# City of Gustavus
# Gustavus Disposal and Recycling Center (DRC)
# General Operating Plan

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Gustavus DRC looking west towards Salmon River Boat Harbor 2007

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## Document History:

Initial submission to ADEC: November 17, 1993
Update/ permit renewal: January 9, 1994
Update/ permit renewal: November 13, 2000
Permit renewal: July 13, 2005

## Access Control Plan

The entrance to the DRC is marked by a sign indicating the facility owner, facility name and permit number. One hundred feet from the facility sign is a simple rope gate across the only access to the facility. To the right of the rope gate is a sign with the hours of operation for the facility. When the facility is closed the rope gate is up and driving through is impossible without lowering the rope gate. The main building has locking doors and is locked and the electric fence is activated (during bear season)when no operator is present. The landfill/ balefill area and composting yard are enclosed by an 8' chain link fence. The gates leading into the landfill/ balefill and the composting yard are locked when the operator is not present

The DRC does not stockpile automobiles, significant quantities of scrap metal or construction/ demolition waste that would invite salvaging so salvaging is quite limited. What material that can be salvaged is behind the landfill/ balefill gate and is controlled. When salvaging does occur it does not hinder the flow of traffic into and out of the facility. Salvaging is allowed only with the permission of the Operator.

Prohibited activities such as target practice or off road vehicle use are not problematic at the DRC because of it's small size, central location and proximity to residential areas.


Access road. Entry sign is to the left

*Photo courtesy DCCED 2007*


Rope gate in closed position. Hours sign to the right. Summer and Winter Hours signs are changed with the season

*Photo courtesy DCCED 2007*

## Waste Acceptance Policy

The DRC is an Integrated Resource Recovery and Waste Disposal Facility (IRRWDF). The primary mission and orientation of the DRC is recover as much value as possible from the waste received (such as recovering aluminum cans) and to maximize the re-use and recycling potential of the waste. What cannot be recycled or re-used is landfilled. The safety of the public, the operator and the environment are equally important concerns.

The DRC accepts the the following materials:

- Municipal Solid Waste (MSW)[1]
- Fish processing waste from local charter operations/ lodges
- Yard or green waste
- Construction/ demolition waste
- Incinerator ash from Glacier Bay National Park
- Burn barrel ash from local residents

The DRC has a sign at the DRC building stating that the following are not allowed in the waste that is to be landfilled*:*

- Liquid wastes
- Radioactive material
- Untreated medical wastes
- Polychlorinated biphenyl fluids (PCBs)
- Hazardous wastes as defined in 40 CFR 26:
  - acids, corrosives, flammables, toxics

Additional prohibitions stated in DRC fliers and posted in the scale area:

- Car tires that will not fit in our baler
- Construction/ Demolition waste in excess of the limit of 2 yard per month and a 10 yard per year by a business or individual
- Refrigerator, freezers – items containing CFC's
- Automobiles or any scrap metal item that is too large to be baled in our baler or otherwise palletized for shipment to a recycling facility

Please note that vegetable oil is accepted in the food waste composting program and, used oil from non-commercial sources is accepted for re-use in local waste oil heaters.

**Community Chest**

Operating in conjunction with the DRC is the local thrift store, the “Community Chest” (Chest). The Chest is not located on the DRC property but is also owned by the City of Gustavus. It is passively managed by the DRC and is operated by a dedicated group of volunteers. The Chest accepts donated reusable household items and construction materials for resale, generating revenues of about $8,000 - 11,000 per year. This revenue is used to help support the non-revenue services of the DRC. Non sale-able material from the Chest is recycled, re-used or landfilled at the DRC.

1 From T-0 SWANA Technical Policy Definitions of Terms Used in SWANA Technical Policies and Solid Waste Management Attachment B: “Solid Waste other than Hazardous Wastes comprised of Commercial, Household, and Institutional Wastes.”

**Regulated Hazardous Waste And PCB Notification Policy**

If suspected or confirmed PCB or regulated hazardous waste is found at the DRC The Manager/ Operator would contact the EPA region 10 office and the Juneau ADEC office.

**Prohibited Wastes Exclusion Policy**

The public is informed by both the sign on the DRC building and by information sheets that the facility cannot landfill hazardous waste. Users are required to separate out all used oil filters and drain small engines of all fluids prior to being accepted for recycling. Lead-acid batteries must be separated from waste to be baled/ landfilled. Users are also required to separate out all rechargeable (NiCd & NiMh) batteries. The attendant checks loads going to the inert waste pit or waste that is going into the baler to make sure that no hazardous substances are present. Additionally the facility separates out all fluorescent lighting tubes, compact fluorescent light bulbs, TV and computer monitors. The items are periodically shipped to a recycler.

## Facility Description, Waste Handling Policies And Procedures

As stated in the last section, the DRC is an IRRWDF with a strong emphasis on recycling. This section of the General Operating Plan is divided into what the DRC recycles, DRC personnel, what equipment is utilized, and finally the waste handling policies for the recycling and landfilling procedures.

**What The DRC Presently Re-uses Or Recycles:**

- All ferrous and non-ferrous metals including: scrap metal/ appliances, tin-cans , aluminum cans, aerosol cans etc.
- Glass bottles and jars
- Ceramics (tiles, plates cups etc.)
- Food waste & green waste
- Type 1 (PETE) & most type 2 (HDPE) plastics
- Cardboard
- White sheet paper, mixed paper and newsprint
- Batteries: dry-cell alkaline, all rechargables including lead-acid batteries
- Computer monitors and TV's
- Non-commercial used oil
- Vegetable oil/ deep fryer oil
- Fluorescent tube lamps and compact fluorescent bulbs
- Compostable grease trap waste

**Personnel**

The DRC is managed by the DRC Manager/ Operator. Currently this is Paul Berry (the author of this document) who has been employed in this position since 1994. The Manager/ Operator is a full time position. Please refer to appendix JD for the job description.

The Manager Operator is assisted, primarily in the summer season, by the [DRC] Assistant Operator. This is a part time position. Please refer to appendix JD for the job description.

There are volunteers at the DRC on an occasional basis.

**DRC Buildings**

The main building for the DRC operation consists of a 26' wide x 50' long building

with 10' and 12' ceiling heights. The back portion of the building has been expanded to include a 24' x 14' area for additional waste processing. The building has a metal sheathed exterior and roof, dimensional frame 2” x 4” walls on 2' centers. 4” thick concrete pad, 6” thick beneath walls. No insulation or heating is installed. All electrical wiring is provided by steel and plastic conduit. Lighting provided by energy efficient 4' fluorescent fixtures. A seasonally operated 350 gallon cistern with a roof collection system provides non-potable water for the building.

Bobcat shed: Movable, 12' long x 11' wide x 8' high shed, for housing bobcat. Dimensional wood frame, aluminum sheathed roof and walls. Dirt floor.

Battery storage shed: Movable, 24' long x 11' wide x 8' high shed, for the storage and preparation for shipment of lead–acid batteries for palatalizing and shipping to Seattle based recycler. Dimensional wood frame, aluminum sheathed roof and walls. Dirt floor.

Fuel and universal waste storage van: Movable, 20' long x 8' wide retired shipping van used for the storage of diesel (15 gallons or less), gasoline (5 gallons or less) and universal wastes: dry cell batteries, used oil, fluorescent lights etc.

**Waste Handling Equipment**

Bobcat 763 skid-steer loader with the following attachments: pallet forks, 1 yard bucket, .33 yard bucket, toothed bucket & dumping hopper. Bobcat is the workhorse for virtually all DRC operations.

GPI model M30HD down-stroke baler. 240VAC, 1 HP, single phase. Principal baler for waste disposal and also used for the baling of some recyclables. Bale size 30” wide x 24” deep x 30” high, bale weight (trash) 350 to 450 pounds.

CRAM-A-LOT model DHR-42-LU down-stroke baler 240VAV, 5HP, three phase (using a phase converter). Principal baler for recycling. Bale size 42” x 30” x 48” bale weight 400 – 1400 pounds. This baler is owned by the National Park Service, Bartlett Cove and is used as part of the waste handling contract with the Park Service.

Glass Aggregate Systems (GAME) model H-100VT glass pulverizer 240VAC, 5 motor (.5 – 1.5 HP), single phase. Process up to 1,000 pounds glass bottles and jars per hour.

Screen USA model Trom 406 wheeled trommel screener, gas powered, hydraulic, 1/2” mesh screen. Compost screener.

Bell Recycling Equipment “bottle buster” 120VAC, 2 motor, single phase. Conveyor feed. Used for ceramics and as backup for the GAME glass pulverizer.

JMC Recycling Systems model 320 alligator sheer 240VAC 10HP, three phase (using a phase converter). Cutting sheer for metal recycling.

Gardner Equipment Company model Truck pneumatic oil filter crusher. Used with air compressor for crushing oil filters.

Twenty two (22) 45”x48”x34” collapsible totes w/ lids. Numerous other rigid totes, tubs, buckets and bins for waste materials handling: collection, storing, sorting etc.

Two Weigh-Tronix model DSL 484805 platform scales with WI 125 LED displays. These two scales perform all weighing activity associated with the DRC. Certified by the State of Alaska.

Several other waste processing pieces of equipment: aerosol can, disposable propane cylinder, gas powered bottle buster.

Computer technology: The DRC provides a billing service for many business customers and a pay-ahead credit program for regular customers. These services as well

as the need for the collection of waste handing statistical data has led to the creation and on-going development of a unique combination of Open Source software elements that form a Database Access System and Point of Sale System (DAPPOSS) designed for a small recycling facility & landfill. The system is comprised of salvaged i386 computers running the Linux operating system (SuSE 11.2 at present). The software heart of DAPPOSS is a MySQL database backend with a custom HTTP protocol PHP/Apache/Firefox browser frontend for the “scale house” point of sale operator terminal. DAPPOSS also provides a customer and transaction database, business billing, equipment maintenance database, and operator log database. The custom software is written in PHP, Perl and BASH and is developed and maintained by the DRC Manager/ Operator.

*DRC building*


Bobcat skid-steer loader & collapsible pre-bale material storage bins

*GPI baler 7′ high*

*CRAM-A-LOT baler 12′ high*


GAME Glass pulverizer In-feed glass bin on the right

**Waste Processing Procedure**

Waste is self-hauled to the DRC, there is no commercial collection service or public dumpsters/ waste receptacles in Gustavus at this time. The hours for the DRC building are posted at the entry gate. The DRC's hours are also displayed on the City's web site and are distributed to customers in annual fliers.

Users are required to separate their waste into what can be recycled and what is to be landfilled. This process is either done at home when the waste is generated or at the DRC building when the waste is delivered. The DRC's user fees are primarily weight

based, with the lowest rate for recyclables, a higher rate for non-recyclables and the highest rate for “mixed” waste where the user has made no effort to separate their waste. The DRC Operator assists customers in segregating their wastes into recyclable and non-recyclable categories to be weighed on the scale. This system is complicated for first time users but once they are trained the entire operation can be efficiently handled. The Operator also checks all loads of C/D waste and burn barrel ash going to the inert waste disposal pit.

The primary method of waste disposal/ compaction at the facility is the compacting baler. The Manager/ Operator maintains the DRC Operator's handbook which includes a section on how to operate the baler. New operators are trained in how to properly operate the machine by the Manager/ Operator. Waste is segregated on the floor of the DRC building: what is recyclable is separated from what is non-recyclable as well as waste items such as ash and Sheetrock that will go straight into the inert waste disposal pit. The Operator quickly inspects bags of trash before loading them into the machine for hazardous waste – paints, solvents etc. The operator is trained to employ techniques to minimize the handling of the waste. Once the baler is full the bale is removed from the baler it is either taken directly to the balefill or briefly stored in the building before being placed in the balefill. As mentioned this storage period is very brief, the goal is to get the waste into the balefill as soon as possible. Because the DRC often operates with one only one Operator the emphasis is:

1. “Scale house” Keep the customers moving - help them with the weighing of their waste so they can get onto the sorting of their recyclables
2. Emptying the recycle sorting bins when they are full
3. Baling non-recyclable waste to keep the tipping floor clear


*DRC Building - Sorting Bins*


*Interior of DRC Building - Sorting Bins*

**Burn Box Operation**

The DRC operates a burn box which is an old dump bed from a dump truck. The burn box is generally only operated once or twice a year. Materials burned in the burn box include waste wood from MSW; un-treated wood from construction/ demolition waste; and limited amounts of cardboard and waste paper. What is placed in the burn box is strictly controlled by the operator and burning is done in a controlled manner and occurs only on wet days in either the spring or fall.

### Waste Handled At The Facility But Not Disposed Of At The DRC

**Recyclable material:** Materials storage for recyclables generally consists of pre-processing storage and post processing storage. With pre-processing, any material that can be baled such as aluminum cans and recyclable plastics are stored in either the collapsible totes, super sacks or on pallets. After baling or palletizing materials are store in a shipping van (if available or under a tarp.. Universal wastes such as computer monitors, TV's, lead-acid batteries etc. are stored on pallets in a designated area. When a sufficient quantity has accumulated for efficient packaging – typically what can fit on a pallet, the material is packaged according to the recycling vendor and DOT's shipping specifications.

**Non-Recyclable Material:** The DRC does not accept honeybuckets, septage, sludge or sewage lagoon waste. At this point in time the City of Gustavus has no municipal treatment, or permitted private treatment method for septage.

**Junked vehicles and large scrap metal items** (culverts, large tanks, boats etc.)

Earlier DRC permits specifically state the terms of handling junked vehicles. The DRC does not accept junked vehicles except during pre-planned “scrap metal events”. During scrap metal events, adjacent property owners are informed ahead of time and the large field directly south of the facility is used as collecting area for junked vehicles where the fluids, tires and batteries are removed. A scrap hauler is contracted to remove the junked vehicles, After the event the field is groomed and left in it's pre-event state. The last scrap metal event was in the fall of 2001. Presently there is a private scrap yard in the community that is accepting junked vehicles and scrap metal.

### Removal Of Refrigerants (CFCs)

The DRC does not accept refrigerators, freezers or any items that may contain refrigerants/ CFC's unless they have a certificate from a licensed technician documenting that the refrigerant has been removed. When the DRC conducts a scrap metal event, refrigerators are accepted at that point in time. The DRC contracts with a licensed technician to remove the CFC and becomes the responsible party for the refrigerant/ CFCs.

### Asbestos Handling Procedures

The facility has not accepted asbestos containing materials to date. Should it become needed to accept asbestos waste the facility would contact ADEC for instruction.

## Waste Placement Plan

### Baled Waste Disposal

Baled waste is placed in the balefill during each day of operation as as time allows. The Bobcat is used to transport bales from the DRC building to the balefill. Bales are placed into the balefill as tightly as possible. Diapers and other “wretched[2]” waste that is not compressed in the baler is placed in gaps between bales. The daily cover is a

2 The DRC Operator(s) have learned that diapers, while legal to landfill, are very messy when processed in a high compression baler. Likewise, mixed waste, especially if it contains rotten food waste is better placed into the balefill uncompressed.

heavy-duty poly tarp (Durashield 1200 or similar) covers the balefill at all times except during bale placement. The edges of the tarp are anchored with steel rims, pipe or other heavy objects.

Balefill with poly tarp Alternate Daily Cover (ADT) Representing Winter 2008-9 use, measures ?20' x ?60'

**Inert Waste Disposal**

A 20' wide x 40' long (approximate) x 3' deep pit is excavated as needed. The working face is kept as small as possible. Users are instructed to place their waste on the working face. At the end of the day it is checked to see if it needs compaction or if the working face has become wide enough to warrant the placement of cover material over the top of it.

**Diagram Of Waste Placement Plan**

Please refer to the diagram on the following page that illustrates the overall area used for disposal for each two year period. An area is excavated 3 to 4 feet below grade for either use as a balefill or inert waste landfill. After this are has been filled and covered one layer of bales placed on top of it. The resulting hight of the balefill is approximately 3' above grade.


*Waste Placement Diagram (Through 2015)*

## Cover Plan

The balefill is always covered with a bird and weatherproof tarp that serves as alternate daily cover (ADC). The ADC is replaced by intermediate cover consisting of a sheet of plastic directly over the baled waste and 18” of earthen fill, every six weeks to six months depending on the season. The inert pit waste is covered with approx. 6” of fill whenever a significant amount waste has been accumulated. The working face of the inert waste pit is left uncovered but is kept to a size of around 100 square feet.

## Litter, Vector, And Nuisance Control Plan

**Litter:** The Landfill fence contains what litter that is generated within the landfill area. Litter is not a problem at the DRC because most of the waste is baled and balefill is kept covered. Any litter that does occur is picked up by the Operator on a regular basis.

**Wildlife:** The Landfill fence keeps out all but the most determined of large animals. Since the installation of an electric fence in 2001 there have not been any bears in the landfill area. On occasion there has been sign or sightings of feral cats, ermines, red squirrels and voles at the DRC. Bird access to the baled MSW is restricted because of the ADC.

**Dust:** Due to our high amount of annual precipitation and the small amount of exposed ground dust is not a significant problem.

**Noise:** The DRC takes the generation of noise seriously. Use of the Bobcat or other pieces of equipment are avoided at odd hours and the doors of the DRC building are closed the glass pulverizer is in operation. In 2006 the DRC conducted a noise survey:

http://cms.gustavus-ak.gov/government/committees/disposal-recycling-center/reports/noise-survey-2006/Noise_survey.htm

**Odors:** Odor coming from the baled waste is contained by the liner. The DRC building is cleaned with a mild solution of Pine-oil or bleach, after each day it receives waste from the public. See the Food Waste Composting Plan for specifics regarding odors associated with that program.

## Stormwater Management

Stormwater is not allowed to stay in contact with the exposed working face of the inert disposal pit or to the balefill. The sand that underlies the DRC allows for the quick absorption of storm runoff and ponding is not a serious problem.

## Corrective Action Plan

The DRC Manager/ Operator insures that all buildings and equipment at the facility are operable. The DRC maintains an equipment maintenance budget and a building maintenance budget with its annual operating budget.

When waste is abandoned at the entry gate the Operator processes it up as a part of the daily routine

## Training Plan

### Purpose

The DRC's training plan is intended to:

- Build operating skills and professionalism in the DRC staff
- Ensure compliance with State and Federal labor, health, safety and environmental regulations
- Ensure employees have the knowledge to conduct operations safely and in an environmentally responsible manner
- Support the DRC goal of being a model IRRWDF in a small community is SE Alaska

### Position-Specific Training Needs

DRC Manager/ Operator

- SWANA Manager of Landfill Operations (MOLO)
- SWANA MOLO certification exam every three years
- HAZWOPER Certification 24 or 40 hour course + 3 days work at a TSD Facility
- HAZWOPER refresher – 8 hours annually using on-line course or otherwise
- Hazard Communication 1 – 2 hours on site local
- General Workplace Safety and Health – several hours on site, and self study
- Personal Protective Equipment - site specific on site
- Safe Operation of Skid-steer loader – 1 hour on site with manufacturers' videos and materials

- Safe operations of other equipment – review of manufacturers safety manuals and videos
- Ergonomics with emphasis on lifting and back safety  0.5 hour  with video
- Supervisor's safety responsibilities—1-3 hours video and workbook

DRC Assistant Operator

- Hazard Communication—1-2 hours on site local
- General Workplace Safety and Health—several hours on site, and self study
- Personal Protective Equipment—site specific on site
- Safe Operation of Bobcat—1 hour on site with manufacturer's video and materials
- Ergonomics with emphasis on lifting and back safety  0.5 hour  with video
- HAZWOPER Certification – 24 hour course as budget allows

DRC Volunteers

- General safety orientation to DRC
- Specific task safety review
- PPE for tasks assigned
- Ergonomics for lifting tasks
- Bobcat Safety video if they are going to use the Bobcat
- Safe operation of other equipment they are assigned to use

The current DRC Manager/ Operator is SWANA MOLO certified through 2012 with certification beginning in April of 2006.  DRC Manager/ Operator received 40 hour HAZWOPER training in 2006 which included 3 days volunteering at the Fairbanks North Star Borough Landfill's Hazardous Waste Collection and Treatment facility.

## Operating Record

The DRC Manager/ Operator is responsible for making sure the facility is in compliance with the ADEC operating permit. The DRC Manager/ Operator also maintains paper and/ or electronic copies of all inspection records, employee training procedures and records, records relating to any hazardous waste, General Operating Plan, copies of previous operating plans, as-built drawings etc. Copies of these documents are kept on site at the DRC. Copies of the operating permit and groundwater monitoring reports are also kept on file at City Hall.

## Operations Plan Modification Process

The General Operating Plan is reviewed by the DRC Manager/ Operator as part of the 5 year permit renewal process. The DRC Committee, a standing committee within the City of Gustavus, works with the DRC Manager/ Operator in this process.