

SECTION 12.0
PRINCIPAL PLANT BUILDINGS, VEHICLES
AND MAJOR MAINTENANCE EQUIPMENT
(Area 306)

12.1 DESIGN BASIS

The principal buildings on the plant site are classified into two categories which are defined as follows:

Category I:

These buildings shall be of modular construction, completely assembled with all structural, architectural, piping, heating, ventilating and power systems installed. The buildings shall be assembled at a remotely located modular construction yard and shipped by barge and self-propelled land transporter to the plant site.

The buildings are of one or two stories and are generally constructed of steel frames with pre-engineered insulated wall panels and insulated built-up roofing. Multi-storied buildings shall be constructed with elevated floors of poured concrete over steel decking. Office areas shall be provided with suspended ceiling and central air conditioning. All modular constructed buildings are to be without basements.

All modular constructed buildings are to be erected on a rigid steel base frame to facilitate transportation to the plant site. If necessary, temporary bracings are to be added to strengthen the structures to better resist marine forces during barge transit. Temporary partitions are to be added for better weather tightness during transit if required.

Mobile land transporters will be used to load barges and also to transport buildings to their ultimate locations. Building foundations shall be designed to resist any loadings from the transporters as the buildings are brought into position.

Category II:

These buildings shall be of shop-fabricated/field-erected type construction. Structural steel pieces are to be fabricated and assembled in sections as large as can be shipped by rail. Land transporters will not be required for these pre-fab sections.

Buildings in Category II are single-story steel framed structures with pre-engineered insulated wall panels and pre-finished insulated roof metal. These structures are to be field erected on prepared foundations. Concrete floor slabs and structures (sump pits, pump/fan/compressor foundations, pads, floor trenches) are to be poured after the buildings are erected.

The classifications and sizes of the buildings described in this section are as follows:

<u>Category I Buildings</u>	<u>Floor Space - Ft.²</u>
Administration Building	10,000
Employee Building and Fire Station	21,000
Main Control Room - Laboratory	9,400
 <u>Category II Buildings</u>	
Gen. Maint. Central Shop - Small Parts Storage	68,000
Central Warehouse	18,000
Vehicle Storage	9,000
Misc. Fuel - Lube Storage	5,400
Main Electrical Substation	3,750

12.2 BUILDING DESCRIPTIONS

12.2.1 Category I Buildings

o Administration Building

This is a two-story building providing offices, work spaces, conference rooms, reception, and toilet facilities for mine and plant management, mine and plant engineering, accounting and payroll, employee relations, personnel and central communications. (Railroad dispatch facilities are located in the railroad control and communication center.)

o Employee Building and Fire Station

This is a two-story building providing offices, work spaces, conference rooms and training center for plant operation and maintenance staff. Toilet, change and shower facilities are provided for plant personnel and mine supervisory staff. (Change house facilities are provided at the mine sites for its operating and maintenance personnel.)

This building contains a cafeteria and a central kitchen where meals are prepared and distributed to all individual lunch rooms located in various buildings throughout the plant. This building also houses plant infirmary and security personnel.

Attached to the employee building is the plant fire station. Housed in this station will be the fire trucks and emergency air vehicle. (Communication system for monitoring security and fire alarms will be located in the communication room.)

o **Main Control Room and Laboratory Building**

A single-story building providing offices, work space, conference rooms, computer room, and maintenance facilities for the housing, operation and protection of the plant main controls and laboratory. In addition, change room facilities are provided for the operating personnel.

Roofing shall be insulated built-up roofing.

The main control room shall be of explosion resistant construction. This will require the walls and roof of this section of the building to be constructed to resist any external explosions. Steel frames supporting pre-cast concrete panels shall be used.

Pre-engineered insulated wall panels shall be used for the office and laboratory section of the building.

12.2.2 Category II Buildings

o **General Maintenance - Central Shop - Small Parts Storage Building**

This building is a single-story, three aisle, steel-framed structure with pre-engineered insulated wall panels and prefinished insulated roof metal. Rows of green translucent panels shall be installed in the roof system to provide natural illumination. Vertical sectional doors are provided in the vehicle repair-maintenance bays, as well as in the weld shop and general parts storage area bays. The working floor shall be concrete, poured after the building has been erected. Floors in areas used for servicing crawler mounted vehicles shall

be protected with steel rails casted into the concrete. Service pits shall be provided for vehicle servicing from below.

This facility will service all vehicles and equipment used in the operation of the methanol plant and coal unloading complex. This will also include all service vehicles, buses, small operations and maintenance equipment, pickups and automobiles. In the area of heavy vehicle repair, an overhead traveling crane shall be provided.

A machine shop and a weld shop are located in the same aisle as the heavy vehicle repair, each equipped with overhead traveling cranes. Clearances shall be provided to permit through aisle passage from machine shop to weld shop.

Additional facilities shall include electrical and instrument repair shops, carpenter shop and a general repair area for plumbing and pump repair.

Storage area for small parts and materials required for service activities shall be centrally located in the general maintenance area.

This building shall be constructed from three prefabricated units bolted together at ultimate location.

o Central Warehouse

This building, shown on drawing 5530-201-P-010, is the main terminal for storage of mine, railroad and methanol plant supplies and replacement parts. It is a single

story steel framed structure with corrugated metal siding and roofing and concrete floor slabs. There is a railroad unloading dock and office on the north end and a truck unloading dock and office at the south end. Two 15 ton overhead cranes are provided for unloading and handling large components and commodities.

o Vehicle Storage Building

This building is a single-story structure for the protection and storage of plant vehicles.

Each bay is equipped with sectional overhead doors, permitting vehicle drive-through.

Building shall be a steel framed structure with pre-finished roof and wall metal.

Floor shall be crushed stone.

o Miscellaneous Fuels and Lubes Services and Storage

This building is a single-story structure for the storage of all flammable materials used in the maintenance and service of plant equipment.

Material stored shall be items that are being used or will be used in the immediate future.

This building shall be a steel framed structure with pre-engineered insulated wall panels and pre-finished insulated roof metal. Adequate ventilation and fire protection systems shall be provided to ensure safety. All access and service doors shall be equipped with locks.

c Main Electrical Substation

This building is a totally enclosed structure of approximately 3750 Ft. It shall be a steel framed structure with pre-engineered insulated wall panels and pre-finished insulated roof metal. Walls facing electrical transformers shall have a three (3) hour fire rating. No openings shall be located in this wall.

Adequate ventilation and fire protection systems shall be provided to ensure safety.

All access and service doors shall be equipped with locks.

12.3 ENGINEERING DESIGN DATA

Design data pertinent to buildings, vehicles and maintenance equipment is detailed in the drawings listed below and in the Equipment List beginning on Page 12/8.

<u>DRAWINGS</u>	<u>TITLE</u>
5530-201-P-010	Central Warehouse & Storage Yard
SK-5530-306-A-001	Administration Bldg.
SK-5530-306-A-002	Employee Bldg. and Fire Station
SK-5530-306-A-003	Gen. Maint. Central Shop, etc.
SK-5530-306-A-004	Main Control Room - Lab Bldg.
SK-5530-306-A-005	Vehicle Storage Bldg.
SK-5530-306-A-006	Misc. Fuels, Lubes Service, and Storage

BUILDING AND MAJOR MAINTENANCE EQUIPMENT - AREA 306

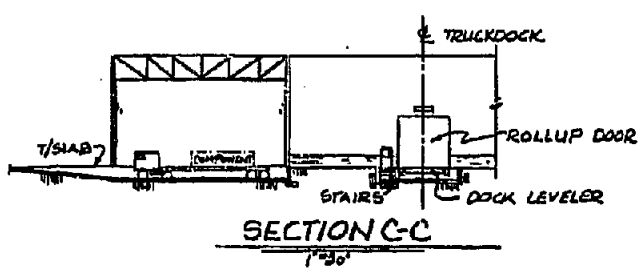
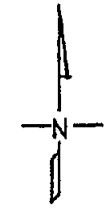
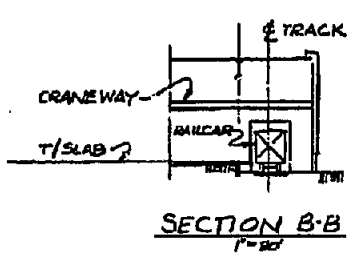
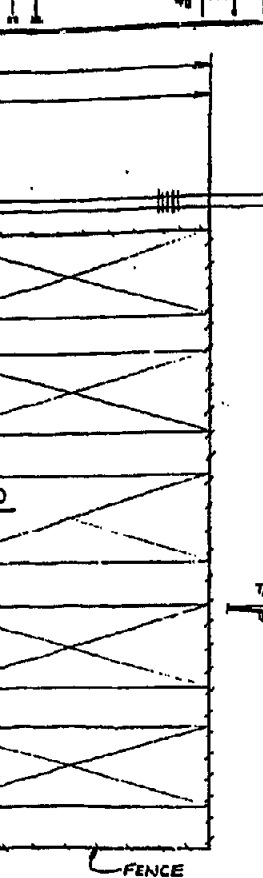
EQUIPMENT LIST

NOMENCLATURE:
T - TYPE
C - CAPACITY
S - SIZE
P/T - OPERATING PRESSURE/
TEMPERATURE
M - MATERIAL
CS - CARBON STEEL
SS - STAINLESS STEEL
CI - CAST IRON
D - DRIVE
W - WEIGHT
ACC - ACCESSORIES

NO. REQUIRED DESCRIPTION

METHANOL PLANT VEHICLES - PLANT OPERATION

1	8 Passenger Van
2	4 Door Passenger Sedans
6	1/2 Ton Pick-ups
2	Dump Truck/Snow Plow Units
2	Fire Trucks
1	Emergency Aid Vehicle
1	Road Grader
1	Dozer
2	7-1/2 Ton Flat Bed Trucks with Hydraulic Tailgate
1	Enclosed Truck 7-1/2 Ton
3	(Motor Bikes, Golf Carts)
2	Snowmobiles
3	Front End Loaders
3	Cherry Pickers (5 Ton, 10 Ton, 15 Ton capacity)
1	Equipment Service Truck
1	Equipment Fuel Tank Truck
1	Foam Generator Unit
2	Fork Lift Trucks
	Steel Shelving for Parts Storage
3	10 Ton Capacity Traveling Cranes
2	20 Ton Jacks
2	10 Ton Jacks
2	1-1/2 Ton Capacity Mobile Hoist
2	2-1/2 Ton Jib Cranes
3	Welders
	Welding Flash Screens
2	Cutting Tables
	Oxy-Acetylene Cutting Torches
	Radial Saw - Carpenter Shop
	Band Saw - Carpenter Shop
	Service Pits
	Compressed Air
	Lubricating Oil Supply
	Lubricating Oil Drainage
	Water Supply System
	Steel Rails Casted Into Concrete Floor for Crawler Vehicles



WAREHOUSE

- 2- 15 TON BRIDGE CRANES
- 2- 5 TON FORKLIFTS
- 1- TRUCK DOCK LEVELER
- STORAGE: LARGE COMPONENTS
- MINE SUPPLIES
- TOOL MODULES
- TIRES
- REPAIR PARTS
- SHOP SUPPLIES
- RAILROAD MAINT. SUPPLIES

STORAGE YARD

- 2- 5 TON FORKLIFTS
- 1- TRUCK CRANE
- STORAGE: BROKEN COMPONENTS
- WORN TIRES
- WORN RAILROAD WHEEL SETS
- REFUSE BINS

ONMENT STORAGE

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		TITLE CENTRAL WAREHOUSE STORAGE YARD				
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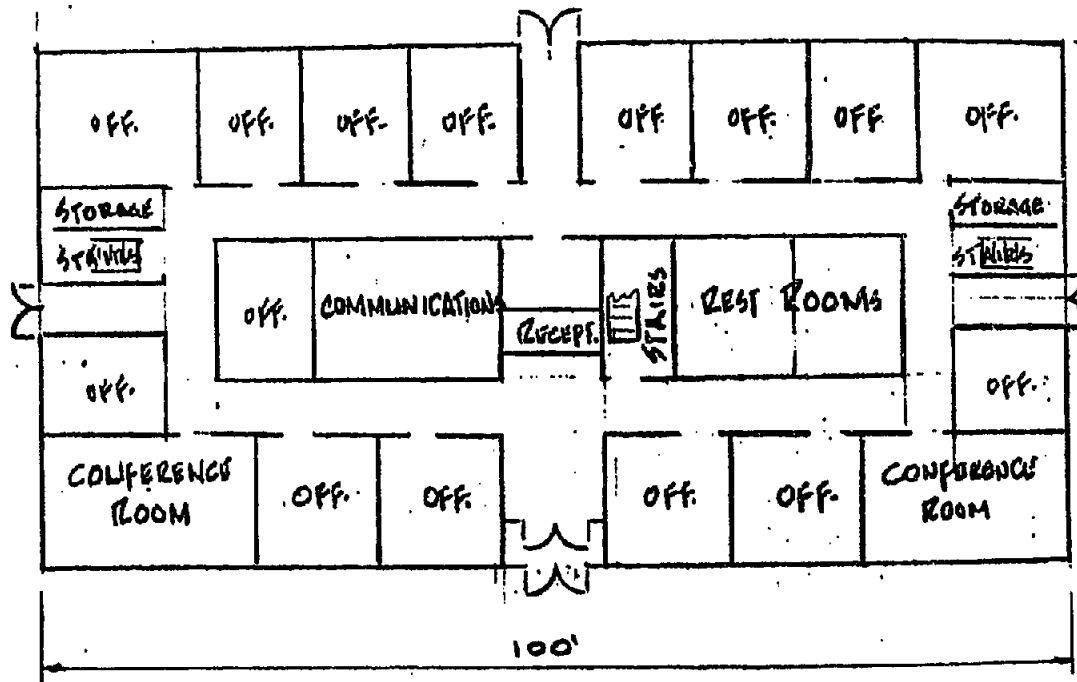
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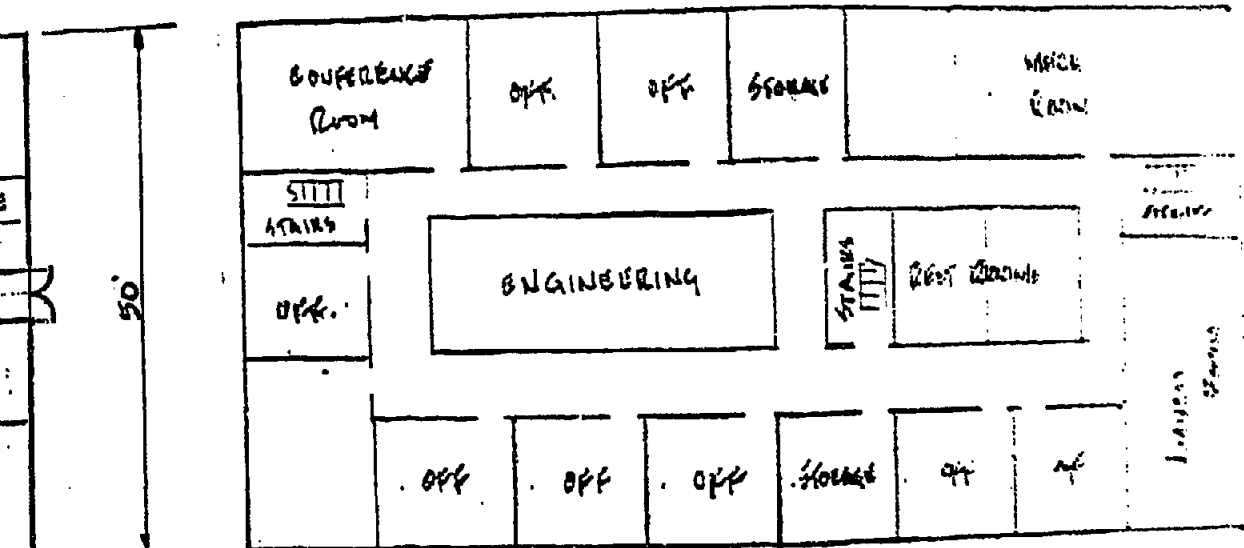


GROUND FLOOR

2 STORY STRUCTURE
 MODULAR CONSTRUCTION
 STEEL FRAME W/ INSULATED WALL PANELS
 INSULATED BUILT-UP ROOF
 Poured CONCRETE FLOORS OVER STEEL DECKING
 SUSPENDING CEILING.

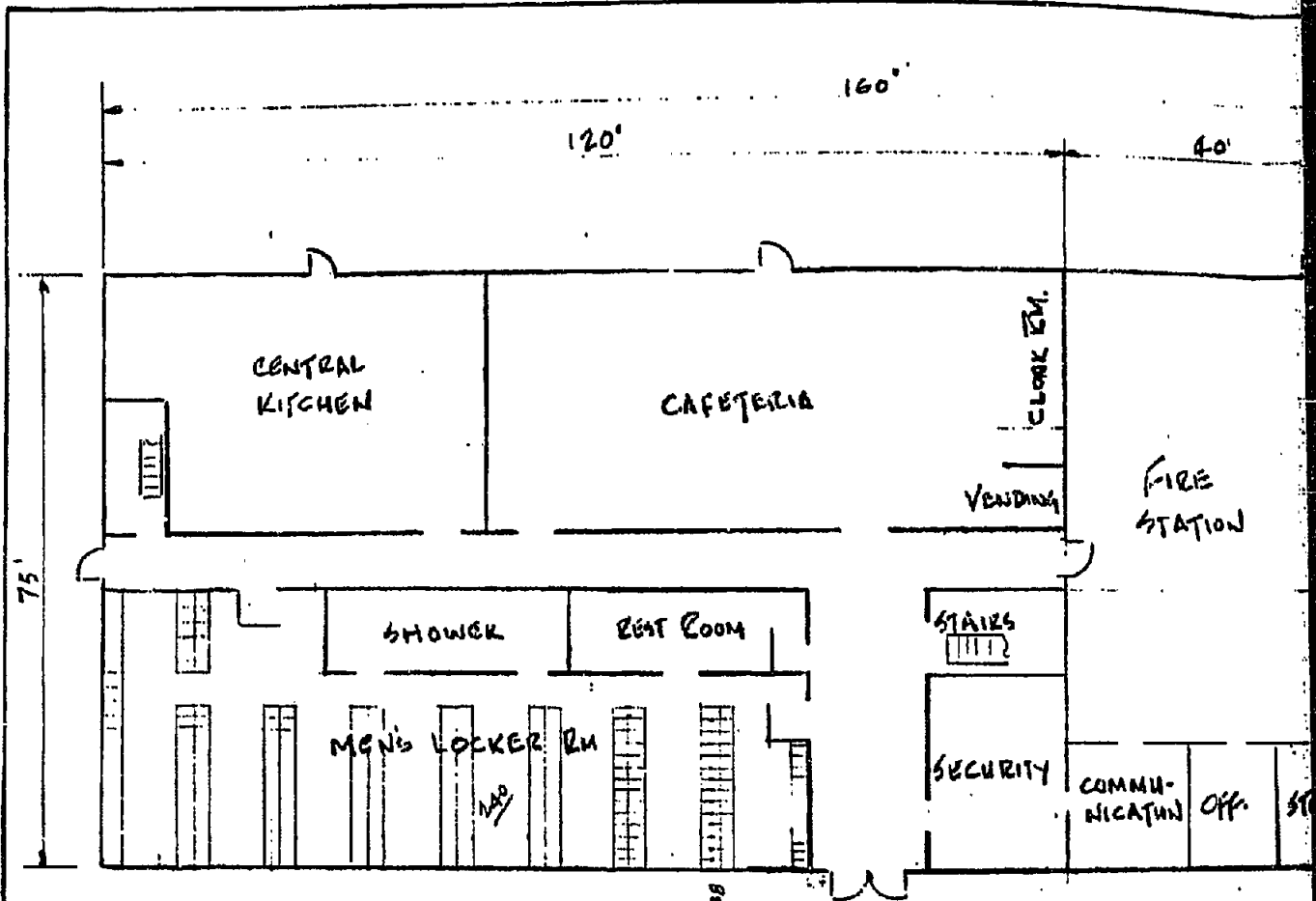
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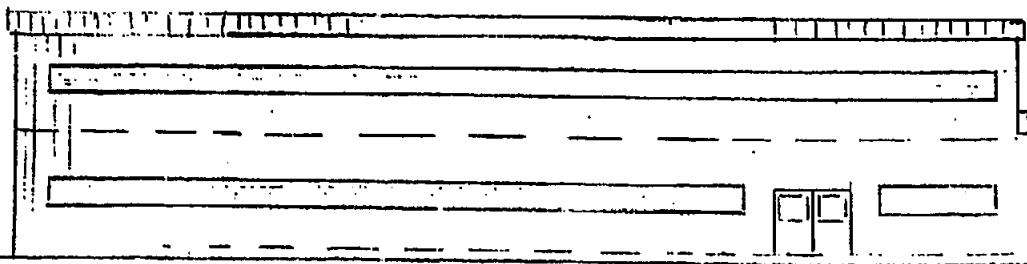


SECOND FLOOR

CLIENT USRS / PLACER BELUGA METHANOL PROJECT COOK INLET, ALASKA				Davy McKee ENGINEERS AND CONSTRUCTORS	
TITLE ADMINISTRATION BLDG.				SCALE	REV.
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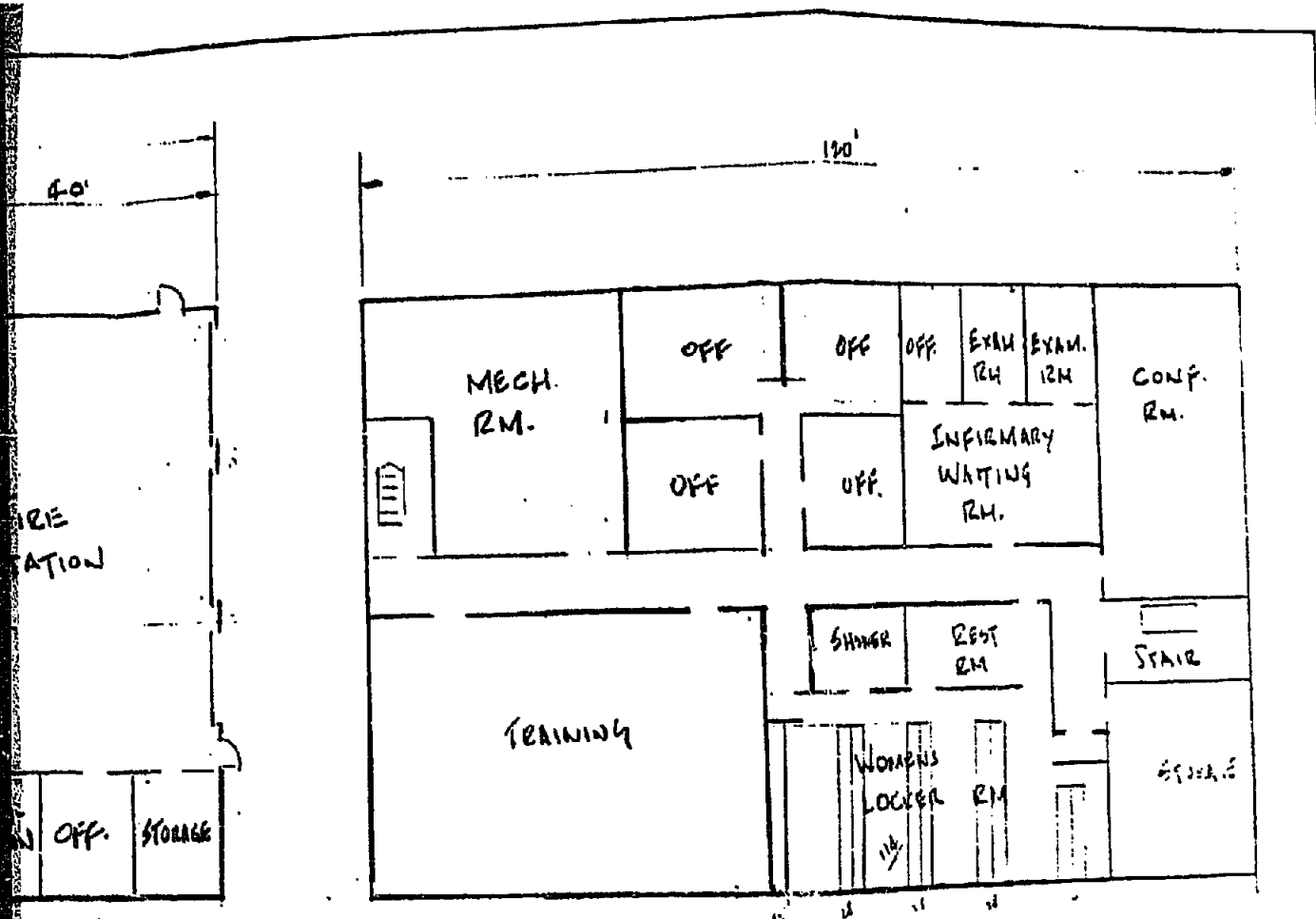


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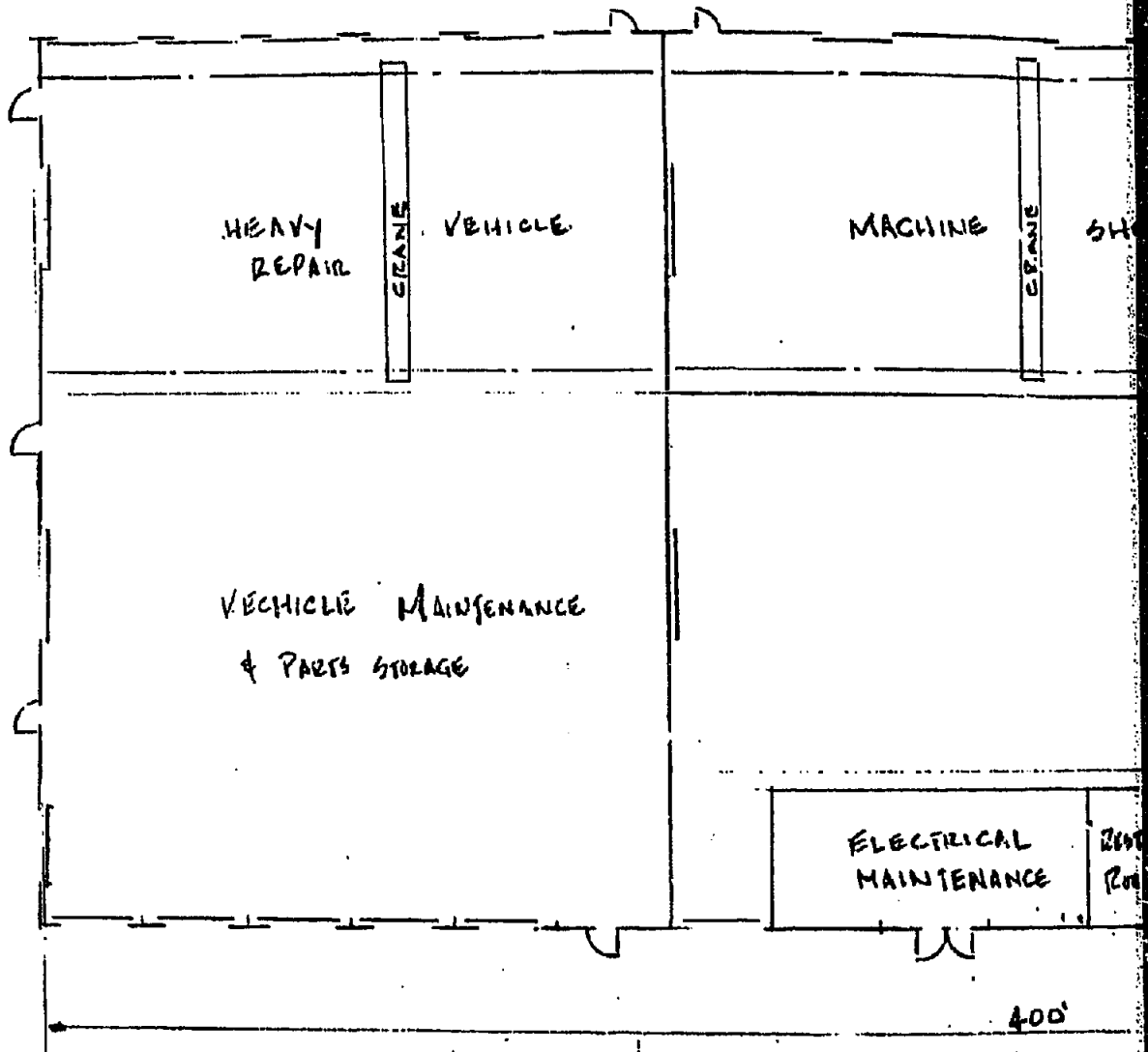
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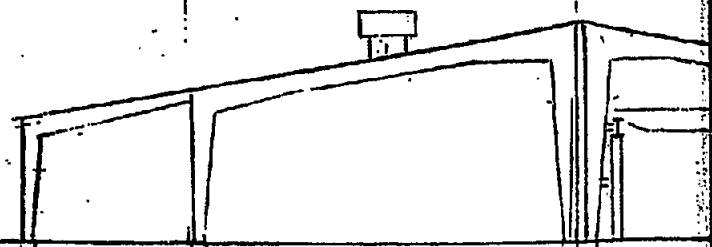
SECOND FLOOR

- MODULAR CONST.
- 2 STORY STRUCTURE - EMPLOYEE BLDG
- 1 STORY FIRE STATION - PREFAB. FIELD ERECTED ON PREP. FOUND
- INSULATED BUILT-UP ROOF
- INSULATED EXT. WALL PANELS
- CONCRETE FLOORS OVER STEEL DECKING - EMPLOYEE BLDG
- CONCRETE FL. POURED AFTER BLDG IS IN PLACE - FIRE STATION
- SUSPENDED CEILING - OFFICES

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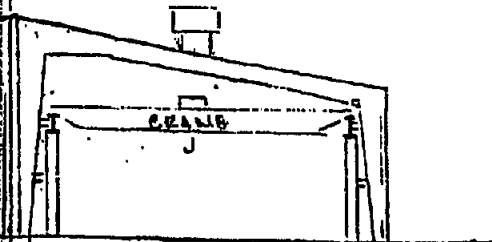
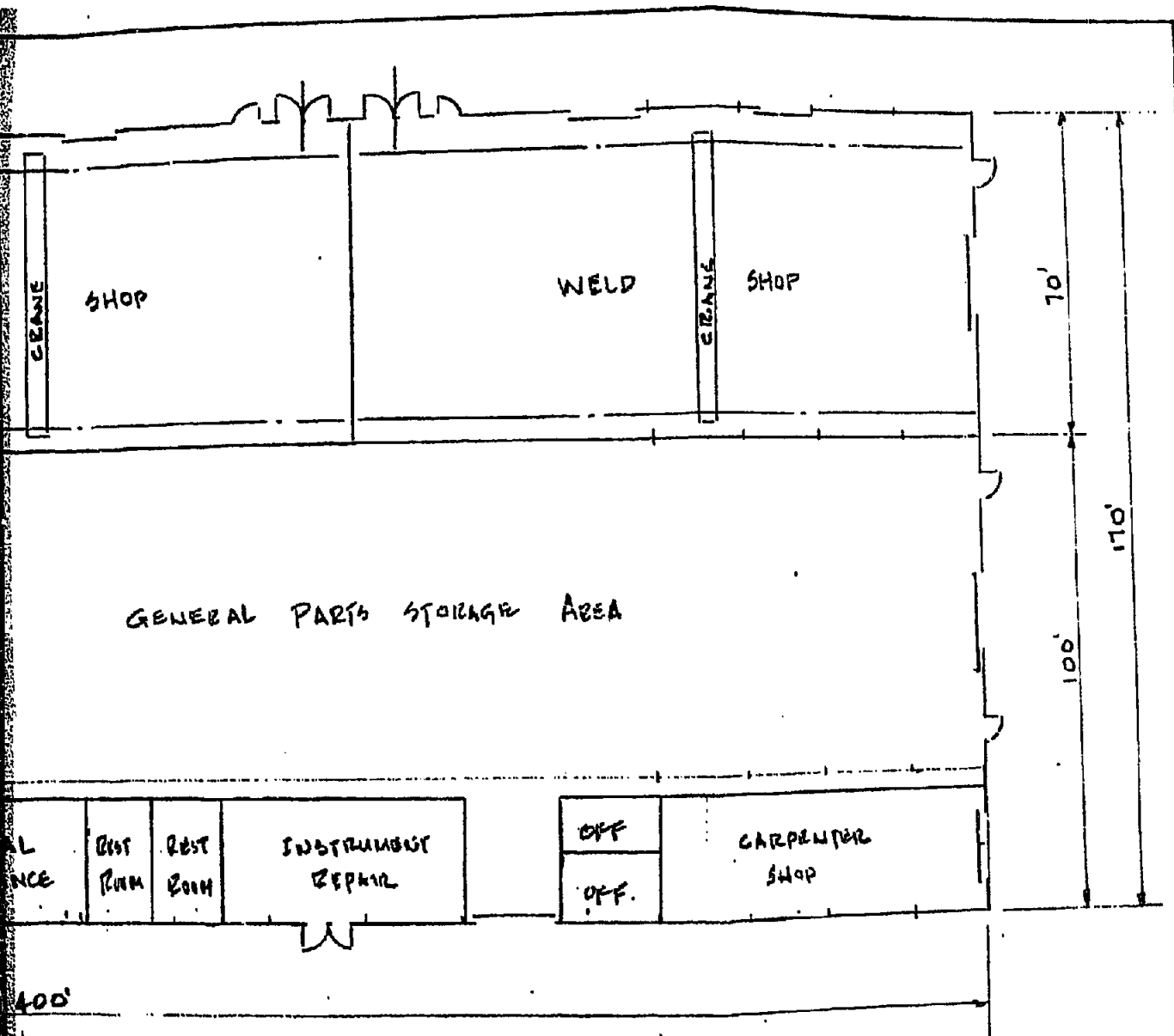


RIGID FRAMES
 FIELD ERECTED ON PREPARED FOUNDATION
 INSULATED WALL PANELS
 CRANE RUNWAY ON SEPARATE COLS.
 PREFINISHED INSULATED ROOF METAL
 W/ SERIES OF TRANSLUCENT PANELS.
 CONCRETE GRADE SLAB POURED AFTER BLDG ERECTION.



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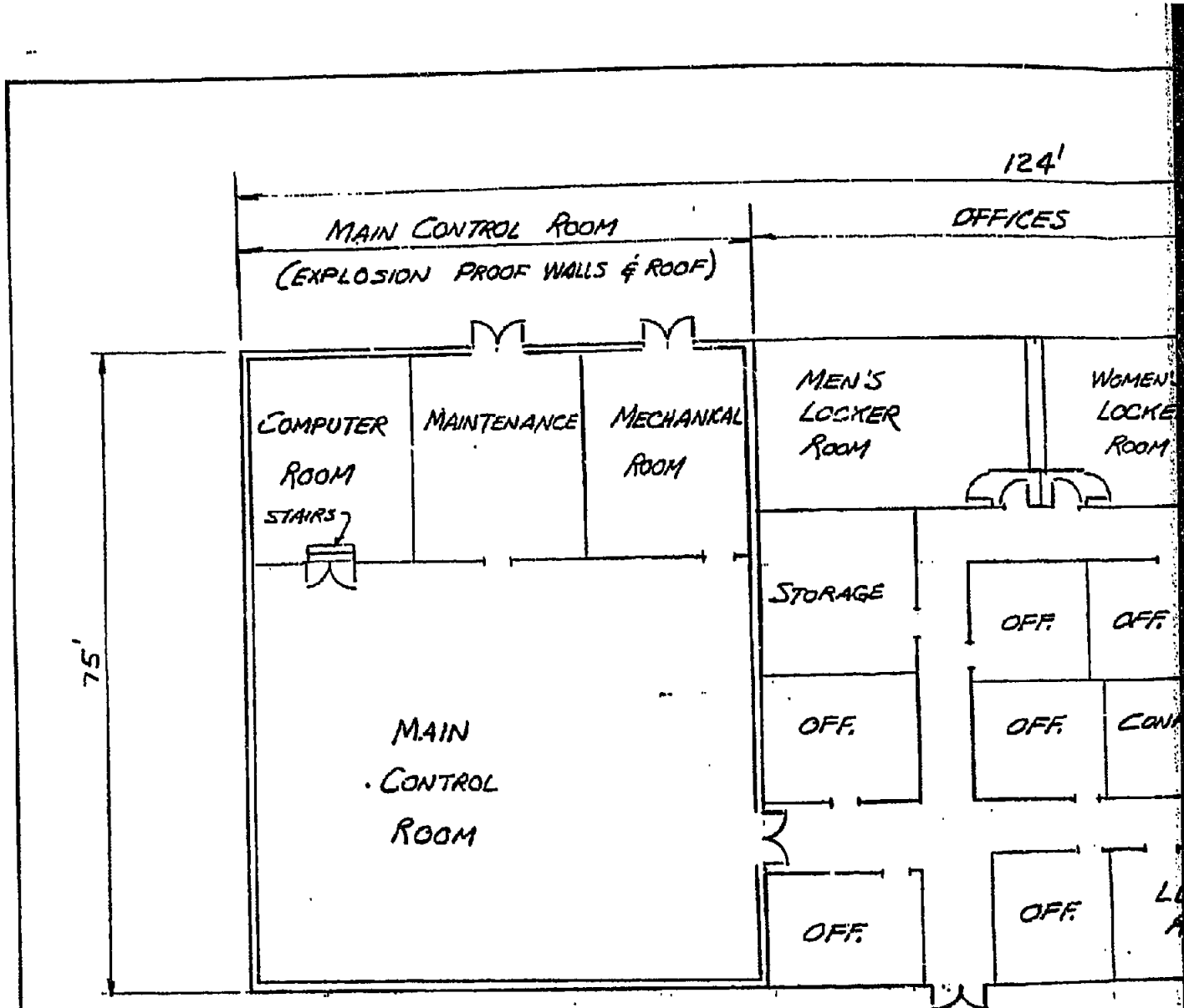
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TITLE
 GENERAL MAINTENANCE
 CENTRAL SHOP
 SMALL PARTS STORAGE

SCALE
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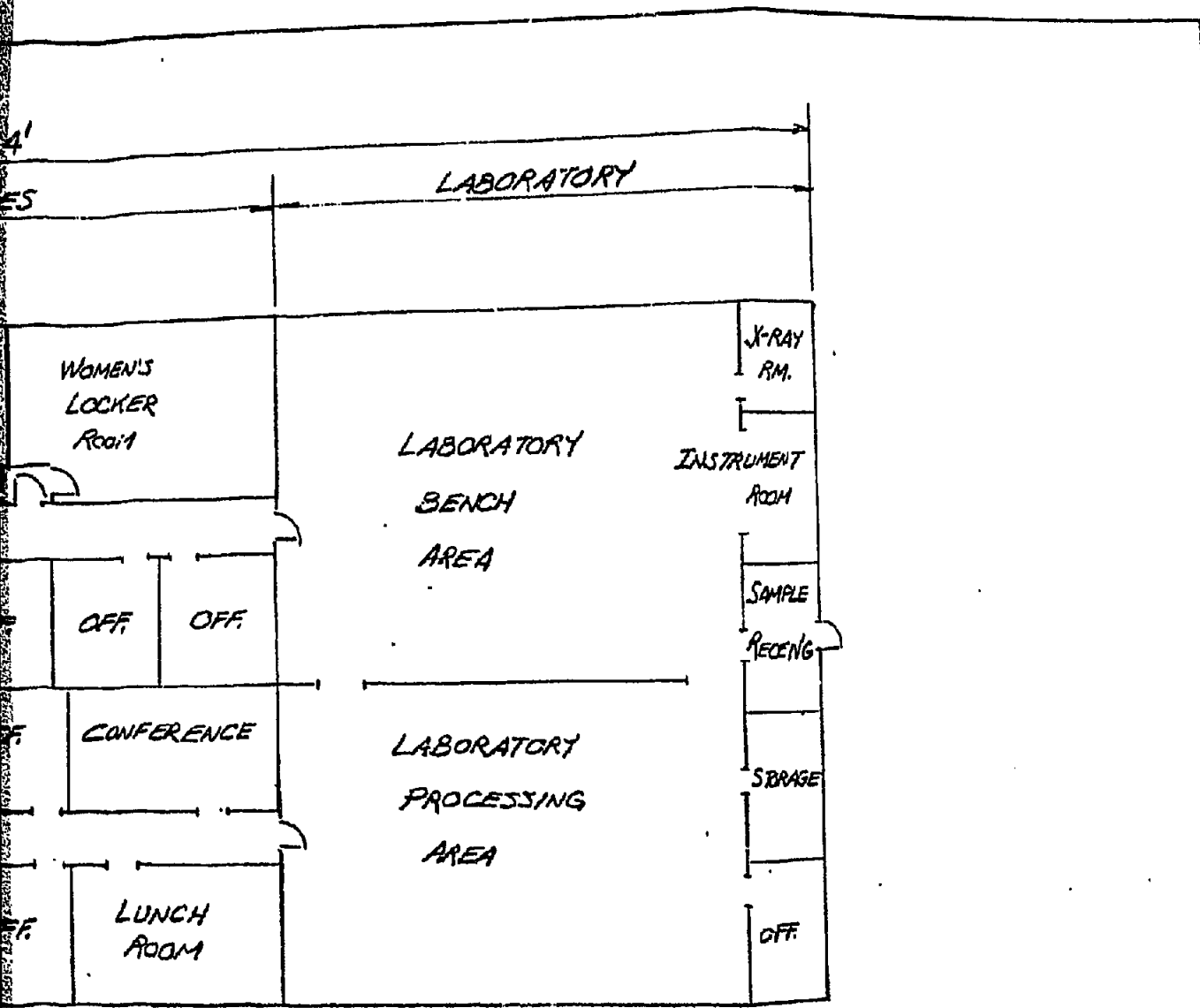
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MAIN CONTROL ROOM & LAB BUILDING

- ONE STORY STRUCTURE
- MODULAR CONSTRUCTION
- CONCRETE FLOOR FURRED AFTER BLDG. IS IN PLACE.
- RAISED FLOOR IN COMPUTER RM.
- INSULATED WALLS & ROOF
- BUILT UP ROOF
- SUSPENDED CEILING
- EXPLOSION RESISTANT CONSTRUCTION
- MAIN CONTROL ROOM PRECAST CONCRETE PANELS ON STRUCTURAL STEEL FRAME
- EXPLOSION PROOF ROOF

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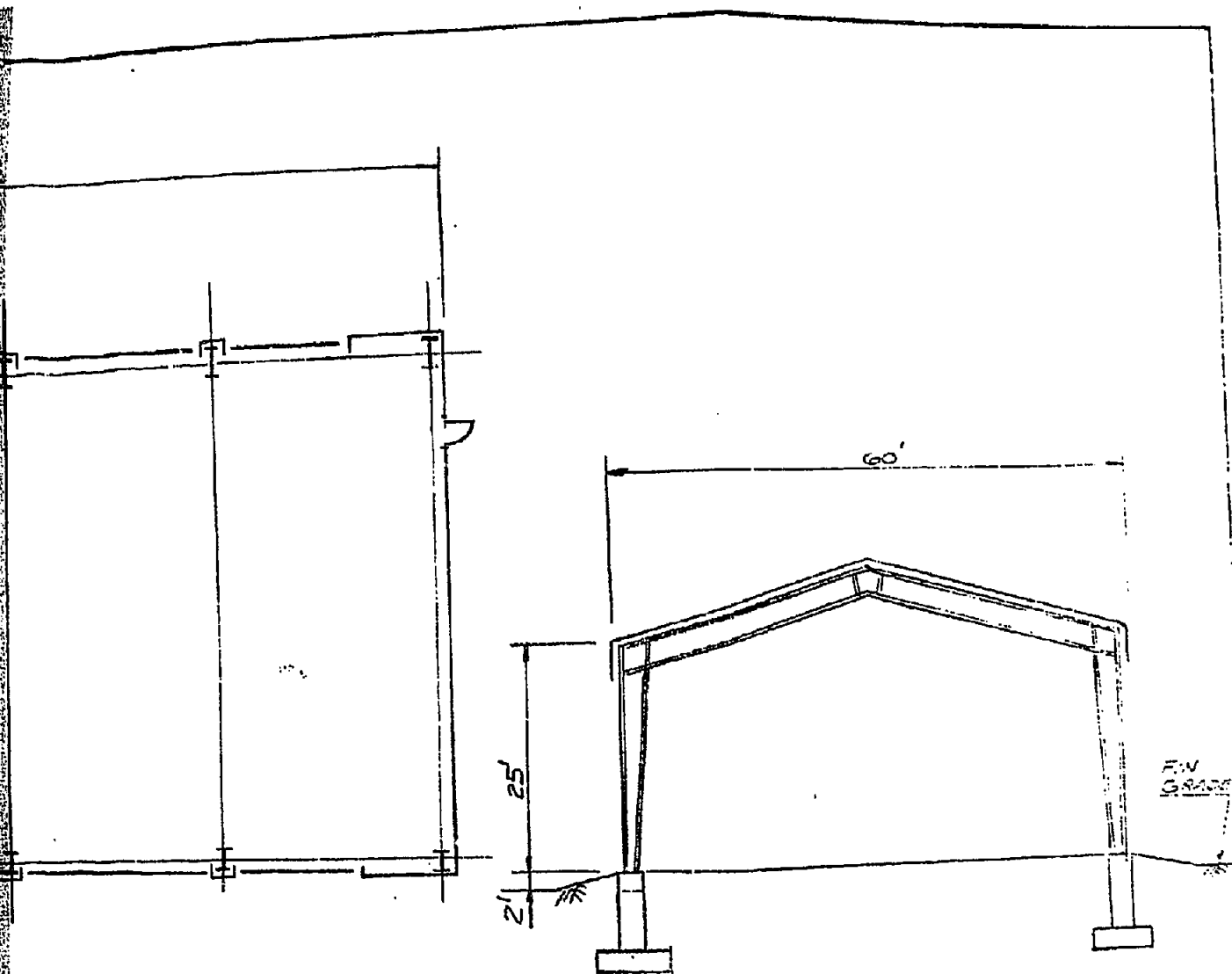
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TITLE
 MAIN CONTROL ROOM &
 LABORATORY BUILDING

SCALE 1/16" = 1'-0"
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 BELUGA METHANOL PROJECT
 COOK INLET, ALASKA

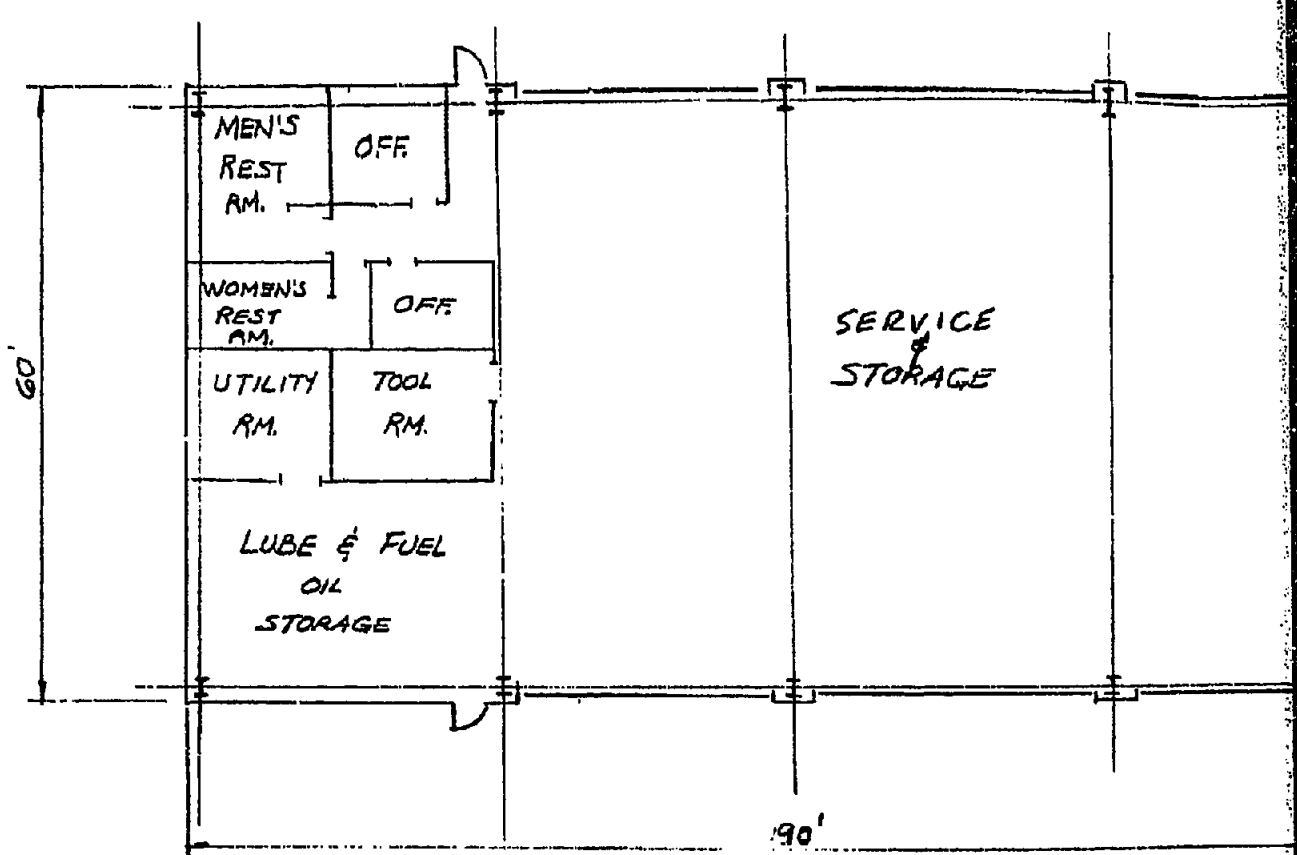
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			APP	
			APP	

TITLE
 VEHICLE STORAGE BLDG.

SCALE 1/16"=1'-0"
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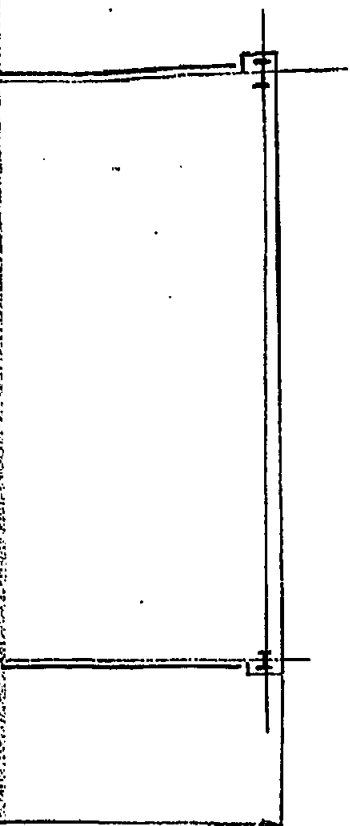


PLAN

ONE STORY STRUCTURE
 RIGID FRAMES
 FIELD ERECTED ON PREPARED FOUNDATION,
 INSULATED WALL PANELS, INSULATED WALLS & ROOF
 INSULATED OVERHEAD, VERTICAL LIFT DOORS
 BUILT UP ROOF
 25 FT. EAVE HEIGHT
 CONCRETE GRADE SLAB POURED AFTER BLDG ERECTION.

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 COOK INLET, ALASKA

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TITLE
 MISCELLANEOUS FUELS &
 LUBES SERVICE &
 STORAGE BUILDING

SCALE 1/6"=1'-0"
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 SK-5530-306-A-006

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SECTION 13.0
DUST COLLECTION SYSTEMS

13.1 DESIGN BASIS

- 13.1.1 One "pulse-air" bag type dust collector unit shall be provided for each of the collection systems listed in paragraph 14.2 below.
- 13.1.2 The collector unit will be designed for high pressure (80 to 100 psig) dry (not lubricated) compressed air cleaning in hazardous coal handling areas, with all components designed for coal dust ignition proof service.
- 13.1.3 The collector shall be designed to remove 99.9% of the particulate matter in the dust laden air in its service area.
- 13.1.4 All collectors will be located out of doors and shall be capable of continuous duty operation.
- 13.1.5 Quick opening access doors shall be provided for bag inspection and top removal, with accessible platform of steel grating.
- 13.1.6 Filter bags shall be made of suitable fabric and shall be individually grounded.
- 13.1.7 The dust collectors shall be equipped with hinged explosion doors with suitable pressure settings for the required safety ranges.
- 13.1.8 The dust collector fan shall be located downstream (clean air side) of the dust collector and shall discharge through the stack to atmosphere.

13.1.9 The fan shall be furnished with an inlet or outlet damper, and shall be designed for dust ignition proof service.

13.2 LOCATIONS AND DESCRIPTION OF DUST COLLECTION SYSTEMS

13.2.1 Sample Building - Area 201

This system will be designed to remove 11,800 scfm of coal/air dust mixture from transfer and sample points at the sample building, and discharge the dust onto conveyor No. 201-2103.

13.2.2 Junction House - Area 201

This system will be designed to remove 5000 scfm of coal/air dust mixture from transfer points of conveyors 201-2103 and 201-2104. The collector will discharge dust to conveyor 201-2104.

13.2.3 Storage Silo - Area 201

System will be designed to remove 12,500 scfm of coal/air dust mixture from transfer points, etc. at 2500 ton silo. Collector will discharge dust onto conveyor 201-2105.

13.2.4 Primary Crushing and Screening Building - Area 202

System will be designed to remove 42,500 scfm of coal/air dust mixture from transfer points, screens, etc. Collector will discharge dust onto conveyor 202-2103.

13.2.5 Secondary Crushing and Screening Building - Area 202

System will be designed to remove 45,500 scfm of coal/air dust mixture from transfer points, screens, etc. Collector will discharge dust onto conveyor 202-2107.

13.2.6 Distribution Bin - Area 203

System will be designed to remove a total of 24,200 scfm of coal/air dust mixture from 500 ton bin, surge bin and transfer points. Collector will discharge dust onto conveyor 203-2101.

13.2.7 Coal Dryers - Area 203

Two dust collection systems will be provided, each to remove 11,500 acfm of coal/air dust mixture from transfer points, etc. at the coal dryers. Each collector will discharge dust onto conveyor 204-2101.

13.2.8 Gasifier Feed System - Area 205

System will be designed to remove 79,600 acfm of coal/air dust mixture from the gasifier feed system. Collector will discharge dust into a tote box located at grade level.

13.2.9 Raw Coal/Dry Char Blending Char Bin - Area 216

System will be designed to remove 7500 acfm of char/air dust mixture from transfer points, etc. Collector will discharge dust onto conveyor 202-2111.

13.2.10 Vacuum Cleaning System - Area 205

This system will be located in portions of the gasifier structure. The system will be designed to handle simultaneous vacuum cleaning operation by two operators, each using a 40 foot length of 2" ID vacuum cleaning hose on separate pipe headers. Hose valve connections on header pipe will be spaced at suitable distances to permit full coverage for cleanup operations.

The system will be complete with primary and secondary separator, motor driven centrifugal exhauster and drive, all located out-of-doors but protected from the elements; and will include all hoses and cleaning tool accessories for removal, collection and conveying of all dry dust and similar material from the gasifier structure. Collected material will be discharged into a tote box located out-of-doors.

13.2.11 Dust Suppression System - Area 201

This system will be located at the coal unloading station, which is arranged with two hopper sections for two different types of coal. Spray sections located over each hopper will automatically control the coal dust generated during the unloading of coal. The automatic controls will operate in this manner:

Flow controllers, which operate the sprays, are activated by limit switches at the start of the unloading operation. Proportioning and flow controlling circuitry is interlocked with the coal unloading controls so that sprays can be turned on before and after the particular hopper area selected. Sprays will operate only when the coal unloading operation is in progress. The proportioning unit will be completely shop assembled on a common base suitable for floor mounting.

The wetting agent compound is stored in concentrated form (1 gallon to compound to 6000 gallons of water) in a 5000 gallon storage tank, complete with pump and all necessary piping. The storage tank, the proportioning pump unit with mixing tank, and automatic control panel, are located in a heated and ventilated equipment room adjacent to the coal unloading station.

The entire system is winterized for protection during temperatures ranging to -50°F. Piping is heat traced and insulated, with automatic drain valves at the flow controllers and at all low points.

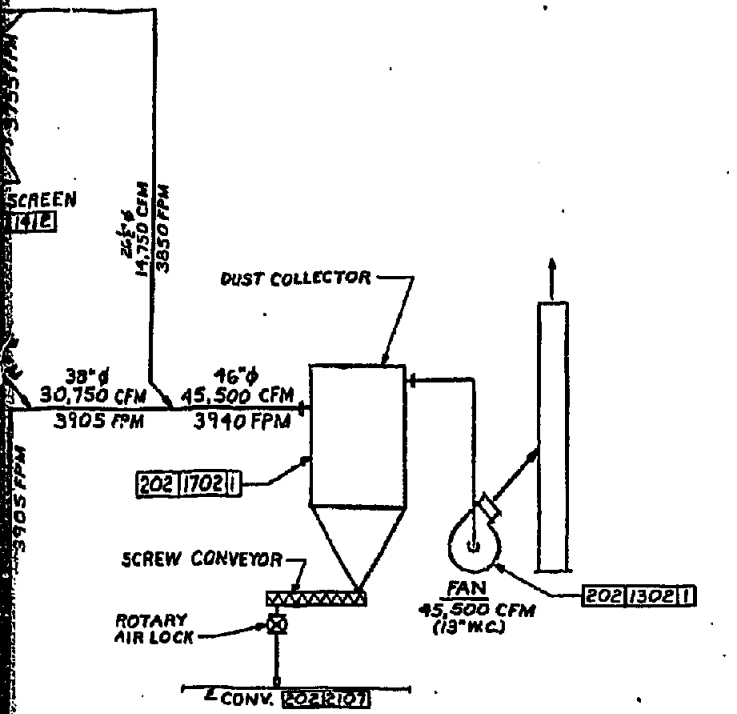
If the quality of the spray water is high in minerals an additional automatic high pressure air purging system will be provided, to be used after each day of operation to keep the spraying system completely dry and corrosion resistant, and prevent build-up of sediment inside the pipes, flow controllers and spray nozzles.

13.3 ENGINEERING DESIGN DATA

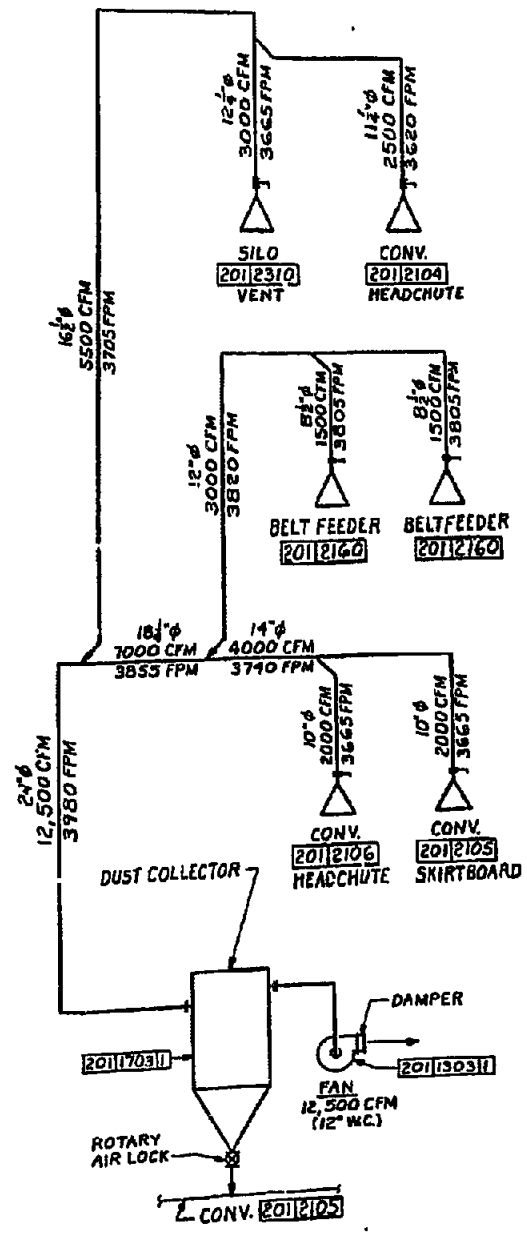
Design data pertinent to the dust collection systems is detailed in the drawings list on Page 13/6.

DUST COLLECTION/SUPPRESSION FLOW DIAGRAMS

<u>DRAWING NO.</u>	<u>TITLE</u>
5530-201-JD-001	Primary Crushing & Screen Station, Junction House - Dust Collection Flow Diagrams
5530-201-JD-002	Secondary Crushing & Screening Station & 2,500 ton Silo - Dust Collection Flow Diagrams
5530-201-JD-003	500 Ton Bin & Surge Bin, Sampling Building - Dust Collection Flow Diagrams
5530-201-JD-004	Coal Drying Facilities & Char Bin - Dust Collection Flow Diagrams
5530-201-JD-005	Coal Unloading Station - Dust Suppression System
5530-204-JD-001	Gasifier Feed System - Dust Collection Flow Diagram



**SECONDARY CRUSHING & SCREENING STATION
DUST COLLECTION FLOW DIAGRAM**



2500T SILO D.C. FLOW DIAGRAM

PAST GATE
(TYPICAL)

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CLIENT: CIRI/PLACER
**BELUGA METHANOL PROJECT
 COOK INLET, ALASKA**

Davy McKee
 ENGINEERS AND CONSTRUCTORS
85-1000 Sun Way

DESIGNED BY	DATE	CHECKED BY	DATE	APPROVED 1	DATE	APPROVED 2	DATE
DAVY MCKEE	APR 9-1988	DAVY MCKEE					

WORK: COAL RECEIVING, STORAGE & RECLAIM
 SECONDARY CRUSH. & SCREEN. STATION.
 2500T SILO D.C. FLOW DIAGRAMS
 SCALE: NONE
 PC-5530

5530-201-JD-002



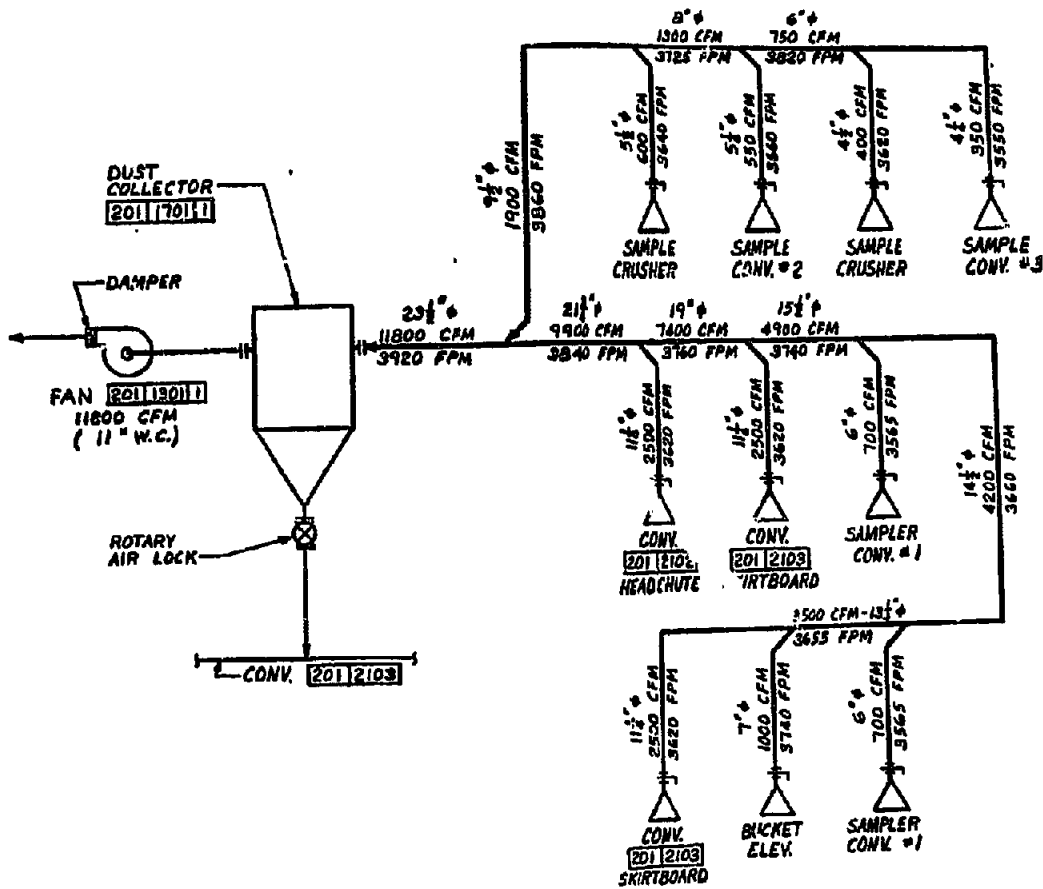
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7

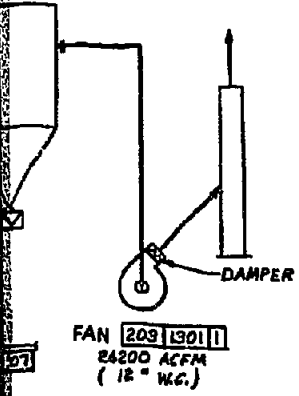
8

9

10



SAMPLING BLDG. DUST COLL. FLOW DIAGRAM



ARGE BIN
DIAGRAM

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COOK INLET, ALASKA

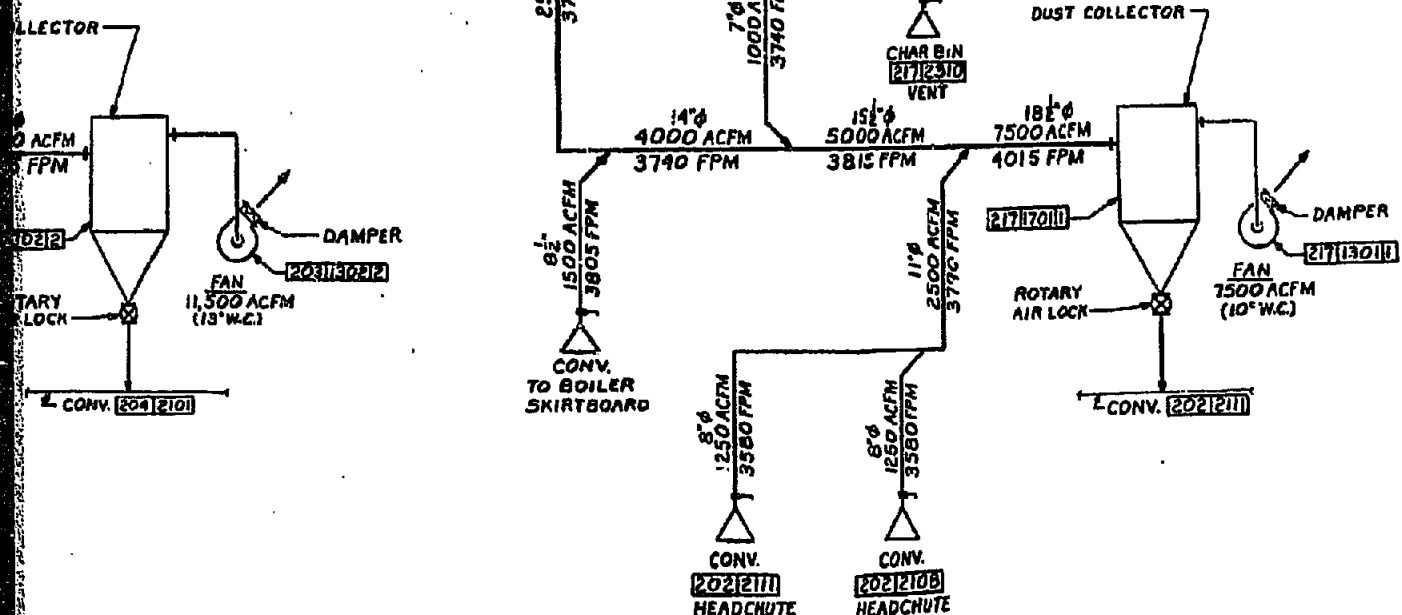
Davy McKee
ENGINEERS AND CONSTRUCTORS
301 1002 Blvd, 2078

DESIGNED	BY	DATE	CHECKED	DATE	BY	A	B	G	S	T	V	W	X	Y
DESIGNED	CWB	3/26/68	CHECKED		CLIENT									
APPROVED			APPROVED		PCB									
APPROVED			APPROVED											

FIELD
COAL RECEIVING, STORAGE & RECLAIM
500 TON BIN & SURGE BIN,
SAMPLING BLDG. D.C. FLOW DIAG.
PC-5530

5530-201-JD-003





CHAR BIN DUST COLLECTION FLOW DIAGRAM

FLOW DIAGRAM

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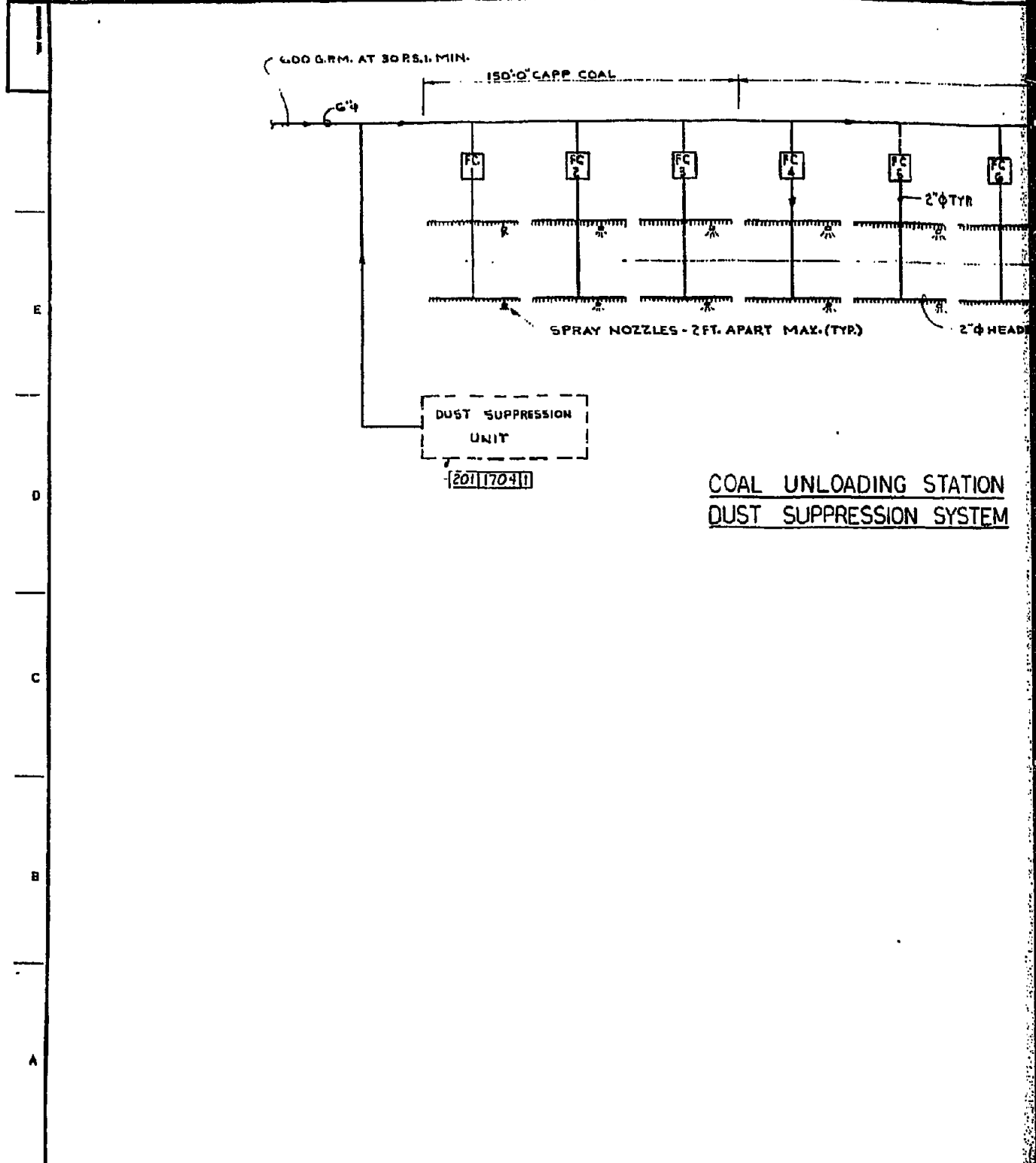
CLIENT: CIRI/PLACER
PROJECT: BELUGA METHANOL PROJECT
LOCATION: COOK INLET, ALASKA

Davy McKee
 ENGINEERS AND CONSTRUCTORS
 5530-201-JD-004

DATE: _____
BY: _____
DATE: _____
DATE: _____

REVISION	BY	DATE	DATE	1	2	3	4	5	6	7	8	9	10
DESIGNED	AMT	03-01											
CHECKED													
APPROVED 1													
APPROVED 2													
APPROVED 3													

SCALE: NONE **PC-5530**

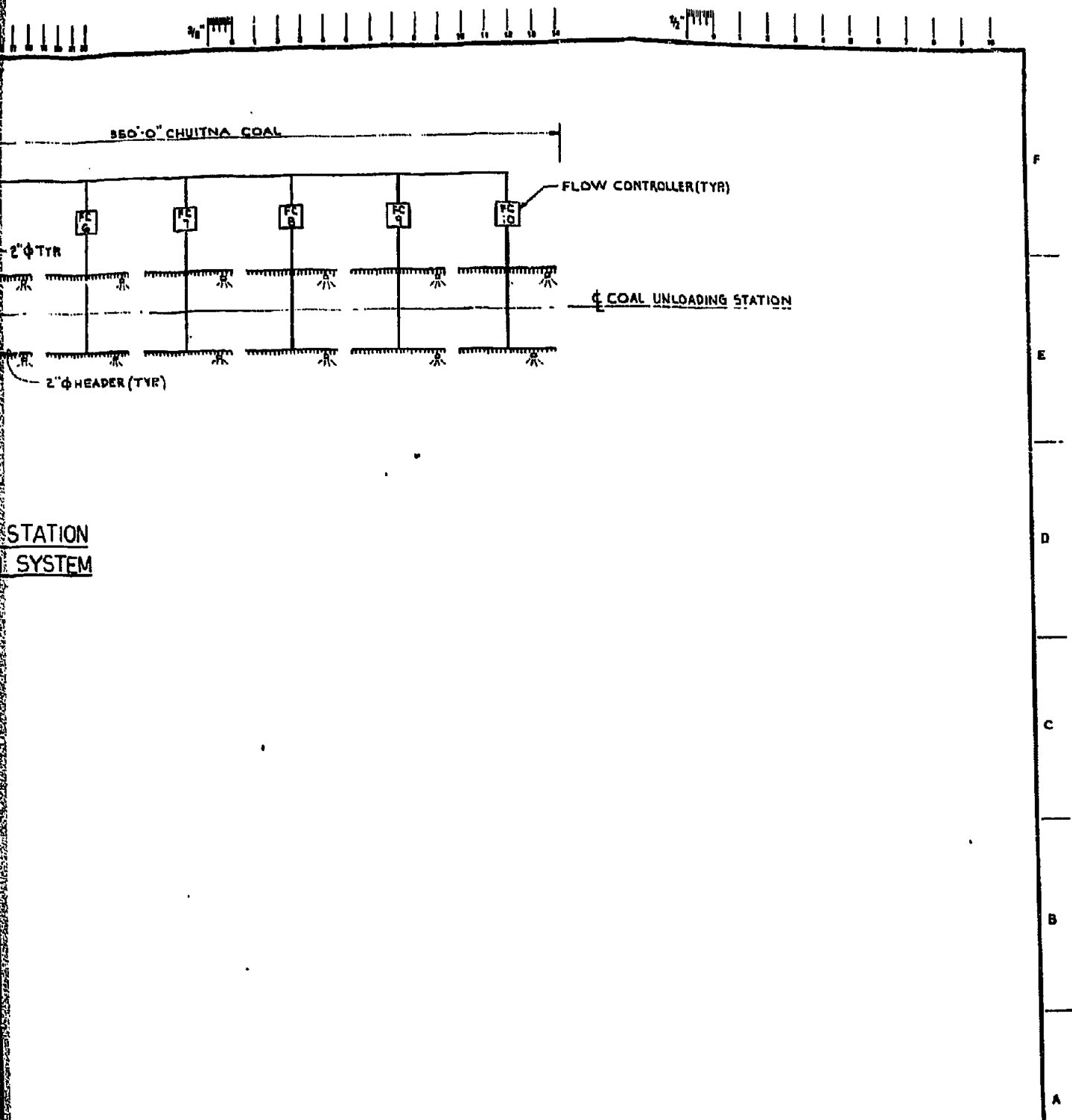


DUST SUPPRESSION UNIT
[20117041]

COAL UNLOADING STATION
DUST SUPPRESSION SYSTEM

NO.	DESCRIPTION	BY	CHK.	APPROVED	DATE	NO.	DESCRIPTION	BY	CHK.	APPROVED	DATE	NO.
1	PRIMARY	AKG			4-28-81							
2	ISSUED FOR FINAL REPORT	AKG			7-28-81							
3												
4												
5												

1 2 3 4 5



STATION
SYSTEM

F
E
D
C
B
A

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CLIENT: **CIRI/PLACER BELUGA METHANOL PROJECT COOK INLET, ALASKA**

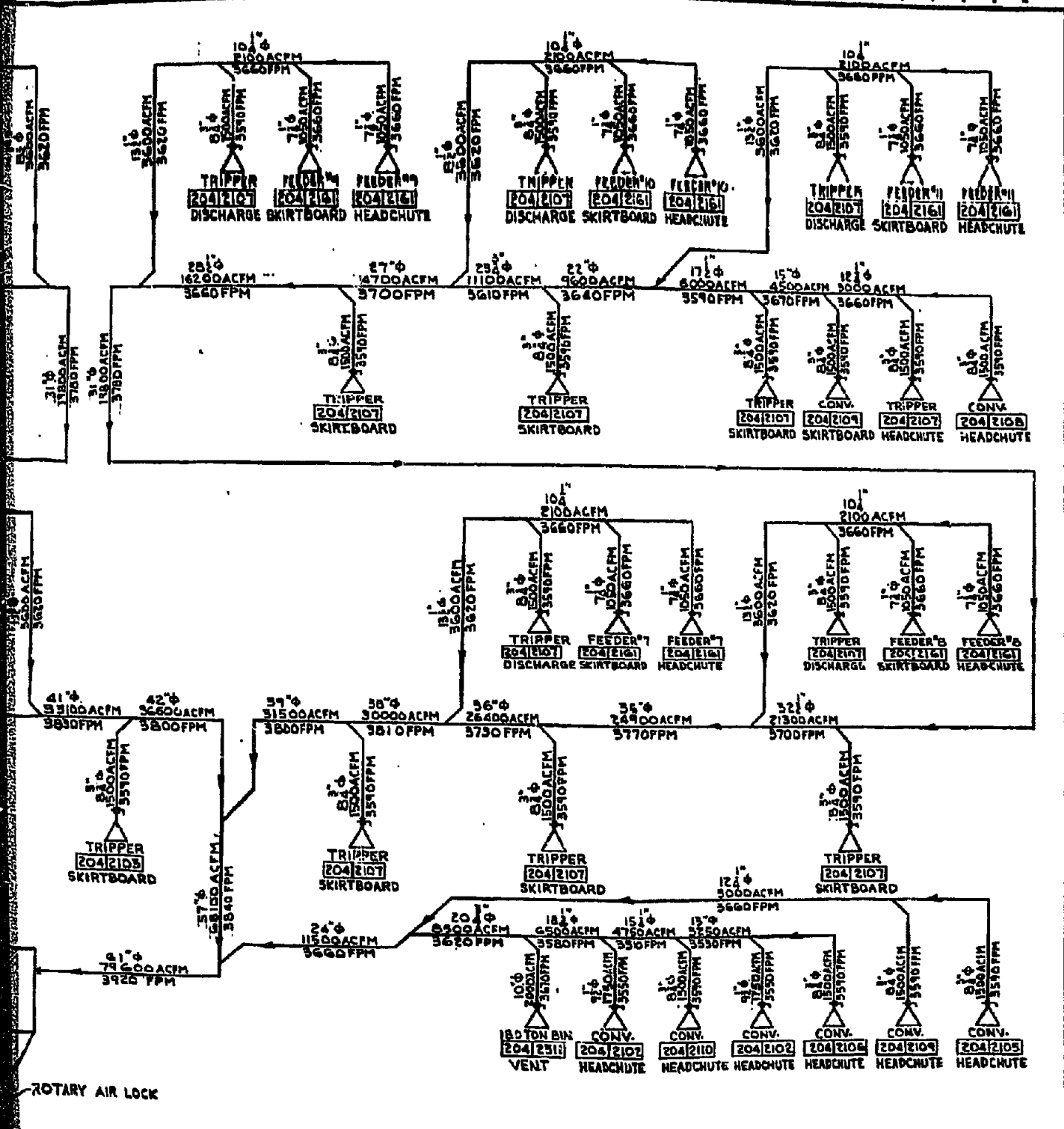
Davy McKee
ENGINEERS AND CONSTRUCTORS
300-1343 2nd. FLY

DESIGNED BY	DATE	DATE TO	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	REVISION
DRAWN	6-1-81	FIELD																	△
CHECKED																			
APPROVED 1																			
APPROVED 2																			
APPROVED 3																			

TITLE: **COAL UNLOADING STATION DUST SUPPRESSION SYSTEM**

SCALE: NONE Dwg. NO. **PC-5530**

5530-201-JD-005



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 CIRC/PLACER
 BELUGA METHANOL PROJECT
 COOK INLET, ALASKA

Davy McKee
 ENGINEERS AND CONSTRUCTORS
 200-1902 Bldg. 720

REVISION	BY	DATE	DATE TO	A	B	C	D	E	F	G	H	I	J
1	DAVY	03-21											
2	DAVY												
3	DAVY												
4	DAVY												

TITLE
 PROCESS COAL CONVEYING
 GASIFIER FEED SYSTEM
 DUST COLLECTION FLOW DIAGRAM
 SCALE NONE
 SHEET NO. 530

5530-204-JD-001



SECTION 14.0
LIST OF DRAWINGS

This section consists of a list of the drawings associated with the subject matter covered in this Volume II. The listings are grouped as follows:

1. Process Flow Diagrams
2. Dust Collection/Suppression Flow Diagrams
3. Electrical Single-Line Diagrams
4. Buildings - Layout Drawings
5. Roads, Dock and Grading Diagrams
6. Plant Arrangement Drawings

The drawings will be found within the sections to which they pertain, and references to those sections are included in the list.

1. PROCESS FLOW DIAGRAMS

<u>DRAWINGS</u>	<u>TITLE</u>	<u>SECTION</u>
5530-Y-001	Mass Block Flow Diagram	2.0
5530-Y-002	Utility Block Flow Diagram	2.0
5530-101-Y-001	Air Separation Plant	7.0
5530-102-Y-001	Nitrogen/Plant Air System	7.0
5530-103-Y-001	Cooling Water System	8.0
5530-103-Y-002	Cooling Water Distribution	8.0
5530-105/106-Y-001	Chemicals/Fuel Storage	11.0

1. PROCESS FLOW DIAGRAMS CONT'D

<u>DRAWINGS</u>	<u>TITLE</u>	<u>SECTION</u>
5530-201-Y-001	Coal Receiving, Storage and Reclaim	3.0
5530-202-Y-001	Coal Preparation	3.0
5530-203-Y-001	Coal Drying	3.0
5530-204-Y-001	Process Coal Conveying	3.0
5530-205-Y-001	Gasification	4.0
5530-205-Y-10 ATM	Gasification	4.0
5530-206-Y-001	Waste Heat Recovery & Dry Cyclone	4.0
5530-206-Y-10 ATM	Waste Heat Recovery & Dry Cyclone	4.0
5530-207-Y-001	Particulate Removal	4.0
5530-207-Y-10 ATM	Particulate Removal	4.0
5530-208-Y-001	Gasification Char & Coal Dryer Particulate Settling & Filtration	4.0
5530-209-Y-001	Raw Gas Compression	5.0
5530-210-Y-001	Shift Conversion and COS Hydrolysis	5.0
5530-211-Y-001	Acid Gas Removal - Carbon Dioxide Removal	5.0
5530-211-Y-002	Acid Gas Removal - H ₂ S Removal	5.0
5530-212-Y-001	Makeup Gas Compression	5.0
5530-213-Y-001	Methanol Synthesis	6.0
5530-214-Y-001	Methanol Distillation	6.0
5530-215-Y-001	Product Storage and Pumping	11.0
5530-216-Y-001	Dry Char System	4.0
5530-218-Y-001	Ash System	4.0
5530-219-Y-001	Reforming	6.0

1. PROCESS FLOW DIAGRAMS CONT'D

<u>DRAWINGS</u>	<u>TITLE</u>	<u>SECTION</u>
5530-219-Y-002	Reforming	6.0
5530-300-Y-001	Power Plant	8.0
5530-301-Y-001	Raw Water Treatment	8.0
5530-301-Y-002	Raw Water Treatment	8.0
5530-302-Y-001	Boiler Feed Water System	8.0
5530-305-Y-001	Plant Steam System	8.0
5530-308-Y-001	Fire Water System	10.0
5530-308-Y-002	Coal Handling and Storage Facilities Fire Protection	10.0
5530-309-Y-001	System One Line Diagram	8.0
5530-401-Y-001	Wastewater Treatment	9.0
5530-401-Y-002	Wastewater Treatment	9.0
5530-401-Y-003	Wastewater Treatment	9.0
5530-401-Y-004	Wastewater Treatment	9.0
5530-401-Y-005	Wastewater Treatment	9.0
5530-401-Y-006	Plant Construction Site Storm Water Treatment	9.0
5530-401-Y-007	Coal Handling & Storage Facilities Wash Down Water	9.0
5530-404-Y-001	Relief and Flare System	10.0
5530-405-Y-001	Sulfur Recovery	5.0

2. DUST COLLECTION/SUPPRESSION FLOW DIAGRAMS

<u>DRAWINGS</u>	<u>TITLE</u>	<u>SECTION</u>
5530-201-JD-001	Primary Crushing and Screening Station, Junction House Dust Collection Flow Diagrams	13.0
5530-201-JD-002	Secondary Crushing and Screening Station and 2,500 ton Silo - Dust Collection Flow Diagrams	13.0
5530-201-JD-003	500 ton Bin and Surge Bin, Sampling Building Dust Collection Flow Diagrams	13.0
5530-201-JD-004	Coal Drying Facilities and Char Bin Dust Collection Flow Diagrams	13.0
5530-201-JD-005	Coal Unloading Station - Dust Suppression System	13.0
5530-204-JD-001	Gasifier Feed System - Dust Collection Flow Diagram	13.0

3. ELECTRICAL DRAWING LIST

<u>DRAWINGS</u>	<u>TITLE</u>	<u>SECTION</u>
5530-309-N-001	Electrical Single Line Legend and Symbols	8.0
5530-309-N-002	Electrical Single Line Legend and Symbols	8.0
5530-309-N-003	Electrical Single Line Diagram - Main Single Line Diagram	8.0
5530-309-N-004	Electrical Single Line Diagram - 13.8 kV Substation	8.0
5530-309-N-005	Electrical Single Line Diagram 4160V Secondary Selective Substation (typical)	8.0
5530-309-N-006	Electrical Single Line Diagram - 4160V Radial Substation (typical)	8.0

3. ELECTRICAL DRAWING LIST CONT'D

<u>DRAWINGS</u>	<u>TITLE</u>	<u>SECTION</u>
5530-309-N-007	Electrical Single Line Diagram - 480V Secondary Selective Substation (typical)	8.0
5530-309-N-008	Electrical Single Line Diagram - 480V Radial Substation (typical)	8.0

4. BUILDINGS - LAYOUT DRAWINGS

<u>DRAWINGS</u>	<u>TITLE</u>	<u>SECTION</u>
5530-201-P-010	Central Warehouse and Storage Yard	12.0
SK-5530-306-A-001	Administration Building	12.0
SK-5530-306-A-002	Employee Building and Fire Station	12.0
SK-5530-306-A-003	General Maintenance, Central Shop and Small Parts Storage	12.0
SK-5530-306-A-004	Main Control Room and Laboratory Building	12.0
SK-5530-306-A-005	Vehicle Storage Building	12.0
SK-5530-306-A-006	Miscellaneous Fuels and Lubes Service and Storage Building	12.0

5. PLANT ARRANGEMENTS

<u>DRAWINGS</u>	<u>TITLE</u>	<u>SECTION</u>
5530-001-P-001	Overall Plant Area Plan	2.0
5530-102-P-001	Air Separation, Plant Air and Nitrogen Systems General Arrangement	7.0
5530-102-P-002	Air Separation, Plant Air and Nitrogen Systems - Plan	7.0
5530-102-P-003	Air Separation, Plant Air and Nitrogen Systems - Plan	7.0
5530-103-P-001	Cooling Water Pumps - Plan and Section	8.0

5. PLANT ARRANGEMENTS CONT'D

<u>DRAWINGS</u>	<u>TITLE</u>	<u>SECTION</u>
5530-201-P-001	Coal Receiving, Storage and Reclaim - Plan	3.0
5530-201-P-002	Coal Receiving, Storage and Reclaim Site Preparation	3.0
5530-201-P-003	Coal Receiving, Storage and Reclaim - Conveyor Profiles	3.0
5530-201-P-004	Coal Receiving, Storage and Reclaim Conveyor Profiles	3.0
5530-201-P-005	Coal Receiving, Storage and Reclaim Coal Unloading Station	3.0
5530-201-P-006	Coal Receiving, Storage and Reclaim Raw Coal Storage and Reclaim	3.0
5530-201-P-008	Coal Receiving, Storage and Reclaim Silo, Lowering Tower and Reclaim Hoppers	3.0
5530-201-P-009	Coal Receiving, Storage and Reclaim Track Layout	3.0
5530-201-P-010	Central Warehouse and Storage Yard	12.0
5530-202-P-001	Coal Preparation, Primary Crushing and Screening Station	3.0
5530-202-P-002	Coal Preparation, Secondary Crushing and Screening Station	3.0
5530-203-P-001	Coal Drying - Prepared Coal Drying Facilities	3.0
5530-203-P-002	Coal Drying - Gasifier and Dryer Feed Bins	3.0
5530-204-P-001	Process Coal Conveying Gasifier Feed System - Plans and Sections	3.0
5530-204-P-002	Process Coal Conveying Gasifier Feed System - Elevations and Sections	3.0

5. PLANT ARRANGMENTS CONT'D

<u>DRAWINGS</u>	<u>TITLE</u>	<u>SECTION</u>
5530-205-P-001	Gasification, Waste Heat Recovery, Particulate Removal - General Arrangement	4.0
5530-205-P-002	Gasification, Waste Heat Recovery, Particulate Removal - General Arrangement	4.0
5530-205-P-003	Gasification, Waste Heat Recovery, Particulate Removal - Plan Above Grade	4.0
5530-205-P-004	Gasification, Waste Heat Recovery, Particulate Removal - Plan above 14'-9"	4.0
5530-205-P-005	Gasification, Waste Heat Recovery, Particulate Removal - Upper Plans	4.0
5530-205-P-006	Gasification, Waste Heat Recovery, Particulate Removal - Elevation	4.0
5530-205-P-007	Gasification, Waste Heat Recovery, Particulate Removal - Elevation	4.0
5530-205-P-008	Gasification, Waste Heat Recovery, Particulate Removal - Elevation	4.0
5530-205-P-009	Gasification, Waste Heat Recovery, Particulate Removal - Elevation	4.0
5530-208-P-001	Gasification Char and Coal Dryer Particulate Settling and Filter General Arrangement	4.0
5530-208-P-002	Gasification Char and Coal Dryer Particulate Settling and Filter Plan and Grade	4.0
5530-209-P-001	Raw Gas and Methanol Compressors Plan at Base	5.0
5530-209-P-002	Raw Gas and Methanol Compressors Plan at Base	5.0
5530-209-P-003	Raw Gas and Methanol Compressors Plan at 22'-0"	5.0

5. PLANT ARRANGMENTS CONT'D

<u>DRAWINGS</u>	<u>TITLE</u>	<u>SECTION</u>
5530-209-P-004	Raw Gas and Methanol Compressors Plan at 22'-0"	5.0
5530-209-P-005	Raw Gas and Methanol Compressors Plan at 54'-0"	5.0
5530-209-P-006	Raw Gas and Methanol Compressors Section A-A	5.0
5530-209-P-007	Raw Gas and Methanol Compressors Section B-B	5.0
5530-210-P-001	Raw Gas and Methanol Area - General Arrangement	5.0
5530-210-P-002	Raw Gas Shift and Acid Gas Removal Plan at Base	5.0
5530-210-P-003	Raw Gas Shift and Acid Gas Removal Plan at 22'-0"	5.0
5530-210-P-004	Raw Gas Shift and Acid Gas Removal Plan at 42'-0"	5.0
5530-210-P-005	Raw Gas Shift and Acid Gas Removal Plan above 62'-0"	5.0
5530-210-P-006	Raw Gas Shift and Acid Gas Removal Elev. A-A	5.0
5530-210-P-007	Raw Gas Shift and Acid Gas Removal Elev. B-B	5.0
5530-213-P-001	Raw Gas and Methanol Areas - Overall Arrangement	6.0
5530-213-P-002	Methanol Unit, Distillation and Synthesis - Plan at Base	6.0
5530-213-P-003	Methanol Unit, Distillation and Synthesis - Plan above 22'-0"	6.0
5530-213-P-004	Methanol Unit, Distillation and Synthesis - Plan above 38'-0"	6.0

5. PLANT ARRANGEMENTS CONT'D

<u>DRAWINGS</u>	<u>TITLE</u>	<u>SECTION</u>
5530-213-P-005	Methanol Unit, Distillation and Synthesis - Plan above 54'-0"	6.0
5530-213-P-006	Methanol Unit, Distillation and Synthesis - Elevation	6.0
5530-216-P-001	Raw Coal and Dry Char Blending Char Bin	4.0
5530-218-P-001	Ash Blending and Disposal - Ash Load Cut Station - Plan and Sections	4.0
5530-300-P-001	Power Plant General Arrangement	8.0
5530-300-P-002	Power Plant General Arrangement, Elevation	8.0
5530-301-P-001	Raw Water and BFW Treatment - Plan at Grade	8.0
5530-301-P-002	Raw Water and BFW Treatment - Plan at Grade and 21'-0"	8.0
5530-301-P-003	Raw Water and BFW Treatment Section A-A	8.0
5530-301-P-004	Raw Water and BFW Treatment Section B-B	8.0
5530-308-P-001	Fire Water Pumps - Plan and Section	10.0
5530-401-P-001	Wastewater Treatment - General Arrangement	9.0
5530-401-P-002	Wastewater Treatment - Plan at Grade	9.0
5530-401-P-003	Wastewater Treatment - Sections A-A, B-B	9.0
5530-401-P-004	Boiler Cleaning and Coal Storage Area Wastewater Treatment Plan at Grade	9.0
5530-401-P-005	Railroad Maintenance and Shop Areas Wastewater Treatment Plan at Grade	9.0