

CHECKLIST ITEM #4

PLAN OF OPERATION

6-18-19

4. Operations

Major Equipment: (all electrical)

Munchy Air P (extruder)
Model# P55-122
SN# 5941099

Ball and Jewell (granulator) 15hp
Model# MDSE-812-X
SN# 548590675

Sentinel Recycler (densifier)
Model# M395
Serial # 79581059

Morse Tumbler (tumbler)
Model: 1-300-3
800 lb capacity

Minor tools and equipment:

Molds: 2x2, 2x4, 2x6, 4x4, parking block. Park bench leg (all custom made)
Scales (1 table scale & 1 floor scale)
Saws (2 cross cut saws – DeWalt)
Drill press (1)

Collection of Scrap:

Recyclables will be collected in one of two ways and will consist of plastic bags and #2 plastic bottles.

1. Drop Off – A 24 hour drop-off station will be available to the public. This consists of a small collection door cut through the wall of the building (see building diagram). People can drive up and drop off plastic bags and bottles by pushing them through the opening. A collection container has been placed on the inside of the building under the opening.
2. Collection – Eco Plastic Products of Delaware, Inc, (EPPD) has ordered and plans to place collection boxes in various businesses and schools in New Castle and Kent Counties. There will be separate boxes for bags and bottles. The contents

will be collected regularly by volunteers in their personal vehicles and dropped off at our Germay facility. Pick up schedules will have to be determined and quantities collected will not be known for awhile. All collected materials will be delivered to the facility through one of the three overhead doors on the north side of the building.

If these two methods do not provide sufficient raw material, additional plastic will be purchased from commercial vendors of recycled plastic. This is what we are currently doing and will continue to do until collection system is up and operating. If too much plastic is collected, we will remove collection boxes to bring collection and usage into balance. **WE WILL NOT ALLOW PLASTIC SCRAP TO EXCESSIVELY ACCUMULATE IN OUR FACILITY!**

Incoming Inspection:

Incoming plastic bags will first be inspected and sorted by personnel designated for this purpose. The sorting area (see Figure 3) consists of a table, chair, 4 Gaylords and two trash cans. Incoming plastic bags, usually themselves in a large plastic bag, are placed in one of two Gaylords dedicated for this purpose. These are then examined by hand to remove any foreign objects and to separate them by color. Clear and white bags are put into one of the remaining Gaylords and colored bags are put into the last Gaylord. Any unsuitable material is put into one of the two trash cans which are labeled recyclable and non-recyclable. These will be disposed of in the appropriate dumpster.

When one or both of the two Gaylords of separated plastic bags are full, they will be densified. Once densified, the plastic granules will be stored in other Gaylords for use in the extruder.

Plastic bottles are collected separately from plastic bags. The bottles are inspected to be sure they are HDPE (#2) and clean. Then they are put directly into one of the two granulators designated for this purpose. Once granulated, the plastic is put into a Gaylord for use in the extruder. No color separation is done with bottles at the present time.

Incoming inspection is one area where we plan to hire people who are handicapped in some way. This process will be coordinated through ARC of Delaware who are located nearby in Newport. We have approached them and when we are ready they will send a small team to look at what we do and then recommend specific handicapped people to us. Employing handicapped people, where possible, has always been a major goal of this project. We hope to use them to look for contaminated material (material containing paper, food, metal or moisture) and suitability (e.g. we cannot use clear PET bottles). Our operation uses HDPE exclusively, although small amounts of other plastics can be incorporated without difficulty. All inspection and classification will be done manually. No automated equipment will be used.

Manufacturing Process:

Figures 1-6 contain diagrams of the entire plant together with flow diagrams for our entire process. Unsuitable material will be disposed of in either a trash dumpster or a recycling dumpster, depending upon the nature of the unsuitable material. These will be disposed of weekly. We do not plan to do any extensive cleaning. Furthermore if a collection site is the source of a large amount of unsuitable material, we will remove it. In general we hope to keep our out throws to less than 1% of the total material received. All incoming material will be weighed on either a table top scale or floor scale that are located within the facility. All product will likewise be weighed. Finally, waste materials from the manufacturing process will also be weighed. All numbers will be combined to determine an appropriate mass balance.

Scales will be checked every quarter for accuracy using standard, known, weights. If an error is found, the scale will be recalibrated by a staff member who has been trained to do so.

Inventory Control:

Plastic feed inventory will be kept to 2 Tons of HDPE or less. This will be divided between plastic bags and extruder feed, but in general, plastic bags will only be allowed to accumulate until there is enough to fill a Gaylord (see incoming inspection section).

Additive colors will be purchased in 50 lb increments. We will maintain about 10 colors. These will be stored along the wall on pallets.

Scrap materials which have been prepared for extrusion will be kept in containers (Gaylords) separated by quarter generated. This will enable a rapid method for determining the weight and aging of these materials.

Emergency Response Plans:

Medical Emergencies:

Eco Plastic Products of Delaware, Inc. (EPPD) has Workman's Compensation Insurance. Instructions for what to do in case of an Emergency are in the manual "**WHAT TO DO IF SOMEONE NEEDS MEDICAL ATTENTION**". This is a step-by-step instruction manual about how to handle all emergencies and how to report the incident to workman's comp. This notebook is kept on the production manager's desk and **MUST** be consulted in order to avoid problems with our workman's comp insurance company. A copy of this manual is included in this report.

Fire Extinguisher Program

Four fire extinguishers are located along the walls in the warehouse area. Each month, appointed personnel will complete an inspection of the fire extinguishers. A white tag is initialed and dated by the inspector. The fire extinguishers should be checked for the following items:

- Located in the designated location
- No obstruction to access or visibility
- Operating instructions on nameplate are legible and facing outward
- Tamper seals not broken or missing
- Fullness determined by weighing
- Examined for obvious physical damage, corrosion, leakage or clogged nozzle
- Pressure gauge reading or indicator in the operable range or position
- White tag initialed and dated

The four fire extinguishers should be only be used to put out small fires. Large fires require evacuation of the building and calling 911. In addition DNREC/SWMS must also be notified To insure complete evacuation, all personnel should meet in the parking area on the North side of the building.

The facilities manager is responsible for maintenance of all fire extinguishers as spelled out in the Fire Extinguisher program. His responsibilities also include emptying waste containers on a regular basis and maintaining a clean working environment.

It is very important that fire extinguishers are ready for instant use in an emergency, If any person notices an extinguisher that needs service they should notify the Facility Supervisor at once,

No smoking is allowed anywhere in the factory or within 50 feet of the propane storage cage.

MAJOR WORK PLACE HAZARDS

Plastic Extruder: The heating chamber of the plastic extruder is quite small and well contained. It is normally heated to about 400 degrees Fahrenheit, but equipment failure could lead to higher temperatures and to a potential fire. In the event of a fire, the circuit breaker on the wall behind the extruder should be turned off and the fire extinguisher on the same wall should be removed from its harness in case it is needed.

Plastics containers: Most plastics, whether bags or densified feed, are stored in cardboard Gaylord boxes. Generally, the storage Gaylords will be located inside the facility along exterior walls. These are combustible but require an ignition source. Care

must be taken not to perform any spark generating activities anywhere near these storage containers. This would include any electric motors or hand torches. Small fires should be extinguished using one of the fire extinguishers located in the production area. Large fires require building evacuation.

Propane tanks: Spare Propane tanks used on the fork lift must be stored in the propane cage located outside the building on the loading dock. The cage shall be secured at all times.

Training, Repairs and Maintenance and Calibration:

The owner of Eco Plastic Products of Delaware, Inc. (EPPD), Dr. Charles Falletta, is also one of the owners of Cermet Materials, Inc. , a precious metal powder and paste manufacture in Newport. He has been in business over 30 years and has extensive experience in all aspects of manufacturing including: record keeping, safety, regulation compliance, training, cross-training and equipment inspection and maintenance. Cermet Materials, Inc. is ISO9000 certified and although EPPD does not plan to seek ISO9000 certification, many of the aspects of the certification process will be applied.

Personal Protective Equipment (PPE):

All personnel present in the factory must wear eye protection. This includes people not actually working. Ear protection will also be required when operating the granulator. The extruder produces molten plastic which is not only hot (400 deg F) but also sticks to skin. The molds also get hot when being filled and remain hot long after operations have ceased. The danger is that often nothing looks hot. Because of this, protective gloves must always be worn when using the extruder or handling the molds.

Dust masks will be made available if a batch of plastic feed is dusty. A portable dust vacuum with a HEPA filter will also be available.

Finally, Latex gloves will be available for general use.

Ventilation is not generally required because HDPE, even when hot, does not emit noxious materials.

A safety lecture will be given annually to all personnel. Attendance will be recorded as shown in Figure 7.

Repairs, Maintenance and Calibration:

Repairs, maintenance and calibration will be handled by the Operations Manager, Jim Kelley, or by Ian McLarthy, the maintenance supervisor for Cermet Materials (and Eco Plastic volunteer). Both have extensive experience in the maintenance, repair and calibration of manufacturing equipment. They will train others in these responsibilities and maintain a training spreadsheet which describes the capabilities of each person working at Eco Plastics. They will also maintain an equipment inspection protocol which

will define monthly, bimonthly, semiannual and annual inspection requirements. A typical example is shown in Figures 8 and 9.

Personnel Training:

All personnel will receive training in general safety, using safety equipment, handling fires, medical procedures, and fork lift operation. Handicapped employees will not be given fork lift training. Before being allowed to operate any equipment, individuals will be trained in its operation by a previously well trained operator. Individual training logs will be kept for each employee. Samples of these training logs are shown in Figures 10 and 11.

WHAT TO DO IF SOMEONE NEEDS MEDICAL ATTENTION

PLEASE READ CAREFULLY!!

Do you need to call 911?

If **NO**, report injury to your supervisor

1. Supervisor should then:
 - a. Send the injured person to a medical center
 - b. Fill out an "Incident Report" (OSHA form 301)
(Forms are in "Work Related Injuries and Illnesses" notebook)
 - c. Get a log number
 - d. Call the medical center to schedule a drug test
2. Supervisor should then:
 - a. Call Workman's Comp to obtain a case number
(800-699-6240)
 - b. Send any involved parties to Work Pro (on riverfront) for drug testing. Address: 914 Justison St. Wilm. DE 19801
(302-777-0720; fax 302-777-0721)
 - c. Fill out "Authorization for Examination or Treatment" form and send it with involved parties. (Forms are in "Work Related Injuries and Illnesses" notebook)

Note: The medical center on Limestone Road between Rt 4 and Kirkwood highway is closest, but injured party can go to the facility of their own choice. (Limestone Medical Center, 2055 Limestone Rd. 302-999-8169)

If YES, Call an ambulance

1. Find out from Driver, what hospital patient is going to
2. Call Hospital:
 - Tell them workman's comp patient is coming by ambulance
 - Schedule a drug test
3. At same time , call Workman's Comp. to get a case number
(800-699-6240)
4. Call Hospital with case number
5. Supervisor should then:
 - a. Fill out an "Incident Report" (OSHA form 301)
(Forms are in "Work Related Injuries and Illnesses" notebook)
 - b. Send any involved parties to Work Pro (on riverfront) for drug testing. Address: 914 Justison St. Wilm. DE 19801
(302-777-0720; fax 302-777-0721)
 - c. Fill out "Authorization for Examination or Treatment" form and send it with involved parties. (Forms are in "Work Related Injuries and Illnesses" notebook)

MINOR INJURIES should be reported using an "Incident Report", but "Workman's Comp" should not be notified,

ILLNESSES (cold, flu, etc.), RASHES, TROUBLE BREATHING which are not related to a work incident will be covered under the employee's personal health insurance and should be treated by the employee's regular doctor. Deductables may apply. Workman's Comp should only be notified if the doctor requests it.

Eco Plastic Products of Delaware, Inc.
18 Germay Drive, Wilmington, Delaware



Buildings - Parcel #0704320027

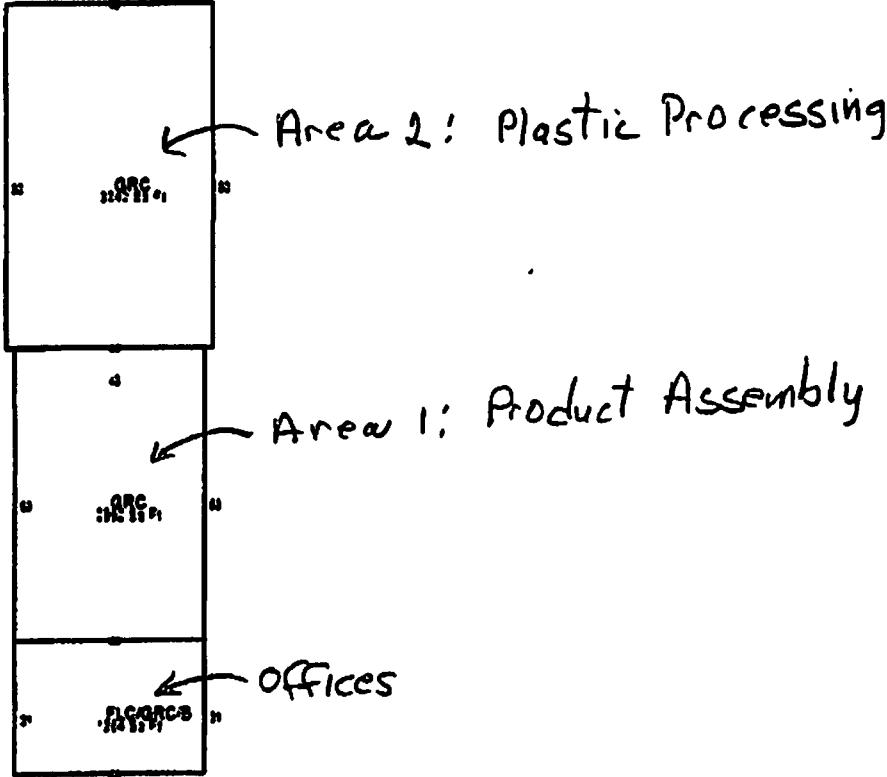
Commercial Structure Characteristics

Building #: 01

Occupancy: 310	# of Stories: 2	Year Built: 1966
Struct Class: C	Quality: C	Condition: AV
Floor Level: A	Grnd Flr Area: 1364	Total Flr Area: 2728
Ext Wall Type: 13	Wall Height: 10	Perimeter: 336
AC %: 90	Heat %: 90	Rentable Units: 1
Bsmt: 99	Bsmt Util: 2	
Year Renov: 0	Renov Rng: 0	Eff. Yr Built: 1963

Figure 1: 18 Germain

View Legend



Building #: 01

Occupancy: 430	# of Stories: 1	Year Built: 1966
Struct Class: C	Quality: C	Condition: AV
Floor Level: F	Grnd Flr Area: 2992	Total Flr Area: 2992
Ext Wall Type: 13	Wall Height: 11	Perimeter: 240
AC %: 0	Heat %: 90	Rentable Units: 1
Bsmt: 0	Bsmt Util: 0	
Year Renov: 0	Renov Rng: 0	Eff. Yr Built: 1963

View Legend

Figure 2
Plastic Processing

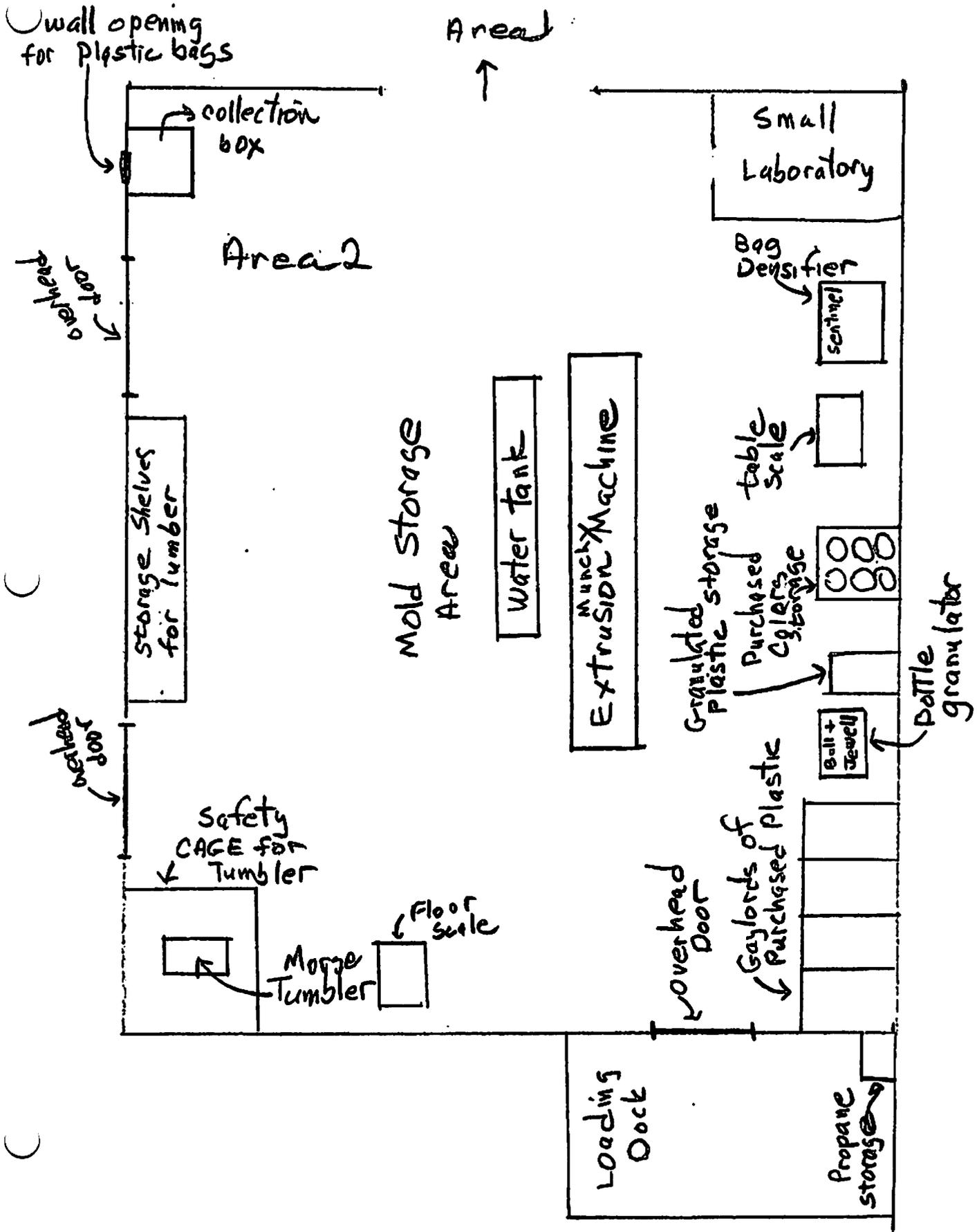


Figure 3.
Product Assembly

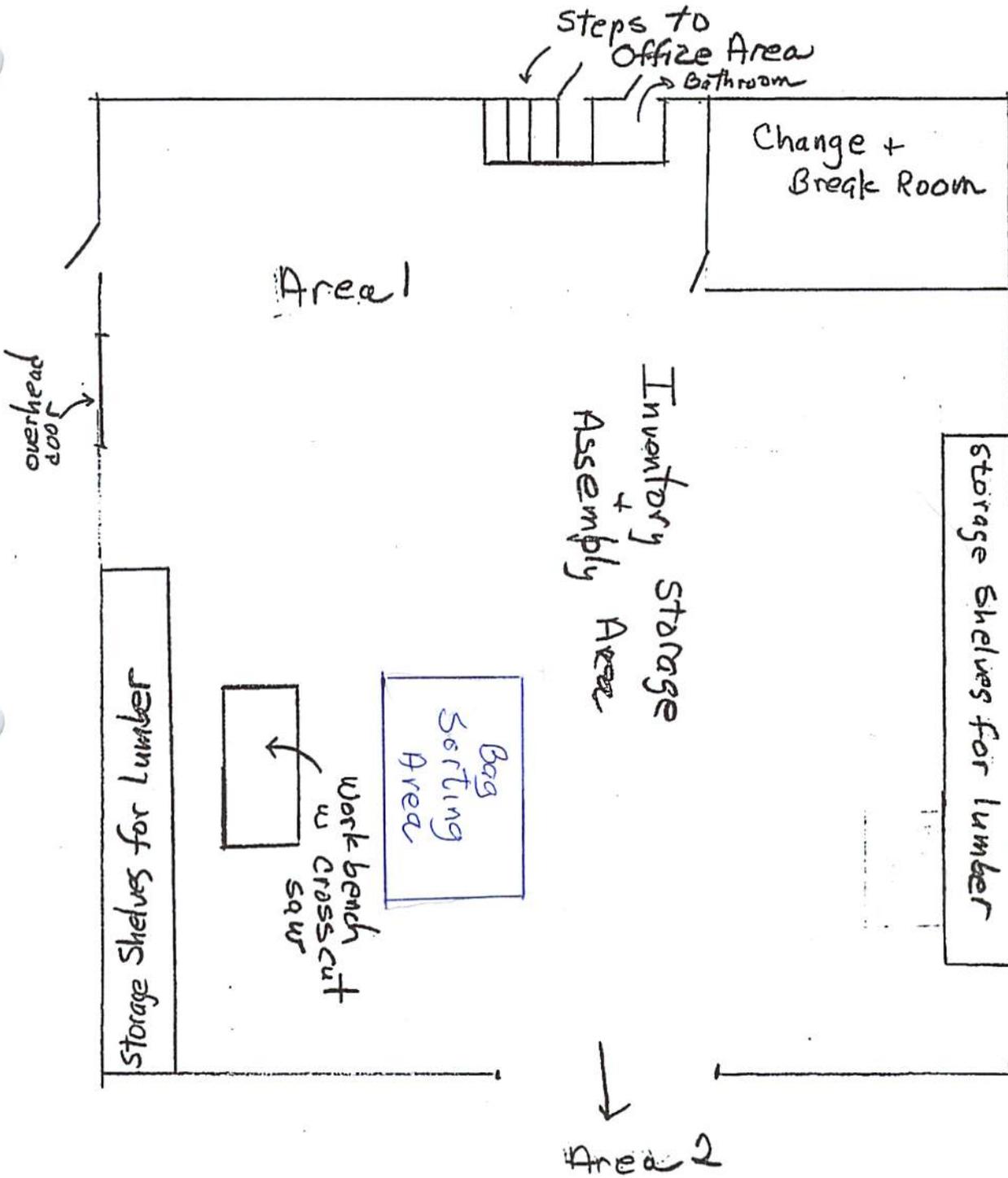
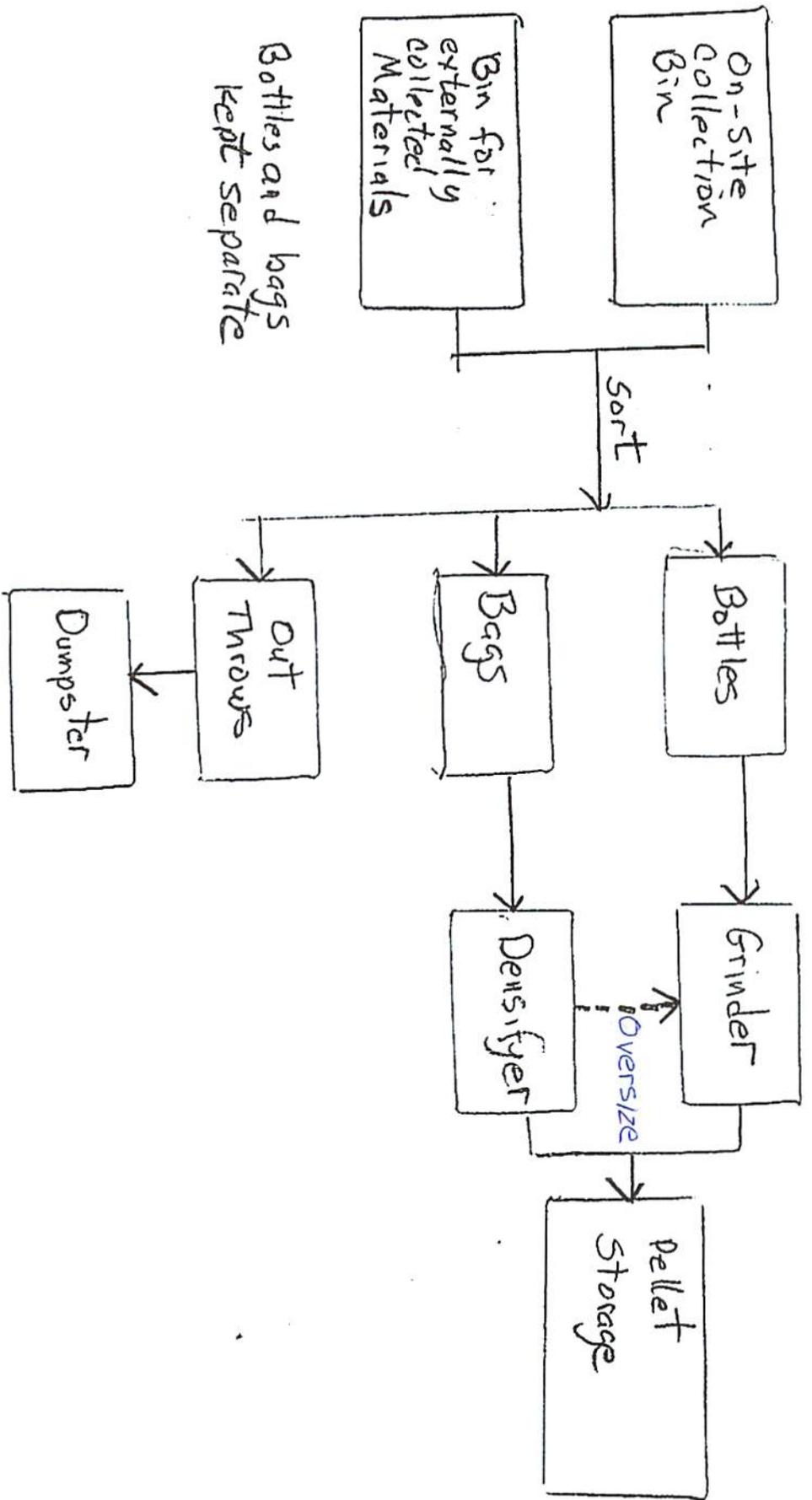


Figure 4-Raw Material Preparation (Area 2 in figure 1)



Bottles and bags kept separate

Figure 5 - Extrusion Process (Area 2 in Figure 1)

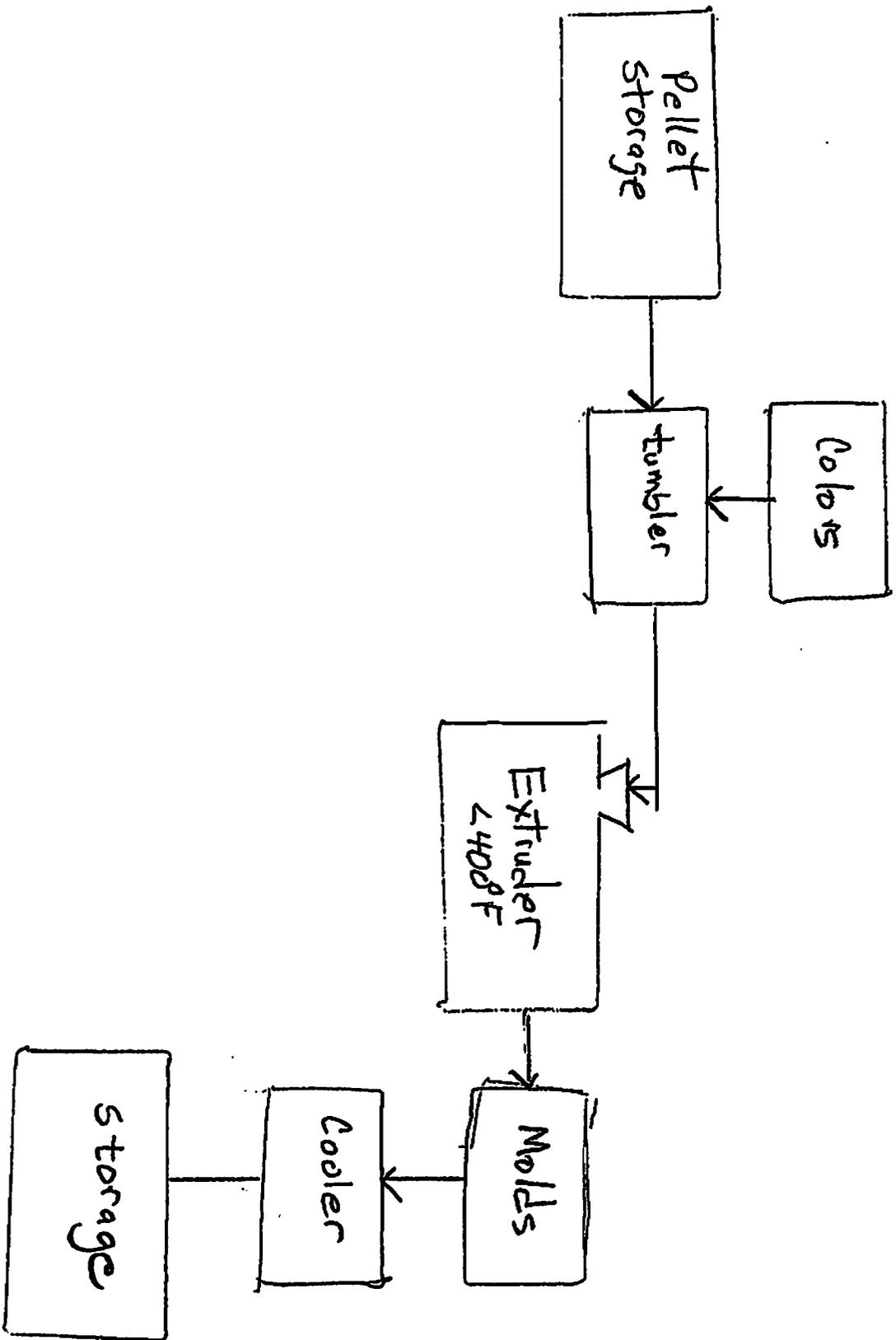


Figure 6 - Final Assembly (Area 1 in Fig 1)

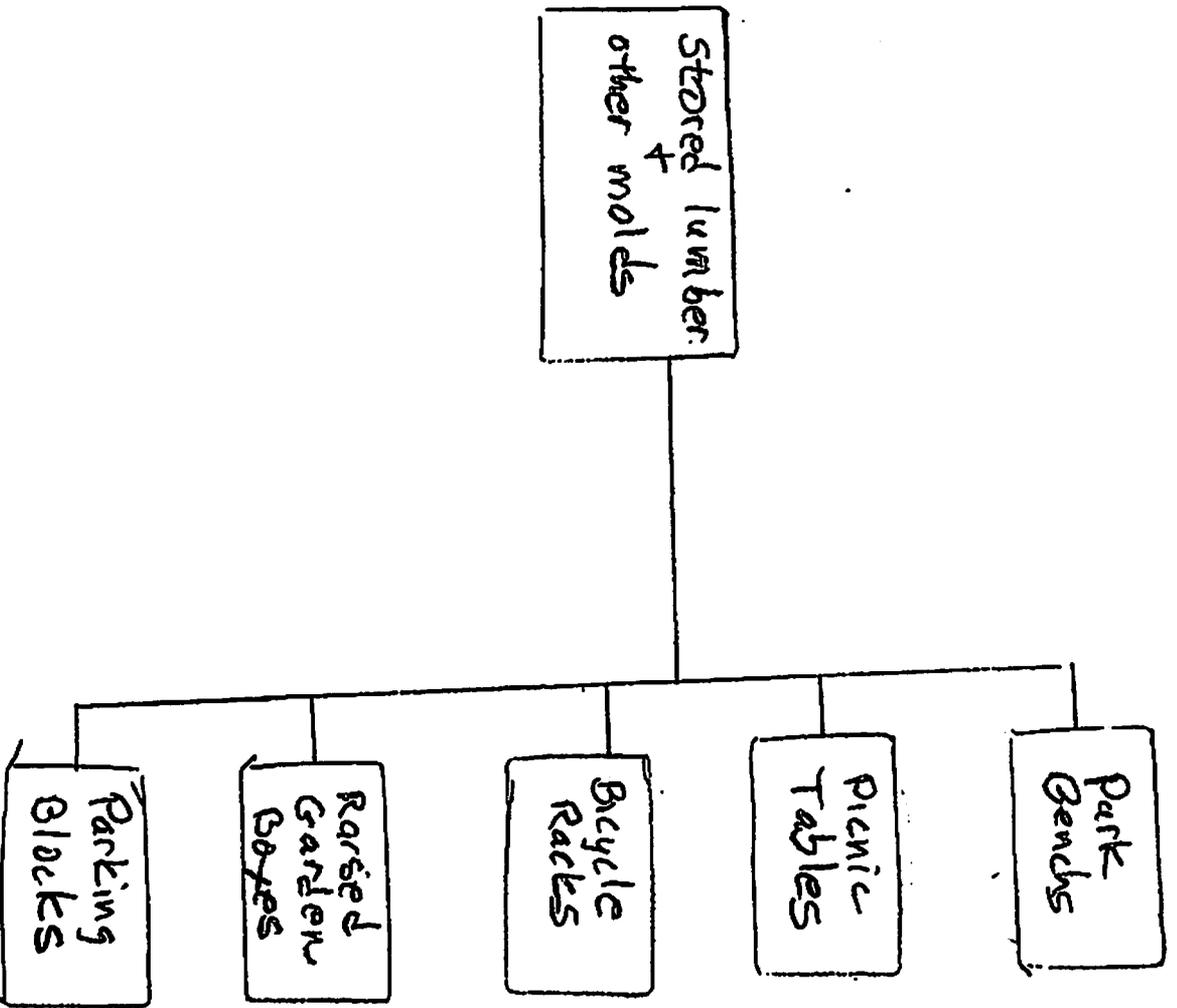


Figure 9

Eco Plastic Products of Delaware

Date:				
Item	Method	Limits	Result	I n i t i a l s
EVERY 3 MONTH CALIBRATIONS				

Scales

Bench Scale	Std. Wt.	+/- 10 gm		
Floor Scale	Std. Wt	+/- 100 gm		

