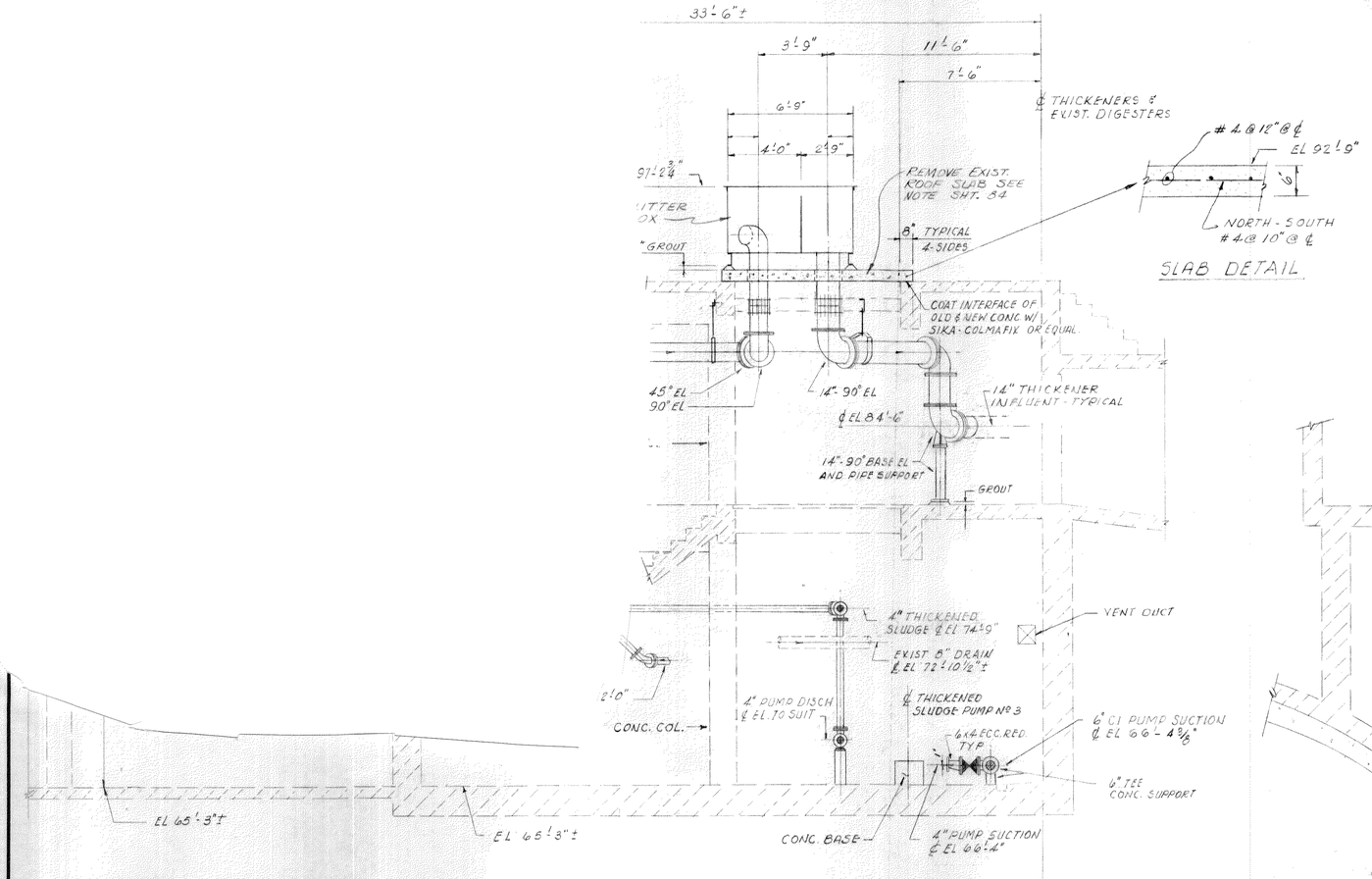
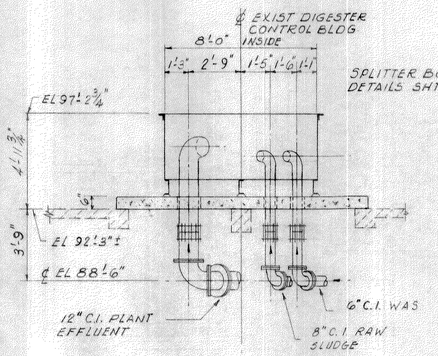
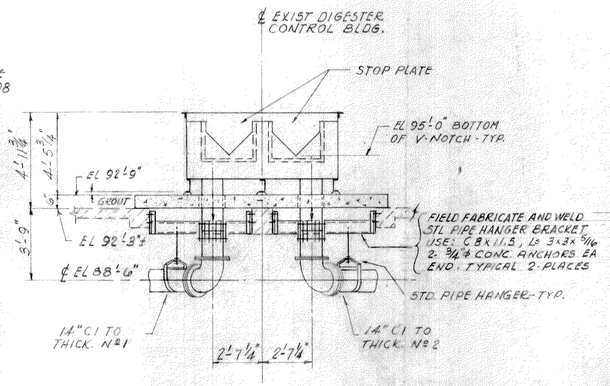
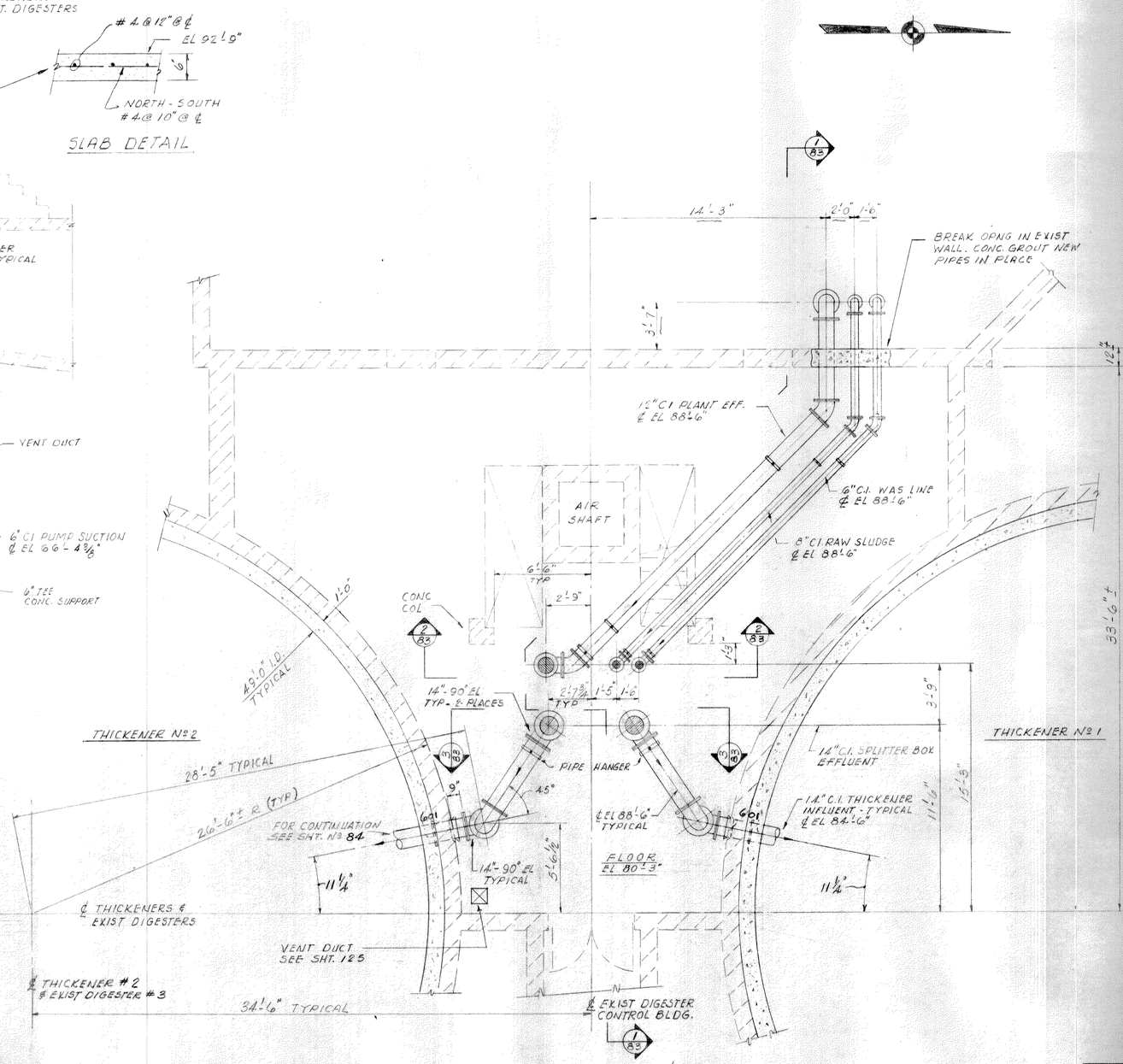



SECTION 2-2




SECTION 3-3




PLAN AT EL 90'-0"

83 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

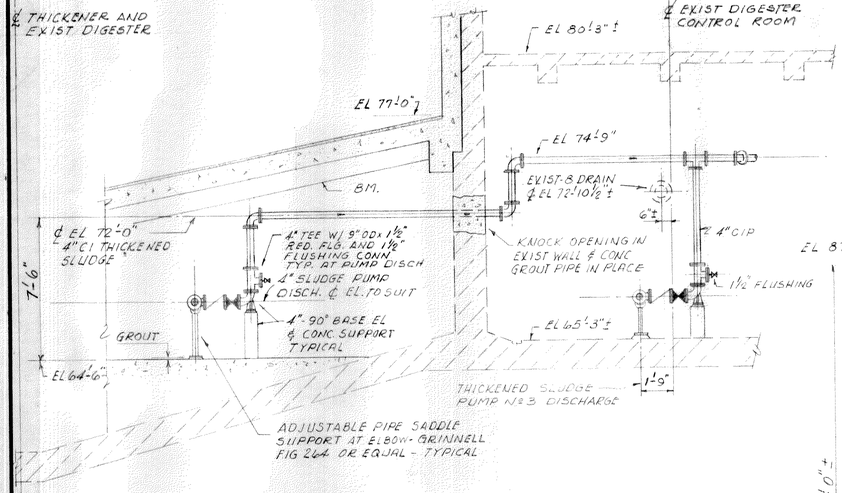
FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN AJH | CHECKED AFM
SCALE ¼"=1'-0" | DWG. No. 72195 | TRACED | APPROVED LER

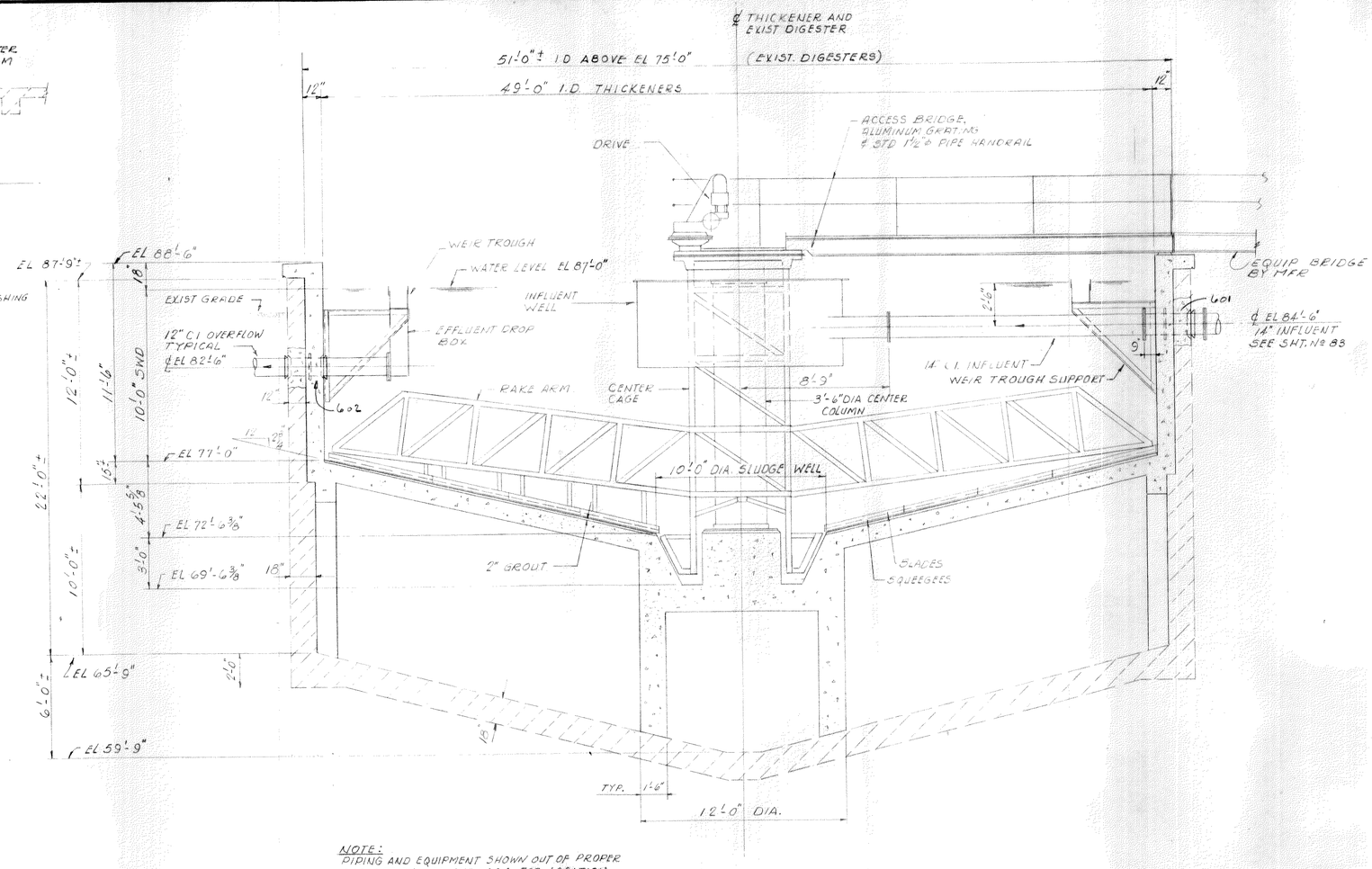
MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
SLUDGE THICKENERS
PLAN & SECTIONS
MECHANICAL

BRUNING 40-105 — 1 2 3 4 5 6 7 8

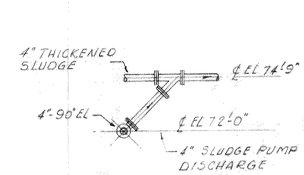



SECTION 2-2

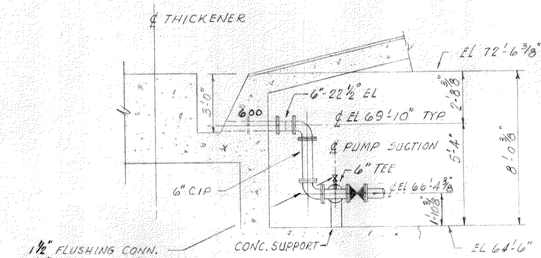



NOTE:
PIPING AND EQUIPMENT SHOWN OUT OF PROPER PROJECTION. SEE SHT. NO 84 FOR LOCATION

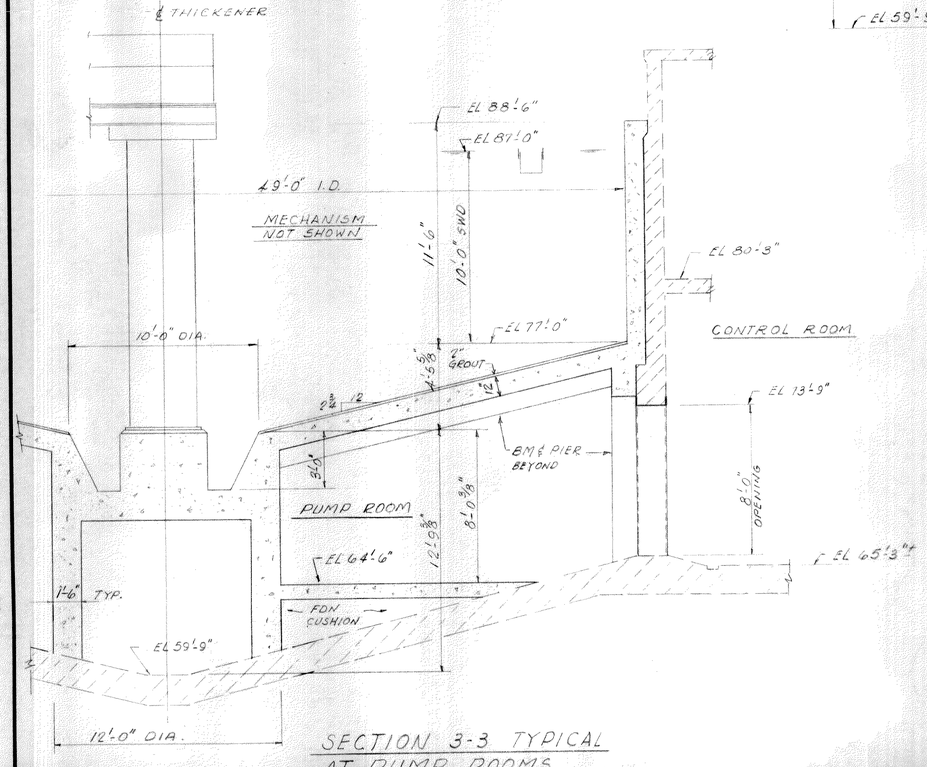
SECTION 6-6
GENERAL CROSS SECTION AT THICKENERS




SECTION 5-5




SECTION 4-4



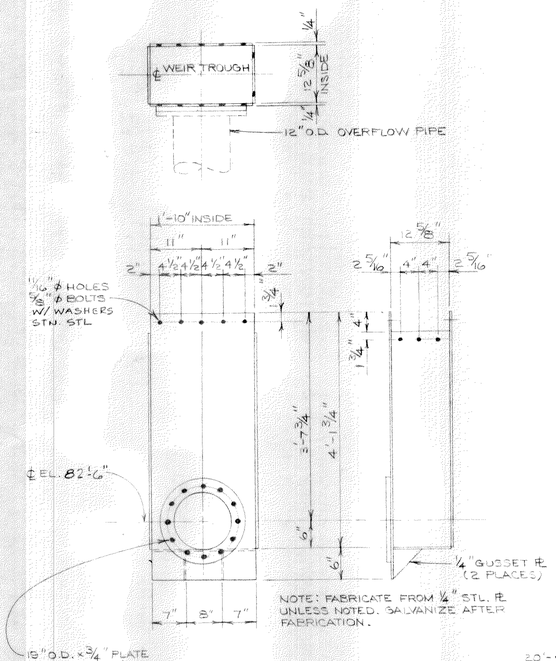

SECTION 3-3 TYPICAL
AT PUMP ROOMS

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

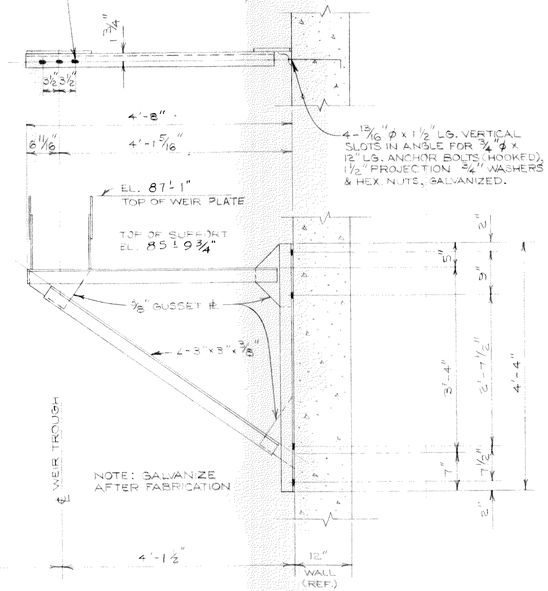
FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN AJH | CHECKED A.F.M.
SCALE 1/4" = 1'-0" | DWG. No. 72197 | TRACED | APPROVED LER

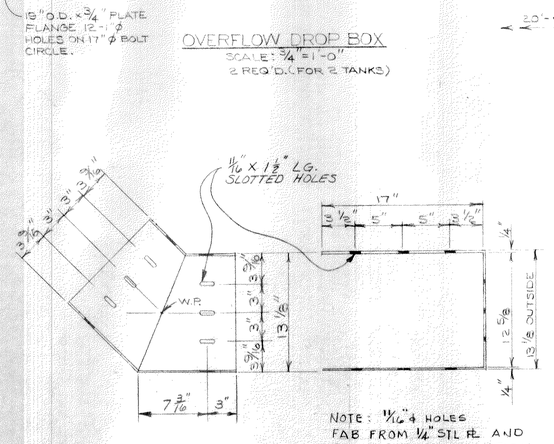
MASSILLON, OHIO
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
SLUDGE THICKENERS
SECTIONS
MECHANICAL

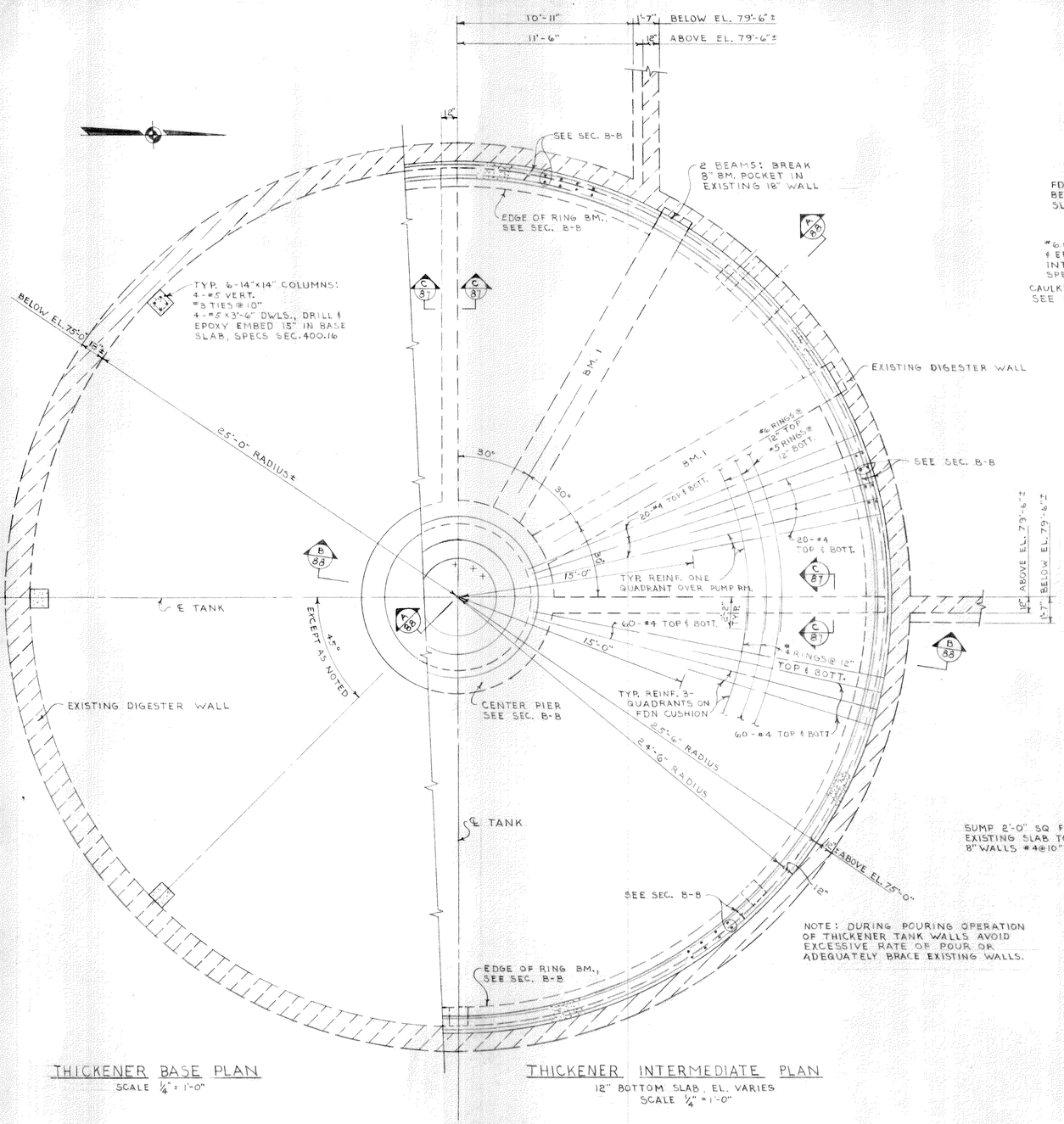



OVERFLOW DROP BOX
SCALE: 3/4" = 1'-0"
2 REQ'D. (FOR 2 TANKS)




WEIR TROUGH SUPPORTS
32 REQUIRED - 16 EACH TANK
SCALE: 3/4" = 1'-0"

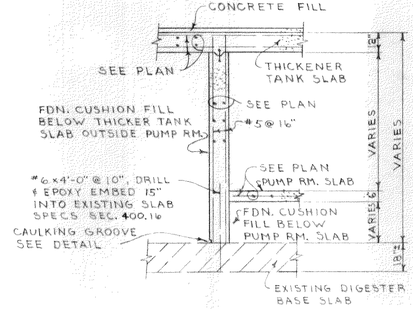

11/16" X 1 1/8" LG. SLOTTED HOLES
3 1/2"
3"
3"
3



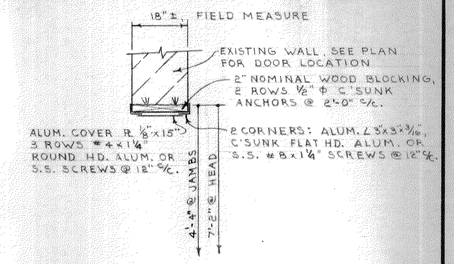

THICKENER BASE PLAN
SCALE 1/4" = 1'-0"

THICKENER INTERMEDIATE PLAN
12" BOTTOM SLAB, EL. VARIES
SCALE 1/4" = 1'-0"

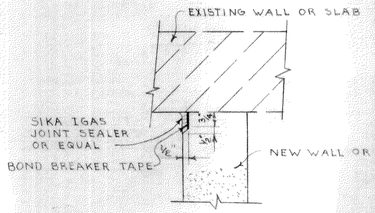
NOTE: DURING POURING OPERATION OF THICKENER TANK WALLS AVOID EXCESSIVE RATE OF POUR OR ADEQUATELY BRACE EXISTING WALLS.



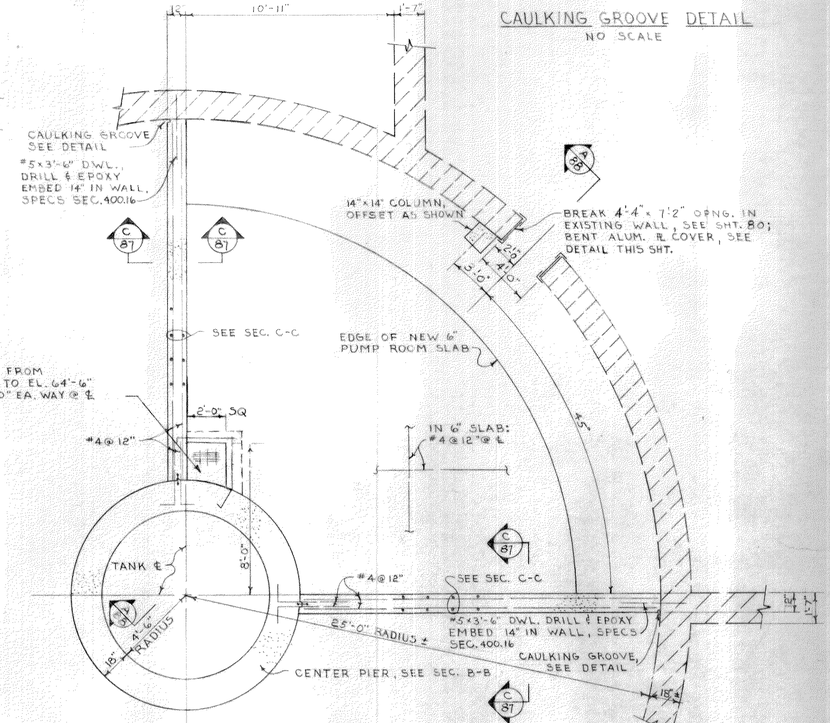

SECTION C-C
SCALE 1/4" = 1'-0"




DOORWAY COVER PLATE DETAIL
SCALE 1/2" = 1'-0"




CAULKING GROOVE DETAIL
NO SCALE




PUMP ROOM BASE PLAN
TOP OF 6" SLAB EL. 64'-6"
SCALE 1/4" = 1'-0"

FOR GENERAL NOTES SEE SHT. 147

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

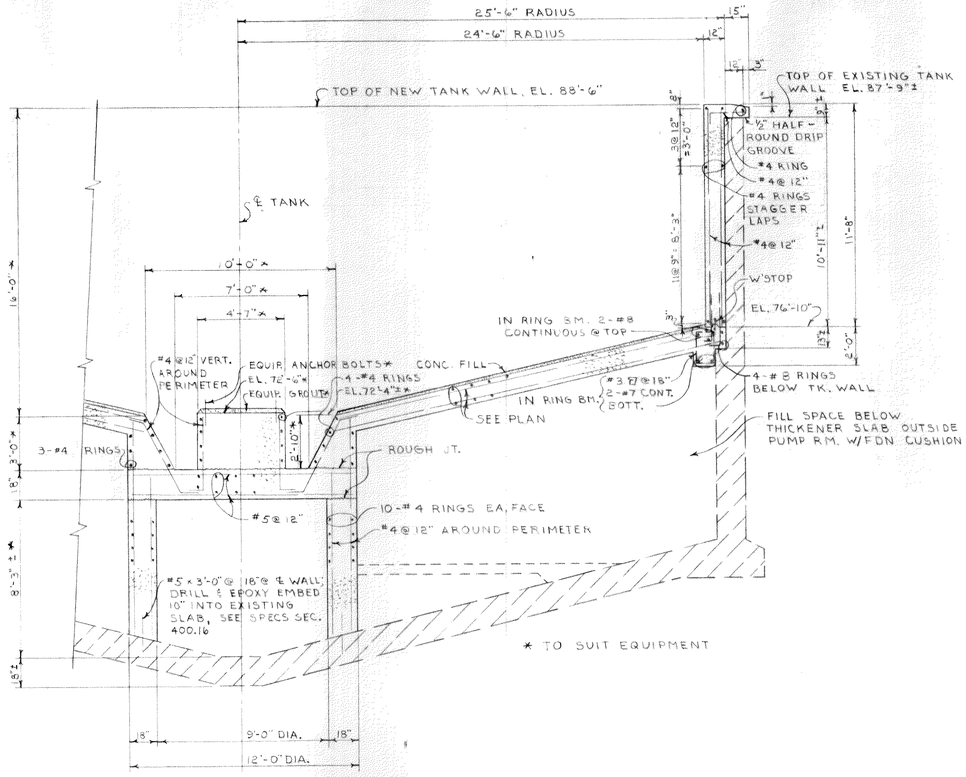
FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN DEM | CHECKED DAF
SCALE AS NOTED | DWG. No. 72199 | TRACED PSB | APPROVED LER

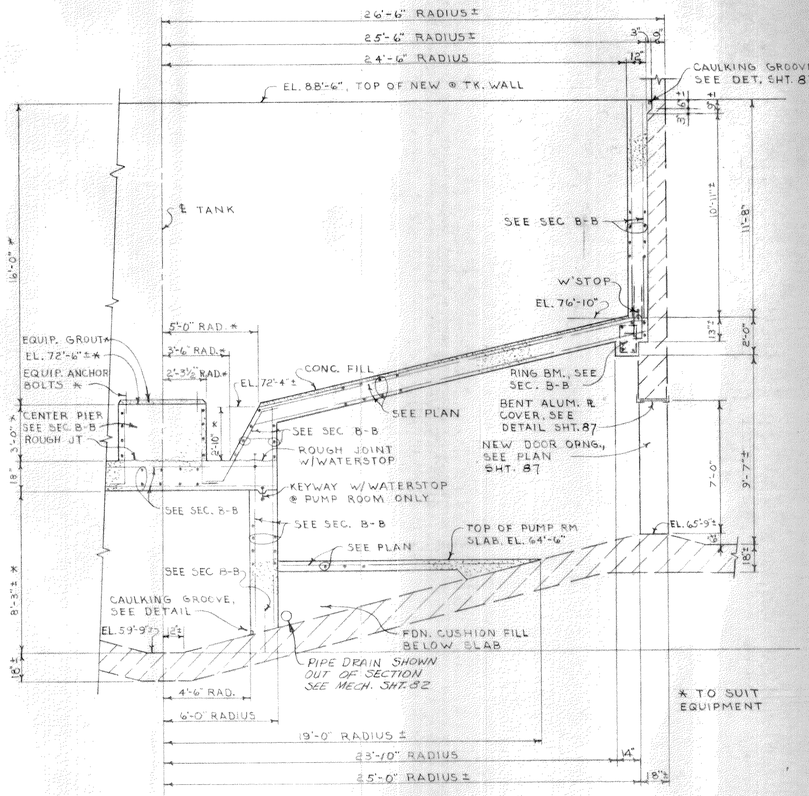
MASSILLON, OHIO
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
SLUDGE THICKENERS
FRAMING PLANS, SECTIONS & DETAILS
STRUCTURAL



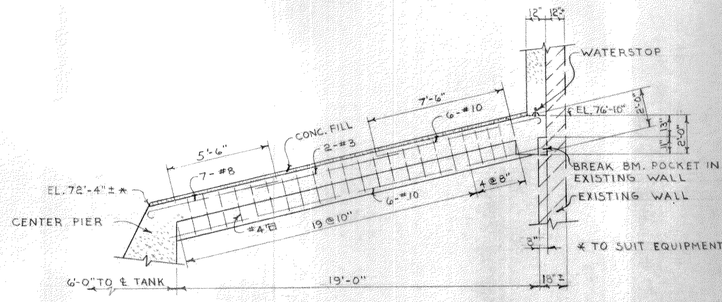
BRUNING 40-105




SECTION B-B
SCALE ¼"=1'-0"




SECTION A-A
SCALE ¼"=1'-0"




BEAM 1
SCALE ¼"=1'-0"

FOR GENERAL NOTES SEE SHT. 147

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

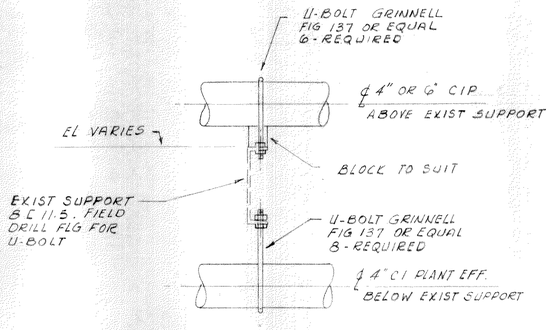
| DATE July 72 | JOB No. 1061 | DRAWN DEM | CHECKED DAF |
|---|---|---|---|
| SCALE ¼"=1'-0" | DWG. No. 722.00 | TRACED PSB | APPROVED LER |

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
SLUDGE THICKENERS
SECTIONS & DETAILS
STRUCTURAL

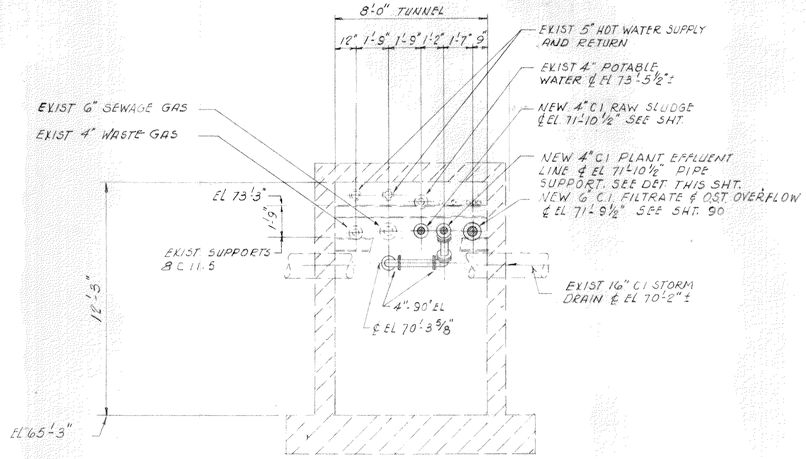
88 OF 165

BRUNING 40-105



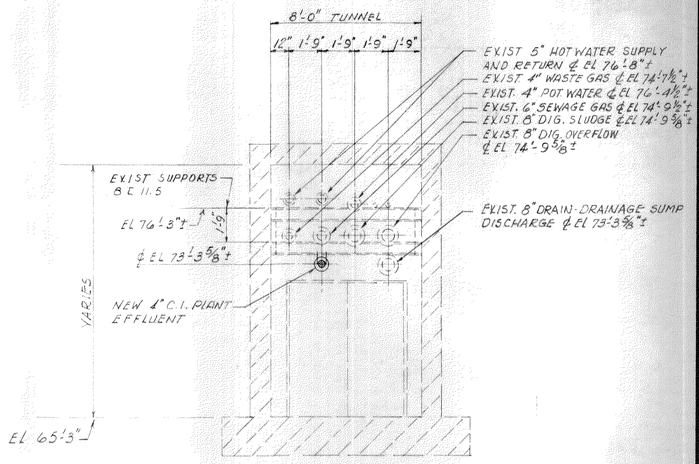

PIPE SUPPORT DETAIL

NO SCALE



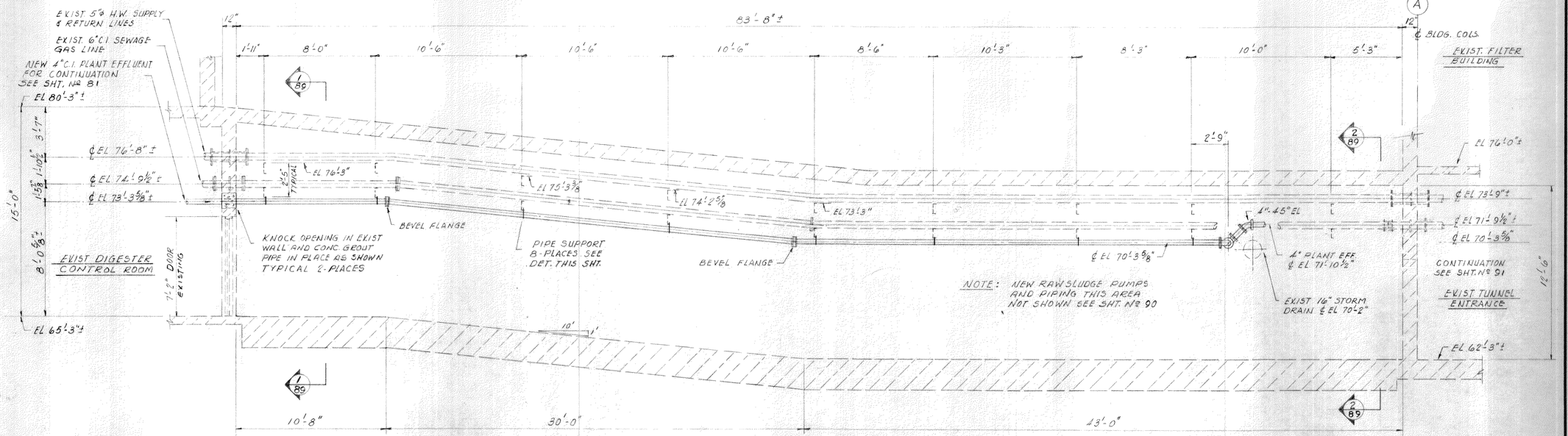

SECTION 2-2

SCALE ¼"=1'-0"




SECTION 1-1

SCALE ¼"=1'-0"




SECTION THRU EXIST. TUNNEL SHOWING NEW PIPING

SCALE ¼"=1'-0"

NOTE: NEW RAW SLUDGE PUMPS AND PIPING THIS AREA NOT SHOWN SEE SHT. NO 90

WORK THIS SHEET WITH SHEETS 90 & 91

89 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

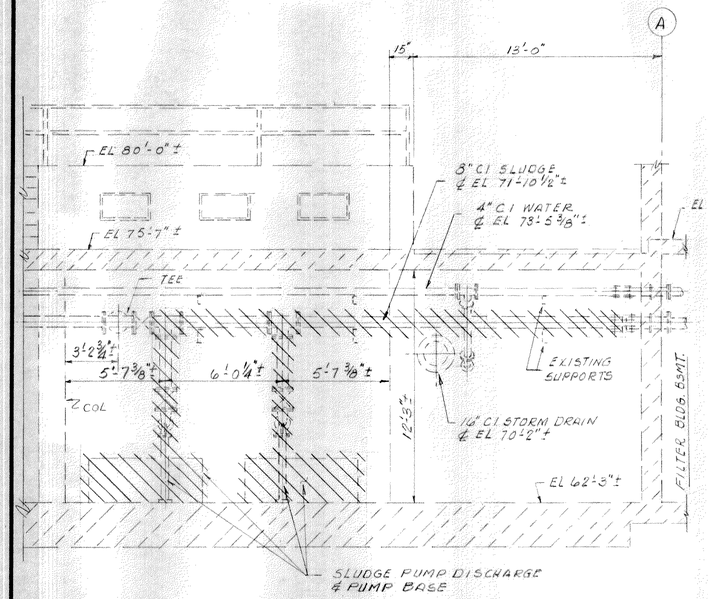
FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN AJH & TRACED | CHECKED AFM
SCALE AS NOTED | DWG. No. 72201 | APPROVED LER

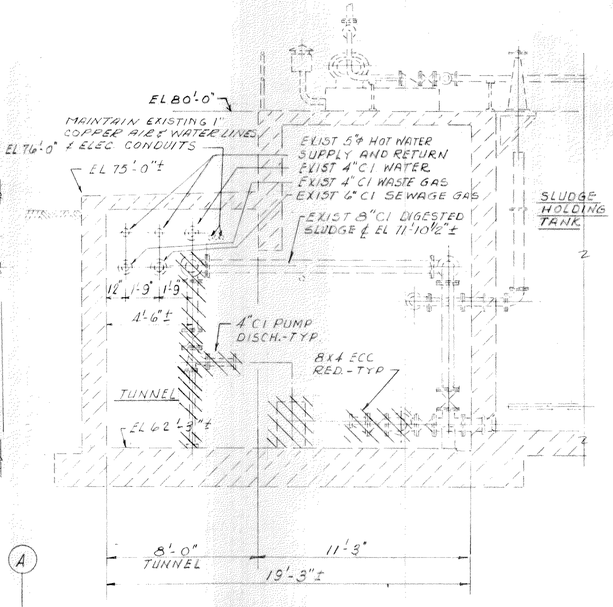
MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
ALTERATIONS AT EXIST. TUNNEL
SECTIONS
MECHANICAL

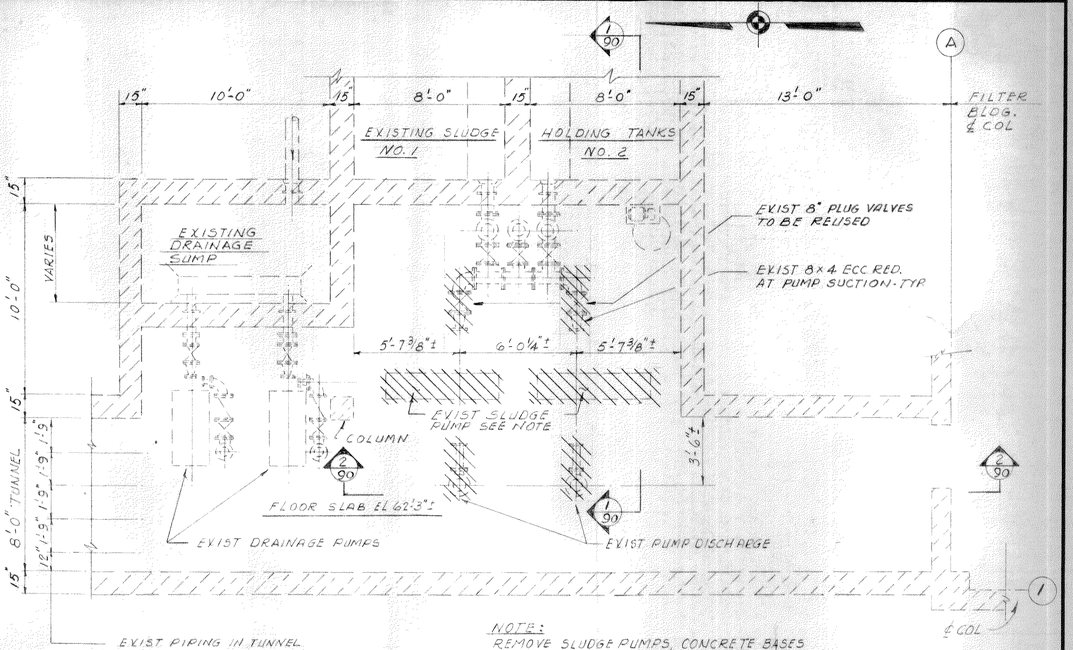
BRUNING 40-105 — 1




SECTION 2-2



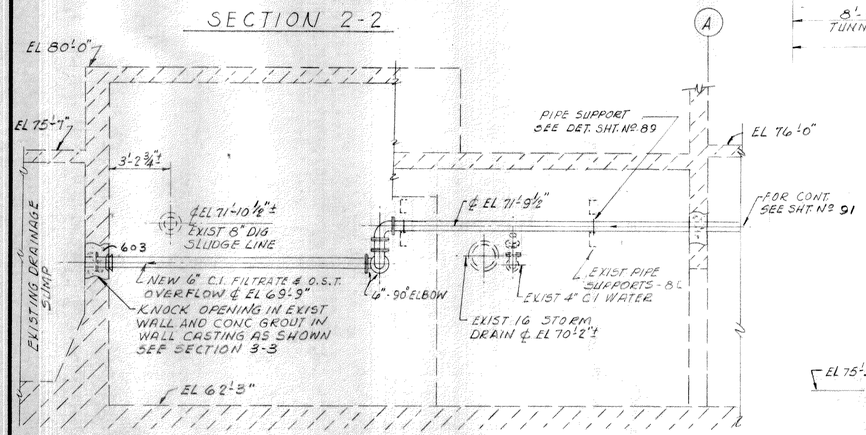

SECTION 1-1



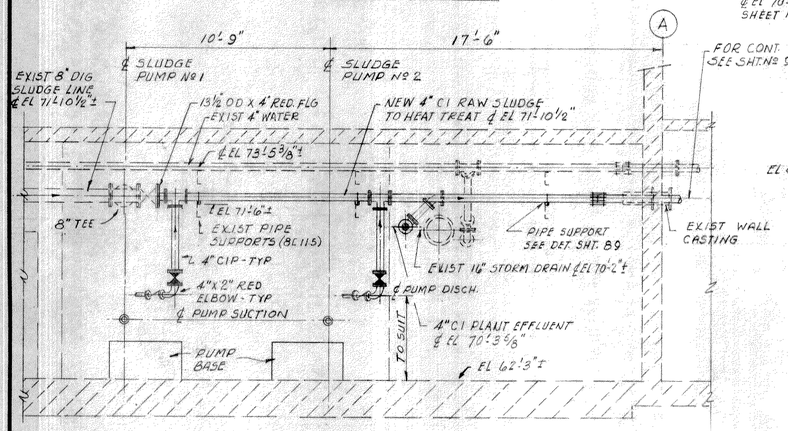

EXIST PIPING IN TUNNEL SEE SECTION 1-1 AND PLAN THIS SHT. SHOWING NEW SLUDGE PUMPS.

NOTE:
REMOVE SLUDGE PUMPS, CONCRETE BASES AND PIPING AS SHOWN CROSS HATCHED. SLUDGE PUMPS TO BE REUSED AT OXIDIZED SLUDGE THICKENER PUMP GALLERY. SEE SHT. No 105

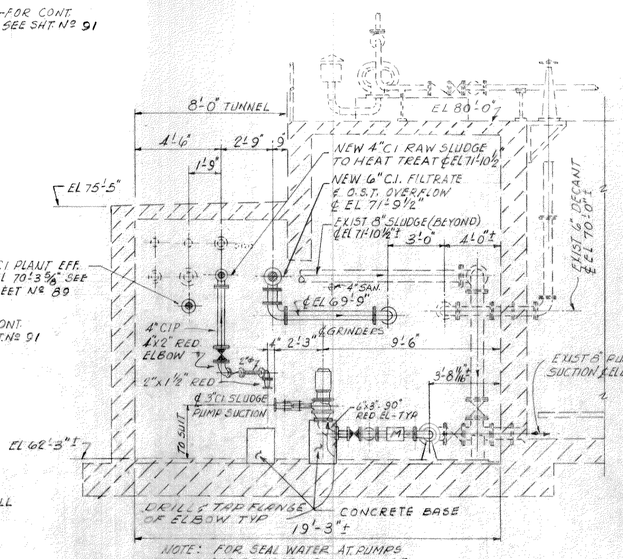
PLAN SHOWING DEMOLITION AT SLUDGE HOLDING TANKS




SECTION 5-5

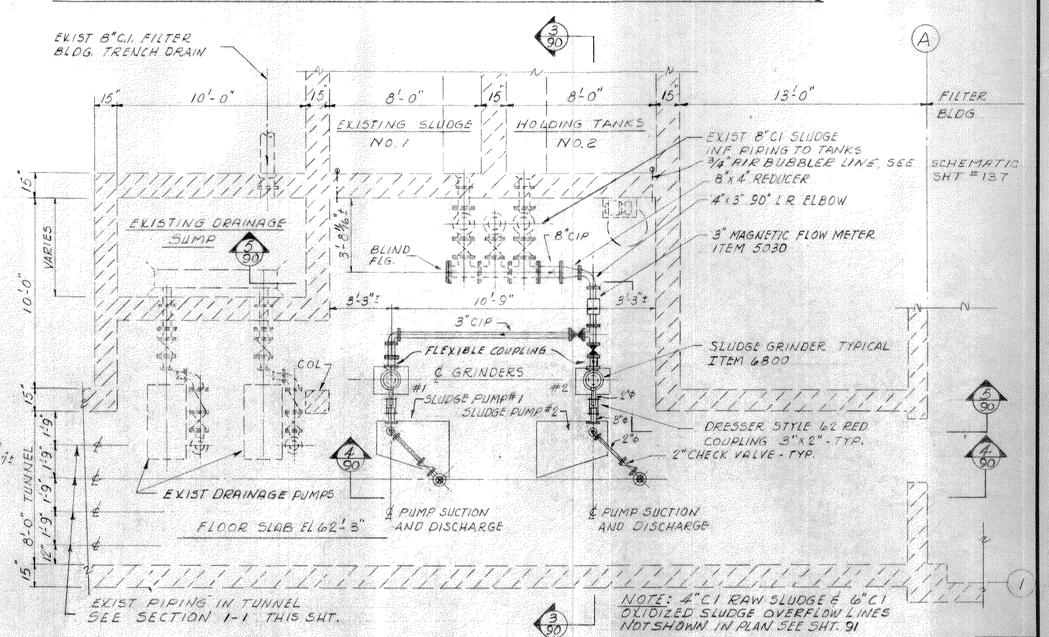



SECTION 4-4




NOTE: FOR SEAL WATER AT PUMPS AND GRINDERS SEE SHT. 135

SECTION 3-3




EXIST. PIPING IN TUNNEL SEE SECTION 1-1 THIS SHT.

NOTE: 4" CI RAW SLUDGE & 6" CI OXIDIZED SLUDGE OVERFLOW LINES NOT SHOWN IN PLAN SEE SHT. 91

PLAN SHOWING NEW SLUDGE PUMP INSTALLATIONS AT EXISTING SLUDGE HOLDING TANKS & TUNNEL

90 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

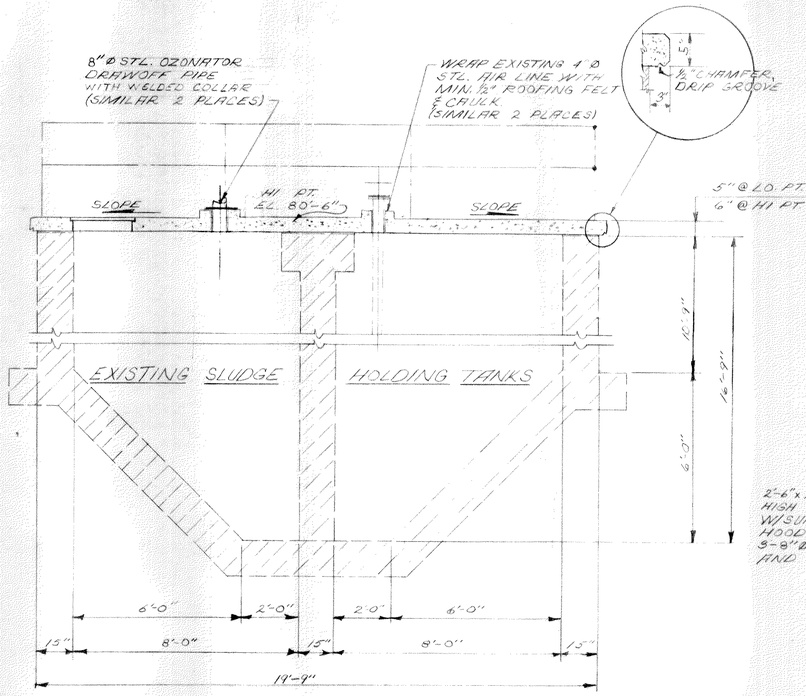
FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN AJH | CHECKED APM
SCALE ¼"=1'-0" | DWG. No. 72202 | TRACED | APPROVED LER

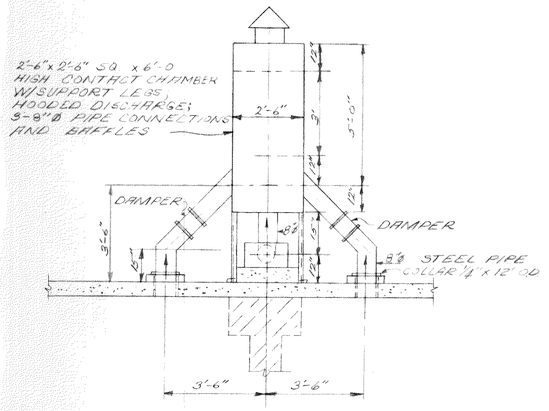
MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
EXIST. TUNNEL & SLUDGE HOLDING TKS.
DEMOLITION & ALTERATIONS
MECHANICAL

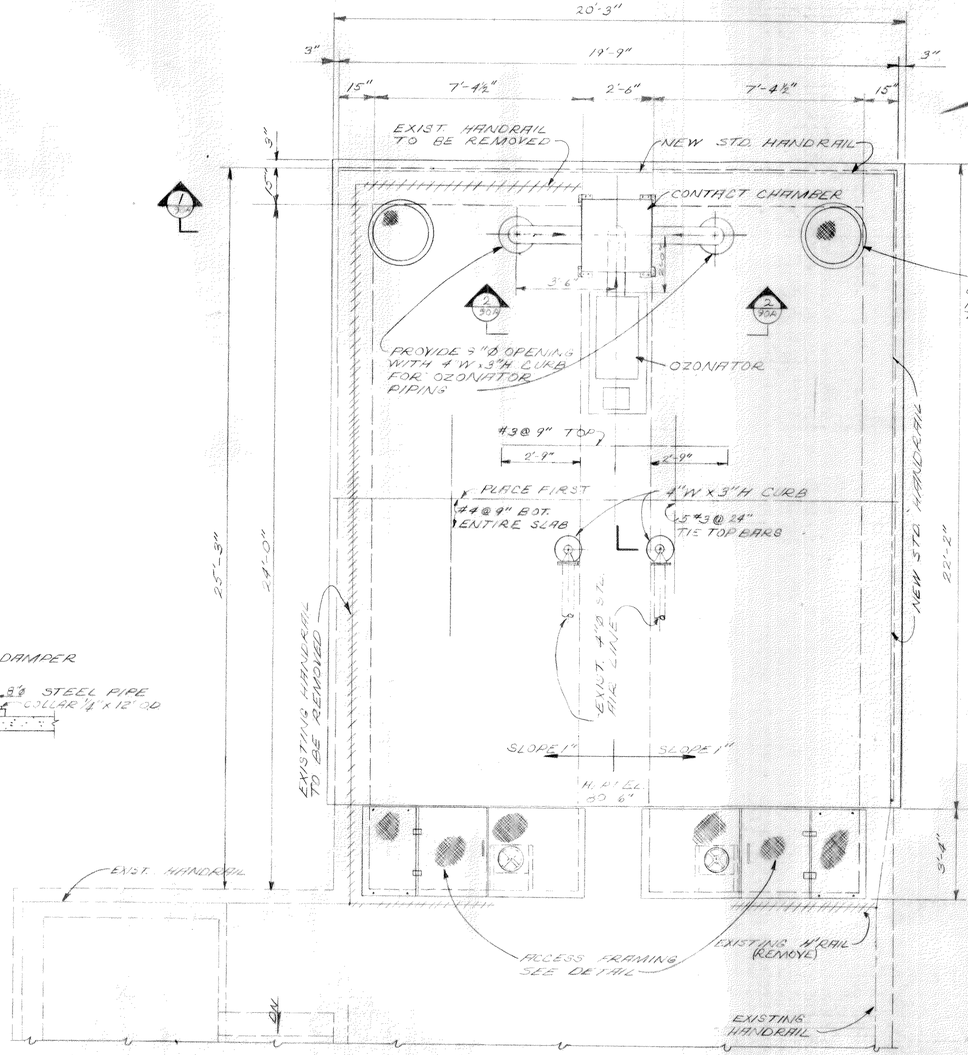
BRUNING 40-105



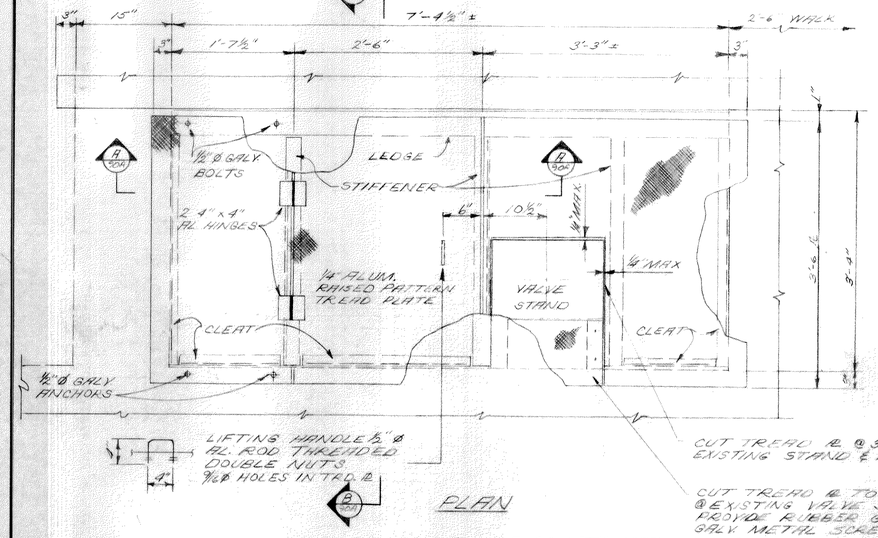

SECTION 1-1




SECTION 2-2
SCALE 3/8" = 1'-0"

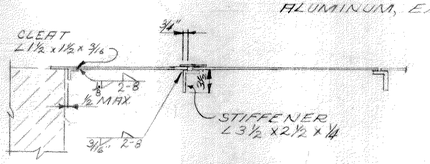



TOP PLAN
SCALE 3/8" = 1'-0"

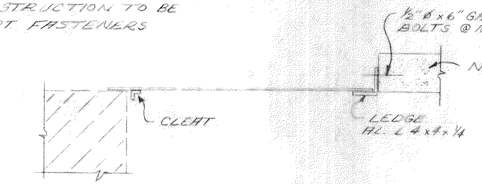



PLAN

NOTE: ENTIRE CONSTRUCTION TO BE ALUMINUM, EXCEPT FASTENERS




SECTION A-A




SECTION B-B

ACCESS FRAMING
SCALE 1" = 1'-0"
ONE THIS, ONE OPPOSITE HAND

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

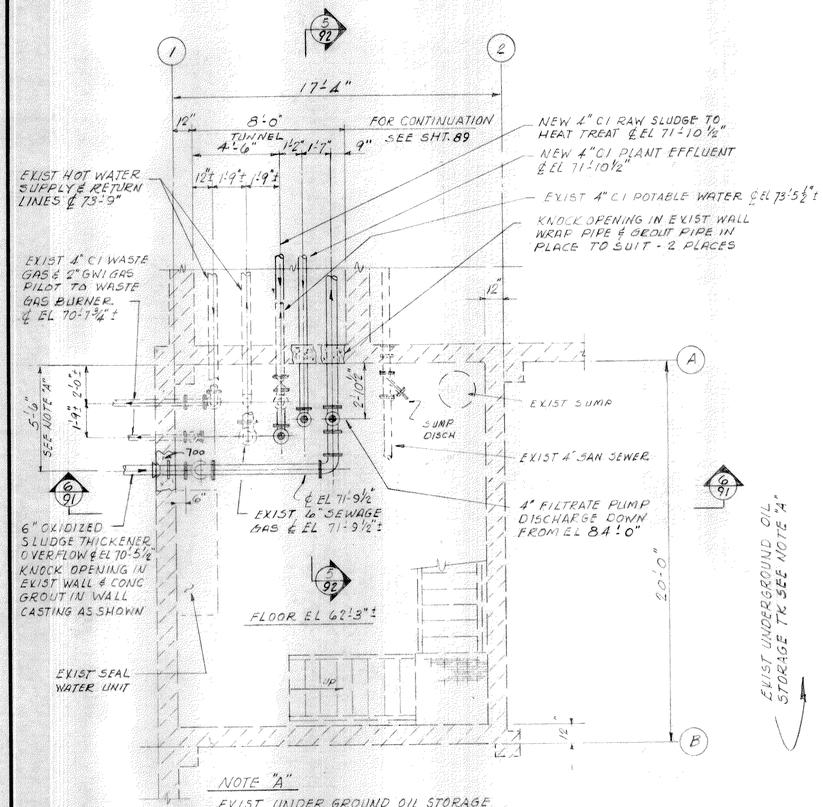
DATE AUG., 1973 | JOB No. 1061 | DRAWN J.W.K. R.H.S. | CHECKED R.M. DAF
SCALE AS SHOWN | DWG. No. 73337 | TRACED D.A.S. | APPROVED LER

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
EXIST. SLUDGE HOLDING TANKS
DEMOLITION & ALTERATION
MECHANICAL & STRUCTURAL

90A OF 165

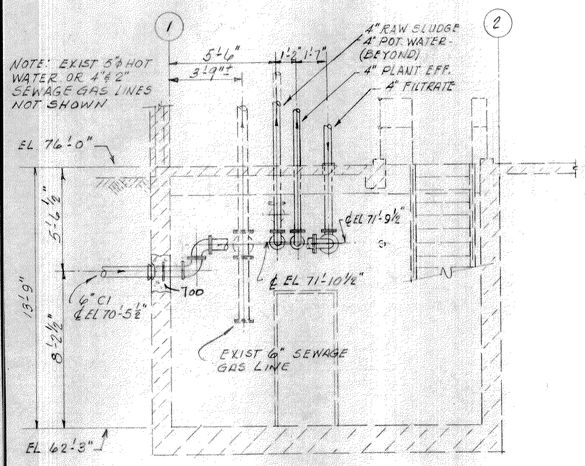
BRUNING 40-105



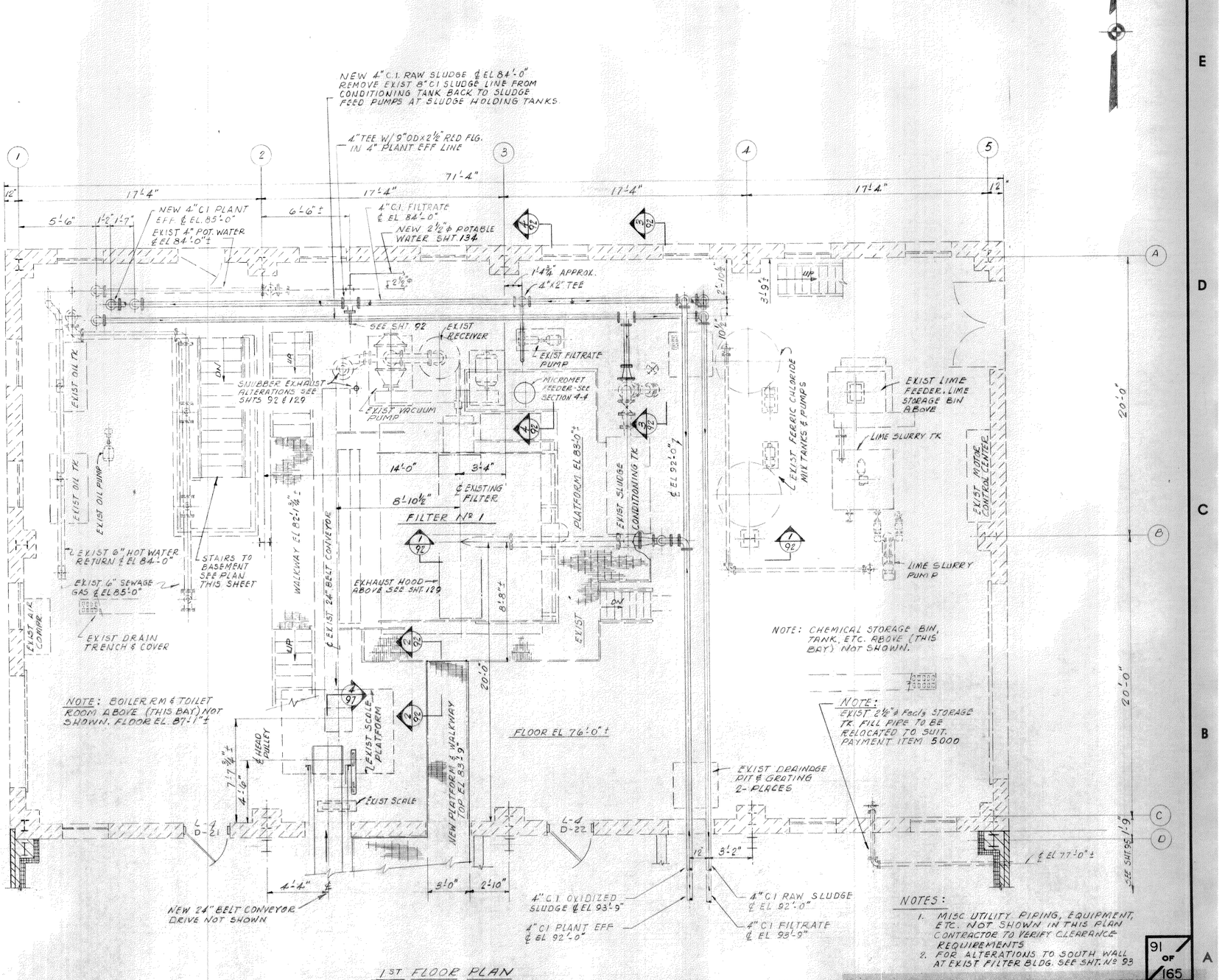

NOTE "A"

EXIST UNDER GROUND OIL STORAGE TANK AT WEST END OF EXIST FILTER BLDG. VERIFY LOCATION. TANK DIM. 8'-0 DIA X 18'-7" LG MANHOLE LOCATED ON CENTER LINES.

## PLAN AT BASEMENT




## SECTION 6-6




NOTES:

1. MISC. UTILITY PIPING, EQUIPMENT, ETC. NOT SHOWN IN THIS PLAN CONTRACTOR TO VERIFY CLEARANCE REQUIREMENTS
2. FOR ALTERATIONS TO SOUTH WALL AT EXIST FILTER BLDG. SEE SHT. No. 93

## 1ST FLOOR PLAN

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

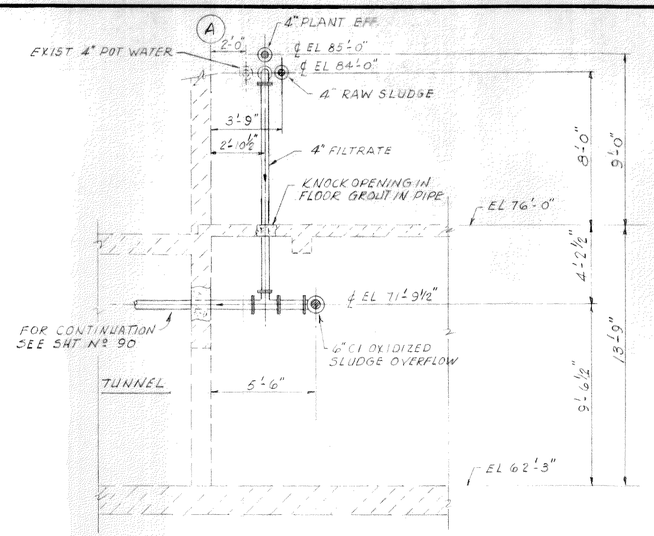
DATE July 72 | JOB No. 1061 | DRAWN AJH | CHECKED APH
SCALE ¼" = 1'-0" | DWG. No. 72203 | TRACED | APPROVED LER

MASSILLON, OHIO

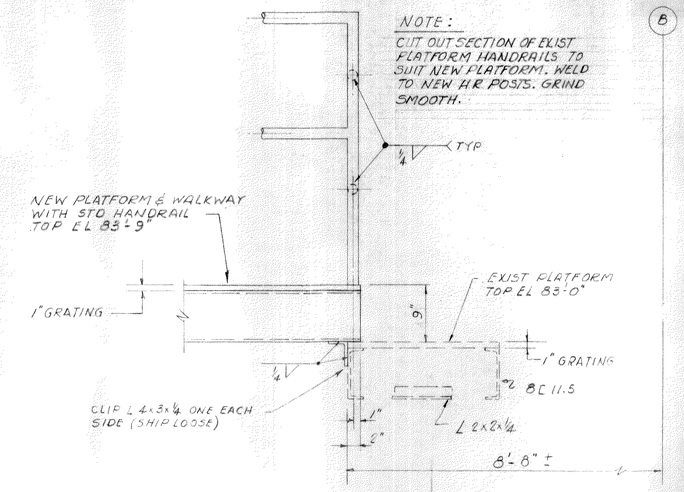
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
EXIST. FILTER BLDG.
DEMOLITION & ALTERATIONS
MECHANICAL

91 OF 165

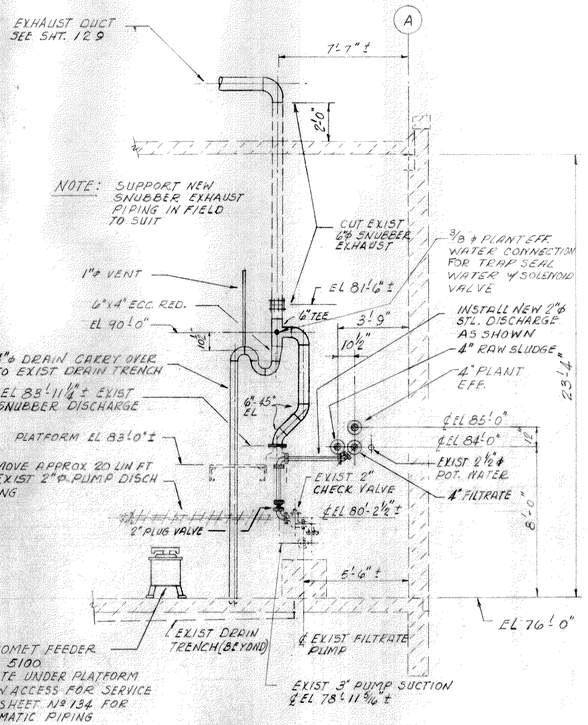
BRUNING 40-105



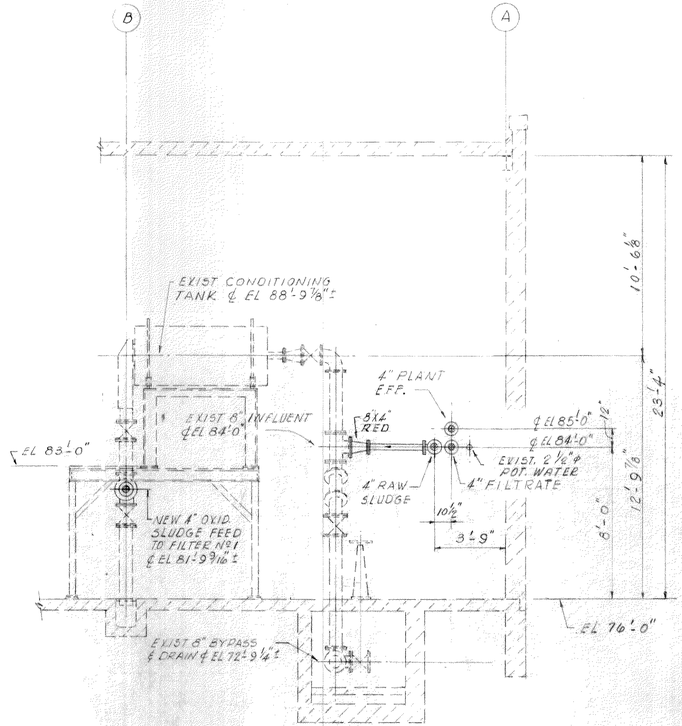

SECTION 5-5
SCALE ¼" = 1'-0"



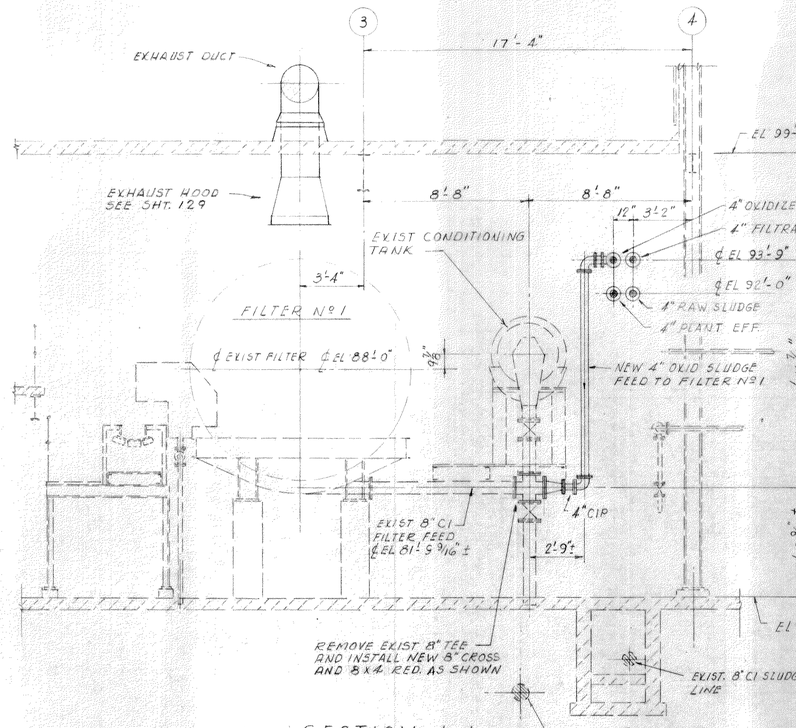

SECTION 2-2
SCALE 1½" = 1'-0"




SECTION 4-4
SCALE ¼" = 1'-0"




SECTION 3-3
SCALE ¼" = 1'-0"




SECTION 1-1
SCALE ⅛" = 1'-0"

92 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

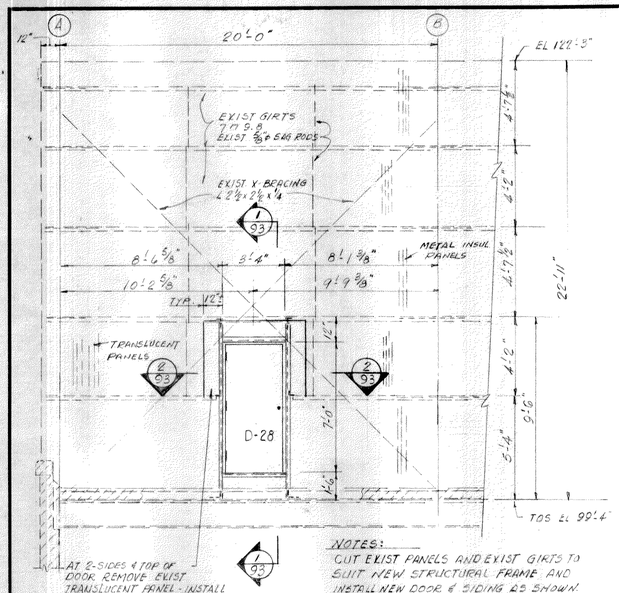
FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN AJH | CHECKED AJH
SCALE AS NOTED | DWG. No. 72204 | & TRACED | APPROVED LEP

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
EXIST. FILTER BLDG.
DEMOLITION & ALTERATIONS
MECHANICAL

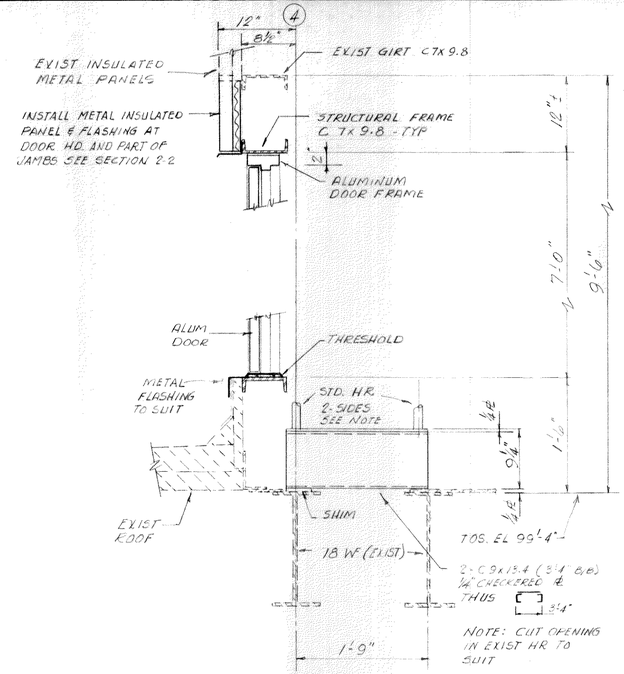
BRUNING 40-105




NOTES:
CUT EXIST PANELS AND EXIST GIRTS TO SUIT NEW STRUCTURAL FRAME AND INSTALL NEW DOOR & SIDING AS SHOWN. MAKE ALL GIRT & STRUCTURAL CONN WITH 3x3x¼ WELDED CONN LS TO SUIT. FIELD WELD C PLATFORM IN POSITION TO SUIT DOOR OPNG. SEE SECTION 1-1

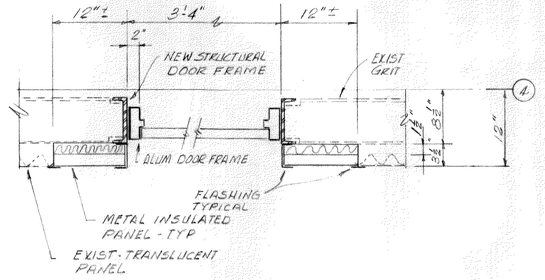
AT 2-SIDES & TOP OF DOOR. REMOVE EXIST TRANSLUCENT PANEL - INSTALL METAL INSULATED PANEL. MAKE WEATHER TIGHT. SEE SECTIONS.

## DETAIL OF PENTHOUSE DOOR - ELEVATION @ COL LINE 4
SCALE 1/4" = 1'-0"

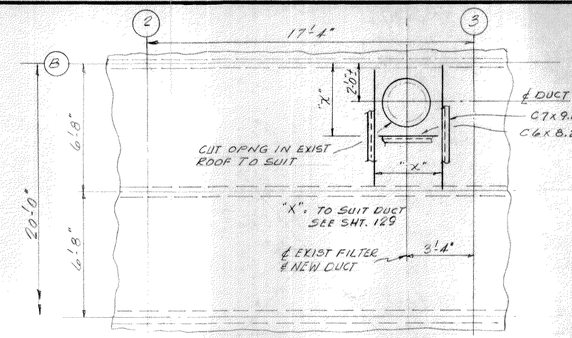



NOTE: CUT OPENING IN EXIST HR TO SUIT

## SECTION 1-1
SCALE 1" = 1'-0"

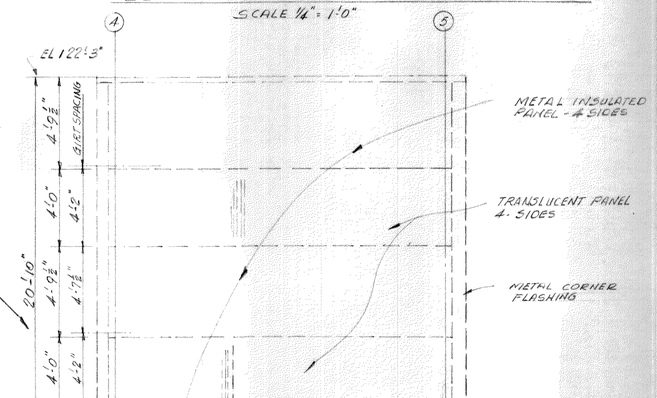



## SECTION 2-2
SCALE 1" = 1'-0"

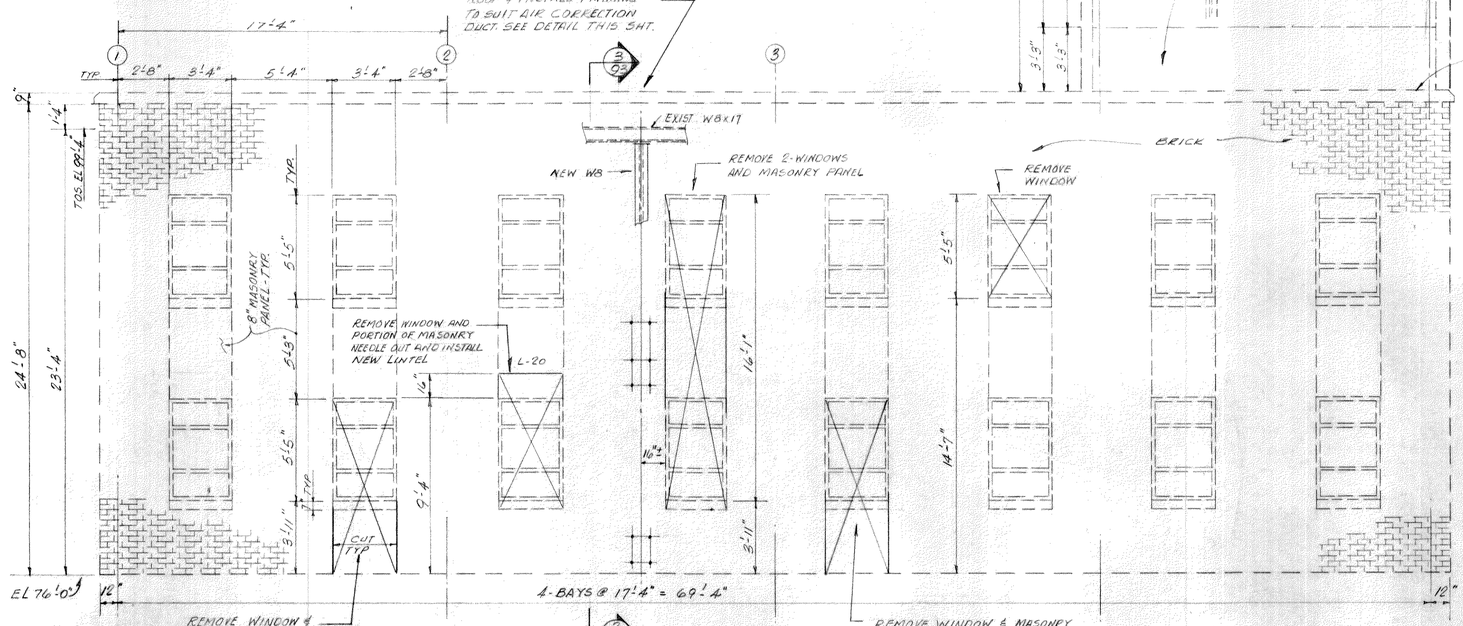



## DETAIL - PLAN OF ALTERATIONS TO EXIST ROOF
SCALE 1/4" = 1'-0"

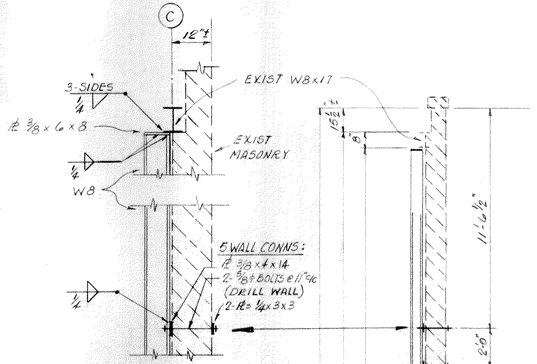
INSTALL NEW STRUCTURAL FRAMING & DOOR D-28 @ COL LINE 4 BETWEEN COL ROW A & B. SEE DETAILS THIS SHEET.




CUT OPENING IN EXIST ROOF & INSTALL FRAMING TO SUIT AIR CORRECTION DUCT. SEE DETAIL THIS SHT.

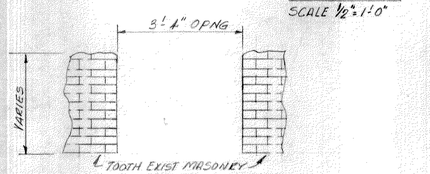


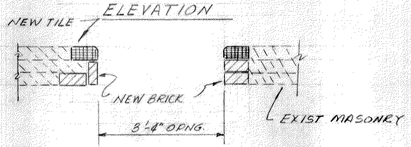

## SOUTH ELEVATION - LOOKING NORTH
SCALE 1/4" = 1'-0"




## DETAILS
SCALE 1½" = 1'-0"

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




## SECTIONAL PLAN
## DETAIL - REPAIR OF OPENINGS
3 - PLACES NO SCALE

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

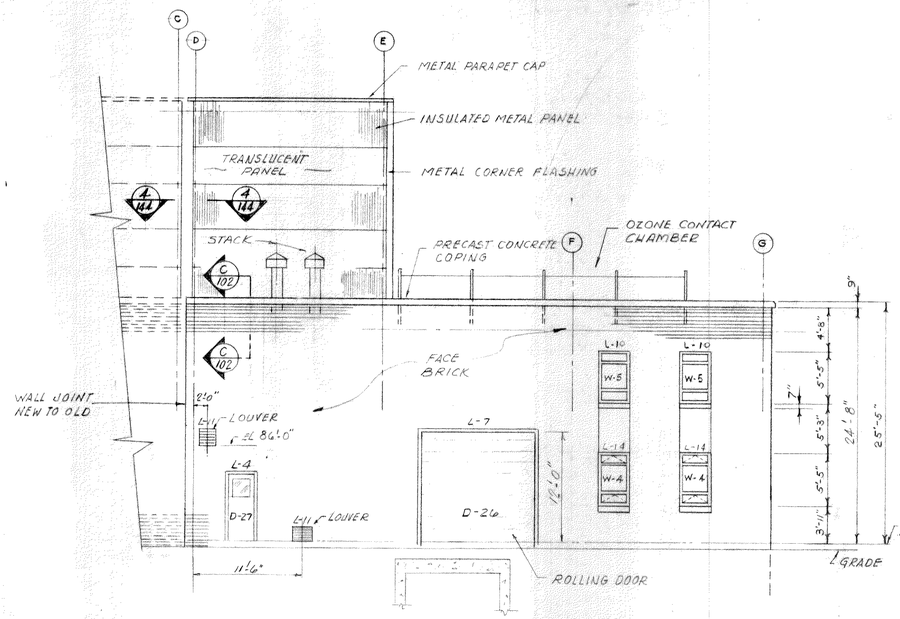
DATE July 72 | JOB No. 1061 | DRAWN AJH | CHECKED AJH
SCALE AS NOTED | DWG. No. 72205 | TRACED | APPROVED LER

MASSILLON, OHIO

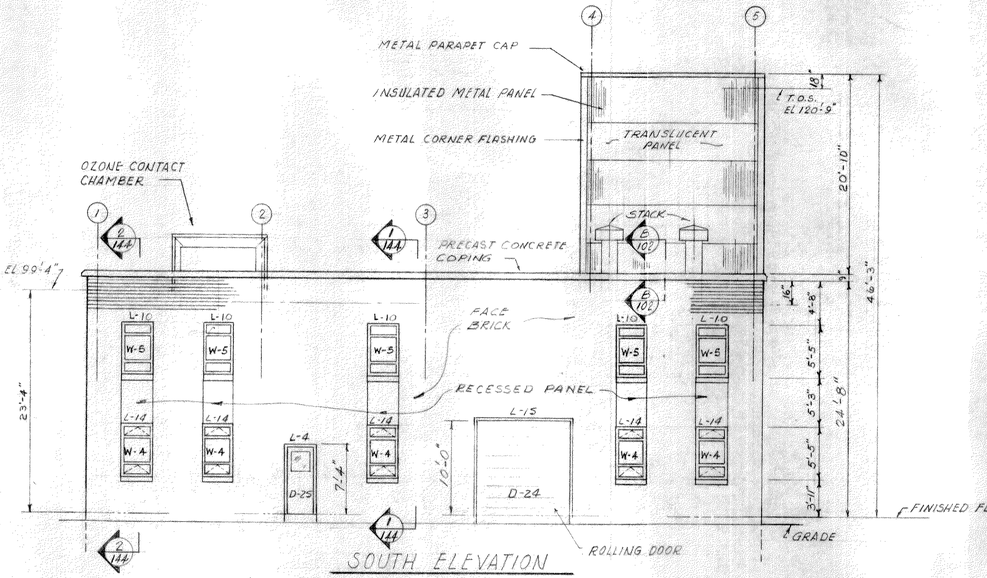
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
EXIST. FILTER BLDG.
DEMOLITION & ALTERATIONS
MECHANICAL

93 OF 165

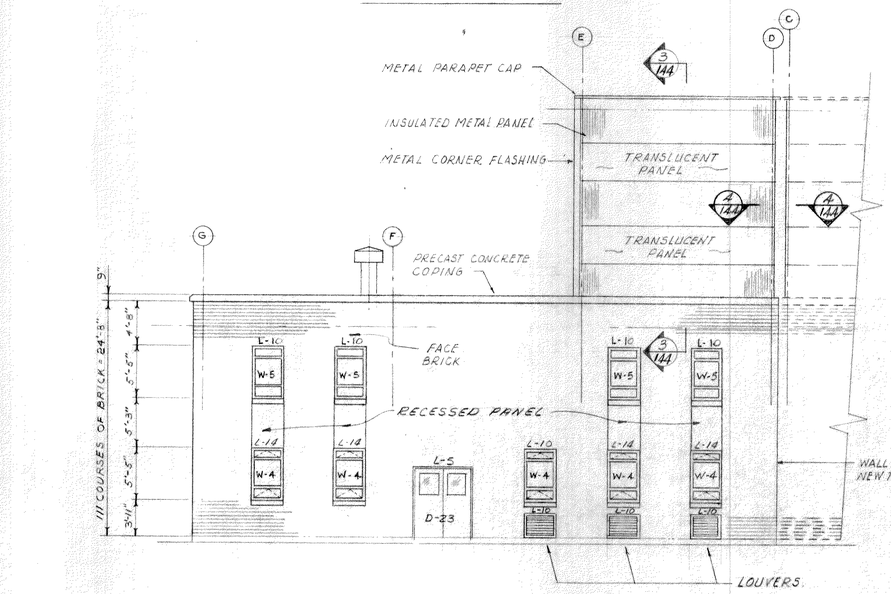
BRUNING 40-105



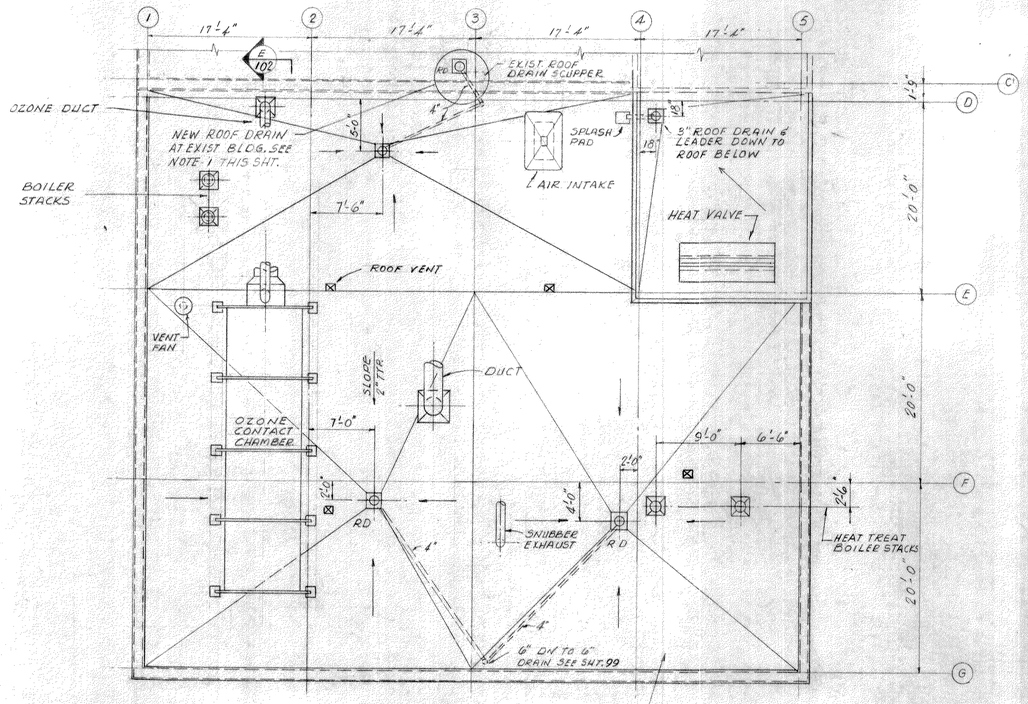

WEST ELEVATION




SOUTH ELEVATION




EAST ELEVATION




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

NOTES.

1. AT SOUTH WALL OF EXIST BLDG. REMOVE EXIST. SCUPPER DRAIN AND DOWNSPOUT. CUT AND REMOVE EXIST ROOFING AND INSULATING CONCRETE. CORE HOLE THRU EXIST. PRECAST CONCRETE ROOF DECK TO SUIT NEW ROOF DRAIN AND LOCATION. INSTALL NEW ROOF DRAIN. POUR NEW INSULATING CONCRETE. SLOPE TO DRAIN. INSTALL GRAVEL STOP AND FLASHING AT EXIST SCUPPER OPENING. REPAIR DAMAGED AREA OF ROOFING. INSTALL NEW DRAIN LEADER THRU EXIST WALL AND CONNECT TO NEW 6"ø LEADER.
2. ROOF DRAINS (R.D) TO BE JOSAM # 4103 AND 4104 WITH DECK CLAMP. OR EQUAL
3. PROVIDE CLEAN OUTS @ 6" VERTICAL LEADERS
4. FOR LOCATION AND DETAILS OF OZONE TREATMENT EQUIP, HEATING AND VENTILATING EQUIPMENT SEE SHT. 95, 128 & 129

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN AJH | CHECKED AJH
SCALE 1/8" = 1'-0" | DWG. No. 7220b | TRACED | APPROVED LER

MASSILLON, OHIO

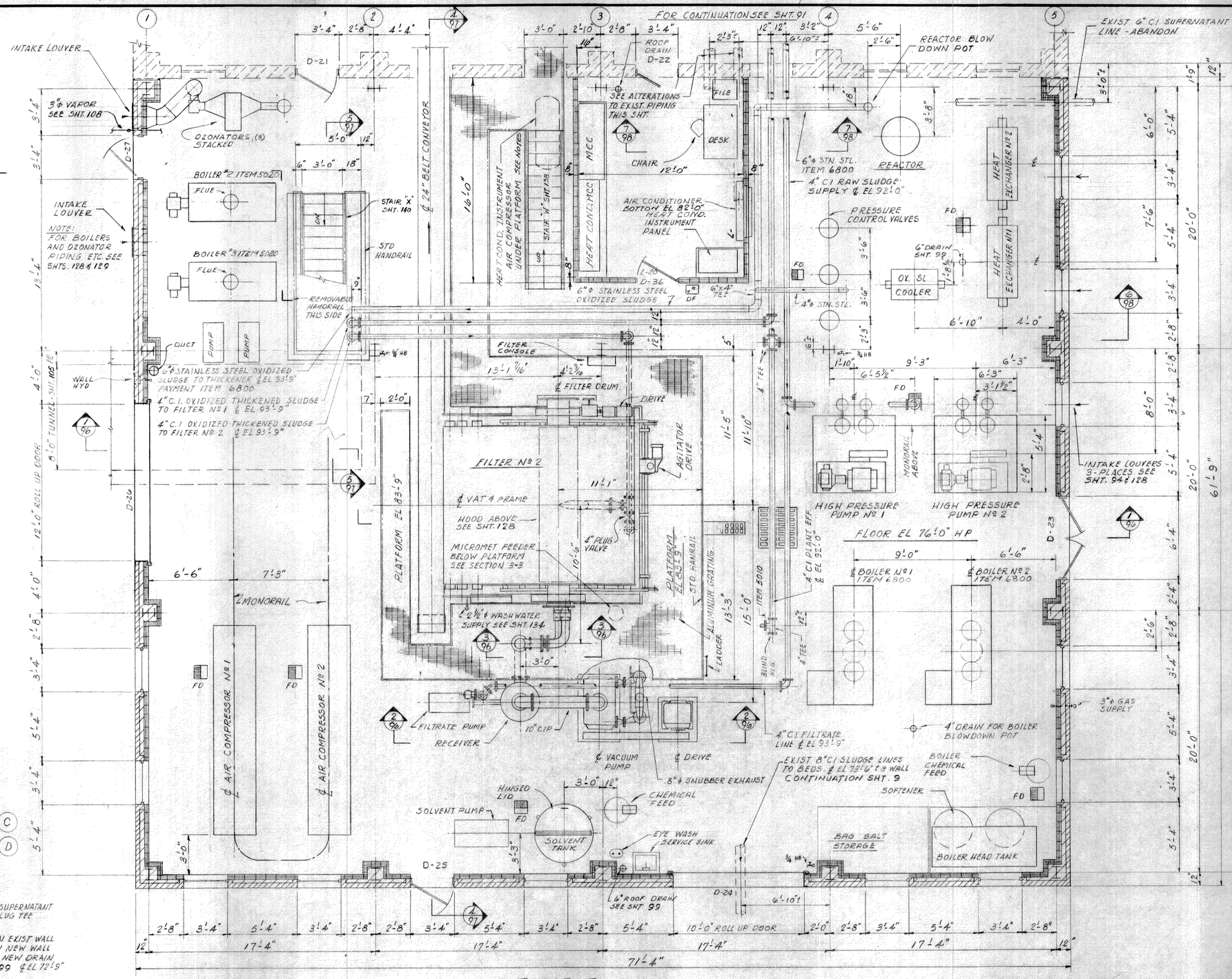
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
FILTER BLDG. ADDITION
PLAN & ELEVATIONS
ARCHITECTURAL



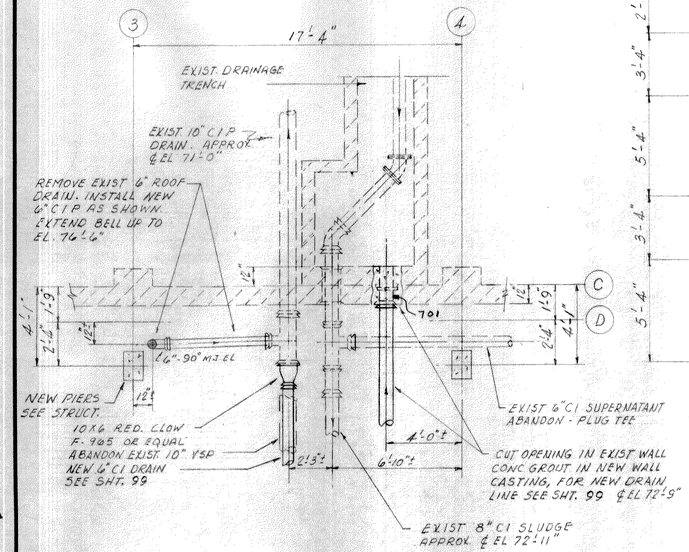
BRUNING 40-105

NOTES:

1. FOR FLOOR DRAINS SEE PROCESS AREA DRAINAGE SHT. 99
2. HEAT TREAT PIPING TO HAVE MIN OF 8'-0" HEADROOM FROM EL. 76'-0". PIPING IS NOT TO PASS IN FRONT OF WINDOW OPENINGS. SEE SECTION 6-6
3. FOR HEATING, VENTILATING AND OZONE TREATMENT PLANS AND DETAILS SEE SHTS. 128 & 129
4. INSTRUMENT AIR COMPRESSOR - LOCATE TO SUIT FLOOR DRAINS
5. AIR SCHEMATIC FOR FILTER FEED PUMPS SEE SHEET 97




FLOOR PLAN




PLAN BELOW FLOOR SLAB

ALTERATIONS TO EXIST DRAIN PIPING

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

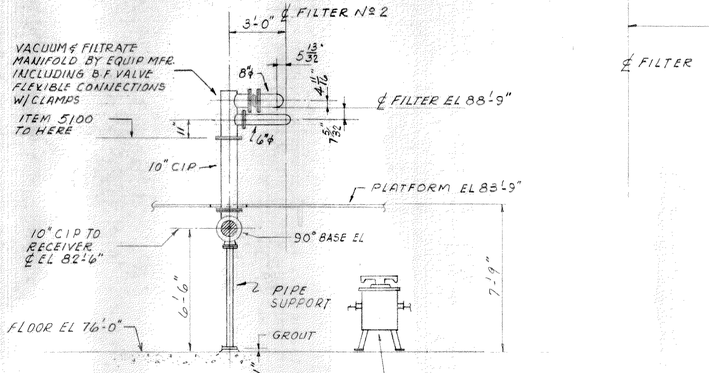
FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN AJH | CHECKED APM
SCALE 1/4"=1'-0" | DWG. No. 72207 | TRACED | APPROVED LER

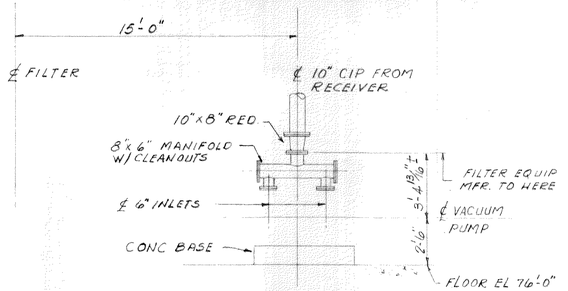
MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
FILTER BLDG. ADDITION
FLOOR PLAN
MECHANICAL

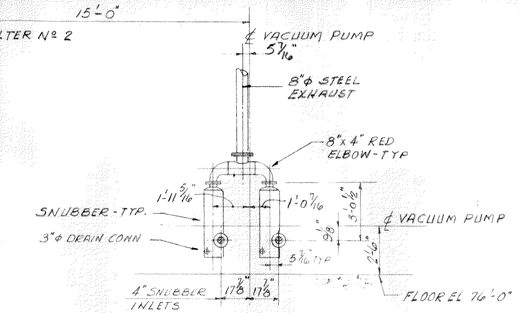
95 OF 165



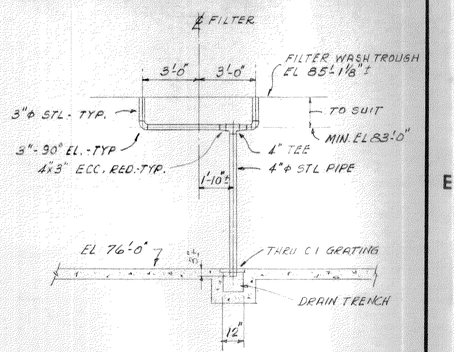

SECTION 3-3



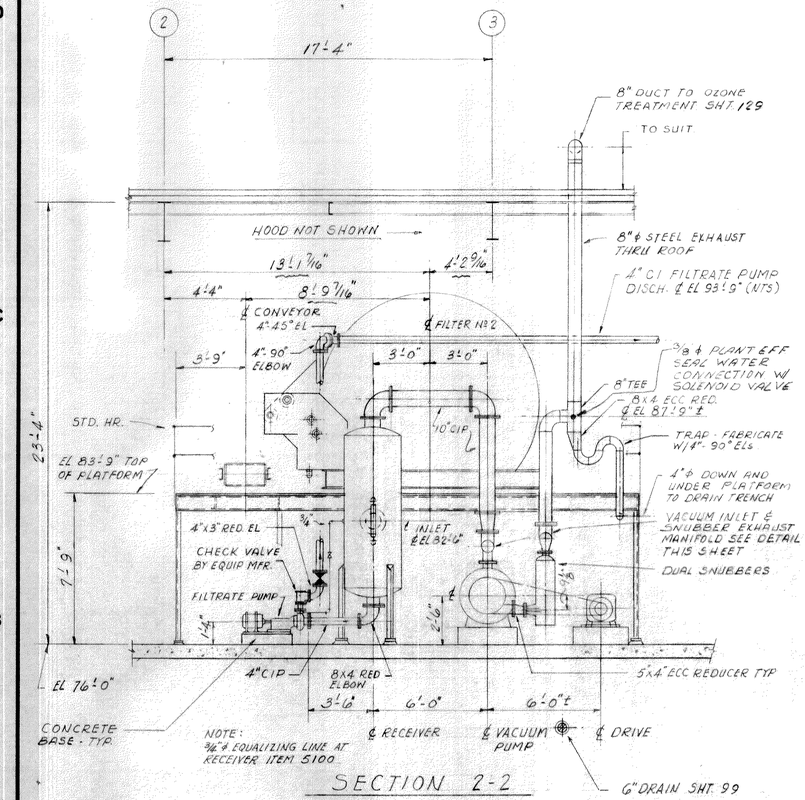

DETAIL - VACUUM PUMP INLET MANIFOLD



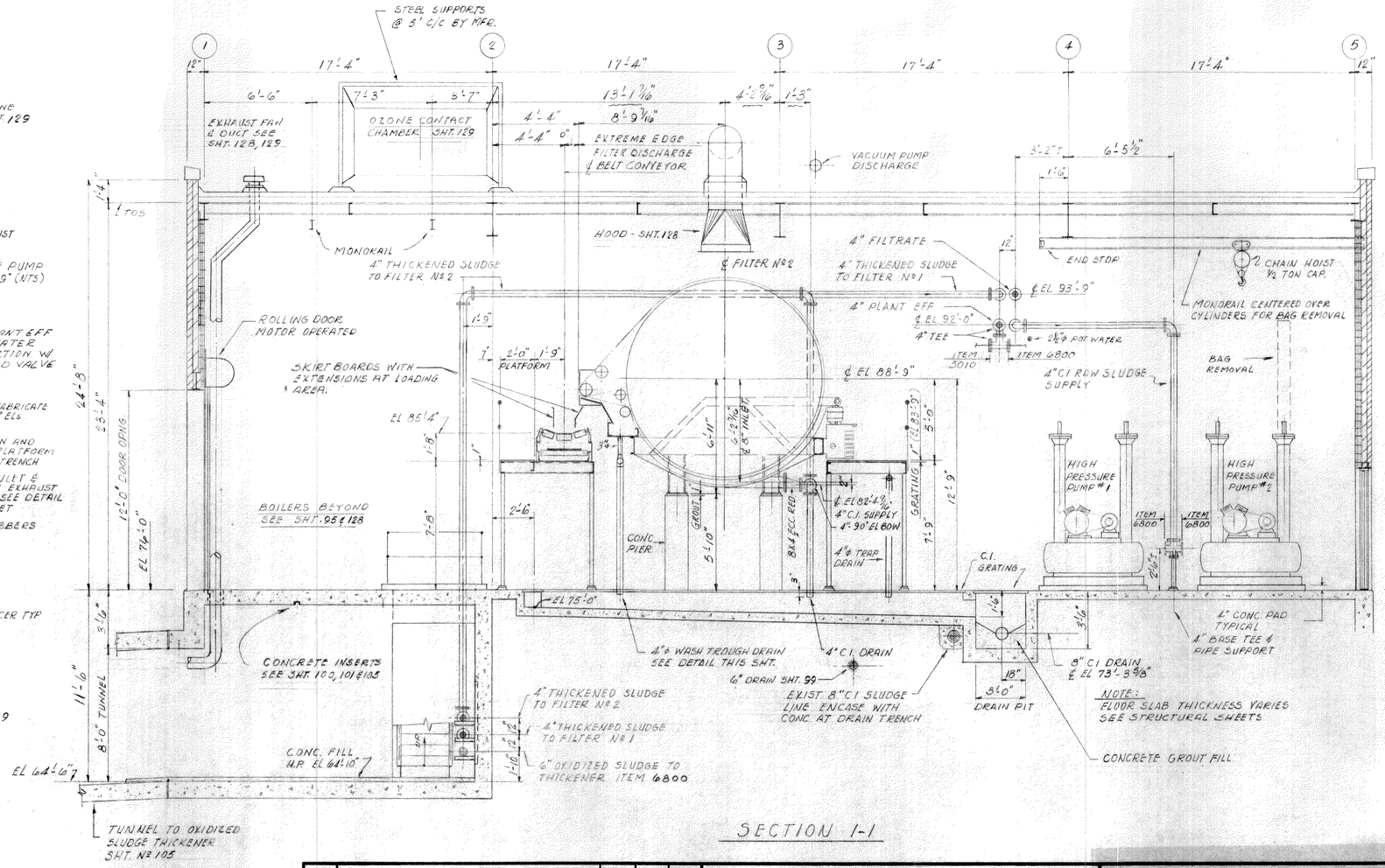

DETAIL - SNUBBER EXHAUST MANIFOLD




DETAIL - FILTER WASH TROUGH DRAIN




SECTION 2-2




SECTION 1-1

96 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

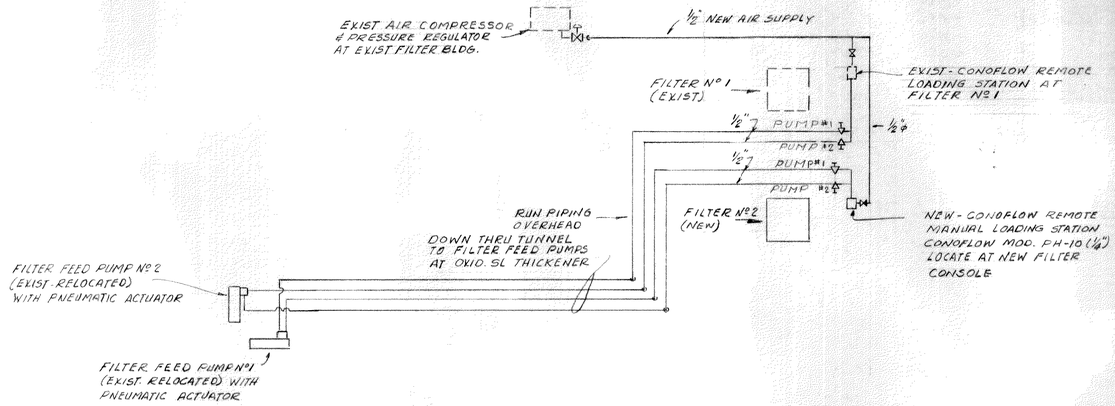
FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN AJH | CHECKED AJM
SCALE 1/4"=1'-0" | DWG. No. 72208 | TRACED | APPROVED LER

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
FILTER BLDG. ADDITION
SECTIONS & DETAILS
MECHANICAL

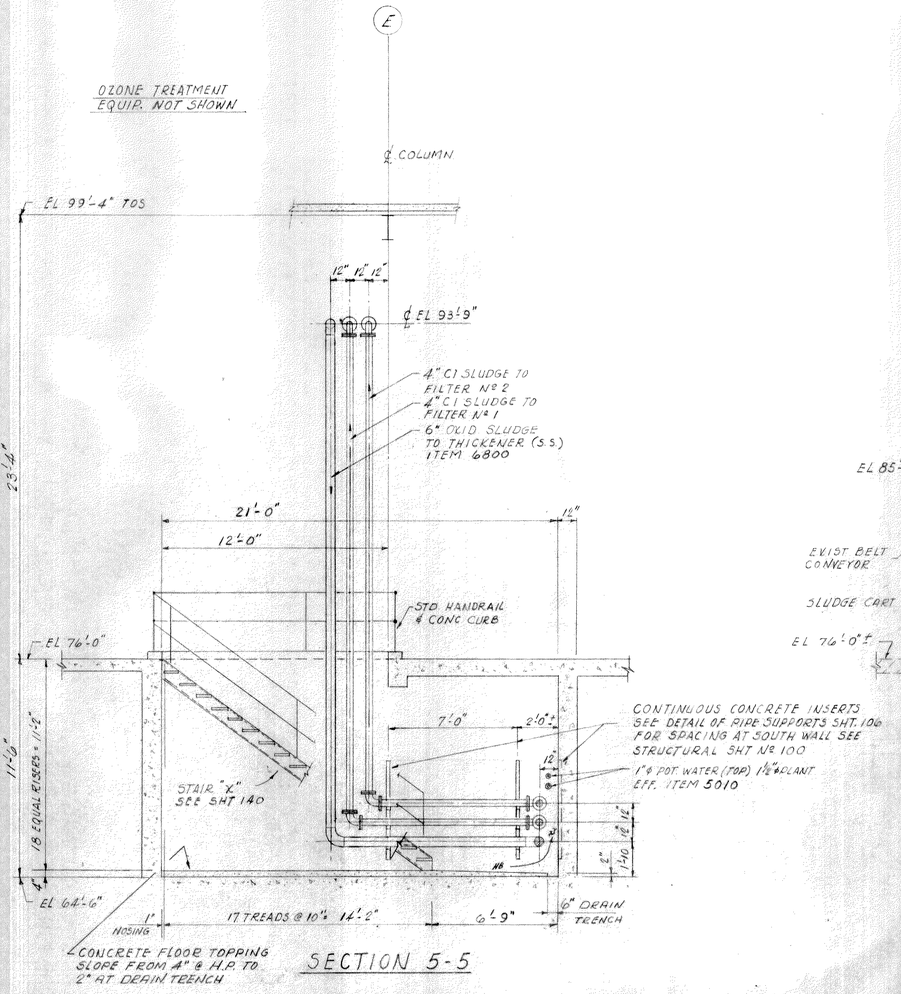
BRUNING 40-105 — 1 2 3 4 5 6 7 8



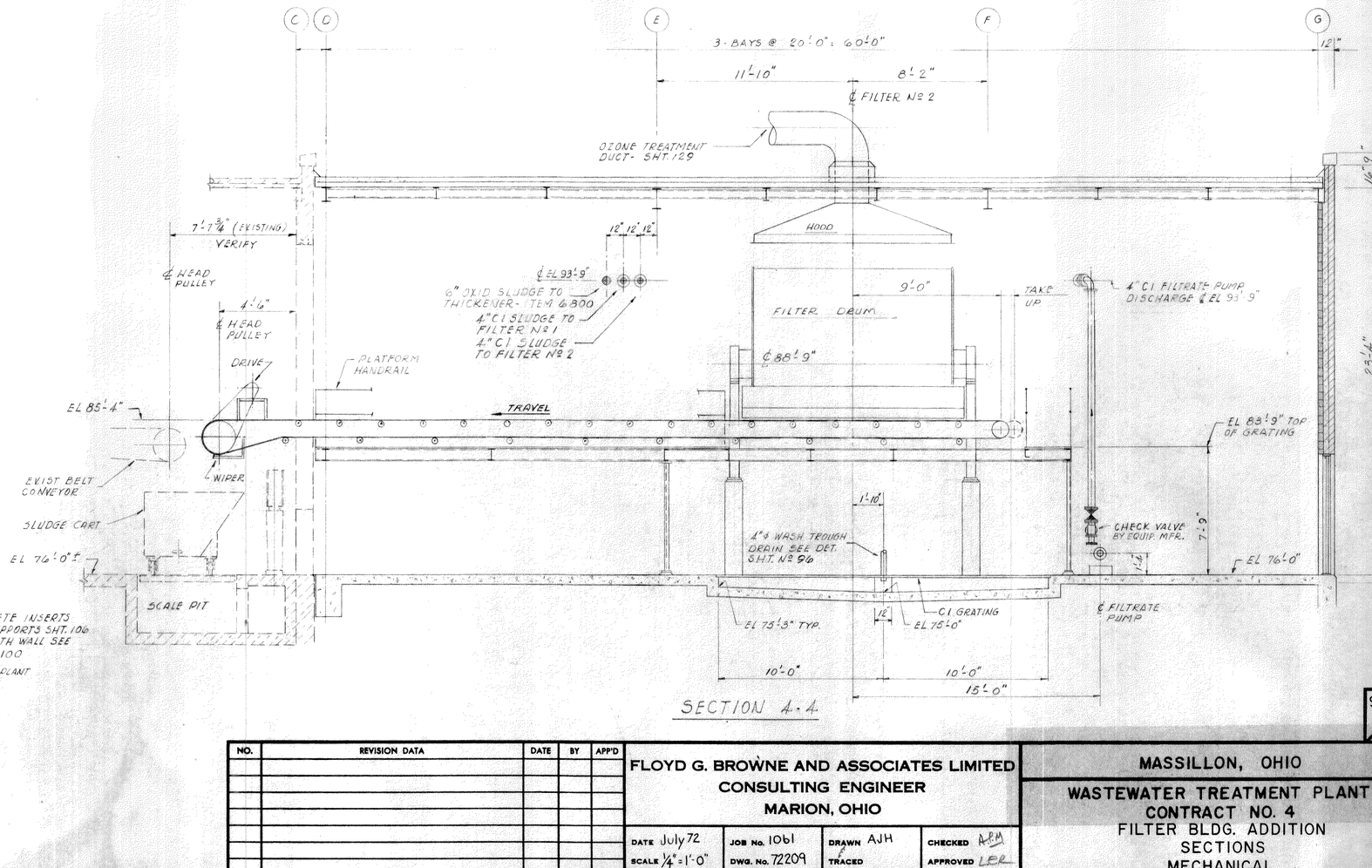

PLAN - AIR SCHEMATIC FOR FILTER FEED PUMPS

N/O SCALE

OZONE TREATMENT EQUIP. NOT SHOWN




SECTION 5-5




SECTION 4-4

97 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

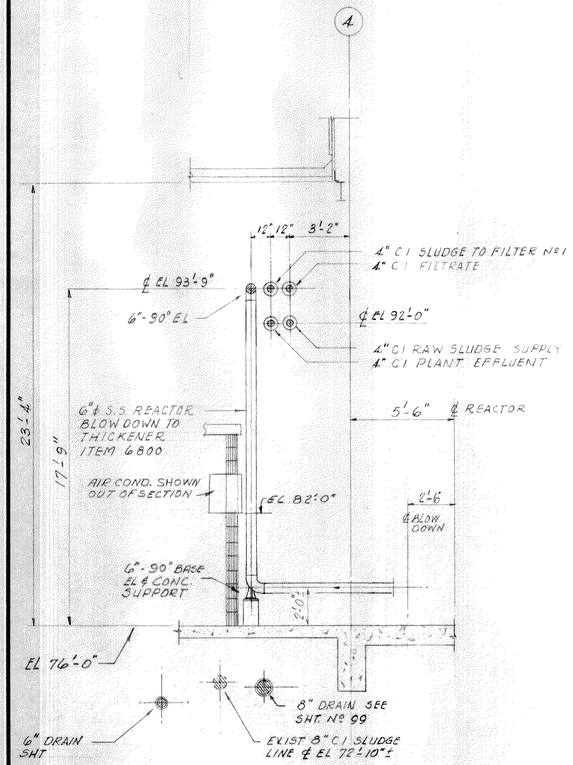
FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN AJH | CHECKED A.P.M.
SCALE ¼" = 1'-0" | DWG. No. 72209 | TRACED | APPROVED L.E.R.

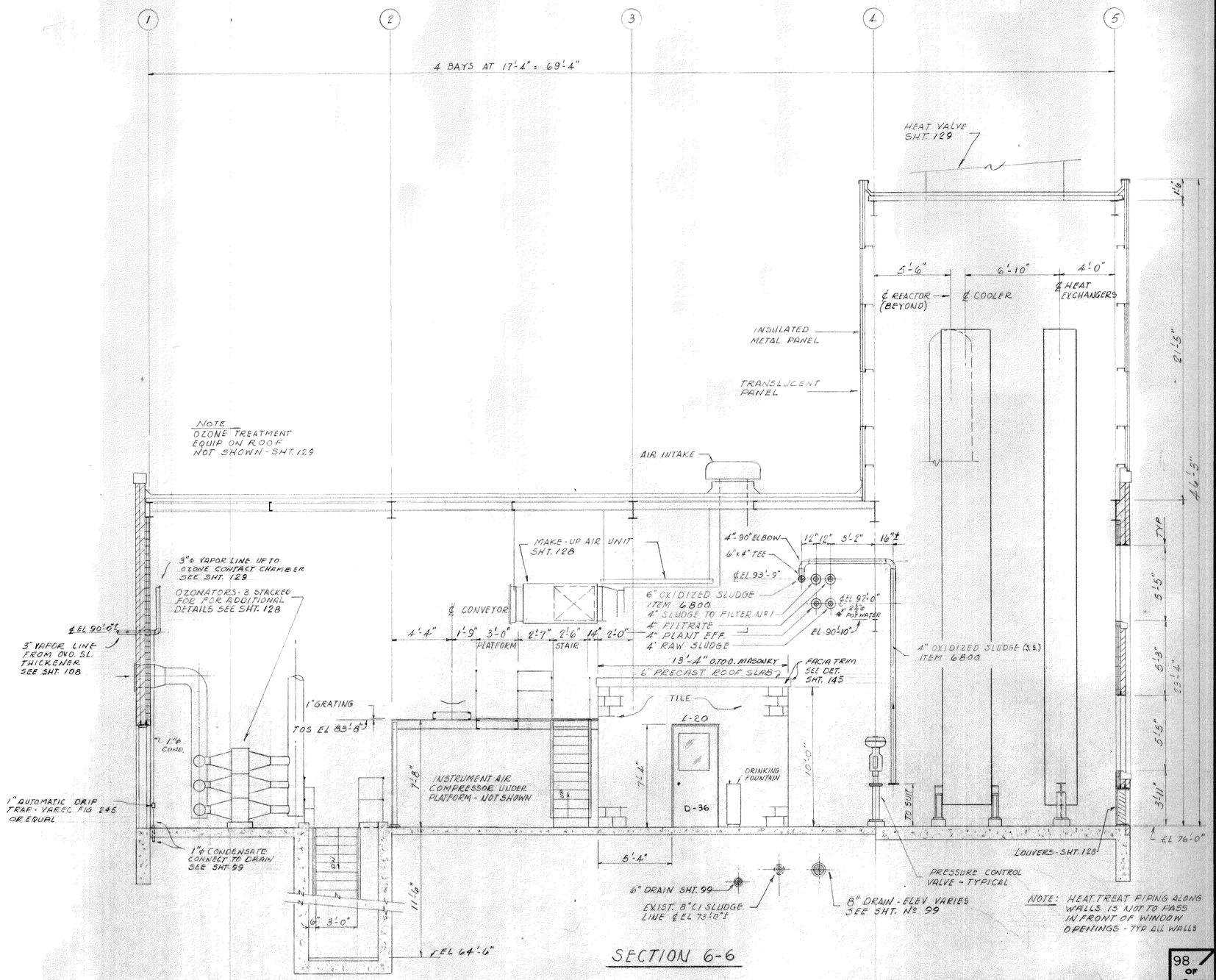
MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
FILTER BLDG. ADDITION
SECTIONS
MECHANICAL

BRUNING 40-105




SECTION 7-7




SECTION 6-6

NOTE: HEAT TREAT PIPING ALONG WALLS IS NOT TO PASS IN FRONT OF WINDOW OPENINGS - TYP ALL WALLS

98 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

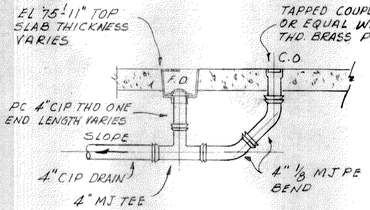
FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN & TRACED AJH | CHECKED AJH
SCALE 1/4"=1'-0" | DWG. No. 72210 | APPROVED LER

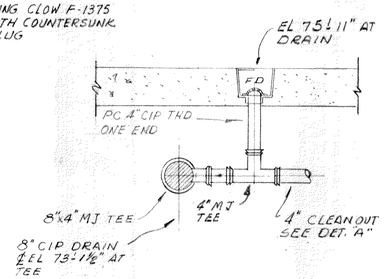
MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
FILTER BLDG. ADDITION
SECTIONS
MECHANICAL

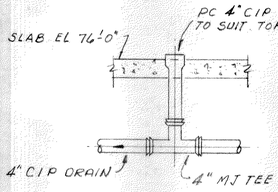
BRUNING 40-105



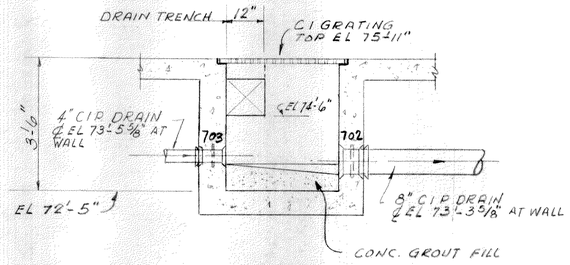

DETAIL – "A"
SCALE 1/2" = 1'-0"



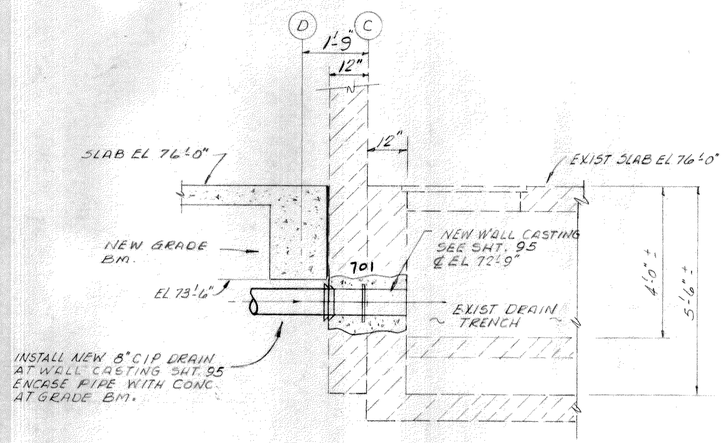

DETAIL – "C"
SCALE 1/2" = 1'-0"



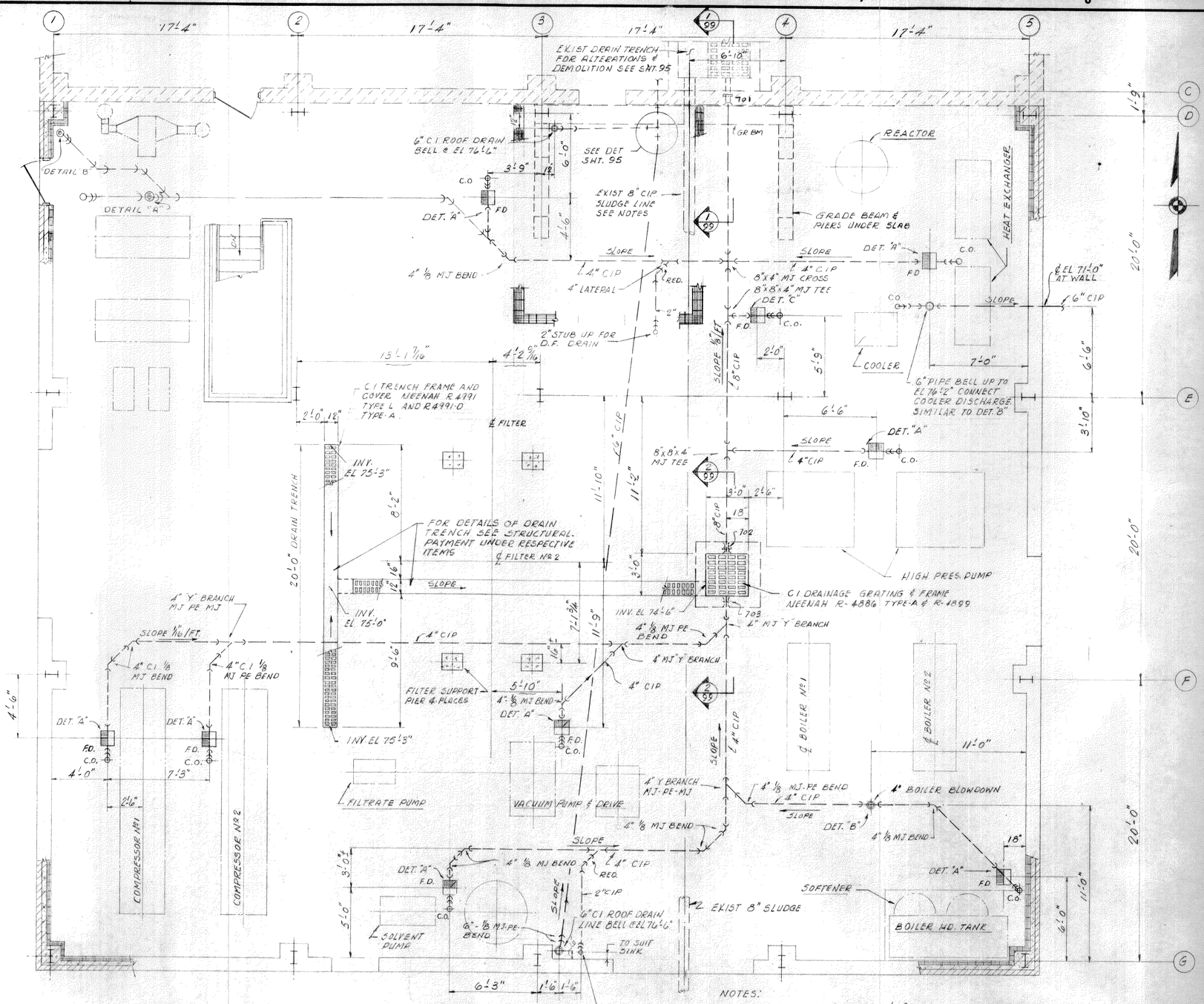

DETAIL – "B"
SCALE 1/2" = 1'-0"




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




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




PLAN EL 76'-0" H.P.
SCALE 1/4" = 1'-0"

NOTES:
1. TOP OF FLOOR DRAINS EL 75'-11". FLOOR DRAINS (F.D.) TO BE WADE FLOOR SINK W-2534 WITH HALF GRATE OR EQUAL.
2. DRAIN PIPING TO BE C.I. MJ PIPE AND FITTINGS, CLEAN OUTS (C.O.) AS DETAILED.
3. EXISTING 8" C.I SLUDGE LINE ELEV. VARIES. RELOCATE PORTIONS WHERE NECESSARY BACK FILL WITH CONCRETE WHERE CALLED FOR ON DWGS. AND WHERE LINE HAS BEEN DISTURBED FOR NEW STRUCTURES.

99 OF 165

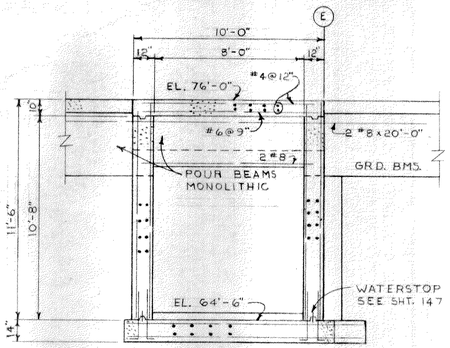
| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

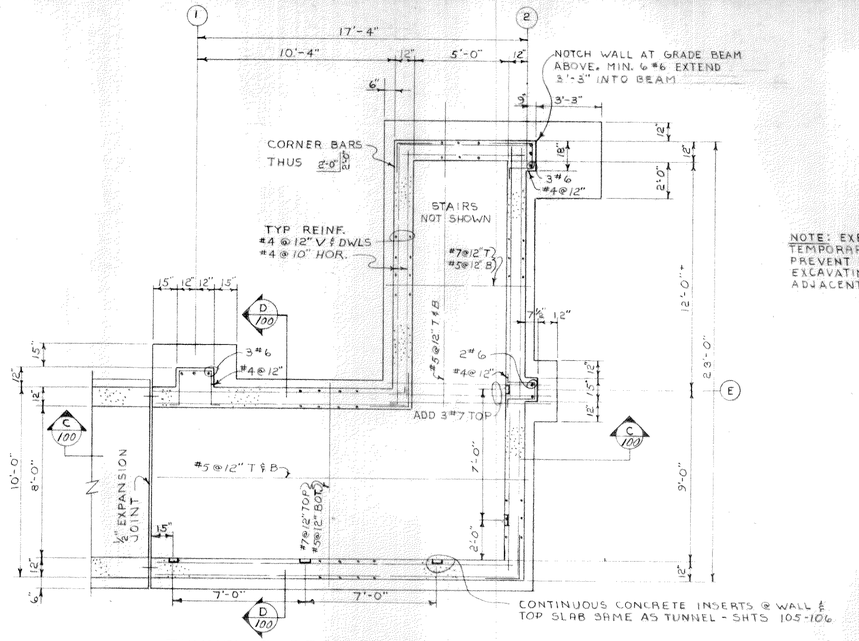
DATE July 72 | JOB No. 1061 | DRAWN AJH | CHECKED APM
SCALE AS NOTED | DWG. No. 72211 | TRACED | APPROVED LER

MASSILLON, OHIO

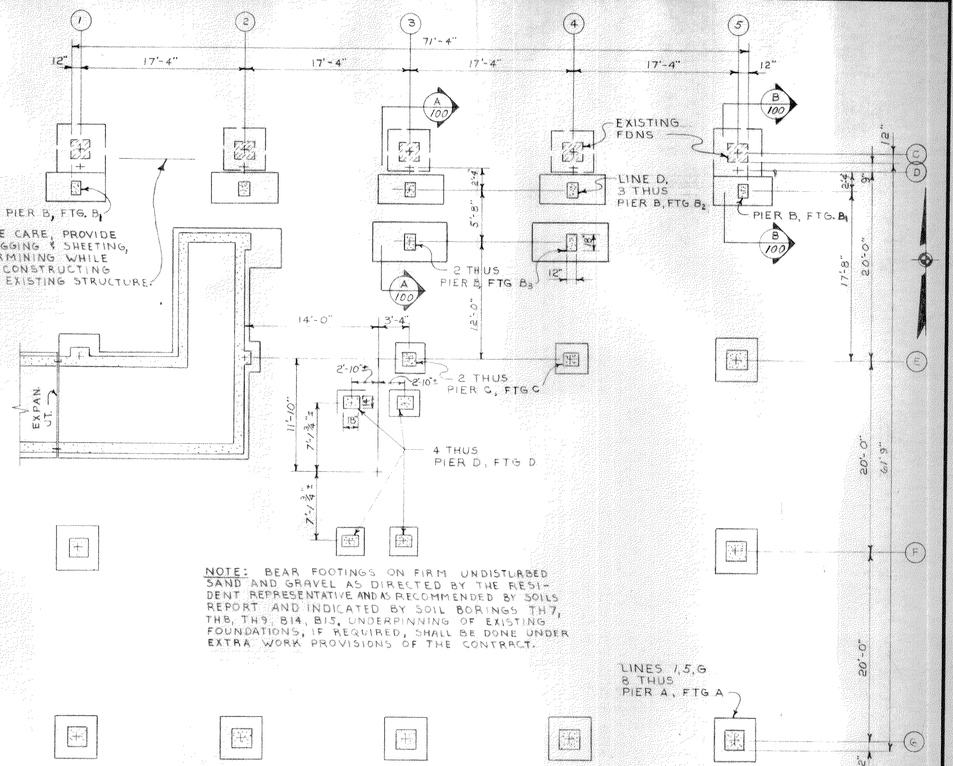
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
FILTER BLDG. ADDITION
DRAIN PIPING DETAILS
MECHANICAL



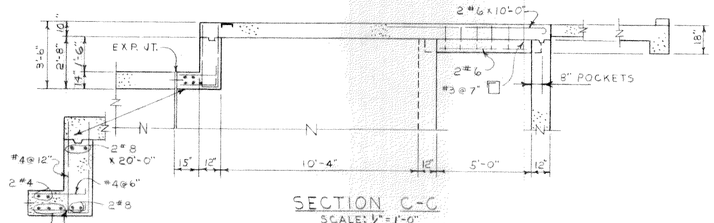

SECTION D-D
SCALE: 1/4"=1'-0"



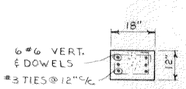

TUNNEL ENTRANCE BASE FRAMING PLAN
SCALE: 1/4"=1'-0"



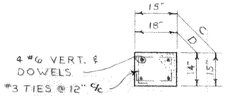

FOUNDATION PLAN
SCALE: 1/8"=1'-0"



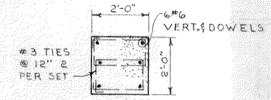

SECTION C-C
SCALE: 1/4"=1'-0"



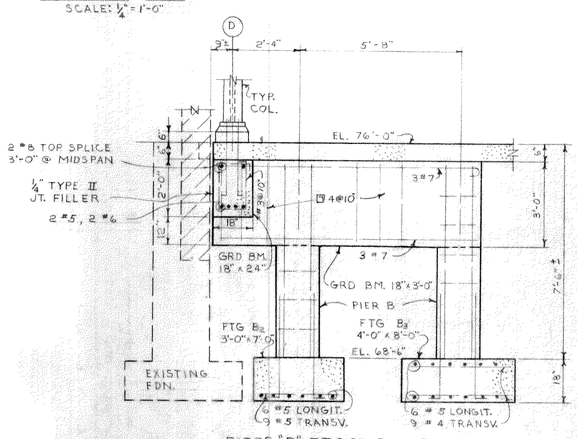

SECTION - PIER "B"



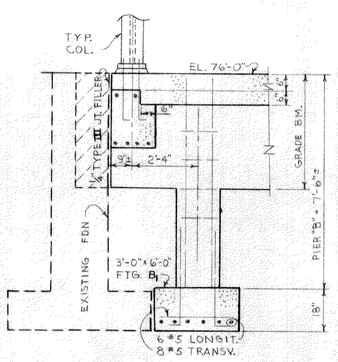

SECTION - PIER "C" & "D"



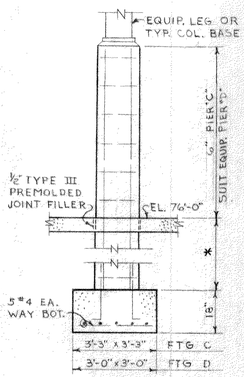

SECTION - PIER "A"



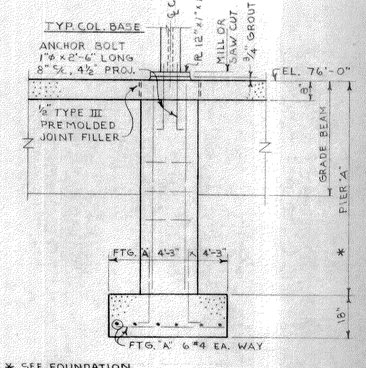

PIERS "B", FTGS B2, B3
SECTION A-A




PIER "B", FTG. B1
SECTION B-B




PIERS "C" & "D"




* SEE FOUNDATION PLAN NOTE

PIERS "A"

COLUMN BASE, PIER AND FOOTING DETAILS
SCALE: 3/8"=1'-0"

FOR GENERAL NOTES SEE SHT. 147

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

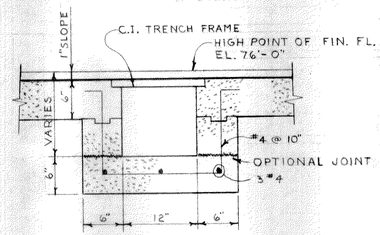
DATE July 72 | JOB No. 1061 | DRAWN RHS | CHECKED DAF
SCALE AS NOTED | DWG. No. 72212 | TRACED PSB | APPROVED LER

MASSILLON, OHIO

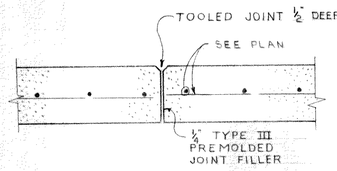
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
FILTER BLDG. ADDITION
FOUNDATION PLAN, SECTIONS & DETAILS
STRUCTURAL



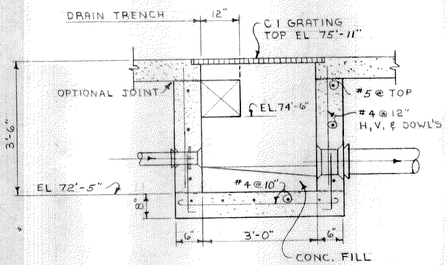
BRUNING 40-105



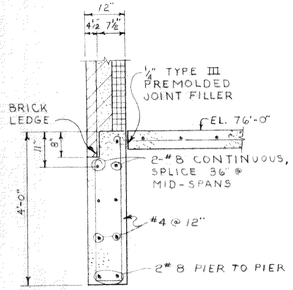

DRAIN TRENCH DETAIL
SCALE: 1" = 1'-0"



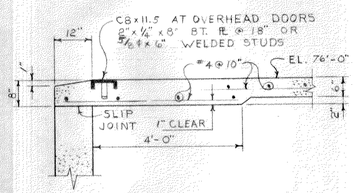

FLOOR JOINT DETAIL
NO SCALE



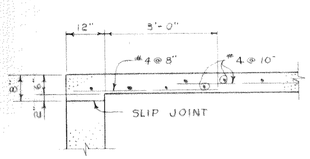

SECTION J-J
SCALE: ½" = 1'-0"



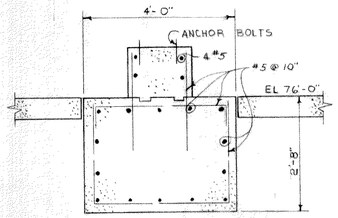

SECTION E-E
GRADE BEAM
SCALE: ½" = 1'-0"



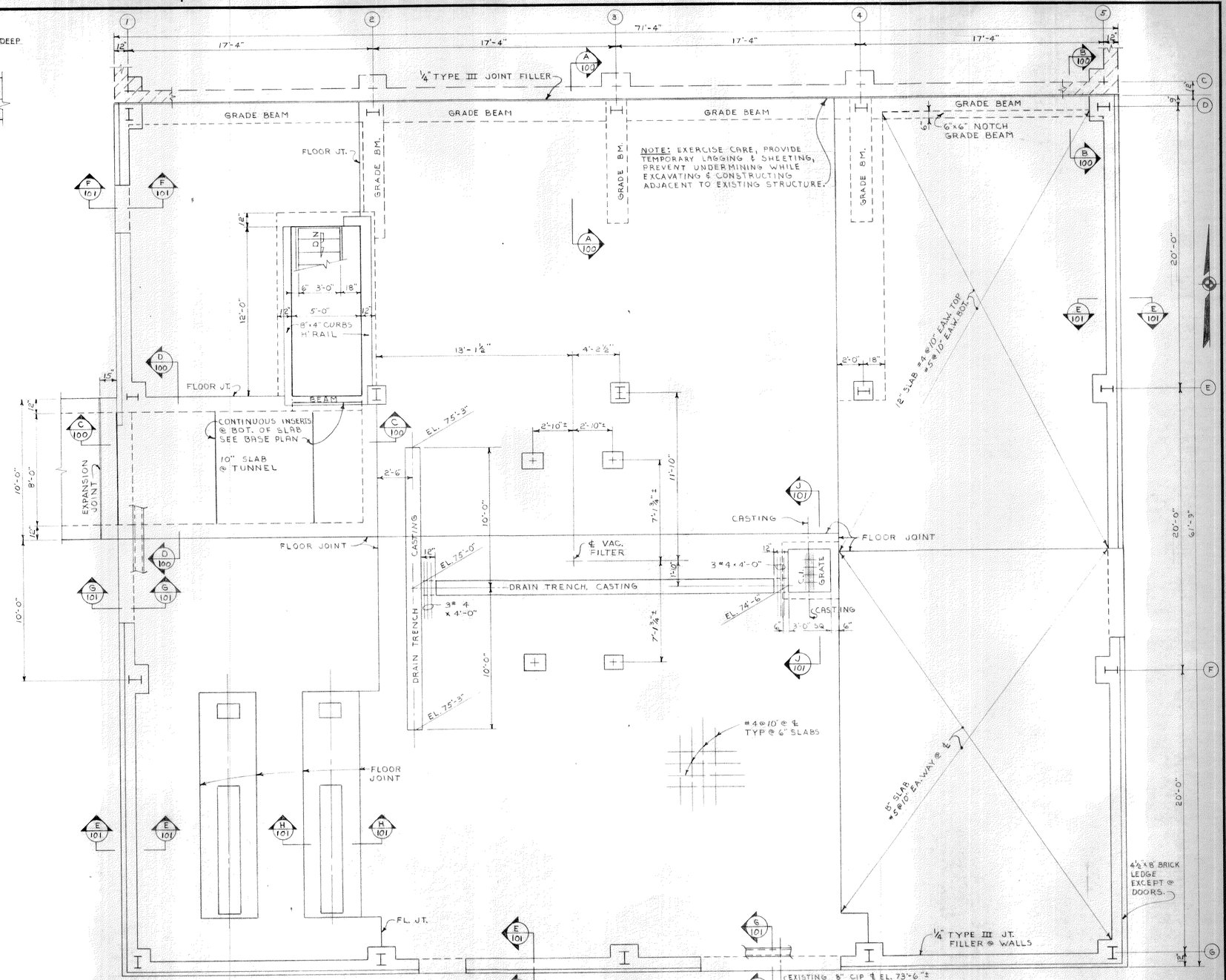

SECTION G-G
DETAIL AT OVERHEAD DOORS
SCALE: ½" = 1'-0"




SECTION F-F
DETAIL AT PASS DOOR
SCALE: ½" = 1'-0"




SECTION H-H
COMPRESSOR BASES
SCALE: ½" = 1'-0"
EXCAVATE TO FIRM SOIL APPROX. EL. 69'±
BACKFILL W/ FDN. CUSHION BELOW BASES




GROUND FLOOR FRAMING PLAN
SCALE: ¼" = 1'-0"

HIGH POINT FINISHED FLOOR EL. 76'-0", UNLESS NOTED.
6" CONCRETE SLAB, UNLESS NOTED. SLOPE TOP 1" TO DRAINS
DRAINAGE TRENCH INVERT ELEV. SHOWN THUS 104'-0"

FOR GENERAL NOTES SEE SHT. 147

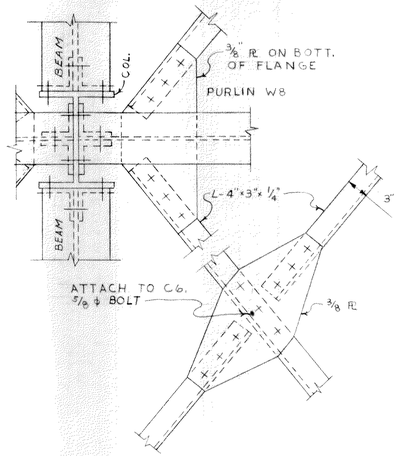
| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

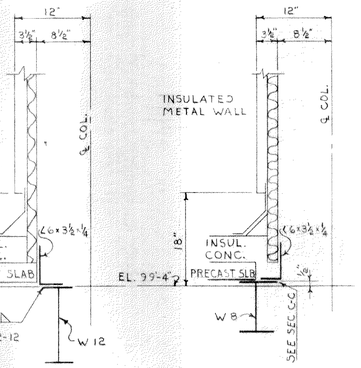
DATE July 72 | JOB No. 1061 | DRAWN RHS | CHECKED PAF
SCALE AS NOTED | DWG. No. 72213 | TRACED PSB | APPROVED LER

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
FILTER BLDG. ADDITION
GROUND FLOOR FRAMING PLAN & DETAILS
STRUCTURAL



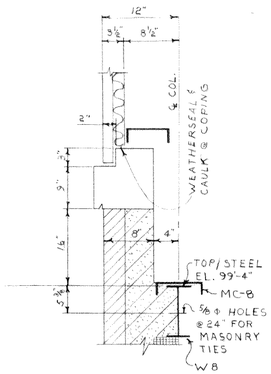

LATERAL BRACING DETAIL
SCALE: 1½"=1'-0"



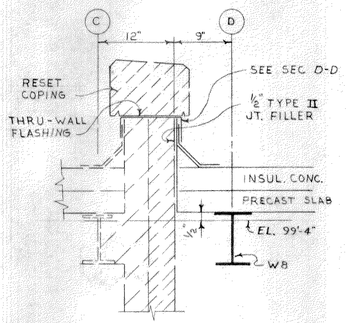

SECTION C-C
METAL WALL @ LINE 4
SCALE: 1"=1'-0"



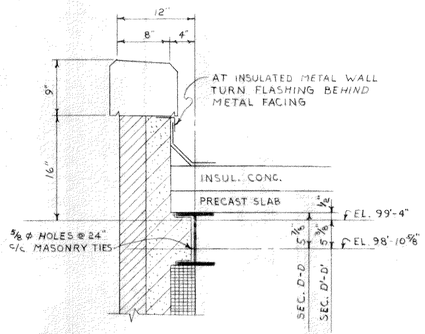

SECTION B-B
METAL WALL @ LINE E
SCALE: 1"=1'-0"



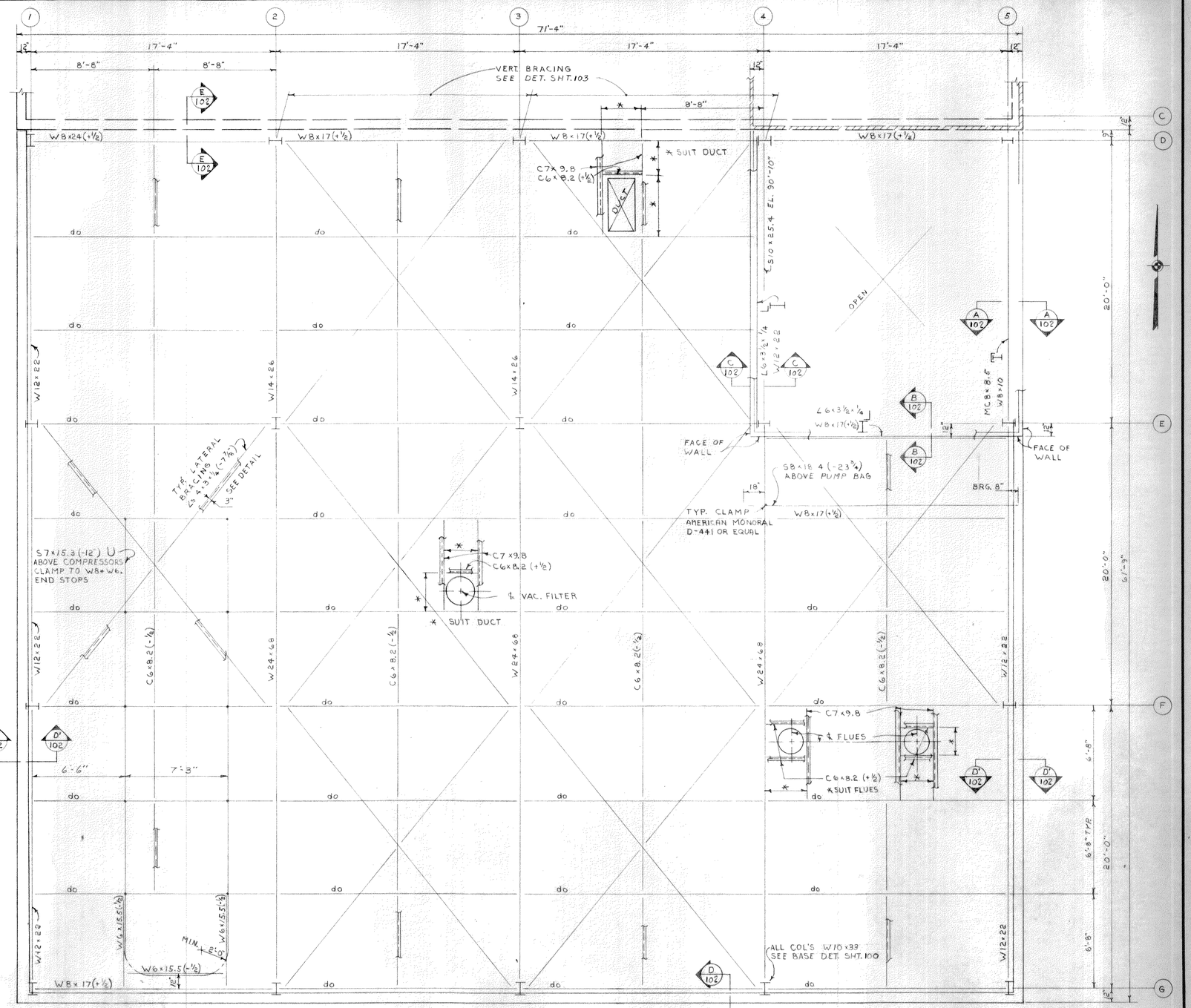

SECTION A-A
METAL WALL @ LINE 5
SCALE: 1"=1'-0"




SECTION E-E
SCALE: 1"=1'-0"




SECTION D-D
SECTION D'-D' SIMILAR
SCALE: 1"=1'-0"




ROOF FRAMING PLAN
SCALE ⅛"=1'-0"
TOP OF STEEL BEAMS EL. 99'-4" UNLESS NOTED

FOR GENERAL NOTES SEE SHT. 147



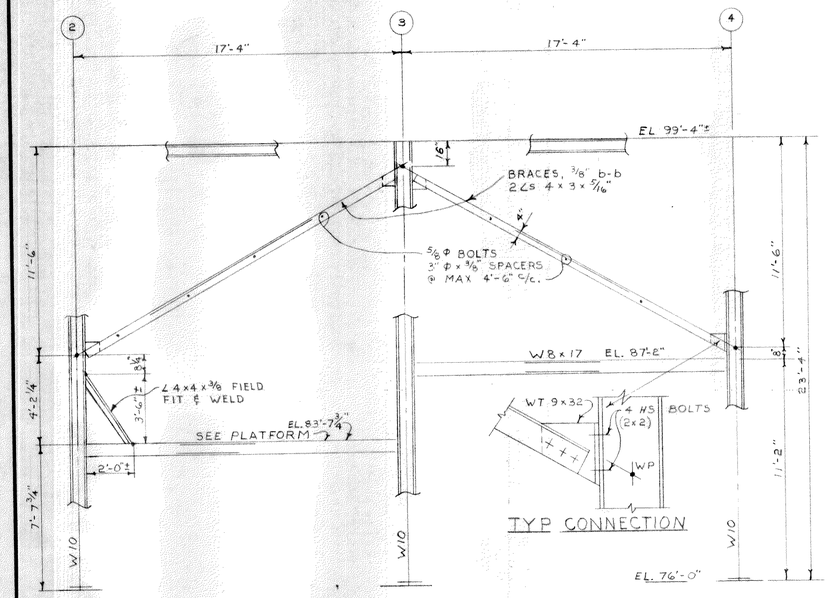
| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN RHS | CHECKED DAF
SCALE AS NOTED | DWG. No. 72214 | TRACED PSB | APPROVED LER

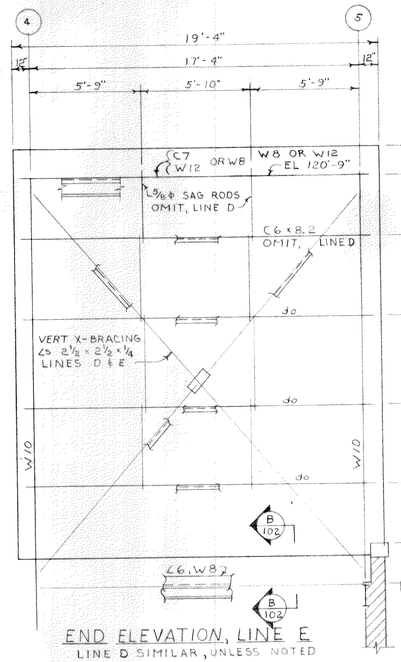
MASSILLON, OHIO
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
FILTER BLDG. ADDITION
ROOF FRAMING PLAN & DETAILS
STRUCTURAL

BRUNING 40-1015



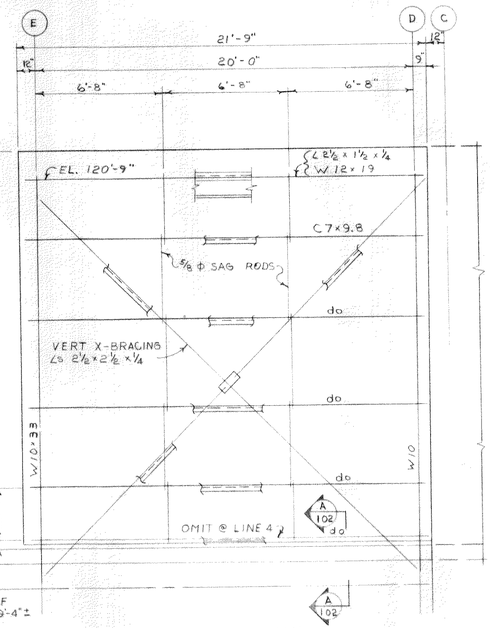

VERT - DIAGONAL BRACING LINE D

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




END ELEVATION, LINE E

LINE D SIMILAR, UNLESS NOTED

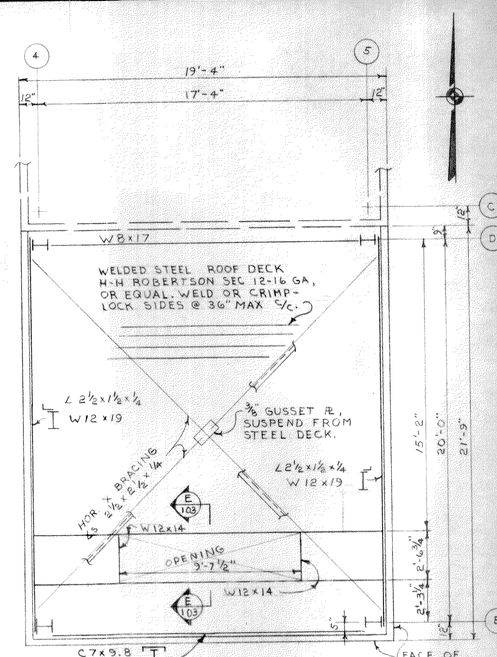



SIDE ELEVATION, LINE 5

LINE 4 SIMILAR, UNLESS NOTED

PENTHOUSE WALL FRAMING ELEVATIONS

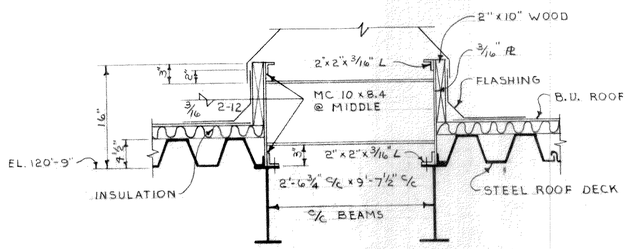
SCALE: 1/4" = 1'-0"




PENTHOUSE ROOF FRAMING PLAN

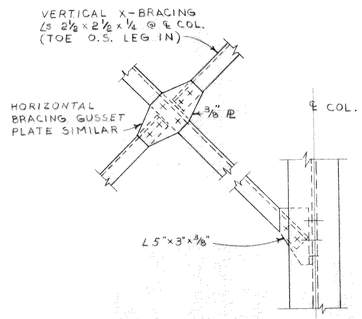
SCALE: 1/4" = 1'-0"

TOP OF BEAMS EL. 120'-9", UNLESS NOTED.



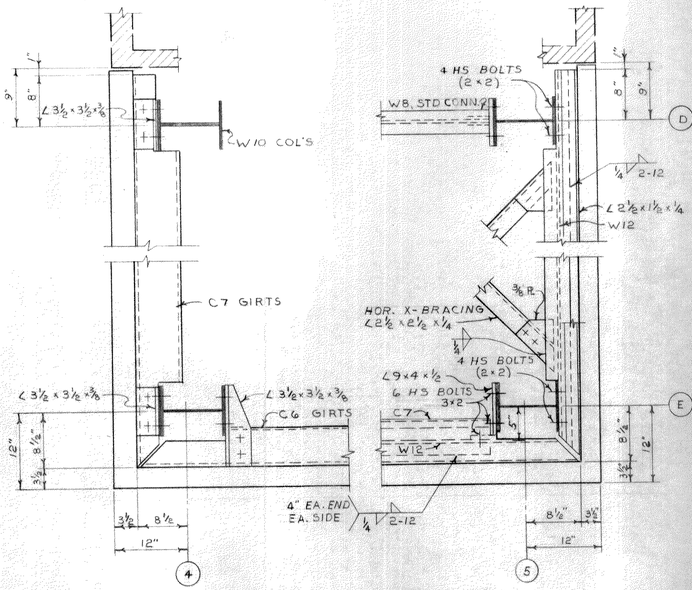

SECTION E-E

SCALE: 1" = 1'-0"




VERTICAL BRACING DETAILS
PENTHOUSE WALLS

SCALE: 1" = 1'-0"




TYPICAL BEAM CONNECTIONS
PENTHOUSE FRAMING

SCALE: 1" = 1'-0"

103 OF 165

FOR GENERAL NOTES SEE SHT. 147

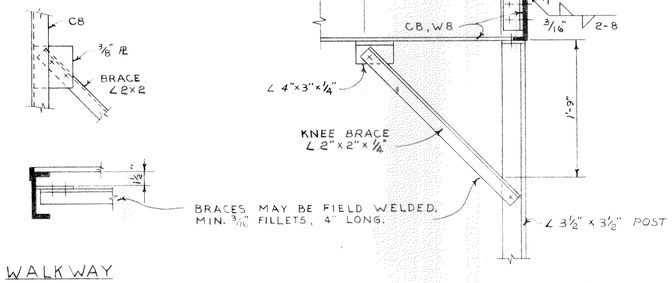
| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

| | | | |
|---|---|---|---|
| DATE July 72 | JOB No. 1061 | DRAWN RHS | CHECKED DAF |
| SCALE AS NOTED | DWG. No. 7221.5 | TRACED PSB | APPROVED LER |

MASSILLON, OHIO

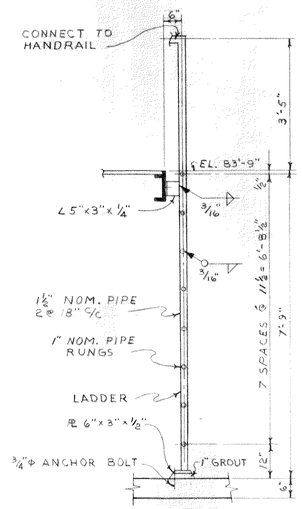
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
FILTER BLDG. ADDITION
PENTHOUSE FRAMING & WALL BRACING
STRUCTURAL



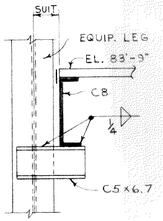

WALKWAY
BRACE DETAILS
NO SCALE



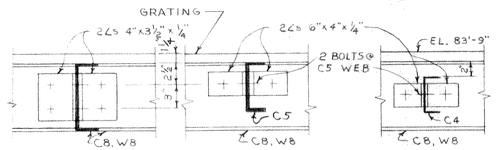

GRATING RETAINER & KNEE BRACE DETAILS
NO SCALE



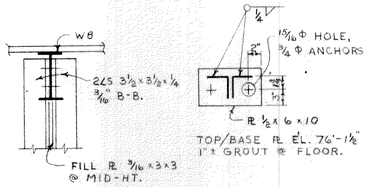

LADDER DETAIL (GALV.)
NO SCALE



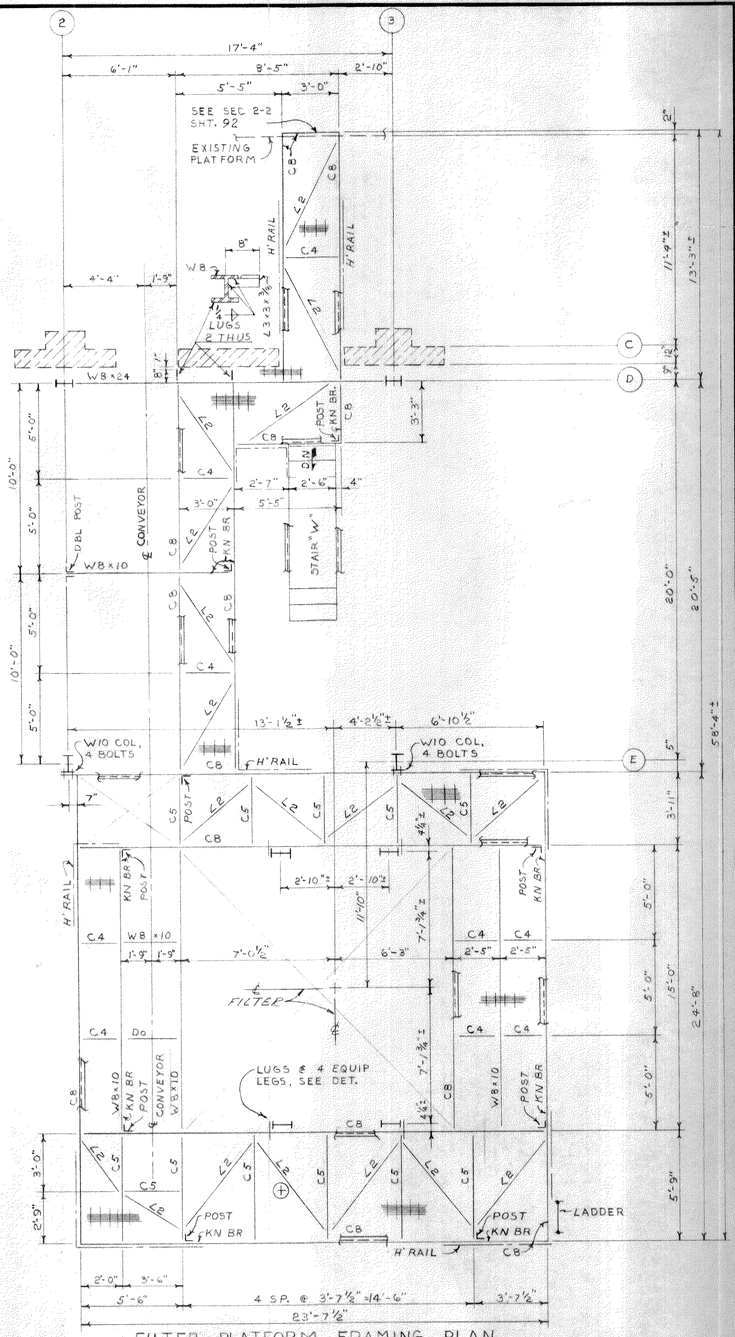

CONNECTION LUGS @ EQUIPMENT LEGS
NO SCALE




TYPICAL BEAM CONNECTIONS
NO SCALE




POST DETAILS
NO SCALE




FILTER PLATFORM FRAMING PLAN
SCALE: ¼"=1'-0"

TOP OF 1¼"x3/16" ALUMINUM GRATING EL. 83'-9", TOP OF MAIN BEAMS EL. 83'-7¾", UNLESS NOTED.
MEMBER DESIGNATION: W8 AS SHOWN, C8=C8x11.5, C5=C5x6.7, C4=C4x5.4,
POSTS=L 3½x3½x¼, L2=L2x2x¼ KNBR=KNEE BRACE AS DETAILED.
⅝Φ ZINC ℄ BOLTED CONNECTIONS, SIMILAR TO AISC TABLE 1.
FIX GRATING IN PLACE, PROVIDE STANDARD HANDRAIL @ FACE OF C8, PROVIDE TOE PLATES
SEE SHT. 148 FOR TYPICAL DETAILS NOT SHOWN.

104 OF 165

FOR GENERAL NOTES SEE SHT. 147

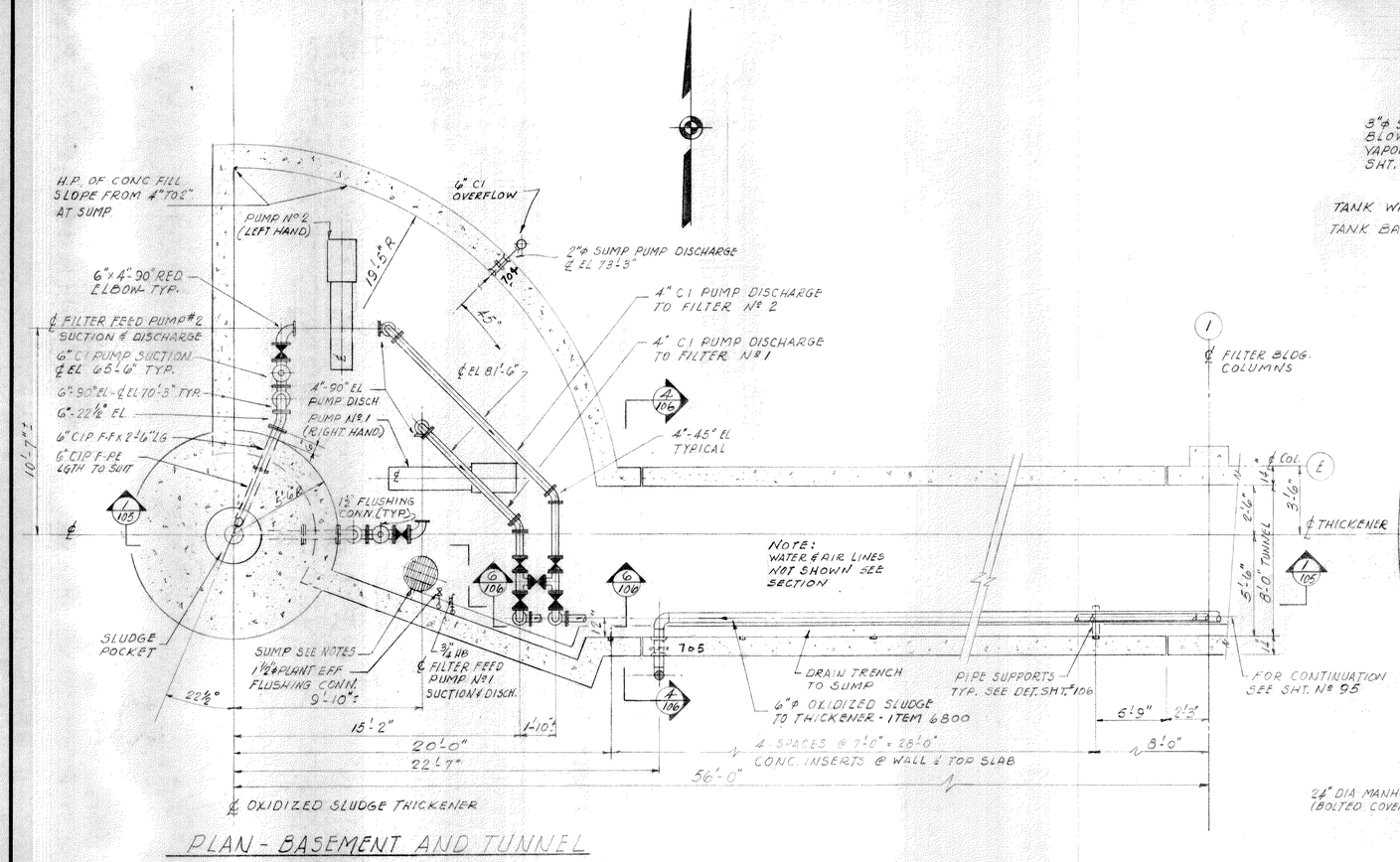
| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

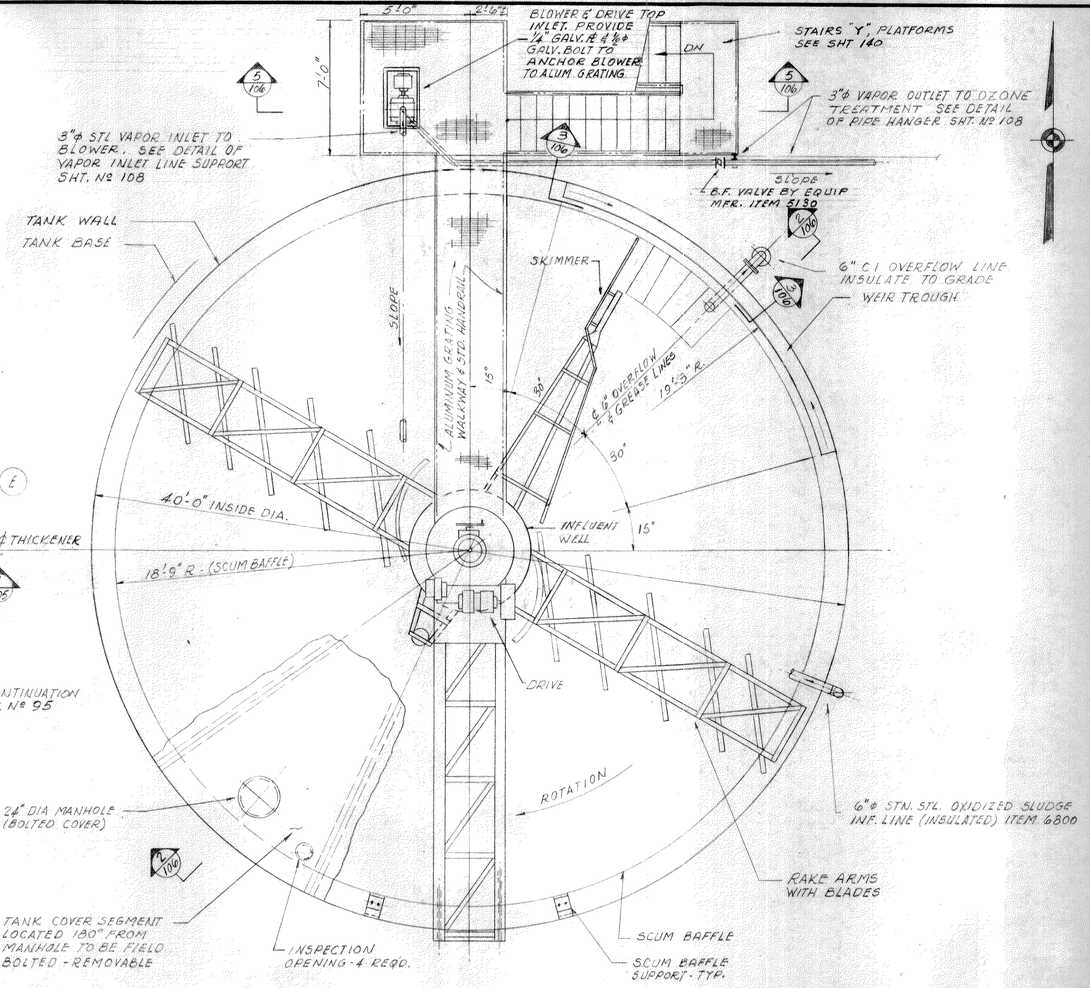
DATE July 72 | JOB No. 1061 | DRAWN RHS | CHECKED DAF
SCALE AS NOTED | DWG. No. 722.16 | TRACED PSB | APPROVED LER

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
FILTER BLDG. ADDITION
FILTER PLATFORM FRAMING PLAN & DETAILS-STRUCTURAL

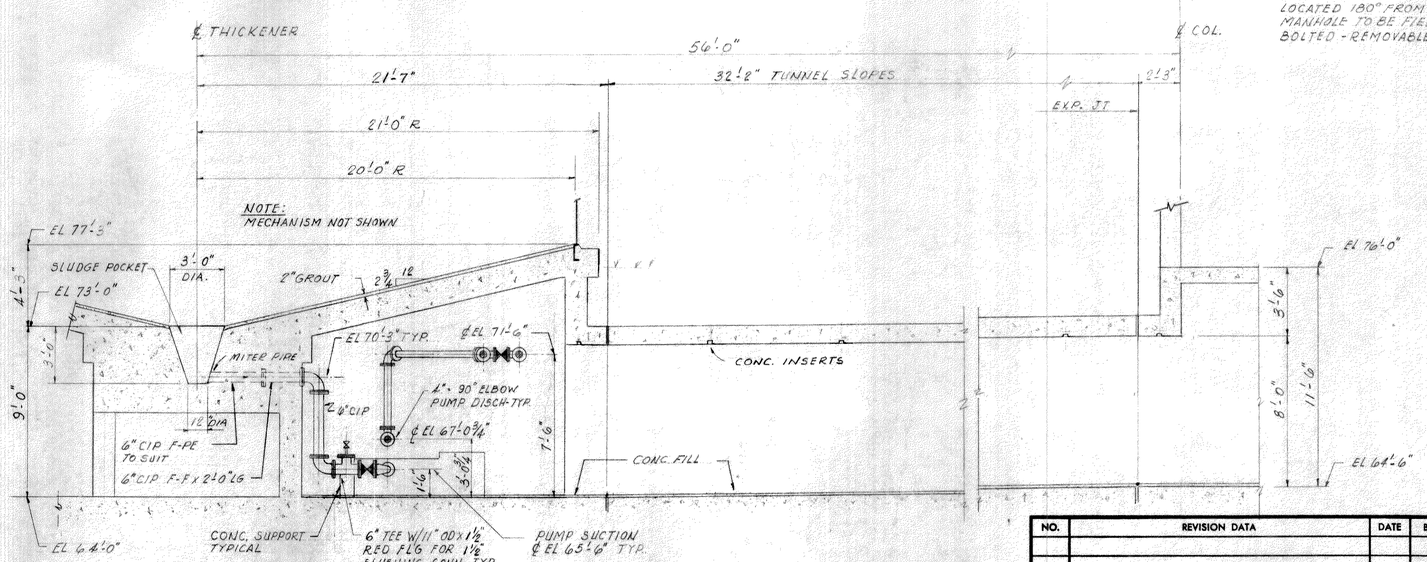



## PLAN - BASEMENT AND TUNNEL SHOWING FILTER FEED PUMPS & PIPING




NOTE: SEE BASEMENT PLAN THIS SHT.

## GENERAL TOP PLAN




## SECTION 1-1

NOTES:

1. FILTER FEED PUMPS N°1 AND N°2 ARE EXISTING SLUDGE PUMPS LOCATED AT SLUDGE HOLDING TANKS SHOWN ON SHT. N° 90 AND ARE TO BE INSTALLED AS SHOWN. FOR AIR CONTROL SCHEMATIC SEE SHT 97
2. SUMP - 24"ø V.S.P. WITH ALUMINUM GRATING. FOR DETAILS OF PUMP AND PIPING SEE SHT. N° 134
3. FOR PLUMBING SEE SHT. N° 138 HOSE BIBB & FLUSHING CONNECTION SET AT 18" ABOVE FLOOR.
4. FOR HEATING AND VENTILATING SEE SHT. 125

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

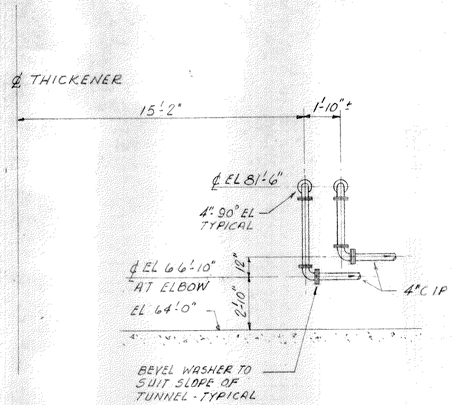
DATE July 72 | JOB No. 1061 | DRAWN AJH | CHECKED A.J.M.
SCALE ¼" = 1'-0" | DWG. No. 72217 | TRACED | APPROVED L.E.R.

105 OF 165

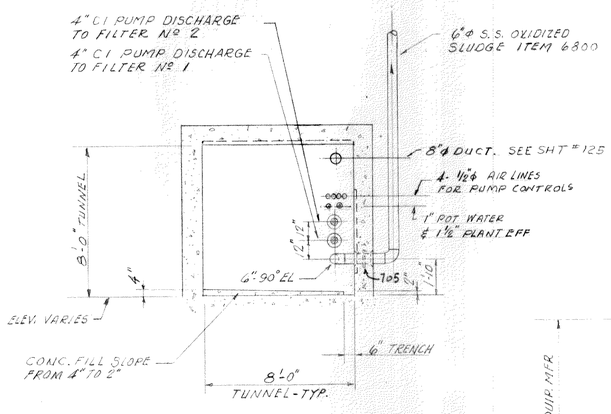
MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
OXIDIZED SLUDGE THICKENER
PLANS & SECTIONS
MECHANICAL

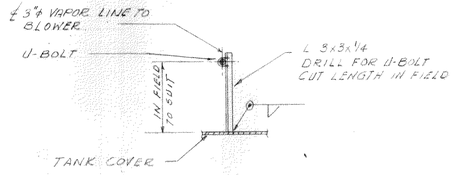
BRUNING 40-105



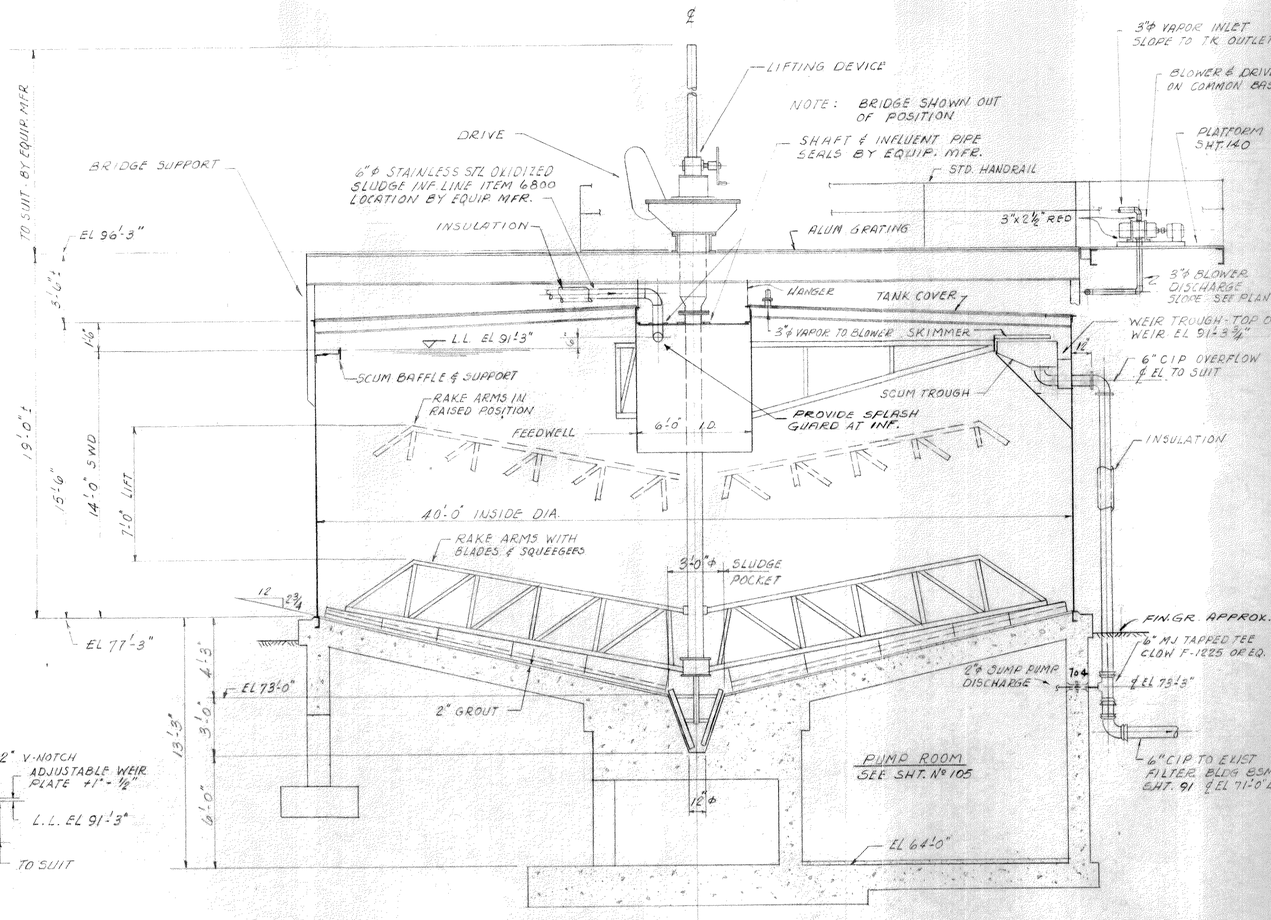

SECTION 6-6



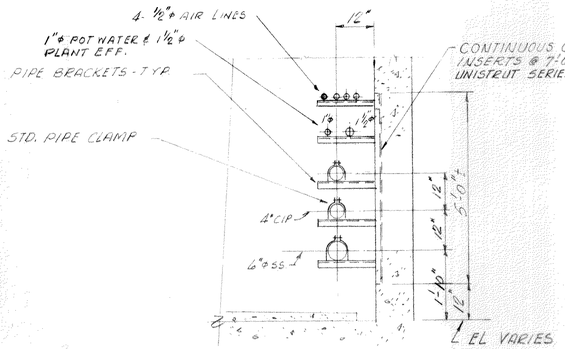

SECTION 4-4



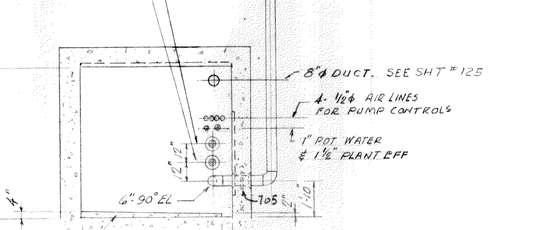

DETAIL - VAPOR INLET LINE SUPPORT
2 - REQ'D. NO SCALE



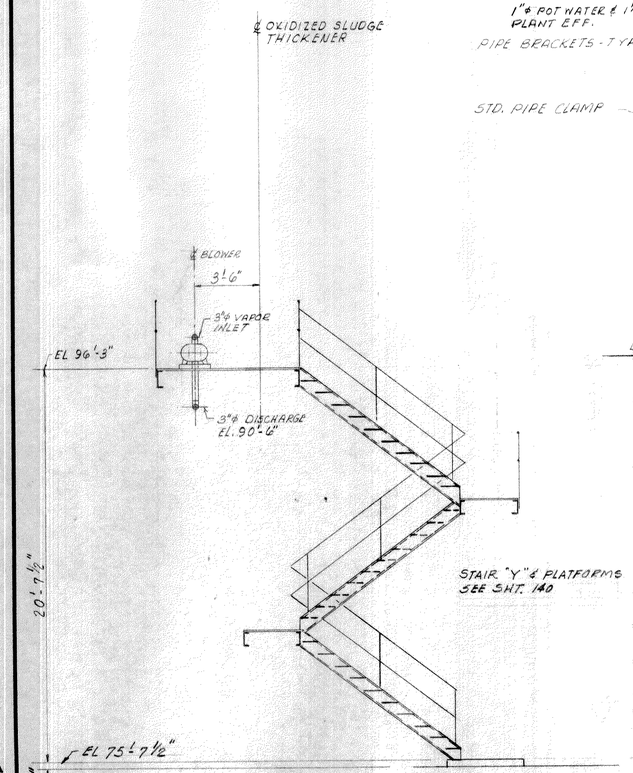

SECTION 2-2
GENERAL SECTION




DETAIL OF PIPE SUPPORTS IN TUNNEL
NO SCALE




SECTION 3-3




SECTION 5-5

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

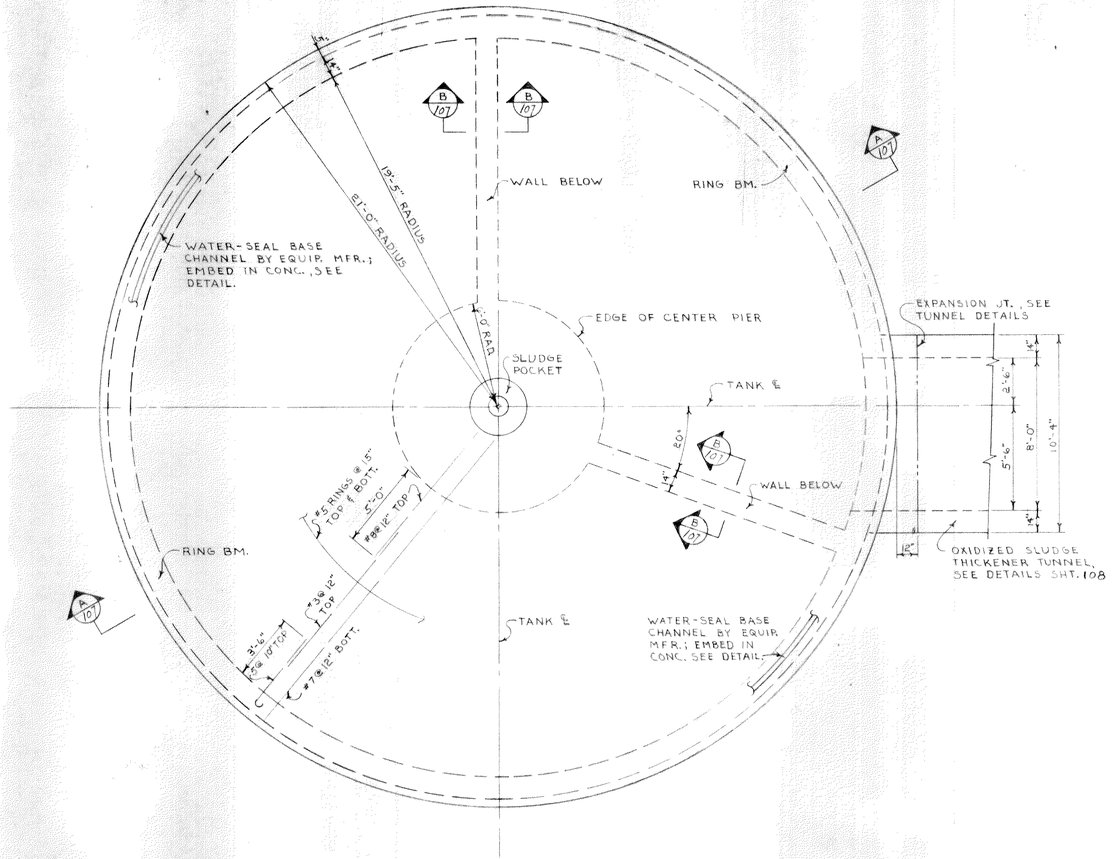
DATE July 72 | JOB No. 1061 | DRAWN AJH & TRACED | CHECKED RPM
SCALE ¼"=1'-0" | DWG. No. 72218 | APPROVED LER

MASSILLON, OHIO

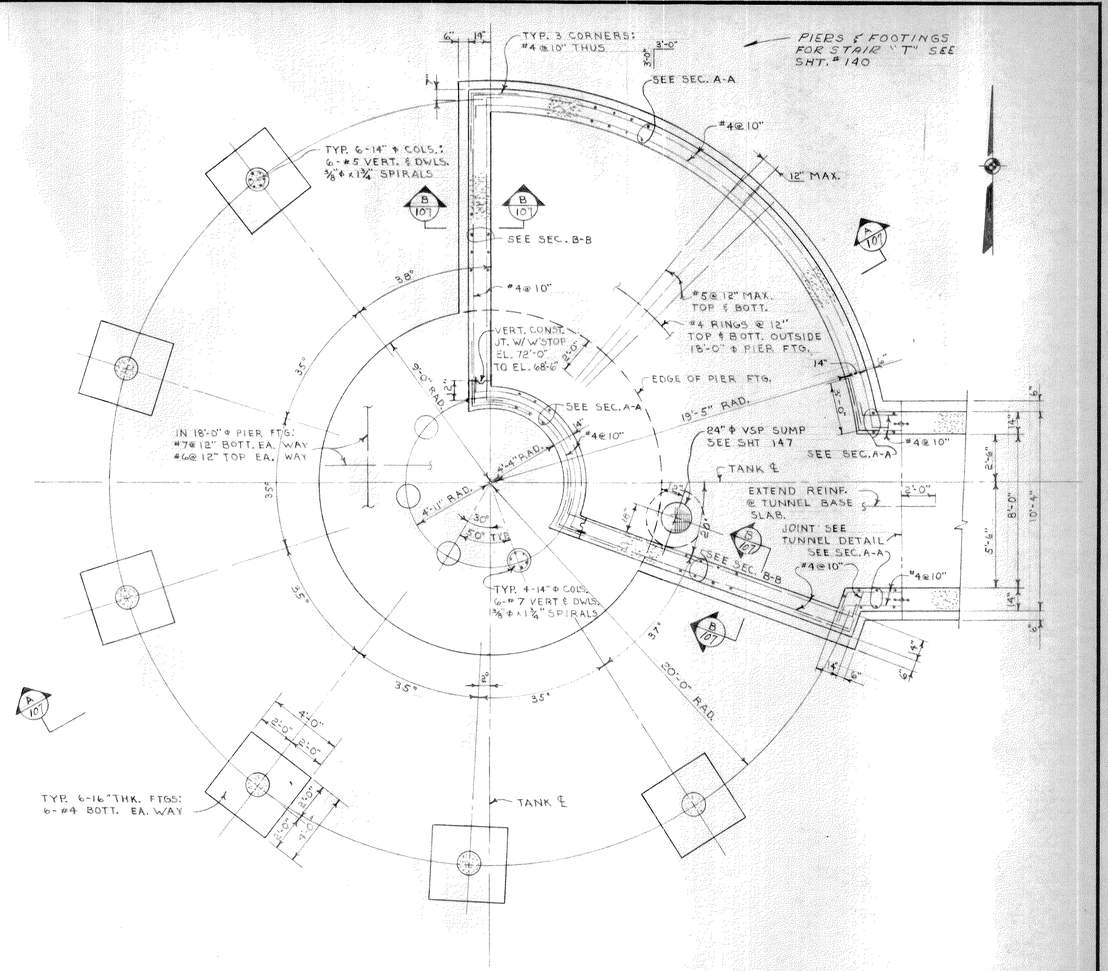
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
OXIDIZED SLUDGE THICKENER
SECTIONS & DETAILS
MECHANICAL

106 OF 165

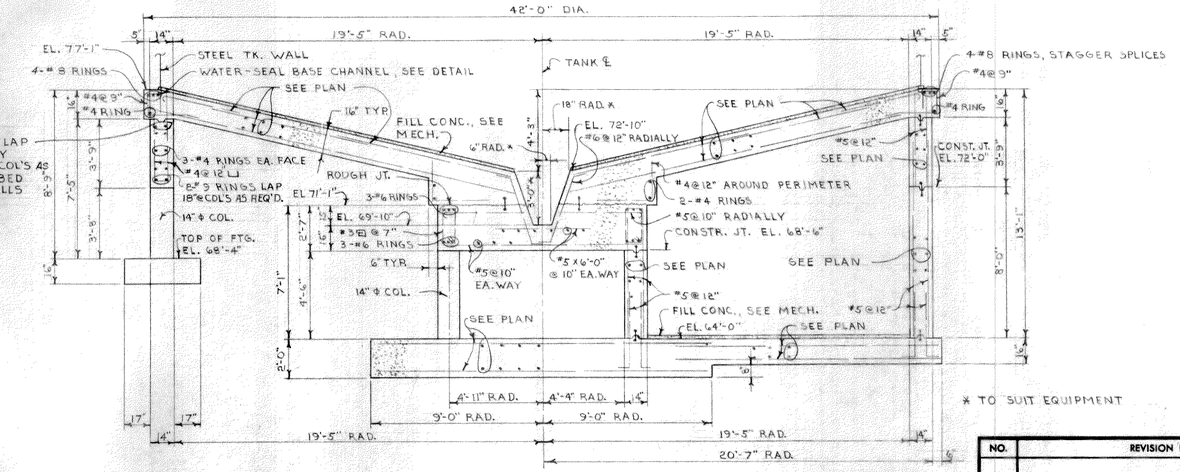
BRUNING 40-105




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

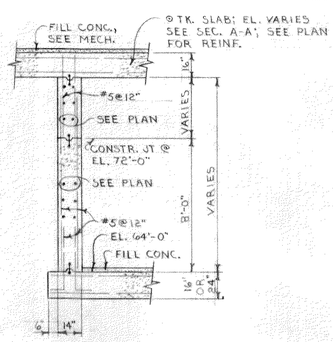



BASE FRAMING PLAN
SCALE: 1/4"=1'-0"
TOP OF 16" PUMP RM. SLAB & 3'-0" CENTER PIER FTG. EL. 64'-0"
TOP OF 4'-0"x4'-0"x16" THK. COL. FTGS. EL. 68'-4"

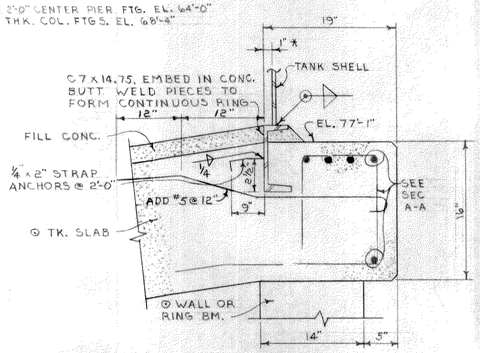



SECTION A-A
SCALE: 1/4"=1'-0"

* TO SUIT EQUIPMENT




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




WATER-SEAL BASE CHANNEL DETAIL
NO SCALE

FOR GENERAL NOTES SEE SHT. 147

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

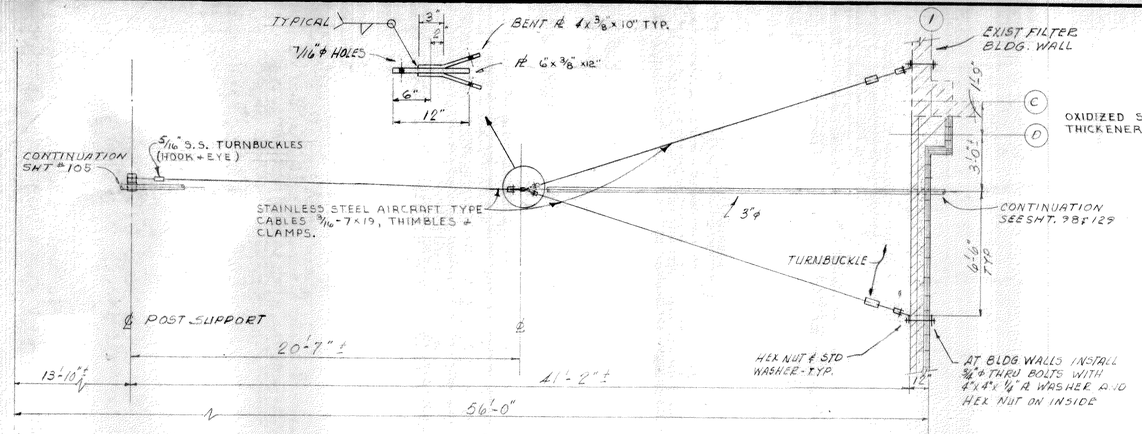
DATE July 72 | JOB No. 1061 | DRAWN DEM | CHECKED DAF
SCALE AS NOTED | DWG. No. 72219 | TRACED PSB | APPROVED LER

MASSILLON, OHIO

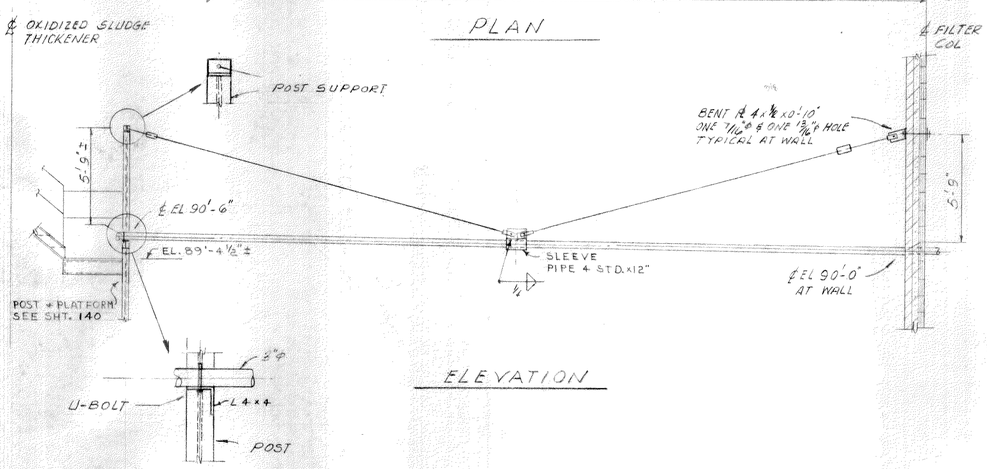
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
OXIDIZED SLUDGE THICKENER
FRAMING PLANS, SECTIONS & DETAILS
STRUCTURAL

107 OF 165

BRUNING 40-105 — 1 2 3 4 5 6 7 8




PLAN

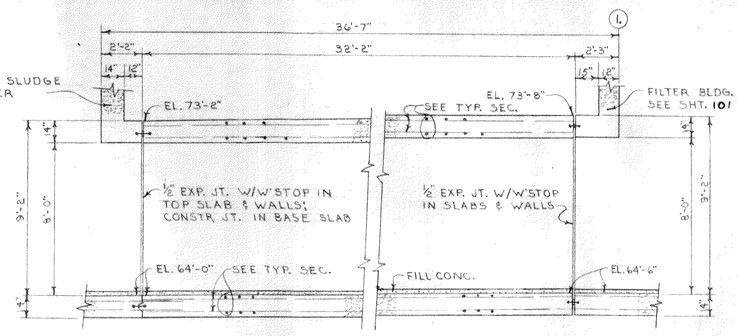



ELEVATION



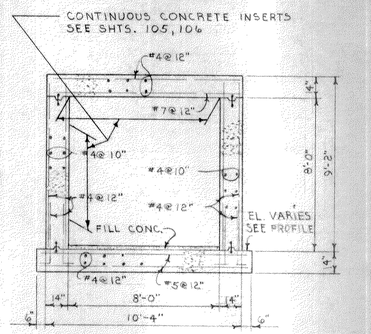

DETAIL OF PIPE HANGER
FOR 3"ϕ STL VAPOR LINE

SCALE 1/2" = 1'-0"



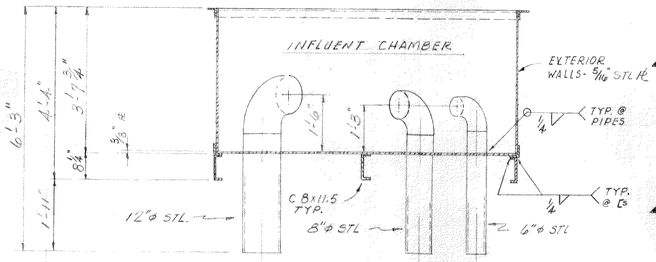

OXIDIZED SLUDGE THICKENER TUNNEL PROFILE

SCALE 1/4" = 1'-0"
SEE PLAN SHT. #105

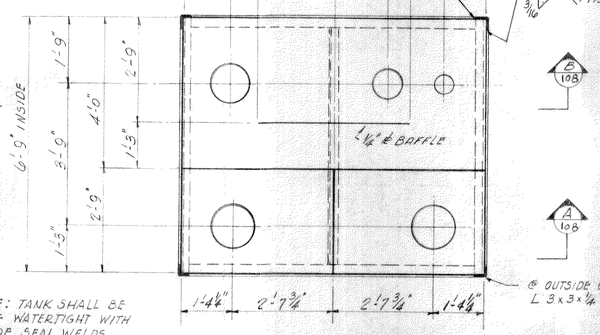



TYPICAL TUNNEL SECTION

SCALE 1/4" = 1'-0"

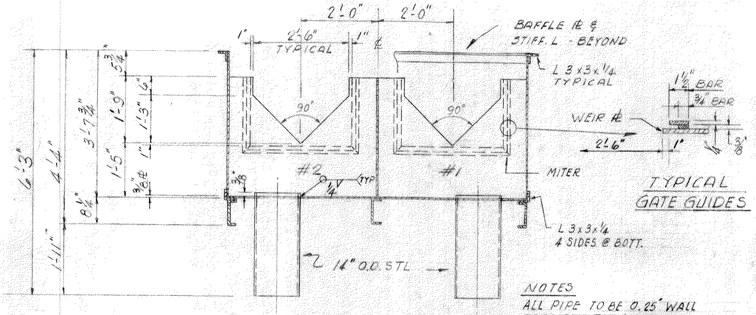



SECTION B-B



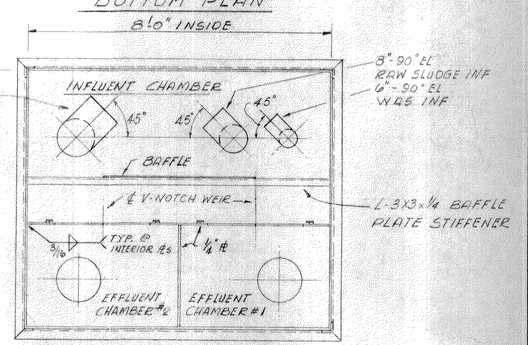

NOTE: TANK SHALL BE MADE WATERTIGHT WITH INSIDE SEAL WELDS

BOTTOM PLAN




SECTION A-A

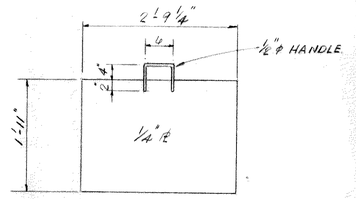
NOTES
ALL PIPE TO BE 0.25" WALL WITH COAL TAR LINING
2 - STOP GATES REQ'D. SEE DETAIL THIS SHT.




TOP PLAN

DETAIL OF SPLITTER BOX
ONE REQUIRED @ SLUDGE THICKENERS

SCALE 1/2" = 1'-0"




GALVANIZE AFTER FABRICATION.

STEEL STOP GATE DETAIL
2-REQ'D. SCALE 3/4" = 1'-0"

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

| DATE July 72 | JOB No. 1061 | DRAWN AJH-DEM & TRACED | CHECKED DAF |
|---|---|---|---|
| SCALE AS NOTED | DWG. No. 72220 | | APPROVED LER |

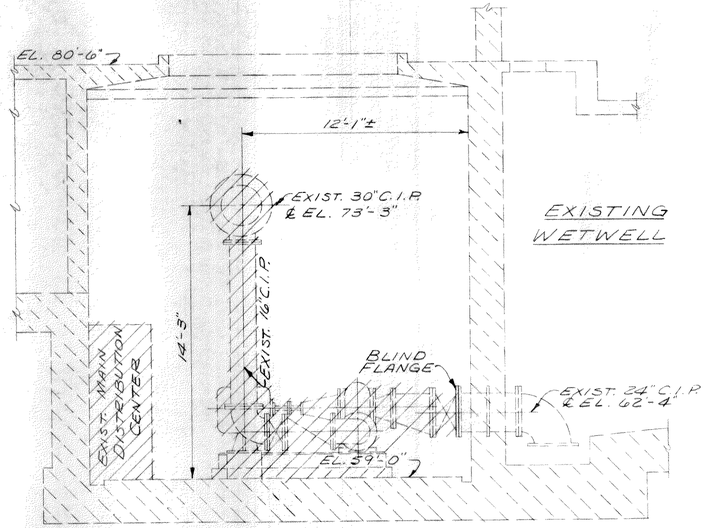
MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
TUNNEL TO OXIDIZED SLUDGE THICKENER
SPLITTER BOX & PIPE HANGER DETAILS
MECHANICAL & STRUCTURAL

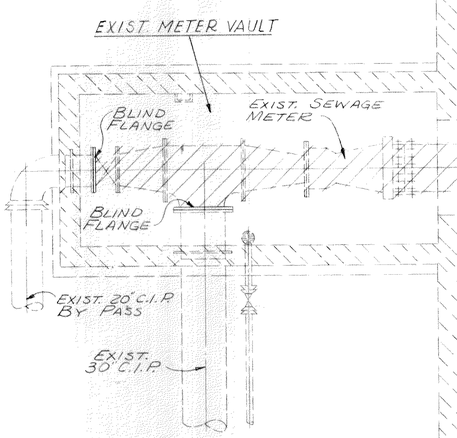
108 OF 165

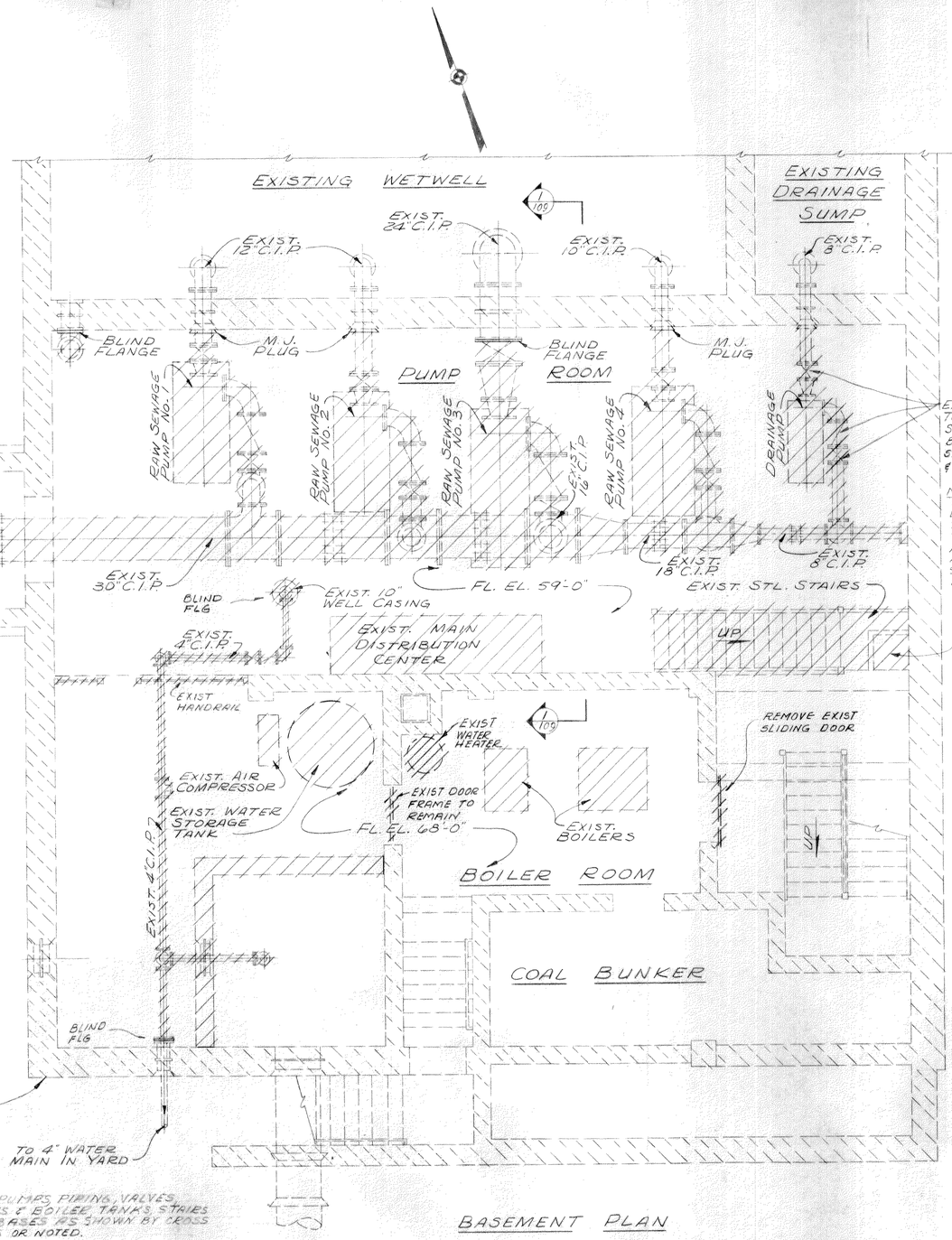
FOR GENERAL NOTES SEE SHT. 1-47

BRUNING 40-105 — 1 2 3 4 5 6 7 8



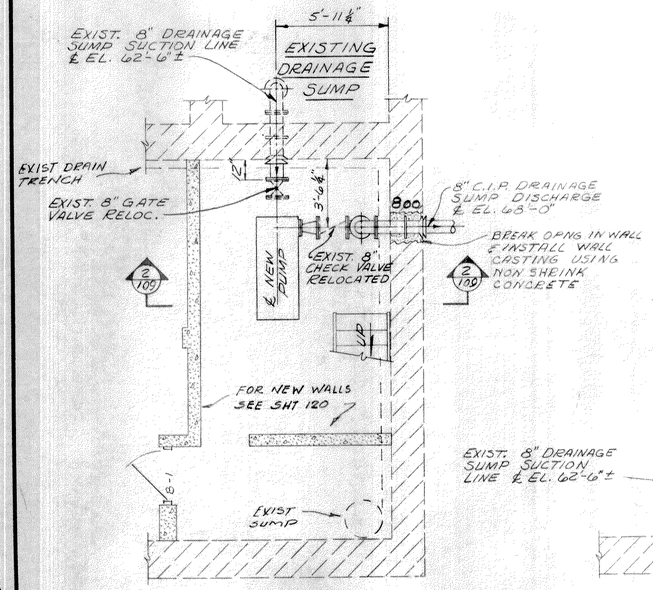

SECTION 1-1



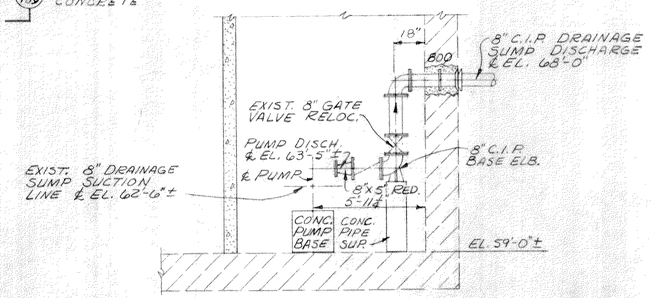




NOTE:
REMOVE PUMPS, PIPING, VALVES, SUPPORTS & BOILER TANKS, STAIRS, EQUIPT. BASES AS SHOWN BY CROSS HATCHING OR NOTED.

BASEMENT PLAN




PARTIAL BASEMENT PLAN




SECTION 2-2

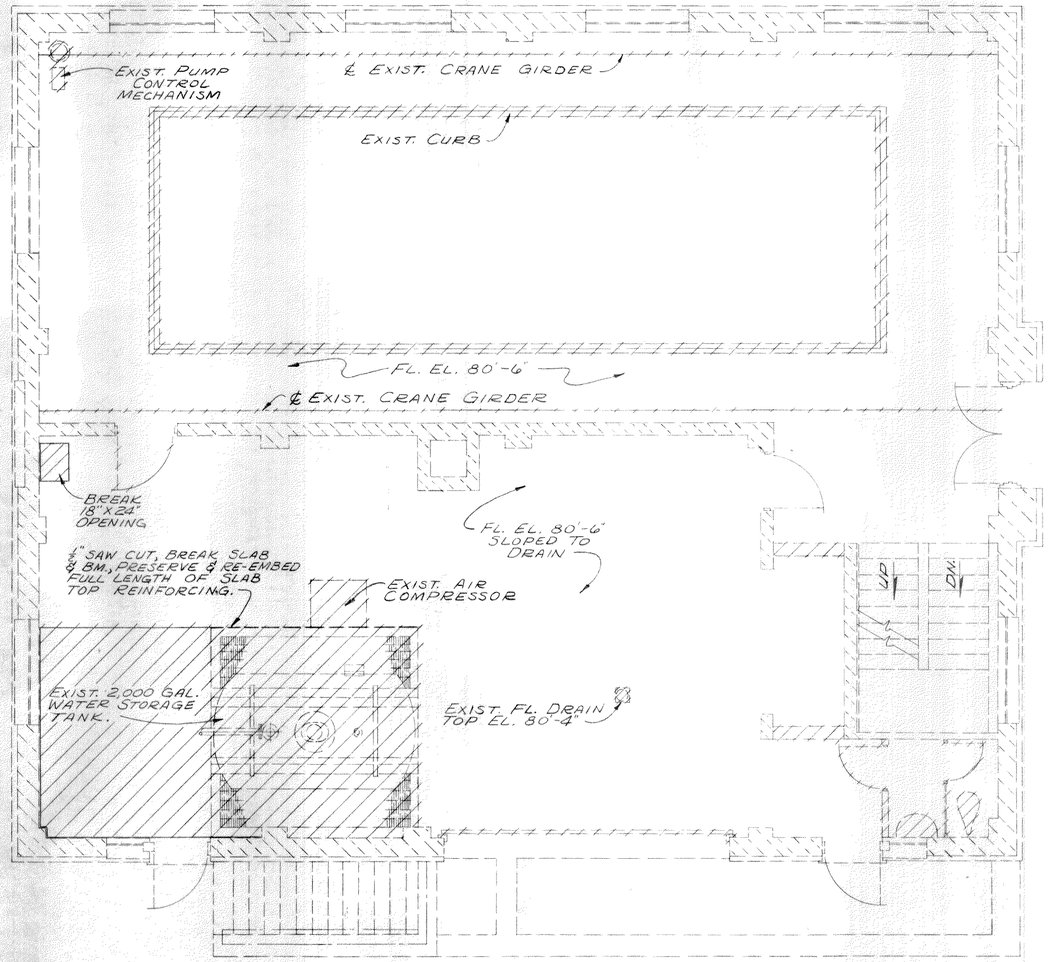
| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

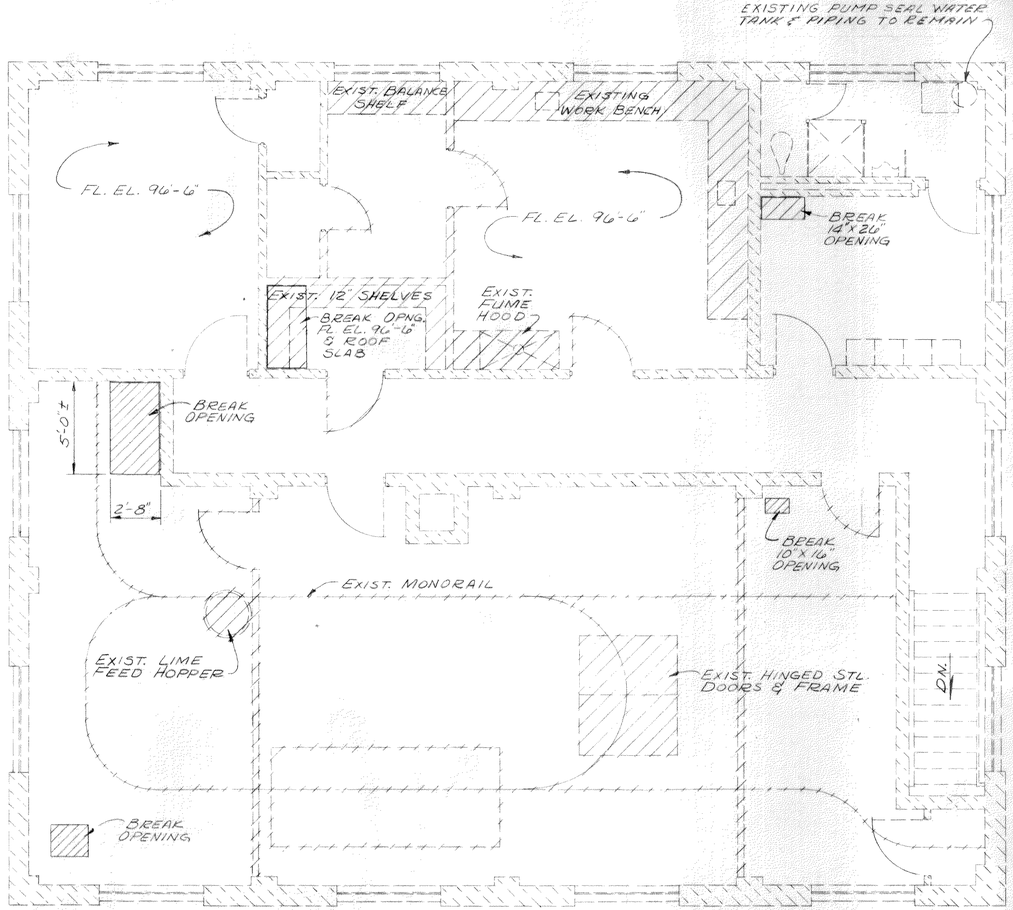
DATE July 72 | JOB No. 1061 | DRAWN & TRACED JWK | CHECKED AHM
SCALE 1/4" = 1'-0" | DWG. No. 72221 | APPROVED LER

MASSILLON, OHIO
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
RENOVATIONS TO MAIN BLDG.
DEMOLITION & ALTERATIONS
MECHANICAL

109 OF 165




FIRST FLOOR PLAN




SECOND FLOOR PLAN

NOTE:
FOR OPENINGS IN FLOORS SEE ARCHITECTURAL, MECHANICAL & STRUCTURAL.

110 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
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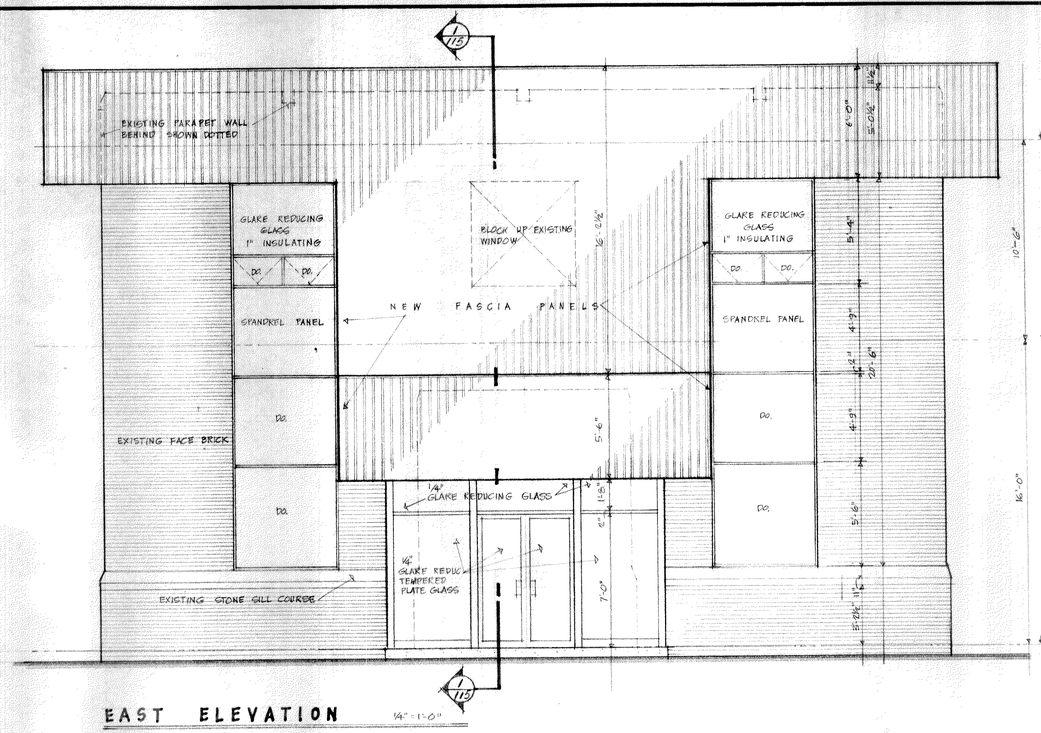
FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

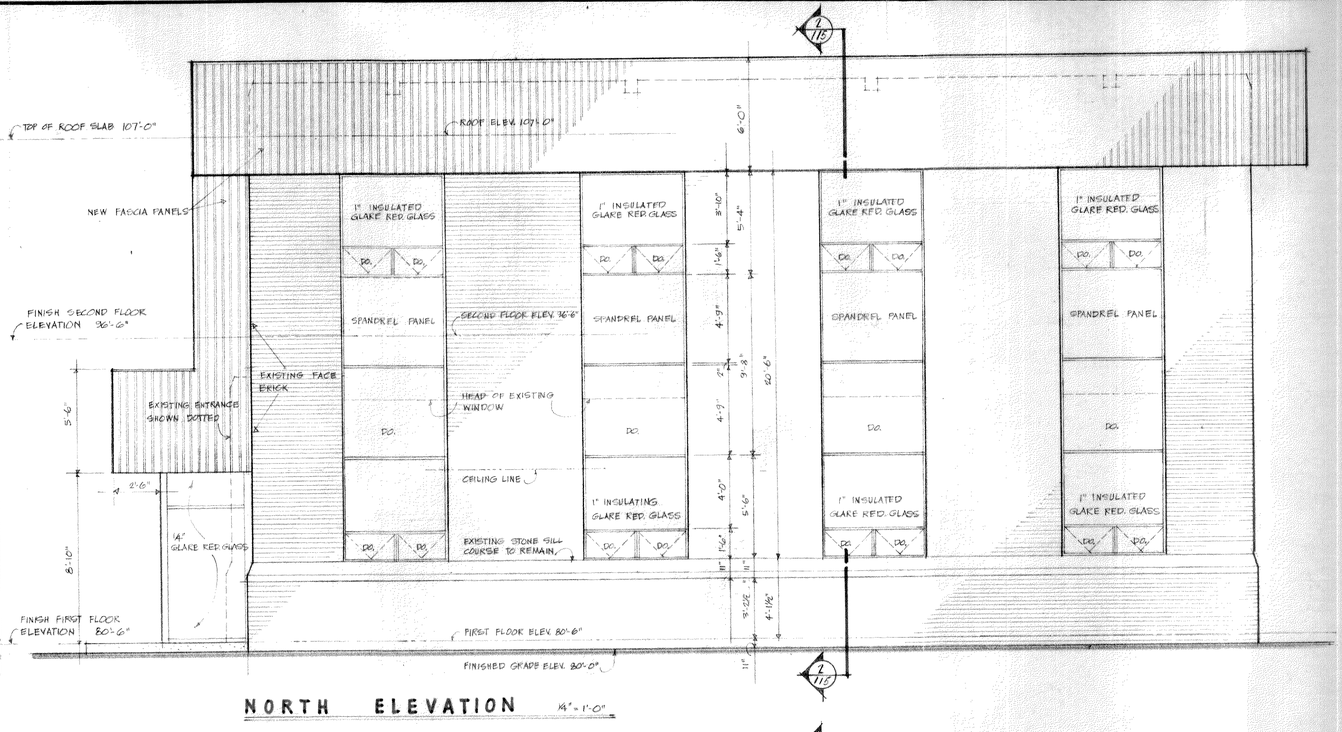
DATE July 72 | JOB No. 1061 | DRAWN JWK & TRACED | CHECKED APM
SCALE 3/8"=1'-0" | DWG. No. 72222 | APPROVED LER

MASSILLON, OHIO

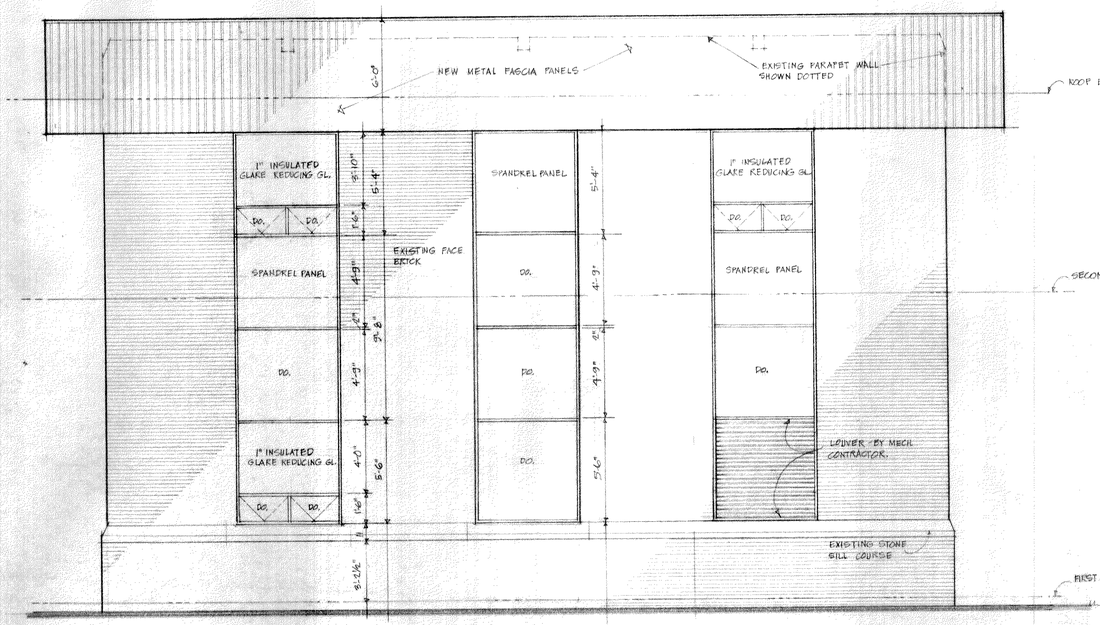
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
RENOVATIONS TO MAIN BLDG.
DEMOLITION
MECHANICAL



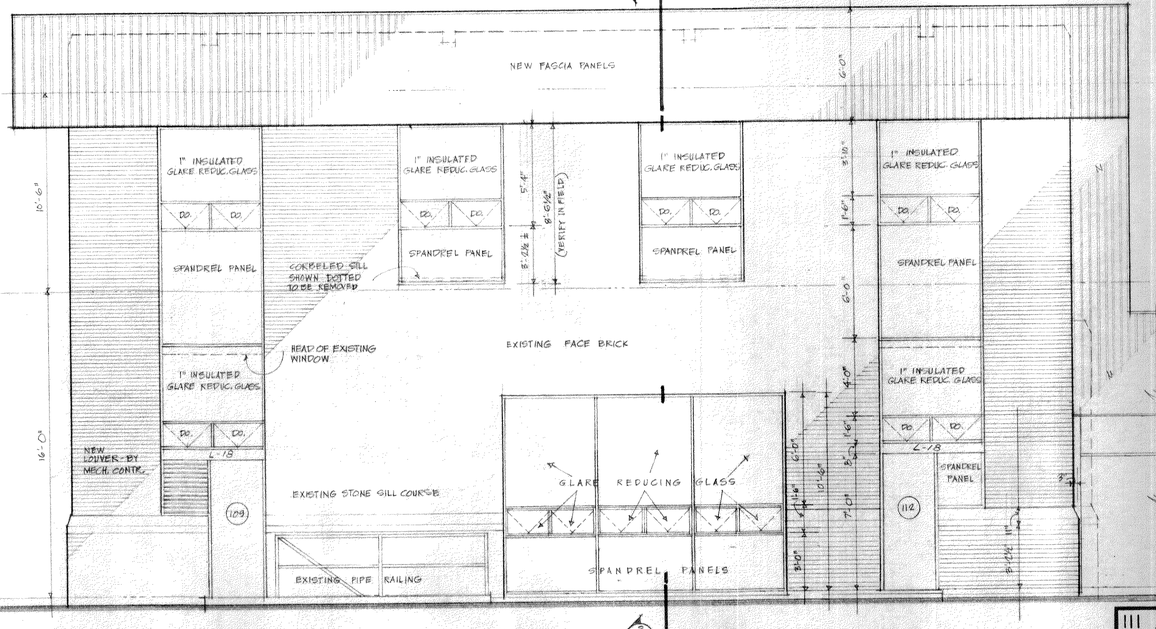

EAST ELEVATION 1/4" = 1'-0"




NORTH ELEVATION 1/4" = 1'-0"




WEST ELEVATION 1/4" = 1'-0"




SOUTH ELEVATION 1/4" = 1'-0"

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

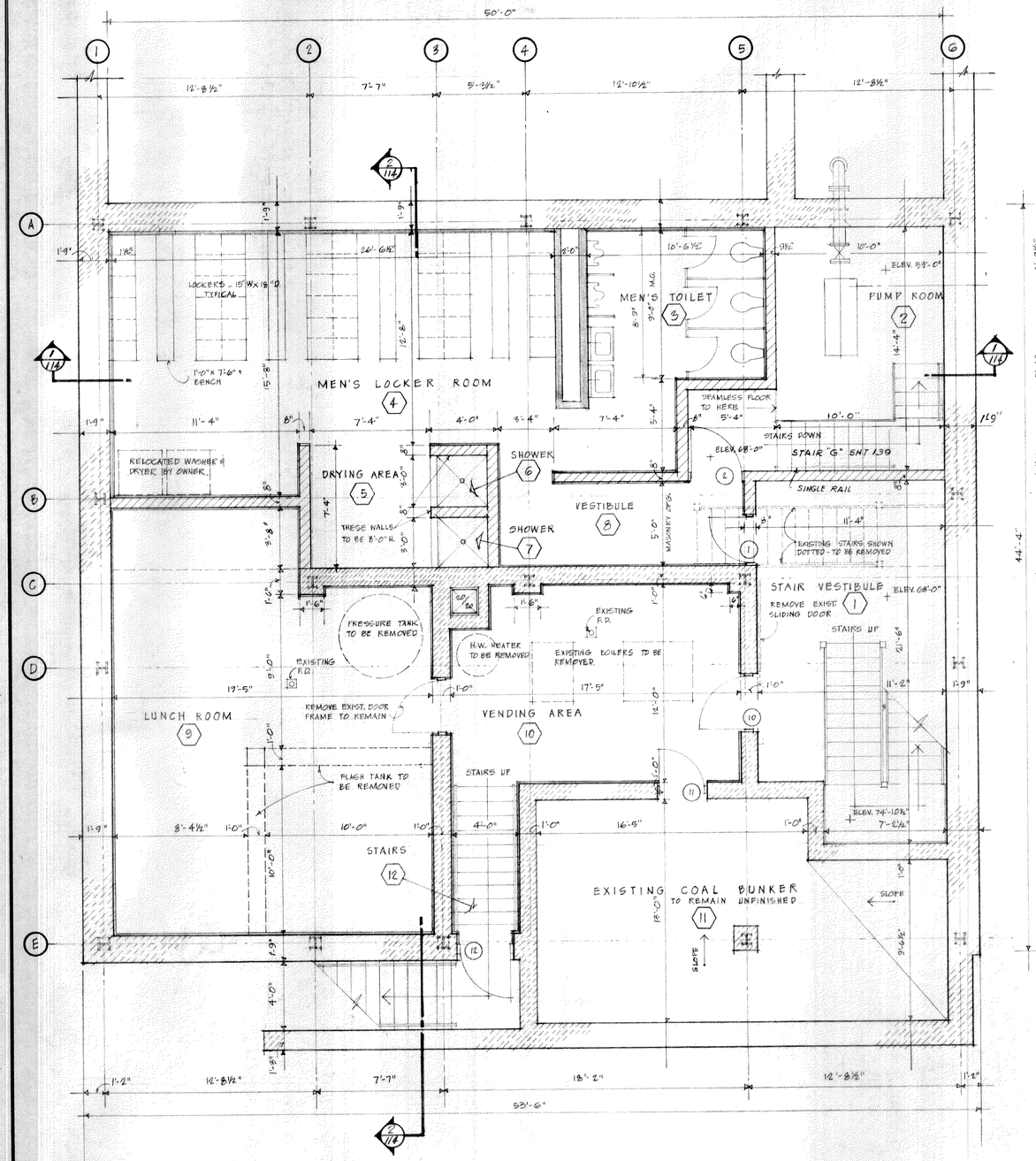
DATE July 72 | JOB No. 1061 | DRAWN EB & L | CHECKED AHM
SCALE 1/4" = 1'-0" | DWG. No. 72223 | TRACED | APPROVED LER

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
RENOVATIONS TO MAIN BLDG.
ELEVATIONS
ARCHITECTURAL

111 OF 165

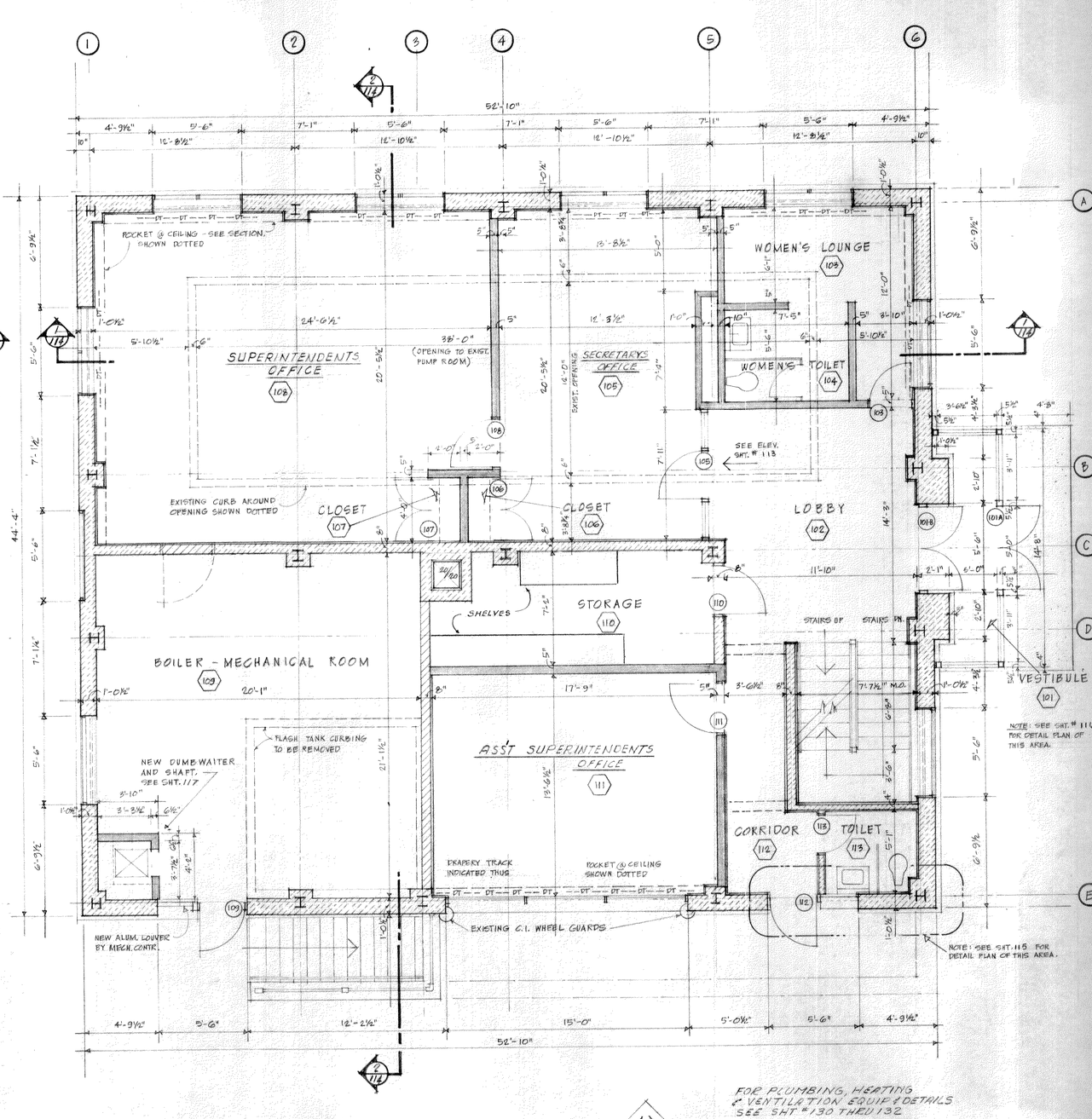
BRUNING 40-105




## LOWER LEVEL FLOOR PLAN

1/4" = 1'-0"

FINISH FLOOR ELEV. 68'-0" (59'-0" PUMP ROOM)




## FIRST FLOOR PLAN

1/4" = 1'-0"

FINISH FLOOR ELEVATION : 80'-6"

NORTH

FOR PLUMBING, HEATING & VENTILATION EQUIP. DETAILS SEE SHT. # 130 THRU 132

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

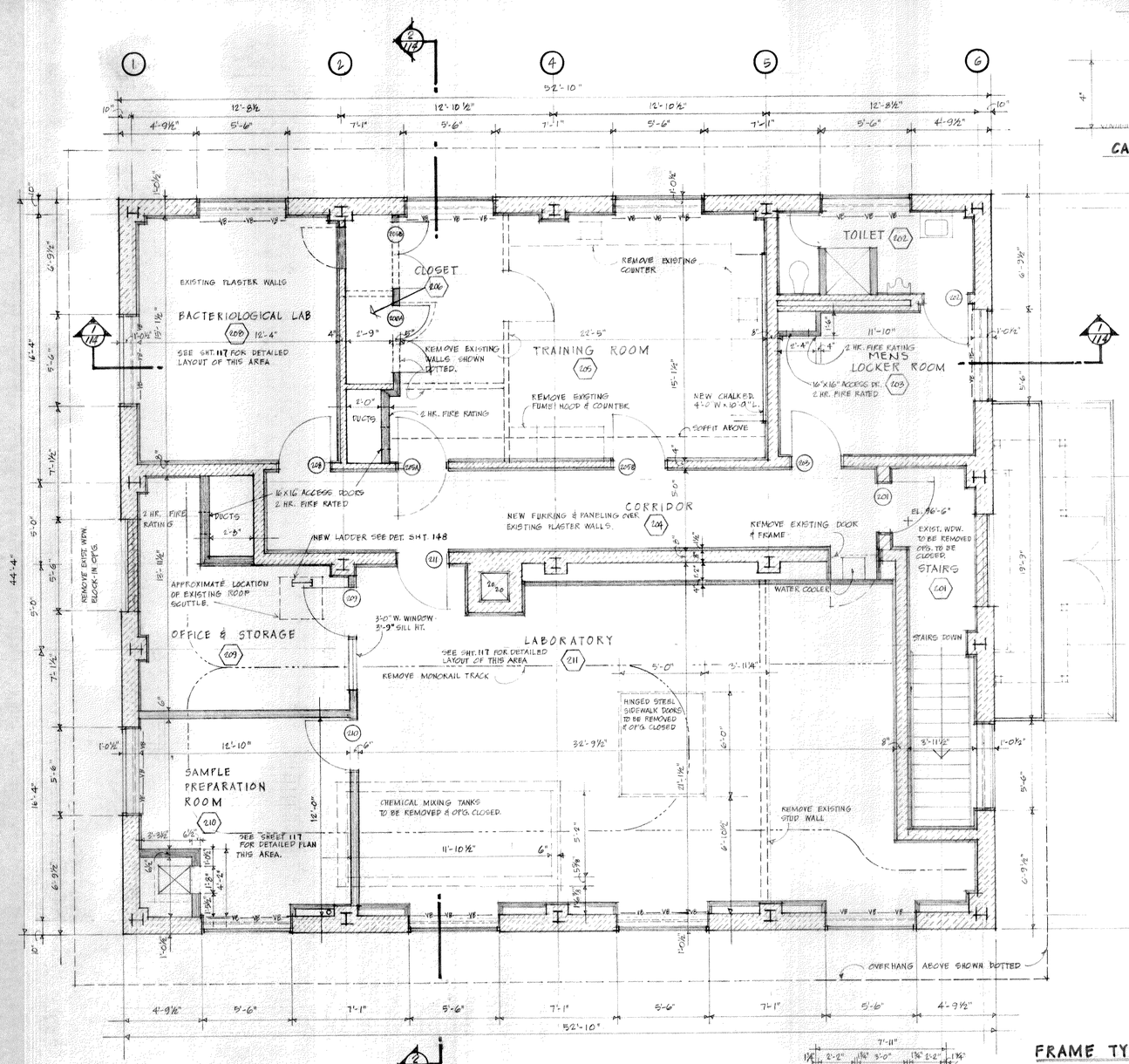
DATE July 72 | JOB No. 1061 | DRAWN EB&L | CHECKED APM
SCALE 1/4"=1'-0" | DWG. No. 72224 | TRACED | APPROVED LER

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
RENOVATIONS TO MAIN BLDG.
PLANS
ARCHITECTURAL



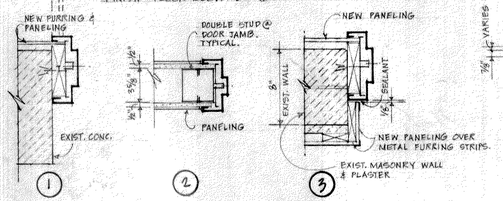
BRUNING 40-105




## SECOND FLOOR PLAN

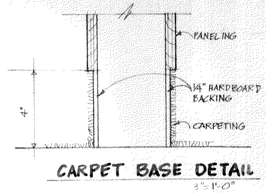
1/4"=1'-0"

FINISH FLOOR ELEV. 96'-6"




## FRAME DETAILS

1½"=1'-0"




## CARPET BASE DETAIL

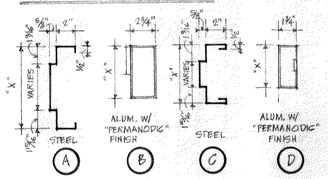
3"=1'-0"




## ELEVATION @ DOOR 105

## FRAME TYPES

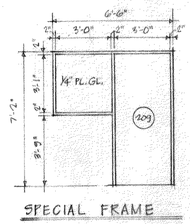
1½"=1'-0"




## DOOR TYPES

¼"=1'-0"




SPECIAL FRAME

## ROOM FINISH SCHEDULE

| NO. | NAME | FLOOR: CARPET | FLOOR: SEAMLESS FLOCKING | FLOOR: VINYL TILE | FLOOR: CONCRETE SEALED | FLOOR: RUBBER TREADS | FLOOR: SHEET RUBBER (LANDINGS) | BASE: CARPET | BASE: VINYL | BASE: NONE | WALLS MATERIAL: CONCRETE | WALLS MATERIAL: CONCRETE BLOCK | WALLS MATERIAL: METAL STUD-DRYWALL | WALLS MATERIAL: EXIST. BRICK OR TILE | WALLS MATERIAL: METAL STUD OR FURR. | WALLS FINISH: WOOD FAN FILING | WALLS FINISH: PAINT (EPOXY) | WALLS FINISH: HARDBOARD PANELING | WALLS FINISH: VINYL WALL COVERING | WALLS FINISH: NONE | CEILING MATERIAL: LAY-IN ACOUSTICAL | CEILING MATERIAL: ACOUSTICAL TILE | CEILING MATERIAL: PLASTER | CEILING MATERIAL: NONE | CEILING HEIGHT: 8'-0" | CEILING HEIGHT: 9'-0" | CEILING HEIGHT: 7'-6" | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | STAIR VESTIBULE | | ● | | | ● | ● | | ● | | | ● | ● | | | | ● | | | | | ● | | | | ● | | CONC. BLOCK STACK BOND |
| 2 | PUMP ROOM | | | | ● | | | | | ● | ● | | | | | | | | | | | | | ● | | | | |
| 3 | MEN'S TOILET | | ● | | | | | | ● | | | ● | ● | | | | ● | | | | ● | | | | | ● | | |
| 4 | MEN'S LOCKER ROOM | | ● | | | | | | ● | | | ● | ● | | | | ● | | | | ● | | | | | ● | | |
| 5 | DRYING AREA | | ● | | | | | | ● | | | ● | ● | | | | ● | | | | ● | | | | | ● | | |
| 6 | SHOWER | | | | | | | | | | | ● | ● | | | | ● | | | | ● | | | | | | | PREFABRICATED SHOWER UNIT |
| 7 | SHOWER | | | | | | | | | | | ● | ● | | | | ● | | | | ● | | | | | | | " " " |
| 8 | VESTIBULE | | ● | | | | | | ● | | | ● | ● | | | | ● | | | | ● | | | | | ● | | |
| 9 | LUNCHROOM | | ● | | | | | | ● | | | ● | | ● | ● | | ● | | | | ● | | | | | ● | | |
| 10 | VENDING AREA | | ● | | | | | | ● | | | ● | | ● | ● | | ● | | | | ● | | | | | ● | | |
| 11 | COAL BUNKER | | | | ● | | | | | ● | ● | | | | | | ● | | | ● | | | | ● | | | | |
| 101 | VESTIBULE | | ● | | | | | | | ● | | ● | | | | | | | | | ● | | | | | ● | | |
| 102 | LOBBY | | ● | | | ● | ● | | ● | | | | ● | | | | | ● | | | ● | | | | | ● | | |
| 103 | WOMEN'S LOUNGE | | ● | | | | | | ● | | | | | ● | ● | | | ● | | | ● | | | | | ● | | |
| 104 | WOMEN'S TOILET | | ● | | | | | | ● | | | | | ● | ● | | | ● | | | ● | | | | | ● | | |
| 105 | OFFICE | ● | | | | | | | | ● | | | ● | ● | | ● | | | ● | | ● | | | | | ● | | SOUTH WALL VINYL |
| 106 | CLOSET | ● | | | | | | | | ● | | | ● | | | | ● | | | | | | ● | | | | | |
| 107 | CLOSET | ● | | | | | | | | ● | | | ● | | | | ● | | | | | | ● | | | | | |
| 108 | OFFICE | ● | | | | | | | | ● | | | ● | ● | | ● | | | ● | | ● | | | | | ● | | NORTH, WEST WALLS - WOOD |
| 109 | BOILER-MECHANICAL RM | | | | ● | | | | | ● | | | ● | | | | ● | | | | | | ● | | | | | |
| 110 | STORAGE | | | | ● | | | | | ● | | | ● | | | | ● | | | | | | ● | | | | | |
| 111 | OFFICE | ● | | | | | ● | | | | | | | ● | | ● | | | ● | | ● | | | | | ● | | |
| 112 | CORRIDOR | | ● | | | | | | ● | | | | | ● | | | | | ● | | | | | | | | | |
| 113 | TOILET | | ● | | | | | | ● | | | | | ● | | | | | ● | | | | | ● | | | | |
| 201 | STAIRS | | ● | | | ● | ● | | ● | | | | | ● | ● | | | | ● | | ● | | | | ● | | | |
| 202 | TOILET | | ● | | | | | | ● | | | | | ● | ● | | | ● | | | ● | | | | | ● | | |
| 203 | LOCKER ROOM | | ● | | | | | | ● | | | | | ● | ● | | | ● | | | ● | | | | | ● | | |
| 204 | CORRIDOR | | ● | | | | | | ● | | | | | ● | ● | | | | ● | | ● | | | | | ● | | |
| 205 | TRAINING | | ● | | | | | | ● | | | | | ● | ● | | | ● | | | ● | | | | ● | | | |
| 206 | CLOSET | | ● | | | | | | | ● | | | ● | | | | ● | | | | | | ● | | | | | |
| 207 | OMIT | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 208 | BACTERIOLOGY LAB | | | ● | | | | | ● | | | | ● | ● | | | ● | | | | ● | | | | | | ● | |
| 209 | OFFICE & STORAGE | | | ● | | | | | ● | | | | ● | ● | | | ● | | | | ● | | | | ● | | ● | |
| 210 | SAMPLE PREPARATION | | | ● | | | | | ● | | | | ● | ● | | | ● | | | | ● | | | | ● | | | |
| 211 | LABORATORY | | | ● | | | | | ● | | | | ● | ● | | | ● | | | | ● | | | | ● | | | |

## DOOR & FRAME SCHEDULE

| NO. | DOOR: WIDTH FT. | DOOR: WIDTH IN. | DOOR: HEIGHT FT. | DOOR: HEIGHT IN. | DOOR: TYPE | GLASS: LOUVER SIZE INCHES N. | GLASS: LOUVER SIZE INCHES R. | GLASS: ¼" WIRE | GLASS: ¼" GL. PL. TEMP. | GLASS: ¼" GLARED TEMP. | GLASS: HARDWARE SET (SEE SPECS.) | FRAME: TYPE | FRAME: DIMENSION "X" INCHES | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 8 | 7 | 2 | 1 | | | | | | 1 | A | 8¾" | "B" LABEL |
| 2 | 3 | 0 | 7 | 2 | 1 | 24 | 8 | | | | 2 | A | 8¾" | |
| 2A | 2 | 4 | 6 | 8 | 1 | | | | | | 3 | A | 8¾" | |
| 10 | 3 | 0 | 7 | 0 | 1 | | | ● | | | 2 | C | 7⅛" | "B" LABEL |
| 11 | 2 | 8 | 7 | 0 | 1 | | | | | | 4 | C | 7⅛ | |
| 12 | 3 | 0 | 6 | 8 | 1 | | | | | | 5 | A | 8¾ | |
| 101A | 5 | 0 | 7 | 0 | 2 | | | | | ● | 6 | B | 5½ | |
| 101B | 5 | 0 | 7 | 0 | 2 | | | | | | | B | 7½ | |
| 103 | 2 | 6 | 7 | 0 | 3 | | | | | ● | 7 | C | 5⅝ | UNDERCUT DOOR ② |
| 105 | 3 | 0 | 7 | 0 | 2 | | | | | ● | 6 | D | 4½" | |
| 106 | 4 | 0 | 7 | 0 | 3 | | | | | | 9 | C | 5⅝ | ⑥ |
| 107 | 4 | 0 | 7 | 0 | 3 | | | | | | 9 | C | 5⅝ | ⑥ |
| 108 | 3 | 0 | 7 | 0 | 3 | | | | | | 8 | C | 5⅝ | ② |
| 109 | 3 | 0 | 6 | 8 | 4 | | | | | | 9 | D | 4½ | SEE DETAIL PLAN |
| 110 | 3 | 0 | 7 | 0 | 3 | | | | | | 8 | C | 5⅝ | UNDERCUT DOOR ① |
| 111 | 3 | 0 | 7 | 0 | 3 | | | | | | 8 | C | 5⅝ | ② |
| 112 | 3 | 0 | 6 | 8 | 4 | | | | | | 10 | D | 4½ | SEE DETAIL PLAN |
| 113 | 3 | 0 | 7 | 0 | 3 | | | | | | 11 | C | 7⅛ | UNDERCUT DOOR |
| 201 | 3 | 0 | 7 | 0 | 1 | | | | | | 12 | C | 7⅛ | " B" LABEL ④ |
| 202 | 3 | 0 | 7 | 0 | 3 | | | | | | 13 | C | 7⅛ | ⑤ |
| 203 | 3 | 0 | 7 | 0 | 3 | | | | | | 13 | C | 7⅛ | UNDERCUT DOOR ⑤ |
| 205A | 3 | 0 | 7 | 0 | 3 | | | | | | 14 | C | 7⅛ | ③ |
| 205B | 3 | 0 | 7 | 0 | 3 | 24 | 16 | | | | 14 | C | 7⅛ | ③ |
| 206A | 4 | 0 | 7 | 0 | 3 | | | | | | 9 | C | 5⅝ | ② |
| 206B | 4 | 0 | 7 | 0 | 3 | | | | | | 9 | C | 5⅝ | ② |
| 208 | 3 | 0 | 7 | 0 | 3 | 24 | 8 | | | | 14 | C | 7⅛ | ⑤ |
| 209 | 3 | 0 | 7 | 0 | 3 | 24 | 8 | | | | 14 | C | 5⅝ | SEE SPECIAL FRAME ELEV. ⑤ |
| 210 | 3 | 0 | 7 | 0 | 3 | 24 | 12 | | | | 14 | C | 5⅝ | ⑤ |
| 211 | 3 | 0 | 7 | 0 | 3 | 24 | 48 | | | | 14 | C | 7⅛ | ③ |
| B-1 | 3 | 0 | 6 | 8 | 4 | 24 | 8 | | | | | D | 4½ | ④ ⑥ |

FRAME DETAIL NO. THIS SHEET: ① ② ③ ④ ⑤ ⑥

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

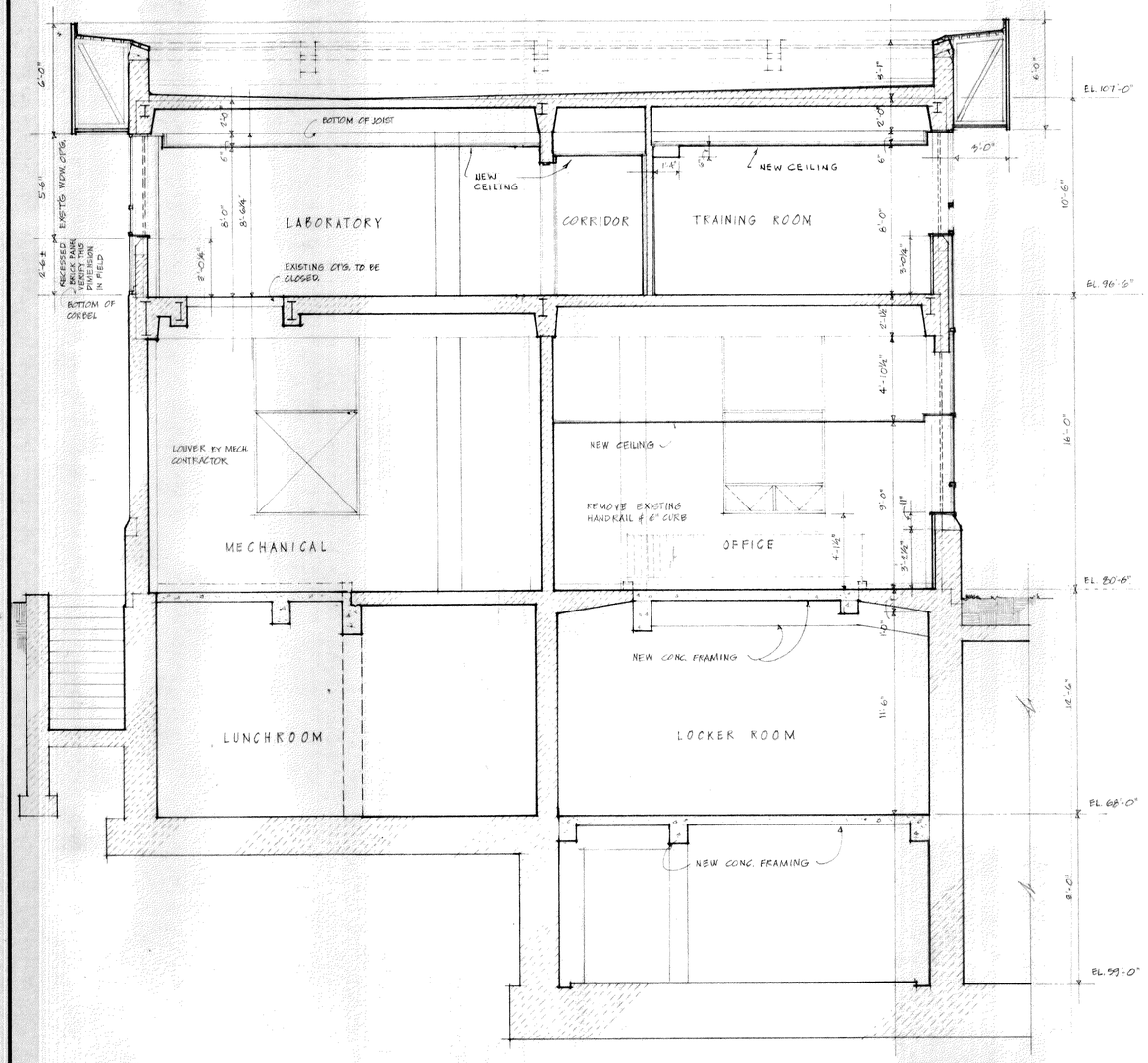
DATE July 72 | JOB NO. 1061 | DRAWN EB&L | CHECKED ADH
SCALE AS NOTED | DWG. NO. 72225 | TRACED | APPROVED LER

MASSILLON, OHIO

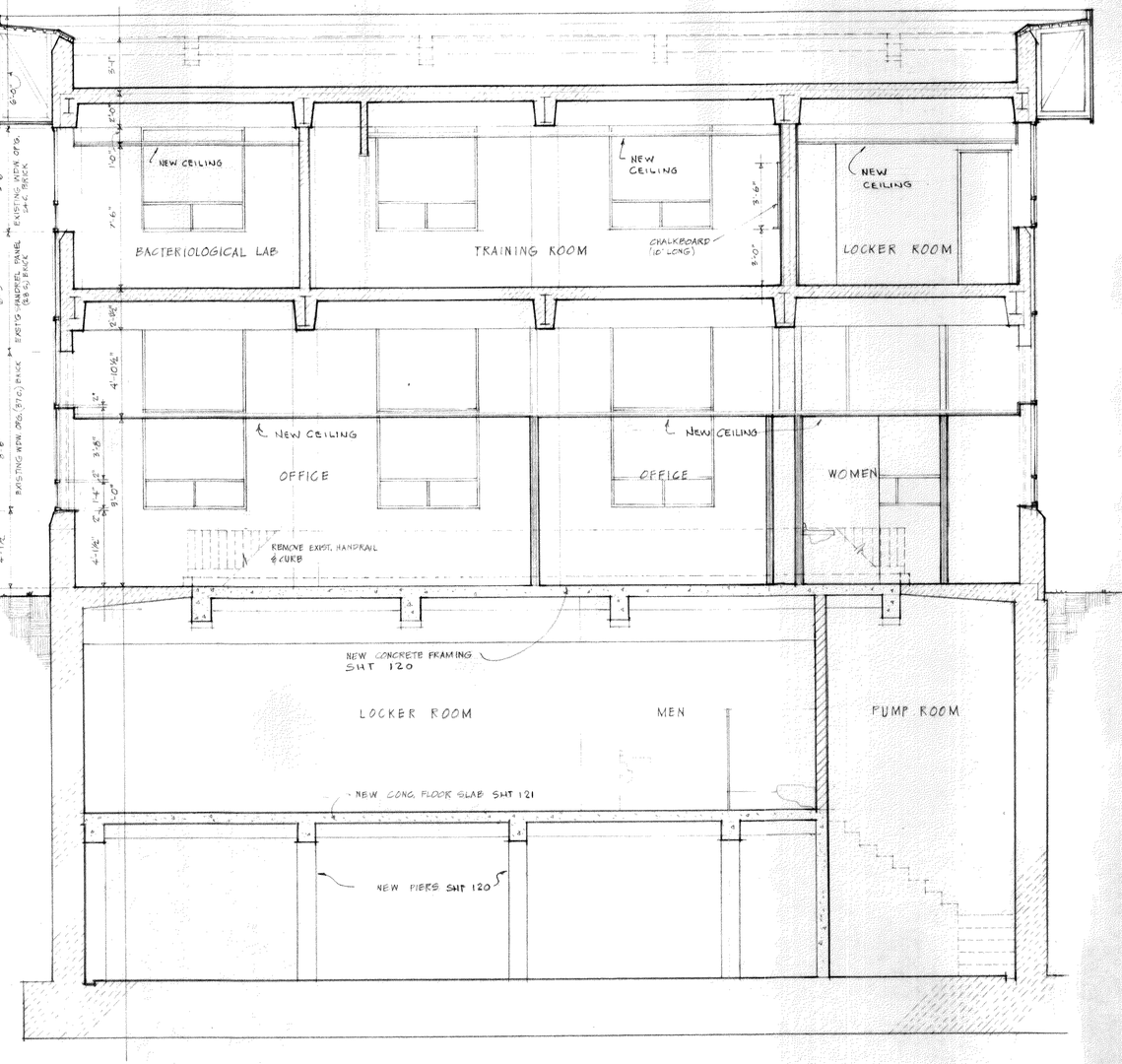
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
RENOVATIONS TO MAIN BLDG.
PLAN, SCHEDULES & DETAILS
ARCHITECTURAL



BRUNING 40-105




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




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

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

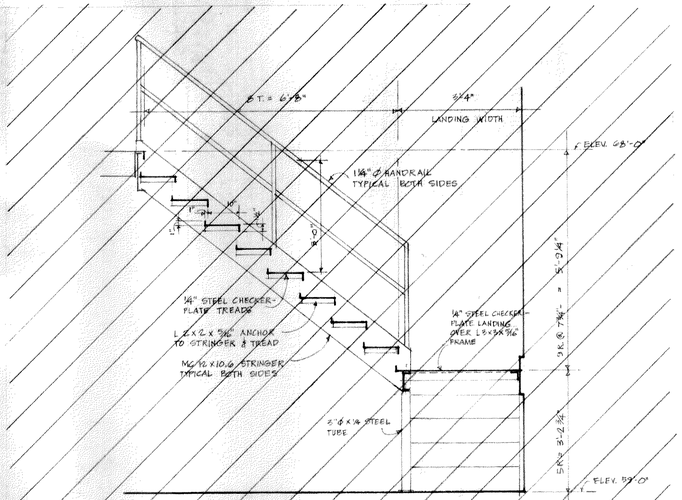
| | | | |
|---|---|---|---|
| DATE July 72 | JOB NO. 1061 | DRAWN EB&L & TRACED | CHECKED A.M. |
| SCALE 1/4" = 1'-0" | DWG. NO. 72226 | | APPROVED LER |

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
RENOVATIONS TO MAIN BLDG.
SECTIONS
ARCHITECTURAL

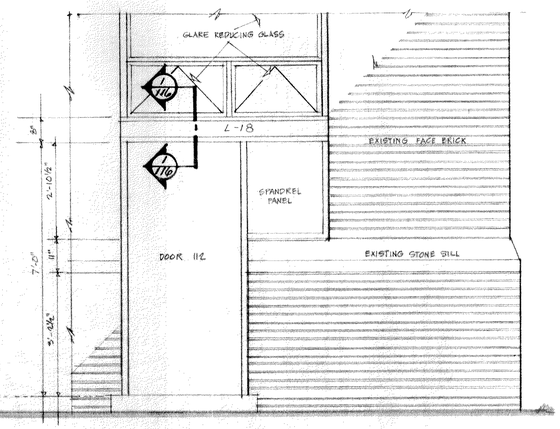
114 OF 165

BRUNING 40-105



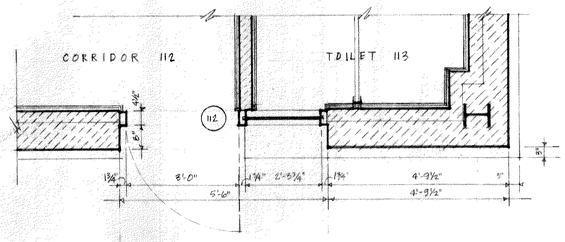

**SECTION 7 PUMP ROOM STAIRS** ½"=1'-0"

VOID - DO NOT USE

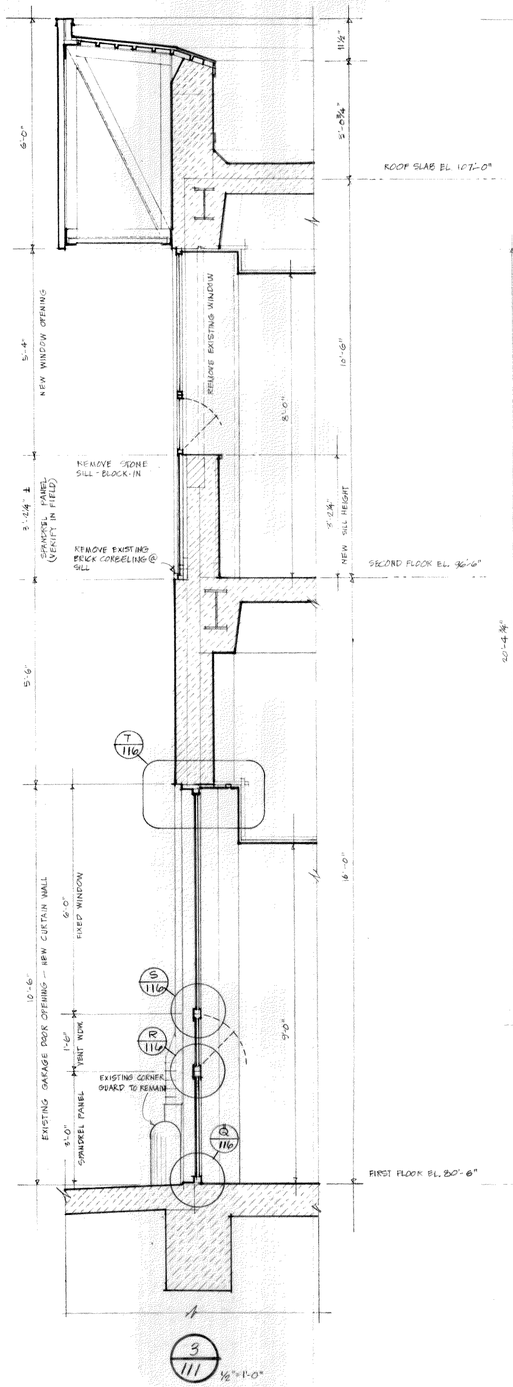


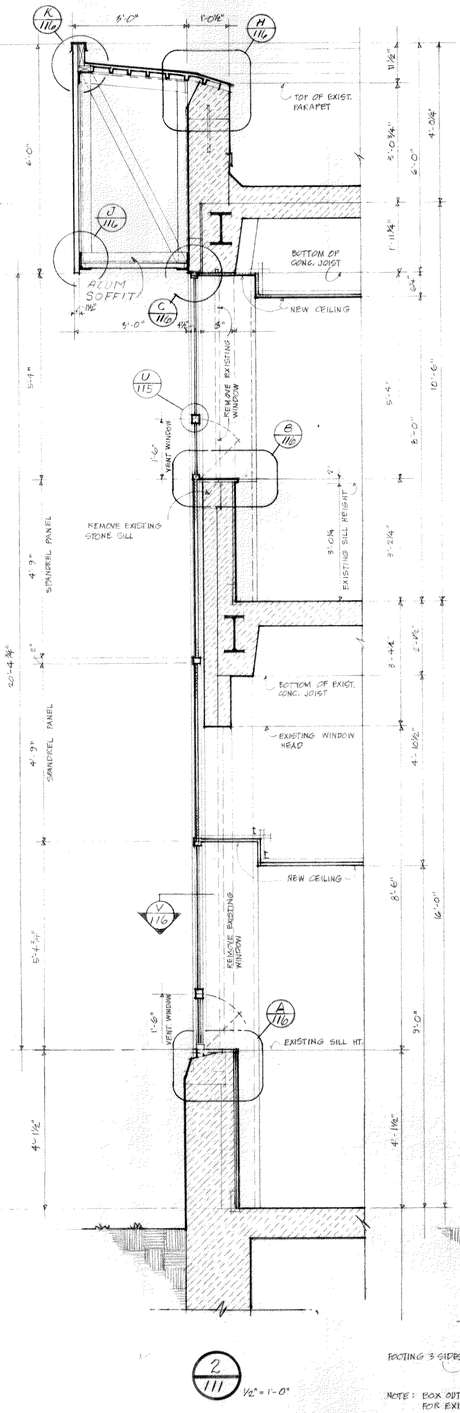

**PARTIAL SOUTH ELEVATION - DOOR 112** ½"=1'-0"

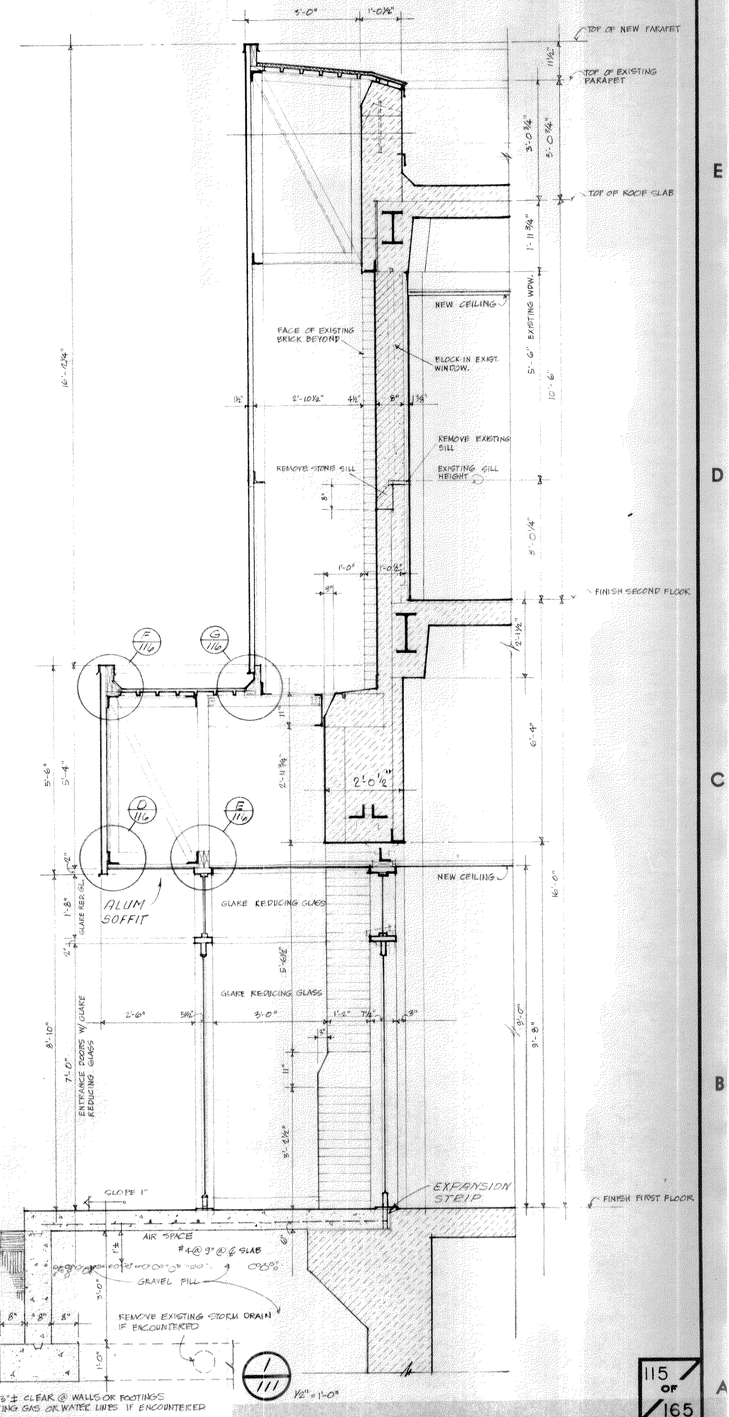
(DOOR 109 ELEVATION SIMILAR)




**PARTIAL PLAN SECTION @ DOOR 112** ½"=1'-0"




NOTE: BOX OUT 6"± CLEAR @ WALLS OR FOOTINGS FOR EXISTING GAS OR WATER LINES IF ENCOUNTERED

115 OF 165

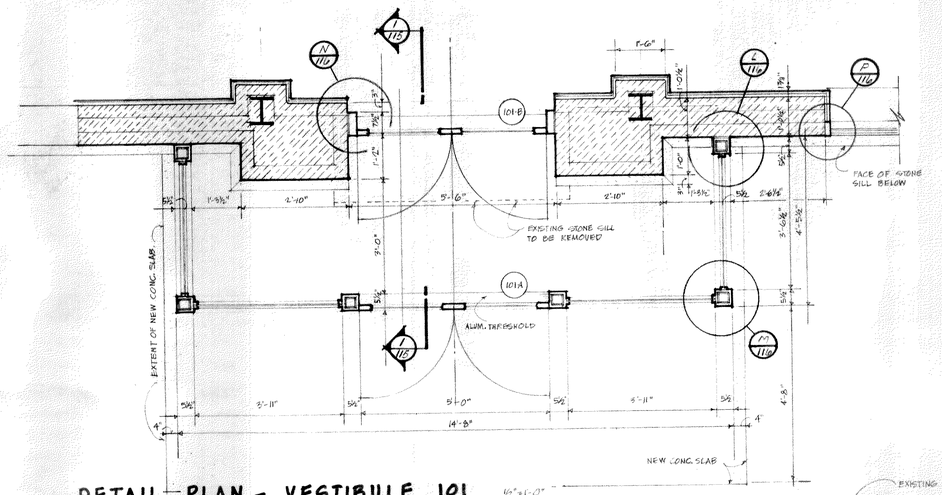
| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN EB&L | CHECKED AP.M
SCALE ½"=1'-0" | DWG. No. 72227 | TRACED | APPROVED LER

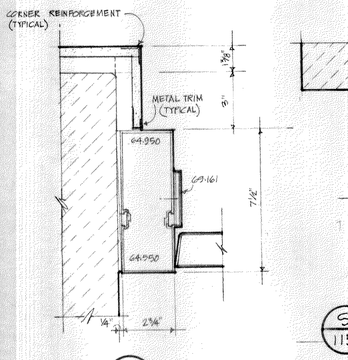
MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
RENOVATIONS TO MAIN BLDG.
SECTIONS & DETAILS
ARCHITECTURAL



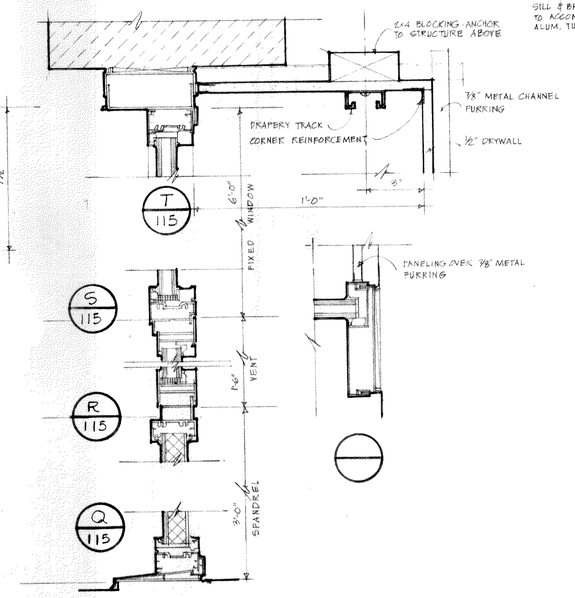

## DETAIL PLAN - VESTIBULE 101

1/2"=1'-0"



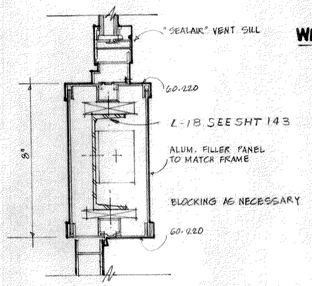

JAMB @ DOOR 101-B

3"=1'-0"

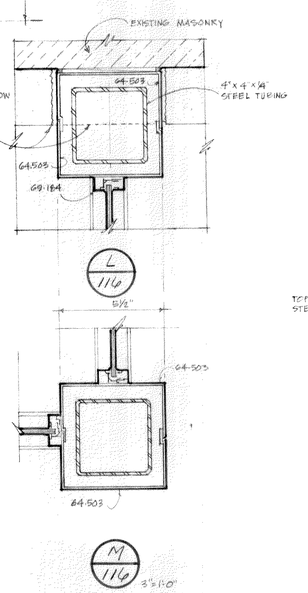



WINDOW DETAILS

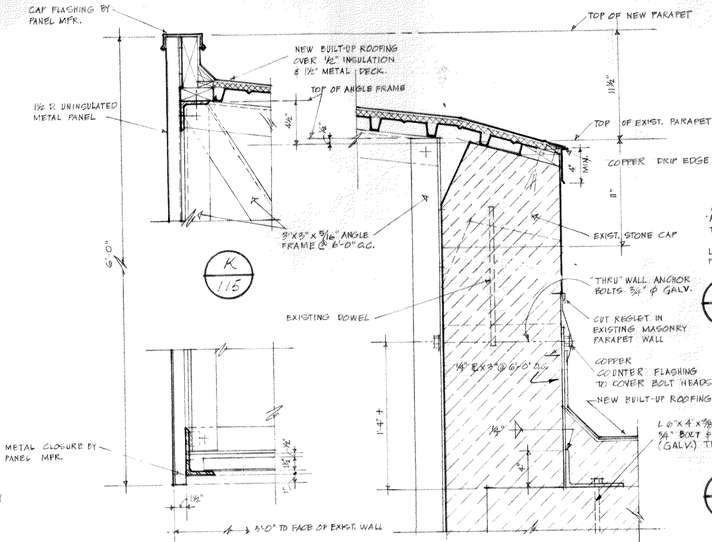
3"=1'-0"



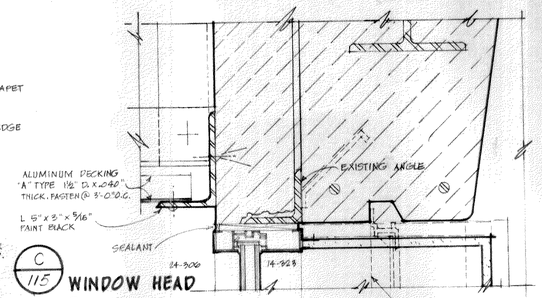

3"=1'-0"



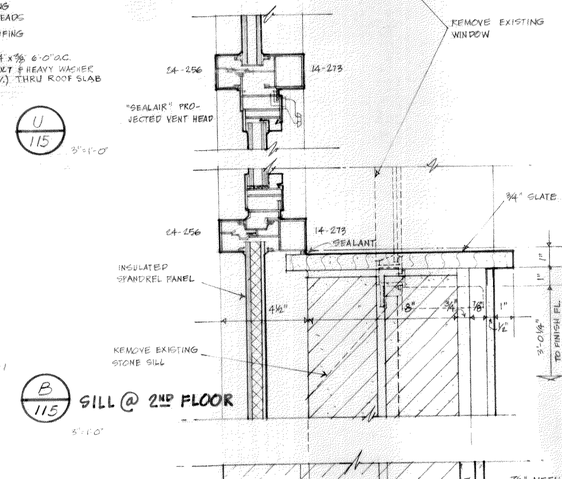

3"=1'-0"



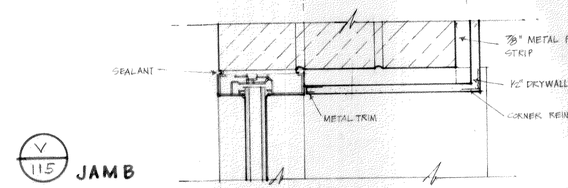

3"=1'-0"

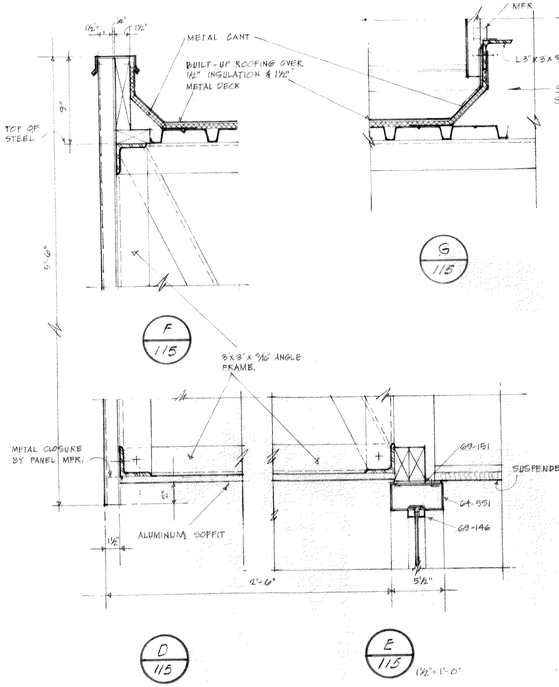


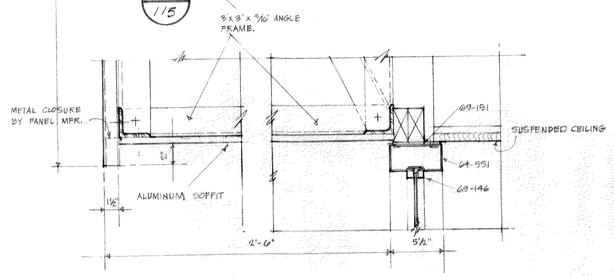

3"=1'-0"

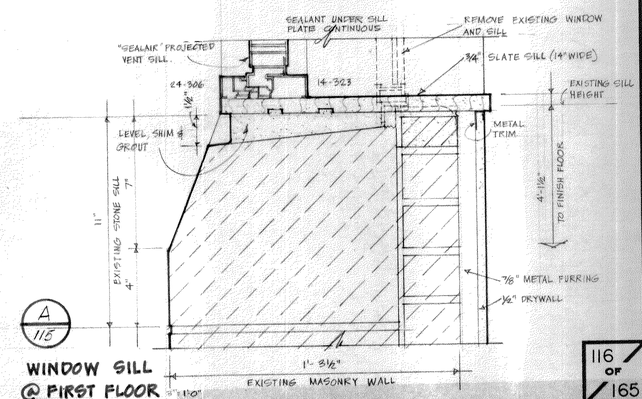



3"=1'-0"




3"=1'-0"

116 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

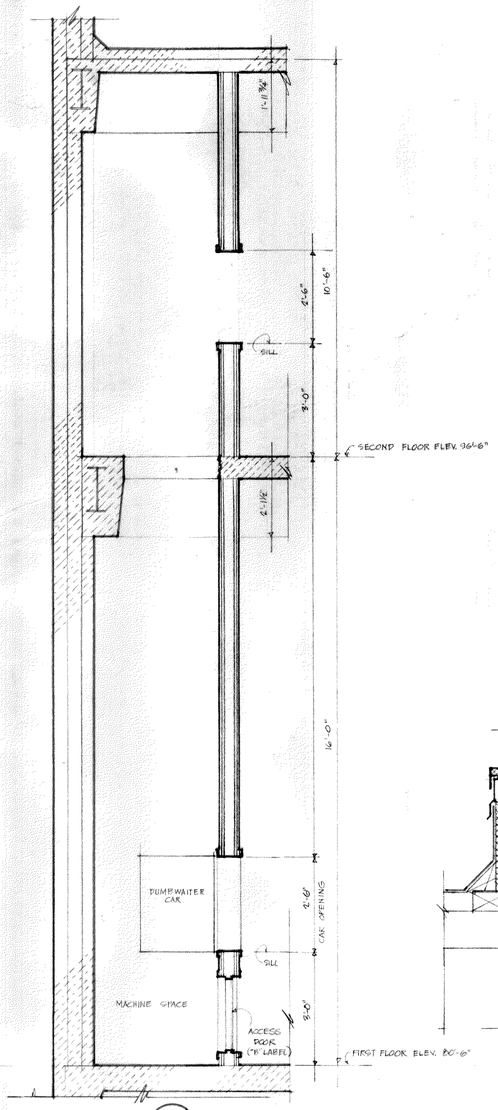
FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN EB&L | CHECKED APM
SCALE AS NOTED | DWG. No. 72228 | TRACED | APPROVED LER

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
RENOVATIONS TO MAIN BLDG.
SECTIONS & DETAILS
ARCHITECTURAL

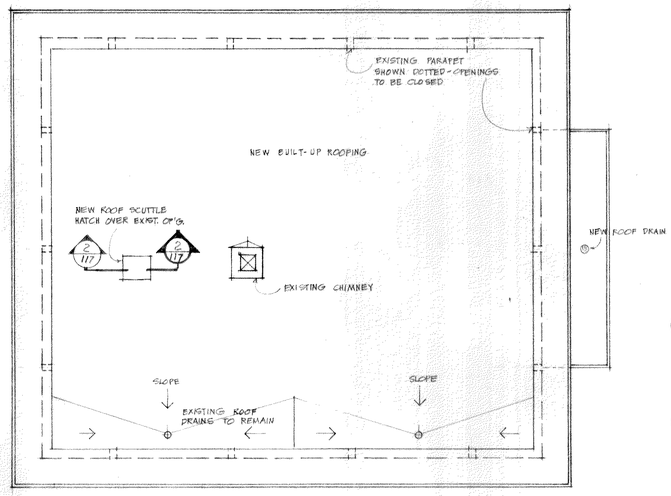
BRUNING 40-105




SECTION 1/117 — 1/2" = 1'-0"

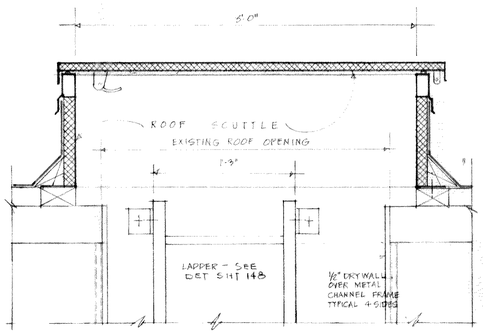



FLOOR PLAN 1/2" = 1'-0"

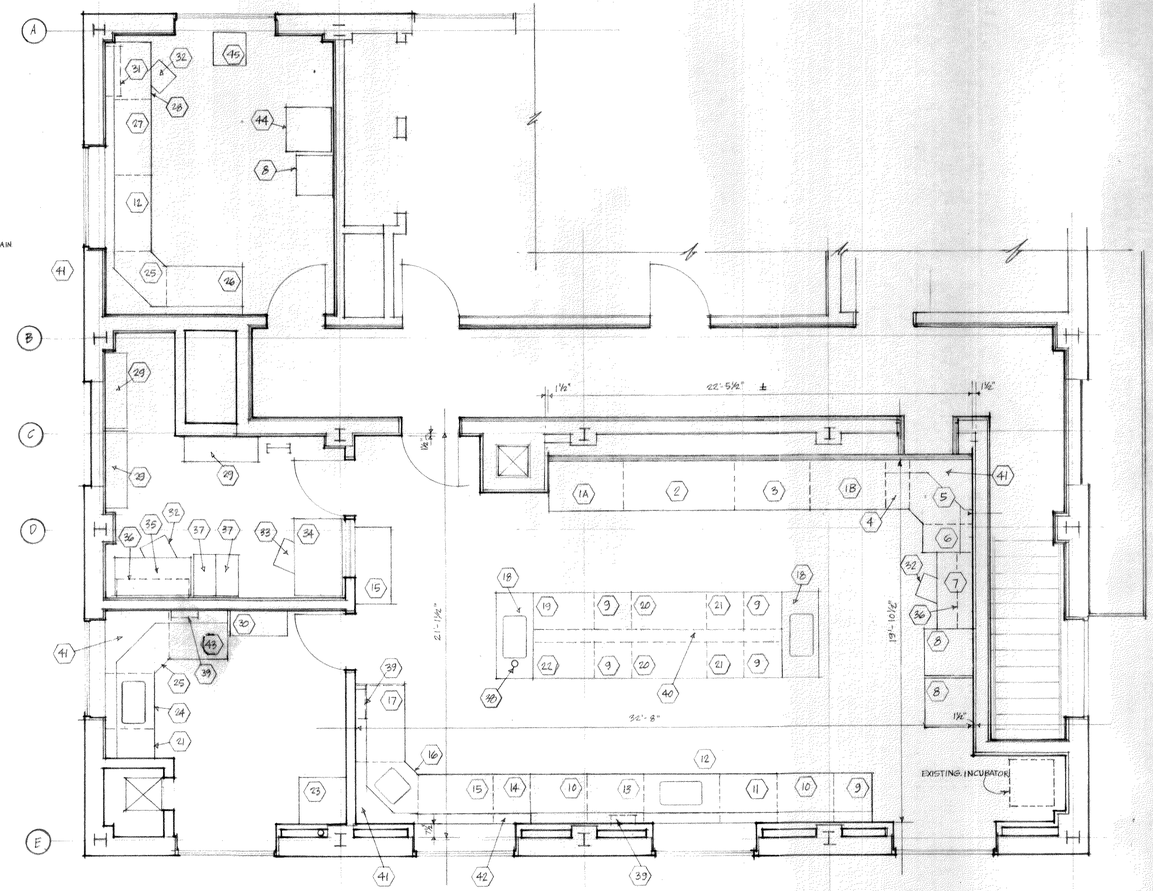



ROOF PLAN 1/8" = 1'-0"

NORTH




SECTION 2/117 — 1/2" = 1'-0"




LABORATORY LAYOUT 1/4" = 1'-0"

NORTH

NOTE: NUMBERS REFER TO FISHER SCIENTIFIC CO. EQUIPMENT

(A) 1 EA. 65 SPEC 4' CANOPY HOOD W/MB W/ 1 EA. 97-460 DRAWER UNIT 4' & PVC DUCT & CAP

(1B) 1 EA. 65 SPEC 4' CANOPY HOOD W/MB W/ 1 EA. 97-445 DRAWER CUPBOARD UNIT 4' & PVC DUCT & CAP.

1 EA. 93-2731 R 70" FIBERGLASS FUME HOOD W/ EXPLOSION PROOF LIGHT & SERVICES ADD AIR
1 EA. 93-825 E EXPLOSION PROOF EXHAUST BLOWER
1 EA. 93-810 SUPPLY BLOWER

(2) 1 EA. 97-390 SUPPORT BASE UNIT 3'
1 EA. 97-390-X SUPPORT BASE UNIT TRANSITE LINED-3
1 EA. 65 SPEC TECH TOP WORK TOP
1 EA. PVC. DUCT W/ WEATHER CAP

1 EA. 93-2431 R 47" FIBERGLASS FUMEHOOD W/ EXPLOSION PROOF LIGHT & SERVICES ADD AIR
1 EA. 93-810 E EXPLOSION PROOF BLOWER EXHAUST
1 EA. 93-805 SUPPLY BLOWER

(3) 1 EA. 97-490 SUPPORT BASE UNIT 4'
1 EA. 65 SPEC TECH TOP WORKTOP
1 EA PVC. DUCT WORK W/ WEATHER CAP

(4) 1 EA. 90-160 DRAWER UNIT
(5) 1 EA 90-730 CORNER CUPBOARD
(6) 1 EA 90-150 DRAWER UNIT
(7) 1 EA 90-305 BALANCE TABLE
(8) 3 EA 65 SPEC REFRIGERATOR
(9) 5 EA 97-230 DRAWER CUPBOARD UNIT
(10) 2 EA 97-360 DRAWER UNIT
(11) 1 EA 97-370 DRAWER CUPBOARD

1 EA 97-490 SINK BASE
1 EA 91-5000 DURATEK BASIN 18"X 24"X 8"
1 EA 91-476 DOUBLE FAUCET
(12) 1 EA 91-407 VACUUM BREAKER
1 EA 91-510 PYREX P-TRAP
1 EA 91-511 PYREX OVERFLOW

(13) 1 EA. 97-350 DRAWER UNIT
(14) 1 EA 97-250 DRAWER UNIT
(15) 2 EA 97-425 DRAWER CUPBOARD

1 EA. 97-790 CORNER CUPBOARD SINK
1 EA. 91-5070 DURATEK SINK BASIN
1 EA. 91-476 DOUBLE FAUCET
(16) 1 EA. 91-407 VACUUM BREAKER
1 EA. 91-510 PYREX P-TRAP
1 EA. 91-511 PYREX OVERFLOW

(17) 1 EA. 97-420 CUPBOARD UNIT

2 EA. 97-490 SINK BASE UNIT
2 EA. 91-5000 DURATEK SINK BASIN
(18) 2 EA. 91-405 DOUBLE FAUCET
2 EA. 91-407 VACUUM BREAKER
2 EA. 91-510 PYREX P-TRAP
2 EA 91-511 PYREX OVERFLOW

(19) 1 EA. 97-325 DRAWER CUPBOARD
(20) 2 EA. 97-480 DRAWER UNIT
(21) 3 EA. 97-260 DRAWER UNIT
(22) 1 EA. 97-325 DRAWER UNIT
(23) 1 EA. 97-340 DRAWER CUPBOARD

1 EA. 97-310 SINK BASE
1 EA 91-5000 DURATEK SINK BASIN
(24) 1 EA. 91-476 DOUBLE FAUCET
1 EA. 91-407 VACUUM BREAKER
1 EA. 91-510 PYREX P-TRAP
1 EA. 91-511 PYREX OVERFLOW

(25) 2 EA. 97-790 CORNER CUPBOARD W/ 91-795 LAZY SUSAN
(26) 1 EA. 97-470 DRAWER CUPBOARD
(27) 1 EA. 97-485 DRAWER UNIT
(28) 1 EA. 97-650 VERSA-TABLE W/ 1 PR. 97-600 LEGS
(29) 3 EA. 91-885 FLOOR CASE
(30) 1 EA. 91-883 FLOOR CASE
(31) 1 EA. 91-831 WALL CASE W/91-812 DOORS
(32) 3 EA. 91-251 LAB STOOL
(33) 1 EA. 91-261 STATION CHAIR
(34) 1 EA. 91-205 DESK
(35) 1 EA. 97-940
(36) 2 EA. 91-841 WALL CASE W/ 91-822 DOORS

(37) 2 EA. 91-244 FILE CASE
(38) 1 EA. 91-580 EYE WASH
(39) 4 EA. 91-160 PEGBOARD
(40) 1 EA. 91-386 CENTRAL SERVICE SHELF
(41) 4 EA. 91-387 CORNER SERVICE SHELF
(42) 7 EA 91-384 WALL SERVICE SHELF
(43) 1 EA 97-330 DRAWER CUPBOARD
(44) 1 EA 11-679-50 BOD INCUBATOR
(45) 1 EA 14-485-B STERILIZER

117 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

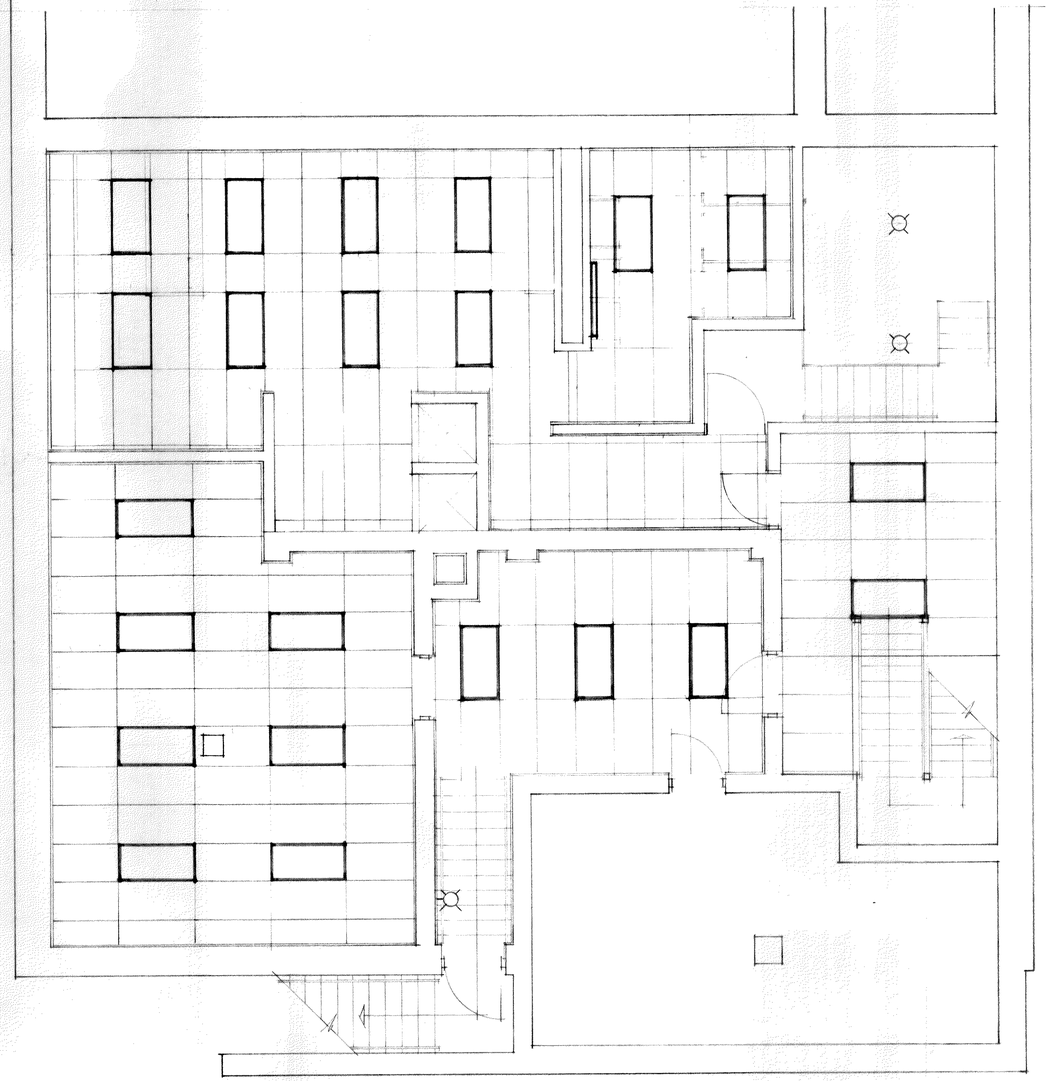
FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN EB&L | CHECKED R.F.M.
SCALE AS NOTED | DWG. No. 72229 | TRACED | APPROVED L.E.P.

MASSILLON, OHIO

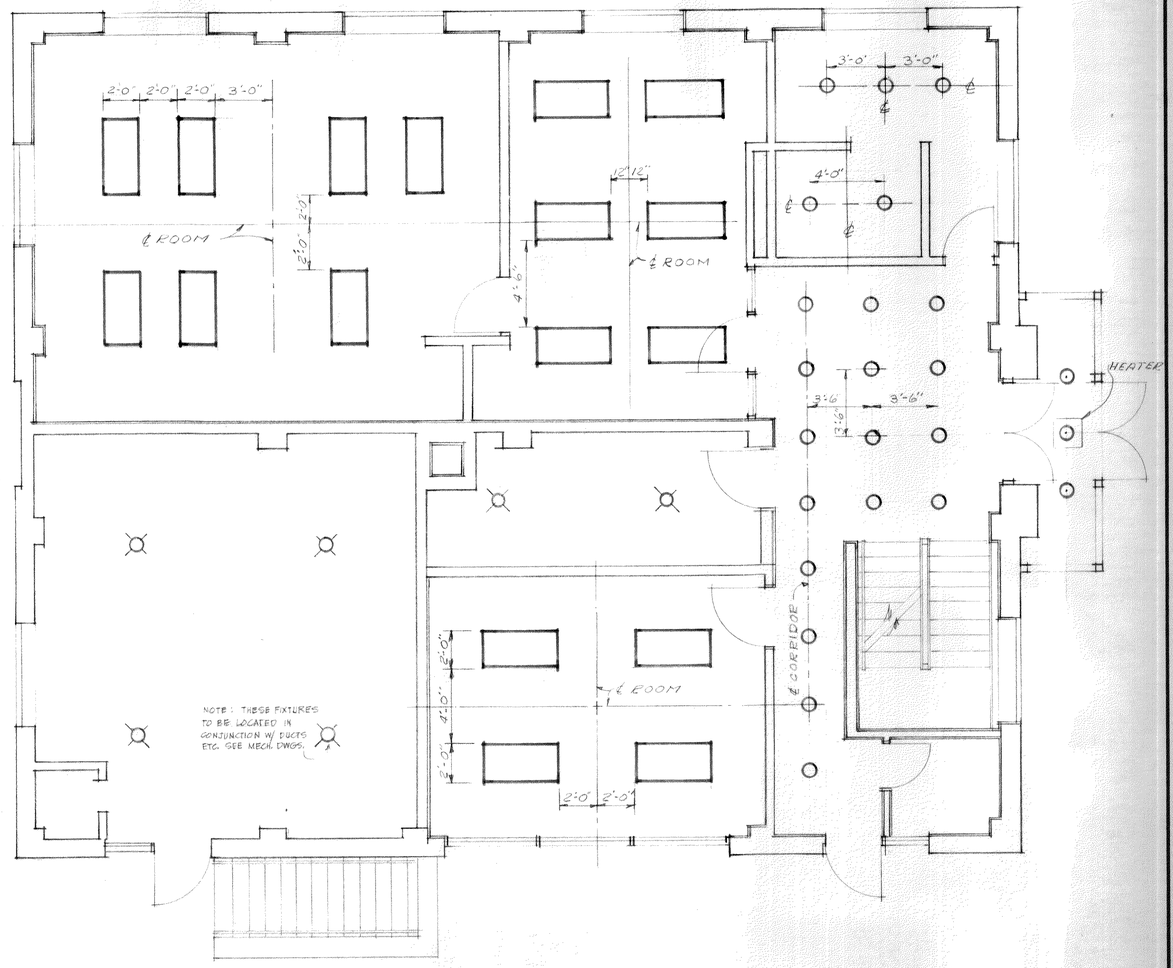
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
RENOVATIONS TO MAIN BLDG.
PLANS & DETAILS
ARCHITECTURAL & MECHANICAL

BRUNING 40-105



LOWER LEVEL PLAN W/ CEILING LAYOUT

NORTH




FIRST FLOOR PLAN W/ CEILING LAYOUT

NORTH

118 OF 165

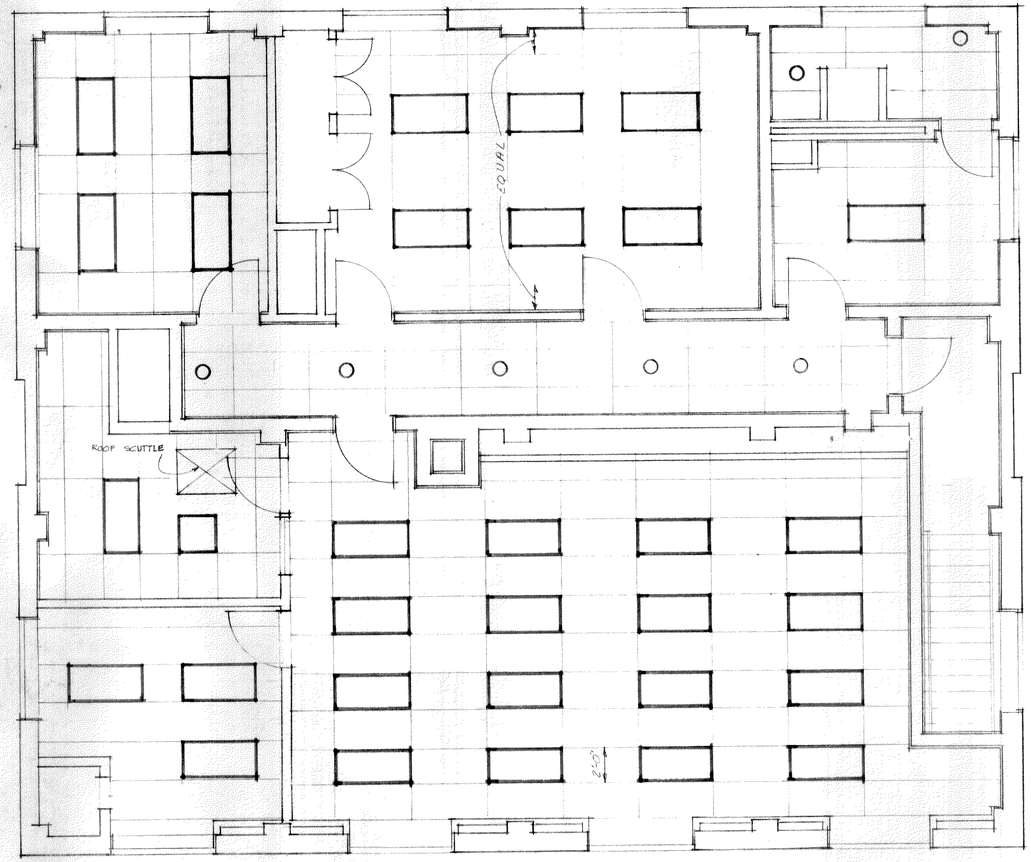
| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN EB&L | CHECKED A.H.M.
SCALE 1/4"=1'-0" | DWG. No. 72230 | TRACED | APPROVED LGR

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
RENOVATIONS TO MAIN BLDG.
CEILING PLANS
ARCHITECTURAL & ELECTRICAL




SECOND FLOOR PLAN W/ CEILING LAYOUT SCALE 1/4"=1'-0"

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

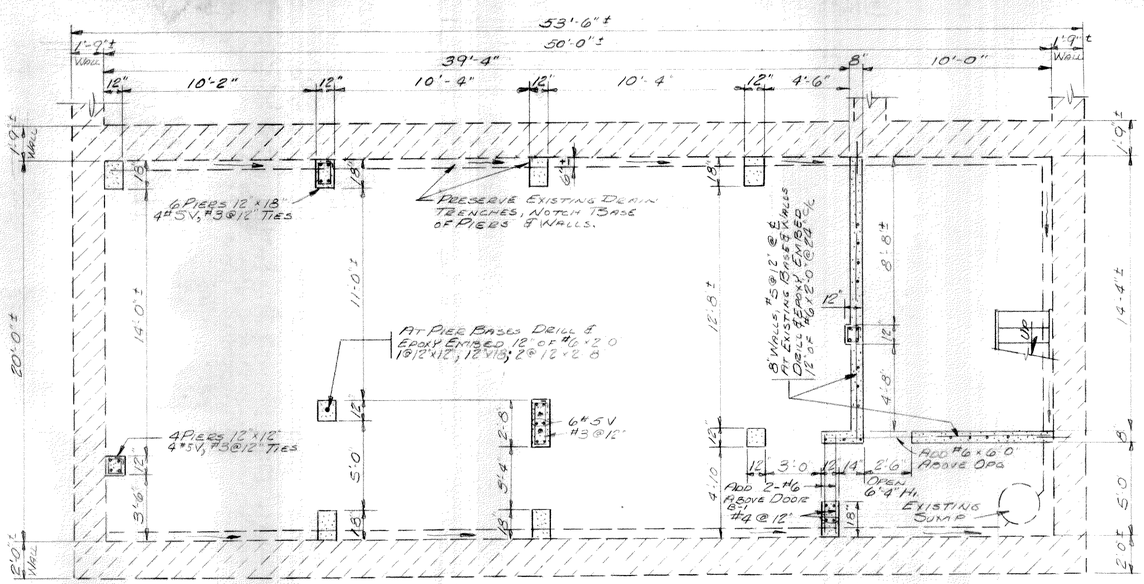
| DATE July 72 | JOB No. 1061 | DRAWN EB&L & TRACED | CHECKED A.P.M |
|---|---|---|---|
| SCALE 1/4"=1'-0" | DWG. No. 72231 | | APPROVED LOR |

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
RENOVATIONS TO MAIN BLDG.
CEILING PLAN
ARCHITECTURAL & ELECTRICAL

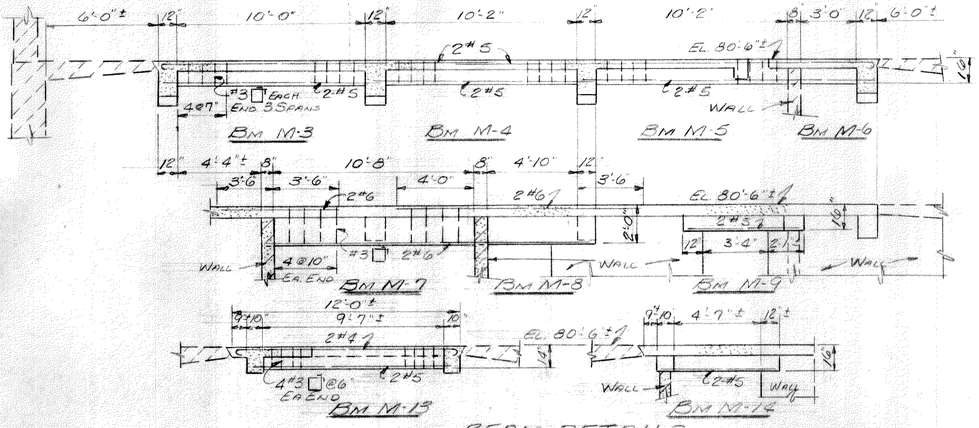


BRUNING 40-105



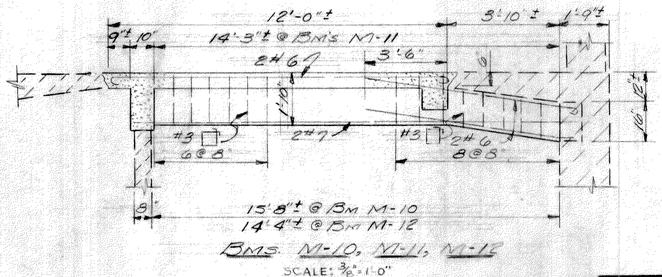

## NEW FRAMING AT EXISTING BASE EL 59'-0"±

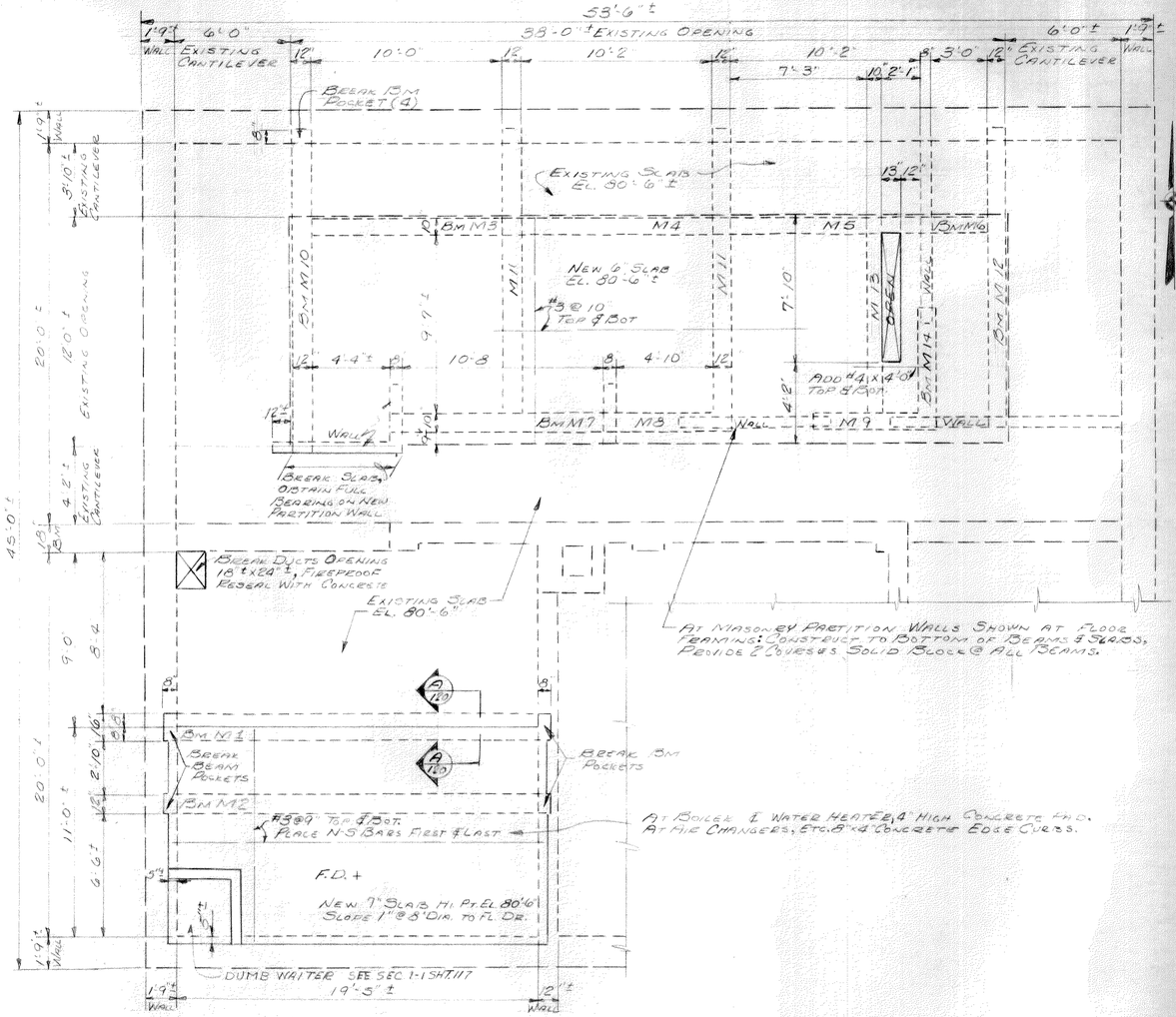
SCALE 1/4" = 1'-0"




## BEAM DETAILS

SCALE 1/4" = 1'-0"

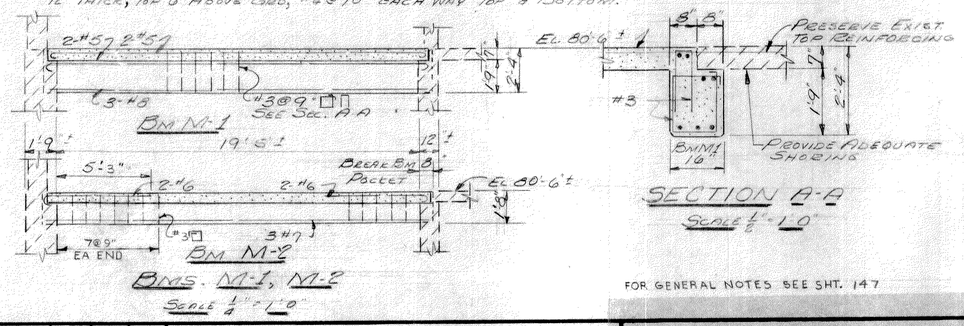



## NEW FRAMING AT EXISTING FIRST FLOOR, EL. 80'-6"±

SCALE 1/4" = 1'-0"

PROVIDE SLAB IN YARD WEST OF BUILDING TO SUIT AIR CONDITIONER EQUIPMENT; 12" THICK, TOP 6" ABOVE GRD, #4@10" EACH WAY TOP & BOTTOM.




FOR GENERAL NOTES SEE SHT. 147

120 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

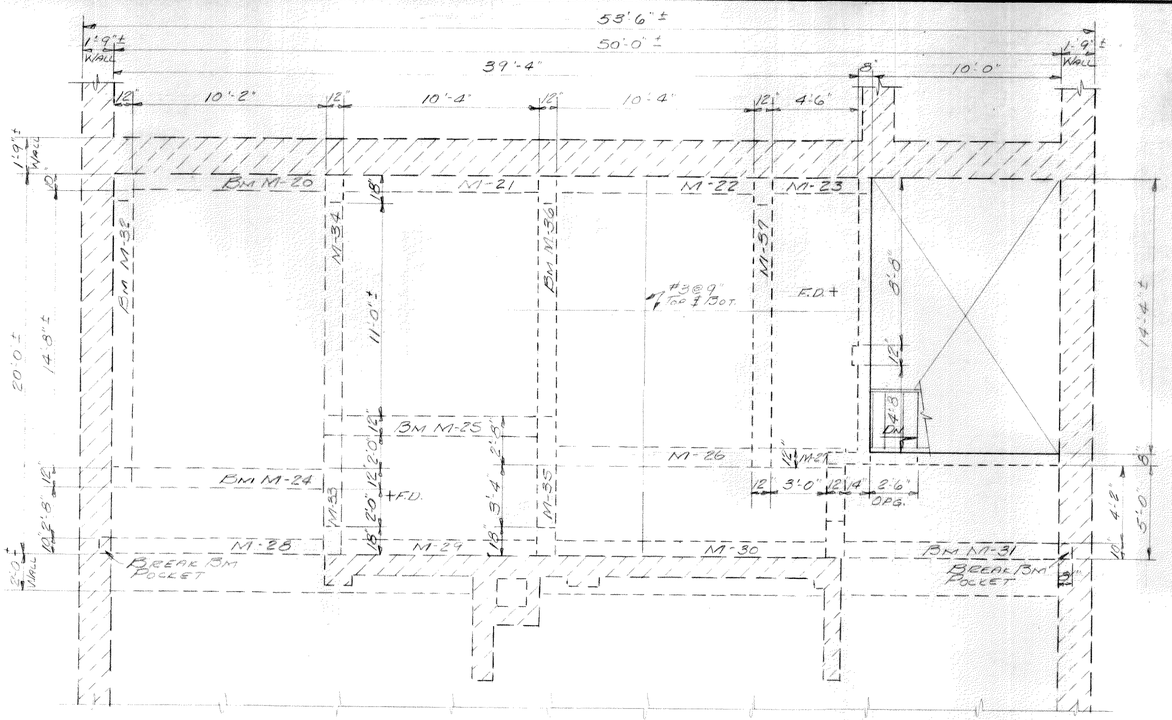
FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN RHS | CHECKED DAF
SCALE AS NOTED | DWG. No. 72232 | TRACED REG | APPROVED LER

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
RENOVATIONS TO MAIN BLDG.
BASEMENT, 1st FLOOR FRAMING PLANS & DETAILS-STRUCTURAL

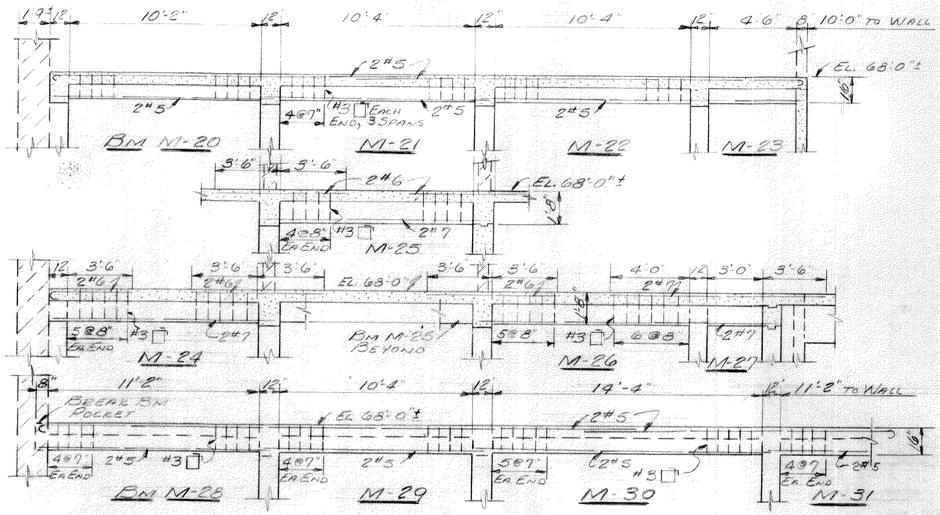
BRUNING 40-105 — 1

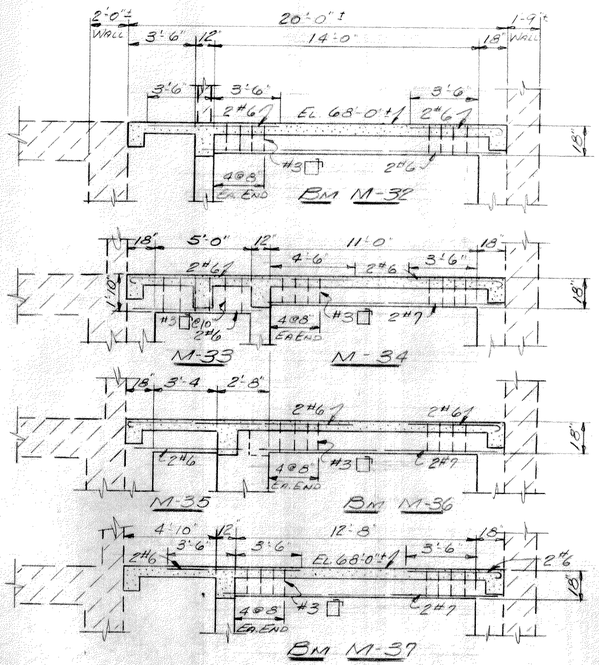



NEW FRAMING AT EXISTING LOWER LEVEL EL. 68'-0"±

SCALE 1/4"=1'-0"

7" SLAB HT. PT EL. 68'-0" SLOPE 1" @ 3' & AREA TO FL DRAINS.




FOR GENERAL NOTES SEE SHT. 147

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

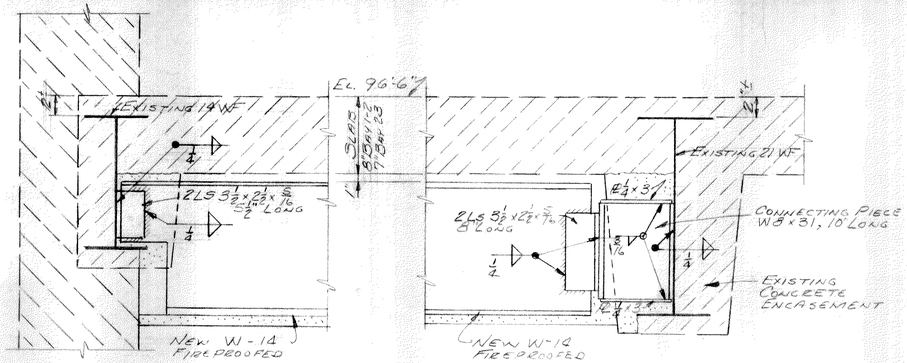
DATE July 72 | JOB No. 1061 | DRAWN RHS | CHECKED DAF
SCALE 1/4"=1'-0" | DWG. No. 72233 | TRACED REG | APPROVED LER

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
RENOVATIONS TO MAIN BLDG.
LOWER LEVEL FRAMING PLAN & DETAILS
STRUCTURAL

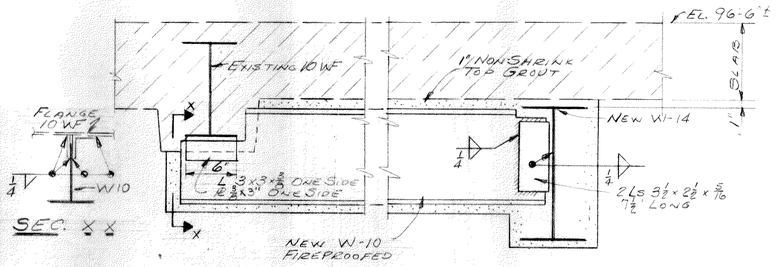
121 OF 165

BRUNING 40-105 — 1




SECTION C-C
SCALE 1½" = 1'-0"

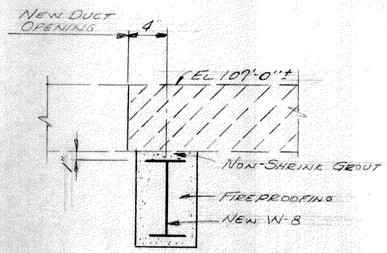
SECTION D-D
SCALE 1½" = 1'-0"




SECTION E-E
SCALE 1½" = 1'-0"

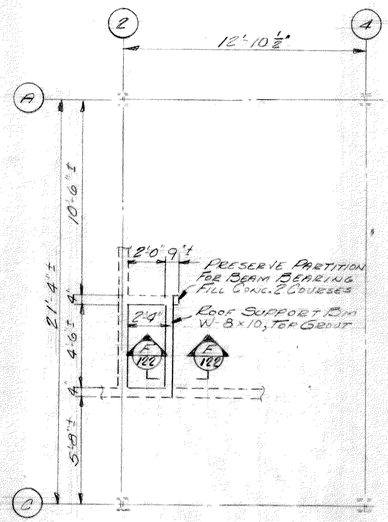
# TYPICAL BEAM DETAILS

COMPLETE TOP GROUT BEFORE CUTTING DUCT OPENINGS BREAK EXISTING CONCRETE ENCASEMENT AT CONNECTIONS TO EXISTING BEAMS. REPAIR ENCASEMENT. PROVIDE FIREPROOFING FOR NEW BEAMS THIS: EXPANDED METAL LATH, 1" MINIMUM APPROVED CEMENTITIOUS PLASTER.

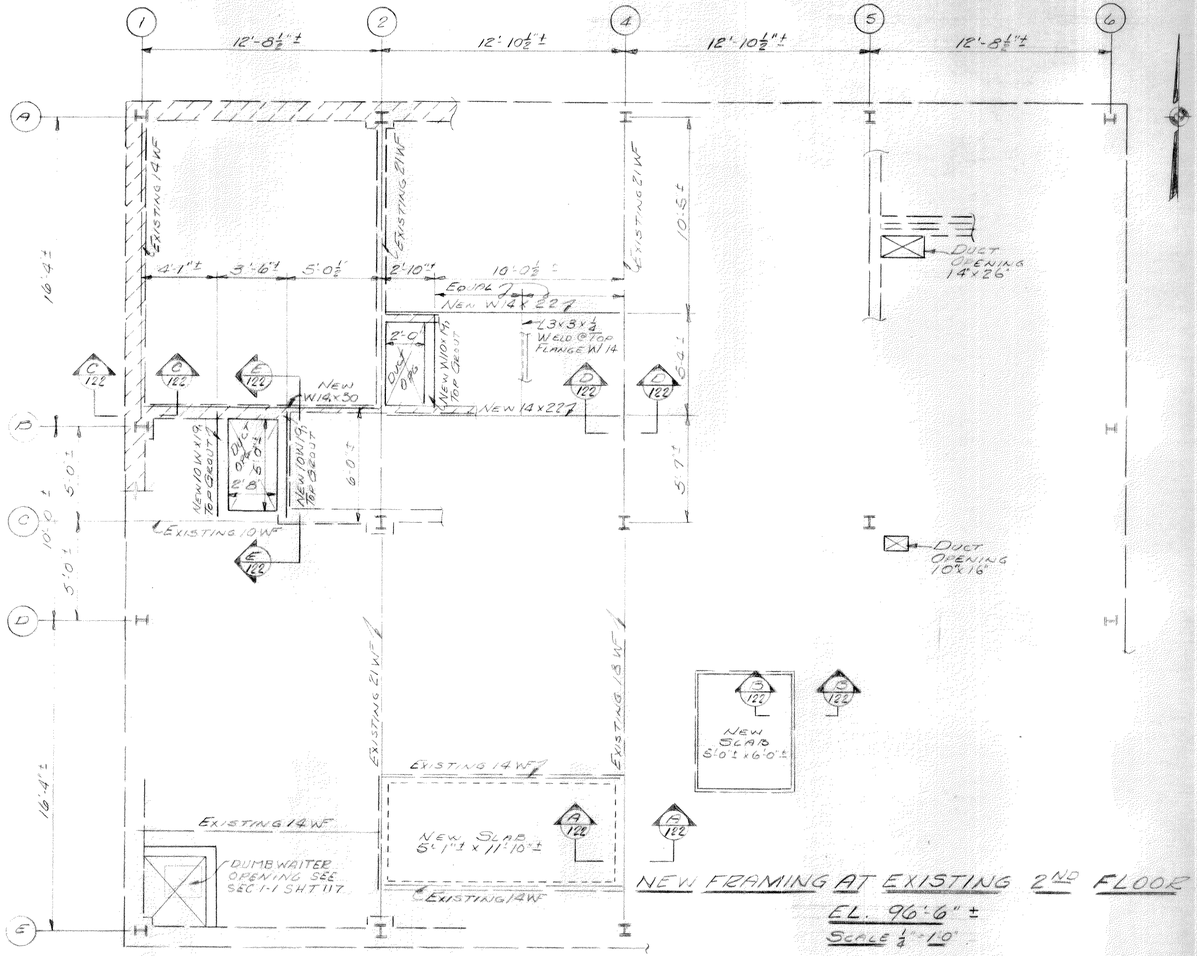



SECTION F-F
SCALE 1½" = 1'-0"

PROVIDE NON-SHRINK GROUT AND FIREPROOFING SAME AS NOTED AT 2ND FLOOR.

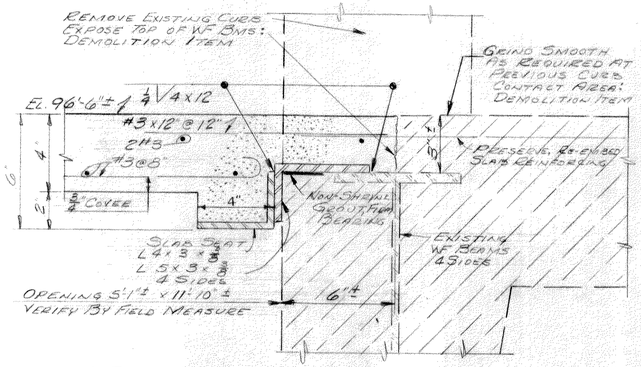



PARTIAL ROOF FRAMING PLAN, EL. 109'-0"±
SCALE 1/4" = 1'-0"



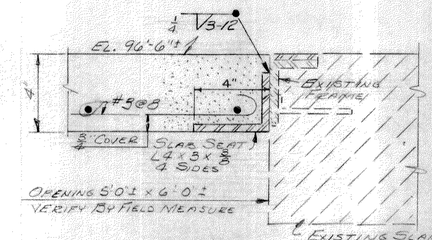

NEW FRAMING AT EXISTING 2ND FLOOR
EL. 96'-6" ±
SCALE 1/4" = 1'-0"

SEE DEMOLITION, MECHANICAL, PLUMBING, HEATING AND VENTILATING DRAWING FOR NEW OPENINGS NOT SHOWN ON THIS SHEET.




NEW SLAB AT EXISTING CHEMICAL TANK OPENING
SCALE 3/4" = 1'-0"

SECTION A-A




NEW SLAB AT EXISTING FRAMED OPENING
SCALE 3/4" = 1'-0"

REMOVE EXIST. STEEL COVER, HINGES, ETC. TO PROVIDE NEAT OPENING FOR NEW SLAB SEAT. SEE DEMOLITION ITEM.

SECTION B-B

FOR GENERAL NOTES SEE SHT. 147

122 OF 165

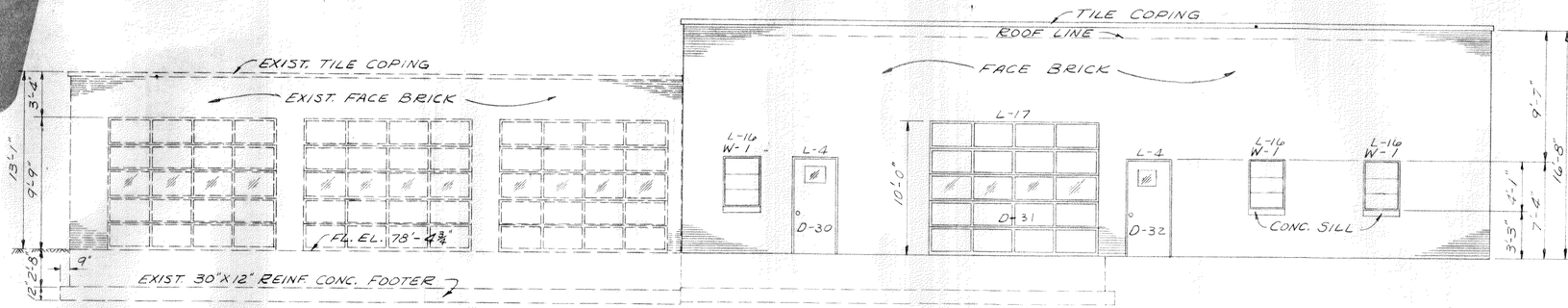
| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

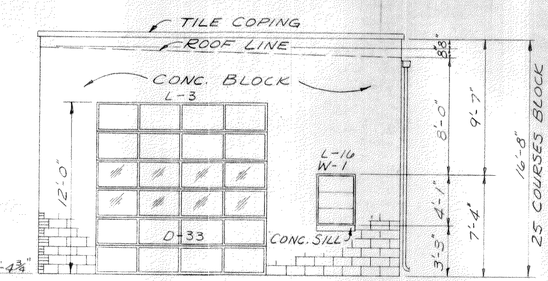
DATE July 72 | JOB No. 1061 | DRAWN RHS | CHECKED DAF
SCALE AS NOTED | DWG. No. 72234 | TRACED REG | APPROVED LER

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
RENOVATIONS TO MAIN BLDG.
2nd FLOOR, ROOF FRAMING PLANS & DETAILS-STRUCTURAL

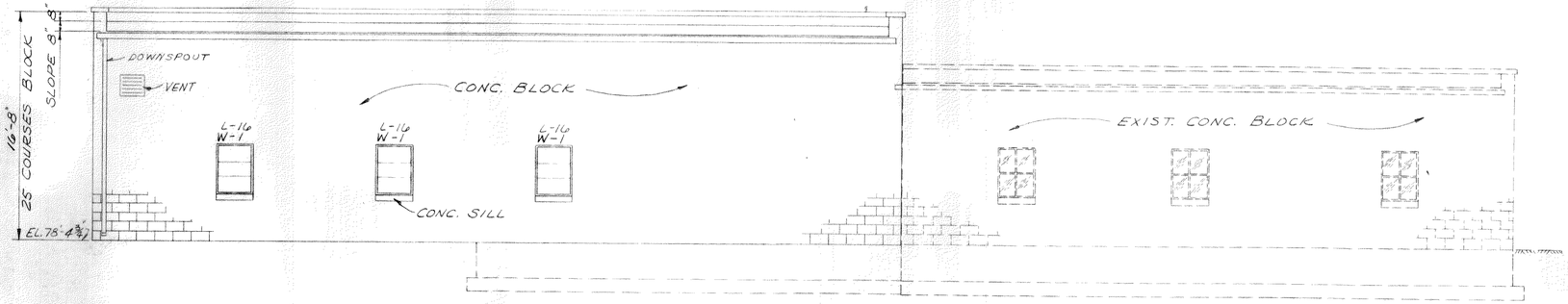



WEST ELEVATION

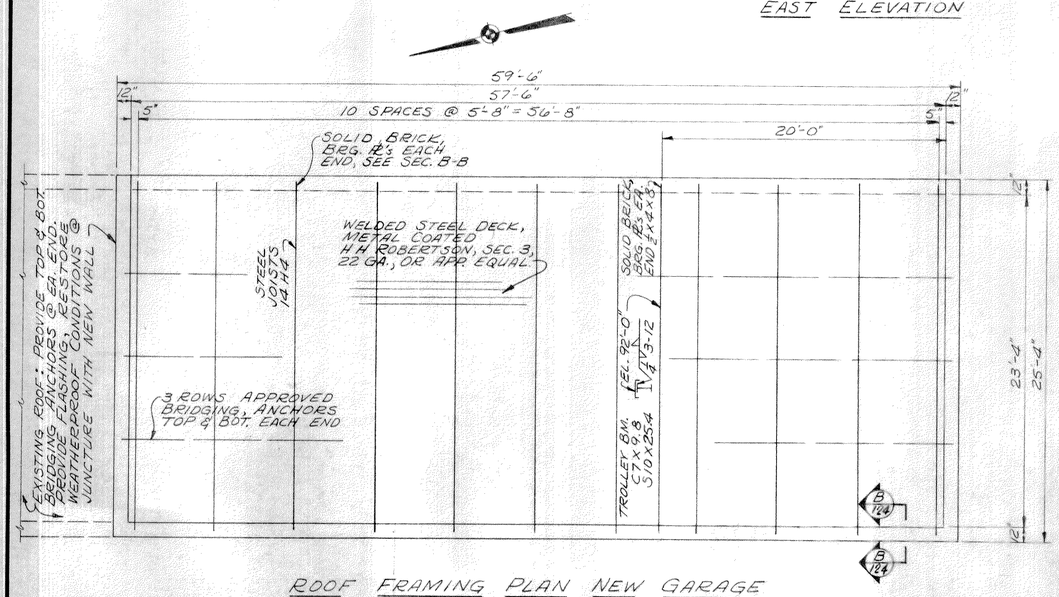



SOUTH ELEVATION

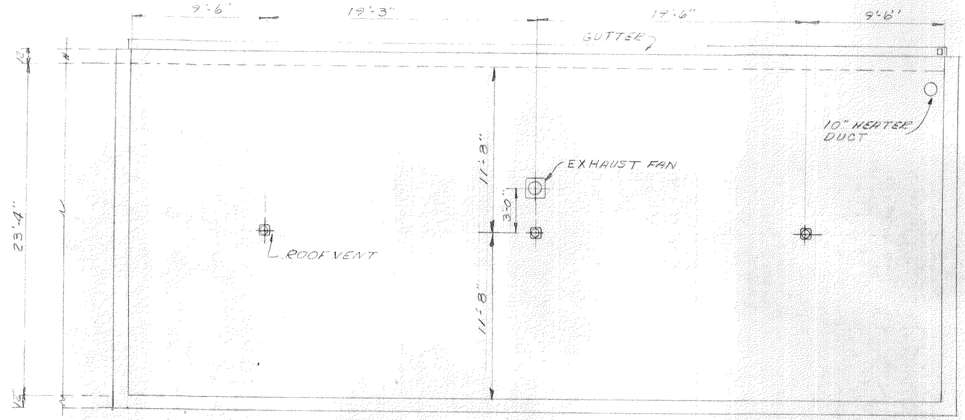
NOTE:
FOR WALL SECTIONS SEE SHT. 145
FOR DOOR DETAILS SEE SHT. 142
FOR WINDOW DETAILS SEE SHT. 143




EAST ELEVATION




ROOF FRAMING PLAN NEW GARAGE




ROOF PLAN NEW GARAGE

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

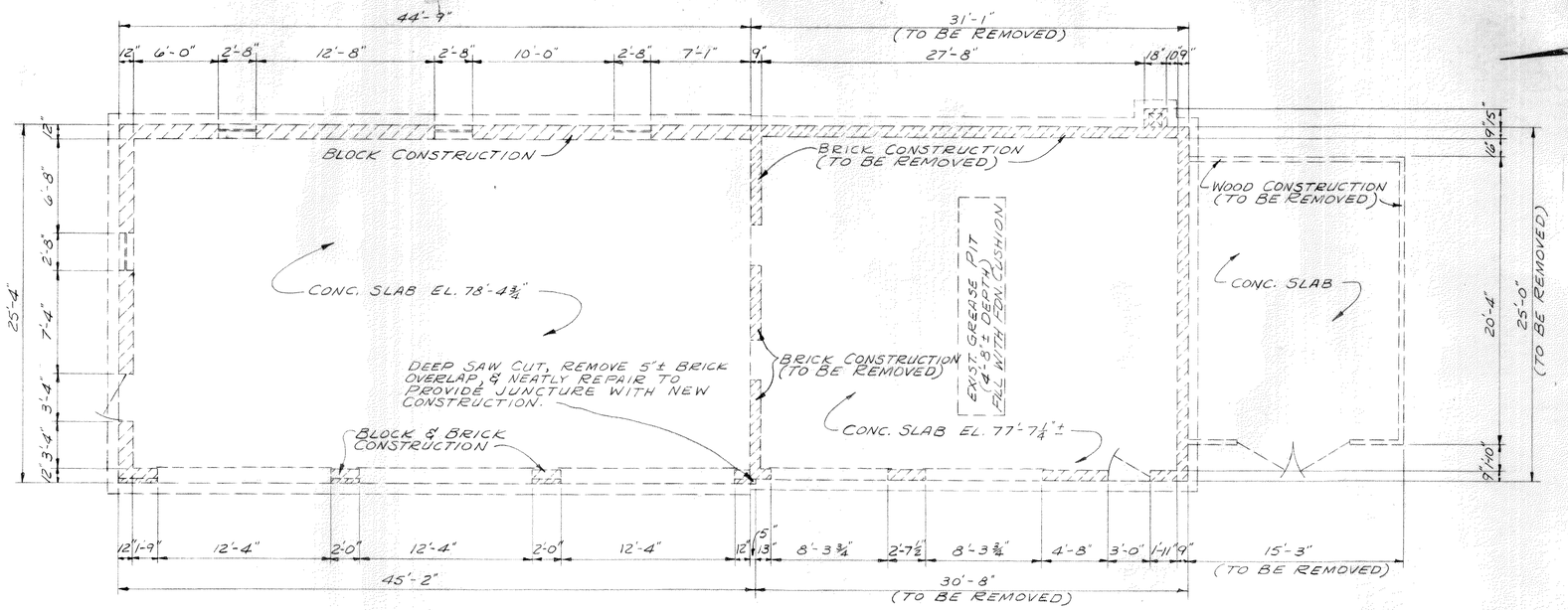
FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN JWK & TRACED | CHECKED A.R.M.
SCALE 3/16" = 1'-0" | DWG. No. 72235 | APPROVED LER

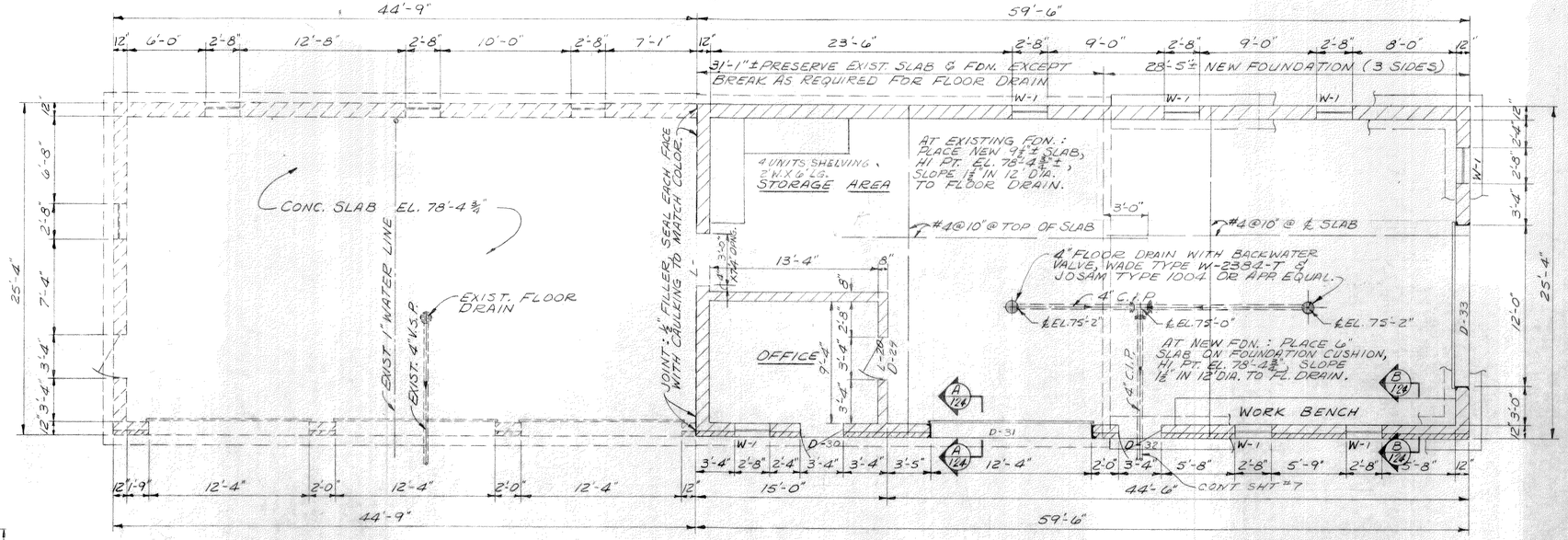
MASSILLON, OHIO
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
GARAGE
PLAN & ELEVATIONS
ARCHITECTURAL & STRUCTURAL

123 OF 165

BRUNING 40-105 — 1 2 3 4 5 6 7 8

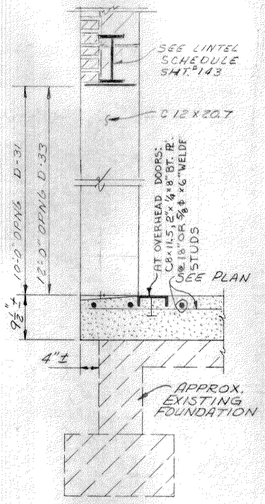



PLAN EXISTING GARAGES
SCALE 3/16"=1'-0"

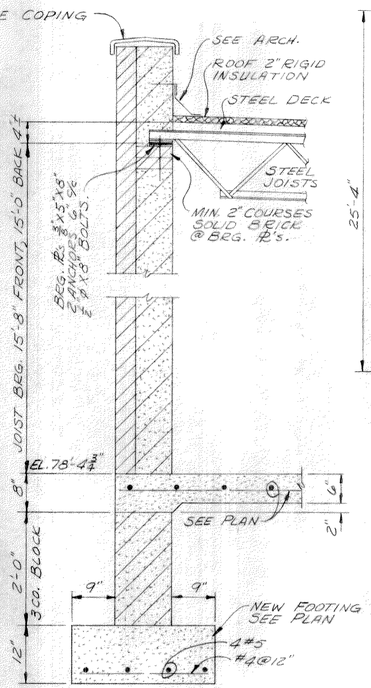



PLAN WITH NEW GARAGE
SCALE 3/16"=1'-0"

AT NEW FOUNDATIONS: REMOVE TOP SOIL, EXCAVATE FOR FOOTINGS AS SHOWN TO FIRM SOIL; REMOVE UNSUITABLE SOIL IF ENCOUNTERED AND AS DIRECTED BY RESIDENT REPRESENTATION BACKFILL TO BOTTOM OF FOOTINGS AND SLAB WITH FOUNDATION CUSHION.




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




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

FOR HEATING & VENTILATION SEE SHT. 133
FOR GENERAL NOTES SEE SHT. 147

124 OF 165

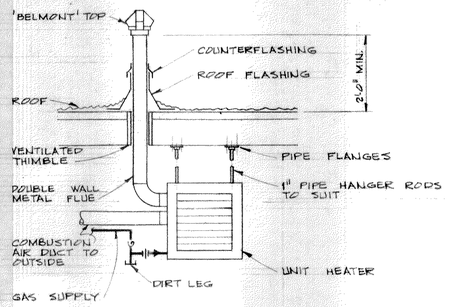
| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN JWK & TRACED | CHECKED JWK JWF
SCALE 3/16"=1'-0" | DWG. No. 7223b | APPROVED LER

MASSILLON, OHIO
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
GARAGE
PLANS & SECTIONS
MECHANICAL & STRUCTURAL

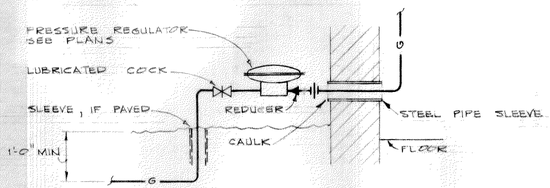
BRUNING 40-105




## TYPICAL GAS UNIT HEATER DETAIL

N.T.S.

SEE PLANS FOR PIPE & DUCT SIZES

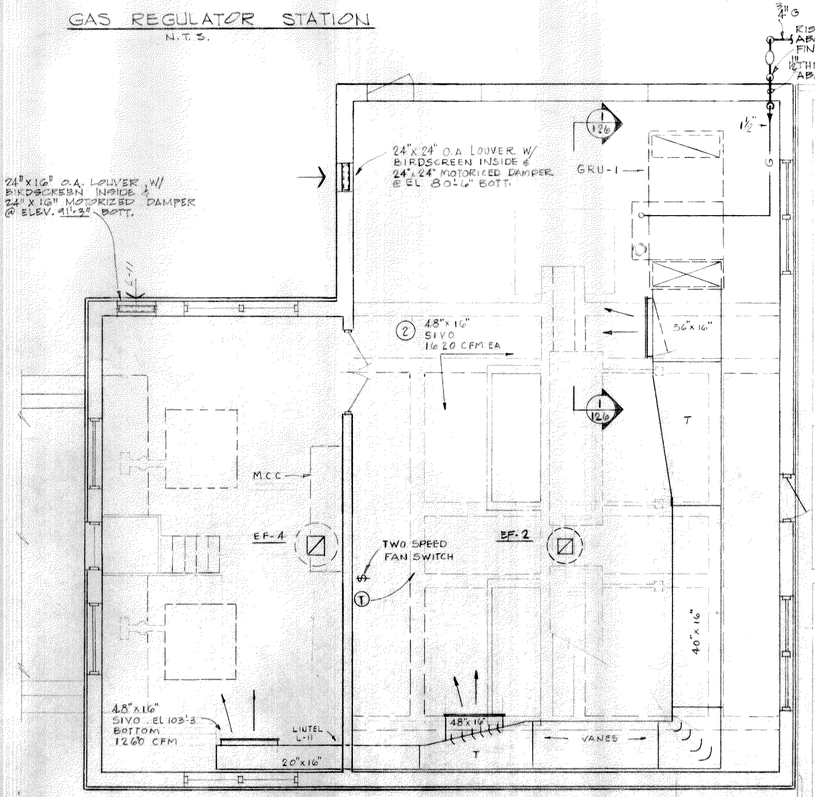



## GAS REGULATOR STATION

N.T.S.

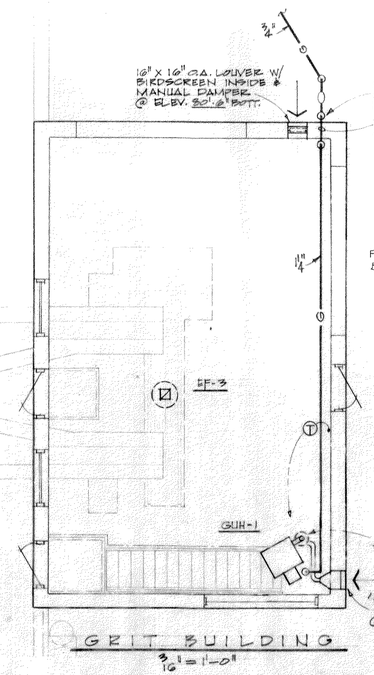
## SYMBOLS & ABBREVIATIONS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ——— | WASTE (DASHED BELOW FLOOR) | AAV | AUTOMATIC AIR VENT | BM | BEAM | HP | HORSEPOWER |
| – – – – | VENT | | UNION | BLD'G | BUILDING | HTG | HEATING |
| —CA— | COMPRESSED AIR | | IMMERSION WELL & SENSOR | BOTT | BOTTOM | INSUL | INSULATION |
| -·-·-DCW | DOMESTIC COLD WATER | | THERMOMETER | BOP | BOTTOM OF PIPE | LIQ | LIQUID |
| —·—·—DHW | DOMESTIC HOT WATER | | ANCHOR | | | LAV | LAVATORY |
| ·····DHWR | DOMESTIC HOT WATER RETURN | | GAUGE | CEIL | CEILING | MIN | MINIMUM |
| – –FOR– – | FUEL OIL RETURN | | TAP OFF TOP OF LINE | CO | CLEANOUT | MFR | MANUFACTURER |
| —FOS— | FUEL OIL SUPPLY | | TAP OFF BOTTOM OF LINE | CONN | CONNECTION | MTD | MOUNTED |
| —G— | GAS | HB | HOSE BIBB | CONST | CONSTRUCTION | MS | MOTOR STARTER |
| – –HGB– – | HOT GAS BY-PASS | M | MAIN AIR SUPPLY | CONC | CONCRETE | | |
| – –HR– – | HEATING WATER RETURN | | | CPA | CONTROL POINT ADJUSTMENT | N.T.S. | NOT TO SCALE |
| —HS— | HEATING WATER SUPPLY | | | CFM | CUBIC FEET PER MINUTE | | |
| —IND— | INDIRECT WASTE | | | CONTR | CONTRACTOR | OLIS | OVERLOADS |
| —RL— | REFRIGERANT LIQUID | | ELBOW WITH TURNING VANES | DN | DOWN | O.A. | OUTSIDE AIR |
| – –RS– – | REFRIGERANT SUCTION | | EXTRACTOR | EA | EACH | OPER | OPERATOR |
| —VAC— | VACUUM | SD | SPLITTER DAMPER | EP | ELECTRIC-PNEUMATIC | OPG | OPENING |
| | | | | EXP | EXPANSION | PB | PUSH BUTTON |
| | | | | EWC | ELECTRIC WATER COOLER | PH | PHASE |
| | | T | THERMOSTAT (ALSO-THERMO. OR STAT) | EQUIP | EQUIPMENT | PN | PNEUMATIC |
| | | T OR TRANS | TRANSITION | ELEV | ELEVATION | PRESS | PRESSURE |
| | GATE VALVE | | | EF | EXHAUST FAN | PC | PIECE |
| | BALANCING COCK | | | ELEC | ELECTRIC | PSIG | POUNDS PER SQUARE INCH |
| | GLOBE VALVE | ∠'S | ANGLES | EXIST | EXISTING | PL | PILOT LIGHT |
| | LOCKSHIELD VALVE | W/ | WITH | FLEX | FLEXIBLE | R | RETURN |
| | CHECK VALVE | | | FD | FLOOR DRAIN | RV | RELIEF VALVE |
| | 3-WAY VALVE | | | FILT | FILTER | RM | ROOM |
| | GAUGE COCK | | | | | | |
| | PRESSURE REGULATOR | ADMIN | ADMINISTRATION | | | SOL | SOLENOID |
| | | LAB | LABORATORY | GA | GAUGE | SHT | SHEET |
| | | | | GAL | GALLON | S | SUPPLY |
| | | WC | WATER CLOSET (W.C. – WATER COLUMN) | GPH | GALLONS PER HOUR | STL | STEEL |
| | | | | | | SHR | SHOWER DRAIN |
| | | VERT | VERTICAL | UR | URINAL | SST | STAINLESS STEEL (ALSO SS. OR STNLS. STL) |
| | | V | VOLT | TEMP | TEMPERATURE | | |



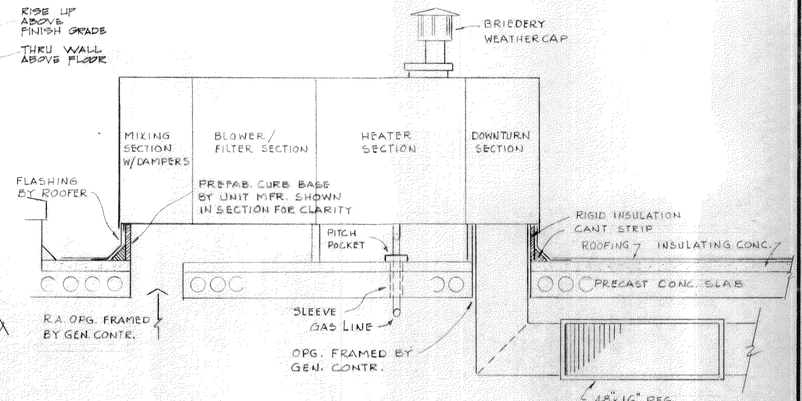

## SCREEN AND PUMP BUILDING

3/16" = 1'-0"




## GRIT BUILDING

3/16" = 1'-0"




## SECTION 1-1

SCALE ½" = 1'-0"

126 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

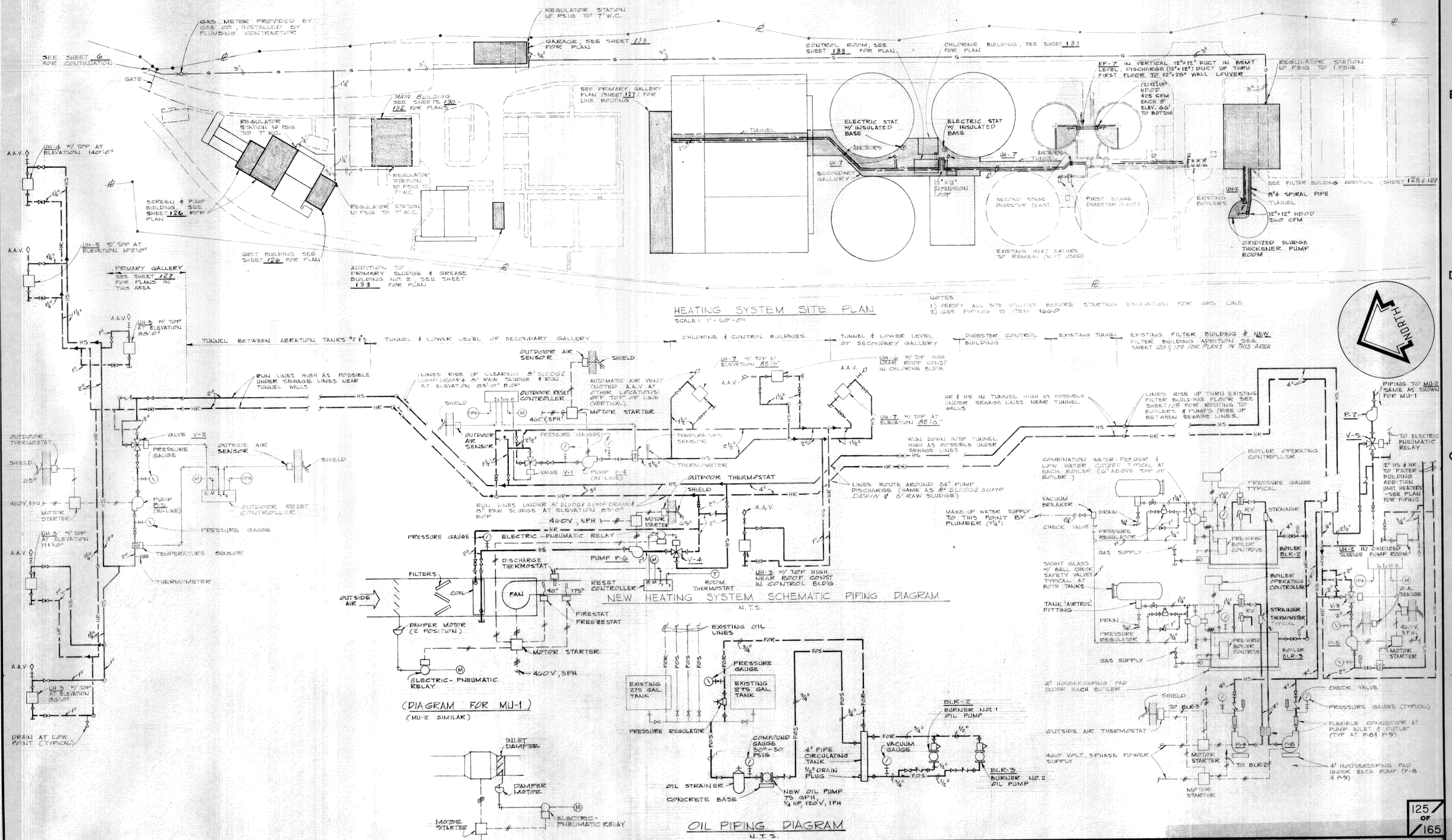
FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN JAJ, INC. | CHECKED AFM
SCALE AS NOTED | DWG. No. 72238 | TRACED JCJ | APPROVED LER

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
HEATING & VENTILATION
PUMP, SCREEN & GRIT STRUCTURE
MECHANICAL

BRUNING 40-105




## HEATING SYSTEM SITE PLAN

SCALE: 1" = 50'-0"

NOTES
1) VERIFY ALL SITE UTILITIES BEFORE STARTING EXCAVATION FOR GAS LINE.
2) GAS PIPING IS ITEM 1660

## NEW HEATING SYSTEM SCHEMATIC PIPING DIAGRAM

N.T.S.

(DIAGRAM FOR MU-1)
(MU-2 SIMILAR)

## OIL PIPING DIAGRAM

N.T.S.

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

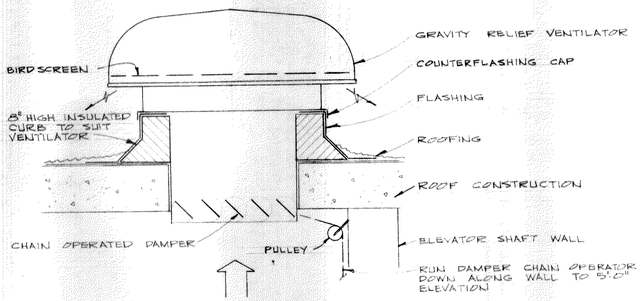
DATE July 72 | JOB No. 1061 | DRAWN JAJ, INC | CHECKED AAN
SCALE AS NOTED | DWG. No. 722.37 | TRACED DAB | APPROVED LER

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
HEATING & VENTILATION
SITE PLAN & MISC. DETAILS
MECHANICAL

125 OF 165

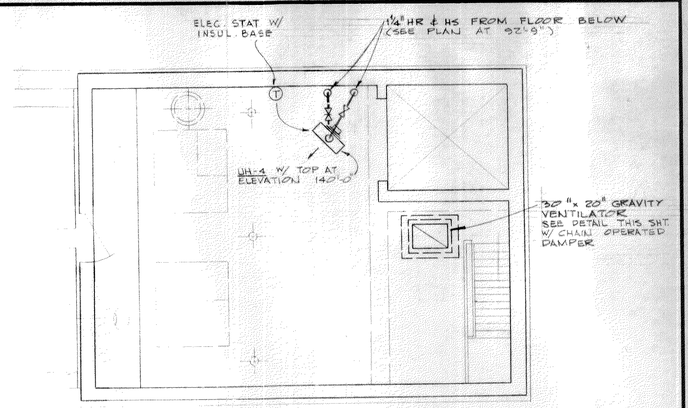
BRUNING 40-105




GRAVITY RELIEF VENTILATOR DETAIL

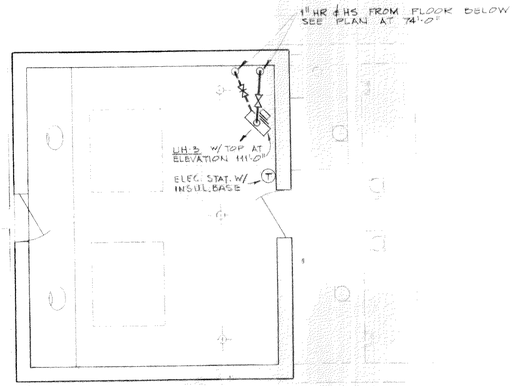
N.T.S.

(SEE PLAN AT 127'-10½" ELEVATION THIS SHEET)



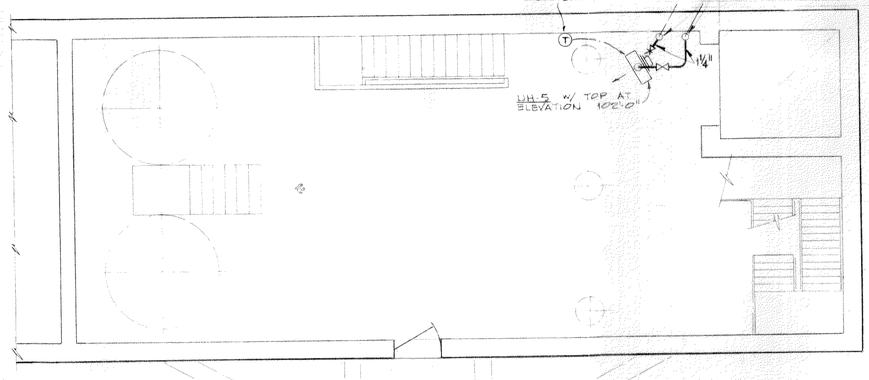

FLOOR PLAN AT 127'-10½" ELEVATION

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



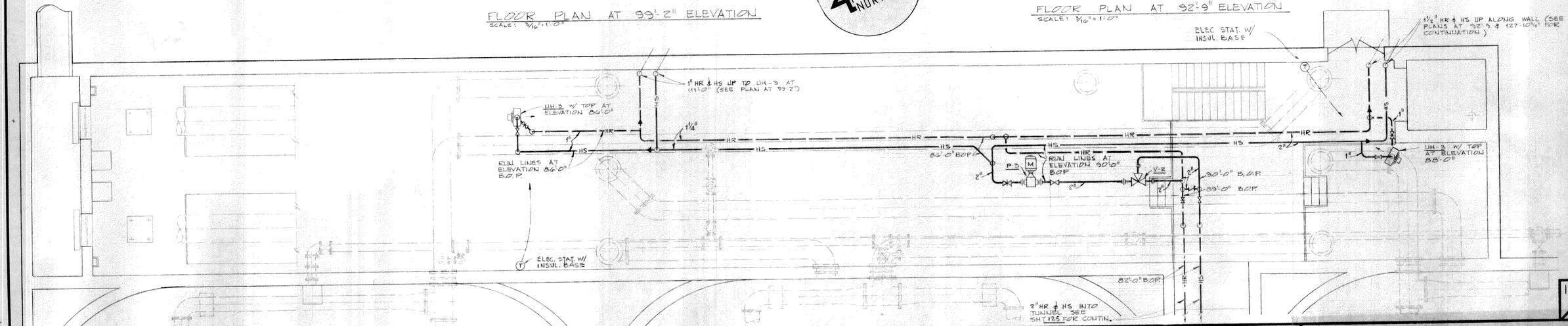

FLOOR PLAN AT 99'-2" ELEVATION

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




FLOOR PLAN AT 92'-9" ELEVATION

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




FLOOR PLAN AT 74'-0" ELEVATION

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

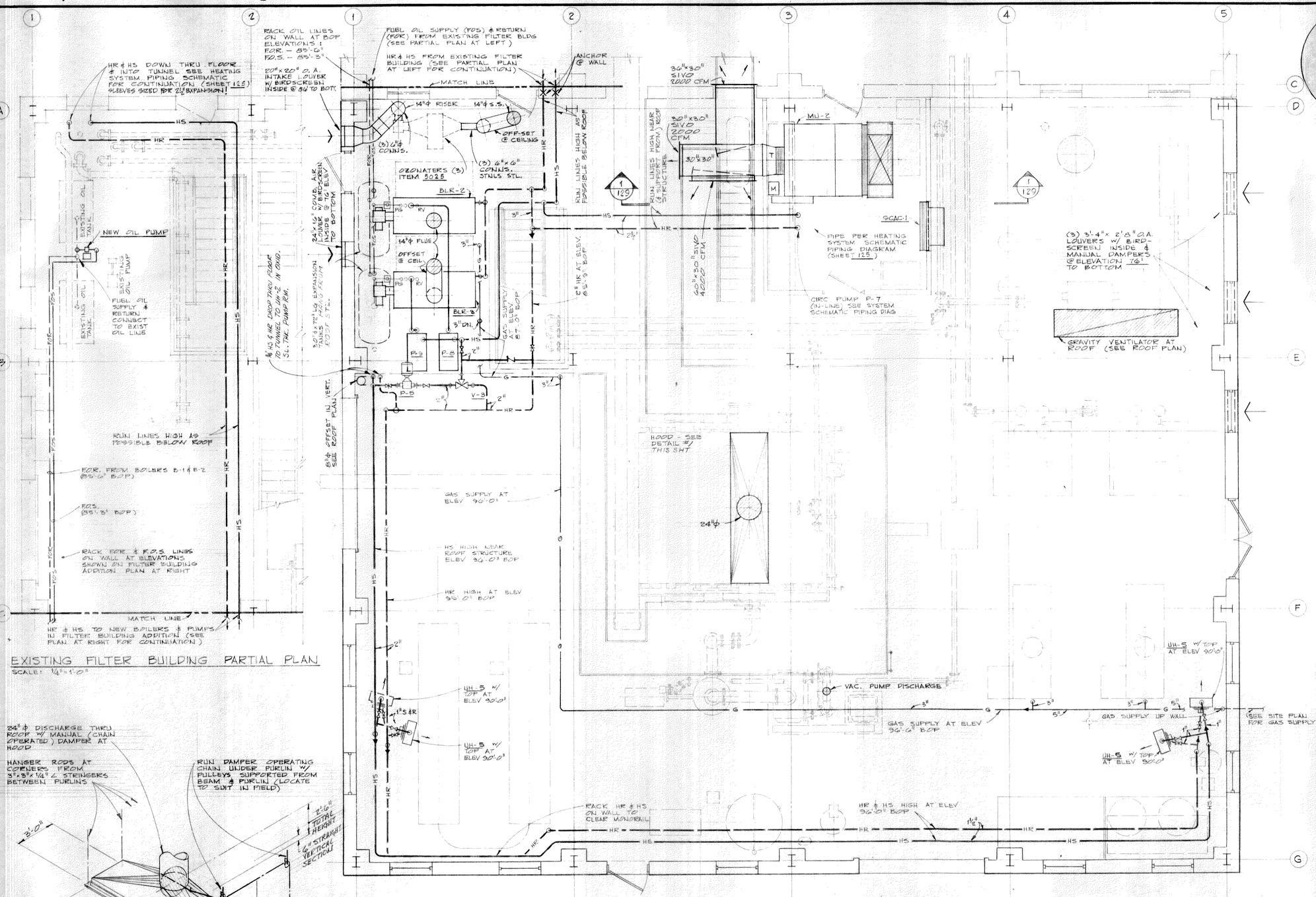
| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN J.A.J., INC. | CHECKED A.F.M.
SCALE 3/16" = 1'-0" | DWG. No. 72239 | TRACED DAB | APPROVED L.E.R.

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
HEATING & VENTILATION
PRIMARY GALLERY
MECHANICAL

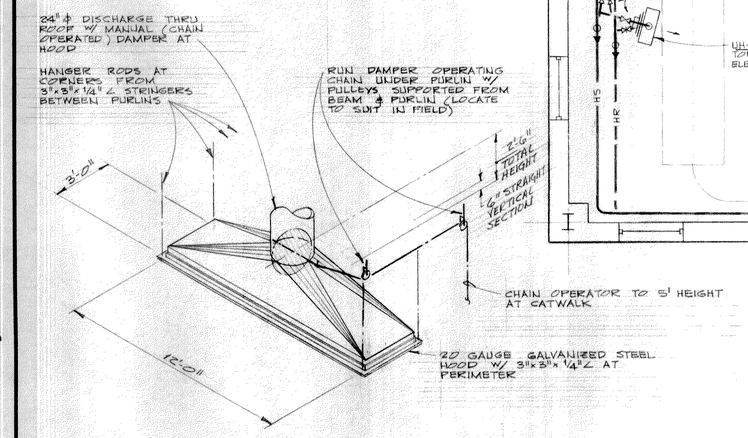



## EXISTING FILTER BUILDING PARTIAL PLAN

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

## FILTER BUILDING ADDITION - HEATING FLOOR PLAN

SCALE: 1/4"=1'-0" SEE SHTS 125 FOR SCHEMATIC PIPING DIAGRAM




## DETAIL 1

N.T.S.
ALL DIMENSIONS INSIDE CLEAR
REQUIREMENTS.
USE WELDED CONSTRUCTION THROUGH-OUT.

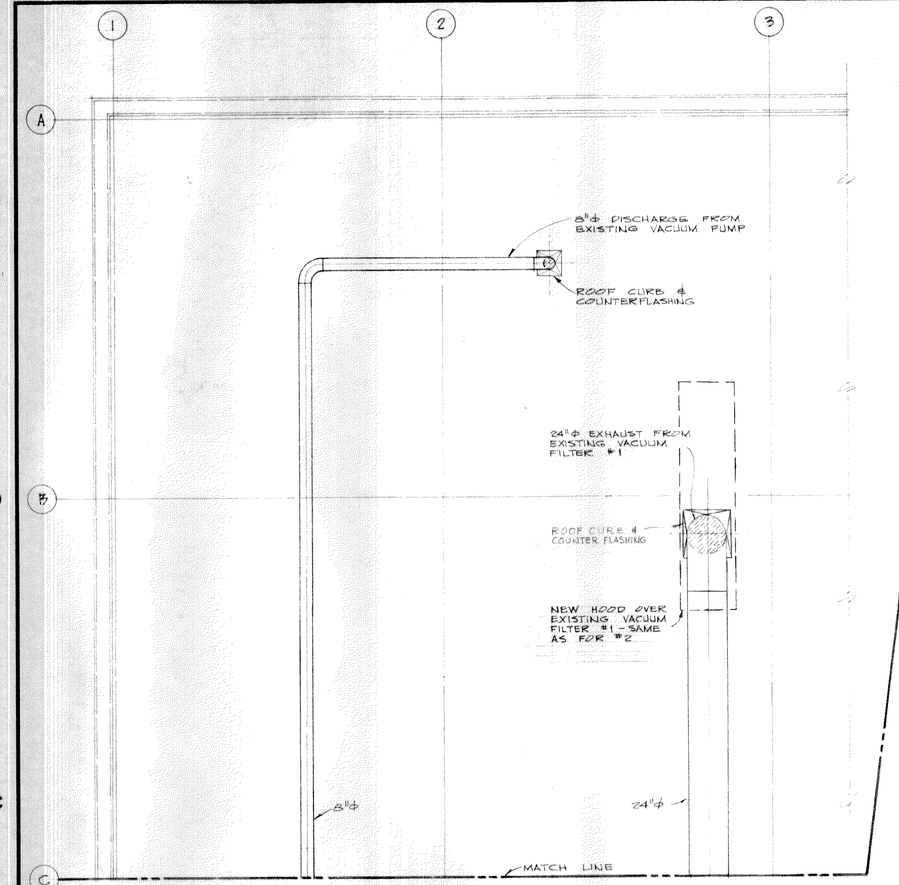
## LINE WIRING DIAGRAMS

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

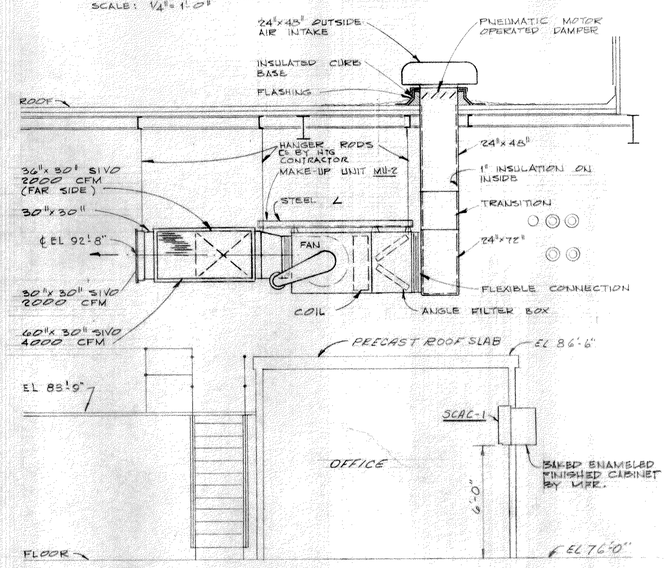
DATE July 72 | JOB No. 1061 | DRAWN JAJ, INC. | CHECKED
SCALE 1/4"=1'-0" | DWG. No. 72240 | TRACED DAB | APPROVED LER

MASSILLON, OHIO
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
HEATING & VENTILATION
EXIST. FILTER BLDG. & ADDITION
MECHANICAL




EXISTING FILTER BUILDING - HEATING ROOF PLAN

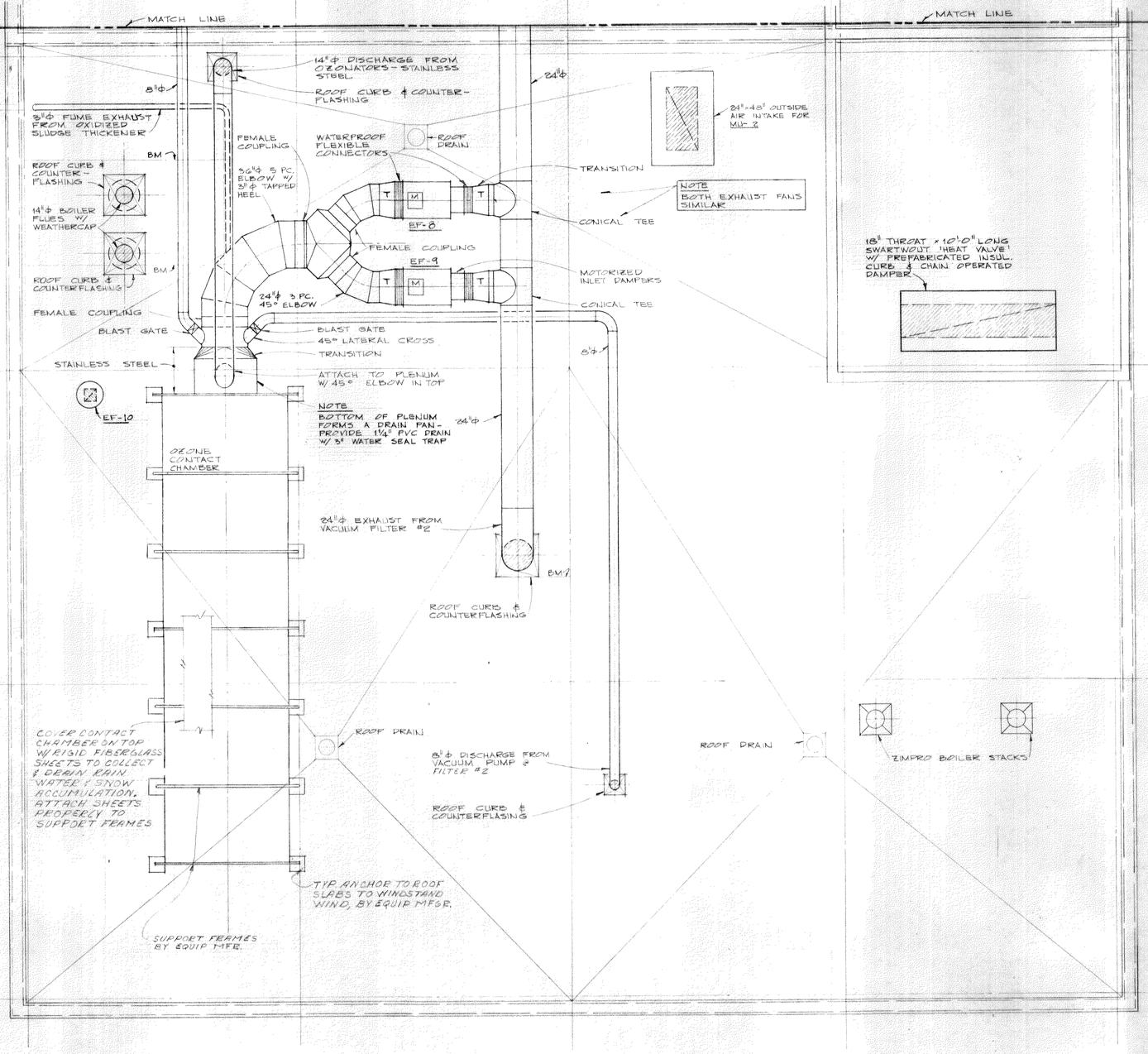
SCALE: 1/4"=1'-0"




ELEVATION 1-1

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

NORTH




FILTER BUILDING ADDITION - HEATING ROOF PLAN

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

NOTES:
1- ALL DUCTWORK IS 20 GA. GALVANIZED STEEL 'SPIRAL' PIPE, COATED ON EXTERIOR W/ 'VIMASCO' VINYL MASTIC, UNLESS NOTED OTHERWISE.

129 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN JAJ, INC. | CHECKED A.F.M.
SCALE 1/4"=1'-0" | DWG. No. 72241 | TRACED DAB | APPROVED L.E.P.

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
HEATING & VENTILATION
EXIST. FILTER BLDG. & ADDITION
MECHANICAL

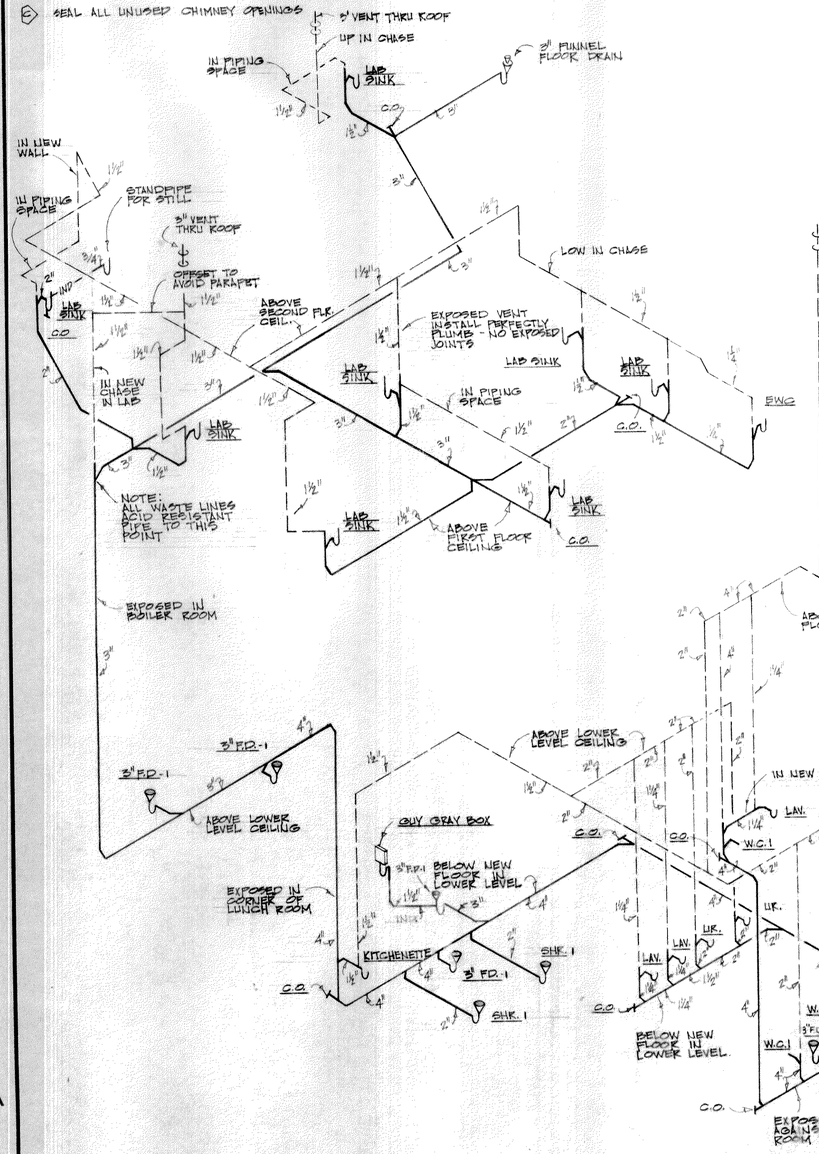
BRUNING 40-108

# PLUMBING CODED NOTES (THIS SHEET ONLY)

1. EXISTING FLOOR DRAIN TO REMAIN
2. CONNECT NEW DHW & DCW TO EXISTING SERVICE LINES TO FIXTURES ROOM 112 & 113 (ABOVE) CONNECT NEW DHWR TO END OF DHW MAIN. RE-INSULATE EXIST. LINES.

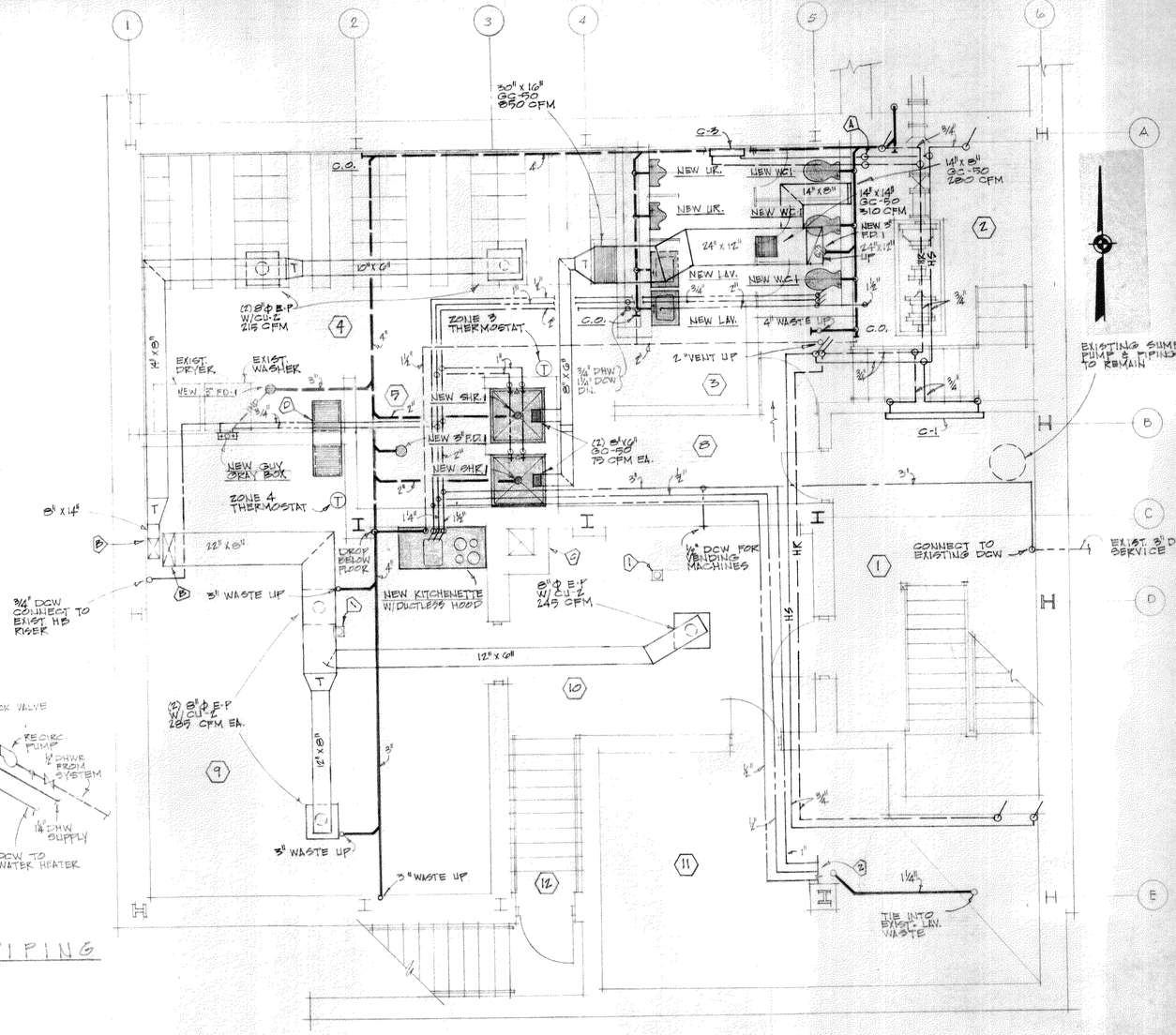
# HEATING & AIR CONDITIONING CODED NOTES (THIS SHEET ONLY)

A. 3/4" HS & HR DROP TO RUN UNDER NEW FLOOR TO C-3.
B. DUCT UP THRU FIRST FLOOR W/ FIRE DAMPERS @ FLOOR LINE.
C. SEAL ALL UNUSED CHIMNEY OPENINGS
D. 20" X 12" TRANSFER DUCT W/ 1" INSUL. INSIDE & 20" X 20" GC-5 EA. ROOM.




## NEW STACK DIAGRAM
N.T.S.

## WATER HEATER PIPING
N.T.S.




## LOWER LEVEL FLOOR PLAN ~ PLUMBING, HEATING & AIR CONDITIONING
1/4" = 1'-0"

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN JAN, INC. | CHECKED APM
SCALE AS NOTED | DWG. No. 72242 | TRACED JRL | APPROVED LER

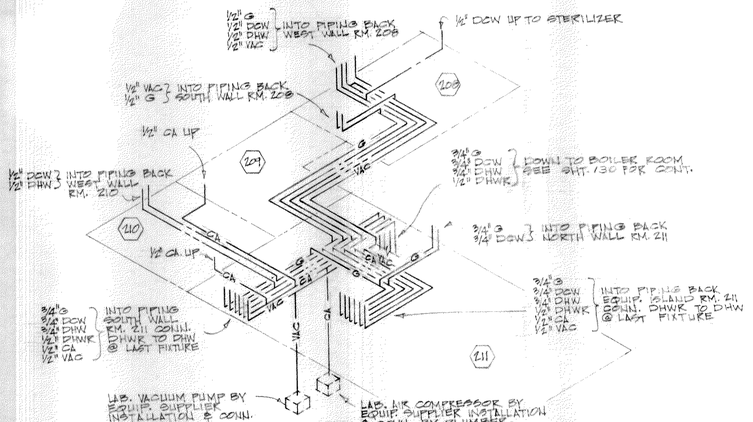
MASSILLON, OHIO
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
HEATING, VENTILATION & PLUMBING
MAIN BUILDING
MECHANICAL

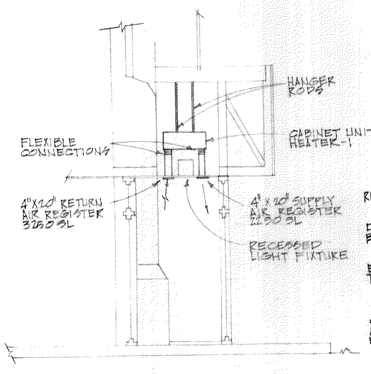
# PLUMBING CODED NOTES (THIS SHEET ONLY)

1. REMOVE EXISTING LAVATORY AND INSTALL NEW. REWORK WASTE, VENT, HOT & COLD WATER AS REQUIRED.
2. REMOVE EXISTING WATER CLOSET & INSTALL NEW. REWORK WASTE, VENT & COLD WATER AS REQUIRED.
3. REMOVE EXISTING FLOOR DRAIN AND WASTE BACK TO FIRST ACTIVE FIXTURE AND PLUG.
4. EXISTING 4" DOWNSPOUT TO REMAIN.
5. CONNECT NEW DHW & DCW TO EXISTING SERVICE LINES TO FIXTURES IN ROOM 201 (ABOVE) CONNECT NEW DHWR TO END OF DHW MAIN. RE-INSULATE EXISTING LINES.

# HEATING & AIR CONDITIONING CODED NOTES (THIS SHEET ONLY)

A. 16" ϕ BREECHING
B. CUT NEW OPENING IN EXISTING CHIMNEY. NEW 10 GA. STEEL THIMBLE
C. ¾" HR & HS DOWN TO BASEMENT.

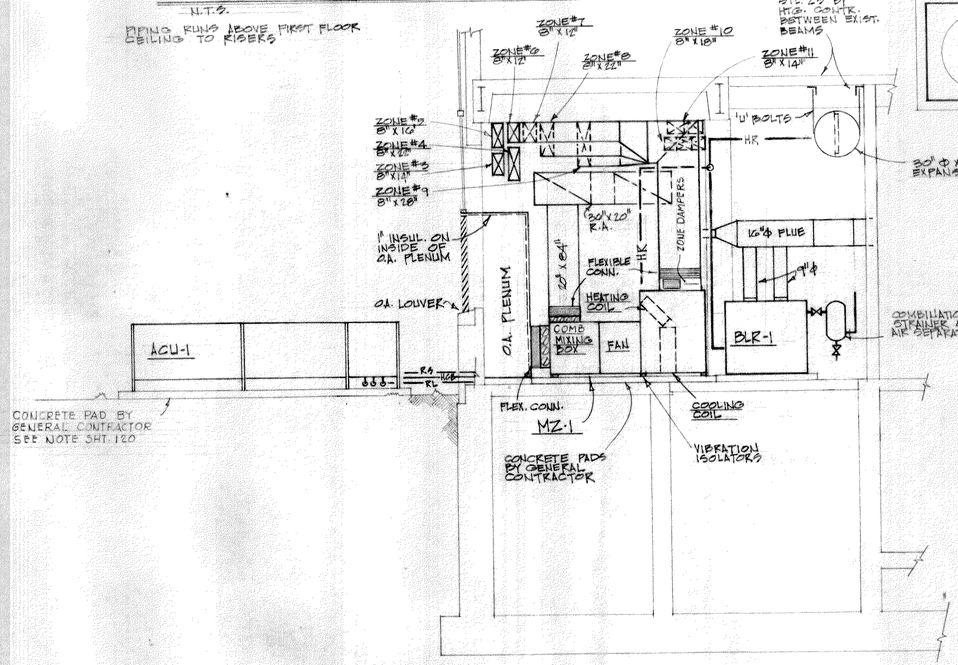


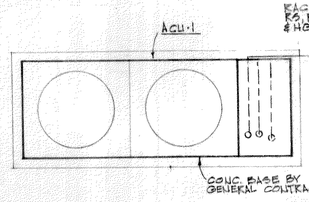

## ELEVATION-2
¼" = 1'-0"

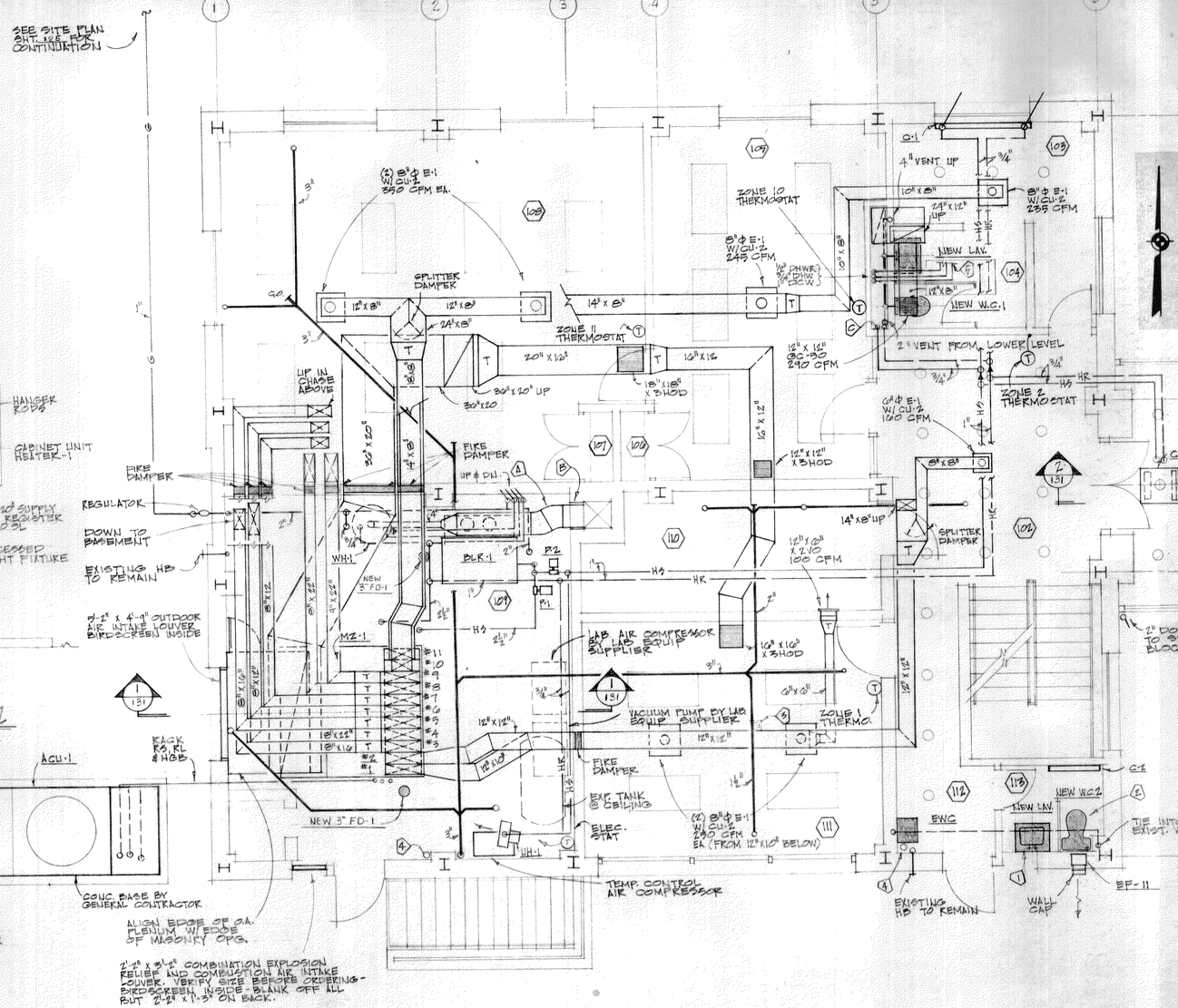
## LABORATORY SERVICES
N.T.S.

PIPING RUNS ABOVE FIRST FLOOR CEILING TO RISERS




## ELEVATION 1-1
¼" = 1'-0"




## FIRST FLOOR PLAN - PLUMBING, HEATING & AIR CONDITIONING
¼" = 1'-0"

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN JAJ, INC. | CHECKED AGM
SCALE AS NOTED | DWG. No. 72243 | TRACED JRL | APPROVED LER

MASSILLON, OHIO
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
HEATING, VENTILATION & PLUMBING
MAIN BUILDING
MECHANICAL

131 OF 165

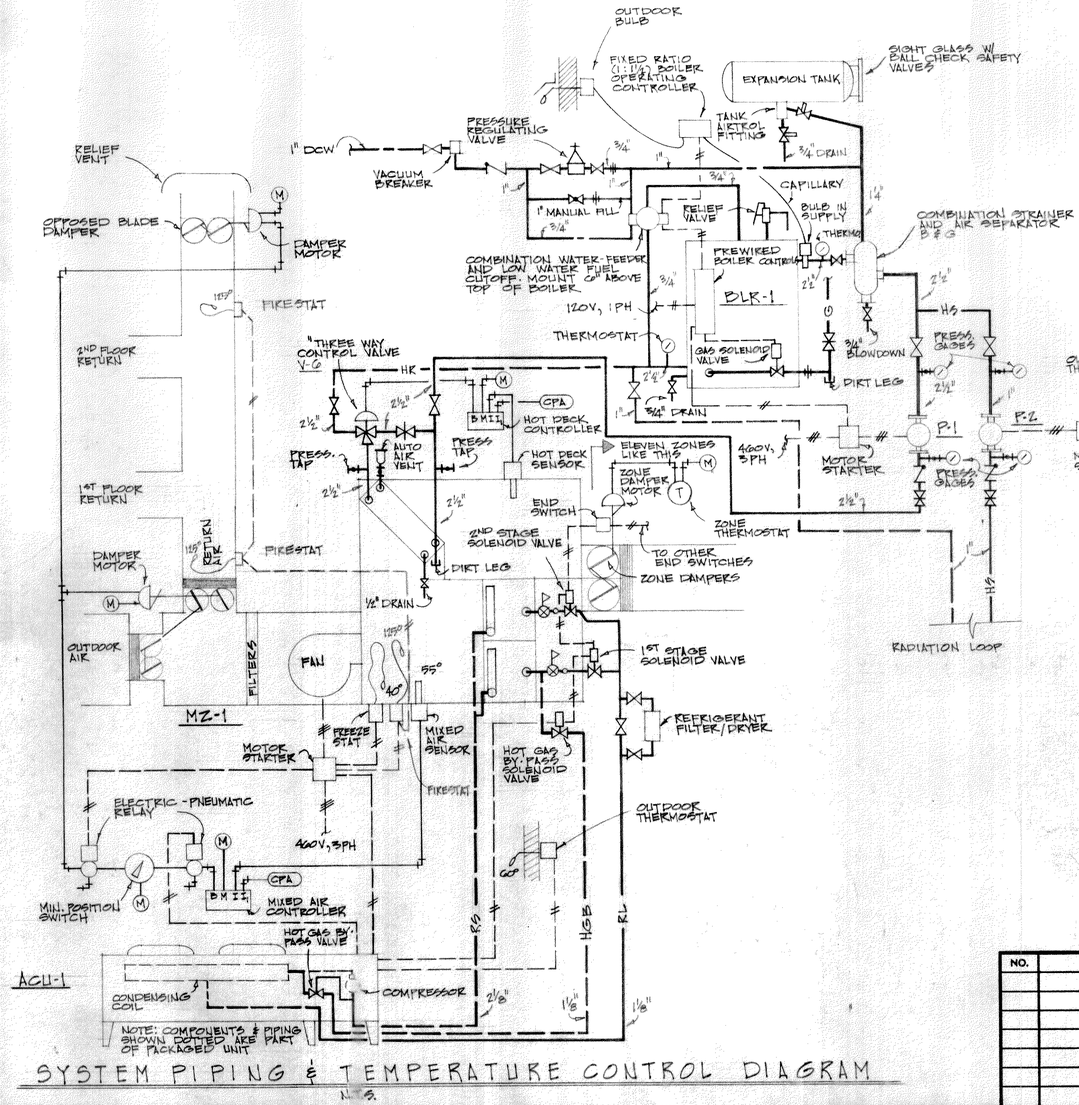
BRUNING 40-105

## PLUMBING CODED NOTES (THIS SHEET ONLY)

- (D) REMOVE EXISTING WATER CLOSET, AND INSTALL NEW. REWORK WASTE, VENT & COLD WATER AS REQUIRED.
- (B) REMOVE EXISTING SHOWER BASE, FAUCETS, SHOWER HEAD & INSTALL NEW. REWORK WASTE, VENT, HOT & COLD WATER AS REQUIRED.
- (B) REMOVE EXISTING LAVATORY AND INSTALL NEW. REWORK WASTE, VENT, HOT & COLD WATER AS REQUIRED.
- (C) EXISTING URINAL TO REMAIN.
- (C) EXISTING 4" DOWNSPOUT TO REMAIN.
- (A) SINK BY LAB. EQUIP. SUPPLIER
- (F) ½" DCW - OUTLET BY EQUIP. MFR. - MAKE FINAL CONN.
- (G) ½" DHW - OUTLET BY EQUIP. MFR. - MAKE FINAL CONN.
- (H) ½" VACUUM - OUTLET BY EQUIP. MFR. - MAKE FINAL CONN.
- (I) 1 ½" GAS - OUTLET BY EQUIP. MFR. - MAKE FINAL CONNECTION
- (J) ½" COMPRESSED AIR - OUTLET BY EQUIP. MFR. - MAKE FINAL CONN.

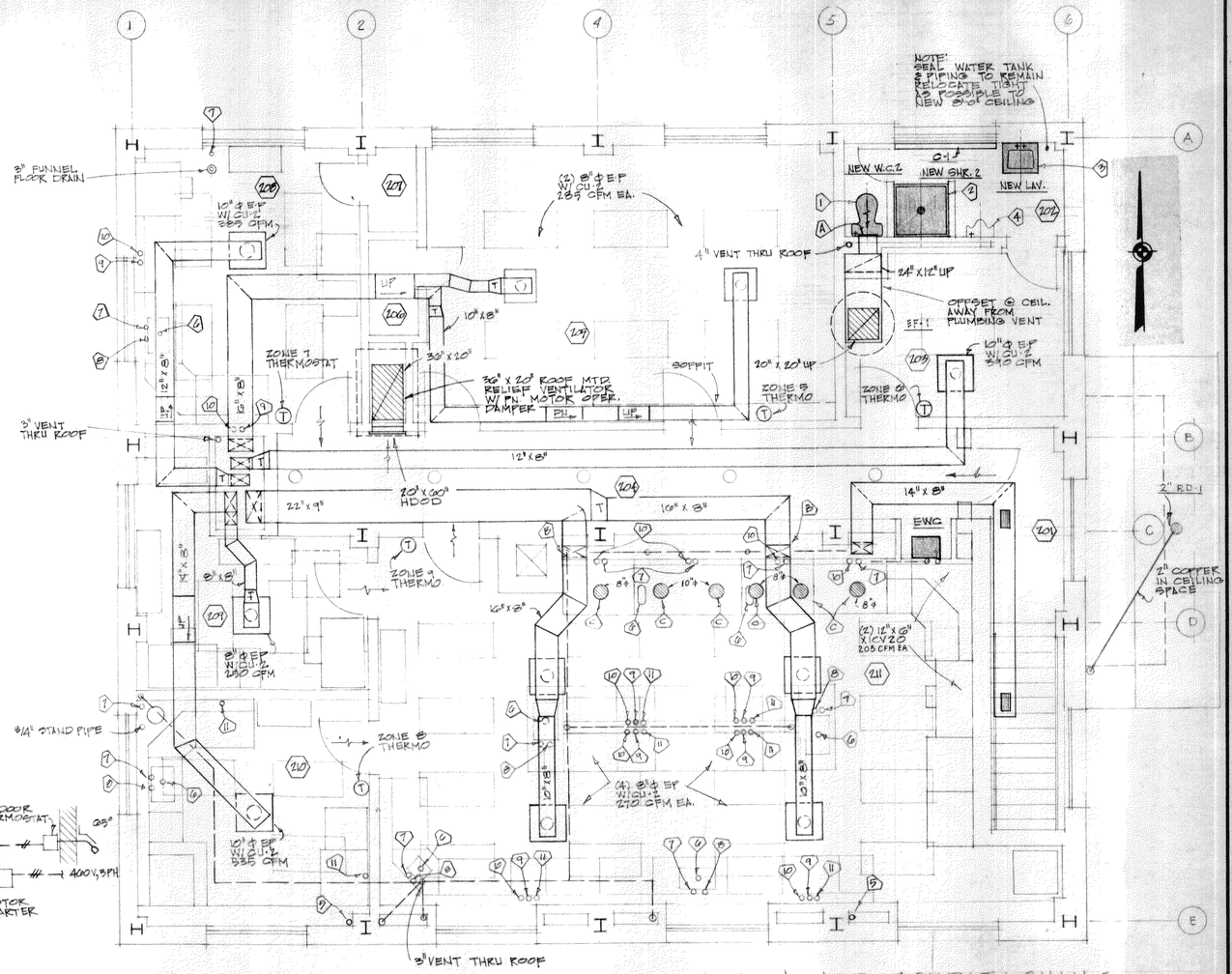
## HEATING & AIR CONDITIONING CODED NOTES (THIS SHEET ONLY)

- (A) 12" X 16" OR EQUIVALENT, GC-50, 360 CFM. EXACT LOCATION TO BE DETERMINED IN FIELD.
- (B) RISE UP TIGHT TO BEAM TO GET ABOVE 8'-0" CEILING.
- (E) HTG. SUB. CONTR. INSTALLS PVC EXHAUST & SUPPLY DUCTWORK & ROOF MTD FANS PROVIDED BY EQUIP. MFR.



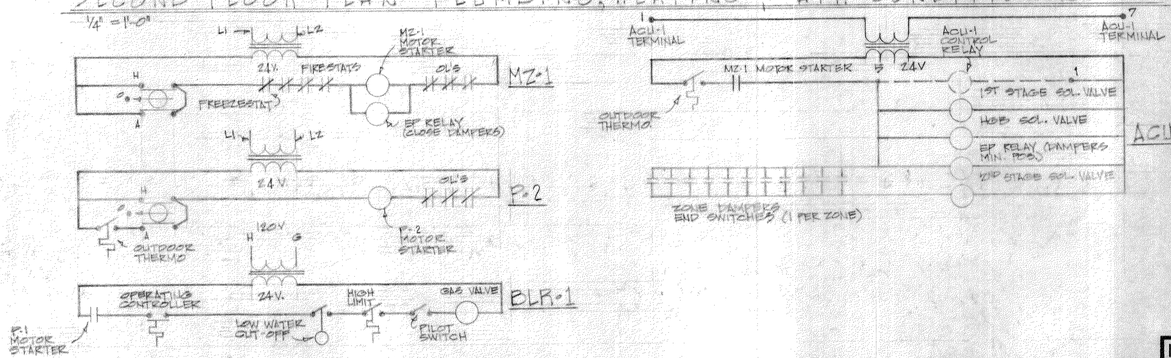

## SYSTEM PIPING & TEMPERATURE CONTROL DIAGRAM

N.T.S.




## SECOND FLOOR PLAN - PLUMBING, HEATING & AIR CONDITIONING

1/4" = 1'-0"




## CONTROL WIRING DIAGRAMS

N.T.S.

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

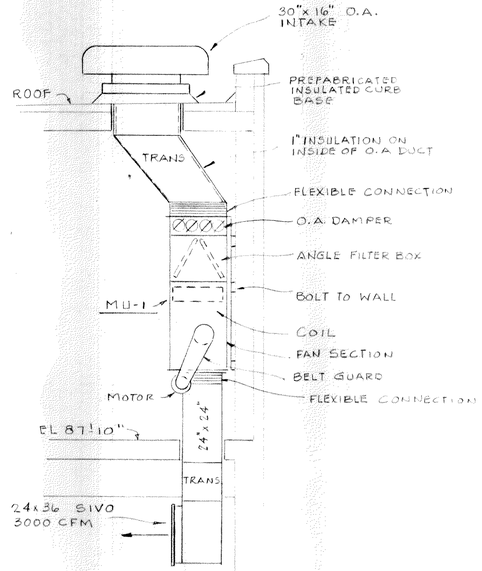
DATE July 72 | JOB No. 1061 | DRAWN JAJ, INC. | CHECKED APM
SCALE AS NOTED | DWG. No. 72244 | TRACED JRL | APPROVED LER

MASSILLON, OHIO

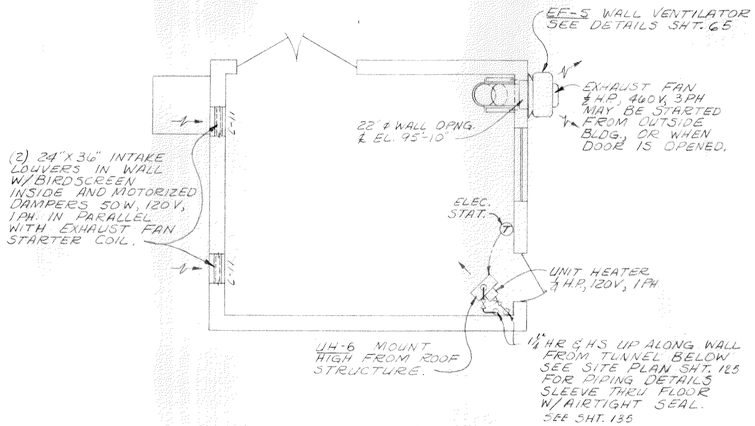
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
HEATING, VENTILATION & PLUMBING
MAIN BUILDING
MECHANICAL

132 OF 165

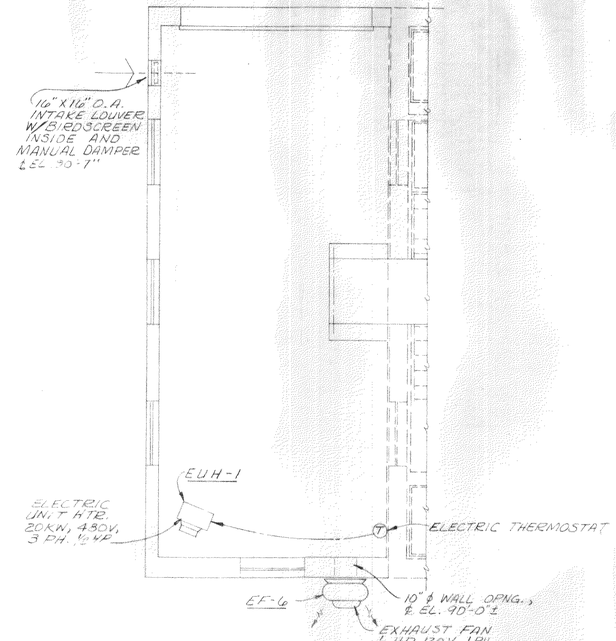
BRUNING 40-105



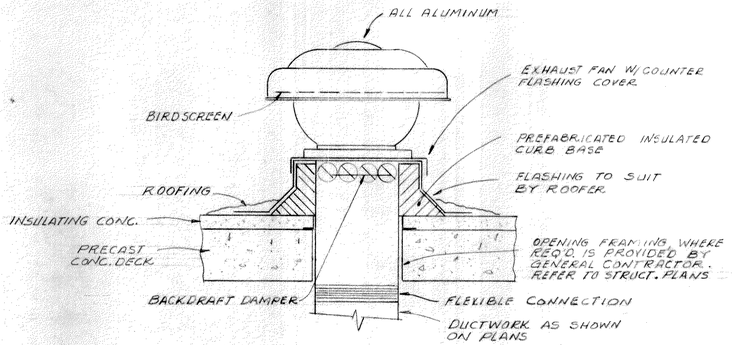

SECTION 1-1
SCALE 3/8" = 1'-0"



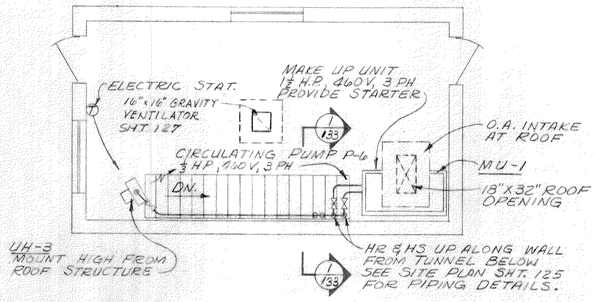

CHLORINE BLDG. PLAN
SCALE 3/16" = 1'-0"



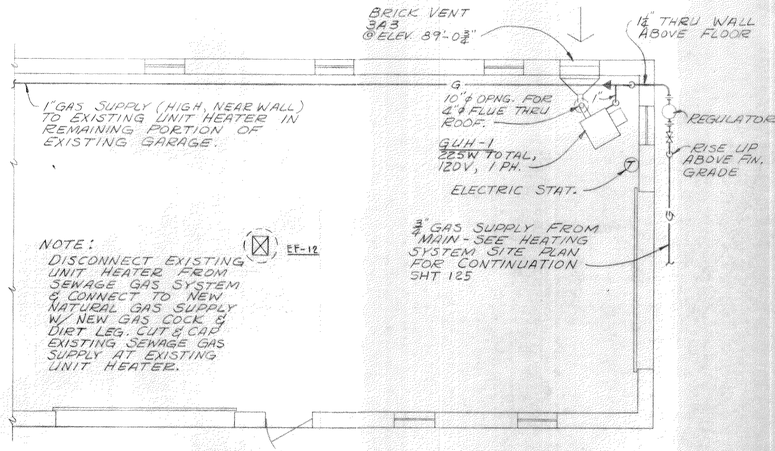

PRIMARY SLUDGE & GREASE BLDG. NO. 2
(PARTIAL PLAN)
SCALE ¼" = 1'-0"




TYPICAL EXHAUST FAN ON ROOF
NO. SCALE




SECONDARY CONTROL BLDG. PLAN
SCALE 3/16" = 1'-0"




NEW GARAGE (PARTIAL PLAN)
SCALE 3/16" = 1'-0"

133 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

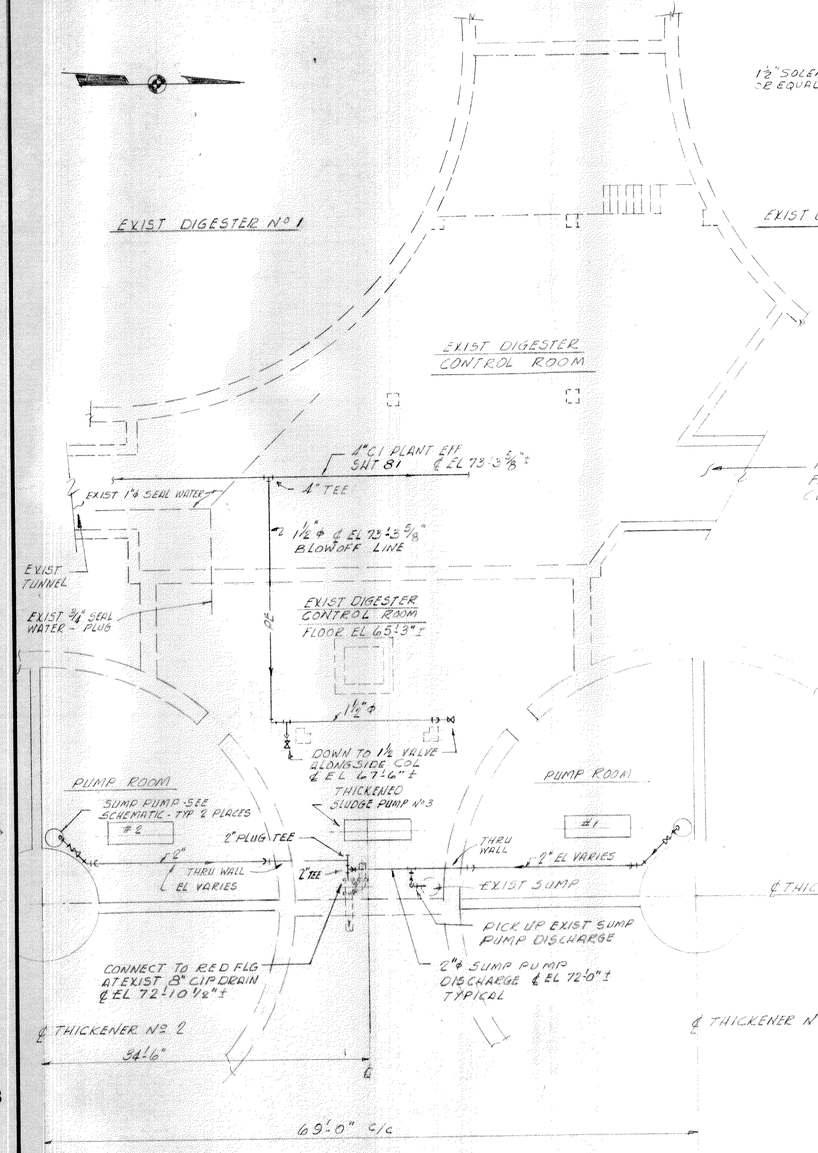
FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN JWK | CHECKED A.P.M.
SCALE AS NOTED | DWG. No. 72245 | TRACED | APPROVED L.B.R.

MASSILLON, OHIO

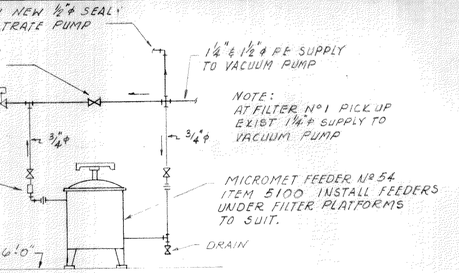
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
HEATING & VENTILATION
MISC. BLDGS. - PLANS & DETAILS
MECHANICAL

BRUNING 40-105



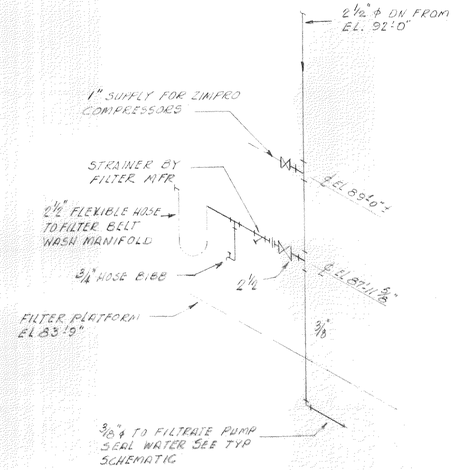

BASEMENT PLAN AT THICKENERS

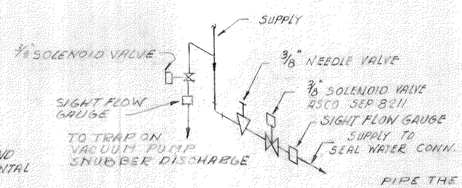
SCALE 1/8" = 1'-0"




SCHEMATIC OF PIPING AT MICROMET FEEDERS

NO SCALE




DETAIL - "A"

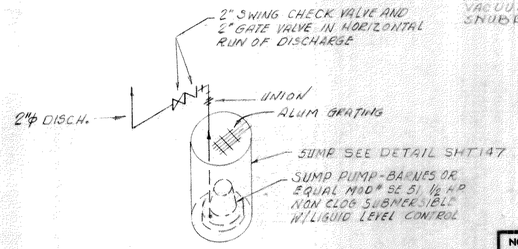
NO SCALE

PIPE THE SEAL WATER DISCHARGE FROM PUMP TO NEAREST FLOOR DRAIN OR SUMP

SEAL WATER - SCHEMATIC TYPICAL

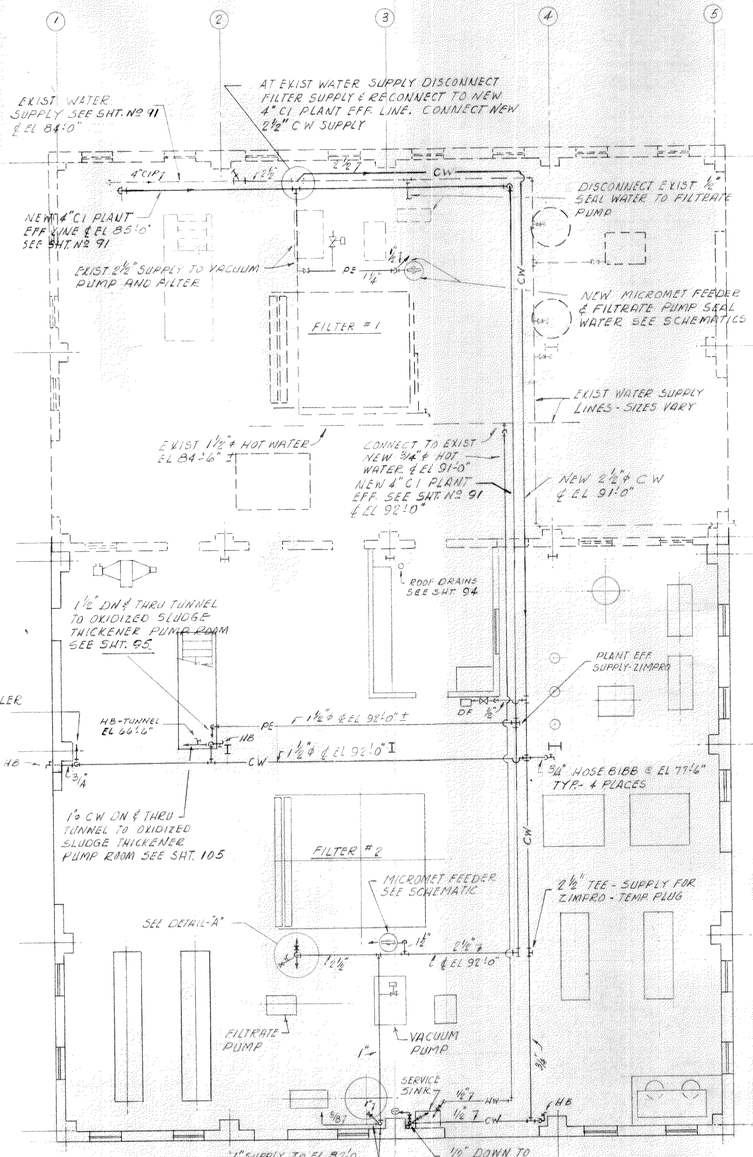
NO SCALE

NOTE SOLENOID VALVE NOT REQ'D ON SEAL WATER LINES TO 3 RAS PUMPS & 2 PLANT EFFLUENT PUMPS




SCHEMATIC DETAIL - SUMP PUMP

NO SCALE




FILTER BUILDING FLOOR PLAN

SCALE 1/8" = 1'-0"

134 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

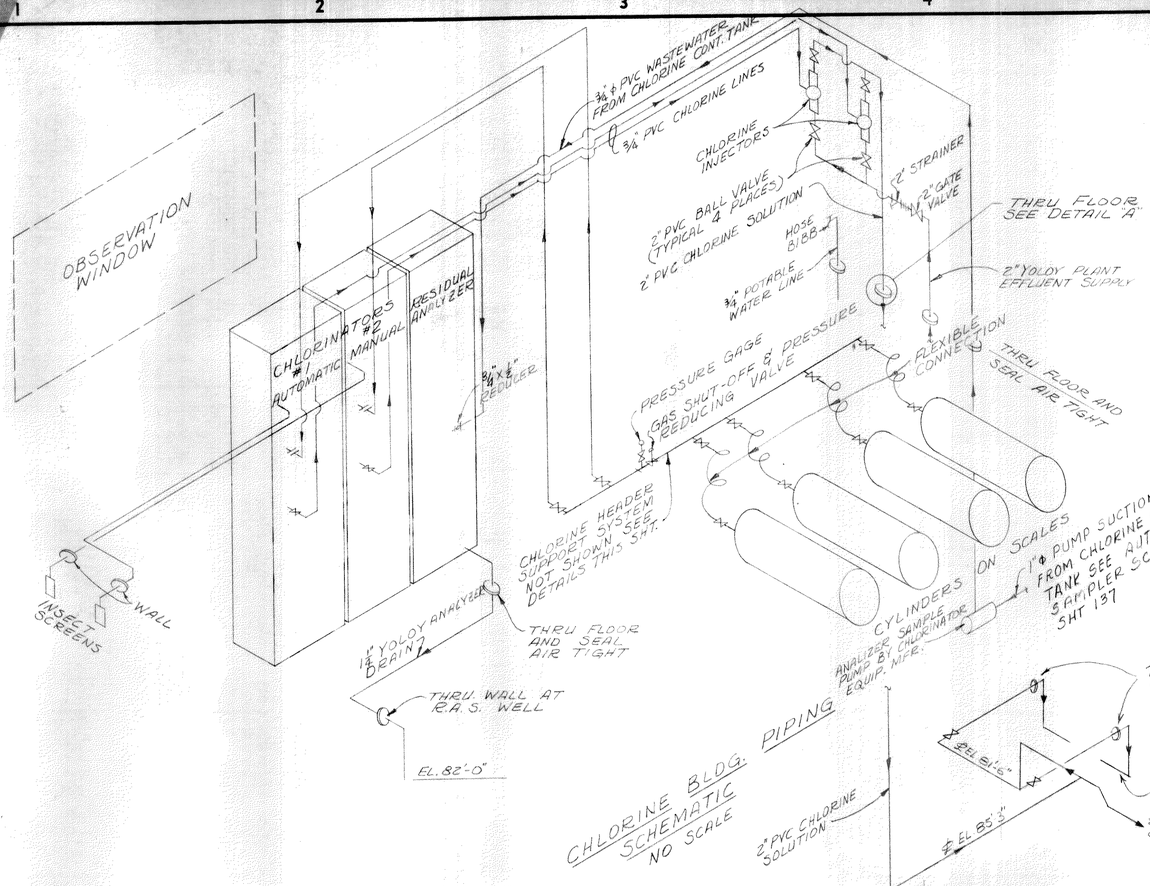
FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN AJH | CHECKED
SCALE NONE | DWG. No. 7224b | TRACED | APPROVED LER

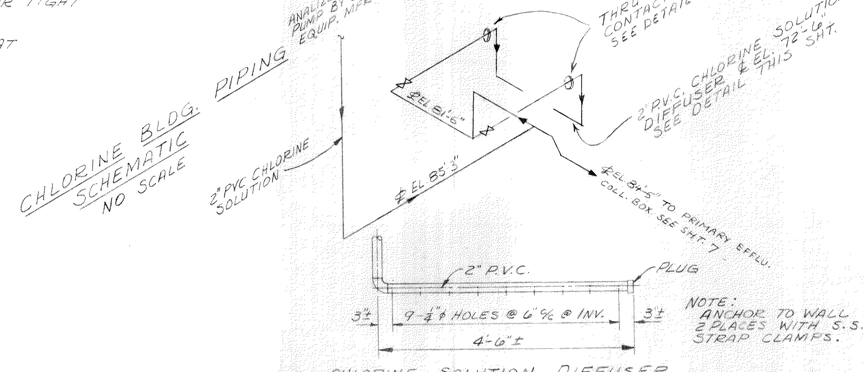
MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
PLUMBING
PLANS & DETAILS
MECHANICAL

BRUNING 40-105




CHLORINE BLDG. PIPING SCHEMATIC
NO SCALE

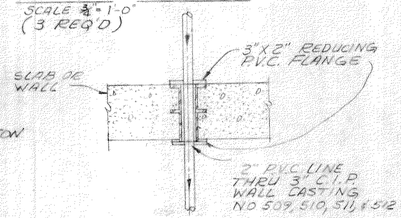




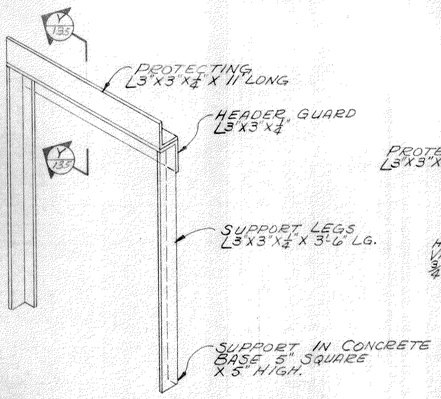


NOTE:
ANCHOR TO WALL 2 PLACES WITH S.S. STRAP CLAMPS.

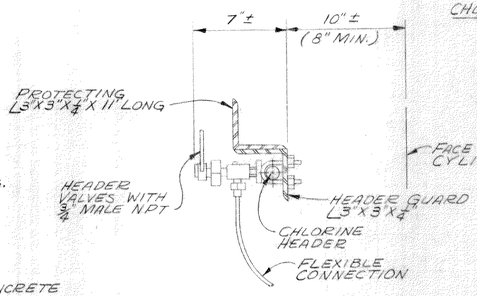
CHLORINE SOLUTION DIFFUSER
SCALE 3/4"=1'-0"
(3 REQ'D)



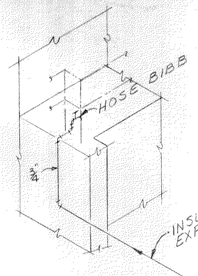

DETAIL "A"
NO SCALE

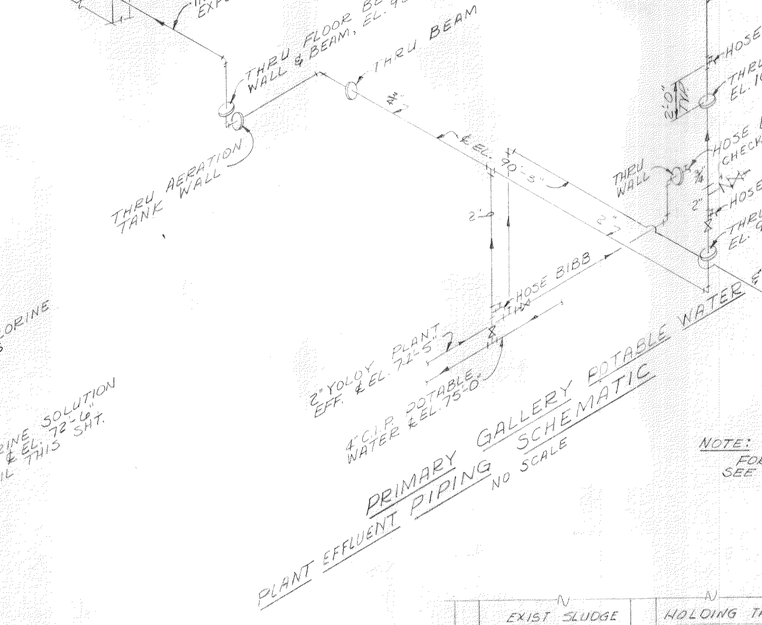



CHLORINE HEADER SUPPORT SYSTEM
NO SCALE

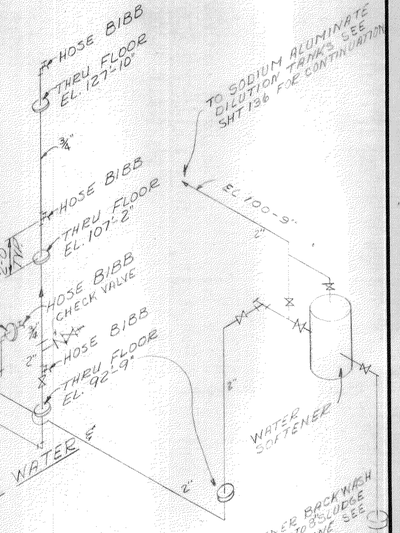



SECTION Y-Y
NO SCALE

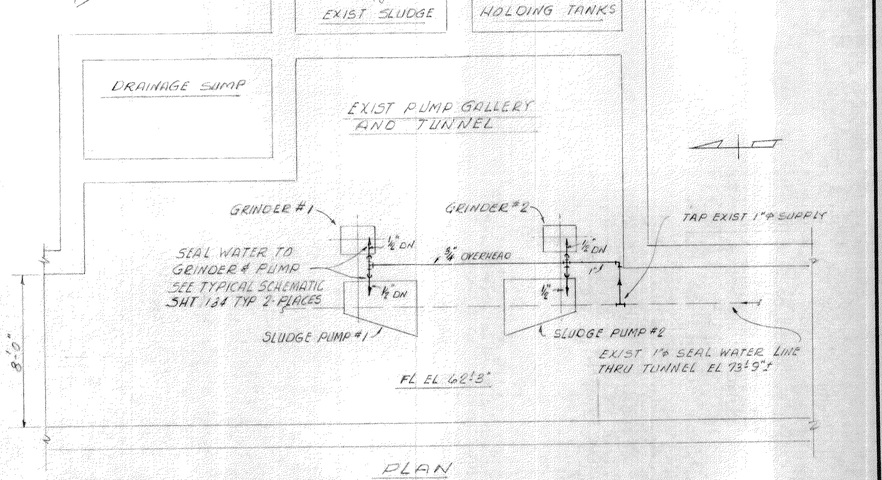



PRIMARY GALLERY POTABLE WATER & PLANT EFFLUENT PIPING SCHEMATIC
NO SCALE




NOTE:
FOR DETAILS NOT SHOWN SEE MECHANICAL SHEETS.




PLAN

SCHEMATIC DETAIL - SEAL WATER PIPING TO SLUDGE GRINDERS AND SLUDGE PUMPS AT SLUDGE HOLDING TANKS

135 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

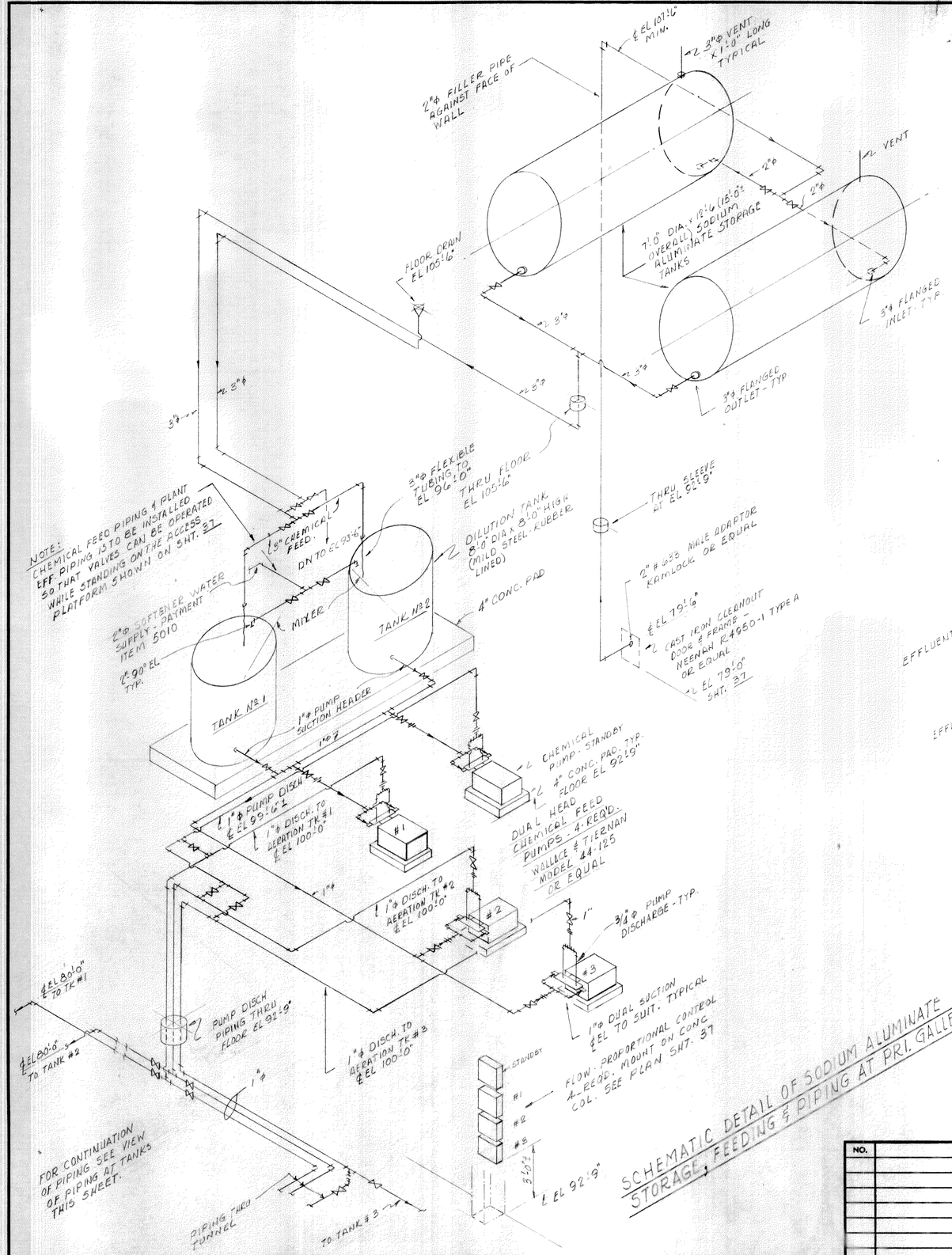
FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN JWK-AJH & TRACED | CHECKED AJH | APPROVED LER
SCALE NONE | DWG. No. 72247

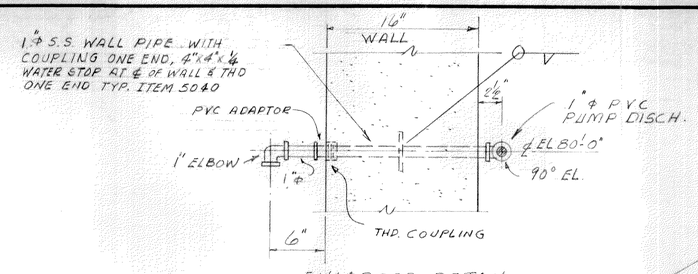
MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
PLUMBING
PLANS & DETAILS
MECHANICAL

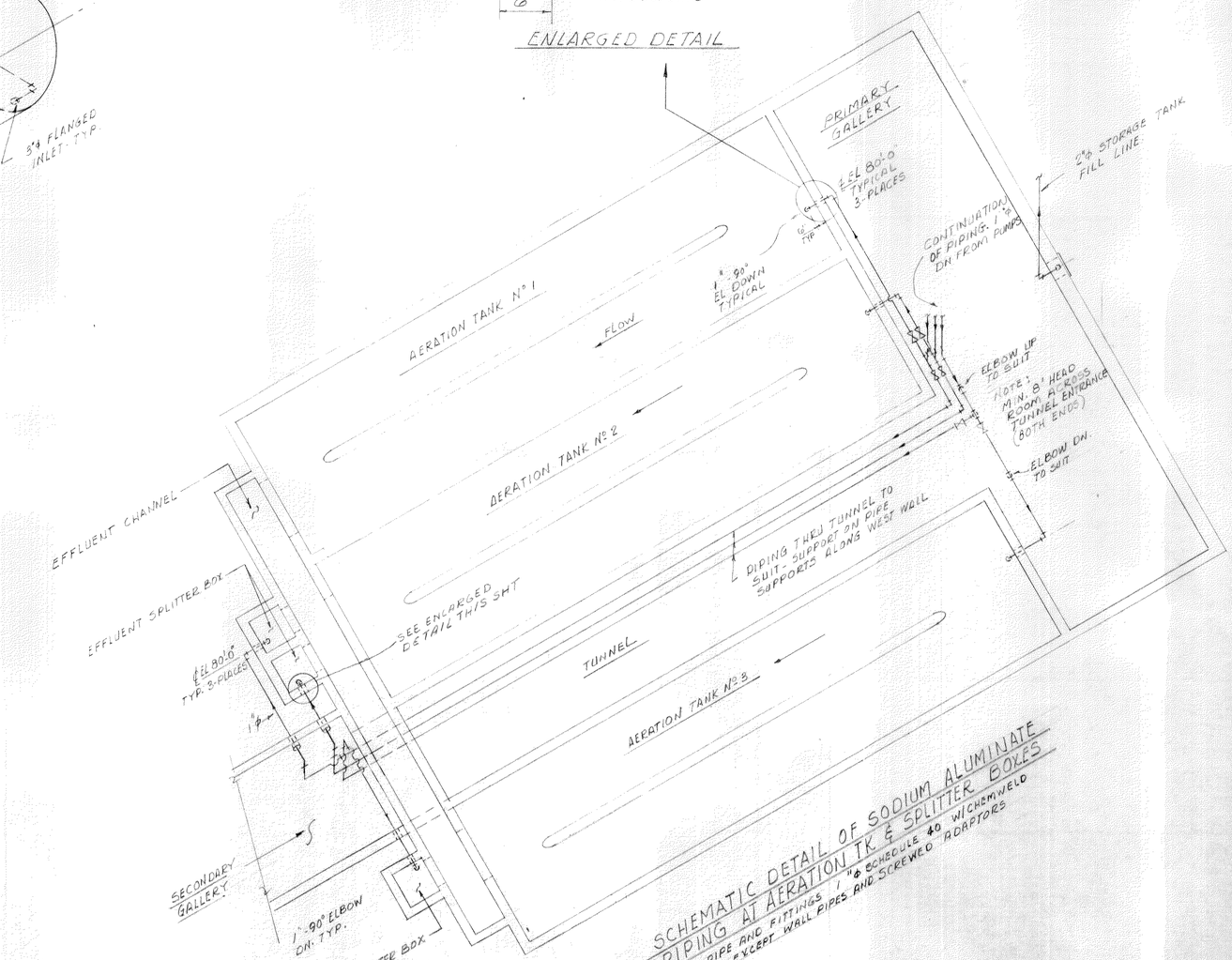
BRUNING 40-1078




SCHEMATIC DETAIL OF SODIUM ALUMINATE STORAGE, FEEDING & PIPING AT PRI. GALLERY




ENLARGED DETAIL




SCHEMATIC DETAIL OF SODIUM ALUMINATE PIPING AT AERATION TK & SPLITTER BOXES

ALL PIPE AND FITTINGS 1"ϕ SCHEDULE 40 W/CHEMWELD JOINTS EXCEPT WALL PIPES AND SCREWED ADAPTORS

NOTE:
1. FOR LOCATIONS & DETAILS OF WALL CASTINGS, PUMPS, TANKS ETC. SEE MECHANICAL SHTS. 37-40
2. ALL VALVES, PIPING AND FITTINGS TO BE PVC. UNLESS NOTED. PAYMENT INCLUDED UNDER ITEM 5040
3. FOR DETAIL OF PIPES THRU WALLS AT SECONDARY GALLERY & SPLITTER BOXES SEE SHT. 61 & 62
4. PIPE SUPPORTS AND SPACING AS RECOMMENDED BY PIPE MFR. UNLESS NOTED OTHERWISE

136 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

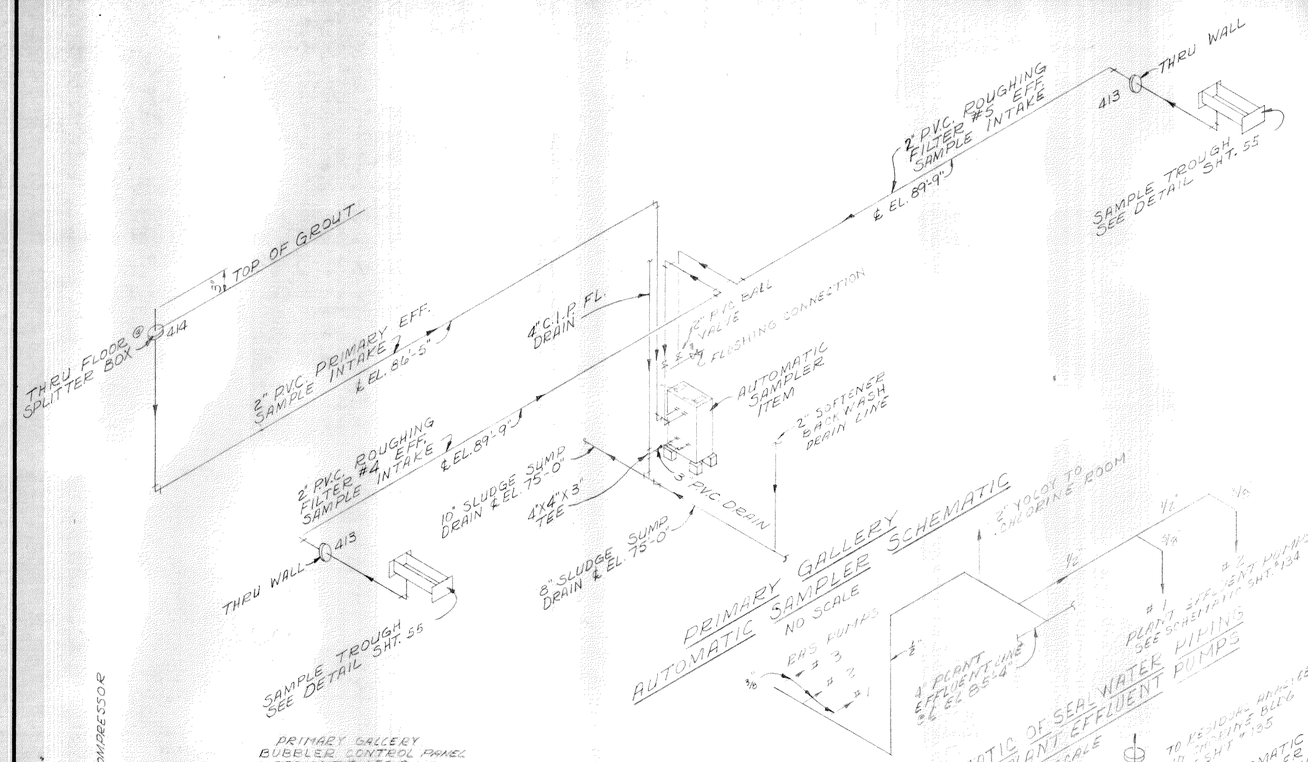
FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE JULY 72 | JOB No. 1061 | DRAWN AJH | CHECKED
SCALE NONE | DWG. No. 72248 | TRACED | APPROVED LER

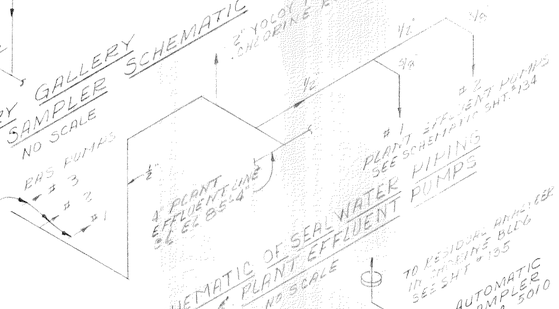
MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4

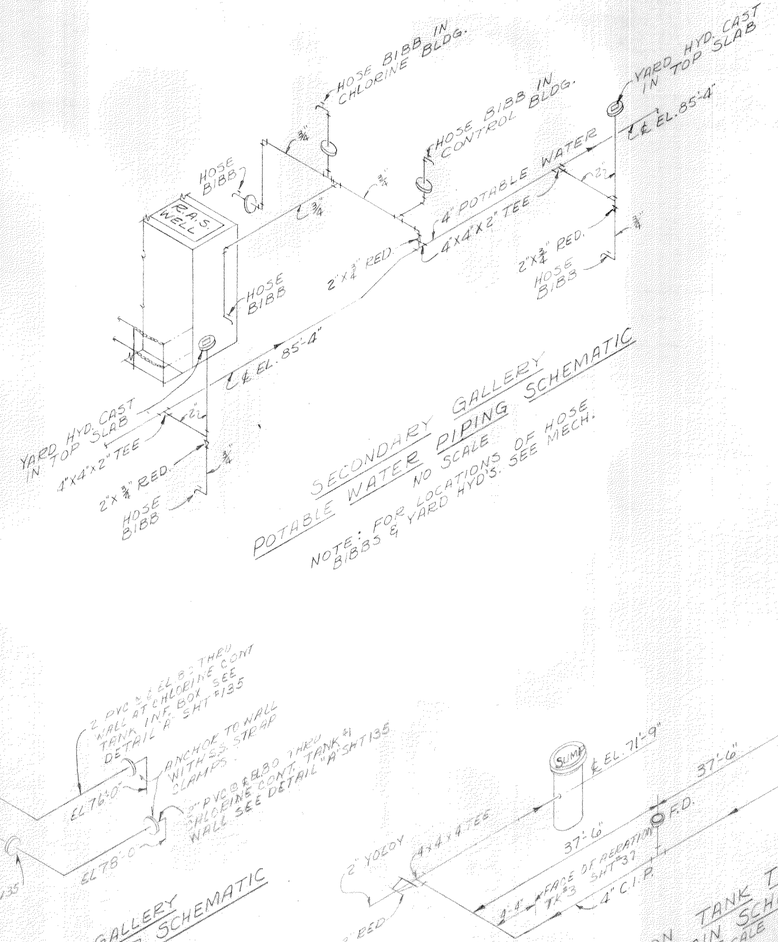
SODIUM ALUMINATE STORAGE & FEEDING
SCHEMATIC DETAILS




PRIMARY GALLERY AUTOMATIC SAMPLER SCHEMATIC
NO SCALE



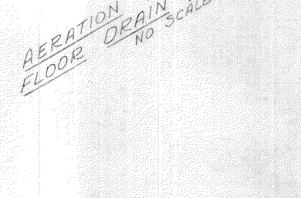

SCHEMATIC OF SEAL WATER PIPING
RAS & PLANT EFFLUENT PUMPS
NO SCALE



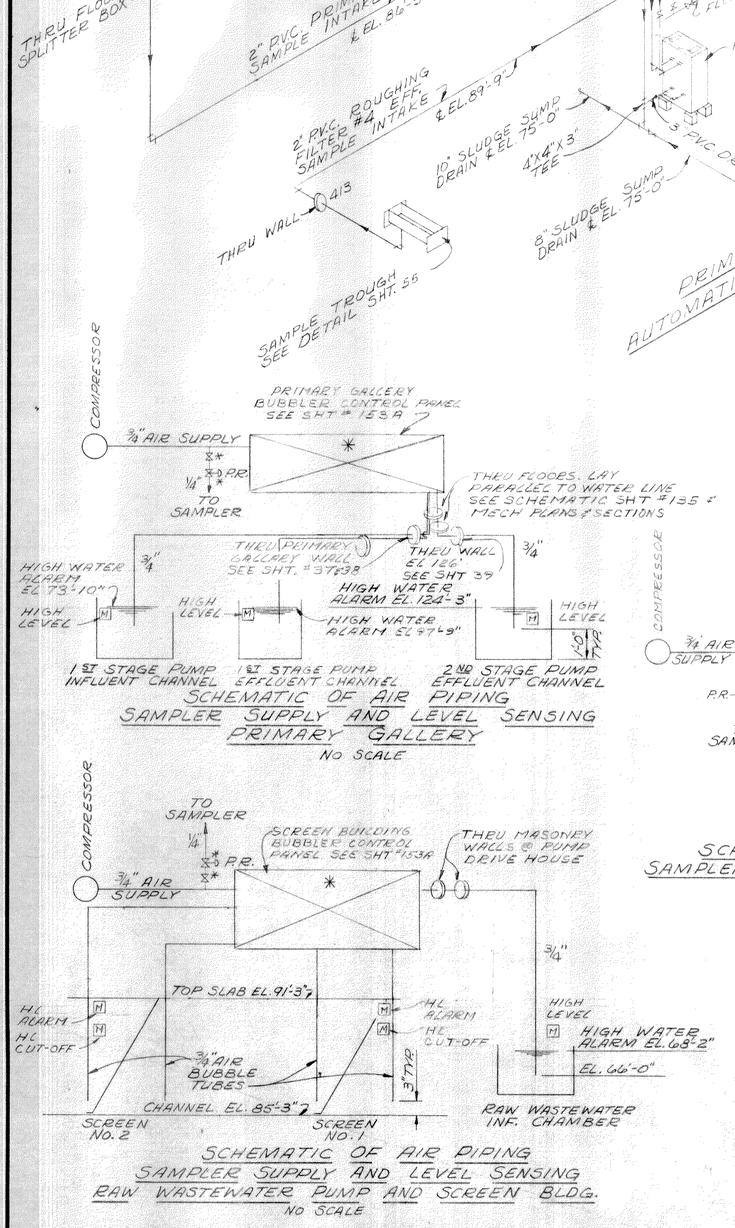

SECONDARY GALLERY AUTOMATIC SAMPLER SCHEMATIC
NO SCALE



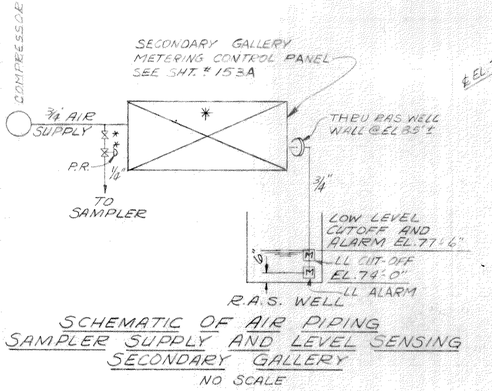

SECONDARY GALLERY POTABLE WATER PIPING SCHEMATIC
NOTE: FOR LOCATIONS OF HOSE BIBBS & YARD HYD'S. SEE MECH.




AERATION TANK TUNNEL FLOOR DRAIN SCHEMATIC
NO SCALE




SCHEMATIC OF AIR PIPING
SAMPLER SUPPLY AND LEVEL SENSING
PRIMARY GALLERY
NO SCALE

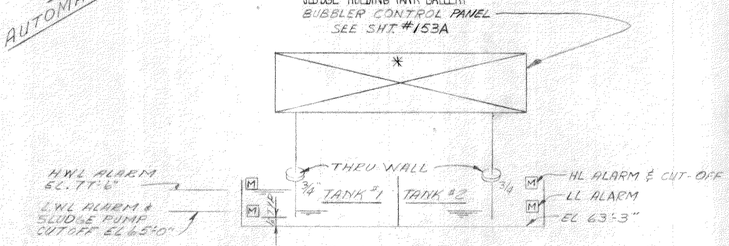



SCHEMATIC OF AIR PIPING
SAMPLER SUPPLY AND LEVEL SENSING
SECONDARY GALLERY
NO SCALE




SCHEMATIC OF AIR PIPING
SAMPLER SUPPLY AND LEVEL SENSING
RAW WASTEWATER PUMP AND SCREEN BLDG.
NO SCALE

NOTES:
1. * DENOTES PANEL MOUNTED EQUIPMENT. LOCATE AS SHOWN ON DWGS. # 154, 159, 161, 162
2. PRESSURE REGULATORS, FISHER TYPE 95L, OR APPROVED EQUAL.




SCHEMATIC OF AIR PIPING & LEVEL SENSING @ SLUDGE HOLDING TANKS

137 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

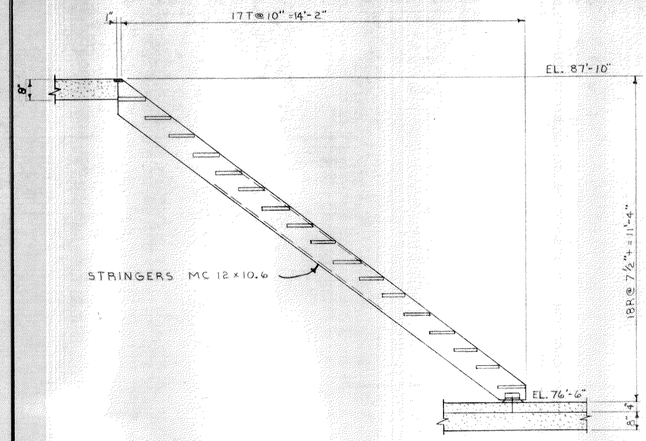
FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN JWK & TRACED | CHECKED A.P.M.
SCALE NONE | DWG. No. 72249 | APPROVED LER

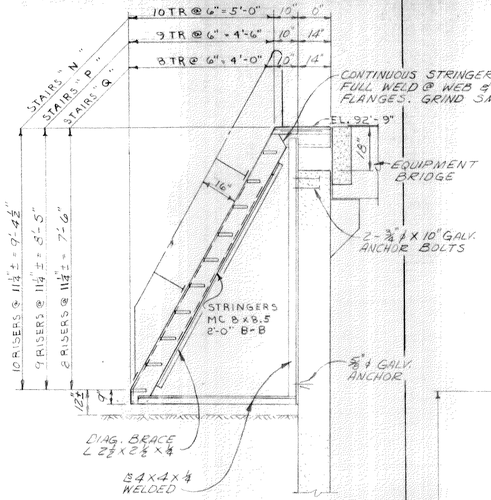
MASSILLON, OHIO
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4

SCHEMATIC DETAILS

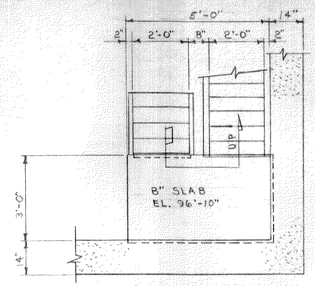
BRUNING 40-105



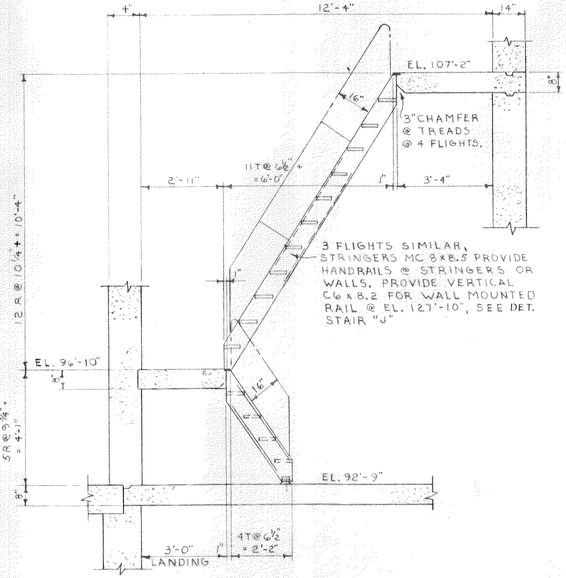

STAIR "U" - SHT. 64, 63 & 71



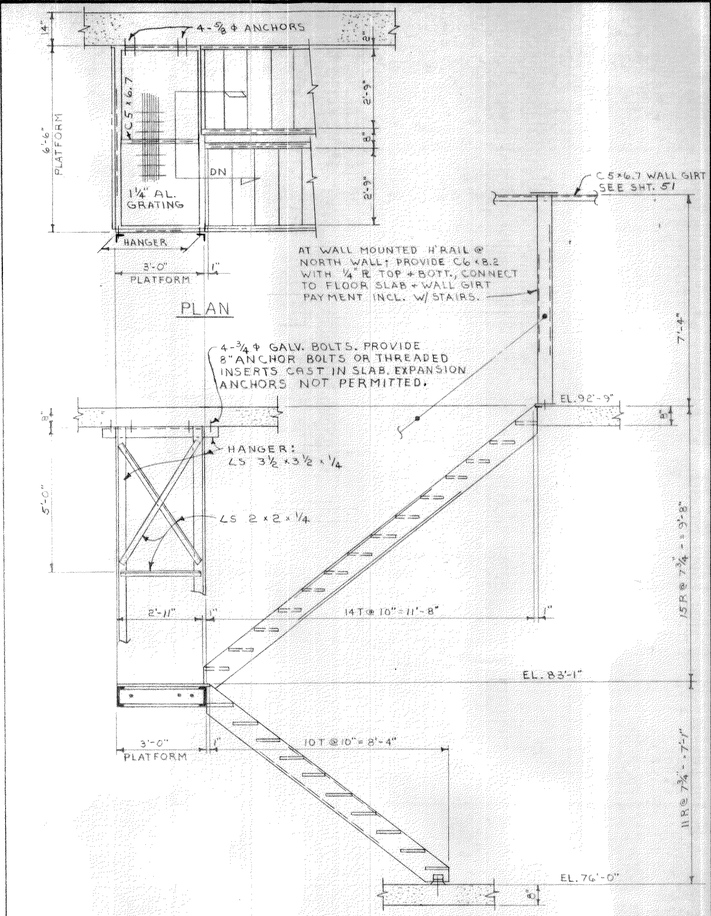

STAIR "N", "P", "Q" - SHT. 35, 54




PLAN

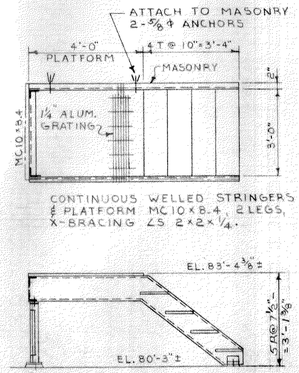



STAIR "M" - SHT. 37, 38, 39

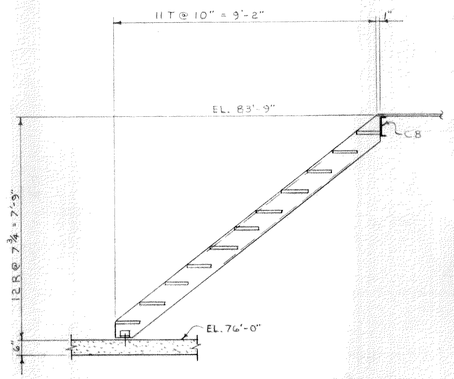



PLAN

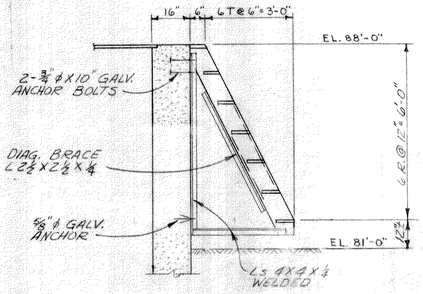
STAIR "J" - SHT. 37



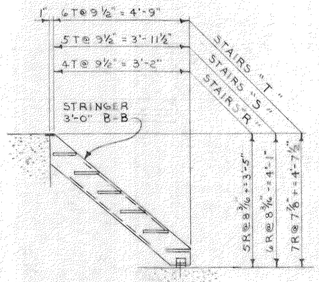

STAIR "V" - SHT. 78



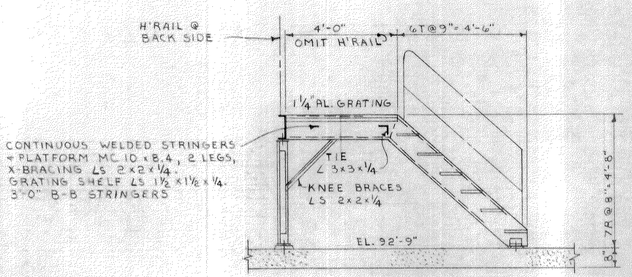

STAIR "W" - SHT. 95, 104




STAIR "D" - SHT. 16
STRINGER & HANDRAIL SAME AS STAIR "N"




STAIR "R" - SHT. 35
STAIR "S" - SHT. 63, 77
STAIR "T" - SHT. 64, 77




STAIR "K" - SHT. 37, 39

FOR STAIR & PLATFORM NOTES SEE SHT. 140
FOR GENERAL NOTES SEE SHT. 147

138 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN RHS | CHECKED DAF
SCALE 3/8"=1'-0" | DWG. No. 72250 | TRACED PSB | APPROVED LER

MASSILLON, OHIO

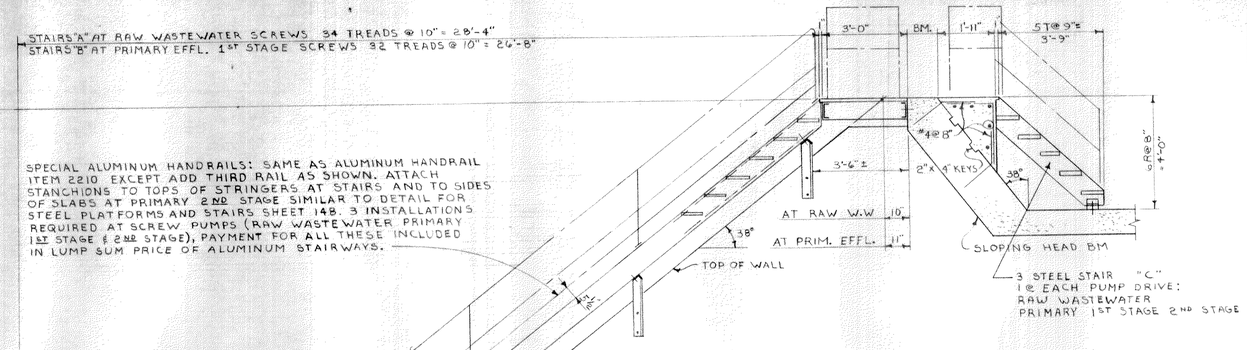
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4

STAIR DETAILS
STRUCTURAL

BRUNING 40-105

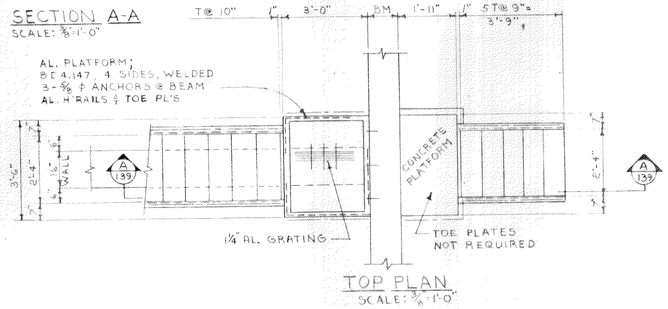
STAIRS "A" AT RAW WASTEWATER SCREWS 34 TREADS @ 10" = 28'-4"
STAIRS "B" AT PRIMARY EFFL. 1ST STAGE SCREWS 32 TREADS @ 10" = 26'-8"

SPECIAL ALUMINUM HANDRAILS: SAME AS ALUMINUM HANDRAIL ITEM 2210 EXCEPT ADD THIRD RAIL AS SHOWN. ATTACH STANCHIONS TO TOPS OF STRINGERS AT STAIRS AND TO SIDES OF SLABS AT PRIMARY 2ND STAGE SIMILAR TO DETAIL FOR STEEL PLATFORMS AND STAIRS SHEET 148. 3 INSTALLATIONS REQUIRED AT SCREW PUMPS (RAW WASTEWATER PRIMARY 1ST STAGE & 2ND STAGE), PAYMENT FOR ALL THESE INCLUDED IN LUMP SUM PRICE OF ALUMINUM STAIRWAYS.



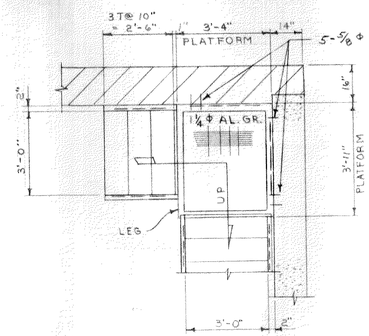

SUPPORT DETAIL
SCALE: 1½"=1'-0"

SECTION A-A
SCALE: ⅜"=1'-0"

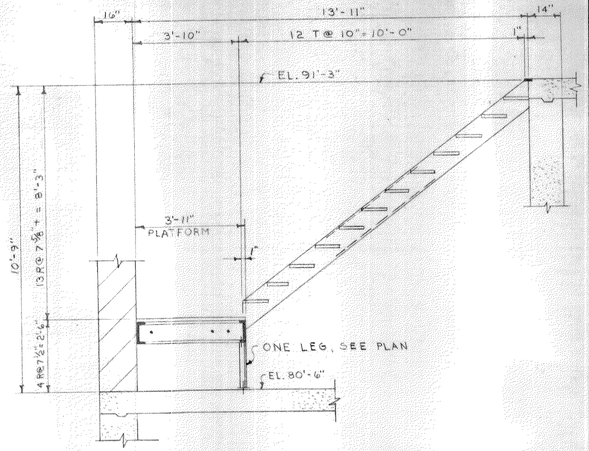



TOP PLAN
SCALE: ⅜"=1'-0"

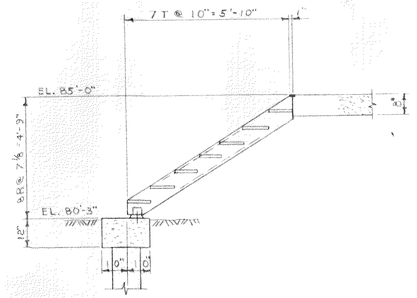
ALUMINUM STAIR "A" - SHT. 15, 16
ALUMINUM STAIR "B" - SHT. 38
STEEL STAIR "C" - SHT. 16, 38



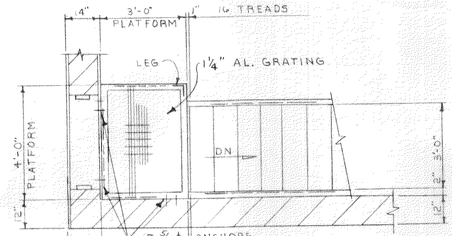

PLATFORM PLAN

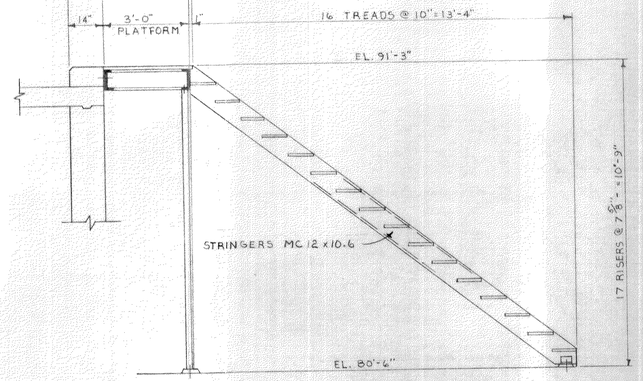



STAIR "E" - SHT. 15, 16

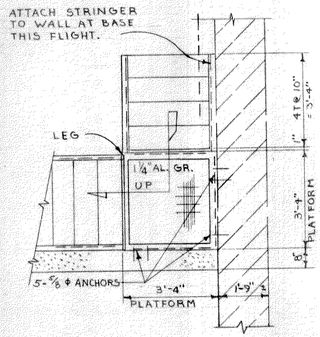



STAIR "H" - SHT. 29

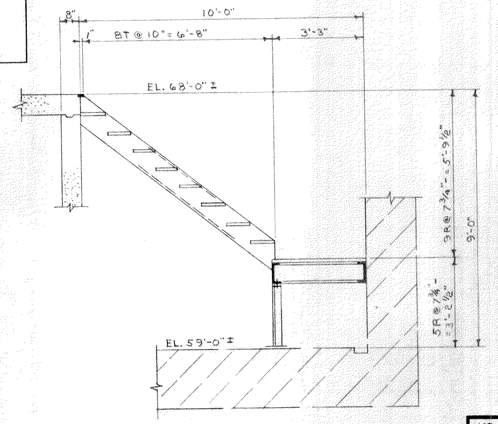


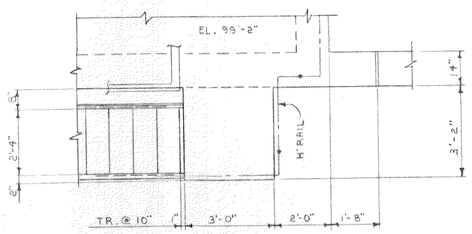

STAIR "F" - SHT. 16



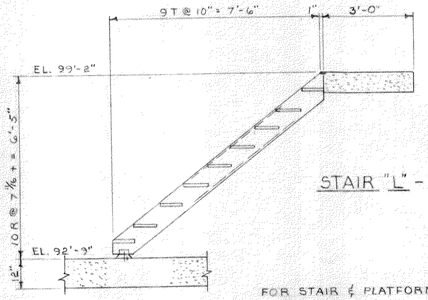

PLATFORM PLAN




STAIR "G" - SHT. 112




TOP PLAN




STAIR "L" - SHTS. 38, 40

FOR STAIR & PLATFORM NOTES SEE SHT. 140.
FOR GENERAL NOTES SEE SHT. 147

139 OF 165

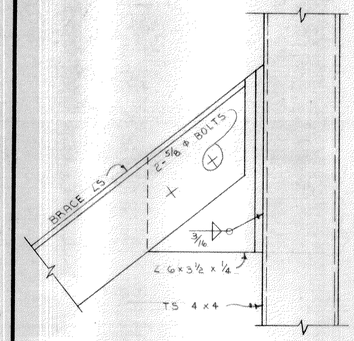
| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

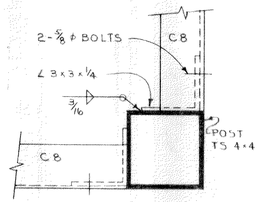
DATE July 72 | JOB No. 1061 | DRAWN RHS | CHECKED PAF
SCALE 3/8"=1'-0" | DWG. No. 72251 | TRACED PSB | APPROVED LER

MASSILLON, OHIO
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4

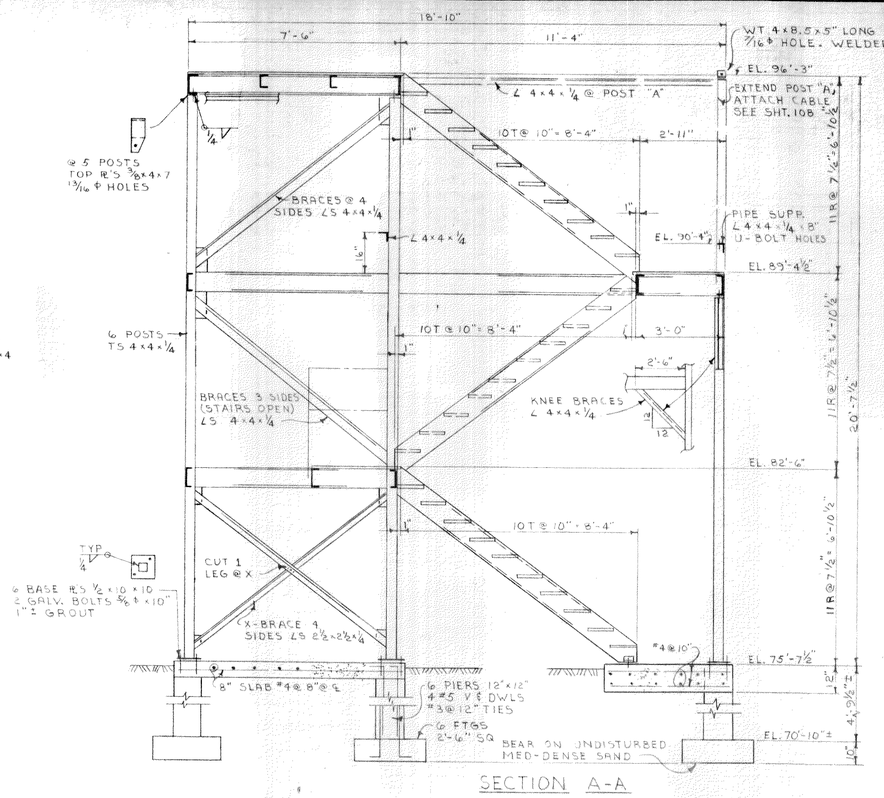
STAIR DETAILS
STRUCTURAL




CONNECTION DETAIL
BRACES TO TS 4x4
NO SCALE

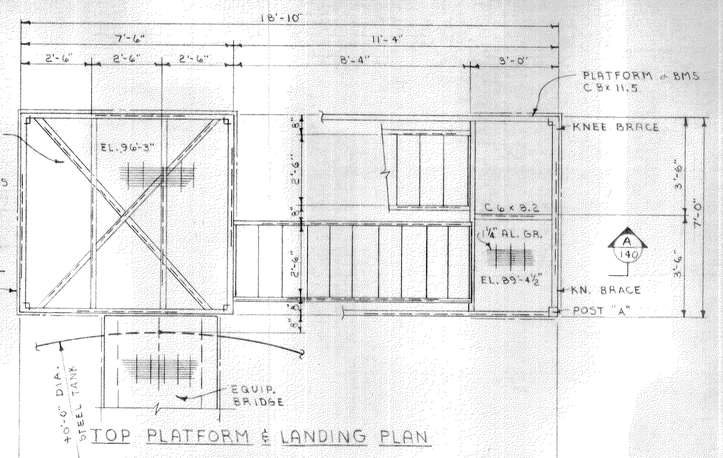



CONNECTION DETAIL
C8 TO TS4x4
NO SCALE

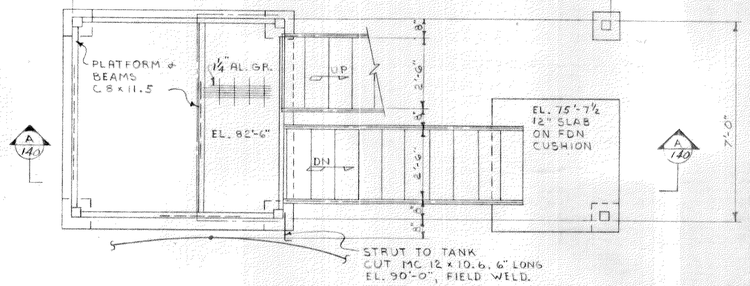



SECTION A-A

STAIR "Y" - SHT. 105, 106
SCALE: 3/8" = 1'-0"




TOP PLATFORM & LANDING PLAN




LOWER LANDING & BASE PLAN

STAIR "X" - SHT. 95, 97 FOR DIMENSIONS

FOR GENERAL NOTES SEE SHT. 147

## STAIR & PLATFORM NOTES

STAIRS SHALL BE STEEL STAIRWAYS UNLESS NOTED AS ALUMINUM.

STEEL STRINGERS SHALL BE MC 10 x 8.4, 3'-0" BACK TO BACK, UNLESS NOTED.

ALL TREADS SHALL BE ALUMINUM.

PROVIDE HANDRAILS, TOE PLATES, GRATING RETAINERS, FASTENERS, ETC.. FOR STANDARD DETAILS SEE SHEET NO. 148 AND CONTRACT SPECIFICATIONS.

PLATFORMS SHALL BE C 8 x 11.5 @ 4 SIDES, UNLESS NOTED. CONNECTIONS MAY BE WELDED (FULL WELDS @ WEB AND BOTH FLANGES) OR 1¼" ANGLES AND MINIMUM 2 ROWS 5/8 ϕ BOLTS. LEGS SHALL BE L5 3½ x 3½ x ¼, 3/8" TOP PL'S, BASE PL'S ½ x 6 x 6, 5/8 ϕ BOLTS AND ANCHORS.

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

| DATE July 72 | JOB No. 1061 | DRAWN RHS | CHECKED DAF |
|---|---|---|---|
| SCALE 3/8" = 1'-0" | DWG. No. 72252 | TRACED PSB | APPROVED LEE |

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4

STAIR DETAILS
STRUCTURAL



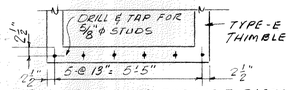
BRUNING 40-105

## SLUICE AND SLIDE GATE SCHEDULE

| GATE NO. | LOCATION | ITEM NO. | NO. REQUIRED | SIZE WIDTH X HGT. | MATERIAL GATE | MATERIAL STEM | OPERATING HEAD IN FEET OF WATER SEATING | OPERATING HEAD IN FEET OF WATER UNSEATING | ARMCO MODEL NO. | GATE FRAME HEIGHT | EXT. STEM HEIGHT | OPERATOR | TYPE OF FRAME | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100 * | ALTERNATE INF. STRUCTURE | 3500 | 1 | 48"DIA | C.I. | S.S. | 17'-0" | 10'-0" | 55-10 | MIN. | 17'-0 3/8" | CPE-A | FLANGE FLUSH BOTT. | THIMBLE 14" F-F-B (48"RCP) |
| 101 * | PUMP SCREEN & GRIT STRUCTURE | 3500 | 2 | 42"x42" | C.I. | S.S. | 21'-3" | 10'-0" | 55-20 | MIN. | 21'-3" | MOTOR ON STAND | FLANGE FLUSH BOTT. | 16" F-TYPE THIMBLE |
| 102 | PUMP SCREEN & GRIT STRUCTURE | 3510 | 4 | 72"x36" | ALUM. | S.S. | 1'-2" | 1'-2" | 5-00 | 8'-0" | — | HB-24 | STN. STEEL | FLUSH BOTTOM, EXTRA HEAVY FRAME |
| 103 | PUMP SCREEN & GRIT STRUCTURE | 3540 | 2 | 42"x48" | STL | S.S. | — | — | HEAVY DUTY BUTTERFLY | — | — | — | FLUSH BOTT. | 12" F-TYPE THIMBLE |
| 104 * | PREAERATION TANKS | 3500 | 3 | 30"x30" | C.I. | S.S. | 3'-6" | 3'-6" | 55-05 | INVERTED MIN. | 3'-6" | HPB-18 | FLAT BACK | INVERTED. 15" F-TYPE THIMBLE |
| 105 * | PREAERATION TANKS | 3500 | 1 | 36"x36" | C.I. | S.S. | 5'-0" | 5'-0" | 55-05 | INVERTED MIN. | 5'-4" | CPE-A | FLAT BACK | INVERTED. 15" F-TYPE THIMBLE |
| 106 * | PREAERATION TANKS | 3500 | 1 | 36"x36" | C.I. | S.S. | 5'-0" | 5'-0" | 55-05 | INVERTED MIN. | 5'-8" | CPE-A | FLAT BACK | INVERTED. 15" F-TYPE THIMBLE |
| 107 * | PRIMARY GALLERY | 3500 | 2 | 42"x42" | C.I. | S.S. | 9'-7 3/4" | 9'-7 3/4" | 55-20 | MIN. | 9'-7 3/4" | CPE-A | FLAT BACK | 14" F-TYPE THIMBLE |
| 108 | PRIMARY GALLERY | 3540 | 2 | 42"x48" | STL | S.S. | — | — | HEAVY DUTY BUTTERFLY | — | — | — | FLUSH BOTT. | 14" F-TYPE THIMBLE |
| 109 * | AERATION TANKS | 3500 | 3 | 60"x30" | C.I. | S.S. | 3'-5" | 3'-5" | 55-10 | INVERTED MIN. | 3'-5" | CPE-A | FLAT BACK | 12" E-TYPE THIMBLE DRILL FOR WEIR PL SEE DETAIL |
| 110 * | CHLORINE CONTACT TK. | 3500 | 2 | 42"x42" | C.I. | S.S. | 12'-6" | 9'-0" | 55-10 | MIN. | 15'-2" | CPE-A | F-OF-BACK FLUSH BOTT | 12" F-TYPE THIMBLE |

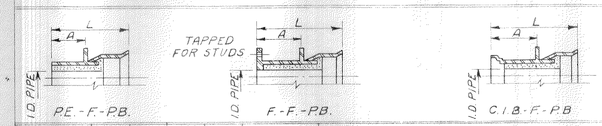
* STEM COVER REQUIRED

EXTENSION STEM HEIGHT MEASURED FROM ℄ OF GATE TO BOTTOM OF OPERATING STAND OR TOP OF SLAB




DETAIL OF DRILLING FOR WEIR PLATE

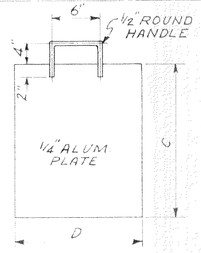
## CONCRETE WALL PIECE SCHEDULE



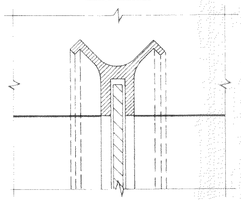

| MARK | NO. REQ'D. | DIA. | L | A | TYPE | LOCATION |
|---|---|---|---|---|---|---|
| WP 100 | 1 | 48" | 2'-0" | 1'-0" | PE-F-PB | PUMP SCREEN & GRIT STRUCTURE |
| WP 101 | 1 | 42" | 1'-0" | 0'-6" | F-F-PB | METER PIT - DRILL & TAP FOR STUDS (125" STD) |
| WP 102 | 1 | 36" | 1'-2" | 0'-7" | PE-F-PB | PRIMARY GALLERY INF |
| WP 103 | 3 | 30" | 1'-0" | 0'-6" | PE-F-PB | AERATION TK EFF (SPLITTER BOXES) |
| WP 104 | 1 | 36" | 1'-0" | 0'-6" | PE-F-PB | CHLORINE CONTACT TKS-INF STRUCTURE |
| WP 105 | 1 | 30" | 1'-0" | 0'-6" | PE-F-PB | " " " " " |
| WP 106 | 1 | 42" | 1'-8" | 0'-7 | PE-F-PB | CHLORINE CONTACT TANKS EFFLUENT |
| WP 107 | 3 | 30" | 2'-0" | - | MJ-F-PB | SEC. CLARIFIER EFFLUENT |

## ALUMINUM STOP GATE SCHEDULE

| MARK | QUANTITY GATE | QUANTITY GUIDE | HANDLE | A | B | C | D | TYPE GUIDE |
|---|---|---|---|---|---|---|---|---|



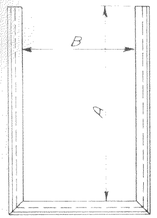

GATE



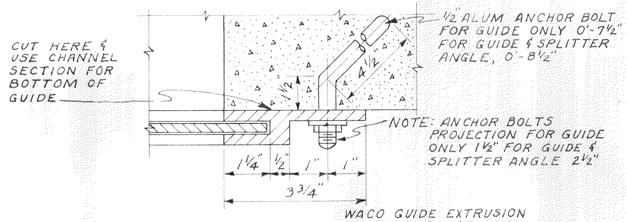
WACO GUIDE EXTRUSION NO. A-3249, OR EQUAL.

TYPE "A" GUIDE

NO SCALE

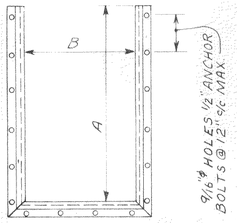



TYPE "A" GUIDE




WACO GUIDE EXTRUSION NO. A 27027, OR EQUAL.

TYPE "B" GUIDE

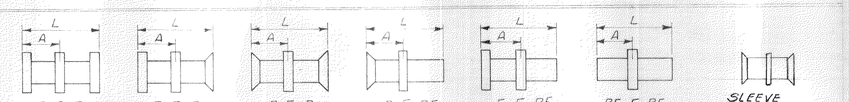



TYPE "B" GUIDES

## C.I. WALL CASTING SCHEDULE

SERIES 100 - PUMP SCREEN AND GRIT STRUCTURE
SERIES 200 - PREAERATION TANKS
SERIES 300 - PRIMARY AND GREASE BLDG. №2
SERIES 400 - PRIMARY GALLERY AND AERATION TANKS
SERIES 500 - SECONDARY GALLERY, CLARIFIERS & CHLORINE CONTACT TKS
SERIES 600 - THICKENERS AND ALTERATIONS TO EXIST TUNNEL
SERIES 700 - FILTER BLDG, FILTER BLDG. ADDITION & OXIDIZED SLUDGE THICKENER
SERIES 800 - MAIN BLDG.
SERIES 900 - YARD

NOTE: WALL CASTINGS SHOWN WITH BELLS AND INDICATED AS BELLS SHALL BE MECHANICAL JOINT (MJ), DRILLED AND TAPPED FOR STUDS. THIS NOTE DOES NOT APPLY TO SLEEVES.




| MARK | NO. REQ'D. | TYPE | DIA. | L | A | REMARKS |
|---|---|---|---|---|---|---|
| 100 | 1 | MJ-F-PE | 4" | 1'-4" | 0'-8" | DRAIN LINE |
| 101 | 1 | MJ-F-PE | 6" | 1'-4" | 0'-8" | " " |
| 102 | 1 | SLEEVE | 3" | 1'-2" | 0'-7" | SAMPLE LINE |
| 103 | 1 | SLEEVE | 3" | 1'-0" | 0'-6" | " " |
| 104 | 1 | F-F-PE | 2" | 2'-7 1/2" | 0'-7 1/2 | " " DRILL & TAP FOR STUDS |
| 105 | 2 | F-F-MJ | 6" | 1'-0" | 0'-6" | DRAINS " " " " |
| 106 | 2 | MJ-F-B | 6" | 1'-0" | 0'-6" | " " " " " |
| 107 | 1 | B-F-PE | 24" | 1'-9" | 0'-6" | METER PIT |
| 108 | 1 | B-F-PE | 18" | 1'-4 | 0'-8" | THICKENER OVERFLOW |
| 200 | 1 | MJ-F-B | 8" | 1'-3" | 0'-7 1/2" | DRAIN - DRILL & TAP FOR STUDS |
| 300 | 1 | MJ-F-PE | 4" | 1'-3" | 0'-7 1/2" | SLEEVE - DRILL & TAP FOR STUDS |
| 301 | 1 | F-F-PE | 6" | 1'-9" | 0'-10" | |
| 400 | 1 | B-F-B | 3" | 1'-2" | 0'-7" | SLEEVE - CL2 LINE |
| 401 | 1 | MJ-F-MJ | 10" | 1'-2" | 0'-7" | SLUDGE SUMP DRAIN LINE |
| 402 | 1 | MJ-F-MJ | 8" | 1'-2" | 0'-7" | RAW SLUDGE |
| 403 | 1 | MJ-F-MJ | 4" | 1'-2" | 0'-7" | SLEEVE - POT. WATER |
| 404 | 1 | MJ-F-MJ | 10" | 1'-10" | 1'-2" | TANK DRAIN |
| 405 | 3 | F-F-PE | 10" | 1'-4" | 0'-8" | TANK DRAINS |
| 406 | 3 | F-F-F | 24" | 1'-4" | 0'-8" | FILTER FEED LINES |
| 407 | 3 | F-F-PE | 24" | 1'-4" | 0'-8" | FILTER BYPASS LINES |
| 408 | 2 | B-F-B | 3" | 1'-4" | 0'-8" | SUMP DISCHARGE |
| 409 | 3 | F-F-F | 24" | 2'-1" | 0'-7" | FILTER BYPASS LINES |
| 410 | 2 | F-F-F | 6" | 1'-4" | 0'-8" | DRAIN |
| 411 | 3 | F-F-F | 24" | 2'-1" | 0'-7" | FILTER FEED LINES |
| 412 | 1 | B-F-B | 4" | 1'-4" | 0'-8" | FLOOR DRAIN LINE |
| 413 | 2 | B-F-B | 3" | 1'-4" | 0'-8" | SAMPLE LINES |
| 414 | 1 | B-F-B | 3" | 3'-0" | 1'-4" | SAMPLE LINE |
| 415 | 2 | MJ-F-PE | 14" | 1'-2" | 0'-7" | RAS @ AER TKS |
| 416 | 1 | F-F-PE | 14" | 1'-2" | 0'-7" | RAS @ AER TKS |
| 500 | 2 | F-F-MJ | 14" | 1'-0" | 0'-6" | R.A.S. LINES |
| 501 | 3 | F-F-MJ | 30" | 1'-0" | 0'-6" | CLARIFIER EFF |
| 502 | 3 | F-F-F | 6" | 1'-0" | 0'-6" | SCUM LINES |
| 503 | 3 | F-F-PE | 12" | 2'-6" | 1'-0" | RAS |
| 504 | 3 | F-F-PE | 12" | 1'-0" | 0'-6" | RAS |
| 505 | 3 | F-F-F | 14" | 2'-0" | 0'-6" | RAS |
| 506 | 2 | F-F-F | 8" | 1'-6" | 0'-6" | PLANT EFF SUCTION |
| 507 | 2 | F-F-MJ | 8" | 1'-0" | 0'-6" | CL2 TK DRAIN |
| 508 | 1 | B-F-B | 3" | 1'-0" | 0'-6" | SUMP DISCH. |
| 509 | 2 | F-F-F | 3" | 1'-0" | 0'-6" | CL2 & CL2 TK |
| 510 | 2 | F-F-F | 3" | 1'-0" | 0'-6" | SAMPLE LINES |
| 511 | 1 | F-F-F | 3" | 1'-2" | 0'-7" | SAMPLE LINE & CL2 TK EFF |
| 512 | 1 | F-F-F | 3" | 0'-8" | 0'-4" | CL2 BLDG |

| MARK | NO. REQ'D. | TYPE | DIA. | L | A | REMARKS |
|---|---|---|---|---|---|---|
| 600 | 2 | F-F-PE | 6" | 3'-0" | 1'-6" | PUMP SUCTION |
| 601 | 2 | F-F-MJ | 14" | 2'-9" | 1'-3" | THICKENER INF. |
| 602 | 2 | MJ-F-MJ | 12" | 2'-0" | 1'-0" | THICKENER EFF. |
| 603 | 1 | MJ-F-PE | 6" | 1'-3" | 0'-7 1/2 | FILTRATE & O.S.T. OVERFLOW |
| 700 | 1 | F-F-MJ | 6" | 1'-6" | 1'-0" | O.S.T. OVERFLOW |
| 701 | 1 | MJ-F-PE | 8" | 2'-0" | 1'-0" | DRAIN |
| 702 | 1 | MJ-F-B | 8" | 1'-0" | 0'-6" | DRAIN |
| 703 | 1 | MJ-F-B | 4" | 1'-0" | 0'-6" | DRAIN |
| 704 | 1 | B-F-B | 3" | 1'-2" | 0'-7" | SLEEVE |
| 705 | 1 | B-F-B | 8" | 1'-2" | 0'-7" | SLEEVE - O.S.T. FEED |
| 800 | 1 | F-F-MJ | 8 | 1'-0" | 0'-10 1/2" | DRAINAGE PUMP DISCH. |
| 900 | 1 | B-F-B | 3" | 1'-0" | 0'-6" | CL2 LINE @ PRI. TK. EFF |



| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
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FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

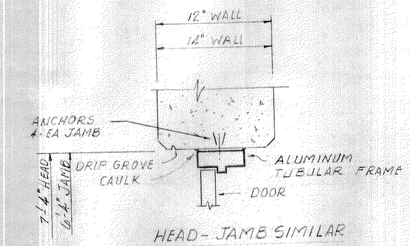
DATE July 72 | JOB No. 1061 | DRAWN AJH | CHECKED
SCALE NONE | DWG. No. 72253 | TRACED | APPROVED

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4

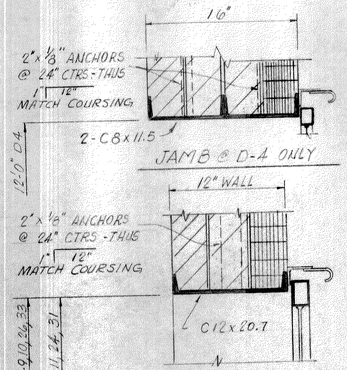
SCHEDULES

BRUNING 44-560



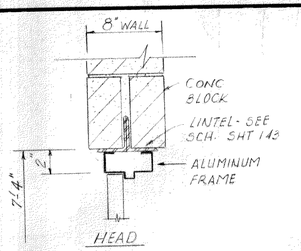

HEAD - JAMB SIMILAR

DOOR DETAIL - D15, 35

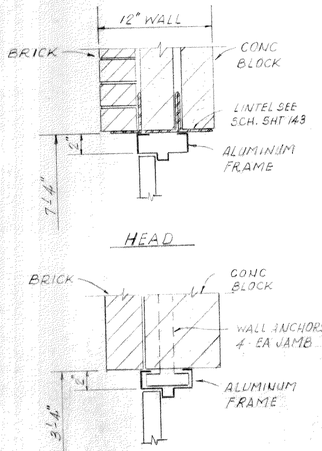



OVERHEAD DOOR DETAIL - D4, 10, 31, 33

ROLL-UP DOOR - D9, 11, 24, 26 SIMILAR

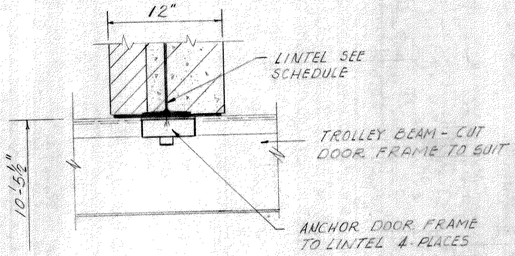



DOOR DETAIL - D29

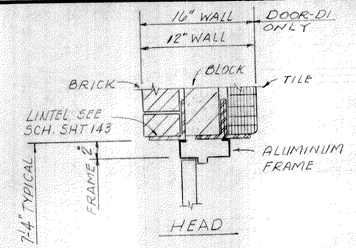



NOTE:
SILL TYPICAL - FOR THRESHOLD SEE SCHEDULE

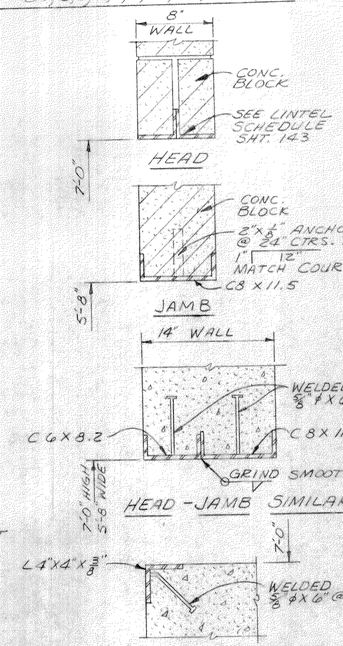
DOOR DETAIL - D17, 19, 20, 30, 32, 34




DOOR DETAIL - D18

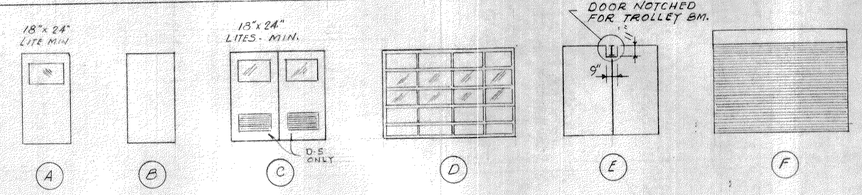



DOOR DETAIL - D1, 2, 3, 6, 7, 8, 21, 22, 23, 25, 27

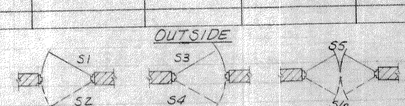



ELEVATOR DOOR FRAME DETAILS

# DOOR SCHEDULE *




| MARK | LOCATION | TYPE | SIZE | MATERIAL | THRESHOLD | FRAME | SWING (SEE NOTE 1) | HARDWARE (SEE NOTE 2) | LINTEL SHT. 143 |
|---|---|---|---|---|---|---|---|---|---|
| D-1 | SCREEN BLDG | A | 3'-0" x 7'-2" | ALUMINUM | WOOSTER ALUMOGRIT #115 | 5¼" ALUMINUM OPEN BACK | S3 | HW-19A | L-21 |
| D-2 | DO | B | 3'-0" x 7'-2" | DO | DO | DO | S3 | HW-19A | L-4 |
| D-3 | DO | B | 3'-0" x 7'-2" | DO | DO | DO | S1 | HW-20A | L-4 |
| D-4 | DO | D | 12'-0" x 12'-0" | DO | — | 2-C8 x 11.5 | OVERHEAD ** | *** | L-3 |
| D-5 | DO | C | 6'-0" x 7'-2" | DO | — | 5¼" ALUMINUM OPEN BACK | S5 | HW-2A | L-5 |
| D-6 | GRIT BLDG | B | 3'-0" x 7'-2" | DO | ALUMOGRIT #115 | DO | S1 | HW-19A | L-4 |
| D-7 | DO | A | 3'-0" x 7'-2" | DO | DO | DO | S3 | HW-19A | L-4 |
| D-8 | DO | A | 3'-0" x 7'-2" | DO | DO | DO | S3 | HW-19A | L-8 |
| D-9 | DO | F | 12'-0" x 12'-0" | DO | — | C 12 x 20.7 | ROLL-UP | *** | L-7 |
| D-10 | DO | D | 12'-0" x 12'-0" | DO | — | C 12 x 20.7 | OVERHEAD | *** | L-7 |
| D-11 | PRIMARY SLUDGE & GREASE BLDG # 2 | F | 10'-0" x 10'-0" | DO | — | C 12 x 20.7 | ROLL-UP | *** | L-9 |
| D-12 | PRIMARY GALLERY | B | 3'-0" x 7'-2" | DO | ALUMOGRIT #115 | 5" ALUMINUM TUBULAR | S2 | HW-19A | STRUCT. |
| D-13 | DO | B | 3'-0" x 7'-2" | DO | DO | DO | S2 | HW-19A | STRUCT. |
| D-14 | DO | B | 3'-0" x 7'-2" | DO | DO | DO | S2 | HW-19A | STRUCT. |
| D-15 | DO | C | 6'-0" x 7'-2" | DO | DO | DO | S5 | HW-7A | — |
| D-16 | DO | A | 3'-0" x 7'-2" | DO | DO | DO | S2 | HW-19A | STRUCT. |
| D-17 | CHLORINE BLDG. | A | 3'-0" x 7'-2" | DO | DO | 5¼" ALUMINUM OPEN BACK | S3 | HW-19A | L-4 |
| D-18 | DO | E | 8'-0" x 10'-5½" | DO | DO | DO | S5 | HW-19A | L-18 |
| D-19 | CONTROL BLDG. | B | 3'-0" x 7'-2" | DO | DO | DO | S2 | HW-19A | L-4 |
| D-20 | DO | B | 3'-0" x 7'-2" | DO | DO | DO | S4 | HW-19A | L-4 |
| D-21 | FILTER BLDG ADDITION | A | 3'-0" x 7'-2" | DO | — | SEE NOTE 3. | S4 | HW-20A | — |
| D-22 | DO | A | 3'-0" x 7'-2" | DO | — | DO | S4 | HW-19A | — |
| D-23 | DO | C | 6'-0" x 7'-2" | DO | ALUMOGRIT #115 | 5¼" ALUMINUM OPEN BACK | S5 | HW-7A | L-5 |
| D-24 | DO | F | 10'-0" x 10'-0" | DO | — | C 12 x 20.7 | ROLL-UP | *** | L-15 |
| D-25 | DO | A | 3'-0" x 7'-2" | DO | ALUMOGRIT #115 | 5¼" ALUMINUM OPEN BACK | S1 | HW-19A | L-4 |
| D-26 | DO | F | 12'-0" x 12'-0" | DO | — | C 12 x 20.7 | ROLL-UP | *** | L-7 |
| D-27 | DO | A | 3'-0" x 7'-2" | DO | ALUMOGRIT #115 | 5¼" ALUMINUM OPEN BACK | S3 | HW-19A | L-4 |
| D-28 | PENTHOUSE EXIST FILTER BLDG. | B | 3'-0" x 6'-10" | DO | DO | 5" ALUMINUM TUBULAR | S1 | HW-19A | STRUCT. |
| D-29 | GARAGE | A | 3'-0" x 7'-2" | DO | — | 5¼" ALUMINUM OPEN BACK | S4 | HW-19A | L-20 |
| D-30 | DO | A | 3'-0" x 7'-2" | DO | ALUMOGRIT #115 | DO | S3 | HW-19A | L-4 |
| D-31 | DO | D | 12'-4" x 10'-0" | DO | — | C 12 x 20.7 | OVERHEAD | *** | L-17 |
| D-32 | DO | B | 3'-0" x 7'-2" | DO | ALUMOGRIT #115 | 5¼" ALUMINUM OPEN BACK | S3 | HW-19A | L-4 |
| D-33 | DO | D | 12'-0" x 12'-0" | DO | — | C 12 x 20.7 | OVERHEAD | *** | L-3 |
| D-34 | DIG. CONTROL BLDG | A | 3'-0" x 7'-2" | DO | ALUMOGRIT #115 | 5¼" ALUMINUM OPEN BACK | S1 | HW-19A | L-4 |
| D-35 | SECONDARY GALLERY | C | 6'-0" x 7'-2" | DO | DO | 5" ALUMINUM TUBULAR | S6 | HW 7A | — |
| D-36 | FILTER BLDG OFFICE | A | 3'-0" x 7'-2 | DO | — | 5¼ ALUM. OPEN BACK | S4 | HW 19A | L-20 |
| D-40 | PRIMARY SLUDGE & GREASE BLDG #2 | C | 6'-0" x 7'-0" | ALUMINUM | ALUMOGRIT #115 | 5" ALUMINUM TUBULAR | S6 | HW-7A | — |
| D-41 | EXIST PRI SLUDGE BLDG # 1 | B | 3'-0" x 7'-0" | DO | DO | DO | S1 | HW-19A | — |
| D-42 | EXIST PRI SLUDGE PUMP CHAMBER | B | 2'-6" x 7'-0" | DO | DO | DO | S3 | HW-19A | — |




DOOR SWING SCHEMATIC

* DOES NOT INCLUDE MAIN BUILDING. SEE SHT. 113
** HIGH LIFT OVERHEAD (10'-0" LIFT) *** HARDWARE BY DOOR MFR. INCL MOTORIZED OPERATORS
NOTES:
1. SWING OF DOOR DETERMINED FROM OUTSIDE OF BLDG. OR ROOM IN ALL CASES. SEE DOOR SWING SCHEMATIC, DOORS D-40 THRU D-42 ARE REPLACEMENT FOR EXIST. DOORS & FRAMES AND SIZE OF OPENING SHOULD BE VERIFIED.
2. SEE SPECIFICATION FOR ITEMIZED LIST OF HARDWARE SCHEDULE
3. 5" ALUMINUM TUBULAR FRAME WITH TRANSOM & TRANSOM LITE (MASONRY OPNG 3'-4"W x 9'-4"H. CONTRACTOR VERIFY)

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

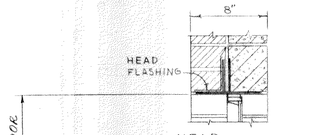
FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN AJH | CHECKED AJM
SCALE NONE | DWG. No. 72254 | TRACED | APPROVED LER

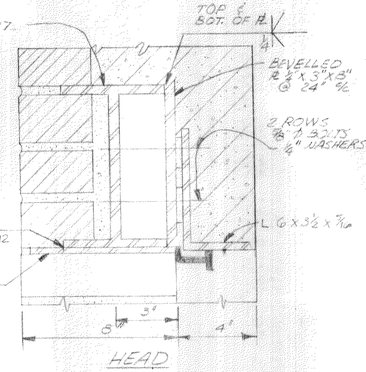
MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4

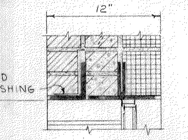
DOOR SCHEDULES & DETAILS
ARCHITECTURAL

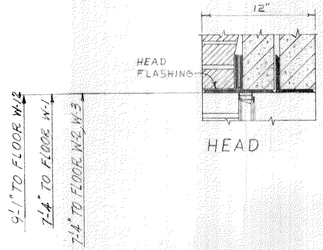


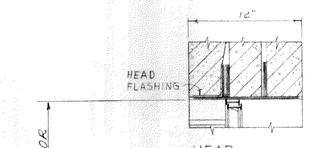

WINDOW DETAIL W-11



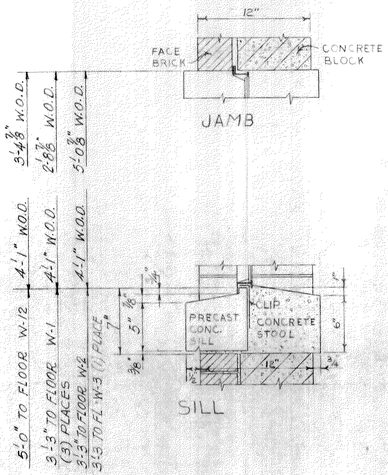

DETAIL LINTEL L-1



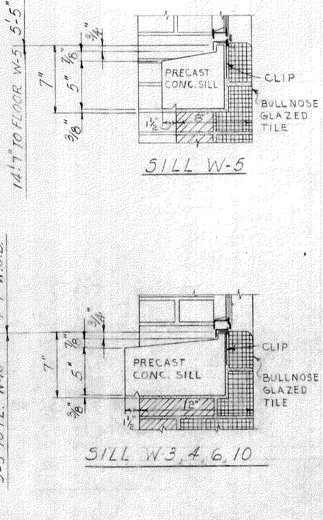




WINDOW DETAIL W-1 (4) PLACES



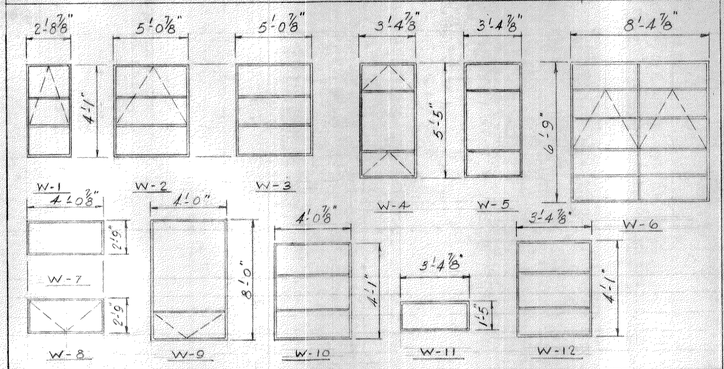

WINDOW DETAIL W-1, 2, 3, 12
AS NOTED




WINDOW DETAIL W-3, 4, 5, 6, 10
AS NOTED

## WINDOW SCHEDULE *

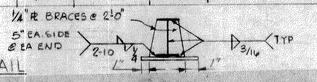
* DOSE NOT INCLUDE MAIN BLDG. SEE SHT. 113




| MARK | TYPE | No. REQ'D. | LOCATION AND REMARKS | LINTEL SEE SCH. |
|---|---|---|---|---|
| W-1 | ALUMINUM PROJECTED | 7 | GARAGE | L-16 |
| W-2 | DO | 2 | CONTROL BLDG. | L-2 |
| W-3 | ALUMINUM FIXED | 2 | PUMP DRIVE & SCREEN BLDG. | L-2 |
| W-3 | DO | 1 | CHLORINE BLDG. | L-2 |
| W-4 | ALUMINUM PROJECTED | 12 | FILTER BLDG. ADDITION | L-14 |
| W-5 | ALUMINUM FIXED | 11 | DO | L-10 |
| W-6 | ALUMINUM PROJECTED | 7 | PUMP DRIVE & SCREEN BLDG. | L-1 |
| W-6 | DO | 1 | GRIT BLDG. | L-1 |
| W-7 | DO | 8 | PRIMARY GALLERY - STRUCT. | — |
| W-8 | DO | 2 | DO | — |
| W-9 | DO | 5 | DO | — |
| W-10 | ALUMINUM FIXED | 2 | GRIT BLDG. | L-6 |
| W-11 | DO | 3 | PRIMARY SLUDGE & GREASE BLDG #2 | L-10 |
| W-12 | ALUMINUM PROJECTED | 1 | DO | L-10 |

### LOOSE LINTEL SCHEDULE

| MARK | SIZE | LENGTH | SECTION | NO. REQ'D. | LOCATION |
|---|---|---|---|---|---|
| L-1 | 2 @ 3½ x 5/16, W8 x 17, PL ¼ x 7½ | 10'-4" | IL | 8 | WINDOW W-6, SEE DETAIL |
| L-2 | 3 L's 5 x 3½ x 5/16 | 6'-2" | JLL ¾" | 5 | WINDOWS W-2, 3 |
| L-3 | W10 x 25, ¼" x 11" PL & L's BRACED (3) 1½ x 1½ x ¼" R. BRACE, D-3 | 14'-0" | I | 2 | DOORS D-4, 33 |
| L-4 | 3 L's 4 x 3½ x ¼ | 4'-4" | JLL ¾" | 12 | DOORS D-2, 3, 6, 7, 17, 19, 20, 25, 27, 29, 30, 32, 34. |
| L-5 | W8 x 15, ¼" x 11" PL, ¼" PL BRACES | 7'-8" | I | 2 | DOORS D-5, 23 |
| L-6 | 3 L's 4 x 3½ x ¼ | 5'-3" | JLL ¾" | 2 | WINDOW W-10 |
| L-7 | W12 x 31, ¼" x 11" PL, ¼" PL BRACES | 14'-0" | I | 3 | DOORS D-9, 10, 26 |
| L-8 | 3 L's 5 x 3½ x 5/16 | 4'-4" | JLL ¾" | 1 | DOOR D-8 |
| L-9 | W8 x 15, ¼" x 11" PL, ¼" PL BRACES | 12'-0" | I | 1 | DOOR D-11 |
| L-10 | 3 L's 4 x 3½ x ¼ | 4'-6" | JLL | 19 | WINDOWS W-11, 12, 5, LOUVERS FILTER BLDG. ADD. |
| L-11 | 3 L's 4 x 3½ x ¼ | 3'-0" | JLL | 9 | LOUVERS & VENTILATORS @ PUMP SCREEN & GRIT BLDG, PRIMARY GREASE BLDG, CL2. BLDG & CONTROL BLDG |
| L-12 | 2 L's 5 x 3½ x ¼ | 7'-0" | JL | 1 | PRIMARY GALLERY ELEVATOR |
| L-13 | W10 x 25, ¼" x 11" PL, PL BRACES | 10'-4" | I | 1 | DOOR D-18 NOTE: TROLLEY BM DRILLING SHT 75 |
| L-14 | 2 L's 4 x 3½ x ¼ | 4'-6" | JL ¾" | 11 | WINDOW W-4 |
| L-15 | W10 x 25, ¼" x 11" PL, PL BRACES | 12'-0" | I | 1 | DOOR D-24 |
| L-16 | 3 L's 3½ x 3½ x ¼ | 3'-10" | JLL | 7 | WINDOW W-1 |
| L-17 | W10 x 25, ¼" x 11" PL, PL BRACES | 14'-4" | I | 1 | DOOR D-31 |
| L-18 | C 5 x 6.7 | 5'-6" | C | 2 | DOORS 109, 112 SEE DET SHT #116 |
| L-19 | 3 L's 5 x 3½ x 5/16 | 7'-4" | JLL | 2 | CHLORINE BLDG TO CONTROL BLDG, |
| L-20 | 2 L's 4 x 3½ x ¼ | 4'-4 | JL | 3 | EXIST FILTER BLDG SOUTH WALL C-22, 28 |
| L-21 | 4 L's 4 x 3½ x ¼ | 4'-4" | JLJL | 1 | D-1 |




LINTEL BRACING DETAIL
NO SCALE

143 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

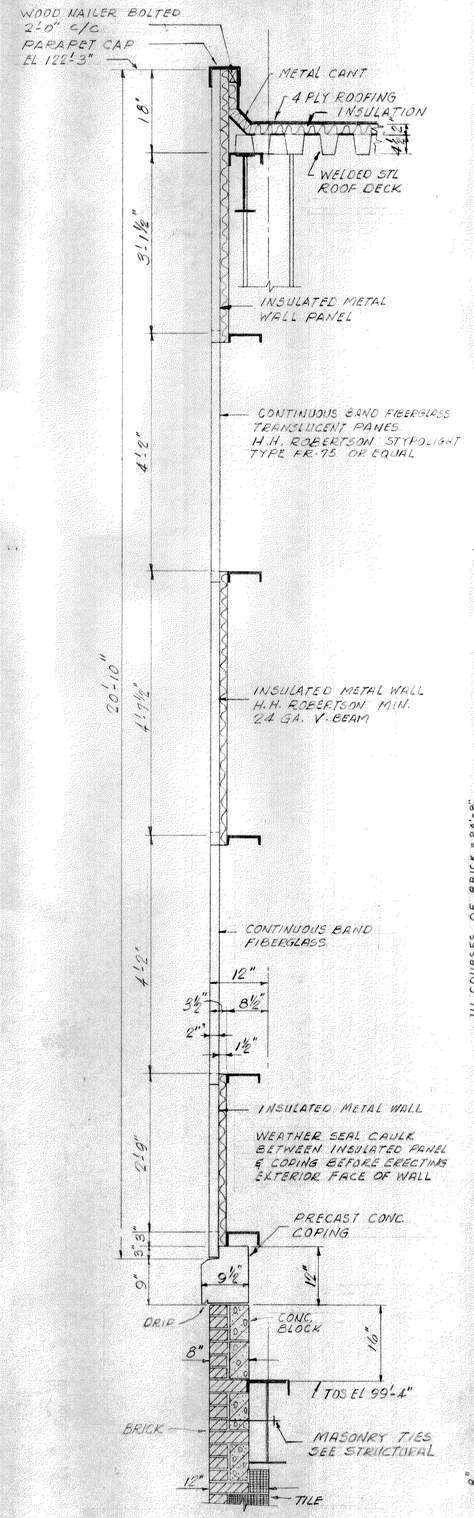
DATE July 72 | JOB No. 1061 | DRAWN AJH & TRACED | CHECKED ADA DHF | APPROVED LEE
SCALE NONE | DWG. No. 72255

MASSILLON, OHIO

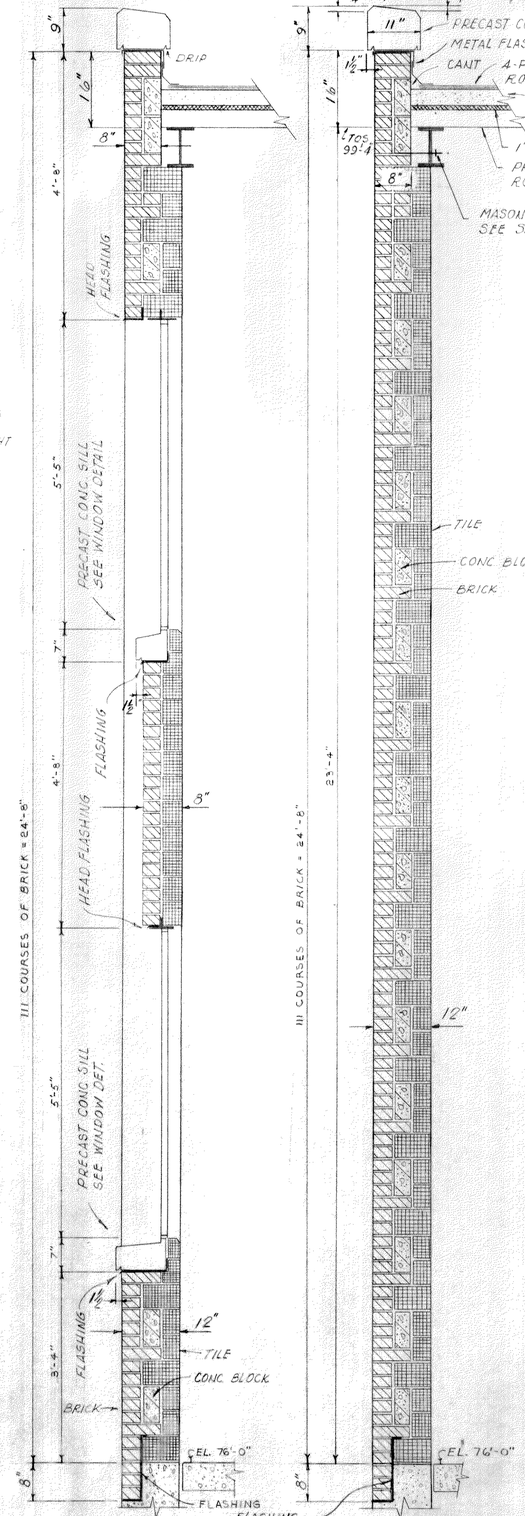
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4

WINDOW SCHEDULES & DETAILS
ARCHITECTURAL

BRUNING 40-105 — I




SECTION 3-3

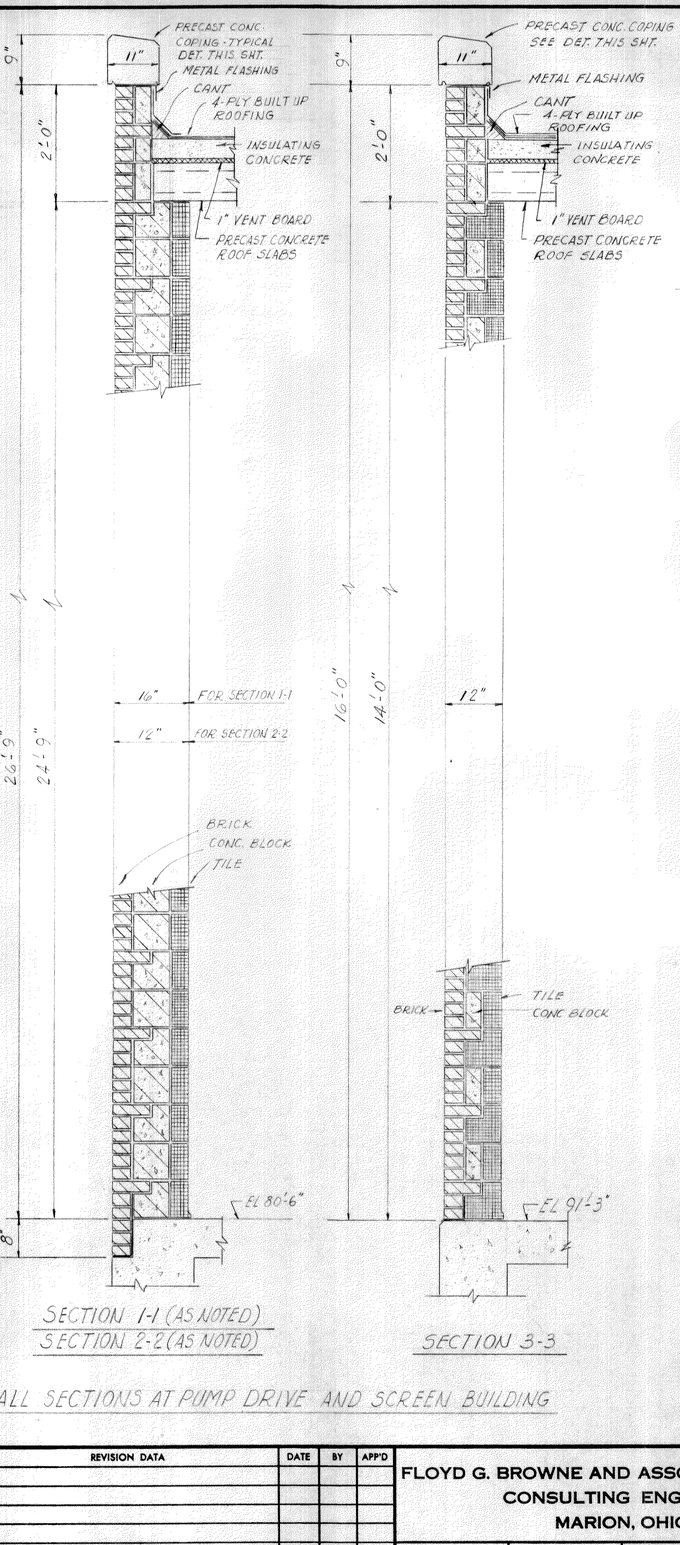



SECTION 2-2




SECTION 1-1

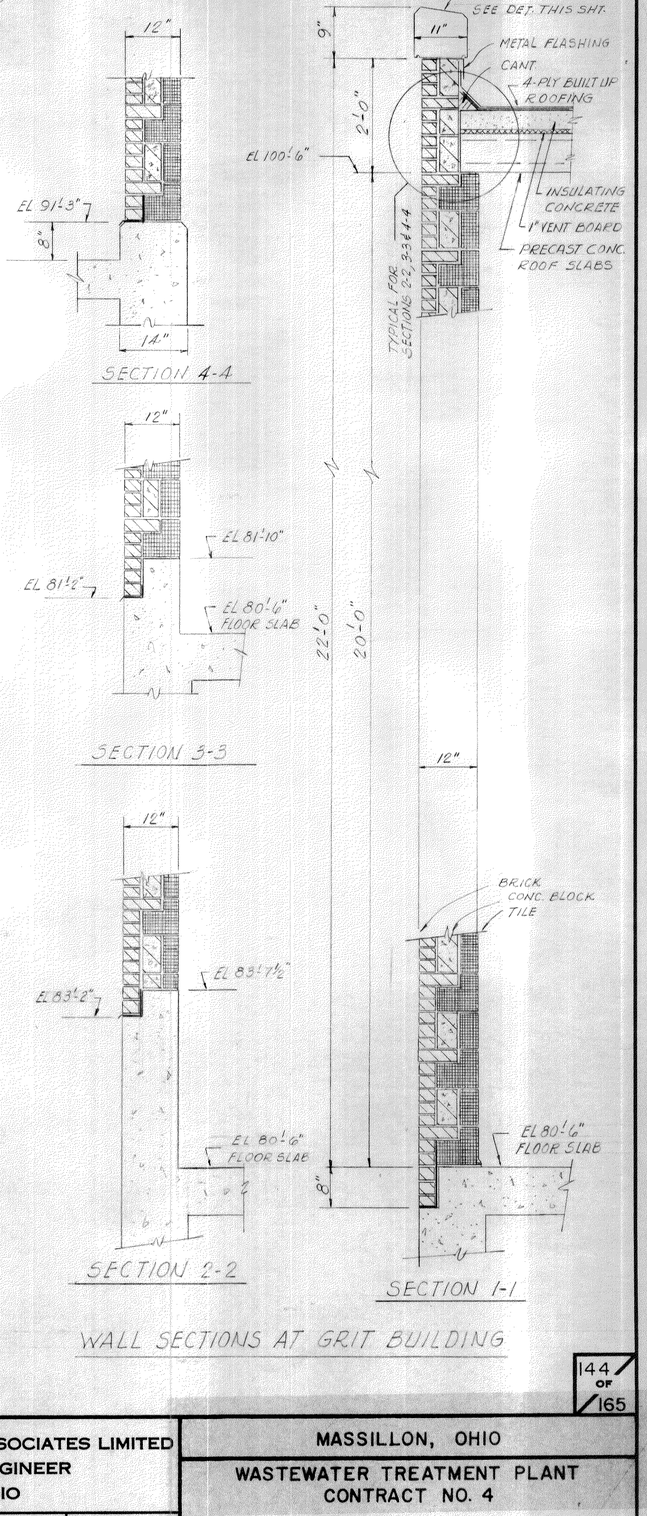
WALL SECTIONS AT FILTER BLDG. ADDITION




SECTION 1-1 (AS NOTED)
SECTION 2-2 (AS NOTED)

SECTION 3-3

WALL SECTIONS AT PUMP DRIVE AND SCREEN BUILDING




SECTION 2-2

SECTION 1-1

WALL SECTIONS AT GRIT BUILDING

144 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

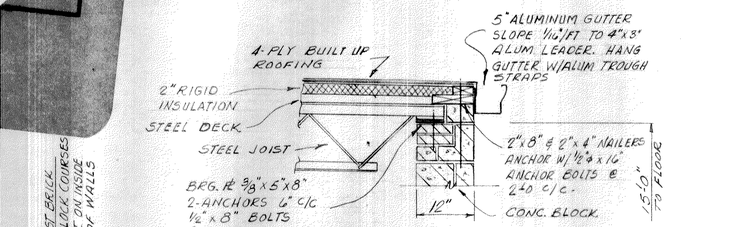
DATE July 72 | JOB No. 1061 | DRAWN PSB | CHECKED APM
SCALE NONE | DWG. No. 72256 | TRACED | APPROVED LER

MASSILLON, OHIO

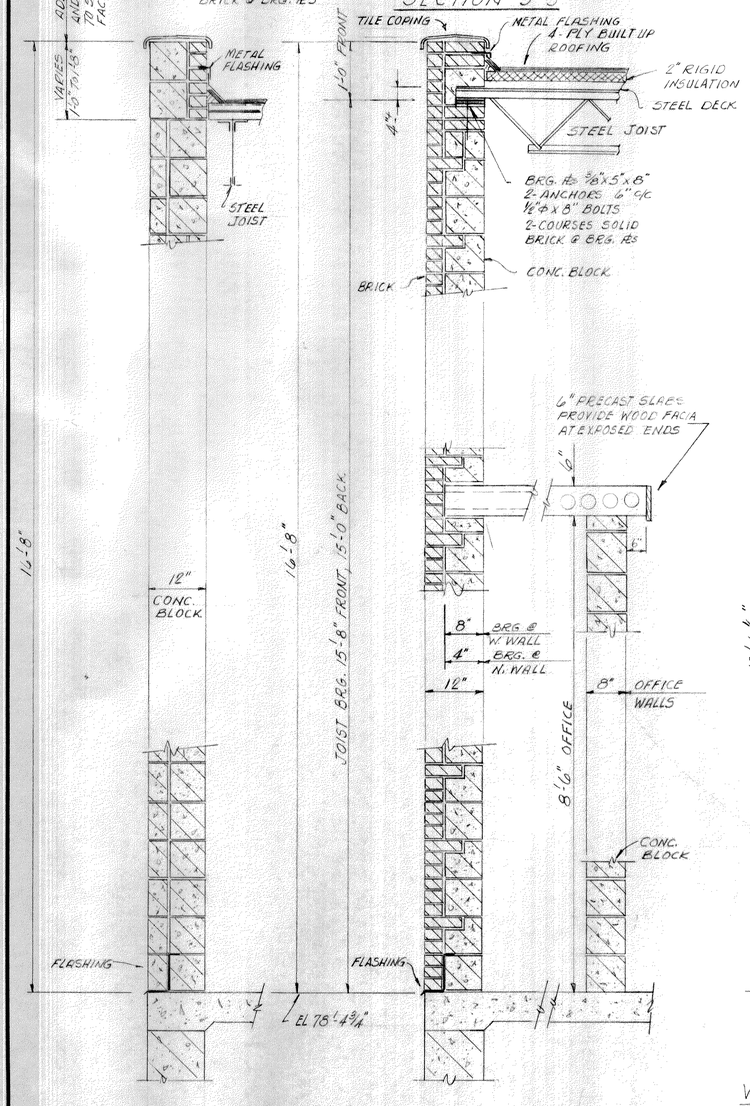
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4

WALL SECTIONS & DETAILS
ARCHITECTURAL

BRUNING 40-105 — 1 2 3 4 5 6 7 8



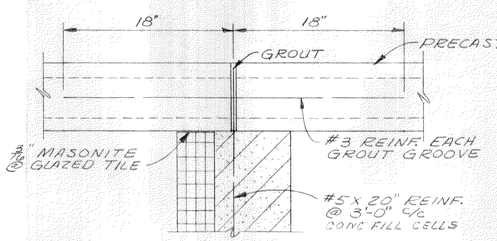

SECTION 3-3



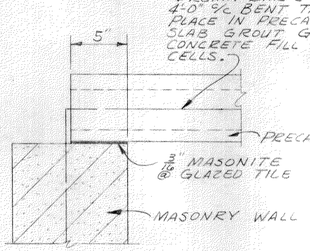

SECTION 2-2 SECTION 1-1

WALL SECTIONS AND DETAILS AT GARAGE BLDG.

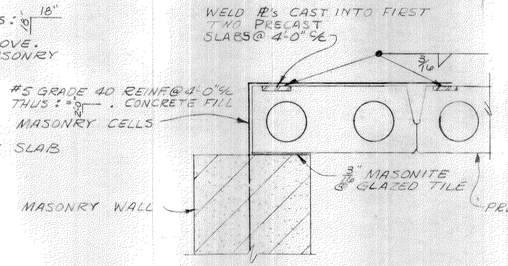
SCALE 3/4" = 1'-0"




TYPICAL PARTITION BEARING



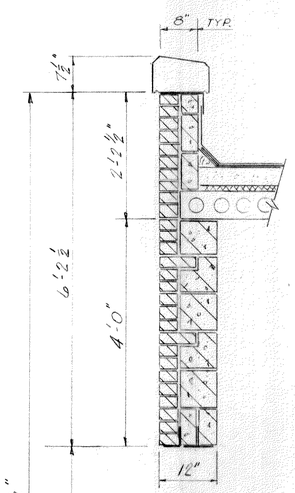

TYPICAL END BEARING

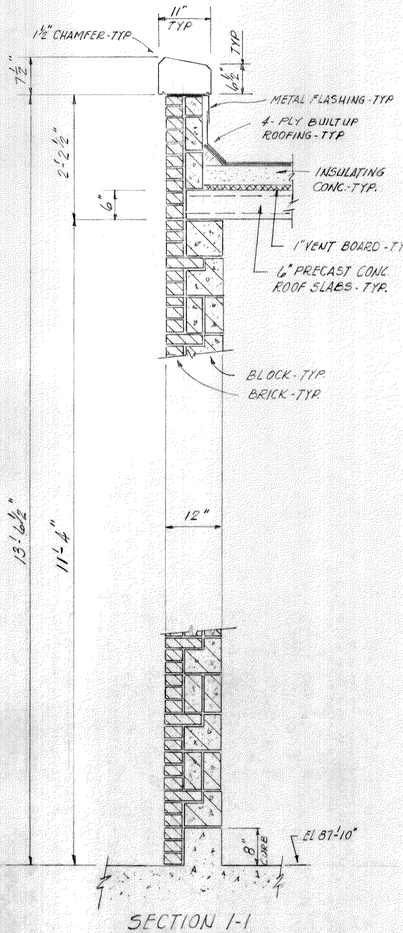



TYPICAL EDGE BEARING

ROOF SLAB ANCHORAGE DETAILS

SCALE 1½" = 1'-0"



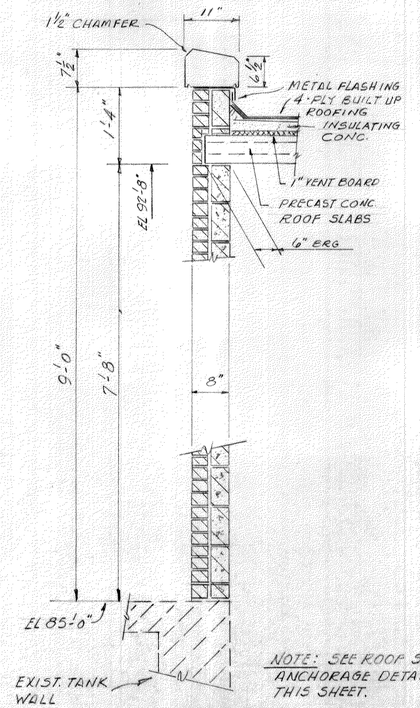




NOTE: SEE ROOF SLAB ANCHORAGE DETAILS THIS SHEET.

SECTION 2-2 SECTION 1-1

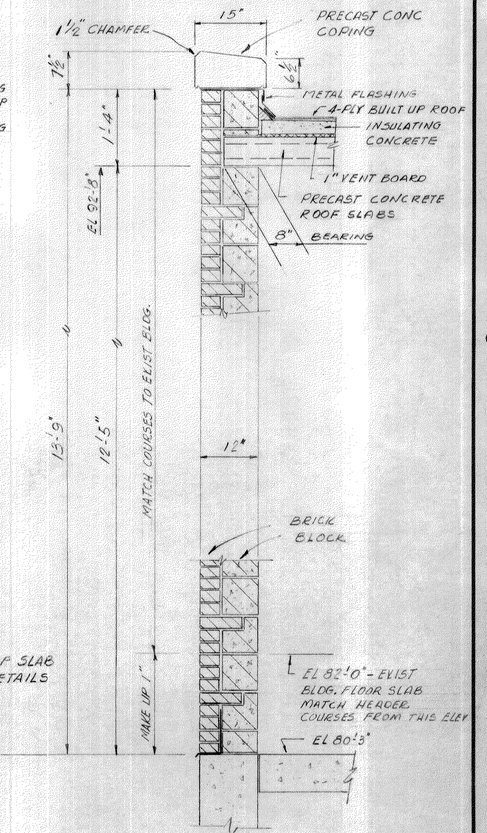
WALL SECTIONS AT CHLORINE AND CONTROL BUILDINGS

SCALE 3/4" = 1'-0"




NOTE: SEE ROOF SLAB ANCHORAGE DETAILS THIS SHEET.

TYPICAL SECTION THRU 8" WALL




TYPICAL SECTION THRU 12" WALL

WALL SECTIONS & DETAILS AT GREASE BUILDING Nº 2

SCALE 3/4" = 1'-0"

145 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

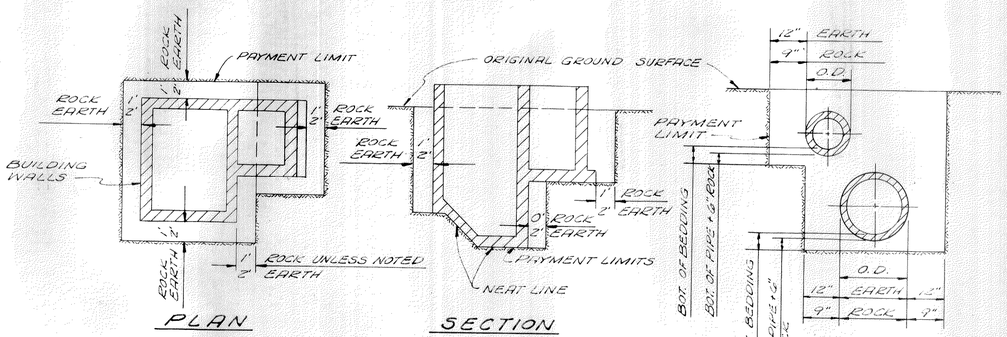
| DATE July 72 | JOB No. 1061 | DRAWN PSB | CHECKED RHM |
|---|---|---|---|
| SCALE AS NOTED | DWG. No. 72257 | & TRACED | APPROVED LER |

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
WALL SECTIONS & DETAILS
ARCHITECTURAL

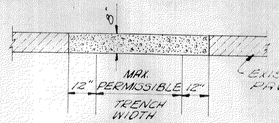
BRUNING 40-105

CONCRETE SIDEWALK

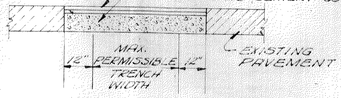



STRUCTURE EXCAVATION
EXCAVATION PAYMENT LIMITS

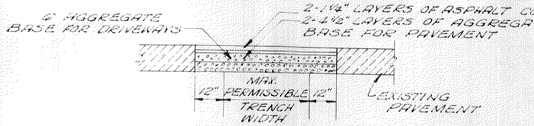
TRENCH EXCAVATION



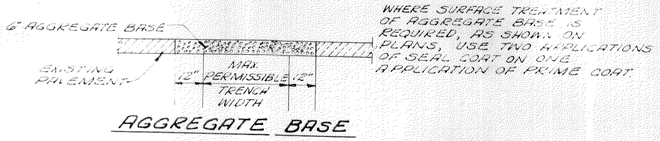

PORTLAND CEMENT CONCRETE BASE OR SURFACE




ASPHALT CONCRETE SURFACE COURSE
PORTLAND CEMENT CONCRETE BASE COURSE

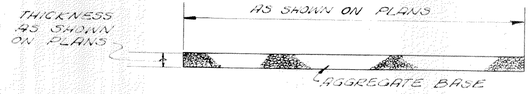



ASPHALT CONCRETE SURFACE COURSE
AGGREGATE BASE COURSE

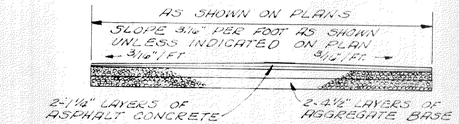



AGGREGATE BASE

TYPICAL PAVEMENT REPLACEMENT SECTIONS

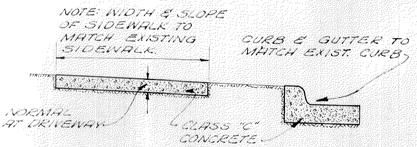



AGGREGATE BASE



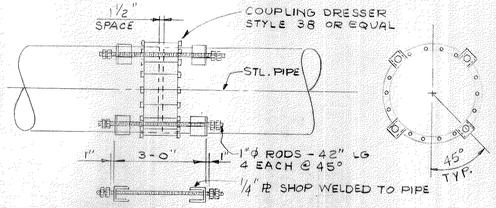

ASPHALT CONCRETE SURFACE COURSE
AGGREGATE BASE COURSE

TYPICAL NEW PAVEMENT SECTIONS

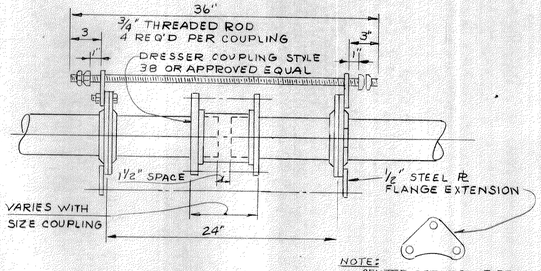



SIDEWALK CURB & GUTTER DETAIL
REPLACEMENT SECTION

NOTE:
CENTER BETWEEN PIPE SUPPORTS CLOSEST TO BLDG. EXPANSION JOINTS.



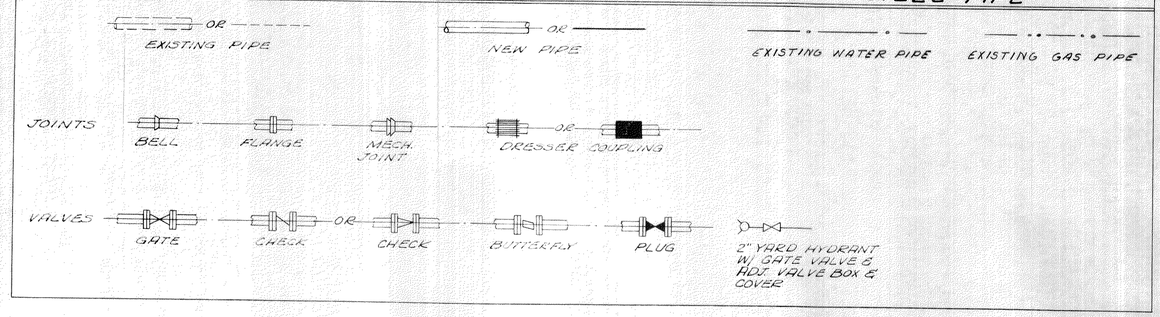

DETAIL RESTRAINED COUPLING - STEEL PIPE
SCALE: 3/8" = 1'-0"




NOTE:
CENTER BETWEEN PIPE SUPPORTS CLOSEST TO BLDG EXPANSION JOINTS.

DETAIL RESTRAINED COUPLING
CIP. 24" ϕ AND SMALLER
NO SCALE

## PIPE & FITTING SYMBOLS FOR CAST IRON & STEEL PIPE




## MATERIAL SYMBOLS

- NEW CONCRETE-MECH., ARCH., PLANS & SECTIONS ONLY
- GROUT OR PLASTER
- CONCRETE BLOCK
- BRICK (CLAY)
- TILE (NEW)
- REINFORCING STEEL IN CONCRETE
- WOOD (NEW)
- STEEL (ANGLE, I-BEAM etc.)
- STEEL
- ALUMINUM
- EXISTING CONCRETE OR MASONRY STRUCTURES
- EXISTING EQUIPMENT OR STRUCTURE THAT IS TO BE REMOVED

## SECTION DESIGNATION

THROUGHOUT THIS SET OF DRAWINGS SECTIONS ARE INDICATED AS SHOWN BELOW.

SECTION NUMBER → 2
SHEET NUMBER ON WHICH SECTION APPEARS → 5

MECHANICAL, ARCHITECTURAL, HEATING, PLUMBING & ELECTRICAL SECTIONS

SECTION LETTER → A
SHEET NUMBER ON WHICH SECTION APPEARS → 5

STRUCTURAL SECTIONS

## LEGEND

- EXISTING STRUCTURE
- NEW STRUCTURE
- EXISTING FENCE
- NEW FENCE
- 850 EXISTING CONTOUR
- 850 NEW CONTOUR
- DIRECTION OF SURFACE DRAINAGE
- TEST BORING
- TEST HOLE OR PIT

NOTE: ALL DETAILS ON THIS DRAWING ARE NOT NECESSARILY APPLICABLE TO THIS CONTRACT.

146 OF 165

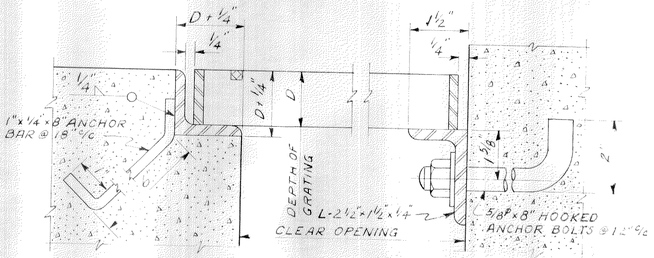
| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

| DATE July 72 | JOB NO. 1061 | DRAWN | CHECKED |
|---|---|---|---|
| SCALE NONE | DWG. NO. 72253 | TRACED | APPROVED |

MASSILLON, OHIO
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4

MISCELLANEOUS DETAIL SHEET

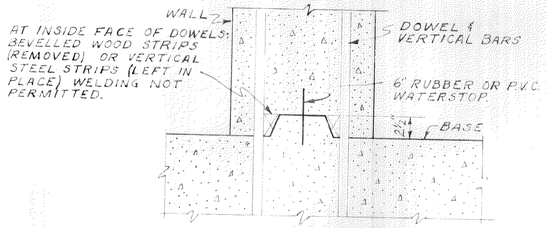



DETAIL AT FLOOR SLAB  DETAIL AT WALL

ANGLE FRAME SHALL BE CONTINUOUS AROUND OPENING

## SUPPORT FOR FLOOR GRATING

NO SCALE



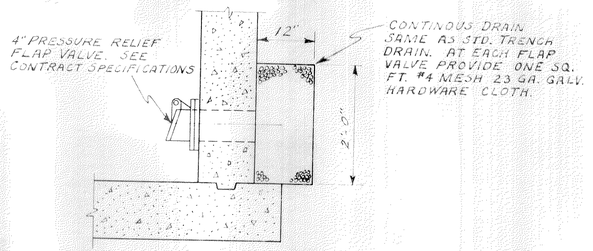

## DETAIL - JOINT FOR USE OF WATERSTOP AT BASE OF WALL

NO SCALE

FOR WALLS 12" OR MORE IN THICKNESS

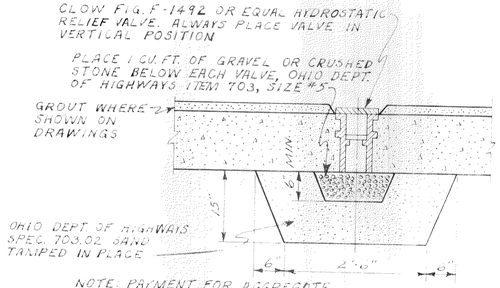
## GENERAL NOTES:

1. FINISH FLOOR ELEVATION OR SLAB THICKNESS SHOWN IS AT HIGH POINT OF SLABS, NORMALLY AT WALLS, PARTITIONS AND STAIRS, UNLESS NOTED. SLOPE TOP OF EXTERIOR WALKS AND PLATFORMS ⅜" TO 12", UNLESS NOTED.
2. STRUCTURAL STEEL CONSTRUCTION SHALL BE ASTM-A36 AND SHALL CONFORM TO LATEST AISC STANDARDS AND AS PER CONTRACT SPECIFICATIONS.
3. CONCRETE COVER OVER REINFORCING BARS SHALL BE 2 INCHES FOR WALLS, BASE SLABS AND SLABS IN CHANNELS, 1½ INCHES FOR BEAMS, COLUMNS AND THE BOTTOM MAT OF SLABS WHERE CONTINUOUS CONCRETE INSERTS ARE USED, ONE INCH FOR WALKWAYS AND FLOOR SLABS, AND 3 INCES FOR CONCRETE POURED AGAINST EARTH, UNLESS NOTED.
4. REINFORCING BARS MAY BE SPLICED ONLY AT POINTS AUTHORIZED BY RESIDENT REPRESENTATIVE OR AS SHOWN ON THE DRAWINGS. SPLICE WELDED WIRE FABRIC (WWF) A MINIMUM OF ONE COMPLETE MESH + 2 INCHES. LAP BARS AT SPLICES AS FOLLOWS, UNLESS OTHERWISE NOTED.
   #3 - 17 INCHES  #5 - 28 IN.  #7 - 45 IN.  #9 - 75 IN.  #11 - 117 IN.
   #4 - 22 IN.  #6 - 33 IN.  #8 - 59 IN.  #10 - 95 IN.
5. REINFORCING BAR HOOKS SHALL CONFORM TO LATEST ACI BUILDING CODE STANDARDS.
6. STEEL REINFORCEMENT SHALL BE SUPPORTED OR SECURED IN POSITION USING STANDARD BAR SUPPORTS AS DETAILED IN ACI "MANUAL OF STANDARD PRACTICE," UNLESS NOTED. SUPPORT UPPER LAYER OF SLAB REINFORCING FROM LOWER LAYER BY CONTINUOUS HIGH CHAIR UPPER BAR SUPPORTS OR BY BENT #4 BARS. SPACE VERTICAL LAYERS OF WALL REINFORCING FROM FORMS BY TIES AND SPACERS. MAINTAIN SPACE BETWEEN LAYERS BY BENT AND TIED #3 BARS THUS ⊔⊐ 6"
7. IN EACH REINFORCING PLANE PROVIDE ONE #5 BAR AROUND ALL OPENINGS 4'-0" LONGER THAN OPENING AND ONE #4 x 4'-0" DIAGONALLY EACH CORNER UNLESS NOTED.
8. ALL EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED ¾ INCHES, UNLESS NOTED.
9. PROVIDE CONTINUOUS 6" RUBBER OR PVC WATERSTOP JOINTS AS SHOWN, ¾" I.D. HOLLOW CENTER BULB TYPE AT EXPANSION JOINTS.
10. PAYMENT FOR VSP FOR SUMPS INCLUDED IN UNIT PRICE OF CONCRETE.
11. SIZE AND LOCATION OF EQUIPMENT OPENINGS, BASES, ANCHORS, CASTINGS, GRATING, ETC. SHOWN ON ARCH., ELEC., MECH., STRUCT., AND PLUMBING DRAWINGS SHALL CONFORM TO MANUFACTURER'S DETAILS.




## PRESSURE RELIEF FLAP VALVE DETAIL

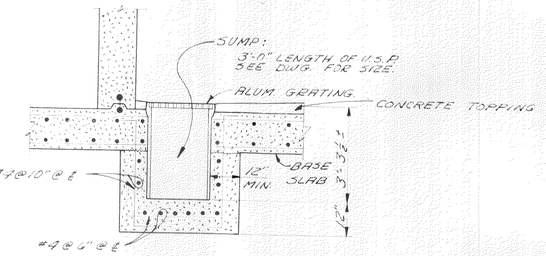
NO SCALE



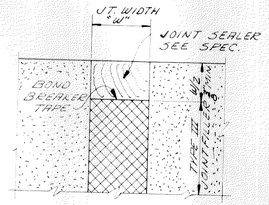

NOTE: PAYMENT FOR AGGREGATE DRAINS UNDER FOUNDATION CUSHION ITEM

## TRENCH DRAIN DETAIL

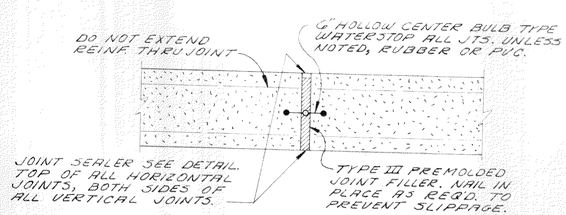
NO SCALE



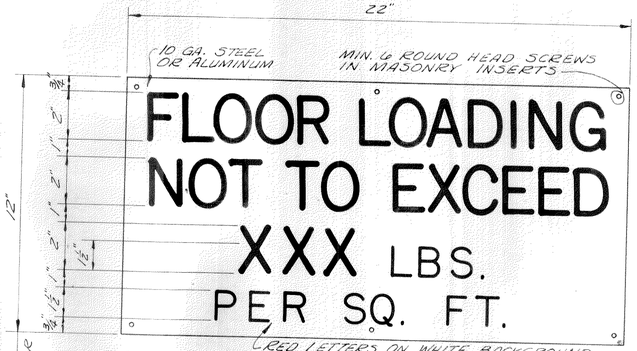

## TYPICAL SUMP DETAIL




## EXPANSION JOINT SEALER DETAIL



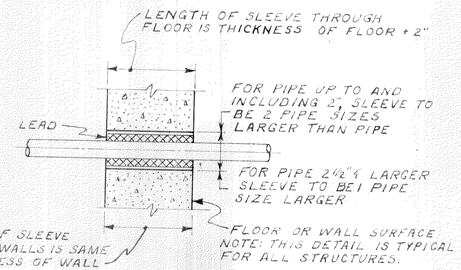

## EXPANSION JOINT DETAIL HORIZONTAL OR VERTICAL




NOTE:
FOR SPECIFIC LOADINGS & SIGN LOCATIONS SEE PLAN VIEWS.

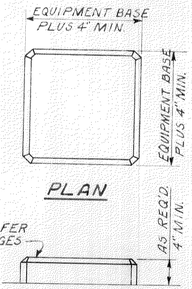
## FLOOR LOADING SIGN DETAIL

NO SCALE



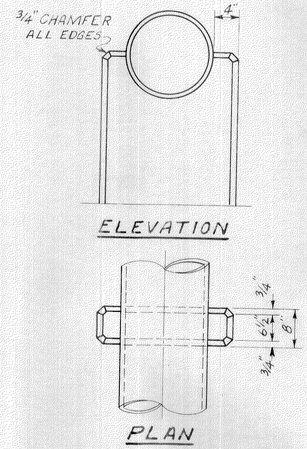

## MISC. PIPE THRU WALL AND FLOORS

NOTE: ALL DETAILS ON THIS DRAWING ARE NOT NECESSARILY APPLICABLE TO THIS CONTRACT.




## TYPICAL CONCRETE EQUIPMENT BASE

NO SCALE




## TYPICAL CONCRETE PIPE SUPPORT

NO SCALE

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| 1 | REVISED DATE | 12/72 | A.H. | |
| | REVISED TO DATE | 5/73 | JWC | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN | CHECKED
SCALE NONE | DWG. No. 72259 | TRACED | APPROVED

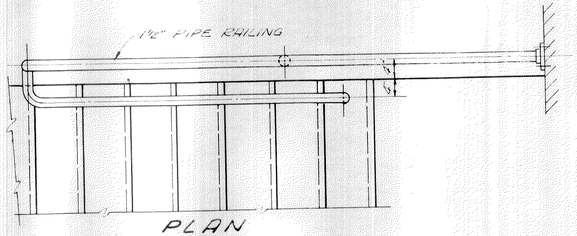
MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4

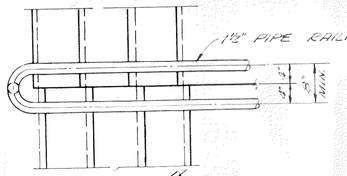
MISCELLANEOUS DETAIL SHEET

147 OF 165

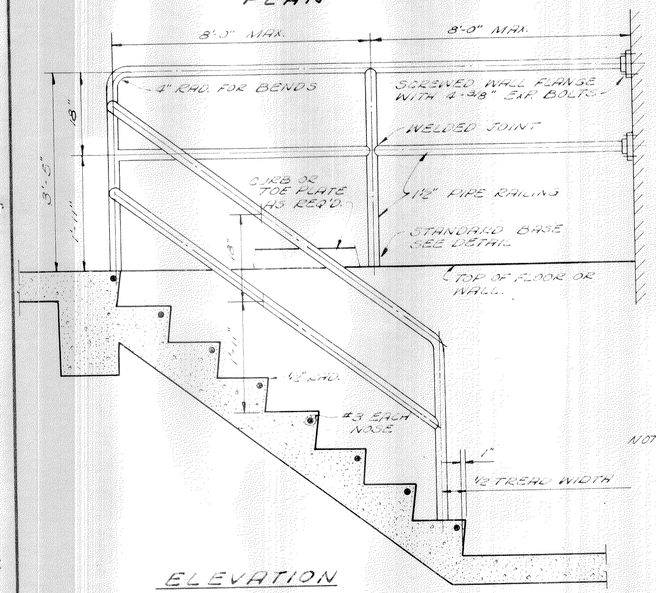
ERUNING 44-560



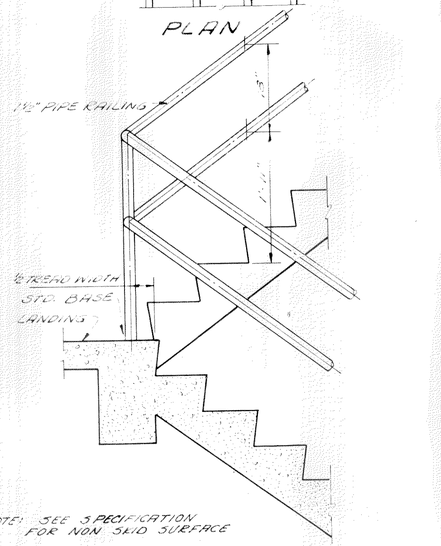

PLAN




PLAN




ELEVATION

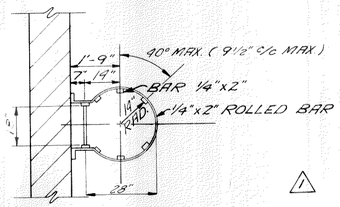



NOTE: SEE SPECIFICATION FOR NON SKID SURFACE

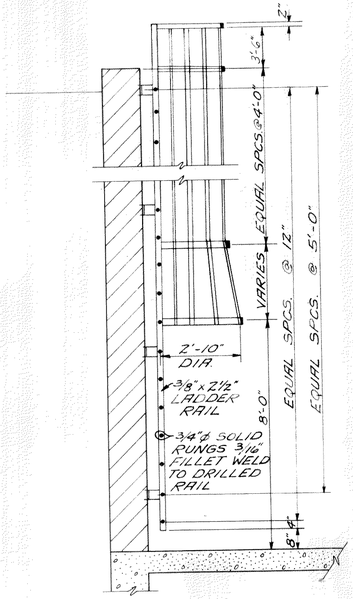
ELEVATION

CONCRETE STAIRS & PIPE RAILING DETAILS

SCALE 3/4" = 1'-0"



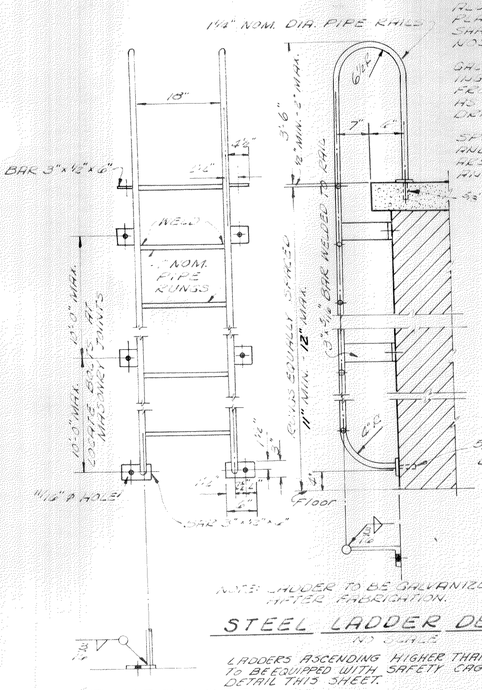

PLAN




SECTION

LADDER DETAILS

SCALE 3/8" = 1'-0"




NOTE: LADDER TO BE GALVANIZED AFTER FABRICATION.

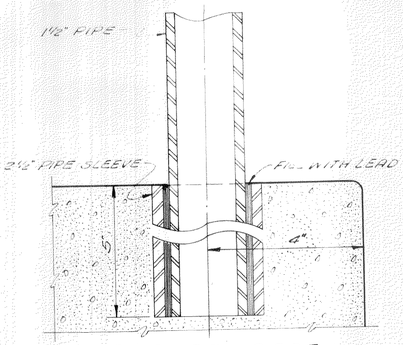
STEEL LADDER DETAILS

NO SCALE

LADDERS ASCENDING HIGHER THAN 8'-0" TO BE EQUIPPED WITH SAFETY CAGE: SEE DETAIL THIS SHEET.

ALTERNATE FLOOR MOUNTING

NO SCALE




STANDARD BASE FOR PIPE RAILING

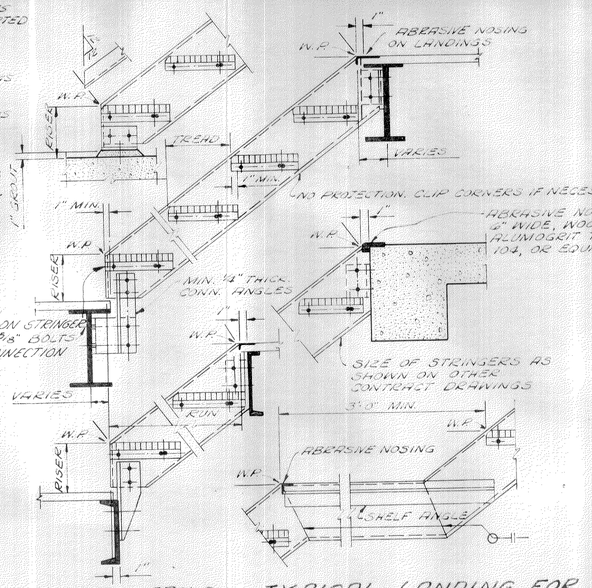
SCALE 2" = 1'-0"

⚠ EXTERIOR STAIRS, PLATFORMS AND WALKWAYS: USE SELECTED ALUMINUM GRATING. STAIR TREADS SHALL HAVE ABRASIVE NOSING.

INTERIOR STAIRS, PLATFORMS AND WALKWAYS: USE ALUMINUM GRATING WITH PLAIN SHEET STAIR TREADS SHALL HAVE ABRASIVE NOSING.

GALVANIZED STEEL GRATINGS OR STAIRS DEVIATIONS FROM THE ABOVE SHALL BE AS SHOWN & NOTED ON THE DRAWINGS.

SPECIFICATIONS FOR ALUMINUM AND GALV. STEEL GRATINGS HAS LOADING OF 100 PSF AND 250 RESPECTIVELY.

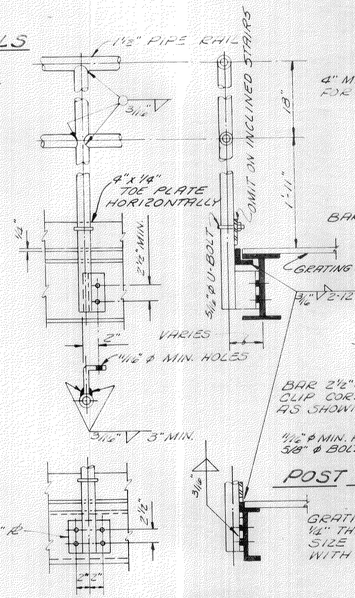



END DETAILS

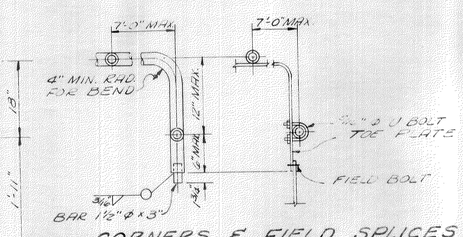
TYPICAL LANDING FOR CONTINUOUS RUN

STEEL STAIR DETAILS

SCALE 1" = 1'-0"




POST BASE FOR STEEL STAIRS




CORNERS & FIELD SPLICES

GRATING RETAINERS: ¼ Æ @ ⅛" THICK @ S @ I's & W.F.'s SIZE TO MAKE TOP FLUSH WITH GRATING.

GRATING RETAINERS & PIPE RAILING ON STEEL PLATFORMS & STAIRS

SCALE 1" = 1'-0"

AT STRINGERS ADJACENT TO MASONRY OR CONCRETE WALLS, PROVIDE WALL-MOUNTED SINGLE HANDRAIL.

FASTENERS FOR FIXED GRATING AS SHOWN ON DRAWINGS OR SPECIFIED, SHALL BE SADDLE CLIPS WITH WELDED STUDS, OR ¼" GALV. J BOLTS HOOKED OVER BEARING BARS, @ 18" MAX. c/c. BOLT HOLES MAY BE FIELD DRILLED.

NOTE: ALL DETAILS ON THIS DRAWING ARE NOT NECESSARILY APPLICABLE TO THIS CONTRACT.

148 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| 1 | Added Ladder & Cage Details and revised Grating & Nosing General notes. | 10-12 | VED | |

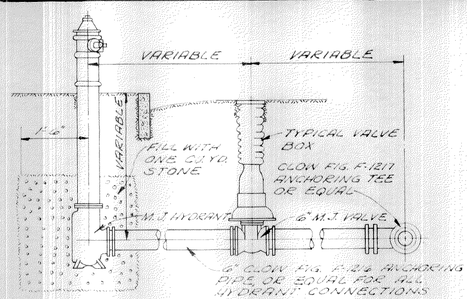
FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN | CHECKED
SCALE AS NOTED | DWG. No. 72260 | TRACED | APPROVED

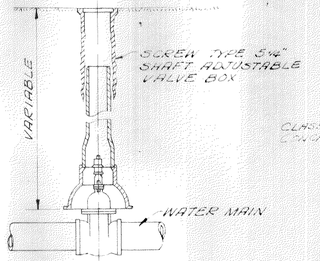
MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4

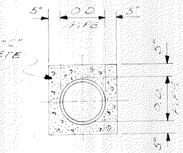
MISCELLANEOUS DETAIL SHEET



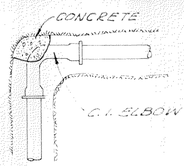

TYPICAL HYDRANT SETTING



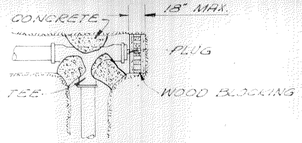

TYPICAL VALVE SETTING



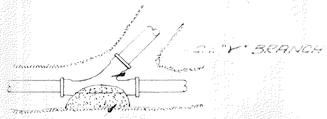

TYPICAL PIPE ENCASEMENT



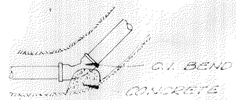

CAST IRON ¼ BEND



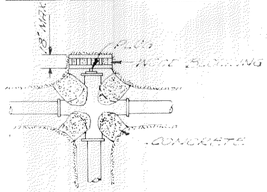

CAST IRON TEE




CAST IRON "Y" BRANCH




CAST IRON BEND



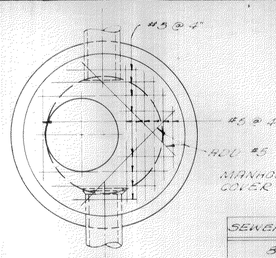

CAST IRON CROSS

CONC. ALLOWANCE BACKING AROUND PIPE FITTINGS

| PIPE SIZE | CONC. ALLOWANCE CU. FT. "TEES" | WYES | BENDS | CROSSES |
|---|---|---|---|---|
| 4" TO 12" | 7 | 4 | 3 | 8 |
| 14" TO 18" | 12 | 7 | 5 | 14 |
| 20" TO 24" | 20 | 10 | 8 | 22 |

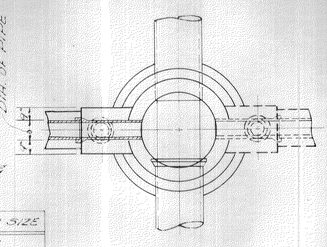
CONCRETE SHALL BE AS SPECIFIED IN ITEM 405

TYPICAL BLOCKING DETAILS FOR CAST IRON FITTINGS

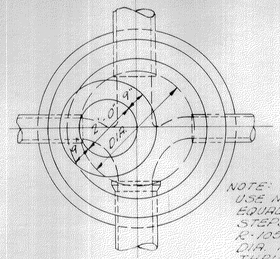



PLAN

| SEWER SIZE | DROP SIZE |
|---|---|
| 8" | 8" |
| 10" | 10" |
| 12"-15"-18" | 12" |
| 21"-24" | 15" |
| 27"-30"-36" | 18" |

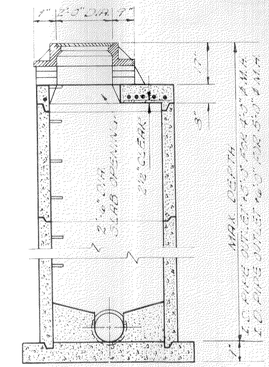



PLAN

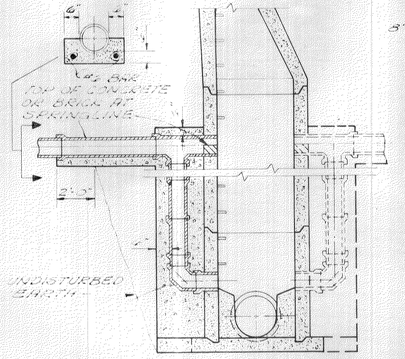



NOTE: USE NEENAH R-1980-E OR EQUAL CAST IRON MANHOLE STEPS. USE NEENAH R-1000-B WITH 3-3/4" DIA. HOLES, GORED THRU LID, OR EQUAL CAST IRON MANHOLE FRAME & COVER.

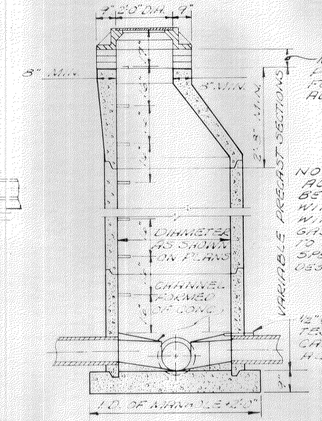
PLAN




SECTION SHALLOW MANHOLE

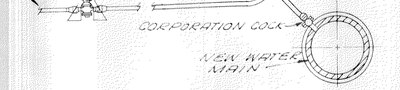



SECTION DROP MANHOLE

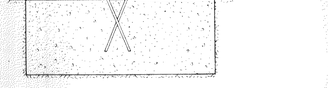



SECTION PRECAST MANHOLE

NOTE: ALL MANHOLES TO BE CONSTRUCTED WITH JOINTS MADE WITH RUBBER GASKETS CONFORMING TO A-S-T-M SPECIFICATION DESIGNATION C-443

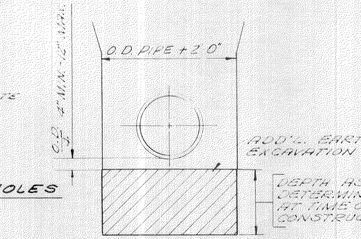



TYPICAL SERVICE CONNECTION

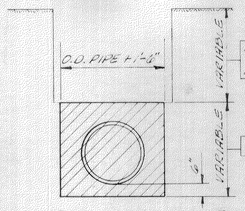



VERTICAL BEND ANCHOR DETAIL

A.B.S. COMPOSITE PIPE CONNECTION AT MANHOLES

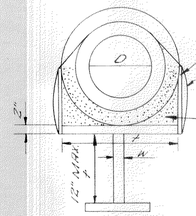



ADDITIONAL EARTH EXCAVATION PAYMENT LIMITS

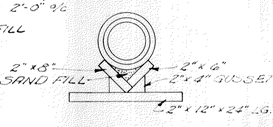



ROCK EXCAVATION PAYMENT LIMITS

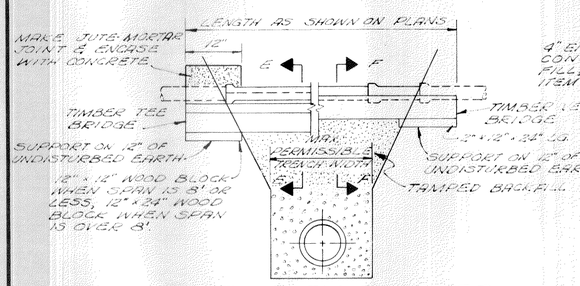
| D | 4"-6" | 8" | 10" | 12" | 15" | 18" |
|---|---|---|---|---|---|---|
| t | 10" | 12" | 14" | 18" | 20" | 24" |
| w | 2" | 2" | 3" | 3" | 3" | 3" |



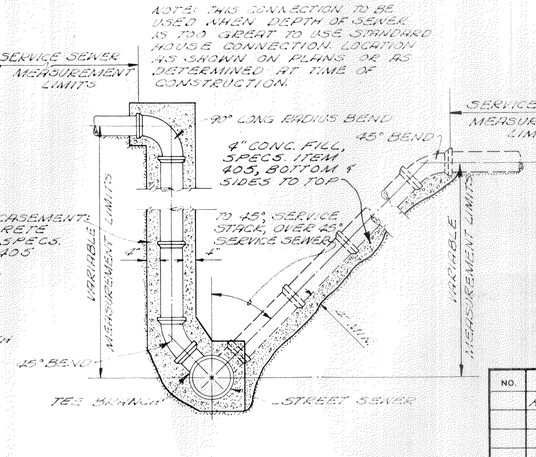

SECTION E-E



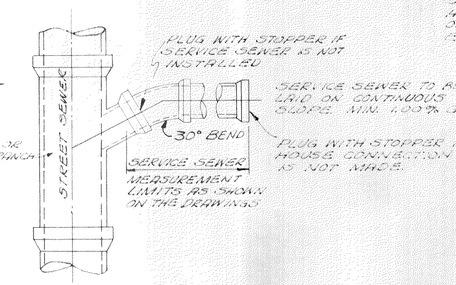

SECTION F-F



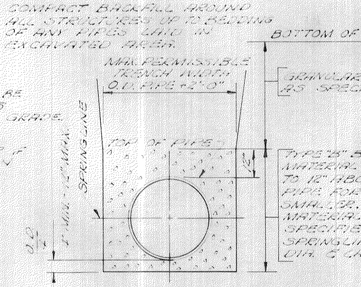

RESTORE EXIST. SEWER PIPE LINES



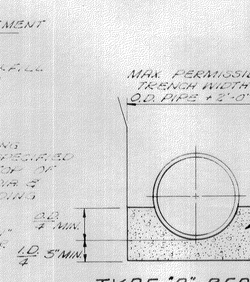

TYPICAL SERVICE STACK




STANDARD SERVICE CONNECTION




STANDARD BEDDING AND TRENCH DETAIL




TYPE "A" BEDDING

NOTE: ALL DETAILS ON THIS DRAWING ARE NOT NECESSARILY APPLICABLE TO THIS CONTRACT.

149 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | REVISED TO DATE | 8/23 | DEM | HRG |

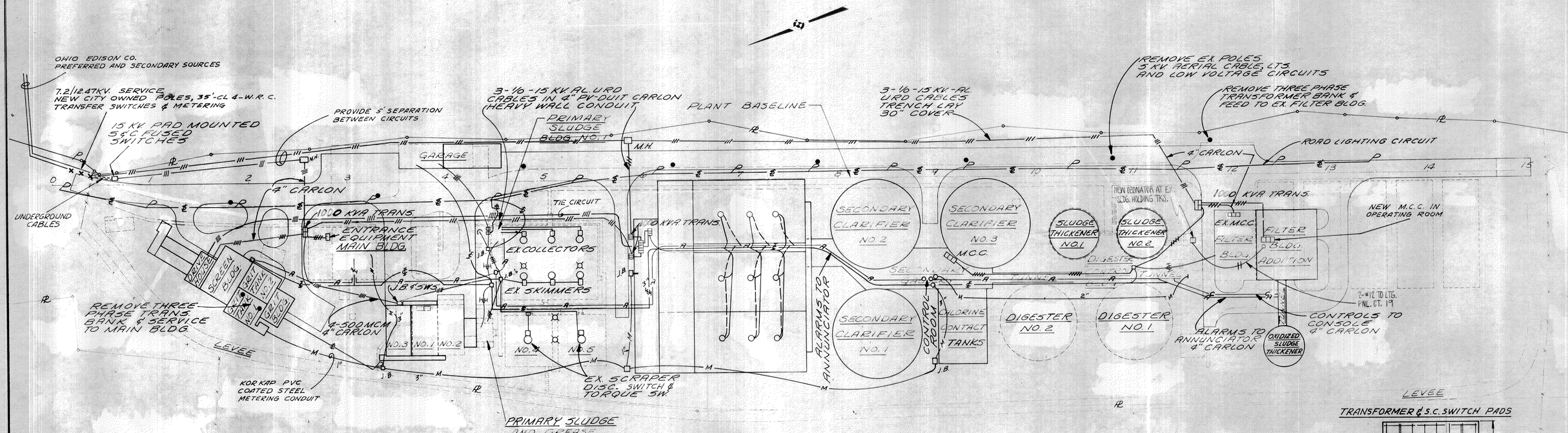
FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB NO. 1061 | DRAWN | CHECKED
SCALE NONE | DWG. NO. 72261 | TRACED | APPROVED

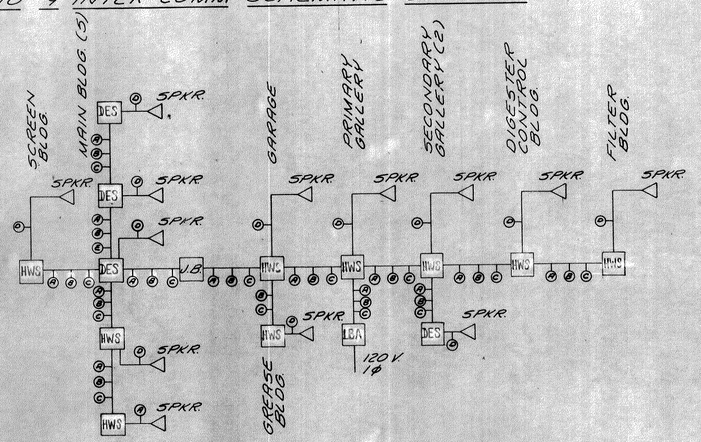
MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4

MISCELLANEOUS DETAIL SHEET




## PAGING & INTER-COMM SCHEMATIC DIAGRAM




## REFERENCE DRAWINGS

| | |
|---|---|
| 151 | ELECTRICAL DIAGRAMS & SYMBOLS |
| 153 | ELECTRICAL EQUIPMENT SCHEDULES-METERING |
| 154 | PUMP, SCREEN & GRIT STRUCTURE-ELECTRICAL |
| 155 | MAIN BLDG. ELECTRICAL SYSTEM |
| 156 | MAIN BLDG. & GARAGE |
| 157 | PRE-AERATION, PRIMARY TANKS, SLUDGE BLDGS. #1 & #2 |
| 158 | PRIMARY GALLERY & AERATION TANKS |
| 159 | PRIMARY GALLERY |
| 160 | SECONDARY GALLERY |
| 162 | DIGESTER CONTROL ROOM & HOLDING TANKS |
| 164 | EX. FILTER BLDG. & DIAGRAMS |
| 165 | FILTER BLDG. OXIDIZED SLUDGE THICKENERS |

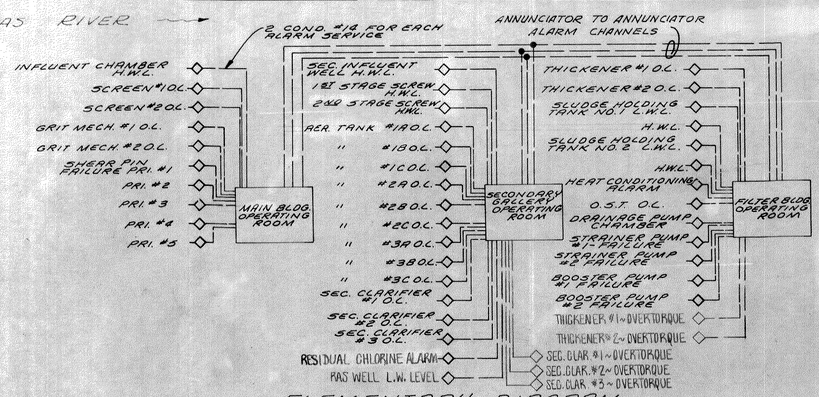
## LEGEND

| | |
|---|---|
| LBA | LINE BALANCE ASSEMBLY |
| HWS | HANDSET WALL STATION |
| WHS | WEATHERPROOF HANDSET STATION |
| SA | SPEAKER AMPLIFIER ASSEMBLY |
| WSA | WEATHERPROOF SPEAKER AMPLIFIER ASSEMBLY |
| WS | WALL STATION |
| DES | DESK EDGE STATION |
| FWS | FLUSH PANEL WALL STATION |
| DTS | DESK TOP STATION |
| WWS | WEATHERPROOF WALL STATION |

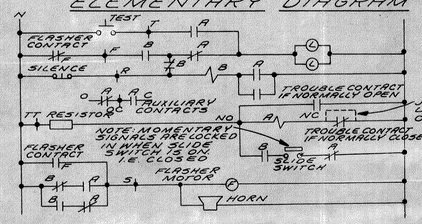
A A.C. POWER #14 AWG. TWISTED PAIR
B L1 & L2 PAGE #18 AWG. TWISTED PAIR
C L1 & L2 PARTY #18 AWG. TWISTED PAIR
D SPEAKER #18 AWG. TWISTED PAIR
E MUTE #18 AWG.

NOTE:
1. MAINTAIN POLARITY OF WIRING THROUGHOUT ENTIRE SYSTEM
2. COLOR CODE ALL CONDUCTORS & TAG

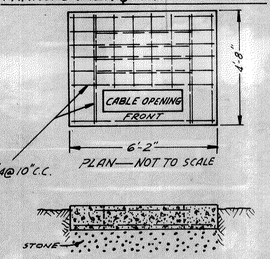
## ANNUNCIATOR AND ALARM ARRANGEMENT




## ELEMENTARY DIAGRAM




## TRANSFORMER & S.C. SWITCH PADS




## CABLE LEGEND

| | |
|---|---|
| —E— | PAGING & INTER-COMM CIRCUIT-1" CONDUIT |
| —T— | PUBLIC TELEPHONE CIRCUIT |
| —III— | 7.2/12.5 KV URD. CABLE |
| —IIII— | 480Y/277 V.-3Φ-4W |
| —A— | ALARM CIRCUIT-ANNUNCIATOR |
| —C— | CONTROL CIRCUIT |
| —M— | METER CIRCUIT |
| —¢— | STREET OR AREA LIGHT CIRCUIT |
| • | REMOVE EX. POLE |
| P | NEW LIGHT STD. |

150 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB NO. 1061 | DRAWN K.D.P. | CHECKED TK
SCALE 1"=50'-0" | DWG. NO. 72262 | TRACED | APPROVED

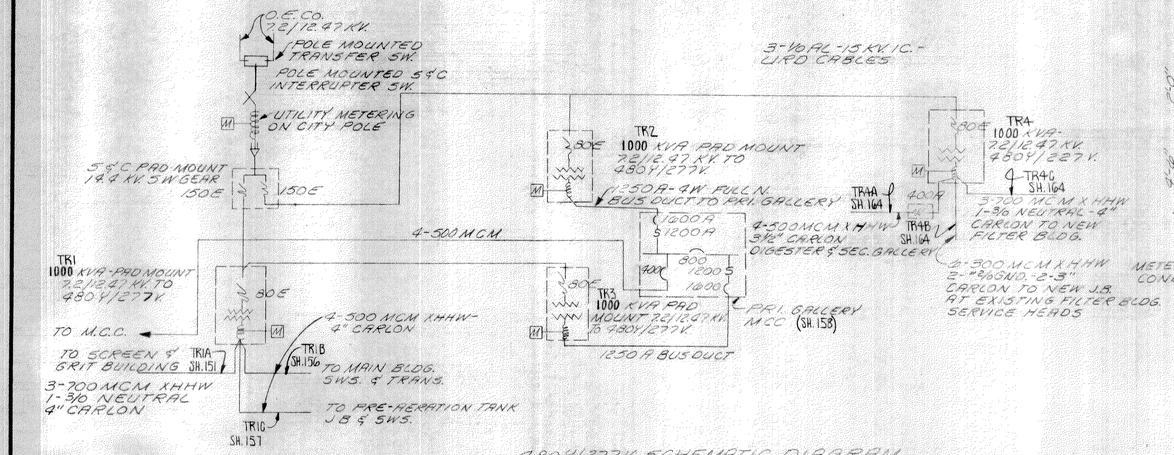
MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4

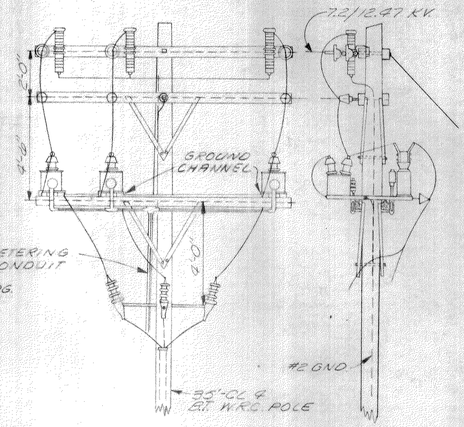
GENERAL LAYOUT
ELECTRICAL

BRUNING 40-108

## 7.2/12.47 KV. SCHEMATIC DIAGRAM 480Y/277V. SERVICE



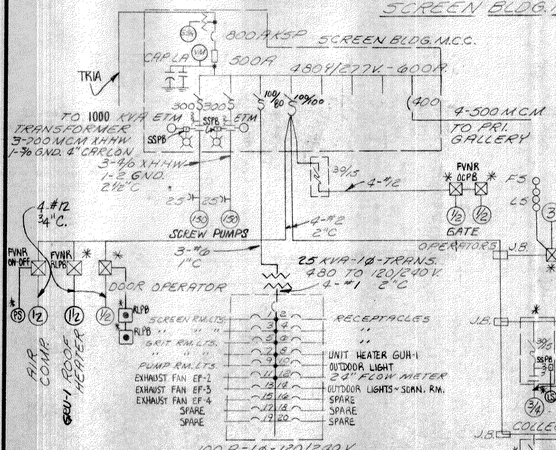

## METERING & CABLE POLE



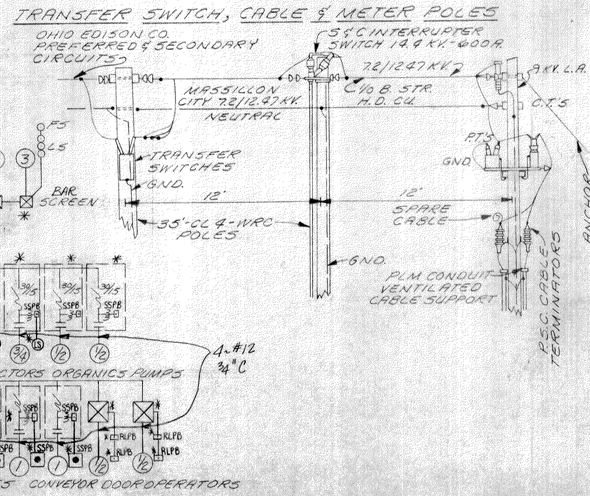

## SCHEMATIC DIAGRAM SYMBOLS

- CONDUIT IN CEILING ABOVE
- EXIST. CONDUIT-NOT TO BE REMOVED
- CONDUIT IN FLOOR
- DISTRIBUTION PANEL
- LIGHTING PANEL
- MOTOR CONTROLLER
- DISCONNECT SWITCH
- (M) MOTOR-SQUIRREL CAGE
- (TR) TRANSFORMER
- (M) METER
- (TH) THERMOSTAT
- (TC) TIME CLOCK
- (PS) PRESSURE SWITCH
- (FS) FLOAT SWITCH
- PUSH BUTTON
- (SW) SELECTOR SWITCH
- (TS) TRANSFER SWITCH
- (K) RELAY
- (H) HORN
- ANNUNCIATOR
- (JB) JUNCTION BOX
- (LS) LIMIT SWITCH
- (CAP) CAPACITOR
- (UH) UNIT HEATER
- CEILING INCANDESCENT FIXTURE
- WALL MOUNTED FIXTURE
- (LA) LIGHTNING ARRESTER
- FLUORESCENT FIXTURE
- $ SINGLE POLE WALL SWITCH
- $3 THREE WAY SWITCH
- DUPLEX CONVENIENCE OUTLET
- SPECIAL PURPOSE OUTLET
- CEILING OUTLET
- FLOOR OUTLET
- (C) CLOCK OUTLET
- OUTSIDE TELEPHONE
- INTER-COMMUNICATION PHONE
- (V) SOLENOID VALVE
- ELECTRICAL ITEM-FURNISHED BY MECH. EQUIP. MFR.

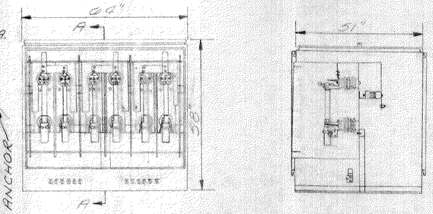
## 480Y/277V. SCHEMATIC DIAGRAM SCREEN BLDG. MOTOR CONTROL CENTER-MAIN BLDG. SERVICE



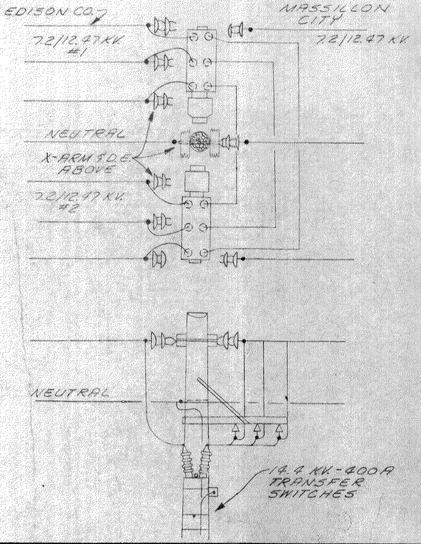

## TRANSFER SWITCH, CABLE & METER POLES



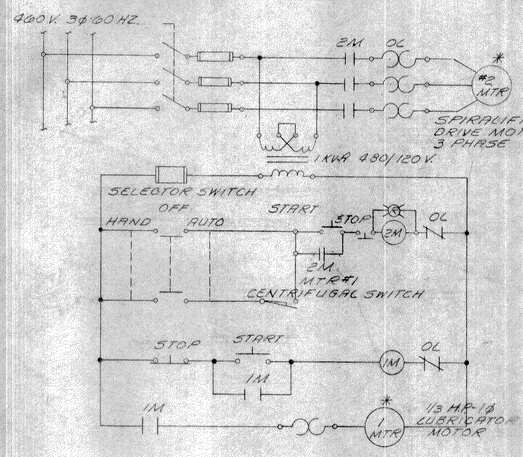

## PAD MOUNT SWITCH GEAR



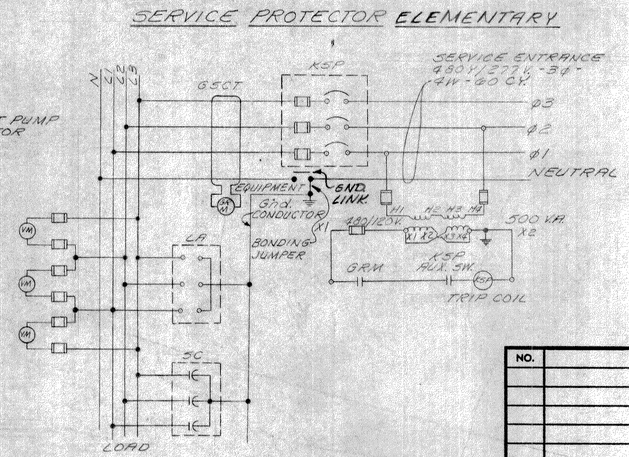

## TRANSFER SWITCH POLE




## SCREW PUMP CONTROL ELEMENTARY




## SERVICE PROTECTOR ELEMENTARY




## ELEMENTARY DIAGRAM SYMBOLS

- SAFETY SWITCH
- (50) CIRCUIT BREAKER-RATING AMP.
- FUSE
- CONTACTOR-NORMALLY OPEN
- CONTACTOR-NORMALLY CLOSED
- TRANSFORMER
- (N.O.) START-PUSH BUTTON
- (N.C.) STOP-PUSH BUTTON
- RELAY COIL
- SOLENOID COIL
- RESISTOR
- (R) RED INDICATING LIGHT
- (G) GREEN INDICATING LIGHT
- CURRENT TRANSFORMER
- HAND-OFF-AUTO SELECTOR SWITCH
- AUTO-HAND-OFF-AUTO
- LIGHTNING ARRESTER AND GROUND
- N.O. SWITCH (GENERAL)
- N.C. SWITCH (GENERAL)
- N.O. LIMIT SWITCH
- N.C. LIMIT SWITCH
- FLOW SWITCH
- LIQUID LEVEL SWITCH
- PRESSURE SWITCH
- TEMPERATURE
- (VM) VOLTMETER
- (AM) AMMETER
- CAPACITOR
- RECTIFIER
- 3E POTENTIAL TRANSFORMER
- TIME DELAY AFTER ENERGIZATION
- TIME DELAY AFTER DE-ENERGIZATION
- CRT. CONTROL POWER TRANSFORMER

## REFERENCE SHEETS

| SHT. NO. | |
|---|---|
| 150 | GENERAL LAYOUT - ELECTRICAL |
| 153 | ELECTRICAL EQUIPMENT SCHEDULES - METERING |
| 154 | PUMP, SCREEN, & GRIT STRUCTURE ELECTRICAL |
| 155 | MAIN BUILDING ELECTRICAL SYSTEM |
| 156 | MAIN BUILDING & GARAGE |
| 157 | PRE-AERATION, PRIMARY TANKS, SLUDGE BUILDINGS #1 & #2 |
| 158 | PRIMARY GALLERY & AERATION TANKS |
| 159 | PRIMARY GALLERY |
| 160 | SECONDARY GALLERY |
| 162 | DIGESTER CONTROL ROOM & HOLDING TANKS |
| 164 | EX. FILTER BUILDING & DIAGRAMS |
| 165 | FILTER BUILDING, OXIDIZED SLUDGE THICKENERS |

| NO. | REVISION DATA | DATE | BY | APP'D |
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FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN KDP | CHECKED TK
SCALE NONE | DWG. No. 72263 | TRACED | APPROVED LER

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4

ELECTRICAL SCHEMATIC DIAGRAMS
SYMBOLS-ELEMENTARY DIAGRAMS

151 OF 165

BRUNING 40-105 — 1 2 3 4 5 6 7 8

## MOTOR CONTROL SCHEDULE

| QTY. | ITEM | H.P. | F.L.A. | VOLTS | PH/HZ | RAM | TYPE | ENCL. | CODE | LOCKED ROTOR K.V.A. PER H.P. | TEMP. RISE | S.F. | FUSE | WIRE | CONDUIT | CONTROL | PILOT DEVICES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | MECH. SCREEN | 3 | 5 | 460 | 3/60 | | IND. | NEMA 7 | | | | | | #12 | 3/4" | FSS-MAG. CONTACTOR-H-O-A SW.-IND.LT.-TIMER-HEATER WITH EQUIPMENT IN NEMA 7 | MERCOID DIFFERENTIAL PRESSURE SWITCH IN EQUIP. CONTROL PANEL. LIMIT SWITCHES WITH EQUIPMENT. |
| 1<br>1 | GRIT BLDG. U.H. (6 unit)<br>SCREEN RM. FANS (2 units) | 1½ | | 115<br>460 | 1/60<br>3/60 | | | | | | | | | #12 | | MOTOR O.L. SNAP SWITCH<br>MAG. STARTER WITH EQUIPMENT | THERMOSTATS AND SPEED SWITCHES WITH EQUIP. |
| 1 | AIR COMPRESSOR SCREEN BLDG. SAMPLER | ½ | | 460 | 3/60 | | IND. | | | | | | | #12 | | FSS-MAG. STARTER-NEMA 1 ON-OFF SW.-CPT W/ EQUIP. | PRESSURE SWITCH ON RECEIVER WITH EQUIPMENT |
| 3 | EXHAUST FANS EF-2, EF-3, EF-4 | ½-⅓<br>⅓ | | 115 | 1/60 | | | | | | | | | #12 | | MOTOR O.L. SNAP SWITCHES NEMA 12 | FVNR STARTER & CONTROLS FURNISHED W/ EQUIP. |
| 2 | GATE OPERATORS | ½ | 1 | 460 | 3/60 | | | NEMA 4 | | | | | | #12 | 3/4" | OPEN-CLOSE CONTACTOR-CPT-PB. WITH EQUIPMENT | |
| 2 | RAW SEWAGE PUMPS<br>LUBRICATOR | 150<br>1/3 | 180 | 460<br>120 | 3-60<br>1-60 | | IND. | | | | | | 300 | 3-#0<br>1-#2 GND | 2½" | FSS-FV STARTER IN MCC CPT-MM-HR-IND. LT.-S.E. SW ELAPSED TIME METERS | PB.-RELAY-O.L.-AUX. SW. FOR LUBRICATOR |
| 2 | ORGANIC RETURN PUMPS | ½ | 1 | 460 | 3/60 | | IND. | NEMA 4 | | | | | | #12 | | COMBINATION STARTER-AND M.M.P.B. WITH EQUIPMENT | PERMISSIVE INTERLOCKS TO RAKES |
| 2 | INCLINED RAKE | 1 | 2 | 460 | 3/60 | | IND. | NEMA 12 | | | | | | #12 | | COMBINATION STARTER-AND M.M.P.B. WITH EQUIPMENT | PB AT FLOOR LOCATION. PERMISSIVE INTERLOCK TO GRIT COLLECTORS. |
| 2 | GRIT COLLECTORS | ¾ | 2 | 460 | 3/60 | | IND. | NEMA 4 | | | | | | #12 | | COMBINATION STARTER-AND M.M.P.B. WITH EQUIPMENT | C.S. WITH EQUIPMENT WITH CONTACT FOR ANNUNCIATOR ALARM |
| 3 | SCREEN BLDG. DOOR OPERATORS | ½ | 1 | 460 | 3/60 | | IND. | NEMA 4 | | | | | | #12 | | FSS-FV STARTER-3 H.P. C.P.T. W.P.P.B. - NEMA 12 E.E. WITH EQUIPMENT | |
| 1 | GRIT CONVEYOR | 1 | 2 | 460 | 3/60 | | IND. | NEMA 12 | | | | | | #12 | | FSS-FV STARTER-C.P.T. M.M.P.B. - P.B. AT FLOOR LOCATION | PERMISSIVE INTERLOCK TO RAKES |
| 1 | PRE-AERATION BLOWER-NEW | 20 | 27 | 460 | 3/60 | | IND. | | | | | | 50A c/b | 4-#8 | 1" | REPLACE EX. SIZE 1 STARTER WITH SIZE 2 IN EX. M.C.C. | INCLUDE 120V. C.P.T. 400 V.A. APPARATUS FOR AND ELAPSED TIME METERS |
| 3 | PRE-AERATION BLOWERS-EXIST. | 15 | 21 | 460 | 3/60 | | IND. | | | | | | | | | EXISTING COMB.-STARTERS IN M.C.C. | INSTALL 120V. COILS AND C.P.T. AND ELAPSED TIME METERS |
| 2 | GARAGE GAS FIRED UNIT HEATER | | | 115 | 1/60 | | | | | | | | | #12 | | MOTOR OVERLOAD SNAP SWITCH-NEMA 12 | THERMOSTAT WITH NEW HEATER. RECONNECT THERMOSTAT FOR EL. U.H. |
| 2 | GARAGE DOOR OPERATORS | ½ | 1 | 460 | 3/60 | | IND. | | | | | | | #12 | 3/4" | FSS-FV. STARTER-2 H.P. C.P.T. NEMA 4 M.M.P.B. WITH EQUIPMENT | |
| 1 | HOIST GARAGE | 2 / ⅓ | | 460 | 3/60 | | IND. | | | | | | | #12 | 3/4" | 30 A F.S.S. AND JUNCTION BOX. CONTROLS WITH HOIST. | CABLE TAKE-UP REEL IN ELEC. ITEM |
| 2 | VENT. SLUDGE BLDG. NO. 2 GARAGE (EF-6, EF-12) | 40 / ⅓ | | 115 | 1/60 | | | | | | | | | #12 | | MOTOR O.L. SNAP SWITCH | FVNR STARTER & CONTROLS FURNISHED W/ EQUIP. |
| 2 | PRIMARY TANK COLLECTORS NO. 2 & 5 | ½ | 1 | 460 | 3/60 | | IND. | NEMA 4 | | | | | | #12 | | INSTALL FSS-FV. STARTER IN NEMA 4 AT MOTOR W/ C.P.T. REMOVE EX. DISC. | ANNUNCIATOR CONTACT TO MAIN BLDG. |
| 3 | PRIMARY TANK COLLECTORS (EXISTING) | 3 | 5 | 460 | 3/60 | | IND. | NEMA 4 | | | | | | #12 | | INSTALL C.P.T. FOR EACH MOTOR | ANNUNCIATOR CONTACT TO MAIN BLDG. |
| 1 | SKT. DRIVE, SLUDGE BUILDING NO. 2 | ½ | 1 | 460 | 3/60 | | IND. | NEMA 12 | | | | | | #12 | | INSTALL FSS-FV-NEMA 12 STARTER-C.P.T. M.M.P.B. | |
| 2 | RAW SLUDGE PUMPS BLDG. #2 | 10 | 15 | 460 | 3/60 | | IND. | NEMA 12 | | | | | | #12 | | INSTALL NEW-NEMA 12-FSS STARTERS P.B. AT MOTORS REMOVE OLD DISCONNECTS | VARIDRIVE CONTROLS, AMMETERS, SELECTOR SWITCHES, SEAL WATER CONNECTIONS TO REMAIN |
| 1 | SLUDGE BLDG. NO. 2 UNIT HEATER | 20 KW. | 26 | 460<br>480 | 3/60 | | | | | | | | 40 | 4-#8 | 1" | 60 A-3P-FSS. IN NEMA 12 ENCLOSURE | CONTACTOR AND THERMOSTAT WITH HEATER |
| 2 | PRIMARY GALLERY SUMP PUMPS | 1½ | 3 | 460 | 3/60 | | IND. | NEMA 12 | | | | | 15 | #12 | 3/4" | FSS-FV-STARTER-C.P.T.-ON-OFF SWITCH | FLOAT SWITCH WITH EQUIPMENT |
| 2 | PRIMARY EFFLUENT PUMPS & LUBRICATOR | 150<br>1/3 | 180 | 460 | 3-60<br>1-60 | | IND. | MCC | | | | | 300 | 3-#0<br>1-#2 GND | 2½" | FSS-FV MAG. STARTER CONTROL TRANS.-M.M.P.B.-IND. LT.-SEL. SW. & E.T.M. | P.B.-RELAY-O.L.-AUX. SW. FOR LUBRICATOR |
| 2 | PRIMARY EFFLUENT | 200<br>15 | 260 | 460 | 3-60<br>1-60 | | IND. | MCC | | | | | 400 | 3-350<br>1-#2 GND | 3" | FSS-FV MAG. STARTER AT MOTOR-CONTROL TRANS.-M.M.P.B.-IND. LT.-SEL. SW. & E.T.M. | 400 A FSS IN MCC AT-1 P.B.-RELAY-O.L.-AUX. SW. FOR LUBRICATOR |
| 5 | PRIMARY GALLERY UNIT HEATERS | 1/6 | | 115 | 1/60 | | | | | | | | | #12 | | MOTOR O.L. SNAP SWITCHES AT HEATERS | CONTACTOR & THERMOSTATS WITH HEATER |
| 1 | CIRCULATING PUMP P-3 | ¾ | 2 | 460 | 3/60 | | IND. | NEMA 12 | | | | | | #12 | | FSS-FV STARTER-NEMA 12 C.P.T.-H-O-A SW. W/ EQUIP. | THERMOSTAT |
| 4<br>2 | CHEMICAL FEEDERS<br>CHEMICAL MIXER | ⅓<br>⅓ | | 115<br>460 | D.C.<br>3/60 | | | | | | | | 30 | #10 | ¾" | FSS AND 5 KVA 480/120 V. ISOLATION TRANSFORMER | SCR CONTROL WITH EQUIPMENT |
| 9 | AERATION ROTORS | 100 | 120 | 460 | 3/60 | | IND. | MCC | | | | | 175 | 3-#0<br>1-#6 GND | 2" | FSS-FV MAG. STARTERS IN MCC CONTROL TRANS.-M.M.P.B.-IND. LT. CT, AMMETER, RELAY | ADD CAPACITORS AND ELAPSED TIME METERS, WATER RELAY OVERLOAD ALARM |
| 1 | ELEVATOR | 20 | 25 | 460 | 3/60 | | IND. | | | | | | 50 | 3-#8<br>1-#8 GND | 1" | F.S.S. AT CONTROLS | H.O. PUMP STARTER AND ELEK CONTROLS & CTS. WITH EQUIP. |
| 3 | WIER OPERATORS | ½ | 1 | 460 | 3/60 | | | | | | | | | | | W.P. CONTROLLER WITH EQUIP. D.O. ANALYZERS IN M.C.C. | W.P. RAISE-LOWER STOP-P.B.'S H-O-A SEL. SW. WITH EQUIP. 200 PROBE THERM. W/EQUIP. |
| 2 | PLANT EFFLUENT PUMPS | 25 | 34 | 460 | 3/60 | | IND. | MCC | | | | | 60 | 3-#6<br>1-#6 GND | 1"C | FSS-FV MAG. STARTER IN MCC-CONTROL TRANS.-M.M.P.B. ELAPSED TIME METERS | IND. LT. IN CONTROL ROOM-ON-OFF SW.-PUMP SEL. SW. & ADD CAPACITORS |
| 3 | SECONDARY CLARIFIER DRIVES | ½ | 1 | 460 | 3/60 | | IND. | NEMA 4 | | | | | 15 | 3-#12<br>1-#12 GND | ¾"C | FSS-FV MAG. STARTER IN NEMA 4 AT MOTOR-CONTROL TRANS. HAREB | MECH. OVERLOAD DEVICES TORQUE MONITOR WITH EQUIP. ALARM PANEL WITH ELEC. ITEM |
| 3 | R.A.S. PUMPS | 30 | 40 | 460 | 3/60 | | IND. | MCC | | | | | 60 | 3-#6<br>1-#6 GND | 1"C | FSS-FV MAG. STARTER IN MCC CONTROL TRANS. LOR SEL. SW. ELAPSED TIME METERS | PB # IND. LT. IN CONTROL ROOM. LW CUTOFF IN AIR CONTROL PANEL. ADD CAPACITORS. |
| 2 | CHLORINATORS | 30 WATTS | | 120 | 1/60 | | | | | | | | | #12 | | CORROSION RESISTANT GROUNDED TYPE RECEPTACLES | |
| 1 | TROLLEY & HOIST | 2 / ⅓ | | 460 | 3/60 | | IND. | | | | | | 15 | 3-#12<br>1-#12 GND | ¾"C | NEMA 4 FSS.-100 A. TROC.-E-DUCT. | STARTER CONTROL STATION WITH EQUIP. |
| 1 | EXHAUST FAN EF-5 | ½ | 1 | 460 | 3/60 | | IND. | NEMA 4 | | | | | 15 | 3-#12<br>1-#12 GND | ¾"C | NEMA 4 FSS-FV STARTER C.P.T. IND. LT.-AUX. SW. FOR DAMPER OPERATORS W/EQUIP. | |
| 2 | AIR COMP. FOR SAMPLERS (PRI. & SEC. GALLERY) | ½ | | 460V | 3/60 | | | | | | | | 15 | 3-#12<br>1-#12 GND | ¾"C | FSS-MAG STARTER & ON-OFF SW. | PRESSURE SW. ON RECEIVER W/EQUIP. |
| 3 | SAMPLERS-SCRN & PUMP BLDG. PRI. & SEC. GALLERIES | | | 120 | 1/60 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| 1 | MAKE-UP UNIT MU-1 | 1½ | 3 | 460 | 3/60 | | | NEMA 12 | | | | | | #12 | | FSS-FVNR-NEMA 12-CPT-CONTROL SW.-W/EQUIP.-INTLK. TO PG. | |
| 1 | CHLORINE ANALYZER PUMP | ¾ | | 460 | 3/60 | | | | | | | | | #12 | ¾" | FSS, FVNR, NEMA 12, CPT, SSPB | |
| 2 | CIRCULATING PUMPS-PA<br>PG | 1½ / ⅓ | | 460 | 3/60 | | | | | | | | | #12 | | STARTER & H-O-A SW. WITH EQUIPMENT | |

## LIGHTING FIXTURE SCHEDULE

| MARK | LOCATION | DESCRIPTION | LAMP SIZE |
|---|---|---|---|
| A | MAIN BLDG. LANDINGS & STAIRS | PRESCOLITE WB-28 | 150 |
| B | BO. & STOREROOM CEILING | PRESCOLITE CFX-2 | 100 |
| C | CLOSET PULL CHAIN | HUBBELL PORCELAIN RECEPTACLE & PULL CHAIN | 100 |
| D | HALLWAY & VESTIBULE | RECESSED FOR REFLECTOR FLOODS MOE R-233A | R30 75W |
| E | MEN'S TOILET WALL | PRESCOLITE WB-130 | 4-1W |
| F | RECESSED OFFICE & LAB FLUORECENT FIXTURES | HOLOPHANE RECESSED 72506ALI HPF-BALLAST RAPID START | 2-40 |
| G | GARAGE | HOLOPHANE C-2460 SURFACE MOUNTED | 150 |
| H | DISPLAY LIGHT | | 150 |
| J | | | |
| K | SECONDARY GALLERY CONTROL ROOM | SURFACE MOUNTED FLUORESCENT FIXTURE RAPID START HPF 2-40 7100-4-120-HOLOPHANE | |
| L | FILTER BUILDING SCREEN & GRIT BUILDING | HOLOPHANE 02420 | 300 |
| M | GENERAL BUILDING FIXTURES | HOLOPHANE C-2460 SURFACE MOUNTED | 150 |
| N | CEILING FIXTURE UNDER TANKS | SWIVEL MOUNTED | 150 |
| O | DECK POLE MOUNTED FIXTURES | TWIN FIXTURES ON 40' POLE PHOTO CELL CONTROL & POLE STEPS. HMS 42-1118-120-2 WAY | 1000W MERC. |
| P | ROADS & WALKS | HOLOPHANE POSTOP #369-277V. 30' ROUND STEEL POLE-3'-9"x3/8" ANCHOR BOLTS-ANCHOR BASE | 250W MERC. |
| | | OLP-366-21-277 PR<br>OLP-367-13-120 PR | |
| R | TANK-POLE MOUNTED FIXTURES | HOLOPHANE POSTOP ON 12' ROUND STEEL POLE-120V-"368" | 175W MERC. |
| S | THICKENER ROOMS | CROUSE HINDS PENDANT VRA 220 AND UNJC BALL FITTING | 150 |
| T | TUNNELS & WALLS | HOLOPHANE WALL PACK 120 V. #480 | 150 |
| V | CHLORINE ROOM | CROUSE-HINDS ARB 33 VAPOR TIGHT WITH GLOBE GUARD | 150 |
| W | EXTERIOR WALL LIGHTS | HOLOPHANE WALL PACK #2 120 V. #498-120 | 175W MERC. |
| X | EXIT LIGHTS | PRESCOLITE CEILING PENDANT SINGLE FACE EDGE-LIT TYPE 6" RED LETTERS-120 V. | |
| Y | | | |

P.C. INDICATES PHOTO-CELL TO BE INCLUDED WITH FIXTURE

## MAIN BLDG. MOTOR CONTROL SCHEDULE

| QTY. | SERVICE | H.P. | F.L.A. | VOLTS Ø | CONTROL | PILOT DEVICES |
|---|---|---|---|---|---|---|
| 1 | AIR CONDITIONER COMP. (ACU-1) | 2.8 KW | | 460/3 | CONTROLS WITH EQUIPMENT | |
| 4 | FANS (ACU-1) | .75 KW | | 460/3 | CONTROLS WITH EQUIPMENT | |
| 1 | TEMP. CONT. COMPRESSOR | 1/4 | | 115/1 | MOTOR OVERLOAD SNAP SWITCH | |
| 1 | MULTI-ZONE FAN UNIT | 5 | | 460/3 | STARTER & H-O-A SWITCH WITH EQUIPMENT | |
| 2 | CIRCULATING PUMPS (P1, P2) | 1/2 3/4 | | 460/3 | STARTER & H-O-A SWITCH WITH EQUIPMENT | |
| 1 | H. W. CIRC. PUMP | 1/8 | | 115/1 | MOTOR OVERLOAD SNAP SWITCH | |
| 1 | BO. CONT. | | | 115/1 | CONTROLS WITH EQUIPMENT | |
| 2 | UNIT HEATERS | 1/6 | | 115/1 | MOTOR OVERLOAD SNAP SWITCHES | CONTACTOR & THERM. W/ EQUIP. |
| 1 | EXHAUST FAN EF-11 | 1/25 | | 115/1 | MOTOR OVERLOAD SNAP SWITCHES | STARTER & CONTROLS FURNISHED W/EQUIP. |
| 1 | EXHAUST FAN EF-1 | 3/4 | | 460/3 | STARTER WITH EQUIPMENT FVNR W/ SPEED | |
| 1 | LAB. COMPRESSOR | | | 115/1 | CONTROLS WITH EQUIPMENT | |
| 1 | LAB VACUUM PUMP | | | 115/1 | | |
| 1 | DUMB WAITER | 1/4 | | 115/1 | SINGLE PHASE MAG. STARTER & M.M. RAISE-LOWER P.B. | ALL CONTROLS, LIMIT SWS., LIGHTS, INTERLOCKS, WITH EQUIPMENT |
| 1 | DRAINAGE PUMP | 7½ | | 460/3 | FURNISH NEW FSS-RELOCATE EXISTING STARTER. | SUPPLY H-O-A SW & CPT. CONNECT TO EXISTING FLOAT SW. |

### ELECTRICAL COMPONENT APPLICATIONS

CURRENT TRANSFORMERS & MOTOR CURRENT INDICATING AMMETERS - AERATION TANK ROTOR DRIVES

ELAPSED TIME METERS - RAW WASTEWATER SCREW PUMPS, MECH.-SCREENS, PRE-AERATION BLOWERS PRIMARY EFFLUENT SCREW PUMPS, AERATOR ROTOR DRIVES, R.A.S. PUMPS, PLANT EFFLUENT PUMPS, BOOSTER PUMPS, THICKENED SLUDGE PUMPS, VACUUM FILTER DRIVES, SLUDGE GRINDERS, SLUDGE FEED PUMPS, HIGH PRESSURE PUMPS, COMPRESSORS

TORQUE MONITORS & LIMIT SWITCHES - GRIT COLLECTORS, SECONDARY CLARIFIERS, SLUDGE THICKENERS, ~~THICKED SLUDGE THICKENER~~ DRIVE

CAPACITORS - SCREW PUMPS, AERATOR ROTORS, FILTER VACUUM PUMP, PRE-AERATION BLOWER, PLANT EFFLUENT PUMPS, R.A.S. PUMPS.



| NO. | REVISION DATA | DATE | BY | APP'D |
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FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN KDP | CHECKED TK
SCALE NONE | DWG. No. 72264 | TRACED | APPROVED LER

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4

ELECTRICAL EQUIPMENT SCHEDULES
MOTORS-CONTROLS-LIGHTING-HEATERS

## MOTOR / CONTROL SCHEDULE

| QTY. | ITEM | H.P. | F.L.A. | VOLTS | PH/HZ | R.P.M. | TYPE | ENCL. | LOCKED ROTOR CODE | LOCKED ROTOR KVA PER H.P. | TEMP. RISE | S.F. | FUSE | WIRE | CONDUIT | CONTROL | PILOT DEVICES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SECONDARY GALLERY SUMP | 1/2 | | 460 | 3/60 | | IND. | | | | | | 15 | 4#12 | 1" | FSS, FVNR STARTER, HOA, CPT, IN MCC. | FLOAT SW. FURNISHED BY EQUIP. MFR. |
| | | | | | | | | | | | | | | | | | |
| 1 | EXHAUST FAN EF-1 w SLUDGE THICKENER PUMP ROOM | 1/4 | | 115 | 1/60 | | | | | | | | | #12 | | MOTOR O.L. SNAP SWITCH | STARTER & CONTROLS FURNISHED W/ EQUIP. |
| 2 | SLUDGE THICKENER DRIVES | 2 | 4 | 460 | 3/60 | | IND. | NEMA 4 | | | | | 15 | 4#12 | 3/4" | NEMA 4 FSS-FV STARTER CONTROL TRANS.-M.M.P.B. & IND. LT. AT MOTOR | TORQUE MONITOR SAFETY DEVICE & TORQUE SWITCH WITH EQUIPMENT |
| 3 | THICKENED SLUDGE PUMPS | 3 | 5 | 460 | 3/60 | | IND. | NEMA 7 | | | | | 15 | 4#12 | 3/4" | NEMA 7 FSS-FV STARTER CONTROL TRANS. H-O-A ELAPSED TIME METERS | REPETITIVE CYCLE TIME CLOCKS w HL CUTOFF SLUDGE HOLDING TANKS |
| 2 | SUMP PUMP | 1/2 | 1 | 460 | 3/60 | | IND. | | | | | | 15 | 4#12 | 3/4" | NEMA 4 FSS-FV STARTER CONTROL TRANSFORMER ON-OFF SW. | FLOAT SWITCH WITH EQUIPMENT |
| 2 | PLANT EFFLUENT BOOSTER PUMPS | 20 | 26 | 460 | 3/60 | | IND. | NEMA 12 | | | | | 40 | 4#8 | 1" | FSS w FVNR w SSPB W/ETM | LOW PRESSURE CUT-OFF SW. LOW PRESSURE ALARM |
| 2 | STRAINERS | 1/2 | 1 | 460 | 3/60 | | | NEMA 4 | | | | | 15 | 4#12 | 3/4" | FSS AND STARTERS CPT IN NEMA 4 BY EQUIP. MFG. | ALARM CONTACT TO ANNUNCIATOR |
| 1 | AIR CONDITIONER | 3.3 KW | | 230 | 1/60 | | | | | | | | | | | CONTROLS WITH EQUIPMENT | |
| 1 | MAKE-UP UNIT M82 | 3 | | 460 | 3/60 | | IND | | | | | | | #12 | | COMB. STARTER + H-O-A SW. WITH EQUIPMENT | |
| 4 | CIRCULATING PUMPS P-5-7-8-9 | 1/6; 3/4 | | 460 | 3/60 | | IND | | | | | | | #12 | | COMB- STARTERS + H-O-A SWS. WITH EQUIPMENT. | |
| 1 | OIL PUMP | 1/4 | | 115 | 1/60 | | | | | | | | | #12 | | MOTOR OIL. SNAP SWITCH | |
| 2 | DOOR OPERATORS | 1/2 | | 460 | 3/60 | | | NEMA 12 | | | | | 15 | #12 | 3/4" | COMB- FV STARTERS-24V. C.P.T. NEMA 12 PB-NEMA 4 R.B. WITH EQUIPMENT | |
| | | | | | | | | | | | | | | | | | |
| 1 | EXISTING VACUUM PUMP | 50 | 65 | 460 | 3/60 | | IND. | MCC | | | | | 15 | | | CONTROLS IN EXIST. M.C.C. TO REMAIN ADD C.P.T. AND 120V. COILS | ADD P.B. AND IND. LT. IN NEW CONSOLE AT FILTER PLATFORM |
| 1 | EXISTING FILTRATE PUMP | 2 | 4 | 460 | 3/60 | | IND. | MCC | | | | | C/B | | | " " | " " |
| 1 | EXISTING AGITATOR | 5 | 8 | 460 | 3/60 | | IND. | MCC | | | | | C/B | | | " " | " " |
| 1 | EXISTING DRUM DRIVE | 2 | 4 | 460 | 3/60 | | IND. | MCC | | | | | C/B | | | " " ADD ELAPSED TIME METER | " " |
| 1 | EXISTING BELT CONVEYOR | 2 | 4 | 460 | 3/60 | | IND. | MCC | | | | | C/B | | | CONTROLS IN EXISTING MCC TO REMAIN. ADD C.P.T. AND 120V. COIL. | PERMISSIVE INTERLOCK TO DRUM DRIVE |
| 1 | EXISTING SUMP PUMP | 2 | 4 | 460 | 3/60 | | IND. | | | | | | C/B | | | AUTOMATIC-FV STARTER AT SUMP IN TUNNEL - TO REMAIN | |
| 2 | EXIST. HOLDING TANK BLOWERS | 10 | 14 | 460 | 3/60 | | IND. | NEMA 4 | | | | | C/B | | | N.P. 4/8-FV STARTERS AT BLOWERS TO REMAIN | |
| 2 | EXISTING DRAINAGE PUMPS | 3 | 5 | 460 | 3/60 | | IND. | | | | | | C/B | | | N.P. 4/8-FV STARTERS-FACT. FLOAT ABOVE TUNNEL DISC. AT PUMPS-TO REMAIN | |
| 1 | NEW FILTER NO. 2 VACUUM PUMP | 50 | 65 | 460 | 3/60 | | IND. | MCC | | | | | 100 | 3#4 w/ #4 GND | 1 1/2" | FSS-FV STARTER IN MCC-E-2 WITH P.B. & ADD CONTACTOR | WATER SEAL SOLENOID AT M.P.S. PANEL IND. LT. AT NEW FILTER CONTROL STA. |
| 1 | FILTRATE PUMP | 3 | 5 | 460 | 3/60 | | IND. | MCC | | | | | 15 | 4#12 | 3/4" | " " | " " |
| 1 | AGITATOR | 5 | 8 | 460 | 3/60 | | IND. | MCC | | | | | 15 | 4#12 | 3/4" | " " | M.M.P.B. & IND. LT. AT NEW FILTER CONTROL STATION |
| 1 | DRUM DRIVE | 1 1/2 | 3 | 460 | 3/60 | | IND. | MCC | | | | | 15 | 4#12 | 3/4" | " " ADD ELAPSED TIME METER | " " |
| 1 | BELT CONVEYOR | 2 | 4 | 460 | 3/60 | | IND. | NEMA 12 | | | | | 15 | 4#12 | 3/4" | FSS-FV STARTER-NEMA 12 WITH M.M.P.B. AT MOTOR CONT. TR. | M.M.P.B. & IND. LT. AT NEW FILTER CONTROL STA. w PERMISSIVE INTERLOCK TO DRUM DRIVE |
| 1 | SUMP PUMP | 1/2 | 1 | 460 | 3/60 | | IND. | | | | | | 15 | 4#12 | 3/4" | AT OXIDIZED SLUDGE THICKENER FSS-FV-NEMA-ON-OFF SW.-CONT. TRANS. | FLOAT SW. WITH P.U.M.P. |
| 2 | GRINDERS | 7 1/2 | 11 | 460 | 3/60 | | IND. | | | | | | 20 | 4#12 | 3/4" | FSS-FV-MPS STARTER-NEMA 7 WITH M.M.P.B. AT MOTOR CONTROL TRANS. | M.M.P.B. & IND. LT. AT NEW HEAT COND. INST. R. PANEL w WATER SEAL SOL. W/CONTROLS w PERM. INTERLOCK TO SLUDGE FEED PUMPS. |
| 2 | SLUDGE FEED PUMPS | 15 | 21 | 460 | 3/60 | | IND. | | | | | | 30 | 4#10 | 3/4" | " " | M.M.P.B. & IND. LT. AT NEW HEAT COND. INST. PANEL AND HOLDING TANK L.L. CUTOFF. |
| 1 | FUME BLOWER | 2 | 3 | 460 | 3/60 | | IND. | | | | | | 15 | 4#12 | 3/4" | AT OXIDIZED SLUDGE THICKENER FSS-FV. STARTER-NEMA 4 MM.P.B. CONT.-TR. | WATER SEAL SOLENOID W/CONTROLS |
| 2 | FILTER FEED PUMPS HISTON TYPE | 5 | 8 | 460 | 3/60 | | IND. | NEMA 12 | | | | | 15 | 4#12 | 3/4" | MOVED FROM HOLDING TANK AREA TO OXIDIZED SLUDGE THICKENER NEW FSS-FV STARTERS | TACH. AT FILTER CONTROL STA. VARI-DRIVE & ADJ. WITH EQUIP. CONT. SPEED ADJ. P.B. STATION AT FILTER STA. |
| 1 | SLUDGE THICKENER COLLECTOR | 1 | 2 | 460 | 3/60 | | IND. | NEMA 4 | | | | | 15 | 4#12 | 3/4" | M.M.P.B.-CONT-TR. FSS-FV. MMS STARTER-NEMA 4 AT MOTOR M.M.P.B. | MECH. OVERLOAD CENTER AND TORQUE MONITOR WITH EQUIP. ALARM PANEL WITH ELEC. ITEM. |
| 1 | UNIT HEATER | 1/6 | | 115 | 1/60 | | | NEMA 12 | | | | | | #12 | | MOTOR O.L. SNAP SWITCH | THERMOSTAT WITH EQUIPMENT |
| 2 | 2 IMPRO COMPRESSORS | 60 | 77 | 460 | 3/60 | | IND. | | | | | | | | | CONTROLS & M.C.C. WITH EQUIPMENT | CONDUIT & CONDUCTOR BY EQUIPMENT SUPPLIER |
| 2 | H.P. PUMP | 25 | 34 | 460 | 3/60 | | IND. | | | | | | | | | " " | " " |
| 1 | INSTRUMENT AIR COMP. | 5 | 8 | 460 | 3/60 | | IND. | | | | | | | | | " " | " " |
| 1 | SOLVENT PUMP SOLVENT TANK | 1.5 1/4 | 21 | 460 1/15 | 3/60 1/15 | | IND. | | | | | | | | | " " | " " |
| 1 | EXHAUST FAN EF-10-OXIDIZED SL. THKNR. PUMP ROOM | 1/20 | | 115 | 1/60 | | | | | | | | | #12 | | MOTOR O.L. SNAP SWITCH | STARTER & CONTROLS FURNISHED W/EQUIP. |
| 2 | SLUDGE CONDITIONING BOILER FEED PUMPS | | | 460 | 3/60 | | IND. | | | | | | | | | CONTROLS & M.C.C. WITH EQUIPMENT | CONDUIT & COND. BY EQUIPMENT SUPPLIER |
| 3 | OZONATORS | 350 V.A. | | 115 | 1/60 | | | | | | | | | #12 | | SWITCH, LIGHT, GENERATOR, FURNISHED WITH EQUIPMENT CORD PLUG FOR GROUNDED OUTLET. | |
| 2 | ROOF FANS (EF-8 EF-9) | 2 | | 460 | 3/60 | | IND | | | | | | | #12 | | STARTERS WITH EQUIPMENT | |
| 2 | SPACE HEATING BOILERS | 1/2 | | 120 | 1/60 | | | | | | | | | #12 | | MOTOR O.L. SNAP SWITCHES | |

## PRIMARY DEVICE

| QTY | ITEM | SIZE | TYPE | RANGE | UNITS | LOCATION | TOTALIZE | INDICATE | RECORD | CONTROL | ADDER SUBTRACTOR | MAIN PANEL | SECONDARY PANEL | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | TOTAL PUMPED FLOW | 24" | MAG | 4000 17000 | G.P.M. | GRIT TANK #1 | X | X | X | ① | | X | | ① PACE CHEMICAL FEEDERS W/ INDICATION |
| | RAW WASTEWATER FLOW | — | — | | | | X | X | X | ② | ③ | X | | ② PACE CHLORINATOR ③ RAW WASTEWATER FLOW FROM SUB. TO HEAT COND. INST. PANEL TO SUFT. OFFICE |
| 3 | R.A.S. WITHDRAWAL | 12" | MAG | 800 3000 | G.P.M. | SECONDARY GALLERY | | X | | | | | X | |
| | TOTAL R.A.S. WITHDRAWAL | | | | | | | X | | X | | | X | R.O.F. VALVE |
| | | | | | | | X | X | X | | | X | | |
| 3 | R.A.S. INFLUENT | 12" | MAG | 800 3000 | G.P.M. | SECONDARY GALLERY | | X | | | | | X | |
| | TOTAL R.A.S. TO AERATION | | | | | | | X | | X | | | X | R.O.F. VALVE |
| | | | | | | | X | X | X | | | X | | |
| 1 | W.A.S. TO THICKENER | 4" | MAG | 60 300 | G.P.M. | DIGESTER CONTROL BUILDING | X | X | X | | | X | | |
| | THICKENER OVERFLOW | — | — | | | | | X | | X | ④ | | X | |
| | | | | | | | | X | | | | X | | ④ THICKENER OVERFLOW FROM SUMMATION |
| 1 | RAW PRIMARY SLUDGE | 4" | MAG | 100 300 | G.P.M. | DIGESTER CONTROL BUILDING | X | X | X | | | X | | |
| | | | | | | | | X | | | ① | | X | |
| 1 | PLANT EFFLUENT TO THICKENER | 8" | MAG | 500 1800 | G.P.M. | DIGESTER CONTROL BUILDING | X | X | X | | | X | | |
| | | | | | | | | X | | X | ① | | X | R.O.F. VALVE |
| 1 | PLANT USE EFFLUENT | 4" | MAG | 100 500 | G.P.M. | DIGESTER CONTROL BUILDING | X | X | X | | | X | | |
| | | | | | | | | X | | | | | X | |
| 1 | THICKENED SLUDGE TO HEAT CONDITIONING | 3" | MAG | 30 80 | G.P.M. | TUNNEL AT SLUDGE HOLDING TANKS | X | X | X | | | X | | |
| | | | | | | | | X | | | | | X | TO HEAT COND. INSTRUMENT PANEL |

## METERING AND CONTROL SCHEDULE

I = INDICATOR
C = CONTROLLER

60"

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 34 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 33 |
| 35 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| I 1 | I 2 | I 3 | I 4 | I 5 | I 6 | I 7 | I 29 | I 30 | I 31 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| C 8 | C 8 | C 8 | C 9 | C 9 | C 9 | C 10 | C 11 |

RAS WELL LEVEL — PLUGGED RESET H-O-A (BLOWDOWN)

BUBBLER CONTROLS

1. THICKENER OVERFLOW
2. RAW WASTEWATER FLOW
3. TOTAL R.A.S. WITHDRAWAL
4. TOTAL R.A.S. INFLUENT TO AERATION
5. RAW PRIMARY SLUDGE FLOW
6. PLANT USE EFFLUENT FLOW
7. THICKENED SLUDGE TO HEAT CONDITIONING
8. R.A.S. WITHDRAWAL FLOW
9. R.A.S. INFLUENT TO AERATION
10. W.A.S. TO THICKENER
11. PLANT EFFLUENT TO THICKENER
12. SECONDARY INFLUENT WELL HWL
13. 1ST STAGE SCREW HWL
14. 2ND STAGE SCREW HWL
15. AERATION TANK #1A O.L.
16. 1B
17. 1C
18. 2A
19. 2B
20. 2C
21. 3A
22. 3B
23. 3C
24. SECONDARY CLARIFIER #1 O.L.
25. #2
26. #3
27. #1 OVERTORQUE
28. #2
29. #3
30. D.O. ANALYZER
31. D.O. ANALYZER
32. D.O. ANALYZER

NEMA 12 M.M.P.B. & IND. LT. AT EXIST. & NEW FILTER CONSOLES. OUTPUTS FOR EX. PNEUMATIC SPEED CONTROLS.

### SECONDARY CONTROL PANEL

33. SPARE
34. RESIDUAL CHLORINE ALARM
35. RAS WELL LWL

R = RECORDER
T = TOTALIZER

60"

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 20 | 21 | 22 | 23 | 24 | 25 | | | |
| 26 | 27 | 28 | 29 | 30 | 31 | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| R 1 | R 2 | R 3 | R 4 | R 5 | R 6 | R 7 | R 8 | R 9 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| T 10 | T 11 | T 12 | T 13 | T 14 | T 15 | T 16 | T 17 | T 18 | I 19 |

84"

### MAIN CONTROL PANEL MAIN BUILDING

28. SHEAR PIN FAILURE PRI. #4
29. SHEAR PIN FAILURE PRI. #5
30. SPARE
31. SPARE

20. INFLUENT CHAMBER HWL
21. SCREEN #1 O.L.
22. SCREEN #2 O.L.
23. GRIT MECH. #1 O.L.
24. GRIT MECH. #2 O.L.
25. SHEAR PIN FAILURE PRI. #1
26. #2
27. #3

153 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
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FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

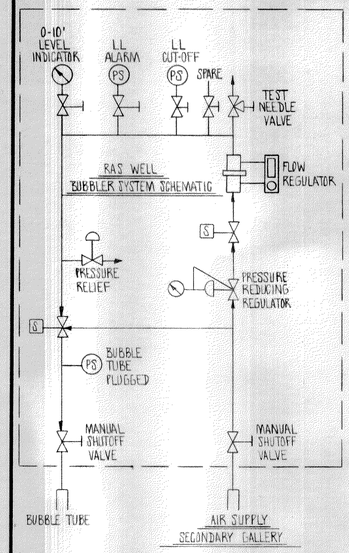
DATE July 72 | JOB No. 1061 | DRAWN KDP | CHECKED TK
SCALE NONE | DWG. No. 72265 | TRACED | APPROVED LER

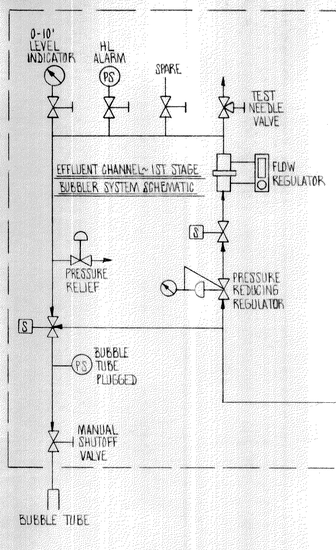
MASSILLON, OHIO

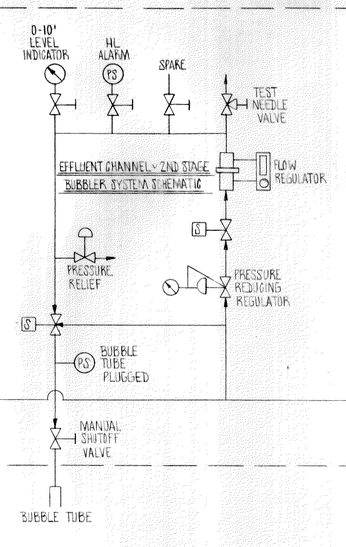
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4

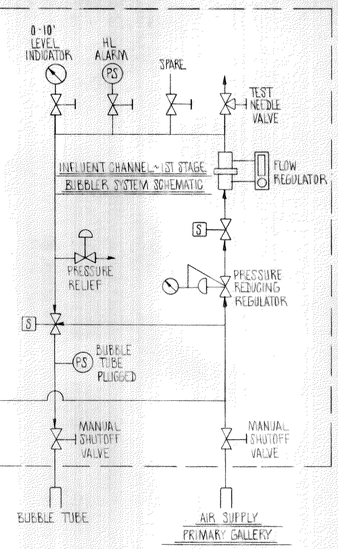
ELECTRICAL EQUIPMENT SCHEDULES
MOTORS-CONTROLS-METERING

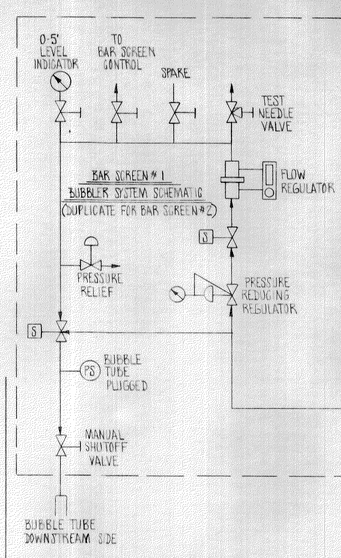
BRUNING 40-105

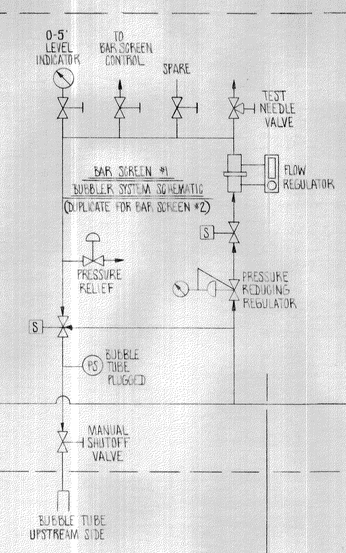


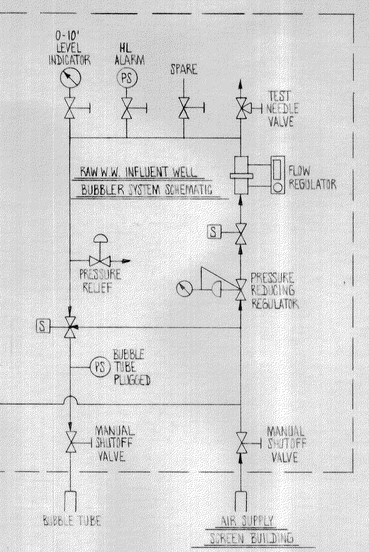



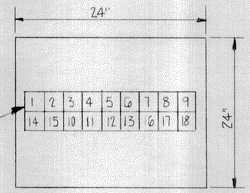



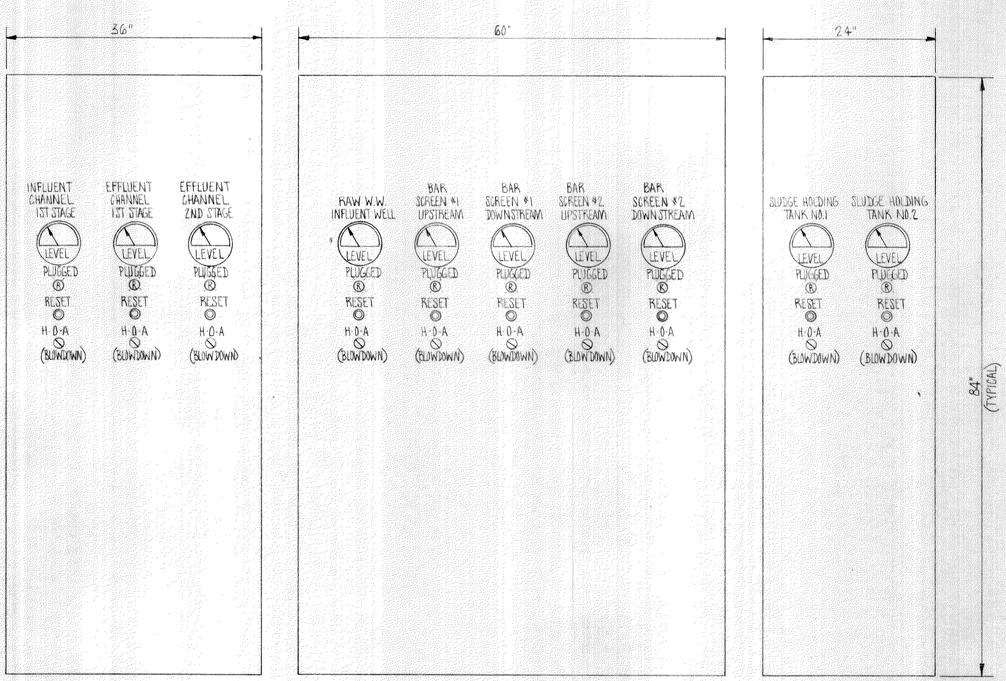




DUPLICATE FOR: BAR SCREEN #2

1~ THICKENER #1 O.L.
2~ THICKENER #2 O.L.
3~ SLUDGE HOLDING TK #1 LWL
4~ SLUDGE HOLDING TK #1 HWL
5~ SLUDGE HOLDING TK #2 LWL
6~ SLUDGE HOLDING TK #2 HWL
7~ HEAT CONDITIONING ALARM
8~ DIGESTED SLDG THK. O.L.
9~ DRAINAGE PUMP CHAMBER
10~ STRAINER PUMP #1 ~ FAILURE
11~ STRAINER PUMP #2 ~ FAILURE
12~ BOOSTER PUMP #1 ~ FAILURE
13~ BOOSTER PUMP #2 ~ FAILURE
14~ THICKENER #1 ~ OVERTORQUE
15~ THICKENER #2 ~ OVERTORQUE
16~ SPARE
17~ SPARE
18~ SPARE



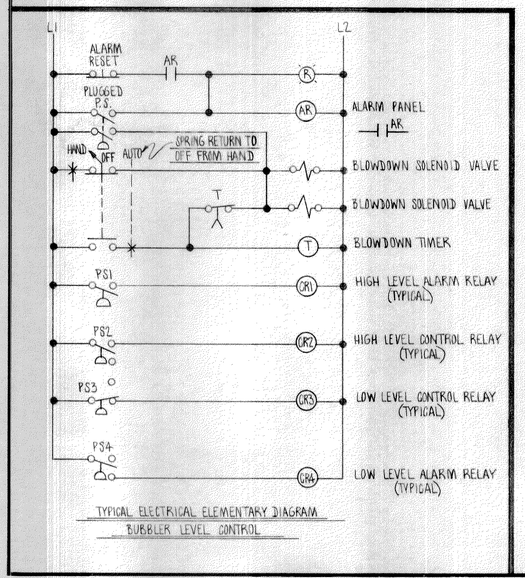

ALARM PANEL FILTER BUILDING ADDITION



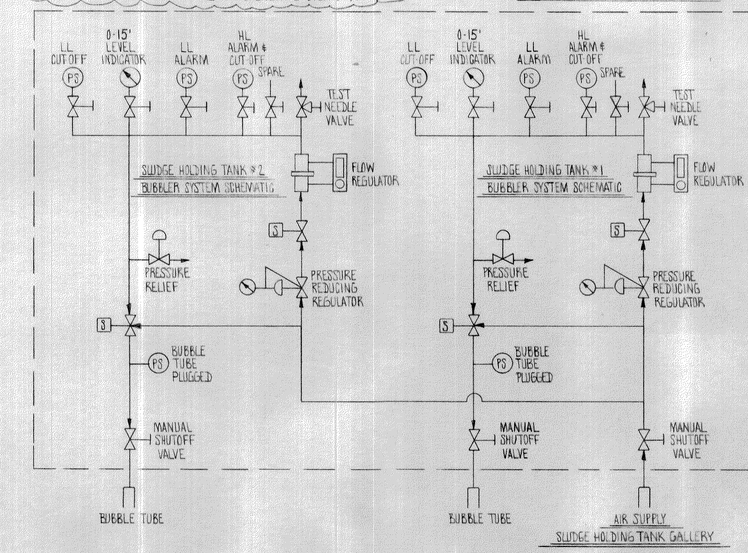

PRIMARY BUILDING BUBBLER CONTROL PANEL

SCREEN BUILDING BUBBLER CONTROL PANEL

SLUDGE HOLDING TANK GALLERY BUBBLER CONTROL PANEL




TYPICAL ELECTRICAL ELEMENTARY DIAGRAM BUBBLER LEVEL CONTROL




153A OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
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FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE AUGUST 1972 | JOB No. 1061 | DRAWN TK | CHECKED TK
SCALE NONE | DWG. No. 73358 | TRACED DES | APPROVED

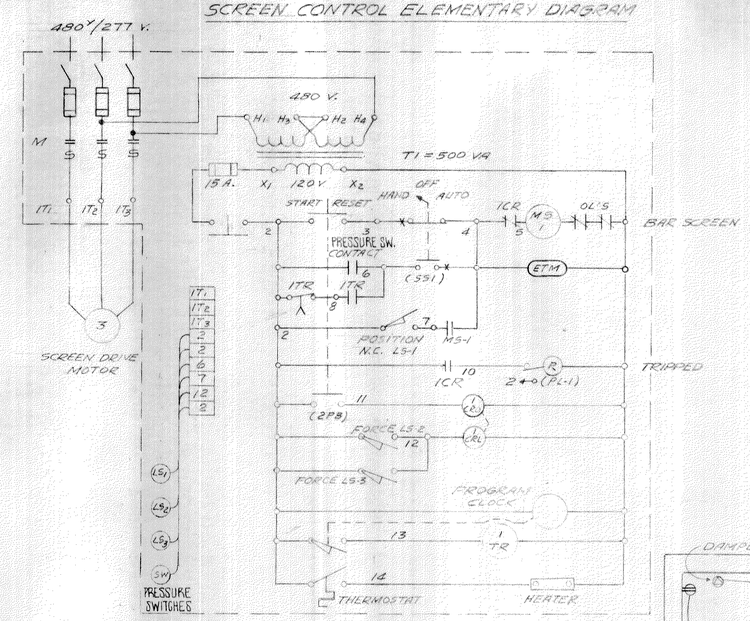
MASSILLON, OHIO

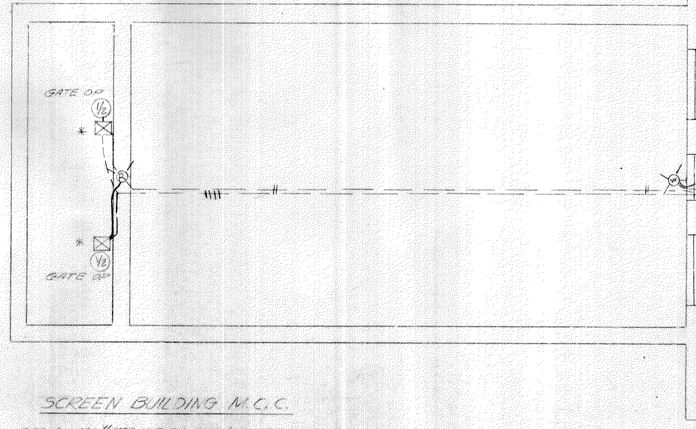
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4

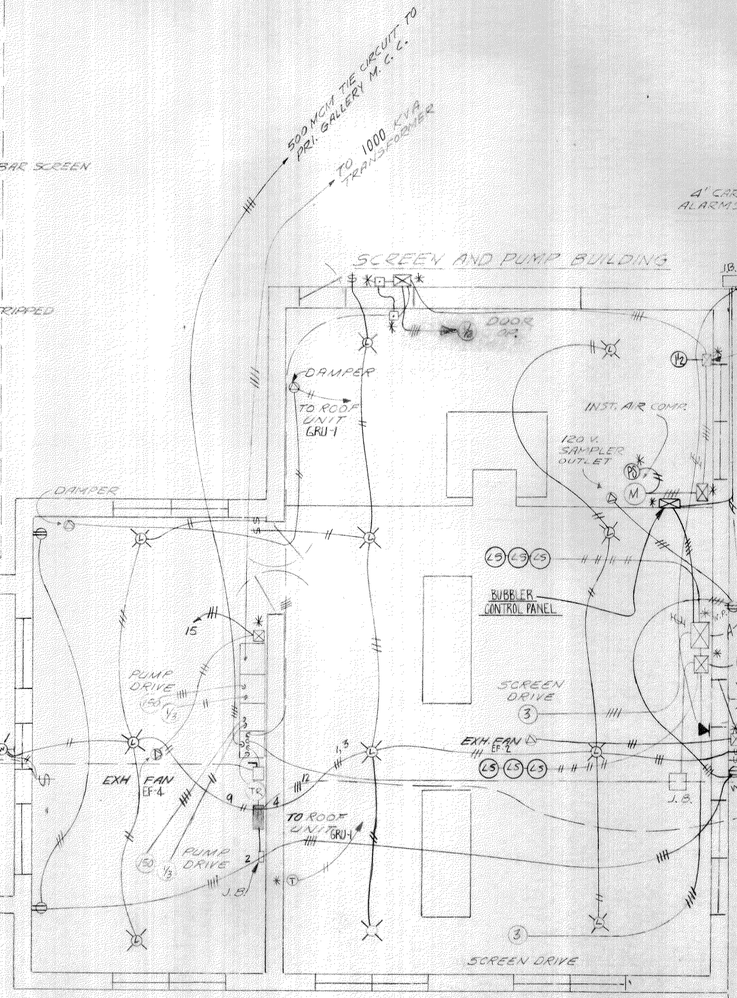
BUBBLER SYSTEM SCHEMATIC DIAGRAM
ELECTRICAL, METERING & CONTROL

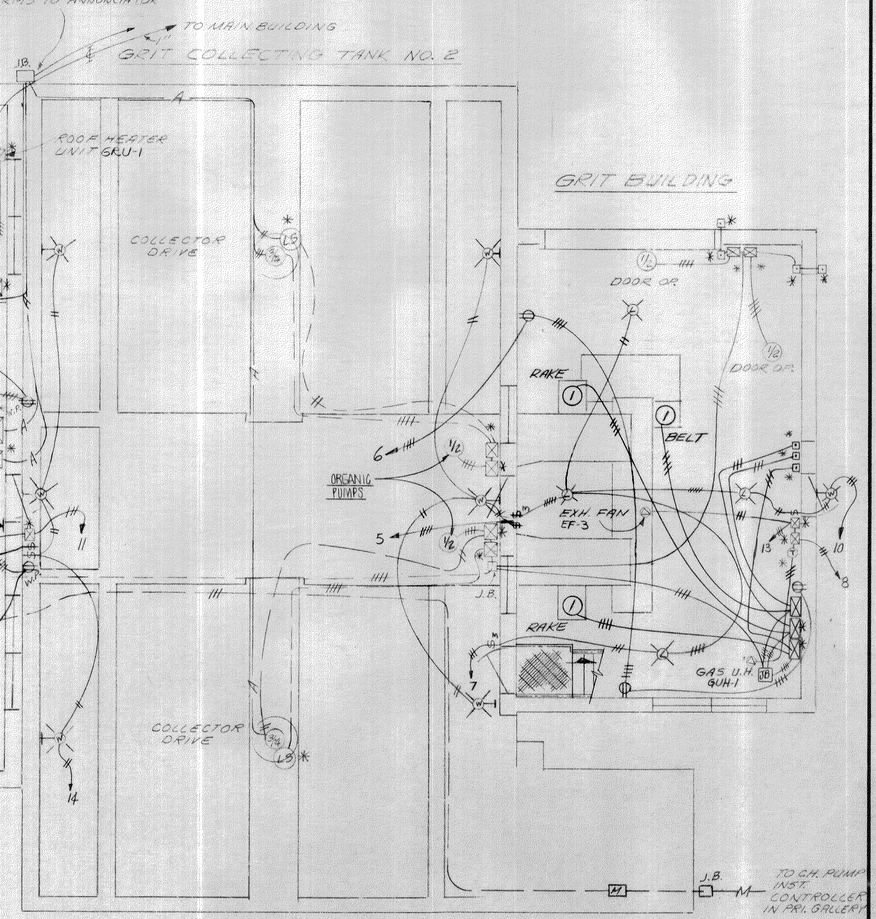
BRUNING 40-105

## SCREEN CONTROL ELEMENTARY DIAGRAM

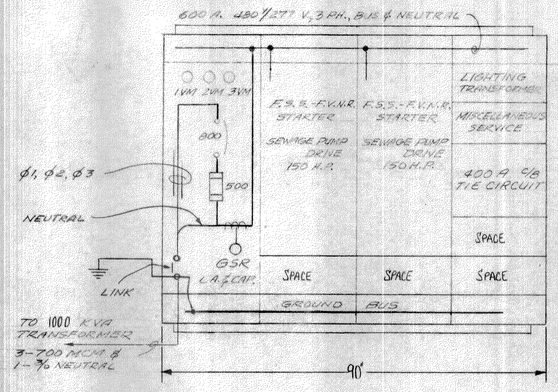


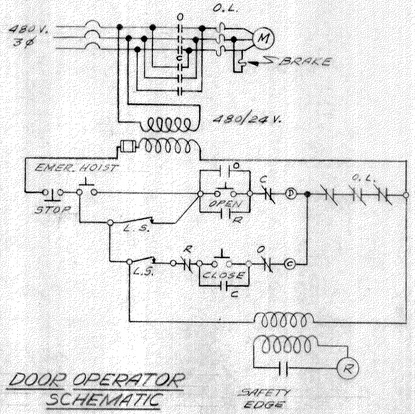




## SCREEN BUILDING M.C.C.




## DOOR OPERATOR SCHEMATIC

## REFERENCE DRAWINGS

| SHEET NO. | |
|---|---|
| 150 | GENERAL LAYOUT - ELECTRICAL |
| 151 | ELECTRICAL SCHEMATIC DIAGRAM |
| 152 | ELECTRICAL EQUIPMENT SCHEDULES |
| 153 | ELECTRICAL EQUIPMENT SCHEDULES - METERING |

## GRIT COLLECTING TANK NO. 1

## METERING CHAMBER AND GREASE TRAP

154 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

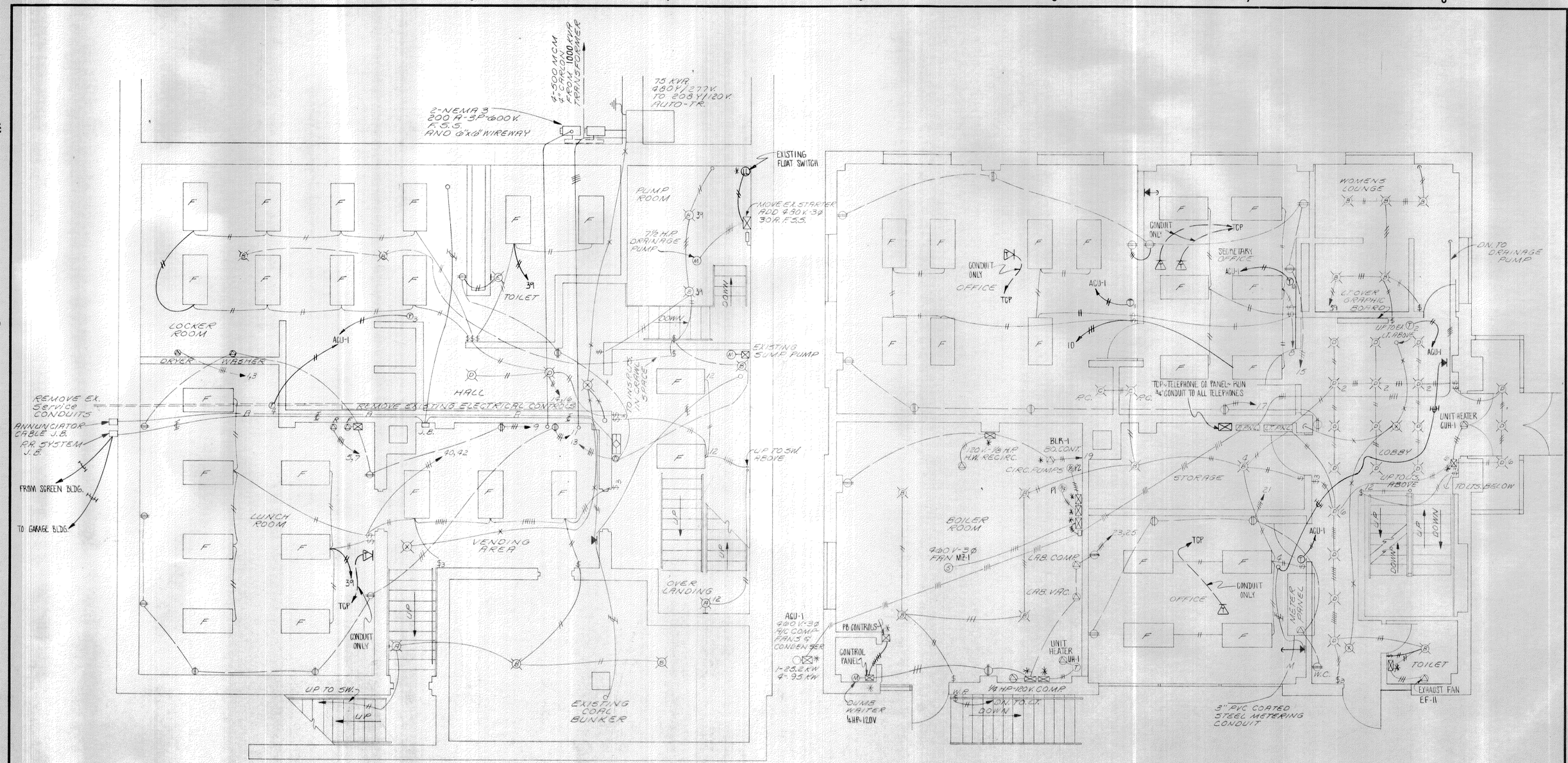
DATE July 72 | JOB No. 1061 | DRAWN AEK | CHECKED TK
SCALE 3/16"-1'-0" | DWG. No. 72266 | TRACED AEK | APPROVED LER

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4

PUMP, SCREEN & GRIT STRUCTURE
ELECTRICAL

BRUNING 40-105




LOWER LEVEL PLAN W/CEILING
SCALE-¼"=1'-0"

FIRST FLOOR PLAN W/CEILING
SCALE-¼"=1'-0"

## REFERENCE DRAWINGS

SHT NO.
150 GENERAL LAYOUT-ELECTRICAL
151 ELECTRICAL SCHEMATIC DIAGRAMS
152 ELECTRICAL EQUIPMENT SCHEDULES
153 ELECTRICAL EQUIPMENT SCHEDULES - METERING
156 MAIN BUILDING & GARAGE SCHEMATIC DIAGRAMS
157 PRE-AERATION, PRIMARY TANKS, SLUDGE BLDGS. NO. 1 & 2



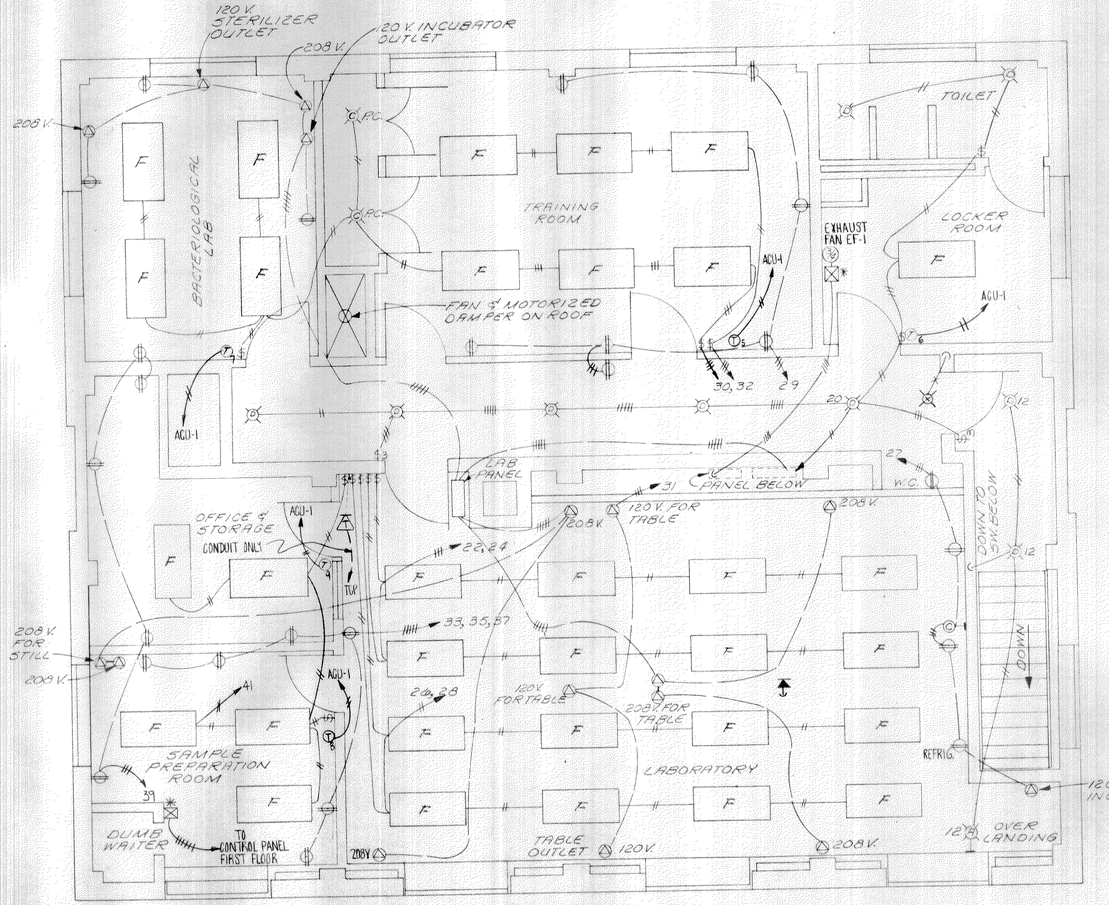
| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

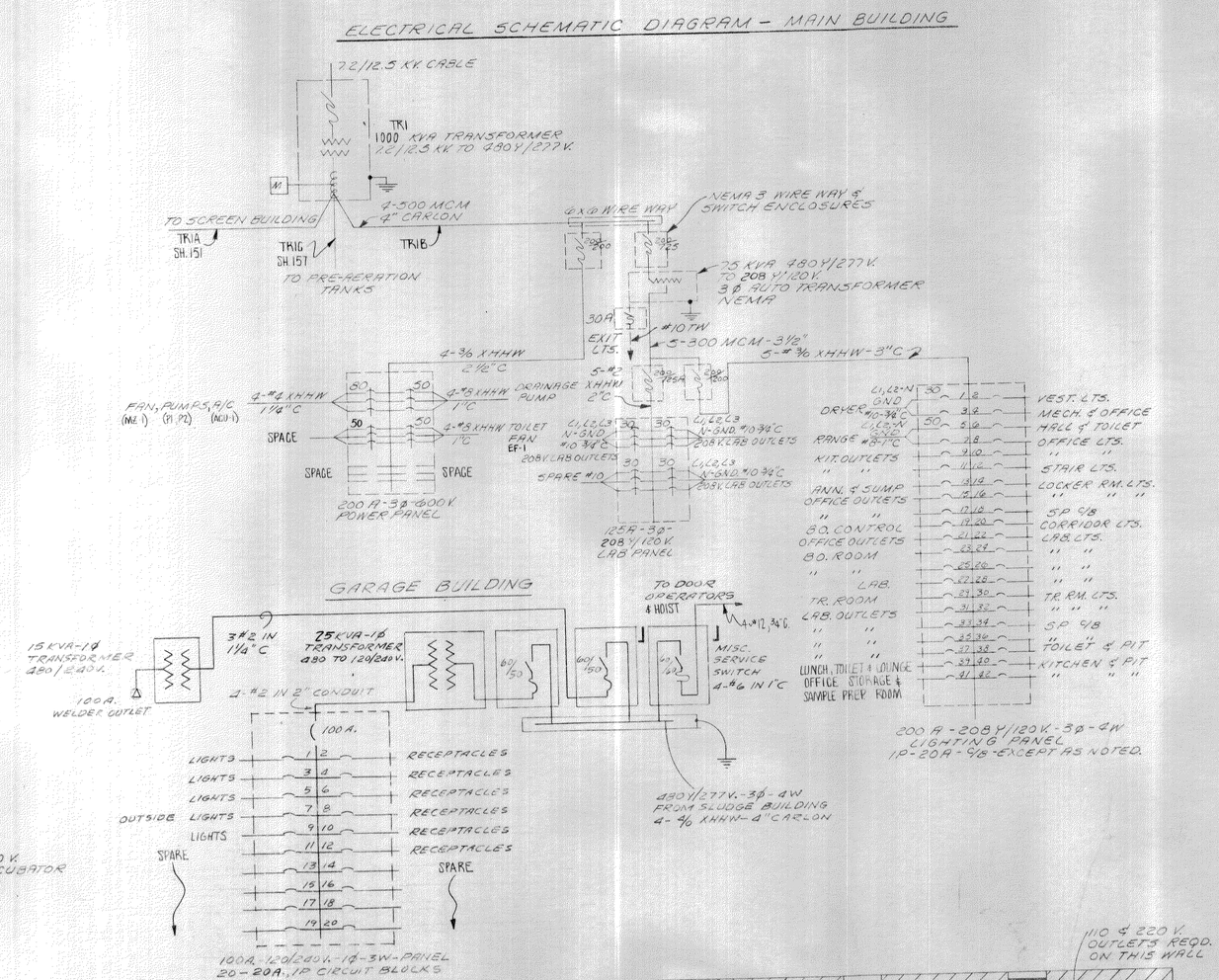
DATE July 72 | JOB No. 1061 | DRAWN K.O.P. | CHECKED TK
SCALE ¼"=1'-0" | DWG. No. 72267 | TRACED | APPROVED LER

MASSILLON, OHIO
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
MAIN BUILDING
ELECTRICAL SYSTEM

BRUNING 40-105




MAIN BUILDING
SECOND FLOOR PLAN W/CEILING
SCALE-1/4"=1'-0"




## REFERENCE DRAWINGS

| SHEET NO. | |
|---|---|
| 150 | GENERAL LAYOUT - ELECTRICAL |
| 151 | ELECTRICAL SCHEMATIC DIAGRAMS AND SYMBOLS |
| 152 | ELECTRICAL EQUIPMENT SCHEDULES |
| 153 | ELECTRICAL EQUIPMENT SCHEDULES - METERING |
| 155 | MAIN BUILDING ELECTRICAL SYSTEM |
| 157 | PRE-AERATION, PRIMARY, SETTLING TANKS, SLUDGE BUILDINGS #1 AND #2. |

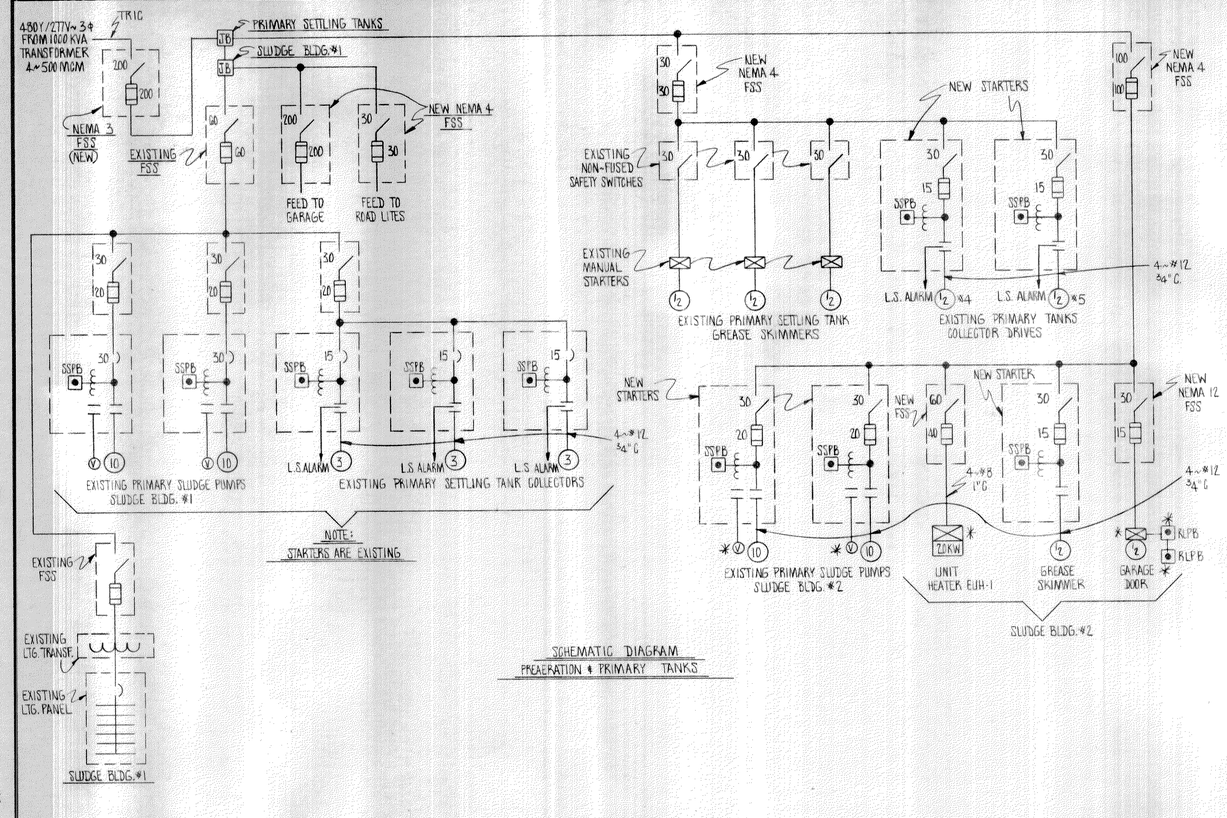
| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

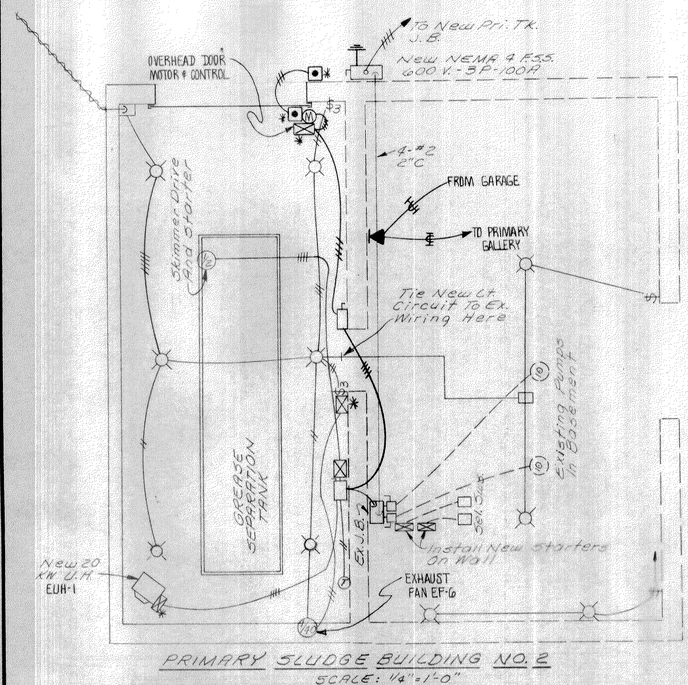
DATE July 72 | JOB No. 1061 | DRAWN KDP | CHECKED TK
SCALE 1/4"=1'-0" | DWG. No. 72268 | TRACED | APPROVED LER

MASSILLON, OHIO
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
MAIN BLDG.-GARAGE
ELECTRICAL

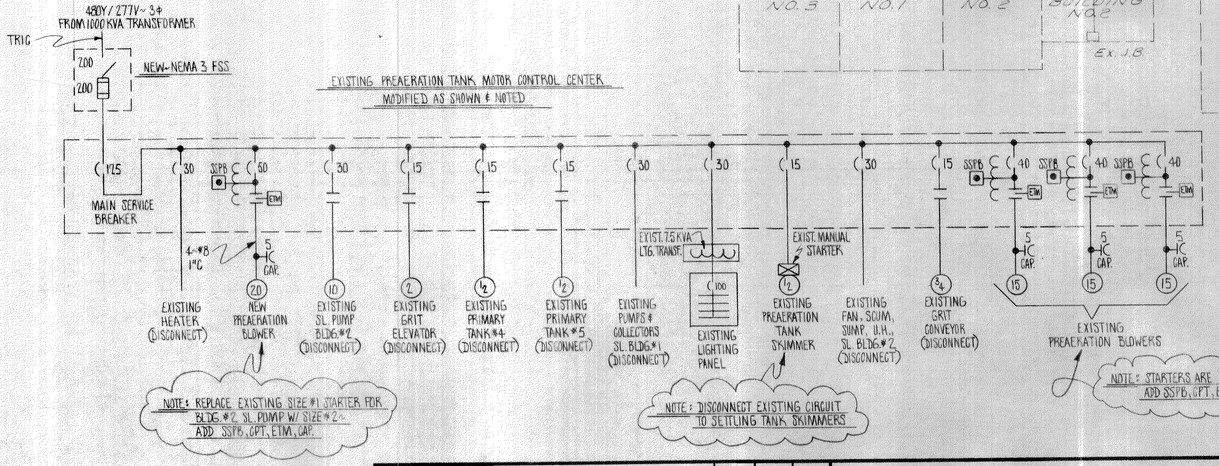
156 OF 165




SCHEMATIC DIAGRAM
PREAERATION & PRIMARY TANKS

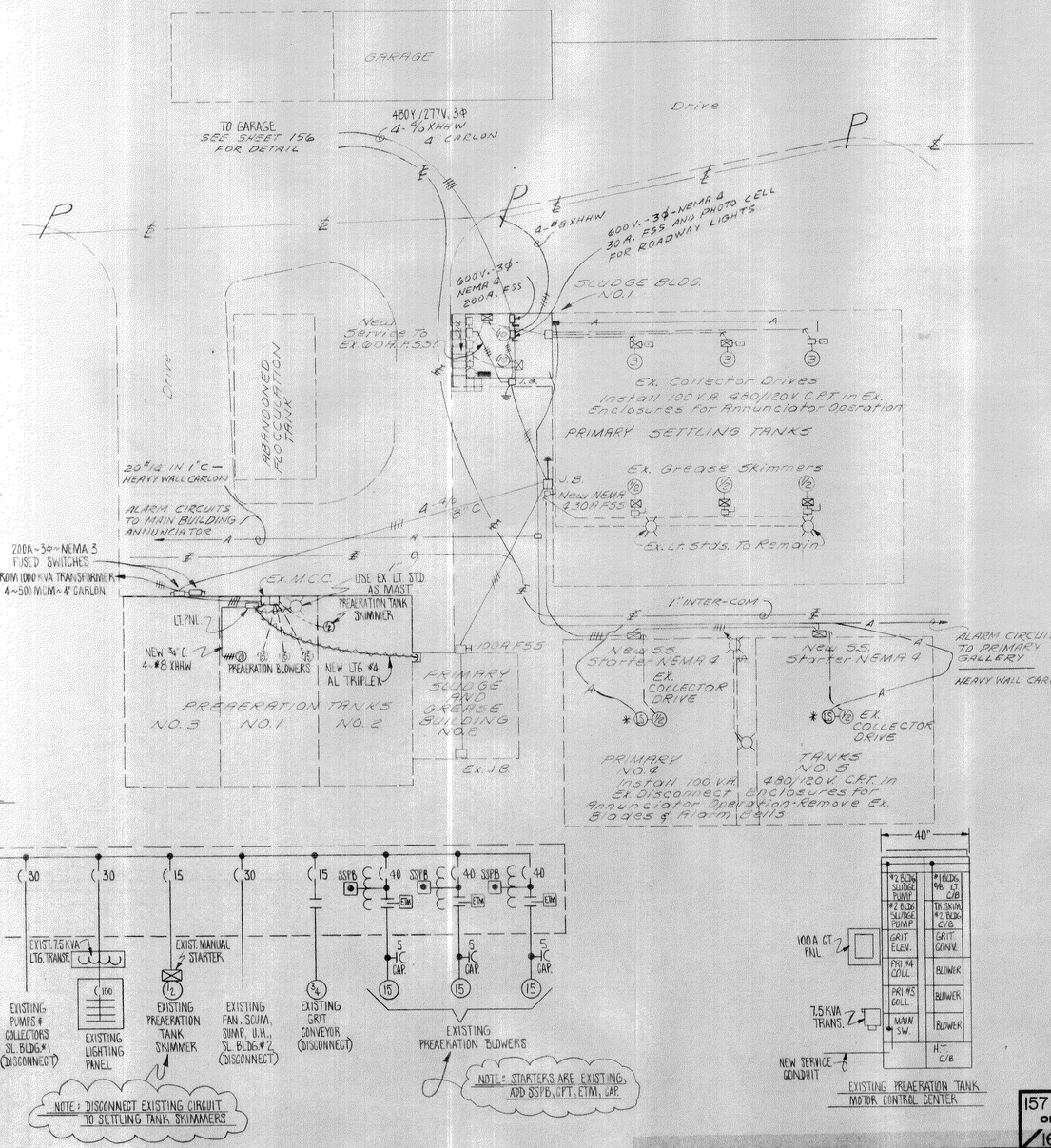



PRIMARY SLUDGE BUILDING NO. 2
SCALE: 1/4"=1'-0"




REFERENCE DRAWINGS

| SHEET NO. | |
|---|---|
| 150 | GENERAL LAYOUT ~ ELECTRICAL |
| 151 | ELECTRICAL SCHEMATIC DIAGRAMS |
| 152 | ELECTRICAL EQUIPMENT SCHEDULES |
| 153 | ELECTRICAL EQUIPMENT SCHEDULES ~ METERING |
| 156 | MAIN BUILDING & GARAGE ~ ELECTRICAL |







EXISTING PREAERATION TANK MOTOR CONTROL CENTER

157 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

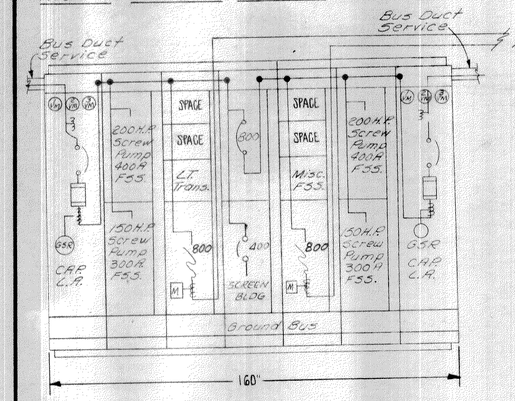
FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN KDP | CHECKED TK
SCALE AS NOTED | DWG. No. 72269 | TRACED | APPROVED LER

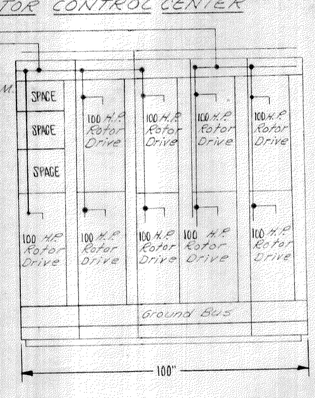
MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
PREAERATION & PRIMARY TANKS
SLUDGE BUILDING NO. 1 & NO. 2
ELECTRICAL

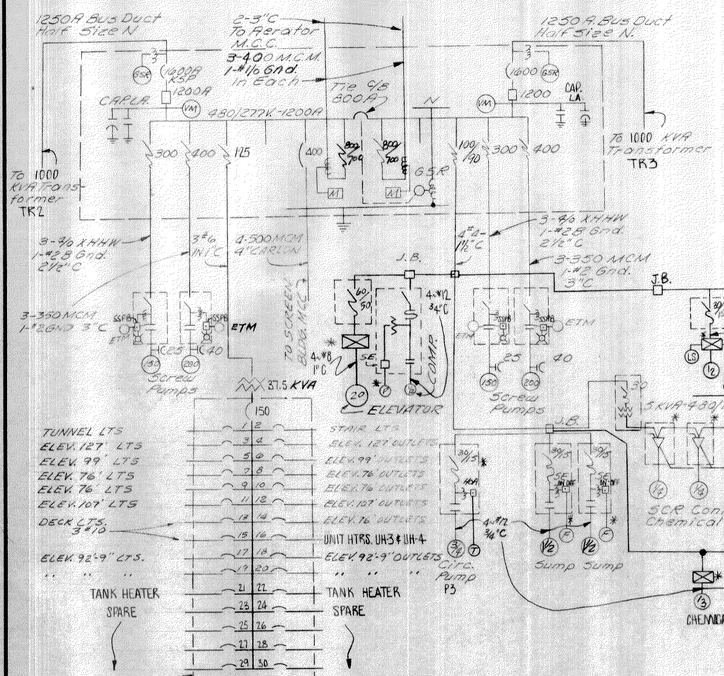
## PRIMARY GALLERY SERVICE MOTOR CONTROL CENTER



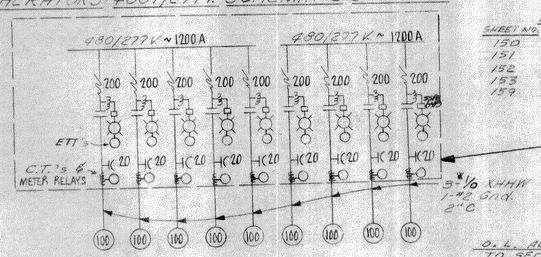

## PRIMARY GALLERY AERATOR DRIVES MOTOR CONTROL CENTER




## PRIMARY GALLERY 480Y/277 V. SCHEMATIC DIAGRAM

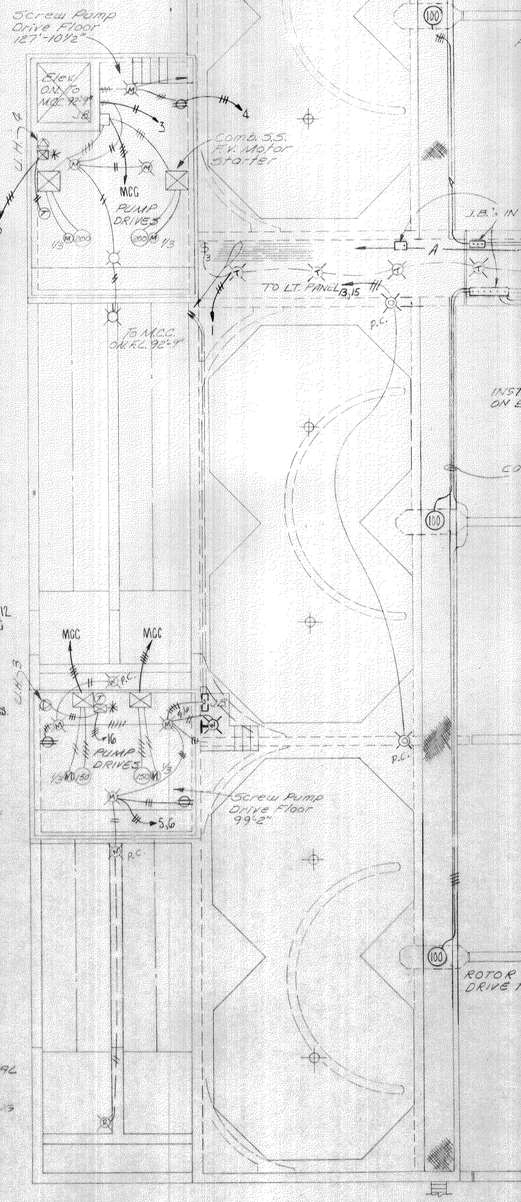



## AERATORS 480Y/277 V. SCHEMATIC DIAGRAM

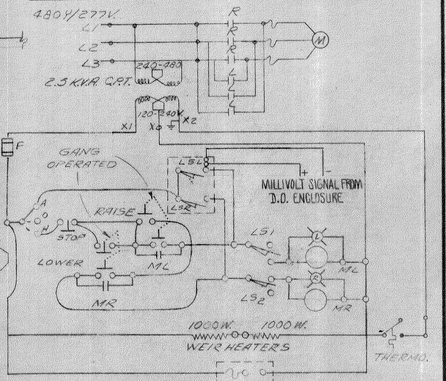



### REFERENCE DRAWINGS

| SHEET NO. | |
|---|---|
| 150 | GENERAL LAYOUT - ELECTRICAL |
| 151 | ELEC. DIAGRAMS AND SYMBOLS |
| 152 | ELEC. EQPT. SCHEDULES |
| 153 | ELEC. EQPT. SCHEDULES - METERING |
| 159 | PRIMARY GALLERY |




## AUTOMATIC WEIR ELEMENTARY CONTROL DIAGRAM




158 OF 165

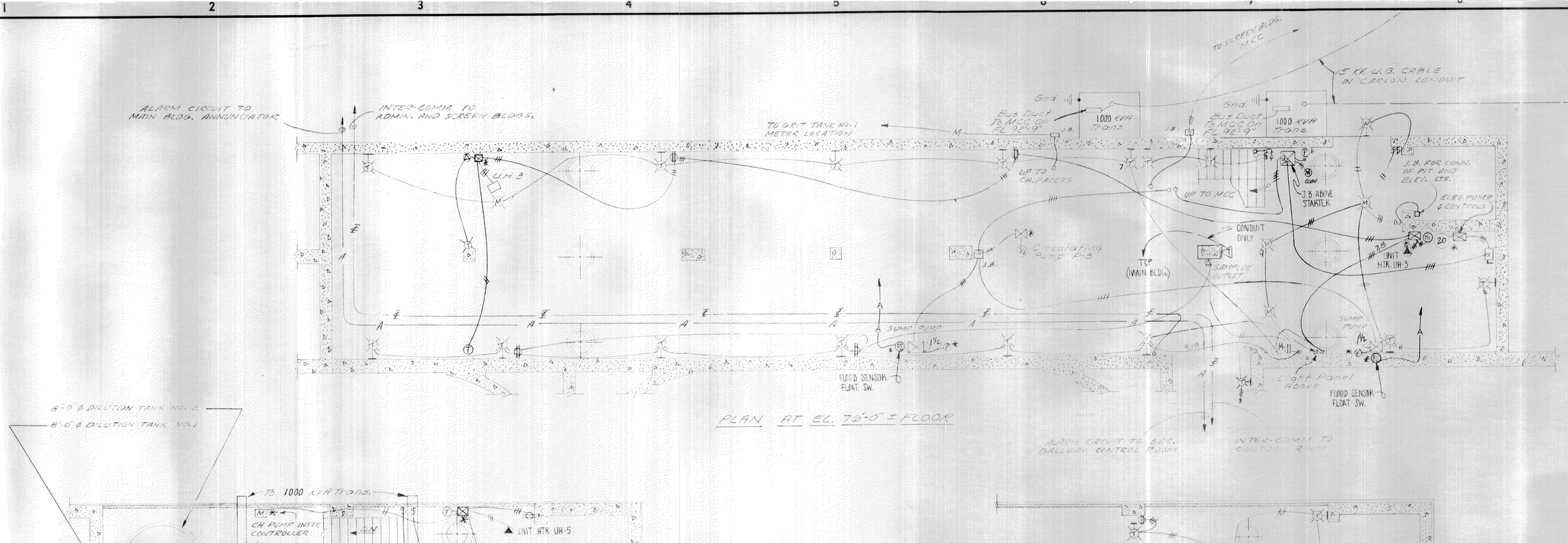
| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN KDP | CHECKED JK
SCALE 3/32" = 1'-0" | DWG. No. 72270 | TRACED | APPROVED LER

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
ELECTRICAL SCHEMATIC DIAGRAMS
PRIMARY GALLERY-AERATION TANKS
ELECTRICAL




## REFERENCE DRAWINGS

| SHEET NO. | |
|---|---|
| 150 | GENERAL LAYOUT - ELECTRICAL |
| 151 | ELEC. SCHEMATIC DIAGRAMS - SYMBOLS - ELEMENTARIES |
| 152 | ELEC. EQUIPMENT SCHEDULES |
| 153 | ELEC. EQUIPMENT SCHEDULES - METERING |
| 158 | PRIMARY GALLERY AND AERATION TANKS SCHEMATIC DIAGRAMS |

159 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN KDP | CHECKED TK
SCALE AS NOTED | DWG. No. 72271 | TRACED | APPROVED LER

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4

PRIMARY GALLERY
ELECTRICAL

BRUNING 40.105 — 1 2 3 4 5 6 7 8

FROM SHEET 164

480V.-1ϕ - FROM M.C.C.-P5S

150

37.5 KVA TRANSFORMER - 480 TO 120/240V.-1ϕ

| | |
|---|---|
| TUNNEL LIGHTS | FLOOD LIGHTS |
| CH. ROOM LIGHTS | FLOOD LIGHTS |
| CH. ROOM RECEPS | FLOOD LIGHTS |
| CONTROL ROOM LIGHTS | FLOOD LIGHTS |
| GALLERY LIGHTS | CONTROL RM. RECEPS |
| GALLERY LIGHTS | CONTROL RM. RECEPS |
| GALLERY LIGHTS | MAG. METERS - 30A - 1P - 9/8 3-#10 3/4"C |
| GALLERY LIGHTS | |
| GALLERY RECEPS | |
| GALLERY RECEPS | |
| SPARE | SPARE |

SECONDARY GALLERY LIGHTING PANEL
150A - 120/240V - 1ϕ - 3W

## SECOND GALLERY MOTOR CONTROL CENTER

3½" CONDUIT & 3-500 MCM CONDUCTORS - XHHW

600A 1ϕ 277V 3ϕ 4W 3,1S & NEUT

| | | | |
|---|---|---|---|
| FS-#1 RAS PUMP | FS-#2 RAS PUMP | LTG TRANS. | 1) 2) 3) VM VM VM |
| 30 HP | 30 HP | M.C. CIRCS | |
| RAS PUMP | | SUMP PUMP | 800 |
| 30 HP | PLANT EFF. 25 HP | SPACE | 400 |
| | | SPACE | NEUTRAL LINK |
| | PLANT EFF. 25 HP | SPACE | L.A. C.T. |
| | GROUND BUS | | ELECTRODE CONDUCTOR |
| | | | BONDING JUMPER |

1-1½" CONDUIT WITH 30-#14 CONDUCTORS FOR ANNUNCIATOR ALARMS - TO PRIMARY GALLERY

12" MAG METERS (SEE DETAIL SHT. 161)

SUMP PUMP

RATE OF FLOW CONTROL METERS

TO METERS

UP TO ANNUNCIATOR

120V SAMPLER OUTLET

L.W. CUTOFF FOR RAS PUMPS

UP TO L.B. FOR LTG. TRANS. & M.C.C. CIRCUITS

FROM PRIMARY GALLERY

TO DIGESTER CONTROL BLDG.

2-500 MCM FROM DIGESTER FEEDER SWITCH

TUNNEL

TO METERS IN DIGESTER CONTROL BLD'G.

CIRCULATING PUMP P-4

CHLORINE ANALYZER SAMPLE PUMP

MCC

U.H.-7

U.H.-11

U.H.-12

U.H.-13

U.H.-14

J.B.

UP TO LT. SW. STARTER

UP TO LT. PNL.

PLANT EFFLUENT PUMP

TO TUN. E. LTS. (SEE SHEET 162)

SECOND STAGE DIGESTER

SLUDGE THICKENERS

SECONDARY CLARIFIER NO. 2

SECONDARY CLARIFIER NO. 1

SECONDARY CLARIFIER NO. 3

AERATION TANK NO. 3

AERATION TANK NO. 2

AERATION TANK NO. 1

EFFLUENT CHANNEL

## COLLECTOR DRIVE OVERLOAD CONTROL ELEMENTARY

480/277 V.

120

O.L.

STOP START

TO OVERTORQUE ALARM ANNUNCIATOR

TO OVERLOAD ALARM ANNUNCIATOR

TORQUE SWITCH

VISUAL TORQUE INDICATOR

3" METER CONDUIT

CHLORINE CONTACT TANKS

## REFERENCE DRAWINGS

| SHEET NO. | |
|---|---|
| 150 | GENERAL LAYOUT - ELECTRICAL |
| 151 | ELEC. SCHEMATIC DIAGRAMS & SYMBOLS & ELEMENTARIES |
| 152 | ELEC. EQUIPMENT SCHEDULES |
| 153 | ELEC. EQUIPMENT SCHEDULES - METERING |
| 161 | SEC. GALLERY, CHLORINE ROOM, CONTROL ROOM |
| 162 | DIGESTER CONTROL BUILDING |
| 164 | ELEC. SCHEMATIC DIAGRAM - FILTER BUILDING |

160 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN RK | CHECKED TK
SCALE 3/32"=1'-0" | DWG. No. 72272 | TRACED RK | APPROVED LER

MASSILLON, OHIO

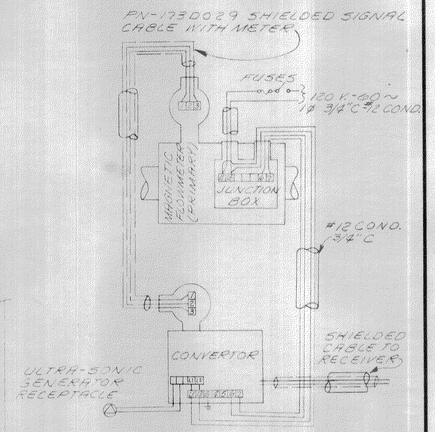
WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
SECONDARY GALLERY

ELECTRICAL

BRUNING 40-105 —

## METERING CABLE SCHEMATIC

## MAGNETIC FLOWMETER TYPICAL WIRING DIAGRAM




| SHT NO. | REFERENCE DRAWINGS |
|---|---|
| 150 | GENERAL LAYOUT - ELECTRICAL |
| 151 | ELECTRICAL DIAGRAMS & SYMBOLS |
| 152 | ELECTRICAL EQUIPMENT SCHEDULES |
| 153 | ELECTRICAL EQUIPMENT SCHEDULES & METERING |
| 160 | SECONDARY GALLERY |
| 164 | ELECTRICAL SCHEMATIC DIAGRAMS |

161 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

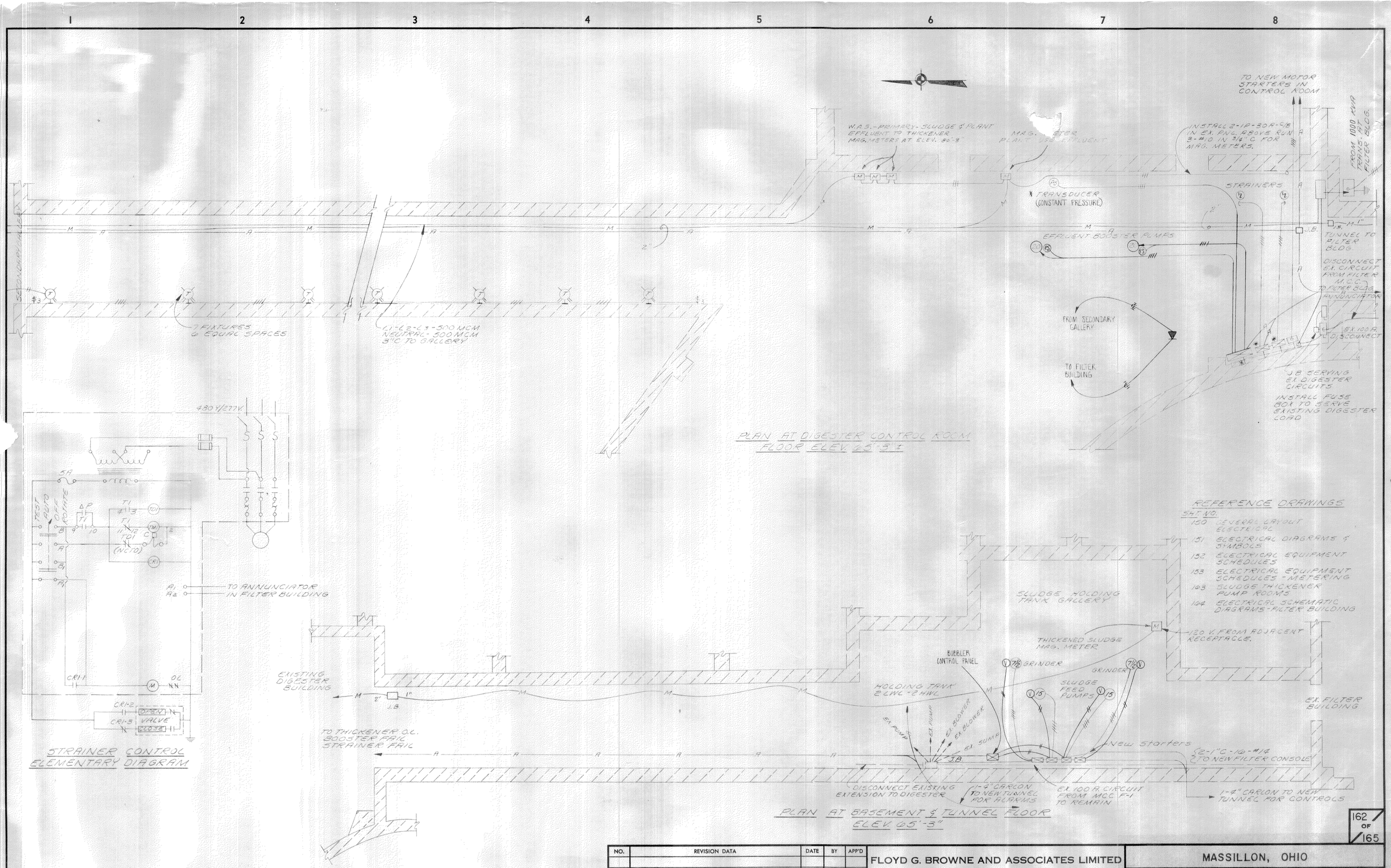
FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB NO. 1061 | DRAWN KC | CHECKED TK
SCALE 3/16"=1'-0" | DWG. NO. 72273 | TRACED KC | APPROVED LER

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
SECONDARY GALLERY
CHLORINE BLDG. & CONTROL BLDG.
ELECTRICAL

BRUNING 40-105






| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

| DATE July 72 | JOB No. 1061 | DRAWN | CHECKED TK |
|---|---|---|---|
| SCALE | DWG. No. 72274 | TRACED | APPROVED LER |

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
DIGESTER CONTROL ROOM
SLUDGE HOLDING TANK GALLERY
ELECTRICAL

BRUNING 40-105

EXISTING FEED FROM ENTRANCE DISCONNECT AT TUNNEL BELOW

30A-3P

100A EX.LT. PANEL ON EL. 80'-3"

UP TO 5 SPARE CIRCUITS IN EX. PANEL

THICKENER DRIVE ALARM CIRCUITS TO FILTER BUILDING ANNUNCIATOR

PLAN UNDERNEATH THICKENER NO. 2

PLAN UNDERNEATH THICKENER NO. 1

SUMP

THICKENED SLUDGE PUMP

THICKENED SLUDGE PUMP

THICKENED SLUDGE PUMP

SUMP

EF-7 1/4 HP 120V 1Ø

CONNECT TO ADJACENT OUTLET #12 L1-N-G.N.G.

COLLECTOR DRIVE

COLLECTOR DRIVE

THICKENER NO. 2

THICKENER NO. 1

DOWN

DOWN

ELEV. 86'-5"

ENTRANCE BELOW TO ELEV. 80'-3" FROM ROADWAY

Gonzaga Fire

REFERENCE DRAWINGS

SHT. NO.

150 GENERAL LAYOUT - ELECTRICAL
151 ELECTRICAL DIAGRAMS & SYMBOLS
152 ELECTRICAL EQUIPMENT SCHEDULES
153 ELECTRICAL EQUIPMENT SCHEDULES - METERING
162 DIGESTER CONTROL ROOM

REFERENCE DRAWINGS

SHEET NO. — 164 ELECTRICAL SCHEMATIC DRAWING

163 OF 165

| NO. | REVISION DATA | DATE | BY | APP'D |
|---|---|---|---|---|
| | | | | |

FLOYD G. BROWNE AND ASSOCIATES LIMITED
CONSULTING ENGINEER
MARION, OHIO

DATE July 72 | JOB No. 1061 | DRAWN | CHECKED TK
SCALE | DWG. No. 72275 | TRACED | APPROVED LGA

MASSILLON, OHIO

WASTEWATER TREATMENT PLANT
CONTRACT NO. 4
SLUDGE THICKENERS
PUMP ROOMS & COLLECTOR MECHANISM
ELECTRICAL