

TIFF ID: 3900
 PROJECT: Dale Acres Wastewater Treatment Plant
 ENGINEER: Henderson and Bodwell Consulting Engineers
 TOWNSHIP: HAMILTON
 UTILITY: SEWER
 WATER SYSTEM:
 SEWER SYSTEM: LLMWWTP
 STREET: Cozaddale-Murdock Rd/Roachester-Cozaddale Rd
 SCAN DATE: 1/12/2004
 LAST UPDATE: 1/12/1982

CONCRETE

- All concrete shall have a minimum 28 days compressive strength of 4,000 psi.
- All reinforcing steel shall be deformed and shall conform to ASTM specification A-305 and shall be lapped a minimum of 30 diameters and tied at all intersections.
- "Honeycombs" shall not be allowed in any surface.
- Exposed surfaces shall have a "wood float finish."
- Vinyl waterstop shall be flat ribbed as manufactured by VINYLEX Corporation (or approved equal) and shall be continuous along the base of perimeter walls.

PAINTING

- All metal pipe and plate shall receive a "two coat" finish after fabrication. Any spots damaged during placement shall be "touched up" prior to placing the plant in service.
- All field welds to be chipped and wire brushed.
- All metal to be primed with PRECO Liqui-Steel Zinc Primer (or approved equal) in conformance with manufacture's instruction. Prime shall cure for 24 hours.
- Final coat shall be PRECO Liqui-Steel (or approved equal) in conformance with manufacture's instruction, and shall have a minimum dry thickness of 2.5 mils. (400 Sq. Ft./gal. coverage).

PIPING

- All piping shall be schedule 40 galvanized steel except as noted.
- All gate valves shall be equipped with operating wheels.
- Water service line shall be 1" "K" copper with a minimum cover of 4'6".
- A backflow preventer shall be installed in a separate pit adjacent to the meter pit.
- Dosing tank gate valves shall be set in a meter pit similar to Tyler #15B with #6994 CI cover.

ELECTRICAL

- All wiring to be done under inspection of Warren County Building Department.
- All equipment to bear Underwriters Lab Seals.
- All panel boxes to be NEMA 3 weatherproof construction.

GENERAL NOTES:

- All construction in public rights-of-way shall conform to the specifications and regulations of the Ohio Department of Transportation, (O.D.O.T.) and Warren County, Ohio and in the balance of the site to "Standard Specifications for Land Improvements" Edition 1980-C prepared by Henderson and Bodwell.
- Roof drains, foundation drains and other storm water connections to the sanitary sewer system are prohibited.
- All structures to be WARREN COUNTY DESIGN STANDARDS unless otherwise noted.
- All trenches under pavement or within five (5) feet of pavement, curb and gutter, and sidewalk shall be backfilled with granular materials, O.D.O.T. item 310.02.
- Existing utility locations shown are approximate. The Contractor shall determine the exact location and elevations by field investigation. Any adjustments or repairs to existing utilities as a result of the Contractor's operations shall be made at the Contractor's expense.
- Ponding or low undrainable areas created by road construction are to be eliminated by filling and regrading.

WATER NOTES:

- All water mains shall have a minimum cover 4' 6".
- All water mains 6" or greater in diameter shall be cast iron conforming with A.W.W.A. Spec. C-100 thickness Class 22 or Ductile Iron conforming with A.W.W.A. Spec. C-151 Class 52 or approved equal.
- A concrete slab must be provided at final grade around all main valve boxes. The slabs shall be 18" square and 9" thick.
- All water meters to be set 3' to 4' from back of curb, unless otherwise shown.
- Contractor shall submit as-built plans of sanitary and water laterals to the Owner. The location of the water and sewer service laterals shall be permanently stamped into the concrete curb at the time the curb is being poured.
- Water and sewer lines shall have a minimum of either ten feet (10') horizontal separation or two feet (2') vertical separation.
- Fire hydrants shall be located approximately three (3) to five (5) feet behind curb.

SEWER NOTES:

- All sanitary pipe shall conform to AWWA C-900 for P.V.C. pipe and to AWWA C-151 Class 52 for ductile iron with cement lining.
- Sanitary effluent from this development will be accepted and/or treated by Warren County.
- All manholes not in paved or grassed areas must be raised to provide the final elevation of one foot (1') above finished grade.
- All manholes in paved or grassed areas must be set with the top of casting at finished grade.

IMPROVEMENT PLANS

FOR DALE ACRES WASTE WATER TREATMENT PLANT

SITUATED IN

HAMILTON TOWNSHIP,
 WARREN COUNTY, OHIO

PREPARED BY
HENDERSON & BODWELL
CONSULTING ENGINEERS
 PLAINVIEW, NEW YORK, 11803
 MASON, OHIO

SHEET INDEX

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COLLECTION SYSTEM	2
SITE PLAN	3
SPECIAL DETAIL	4-6
PROFILES	7

APPROVED

Arch. Hildebrand
David B. Smith
Geo. E. Verwilligen
 WARREN COUNTY COMMISSIONERS

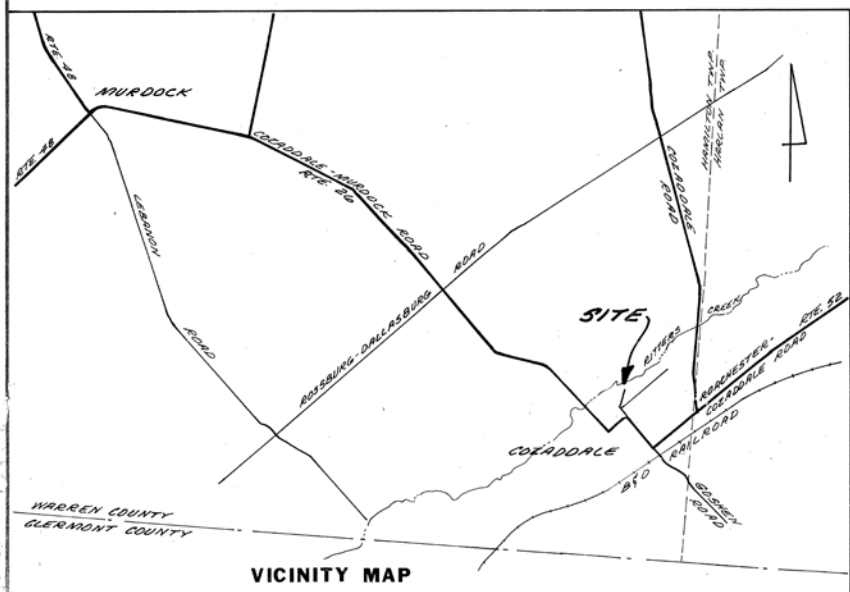
JANUARY 12, 1982
 DATE

WARREN COUNTY SANITARY ENGINEER

DATE

OHIO E.P.A. SUBMITTED _____ DATE _____

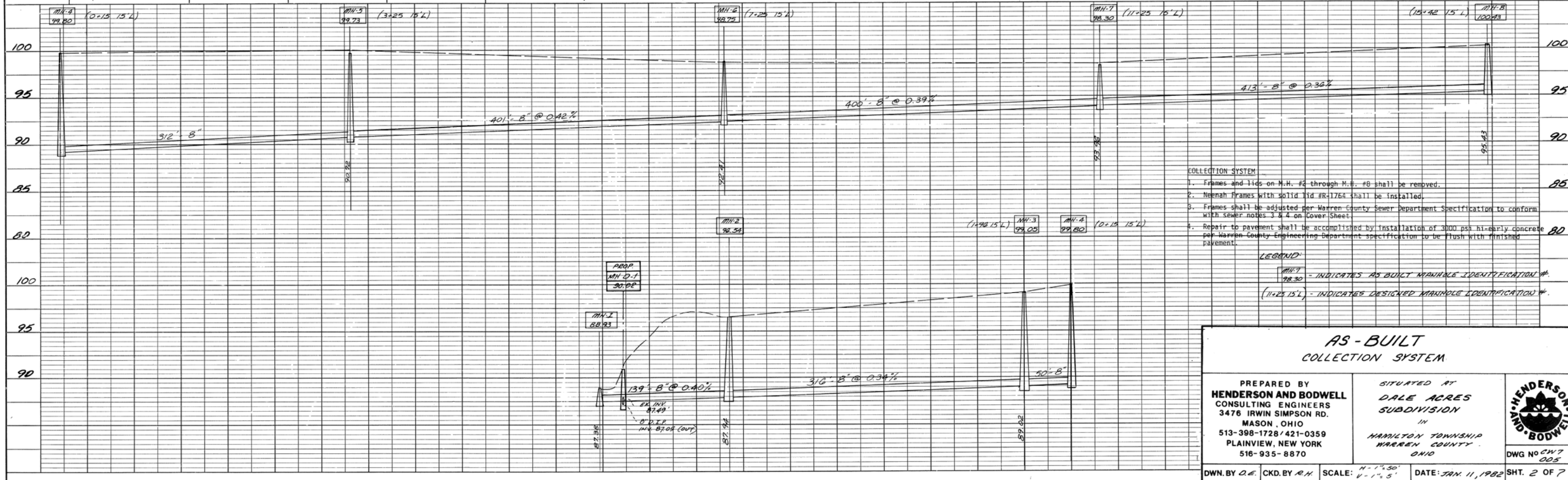
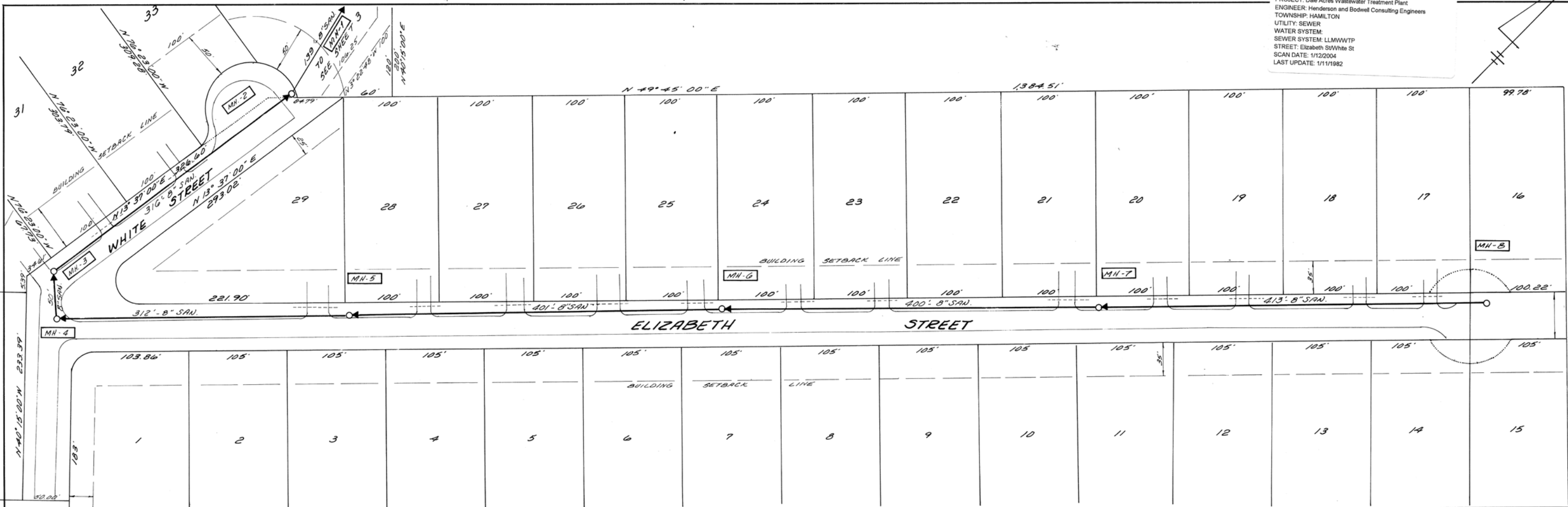
APPROVED _____ DATE _____



TIFF ID: 3901
 PROJECT: Dale Acres Wastewater Treatment Plant
 ENGINEER: Henderson and Bodwell Consulting Engineers
 TOWNSHIP: HAMILTON
 UTILITY: SEWER
 WATER SYSTEM: LLMWWTP
 SEWER SYSTEM: LLMWWTP
 STREET: Elizabeth St/White St
 SCAN DATE: 1/12/2004
 LAST UPDATE: 1/11/1982

PLAN
 SURVEYED, PLOTTED, CHECKED, BY: [blank]
 NOTE BOOK No. [blank]

PROFILE
 SURVEYED, PLOTTED, CHECKED, BY: [blank]
 NOTE BOOK No. [blank]

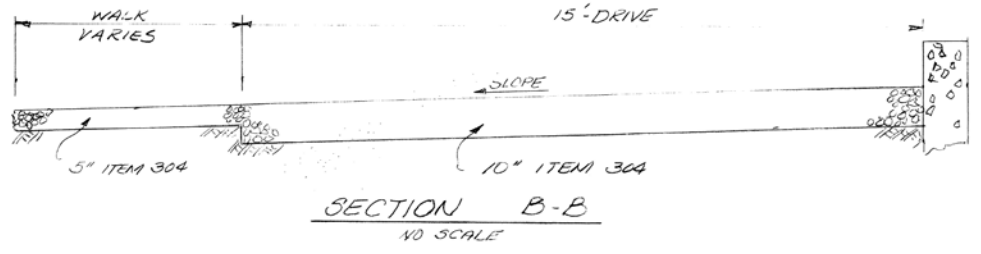


**AS-BUILT
COLLECTION SYSTEM**

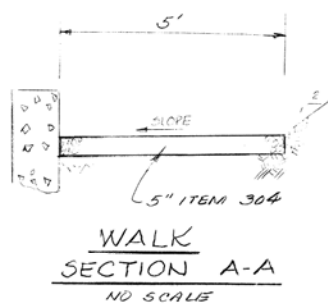
PREPARED BY HENDERSON AND BODWELL CONSULTING ENGINEERS 3476 IRWIN SIMPSON RD. MASON, OHIO 513-398-1728 / 421-0359 PLAINVIEW, NEW YORK 516-935-8870	SITUATED AT DALE ACRES SUBDIVISION IN HAMILTON TOWNSHIP WARREN COUNTY, OHIO	
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DWN. BY O.E. CKD. BY R.H. SCALE: H-1"=50' V-1"=5' DATE: JAN. 11, 1982 SHT. 2 OF 7

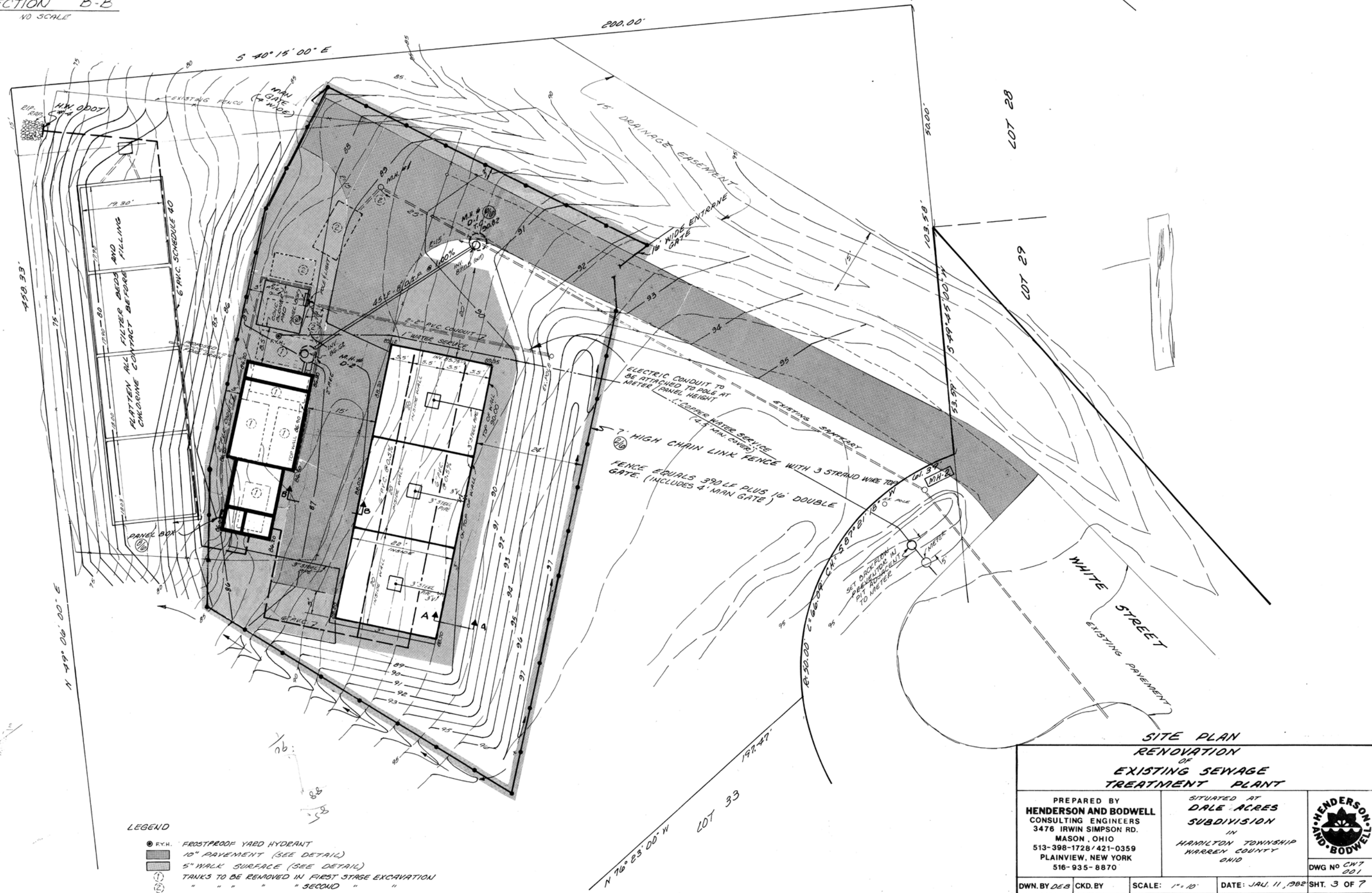
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 PROJECT: Dale Acres Wastewater Treatment Plant
 ENGINEER: Henderson and Bodwell Consulting Engineers
 TOWNSHIP: HAMILTON
 UTILITY: SEWER
 WATER SYSTEM: LMMWTP
 STREET: White St
 SCAN DATE: 1/12/2004
 LAST UPDATE: 1/11/1982



SECTION B-B
NO SCALE



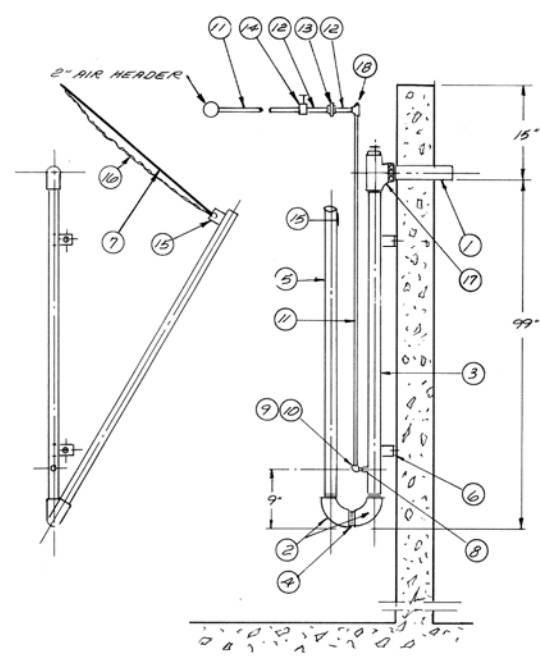
WALK SECTION A-A
NO SCALE



- LEGEND**
- F.Y.H. FROSTPROOF YARD HYDRANT
 - 10" PAVEMENT (SEE DETAIL)
 - ▨ 5" WALK SURFACE (SEE DETAIL)
 - ① TANKS TO BE REMOVED IN FIRST STAGE EXCAVATION
 - ② " " " " " SECOND " " "

SITE PLAN RENOVATION OF EXISTING SEWAGE TREATMENT PLANT

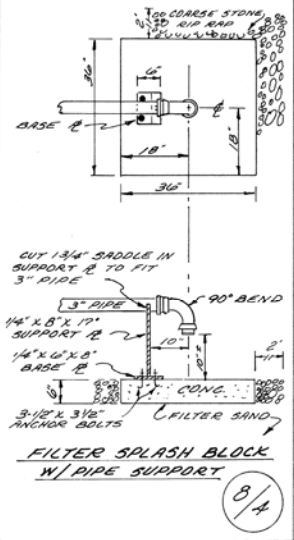
<p> PREPARED BY HENDERSON AND BODWELL CONSULTING ENGINEERS 3476 IRWIN SIMPSON RD. MASON, OHIO 513-398-1728 / 421-0359 PLAINVIEW, NEW YORK 516-935-8870 </p>	<p> SITUATED AT DALE ACRES SUBDIVISION IN HAMILTON TOWNSHIP WARREN COUNTY OHIO </p>
<p> DWN. BY DEB CKD. BY SCALE: 1" = 10' DATE: JAN. 11, 1982 SHT. 3 OF 7 </p>	<p>DWG NO CW7 001</p>



ITEM	QTY	DESCRIPTION
1	1	2" PIPE 14" LONG
2	2	2" 90° ELBOW
3	1	2" PIPE
4	1	2" CLOSE NIPPLE (WRAP WITH TEFLON TAPE)
5	1	2" PIPE (CUT TO SUIT)
6	2	1/4" X 3" X 5" MOUNT BRACKET WITH (1) 1/2" DIA HANDLE
7	1	1/2" HANDLE (CUT TO SUIT)
8	1	3/4" - 3/4" COUPLING WELD TO RISER
9	1	3/4" CLOSE NIPPLE
10	1	3/4" 90° ELBOW
11	2	3/4" PIPE
12	2	3/4" NIPPLE
13	1	3/4" UNION
14	1	3/4" GATE
15	1	1/2" X 3" X 3" PL WITH 1" DIA HOLE
16	1	CHAIN TO FIT TO HOOK TO COMMUNICATOR BOL
17	1	2" X 2" X 2" TEE WITH UNION & 2" PVC PLUG
18	1	3/4" X 3/4" X 3/4" TEE WITH PVC PLUG

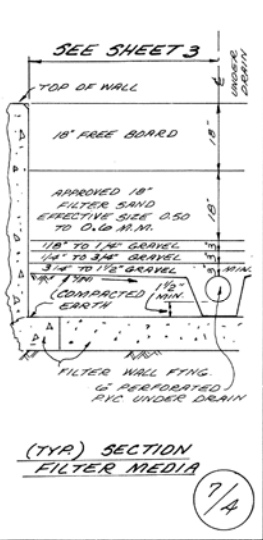
DECANT AIRLIFT

12/A



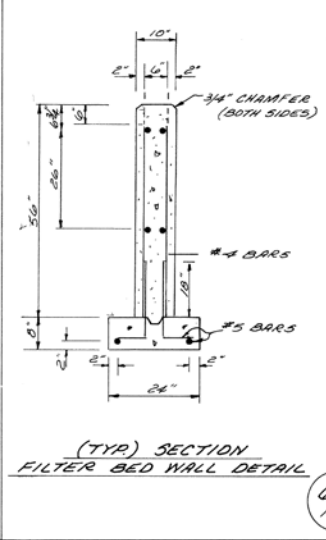
FILTER SPLASH BLOCK W/ PIPE SUPPORT

8/A



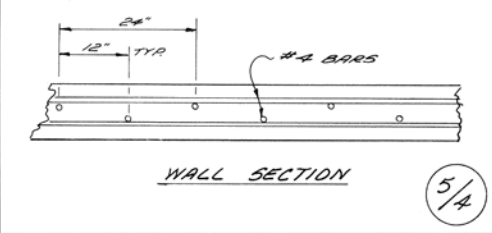
(TYR) SECTION FILTER MEDIA

7/A



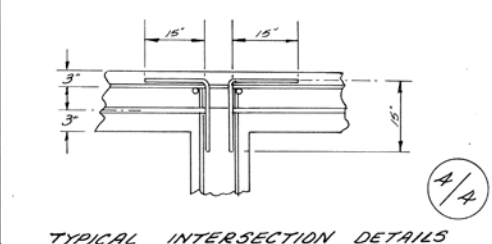
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6/A



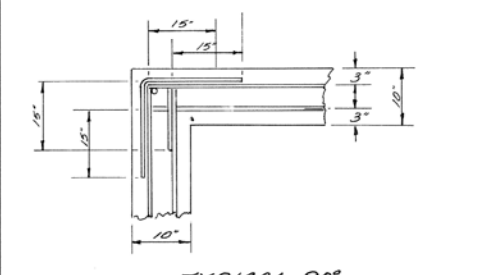
WALL SECTION

5/A



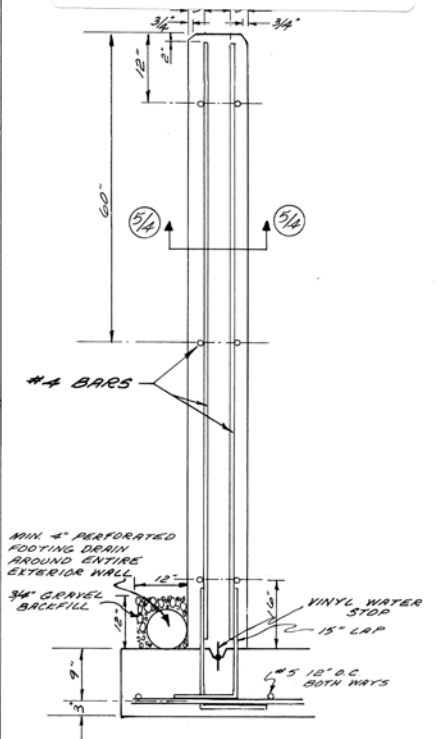
TYPICAL INTERSECTION DETAILS

4/A



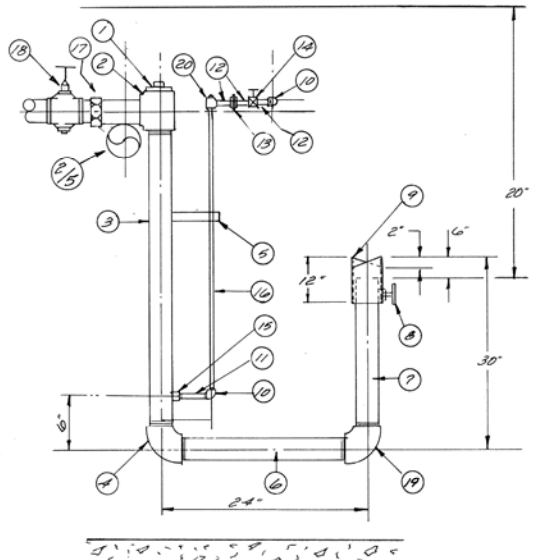
TYPICAL 90° CORNER DETAIL

3/A



TYPICAL WALL SECTION

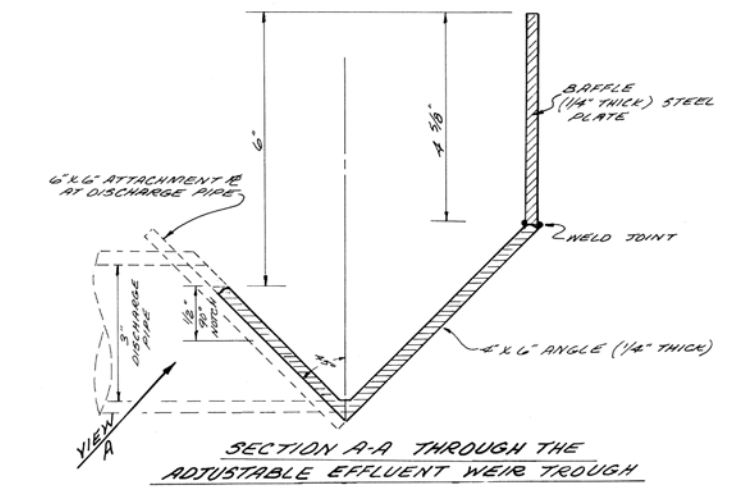
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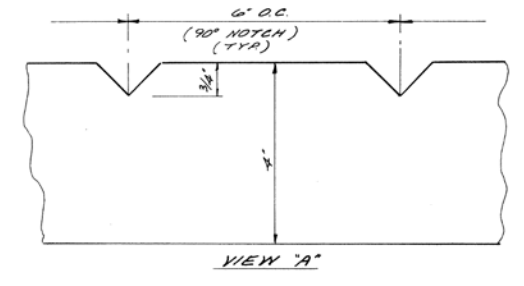
ITEM	QTY	DESCRIPTION
1	1	2" PLUG (PVC)
2	1	2" BZ TEE
3	1	2" PIPE
4	1	2" 90° ELBOW
5	1	1/2" X 5/8" BRACKET PLATE 1/4" &
6	1	2" PIPE
7	1	2 1/2" PIPE
8	1	2 1/2" TEE BOLT W/ NUT (1/2")
9	1	3" PIPE 12" LG CUT AS SHOWN
10	3	3/4" 90° ELBOW SCREWED
11	1	3/4" X 4" NIPPLE
12	3	3/4" NIPPLE
13	1	3/4" UNION
14	1	3/4" GATE
15	1	3/4" - 3/4" COUPLING WELD TO RISER
16	1	3/4" PIPE
17	1	2" UNION
18	1	2" GATE VALVE
19	1	2" X 2 1/2" ELBOW
20	1	TEE & PLUG 3/4"

SKIMMER

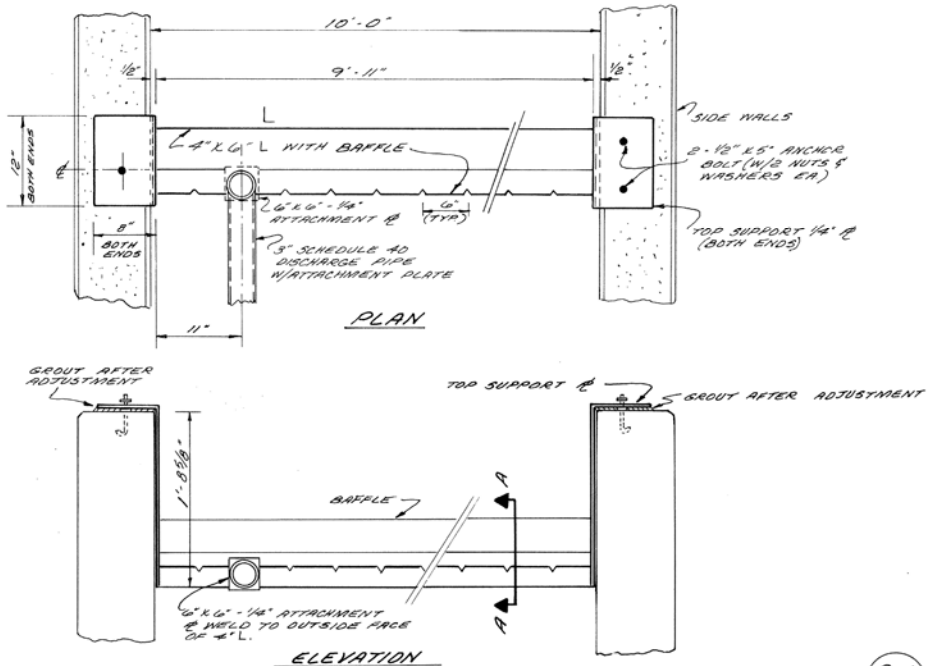
11/A



SECTION A-A THROUGH THE ADJUSTABLE EFFLUENT WEIR TROUGH

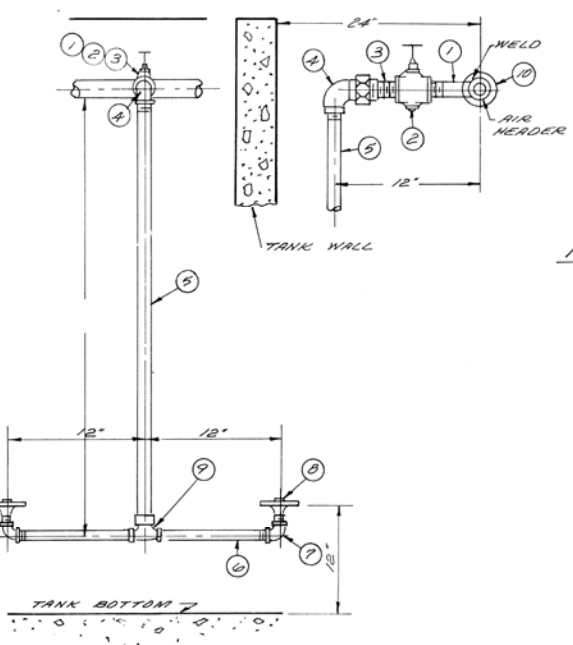


VIEW 'A'



ADJUSTABLE WEIR TROUGH

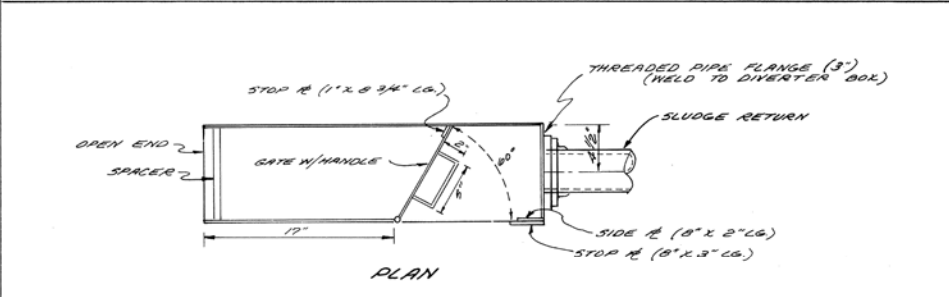
9/A



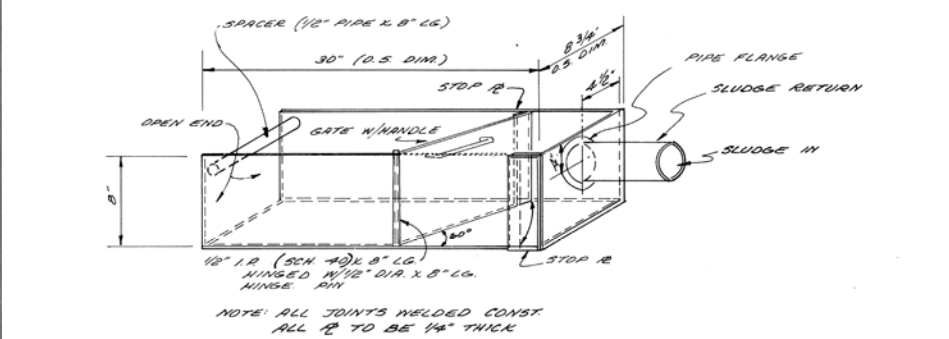
ITEM	QTY	DESCRIPTION
1	1	1 1/4" BLK. PIPE
2	1	1 1/4" GATE
3	1	1 1/4" CLOSE NIPPLE BLK.
4	1	1 1/4" 90° ELBOW UNION BLK.
5	1	1 1/4" PIPE BLK.
6	2*	3/4" NIPPLES - BLK.
7	2*	3/4" 90° ELBOW BLK.
8	2*	3/4" AIR DIFFUSERS (ENVIRO QUIP MODEL 750 10 C.A.M.)
9	1	3/4" X 3/4" X 1 1/4" TEE - BLK. (1 1/4" X 3/4" ELBOW IN SLUDGE STORAGE)
10	1	2" X 2" X 1 1/4" TEE

DIFFUSER ASSEMBLY

10/A



PLAN



ISOMETRIC SLUDGE DIVERTER W/ SWING GATE

1/A

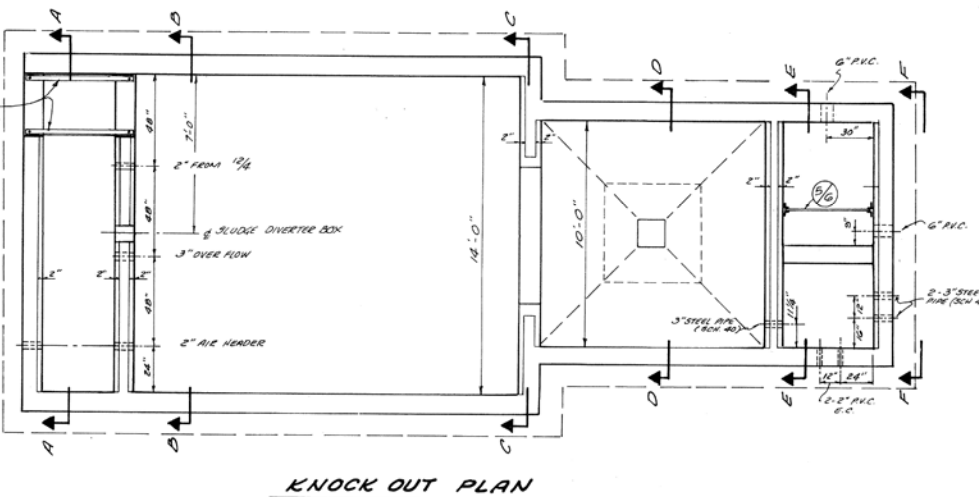
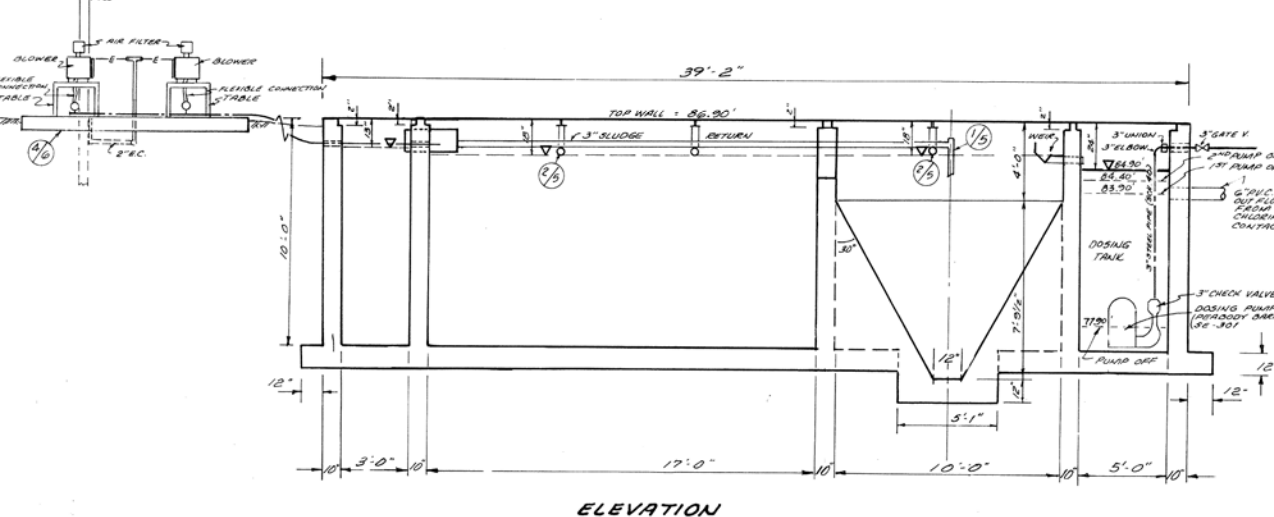
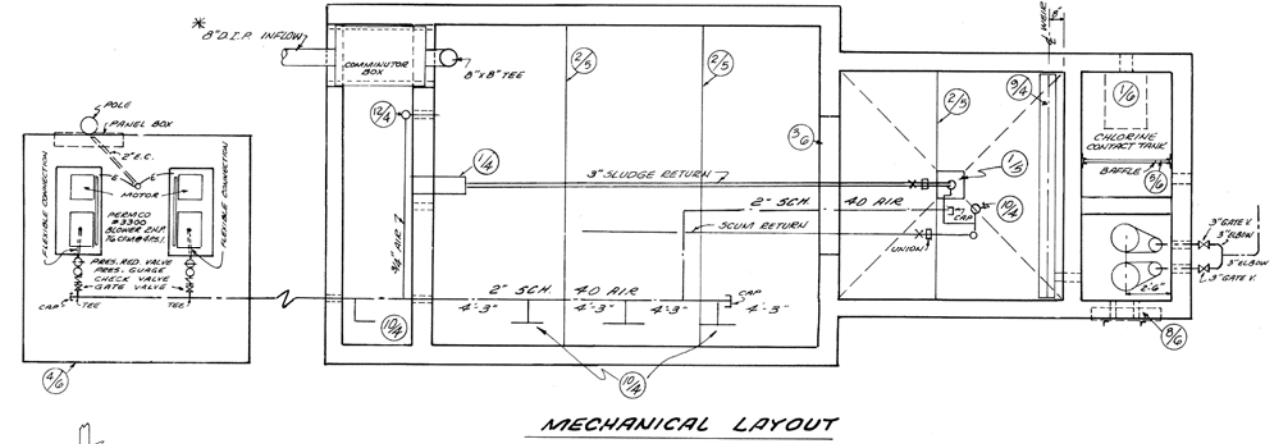
SPECIAL DETAILS RENOVATION OF EXISTING SEWAGE TREATMENT PLANT

PREPARED BY HENDERSON AND BODWELL CONSULTING ENGINEERS 3476 IRWIN SIMPSON RD. MASON, OHIO 513-398-1728 / 421-0359 PLAINVIEW, NEW YORK 516-935-8870	SITUATED AT DALE ACRES SUBDIVISION IN HAMILTON TOWNSHIP WARREN COUNTY OHIO	
DWN. BY D.E. CKD. BY R.H.	SCALE: NONE	DATE: JAN. 11, 1982

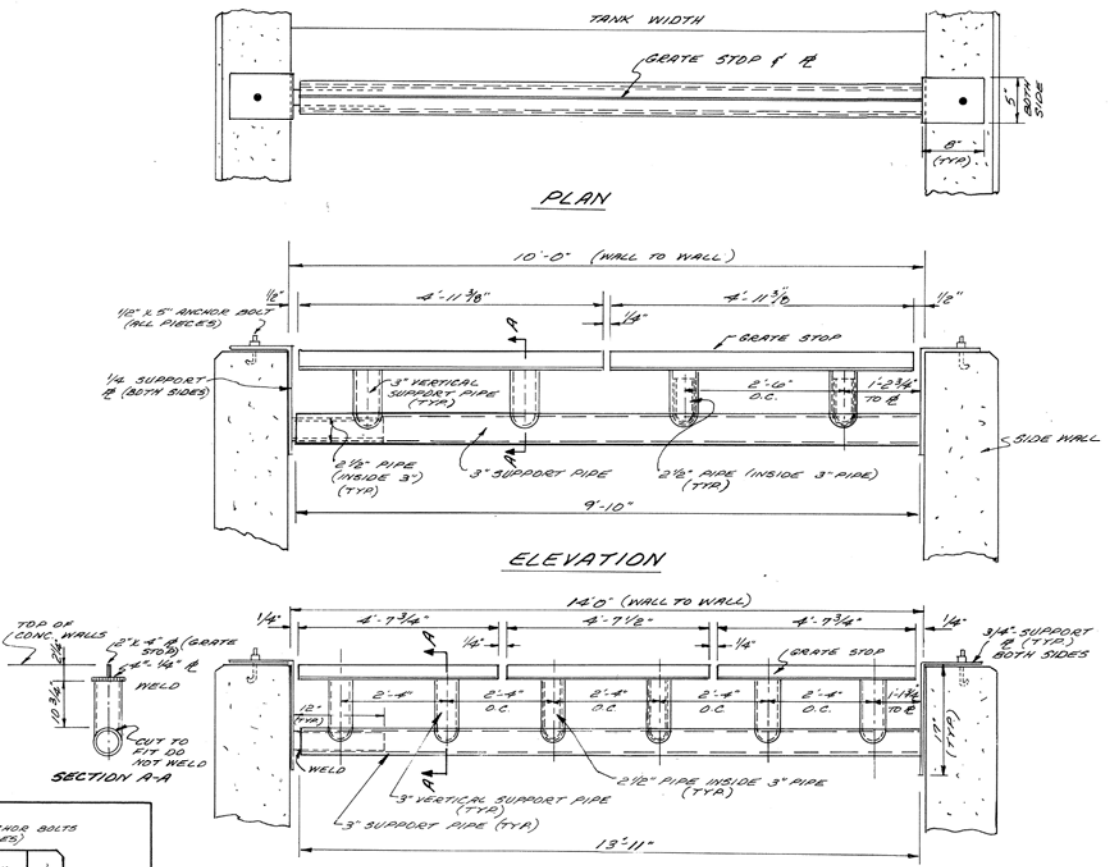
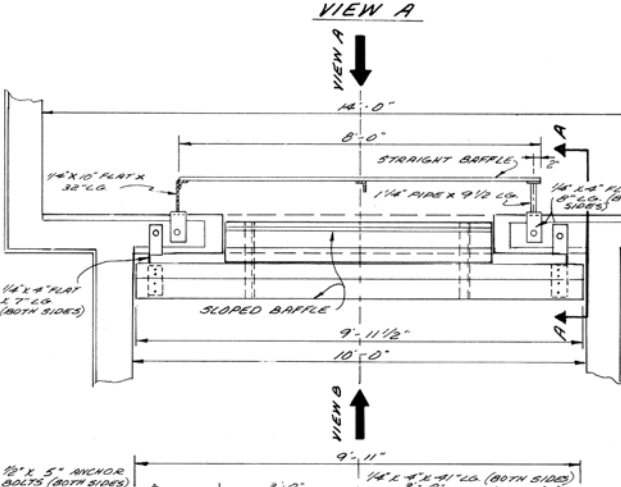
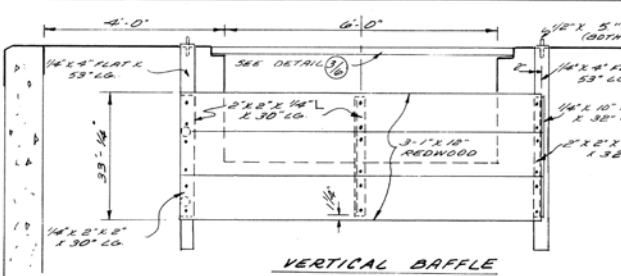
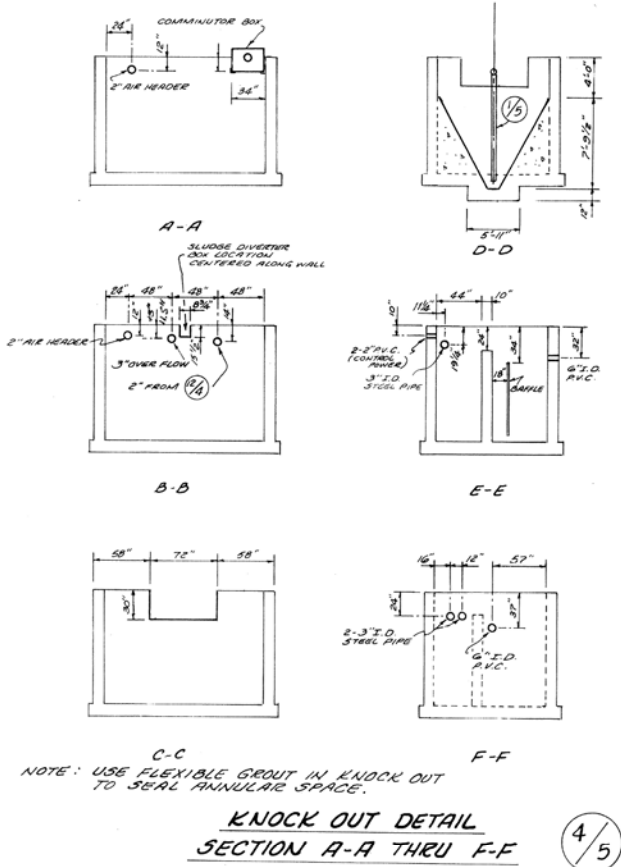
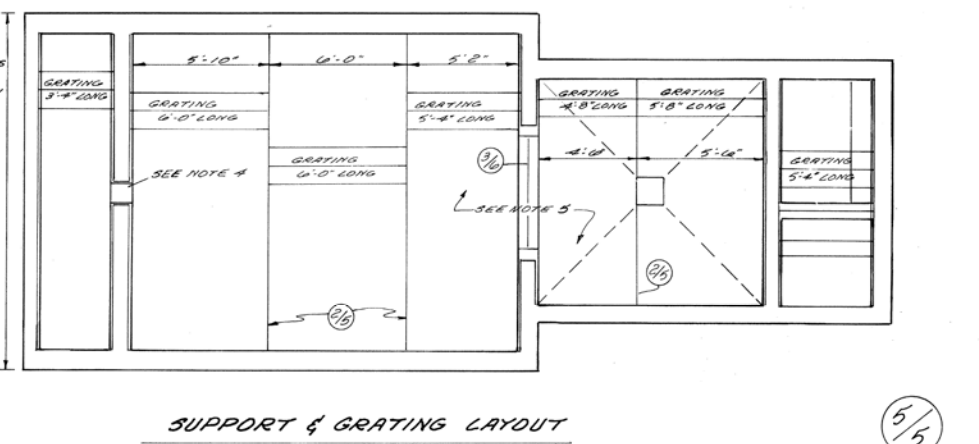
DWG NO. CWT 803
 SHT. 4 OF 7

* CONFIRM WITH SHOP DWGS.

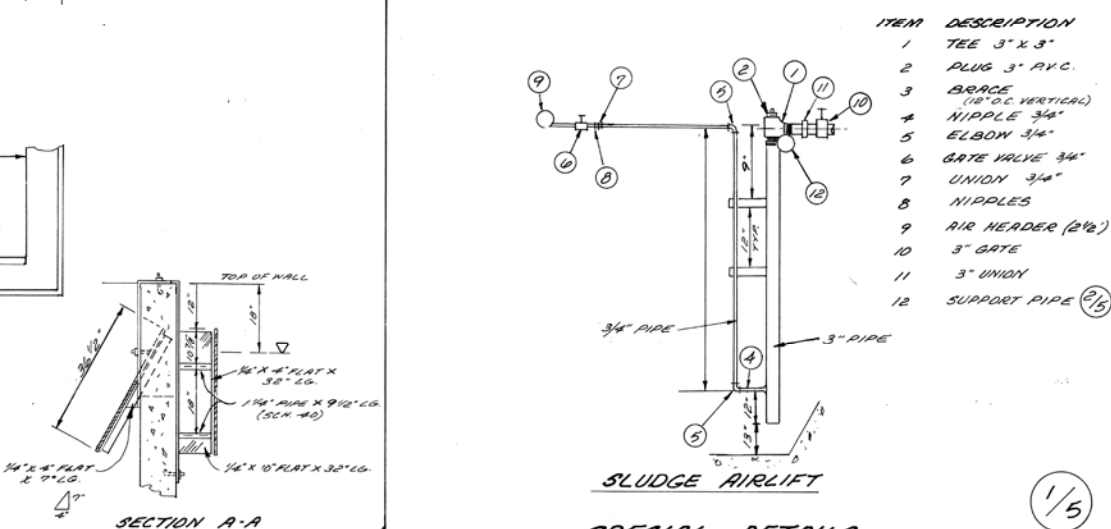
TIFF ID: 3904
 PROJECT: Dale Acres Wastewater Treatment Plant
 ENGINEER: Henderson and Bodwell Consulting Engineers
 TOWNSHIP: HAMILTON
 UTILITY: SEWER
 WATER SYSTEM: LLMWWTP
 SEWER SYSTEM: LLMWWTP
 STREET:
 SCAN DATE: 1/12/2004
 LAST UPDATE: 1/11/1982



NOTE
 1 ALL GRATING TO BE 2" M.G.A. "GRIP-STRIP"
 2 ALL GRATING SUPPORT RECESSES IN TANK WALLS TO BE 2" X 2"
 3 GRATING LENGTHS DO NOT ALLOW FOR SUPPORT THICKNESS.
 4 GRATING OVER DIVERTER TO BE 8'-0" LONG BY 12" WIDE
 5 INCREASE LENGTH OF GRATING AT BY 2 3/4"



NOTE 1. ALL JOINTS TO BE WELDED CONTINUOUSLY EXCEPT 3" VERTICAL SUPPORT PIPE TO 3" HOSE SUPPORT PIPE.
NOTE 2. ALL PIPE TO BE SCHEDULE 40 GALVANNEED STEEL.



- | ITEM | DESCRIPTION |
|------|----------------------------|
| 1 | TEE 3" X 3" |
| 2 | PLUG 3" PVC |
| 3 | BRACE (1/2" O.C. VERTICAL) |
| 4 | NIPPLE 3/4" |
| 5 | ELBOW 3/4" |
| 6 | GATE VALVE 3/4" |
| 7 | UNION 3/4" |
| 8 | NIPPLES |
| 9 | AIR HEADER (2 1/2") |
| 10 | 3" GATE |
| 11 | 3" UNION |
| 12 | SUPPORT PIPE (2 1/2") |

RENOVATION OF EXISTING SEWAGE TREATMENT PLANT

PREPARED BY
HENDERSON AND BODWELL CONSULTING ENGINEERS
 3476 IRWIN SIMPSON RD.
 MASON, OHIO
 513-398-1728 / 421-0359
 PLAINVIEW, NEW YORK
 516-935-8870

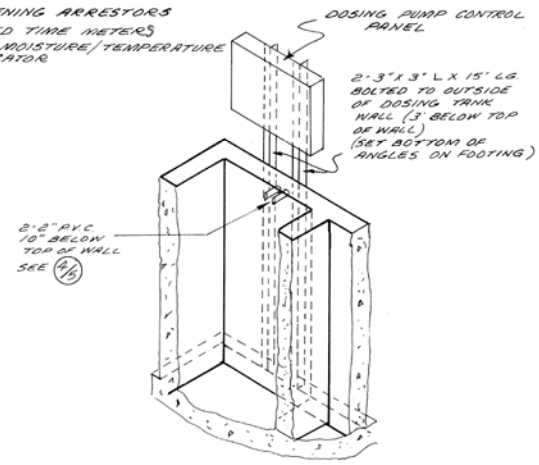
SITUATED AT
DALE ACRES SUBDIVISION
 IN
 HAMILTON TOWNSHIP
 WARREN COUNTY
 OHIO

DWN. BY DE. CKD. BY R.H. SCALE: NONE DATE: JAN 11, 1982 SHT. 5 OF 7



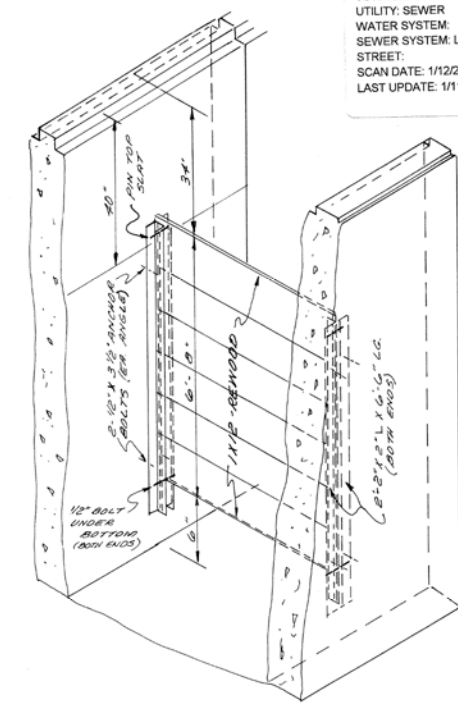
CONTROL PANEL TO INCLUDE:

- MAIN CIRCUIT BREAKER
- PUMP CIRCUIT BREAKERS
- M.O.A. SELECTOR SWITCHES
- PUMP INDICATOR LIGHTS
- PUMP ALTERNATOR
- GROUND FAULT PROTECTED 110 VOLTS RECEPTACLE
- LIGHTNING ARRESTORS
- ELAPSED TIME METERS
- PUMP MOISTURE/TEMPERATURE INDICATOR



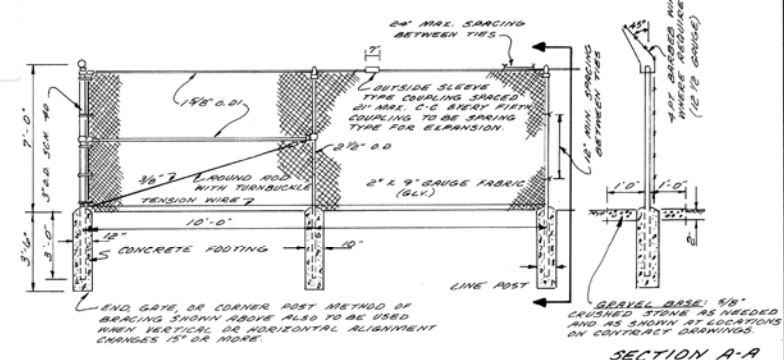
DOSING PUMP CONTROL PANEL

8/6



VERTICAL BAFFLE (CHLORINATOR TANK)

5/6



NOTES

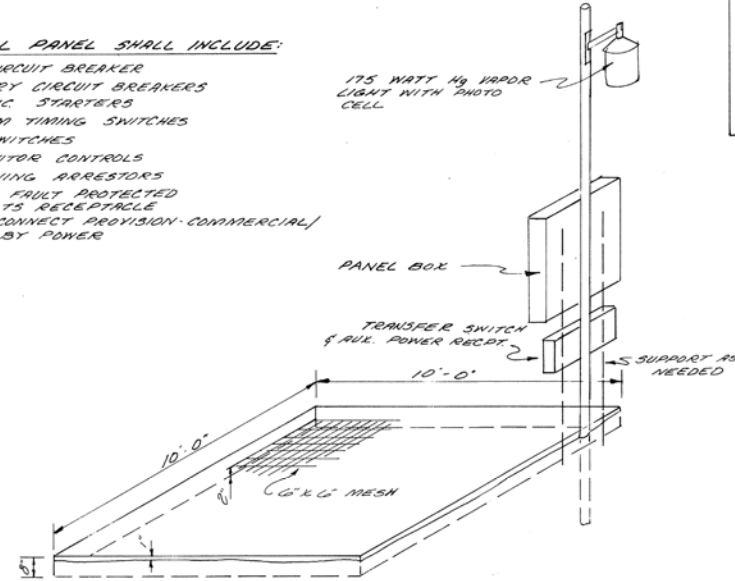
- ALL WIRE FABRIC SHALL MEET THE REQUIREMENTS OF THE CURRENT A.S.T.M. DESIGNATION A-392. IT IS TO BE HOT DIPPED GALVANIZED AFTER WEAVING (A.S.T.M. A-392, CLASS II)
- ALL POSTS & COLUMNS SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH A.S.T.M. DESIGNATION A-153.
- ALL RODS AND FITTINGS SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH A.S.T.M. DESIGNATION A-153.
- ALL FITTINGS SHALL BE MALLEABLE IRON, CAST IRON OR PRESSED STEEL.
- ALL CONCRETE FOOTINGS SHALL HAVE A COMPRESSIVE STRENGTH OF 2500 LBS PER SQ. IN. AFTER 28 DAYS. POSTS SHALL SET IN FOOTINGS A MINIMUM OF 7 DAYS BEFORE ANY FABRIC IS ATTACHED. WHEN THE AIR TEMPERATURE IS BELOW 50°F DURING POURING OF THE CONCRETE IT IS TO SET A MINIMUM OF 14 DAYS BEFORE THE FABRIC IS ATTACHED.
- THREE BARBED WIRE STRANDS AS REQUIRED AND AS SHOWN AT LOCATION ON THE PLAN. THE WIRE SHALL EXTEND TOWARD THE OUTSIDE OF THE FENCE.
- ALL GATES SHALL BE 1 1/2" O.D. FRAMES WITH THE SAME FABRIC AS THE FENCE. ALL GATES SHALL BE COMPLETE WITH HINGES, LATCHES, STOPS, 1/2" GATE POSTS SHALL BE 4" O.D. GALV. SCH. 40 PIPE, 1/4" WALK GATE POSTS SHALL BE 3" O.D. GALV. SCH. 40 PIPE.

CHAIN LINK FENCE

2/6

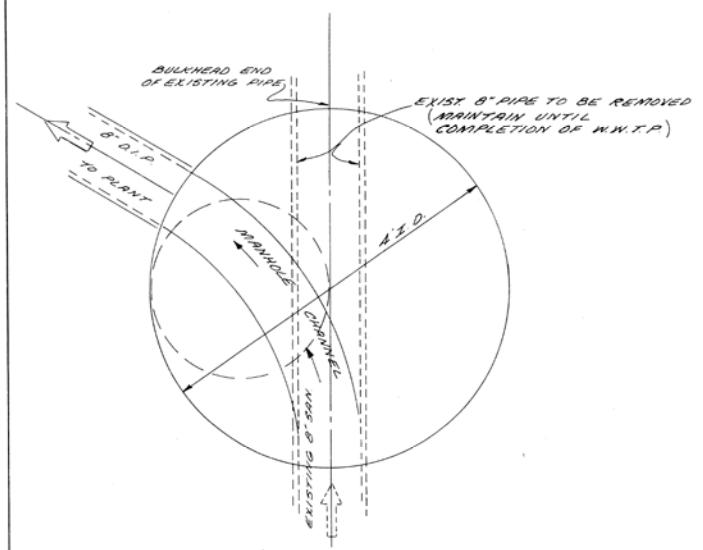
CONTROL PANEL SHALL INCLUDE:

- MAIN CIRCUIT BREAKER
- AUXILIARY CIRCUIT BREAKERS
- MAGNETIC STARTERS
- PROGRAM TUNING SWITCHES
- M.O.A. SWITCHES
- COMMUNICATOR CONTROLS
- LIGHTNING ARRESTORS
- GROUND FAULT PROTECTED 110 VOLTS RECEPTACLE
- INTERCONNECT PROVISION (COMMERCIAL)
- STANDBY POWER



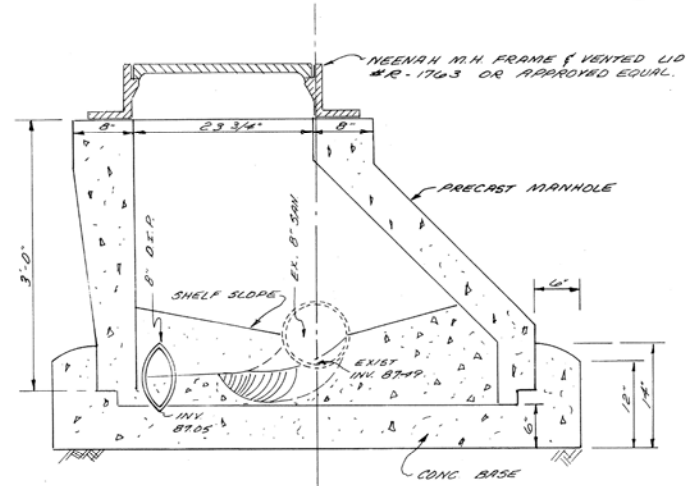
CONCRETE PAD FOR BLOWERS

4/6



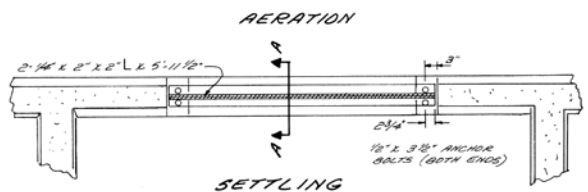
PLAN VIEW OF MANHOLE CHANNEL M.H. #D-1

7/6

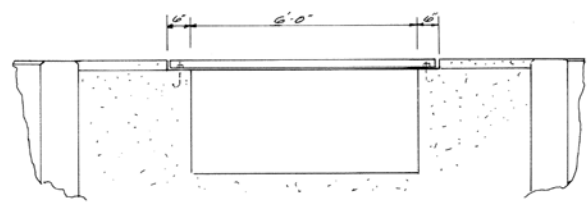


SECTION THROUGH MANHOLE & FLOW CHANNEL M.H. #D-1

6/6

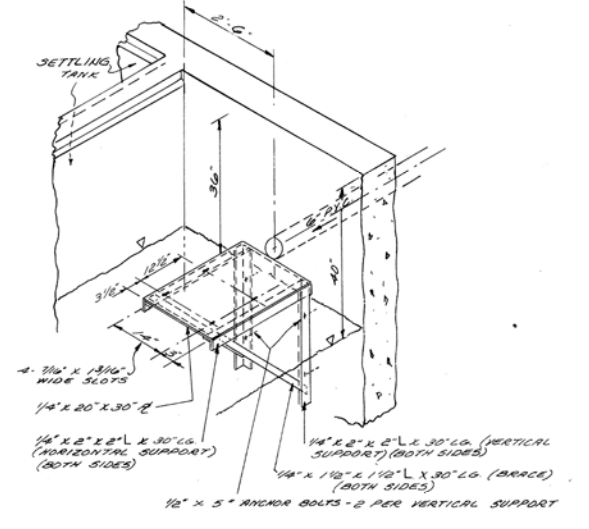


SETTLING PLAN



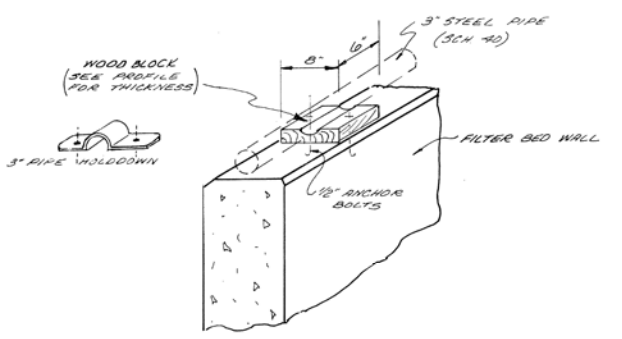
ELEVATION GRATING SUPPORT DETAIL

3/6



SUPPORT BRACKET FOR SANURIL CHLORINATOR MODEL 1000

1/6



BLOCK ELEVATOR FOR 3" STEEL PIPE ON TOP OF FILTER BED WALL

9/6

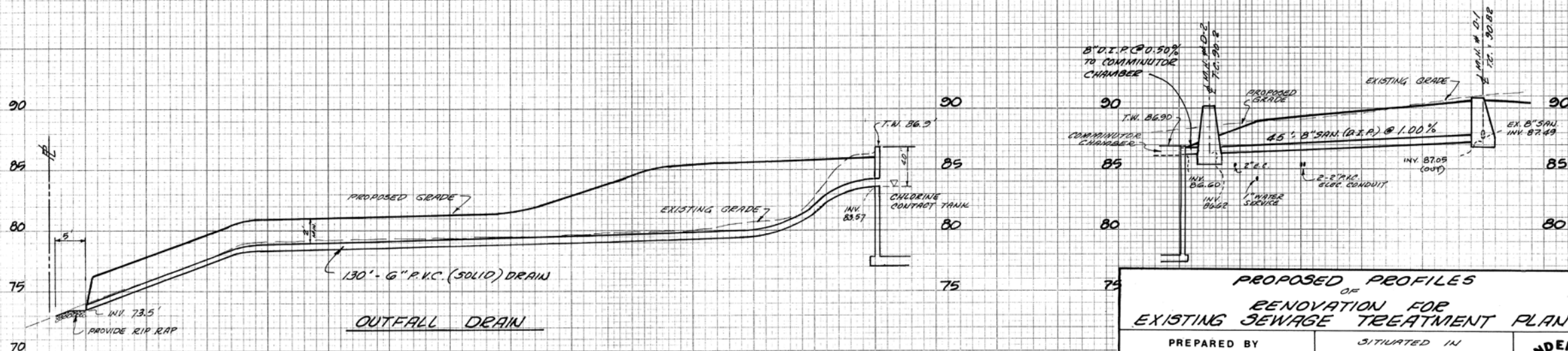
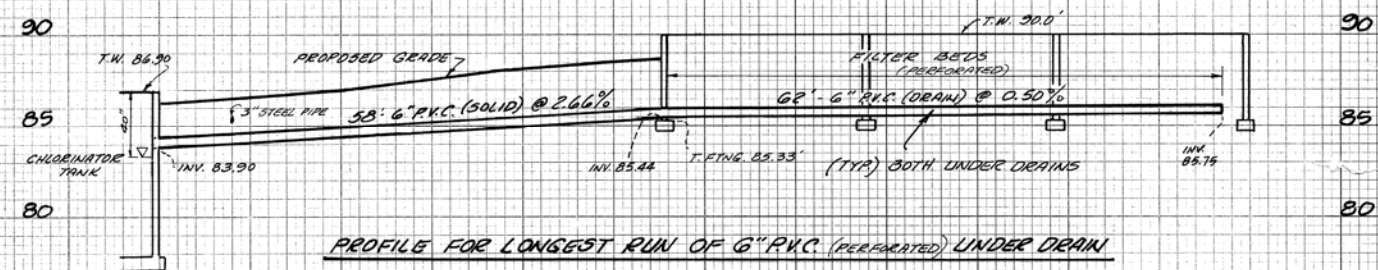
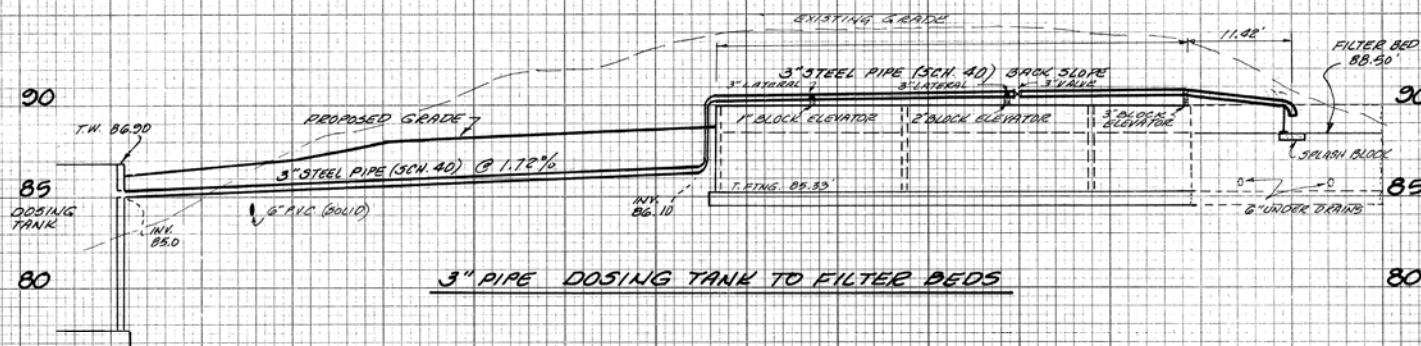
SPECIAL DETAILS

RENOVATION OF EXISTING SEWAGE TREATMENT PLANT


PREPARED BY HENDERSON AND BODWELL CONSULTING ENGINEERS 3476 IRWIN SIMPSON RD. MASON, OHIO 513-398-1728 / 421-0359 PLAINVIEW, NEW YORK 516-935-8870	SITUATED AT DALE ACRES SUBDIVISION IN HAMILTON TOWNSHIP WARREN COUNTY OHIO	
DWN. BY D.E. CKD. BY R.A. SCALE: NONE DATE: JAN. 11, 1992	SHT. 6 OF 7	DWG NO. CW7 005

DATE	
NO.	
APPROVED	
DESIGNED	
CHECKED	
PLANNED	
CONTRACT	
NO.	
DATE	

DATE	
NO.	
APPROVED	
DESIGNED	
CHECKED	
PLANNED	
CONTRACT	
NO.	
DATE	



NOTE: SEE SHEET 5 DETAIL FOR HYDRAULIC PROFILE

PROPOSED PROFILES OF RENOVATION FOR EXISTING SEWAGE TREATMENT PLANT		
PREPARED BY HENDERSON AND BODWELL CONSULTING ENGINEERS 3476 IRWIN SIMPSON RD. MASON, OHIO 513-398-1728/421-0359 PLAINVIEW, NEW YORK 516-935-8870	SITUATED IN DALE ACRES SUBDIVISION IN HAMILTON TOWNSHIP WARREN COUNTY OHIO	 DWG NO. CW-1-207
DWN. BY <i>RM</i>	CKD. BY	SCALE: 1" = 5' VERT. / 1" = 10' HORIZ.
		DATE: JAN. 11, 1981
		SHT. 7 OF 7