



DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH
150 West North Temple, P.O. Box 2500, Salt Lake City, Utah 84110-2500

Kenneth Lee Alkema, Jr.
Room 474 801-533-6121

July 18, 1983
533-6108

James O. Mason, M.D., Dr.P.H.
Executive Director
801-533-6111

DIVISIONS

Community Health Services
Environmental Health
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OFFICES

Administrative Services
Community Health Nursing
Management Planning
Medical Examiner
State Health Laboratory

Col. Robert L. Allen
Dept. of the Air Force
Headquarters 2849th Air Base Group
Hill Air Force Base, Utah 84056

RE: Approval Order for Paint Booth, Hil 347
Hil 36-1 HVAC Modification, Standby
Hil 172-3 Generators, and Fuel Storage Hil 103-3
Tanks, Davis County

Dear Col. Allen:

On May 17, 1983, the Executive Secretary published a notice of intent to approve the air pollution controls/operating procedures for the following projects: Hil 347-2 paint booths (2), Hil 36-1 HVAC system modifications, Hil 172-3 standby power generators (2), and Hil 103-3 underground fuel storage tanks (3). The 30 day public comment period has expired, and no comments were received.

This air quality approval order authorizes the projects as proposed in your notice of intent dated March 31, 1983, with the following operating conditions:

1. The aircraft paint booth in Building 48, Project Hil 347-2, shall have 264 sq. ft. of particulate filters. The filter bank and associated four (4) 35,000 cfm fans shall be properly installed to the manufacturer's specifications and good engineering practice.
2. The HVAC system modification consisting of two (2) new Protectaire model S1210 WCC water wash spray booths shall be installed and operated to the manufacturer's specifications and good engineering practice.
3. The 2,000 gallon gasoline storage tanks shall be equipped with an Emco-Wheaton model A-88 and A-97 phase I coaxial vapor recovery system as proposed.

For

4.2.4-1012

Col. Robert L. Allen
July 18, 1983
Page 2

4. The proposed standby diesel generators, ONAW model 300 DFS 300/IW and model 400 DFV 400 KW, shall be installed to manufacturer's specifications. Visible emissions shall not exceed 20% opacity. Manufacturer's recommended air/fuel ratio for low NOx emissions shall be used.

5. A construction/installation/modification schedule shall be provided to the Executive Secretary when finalized.

6. The Executive Secretary shall be notified upon startup/normal operations as an initial compliance inspection is required.

Sincerely,

Brent C. Bradford
Executive Secretary
Utah Air Conservation Committee

MRK-20 Jul
MRK/ads

cc: EPA Region VIII (J. Philbrook)
Davis County Health Dept.
3431

Minor VOC in Non-Attainment
Approval 7/18/83
ID# MIN 052483 -2NT (mod)

BUREAU OF AIR QUALITY
ENGINEERING REVIEW - SUMMARY (NOI Dated 3-31-83)
ENGINEER/DATE Carl Broadhead 4/13/83 *CB*

Owner/Operator: Department of the Air Force Headquarters
2849th Air Base Group

Source: Paint Booths, Diesel Engines, and VOC from Storage Tanks

Applicant/Official: Col. Robert L. Allen (Bill Taylor)

Applicant/Official Address: Hill Air Force Base, Utah 84056

Telephone Number of Contact: 801-777-2065

Plant/Activity Location and Address: Hill Air Force Base

Type of Operation: Military Installation

I. Hill Air Force Base proposes:

A. One (1) aircraft paint booth (5' X 20') filter bank (90% particulate control).

B. (a) Two (2) Protectaire model S1210 WCC water wash spray booths as part of modification on the HVAC system. 95% particulate control.

(b) Enlarge the present make-up air filter bank from 1364 square feet to 2,208 square feet using an underwriters class I or class II filter.

C. Two (2) diesel powered generators for (300 kw & 400 kw) emergency standby power, and estimated operation 25.5 hours per year.

D. Three (3) underground tanks; one 2,000 gallon gasoline tank, one 2,000 gallon JP-4 tank, and one 1,000 gallon Stodard solvent tank. The gasoline tank will have Enco Wheaton coaxial phase I vapor recovery.

III. BACT & Emission Summary

| | <u>PM</u> | <u>VOC</u> |
|---|-----------|------------|
| 1. Paint booth (aircraft) | 0.40 | 7.2 |
| 2. Paint booth (HVAC System) | 0.01 | 3.5 |
| 3. Standby generators (NO _x) 740 lb/yr) | neg | neg |
| 4. Storage tanks | -- | .16 |
| Emission increase in | 0.41 T/yr | 10.86 T/yr |

The above installations qualify for BACT. The first paint booth (aircraft) is too small to require VOC recovery. Particulate control is 90%. The water wash paint booths are sufficiently small (less than 40 ton of HC per year) to be exempt as a major HC modification. Particulate control is 95%. The two diesel standby generators are okay, and the gasoline storage tanks have phase I recovery.

IV. Recommendation and Conditions:

Approval is recommended with the following conditions:

1. The aircraft paint booth in building 48, project #HL. 327-2, shall have 264 sq. ft. of particulate filters. The filter bank and associated four 35,000 cfm fans shall be properly installed to the manufacturers specification and good engineering practice.

2. The HVAC system modification consistency of two (2) new protectaire model 51210WCC water wash spray booths shall be installed and operated to the manufacturers specifications and good engineering practices.

3. The 2,000 gallon gasoline storage tank shall be equipped with an Emco-Wheaton model A-88 and A-97 phase I coaxial vapor recovery system as proposed.

4. The proposed standby diesel generators, ONAN model #300 DFS 300 kw and model #400 DFV 400 kw shall be installed to manufacturer's specifications. Visible emissions shall not exceed 20% opacity. Manufacturer's recommended air-fuel ratio for low NO_x emissions shall be used.

5. The Executive Secretary shall be notified when the installations are completed, as an initial compliance inspection is required.



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 2849TH AIR BASE GROUP (AFLC)
HILL AIR FORCE BASE, UTAH 84056

Hill Air
Base

31 MAR 1983

REPLY TO
ATTN OF: DE

SUBJECT: Notices of Intent to Construct

BAP

RECEIVED
APR 1 1983
Utah Department of
Environmental Health

TO: Utah Air Conservation Committee
ATTN: Brent C. Bradford, Executive Secretary
Bureau of Air Quality
PO Box 2500
Salt Lake City UT 84110

1. In compliance with Section 3.1 of the State Air Conservation Regulations, the four attached Notices of Intent to Construct are submitted by the US Air Force, Hill AFB. Construction and operation approval is requested for the following four projects for which notices of intent are submitted: a new aircraft paint booth, two new parts paint booths, a standby power generator, and three new storage tanks.

2. If additional information is required, please feel free to write this office or telephone Keith Davis or Bill Taylor at 777-2065.

ROBERT L. ALLEN
Colonel, USAF
Base Civil Engineer

- 4 Atch
1. Notice of Intent, HIL 347-2
2. Notice of Intent, HIL 36-1
3. Notice of Intent, HIL 172-3
4. Notice of Intent, HIL 103-3

Notice of Intent to Construct
 Fuel Storage Tank and Pumps, Project Number HIL 103-3
 Hill Air Force Base, Utah

1. Project Description: Hill AFB proposes to install two 2,000-gallon and one 1,000-gallon underground storage tanks and pumps on the north side of Building 592. The tanks will store 2,000 gallons of JP-4 and gasoline and 1,000 gallons of PD680 solvent (Stoddard Solvent). These new tanks will replace older existing tanks and are shown on the attached map (see Atch 1).

2. Pollution Emissions: The two sources of hydrocarbon vapor emissions from these fixed roof tanks are breathing losses and working losses. The following table summarizes the fuel and solvent vapor emissions from the new tanks based on the estimated amount of fuel to be used and EPA publication AP-42, "Compilation of Air Pollution Emission Factors."

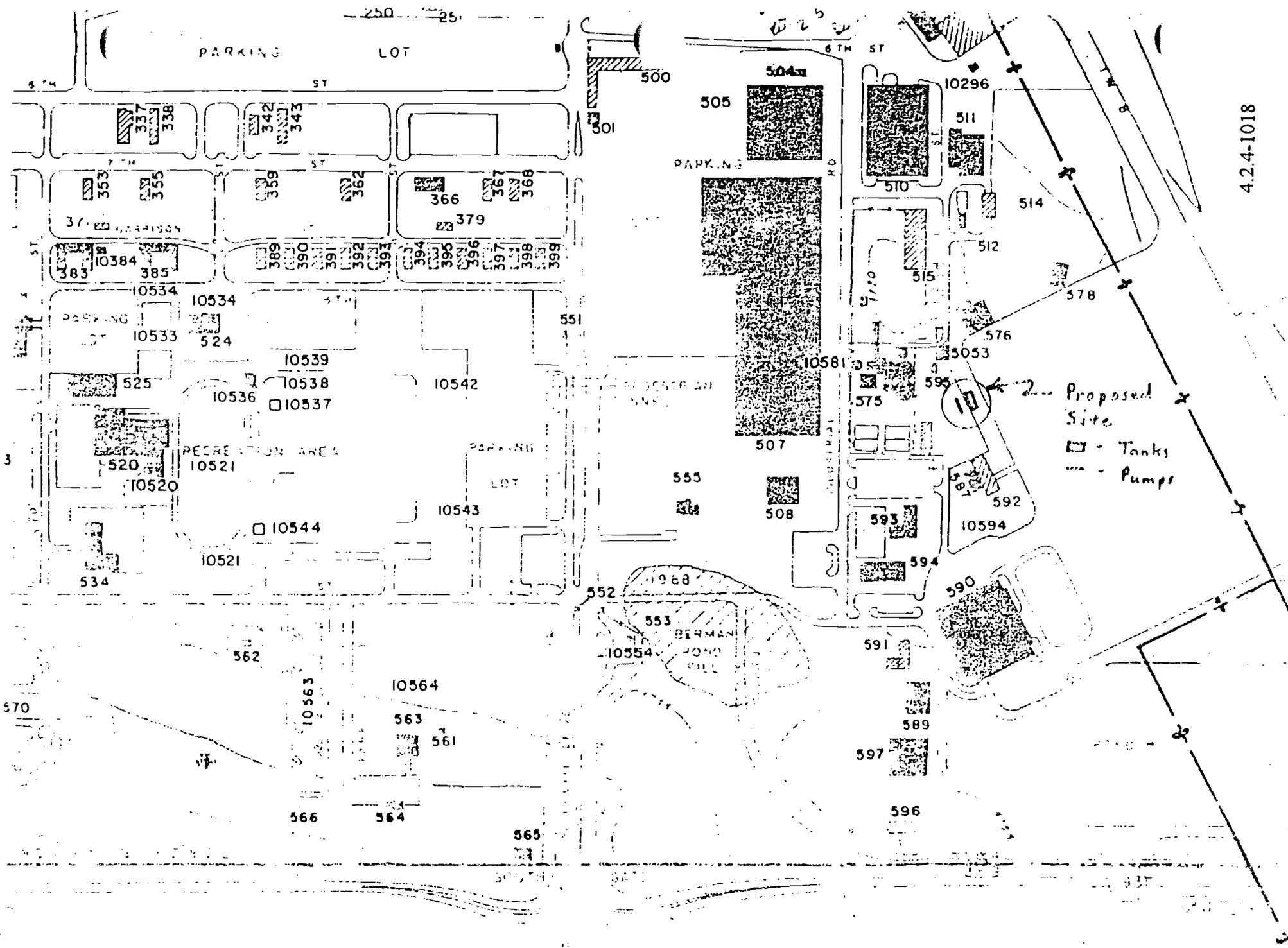
| FUEL [annual throughput-gals] average storage/day | BREATHING LOSSES | | WORKING LOSSES | |
|---|---------------------|--------|--------------------|--------|
| | Emission Factor | Lbs/Yr | Emission Factor | Lbs/Yr |
| Gasoline (21,000/1,000) | 1.0 ¹ | 21 | 10 ¹ | 210 |
| JP-4 (42,000/1,000) | 0.086 ² | 31.4 | 2.5 ² | 105 |
| PD680 (12,000/500) | 0.0046 ² | Neg | 0.025 ² | Neg |

NOTES: (1) Page 4.4-11 of AP-42
 (2) Table 4.3-4 on page 4.3-15 of AP-42

3. Air Cleaning Devices: Vapor emissions from the filling of the 2,000-gallon gasoline storage tank will be controlled by an EMCO WHEATON model A-88 and A-97 coaxial vapor recovery drop tube and 4" adaptor which are similar to the parts shown on Attachment 2.

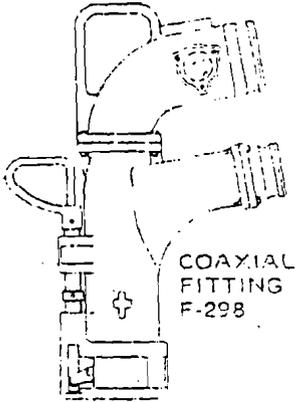
4. Emission Point: Attachment 1 shows the location of the tanks and pumps and the surrounding industrial facilities.

5. Sampling Points: No sampling points are anticipated.

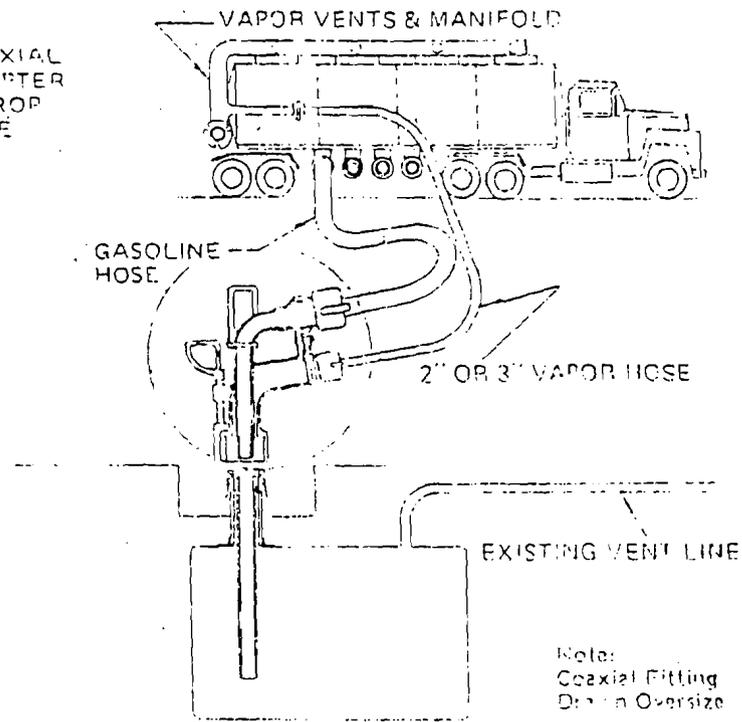
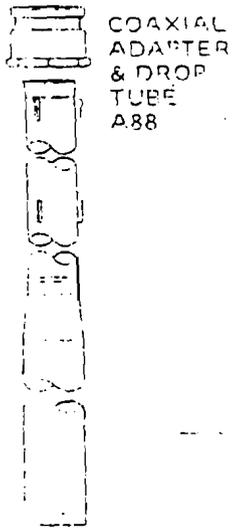


4.2.4-1018

COAXIAL VAPOR RECOVERY SYSTEM



- NO DIGGING-slips into existing Fill Tube
- Negligible Flow Rate Reduction
- Thoroughly Field Tested
- Priced Right



Notice of Intent to Construct
 Paint Booth, Building 48, Project Number HIL 347-2
 Hill Air Force Base, Utah

1. Project Description: Hill AFB proposes to modify the existing nose dock, Building 48, into an aircraft paint booth. This paint booth can be simply described as a sealed room with make-up air fans and exhaust filters and fans. The room will be 45 ft by 52 ft and the filter bank will be 5 ft by 20 ft. Four 35,000 cfm fans will supply the make-up air and will exhaust the air. The attached map shows the location of the proposed paint booth.

2. Pollution Emissions: The proposed paint booth will exhaust two types of air pollutants, paint particulates and hydrocarbon solvent vapors. The estimated filter efficiency in the "Air Pollution Engineering Manual" is 90% for particulates and 0% for hydrocarbon vapors. Using EPA publication AP-42, "Compilation of Air Pollution Emission Factors" and the estimated quantities of paint, lacquer, and primer to be used, emissions from the paint booth will be 7.3 tons of hydrocarbons and 400 lbs of particulates. A sample calculation is shown below:

$$\frac{(12.5 \text{ lbs paint/gal}) (40 \text{ gals paint used/week}) (52 \text{ weeks/yr})}{(2000 \text{ lbs/ton})} = 25 \text{ tons of paint}$$

$$\frac{(1120 \text{ lbs HC/ton paint})}{(2000 \text{ lbs/ton})} = 7.3 \text{ tons of hydrocarbons}$$

3. Air Cleaning Devices: Two-hundred-sixty-four sq ft of particulate filters will be supplied by the contractor so the type to be used is unknown at this time.

4. Emission Point: The top of the 48-inch diameter exhaust stack will be 45 ft above the ground and approximately 150 ft from the nearest adjacent facility.

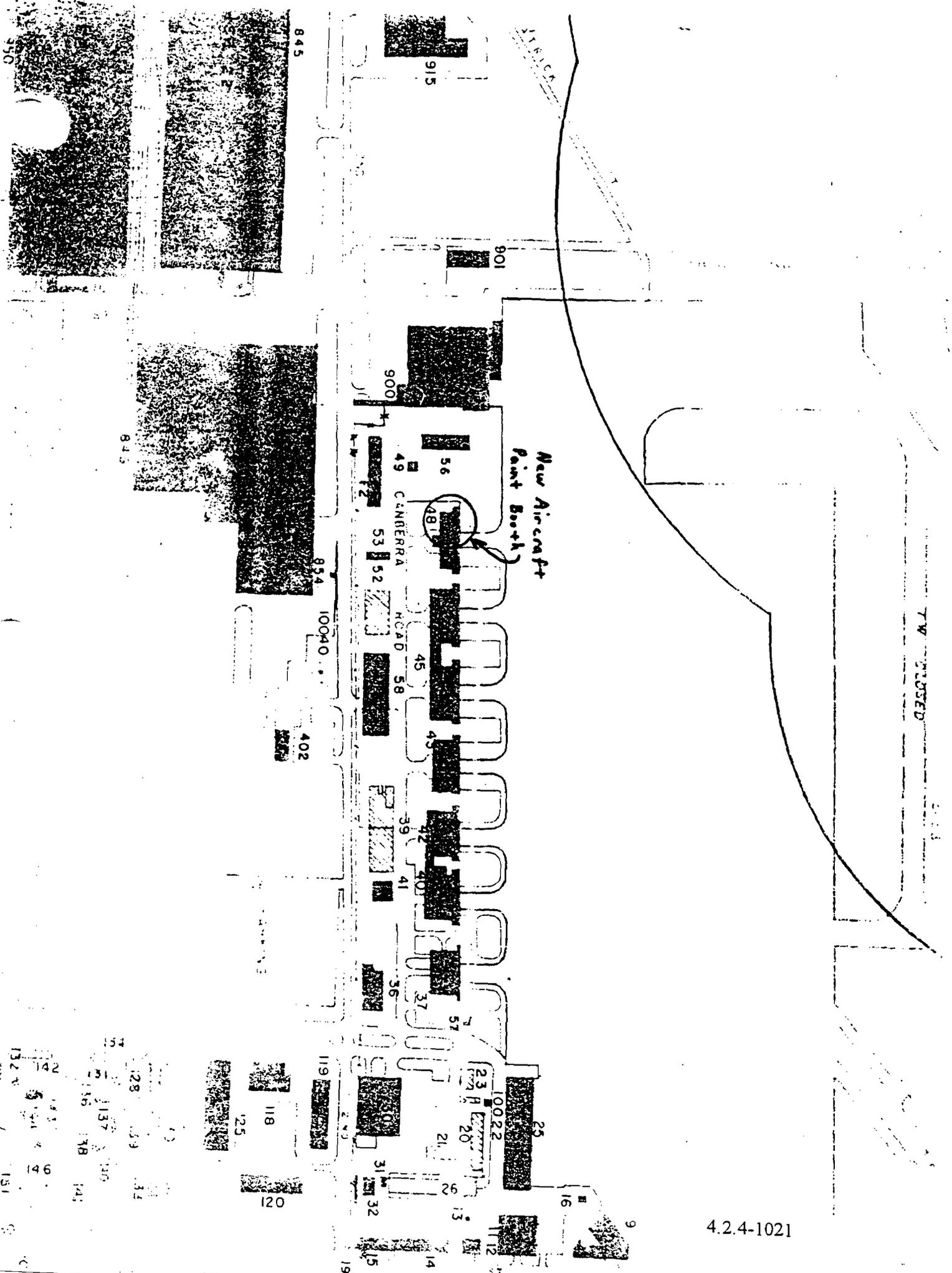
5. Sampling Points: No sampling points are anticipated.

6. Operation: The paint booth will be operated eight hours per day and five days per week.

7. References: "Air Pollution Engineering Manual," US Department of Health and Welfare, National Center for Air Pollution Control, Cincinnati, Ohio, 1967 (page 389)

TW CLOSED

New Aircraft
Paint Booth



4.2.4-1021

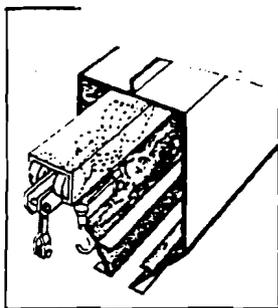
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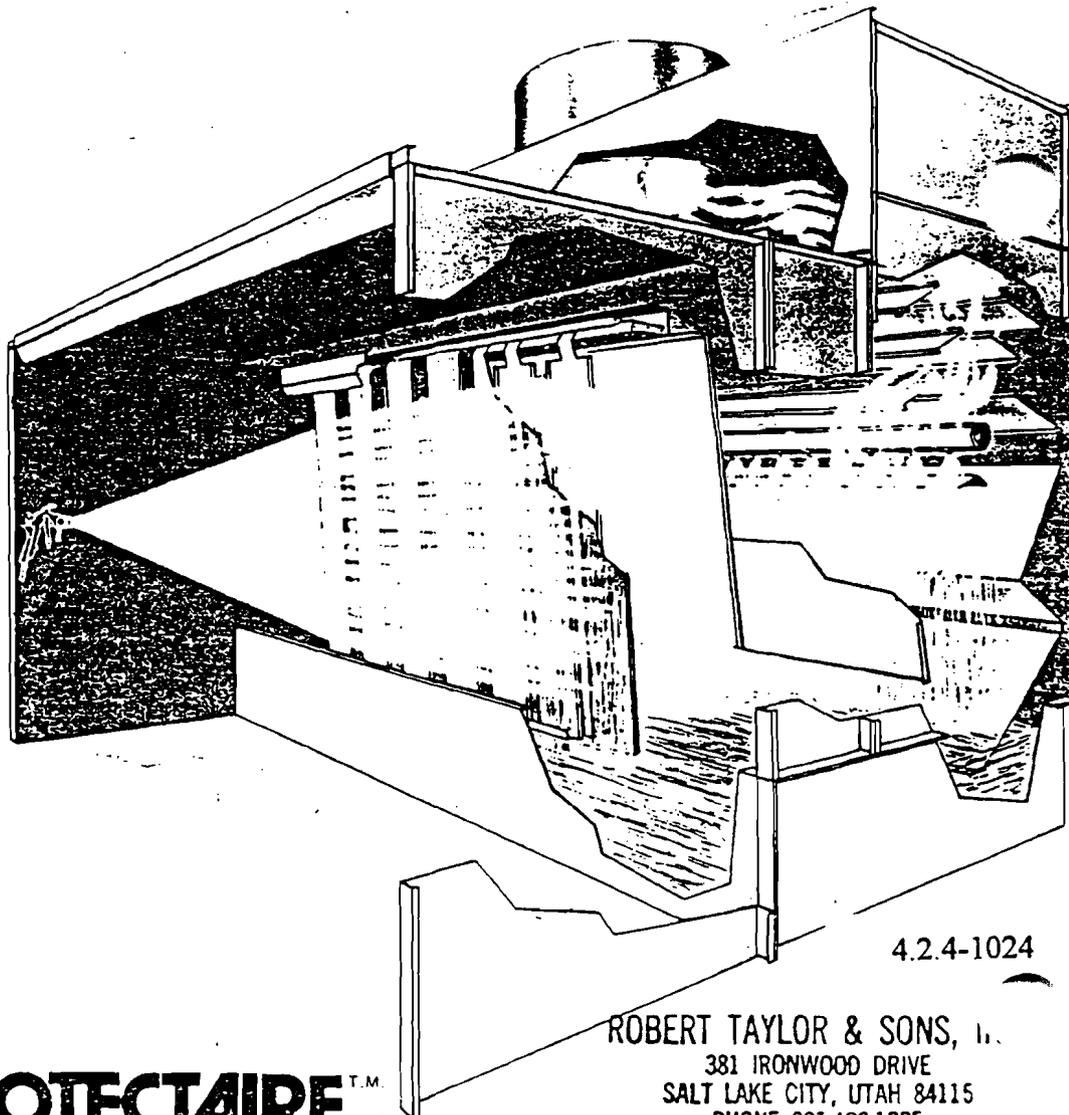
4.2.4-1023

ROTECTAIRE™

PROTECTIVE SYSTEMS



Patented Protectaire system eliminates conveyor problems

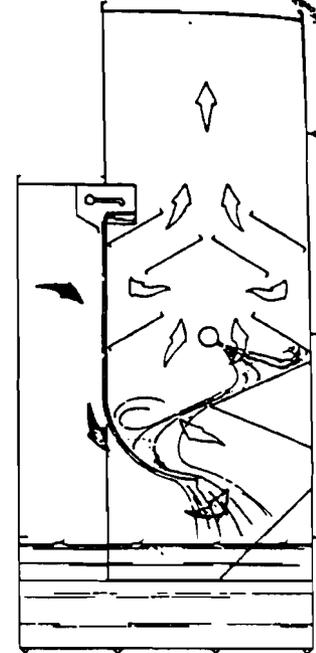
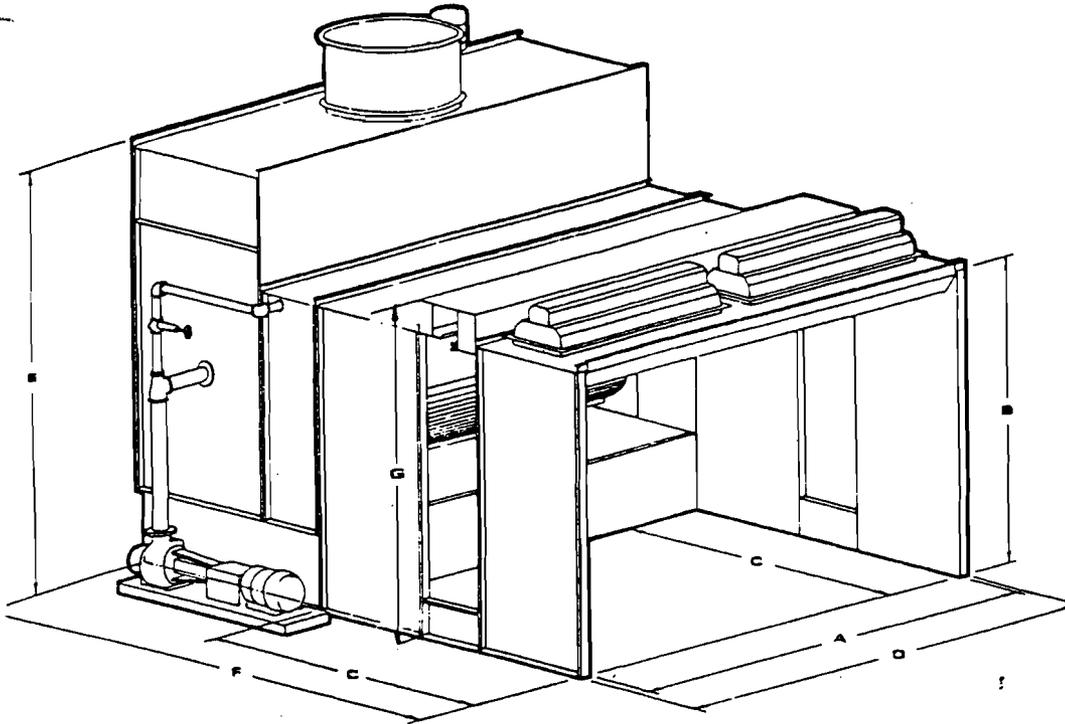


4.2.4-1024

ROTECTAIRE™
systems co.

1353 N. McLean Boulevard, Elgin, Illinois 60120 • Tel: (312) 697-3400

ROBERT TAYLOR & SONS, Inc.
381 IRONWOOD DRIVE
SALT LAKE CITY, UTAH 84115
PHONE 801-486-1335



The Protectaire Conventional Water Wash Spray Booth is scientifically engineered to handle all production spraying in areas with a limited height. Protectaire's exclusive high volume low velocity water curtain design using non-clog nozzles with a large water manifold, assures long, trouble free performance. This floods the curtain with water for more effective overspray pickup. Much more effective than an atomized spray!

No pads to replace. Overspray is trapped in recirculating water. This allows longer periods between major cleanups, perfect for high volume use.

Moisture eliminator plates remove paint laden moisture by changing air flow directions. Easily removable for cleaning. Front access to the washing chamber with easily removable front panels for cleaning. No longer is it necessary to have access to the rear of the spray booth. This feature is important for saving space and maintenance.

Water tank is of 10 or 12 gauge steel welded construction, reinforced with angles, supplied with drains, overflow and automatic water level control with filling chamber. Wash area is of 16 gauge steel and work area of 18 gauge. All panels are flanged for added rigidity punched every 6" with 3/8" round holes.

All models furnished with:

- ✓ Suitable Heavy Duty exhaust unit AMCA "B" spark proof construction and open type motor.
- Suitable Heavy Duty water pump with an explosion proof Heavy Duty motor.

- Light fixtures 3—tube 48" sealed and gasketed fluorescent for class 1 division 2 Hazard Locations.

Water Wash booths are available in two versions.

- 1.) Booths with Protectaire System, mounting heights are variable. Please refer to page 5.
- 2.) Conventional Booths without a Protectaire System.

Protectaire system features

Reduce

- Air make-up requirements, exhaust requirements, and overall energy usage by lowering your spray booth height requirements with a Protectaire System.
- Product rework due to particles dislodged from conveyor.

Eliminate

- Production stoppage due to conveyor breakdowns.
- Excessive maintenance costs.

Prevent

- Build-up of overspray, dirt, dust and other contaminants.
- Costly deterioration of bearings and chain.

Protect

- Against breakdowns in electrostatic equipment and assurance of best possible efficiency through better grounding.
- Product quality due to consistent wrap-around in electrostatic spraying.

The Patented Protectaire System Is Your Problem Solver.

125 F.P.M. Minimum Face Velocity Without Conveyor Opening*
 100 F.P.M. Minimum Face Velocity With Conveyor Opening*

| Spray Booth Model Numbers | | | | Spray Booth Dimensions | | | | | | | Water Pump & Motor Furnished | | | | |
|---------------------------|-----------------------|--------------------------------|-----------------------------|------------------------|----------|---------|-----------------|----------|---------|---------------|---------------------------------|-----------------------|---------------------------------------|------------|------------|
| | | | | Inside Working | | | Outside Overall | | | | | | | | |
| Without Conveyor Opening | With Conveyor Opening | Conveyor Opening Prod. Sq. Ft. | Approx. Shipping Wt. (Lbs.) | A Width | B Height | C Depth | D Width | E Height | F Depth | G Con. Height | No. Of Light Fixtures Furnished | Exhaust Unit Supplied | Minimum Conveyor Opening Sq. Ft./Side | CAP G.P.M. | Motor H.P. |
| 57WC | 57WCC | 57WCCP | 1785 | 5'-0" | 7'-0" | 6'-0" | 5'-4" | 11'-2" | 11'-2" | 8'-0" | 1 | 24200 | 9 | 200 | 1 1/2 |
| 67WC | 67WCC | 67WCCP | 2142 | 6'-0" | 7'-0" | 6'-0" | 6'-4" | 11'-2" | 11'-2" | 8'-0" | 1 | 24300 | 11 | 240 | 1 1/2 |
| 87WC | 87WCC | 87WCCP | 2856 | 8'-0" | 7'-0" | 6'-0" | 8'-4" | 11'-2" | 11'-2" | 8'-0" | 1 | 24300 | 14 | 320 | 3 |
| 107WC | 107WCC | 107WCCP | 3570 | 10'-0" | 7'-0" | 7'-0" | 10'-4" | 11'-2" | 12'-2" | 8'-0" | 2 | 34300 | 18 | 400 | 5 |
| 127WC | 127WCC | 127WCCP | 4284 | 12'-0" | 7'-0" | 7'-0" | 13'-0" | 11'-2" | 12'-2" | 8'-0" | 2 | 34300 | 21 | 480 | 5 |
| 147WC | 147WCC | 147WCCP | 4998 | 14'-0" | 7'-0" | 7'-0" | 15'-0" | 11'-2" | 12'-2" | 8'-0" | 2 | 34300 | 25 | 560 | 5 |
| 167WC | 167WCC | 167WCCP | 5712 | 16'-0" | 7'-0" | 7'-0" | 17'-0" | 11'-2" | 12'-2" | 8'-0" | 3 | 34500 | 28 | 640 | 5 |
| 187WC | 187WCC | 187WCCP | 6426 | 18'-0" | 7'-0" | 7'-0" | 19'-0" | 11'-2" | 12'-2" | 8'-0" | 3 | 42500 | 32 | 720 | 7 1/2 |
| 207WC | 207WCC | 207WCCP | 7140 | 20'-0" | 7'-0" | 7'-0" | 21'-0" | 11'-2" | 12'-2" | 8'-0" | 4 | 42500 | 35 | 800 | 7 1/2 |
| 58WC | 58WCC | 58WCCP | 2040 | 5'-0" | 8'-0" | 6'-0" | 5'-4" | 11'-2" | 11'-2" | 9'-0" | 1 | 24300 | 10 | 200 | 1 1/2 |
| 68WC | 68WCC | 68WCCP | 2448 | 6'-0" | 8'-0" | 6'-0" | 6'-4" | 11'-2" | 11'-2" | 9'-0" | 1 | 24300 | 12 | 240 | 1 1/2 |
| 88WC | 88WCC | 88WCCP | 3264 | 8'-0" | 8'-0" | 6'-0" | 8'-4" | 11'-2" | 11'-2" | 9'-0" | 1 | 34200 | 16 | 320 | 3 |
| 108WC | 108WCC | 108WCCP | 4080 | 10'-0" | 8'-0" | 7'-0" | 10'-4" | 11'-2" | 12'-2" | 9'-0" | 2 | 34300 | 20 | 400 | 5 |
| 128WC | 128WCC | 128WCCP | 4896 | 12'-0" | 8'-0" | 7'-0" | 13'-0" | 11'-2" | 12'-2" | 9'-0" | 2 | 34300 | 24 | 480 | 5 |
| 148WC | 148WCC | 148WCCP | 5712 | 14'-0" | 8'-0" | 7'-0" | 15'-0" | 11'-2" | 12'-2" | 9'-0" | 2 | 34500 | 28 | 560 | 5 |
| 168WC | 168WCC | 168WCCP | 6528 | 16'-0" | 8'-0" | 7'-0" | 17'-0" | 11'-2" | 12'-2" | 9'-0" | 3 | 42500 | 32 | 640 | 5 |
| 188WC | 188WCC | 188WCCP | 7344 | 18'-0" | 8'-0" | 7'-0" | 19'-0" | 11'-2" | 12'-2" | 9'-0" | 3 | 42500 | 36 | 720 | 7 1/2 |
| 208WC | 208WCC | 208WCCP | 8160 | 20'-0" | 8'-0" | 7'-0" | 21'-0" | 11'-2" | 12'-2" | 9'-0" | 4 | 42500 | 40 | 800 | 7 1/2 |
| 59WC | 59WCC | 59WCCP | 2295 | 5'-0" | 9'-0" | 6'-0" | 5'-4" | 13'-2" | 11'-2" | 10'-0" | 1 | 24300 | 11 | 200 | 1 1/2 |
| 69WC | 69WCC | 69WCCP | 2754 | 6'-0" | 9'-0" | 6'-0" | 6'-4" | 13'-2" | 11'-2" | 10'-0" | 1 | 24300 | 14 | 240 | 1 1/2 |
| 89WC | 89WCC | 89WCCP | 3672 | 8'-0" | 9'-0" | 6'-0" | 8'-4" | 13'-2" | 11'-2" | 10'-0" | 1 | 34300 | 18 | 320 | 3 |
| 109WC | 109WCC | 109WCCP | 4590 | 10'-0" | 9'-0" | 7'-0" | 10'-4" | 13'-2" | 12'-2" | 10'-0" | 2 | 34300 | 23 | 400 | 5 |
| 129WC | 129WCC | 129WCCP | 5508 | 12'-0" | 9'-0" | 7'-0" | 13'-0" | 13'-2" | 12'-2" | 10'-0" | 2 | 34500 | 27 | 480 | 5 |
| 149WC | 149WCC | 149WCCP | 6426 | 14'-0" | 9'-0" | 7'-0" | 15'-0" | 13'-2" | 12'-2" | 10'-0" | 2 | 34500 | 32 | 560 | 5 |
| 169WC | 169WCC | 169WCCP | 7344 | 16'-0" | 9'-0" | 7'-0" | 17'-0" | 13'-2" | 12'-2" | 10'-0" | 3 | 42500 | 36 | 640 | 5 |
| 189WC | 189WCC | 189WCCP | 8262 | 18'-0" | 9'-0" | 7'-0" | 19'-0" | 13'-2" | 12'-2" | 10'-0" | 3 | 42500 | 41 | 720 | 7 1/2 |
| 209WC | 209WCC | 209WCCP | 9180 | 20'-0" | 9'-0" | 7'-0" | 21'-0" | 13'-2" | 12'-2" | 10'-0" | 4 | 42750 | 45 | 800 | 7 1/2 |
| 510WC | 510WCC | 510WCCP | 2550 | 5'-0" | 10'-0" | 6'-0" | 5'-4" | 13'-2" | 11'-2" | 11'-0" | 1 | 24300 | 13 | 200 | 1 1/2 |
| 610WC | 610WCC | 610WCCP | 3060 | 6'-0" | 10'-0" | 6'-0" | 6'-4" | 13'-2" | 11'-2" | 11'-0" | 1 | 24300 | 15 | 240 | 1 1/2 |
| 810WC | 810WCC | 810WCCP | 4080 | 8'-0" | 10'-0" | 6'-0" | 8'-4" | 13'-2" | 11'-2" | 11'-0" | 1 | 34300 | 20 | 320 | 3 |
| 1010WC | 1010WCC | 1010WCCP | 5100 | 10'-0" | 10'-0" | 7'-0" | 10'-4" | 13'-2" | 12'-2" | 11'-0" | 2 | 34300 | 25 | 400 | 5 |
| 1210WC | 1210WCC | 1210WCCP | 6120 | 12'-0" | 10'-0" | 7'-0" | 13'-0" | 13'-2" | 12'-2" | 11'-0" | 2 | 34500 | 30 | 480 | 5 |
| 1410WC | 1410WCC | 1410WCCP | 7140 | 14'-0" | 10'-0" | 7'-0" | 15'-0" | 13'-2" | 12'-2" | 11'-0" | 2 | 42500 | 35 | 560 | 5 |
| 1610WC | 1610WCC | 1610WCCP | 8160 | 16'-0" | 10'-0" | 7'-0" | 17'-0" | 13'-2" | 12'-2" | 11'-0" | 3 | 42500 | 40 | 640 | 5 |
| 1810WC | 1810WCC | 1810WCCP | 9180 | 18'-0" | 10'-0" | 7'-0" | 19'-0" | 13'-2" | 12'-2" | 11'-0" | 3 | 42750 | 45 | 720 | 7 1/2 |
| 2010WC | 2010WCC | 2010WCCP | 10200 | 20'-0" | 10'-0" | 7'-0" | 21'-0" | 13'-2" | 12'-2" | 11'-0" | 4 | 42750 | 50 | 800 | 7 1/2 |
| 511WC | 511WCC | 511WCCP | 2805 | 5'-0" | 11'-0" | 6'-0" | 5'-4" | 13'-2" | 11'-2" | 12'-0" | 1 | 24300 | 14 | 200 | 1 1/2 |
| 611WC | 611WCC | 611WCCP | 3366 | 6'-0" | 11'-0" | 6'-0" | 6'-4" | 13'-2" | 11'-2" | 12'-0" | 1 | 34200 | 17 | 240 | 1 1/2 |
| 811WC | 811WCC | 811WCCP | 4488 | 8'-0" | 11'-0" | 6'-0" | 8'-4" | 13'-2" | 11'-2" | 12'-0" | 1 | 34300 | 22 | 320 | 3 |
| 1011WC | 1011WCC | 1011WCCP | 5610 | 10'-0" | 11'-0" | 7'-0" | 10'-4" | 13'-2" | 12'-2" | 12'-0" | 2 | 34500 | 28 | 400 | 5 |
| 1211WC | 1211WCC | 1211WCCP | 6732 | 12'-0" | 11'-0" | 7'-0" | 13'-0" | 13'-2" | 12'-2" | 12'-0" | 2 | 42500 | 33 | 480 | 5 |
| 1411WC | 1411WCC | 1411WCCP | 7854 | 14'-0" | 11'-0" | 7'-0" | 15'-0" | 13'-2" | 12'-2" | 12'-0" | 2 | 42500 | 39 | 560 | 5 |
| 1611WC | 1611WCC | 1611WCCP | 8976 | 16'-0" | 11'-0" | 7'-0" | 17'-0" | 13'-2" | 12'-2" | 12'-0" | 3 | 42750 | 44 | 640 | 5 |
| 1811WC | 1811WCC | 1811WCCP | 10098 | 18'-0" | 11'-0" | 7'-0" | 19'-0" | 13'-2" | 12'-2" | 12'-0" | 3 | 42750 | 50 | 720 | 7 1/2 |
| 2011WC | 2011WCC | 2011WCCP | 11220 | 20'-0" | 11'-0" | 7'-0" | 21'-0" | 13'-2" | 12'-2" | 12'-0" | 4 | 2 34500 | 55 | 800 | 7 1/2 |
| 512WC | 512WCC | 512WCCP | 3060 | 5'-0" | 12'-0" | 6'-0" | 5'-4" | 13'-2" | 11'-2" | 13'-0" | 1 | 24300 | 15 | 200 | 1 1/2 |
| 612WC | 612WCC | 612WCCP | 3672 | 6'-0" | 12'-0" | 6'-0" | 6'-4" | 13'-2" | 11'-2" | 13'-0" | 1 | 34300 | 18 | 240 | 1 1/2 |
| 812WC | 812WCC | 812WCCP | 4896 | 8'-0" | 12'-0" | 6'-0" | 8'-4" | 13'-2" | 11'-2" | 13'-0" | 1 | 34300 | 24 | 320 | 3 |
| 1012WC | 1012WCC | 1012WCCP | 6120 | 10'-0" | 12'-0" | 7'-0" | 10'-4" | 13'-2" | 12'-2" | 13'-0" | 2 | 34500 | 30 | 400 | 5 |
| 1212WC | 1212WCC | 1212WCCP | 7344 | 12'-0" | 12'-0" | 7'-0" | 13'-0" | 13'-2" | 12'-2" | 13'-0" | 2 | 42500 | 36 | 480 | 5 |
| 1412WC | 1412WCC | 1412WCCP | 8568 | 14'-0" | 12'-0" | 7'-0" | 15'-0" | 13'-2" | 12'-2" | 13'-0" | 2 | 42500 | 44 | 560 | 5 |
| 1612WC | 1612WCC | 1612WCCP | 9792 | 16'-0" | 12'-0" | 7'-0" | 17'-0" | 13'-2" | 12'-2" | 13'-0" | 3 | 42750 | 48 | 640 | 5 |
| 1812WC | 1812WCC | 1812WCCP | 11016 | 18'-0" | 12'-0" | 7'-0" | 19'-0" | 13'-2" | 12'-2" | 13'-0" | 3 | 2 34300 | 54 | 720 | 7 1/2 |
| 2012WC | 2012WCC | 2012WCCP | 12240 | 20'-0" | 12'-0" | 7'-0" | 21'-0" | 13'-2" | 12'-2" | 13'-0" | 4 | 2 34500 | 60 | 800 | 7 1/2 |

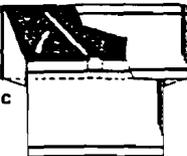
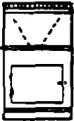
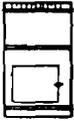
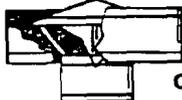
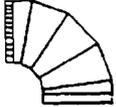
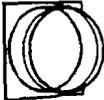
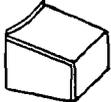
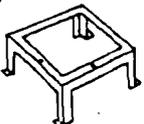
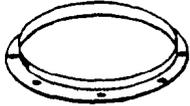
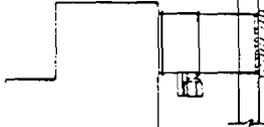
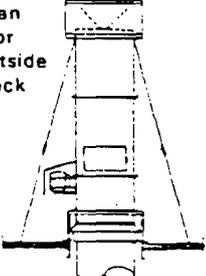
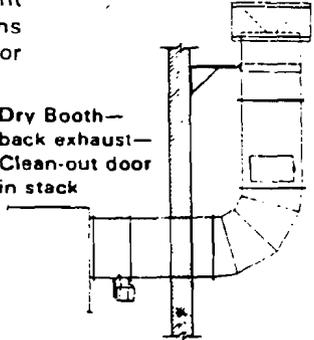
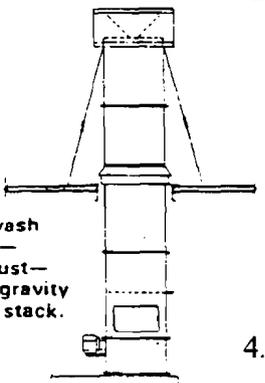
Conveyor Opening requires sketch of location and size of opening.

Water pump motors are explosion proof, 3 phase, 60 cycle, 230/460 volt. Other voltage motors are available to meet local requirements, specify on order.

NOTE: Pump unit furnished may be located on right side or left side, specify on order.

Ducting: Protectaire spray booth construction and exhaust air flows velocities are designed to meet O.S.H.A. standards. Exhaust units and motors supplied are based on the booth installed with a maximum of 25' straight exhaust ducting. When additional ducting or elbows are used, higher output fan and large motors may be required. Consult Protectaire Systems, Co. Representative.

*Other face velocities are available upon request. Consult Protectaire Systems Co. Representative.

| | Pipe Model Size Numbers | Shp. Wt. Lbs. | | Pipe Model Size Numbers | Shp. Wt. Lbs. | | | | | | | | | | | | | | | | |
|---|----------------------------|---------------------|--|----------------------------|---------------------|------------------------|--------------|-----|--------|-----|--------|-----|--------|-----|--------|-----|--------|-----|--------|------------|----|
| DELUXE WEATHER CANOPIES With Rain Guard And Automatic Gravity Damper  | 18" ARV-18 | 85 | *EXHAUST PIPING  Exhaust Pipe Plain  Exhaust Pipe with Automatic Gravity Damper and Clean-out Door  Exhaust Pipe with Clean-out Door | 18" EPP-18 | 45 | | | | | | | | | | | | | | | | |
| | 24" ARV-24 | 120 | | 24" EPA-18 | 55 | | | | | | | | | | | | | | | | |
| WEATHER CANOPIES  Canopy with Rain Guard | 24" ARV-24 | 120 | *OVERALL LENGTH 36" ASSEMBLED LENGTH 34" EXHAUST ELBOWS  45°  90° | 24" EPA-24 | 80 | | | | | | | | | | | | | | | | |
| | 30" ARV-30 | 160 | | 30" EPA-30 | 75 | | | | | | | | | | | | | | | | |
| AUTOMATIC SHUTTER ADAPTOR FLANGE  Simplifies Attaching Shutter to Round Pipe | 34" ARV-34 | 200 | ROOF FLANGES  For Flat Roof  For Pitched Roof (Specify Pitch of Roof) | 34" EPA-34 | 95 | | | | | | | | | | | | | | | | |
| | 36" ARV-36 | 225 | | 36" EPA-36 | 100 | | | | | | | | | | | | | | | | |
| EXHAUST UNIT MOTOR PROTECTION COVER  Order By Pipe Diameter Size | 42" ARV-42 | 250 | GUY WIRE SETS Includes one 50 ft. length of #9 gal. wire cable, (3) 5/16" turn-buckles, (6) cable clamps. | 42" EPA-42 | 110 | | | | | | | | | | | | | | | | |
| | 18" EPC-18 | 40 | | 18" EPD-18 | 50 | | | | | | | | | | | | | | | | |
| EXHAUST UNIT ROOF MOUNT SUPPORT  | 24" EPC-24 | 45 | <table border="1"> <thead> <tr> <th>Exhaust Stack Diameter</th> <th>Model Number</th> <th>Exhaust Stack Diameter</th> <th>Model Number</th> </tr> </thead> <tbody> <tr> <td>18"</td> <td>GWS-18</td> <td>34"</td> <td>GWS-34</td> </tr> <tr> <td>24"</td> <td>GWS-24</td> <td>36"</td> <td>GWS-36</td> </tr> <tr> <td>30"</td> <td>GWS-30</td> <td>42"</td> <td>GWS-42</td> </tr> </tbody> </table> | Exhaust Stack Diameter | Model Number | Exhaust Stack Diameter | Model Number | 18" | GWS-18 | 34" | GWS-34 | 24" | GWS-24 | 36" | GWS-36 | 30" | GWS-30 | 42" | GWS-42 | 24" EPD-24 | 80 |
| | Exhaust Stack Diameter | Model Number | | Exhaust Stack Diameter | Model Number | | | | | | | | | | | | | | | | |
| 18" | GWS-18 | 34" | GWS-34 | | | | | | | | | | | | | | | | | | |
| 24" | GWS-24 | 36" | GWS-36 | | | | | | | | | | | | | | | | | | |
| 30" | GWS-30 | 42" | GWS-42 | | | | | | | | | | | | | | | | | | |
| FAN CONNECTOR RINGS  | 30" EPC-30 | 65 | Typical exhaust unit and stack installations The diagrams below illustrate how the different components are used to make up the several systems shown. For unusual applications, consult the factory for recommendation. | 30" EPD-30 | 75 | | | | | | | | | | | | | | | | |
| | 36" EPC-36 | 85 | | 36" EPD-36 | 100 | | | | | | | | | | | | | | | | |
| | 42" EPC-42 | 95 |  Water wash booth—back exhaust—automatic hutter in stack.  Exhaust fan and motor mounted outside on roof deck.  Dry Booth—back exhaust—Clean-out door in stack.  Water wash booth—top exhaust—automatic gravity damper in stack. | 42" EPD-42 | 110 | | | | | | | | | | | | | | | | |

SERVICE SINCE 1932

Robert Taylor and Sons, Inc.

Petroleum and Industrial Equipment



P.O. BOX 151049
SALT LAKE CITY, UTAH 84115
801-486-1335



3821 OVERLAND ROAD
BOISE, IDAHO 83705
208-345-9643

QUOTATION NO. HFB-83182

DATE AUG. 31, 1982

TO DIRECTORATE OF CONTRACTING & MFG. ATTENTION:

ADDRESS

JOB:

PAGE 6

WE PROPOSE TO FURNISH:

| QUANTITY | MATERIALS AND SPECIFICATIONS | PRICE |
|------------|---|---------------------------------------|
| | <p>CSA approved for Class 1, Division 2 hazardous locations. Glass is sealed in a tight cover for safety. Cover is hinged for easy access. White baked enamel finish for long life and efficiency. The cover frame is finished in porcelain enamel. 120 watt light fixture less tubes with hinged mounting brackets fluorescent, rapid start.</p> <p>120 - 1 - 60 hz.</p> <p>4 - Windows with 15" X 53" Misco hammered glass in mounting hardware for ease of cleaning and replacement.</p> <p><u>ACCESSORIES:</u></p> <ol style="list-style-type: none"> 1 - #EPA-42 - Exhaust Pipe with Automatic Damper and Clean Door. 1 - #SV-10 - Safety Valve. 1 - Electrical Panel with Motor Starters, Disconnect, Transformer & fuses. | |
| ITEM 0003: | <p>2 - PROTECTAIRE Model #S1210WCC Water Wash Spray Booth with Conveyor Openings of 17 sq. ft.</p> <ol style="list-style-type: none"> The spray booth will be constructed of 18 gauge sheet steel with 2 inch edge flanges, punched on 6" centers for assembly. All parts will be tagged with corresponding part numbers as per drawings supplied. Booth will be complete with a 4 inch fire deflector curtain along top front edge. <p>Tooth parts will be factory painted with one coat of medium</p> | <p>ok, 18 ga 2"</p> <p>4.2.4-1028</p> |

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PAGE 8

WE PROPOSE TO FURNISH:

| QUANTITY | MATERIALS AND SPECIFICATIONS | PRICE |
|----------|--|---|
| | <p>Tank is factory welded and painted for long trouble-free life.</p> <p>Tank is complete with fresh water intake of 2' diameter, overflow coupling of 2" diameter, pump intake connection with strainer to prevent pump clogging.</p> <p>The Water Tank Assembly is complete with automatic water level control float valve assembly to maintain the correct level in the water collecting pan.</p> <p>The washing section will be fabricated from 16 gauge sheet steel panels with reinforced angels prepunched on 6" centers for ease of assembly. This section is complete with water headers, Protectaire exclusive non-clogging nozzles, gate valve(s) for front water curtain for fine tuning front water sheet, moisture eliminator baffles and easily removable front water curtain baffle plates for access and maintenance, exhaust top with fan connector ring to connect to fan or exhaust stack.</p> <p><u>WATER PUMP</u> - Located Behind Booth</p> <p>One centrifugal end section frame mounted pump, with a 5 H.P., 1750 RPM, ball bearing explosion proof motor for 460 volt, 3 phase, 60 hertz. Pump is sized to deliver 480 gallons per minute.</p> <p>Pump assembly includes complete pump mounted on a center drain base, Lovejoy coupling, enclosed coupling guard and motor mounted and pre-tested.</p> <p><u>SPRAY BOOTH ILLUMINATION</u></p> <p>4 - 300 watt incandescent explosion-proof light fixtures, for Class 1, Division 1 hazardous locations. Lamps not included.</p> <p>120 - 1 - 60 Hz.</p> | <p>OK</p> <p>OK</p> <p>Better.</p> <p>50 GPM 15 H.P.</p> <p>?</p> <p>OK</p> <p>4.2.4-1030</p> |

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ADDRESS

JOB:

PAGE 9

WE PROPOSE TO FURNISH:

| QUANTITY | MATERIALS AND SPECIFICATIONS | PRICE |
|----------|--|--------------------------------|
| | <p>4 - Windows with 15" X 53" Misco hammered glass in mounting hardware for ease of cleaning and replacement.</p> <p><u>ACCESSORIES:</u></p> <p>1). 2 - #EPA-42 - Exhaust Pipe with Automatic Damper and Clean Out Door.</p> <p>2). 2 - #SV-10 - Safety Valve.</p> <p>3). 2 - Electrical Panels with Motor Starters, Disconnect, Fuses, Transformer, and On-Off Toggle Light Switch.</p> | <p>OK</p> <p>OK</p> <p>EP?</p> |
| | | 4.2.4-1031 |

supplies in print?

Looker

Notice of Intent to Construct
Standby Power Generators, Building 1274, Project Number HIL 172-3
Hill Air Force Base, Utah

1. Project Description: Hill AFB proposes to build a shed and install two diesel powered generators. The generators are to be supplied by the contractor and are to be ONAN model 300 DFS 300 KW and model 400 DFV 400 KW or equivalent. The project will also include the associated diesel fuel tank and will be located at the southwest corner of the Mission Control Center for the 6501st Range Squadron. The attached map shows the project location and the surrounding administrative offices.

2. Pollution Emissions:

a. The sources of air pollution involved in the proposed project are evaporative emissions from the 950-gallon fuel tank and exhaust emissions from the diesel engines. Evaporation losses from a 950-gallon tank with minimal throughput are very small, estimated at less than five pounds of hydrocarbons per year. Exhaust emissions from diesel generators are dependent on the amount of time it is operational. Since the generators are for standby power only, they will be in operation only during power outages and for periodic maintenance start-ups. We estimated that the generators will be run for 25.5 hours per year (two-year average run time for all diesel generators on base).

b. Emission calculations were made utilizing emission factors provided in section 3.3.3 of EPA publication AP-42 "Compliance of Air Pollution Emission Factors." The emissions were calculated assuming that the load factor is 1.0 and using the following formula:

$$(\text{Emission Factor in gm/KW-hr}) (25.5 \text{ hrs/yr}) (300 \text{ KW} + 400 \text{ KW}) = \text{Emissions gm/yr}$$

Specifically, the emissions are shown in the table below.

| <u>Pollutant</u> | <u>Emission Factor (gm/kw-hr)</u> | <u>Emissions</u> | |
|----------------------|-----------------------------------|------------------|---------------|
| | | <u>gm/yr</u> | <u>lbs/yr</u> |
| Carbon Monoxide | 4.06 | 72,471 | 160 |
| Exhaust Hydrocarbons | 1.50 | 26,775 | 59.0 |
| Nitrogen Oxides | 18.8 | 335,580 | 740 |
| Aldehydes | 0.28 | 4,998 | 11.0 |
| Sulfur Oxides | 1.25 | 22,313 | 49.2 |
| Particulates | 1.34 | 23,919 | 52.7 |

3. Air Cleaning Devices: No air cleaning devices are proposed.

4. Emission Point: The exhaust stack from the generator shelter will be approximately 10 feet above the surrounding ground elevation. The shelter will be located about 16 feet from the southwest end of Building 1274 which will be the nearest adjacent facility.

5. Sampling Points: No sampling points are anticipated.

6. Operation: The diesel engines will be run only for monthly maintenance and during scheduled and unscheduled power outages.

N15

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N14

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N13

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N12

