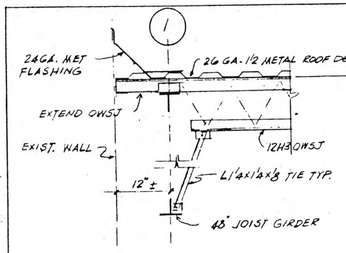
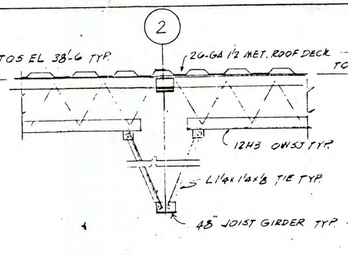
ATTACHMENT 6

ENGINEERING PLANS

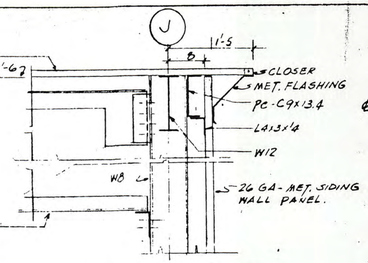
US ECOLOGY MICHIGAN
MID 074 259 565



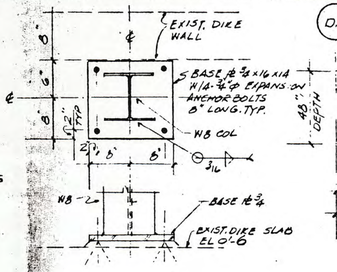
SECTION 1
¾" = 1'-0



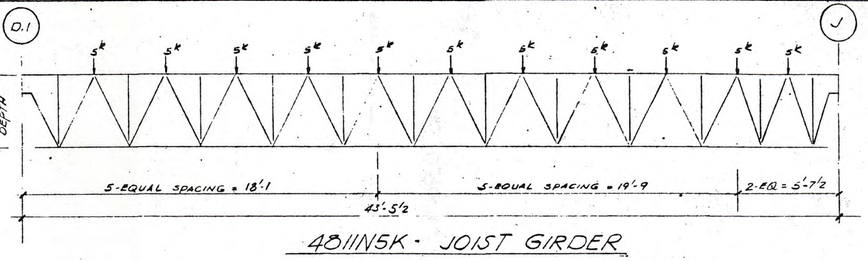
SECTION 2
¾" = 1'-0



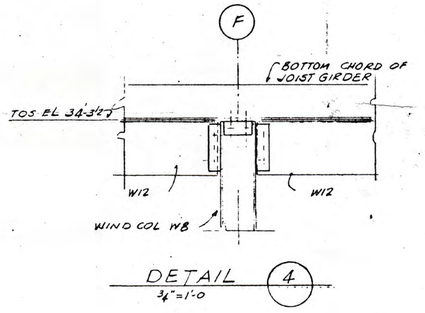
SECTION 3
¾" = 1'-0



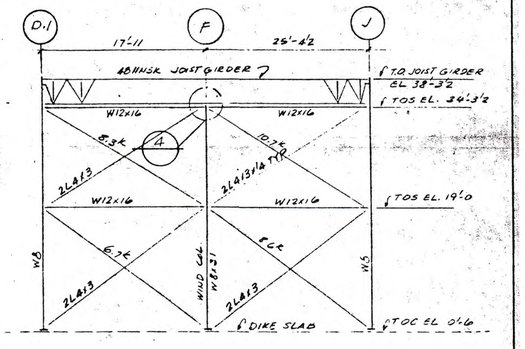
TYP. BASE PLATE DETAIL

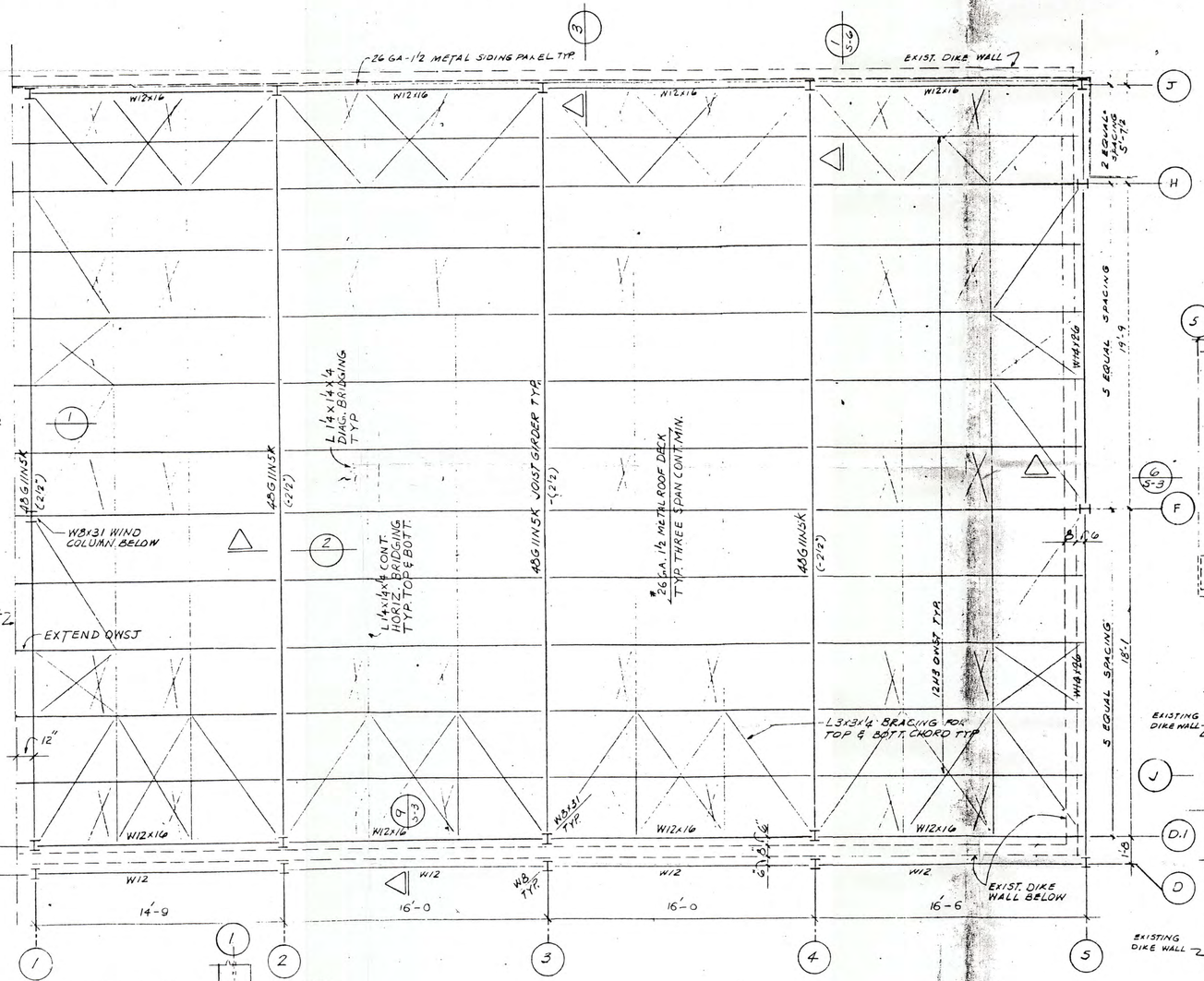


48IIINSK - JOIST GIRDER



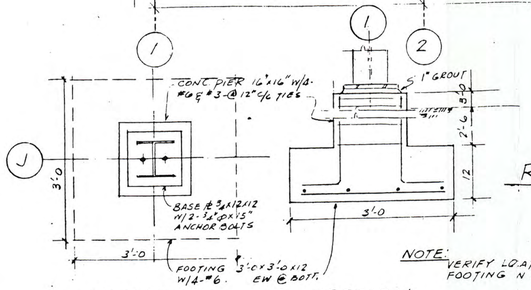
DETAIL 4
¾" = 1'-0





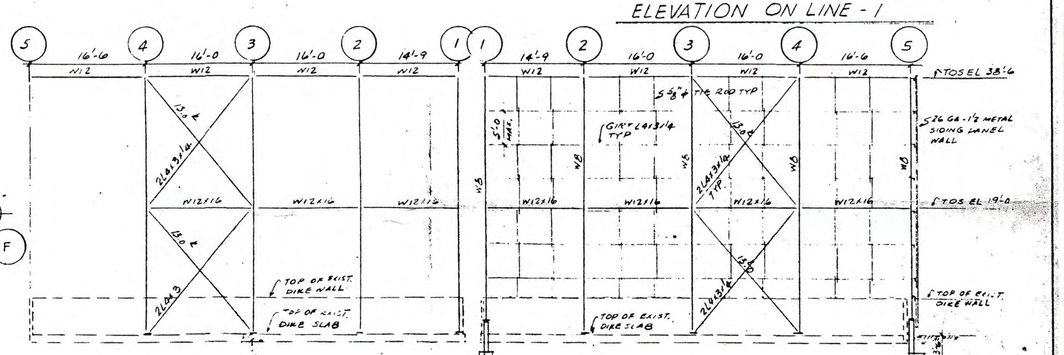
ROOF FRAMING PLAN TOS EL 38'-6 TYP.
¼" = 1'-0

NORTH



PLAN VIEW SECTION

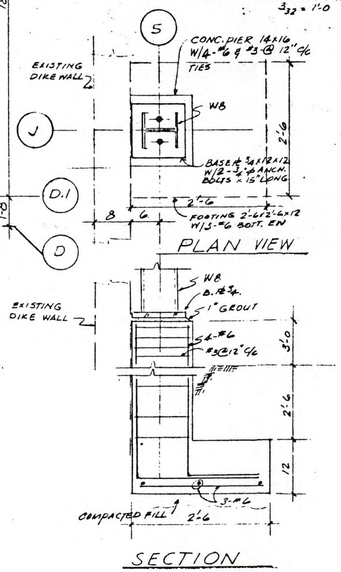
NOTE: VERIFY LOCATION & SIZE OF FOOTING IN FIELD.



ELEVATION ON LINE - 1

ELEVATION ON LINE - D.1
⅜₂" = 1'-0

ELEVATION ON LINE - J
⅜₂" = 1'-0



NOTES:

1. REFER SHEET S-1 TO S-8 FOR GENERAL NOTES, SECTIONS, DETAILS & ETC. CONNECTION WITH THIS DRAWING SHEET S-9.

Dynecol, Inc. - 1988 Act 64
License Reapplication

NO.	REVISION	DATE
	ISSUED FOR CONSTRUCTION	12-16-85

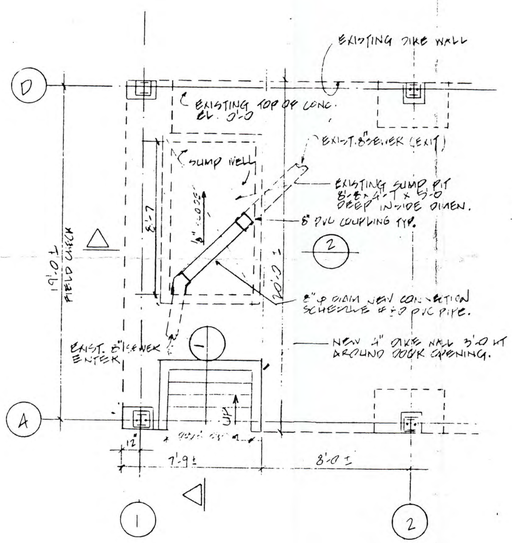
CONSULTING ENGINEERS
CHEMTEC RESEARCH ASSOCIATES, INC.
16241 WESTMORELAND
DETROIT, MICH. 48219

OWNER
WASTE ACID SERVICES, INC.
6520 GEORGIA ST.
DETROIT, MICH. 48211

WASTE MANAGEMENT DIVISION
JAN 04 1995
RECEIVED

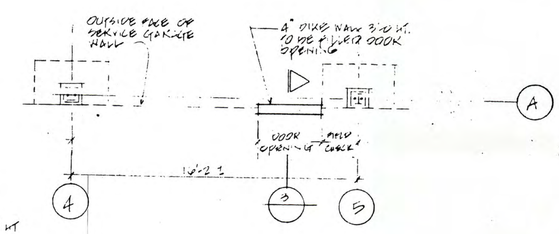
TITLE TANKS - DIKE AREA
ROOF FRAMING PLAN, SECTIONS, ELEVATIONS & DETAILS

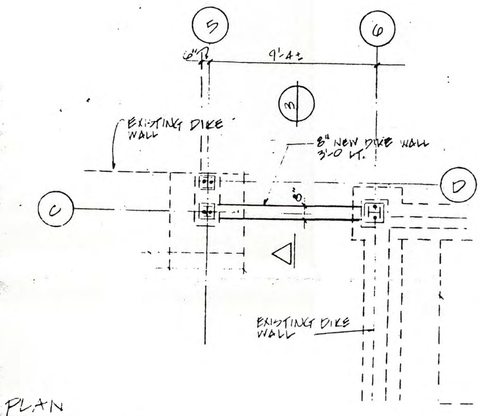
SCALE AS NOTED	DATE	PROJECT NO.
DRAWN BY HB, AQ	11-10-85	
DESIGNED BY HB, SH	12-1-85	SHEET NO.
CHECKED BY HB, RB	12-15-85	S-9 OF
APPROVED BY RB	12-16-85	



SUMP PIT & DIKE WALL PLAN

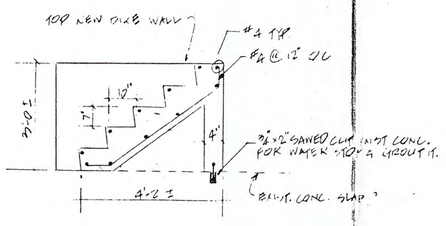
1/4"=1'-0





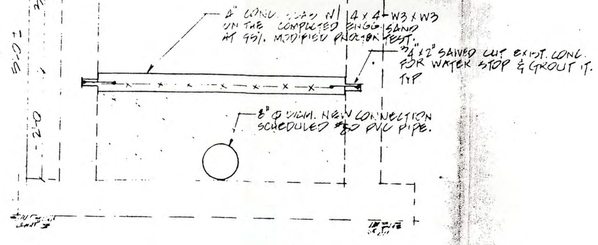
NEW DIKE WALLS PLAN

1/4"=1'-0



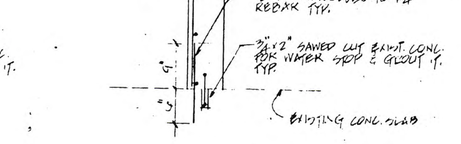
SECTION 1

1/2"=1'-0



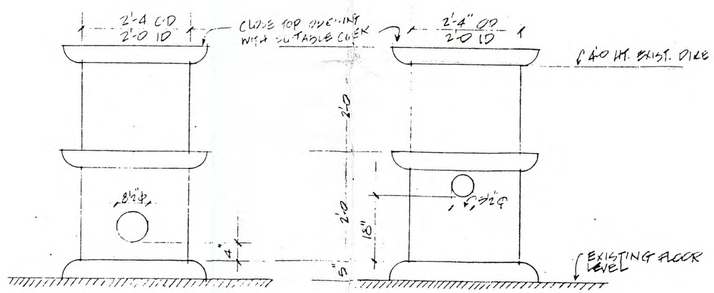
SECTION 2

3/4"=1'-0



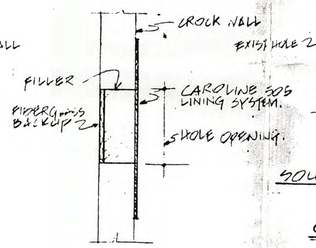
SECTION 3

3/4"=1'-0

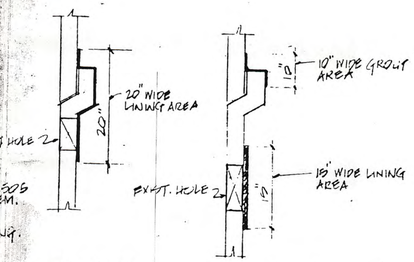


NORTH CROCK

SOUTH CROCK



CROCK HOLE DETAIL TYP.



CROCK TYP. SECTION FOR JOINT & HOLE FILLER

MATERIAL SPECIFICATION:

MATERIAL:

Caroline 505 an epoxy based fiberglass reinforced lining system installed 1/8" thick.

FILLING HOLE:

Hole in crock will be patched as follows.

1. Install a back up plate such as a hard piece of fiberglass sheeting.
2. Fill crock hole cavity with caroline 505 resin and powder filler.
3. After this has set up line this filler area, and exterior of unit with the caroline 505 lining system.

NOTES:

1. Refer sheet no. S-1 for general note.
2. Provide 3/4" x 2" sawed cut or chisel cut between existing concrete surface or existing brick wall and new concrete construction to have intalled water-stop as shown in the sections.
3. All dike walls and floor should be coated with CEILCOTE flakeline epoxy coating or equivalent.
4. 3'-0" height of existing service garage brick wall and new dike walls are capable to resist fluid pressure in the dike.
5. REFER SHT NO S-1 FOR SUMP PIT & DIKE WALLS LOCATION.
6. TOTAL VOLUME OF DIKE SHALL BE 4442.0 CUFT.

Dynecol, Inc. - 1988 Act 64
License Reapplication

NO.	REVISION	DATE

CONSULTING ENGINEERS

CHEMTEC RESEARCH ASSOCIATES, INC.

16241 WESTMORELAND
DETROIT, MICH. 48219

OWNER

DYNECOL, INC.

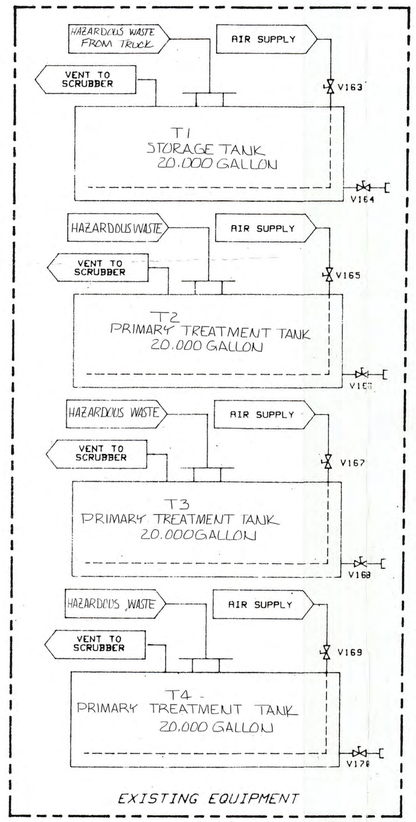
6520 GEORGIA ST.
DETROIT, MICH. 48211

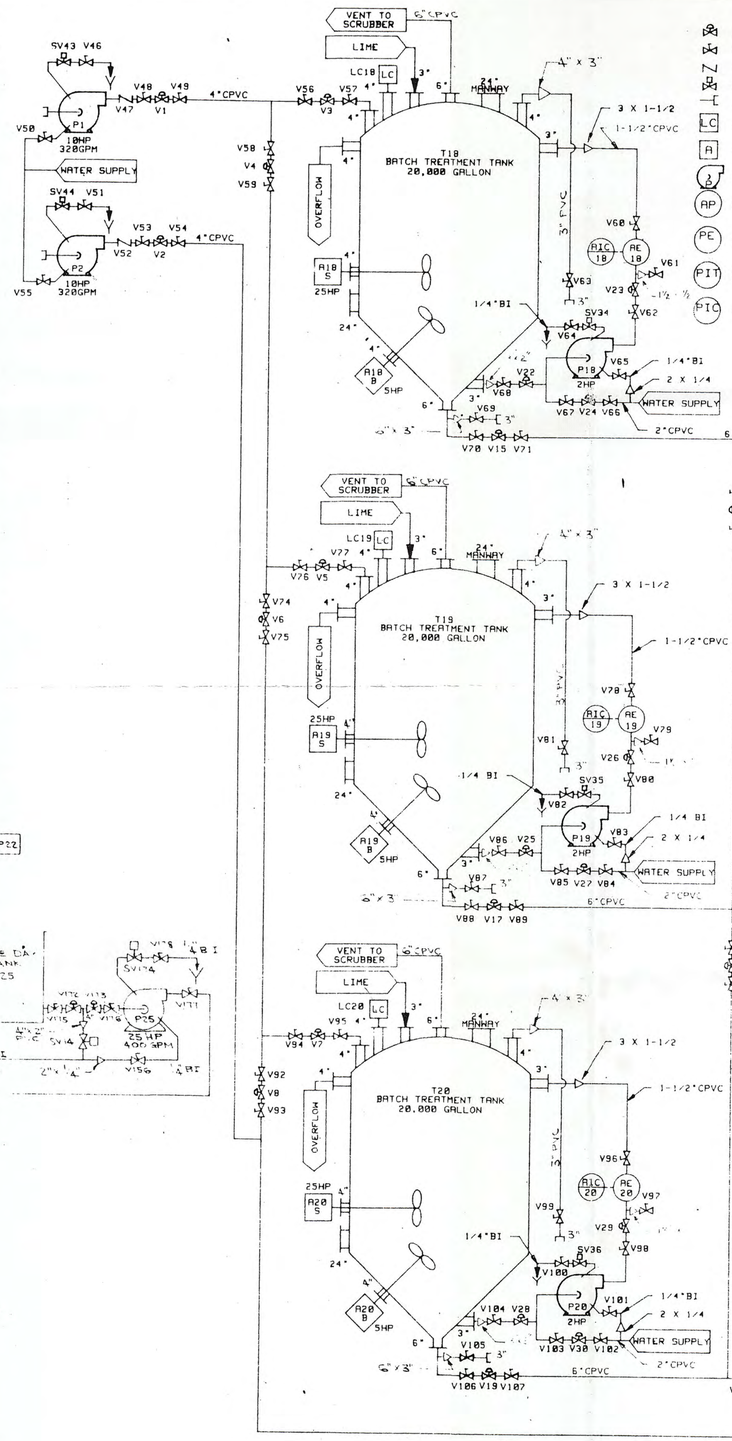
WASTE MANAGEMENT DIVISION
JAN 04 1995
RECEIVED

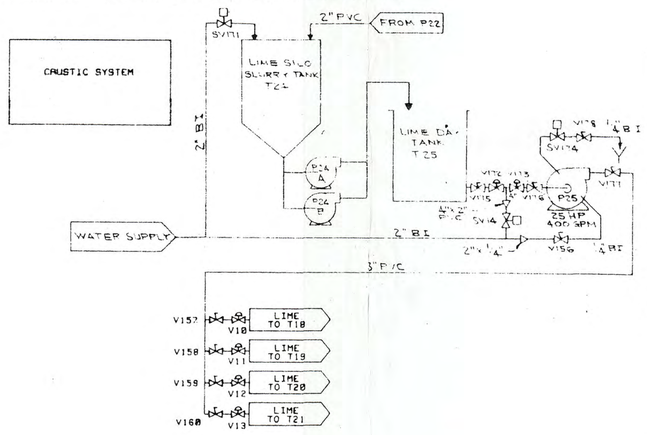
TITLE

SUMP PIT AND NEW DIKE WALL PLANS & SECTIONS

SCALE As NOTED	DATE	PROJECT NO.
DRAWN BY HB	4-27-87	
DESIGNED BY HB	4-27-87	SHEET NO.
CHECKED BY HB KG	5-5-87	A-1 OF 1
APPROVED BY		







LEGEND

- AUTOMATIC VALVE (PNEUMATIC ACTUATED)
- MANUAL VALVE
- CHECK VALVE
- SOLENOID VALVE
- QUICK DIS-CONNECT
- LC — LEVEL CONTROL
- A — ELECTRIC AGITATOR
- CENTRIFUGAL PUMP
- AP — AIR OPERATED DIPHRAGM OUMP
- PE — PRESSURE ELEMENT
- PIT — PRESSURE INDICATING TRANSMITTER
- PIC — PRESSURE INDICATING CONTROLLER
- PI — PRESSURE INDICATOR
- PS — PRESSURE SWITCH
- DRAIN
- FRL — FILTER - REGULATOR - LUBRICATOR
- LINE SIZE REDUCER
- HP — MOTOR HOREPOWER
- GPM — GALLONS PER MINUTE
- MECHANICAL SEAL
- CPVC — CHLORINATED POLYVINYLE CHLORIDE
- PVC — POLYVINYLE CHLORIDE
- BI — BLACK IRON

NOTES:

1. ALL INTERCONNECTING PIPING BY OTHERS.
2. ALL AUTOMATIC AND MANUAL VALVES TO BE SUPPLIED BY WASTE ACID
3. PUMPS P18, P19, P20, P21, AP3, AP4, AP5 AND AP6 TO BE SUPPLIED BY DURIRON.
4. LEVEL CONTROLS LC18, LC19, LC20, LC21, LC22 AND LC23 TO BE SUPPLIED BY DURIRON.
5. ANALYZING ELEMENT & ANALYZING INDICATING CONTROLLER AE18 THRU AE21 TO BE SUPPLIED BY DURIRON.

REVISIONS

SYM.	DESCRIPTION	DATE	APPROVED
	GENERAL REVISION	10/31/85	
	AMENDED NOTES	12/86	T.K.C.

WASTE MANAGEMENT DIVISION

JAN 04 1995

RECEIVED

REVISED: DECEMBER, 1994 EARTH TECH

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CHEMTRONIC SYSTEMS

FILTRATION SYSTEMS DIVISION - ANGOLA, N.Y.

SCALE NONE	APPROVED BY T. K. Chen	DRAWN BY JDC
DATE 10/8/85		CHECKED BY T.K.C.

PROCESS FLOW DIAGRAM

Revision: Jan. 1991
CARBON FILTRATION SYSTEM

DYNECOL INC.

DWG. NO. D-29819-2

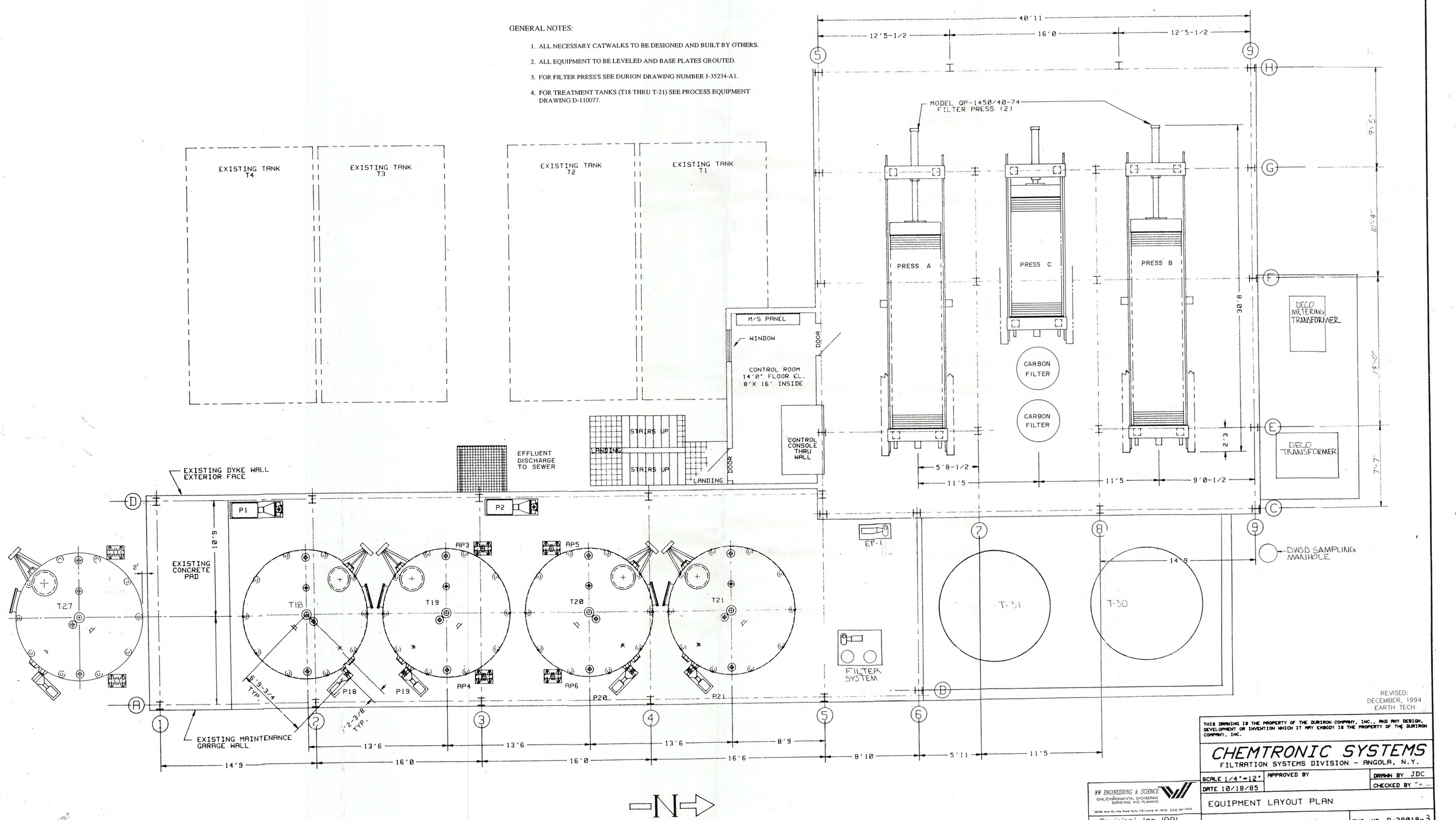
SHEET 1 OF 27

WW ENGINEERING & SCIENCE
CIVIL/ENVIRONMENTAL ENGINEERING SURVEYING AND PLANNING
30200 West Six Mile Road Suite 110 Livonia MI 48152 (313) 591-0949

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED
NONE	REVISED PER APPROVAL PRINT DATED 10/24/85	10/31/85	TK

GENERAL NOTES:

1. ALL NECESSARY CATWALKS TO BE DESIGNED AND BUILT BY OTHERS.
2. ALL EQUIPMENT TO BE LEVELED AND BASE PLATES GROUTED.
3. FOR FILTER PRESS'S SEE DURION DRAWING NUMBER J-35234-A1.
4. FOR TREATMENT TANKS (T18 THRU T-21) SEE PROCESS EQUIPMENT DRAWING D-110077.



REVISED: DECEMBER, 1994 EARTH TECH

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CHEMTRONIC SYSTEMS
FILTRATION SYSTEMS DIVISION - ANGOLA, N.Y.

SCALE 1/4"=1'2"	APPROVED BY	DRAWN BY JDC
DATE 10/18/85		CHECKED BY TK

EQUIPMENT LAYOUT PLAN

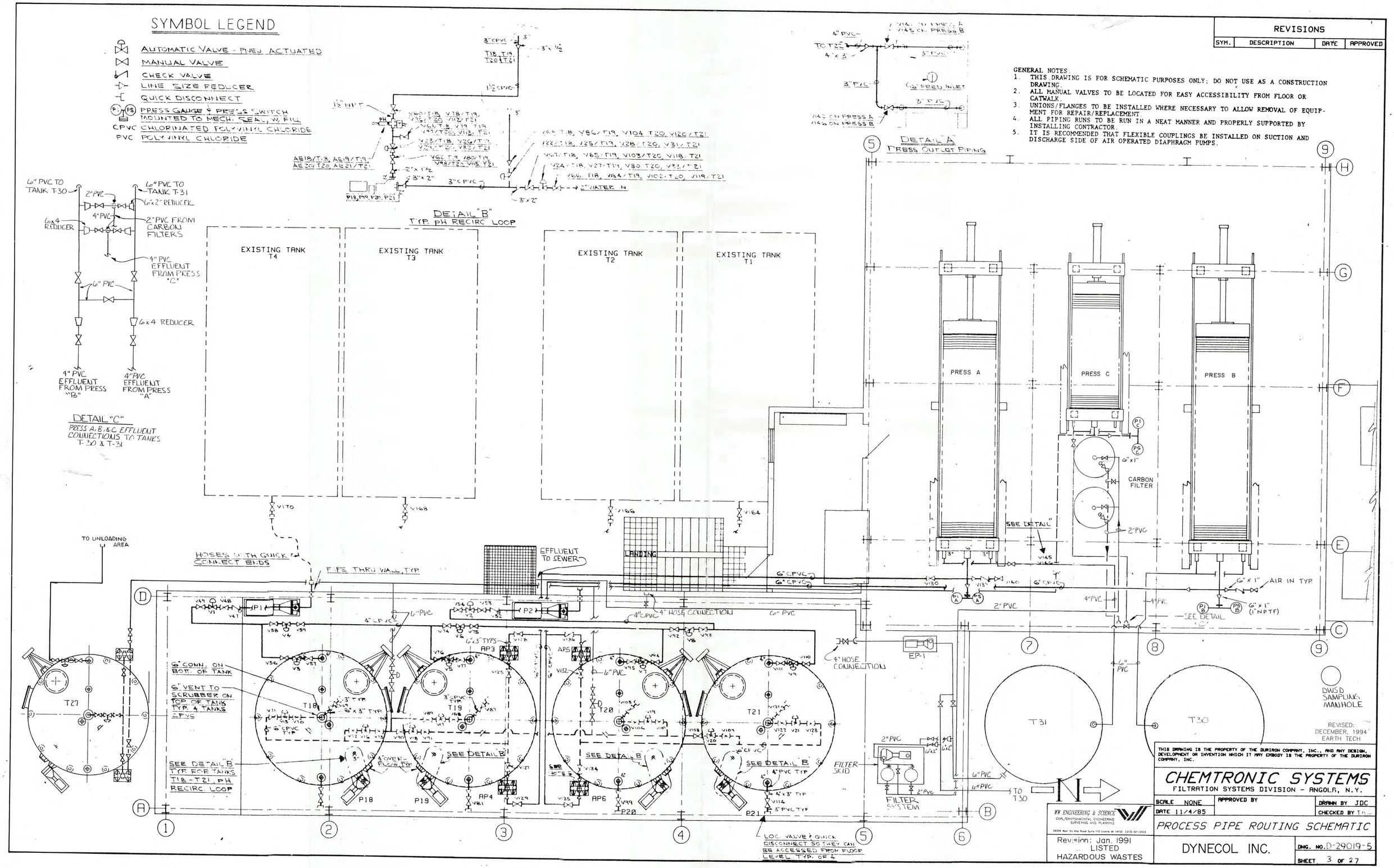
DYNECOL INC.

DWG. NO. D-29019-3

SHEET 2 OF 27

WW ENGINEERING & SCIENCE
CIVIL/ENVIRONMENTAL ENGINEERING SURVEYING AND PLANNING
39209 West Six Mile Road Suite 110 Livonia MI 48152 (313) 591-0500

Revision: Jan. 1991
LISTED HAZARDOUS WASTES



REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED

GENERAL NOTES:

1. THIS DRAWING IS FOR SCHEMATIC PURPOSES ONLY; DO NOT USE AS A CONSTRUCTION DRAWING.
2. ALL MANUAL VALVES TO BE LOCATED FOR EASY ACCESSIBILITY FROM FLOOR OR CATWALK.
3. UNIONS/FLANGES TO BE INSTALLED WHERE NECESSARY TO ALLOW REMOVAL OF EQUIPMENT FOR REPAIR/REPLACEMENT.
4. ALL PIPING RUNS TO BE RUN IN A NEAT MANNER AND PROPERLY SUPPORTED BY INSTALLING CONTRACTOR.
5. IT IS RECOMMENDED THAT FLEXIBLE COUPLINGS BE INSTALLED ON SUCTION AND DISCHARGE SIDE OF AIR OPERATED DIAPHRAGM PUMPS.

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CHEMTRONIC SYSTEMS

FILTRATION SYSTEMS DIVISION - ANGOLA, N.Y.

SCALE NONE	APPROVED BY	DRAWN BY JDC
DATE 11/4/85		CHECKED BY

WW ENGINEERING & SCIENCE
CIVIL/ENVIRONMENTAL ENGINEERING SURVEYING AND PLANNING

Revision: Jan. 1991
LISTED HAZARDOUS WASTES

PROCESS PIPE ROUTING SCHEMATIC

DYNECOL INC.

DWG. NO. D-29019-5

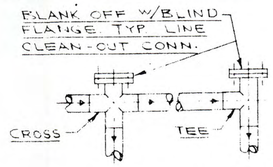
SHEET 3 OF 27

SYMBOL LEGEND

- AUTOMATIC VALVE
- MANUAL VALVE
- LINE SIZE REDUCER
- PVC POLYVINYL CHLORIDE (PIPE)

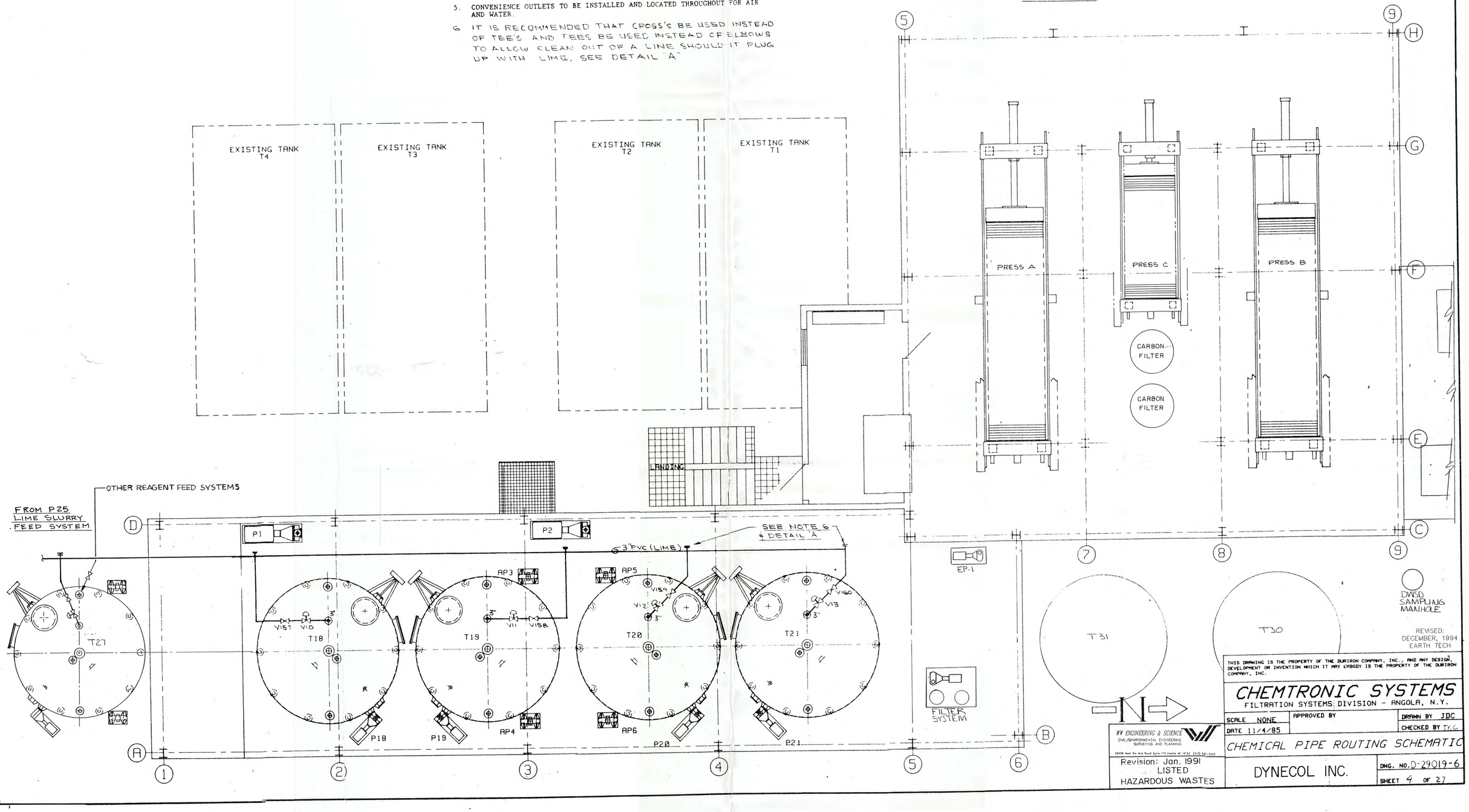
GENERAL NOTES

1. THIS DRAWING IS FOR SCHEMATIC PURPOSES ONLY; DO NOT USE AS A CONSTRUCTION DRAWING.
2. ALL MANUAL VALVES TO BE LOCATED FOR EASY ACCESSIBILITY FROM FLOOR OR CATWALK.
3. UNIONS/FLANGES TO BE INSTALLED WHERE NECESSARY TO ALLOW REMOVAL OF EQUIPMENT FOR REPAIR/REPLACEMENT.
4. ALL PIPING RUNS TO BE RUN IN A NEAT MANNER AND PROPERLY SUPPORTED BY INSTALLING CONTRACTOR.
5. CONVENIENCE OUTLETS TO BE INSTALLED AND LOCATED THROUGHOUT FOR AIR AND WATER.
6. IT IS RECOMMENDED THAT CROSS'S BE USED INSTEAD OF TEE'S AND TEES BE USED INSTEAD OF ELBOWS TO ALLOW CLEAN OUT OF A LINE SHOULD IT PLUG UP WITH LIME. SEE DETAIL "A"



DETAIL "A"

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



REVISED: DECEMBER, 1994 EARTH TECH

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CHEMTRONIC SYSTEMS

FILTRATION SYSTEMS DIVISION - ANGOLA, N.Y.

SCALE NONE	APPROVED BY	DRAWN BY JDC
DATE 11/4/85		CHECKED BY TKC

WW ENGINEERING & SCIENCE
CIVIL/ENVIRONMENTAL ENGINEERING SURVEYING AND PLANNING

Revision: Jan. 1991
LISTED
HAZARDOUS WASTES

CHEMICAL PIPE ROUTING SCHEMATIC

DYNECOL INC.

DWG. NO. D-29019-6

SHEET 4 OF 27

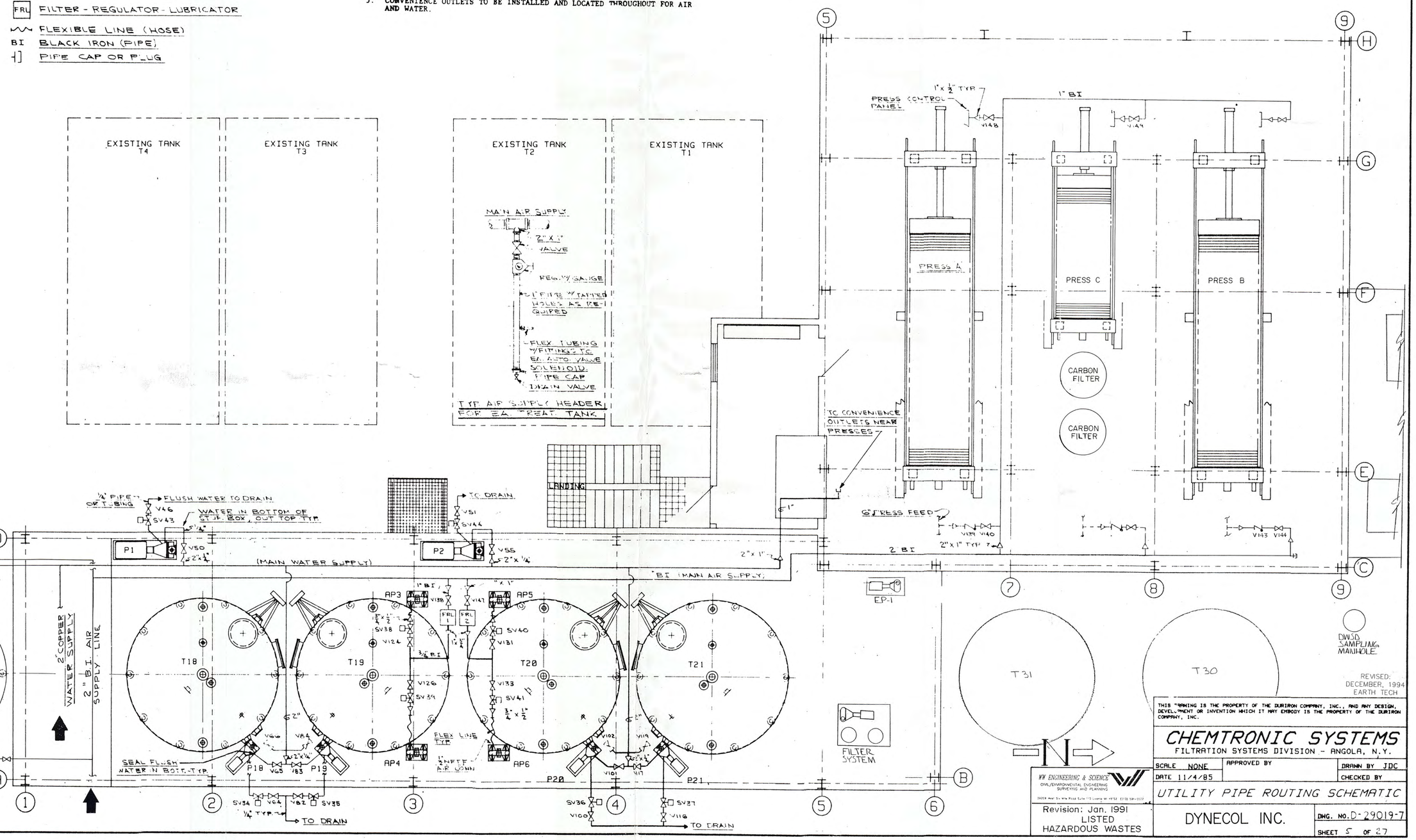
SYMBOL LEGEND

- SOLENOID VALVE, 2-WAY
- MANUAL VALVE
- VALVE SHOWN AS REFERENCE
- CHECK VALVE
- LINE SIZE REDUCER
- FRL — FILTER - REGULATOR - LUBRICATOR
- FLEXIBLE LINE (HOSE)
- BI — BLACK IRON (PIPE)
- PIPE CAP OR PLUG

GENERAL NOTES

1. THIS DRAWING IS FOR SCHEMATIC PURPOSES ONLY; DO NOT USE AS A CONSTRUCTION DRAWING.
2. ALL MANUAL VALVES TO BE LOCATED FOR EASY ACCESSIBILITY FROM FLOOR OR CATWALK.
3. UNIONS/FLANGES TO BE INSTALLED WHERE NECESSARY TO ALLOW REMOVAL OF EQUIPMENT FOR REPAIR/REPLACEMENT.
4. ALL PIPING RUNS TO BE RUN IN A NEAT MANNER AND PROPERLY SUPPORTED BY INSTALLING CONTRACTOR.
5. CONVENIENCE OUTLETS TO BE INSTALLED AND LOCATED THROUGHOUT FOR AIR AND WATER.

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



REVISED: DECEMBER, 1994 EARTH TECH

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CHEMTRONIC SYSTEMS

FILTRATION SYSTEMS DIVISION - ANGOLA, N.Y.

SCALE NONE	APPROVED BY	DRAWN BY JDC
DATE 11/4/85		CHECKED BY

UTILITY PIPE ROUTING SCHEMATIC

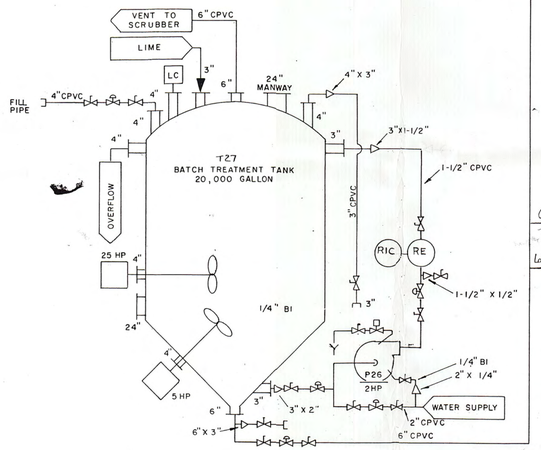
WW ENGINEERING & SCIENCE
CIVIL/ENVIRONMENTAL ENGINEERING SURVEYING AND PLANNING
26259 West Six Mile Road Suite 115 Livonia MI 48152 (313) 591-0222

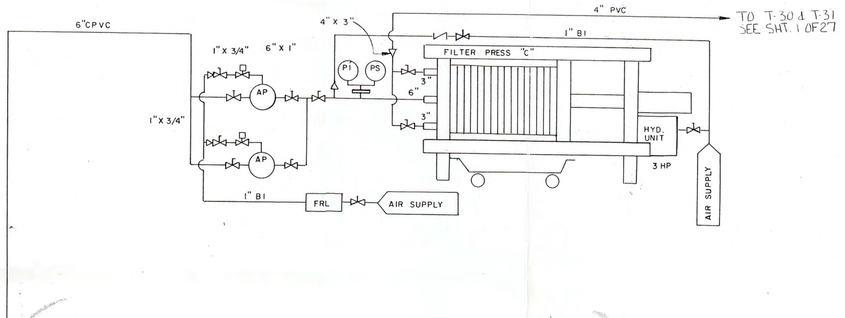
Revision: Jan. 1991
LISTED HAZARDOUS WASTES

DYNECOL INC.

DWG. NO. D-29019-7

SHEET 5 OF 27





TO T-30 & T-31
SEE SHT. 1 OF 27

6"CPVC
6"CPVC

FROM BATCH TREATMENT TANKS T-18 THRU T-21
SEE SHT. 1 OF 27

WASTE MANAGEMENT DIVISION

JAN 04 1995

RECEIVED

REVISED:
DECEMBER, 1994
EARTH TECH

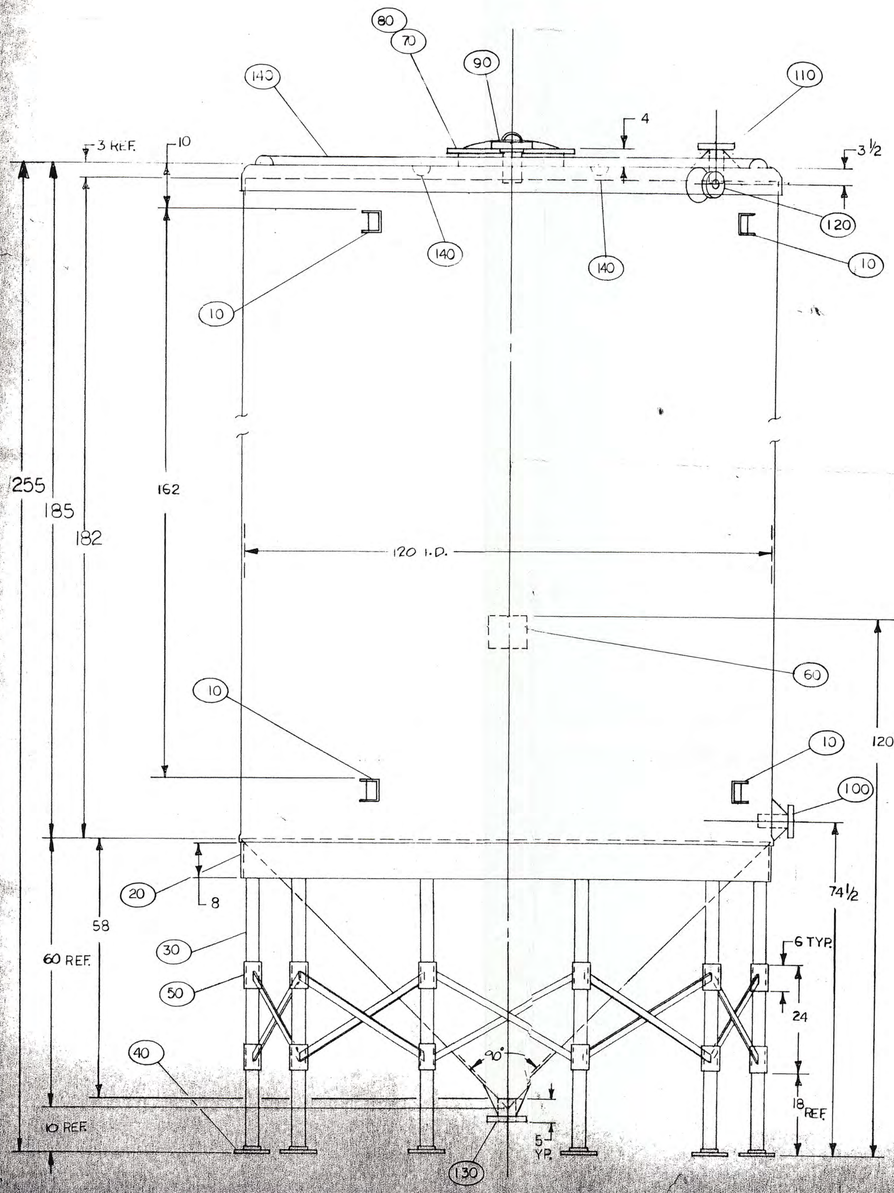
WW ENGINEERING & SCIENCE
CIVIL/ENVIRONMENTAL ENGINEERING
SURVEYING AND PLANNING

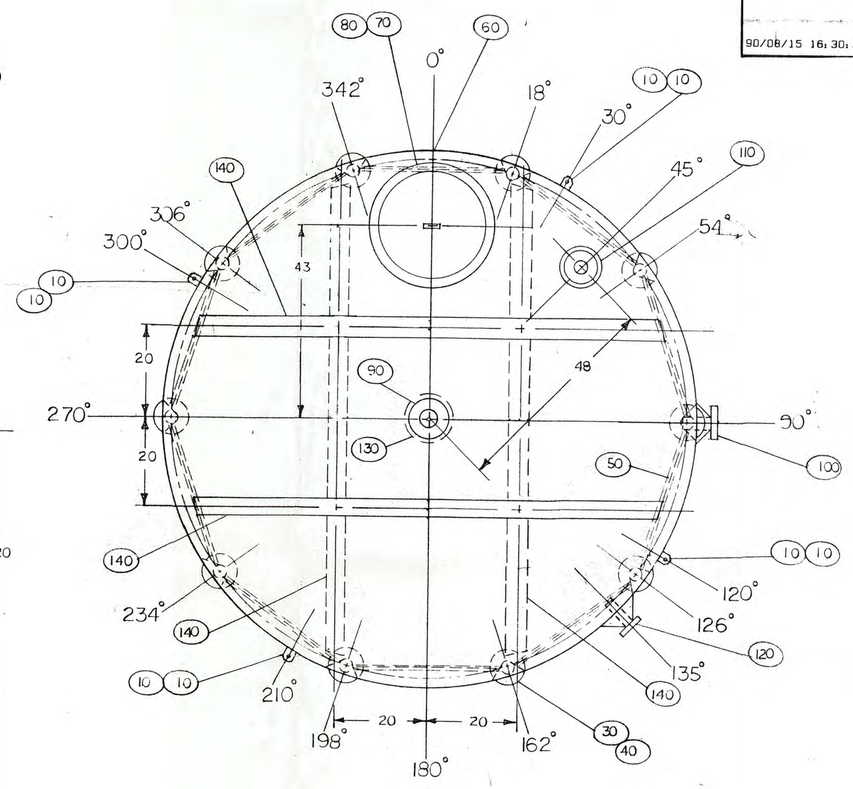
SCALE NONE		DRAWN BY MOL
DATE 1-10-91		

PROCESS FLOW DIAGRAM
LISTED WASTE TREATMENT SCHEMATIC

DYNECOL INC.

SHEET 1A OF 27





DESIGN CONDITIONS	
SP. GR.	PRESSURE
1.2	ATMOSPHERIC, VENTED

MODEL NO. CV9-120-10036 P S/N 53764 120 dia. x 185 str. side

FOUNDATION REQD. Supported by legs

INNER SURFACE Double Glass veil

CONTENTS

CAPACITY 10036 US gallons, total

TANK CONSTRUCTION

ITEM	TOP HEAD		SIDE WALL	SIDE WALL	[CONICAL] BOTTOM	FALSE BOTTOM	TOP INS. CASE	SIDEWALL INS. CASE	LUG WIND
THK.	.375		.33		.8				
WT. RESIN	22		117		27				
WT. VEIL	183 (2)		9.79 (2)		2.22 (2)				
WT. RESIN	173		294		267				
WT. CHOP	86		147		133				
WT. RESIN	20				160				
WT. F/M	11 (0)	UNI →			84 (4)				
WT. RESIN			164						34
WT. WIND			327 (3)						68 (2)

PREM RESIN	ECON RESIN	GLASS TYPES	GLASS WTS.
		VEIL	14
		CHOP	366
		WIND	395
		F/M	85
		UNI	
TOTAL	TOTAL	1-1/2 OZ.	19
1381			
GROSS USAGE			2598
TOTAL FRP NET WT (TRIMMED)			2260

TOTAL ACCESSORY WT. 1097

INSULATION WT.

CURE SYSTEM REQD. Co/MEK peroxide with no post cure

TESTING REQD. None

4 H/D Lugs at 8 inches, with 4 Lifting Lugs at 10"

JOINT (S) 58

BALSA cu. ft.

TOTAL TANK WT. 3357 #

DIGITAL DATA

CHOP RATIO	ST. WIND RATIO	HELI-WIND RATIO	Y-COUNT	X-COUNT	PASSES	CNT	LENGTH	GLASS WT.
410	80	9	1282	1464	2	16	188.7	310
		9	1282	39	1	16	10.2	17

NOTES

1-Tank to be built to P.E.C. Engineering Standard Specifications.
2-All flanges to be 150# A.N.S.I. drilled. Gasket Must be full face type.
3-Flange boltholes are to straddle the centerline unless otherwise specified.
4-Tank must have FREE VENTING with flow capacity equal to or larger than largest nozzle or fitting.
5-See resin manufacturer's literature for strength and corrosion ratings vs. temperature.
6-TANK DESIGNED FOR SEISMIC ZONE 0, 0 MPH WINDLOAD.
7. Load tank with 300° down. Loaded width of 126 inches, approx.

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SEP 27 1994

Item	Reqd.	Descrip.	Matl.
MO	4	REINF. PIB	STD x 106 LG FRP
130	1	INTEGRAL FLG.	4 IRS W/ CONICAL GUSSET FRP
120	1	INTEGRAL FLG.	2 IRS W/ CONICAL GUSSET FRP
110	1	INTEGRAL FLG.	3 IRS W/ CONICAL GUSSET FRP
100	1	INTEGRAL FLG.	3 IRS W/ CONICAL GUSSET FRP
90	1	FLANGE NOZ.	4 IRS (VENT) FRP
80	1	COVER W/ SEAL TO MATCH 90 FLANGE	28 DIA FRP PRIMED
70	1	MANHOLE TOP	24 DIA FRP
60	1	NAMEPLATE	STD x 6 3/4 x 9 3/4 W/ S.N. 53764
50	1	DOUBLE LEG REINF. BAND	PER REQ-PROCESS C.S. PRIMED
40	10	FLOOR FLANGE	8 IRS x 1/2 FLAT PRIMED
30	10	PIPE LEG (T.B.E.)	3 I.P.S. x 22 LG. C.S. PRIMED
20	1	SKIRT W/ JOINING GUSSETS	3/8 x 8 x 375 11/16 C.S. PRIMED
10	8	LIFTING LUGS	TYPE #2 C.S. N.P.L.
	1	FILAMENT WINDING CORROSION BARRIER	VINYLESTER HETRON 922L
	1		VINYLESTER HETRON 922L

6	WAS CVF-120-7188.P REDRAWN	B.H. 9/0 AG.	
Revision		Date	

Viatec™ PROCESS/STORAGE SYSTEMS WASTE MANAGEMENT DIVISION
500 Reed St.
PO. Box 99
Belding, MI 48809

JAN 04 1995
RECEIVED

Title CV9C-120-10036PTANK (1) REQD. W/FLAT TOP

Cust. DYNACOL S/N 53764

Dwn. by AG Dwg. No. DFT-900541.02-1

Date 8-16-90

Scale 1" = 1'-6" Sheet 1 of 1

JM 8

ORIENTATION PER CUSTOMERS "ORIENTATION A"

VERT. DIMNS. NOT TO SCALE

TANK # 27