2"	8 5/8"
10"	2	3/4"	1/2"	2	2"	7 3/4"
12"	2	1"	1/2"	2	2"	8 1/2"
14"	2	1 1/8"	3/4"	2	2"	9"
16"	2	1 1/4"	7/8"	3	2"	12 1/4"
18"	2	1 3/8"	7/8"	3	2 1/2"	13"
20"	3	1 3/8"	1"	2	2 1/2"	8"
24"	4	1 3/8"	1"	2	2 1/2"	8 3/4"
30"	4	1 3/4"	1"	3	2 1/2"	12 1/4"
36"	6	1 3/4"	1 1/4"	2	2 1/2"	8 1/2"
42"	6	1 3/4"	1 1/4"	3	2 1/2"	12 3/4"
48"	8	1 3/4"	1 1/4"	3	2 1/2"	12 1/2"

NOTE:  
 (1) WAFERS INSTALLED



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

DUCTILE IRON FITTING SCHEDULE

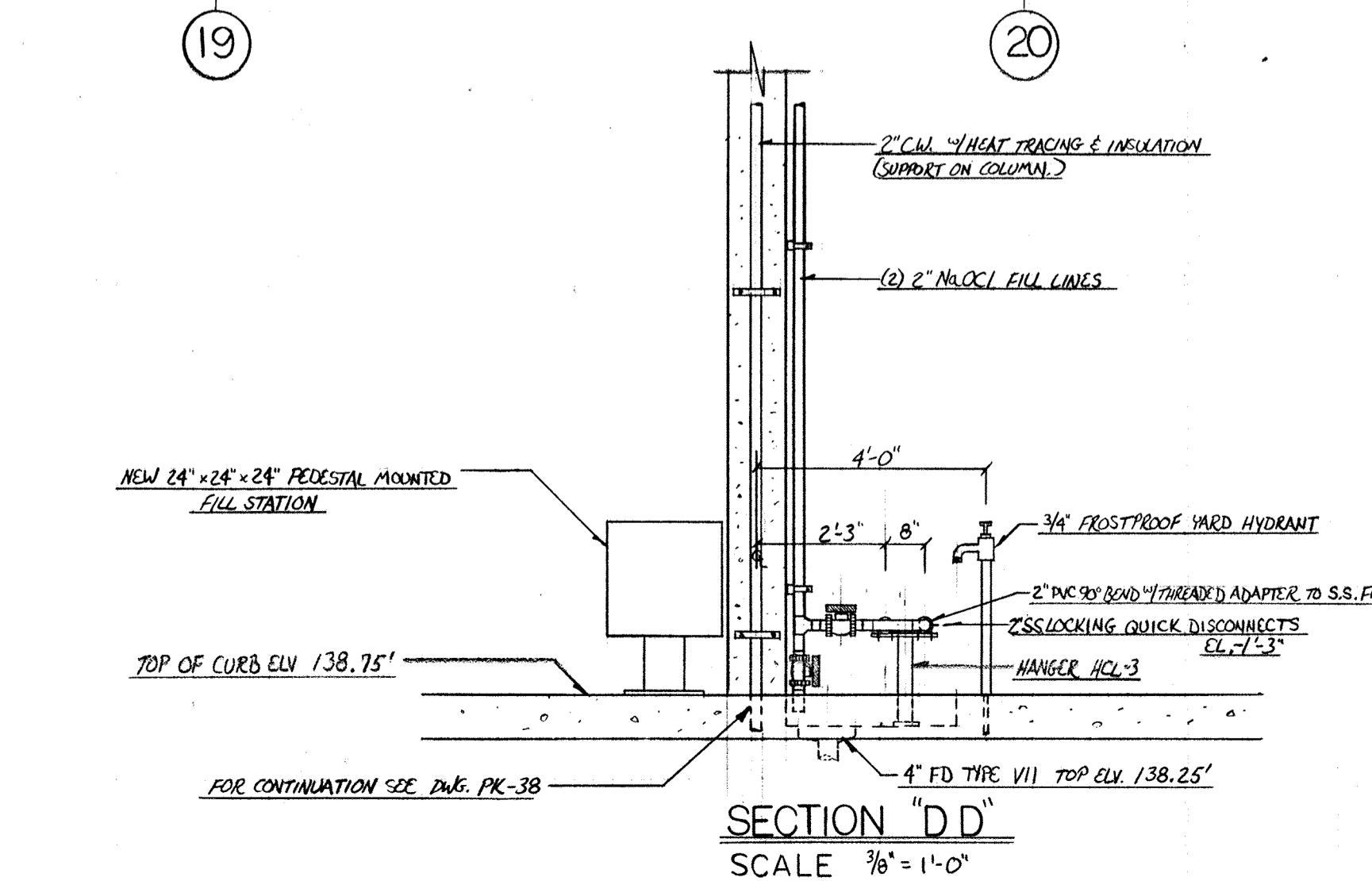
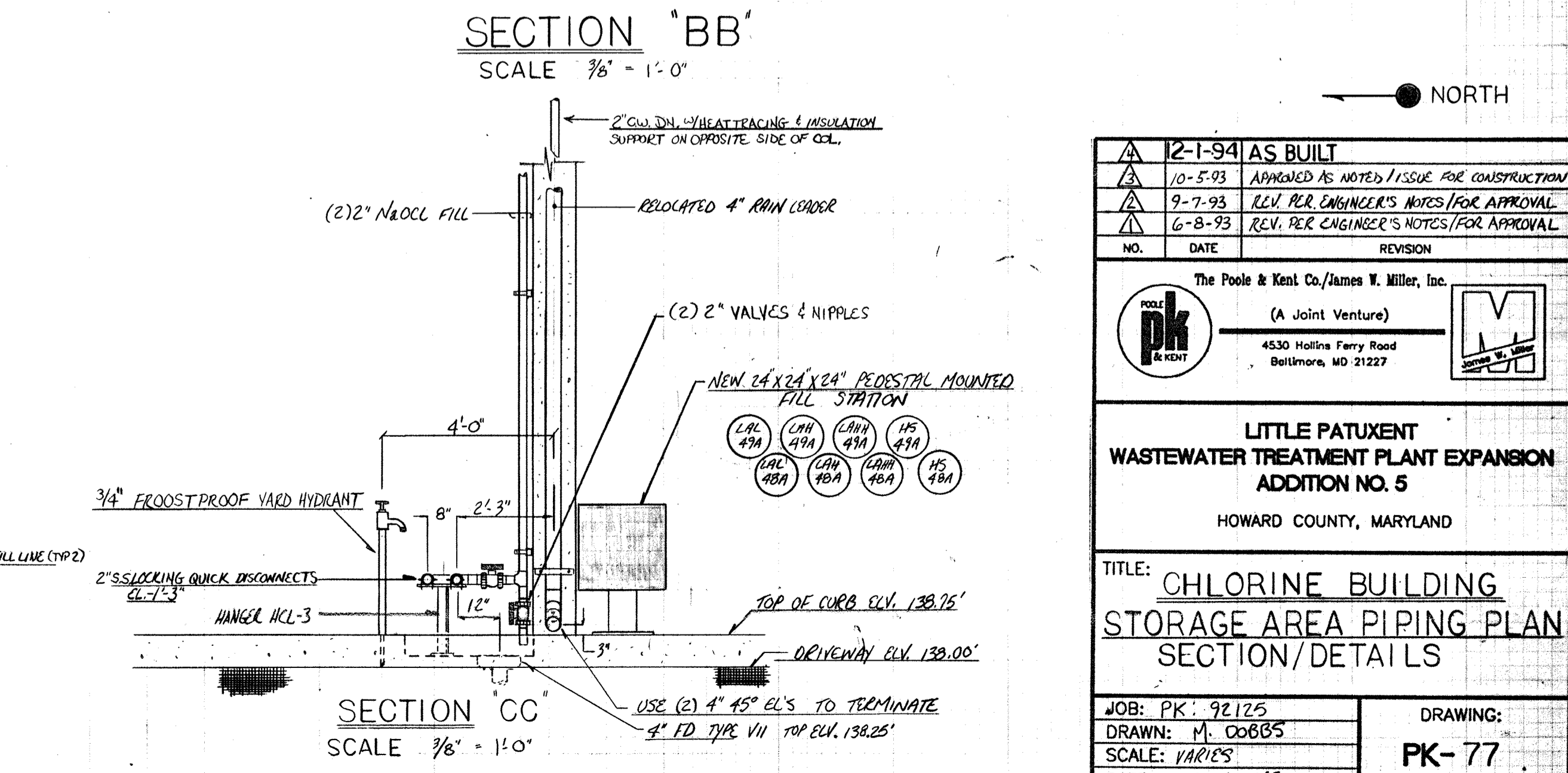
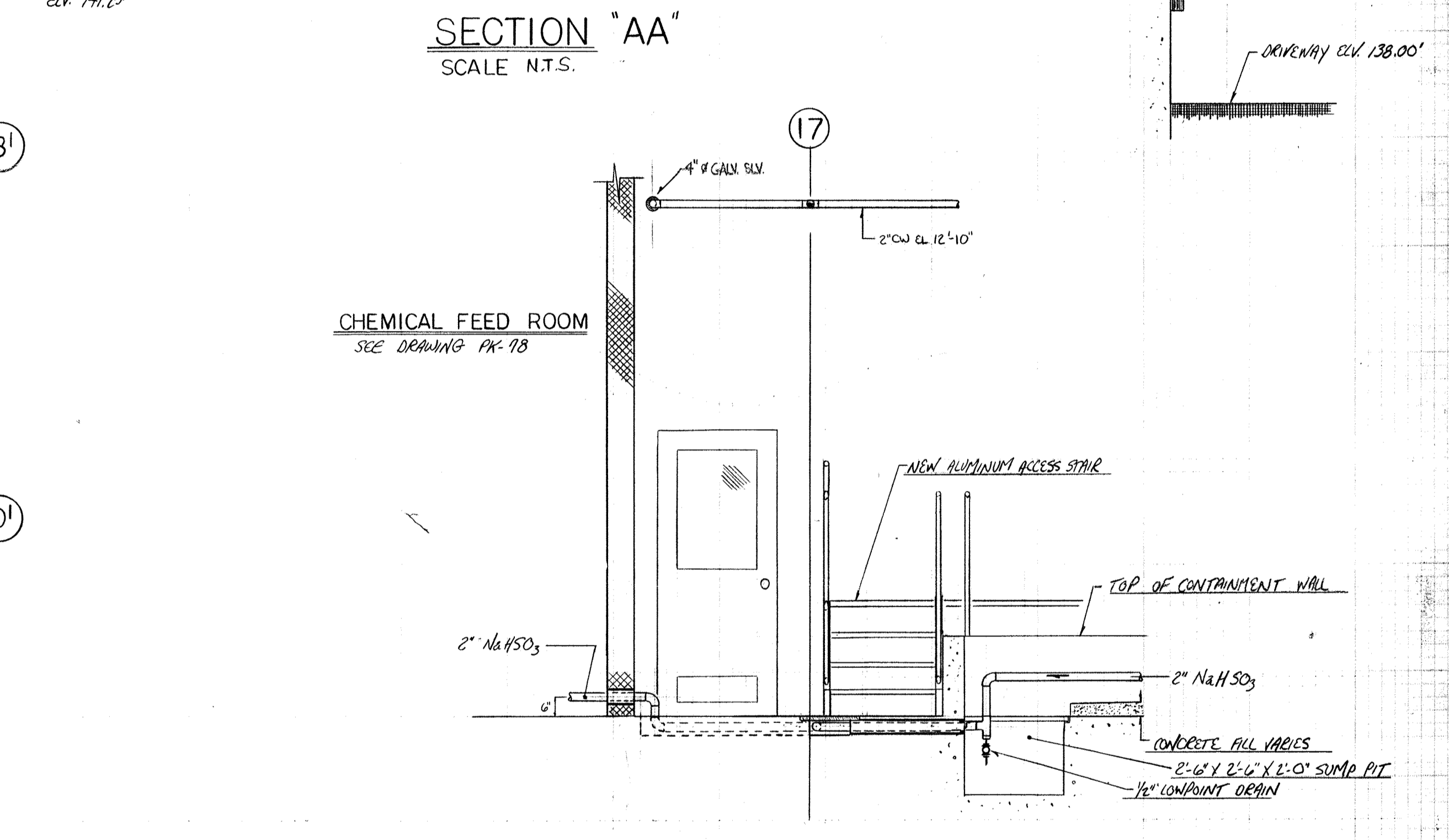
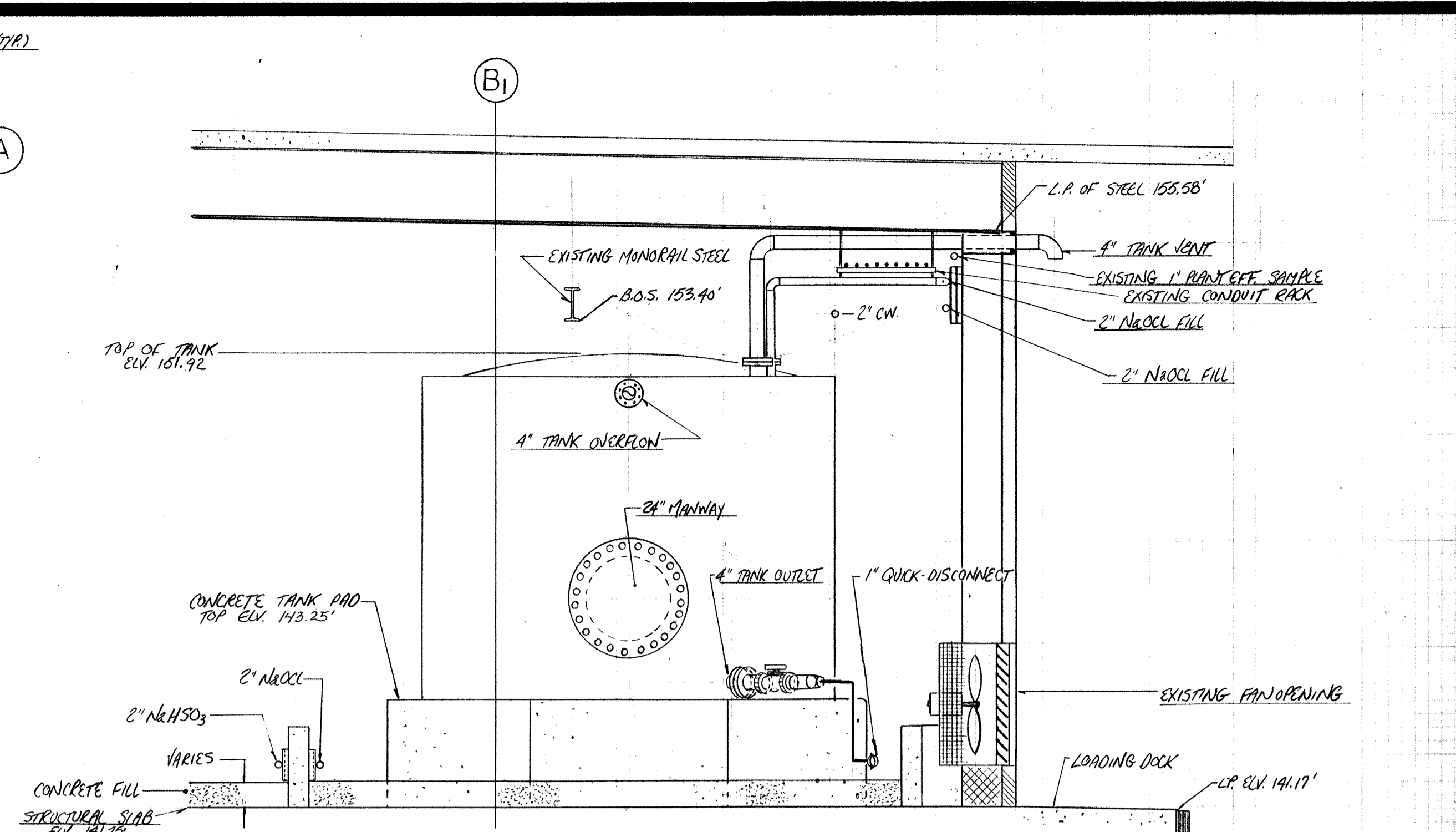
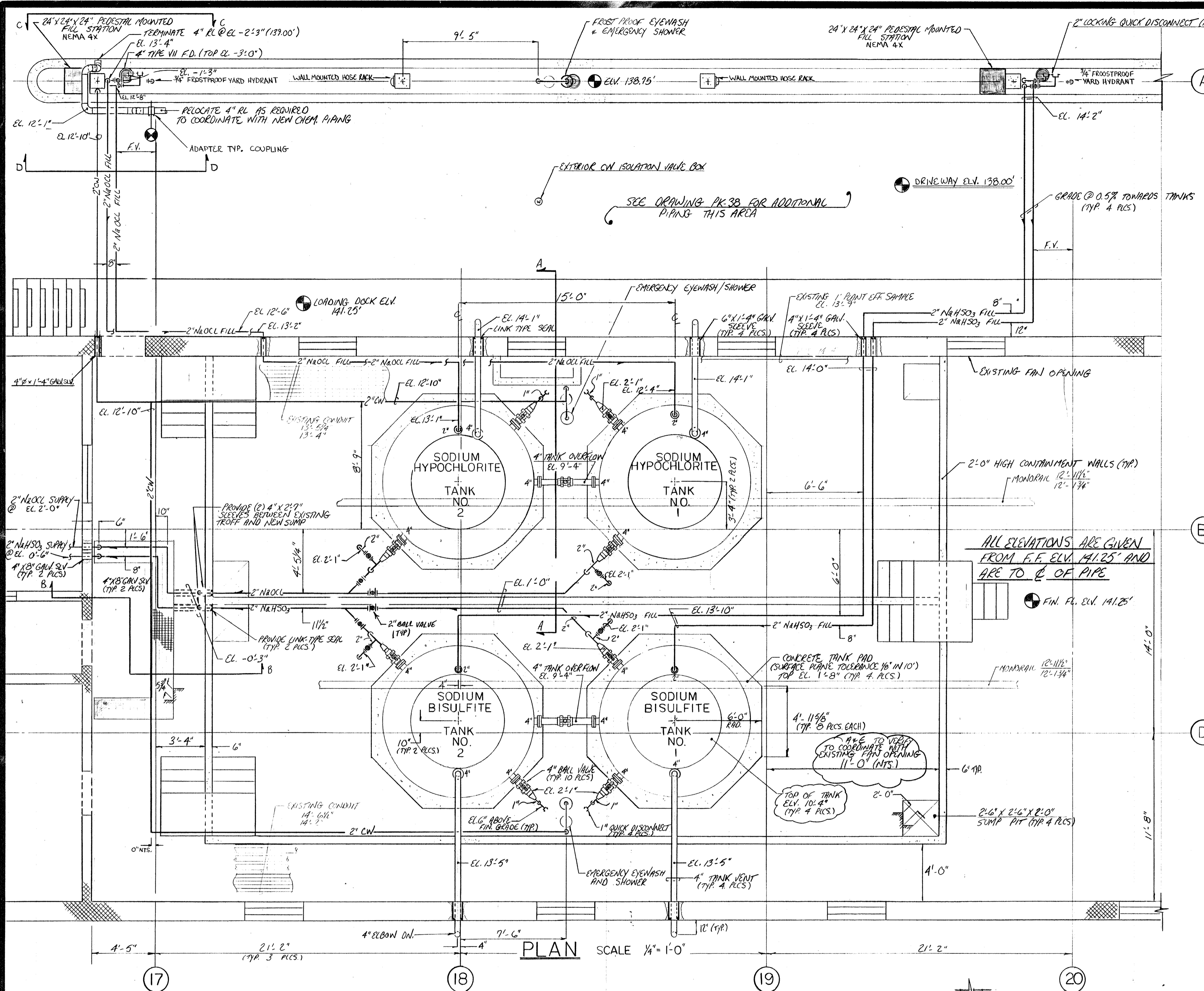
MARK	DESCRIPTION	QUANTITY
1	30" X 20" ECC. REDUCER FL X FL	2
2	20" SLEEVE TYPE COUPLING	1

DUCTILE IRON PIPE SCHEDULE

MARK	DESCRIPTION	QUANTITY
PCI-1	20" 2'-10" FL X PE	1
PCI-1A	20" 2'-11" FL X PE W/1/2" IPS TAP 18" FROM F.F.	1

12-1-94 AS BUILT		
6-10-93 APPROVED / ISSUE FOR CONSTRUCTION		
NO.	DATE	REVISION
The Poole & Kent Co./James W. Miller, Inc. (A Joint Venture) 4530 Hollins Ferry Road Baltimore, MD 21227		
<b>LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5</b> HOWARD COUNTY, MARYLAND		
TITLE: <b>PRIMARY METERING CHAMBER MODIFICATIONS</b>		
JOB: PK- 92/25	DRAWING:	
DRAWN: M. DOEBBS	PK-76	
SCALE: 3/8" = 1'-0"	DATE: APRIL 22, 1993	

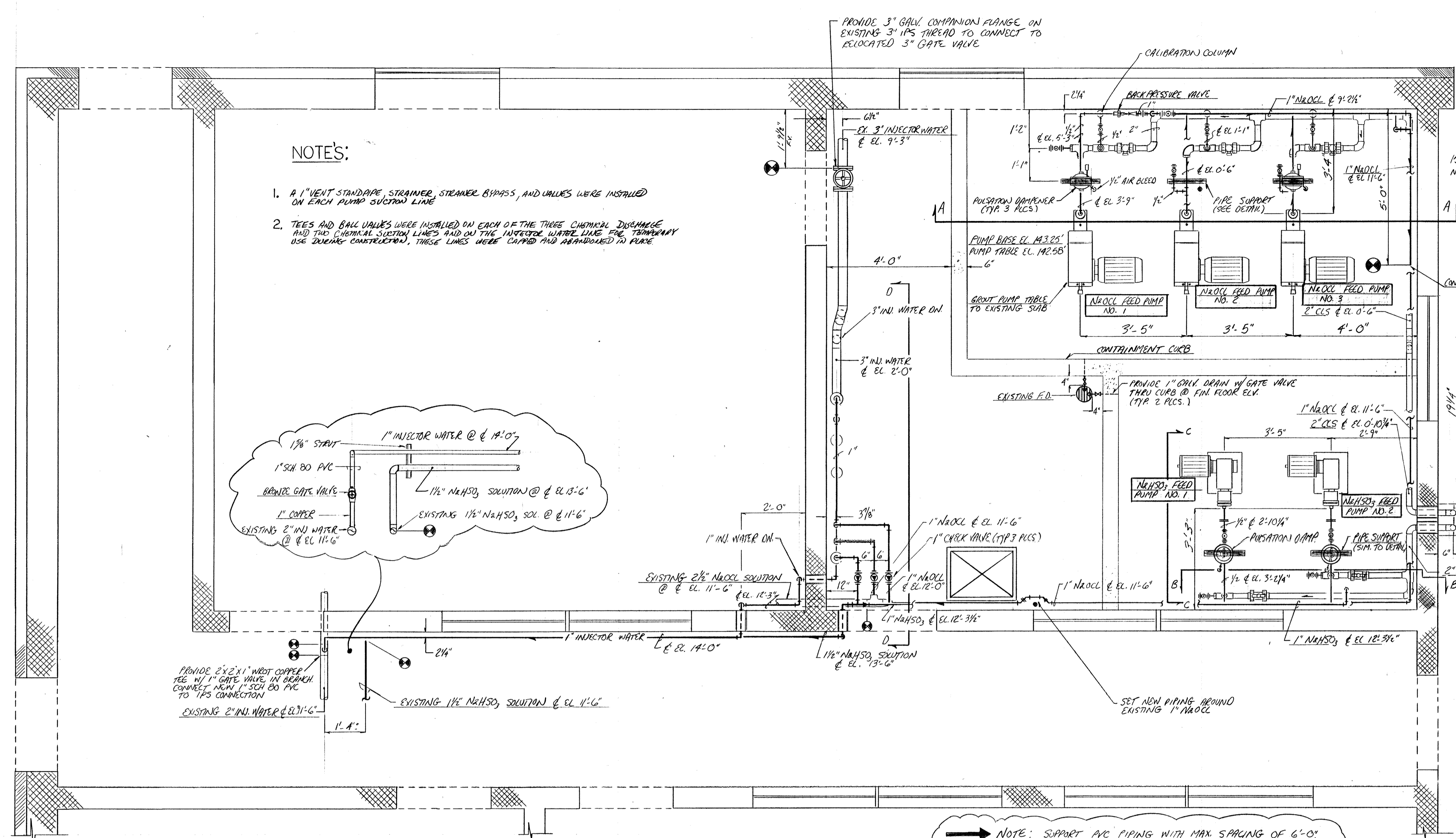
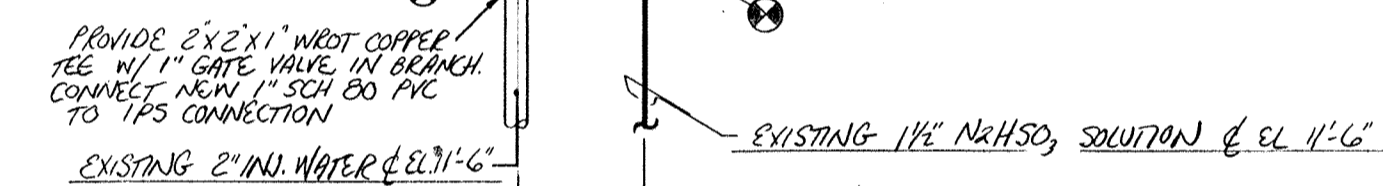
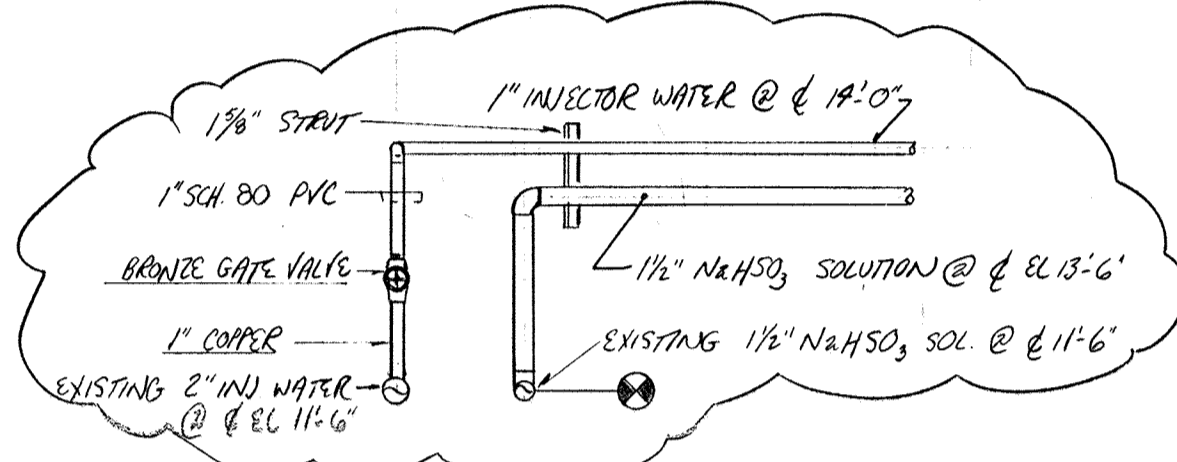




2-1-94	AS BUILT	
10-5-93	APPROVED AS NOTED / ISSUE FOR CONSTRUCTION	
9-7-93	REV. PER ENGINEER'S NOTES / FOR APPROVAL	
6-8-93	REV. PER ENGINEER'S NOTES / FOR APPROVAL	
NO.	DATE	REVISION
The Poole & Kent Co./James W. Miller, Inc. (A Joint Venture) 4530 Holme Ferry Road Baltimore, MD 21227		
<b>LITTLE PATUXENT          WASTEWATER TREATMENT PLANT EXPANSION          ADDITION NO. 5</b> HOWARD COUNTY, MARYLAND		
<b>TITLE: CHLORINE BUILDING          STORAGE AREA PIPING PLAN          SECTION/DETAILS</b>		
JOB: PK-77	DATE: APRIL 21, 1993	DRAWING: PK-77

**NOTES:**

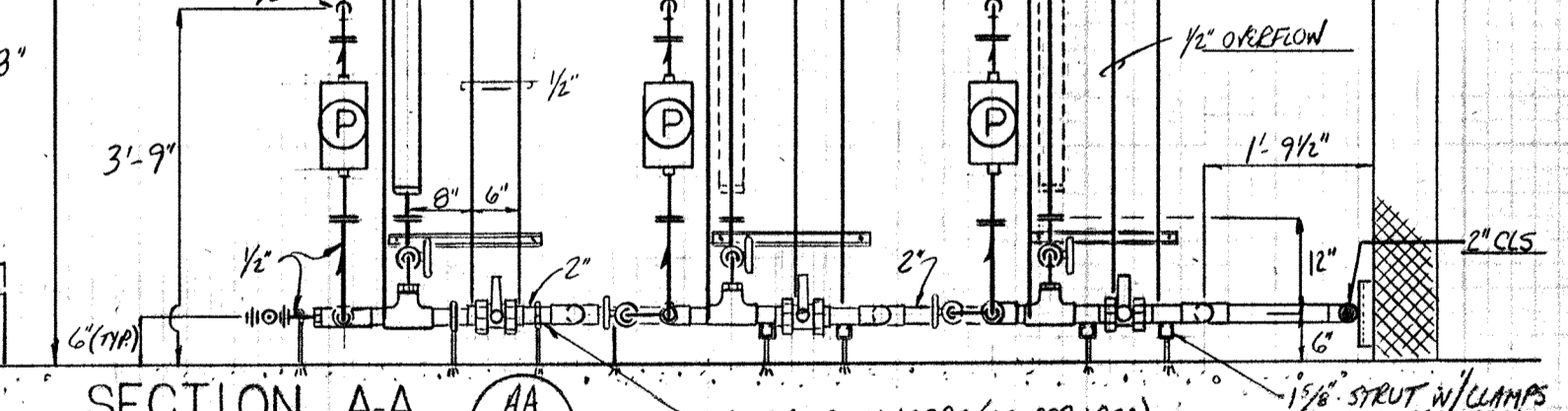
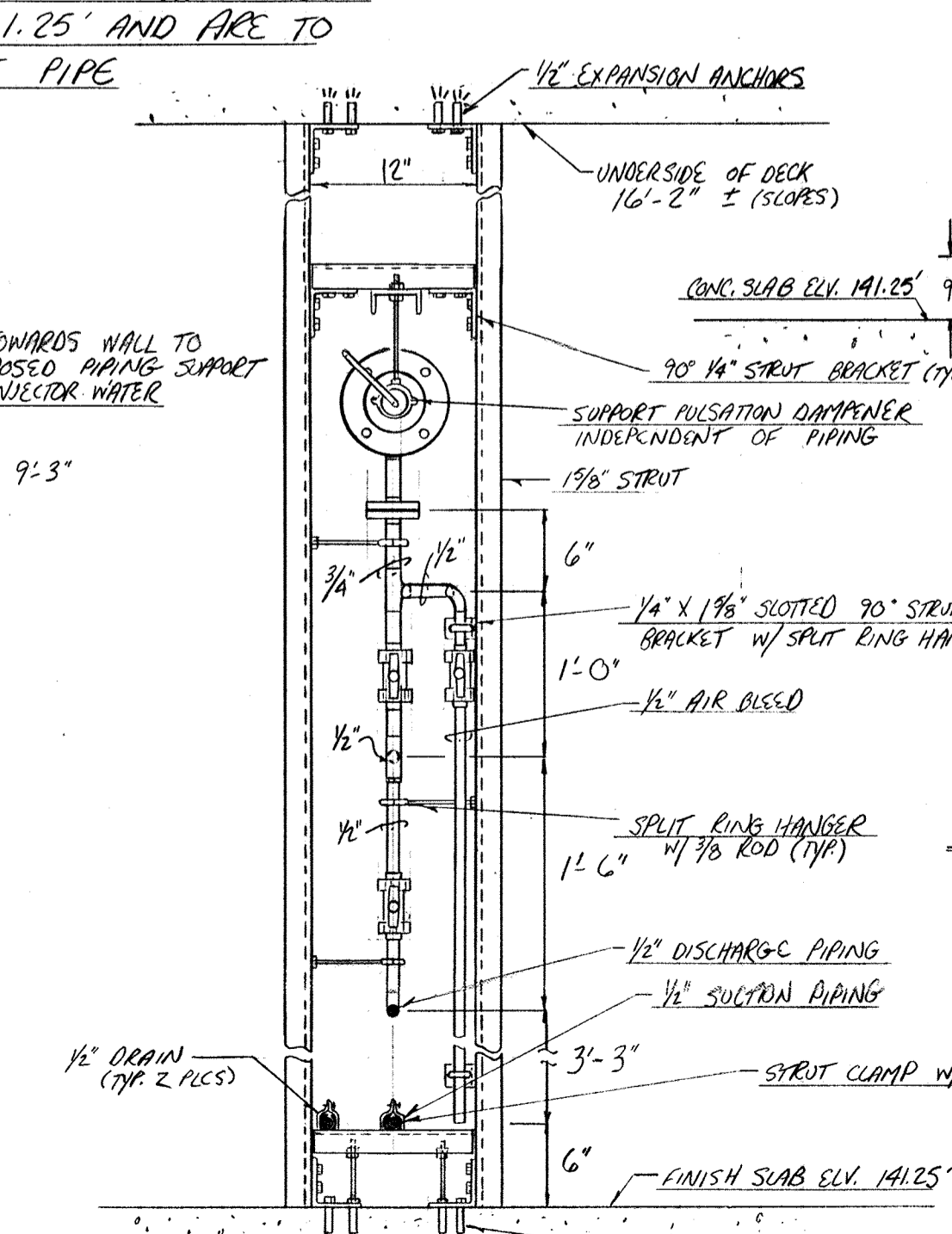
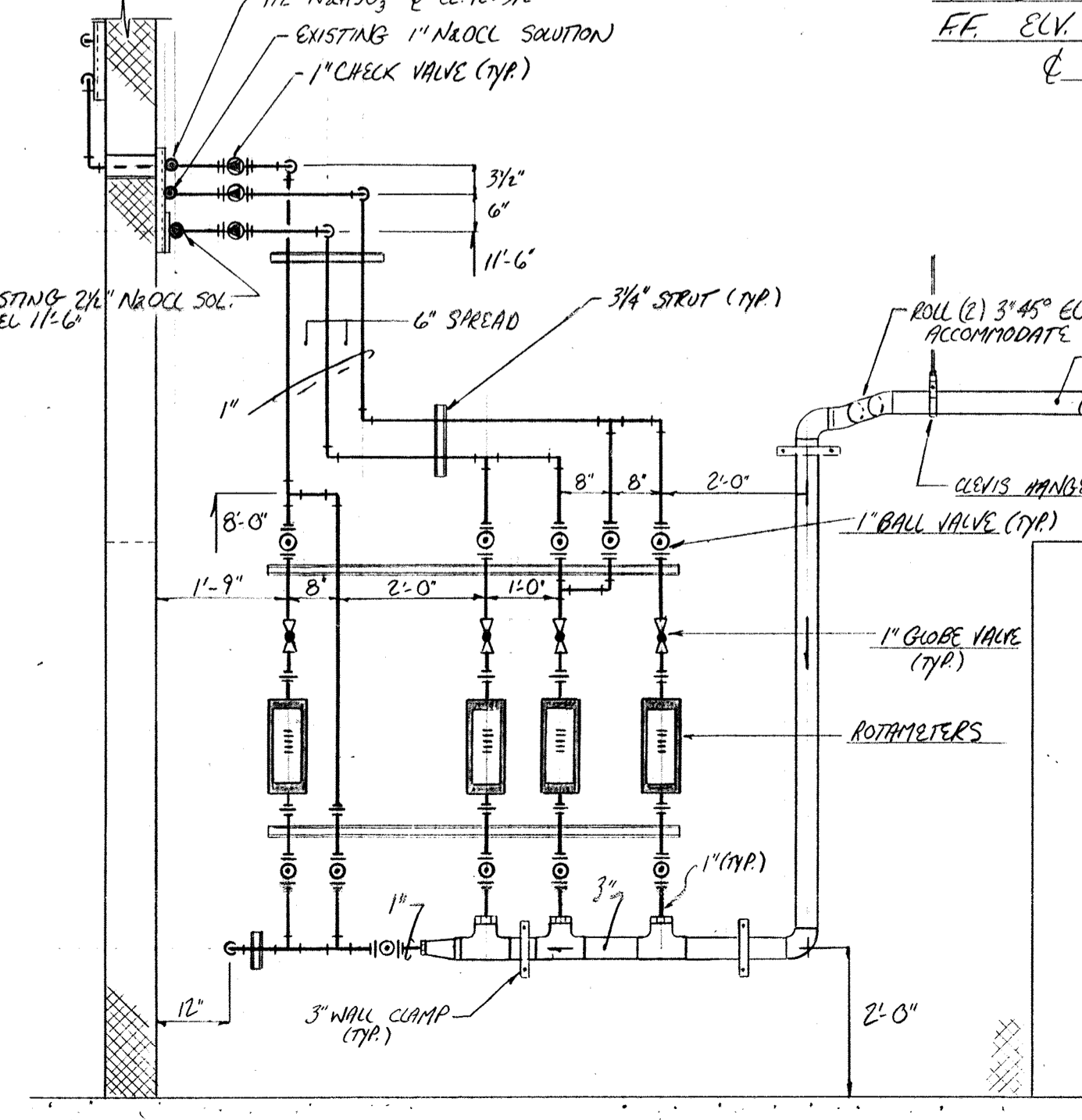
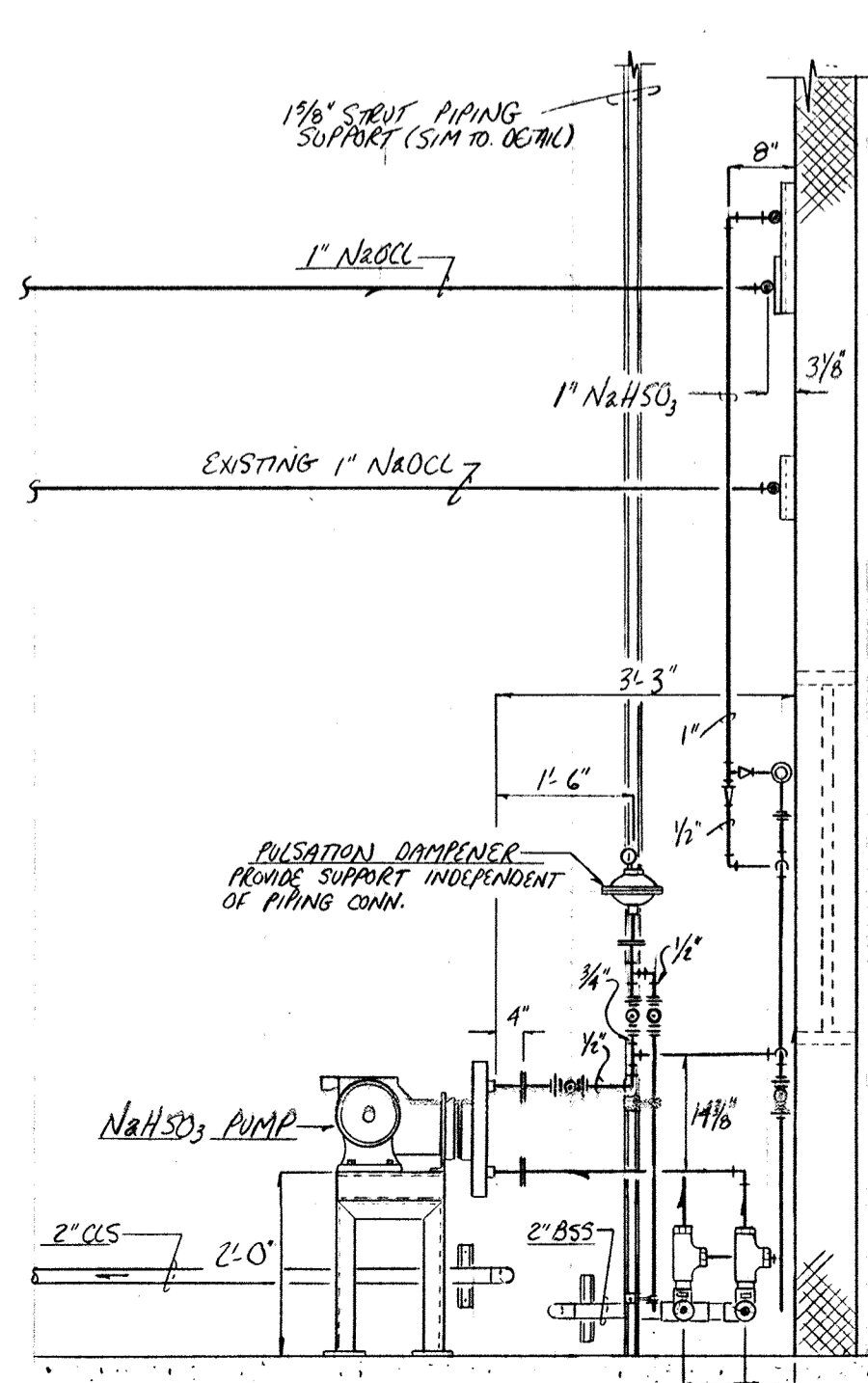
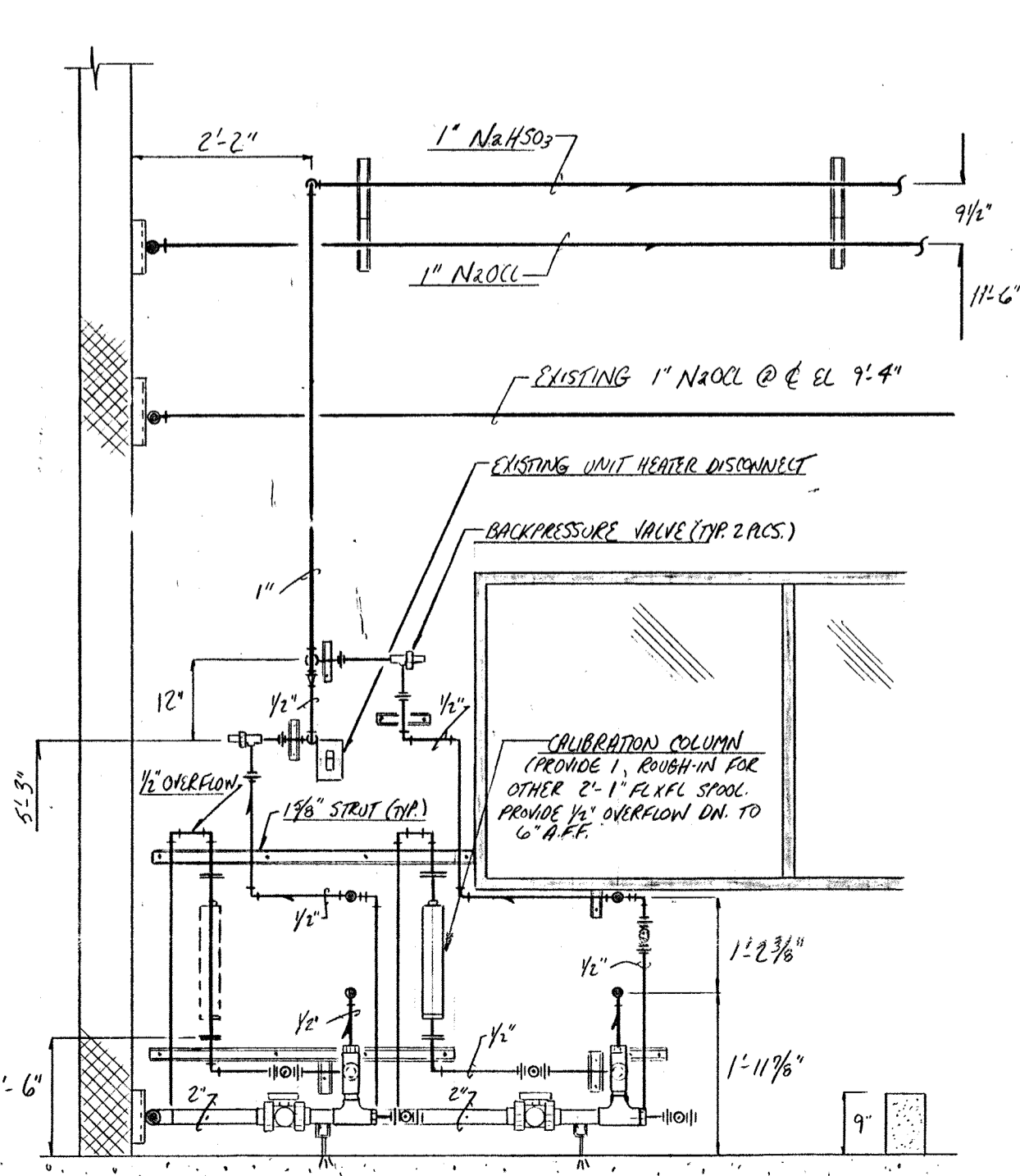
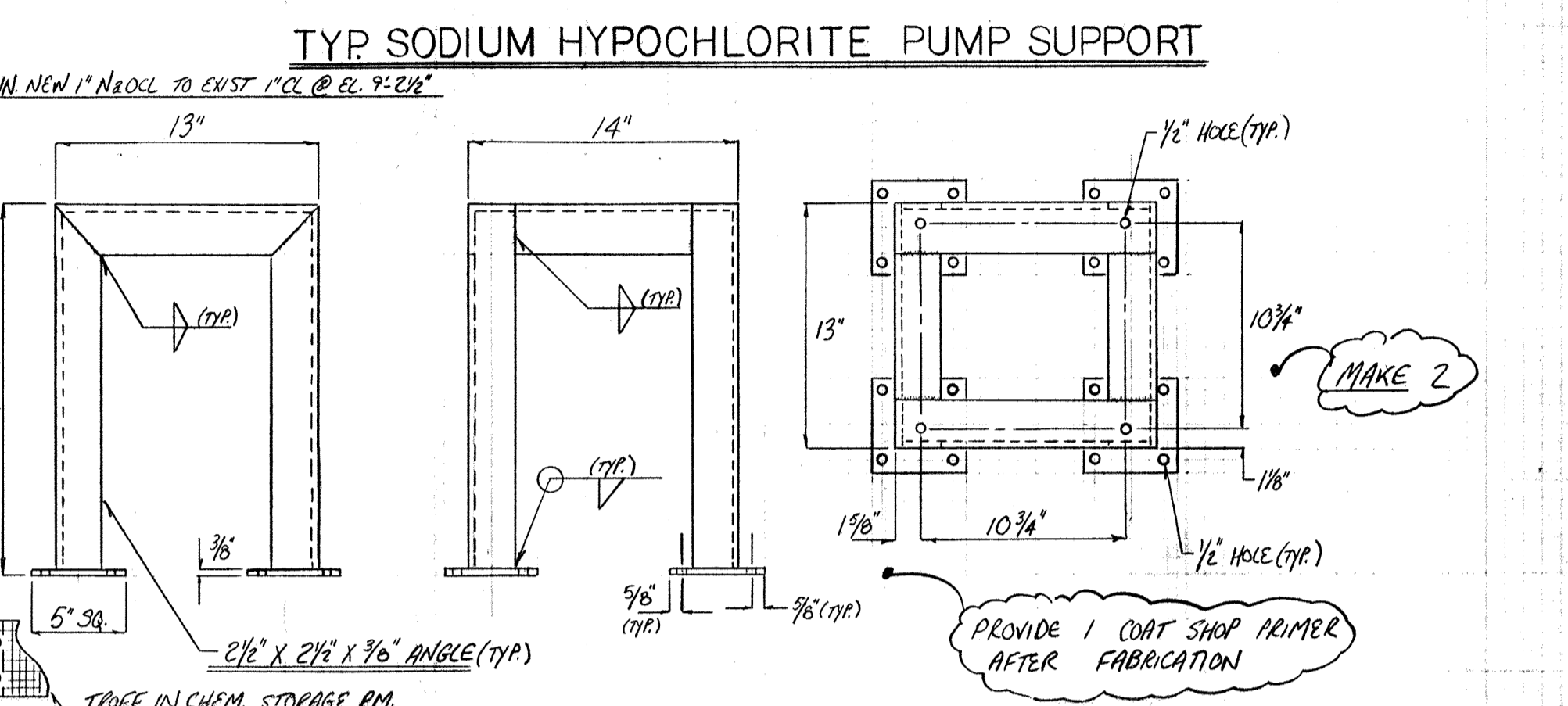
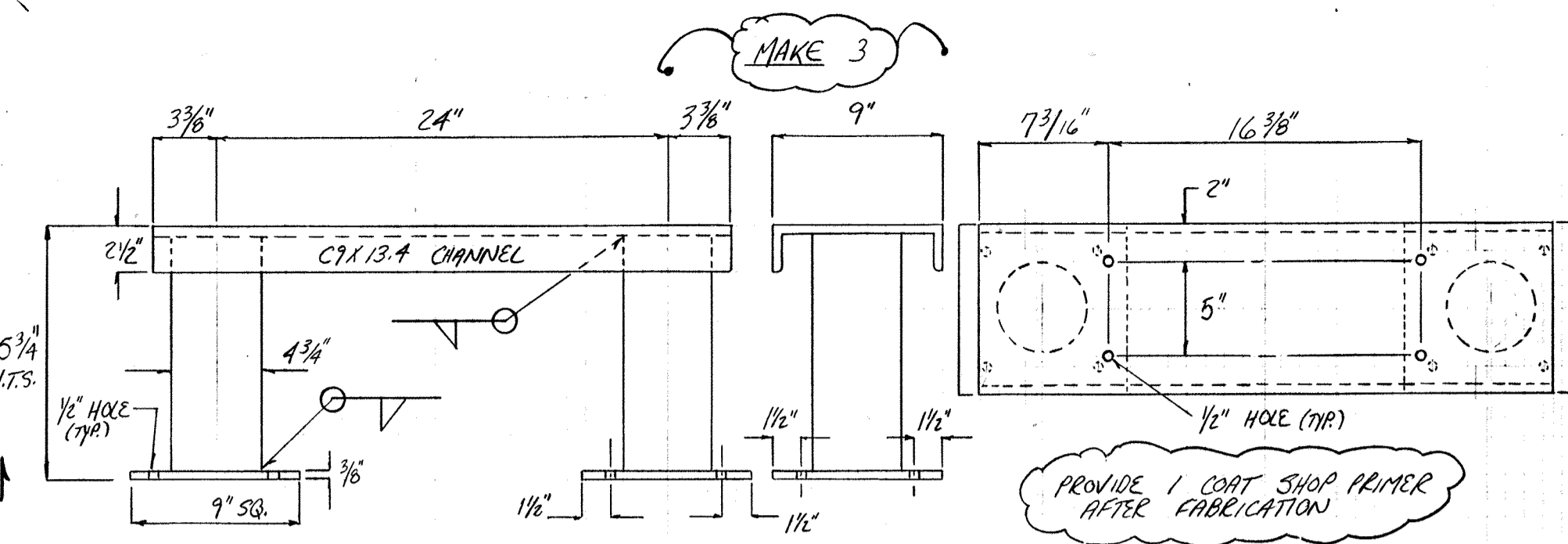
1. A 1" VENT STANDPIPE, STRAINER, STRAINER BYPASS, AND VALVES WERE INSTALLED ON EACH PUMP SUCTION LINE
2. TEES AND BALL VALVES WERE INSTALLED ON EACH OF THE THREE CHEMICAL DISCHARGE AND TWO CHEMICAL SUCTION LINES AND ON THE INTERIOR WATER LINE FOR TOWNWATER USE DURING CONSTRUCTION. THESE LINES WERE CAPPED AND ABANDONED IN PLACE.



**CHEMICAL FEED ROOMS PLAN**

NOTE: SUPPORT PVC PIPING WITH MAX. SPACING OF 6'-0". PROVIDE COMPRESSIBLE RUBBER GASKETS BETWEEN PIPE AND STRUT CLAMPS TO PREVENT DAMAGE TO PIPE.

ALL ELEVATIONS ARE GIVEN FROM FF. ELEV. 141.25' AND ARE TO  $\pm$  OF PIPE



**PIPE SUPPORT @ NaOCl PUMPS**  
(SIMILAR @ NaHSO3 PUMPS)

NO.	DATE	REVISION
12-1-94	AS BUILT	
5-12-93	REVISED PER MILTON ROY REVIEW RECOMM.	

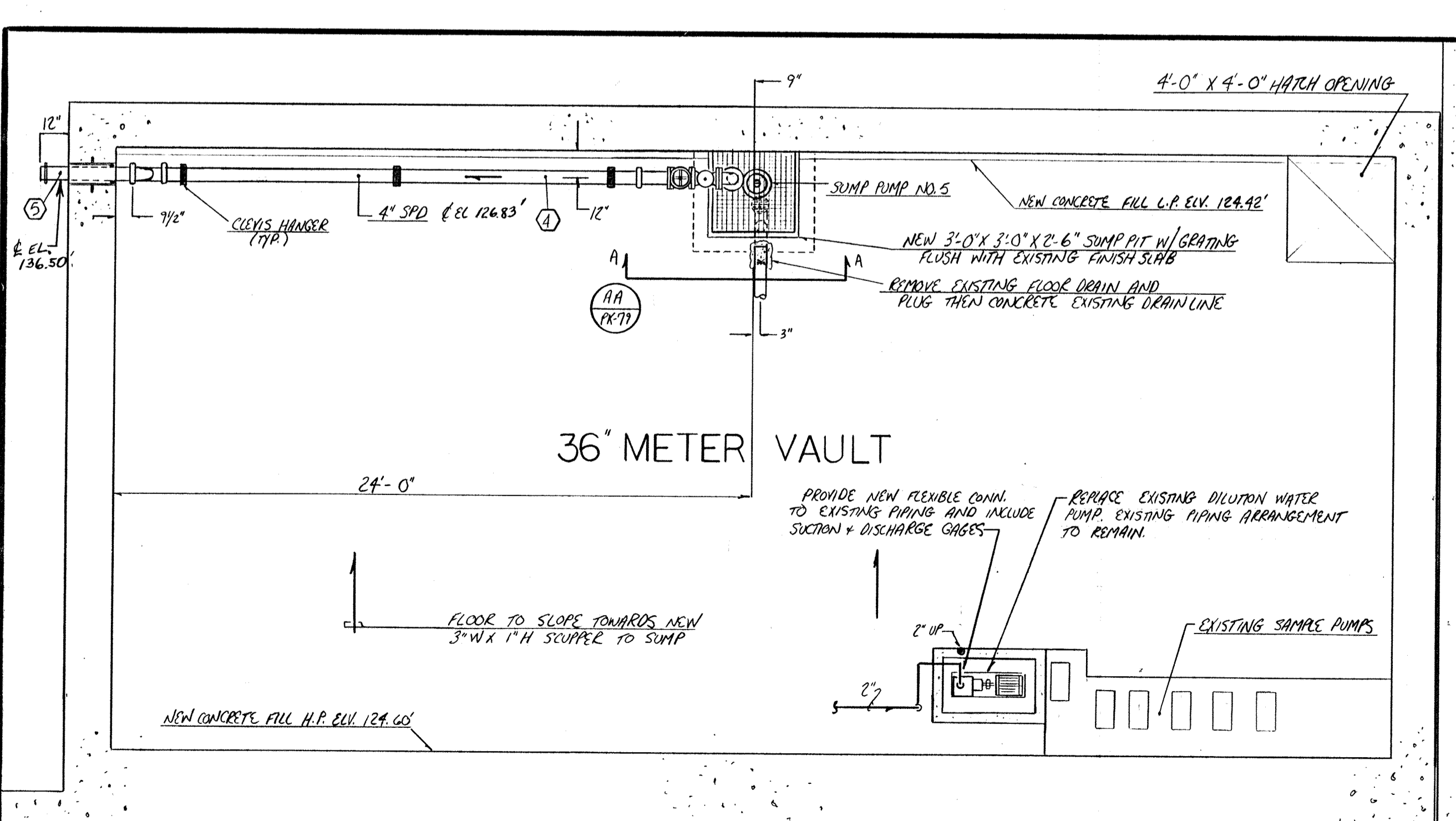
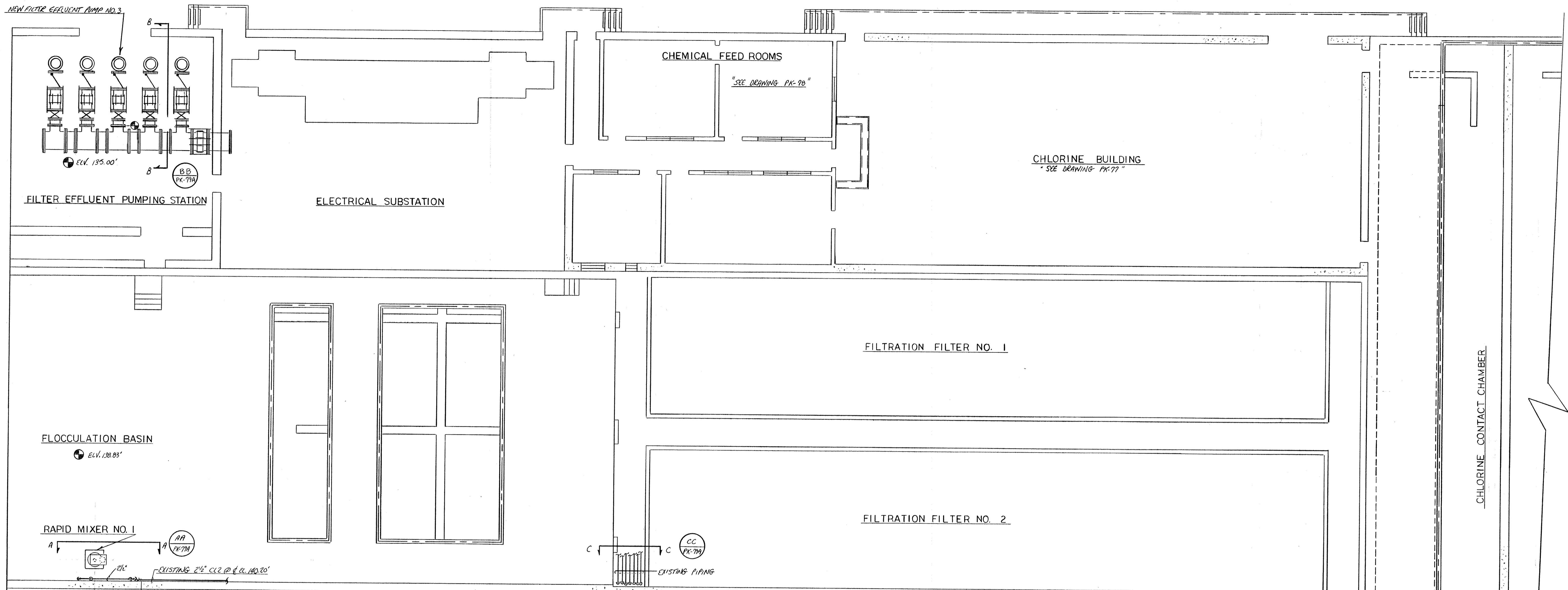
The Poole & Kent Co./James V. Miller, Inc.  
(A Joint Venture)  
4530 Hollins Ferry Road  
Baltimore, MD 21227

**LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5**  
HOWARD COUNTY, MARYLAND

TITLE:  
**CHEMICAL FEED ROOMS PIPING PLAN/SECTIONS**

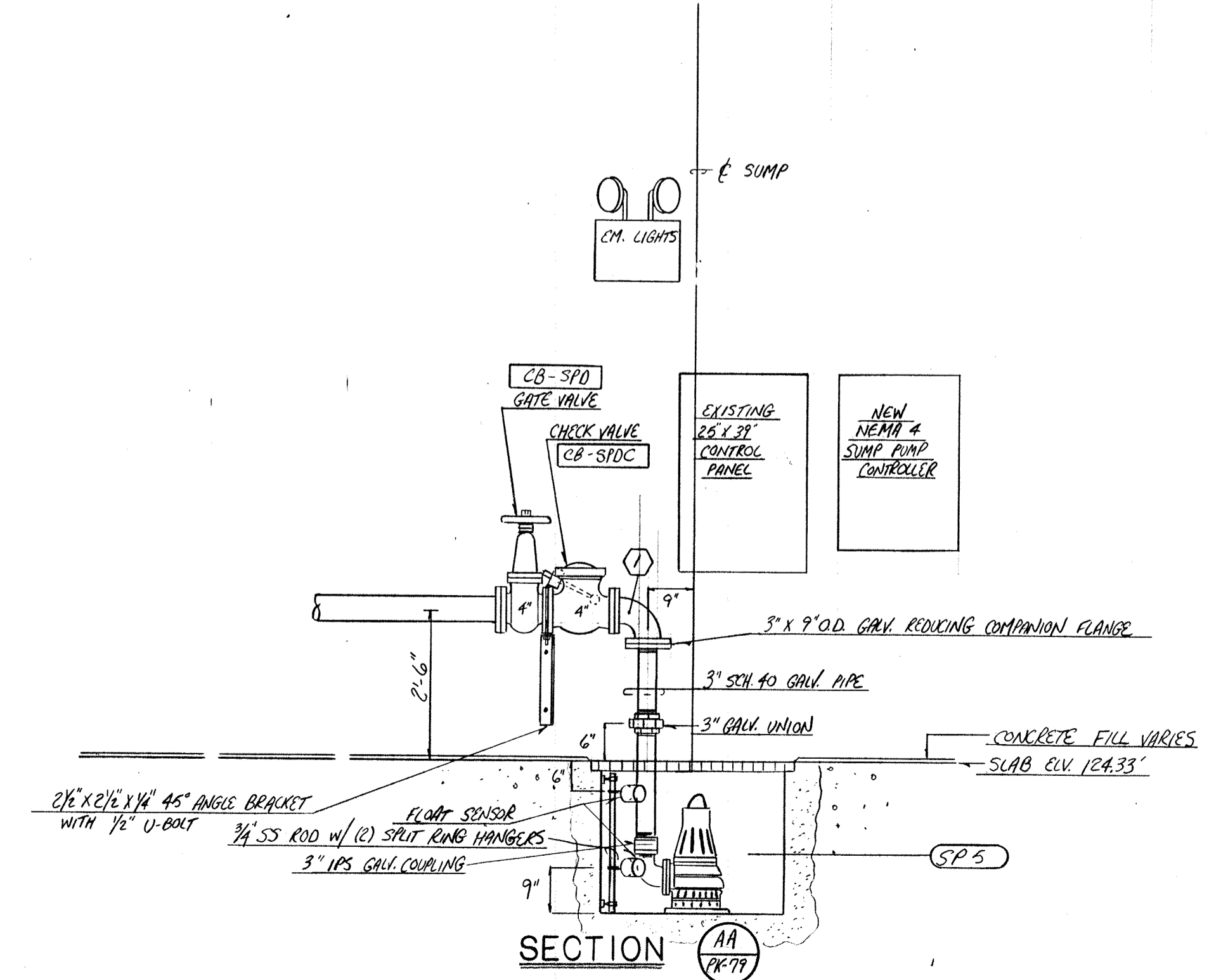
JOB: PK-92125  
DRAWN: M. DOBBS  
SCALE: 1/2" = 1'-0"  
DATE: MAY 10, 1993

DRAWING:  
**PK-78**



**PART PLAN**  
SCALE 1/4" = 1'-0" NORTH

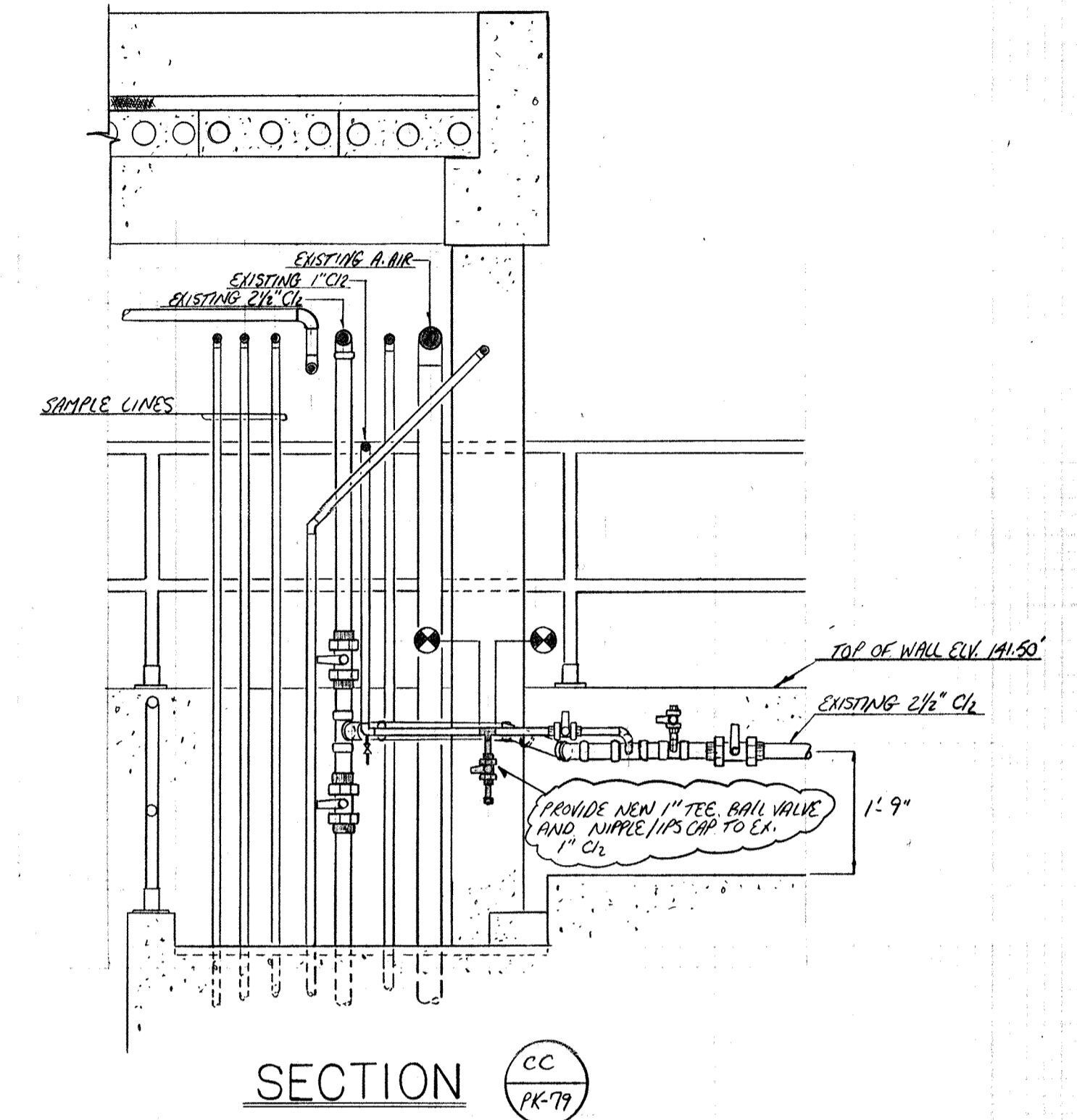
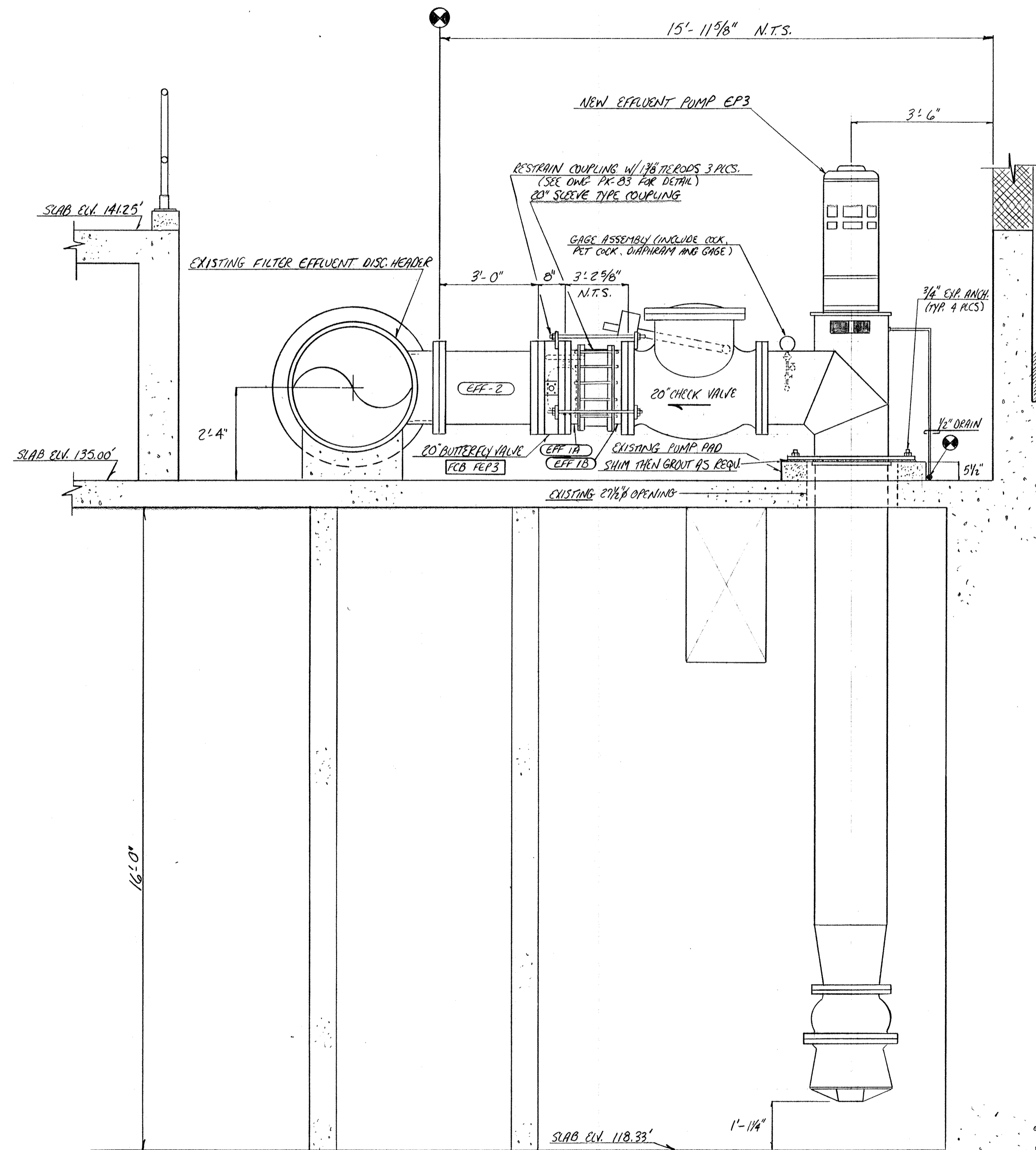
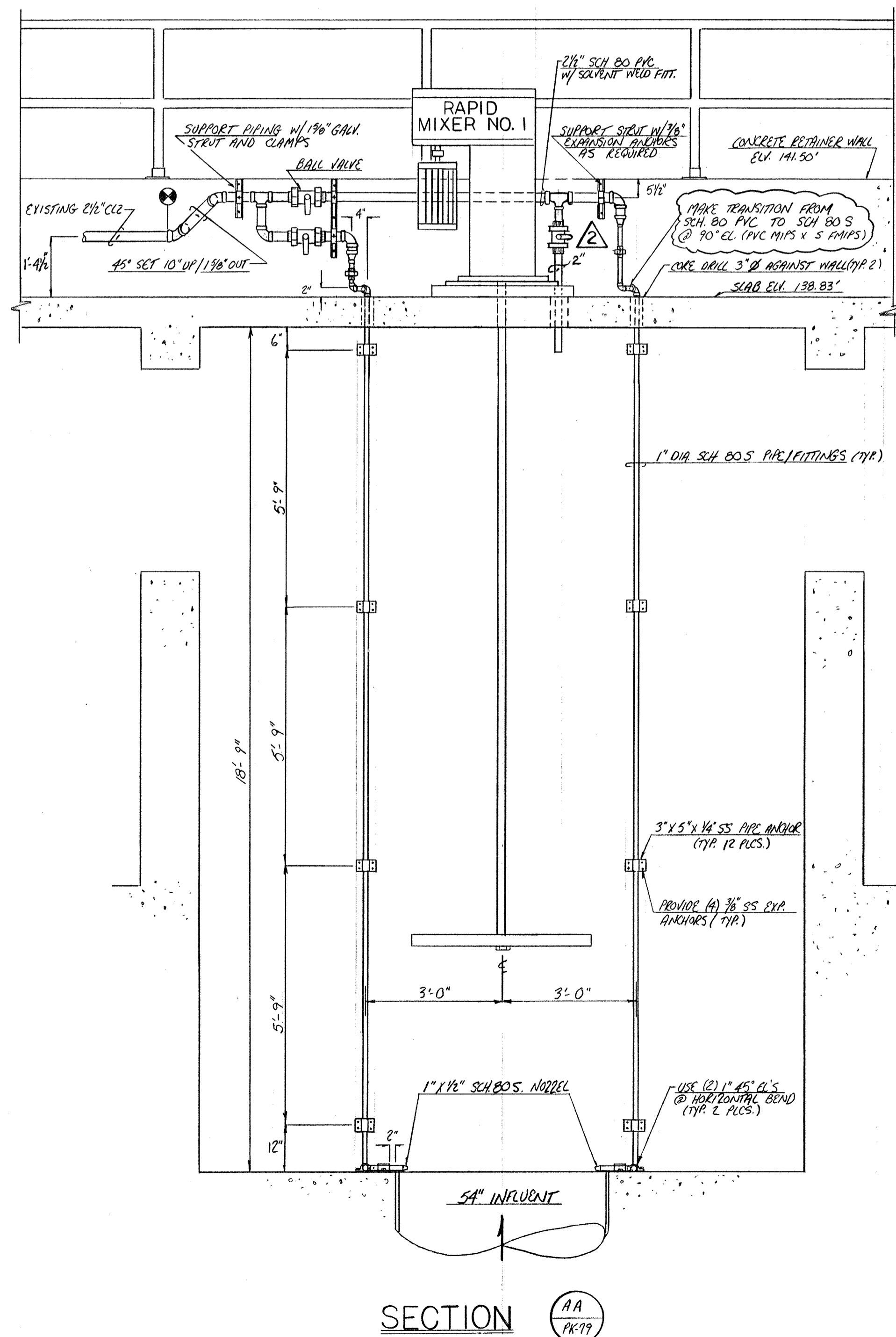
MARK	DUCTILE IRON SCHEDULE DESCRIPTION	QUANTITY
1	4" 90° EL. FL. X FL.	2
2	4" 8" 8" FL. X G.	1
3	4" 90° EL. G X G.	1
4	4" 19" 0" G X G.	1
5	4" 3" 5 1/2" G X F.R.E.	1



**SECTION**

11-3094	AS BUILT
0-23-93	REVISE PER ENG. NOTES / ISSUE PER CONSTR.
NO.	DATE
The Poole & Kent Co./James V. Miller, Inc. (A Joint Venture)	
4530 Hopkins Ferry Road Baltimore, MD 21227	
<b>LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5</b>	
HOWARD COUNTY, MARYLAND	
TITLE: <b>FILTER EFFLUENT PUMP, FLOCCULATION BASIN MODIFICATION PLAN</b>	
JOB: PK: 72125	DRAWING: PK-79
DRAWN: M. ODBBS	
SCALE: 1/8" = 1'-0"	
DATE: JAN. 12, 1993	

MARK	DUCTILE IRON PIPE SCHEDULE	DESCRIPTION	QUANTITY
EFF-1A	20"	12.7" FL X PL	1
EFF-1B	20"	12.7" FL X PL	1
EFF-2	20"	3'-0" FL X FL	1



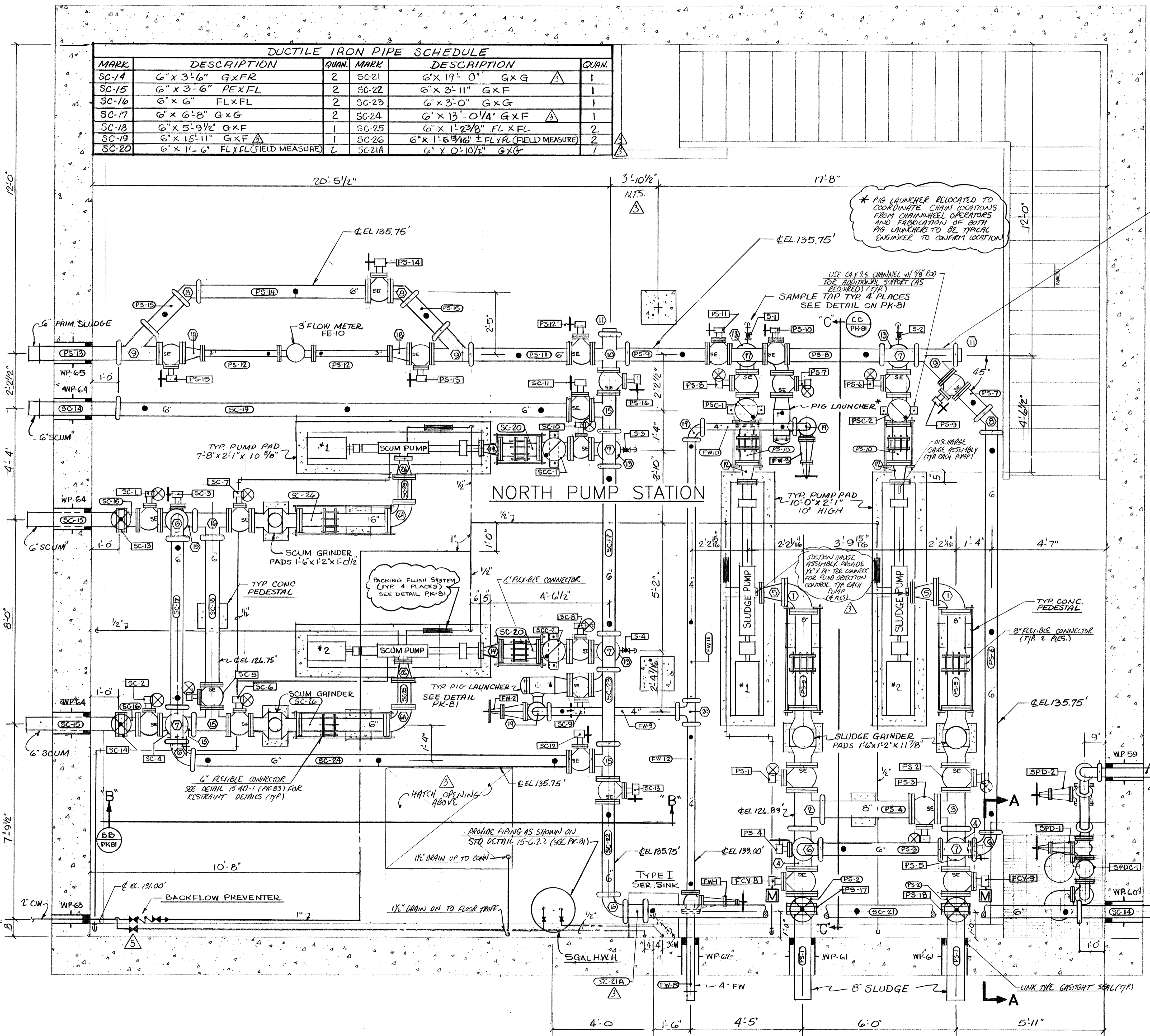
NO.	DATE	REVISION
6-S94	AS BUILT	
2-23-93	PK USE PER ENG. NOTES / ISSUE FOR CONSTR.	

The Poole & Kent Co./James W. Miller, Inc.  
(A Joint Venture)  
4530 Hollins Ferry Road  
Baltimore, MD 21227

**LITTLE PATUXENT  
WASTEWATER TREATMENT PLANT EXPANSION  
ADDITION NO. 5**  
HOWARD COUNTY, MARYLAND

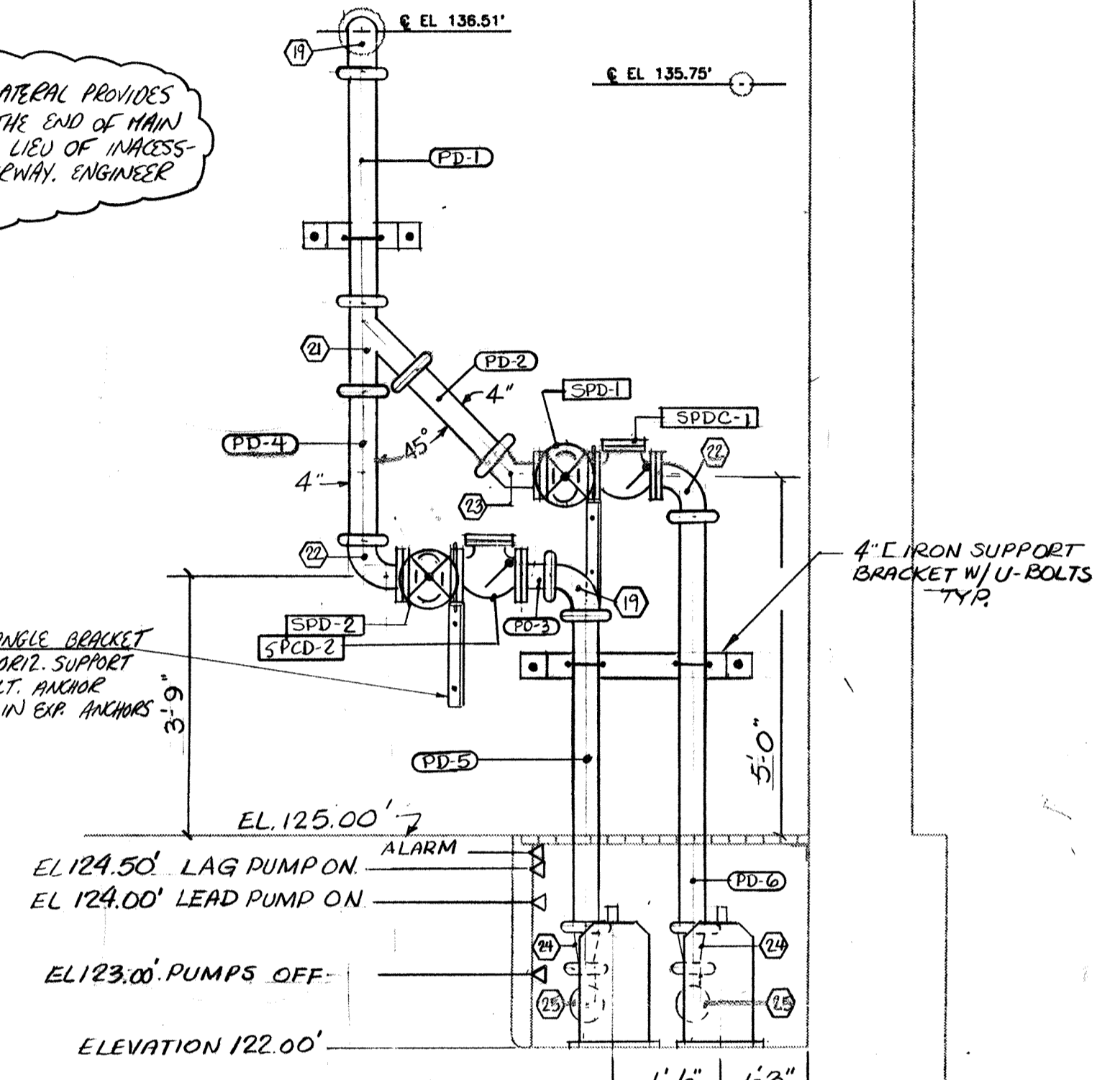
TITLE:  
**FILTER, EFFLUENT PUMP,  
FLOCCULATION BASIN  
SECTION/DETAILS**

JOB: PK: 92115	DRAWING:
DRAWN: M. DOBBS	PK-79A
SCALE: 1/2" = 1'-0"	
DATE: JAN 16, 1992	



DUCTILE IRON PIPE SCHEDULE					
MARK	DESCRIPTION	QUAN.	MARK	DESCRIPTION	QUAN.
SC-14	6" x 3'-6" G X FR	2	SC-21	6" x 19'-0" G X G	1
SC-15	6" x 3'-6" PEX FL	2	SC-22	6" x 3'-11" G X F	1
SC-16	6" x 6" FL X FL	2	SC-23	6" x 3'-0" G X G	1
SC-17	6" x 6'-8" G X G	2	SC-24	6" x 13'-0 1/4" G X F	1
SC-18	6" x 5'-9 1/2" G X F	1	SC-25	6" x 1'-2 3/8" FL X FL	2
SC-19	6" x 15'-11" G X F	1	SC-26	6" x 1'-6 1/16" ± FLY FL (FIELD MEASURE)	2
SC-20	6" x 1'-6" FL X FL (FIELD MEASURE)	2	SC-21A	6" x 0'-10 1/2" G X G	1

DUCTILE IRON FITTING SCHEDULE				DUCTILE IRON FITTINGS				
MARK	DESCRIPTION	QUAN.	MARK	DESCRIPTION	QUAN.	MARK	DESCRIPTION	QUAN.
1	8"-90° ELBOW FL X FL	2	15	6" TEE G X F X F	5			
2	8"-TEE G X F X G	1	16	6" TEE G X F X G	1			
3	8"-TEE G X F X F	1	17	6" TEE F X F X G	1			
4	8"x6"-TEE F X G X F	2	18	6"x3" REDUCER F X F (CONC.)	2			
5	8"x5" REDUCER F X F (CONC.)	2	19	4" 90° ELBOW G X G	4			
6	6"-90° ELBOW G X G	5	20	4" TEE G X G X G	1			
7	6"-TEE G X G X G	5	21	4" 45° LATERAL G X G X G	1			
8	6"-45° ELBOW G X G	3	22	4" 90° ELBOW F X G	2			
9	6"-45° LATERAL G X G X G	3	23	4" 45° ELBOW F X G	1			
10	6"-CROSS G X F X G X F	1	24	4"x3" REDUCER G X G (CONC.)	2			
11	6"-CAP G	2	25	3" 90° ELBOW G X F	2			
12	6"x4" REDUCER FL X FL (CONC.)	2		3" STYLE 341 VIC FLANGE ADAPTERS	6			
13	6" 90° BASE ELBOW G X F	4		4" " " " " " "	10			
14	6"x2 1/2" REDUCER F X F (CONC.)	2		6" " " " " " "	50			
6A	6" 90° ELBOW FL X FL	2		8" " " " " " "	16			
26	6" x 3" CON. RED. FL X FL	2						



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

DUCTILE IRON PIPE SCHEDULE		
MARK	DESCRIPTION	QUAN.
PS-1	8" x 3'-6" FL X PE	2
PS-2	8" x 6" FL X FL	2
PS-3	6" x 4'-8" G X G	1
PS-4	8" x 3'-6 1/2" G X F	1
PS-5	8" x 4'-0 1/2" ± FL X FL (FIELD MEASURE)	2
PS-6	6" x 15'-11 3/16" G X G	1
PS-7	6" x 1'-1 1/4" G X F	1
PS-8	6" x 3'-9 1/2" G X F	1
PS-9	6" x 5'-2 15/16" G X F	1
PS-10	6" x 1'-6 3/8" FL X FL (FIELD MEASURE)	2
PS-11	6" x 2'-3 3/8" G X F	1
PS-12	3" x 2'-0" F X F	2
PS-13	6" x 3'-6" G X FR	1
PS-14	6" x 6'-6 1/2" G X F	1
PS-15	6" x 1'-9 11/16" G X G	2
PD-1	4" x 3'-5 1/2" G X G	1
PD-2	4" x 1'-10 1/4" G X G	1
PD-3	4" x 6'-8" G X F	1
PD-4	4" x 1'-11 5/8" G X G	1
PD-5	4" x 4'-6 1/8" G X G	1
PD-6	4" x 5'-9 7/8" G X G	1
PD-7	4" x 3'-6" G X FR	1
FW-8	4" x 3'-6" F X FR	1
FW-9	4" x 6'-11" G X G	1
FW-10	4" x 3'-5 3/4" G X G	1
FW-11	4" x 10'-0 7/16" G X G	1
FW-12	4" x 6'-9 9/16" F X G	1

**NOTE**

- 1-0 DENOTES CLEVIS HANGERS
- 2- PUMP PAD HEIGHTS ARE FROM ELEVATION 125.00'
- 3- SEE PK-4 FOR PIPING OUTSIDE PUMP ROOM. ALL 2994 AS BUILT

NO.	DATE	REVISION
6-10-93		APPROVED / ISSUE FOR CONSTRUCTION
5-14-93		REVISE PER ENG. NOTES FOR APPROVAL
1-26-93		REVISE PER ENG. NOTES FOR APPROVAL
11-11-92		REV. PUMP SUCTION DISCH. CONN'GS

The Pools & Keel Co./James V. Miller, Inc.  
(A Joint Venture)  
4330 Holme Ferry Road  
Baltimore, MD 21227

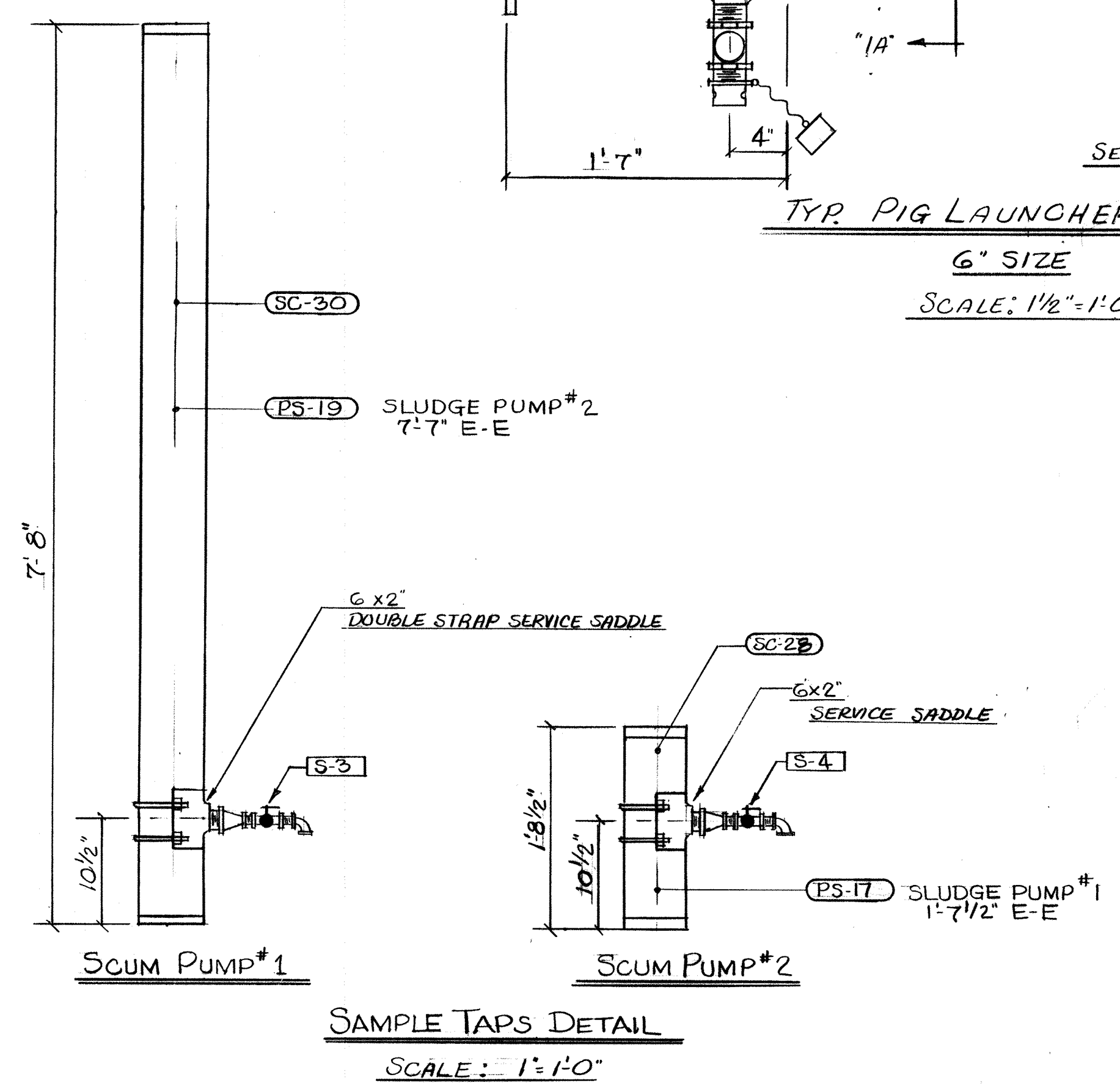
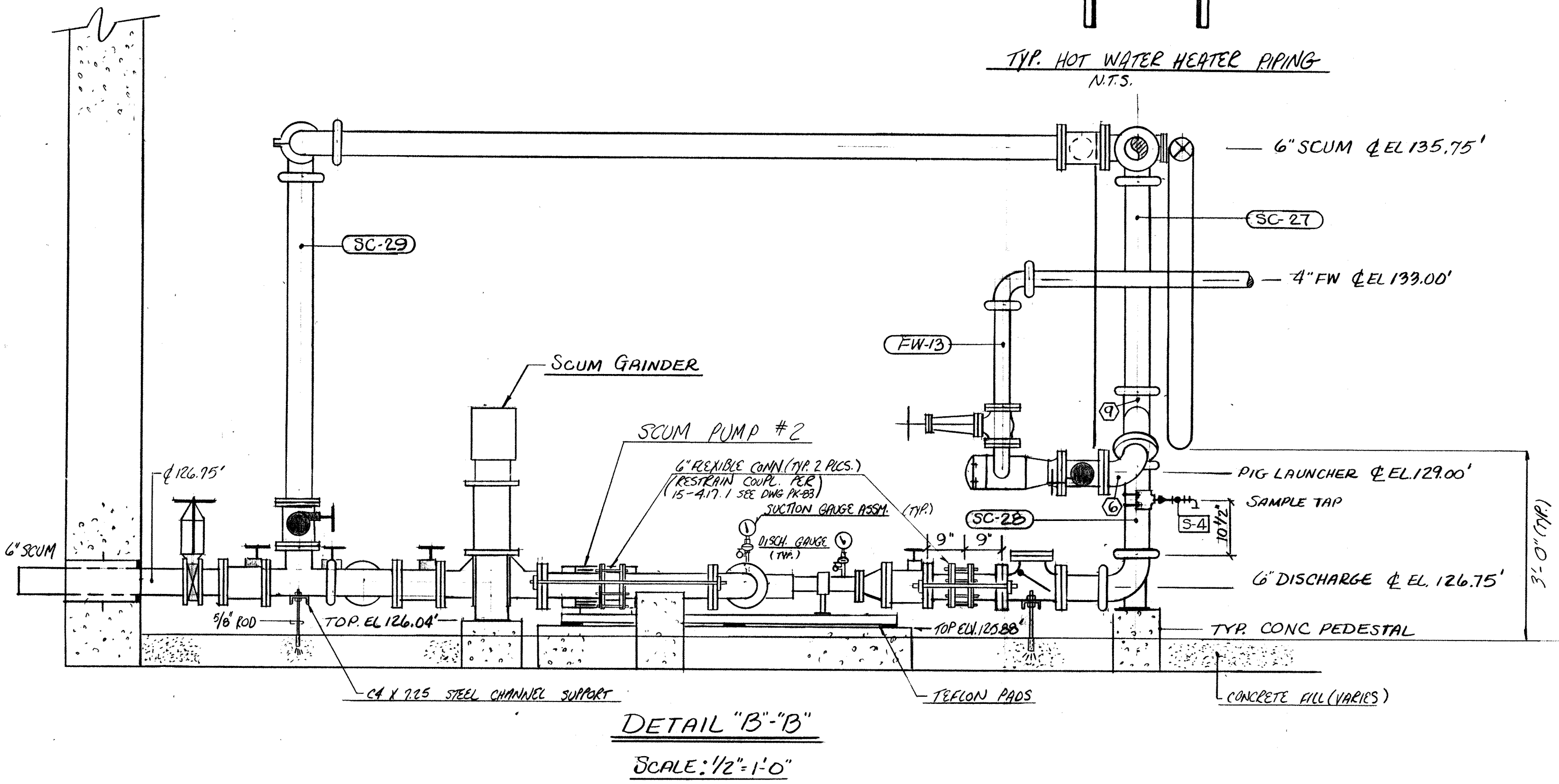
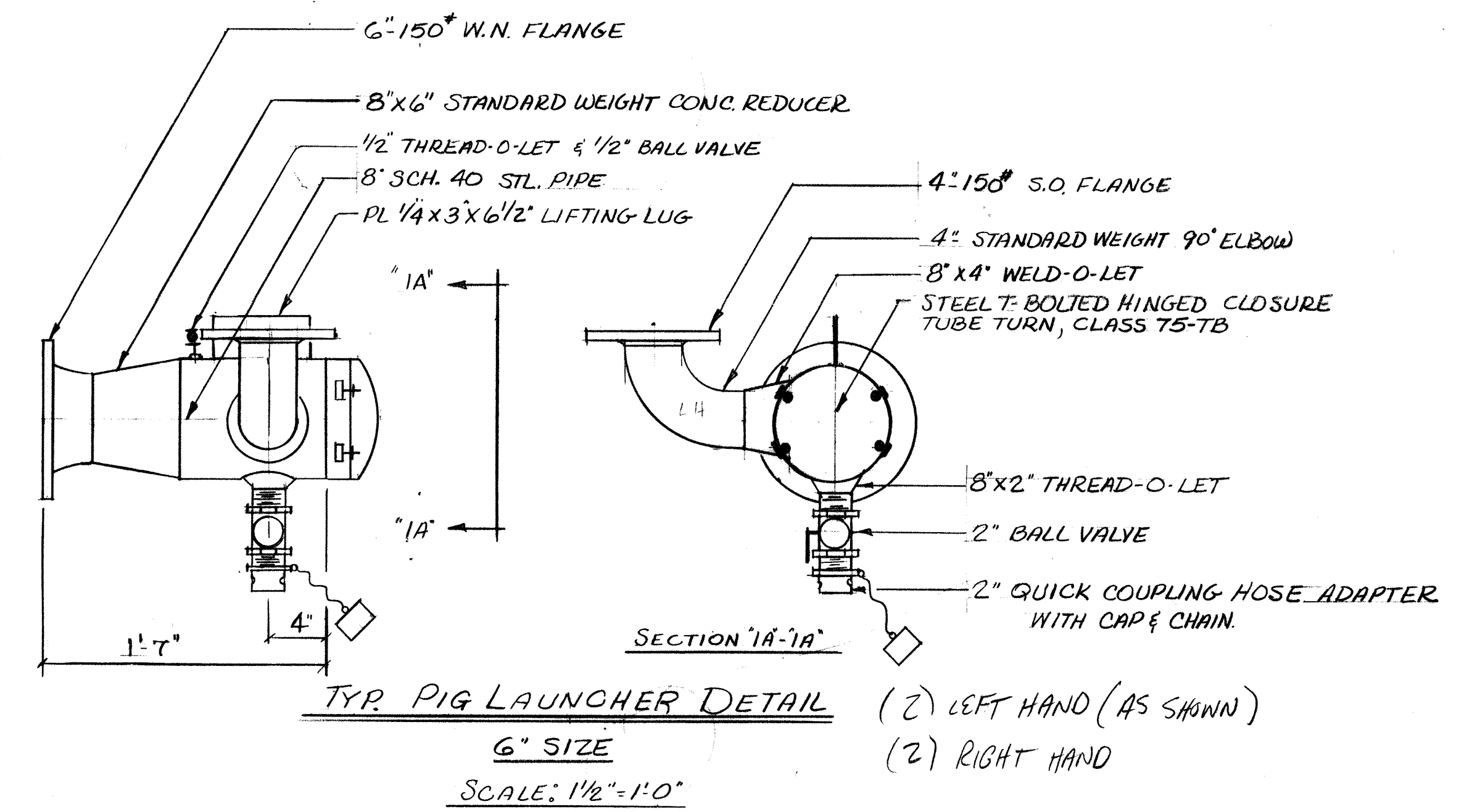
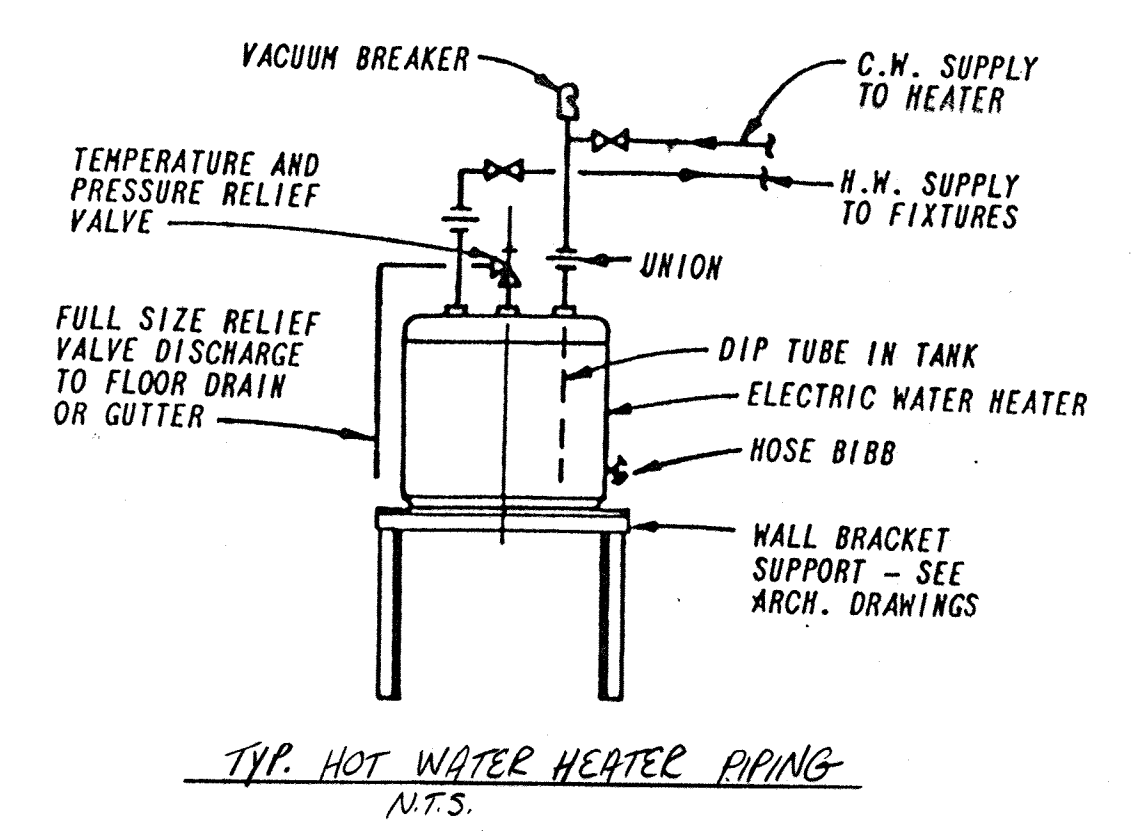
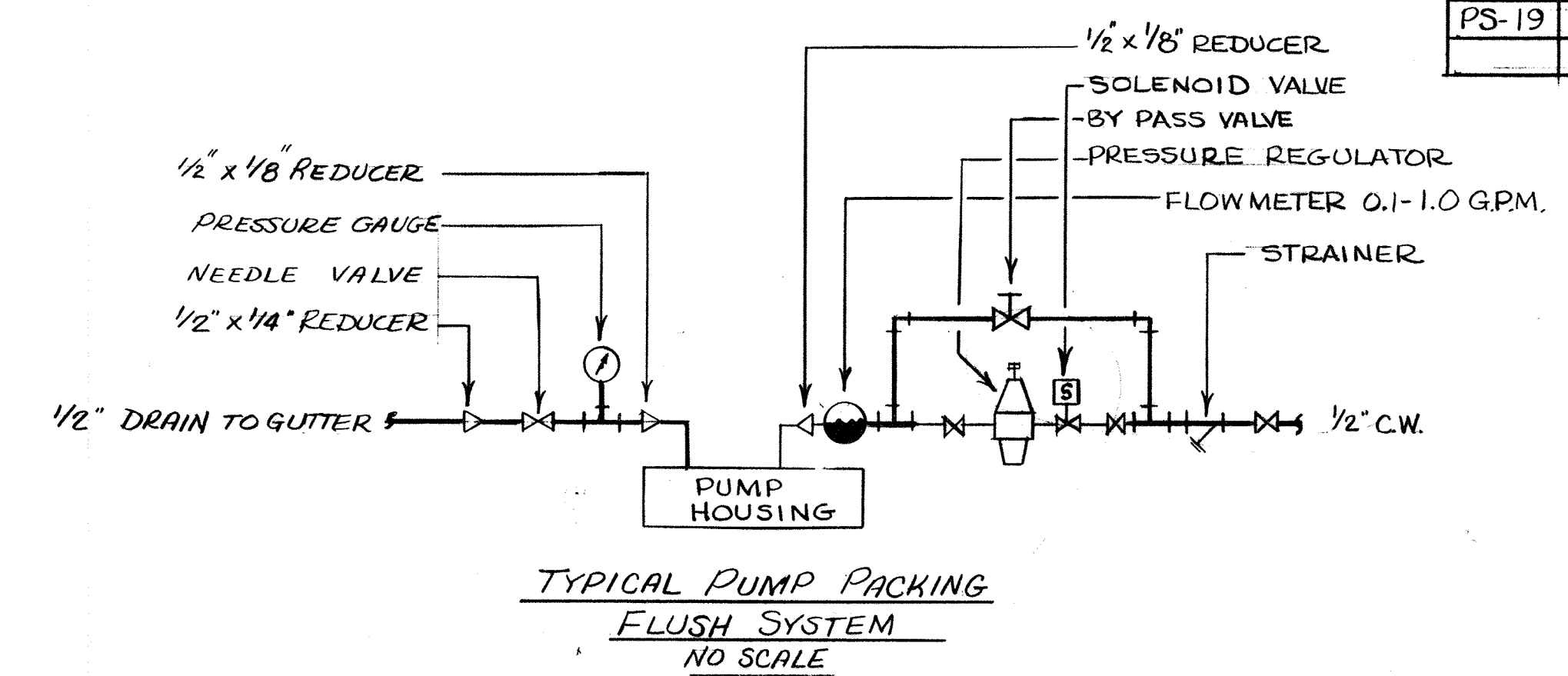
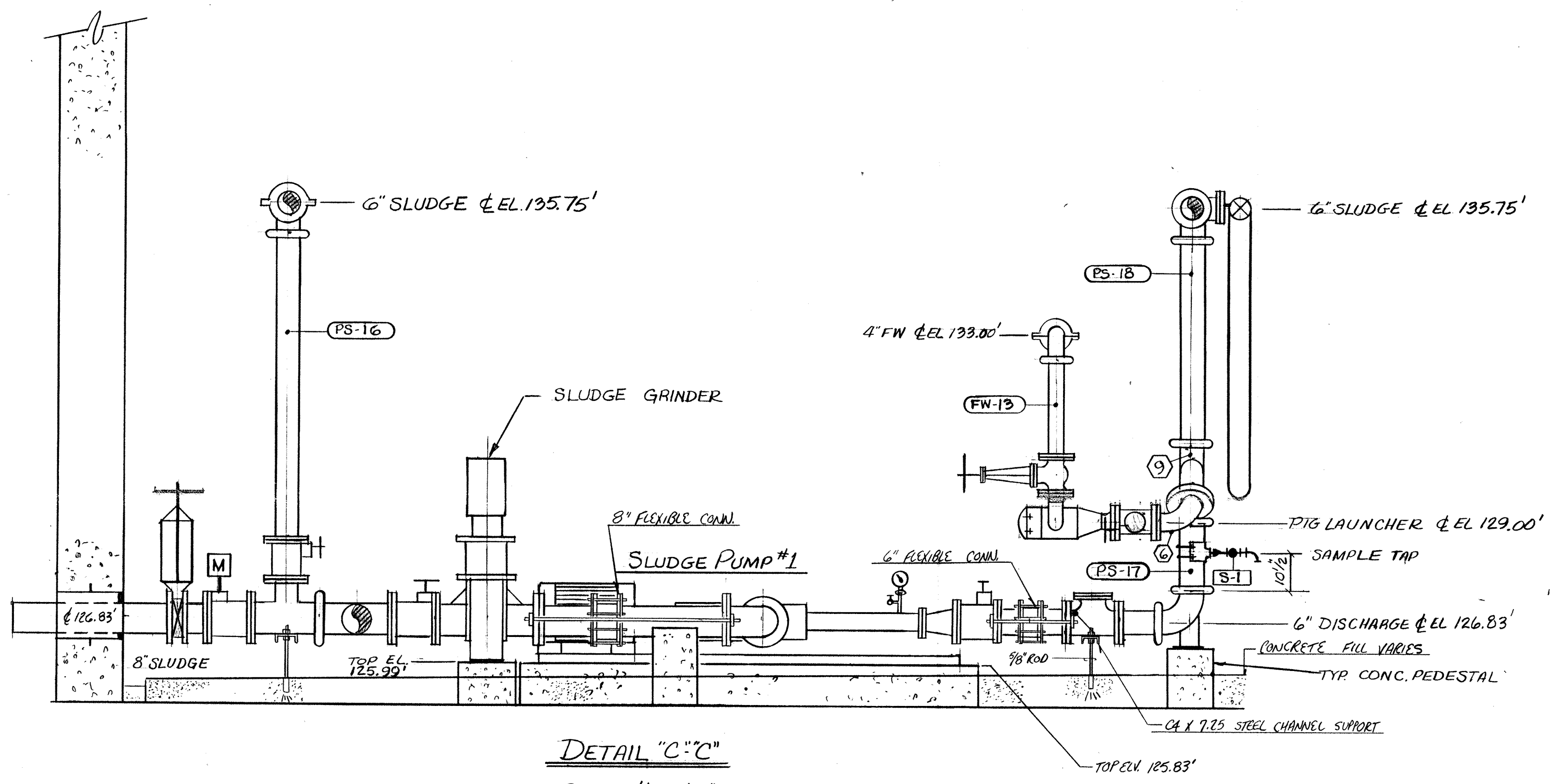
**LITTLE PATUXENT  
WASTEWATER TREATMENT PLANT EXPANSION  
ADDITION NO. 5**  
HOWARD COUNTY, MARYLAND

TITLE: **NORTH PUMP STATION  
PIPING**

JOB: 92125  
DRAWN: WJP  
SCALE: 1/2" = 1'-0"  
DATE: 9-18-92

DRAWING: **PK- 80**

DUCTILE IRON FITTING SCHEDULE			DUCTILE IRON PIPE SCHEDULE		
MARK	DESCRIPTION	QUAN.	MARK	DESCRIPTION	QUAN.
6	6" 90° ELBOW GxG	2	SC-27	6" x 4-5/2" GxG	7
9	6" 45° LATERAL GxGxG	2	SC-28	6" x 1-8 1/2" GxG (NOTE 2" HOLE)	1
			SC-29	6" x 6-9 3/8" GxG	2
			PS-16	6" x 6-7 3/8" GxG	2
			PS-17	6" x 1-7 1/2" GxG (NOTE 2" HOLE)	1
			PS-18	6" x 4-5 1/2" GxG	1
			FW-13	4" x 2-2" GxG	2
			SC-30	6" x 7-8" GxG (NOTE 2" HOLE)	1
			PS-19	6" x 7-7" GxG (NOTE 2" HOLE)	1



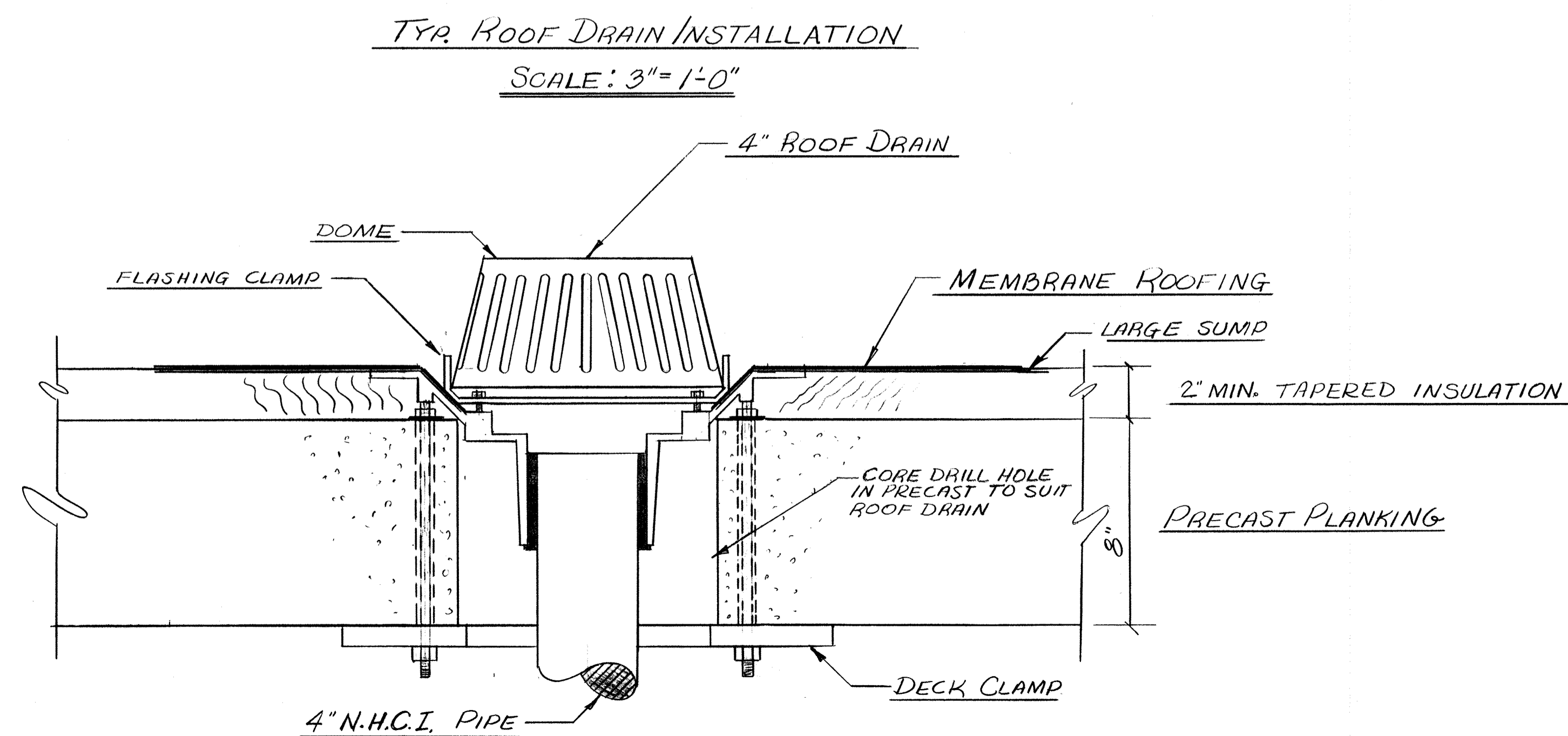
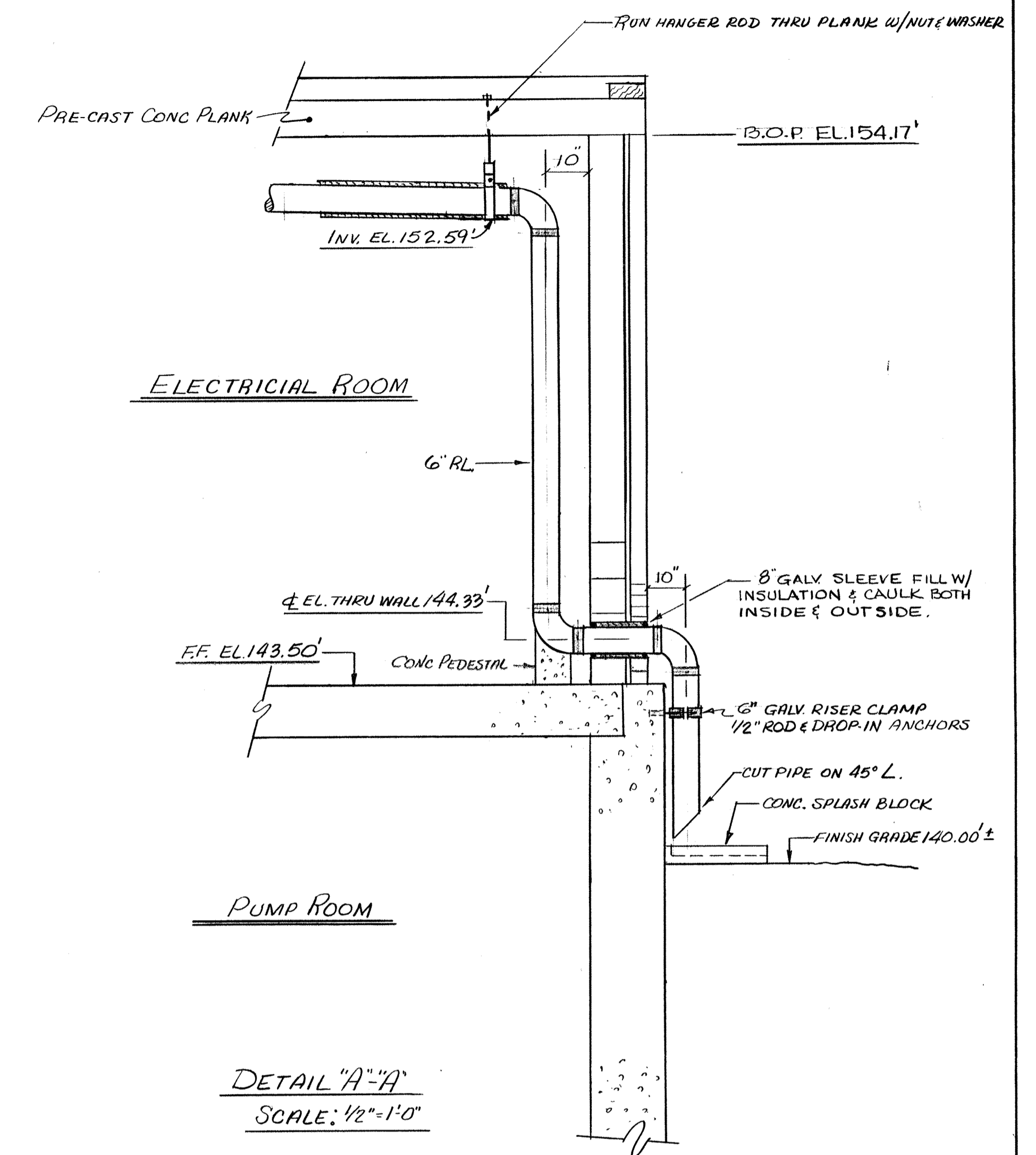
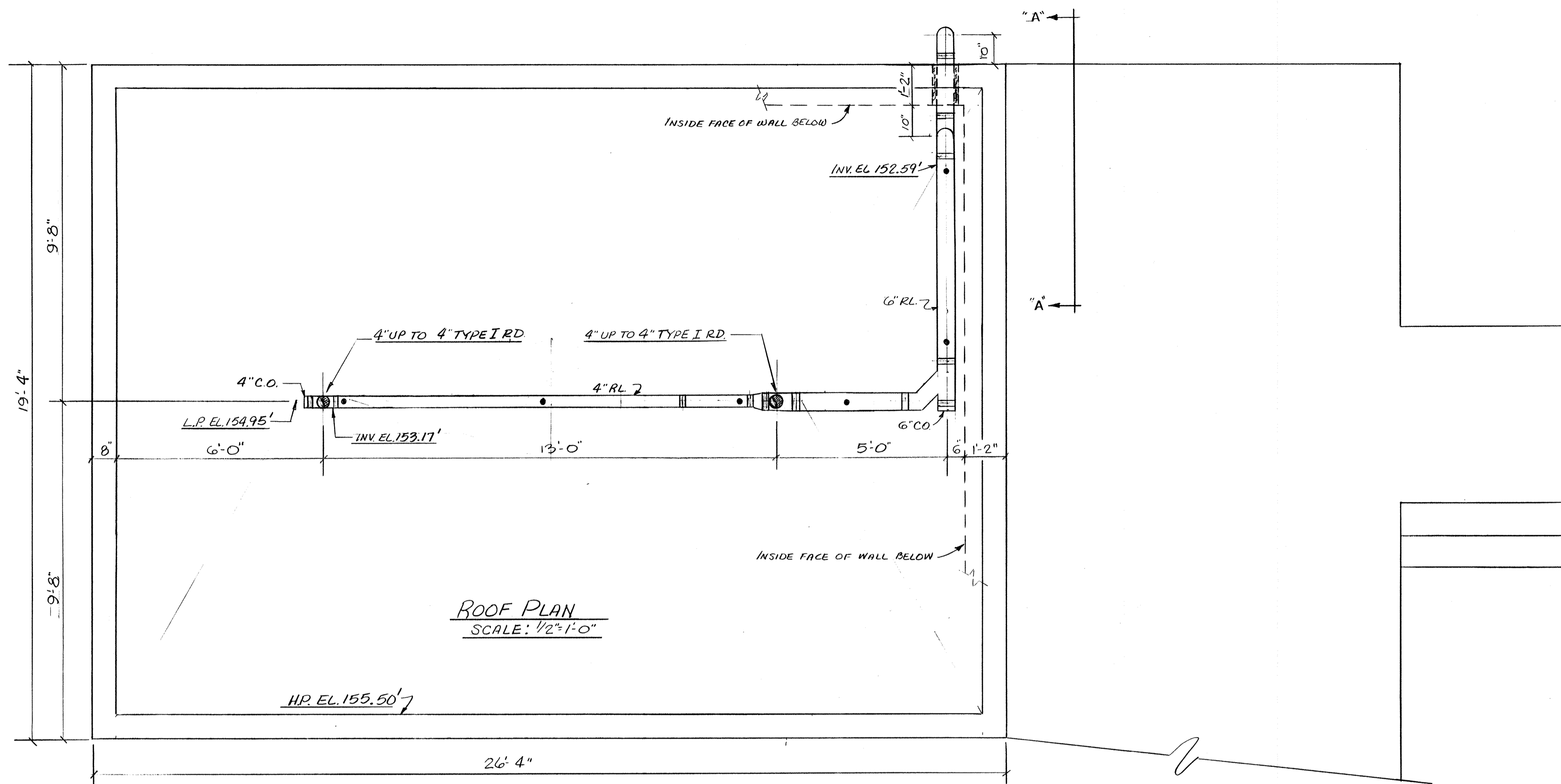
NO.	DATE	REVISION
1	11-28-94	AS BUILT
2	1-05-93	APPROVED AS NOTED / ISSUE FOR CONSTR.

The Pools & Keel Co./James W. Miller, Inc.  
(A Joint Venture)  
4330 Holmes Ferry Road  
Baltimore, MD 21227

**LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5**  
HOWARD COUNTY, MARYLAND

TITLE:  
**NORTH PUMP STATION PIPING DETAILS**

JOB: 92125	DRAWING: RB	DATE: 9-18-92
DRAWN: WJP	PK-81	
SCALE: AS NOTED		

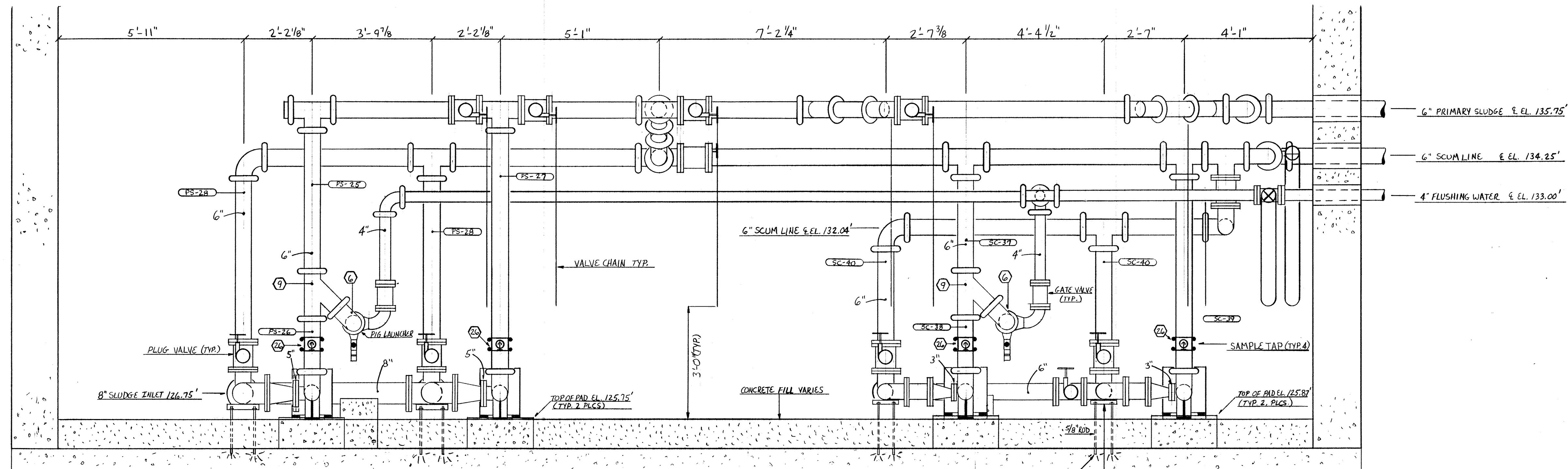


- NOTE:**
- 1) ● - DENOTES CLEVIS HANGERS
  - 2) PIPING TO BE N.H.C.I PIPE & FITTINGS.
  - 3) 1" PIPE INSULATION ON HORIZ. PIPING.

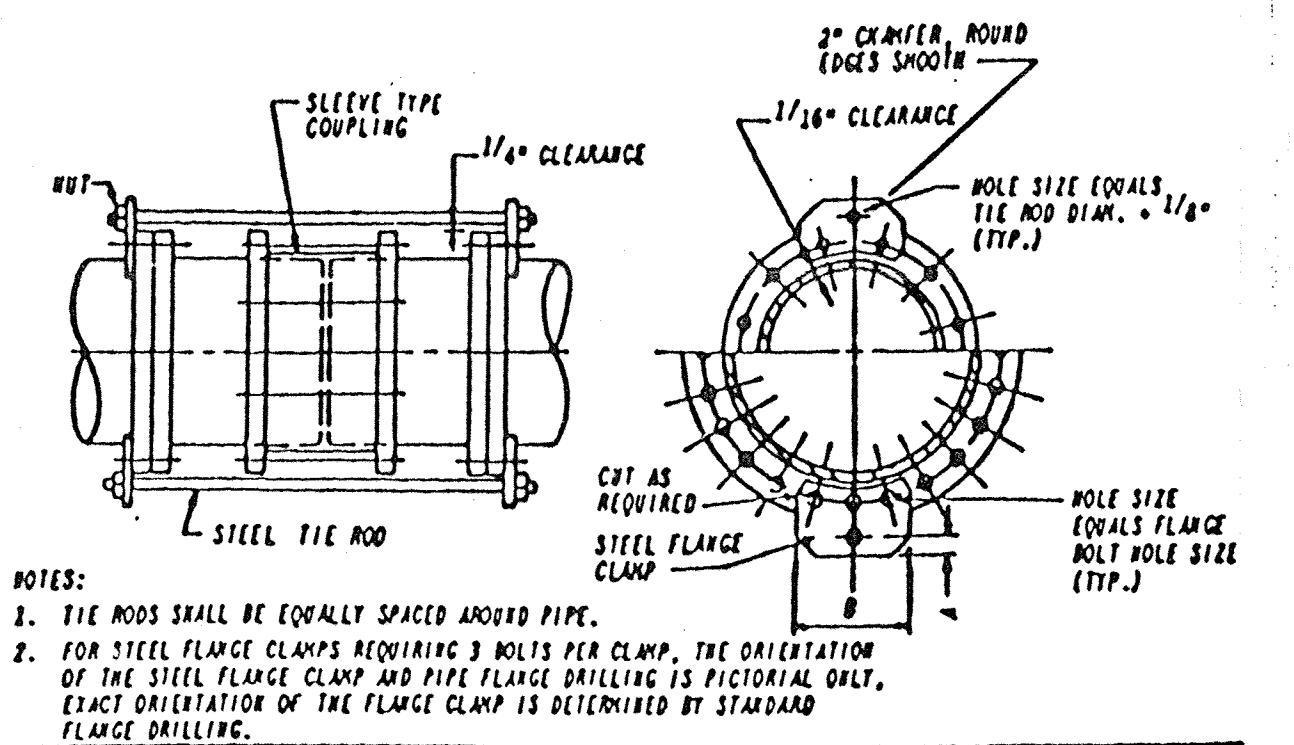
NO.	DATE	REVISION
6-9-94		AS BUILT
12-31-92		APPROVED AS NOTED / ISSUE FOR CONST.
The Poole & Kent Co./James T. Miller, Inc. (A Joint Venture) 4530 Hollins Ferry Road Baltimore, MD 21227		
<b>LITTLE PATUXENT          WASTEWATER TREATMENT PLANT EXPANSION          ADDITION NO. 5</b> HOWARD COUNTY, MARYLAND		
TITLE: TYPICAL RAINLEADER PIPING NORTH & SOUTH PUMPING STATIONS		
JOB: 92125	DRAWING: PK-81A	
DRAWN: RB	SCALE: AS NOTED	
DATE: 11-12-92		





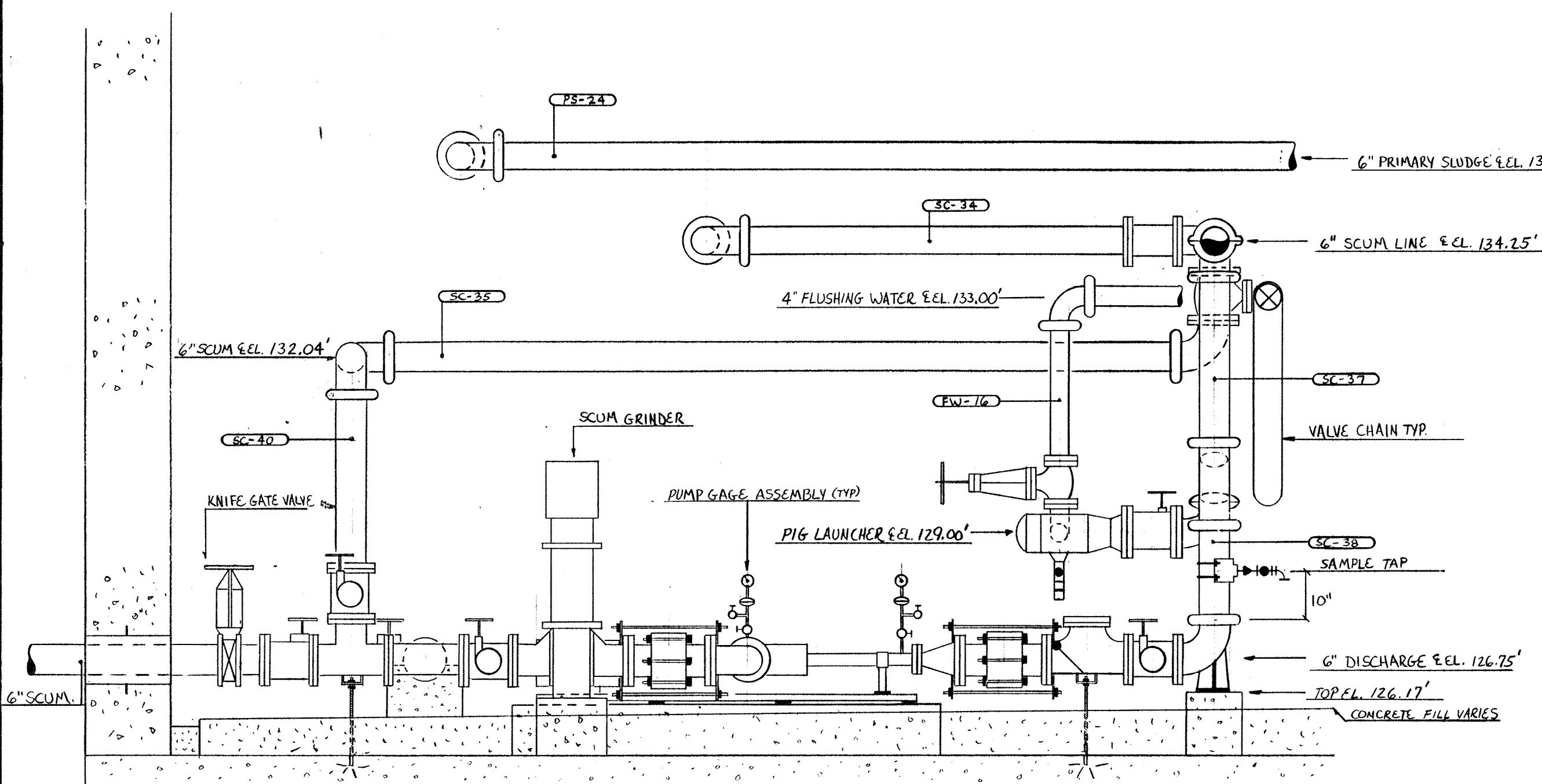


SECTION "A-A" (A-A) PK-82

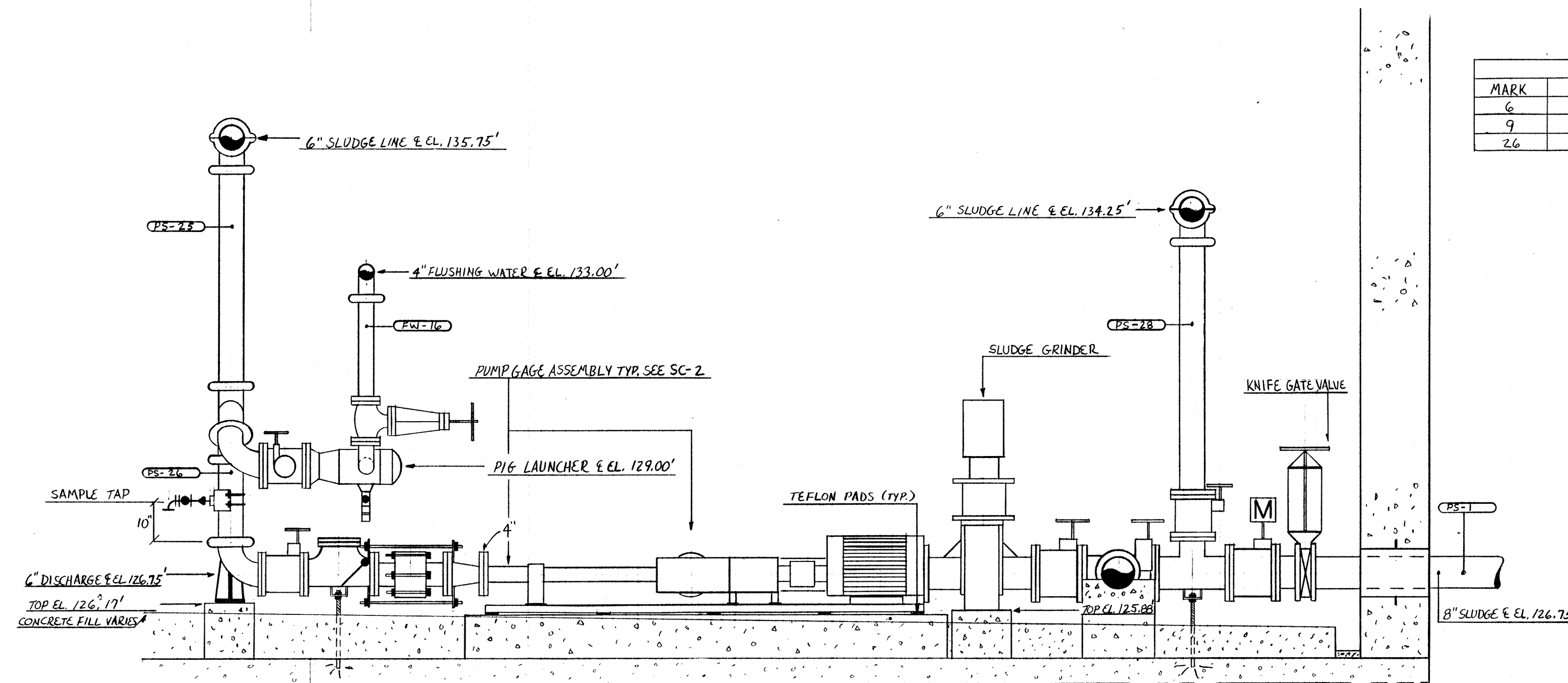


PIPE SIZE	TIERODS			FLANGE CLAMP		
	NO.	DIA.	THICKNESS	NO. OF FLANGE BOLTS PER CLAMP	"A"	"B"
6"	2	1/2"	1/2"	2	2"	7 3/4"
8"	2	5/8"	1/2"	2	2"	8 5/8"
10"	2	3/4"	1/2"	2	2"	7 3/4"
12"	2	1"	1/2"	2	2"	8 1/2"
14"	2	1 1/8"	3/4"	2	2"	9"
16"	2	1 1/4"	7/8"	3	2"	12 1/4"
18"	2	1 3/8"	7/8"	3	2 1/2"	13"
20"	3	1 3/8"	1"	2	2 1/2"	8"
24"	4	1 3/8"	1"	2	2 1/2"	8 3/4"
30"	4	1 3/4"	1"	3	2 1/2"	12 1/4"
36"	6	1 3/4"	1 1/4"	2	2 1/2"	8 1/2"
42"	8	1 3/4"	1 1/4"	3	2 1/2"	12 3/4"
48"	8	1 3/4"	1 1/4"	3	2 1/2"	12 1/2"

TYP. RESTRAINED COUPLING DETAIL



SECTION "B-B" (B-B) PK-81 SCUM PUMP #2

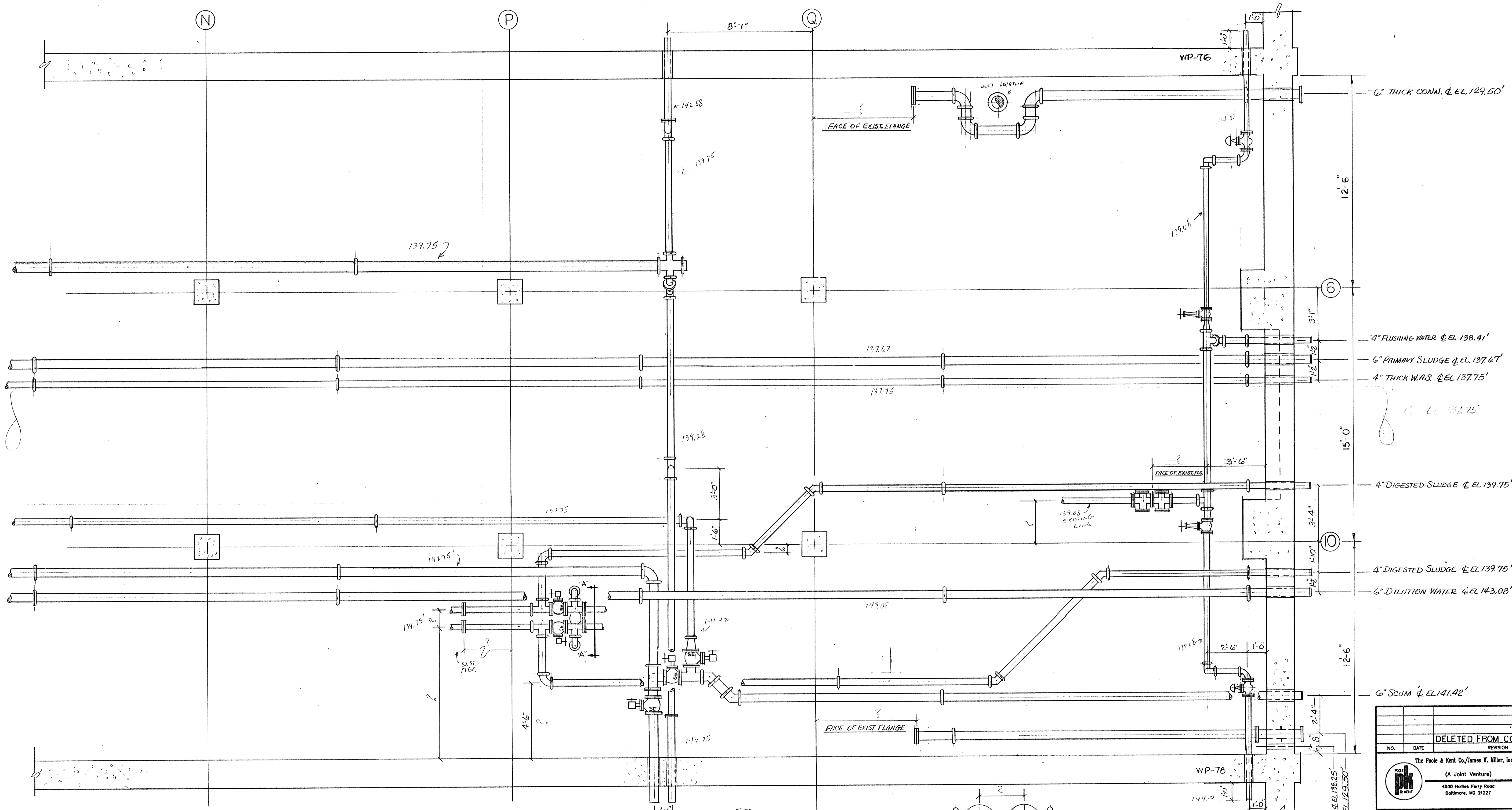


SECTION "C-C" (C-C) PK-82 SLUDGE PUMP #2

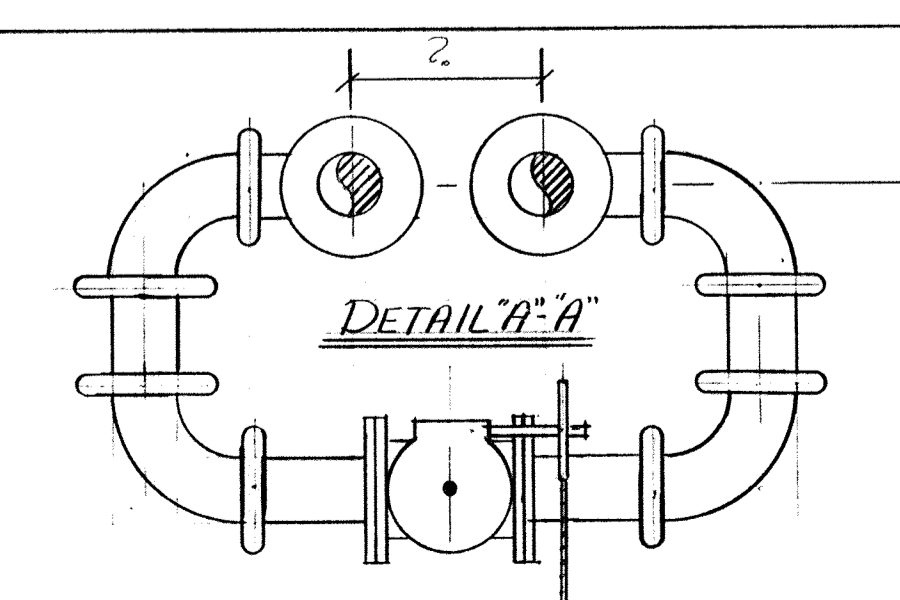
DUCTILE IRON FITTINGS		
MARK	DESCRIPTION	QUANTITY
6	6" 90° EL. GxG	2
9	6" 45° LATERAL GxG	2
26	6" x 2" SERVICE SADDLE	4

**NOTE**  
 1) DAD ELEVATIONS TAKEN FROM 125.00'  
 2) CONCRETE FILL VARIES FROM 126.00' TO 125.64'  
 3) SEE PK-82 FOR PLAN VIEW

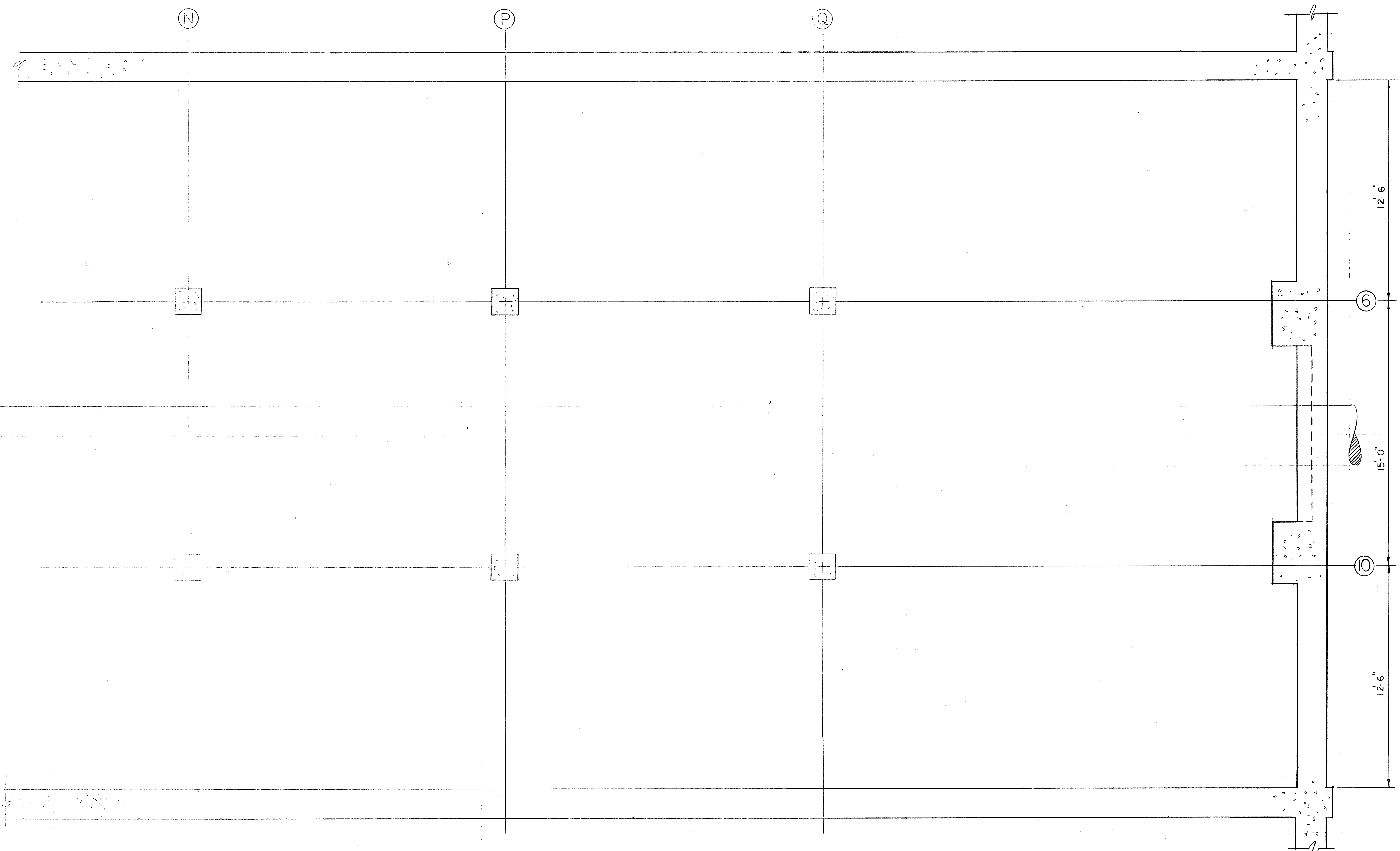
6-10-94 AS BUILT	
1-6-93	APPROVED AS NOTED/ISSUE FOR CONST.
NO.	DATE
The Poole & Kent Co./James W. Miller, Inc. (A Joint Venture) 4530 Hollins Ferry Road Baltimore, MD 21227	
LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5 HOWARD COUNTY, MARYLAND	
TITLE: SOUTH PUMP STATION PIPING DETAILS	
JOB: 92125	DRAWING: PK-83
DRAWN: D. OTTE	SCALE: 1/2" = 1'-0"
DATE: 12-14-92	



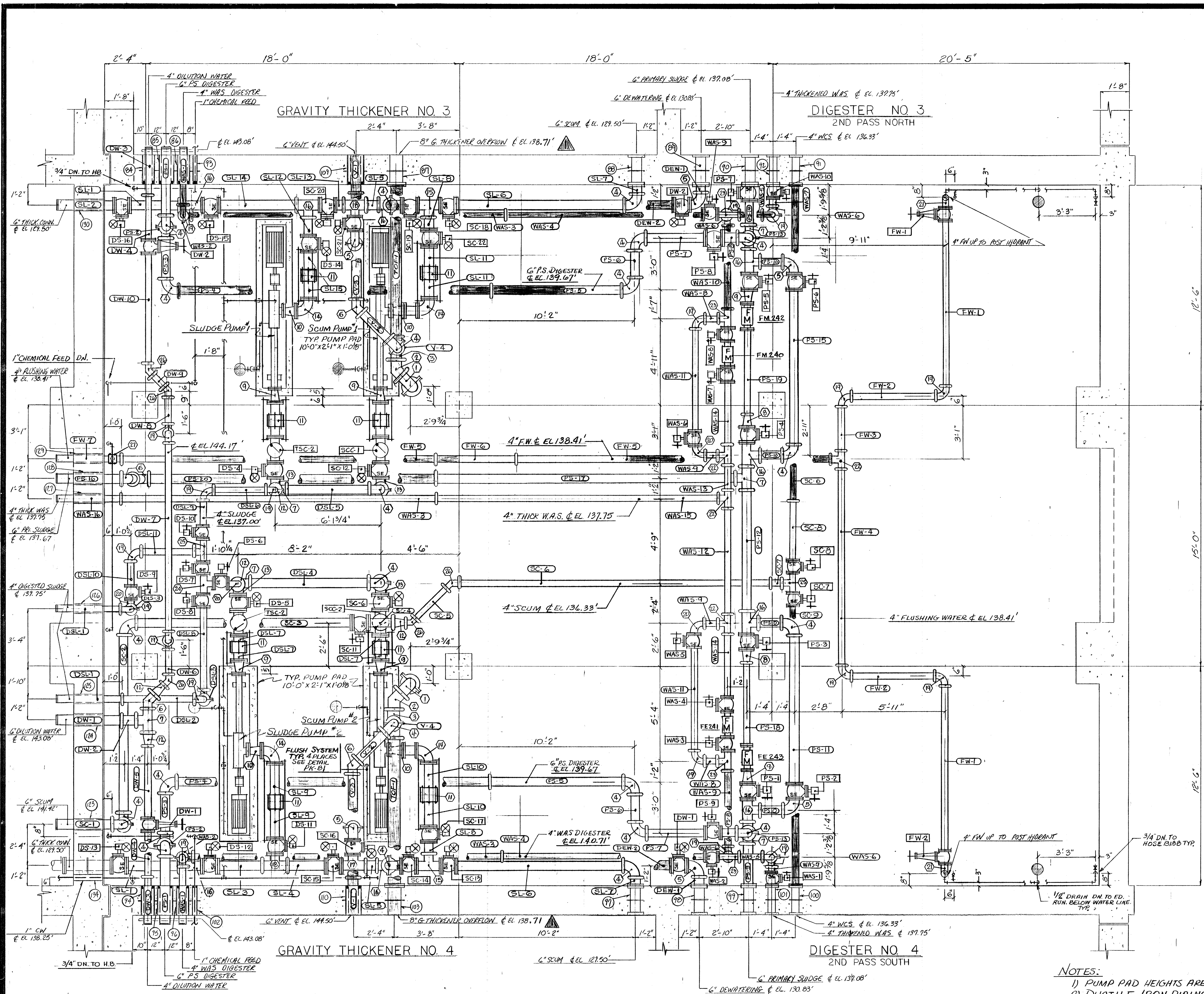
- 6" THICK CONN. @ EL. 129.50'
- 12'-6"
- 4" FLUSHING WATER @ EL. 138.41'
- 6" PRIMARY SLUDGE @ EL. 137.67'
- 4" THICK W.A.S. @ EL. 137.75'
- EL. 137.75
- 15'-0"
- 4" DIGESTED SLUDGE @ EL. 139.75'
- 3'-6"
- 4" DIGESTED SLUDGE @ EL. 139.75'
- 3'-4"
- 6" DILUTION WATER @ EL. 143.08'
- 11'-0"
- 12'-6"
- 6" SCUM @ EL. 141.92'



<b>DELETED FROM CONTRACT</b>	
NO.	REVISION
The Poole & Kent Co./James V. Miller, Inc. (A Joint Venture) 4330 Mattina Ferry Road Baltimore, MD 21227	
<b>LITTLE PATUXENT          WASTEWATER TREATMENT PLANT EXPANSION          ADDITION NO. 5</b> HOWARD COUNTY, MARYLAND	
TITLE:	
<b>DIGESTER PIPE GALLERY</b>	
<b>PROC. PIPING PLAN</b>	
JOB: 92125	DRAWING:
DRAWN: RB	<b>PK-93</b>
SCALE: 3/8" = 1'-0"	DATE:



DELETED FROM CONTRACT	
NO.	REVISION
<small>The Poole &amp; Kent Co./James W. Miller, Inc.</small> <small>(A Joint Venture)</small> <small>4330 Hutton Ferry Road</small> <small>Baltimore, MD 21227</small>	
<b>LITTLE PATUXENT</b> <b>WASTEWATER TREATMENT PLANT EXPANSION</b> <b>ADDITION NO. 5</b> <small>HOWARD COUNTY, MARYLAND</small>	
TITLE:	
<u>DIGESTER PIPE GALLERY</u>	
<u>AIR PIPING PLAN</u>	
JOB: 92125	DRAWING:
DRAWN: RB	PK-94
SCALE: 3/8" = 1'-0"	DATE:

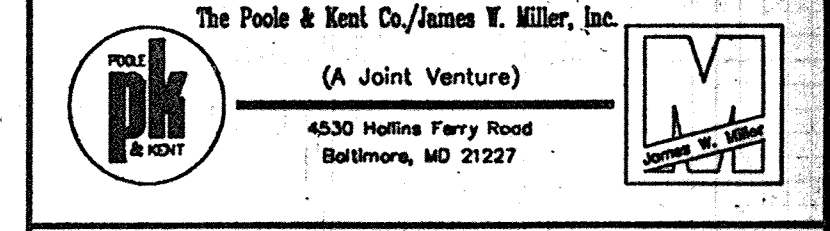


DUCTILE IRON FITTING SCHEDULE		
MARK	DESCRIPTION	QUANTITY
1	8" 90° ELBOW GXG	2
2	8" 45° ELBOW GXG	2
3	8X6" RED. TEE GXGXG	2
4	6" 90° ELBOW GXG	2.5
5	6" 90° ELBOW GXF	6
6	6" 45° ELBOW GXG	5
7	6" TEE GXGXG	6
8	6X4" REDUCER FXG	2
9	6X4" REDUCER FXF	6
10	6X5" REDUCER FXF	4
11	6" DRESSER COUPLING	8
12	6X4" REDUCER GXG	9
13	6" 90° BASE ELBOW	4
14	6" 90° ELBOW FXF	4
15	6" TEE FXFXG	2
16	6" TEE GXFXG	9
17	6" TEE FXGXF	1
18	6" TEE GXGXF	2
19	4" 90° ELBOWS GXG	2.6
20	4" 90° ELBOWS FXG	4
21	4" 90° ELBOWS FXG 3/4" TAP IN R. Pos.	2
22	4" TEE GXGXG	4
23	4" TEE GXFXG	4
24	4" TEE FXFXF	1
25	4" TEE FXFXG	2
26	4" 45° ELBOWS GXG	5
27	8" STYLE 341 VIC-FLANGES	0
28	6" S S S S	23
29	4" S S S S	17
30	ROCKWELL #313 SERVICE SADDLE DR=	1

DUCTILE IRON PIPE SCHEDULE			DUCTILE IRON PIPE SCHEDULE		
MARK	DESCRIPTION	QUAN.	MARK	DESCRIPTION	QUAN.
TOF-1	8" X 8'-8 1/2" GXF	2	FW-1	4" X 9'-5 7/8" FXG	2
V-1	6" X 2'-2" GXPE	2	FW-2	4" X 4'-10" GXG	2
V-2	6" X 2'-2 1/4" GXG	2	FW-3	4" X 2'-6" GXG	1
V-3	6" X 6'-2 1/4" GXG	2	FW-4	4" X 11'-4" GXG	1
V-4	6" X 4'-4 1/2" GXG	2	FW-5	4" X 18'-0" GXG	2
PS-1	6" X 3'-10" GXG	2	FW-6	4" X 4'-9 1/2" GXG	1
PS-2	6" X 2'-0 7/8" GXG	2	FW-7	4" X 3'-9" GXG W/1" HOLE	1
PS-3	6" X 2'-4" GXG	2	SC-1	6" X 3'-3" GXG	1
PS-4	6" X 18'-0" GXG	1	SC-2	6" X 10'-2" GXG	1
PS-5	6" X 7'-8" GXG	2	SC-3	6" X 12'-5 3/8" FXG	1
PS-6	6" X 1'-8" GXG	2	SC-4	6" X 1'-4" FXG	1
PS-7	6" X 3'-3 3/8" GXF	2	SC-5	4" X 3'-3 1/2" GXG	1
PS-8	6" X 1'-0" FXG	2	SC-6	4" X 18'-0" GXG	1
PS-9	6" X 2'-4" FXG	1	SC-7	4" X 10 1/2" GXG	1
PS-10	6" X 1'-4" GXG	4	SC-8	4" X 3'-4 3/8" FXG	1
PS-11	6" X 8'-5 3/8" FXG	1	SC-9	4" X 16'-0 3/8" FXF	1
PS-12	6" X 6'-11" GXG	1	WAS-1	4" X 3'-5 1/8" GXG	2
PS-13	6" X 1'-3 1/2" GXG	2	WAS-2	4" X 1'-2 3/8" GXG	2
PS-14	6" X 1'-5 3/8" FXG	1	WAS-3	4" X 18'-0" GXG	2
PS-15	6" X 8'-10 3/8" FXG	1	WAS-4	4" X 11'-5 1/8" FXG	2
PS-16	6" X 3'-9" GXG	1	WAS-5	4" X 1'-5" GXG	2
PS-17	6" X 17'-4" GXG	1	WAS-6	4" X 11'-10 1/2" GXG	2
PS-18	4" X 4'-7 3/4" FXG	1	WAS-7	4" X 6" FXG	2
PS-19	4" X 5'-0 3/4" FXG	1	WAS-8	4" X 9" GXG	4
SL-1	6" X 2'-11 1/4" FXG	2	WAS-9	4" X 4'-3 3/8" GXG	1
SL-2	6" X 3'-2 1/8" FXG	1	WAS-10	4" X 4'-8 3/8" GXG	1
SL-3	6" X 2'-4 3/8" FXG	1	WAS-11	4" X 5'-11 1/8" FXG	2
SL-4	6" X 2'-6 3/8" FXG	1	WAS-12	4" X 6'-0" GXG	1
SL-5	6" X 7'-3/8" GXG	2	WAS-13	4" X 1'-5" GXG	1
SL-6	6" X 3'-0 3/8" FXG	2	WAS-14	4" X 3'-9 1/8" FXG	2
SL-7	6" X 6" FXG	2	WAS-15	4" X 12'-3 1/2" GXG	1
SL-8	6" X 8" FXG	2	WAS-16	4" X 3'-9" GXG	1
SL-9	6" X 2'-2" FXPE	2	DW-1	4" X 3'-9" GXG	1
SL-10	6" X 1'-9 1/2" FXPE	2	DW-2	6" X 10" GXG	1
SL-11	6" X 1'-5 1/2" FXPE	2	DW-3	4" X 2'-8" GXG	1
SL-12	6" X 1'-0" FXG	1	DW-4	4" X 2'-7 3/8" FXG	1
SL-13	6" X 6'-8" GXG	1	DW-5	4" X 4'-2 3/8" FXG	1
SL-14	6" X 2'-2 5/8" FXG	1	DW-6	4" X 1'-5 3/4" GXG	1
SL-15	6" X 1'-4 3/4" FXPE	2	DW-7	4" X 10'-11" GXG	1
DSL-1	4" X 3'-9" GXG	2	DW-8	4" X 1'-4 1/2" GXG	1
DSL-2	4" X 4'-9 3/4" GXG	2	DW-9	4" X 10" GXG	1
DSL-3	4" X 1'-8" GXG	2	DW-10	4" X 6'-5 3/4" FXG	2
DSL-4	6" X 6'-10" GXG	1	DEW-1	6" X 6" FXG	2
DSL-5	6" X 4'-9 3/4" GXG	1	DEW-2	6" X 15'-8" FXG	2
DSL-6	4" X 2'-3 1/2" GXG	1	PS-20	6" X 16'-7" GXG	1
DSL-7	6" X 8 1/2" FXPE	4			
DSL-8	4" X 4'-10 3/16" GXG	1			
DSL-9	4" X 1'-4 1/2" FXG	1			
DSL-10	4" X 1'-6 5/16" FXG	1			
DSL-11	4" X 3'-2 1/4" GXG	1			
DSL-12	6" X 4'-2 1/2" GXG	4			

THE 4-DSL-12 PIECES ARE THE DROPS FOR THE PUMP DISCHARGES

DELETED FROM CONTRACT		
NO.	DATE	REVISION
121592		ELEV CHANGE PER RFI #127



**LITTLE PATUXENT**  
**WASTEWATER TREATMENT PLANT EXPANSION**  
**ADDITION NO. 5**  
 HOWARD COUNTY, MARYLAND

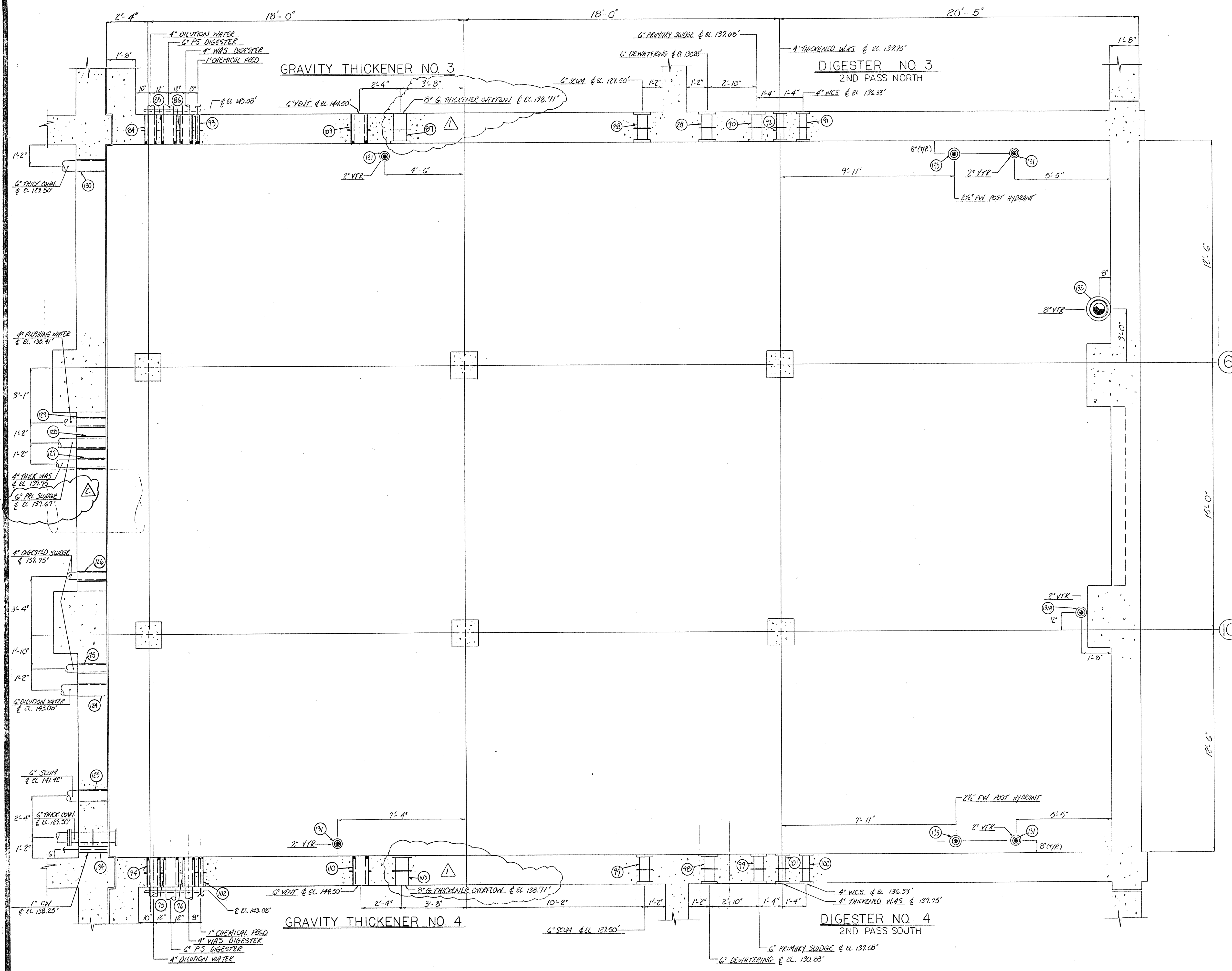
TITLE:  
**DIGESTER PIPE GALLERY**  
**EXTENSION**  
**PROCESS PIPING**

JOB: PK-92125  
 DRAWN: RB  
 SCALE: 3/8" = 1'-0"  
 DATE: 12-15-92

DRAWING:  
**PK-96**

- NOTES:
- 1) PUMP PAD HEIGHTS ARE FROM EL. 127.50'
  - 2) DUCTILE IRON PIPING ONLY SHOWN ON THIS DRAWING.
  - 3) HANGERS & SUPPORTS SHOWN ON PK-96-B
  - 4) SJS AIR PIPING SHOWN ON PK-97

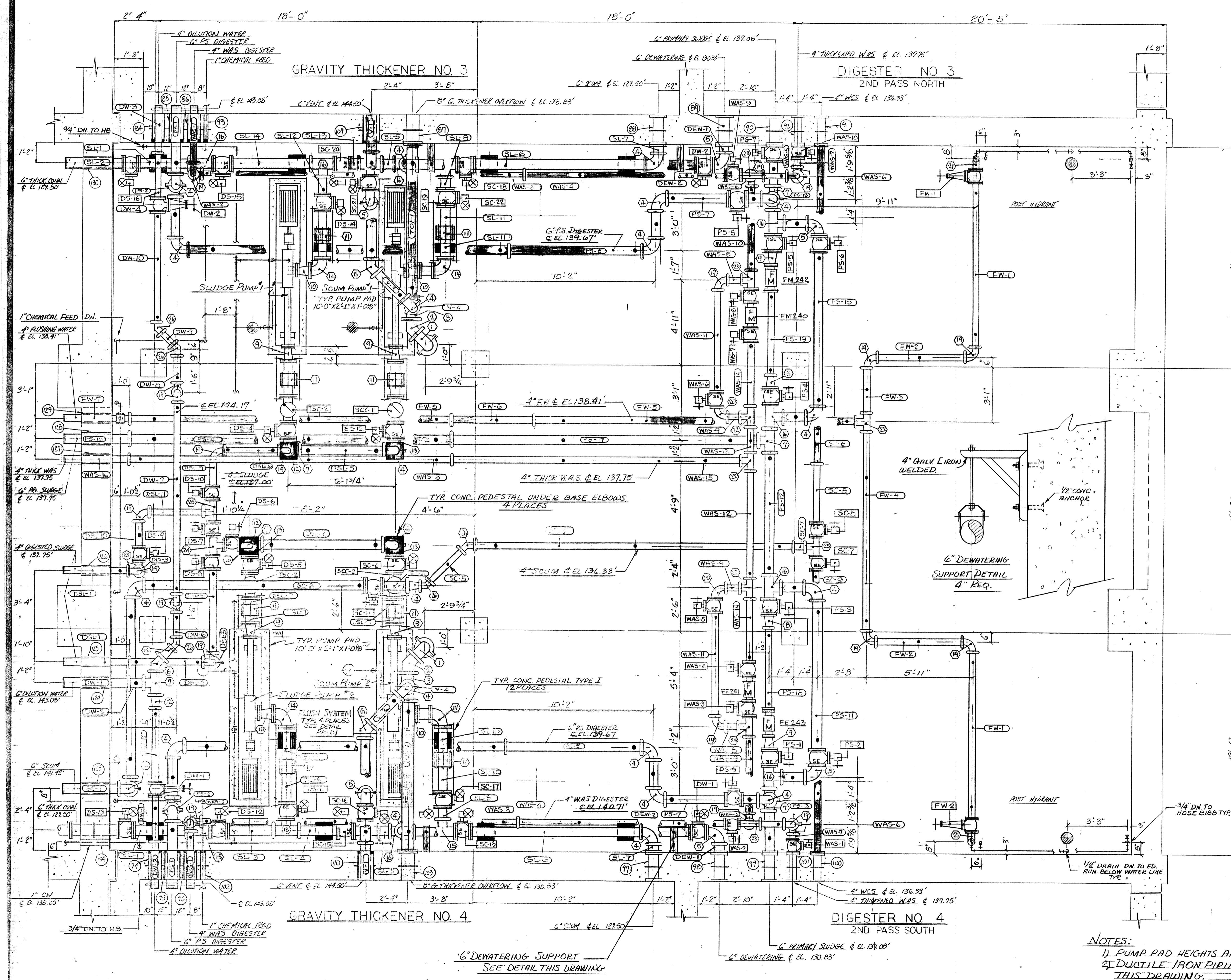




WALL PENETRATION SCHEDULE			
MARK	SERVICE	DESCRIPTION	QUANTITY
84	4" DL W	8" X 12" GALV SLV W/WS	1
85	6" PS	10" X 12" GALV SLV W/WS	1
86	4" WAS	8" X 12" GALV SLV W/WS	1
87	8" G.T.O	8" X 12" DI WALL CASTING FLXFL	1
88	6" SCUM	6" X 12" DI WALL CASTING FLXFL	1
89	6" DENTR	6" X 12" DI WALL CASTING FLXFL	1
90	6" PS	6" X 12" DI WALL CASTING FLXFL	1
91	4" WCS	4" X 12" DI WALL CASTING FLXFL	1
92	4" WAS	4" X 12" DI WALL CASTING FLXFL	1
93	1" CHEM	2 1/2" X 12" GALV SLV W/WS	1
94	4" DL W	8" X 12" GALV SLV W/WS	1
95	6" PS	10" X 12" GALV SLV W/WS	1
96	4" WAS	8" X 12" GALV SLV W/WS	1
97	6" SCUM	6" X 12" DI WALL CASTING FLXFL	1
98	6" DENTR	6" X 12" DI WALL CASTING FLXFL	1
99	6" PS	6" X 12" DI WALL CASTING FLXFL	1
100	4" WCS	4" X 12" DI WALL CASTING FLXFL	1
101	4" WAS	4" X 12" DI WALL CASTING FLXFL	1
102	1" CHEM	2 1/2" X 12" GALV SLV W/WS	1
103	8" G.T.O	8" X 12" DI WALL CASTING FLXFL	1
109	6" VENT	10" X 12" GALV SLV W/WS	1
110	6" VENT	10" X 12" GALV SLV W/WS	1
123	6" SCUM	8" CORE DRILLED HOLE	1
124	6" DL W	8" CORE DRILLED HOLE	1
125	4" DIG SL	6" CORE DRILLED HOLE	1
126	4" DL SL	6" X 12" GALV SLV	1
127	4" TRNWS	6" X 12" GALV SLV	1
128	6" PS	8" X 12" GALV SLV	1
129	4" FN	6" X 12" GALV SLV	1
130	6" THOWN	8" CORE DRILLED HOLE	1
131	8" VTR	4" X 10" GALV SLV W/WS	4
131A	2" VTR	4" X 12" GALV SLV W/WS	1
132	8" VTR	12" X 12" GALV SLV W/WS	1
133	2 1/2" FN	5" X 10" GALV SLV W/WS	2
134	1" CW	4" CORE DRILLED HOLE	1

DELETED FROM CONTRACT		
12-15-92	COORDINATE WITH PK-96	
11-23-92	REF NO. 127	
NO.	DATE	REVISION
The Poole & Kent Co./James F. Miller, Inc.		
(A Joint Venture)		
4530 Hollins Ferry Road Baltimore, MD 21227		
<b>LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5</b> HOWARD COUNTY, MARYLAND		
<b>TITLE: DIGESTER PIPE GALLERY EXTENSION PIPING PENETRATIONS</b>		
JOB: PK-92125	DRAWING:	
DATE: 11-07-92	SCALE: 3/8" = 1'-0"	FK-96A





DUCTILE IRON FITTING SCHEDULE		
MARK	DESCRIPTION	QUANTITY
1	8" 90° ELBOW G X G	2
2	8" 45° ELBOW G X G	2
3	8 X 6 REDUCER G X G	2
4	6" 90° ELBOW G X G	2.5
5	6" 45° ELBOW G X G	6
6	6" 45° ELBOW G X G	3
7	6" TEE G X G	16
8	6 X 4 REDUCER F X G	2
9	6 X 4 REDUCER F X F	2
10	6 X 5 REDUCER F X F	4
11	6" DRESSER COUPLING	3
12	6 X 4 REDUCER G X G	3
13	6" 90° CASE ELBOW	1
14	6" 90° ELBOW F X F	4
15	6" TEE F X F	2
16	6" TEE G X F X G	9
17	6" TEE F X G X F	1
18	6" TEE G X G X F	2
19	4" 90° ELBOWS G X G	2.6
20	4" 90° ELBOWS F X G	2
21	4" 90° ELBOWS F X G 3/4" TAP IN R POS.	2
22	4" TEE G X G X G	4
23	4" TEE G X F X G	4
24	4" TEE F X F X F	1
25	4" TEE F X F X G	2
26	4" 45° ELBOWS G X G	5
27	8" STYLE 341 VIC-FLANGES	2
28	4" S S S S	7.8
29	4" S S S S	4.1

DUCTILE IRON PIPE SCHEDULE			DUCTILE IRON PIPE SCHEDULE		
MARK	DESCRIPTION	QUAN.	MARK	DESCRIPTION	QUAN.
TOF-1	8" X 8'-0 3/16" G X F	2	FW-1	4" X 4'-10" F X G	2
V-1	6" X 2'-2" G X PE	2	FW-2	4" X 4'-10" G X G	2
V-2	6" X 2'-2 2/16" G X G	2	FW-3	4" X 2'-6" G X G	1
V-3	6" X 6' 2 1/4" G X G	2	FW-4	4" X 11'-4" G X G	1
V-4	6" X	2	FW-5	4" X 18'-0" G X G	2
PS-1	6" X 3'-10" G X G	2	FW-6	4" X 4'-9 1/2" G X G	1
PS-2	6" X 2'-0 7/8" G X G	2	FW-7	4" X 3'-9 1/2" G X G W/1" HOLE	1
PS-3	6" X 2'-4" G X G	2	SC-1	6" X 3'-3" G X G	1
PS-4	6" X 13'-0" G X G	2	SC-2	6" X 10'-2" G X G	1
PS-5	6" X 7'-8" G X G	2	SC-3	6" X 12'-5 3/8" F X G	1
PS-6	6" X 1'-8" G X G	2	SC-4	6" X 1'-4" F X G	1
PS-7	6" X 3'-9 3/8" G X F	2	SC-5	4" X 3'-3 1/16" G X G	1
PS-8	6" X 1'-0" F X G	2	SC-6	4" X 18'-0" G X G	1
PS-9	6" X 2'-4" F X G	1	SC-7	4" X 10 1/2" G X G	1
PS-10	6" X 1'-4" G X G	4	SC-8	4" X 3'-4 3/8" F X G	1
PS-11	6" X 8'-5 3/8" F X G	1	SC-9	4" X 16'-0 3/8" F X F	1
PS-12	6" X 6'-11" G X G	1	WAS-1	4" X 3'-5 1/8" G X G	2
PS-13	6" X 1'-3 1/16" G X G	2	WAS-2	4" X 1'-3 3/8" G X G	2
PS-14	6" X 1'-3 3/8" F X G	1	WAS-3	4" X 15'-0" G X G	2
PS-15	6" X 2'-10 3/8" F X G	1	WAS-4	4" X 1'-5 3/8" F X G	2
PS-16	6" X 3'-9" G X G	1	WAS-5	4" X 1'-5" G X G	1
PS-17	6" X 17'-4" G X G	1	WAS-6	4" X 1'-10 1/2" G X G	4
PS-18	4" X 4'-7 3/4" F X G	1	WAS-7	4" X 6" F X G	2
PS-19	4" X 5'-0 3/4" F X G	1	WAS-8	4" X 9" G X G	4
SL-1	6" X 2'-11 1/4" F X G	2	WAS-9	4" X 4'-3 3/8" G X G	1
SL-2	6" X 3'-3 1/8" F X G	1	WAS-10	4" X 4'-8 3/8" G X G	1
SL-3	6" X 2'-4 3/8" F X G	1	WAS-11	4" X 5'-11 7/8" F X G	2
SL-4	6" X 7'-3/8" G X G	1	WAS-12	4" X 6'-0" G X G	1
SL-5	6" X 9'-3 3/8" F X G	2	WAS-13	4" X 1'-5" G X G	1
SL-6	6" X 9'-3 3/8" F X G	2	WAS-14	4" X 3'-3 3/8" F X G	2
SL-7	6" X 6" F X G	2	WAS-15	4" X 10'-3 1/2" G X G	1
SL-8	6" X 8" F X G	2	WAS-16	4" X 3'-9" G X G	1
SL-9	6" X 2'-2" F X PE	2	DW-1	6" X 3'-3" G X G	1
SL-10	6" X 1'-9 1/8" F X PE	2	DW-2	6" X 10" G X G	1
SL-11	6" X 1'-5 1/2" F X PE	2	DW-3	4" X 2'-8" G X G	1
SL-12	6" X 1'-0" F X G	1	DW-4	4" X 2'-7 3/8" F X G	1
SL-13	6" X 6/8" G X G	1	DW-5	4" X 4'-2 3/8" F X G	1
SL-14	6" X 4'-2 3/8" F X G	1	DW-6	4" X 1'-5 3/4" G X G	1
SL-15	6" X 1'-4 3/4" F X PE	2	DW-7	4" X 10'-11" G X G	1
DSL-1	4" X 3'-9" G X G	2	DW-8	4" X 1'-4 1/2" G X G	1
DSL-2	4" X 4'-9 3/4" G X G	1	DW-9	4" X 10" G X G	1
DSL-3	4" X 1'-8" G X G	2	DW-10	4" X 6'-5 3/4" F X G	2
DSL-4	6" X 6'-10" G X G	1	DEW-1	6" X 6" F X G	2
DSL-5	4" X 4'-0" G X G	1	DEW-2	6" X 15'-8" F X G	2
DSL-6	4" X 2'-0 1/2" G X G	1			
DSL-7	6" X 8 1/2" F X PE	4			
DSL-8	4" X 4'-10 3/16" G X G	1			
DSL-9	4" X 1'-4 1/16" F X G	1			
DSL-10	4" X 1'-6 1/16" F X G	1			
DSL-11	4" X 3'-2 1/4" G X G	1			
DSL-12	6" X 4'-2 1/2" G X G	4			

THE 4" DSL-12 PIECES ARE THE DROPS FOR THE PUMP DISCHARGES

- NOTES:
- 1) PUMP PAD HEIGHTS ARE FROM EL. 127.58
  - 2) DUCTILE IRON PIPING HANGERS & SUPPORTS ONLY SHOWN ON THIS DRAWING.
  - 3) ● DENOTES CLEVIS HANGER LOCATIONS.
  - 4) SIS AIR PIPING SHOWN ON PK-97
  - 5) ■ DENOTES CONC. PEDESTALS

DELETED FROM CONTRACT

NO. DATE REVISION

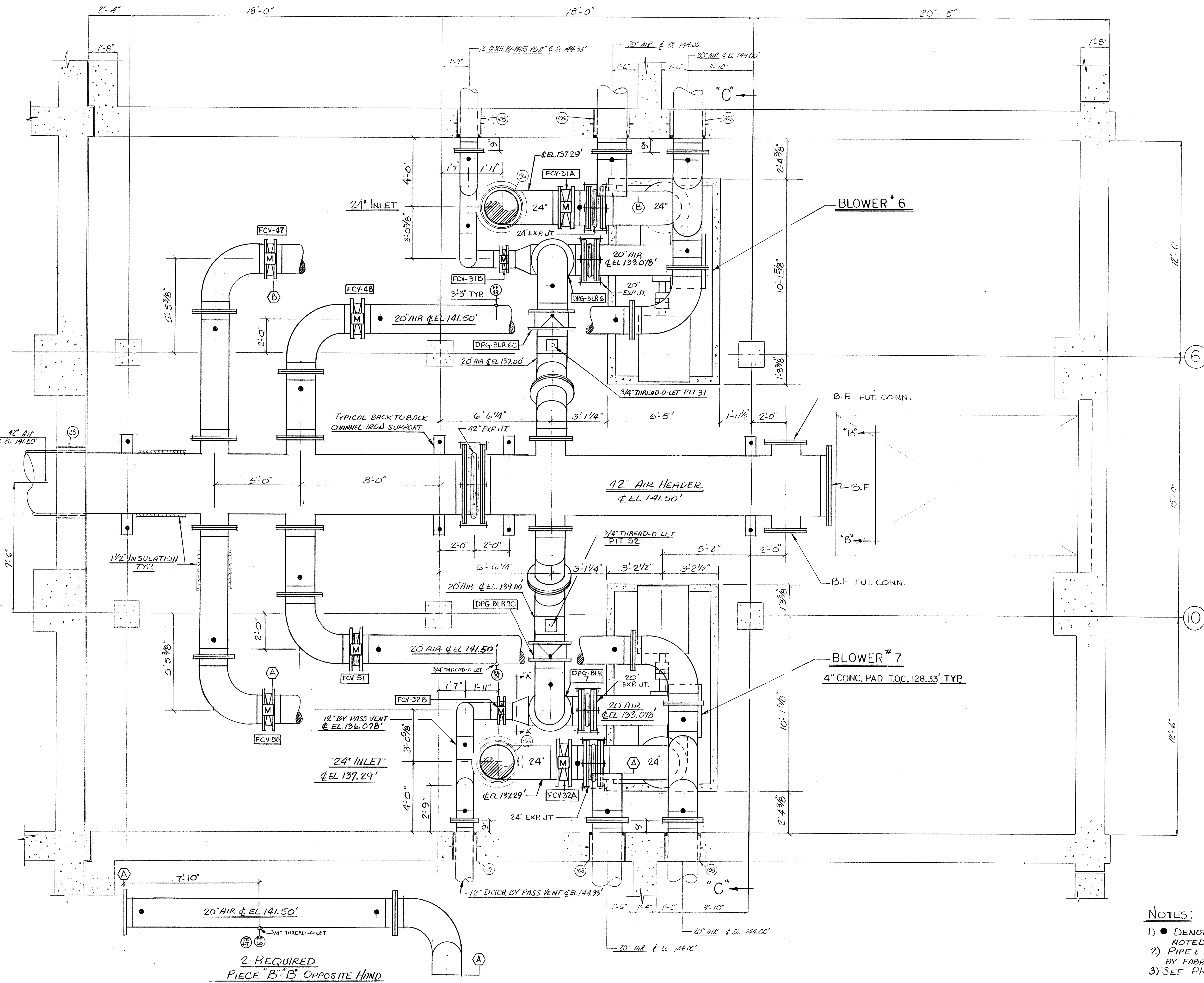
The Poole & Reed Co./James V. Miller, Inc.  
(A Joint Venture)  
4530 Holmes Ferry Road  
Baltimore, MD 21227

LITTLE PATUXENT  
WASTEWATER TREATMENT PLANT EXPANSION  
ADDITION NO. 5  
HOWARD COUNTY, MARYLAND

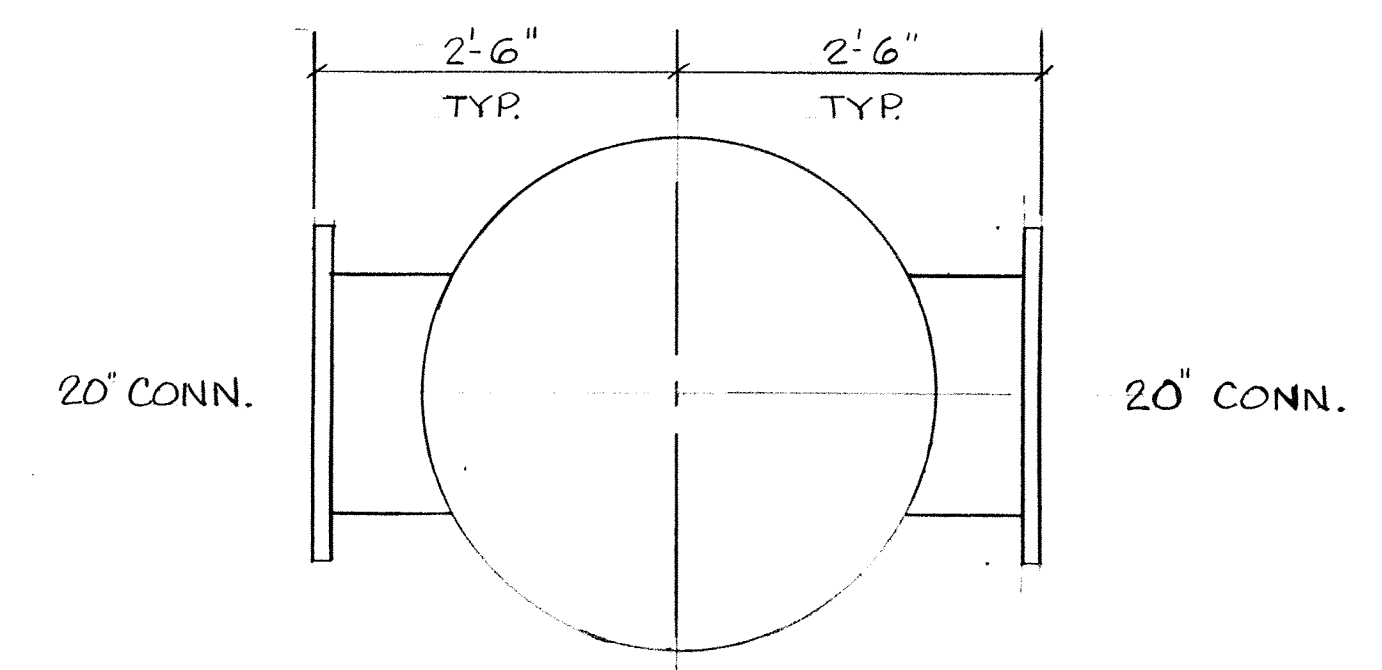
TITLE:  
DIGESTER PIPE GALLERY  
EXTENSION  
PROCESS PIPING HANG/SUPPORT

JOB: PK: 92125  
DRAWN: RB  
SCALE: 3/8" = 1'-0"  
DATE: 12-14-92

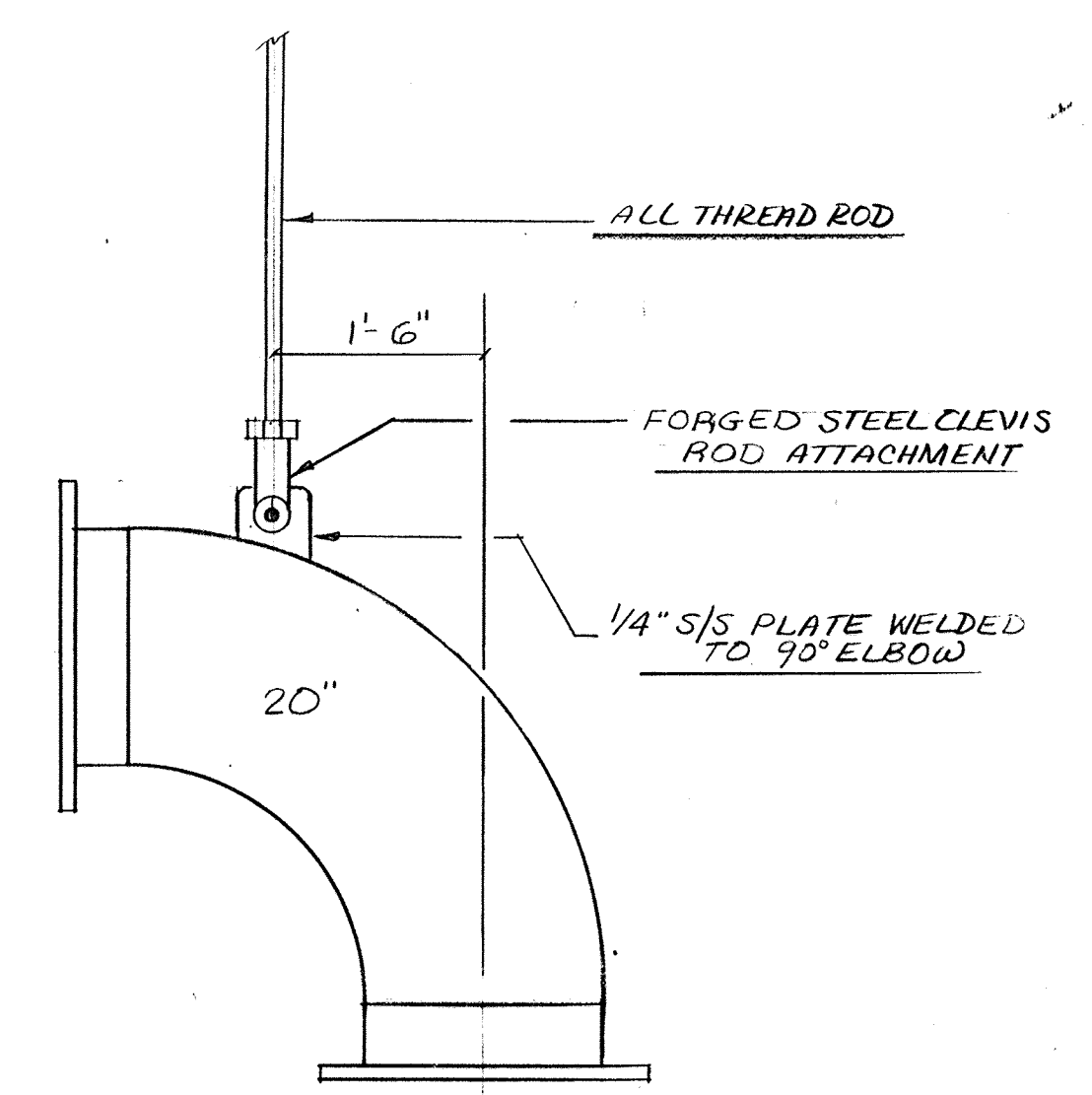
DRAWING:  
PK-96-B



MARK	SERVICE	DESCRIPTION	QUANTITY
105	12" AIR	16" X 1'-8" GALV. SLT. W/WS	1
106	20" AIR	24" X 1'-8" GALV. SLT. W/WS	2
107	12" AIR	16" X 1'-8" GALV. SLT. W/WS	1
108	20" AIR	24" X 1'-8" GALV. SLT. W/WS	2
135	42" AIR	48" X 1'-8" GALV. SLT.	1
136	24" AIR	28" X 1'-8" GALV. SLT. W/WS	2



42" HEADER CONNS  
DETAIL "B-B"  
SCALE: 3/4" = 1'-0"

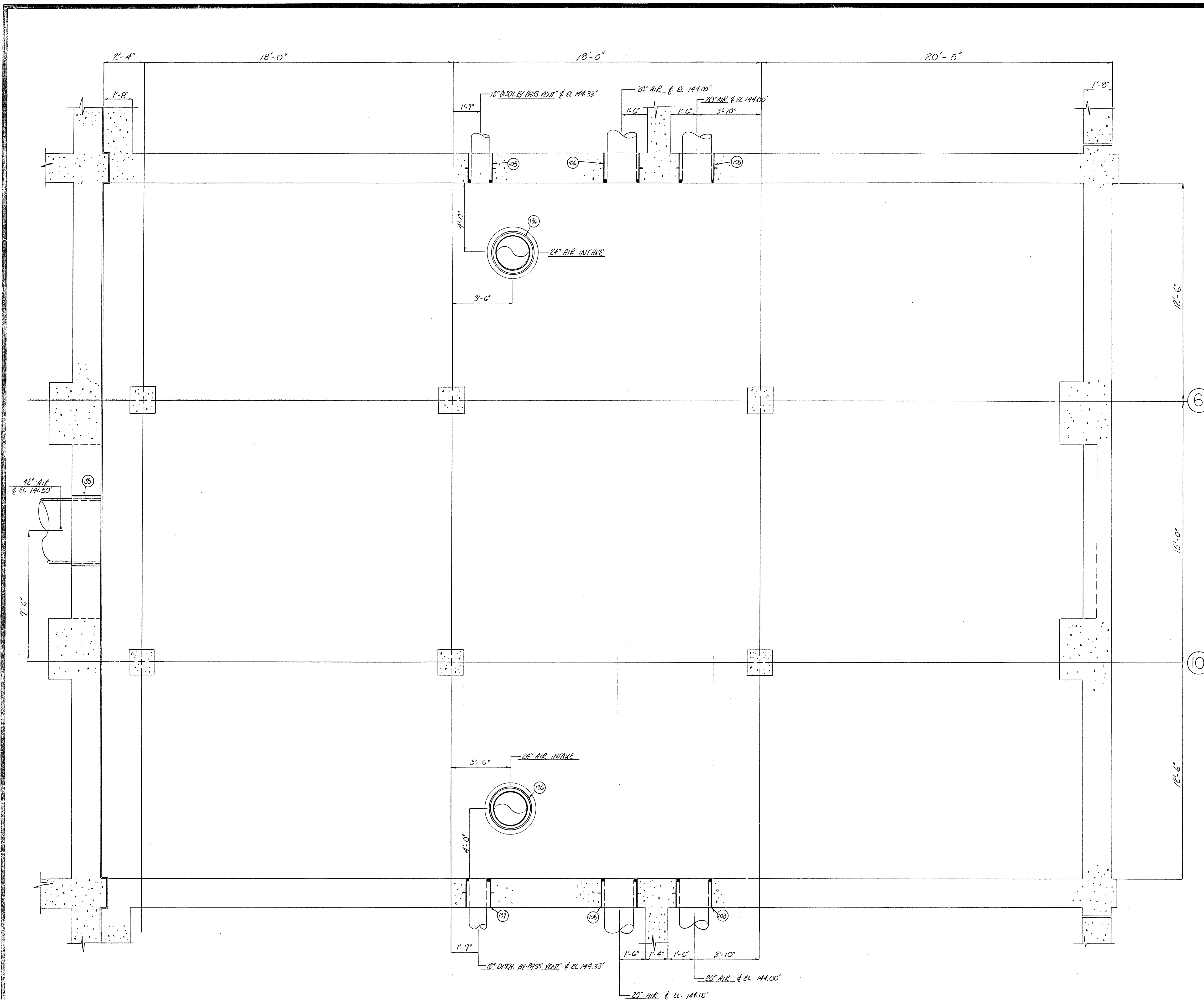


DETAIL "A-A"  
TYPICAL 2 PLACES  
SCALE: 3/4" = 1'-0"

- NOTES:**
- 1) ● DENOTES CLEVIS HANGER LOCATIONS UNLESS NOTED OTHERWISE.
  - 2) PIPE & FITTING SCHEDULES TO BE SUPPLIED BY FABRICATOR.
  - 3) SEE PK-99 FOR OTHER DETAILS & NOTES.

DELETED FROM CONTRACT	
NO.	DATE
REVISION	
The Poole & Kent Co./James Y. Miller, Inc. (A Joint Venture) 4530 Hoffman Ferry Road Baltimore, MD 21227	
<b>LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5</b> HOWARD COUNTY, MARYLAND	
<b>TITLE: DIGESTER PIPE GALLERY EXTENSION AIR PIPING</b>	
JOB: PK-92125	DRAWING:
DRAWN: RB	PK-97
SCALE: 3/8" = 1'-0"	
DATE: 12-10-92	





MARK	SERVICE	DESCRIPTION	QUANTITY
105	12" AIR	16" X 12-8" GALV. SLV. W/WS	1
106	20" AIR	24" X 12-8" GALV. SLV. W/WS	2
107	12" AIR	16" X 12-8" GALV. SLV. W/WS	1
108	20" AIR	24" X 12-8" GALV. SLV. W/WS	2
135	42" AIR	48" X 12-8" GALV. SLV.	1
136	24" AIR	28" X 12" GALV. SLV. W/WS	2

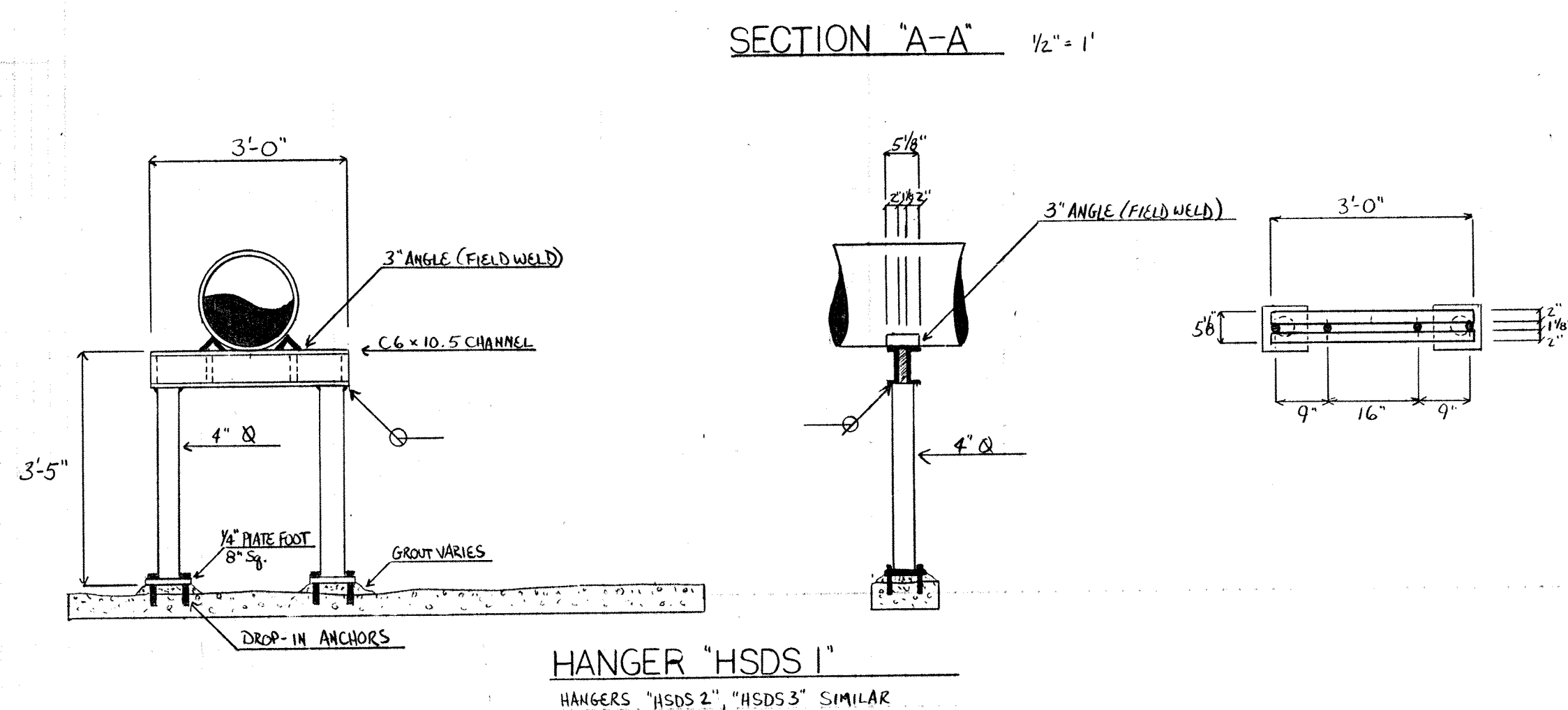
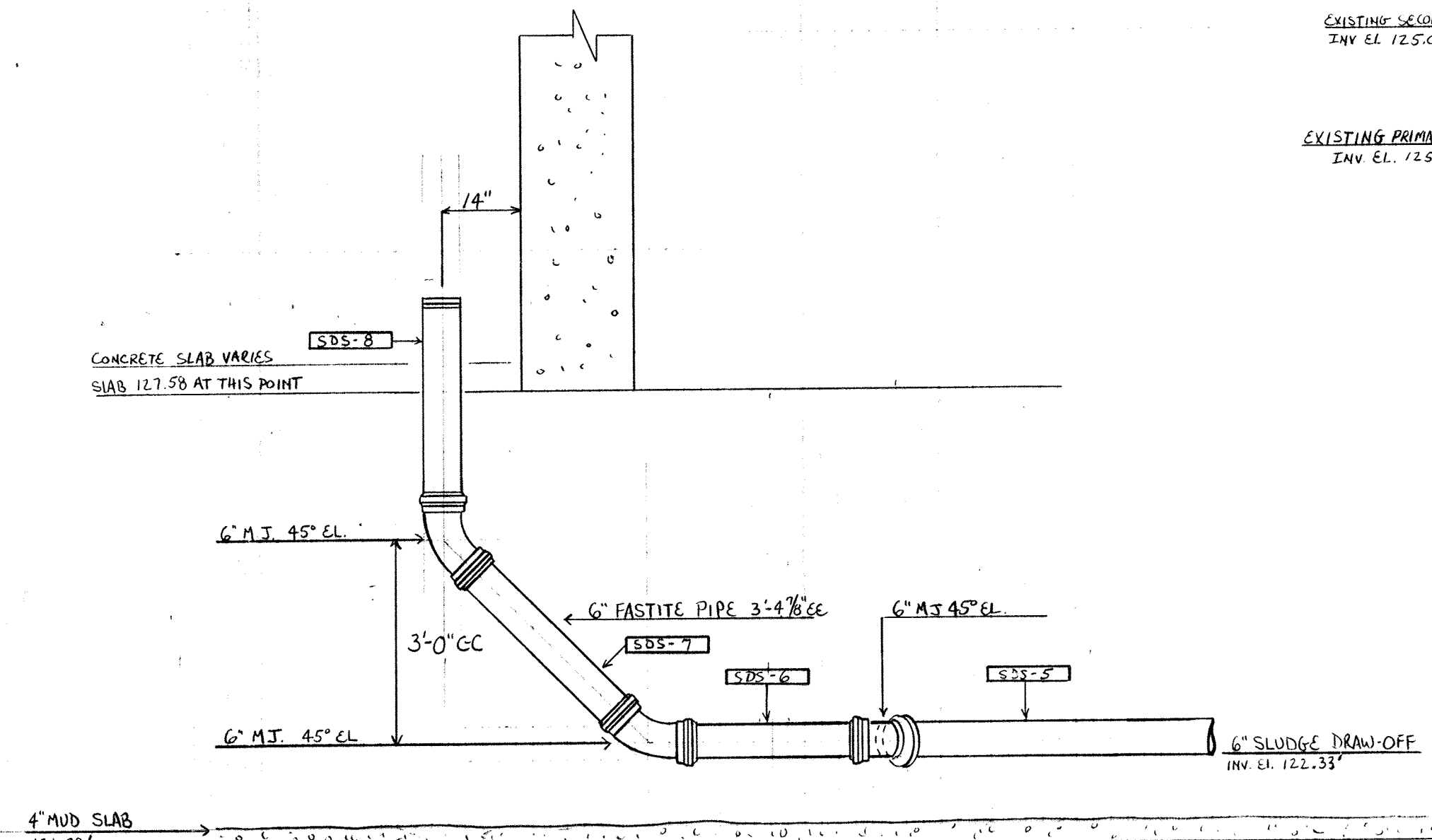
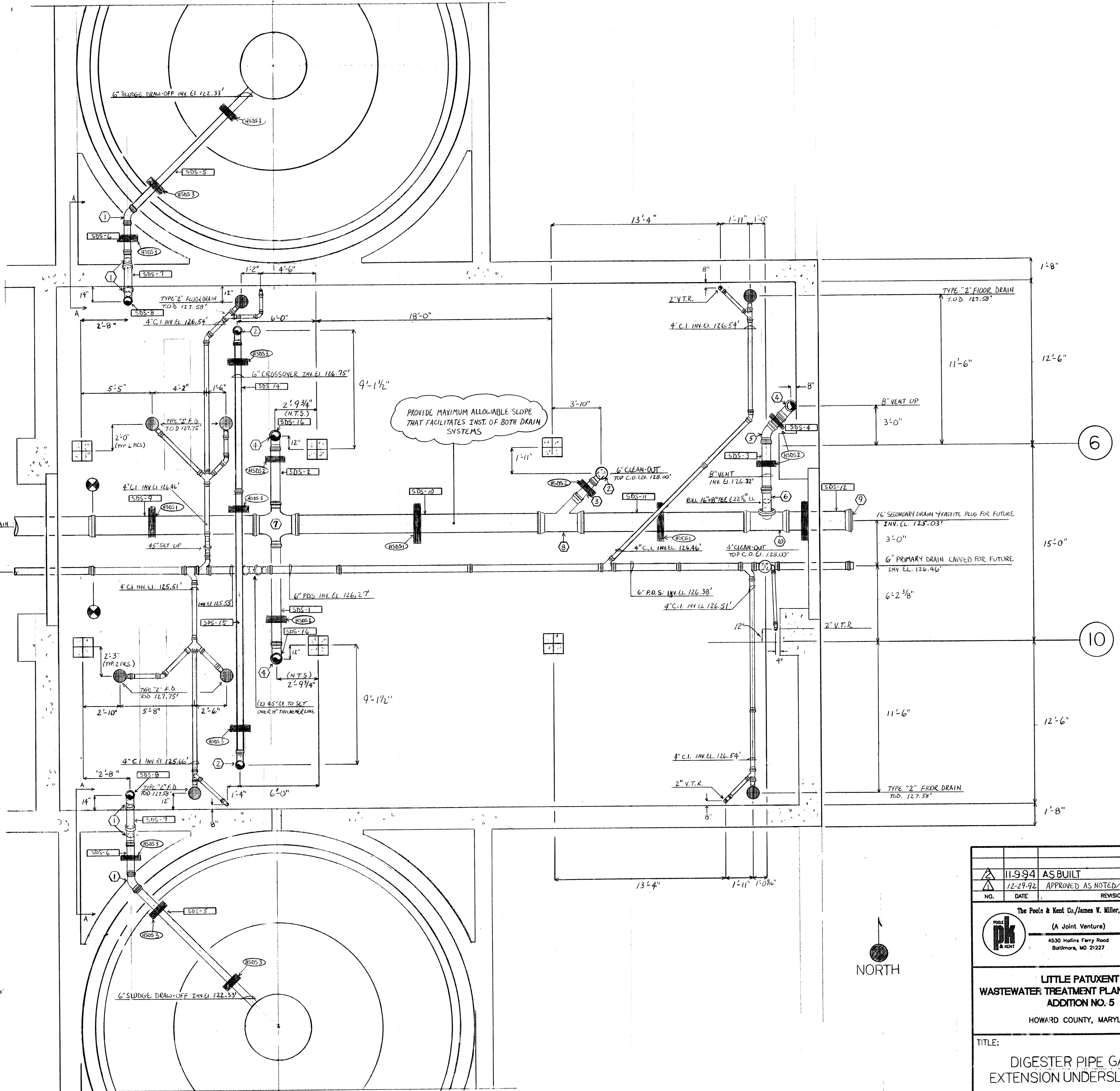
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NO.	REVISION
The Poole & Kent Co./James W. Miller, Inc. (A Joint Venture) 4530 Holms Ferry Road Baltimore, MD 21227	
<b>LITTLE PATUXENT          WASTEWATER TREATMENT PLANT EXPANSION          ADDITION NO. 5</b> HOWARD COUNTY, MARYLAND	
TITLE: <b>DIGESTER PIPE GALLERY          EXTENSION          AIR PIPING PENETRATIONS</b>	
JOB: PK: 92125	DRAWING:
DRAWN: M. DeBBS	PK-97A
SCALE: 3/8" = 1'-0"	
DATE: 11-09-92	





MECHANICAL JOINT FITTING SCHEDULE		
1	6" 45° M.J. EL.	6
2	6" M. 3. 90° EL.	3
3	8" x 6" P.E. x P.E. REDUCER	1
4	8" 90° M.J. EL.	3
5	8" 45° M.J. EL.	1
6	8" 22 1/2° M.J. x P.E. EL.	1
7	16" x 8" ALL M.J. CROSS	1
8	16" x 8" ALL M.J. W/M	1
9	16" FASTITE PLUG	1
10	16" x 8" ALL M.J. TEE	1

MECHANICAL JOINT PIPE SCHEDULE		
MARK	DESCRIPTION	QUANTITY
SDS-1	8" FASTITE PIPE 8'-2 3/8" PE x PE	1
SDS-2	8" FASTITE PIPE 4'-9 3/8" PE x PE	1
SDS-3	8" FASTITE PIPE 4'-0 1/4" PE x PE	1
SDS-4	8" FASTITE PIPE 1'-7 3/8" PE x PE	1
SDS-5	6" FASTITE PIPE 12'-10 1/2" PE x PE x	2
SDS-6	6" FASTITE PIPE 2'-10" PE x PE	2
SDS-7	6" FASTITE PIPE 3'-4 1/8" PE x PE	2
SDS-8	6" FASTITE PIPE 2'-10" PE x G	2
SDS-9	16" FASTITE PIPE FIELD MEASURE	1
SDS-10	16" FASTITE PIPE 19'-10 1/2" PE x PE	1
SDS-11	16" FASTITE PIPE 13'-0 1/2" PE x H	1
SDS-12	16" FASTITE PIPE 5'-0" PE x H	1
SDS-13	NOT USED	0
SDS-14	6" FASTITE PIPE 11'-11" PE x PE	1
SDS-15	6" FASTITE PIPE 20'-0" PE x H	1
SDS-16	8" FASTITE PIPE 2'-6" PE x G	2



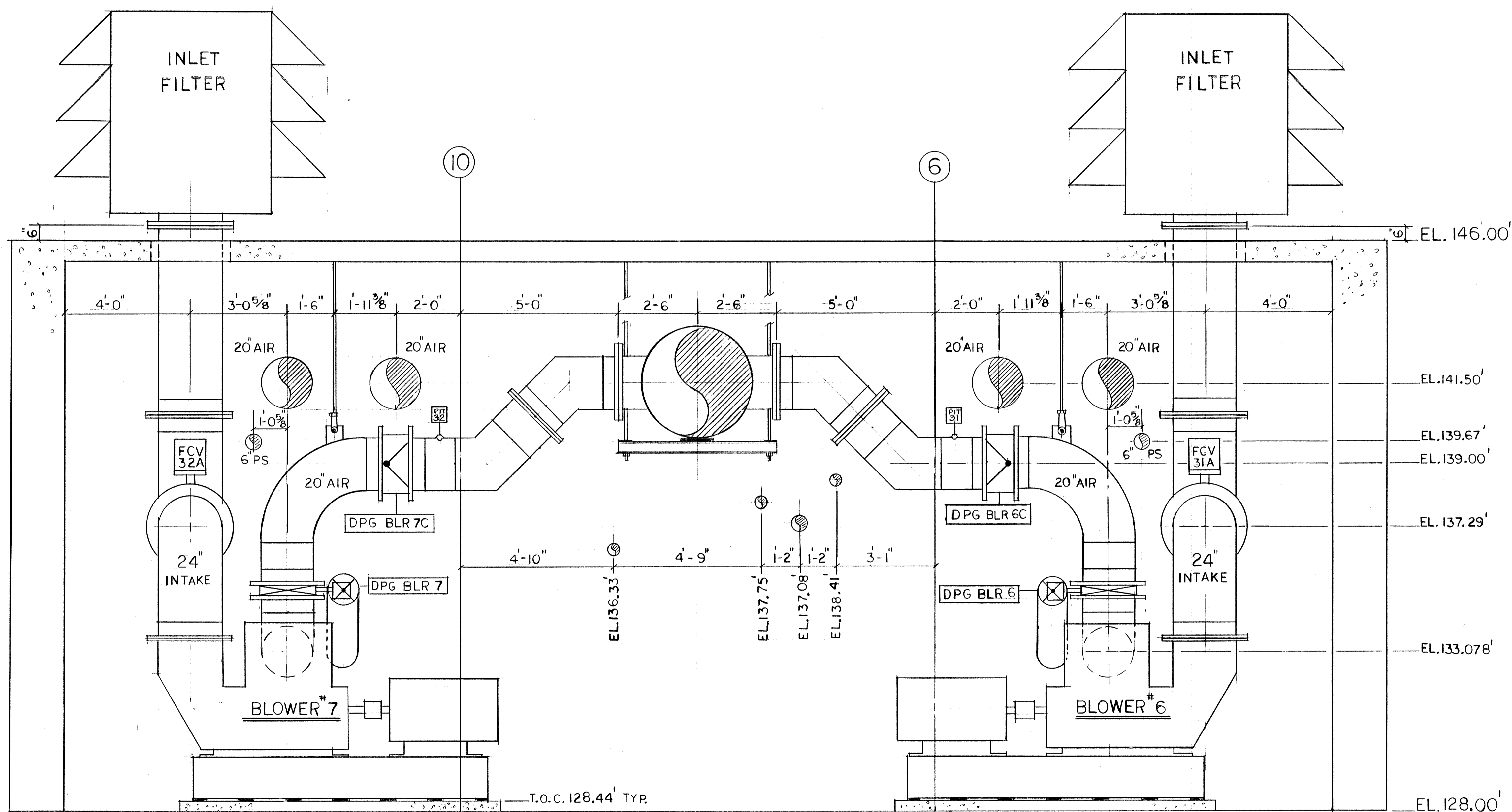
NO.	DATE	REVISION
11-9-94	AS BUILT	
12-29-92	APPROVED AS NOTED / ISSUE FOR CONST.	

The Pools & Kent Co./James V. Miller, Inc.  
(A Joint Venture)  
4330 Mullins Ferry Road  
Baltimore, MD 21227

**LITTLE PATUXENT  
WASTEWATER TREATMENT PLANT EXPANSION  
ADDITION NO. 5**  
HOWARD COUNTY, MARYLAND

TITLE:  
**DIGESTER PIPE GALLERY  
EXTENSION UNDERSLAB PIPING**

JOB: 92125	DRAWING: D. OTTE	SCALE: 1/4" = 1'-0"	DATE: 11-3-92
DRAWING:			PK-98



DETAIL "C-C"

**NOTES:**

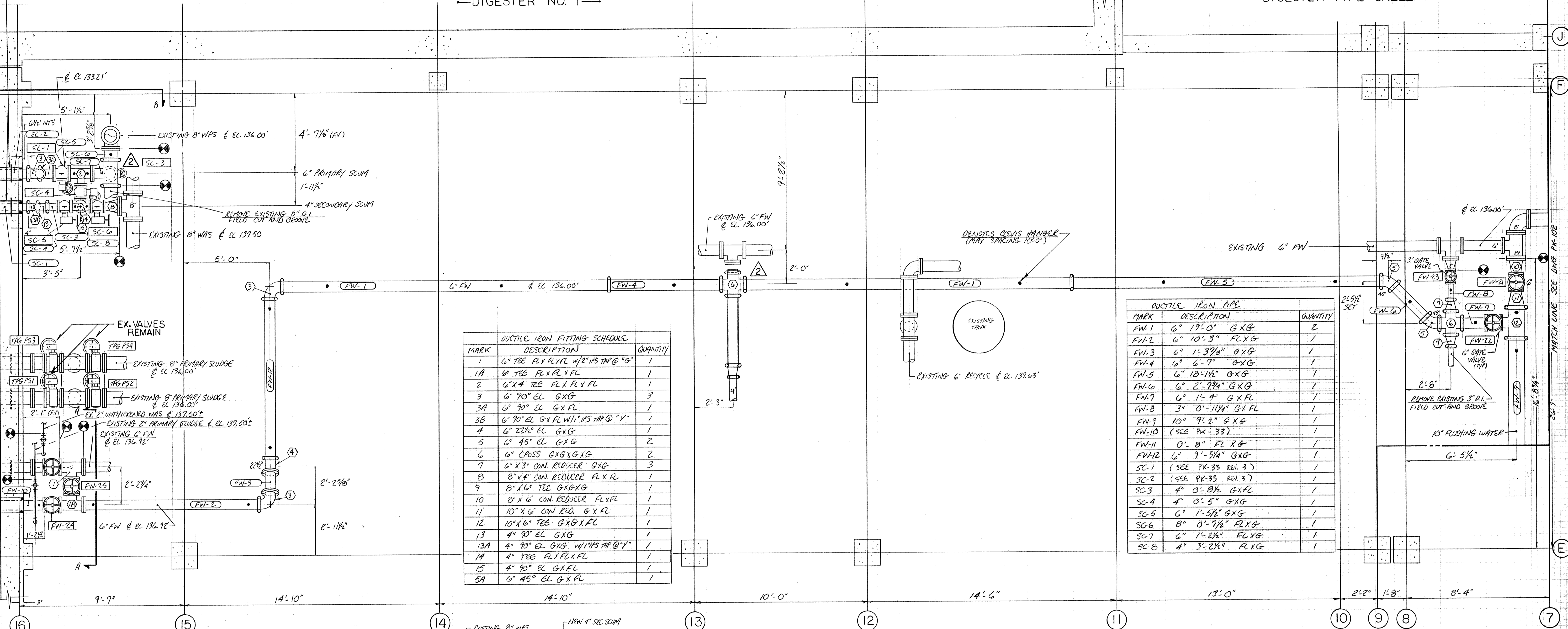
- 1-FOR FURTHER AIR EQUIP. DETAILS SEE SUBMITTAL-1A FOR SECTION 11375 OF SPEC'S.
- 2-FOR HANGER, SUPPORT DETAILS SEE SUBMITTAL-109 FOR SECTION 15370 OF SPEC'S.

DELETED FROM CONTRACT	
NO.	REVISION
The Poole & Kent Co./James T. Miller, Inc. (A Joint Venture)	
4530 Hollins Ferry Road Baltimore, MD 21227	
LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5 HOWARD COUNTY, MARYLAND	
TITLE: DIGESTER PIPE GALLERY EXTENSION DETAILS	
JOB: 92125	DRAWING:
DRAWN: RB	PK-99
SCALE: 1/2" = 1'-0"	
DATE: 12-11-92	

FIELD CUT INSIDE FACE OF EXISTING 8" WALL CASTINGS AND UTILIZE AS WALL SLEEVES. PROVIDE LINK TYPE SEAL @ 4" SCUM AND PROVIDE COUPLUM CHAUKED WATER TIGHT JOINT @ 6" SCUM

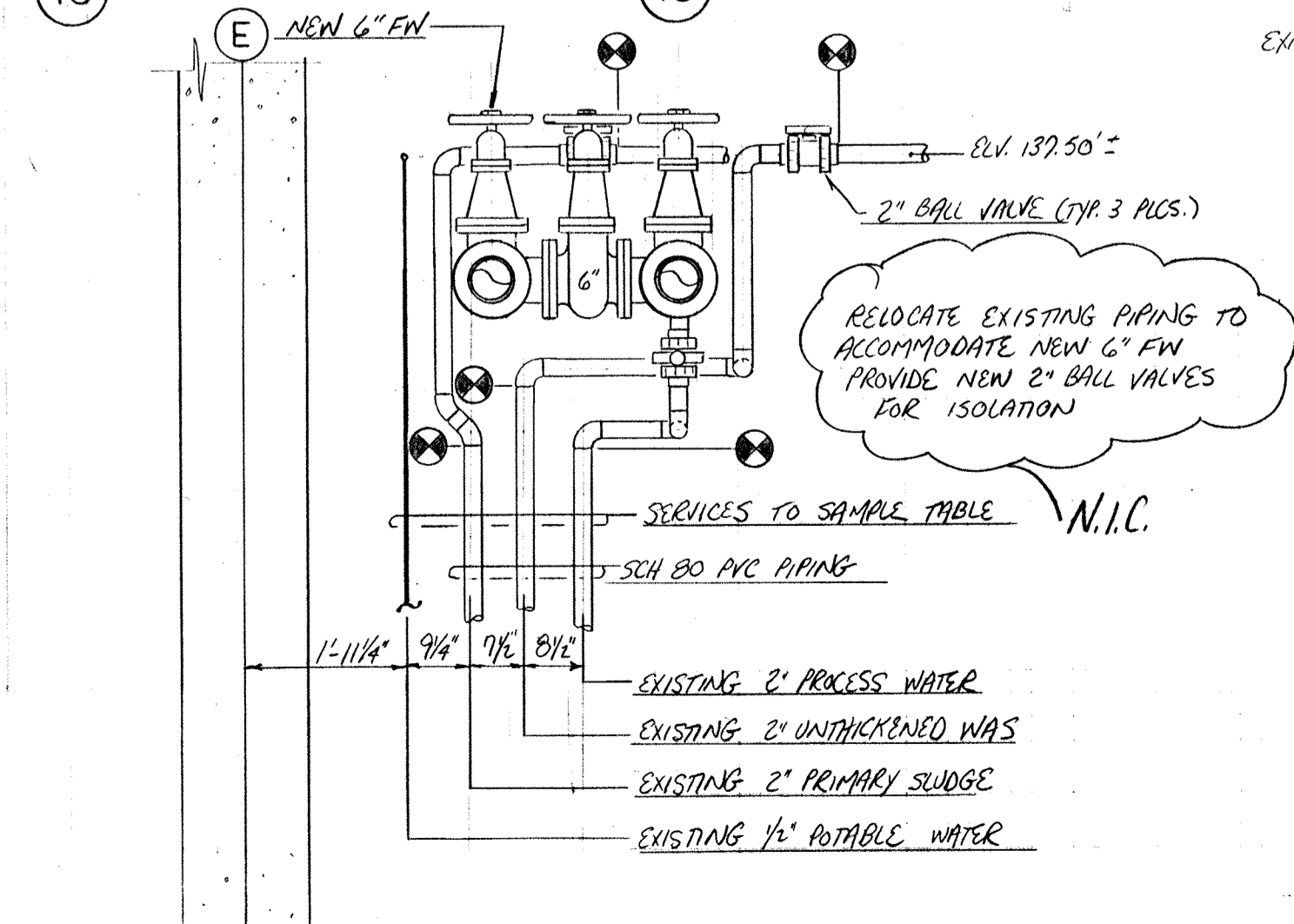
DIGESTER NO. 1

DIGESTER PIPE GALLERY

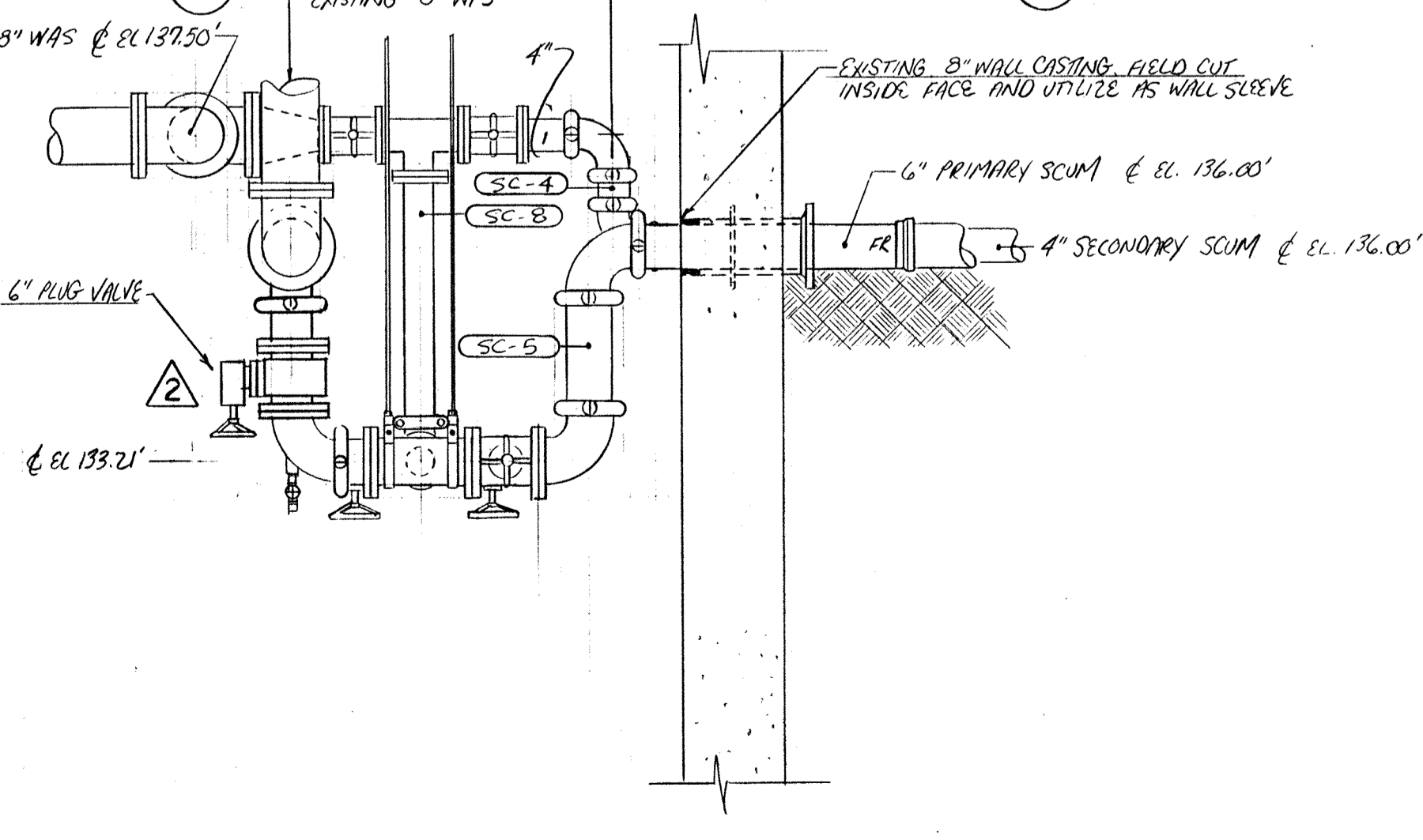


MARK	DESCRIPTION	QUANTITY
1	6" TEE FL X FL W/ 2" IPS TAP @ "G"	1
1A	6" TEE FL X FL X FL	1
2	6" X 4" TEE FL X FL X FL	1
3	6" 90° EL G X G	3
3A	6" 90° EL G X FL	1
3B	6" 90° EL G X FL W/ 1" IPS TAP @ "Y"	1
4	6" 22 1/2° EL G X G	1
5	6" 45° EL G X G	2
6	6" CROSS G X G X G	2
7	6" X 3" CON. REDUCER G X G	3
8	8" X 4" CON. REDUCER FL X FL	1
9	8" X 6" TEE G X G X G	1
10	8" X 6" CON. REDUCER FL X FL	1
11	10" X 6" CON. RED. G X FL	1
12	10" X 6" TEE G X G X FL	1
13	4" 90° EL G X G	1
13A	4" 90° EL G X G W/ 1" IPS TAP @ "Y"	1
14	4" TEE FL X FL X FL	1
15	4" 90° EL G X FL	1
5A	6" 45° EL G X FL	1

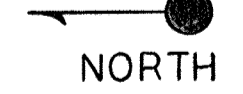
MARK	DESCRIPTION	QUANTITY
FW-1	6" 19'-0" G X G	2
FW-2	6" 10'-3" FL X G	1
FW-3	6" 1'-3 7/8" G X G	1
FW-4	6" 6'-7" G X G	1
FW-5	6" 18'-1 1/2" G X G	1
FW-6	6" 2'-7 3/4" G X G	1
FW-7	6" 1'-4" G X FL	1
FW-8	3" 0'-11 1/4" G X FL	1
FW-9	10" 9'-2" G X G	1
FW-10	(SEE PK-33)	1
FW-11	0'-8" FL X G	1
FW-12	6" 9'-3 1/4" G X G	1
SC-1	(SEE PK-33 REL. 3)	1
SC-2	(SEE PK-33 REL. 3)	1
SC-3	4" 0'-8 1/2" G X FL	1
SC-4	4" 0'-5" G X G	1
SC-5	6" 1'-5 1/2" G X G	1
SC-6	8" 0'-7 1/2" FL X G	1
SC-7	6" 1'-2 1/4" FL X G	1
SC-8	4" 3'-2 1/4" FL X G	1



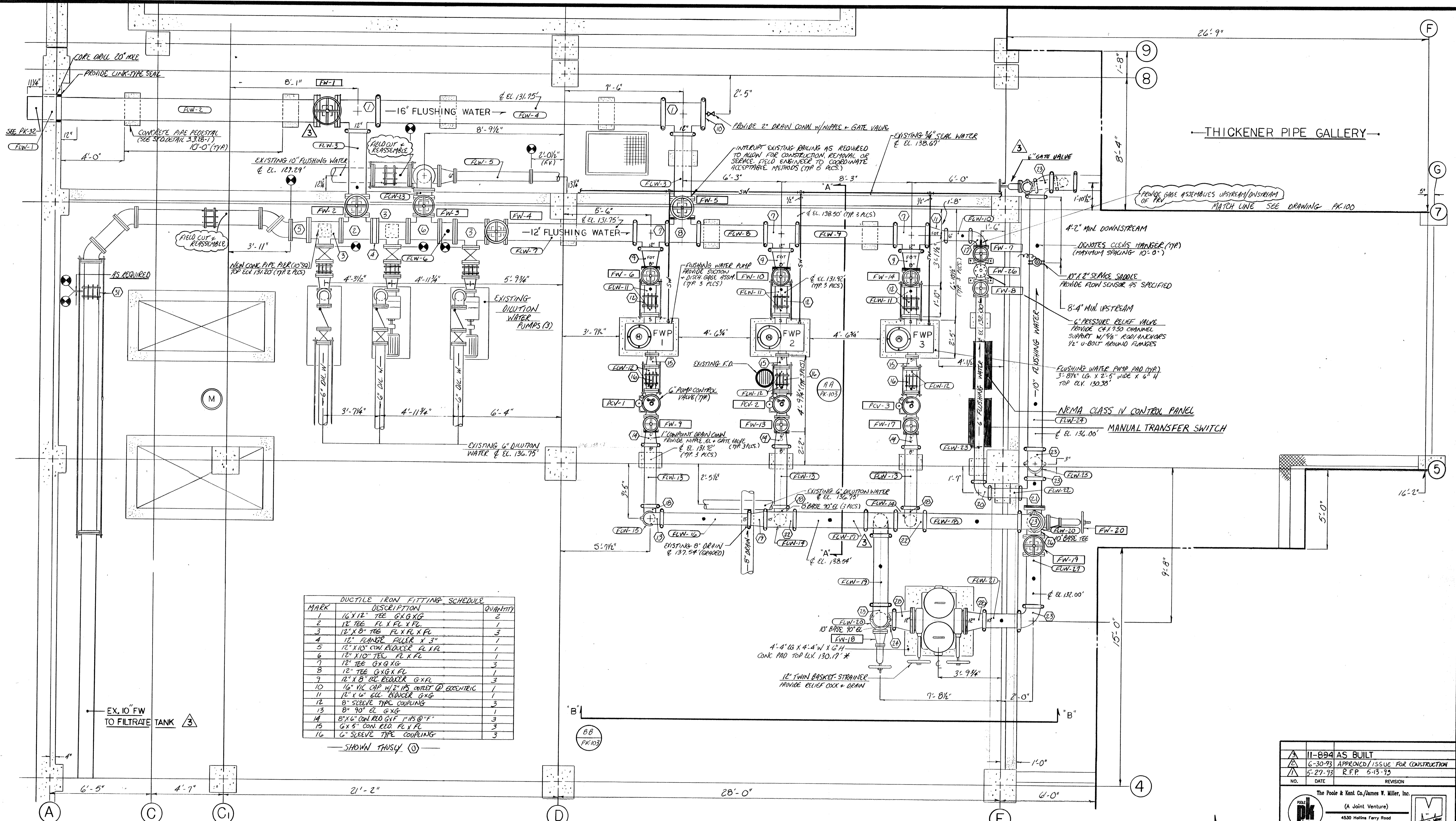
SECTION 'AA'



SECTION 'BB'



11-894 AS BUILT	
6-10-93 APPROVED / ISSUE FOR CONSTRUCTION	
NO.	DATE
The Poole & Kent Co./James W. Miller, Inc. (A Joint Venture) 4530 Hoffman Ferry Road Baltimore, MD 21227	
LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5 HOWARD COUNTY, MARYLAND	
TITLE: THICKENER PIPE GALLERY PIPING PLAN	
JOB: PK-92125	DRAWING: PK-100
DRAWN: M. COBBES	
SCALE: 3/8" = 1'-0"	
DATE: MAY 6, 1993	



DUCTILE IRON FITTING SCHEDULE

MARK	DESCRIPTION	QUANTITY
1	16" X 12" TEE G X G X G	2
2	12" TEE FL X FL X FL	1
3	12" X 8" TEE FL X FL X FL	3
4	12" FLANGE FULLER X 3"	1
5	12" X 10" CON. REDUCER FL X FL	1
6	12" X 10" TEE FL X FL	1
7	12" TEE G X G X G	3
8	12" TEE G X G X FL	1
9	12" X 8" CON. REDUCER G X FL	3
10	16" VIC CAP W/ 2" IPS OUTLET @ ECCENTRIC	1
11	12" X 6" CON. REDUCER G X G	1
12	8" SLEEVE TYPE COUPLING	3
13	8" 90° EL G X G	1
14	8" X 6" CON. RED. G Y F 1" IPS @ 45°	3
15	6" X 5" CON. RED. FL X FL	3
16	6" SLEEVE TYPE COUPLING	3

— SHOWN THUSLY. (1) —

DUCTILE IRON PIPE SCHEDULE

MARK	DESCRIPTION	QUANTITY
FLW-1	16" 3" 1/4" R X R PL	1
FLW-2	16" 15" 1" FL X G	1
FLW-3	12" 4" 2" FL X G	2
FLW-4	16" 19" 0" G X G	1
FLW-5	6" 4" 9 3/4" FL X FL (EV)	1
FLW-6	12" 0" 11 1/2" FL X FL	1
FLW-7	12" 8" 11 1/2" FL X G	1
FLW-8	12" 4" 3" G X G	1
FLW-9	12" 6" 3" G X G	1
FLW-10	6" 1" 8" G X G	1
FLW-11	8" 0" 11" FL X FL	6
FLW-12	6" 0" 8 3/8" FL X FL	6
FLW-13	8" 3" 11" G X G	3
FLW-14	8" 4" 11 1/2" G X G	2

DUCTILE IRON PIPE SCHEDULE

MARK	DESCRIPTION	QUANTITY
FLW-15	8" 5" 1 1/2" G X G	1
FLW-16	8" 5" 7" G X G	1
FLW-17	10" 4" 7" G X G W/ 1/2" IPS @ 45°	1
FLW-18	10" 6" 2" G X G	1
FLW-19	10" 4" 5" G X G	1
FLW-20	10" 3" 7 1/2" G X FL	2
FLW-21	10" 1" 11" G X G	1
FLW-22	6" 1" 11" G X G	1
FLW-23	6" 11" 6" R X G W/ 1/2" IPS 6" FROM FLANGE	1
FLW-24	10" 15" 11 1/2" G X G	1
FLW-25	10" 2" 2" G X G	1
FLW-27	10" 3" 3 3/4" G X FL	1

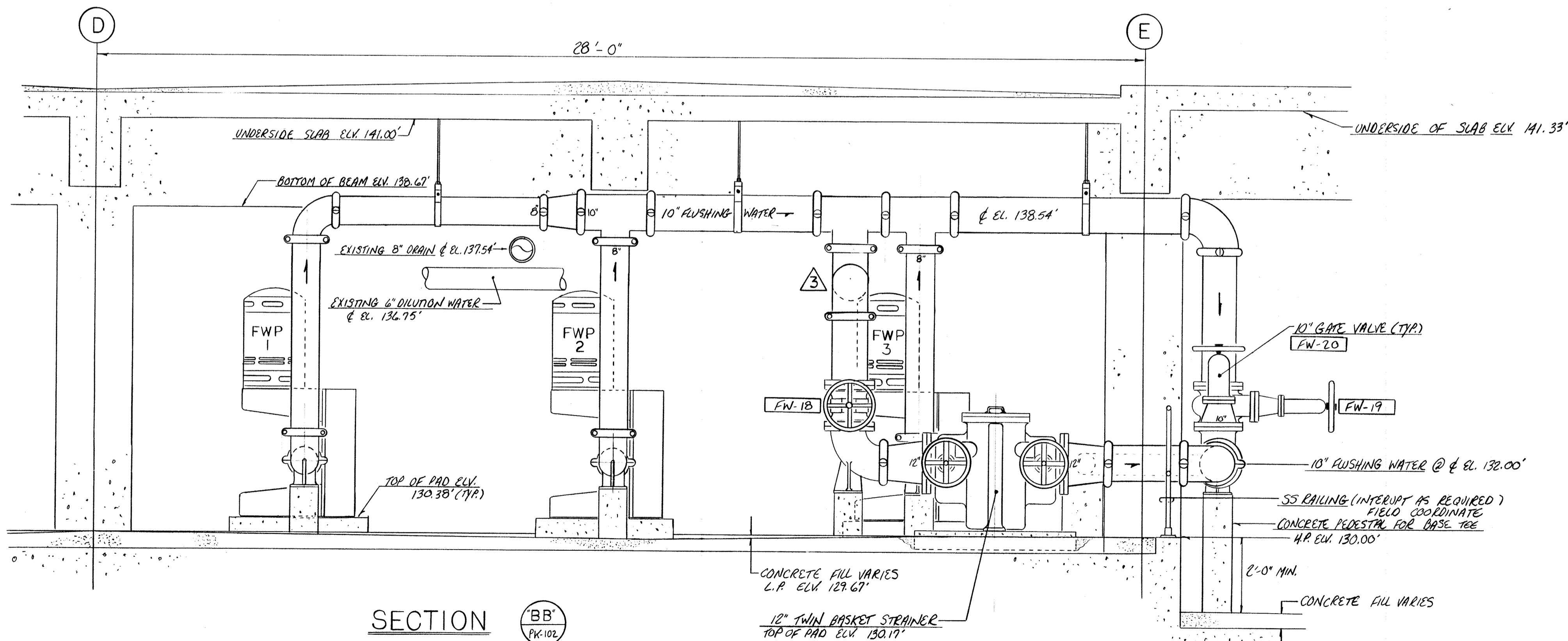
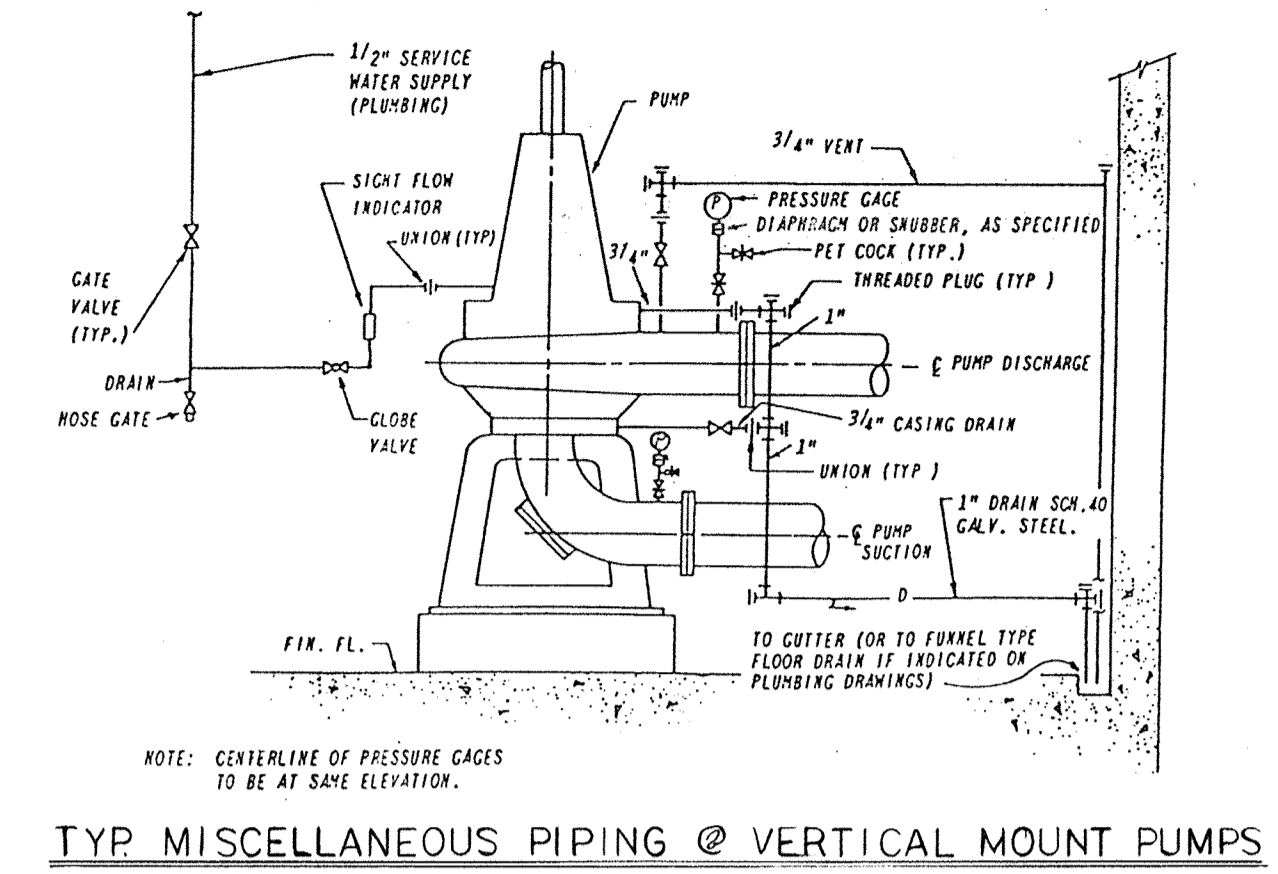
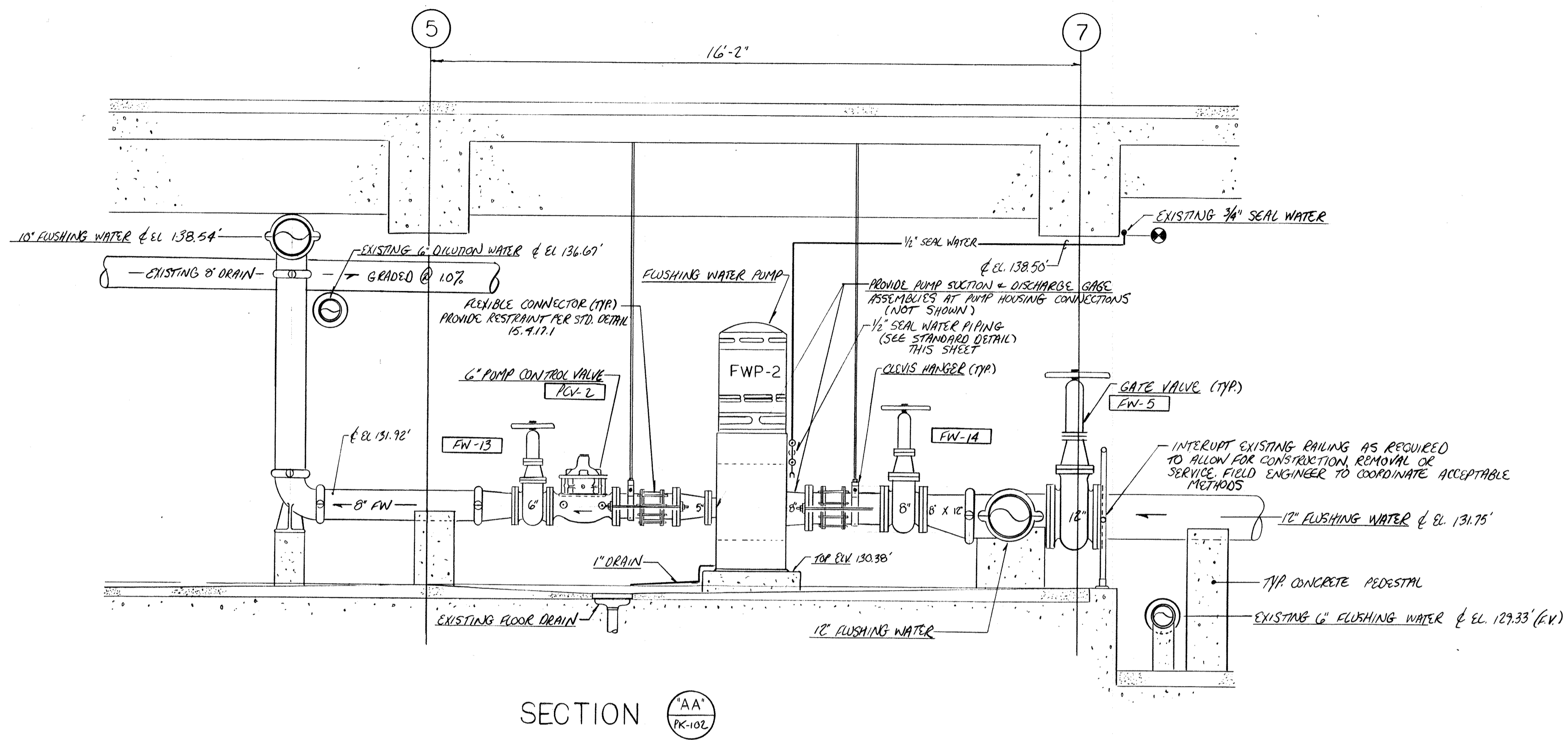
DUCTILE IRON FITTINGS SCHEDULE

MARK	DESCRIPTION	QUANTITY
15	6" 90° EL FL X G	7
18	8" 90° BASE EL G X G	3
19	10" X 8" CON. REDUCER G X G	1
20	6" 90° EL G X G	1
21	10" X 6" TEE G X FL X G	1
22	10" X 8" TEE G X G X G	2
23	10" 90° EL G X G	6
24	10" 90° BASE EL	1
25	10" TEE G X G X G	1
26	10" BASE TEE FL X FL X FL	1
28	12" X 10" CON. REDUCER FL X G	2
31	10" SLEEVE TYPE COUPLING	1

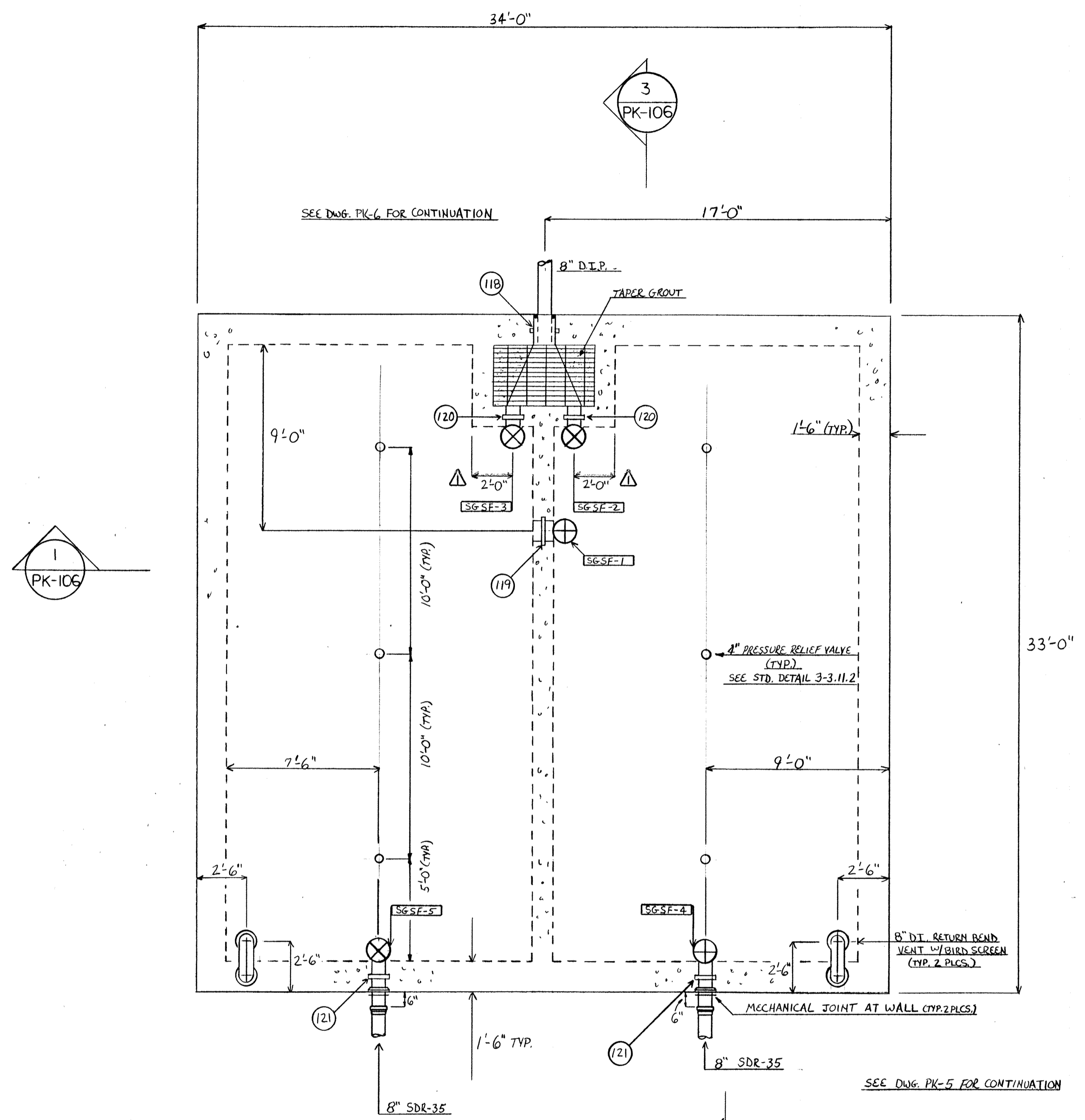
FLANGE ADAPTER

MARK	DESCRIPTION	QUANTITY
4	6" VIC NO 341	4
3	8" VIC NO 341	3
1	10" VIC NO 341	1
3	12" VIC NO 341	3

11-884	AS BUILT	
6-30-93	APPROVED/ISSUE FOR CONSTRUCTION	
5-27-75	R.F.P. 5-13-75	
NO.	DATE	REVISION
The Poole & Kent Co./James T. Miller, Inc. (A Joint Venture) 4530 Hollins Ferry Road Baltimore, MD 21227		
<b>LITTLE PATUXENT          WASTEWATER TREATMENT PLANT EXPANSION          ADDITION NO. 5</b> HOWARD COUNTY, MARYLAND		
TITLE: <b>DEWATERING BUILDING          PIPING PLAN</b>		
JOB: PK: 92125 DRAWN: M. DOBBS SCALE: 3/8" = 1'-0" DATE: 5-24-93	DRAWING: <b>PK-102</b>	

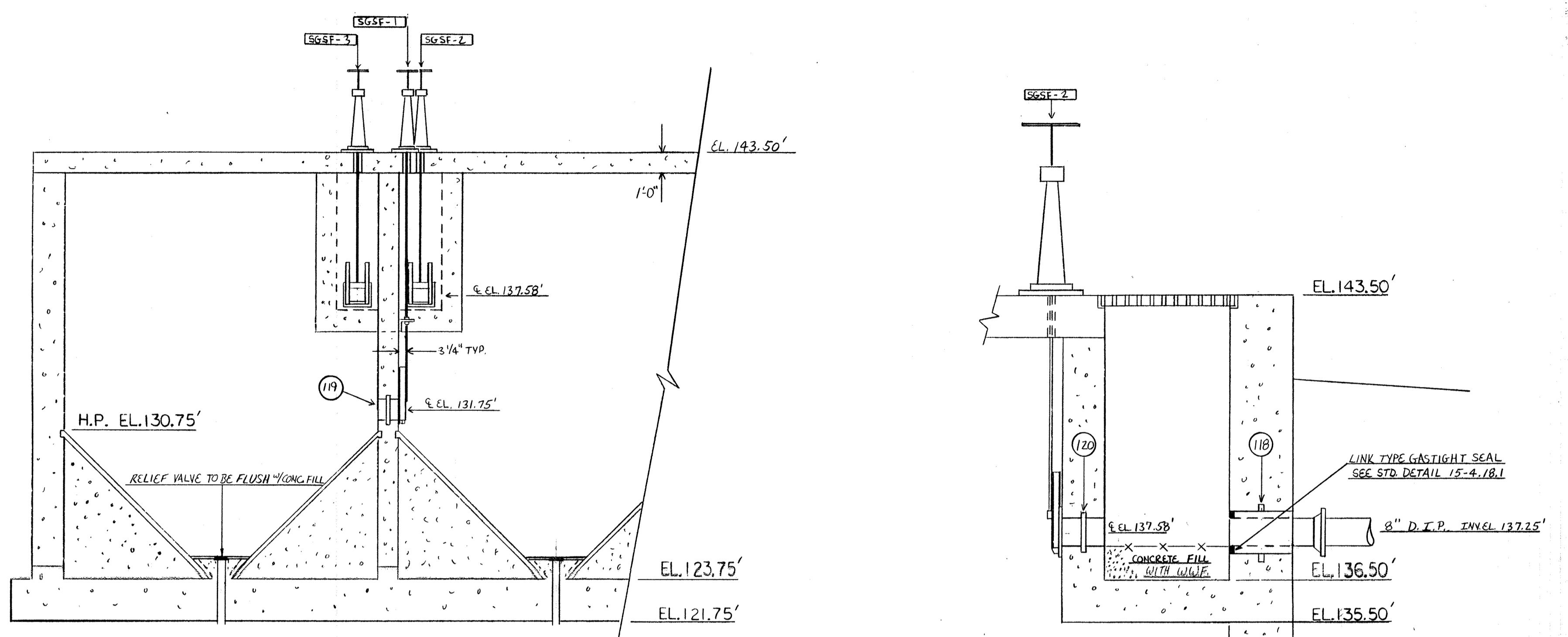


6-13-94	AS BUILT	
6-30-93	APPROVED / ISSUE FOR CONSTRUCTION	
5-27-93	R.F.P. 5-13-93	
NO.	DATE	REVISION
The Poole & Kent Co./James W. Miller, Inc. (A Joint Venture) 4530 Hoffman Ferry Road Baltimore, MD 21227		
<b>LITTLE PATUXENT</b> <b>WASTEWATER TREATMENT PLANT EXPANSION</b> <b>ADDITION NO. 5</b> HOWARD COUNTY, MARYLAND		
TITLE: <b>DEWATERING BUILDING</b> <b>SECTION/DETAILS</b>		
JOB: PK NO. 92123	DRAWING:	
DRAWN: M. DOBBS		PK-103
SCALE: 1/2" = 1'-0"		
DATE: MAY 27, 1993		



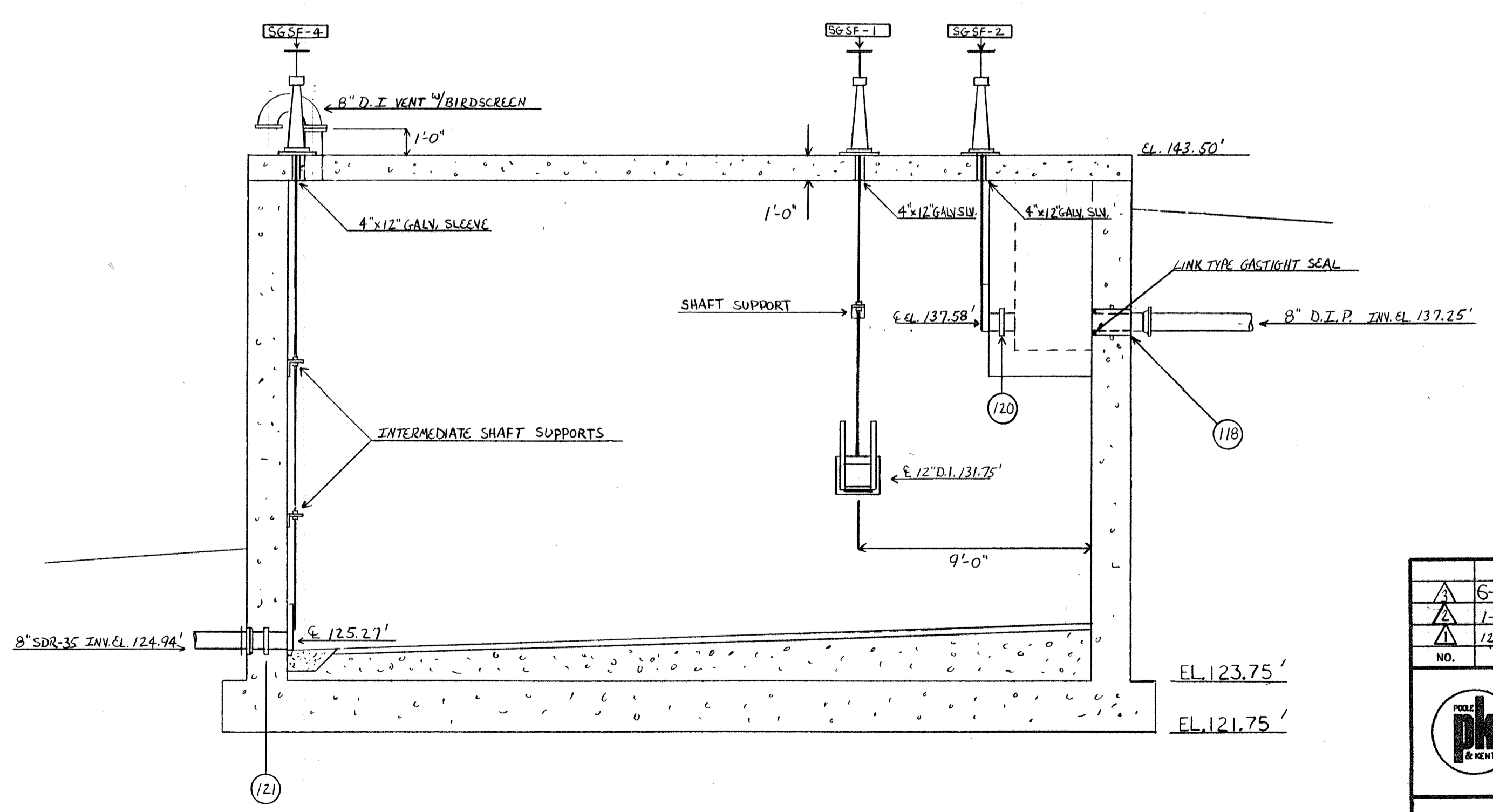
PLAN

SLEEVE SCHEDULE			
MARK	SERVICE	DESIGNATION	QUANTITY
118	8" SEWER	12" x 1'-6" GALV. SLEEVE 1/2" W.S.	1
119	SG-1	12" x 1'-0" PE x PE WALL PIPE 1/2" W.S.	1
120	SG-2,3	8" x 1'-0" PE x PE WALL PIPE 1/2" W.S.	2
121	SG-4,5	8" x 1'-6" PE x MT WALL PIPE 1/2" W.S.	2



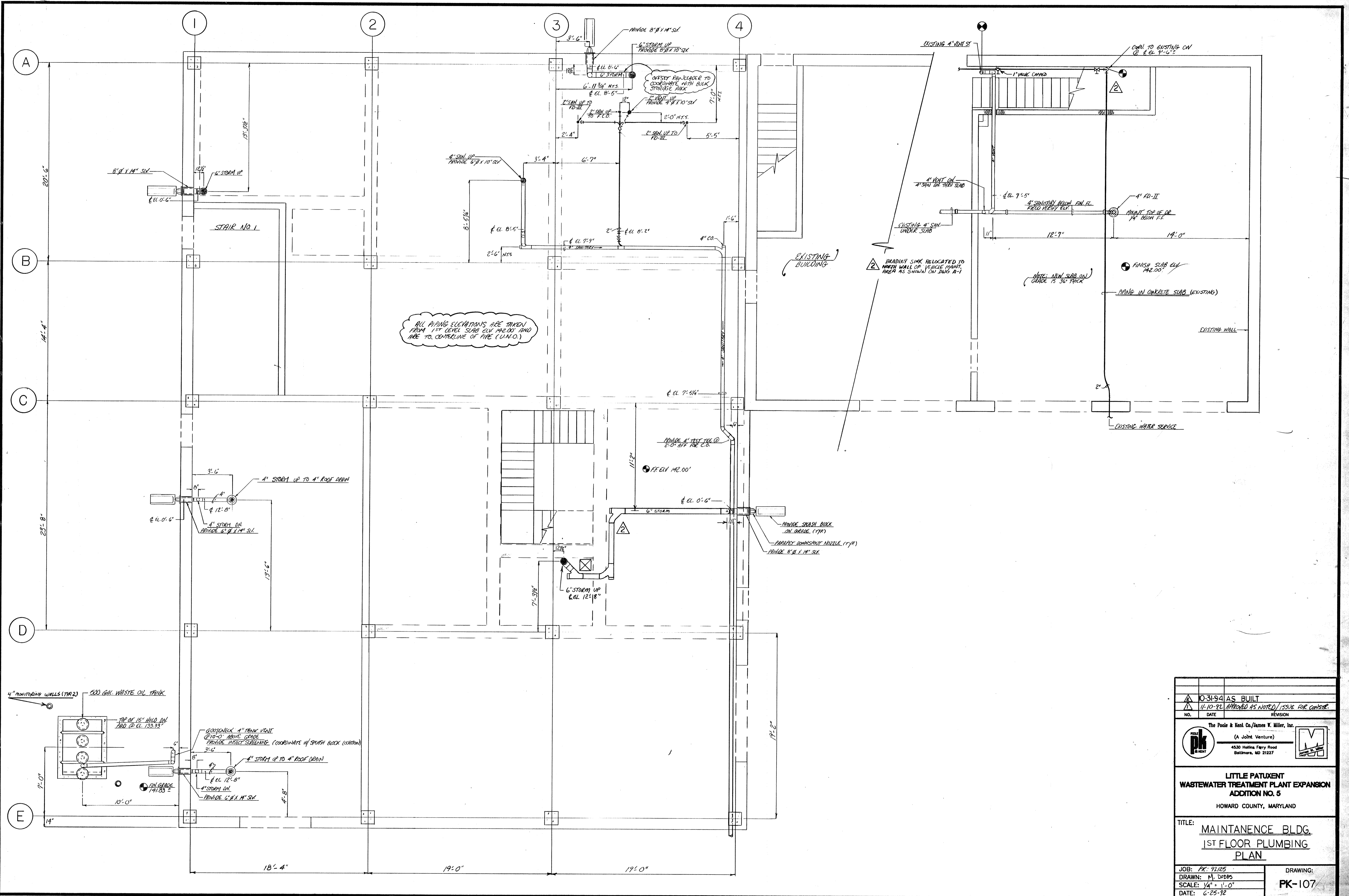
SECTION 1  
PK-106

SECTION 3  
PK-106



SECTION 2  
PK-106

6/3-94	AS BUILT
1-23-93	REVISED PER ENGINEER'S NOTES
12-28-92	APPROVED AS NOTED / ISSUE FOR CONSTR.
NO.	DATE
REVISION	
The Poole & Kant Co./James V. Miller, Inc.	
(A Joint Venture)	
4030 Hollins Ferry Road Baltimore, MD 21227	
<b>LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5</b> HOWARD COUNTY, MARYLAND	
<b>TITLE: SEPTAGE FACILITY PLAN, SECTIONS, &amp; DETAILS</b>	
JOB: 92125	DRAWING: PK-106
DRAWN: D. OTTE	SCALE: 1/4" = 1'-0"
DATE: 11-10-92	



ALL PIPING ELEVATIONS ARE TAKEN FROM 1ST LEVEL SLAB ELEV. 142.00' AND ARE TO CENTERLINE OF PIPE (UNLESS NOTED OTHERWISE)

NO.	DATE	REVISION
1	0-31-94	AS BUILT
2	11-10-92	APPROVED AS NOTED / ISSUE FOR CONSTR.

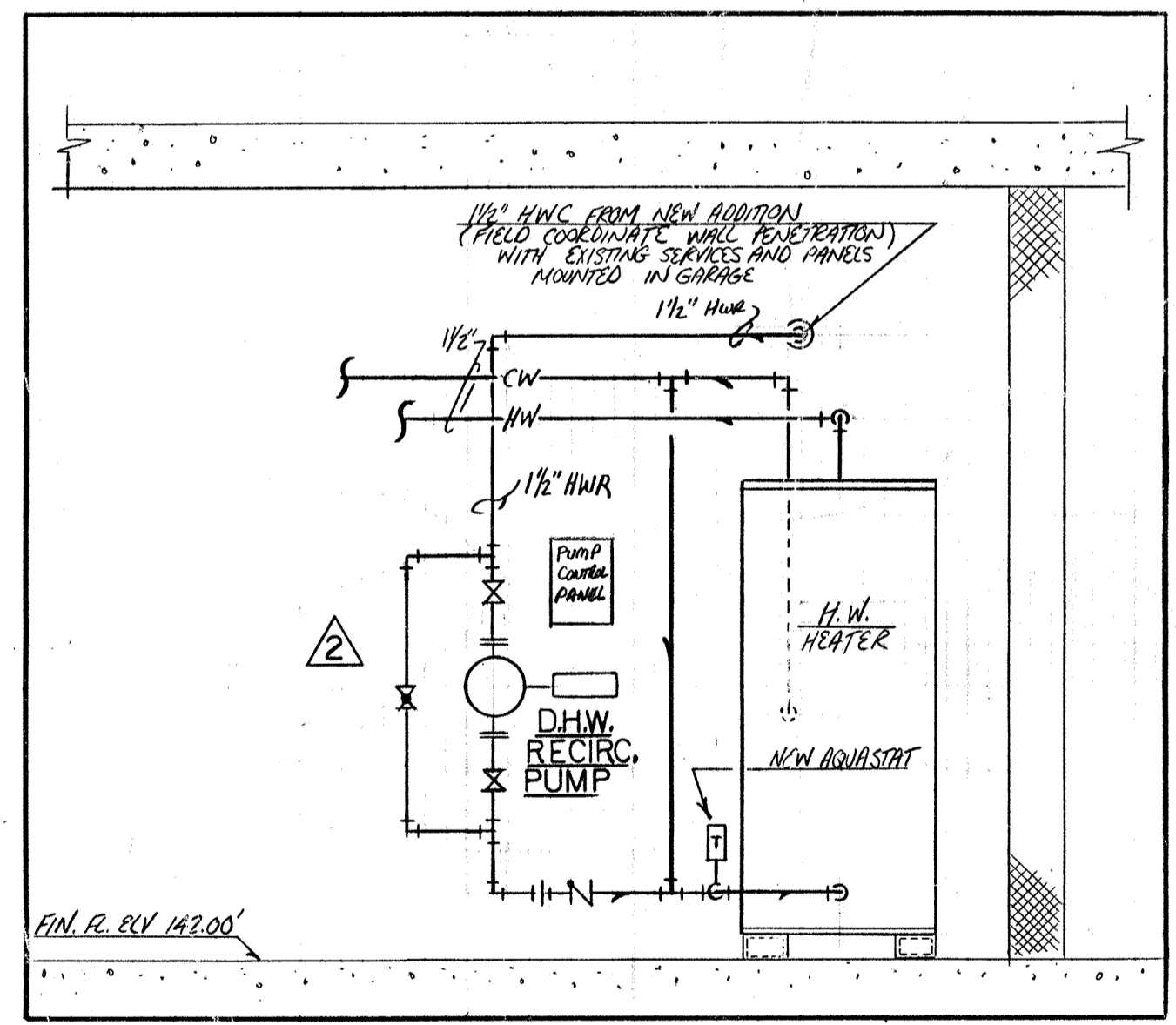
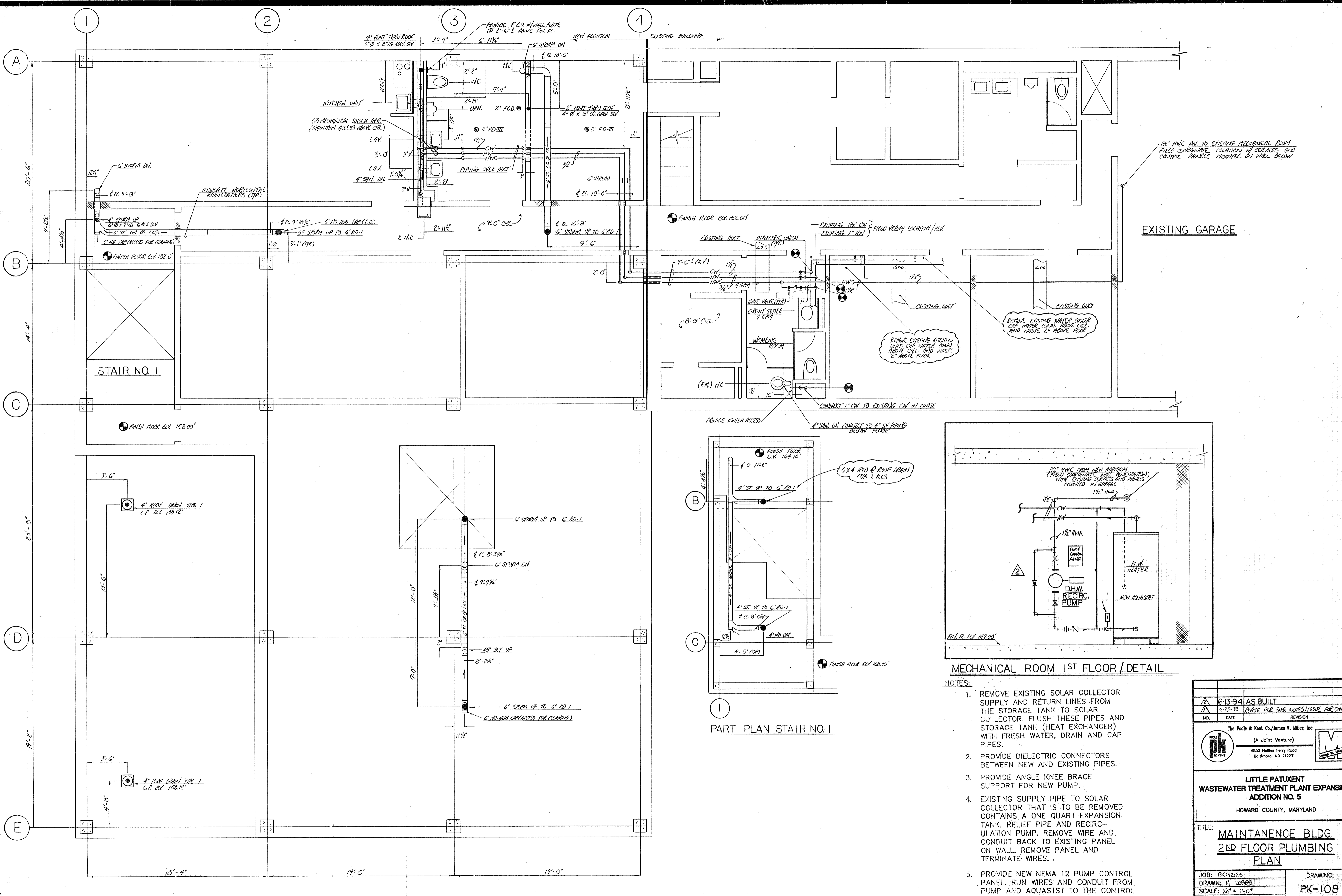
The Poole & Kent Co./James W. Miller, Inc.  
 (A Joint Venture)  
 4530 Hollins Ferry Road  
 Baltimore, MD 21227

**LITTLE PATUXENT  
 WASTEWATER TREATMENT PLANT EXPANSION  
 ADDITION NO. 5**  
 HOWARD COUNTY, MARYLAND

TITLE: **MAINTENANCE BLDG.  
 1ST FLOOR PLUMBING  
 PLAN**

JOB: PK-92125  
 DRAWN: M. DODDS  
 SCALE: 1/4" = 1'-0"  
 DATE: 6-25-92

DRAWING: **PK-107**



MECHANICAL ROOM 1ST FLOOR / DETAIL

- NOTES:
1. REMOVE EXISTING SOLAR COLLECTOR SUPPLY AND RETURN LINES FROM THE STORAGE TANK TO SOLAR COLLECTOR. FLUSH THESE PIPES AND STORAGE TANK (HEAT EXCHANGER) WITH FRESH WATER, DRAIN AND CAP PIPES.
  2. PROVIDE DIELECTRIC CONNECTORS BETWEEN NEW AND EXISTING PIPES.
  3. PROVIDE ANGLE KNEE BRACE SUPPORT FOR NEW PUMP.
  4. EXISTING SUPPLY PIPE TO SOLAR COLLECTOR THAT IS TO BE REMOVED CONTAINS A QUART EXPANSION TANK, RELIEF PIPE AND RECIRCULATION PUMP. REMOVE WIRE AND CONDUIT BACK TO EXISTING PANEL ON WALL. REMOVE PANEL AND TERMINATE WIRES.
  5. PROVIDE NEW NEMA 12 PUMP CONTROL PANEL. RUN WIRES AND CONDUIT FROM PUMP AND AQUASTAT TO THE CONTROL PANEL.

6-13-94 AS BUILT	
NO.	DATE
REVISION	
The Poole & Kent Co./James W. Miller, Inc. (A Joint Venture)	
4530 Hollins Ferry Road Baltimore, MD 21227	
LITTLE PATUXENT WASTEWATER TREATMENT PLANT EXPANSION ADDITION NO. 5 HOWARD COUNTY, MARYLAND	
TITLE: MAINTENANCE BLDG. 2ND FLOOR PLUMBING PLAN	
JOB: PK-92125	DRAWING: M. DOBBS
SCALE: 1/4" = 1'-0"	DATE: 1-03-95
DRAWING: PK-108	