

SUBJECT BACKUP SEWAGE PUMP STATION PROJECT KINGSTONCOMPUTED BY ETRDATE 2/5/93

CHECKED BY

DATE

FORMING (VALUE BOX)

$$\frac{\text{SLAB}}{(6/12')(3')(2 \text{ EACH})} = 3 \text{ SF}$$

$$(6/12')(4')(2 \text{ EACH}) = 4 \text{ SF}$$

$$\frac{\text{WALLS}}{(6/12')(3')(4 \text{ EACH})} = 6 \text{ SF}$$

$$(6/12')(4')(4 \text{ EACH}) = 8 \text{ SF}$$

$$\text{TOTAL} = \boxed{21 \text{ SF}}$$

$$\frac{\text{ROCK}}{(3')(4')(6/12')} = 6 \text{ CF}$$

$$(6 \text{ CF}) \left(\frac{135 \text{ LB}}{\text{FT}^3} \right) \left(\frac{1}{2000 \text{ LB}} \right) = 0.37 \text{ TON}$$

SAY $\boxed{1 \text{ TON}}$

CLASS X CONCRETE, 3000 PSI

$$\frac{\text{SLAB}}{(4')(3')(6/12')} = 0.222 \text{ cy}$$

27

$$\frac{\text{WALL}}{(4')(3')(6/12')} = 0.222 \text{ cy} \times 2 \text{ EACH} = 0.444 \text{ cy}$$

27

$$\frac{(3')(3')(6/12')} = 0.1667 \text{ cy} \times 2 \text{ EACH} = 0.333 \text{ cy}$$

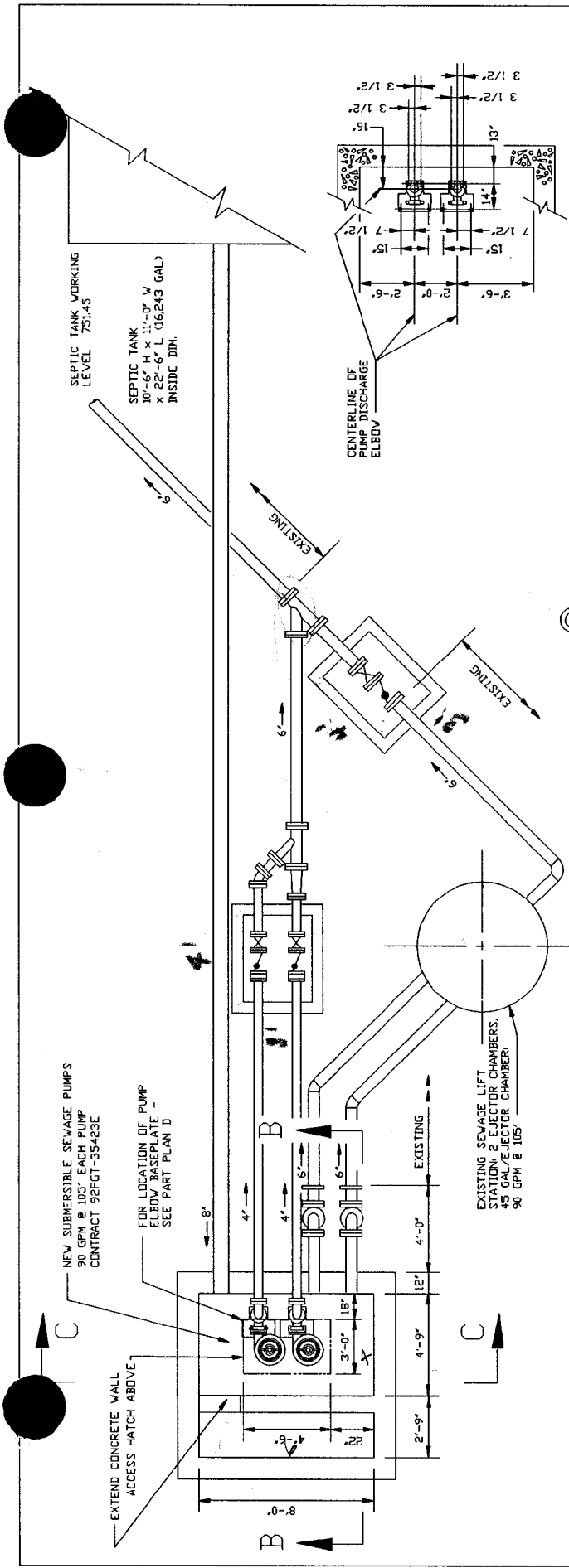
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$$0.222 \text{ cy} + 0.444 \text{ cy} + 0.333 \text{ cy} = 0.99 \text{ SAY } \boxed{1 \text{ cy}}$$

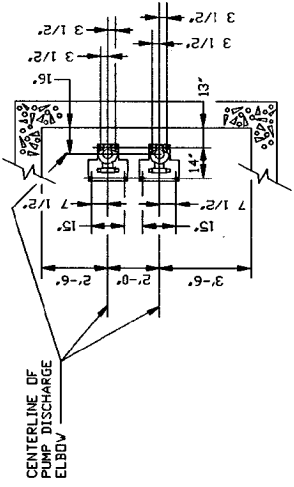
FILL IN OPENING AREA IN CL. BOX

$$\frac{(2')(8')(5/2')} = \boxed{3.25 \text{ cy}}$$

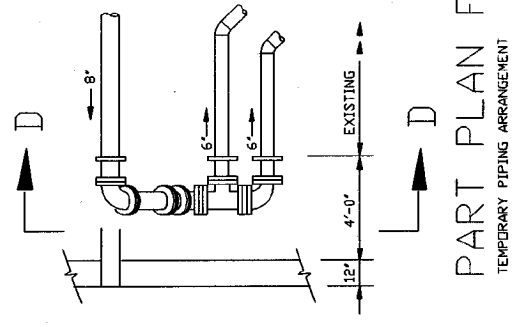
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PART PLAN E
PUMP DISCHARGE ELBOW LOCATION

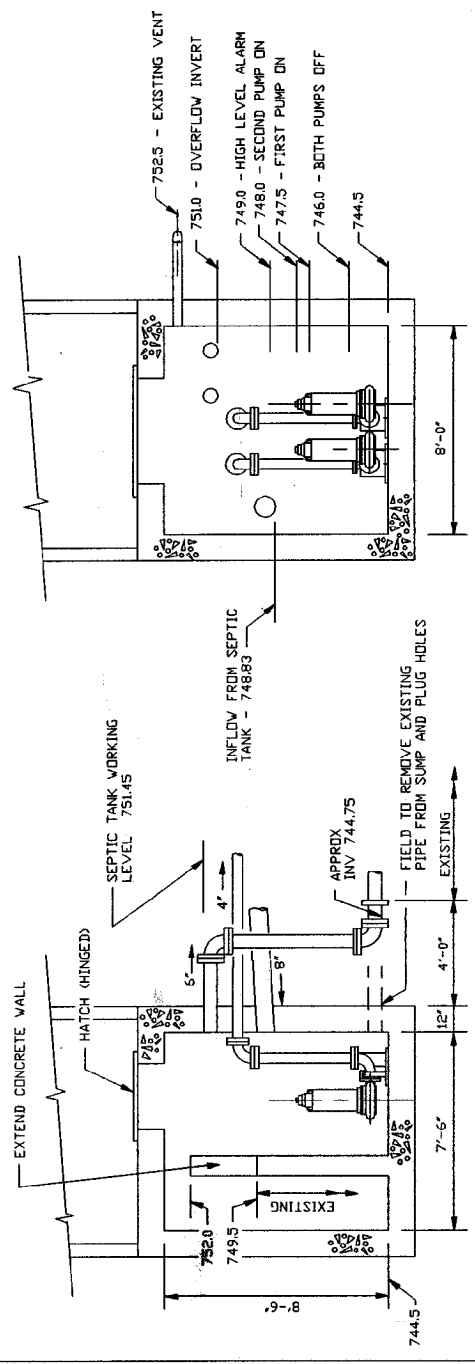


PART PLAN F
TEMPORARY PIPING ARRANGEMENT



PART PLAN A

D-D



KINGSTON FOSSIL PLANT
BACKUP SEWAGE LIFT STATION

TYPE JD—Double-leaf design, available in 1/4" diamond pattern steel or aluminum plate. Tubular compression spring operators function consistently through the entire arc of opening, and for safety act as a check in retarding downward motion of the doors. The design directs rain water via the channel frame to a drain connection. Ideal also for interior installations, the channel frame prevents dirt from falling through to the area below. Doors have heavy forged brass hinges, fitted with stainless steel pins. Each door leaf is equipped with a positive hold-open arm that engages automatically when the door reaches its fully open position. A convenient handle releases the hold-open device for closing. Standard doors are reinforced for 300 pounds per square foot live load.

TYPE J—Same as Type JD except single-leaf design for smaller openings.

TYPE Q—Single-leaf design for smaller openings when channel frame is not required. Angle frame is 1/4" steel with strap anchors welded to the exterior.

The leaf is 1/4" steel diamond pattern plate with cast steel hinges bolted to the underside and pivoting on torsion bars for easy operation. The minimum live load capacity is 150 pounds per square foot.

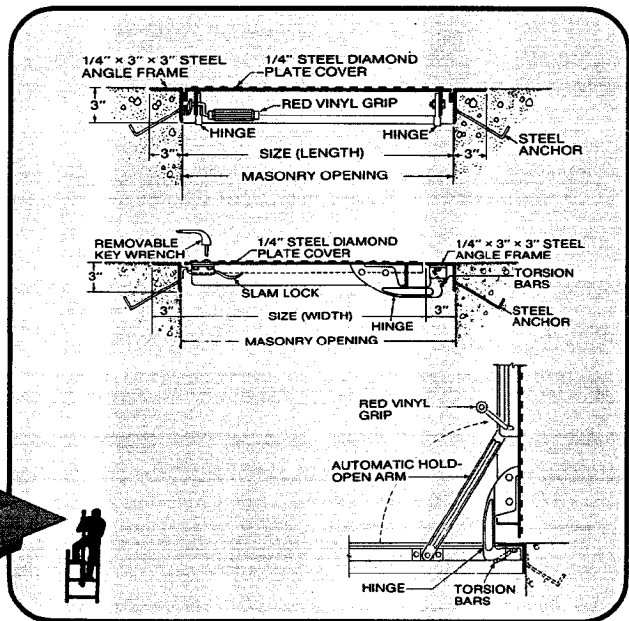
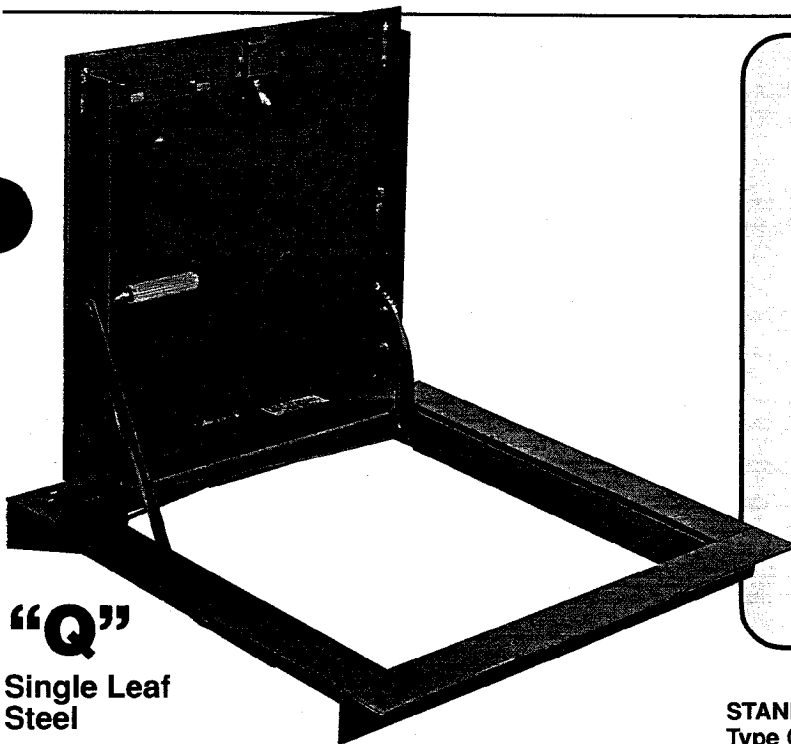
TYPE T—Designed to provide access through a finished floor area, the Type T door is virtually hidden after installation. Specially designed concealed hinges allow consistently close tolerance on all sides between the aluminum plate door leaf and the extruded aluminum frame. Built-in torsion bars afford ease of operation. Molding strips are applied to leaf and frame to receive either 1/8" or 3/16" floor covering. The minimum live load capacity is 150 pounds per square foot.

TYPE TD—Similar in design to the Type T, except double-leaf design for larger openings.

TYPE K—Similar in design to the Type T, except that the leaf is 1/4" aluminum diamond pattern plate. It is ideal for floor areas not covered by composition flooring.

TYPE KD—Similar to Type K above except double leaf design for larger openings.

GENERAL: With the exception of Type Q, all Bilco Doors are available in special sizes. Type J and JD can be reinforced for wheel loadings to H-20 when specified for off-street locations. See page on H loading and special sizes. Standard on all doors is a flush, spring-loaded snap lock, operable from the outside by a removable handle, and from below by a fixed turn handle.



“Q”
Single Leaf Steel

SPECIFICATIONS: Type Q. Floor access door shall be Type Q, as manufactured by The Bilco Company. Angle frame shall be 1/4" steel with anchors welded to the exterior. Door leaf shall be 1/4" steel diamond pattern plate with cast steel hinges bolted to the underside and shall pivot on torsion bars for ease of operation. The door shall open to 90 degrees and lock automatically in that position. A vinyl grip handle shall be provided to release the cover for closing. Doors shall be built for a minimum live load of 150 pounds per square foot and equipped with a snap lock and removable handle. Hardware shall be zinc plated and chromate sealed. Factory finish shall be prime coat of red oxide paint. Installation shall be in accordance with manufacturer's instructions. Manufacturer shall guarantee against defects in material or workmanship for a period of five years.

STANDARD SIZES AND WEIGHTS
Type Q

(Also available in aluminum: Type Q-AL)

Type	SIZE		Material	Lbs.
	Width	Length		
Q-1	2'0"	2'0"	Steel	110
Q-2	2'6"	2'6"	Steel	160
Q-3	2'6"	3'0"	Steel	185
Q-4	3'0"	3'0"	Steel	210
QD-1	4'0"	2'6"	Steel	275

Q7AL 3'0 4'0 ALUM 125 LB

KINGSTON FOSSIL PLANT
BACKUP SEWAGE PUMP STATION
SITE SCOPE

PROJECT DESCRIPTION

This project consists of providing and installing two new sewage pumps, modifying the existing chlorinator structure for a lift station, electrical feed and controls for the new pumps and appropriate piping.

SCOPE DETAILS

- o The existing chlorinator building sump will be used as a new sewage lift station. The interior dimensions of the chlorinator building are 8 feet X 7 feet 6 inches X 8 feet 6 inches deep. The walls are 12 inches thick.
- o A 1/2 inch thick steel plate will be used for the new hinged doors which will be provided for access and pump removal. Each door shall be sized such that total weight of door does not exceed 60 pounds. Hinges and handles shall be included.
- o The existing chlorinator building should be pumped out completely, steam clean and inspected for cracks. All cracks (if any exist) should be repaired and the building should be made watertight.
- o All flow drains that discharge into the intake channel will be sealed off and capped.

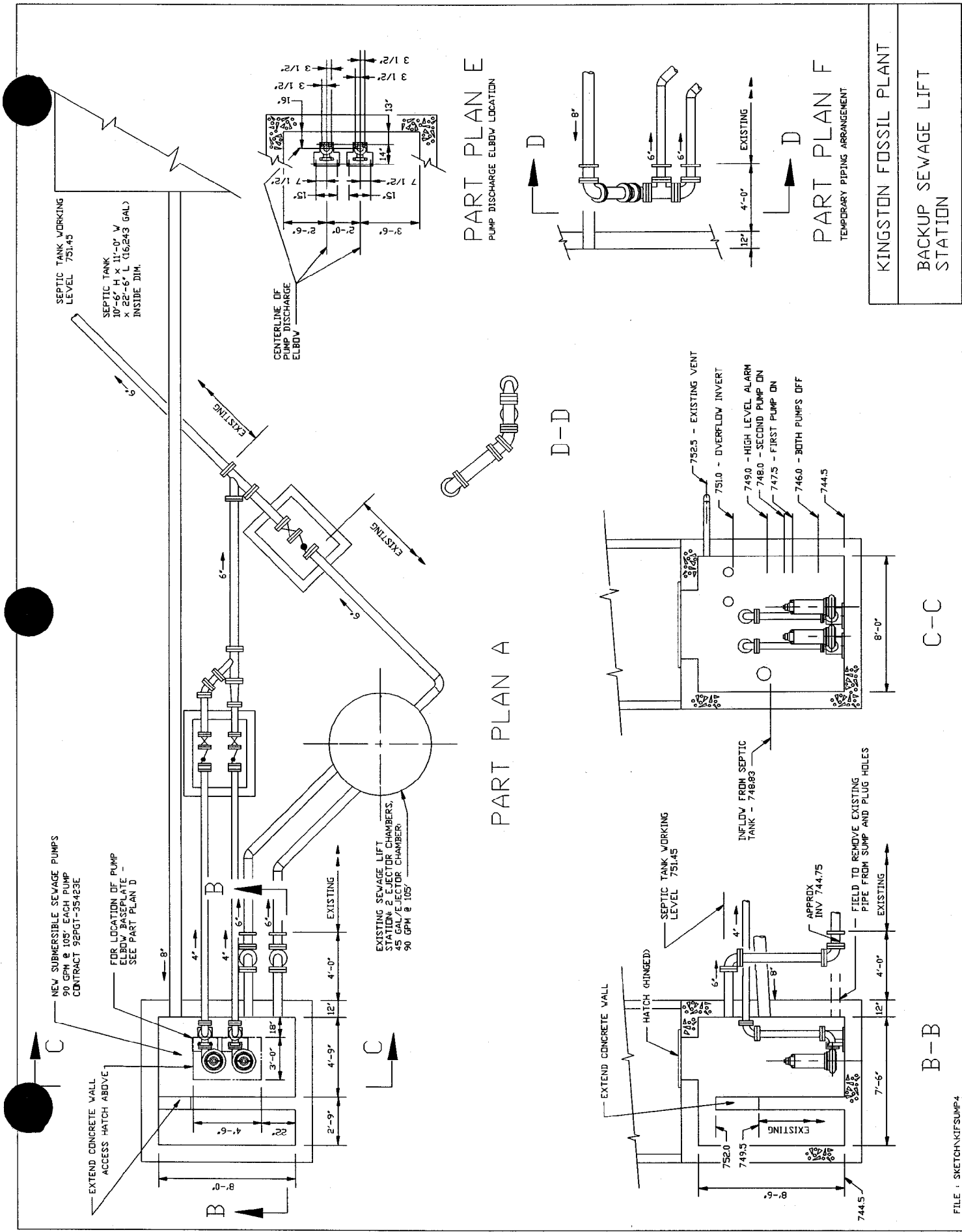
KINGSTON FOSSIL PLANT
BACKUP SEWAGE PUMP STATION
MECHANICAL SCOPE

This project consists of providing an additional sewage sump arrangement to prevent overflow of the existing sewage lift station into the discharge channel. The following list details the changes and/or additions to the system.

- o Engineer the installation of 2 new submersible sump pumps rated at 90 gpm and 105 ft head, complete with a slide rail assembly for easy removal of the pumps from the sump, pump control panel, and level control switches.

NOTE: ABOVE ITEMS WERE PURCHASED BY THE PLANT AND
ARE CURRENTLY ON SITE.

- o The existing chlorinator building sump will be used and modified as required to accomodate the new pumps.
- o An overflow will be provided in the chlorinator building sump that connects to the existing sewage lift station.
- o The discharge of the new pumps will tie into the discharge of the existing lift station. Each pump discharge line will be provided with a gate valve, check valve and a pressure gauge (with root valve).
- o An isolation valve and check valve will be provide in the existing sewage ejector discharge piping.
- o All valves will be installed in valve boxes.
- o Piping will be cast iron with mechanical joints and/or flanged joints. Valves will be cast iron.



FILE : SKETCHKFSUMP4

KINGSTON FOSSIL PLANT
BACKUP SEWAGE LIFT STATION
ELECTRICAL SCOPE

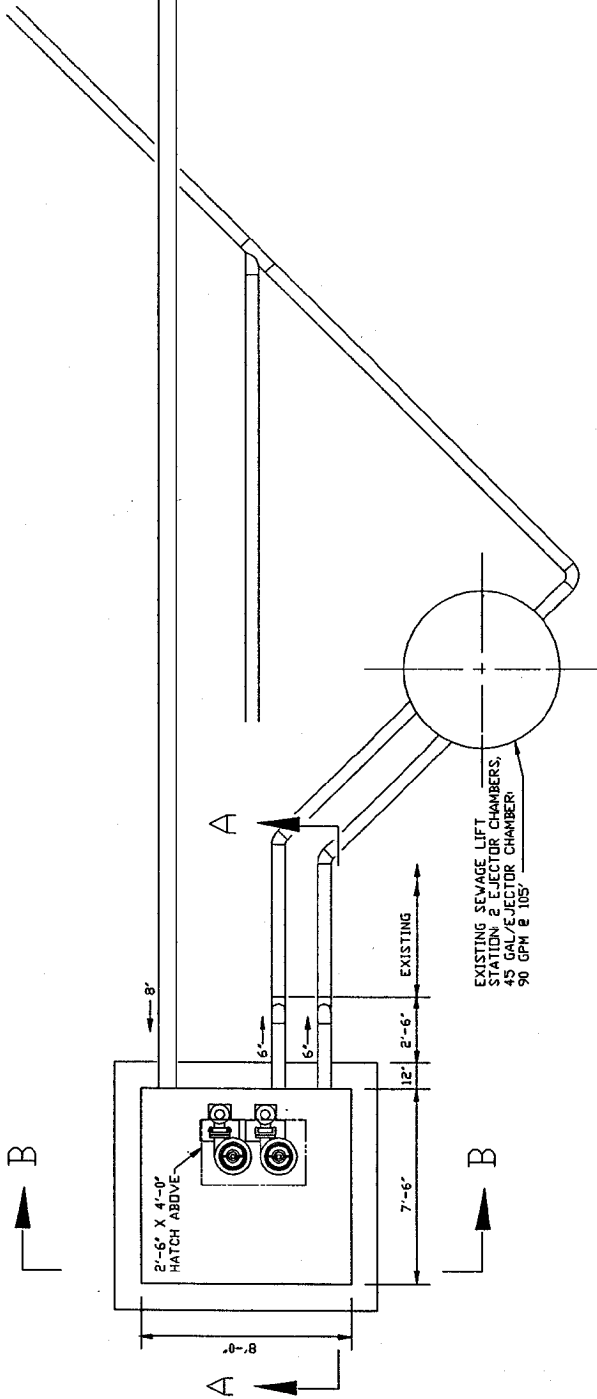
This project consists of providing power and controls for two 20-hp submersible pumps to be installed in the old chlorinator building sump. One light and one light switch will also be provided.

Power for the pumps will be from the Lighting, Heating and Vent board in the Crusher Bldg. A 100 amp breaker will be installed for the new pumps. A new conduit bank will run from the Crusher building to the old chlorinator building. Existing spare conduit will be used where applicable.

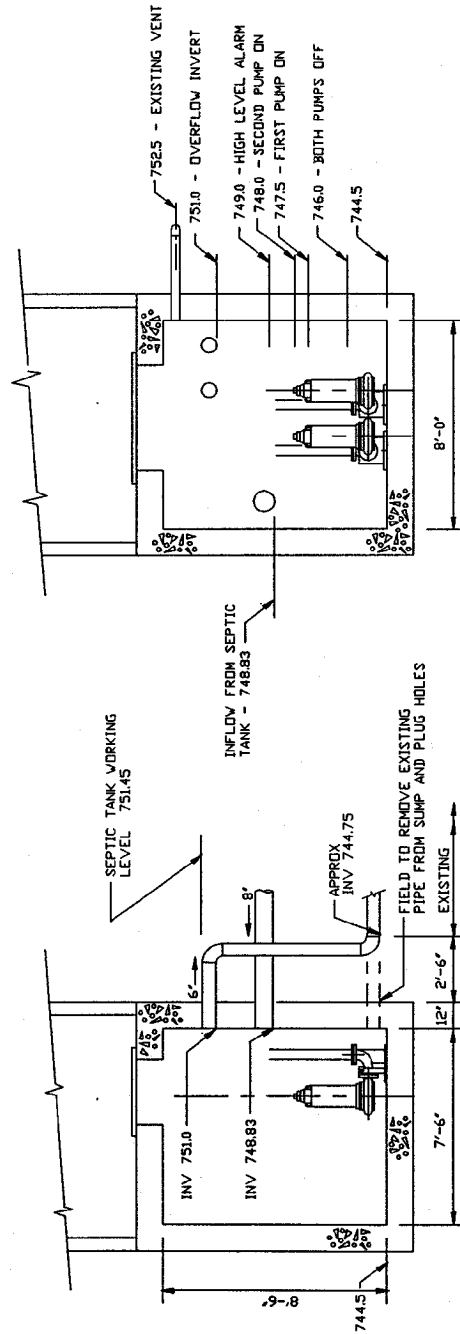
A NEMA 3 or 3R weather-tight duplex control panel will be located in the chlorinator house for the pumps. The pumps shall have automatic on and off controls. Levels shall be set for duty pump on, standby on, high level alarm, and low level off. Only local annunciation will be provided. The existing overflow beacon light will be reused if possible to indicate the high level alarm.

All equipment (pumps, control panel, etc. will be grounded.

SEPTIC TANK
 10'-6" H x 11'-0" W
 x 22'-6" L (16,243 GAL)
 INSIDE DIM.



PLAN



KINGSTON FOSSIL PLANT
 BACKUP SEWAGE LIFT
 STATION

2/12/93
EJR
FICE

ACTIVITY ID	EARLY START	EARLY FINISH	REM DUR	BUDGET QUAN.	QUAN. TO DATE	FY93												
						AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	PHASE 2 COMPLETION	PHASE 3 COMPLETION		
KCFB1A		12MAR93	0	0	0													
KCFC2A		16APR93	0	0	0													
ES - Mechanical Auxiliaries Engineering																		
KCFB13200	1DEC92A	5JAN93	15	160	10													
KCFC23200	16FEB93	22MAR93	25	0	0													
ES - Electrical Systems Engineering																		
KCFB13300	14DEC92	11MAR93	60	0	51													
KCFC23300	12MAR93	15APR93	25	0	0													
ES - Civil Site Engineering																		
KCFB13600	14DEC92	12FEB93	42	40	8													
KCFC23600	16FEB93	14APR93	42	40	0													
<div style="display: flex; justify-content: space-between;"> <div> <p>MECH AUX PH 2 DESIGN</p> <p>MECH AUX IMPLEMENTATION SUPPORT</p> <p>ELEC PH 2 DESIGN</p> <p>ELECTRICAL IMPLEMENTATION SUPPORT</p> <p>CIVIL SITE PHASE 2 STUDY</p> <p>CIVIL SITE IMPLEMENTATION SUPPORT</p> </div> <div> <p>PHASE 2 COMPLETION</p> <p>PHASE 3 COMPLETION</p> </div> </div>																		

Sheet 1 of 1

Plot Date 21DEC92

Data Date 14DEC92

Project Start 09AUG92

Project Finish 16APR93

Activity Category Code

Project Activity

Release/Fin Activity

Kingston Fossil Plant

Backup Sewage Pump Station

Current Schedule

Date

Revised

Checked

Approved

(c) Primavera Systems, Inc.

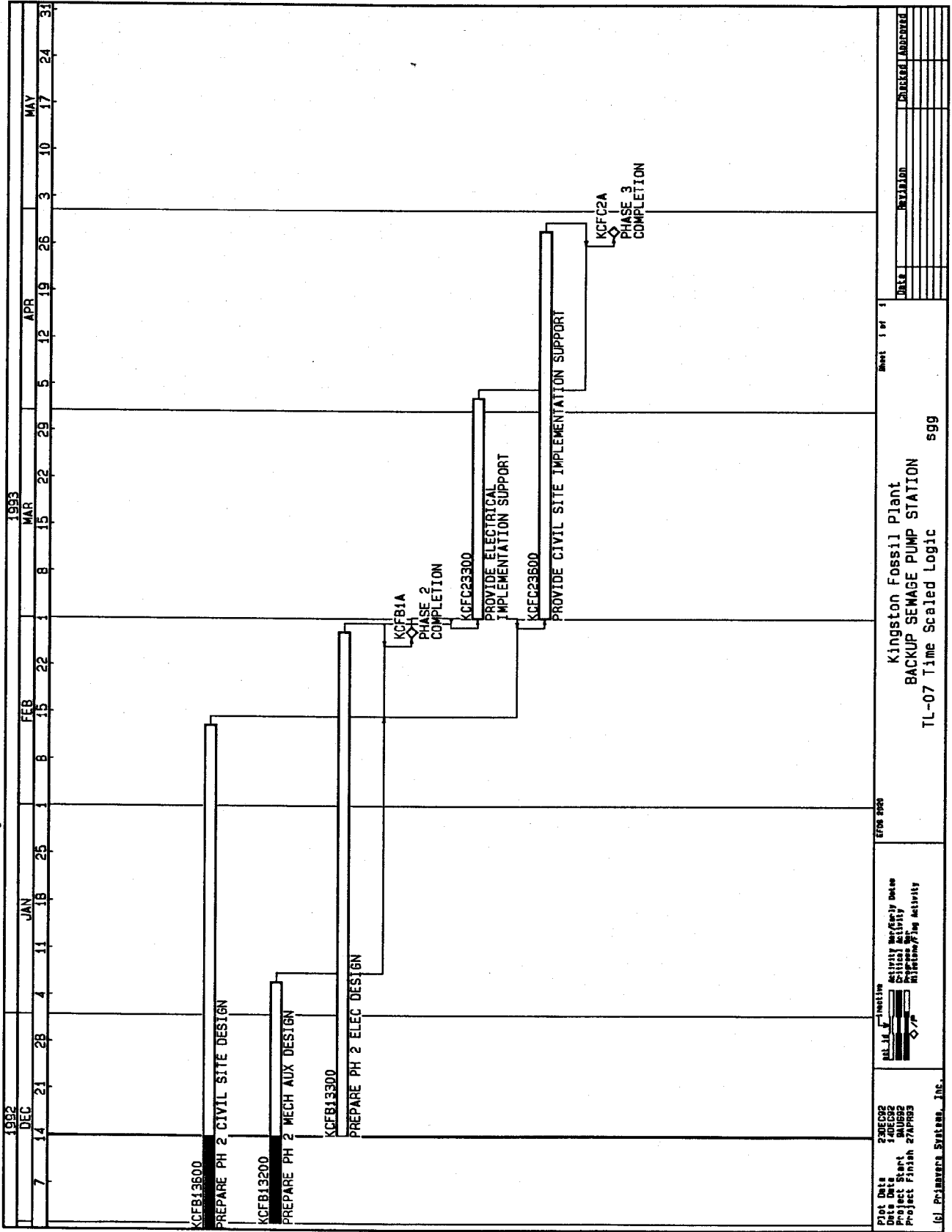
ACTIVITY ID	EARLY START	EARLY FINISH	REM DUR	BUDGET QUAN.	QUAN. TO DATE	FY93														
						AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR						
Project Management - East																				
KCFB1A		26FEB93	0	0	0														PHASE 2 COMPLETION	
KCFE2A		27APR93	0	0	0														PHASE 3 COMPLETION	
ES - Mechanical Auxiliaries Engineering																				
KCFB13200	1DEC92A	5JAN93	15	100	10														PREPARE PH 2 MECH AUX DESIGN	
ES - Electrical Systems Engineering																				
KCFB13300	14DEC92	26FEB93	51	210	51														PREPARE PH-2 ELEC DESIGN	
KCFC23300	1MAR93	2APR93	25	0	0														PROVIDE ELECTRICAL IMPLEMENTATION SUPPORT	
ES - Civil Site Engineering																				
KCFB13600	30NOV92A	12FEB93	42	40	B														PREPARE PH 2 CIVIL SITE DESIGN	
KCFC23600	1MAR93	27APR93	42	40	0														PROVIDE CIVIL SITE IMPLEMENTATION SUPPORT	

EJR
Do you have this
I assume Garret
is changing per
meeting
 KWB

Plot Date 23DEC92	Activity Name Kingston Fossil Plant	Sheet 1 of 1
Date Date 14DEC92	Revision	Checked
Project Start 19AUG92	Revision	Approved
Project Finish 27APR93	Revision	Approved
(c) Primavera Systems, Inc.	BC-77 Current Schedule	599

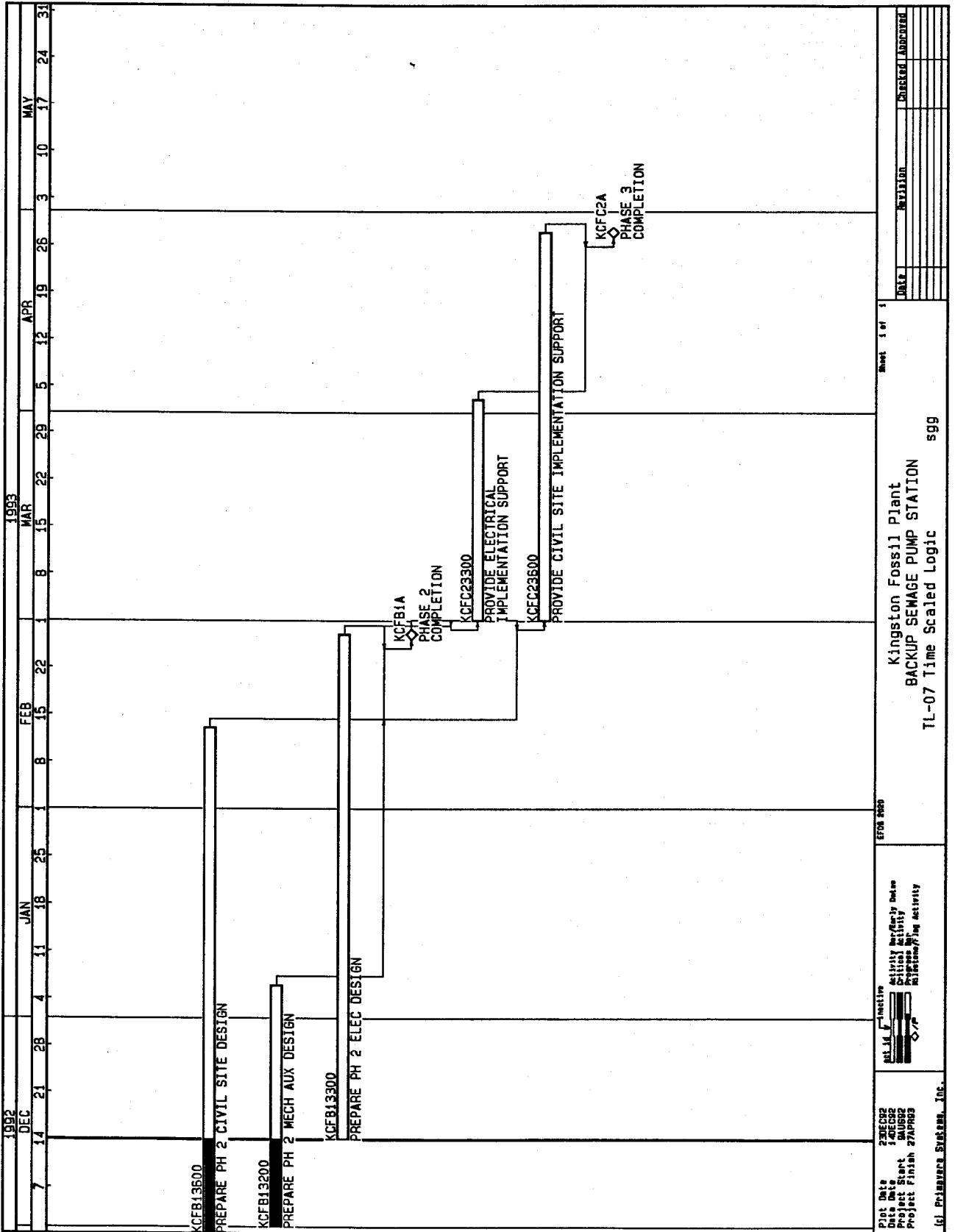
12.22.92

Resp Spec = LED



Plot Date 23DEC92 Plot Date 20DEC92 Project Start 27APR93 Project Finish 27APR93	J.L.H. Initiative Activity Category Design Activity Subcategory Process Progress Bar Milestones/Log Activity □/■	EPO 890 Kingston Fossil Plant BACKUP SEWAGE PUMP STATION TL-07 Time Scaled Logic s99	Sheet 1 of 1 DATE REVISION APPROVED APPROVED
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Resp Spec = L&E



Plot Date: 2/26/93 Project Start: 04/08/92 Project Finish: 07/19/93	EFCN 0000 Activity: <input type="checkbox"/> inactive <input type="checkbox"/> active <input type="checkbox"/> critical activity <input type="checkbox"/> milestone/ing activity	Sheet 1 of 1 Kingston Fossil Plant BACKUP SEWAGE PUMP STATION TL-07 Time Scaled Logic 599	DATE REVISION APPROVED / ADDRESS
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