Syracuse Haulers Waste Removal, Inc.

Appendix

For
Syracuse Haulers Transfer Facility
6223 Thompson Road
Syracuse, NY 13206

APPENDIX CONTENTS

Note: The documents described below appear in ***alphabetical*** *order on the pages that follow. Most of these materials are referenced in the "Engineering Report", "Facility Manual", "or Emergency Response Plan". Other materials appear here, as an acknowledgement of SH's understanding and compliance to various external and self-imposed regulations.*

TITLE	SUMMARY DESCRIPTION
CURRENT DEC PERMIT	
29 CFR 1910.132 , 1910.133, 1910.178 (OSHA)	OSHA regulations, which pertain to the Syracuse Haulers Transfer Facility. Syracuse Haulers acknowledges and abides by these regulations.
49 CFR 392-395 (DOT)	DOT regulations, which pertain to the Syracuse Haulers Transfer Facility. Syracuse Haulers acknowledges and abides by these regulations.
BALER -- DESCRIPTION AND SPECIFICATIONS	Details on the Marathon/Nexgen Galaxy2R Two-Ram Baler, which is used in the Transfer Facility for packaging recyclables in ways that improves transportation efficiency.
BLOODBORNE PATHOGEN EXPOSURE PACKET	This is a set of four (4) forms that are required to be completed, in the event that a SH employee is exposed to suspect bloodborne pathogens. The forms document the incident and medical follow-up.
CARBON MONOXIDE METER	A product specification sheet for the carbon monoxide meter that is used to detect CO levels within the Transfer Facility.
CPG-MONTHLY SCHEDULE LOADS	Example of scheduled monthly pickups from Continentail Paper Grading
DIRECTIONS TO TRANSFER STATION	A map and typed routes to the Transfer Facility, from various geographic directions.
DISPOSAL SITES	A list of all Disposal Sites and the materials types that are taken to each. These are facilities which SH is permitted to use.
DOT SP-10656 FORM	If radiation is detected on a vehicle carrying scrap metal that enters the truck scale, notice must be given to NYS and approval must be received prior to the contaminated material being returned to its origin. The "DOT SP-10656" form is to be used to track movement of such material.
DOT SP-11406 FORM	This is the same as form "DOT SP-10656" above except that it is for vehicles carrying solid waste instead of scrap metal.
DRIVER VEHICLE CHECK	This internal, SH form is completed at the start and end of each driver's shift and its purpose is to inspect and identify for repair any issues with trucks/trailers. This form satisfies DOT requirements on vehicle checks.
DRUG + ALCOHOL TESTING	All SH employees are subject to drug and alcohol testing, as a condition of employment. This document explains the terms and conditions of this testing.

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TITLE	SUMMARY DESCRIPTION
EMERGENCY CONTACTS	A list of emergency responders, who could be contacted in the event of an emergency situation at the Transfer Facility. The purpose of this list to provide staff with quick access to all the responders that could be contacted.
EQUIPMENT CHECKLIST (DAILY)	This internal, SH form is completed at the start and end of each Equipment Operator's shift and its purpose is to inspect and identify for repair any issues with equipment used strictly within the Transfer Facility.
EQUIPMENT LIST	A complete list of all SH vehicles and waste handling machinery that are used in the Transfer Facility. The list includes waste collection vehicles, along with material handling equipment.
ERGONOMICS TRAINING	This manual addresses stretching and other other exercises designed to avoid repetitive motion injuries. The training is specific to job functions in the Transfer Facility.
EXPOSURE INCIDENT REPORT	This SH form is used to document any instance in which a person is exposed to hazardous materials. The form is to be completed and filed for review in the tabbed section of this binder, "Incidents"
FACILITY INSPECTION CHECKLIST	A SH form that is to be completed daily by a member of SH management team. The purpose of this form is to spot-check conformance to rules established by regulatory agencies and SH.
GLOSSARY - BLOODBORNE PATHOGENS	This is a list of terms and definitions that are commonly used in discussions about bloodborne pathogens. Employees are expected to familiarize themselves with this information.
GLOSSARY - SYRACUSE HAULERS TERMS	This is a list of terms and definitions that are used by Syracuse Haulers and are somewhat unique to the firm. Employees are expected to familiarize themselves with this information.
GLOSSARY OF TERMS - TRANSFER STATION	This is a list of terms and definitions that are commonly used by Transfer Facilitys. Employees are expected to familiarize themselves with this information.
GREEN MACHINE PRINT	Engineering drawing and specs for the Green Machine
HAZ SPILLS - SAFETY KLEEN	This 2-page document is a summary of services that Safety Kleen does (and/or will) provide to SH. Safety Kleen is the designated hazardous spill responder for SH.

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TITLE	SUMMARY DESCRIPTION
INCIDENT REPORT	The "Incident Report" form is to be completed each time there is an event which triggers the use of the Emergency Response Plan (ERP) or an reportable incident. This form assists in evaluating responses to situations.
LEED SORTING MATERIALS	
OCRRA - 2024 HAULERS PERMIT	Permit issued to Syracuse Haulers by the Ononadaga County Resource Recovery Agency (OCRRA) for use of this organization's various disposal sites. These sites provide backup to the Transfer Facility, for a closure of any length of time.
OSHA 300 FORM	SH records all injuries and illnesses, which are related to workplace incidents, using the electronic version of the OSHA 300 form, and SH abides by the regulations that define its use.
PART 360 SERIES WASTE TRACKING DOCUMENT - CONSTRUCTION & DEMOLITION DEBRIS	This form may be used to satisfy the tracking document requirements of both section 361-5.6 and section 364-5.1 for the transport of C&D Debris.
PM - BALER	ThIs Preventative Maintenance (PM) Checklist for the Marathon/Nexgen Baler is by mechanics/technicians to regualarly inspect, maintain and repair the equipment.
PM - EQUIPMENT CHECKLIST	The Preventative Maintenance (PM) - Equipment Checklist is a form used by mechanics to ensure that all equipment (loaders, bull dozer, etc.) used in the Facility is consistently inspected, maintained and repaired. Each piece of equipment is placed on a regimented PM schedule.
PM-GREEN MACHINE CHECKLIST	ThIs Preventative Maintenance (PM) Checklist for the Green Machine is by mechanics/technicians to regualarly inspect, maintain and repair the equipment.
PM - INSPECTION COMMENTS	The Inspection (Mechanics) Comments form is completed each time a PM checklist is completed for Equipment or Trucks. Descriptions of additional work performed during a PM is recorded; the mechanic may also recommend future maintenance to be performed.
PM - TRUCK CHECKLIST A, B, C, and D	The "Preventative Maintenance (PM) - Truck Checklist A" is a form used by mechanics to ensure that all refuse trucks used by SH are consistently inspected, maintained and repaired. Each piece of equipment is placed on a regimented PM schedule. The "A"-"D" schedules for trucks vary slightly in the work being performed.

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TITLE	SUMMARY DESCRIPTION
PPE HAZARD ASSESSMENTS	A "Preventative Protection Equipment (PPE) Hazard Assessment" has been completed for each Job Title that is used in the Transfer Facility. This has been done to identify and specify the PPE that each Job Title must wear while on-the-job in the Facility.
PROJECT PRELIMINARY PROJECT SCHEDULE	Construction schedule for the proposed addition, for the C&D collection and sorting building
RADIATION DAILY BACKGROUND READING	This spreadsheet is used to record background readings from the radiation detection equipment - see next appendix.
RADIATION DETECTION - EQUIPMENT - RADCOMM RC2W34-2	Integrated within Syracuse Haulers' truck scale is a system for detecting radiation. Presented here is an overview of the "RadComm RC2W34-2."
RADIATION DETECTION -- FORM -- SYRACUSE HAULERS	The "Radiation Detected" form is completed and faxed to the NYS DEC in the event that a load of materials has entered the Facility and radiation is detected in the materials. In such a case, the load is rejected and is returned to its orginator, once DOT SP-11406 has been completed and approved.
RADIATION WEEKLY DETECTOR FIELD CHECK	This spreadsheet is used to record results of the weekly calibration check of the radiation detection equipment .
RECORD OF PROHIBITED MATERIALS	The tracking form, "Record of Prohibited Materials" is to be completed whenever quantities of unacceptable wastes are brought into the Facility. Also, the form documents the handling of this waste to its ultimate disposal site. This form is accomplanied by its respective "Incoming Materials Log" form.
ROLLOFF - DISPATCH CHECKLIST	The "Roll-Off Dispatch Checklist" is completed whenever SH staff is presented with a change in a customer's status or whenever a new customer is added. The purpose of this form is to ensure that SH staff reviews terms and conditions with customers, including what wastes are "unacceptable."
ROLLOFF - DISPATCH SCHEDULE	The "Dispatch Schedule" is completed a a daily basis for each SH truck and driver. Pickup locations and waste materials in the containers are identified. The type of material is visually inspected by the driver and the correct identification of the waste type dictates the disposal site where the container is taken.

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TITLE	SUMMARY DESCRIPTION
ROLLOFF - DISPATCH TICKET	The "Roll-Off Dispatch Ticket" is completed for each transaction initiated by a customer with SH and placed by phone or fax. A SH employee asks questions and records the customers responses in a structured format, in order to identify the appropriate waste type... among other things.
ROLLOFF - RESTRICTIONS LETTER	Each new customer is sent a "Restriction Letter", which reiterates the "unacceptable" waste types that cannot be picked up by SH. The same items are verbally disclosed to customers at the time of service order.
ROLLOFF - SERVICE AGREEMENT	Each new customer is required to complete and sign a "Rolloff Service Agreement", which dictates the terms and conditions of service. One of the provisions addresses unacceptable waste types that SH does not handle.
SHARPS - HOUSEHOLD DISPOSAL	The how-to publication, "How to Safely Dispose of Household Sharps", which is published by the NYS Dept. of Health, is used in the training of staff who work in the Transfer Facility.
SHARPS INJURY LOG FORM	The "Sharps Injury Log" is to be completed if a SH employee is "stuck" by a sharp object while working. Any punctures are to be recorded on this form, followed by the completion of an "Exposure Incident Report." These reports are recorded and filed for analysis and reference.
SPDES PERMIT	SPDES permit, No. NY110311, has been issued to SH for its storm sewer system.
STORAGE BIN CAPACITIES	The chart, "Storage Bin Capacities", provides dimensions and "working capacities" of each storage bin that is part of the Transfer Facility.
SUPPLIES (PPE-FA-CPR)	The "Supplies…" list contains all personal protective equipment, first aid items and CPR materials which are approved for use in the Transfer Facility.
TRAINING REGISTER	The form, "Training Register", presents a list of all employees, who work in the Facility, and what training they have received, by whom and when it was conducted. This form allows management to track and analyze for training needs.
TRUCK SCALE AND RADIATION DETECTION	Product details and specifications are provided for the truck scale and the integrated radiation detection unit that is installed at the Transfer Facility.
TRUCK SCALE INSPECTIONS	A copy of each inspection report, as performed b the NYS Bureau of Weights and Measures, since the first operation of the scale in January 2017.

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TITLE	SUMMARY DESCRIPTION
USER PERMIT APPLICATION	The User Permit Application form is to be completed by customers who have been invitied to use the Transfer Facility. The application requires the prospective user to provide SH with key information about the wastes and vehicles to be brought into the facility. Customers are accepted or rejected, based upon data provided.
VISTORS LOG FORM	The "Visitors Log" form is to be completed each time a outside visitor, such as a vendor, regulatory, etc., wishes to enter the grounds of the Transfer Facility. Identification and the reason for the visit must be provided and no visitor is to be on premises, unless escorted by a SH employee.

29 CFR 1910.132, 1910.133, 1910.178 (OSHA)

29 CFR 1910.132

Personal Protective Equipment (PPE) - General Requirements

Syracuse Haulers Waste Removal, Inc. acknowledges that all general requirements pertaining to this part will be met as follows:

- Protective equipment, including personal protective equipment for eyes, face, head, and extremities, protective clothing, respiratory devices, and protective shields and barriers, shall be provided, used, and maintained in a sanitary and reliable condition wherever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact.

- Where employees provide their own protective equipment, the employer shall be responsible to assure its adequacy, including proper maintenance, and sanitation of such equipment.

- All personal protective equipment shall be of safe design and construction for the work to be performed.

Hazard assessment and equipment selection

- Syracuse Haulers Waste Removal, Inc. shall assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment (PPE). If such hazards are present, or likely to be present, Syracuse Haulers Waste Removal, Inc. shall:

    - Select, and have each affected employee use, the types of PPE that will protect the affected employee from the hazards identified in the hazard assessment;

    - Communicate selection decisions to each affected employee; and,

    - Select PPE that properly fits each affected employee.

- Syracuse Haulers Waste Removal, Inc. shall verify that the required workplace hazard assessment has been performed through a written certification that identifies the workplace evaluated; the person certifying that the evaluation has been performed; the date(s) of the hazard assessment; and, which identifies the document as a certification of hazard assessment.

- Defective or damaged personal protective equipment shall not be used.

Training

- Syracuse Haulers Waste Removal, Inc. shall provide training to each employee who is required by this section to use PPE. Each such employee shall be trained to know at least the following:

    - When PPE is necessary;

    - What PPE is necessary;

    - How to properly don, doff, adjust, and wear PPE;

    - The limitations of the PPE; and,

    - The proper care, maintenance, useful life and disposal of the PPE.

- Each affected employee shall demonstrate an understanding of the training, and the ability to use PPE properly, before being allowed to perform work requiring the use of PPE.

- When there is reason to believe that any affected employee who has already been trained does not have the understanding and skill required, Syracuse Haulers Waste Removal, Inc. shall retrain each such employee. Circumstances where retraining is required include, but are not limited to, situations where:

    - Changes in the workplace render previous training obsolete; or

    - Changes in the types of PPE to be used render previous training obsolete; or

    - Inadequacies in an affected employee's knowledge or use of assigned PPE indicate that the employee has not retained the requisite understanding or skill.

- The employer shall verify that each affected employee has received and understood the required training through a written certification that contains the name of each employee trained, the date(s) of training, and that identifies the subject of the certification.

Payment for protective equipment

- The protective equipment, including personal protective equipment (PPE), used to comply with this part, shall be provided by Syracuse Haulers Waste Removal, Inc. at no cost to employees.

- Syracuse Haulers Waste Removal, Inc. is not required to pay for non-specialty safety-toe protective footwear (including steel-toe shoes or steel-toe boots) and non-specialty prescription safety eyewear, provided that the employer permits such items to be worn off the job-site.

- Syracuse Haulers Waste Removal, Inc. is not required to pay for:

    - Everyday clothing, such as long-sleeve shirts, long pants, street shoes, and normal work boots; or

    - Ordinary clothing, skin creams, or other items, used solely for protection from weather, such as winter coats, jackets, gloves, parkas, rubber boots, hats, raincoats, ordinary sunglasses, and sunscreen.

- Syracuse Haulers Waste Removal, Inc. must pay for replacement PPE, except when the employee has lost or intentionally damaged the PPE.

- Where an employee provides adequate protective equipment he or she owns, Syracuse Haulers Waste Removal, Inc. may allow the employee to use it and is not required to reimburse the employee for that equipment. The employer shall not require an employee to provide or pay for his or her own PPE.

This information shall become effective on February 13, 2008. Employers must implement the PPE payment requirements no later than May 15, 2008.

Note to § 1910.132(h): When the provisions of another OSHA standard specify whether or not the employer must pay for specific equipment, the payment provisions of that standard shall prevail.

29 CFR 1910.133

Personal Protective Equipment (PPE) – Eye & Face Protection

- Syracuse Haulers Waste Removal, Inc. ensures that each affected employee uses appropriate eye or face protection when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation.

- Syracuse Haulers Waste Removal, Inc. ensures that each affected employee uses eye protection that provides side protection when there is a hazard from flying objects. Detachable side protectors (e.g. clip-on or slide-on side shields) meeting the pertinent requirements of this section are acceptable.

- Syracuse Haulers Waste Removal, Inc. ensures that each affected employee who wears prescription lenses while engaged in operations that involve eye hazards wears eye protection that incorporates the prescription in its design, or wears eye protection that can be worn over the prescription lenses without disturbing the proper position of the prescription lenses or the protective lenses.

- Eye and face PPE shall be distinctly marked to facilitate identification of the manufacturer.

Criteria for protective eye and face devices

- Protective eye and face devices purchased after July 5, 1994 shall comply with ANSI Z87.1-1989, "American National Standard Practice for Occupational and Educational Eye and Face Protection”

29 CFR 1910.178

Truck operations

- Trucks shall not be driven up to anyone standing in front of a bench or other fixed object.

- No person shall be allowed to stand or pass under the elevated portion of any truck, whether loaded or empty.

- Unauthorized personnel shall not be permitted to ride on powered industrial trucks. A safe place to ride shall be provided where riding of trucks is authorized.

- The employer shall prohibit arms or legs from being placed between the uprights of the mast or outside the running lines of the truck.

- When a powered industrial truck is left unattended, load engaging means shall be fully lowered, controls shall be neutralized, power shall be shut off, and brakes set. Wheels shall be blocked if the truck is parked on an incline.

- A powered industrial truck is unattended when the operator is 25 ft. or more away from the vehicle which remains in his view, or whenever the operator leaves the vehicle and it is not in his view.

- When the operator of an industrial truck is dismounted and within 25 ft. of the truck still in his view, the load engaging means shall be fully lowered, controls neutralized, and the brakes set to prevent movement.

- A safe distance shall be maintained from the edge of ramps or platforms while on any elevated dock, or platform or freight car. Trucks shall not be used for opening or closing freight doors.

- Brakes shall be set and wheel blocks shall be in place to prevent movement of trucks, trailers, or railroad cars while loading or unloading. Fixed jacks may be necessary to support a semitrailer during loading or unloading

when the trailer is not coupled to a tractor. The flooring of trucks, trailers, and railroad cars shall be checked for breaks and weakness before they are driven onto.

- There shall be sufficient headroom under overhead installations, lights, pipes, sprinkler system, etc.
- Only approved industrial trucks shall be used in hazardous locations.
- Fire aisles, access to stairways, and fire equipment shall be kept clear.

Traveling

- All traffic regulations shall be observed, including authorized plant speed limits. A safe distance shall be maintained approximately three truck lengths from the truck ahead, and the truck shall be kept under control at all times.
- The right of way shall be yielded to ambulances, fire trucks, or other vehicles in emergency situations.
- Other trucks traveling in the same direction at intersections, blind spots, or other dangerous locations shall not be passed.
- The driver shall be required to slow down and sound the horn at cross aisles and other locations where vision is obstructed. If the load being carried obstructs forward view, the driver shall be required to travel with the load trailing.
- Railroad tracks shall be crossed diagonally wherever possible. Parking closer than 8 feet from the center of railroad tracks is prohibited.
- The driver shall be required to look in the direction of, and keep a clear view of the path of travel.
- Grades shall be ascended or descended slowly.
- Under all travel conditions the truck shall be operated at a speed that will permit it to be brought to a stop in a safe manner.
- Stunt driving and horseplay shall not be permitted.
- The driver shall be required to slow down for wet and slippery floors.
- Running over loose objects on the roadway surface shall be avoided.
- While negotiating turns, speed shall be reduced to a safe level by means of turning the hand steering wheel in a smooth, sweeping motion. Except when maneuvering at a very low speed, the hand steering wheel shall be turned at a moderate, even rate.

Loading

- Only stable or safely arranged loads shall be handled. Caution shall be exercised when handling off-center loads which cannot be centered.
- Only loads within the rated capacity of the truck shall be handled.
- Trucks equipped with attachments shall be operated as partially loaded trucks when not handling a load.

- Extreme care shall be used when tilting the load forward or backward, particularly when high tiering. Tilting forward with load engaging means elevated shall be prohibited except to pick up a load. An elevated load shall not be tilted forward except when the load is in a deposit position over a rack or stack. When stacking or tiering, only enough backward tilt to stabilize the load shall be used.

Operation of the truck

- If at any time a powered industrial truck is found to be in need of repair, defective, or in any way unsafe, the truck shall be taken out of service until it has been restored to safe operating condition.
- Fuel tanks shall not be filled while the engine is running. Spillage shall be avoided.
- Spillage of oil or fuel shall be carefully washed away or completely evaporated and the fuel tank cap replaced before restarting engine.
- No truck shall be operated with a leak in the fuel system until the leak has been corrected.
- Open flames shall not be used for checking electrolyte level in storage batteries or gasoline level in fuel tanks.

Maintenance of industrial trucks

- Any power-operated industrial truck not in safe operating condition shall be removed from service. All repairs shall be made by authorized personnel.
- Trucks in need of repairs to the electrical system shall have the battery disconnected prior to such repairs.
- All parts of any such industrial truck requiring replacement shall be replaced only by parts equivalent as to safety with those used in the original design.
- Industrial trucks shall not be altered so that the relative positions of the various parts are different from what they were when originally received from the manufacturer, nor shall they be altered either by the addition of extra parts not provided by the manufacturer or by the elimination of any parts, except as provided in paragraph (q)(12) of this section. Additional counterweighting of fork trucks shall not be done unless approved by the truck manufacturer.
- Industrial trucks shall be examined before being placed in service, and shall not be placed in service if the examination shows any condition adversely affecting the safety of the vehicle. Such examination shall be made at least daily. Defects when found shall be immediately reported and corrected.
- When the temperature of any part of any truck is found to be in excess of its normal operating temperature, thus creating a hazardous condition, the vehicle shall be removed from service and not returned to service until the cause for such overheating has been eliminated.
- Industrial trucks shall be kept in a clean condition, free of lint, excess oil, and grease. Noncombustible agents should be used for cleaning trucks.

49 CFR 392 – 395 (DOT)

49 CFR 392.0 Driving of Commercial Vehicles

49 CFR 392.1 Scope of Rules

Syracuse Haulers Waste Removal, Inc. shall comply with all the rules in this part.

49 CFR 392.2 Applicable Operating Rules

Syracuse Haulers Waste Removal, Inc. acknowledges that it must be operated in accordance with the laws, ordinances, and regulations of the jurisdiction in which it is being operated. However, if a regulation of the Federal Motor Carrier Safety Administration imposes a higher standard of care than that law, ordinance or regulation, the Federal Motor Carrier Safety Administration regulation must be complied with.

49 CFR 392.3 Ill or Fatigued Operator

Syracuse Haulers Waste Removal, Inc. shall not allow any driver to operate a commercial motor vehicle, while the driver's ability or alertness is so impaired, or so likely to become impaired, through fatigue, illness, or any other cause, as to make it unsafe for him/her to begin or continue to operate the commercial motor vehicle. However, in a case of grave emergency where the hazard to occupants of the commercial motor vehicle or other users of the highway would be increased by compliance with this section, the driver may continue to operate the commercial motor vehicle to the nearest place at which that hazard is removed.

49 CFR 392.4 Drugs & Other Substances

Syracuse Haulers Waste Removal, Inc. shall allow no driver to be on duty and possess, be under the influence of, or use, any of the following drugs or other substances:

- An amphetamine or any formulation thereof (including, but not limited, to ``pep pills,'' and ``bennies'');
- A narcotic drug or any derivative thereof; or
- Any other substance, to a degree which renders the driver incapable of safely operating a motor vehicle.

Syracuse Haulers Waste Removal, Inc. shall not require or permit a driver to violate the aforementioned rules of this section. However, these rules do not apply to the possession or use of a substance administered to a driver by or under the instructions of a licensed medical practitioner, who has advised the driver that the substance will not affect the driver's ability to safely operate a motor vehicle.

For definition, ``possession'' does not include possession of a substance which is manifested and transported as part of a shipment.

49 CFR 392.5 Alcohol Prohibition

Syracuse Haulers Waste Removal, Inc. requires that no driver shall:

- Use alcohol, as defined in Sec. 382.107 of this subchapter, or be under the influence of alcohol, within 4 hours before going on duty or operating, or having physical control of, a commercial motor vehicle; or
- Use alcohol, be under the influence of alcohol, or have any measured alcohol concentration or detected presence of alcohol, while on duty, or operating, or in physical control of a commercial motor vehicle; or
- Be on duty or operate a commercial motor vehicle while the driver possesses wine of not less than one-half of one per centum of alcohol by volume, beer as defined in 26 U.S.C. 5052(a), of the Internal Revenue Code of 1954, and distilled spirits as defined in section 5002(a)(8), of such Code. However, this does not apply to possession of wine, beer, or distilled spirits which are manifested and transported as part of a shipment.

Syracuse Haulers Waste Removal, Inc. shall not require or permit a driver to:

- Violate any provision of this section; or
- Be on duty or operate a commercial motor vehicle if, by the driver's general appearance or conduct or by other substantiating evidence, the driver appears to have used alcohol within the preceding four hours.

Any driver who is found to be in violation of this section shall be placed out-of-service immediately for a period of 24 hours.

- The 24-hour out-of-service period will commence upon issuance of an out-of-service order.
- No driver shall violate the terms of an out-of-service order issued under this section.

49 CFR 392.6 Schedules to Conform with Speed Limits

Syracuse Haulers Waste Removal, Inc. shall not schedule a run nor permit nor require the operation of any commercial motor vehicle between points in such period of time as would necessitate the commercial motor vehicle being operated at speeds greater than those prescribed by the jurisdictions in or through which the commercial motor vehicle is being operated.

49 CFR 392.7 Equipment, Inspection & Use

Syracuse Haulers Waste Removal, Inc. will not allow any commercial motor vehicle to be driven unless the driver is satisfied that the following parts and accessories are in good working order, nor shall any driver fail to use or make use of such parts and accessories when and as needed.

49 CFR 392.8 Emergency Equipment, Inspection & Use

Syracuse Haulers Waste Removal, Inc. will not allow any commercial motor vehicle to be driven unless the driver thereof is satisfied that the emergency equipment is in place and ready for use; nor shall any driver fail to use or make use of such equipment when and as needed.

49 CFR 392.9 Inspection of Cargo, Cargo Securement Devices & Systems

Syracuse Haulers Waste Removal, Inc. will not allow, permit or require an operator to operate a commercial motor vehicle unless:

- cargo is properly distributed and adequately secured
- vehicle's tailgate, tailboard, doors, tarpaulins, spare tire and other equipment used in its operation, and the means of fastening the commercial motor vehicle's cargo, are secured; and
- cargo or any other object does not obscure the driver's view ahead or to the right or left sides, interfere with the free movement of his/her arms or legs, prevent his/her free and ready access to accessories required for emergencies, or prevent the free and ready exit of any person from vehicle's cab or driver's compartment.

Drivers of trucks and truck tractors must:

- Assure himself/herself that the provisions of this section have been complied with before he/she drives that vehicle;
- Inspect the cargo and the devices used to secure the cargo within the first 50 miles after beginning a trip and cause any adjustments to be made to the cargo or load securement devices as necessary, including adding more securement devices, to ensure that cargo cannot shift on or within, or fall from the commercial motor vehicle; and
- Reexamine the commercial motor vehicle's cargo and its load securement devices during the course of transportation and make any necessary adjustment to the cargo or load securement devices, including adding more securement devices, to ensure that cargo cannot shift on or within, or fall from, the commercial motor vehicle.
- Reexamination and any necessary adjustments must be made whenever:
    - The driver makes a change of his/her duty status; or
    - The vehicle has been driven for 3 hours; or
    - The vehicle has been driven for 150 miles, whichever occurs first.
- These rules do not apply to the driver of a sealed commercial motor vehicle who has been ordered not to open it to inspect its cargo or to the driver of a commercial motor vehicle that has been loaded in a manner that makes inspection of its cargo impracticable.

49 CFR 392.11 Railroad Grade Crossings; Slowing Down Required

Syracuse Haulers Waste Removal, Inc. requires that every one of its vehicles, upon approaching a railroad grade crossing, be driven at a rate of speed which will permit said vehicle to be stopped before reaching the nearest rail of such crossing and shall not be driven upon or over such crossing until due caution has been taken to ascertain that the course is clear.

49 CFR 392.14 Hazardous Conditions; Extreme Caution

Syracuse Haulers Waste Removal, Inc. requires that extreme caution in the operation of its vehicles shall be exercised when hazardous conditions, such as those caused by snow, ice, sleet, fog, mist, rain, dust, or smoke, adversely affect visibility or traction. Speed shall be reduced when such conditions exist. If conditions become sufficiently dangerous, the operation of the commercial motor vehicle shall be discontinued and shall not be resumed until the commercial motor vehicle can be safely operated.

49 CFR 392.16 Use of Seat Belts

Syracuse Haulers Waste Removal, Inc. enforces that all vehicles which have a seat belt assembly installed at the driver's seat shall not be driven unless the driver has properly restrained himself/herself with the seat belt assembly.

49 CFR 392.22 Emergency Signals; Stopped Vehicles

Syracuse Haulers Waste Removal, Inc. will enforce the use of hazard warning signal flashers.

- Whenever a commercial motor vehicle is stopped upon the traveled portion of a highway or the shoulder of a highway for any cause other than necessary traffic stops, the driver of the stopped commercial motor vehicle shall immediately activate the vehicular hazard warning signal flashers and continue the flashing until the driver places the warning devices required. The flashing signals shall be used during the time the warning devices are picked up for storage before movement of the commercial motor vehicle. The flashing lights may be used at other times while a commercial motor vehicle is stopped in addition to, but not in lieu of, the warning devices required.

- Placement of warning devices

    - Whenever a commercial motor vehicle is stopped upon the traveled portion or the shoulder of a highway for any cause other than necessary traffic stops, the driver shall, as soon as possible, but in any event within 10 minutes, place the warning devices in the following manner:

        - One on the traffic side of and 4 paces (approximately 3 meters or 10 feet) from the stopped commercial motor vehicle in the direction of approaching traffic;

        - One at 40 paces (approximately 30 meters or 100 feet) from the stopped commercial motor vehicle in the center of the traffic lane or shoulder occupied by the commercial motor vehicle and in the direction of approaching traffic; and

        - One at 40 paces (approximately 30 meters or 100 feet) from the stopped commercial motor vehicle in the center of the traffic lane or shoulder occupied by the commercial motor vehicle and in the direction away from approaching traffic.

- Special rules regarding fusees and liquid-burning flares

- The driver of a commercial motor vehicle equipped with only fusees or liquid-burning flares shall place a lighted fusee or liquid-burning flare at each of the locations specified above. There shall be at least one lighted fusee or liquid-burning flare at each of the prescribed locations, as long as the commercial motor vehicle is stopped. Before the stopped commercial motor vehicle is moved, the driver shall extinguish and remove each fusee or liquid-burning flare.

- Daylight hours: during the period lighted lamps are not required, three bidirectional reflective triangles, or three lighted fusees or liquid-burning flares shall be placed in specified sites within a time of 10 minutes. In the event the driver elects to use only fusees or liquid-burning flares in lieu of bidirectional reflective triangles or red flags, the driver must ensure that at least one fusee or liquid-burning flare remains lighted at each of the prescribed locations as long as the commercial motor vehicle is stopped or parked.

- Business or residential districts: the placement of warning devices is not required within the business or residential district of a municipality, except during the time lighted lamps are required and when street or highway lighting is insufficient to make a commercial motor vehicle clearly discernable at a distance of 500 feet to persons on the highway.

- Hills, curves, and obstructions: If a commercial motor vehicle is stopped within 500 feet of a curve, crest of a hill, or other obstruction to view, the driver shall place the warning signal required in the direction of the obstruction to view a distance of 100 feet to 500 feet from the stopped commercial motor vehicle so as to afford ample warning to other users of the highway.

- Divided or one-way roads: If a commercial motor vehicle is stopped upon the traveled portion or the shoulder of a divided or one-way highway, the driver shall place one warning device at a distance of 200 feet and one warning device at a distance of 100 feet in a direction toward approaching traffic in the center of the lane or shoulder occupied by the commercial motor vehicle. He/she shall place one warning device at the traffic side of the commercial motor vehicle within 10 feet of the rear of the commercial motor vehicle.

- Leaking, flammable material: If gasoline or any other flammable liquid, or combustible liquid or gas seeps or leaks from a fuel container or a commercial motor vehicle stopped upon a highway, no emergency warning signal producing a flame shall be lighted or placed except at such a distance from any such liquid or gas as will assure the prevention of a fire or explosion.

49 CFR 392.24 Emergency Signals; Flame-Producing

Syracuse Haulers Waste Removal, Inc. shall not attach or permit any person to attach a lighted fusee or other flame-producing emergency signal to any part of a commercial motor vehicle.

49 CFR 392.33 Obscured Lamps or Reflective Devices / Material

All Syracuse Haulers Waste Removal, Inc. vehicles shall not be driven when any of the lamps or reflective devices / material are obscured by the tailboard, or by any part of the load or its covering, by dirt, or other added vehicle or work equipment or otherwise.

Exception: the conspicuity treatments on the front end protection devices of the trailer may be obscured by part of the load being transported.

49 CFR 392.50 Ignition of Fuel; Prevention

Syracuse Haulers Waste Removal, Inc. will not allow any driver / employee to:

- Fuel a commercial motor vehicle with the engine running, except when it is necessary to run the engine to fuel the commercial motor vehicle;
- Smoke or expose any open flame in the vicinity of a commercial motor vehicle being fueled;
- Fuel a commercial motor vehicle unless the nozzle of the fuel hose is continuously in contact with the intake pipe of the fuel tank;
- Permit, insofar as practicable, any other person to engage in such activities as would be likely to result in fire or explosion

49 CFR 392.51 Reserve Fuel; Materials of Trade

Syracuse Haulers Waste Removal, Inc. acknowledges that small amounts of fuel for the operation or maintenance of a commercial motor vehicle (including its auxiliary equipment) may be designated as materials of trade (see 49 CFR 171.8).

- The aggregate gross weight of all materials of trade on a motor vehicle may not exceed 200 kg (440 pounds).
- Packaging for gasoline must be made of metal or plastic and conform to requirements of the Occupational Safety and Health Administration contained in 29 CFR 1910.106.
- For diesel fuel, the capacity of the package is limited to 450 L (119 gallons).

49 CFR 392.60 Unauthorized Persons Not To Be Transported

Unless specifically authorized in writing to do so by Syracuse Haulers Waste Removal, Inc., under whose authority the commercial motor vehicle is being operated, no driver shall transport any person or permit any person to be transported on any commercial motor vehicle other than a bus. When such authorization is issued, it shall state the name of the person to be transported, the points where the transportation is to begin and end, and the date upon which such authority expires. No written authorization, however, shall be necessary for the transportation of:

- Employees or other persons assigned to a commercial motor vehicle by a motor carrier;
- Any person transported when aid is being rendered in case of an accident or other emergency

49 CFR 392.66 Carbon Monoxide; Use of Commercial Motor Vehicle When Detected

Syracuse Haulers Waste Removal, Inc. shall not dispatch or drive any commercial motor vehicle or permit any passengers thereon, when the following conditions are known to exist, until such conditions have been remedied or repaired:

- Where an occupant has been affected by carbon monoxide;
- Where carbon monoxide has been detected in the interior of the commercial motor vehicle;
- When a mechanical condition of the commercial motor vehicle is discovered which would be likely to produce a hazard to the occupants by reason of carbon monoxide.

49 CFR 392.71 Radar Detectors; Use and / or Possession

Syracuse Haulers Waste Removal, Inc. will not allow the use of a radar detector in a commercial motor vehicle, or operate a commercial motor vehicle that is equipped with or contains any radar detector.

Syracuse Haulers Waste Removal, Inc. shall not require or permit a driver to violate this rule.

49 CFR 393.0 Parts & Accessories Necessary for Safe Operation

49 CFR 393.1 Scope of Rules

Definition: Motor Vehicle means any vehicle, machine, tractor, trailer, or semi-trailer, propelled or drawn by mechanical power and used upon the highways in the transportation of passengers or property, or any combination thereof determined by the Federal Motor Carrier Safety Administration, but does not include any vehicle locomotive, or car operated exclusively on a rail or rails, or a trolley bus operated by electric power derived from a fixed overhead wire, furnishing local passenger transportation similar to street-railway service.

Syracuse Haulers Waste Removal, Inc. acknowledges that the rules in this part establish minimum standards for commercial motor vehicles. Only motor vehicles and combinations of motor vehicles which apply to our fleet will be subject to these requirements of this part.

Syracuse Haulers Waste Removal, Inc. and all of it's employees shall comply and be conversant with the requirements and specifications of this part. No commercial motor vehicle shall be operated, or cause or permitted to be operated, unless it is equipped in accordance with the requirements and specifications of this part.

49 CFR 393.3 Additional Equipment and Accessories

Nothing contained in this subchapter shall be construed to prohibit the use of additional equipment and accessories, not inconsistent with or prohibited by this subchapter, provided such equipment and accessories do not decrease the safety of operation of the motor vehicles on which they are used.

49 CFR 393.5 Definitions

As used in this part, the following words and terms are construed to mean:

Aggregate working load limit. The summation of the working load limits or restraining capacity of all devices used to secure an article of cargo on a vehicle.

Agricultural commodity trailer. A trailer that is designed to transport bulk agricultural commodities in off-road harvesting sites and to a processing plant or storage location, as evidenced by skeletal construction that accommodates harvest containers, a maximum length of 28 feet, and an arrangement of air control lines and reservoirs that minimizes damage in field operations.

Air brake system. A system, including an air-over-hydraulic brake subsystem, that uses air as a medium for transmitting pressure or force from the driver control to the service brake, but does not include a system that uses compressed air or vacuum only to assist the driver in applying muscular force to hydraulic or mechanical components.

Air-over-hydraulic brake subsystem. A subsystem of the air brake system that uses compressed air to transmit a force from the driver control to a hydraulic brake system to actuate the service brakes.

Anchor point. Part of the structure, fitting or attachment on a vehicle or article of cargo to which a tiedown is attached.

Antilock Brake System or ABS means a portion of a service brake system that automatically controls the degree of rotational wheel slip during braking by:

(1) Sensing the rate of angular rotation of the wheels;

(2) Transmitting signals regarding the rate of wheel angular rotation to one or more controlling devices which interpret those signals and generate responsive controlling output signals; and

(3) Transmitting those controlling signals to one or more modulators which adjust brake actuating forces in response to those signals.

Article of cargo. A unit of cargo, other than a liquid, gas, or aggregate that lacks physical structure (e.g., grain, gravel, etc.) including articles grouped together so that they can be handled as a single unit or unitized by wrapping, strapping, banding or edge protection device(s).

Auxiliary driving lamp. A lighting device mounted to provide illumination forward of the vehicle which supplements the upper beam of a standard headlighting system. It is not intended for use alone or with the lower beam of a standard headlamp system.

Bell pipe concrete. Pipe whose flanged end is of larger diameter than its barrel.

Blocking. A structure, device or another substantial article placed against or around an article of cargo to prevent horizontal movement of the article of cargo.

Boat trailer. A trailer designed with cradle-type mountings to transport a boat and configured to permit launching of the boat from the rear of the trailer.

Bracing. A structure, device, or another substantial article placed against an article of cargo to prevent it from tipping, that may also prevent it from shifting.

Brake. An energy conversion mechanism used to stop, or hold a vehicle stationary.

Brake power assist unit. A device installed in a hydraulic brake system that reduces the operator effort required to actuate the system, but which if inoperative does not prevent the operator from braking the vehicle by a continued application of muscular force on the service brake control.

Brake power unit. A device installed in a brake system that provides the energy required to actuate the brakes, either directly or indirectly through an auxiliary device, with the operator action consisting only of modulating the energy application level.

Brake tubing/hose. Metallic brake tubing, nonmetallic brake tubing and brake hose are conduits or lines used in a brake system to transmit or contain the medium (fluid or vacuum) used to apply the motor vehicle's brakes.

Chassis. The load-supporting frame of a commercial motor vehicle, exclusive of any appurtenances which might be added to accommodate cargo.

Clearance Lamps. Lamps that provide light to the front or rear, mounted on the permanent structure of the vehicle, such that they indicate the overall width of the vehicle.

Container chassis trailer. A semitrailer of skeleton construction limited to a bottom frame, one or more axles, specially built and fitted with locking devices for the transport of intermodal cargo containers, so that when the chassis and container are assembled, the units serve the same function as an over the road trailer.

Converter dolly. A motor vehicle consisting of a chassis equipped with one or more axles, a fifth wheel and/or equivalent mechanism, and drawbar, the attachment of which converts a semitrailer to a full trailer.

Crib-type log trailer. A trailer equipped with stakes, bunks, a front-end structure, and a rear structure to restrain logs. The stakes prevent movement of the logs from side to side on the vehicle while the front-end and rear structures prevent movement of the logs from front to back on the vehicle.

Curb weight. The weight of a motor vehicle with standard equipment, maximum capacity of fuel, oil, and coolant; and, if so equipped, air conditioning and additional weight of optional engine. Curb weight does not include the driver.

Dunnage. All loose materials used to support and protect cargo.

Dunnage bag. An inflatable bag intended to fill otherwise empty space between articles of cargo, or between articles of cargo and the wall of the vehicle.

Edge protector. A device placed on the exposed edge of an article to distribute tiedown forces over a larger area of cargo than the tiedown itself, to protect the tie-down and/or cargo from damage, and to allow the tiedown to slide freely when being tensioned.

Electric brake system. A system that uses electric current to actuate the service brake.

Emergency brake. A mechanism designed to stop a motor vehicle after a failure of the service brake system.

Emergency brake system. A mechanism designed to stop a vehicle after a single failure occurs in the service brake system of a part designed to contain compressed air or brake fluid or vacuum (except failure of a common valve, manifold brake fluid housing or brake chamber housing).

Fifth wheel. A device mounted on a truck tractor or similar towing vehicle (e.g., converter dolly) which interfaces with and couples to the upper coupler assembly of a semitrailer.

Frame vehicle. A vehicle with skeletal structure fitted with one or more bunk units for transporting logs. A bunk unit consists of U-shaped front and rear bunks that together cradle logs. The bunks are welded, gusseted or otherwise firmly fastened to the vehicle's main beams, and are an integral part of the vehicle.

Friction mat. A device placed between the deck of a vehicle and article of cargo, or between articles of cargo, intended to provide greater friction than exists naturally between these surfaces.

Front fog lamp. A lighting device whose beam provides downward illumination forward of the vehicle and close to the ground, and is to be used only under conditions of rain, snow, dust, smoke or fog. A pair of fog lamps may be used alone, with parking, tail, side, marker, clearance and identification lamps, or with a lower beam headlamp at the driver's discretion in accordance with state and local use law.

Fuel tank fitting. Any removable device affixed to an opening in the fuel tank with the exception of the filler cap.

Grommet. A device that serves as a support and protection to that which passes through it.

Hazard warning signal. Lamps that flash simultaneously to the front and rear, on both the right and left sides of a commercial motor vehicle, to indicate to an approaching driver the presence of a vehicular hazard.

Head lamps. Lamps used to provide general illumination ahead of a motor vehicle.

Heater. Any device or assembly of devices or appliances used to heat the interior of any motor vehicle. This includes a catalytic heater which must meet the requirements of Sec. 177.834(l)(2) of this title when Class 3 (flammable liquid) or Division 2.1 (flammable gas) is transported.

Heavy hauler trailer. A trailer which has one or more of the following characteristics, but which is not a container chassis trailer:

(1) Its brake lines are designed to adapt to separation or extension of the vehicle frame; or

(2) Its body consists only of a platform whose primary cargo-carrying surface is not more than 1,016 mm (40 inches) above the ground in an unloaded condition, except that it may include sides that are designed to be easily removable and a permanent ``front-end structure'' as that term is used in Sec. 393.106 of this title.

Hook-lift container. A specialized container, primarily used to contain and transport materials in the waste, recycling, construction/demolition and scrap industries, which is used in conjunction with specialized vehicles, in which the container is loaded and unloaded onto a tilt frame body by an articulating hook-arm.

Hydraulic brake system. A system that uses hydraulic fluid as a medium for transmitting force from a service brake control to the service brake, and that may incorporate a brake power assist unit, or a brake power unit.

Identification lamps. Lamps used to identify certain types of commercial motor vehicles.

Integral securement system. A system on certain roll-on/roll-off containers and hook-lift containers and their related transport vehicles in which compatible front and rear hold down devices are mated to provide securement of the complete vehicle and its articles of cargo.

Lamp. A device used to produce artificial light.

Length of a manufactured home. The largest exterior length in the traveling mode, including any projections which contain interior space. Length does not include bay windows, roof projections, overhangs, or eaves under which there is no interior space, nor does it include drawbars, couplings or hitches.

License plate lamp. A lamp used to illuminate the license plate on the rear of a motor vehicle.

Longwood. All logs that are not shortwood, i.e., are over 4.9 m (16 feet) long. Such logs are usually described as long logs or treelength.

Low chassis vehicle. (1) A trailer or semitrailer manufactured on or after January 26, 1998, having a chassis which extends behind the rearmost point of the rearmost tires and which has a lower rear surface that meets the guard width, height, and rear surface requirements of Sec. 571.224 in effect on the date of manufacture, or a subsequent edition. (2) A motor vehicle, not described by paragraph (1) of this definition, having a chassis which extends behind the rearmost point of the rearmost tires and which has a lower rear surface that meets the guard configuration requirements of Sec. 393.86(b)(1).

Manufactured home. A structure, transportable in one or more sections, which in the traveling mode, is eight body feet or more in width or forty body feet or more in length, or, when erected on site, is three hundred twenty or more square feet, and which is built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation when connected to the required utilities, and includes the plumbing, heating, air-conditioning, and electrical systems contained therein. Calculations used to determine the number of square feet in a structure will be based on the structure's exterior dimensions measured at the largest horizontal projections when erected on site. These dimensions will include all expandable rooms, cabinets, and other projections containing interior space, but do not include bay windows. This term includes all structures which meet the above requirements except the size requirements and with respect to which the manufacturer
voluntarily files a certification pursuant to 24 CFR 3282.13 and complies with the standards set forth in 24 CFR part 3280.

Metal coil. An article of cargo comprised of elements, mixtures, compounds, or alloys commonly known as metal, metal foil, metal leaf, forged metal, stamped metal, metal wire, metal rod, or metal chain that are packaged as a roll, coil, spool, wind, or wrap, including plastic or rubber coated electrical wire and communications cable

Multi-piece windshield. A windshield consisting of two or more windshield glazing surface areas.

Parking brake system. A mechanism designed to prevent the movement of a stationary motor vehicle.

Play. Any free movement of components.

Pulpwood trailer. A trailer or semitrailer that is designed exclusively for harvesting logs or pulpwood and constructed with a skeletal frame with no means for attachment of a solid bed, body, or container.

Rail vehicle. A vehicle whose skeletal structure is fitted with stakes at the front and rear to contain logs loaded crosswise.

Rear extremity. The rearmost point on a motor vehicle that falls above a horizontal plane located 560 mm (22 inches) above the ground and below a horizontal plane located 1,900 mm (75 inches) above the ground when the motor vehicle is stopped on level ground; unloaded; its fuel tanks are full; the tires (and air suspension, if so equipped) are inflated in accordance with the manufacturer's recommendations; and the motor vehicle's cargo doors, tailgate, or other permanent structures are positioned as they normally are when the vehicle is in motion. Nonstructural protrusions such as taillamps, rubber bumpers, hinges and latches are excluded from the determination of the rearmost point.

Reflective material. A material conforming to Federal Specification L-S-300, ``Sheeting and Tape, Reflective; Non-exposed Lens, Adhesive Backing,'' (September 7, 1965) meeting the performance standard in either Table 1 or Table 1A of SAE Standard J594f, ``Reflex Reflectors''

Reflex reflector. A device which is used on a vehicle to give an indication to an approaching driver by reflected lighted from the lamps on the approaching vehicle.

Saddle-mount. A device, designed and constructed as to be readily demountable, used in driveaway-towaway operations to perform the functions of a conventional fifth wheel:

(1) Upper-half. Upper-half of a ``saddle-mount'' means that part of the device which is securely attached to the towed vehicle and maintains a fixed position relative thereto, but does not include the ``king-pin;''

(2) Lower-half. Lower-half of a ``saddle-mount'' means that part of the device which is securely attached to the towing vehicle and maintains a fixed position relative thereto but does not include the ``king-pin;'' and

(3) King-pin. King-pin means that device which is used to connect the ``upper-half'' to the ``lower-half'' in such manner as to permit relative movement in a horizontal plane between the towed and towing vehicles.

Service brake system. A primary brake system used for slowing and stopping a vehicle.

Shoring bar. A device placed transversely between the walls of a vehicle and cargo to prevent cargo from tipping or shifting.

Shortwood. All logs typically up to 4.9 m (16 feet) long. Such logs are often described as cut-up logs, cut-to-length logs, bolts or pulpwood. Shortwood may be loaded lengthwise or crosswise, though that loaded crosswise is usually no more than 2.6 m (102 inches) long.

Sided vehicle. A vehicle whose cargo compartment is enclosed on all four sides by walls of sufficient strength to contain articles of cargo, where the walls may include latched openings for loading and unloading, and includes vans, dump bodies, and a sided intermodal container carried by a vehicle.

Side extremity. The outermost point on a side of the motor vehicle that is above a horizontal plane located 560 mm (22 inches) above the ground, below a horizontal plane located 1,900 mm (75 inches) above the ground, and between a transverse vertical plane tangent to the rear extremity of the vehicle and a transverse vertical plane located 305 mm (12 inches) forward of that plane when the vehicle is unloaded; its fuel tanks are full; and the tires (and air suspension, if so equipped) are inflated in accordance with the manufacturer's recommendations. Non-structural protrusions such as taillights, hinges and latches are excluded from the determination of the outermost point.

Side marker lamp (Intermediate). A lamp mounted on the side, on the permanent structure of the motor vehicle that provides light to the side to indicate the approximate middle of the vehicle, when the motor vehicle is 9.14 meters (30 feet) or more in length.

Side Marker Lamps. Lamps mounted on the side, on the permanent structure of the motor vehicle as near as practicable to the front and rear of the vehicle, that provide light to the side to indicate the overall length of the motor vehicle.

Special purpose vehicle. (1) A trailer or semitrailer manufactured on or after January 26, 1998, having work-performing equipment that, while the motor vehicle is in transit, resides in or moves through the area that could be occupied by the horizontal member of the rear impact guard, as defined by the guard width, height and rear surface requirements of Sec. 571.224 (paragraphs S5.1.1 through S5.1.3), in effect on the date of manufacture, or a subsequent edition. (2) A motor vehicle, not described by paragraph (1) of this definition, having work-performing equipment that, while the motor vehicle is in transit, resides in or moves through the area that could be occupied by the horizontal member of the rear impact guard, as defined by the guard width, height and rear surface requirements of Sec. 393.86(b)(1).

Split service brake system. A brake system consisting of two or more subsystems actuated by a single control designed so that a leakage-type failure of a pressure component in a single subsystem (except structural failure of a housing that is common to two or more subsystems) shall not impair the operation of any other subsystem.

Steering wheel lash. The condition in which the steering wheel may be turned through some part of a revolution without associated movement of the front wheels.

Stop lamps. Lamps shown to the rear of a motor vehicle to indicate that the service brake system is engaged.

Tail lamps. Lamps used to designate the rear of a motor vehicle.

Tiedown. A combination of securing devices which forms an assembly that attaches articles of cargo to, or restrains articles of cargo on, a vehicle or trailer, and is attached to anchor point(s).

Tow bar. A strut or column-like device temporarily attached between the rear of a towing vehicle and the front of the vehicle being towed.

Tractor-pole trailer. A combination vehicle that carries logs lengthwise so that they form the body of the vehicle. The logs are supported by a bunk located on the rear of the tractor, and another bunk on the skeletal trailer. The tractor bunk may rotate about a vertical axis, and the trailer may have a fixed, scoping, or cabled reach, or other mechanical freedom, to allow it to turn.

Trailer kingpin. A pin (with a flange on its lower end) which extends vertically from the front of the underside of a semitrailer and which locks into a fifth wheel.

Turn signals. Lamps used to indicate a change in direction by emitting a flashing light on the side of a motor vehicle towards which a turn will be made.

Upper coupler assembly. A structure consisting of an upper coupler plate, king-pin and supporting framework which interfaces with and couples to a fifth wheel.

Upper coupler plate. A plate structure through which the king-pin neck and collar extend. The bottom surface of the plate contacts the fifth wheel when coupled.

Vacuum brake system. A system that uses a vacuum and atmospheric pressure for transmitting a force from the driver control to the service brake, not including a system that uses vacuum only to assist the driver in applying muscular force to hydraulic or mechanical components.

Void filler. Material used to fill a space between articles of cargo and the structure of the vehicle that has sufficient strength to prevent movement of the articles of cargo.

Well. The depression formed between two cylindrical articles of cargo when they are laid with their eyes horizontal and parallel against each other.

Wheels back vehicle. (1) A trailer or semitrailer manufactured on or after January 26, 1998, whose rearmost axle is permanently fixed and is located such that the rearmost surface of the tires (of the size recommended by the vehicle manufacturer for the rear axle) is not more than 305 mm (12 inches) forward of the transverse vertical plane tangent to the rear extremity of the vehicle. (2) A motor vehicle, not described by paragraph (1) of this definition, whose rearmost axle is permanently fixed and is located such that the rearmost surface of the tires (of the size recommended by the vehicle manufacturer for the rear axle) is not more than 610 mm (24 inches) forward of the transverse vertical plane tangent to the rear extremity of the vehicle.

Width of a manufactured home. The largest exterior width in the traveling mode, including any projections which contain interior space. Width does not include bay windows, roof projections, overhangs, or eaves under which there is no interior space.

Windshield. The principal forward facing glazed surface provided for forward vision in operating a motor vehicle.

Working load limit (WLL). The maximum load that may be applied to a component of a cargo securement system during normal service, usually assigned by the manufacturer of the component.

49 CFR 393.7 Matter Incorporated by Reference

- Incorporation by reference. Part 393 includes references to certain matter or materials, as listed in paragraph (b) of this section. The text of the materials is not included in the regulations contained in part 393. The materials are

hereby made a part of the regulations in part 393. The Director of the Federal Register has approved the materials incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. For materials subject to change, only the specific version approved by the Director of the Federal Register and specified in the regulation are incorporated. Material is incorporated as it exists on the date of the approval and a notice of any change in these materials will be published in the Federal Register.

- Matter or materials referenced in part 393. The matter or materials listed in this paragraph are incorporated by reference in the corresponding sections noted.

    1. Auxiliary Upper Beam Lamps, Society of Automotive Engineers (SAE) J581, July 2004, incorporation by reference approved for Sec. 393.24(b).

    2. Front Fog Lamp, SAE J583, August 2004, incorporation by reference approved for Sec. 393.24(b).

    3. Stop Lamps for Use on Motor Vehicles Less Than 2032 mm in Overall Width, SAE J586, March 2000, incorporation by reference approved for Sec. 393.25(c).

    4. Stop Lamps and Front- and Rear-Turn Signal Lamps for Use on Motor Vehicles 2032 mm or more in Overall Width, SAE J2261, January 2002, incorporated by reference approved for Sec. 393.25 (c).

    5. Tail Lamps (Rear Position Lamps) for Use on Motor Vehicles Less Than 2032 mm in Overall Width, SAE J585, March 2000, incorporation by reference approved for Sec. 393.25(c).

    6. Tail Lamps (Rear Position Lamps) for Use on Vehicles 2032 mm or More in Overall Width, SAE J2040, March 2002, incorporation by reference approved for Sec. 393.25(c).

    7. Turn Signal Lamps for Use on Motor Vehicles Less Than 2032 mm in Overall Width, SAE J588, March 2000, incorporation by reference approved for Sec. 393.25(c).

    8. Sidemarker Lamps for Use on Road Vehicles Less Than 2032 mm in Overall Width, SAE J592, August 2000, incorporation by reference approved for Sec. 393.25(c).

    9. Directional Flashing Optical Warning Devices for Authorized Emergency, Maintenance, and Service Vehicles, SAE J595, January 2005, incorporation by reference approved for Sec. 393.25(e).

    10. Optical Warning Devices for Authorized Emergency, Maintenance, and Service Vehicles, SAE J845, May 1997, incorporation by reference approved for Sec. 393.25(e).

    11. Gaseous Discharge Warning Lamp for Authorized Emergency, Maintenance, and Service Vehicles, SAE J1318, May 1998, incorporation by reference approved for Sec. 393.25(e).

    12. Reflex Reflectors, SAE J594, December 2003, incorporation by reference approved for Sec. 393.26(c).

    13. Standard Specification for Retroreflective Sheeting for Traffic Control, American Society of Testing and Materials, ASTM D 4956-04, 2004, incorporation by reference approved for Sec. 393.26(c).

    14. Automobile, Truck, Truck-Tractor, Trailer, and Motor Coach Wiring, SAE J1292, October 1981, incorporated by reference approved for Sec. 393.28.

    15. Long Stroke Air Brake Actuator Marking, SAE J1817, July 2001, incorporation by reference approved for Sec. 393.47(e).

    16. American National Standard for Safety Glazing Materials for Glazing Motor Vehicles and Motor Vehicle Equipment Operating on Land Highways-Safety Standard, SAE Z26.1-1996, August 1997, incorporation by reference approved for Sec. 393.62(d).

17. Specification for Sound Level Meters, American National Standards Institute, S1.4-1983, incorporation by reference approved for Sec. 393.94(c).

18. Standard Specification for Strapping, Flat Steel and Seals, American Society for Testing and Materials (ASTM), D3953-97, February 1998, incorporation by reference approved for Sec. 393.104(e).

19. Welded Steel Chain Specifications, National Association of Chain Manufacturers, September 28, 2005, incorporation by reference approved for Sec. 393.104(e).

20. Recommended Standard Specification for Synthetic Web Tiedowns, Web Sling and Tiedown Association, WSTDA-T1, 1998, incorporation by reference approved for Sec. 393.104(e).

21. Wire Rope Users Manual, 2nd Edition, Wire Rope Technical Board November 1985, incorporation by reference approved for Sec. 393.104(e).

22. Cordage Institute rope standards approved for incorporation into Sec. 393.104(e):

    (i) PETRS-2, Polyester Fiber Rope, 3-Strand and 8-Strand Constructions, January 1993;

    (ii) PPRS-2, Polypropylene Fiber Rope, 3-Strand and 8-Strand Constructions, August 1992;

    (iii) CRS-1, Polyester/Polypropylene Composite Rope Specifications, Three-Strand and Eight-Strand Standard Construction, May 1979;

    (iv) NRS-1, Nylon Rope Specifications, Three-Strand and Eight-Strand Standard Construction, May 1979; and

    (v) C-1, Double Braided Nylon Rope Specifications DBN, January 1984.

- Availability. The materials incorporated by reference are available as follows:

    - Underwriters Laboratories, Inc.
      333 Pfingsten Road, Northbrook, Illinois 60062

    - American Society for Testing and Materials
      100 Barr Harbor Drive
      West Conshohocken, Pennsylvania 19428-2959

    - National Association of Chain Manufacturers
      P.O. Box 22681
      Lehigh Valley, Pennsylvania 18002-2681

    - Web Sling and Tiedown Association, Inc.
      5024-R Campbell Boulevard
      Baltimore, Maryland 21236-5974

    - Wire Rope Technical Committee
      P.O. Box 849, Stevensville, Maryland 21666.

    - Cordage Institute
      350 Lincoln Street, 115
      Hingham, Massachusetts 02043

- Society of Automotive Engineers, Inc.
  400 Commonwealth Drive
  Warrendale, Pennsylvania 15096

- American National Standards Institute
  25 West 43rd Street
  New York, New York 10036

- All of the materials incorporated by reference are available for inspection at:

  - Federal Motor Carrier Safety Administration
    Office of Bus and Truck Standards and Operations
    400 Seventh Street, SW.
    Washington, DC 20590

  - National Archives and Records Administration (NARA)
    Call 202-741-6030

49 CFR 393.9 Lamps Operable, Prohibition of Obstructions of Lamps & Reflectors

Syracuse Haulers Waste Removal, Inc. acknowledges that All lamps required by this subpart shall be capable of being operated at all times. This paragraph shall not be construed to require that any auxiliary or additional lamp be capable of operating at all times.

Lamps and reflective devices/material required by this subpart must not be obscured by the tailboard, or by any part of the load, or its covering by dirt, or other added vehicle or work equipment, or otherwise.

Exception: The conspicuity treatments on the front end protection devices may be obscured by part of the load being transported.

49 CFR 393.11 Lamps & Reflective Devices

Lamps & Reflex Reflectors:

Table 1 specifies the requirements for lamps, reflective devices and associated equipment by the type of commercial motor vehicle. The diagrams in this section illustrate the position of the lamps, reflective devices and associated equipment specified in Table 1. All commercial motor vehicles manufactured on or after December 25, 1968, must, at a minimum, meet the applicable requirements of 49 CFR 571.108 (FMVSS No. 108) in effect at the time of manufacture of the vehicle. Commercial motor vehicles manufactured before December 25, 1968, must, at a minimum, meet the requirements of subpart B of part 393 in effect at the time of manufacture.

Exceptions: Pole trailers and trailer converter dollies must meet the part 393 requirements for lamps, reflective devices and electrical equipment in effect at the time of manufacture. Trailers which are equipped with conspicuity material which meets the requirements of Sec. 393.11(b) are not required to be equipped with the reflex reflectors listed in Table 1 if--

(i) The conspicuity material is placed at the locations where reflex reflectors are required by Table 1; and

(ii) The conspicuity material when installed on the motor vehicle meets the visibility requirements for the reflex reflectors

Conspicuity Systems:

Each trailer of 2,032 mm (80 inches) or more overall width, and with a GVWR over 4,536 kg (10,000 pounds), manufactured on or after December 1, 1993, except pole trailers and trailers designed exclusively for living or office use, shall be equipped with either retroreflective sheeting that meets the requirements of FMVSS No. 108 (S5.7.1), reflex reflectors that meet the requirements FMVSS No. 108 (S5.7.2), or a combination of retroreflective sheeting and reflex reflectors that meet the requirements of FMVSS No. 108 (S5.7.3). The conspicuity system shall be installed and located as specified in FMVSS No. 108 [S5.7.1.4 (for retroreflective sheeting), S5.7.2.2 (for reflex reflectors), S5.7.3 (for a combination of sheeting and reflectors)] and have certification and markings as required by S5.7.1.5 (for retroreflective tape) and S5.7.2.3 (for reflex
reflectors).

Prohibition on the use of amber stop lamps and tail lamps:

No commercial motor vehicle may be equipped with an amber stop lamp, a tail lamp, or other lamp which is optically combined with an amber stop lamp or tail lamp.

Prohibition on the use of auxiliary lamps that supplement the identification lamps:

No commercial motor vehicle may be equipped with lamps that are in a horizontal line with the required identification lamps unless those lamps are required by this regulation.

Table 1 – Required Lamps & Reflectors on Commercial Motor Vehicles

Item on the Vehicle	Quantity	Color	Location	Position	Height*
Headlamps	2	White	Front	Front, same height, equal number at each side, as far apart as practicable	Not less than 22” nor more than 54”
Turn Signal (front) – see Footnotes 2 & 12	2	Amber	At or near the front	One on each side, same height, as far apart as practicable	Not less than 15” nor more than 83”
Identification Lamps (Front) – see Footnote 1	3	Amber	Front	As close as practicable to top of vehicle, same height, as close to center as possible	Between 15” and 72”
Clearance Lamps – see Footnotes 8, 9, 10, 15 & 17	2	Amber	One on each side of the front of vehicle	One on each side of vertical centerline to indicate overall width	Both on same level as high as practicable
Clearance Lamps – see Footnotes 8, 9, 10, 15 & 17	2	Red	One on each side on rear of vehicle	One on each side of vertical centerline to	Both on same level as high as practicable

				indicate overall width	
Reflex Reflector, intermediate (side)	2	Amber	One on each side	At or near midpoint btwn front & rear side marker lamps, if vehicle length is greater than 9144 mm (30')	Btwn 15" and 60"
Reflex Reflector (rear) – see Footnotes 5, 6 & 8	2	Red	Rear	One on each side of center, as far apart as practicable and at same height	Both at same level, btwn 15" and 60"
Reflex Reflector (rear side)	2	Red	One on each side (rear)	As far to rear as practicable	Both on same level, btwn 15" and 60"
Reflex Reflector (front side) – see Footnote 16	2	Amber	One on each side (front)		
License Plate Lamp (rear) – see Footnote 11	1	White	At rear license plate to illuminate from top or sides	none	none
Side Marker Lamp (front) – see Footnote 16	2	Amber	One on each side	As far to the front as practicable	Not less than 15"
Side Marker Lamp (intermediate)	2	Amber	One on each side	At or near midpoint, btwn front and rear side marker lamps, if length of vehicle is more than 9144 mm (30')	Not less than 15"
Side Marker Lamp (rear) – see Footnotes 4 & 8	2	Red	One on each side	As far to the rear as practicable	Not less than 15"; on rear of trailers not more than 60"
Turn signal (rear) – see Footnotes 5 & 12	2	Amber or Red	Rear	One lamp on each side of center, as far apart as practicable	Both on same level, btwn 15" and 83"
Identification Lamp (rear) – see Footnotes 3, 7 & 15	3	Red	Rear	One as close as practicable to center, one on each side with centers	All three on same level, as close as practicable to top of vehicle

				not spaced less than 6” or more than 12” apart	
Vehicular Hazard Warning Signal Flasher Lamps – see Footnotes 5 & 12	2	Amber	Front	One lamp on each side of center, as far apart as practicable	Both on same level, btwn 15” and 83”
Vehicular Hazard Warning Signal Flasher Lamps – see Footnotes 5 & 12	2	Amber or Red	Rear	One lamp on each side of center, as far apart as practicable	Both on same level, btwn 15” and 83”
Parking Lamp	2	Amber or White	Front	One lamp on each side of center, as far apart as practicable	Both on same level, btwn 15” and 83”

Tail Lamps – see Footnotes 5 & 11

Stop Lamps – see Footnotes 5 & 13

Backup Lamp – see Footnote 14

Note: Lamps and reflectors may be combined as permitted by Sec. 393.22 and S5.4 of 49 CFR 571.108, Equipment combinations.

Footnote--1 Identification lamps may be mounted on the vertical centerline of the cab where different from the centerline of the vehicle, except where the cab is not more than 42 inches wide at the front roofline, then a single lamp at the center of the cab shall be deemed to comply with the requirements for identification lamps. No part of the identification lamps or their mountings may extend below the top of the vehicle windshield.

Footnote--2 Unless the turn signals on the front are so constructed (double-faced) and located as to be visible to passing drivers, two turn signals are required on the rear of the truck tractor, one at each side as far apart as practicable.

Footnote--3 The identification lamps need not be visible or lighted if obscured by a vehicle in the same combination.

Footnote--4 Any semitrailer or full trailer manufactured on or after March 1, 1979, shall be equipped with rear side-marker lamps at a height of not less than 381 mm (15 inches), and on the rear of trailers not more than 1,524 mm (60 inches) above the road surface, as measured from the center of the lamp on the vehicle at curb weight.

Footnote--5 Each converter dolly, when towed singly by another vehicle and not as part of a full trailer, shall be equipped with one stop lamp, one tail lamp, and two reflectors (one on each side of the vertical centerline, as far apart as practicable) on the rear. Each converter dolly shall be equipped with rear turn signals and vehicular hazard warning signal flasher lamps when towed singly by another vehicle and not as part of a full trailer, if the converter dolly obscures the turn signals at the rear of the towing vehicle.

Footnote--6 Pole trailers shall be equipped with two reflex reflectors on the rear, one on each side of the vertical centerline as far apart as practicable, to indicate the extreme width of the trailer.

Footnote--7 Pole trailers, when towed by motor vehicles with rear identification lamps meeting the requirements of Sec. 393.11 and mounted at a height greater than the load being transported on the pole trailer, are not required to have rear identification lamps.

Footnote--8 Pole trailers shall have on the rearmost support for the load: (1) two front clearance lamps, one on each side of the vehicle, both on the same level and as high as practicable to indicate the overall width of the pole trailer; (2) two rear clearance lamps, one on each side of the vehicle, both on the same level and as high as practicable to indicate the overall width of the pole trailer; (3) two rear side marker lamps, one on each side of the vehicle, both on the same level, not less than 375 mm (15 inches) above the road surface; (4) two rear reflex reflectors, one on each side, both on the same level, not less than 375 mm (15 inches) above the road surface to indicate maximum width of the pole trailer; and (5) one red reflector on each side of the rearmost support for the load. Lamps and reflectors may be combined as allowed in Sec. 393.22.

Footnote--9 Any motor vehicle transporting a load which extends more than 102 mm (4 inches) beyond the overall width of the motor vehicle shall be equipped with the following lamps in addition to other required lamps when operated during the hours when headlamps are required to be used.

(1) The foremost edge of that portion of the load which projects beyond the side of the vehicle shall be marked (at its outermost extremity) with an amber lamp visible from the front and side.

(2) The rearmost edge of that portion of the load which projects beyond the side of the vehicle shall be marked (at its outermost extremity) with a red lamp visible from the rear and side.

(3) If the projecting load does not measure more than 914 mm (3 feet) from front to rear, it shall be marked with an amber lamp visible from the front, both sides, and rear, except that if the projection is located at or near the rear it shall be marked by a red lamp visible from front, side, and rear.

Footnote--10 Projections beyond rear of motor vehicles. Motor vehicles transporting loads which extend more than 1,219 mm (4 feet) beyond the rear of the motor vehicle, or which have tailboards or tailgates extending more than 1,219 mm (4 feet) beyond the body, shall have these projections marked as follows when the vehicle is operated during the hours when headlamps are required to be used:

(1) On each side of the projecting load, one red side marker lamp, visible from the side, located so as to indicate maximum overhang.

(2) On the rear of the projecting load, two red lamps, visible from the rear, one at each side; and two red reflectors visible from the rear, one at each side, located so as to indicate maximum width.

Footnote--11 To be illuminated when tractor headlamps are illuminated.

Footnote--12 Every bus, truck, and truck tractor shall be equipped with a signaling system that, in addition to signaling turning movements, shall have a switch or combination of switches that will cause the two front turn signals and the two rear signals to flash simultaneously as a vehicular traffic signal warning, required by Sec. 392-22(a). The system shall be capable of flashing simultaneously with the ignition of the vehicle on or off.

Footnote--13 To be actuated upon application of service brakes.

Footnote--14 Backup lamp required to operate when bus, truck, or truck tractor is in reverse.

Footnote--15

(1) For the purposes of Section 393.11, the term ``overall width'' refers to the nominal design dimension of the widest part of the vehicle, exclusive of the signal lamps, marker lamps, outside rearview mirrors, flexible fender extensions, and mud flaps.

(2) Clearance lamps may be mounted at a location other than on the front and rear if necessary to indicate the overall width of a vehicle, or for protection from damage during normal operation of the vehicle.

(3) On a trailer, the front clearance lamps may be mounted at a height below the extreme height if mounting at the extreme height results in the lamps failing to mark the overall width of the trailer.

(4) On a truck tractor, clearance lamps mounted on the cab may be located to indicate the width of the cab, rather than the width of the vehicle.

(5) When the rear identification lamps are mounted at the extreme height of a vehicle, rear clearance lamps are not required to be located as close as practicable to the top of the vehicle.

Footnote--16 A trailer subject to this part that is less than 1829 mm (6 feet) in overall length, including the trailer tongue, need not be equipped with front side marker lamps and front side reflex reflectors.

Footnote--17 A boat trailer subject to this part whose overall width is 2032 mm (80 inches) or more need not be equipped with both front and rear clearance lamps provided an amber (front) and red (rear) clearance lamp is located at or near the midpoint on each side so as to indicate its extreme width.

49 CFR 393.13 Retroreflective Sheeting & Reflex Reflectors, Requirements for Semitrailers and trailers manufactured before December 1, 1993

Applicability

All trailers and semitrailers manufactured prior to December 1, 1993, which have an overall width of 2,032 mm (80 inches) or more and a gross vehicle weight rating of 4,536 kg (10,001 pounds) or more, except trailers that are manufactured exclusively for use as offices or dwellings, pole trailers (as defined in Sec. 390.5 of this subchapter), and trailers transported in a driveaway-towaway operation, must be equipped with retroreflective sheeting or an array of reflex reflectors that meet the requirements of this section. Motor carriers operating trailers, other than container chassis (as defined in Sec. 393.5), have until June 1, 2001, to comply with the requirements of this section. Motor carriers operating container chassis have until December 1, 2001, to comply with the requirements of this section.

Retroreflective sheeting and reflex reflectors

Motor carriers are encouraged to retrofit their trailers with a conspicuity system that meets all of the requirements applicable to trailers manufactured on or after December 1, 1993, including the use of retroreflective sheeting or reflex reflectors in a red and white pattern (see Federal Motor Vehicle Safety Standard No. 108 (49 CFR 571.108), S5.7, Conspicuity systems). Motor carriers which do not retrofit their trailers to meet the requirements of FMVSS No. 108, for example by using an alternative color pattern, must comply with the remainder of this paragraph and with paragraph (c) or (d) of this section. Retroreflective sheeting or reflex reflectors in colors or color combinations other than red and white may be used on the sides or lower rear area of the semitrailer or trailer until June 1, 2009. The alternate color or color combination must be uniform along the sides and lower rear area of the trailer. The retroreflective sheeting or reflex reflectors on the upper rear area of the trailer must be white and conform to the requirements of FMVSS No. 108 (S5.7). Red retroreflective sheeting or reflex reflectors shall not be used along the sides of the trailer unless it is used as part of a red and white pattern. Retroreflective sheeting shall have a width of at least 50 mm (2 inches).

Locations for retroreflective sheeting

(1) Sides - Retroreflective sheeting shall be applied to each side of the trailer or semitrailer. Each strip of retroreflective sheeting shall be positioned as horizontally as practicable, beginning and ending as close to the front and rear as practicable. The strip need not be continuous but the sum of the length of all of the segments shall be at least half of the length of the trailer and the spaces between the segments of the strip shall be distributed as evenly as practicable. The centerline for each strip of retroreflective sheeting shall be between 375 mm (15 inches) and 1,525 mm (60 inches) above the road surface when measured with the trailer empty or unladen, or as close as practicable to this area. If necessary to

clear rivet heads or other similar obstructions, 50 mm (2 inches) wide retroreflective sheeting may be separated into two 25 mm (1 inch) wide strips of the same length and color, separated by a space of not more than 25 mm (1 inch).

(2) Lower rear area - The rear of each trailer and semitrailer must be equipped with retroreflective sheeting. Each strip of retroreflective sheeting shall be positioned as horizontally as practicable, extending across the full width of the trailer, beginning and ending as close to the extreme edges as practicable. The centerline for each of the strips of retroreflective sheeting shall be between 375 mm (15 inches) and 1,525 mm (60 inches) above the road surface when measured with the trailer empty or unladen, or as close as practicable to this area.

(3) Upper rear area - Two pairs of white strips of retroreflective sheeting, each pair consisting of strips 300 mm (12 inches) long, must be positioned horizontally and vertically on the right and left upper corners of the rear of the body of each trailer and semitrailer, as close as practicable to the top of the trailer and as far apart as practicable. If the perimeter of the body, as viewed from the rear, is not square or rectangular, the strips may be applied along the perimeter, as close as practicable to the uppermost and outermost areas of the rear of the body on the left and right sides.

Locations for reflex reflectors

(1) Sides - Reflex reflectors shall be applied to each side of the trailer or semitrailer. Each array of reflex reflectors shall be positioned as horizontally as practicable, beginning and ending as close to the front and rear as practicable. The array need not be continuous but the sum of the length of all of the array segments shall be at least half of the length of the trailer and the spaces between the segments of the strip shall be distributed as evenly as practicable. The centerline for each array of reflex reflectors shall be between 375 mm (15 inches) and 1,525 mm (60 inches) above the road surface when measured with the trailer empty or unladen, or as close as practicable to this area. The center of each reflector shall not be more than 100 mm (4 inches) from the center of each adjacent reflector in the segment of the array. If reflex reflectors are arranged in an alternating color pattern, the length of reflectors of the first color shall be as close as practicable to the length of the reflectors of the second color.

(2) Lower rear area - The rear of each trailer and semitrailer must be equipped with reflex reflectors. Each array of reflex reflectors shall be positioned as horizontally as practicable, extending across the full width of the trailer, beginning and ending as close to the extreme edges as practicable. The centerline for each array of reflex reflectors shall be between 375 mm (15 inches) and 1,525 mm (60 inches) above the road surface when measured with the trailer empty or unladen, or as close as practicable to this area. The center of each reflector shall not be more than 100 mm (4 inches) from the center of each adjacent reflector in the segment of the array.

(3) Upper rear area - Two pairs of white reflex reflector arrays, each pair at least 300 mm (12 inches) long, must be positioned horizontally and vertically on the right and left upper corners of the rear of the body of each trailer and semitrailer, as close as practicable to the top of the trailer and as far apart as practicable. If the perimeter of the body, as viewed from the rear, is not square or rectangular, the arrays may be applied along the perimeter, as close as practicable to the uppermost and outermost areas of the rear of the body on the left and right sides. The center of each reflector shall not be more than 100 mm (4 inches) from the center of each adjacent reflector in the segment of the array.

49 CFR 393.17 Lamps & Reflectors – Combinations in Driveway-Towaway Operation

A combination of motor vehicles engaged in driveaway-towaway operation must be equipped with operative lamps and reflectors conforming to the rules in this section.

(a) The towing vehicle must be equipped as follows:

(1) On the front, there must be at least two headlamps, an equal number at each side, two turn signals, one at each side, and two clearance lamps, one at each side.

(2) On each side, there must be at least one side-marker lamp, located near the front of the vehicle.

(3) On the rear, there must be at least two tail lamps, one at each side, and two stop lamps, one at each side.

(b) Except as provided in paragraph (c) of this section, the rearmost towed vehicle of the combination (including the towed vehicle or a tow-bar combination, the towed vehicle of a single saddle-mount combination, and the rearmost towed vehicle of a double or triple saddle-mount combination) or, in the case of a vehicle full-mounted on a saddle-mount vehicle, either the full-mounted vehicle or the rearmost saddle-mounted vehicle must be equipped as follows:

(1) On each side, there must be at least one side-marker lamp, located near the rear of the vehicle.

(2) On the rear, there must be at least two tail lamps, two stop lamps, two turn signals, two clearance lamps, and two reflectors, one of each type at each side. In addition, if any vehicle in the combination is 80 inches or more in overall width, there must be three identification lamps on the rear.

(c) If the towed vehicle in a combination is a mobile structure trailer, it must be equipped in accordance with the following lighting devices. For the purposes of this part, mobile structure trailer means a trailer that has a roof and walls, is at least 10 feet wide, and can be used off road for dwelling or commercial purposes.

(1) When the vehicle is operated in accordance with the terms of a special permit prohibiting operation during the times when lighted lamps are required under Sec. 392.30, it must have on the rear--

(i) Two stop lamps, one on each side of the vertical centerline, at the same height, and as far apart as practicable;

(ii) Two tail lamps, one on each side of the vertical centerline, at the same height, and as far apart as practicable;

(iii) Two red reflex reflectors, one on each side of the vertical centerline, at the same height, and as far apart as practicable; and

(iv) Two turn signal lamps, one on each side of the vertical centerline, at the same height, and as far apart as practicable.

(2) At all other times, the vehicle must be equipped as specified in paragraph (b) of this section.

(d) An intermediate towed vehicle in a combination consisting of more than two vehicles (including the first saddle-mounted vehicle of a double saddle-mount combination and the first and second saddle-mount vehicles of a triple saddle-mount combination) must have one side-marker lamp on each side, located near the rear of the vehicle.

49 CFR 393.19 Hazard Warning Signals

The hazard warning signal operating unit on each commercial motor vehicle shall operate independently of the ignition or equivalent switch, and when activated, cause all turn signals required by Sec. 393.11 to flash simultaneously.

49 CFR 393.22 Combination of Lighting Devices and Reflectors

Permitted combinations:

Except as provided in paragraph (b) of this section, two or more lighting devices and reflectors (whether or not required by the rules in this part) may be combined optically if--

(1) Each required lighting device and reflector conforms to the applicable rules in this part; and

(2) Neither the mounting nor the use of a nonrequired lighting device or reflector impairs the effectiveness of a required lighting device or reflector or causes that device or reflector to be inconsistent with the applicable rules in this part.

Prohibited combinations:

(1) A turn signal lamp must not be combined optically with either a head lamp or other lighting device or combination of lighting devices that produces a greater intensity of light than the turn signal lamp.

(2) A turn signal lamp must not be combined optically with a stop lamp unless the stop lamp function is always deactivated when the turn signal function is activated.

(3) A clearance lamp must not be combined optically with a tail lamp or identification lamp.

49 CFR 393.23 Power Supply for Lamps

All required lamps must be powered by the electrical system of the motor vehicle with the exception of battery powered lamps used on projecting leads.

49 CFR 393.24 Requirements for Head Lamps, Auxiliary Driving Lamps, and Front Fog Lamps

Headlamps

Every bus, truck and truck tractor shall be equipped with headlamps as required by Sec. 393.11(a). The headlamps shall provide an upper and lower beam distribution of light, selectable at the driver's will and be steady-burning. The headlamps shall be marked in accordance with FMVSS No. 108. Auxiliary driving lamps and/or front fog lamps may not be used to satisfy the requirements of this paragraph.

Auxiliary driving lamps and front fog lamps

Commercial motor vehicles may be equipped with auxiliary driving lamps and/or front fog lamps for use in conjunction with, but not in lieu of the required headlamps. Auxiliary driving lamps shall meet SAE Standard J581 Auxiliary Upper Beam Lamps, July 2004, and front fog lamps shall meet SAE Standard J583 Front Fog Lamp, August 2004. (See Sec. 393.7 for information on the incorporation by reference and availability of these documents.)

Mounting

Headlamps shall be mounted and aimable in accordance with FMVSS No. 108. Auxiliary driving lamps and front fog lamps shall be mounted so that the beams are aimable and the mounting shall prevent the aim of the lighting device from being disturbed while the vehicle is operating on public roads.

Aiming

Headlamps, auxiliary driving lamps and front fog lamps shall be aimed to meet the aiming specifications in FMVSS No. 108 (49 CFR 571.108), SAE J581, and SAE J583, respectively.

49 CFR 393.25 Requirements for Lamps Other Than Head Lamps

Mounting

All lamps shall be securely mounted on a rigid part of the vehicle. Temporary lamps must be securely mounted to the load and are not required to be mounted to a permanent part of the vehicle.

Visibility

Each lamp shall be located so that it meets the visibility requirements specified by FMVSS No. 108 in effect at the time of manufacture of the vehicle. Vehicles which were not subject to FMVSS No. 108 at the time of manufacture shall have each lamp located so that it meets the visibility requirements specified in the SAE standards listed in paragraph (c) of this section. If motor vehicle equipment (e.g., mirrors, snow plows, wrecker booms, backhoes, and winches) prevents compliance with this paragraph by any required lamp, an auxiliary lamp or device meeting the requirements of this paragraph shall be provided. This shall not be construed to apply to lamps on one unit which are obscured by another unit of a combination of vehicles.

49 CFR 393.25 Requirements for Lamps Other Than Head Lamps (CONT'D.)

Specifications

All required lamps (except marker lamps on projecting loads, lamps which are temporarily attached to vehicles transported in driveaway-towaway operations, and lamps on converter dollies and pole trailers) on vehicles manufactured on or after December 25, 1968, shall, at a minimum, meet the applicable requirements of FMVSS No. 108 in effect on the date of manufacture of the vehicle. Marker lamps on projecting loads, all lamps which are temporarily attached to vehicles transported in driveaway-towaway operations, and all lamps on converter dollies and pole trailers must meet the following applicable SAE standards: J586--Stop Lamps for Use on Motor Vehicles Less Than 2032 mm in Overall Width, March 2000; J2261 Stop Lamps and Front- and Rear-Turn Signal Lamps for Use on Motor Vehicles 2032 mm or More in Overall Width, January 2002; J585--Tail Lamps (Rear Position Lamps) for Use on Motor Vehicles Less Than 2032 mm in Overall Width, March 2000; J588--Turn Signal Lamps for Use on Motor Vehicles Less Than 2032 mm in Overall Width, March 2000; J2040--Tail Lamps (Rear Position Lamps) for Use on Vehicles 2032 mm or More in Overall Width, March 2002; J592--Sidemarker Lamps for Use on Road Vehicles Less Than 2032 mm in Overall Width, August 2000. (See Sec. 393.7 for information on the incorporation by reference and availability of these documents.)

Lamps to be steady-burning

All exterior lamps (both required lamps and any additional lamps) shall be steady-burning with the exception of turn signal lamps; hazard warning signal lamps; school bus warning lamps; amber warning lamps or flashing warning lamps on tow trucks and commercial motor vehicles transporting oversized loads; and warning lamps on emergency and service vehicles authorized by State or local authorities. Lamps combined into the same shell or housing with a turn signal are not required to be steady burning while the turn signal is in use. Amber warning lamps must meet SAE J845--Optical Warning Devices for Authorized Emergency, Maintenance and Service Vehicles, May 1997. Amber flashing warning lamps must meet SAE J595--Directional Flashing Optical Warning Devices for Authorized Emergency, Maintenance and Service Vehicles, January 2005. Amber gaseous discharge warning lamps must meet SAE J1318 Gaseous Discharge Warning Lamp for Authorized Emergency, Maintenance, and Service Vehicles, May 1998. (See Sec. 393.7(b) for information on the incorporation by reference and availability of these documents.)

Stop lamp operation

The stop lamps on each vehicle shall be activated upon application of the service brakes. The stop lamps are not required to be activated when the emergency feature of the trailer brakes is used or when the stop lamp is optically combined with the turn signal and the turn signal is in use.

49 CFR 393.26 Requirements for Reflectors

Mounting

Reflex reflectors shall be mounted at the locations required by Sec. 393.11. In the case of motor vehicles so constructed that requirement for a 381 mm (15-inch) minimum height above the road surface is not practical, the reflectors shall be mounted as close as practicable to the required mounting height range. All permanent reflex reflectors shall be securely mounted on a rigid part of the vehicle. Temporary reflectors on projecting loads must be securely mounted to the load and are not required to be permanently mounted to a part of the vehicle. Temporary reflex reflectors on vehicles transported in driveaway-towaway operations must be firmly attached.

49 CFR 393.26 Requirements for Reflectors (CONT'D.)

Specifications

All required reflex reflectors (except reflex reflectors on projecting loads, vehicles transported in a driveaway-towaway operation, converter dollies and pole trailers) on vehicles manufactured on or after December 25, 1968, shall meet the applicable requirements of FMVSS No. 108 in effect on the date of manufacture of the vehicle. Reflex reflectors on projecting loads, vehicles transported in a driveaway-towaway operation, and all reflex reflectors on converter dollies and pole trailers must conform to SAE J594--Reflex Reflectors, December 2003.

Substitute material for side reflex reflectors

Reflective material conforming to ASTM D 4956-04, Standard Specification for Retroreflective Sheeting for Traffic Control, may be used in lieu of reflex reflectors if the material as used on the vehicle, meets the performance standards in either Table I of SAE J594 or Table IA of SAE J594--Reflex Reflectors, December 2003. (See Sec. 393.7(b) for information on the incorporation by reference and availability of these documents.)

Use of additional retroreflective surfaces

Additional retroreflective surfaces may be used in conjunction with, but not in lieu of the reflex reflectors required in subpart B of part 393, and the substitute material for side reflex reflectors allowed by paragraph (c) of this section, provided:

(1) Designs do not resemble traffic control signs, lights, or devices, except that straight edge striping resembling a barricade pattern may be used.

(2) Designs do not tend to distort the length and/or width of the motor vehicle.

(3) Such surfaces shall be at least 3 inches from any required lamp or reflector unless of the same color as such lamp or reflector.

(4) No red color shall be used on the front of any motor vehicle, except for display of markings or placards required by Sec. 177.823 of this title.

(5) Retroreflective license plates required by State or local authorities may be used.

49 CFR 393.28 Wiring Systems

Electrical wiring shall be installed and maintained to conform to SAE J1292--Automobile, Truck, Truck-Tractor, Trailer, and Motor Coach Wiring, October 1981, except the jumper cable plug and receptacle need not conform to SAE J560. The reference to SAE J1292 shall not be construed to require circuit protection on trailers. (See Sec. 393.7(b) for information on the incorporation by reference and availability of this document.)

49 CFR 393.30 Battery Installation

Every storage battery on every vehicle, unless located in the engine compartment, shall be covered by a fixed part of the motor vehicle or protected by a removable cover or enclosure. Removable covers or enclosures shall be substantial and shall be securely latched or fastened. The storage battery compartment and adjacent metal parts which might corrode by reason of battery leakage shall be painted or coated with an acid-resisting paint or coating and shall have openings to provide ample battery ventilation and drainage. Wherever the cable to the starting motor passes through a metal compartment, the cable shall be protected against grounding by an acid and waterproof insulating bushing. Wherever a battery and a fuel tank are both placed under the driver's seat, they shall be partitioned from each other, and each compartment shall be provided with an independent cover, ventilation, and drainage.

49 CFR 393.40 Required Brake Systems

- Each commercial motor vehicle must have brakes adequate to stop and hold the vehicle or combination of motor vehicles. Each commercial motor vehicle must meet the applicable service, parking, and emergency brake system requirements provided in this section.
- Service brakes
    - Hydraulic brake systems. Motor vehicles equipped with hydraulic brake systems and manufactured on or after September 2, 1983, must, at a minimum, have a service brake system that meets the requirements of FMVSS No. 105 in effect on the date of manufacture. Motor vehicles which were not subject to FMVSS No. 105 on the date of manufacture must have a service brake system that meets the applicable requirements of Sec. Sec. 393.42, 393.48, 393.49, 393.51, and 393.52 of this subpart.
    - Air brake systems. Buses, trucks and truck-tractors equipped with air brake systems and manufactured on or after March 1, 1975, and trailers manufactured on or after January 1, 1975, must, at a minimum, have a service brake system that meets the requirements of FMVSS No. 121 in effect on the date of manufacture. Motor vehicles which were not subject to FMVSS No. 121 on the date of manufacture must have a service brake system that meets the applicable requirements of Sec. Sec. 393.42, 393.48, 393.49, 393.51, and 393.52 of this subpart.
    - Vacuum brake systems. Motor vehicles equipped with vacuum brake systems must have a service brake system that meets the applicable requirements of Sec. Sec. 393.42, 393.48, 393.49, 393.51, and 393.52 of this subpart.
    - Electric brake systems. Motor vehicles equipped with electric brake systems must have a service brake system that meets the applicable requirements of Sec. Sec. 393.42, 393.48, 393.49 and 393.52 of this subpart.
- Parking brakes. Each commercial motor vehicle must be equipped with a parking brake system that meets the applicable requirements of Sec. 393.41.
- Emergency brakes--partial failure of service brakes.

- Hydraulic brake systems. Motor vehicles manufactured on or after September 2, 1983, and equipped with a split service brake system must, at a minimum, meet the partial failure requirements of FMVSS No. 105 in effect on the date of manufacture.

- Air brake systems. Buses, trucks and truck tractors manufactured on or after March 1, 1975, and trailers manufactured on or after January 1, 1975, must be equipped with an emergency brake system which, at a minumum, meets the requirements of FMVSS No. 121 in effect on the date of manufacture.

- Vehicles not subject to FMVSS Nos. 105 and 121 on the date of manufacture. Buses, trucks and truck tractors not subject to FMVSS Nos. 105 or 121 on the date of manufacture must meet the requirements of Sec. 393.40(e). Trailers not subject to FMVSS No. 121 at the time of manufacture must meet the requirements of Sec. 393.43.

- Emergency brakes, vehicles manufactured on or after July 1, 1973

  - A bus, truck, truck tractor, or a combination of motor vehicles manufactured on or after July 1, 1973, and not covered under paragraphs (d)(1) or (d)(2) of this section, must have an emergency brake system which consists of emergency features of the service brake system or an emergency system separate from the service brake system. The emergency brake system must meet the applicable requirements of Sec. Sec. 393.43 and 393.52.

  - A control by which the driver applies the emergency brake system must be located so that the driver can operate it from the normal seating position while restrained by any seat belts with which the vehicle is equipped. The emergency brake control may be combined with either the service brake control or the parking brake control. However, all three controls may not be combined.

- Interconnected systems.

  - If the brake systems required by Sec. 393.40(a) are interconnected in any way, they must be designed, constructed, and maintained so that in the event of a failure of any part of the operating mechanism of one or more of the systems (except the service brake actuation pedal or valve), the motor vehicle will have operative brakes and, for vehicles manufactured on or after July 1, 1973, be capable of meeting the requirements of Sec. 393.52(b).

  - A motor vehicle to which the requirements of FMVSS No. 105 (S5.1.2), dealing with partial failure of the service brake, applied at the time of manufacture meets the requirements of Sec. 393.40(f)(1) if the motor vehicle is maintained in conformity with FMVSS No. 105 and the motor vehicle is capable of meeting the requirements of Sec. 393.52(b), except in the case of a structural failure of the brake master cylinder body.

  - A bus is considered to meet the requirements of Sec. 393.40(f)(1) if it meets the requirements of Sec. 393.44 and Sec. 393.52(b).

49 CFR 393.41 Parking Brake System

- Hydraulic-braked vehicles manufactured on or after September 2, 1983.
    - Each truck and bus (other than a school bus) with a GVWR of 4,536 kg (10,000 pounds) or less which is subject to this part and school buses with a GVWR greater than 4,536 kg (10,000 pounds) shall be equipped with a parking brake system as required by FMVSS No. 571.105 (S5.2) in effect at the time of manufacture. The parking brake shall be capable of holding the vehicle or combination of vehicles stationary under any condition of loading in which it is found on a public road (free of ice and snow). Hydraulic-braked vehicles which were not subject to the parking brake requirements of FMVSS No. 571.105 (S5.2) must be equipped with a parking brake system that meets the requirements of paragraph (c) of this section.
- Air-braked power units manufactured on or after March 1, 1975, and air-braked trailers manufactured on or after January 1, 1975.
    - Each air-braked bus, truck and truck tractor manufactured on and after March 1, 1975, and each air-braked trailer except an agricultural commodity trailer, converter dolly, heavy hauler trailer or pulpwood trailer, shall be equipped with a parking brake system as required by FMVSS No. 121 (S5.6) in effect at the time of manufacture. The parking brake shall be capable of holding the vehicle or combination of vehicles stationary under any condition of loading in which it is found on a public road (free of ice and snow). An agricultural commodity trailer, heavy hauler or pulpwood trailer shall carry sufficient chocking blocks to prevent movement when parked.
- Vehicles not subject to FMVSS Nos. 105 and 121 on the date of manufacture
    - Each singly driven motor vehicle not subject to parking brake requirements of FMVSS Nos. 105 or 121 at the time of manufacturer, and every combination of motor vehicles must be equipped with a parking brake system adequate to hold the vehicle or combination on any grade on which it is operated, under any condition of loading in which it is found on a public road (free of ice and snow).
    - The parking brake system shall, at all times, be capable of being applied by either the driver's muscular effort or by spring action. If other energy is used to apply the parking brake, there must be an accumulation of that energy isolated from any common source and used exclusively for the operation of the parking brake. Exception: This paragraph shall not be applicable to air-applied, mechanically-held parking brake systems which meet the parking brake requirements of FMVSS No. 121 (S5.6).
    - The parking brake system shall be held in the applied position by energy other than fluid pressure, air pressure, or electric energy. The parking brake system shall not be capable of being released unless adequate energy is available to immediately reapply the parking brake with the required effectiveness.

49 CFR 393.42 Brakes Required on All Wheels

- Every commercial motor vehicle shall be equipped with brakes acting on all wheels.
    - Exception. (1) Trucks or truck tractors having three or more axles and manufactured before July 25, 1980, are not required to have brakes on the front wheels. However, these vehicles must meet the requirements of Sec. 393.52.
- Motor vehicles being towed in a driveaway-towaway operation are not required to have operative brakes provided the combination of vehicles meets the requirements of Sec. 393.52. This exception is not applicable to:

  (i) Any motor vehicle towed by means of a tow-bar when another motor vehicle is full-mounted on the towed vehicle; and

(ii) Any combination of motor vehicles utilizing three or more saddle-mounts.

- Any semitrailer or pole trailer (laden or unladen) with a gross weight of 1,361 kg (3,000 pounds) or less which is subject to this part is not required to be equipped with brakes if the axle weight of the towed vehicle does not exceed 40 percent of the sum of the axle weights of the towing vehicle.

- Any full trailer or four-wheel pole trailer (laden or unladen) with a gross weight of 1,361 kg (3,000 pounds) or less which is subject to this part is not required to be equipped with brakes if the sum of the axle weights of the towed vehicle does not exceed 40 percent of the sum of the axle weights of the towing vehicle.

- Brakes are not required on the steering axle of a three-axle dolly which is steered by a co-driver.

- Loaded housemoving dollies, specialized trailers and dollies used to transport industrial furnaces, reactors, and similar motor vehicles are not required to be equipped with brakes, provided the speed at which the combination of vehicles will be operated does not exceed 32 km/hour (20 mph) and brakes on the combination of vehicles are capable of stopping the combination within 12.2 meters (40 feet) from the speed at which the vehicle is being operated or 32 km/hour (20 mph), whichever is less.

49 CFR 393.43 Breakaway and Emergency Braking

- Towing vehicle protection system. Every motor vehicle, if used to tow a trailer equipped with brakes, shall be equipped with a means for providing that in the case of a breakaway of the trailer, the service brakes on the towing vehicle will be capable of stopping the towing vehicle. For air braked towing units, the tractor protection valve or similar device shall operate automatically when the air pressure on the towing vehicle is between 138 kPa and 310 kPa (20 psi and 45 psi).

- Emergency brake requirements, air brakes. Every truck or truck tractor equipped with air brakes, when used for towing other vehicles equipped with air brakes, shall be equipped with two means of activating the emergency features of the trailer brakes. One of these means shall operate automatically in the event of reduction of the towing vehicle air supply to a fixed pressure which shall not be lower than 20 pounds per square inch nor higher than 45 pounds per square inch. The other means shall be a manually controlled device readily operable by a person seated in the driving seat. Its emergency position or method of operation shall be clearly indicated. In no instance may the manual means be so arranged as to permit its use to prevent operation of the automatic means. The automatic and manual means required by this section may be, but are not required to be, separate.

- Emergency brake requirements, vacuum brakes. Every truck tractor and truck when used for towing other vehicles equipped with vacuum brakes, shall have, in addition to the single control required by Sec. 393.49 to operate all brakes of the combination, a second manual control device which can be used to operate the brakes on the towed vehicles in emergencies. Such second control shall be independent of brake air, hydraulic, and other pressure, and independent of other controls, unless the braking system be so arranged that failure of the pressure on which the second control depends will cause the towed vehicle brakes to be applied automatically. The second control is not required by this rule to provide modulated or graduated braking.

- Breakaway braking requirements for trailers. Every trailer required to be equipped with brakes shall have brakes which apply automatically and immediately upon breakaway from the towing vehicle. With the exception of trailers having three or more axles, all brakes with which the trailer is required to be equipped must be applied upon breakaway from the towing vehicle. The brakes must remain in the applied position for at least 15 minutes.

- Emergency valves. Air brake systems installed on towed vehicles shall be so designed, by the use of ``no-bleed-back'' relay emergency valves or equivalent devices, that the supply reservoir used to provide air for brakes shall be safeguarded against backflow of air to the towing vehicle upon reduction of the towing vehicle air pressure.

- Exception. The requirements of paragraphs (b), (c) and (d) of this section shall not be applicable to commercial motor vehicles being transported in driveaway-towaway operations.

49 CFR 393.44 Front Brake Lines, Protection

On every bus, if equipped with air brakes, the braking system shall be so constructed that in the event any brake line to any of the front wheels is broken, the driver can apply the brakes on the rear wheels despite such breakage. The means used to apply the brakes may be located forward of the driver's seat as long as it can be operated manually by the driver when the driver is properly restrained by any seat belt assembly provided for use. Every bus shall meet this requirement or comply with the regulations in effect at the time of its manufacture.

49 CFR 393.45 Brake Tubing and Hoses; Hose Assemblies and End Fittings

- General construction requirements for tubing and hoses, assemblies, and end fittings. All brake tubing and hoses, brake hose assemblies, and brake hose end fittings must meet the applicable requirements of FMVSS No. 106 (49 CFR 571.106).

- Brake tubing and hose installation. Brake tubing and hose must—

    - Be long and flexible enough to accommodate without damage all normal motions of the parts to which it is attached;

    - Be secured against chaffing, kinking, or other mechanical damage; and

    - Be installed in a manner that prevents it from contacting the vehicle's exhaust system or any other source of high temperatures.

- Nonmetallic brake tubing. Coiled nonmetallic brake tubing may be used for connections between towed and towing motor vehicles or between the frame of a towed vehicle and the unsprung subframe of an adjustable axle of the motor vehicle if—

    - The coiled tubing has a straight segment (pigtail) at each end that is at least 51 mm (2 inches) in length and is encased in a spring guard or similar device which prevents the tubing from kinking at the fitting at which it is attached to the vehicle; and

    - The spring guard or similar device has at least 51 mm (2 inches) of closed coils or similar surface at its interface with the fitting and extends at least 38mm (1\1/2\ inches) into the coiled segment of the tubing from its straight segment.

- Brake tubing and hose connections. All connections for air, vacuum, or hydraulic braking systems shall be installed so as to ensure an attachment free of leaks, constrictions or other conditions which would adversely affect the performance of the brake system.

49 CFR 393.47 Brake Actuators, Slack Adjusters, Linings/Pads and Drums/Rotors

- General requirements. Brake components must be constructed, installed and maintained to prevent excessive fading and grabbing. The means of attachment and physical characteristics must provide for safe and reliable stopping of the commercial motor vehicle.

- Brake chambers. The service brake chambers and spring brake chambers on each end of an axle must be the same size.

- Slack adjusters. The effective length of the slack adjuster on each end of an axle must be the same.

- Linings and pads. The thickness of the brake linings or pads shall meet the applicable requirements of this paragraph--

  (1) Steering axle brakes. The brake lining/pad thickness on the steering axle of a truck, truck-tractor or bus shall not be less than 4.8 mm (\3/16\ inch) at the shoe center for a shoe with a continuous strip of lining; less than 6.4 mm (\1/4\ inch) at the shoe center for a shoe with two pads; or worn to the wear indicator if the lining is so marked, for air drum brakes. The steering axle brake lining/pad thickness shall not be less than 3.2 mm (\1/8\ inch) for air disc brakes, or 1.6 mm (\1/16\ inch) or less for hydraulic disc, drum and electric brakes.

  (2) Non-steering axle brakes. An air braked commercial motor vehicle shall not be operated with brake lining/pad thickness less than 6.4 mm (\1/4\ inch) or to the wear indicator if the lining is so marked (measured at the shoe center for drum brakes); or less than 3.2 mm (\1/8\ inch) for disc brakes. Hydraulic or electric braked commercial motor vehicles shall not be operated with a lining/pad thickness less than 1.6 mm (\1/16\ inch) (measured at the shoe center) for disc or drum brakes.

- Clamp and Roto-Chamber Brake Actuator Readjustment limits. The pushrod travel for clamp and roto-chamber type actuators must be less than 80 percent of the rated strokes listed in SAE J1817--Long Stroke Air Brake Actuator Marking, July 2001 (See Sec. 393.7 (b) for information on incorporation by reference and availability of this document), or 80 percent of the rated stroke marked on the brake chamber by the chamber manufacturer, or the readjustment limit marked on the brake chamber by the chamber manufacturer. The pushrod travel for Type 16 and 20 long stroke clamp type brake actuators must be less than 51 mm (2 inches) or 80 percent of the rated stroke marked on the brake chamber by the chamber manufacturer, or the readjustment limit marked on the brake chamber by the chamber manufacturer.

- Wedge Brake Adjustment. The movement of the scribe mark on the lining shall not exceed 1.6 mm (\1/16\ inch).

- Drums and rotors. The thickness of the drums or rotors shall not be less than the limits established by the brake drum or rotor manufacturer.

49 CFR 393.48 Brakes to be Operative

- General rule. Except as provided in paragraphs (b) and (c) of this section, all brakes with which a commercial motor vehicle is equipped must be operable at all times.

- Devices to reduce or remove front-wheel braking effort. A commercial motor vehicle may be equipped with a device to reduce the front wheel braking effort (or in the case of a three-axle truck or truck tractor manufactured before March 1, 1975, a device to remove the front-wheel braking effort) if that device meets the applicable requirements of paragraphs (b)(1) and (2) of this section.

  (1) Manually operated devices. Manually operated devices to reduce or remove front-wheel braking effort may only be used on buses, trucks, and truck tractors manufactured before March 1, 1975. Such devices must not be used unless the vehicle is being operated under adverse conditions such as wet, snowy, or icy roads.

  (2) Automatic devices. Automatic devices must not reduce the front-wheel braking force by more than 50 percent of the braking force available when the automatic device is disconnected (regardless of whether or not an antilock system failure has occurred on any axle). The device must not be operable by the driver except upon application of the control that activates the braking system. The device must not be operable when the brake control application pressure exceeds 85 psig (for vehicles equipped with air brakes) or 85 percent of the maximum system pressure (for vehicles which are not equipped with air brakes).

- Exception. Paragraph (a) of this section does not apply to--

  (1) A towed vehicle with disabling damage as defined in Sec. 390.5;

  (2) A vehicle which is towed in a driveaway-towaway operation and is included in the exemption to the requirement for brakes on all wheels, Sec. 393.42(b);

  (3) Unladen converter dollies with a gross weight of 1,361 kg (3,000 lbs) or less, and manufactured prior to March 1, 1998;

  (4) The steering axle of a three-axle dolly which is steered by a co-driver;

  (5) Loaded house moving dollies, specialized trailers and dollies used to transport industrial furnaces, reactors, and similar motor vehicles provided the speed at which the combination of vehicles will be operated does not exceed 32 km/hour (20 mph) and brakes on the combination of vehicles are capable of stopping the combination within 12.2 meters (40 feet) from the speed at which the vehicle is being operated or 32 km/hour (20 mph), whichever is less.

(6) Raised lift axles. Brakes on lift axles need not be capable of being operated while the lift axle is raised. However, brakes on lift axles must be capable of being applied whenever the lift axle is lowered and the tires contact the roadway.

49 CFR 393.49 Single Valve to Operate All Brakes

Every motor vehicle, the date of manufacture of which is subsequent to June 30, 1953, which is equipped with power brakes, shall have the braking system so arranged that one application valve shall when applied operate all the service brakes on the motor vehicle or combination of motor vehicles. This requirement shall not be construed to prohibit motor vehicles from being equipped with an additional valve to be used to operate the brakes on a trailer or trailers or as provided in Sec. 393.44. This section shall not be applicable to driveaway-towaway operations unless the brakes on such operations are designed to be operated by a single valve.

49 CFR 393.50 Reservoirs Required

- Reservoir capacity for air-braked power units manufactured on or after March 1, 1975, and air-braked trailers manufactured on or after January 1, 1975. Buses, trucks, and truck-tractors manufactured on or after March 1, 1975, and air-braked trailers manufactured on or after January 1, 1975, must meet the reservoir requirements of FMVSS No. 121, S5.1.2, in effect on the date of manufacture.

- Reservoir capacity for air-braked vehicles not subject to FMVSS No. 121 on the date of manufacture and all vacuum braked vehicles. Each motor vehicle using air or vacuum braking must have either reserve capacity, or a reservoir, that would enable the driver to make a full service brake application with the engine stopped without depleting the air pressure or vacuum below 70 percent of that indicated by the air or vacuum gauge immediately before the brake application is made. For the purposes of this paragraph, a full service brake application means depressing the brake pedal or treadle valve to the limit of its travel.

- Safeguarding of air and vacuum. Each service reservoir system on a motor vehicle shall be protected against a loss of air pressure or vacuum due to a failure or leakage in the system between the service reservoir and the source of air pressure or vacuum, by check valves or equivalent devices whose proper functioning can bechecked without disconnecting any air or vacuum line, or fitting.

- Drain valves for air braked vehicles. Each reservoir must have a condensate drain valve that can be manually operated. Automatic condensate drain valves may be used provided (1) they may be operated manually, or (2) a manual means of draining the reservoirs is retained.

49 CFR 393.51 Warning Signals, Air Pressure, and Vacuum Gauges

- General Rule. Every bus, truck and truck tractor, except as provided in paragraph (f), must be equipped with a signal that provides a warning to the driver when a failure occurs in the vehicle's service brake system. The warning signal must meet the applicable requirements of paragraphs (b), (c), (d) or (e) of this section.

- Hydraulic brakes. Vehicles manufactured on or after September 1, 1975, must meet the brake system indicator lamp requirements of FMVSS No. 571.105 (S5.3) applicable to the vehicle on the date of manufacture. Vehicles manufactured on or after July 1, 1973 but before September 1, 1975, or to which FMVSS No. 571.105 was not applicable on the date of manufacture, must have a warning signal which operates before or upon application of the brakes in the event of a hydraulic-type complete failure of a partial system. The signal must be either visible within the driver's forward field of view or audible. The signal must be continuous. (NOTE: FMVSS No. 105 was applicable to trucks and buses from September 1, 1975 to October 12, 1976, and from September 1, 1983, to the present. FMVSS No. 105 was not applicable to trucks and buses manufactured between October 12, 1976, and September 1, 1983. Motor carriers have the option of equipping those vehicles to meet either the indicator lamp

requirements of FMVSS No. 105, or the indicator lamp requirements specified in this paragraph for vehicles which were not subject to FMVSS No. 105 on the date of manufacture.)

- Air brakes. A commercial motor vehicle (regardless of the date of manufacture) equipped with service brakes activated by compressed air (air brakes) or a commercial motor vehicle towing a vehicle with service brakes activated by compressed air (air brakes) must be equipped with a pressure gauge and a warning signal. Trucks, truck tractors, and buses manufactured on or after March 1, 1975, must, at a minimum, have a pressure gauge and a warning signal which meets the requirements of FMVSS No. 121 (S5.1.4 for the pressure gauge and S5.1.5 for the warning signal) applicable to the vehicle on the date of manufacture of the vehicle. Power units to which FMVSS No. 571.121 was not applicable on the date of manufacture of the vehicle must be equipped with--

  (1) A pressure gauge, visible to a person seated in the normal driving position, which indicates the air pressure (in kilopascals (kPa) or pounds per square inch (psi)) available for braking; and

  (2) A warning signal that is audible or visible to a person in the normal driving position and provides a continuous warning to the driver whenever the air pressure in the service reservoir system is at 379 kPa (55 psi) and below, or one-half of the compressor governor cutout pressure, whichever is less.

- Vacuum brakes. A commercial motor vehicle (regardless of the date it was manufactured) having service brakes activated by vacuum or a vehicle towing a vehicle having service brakes activated by vacuum must be equipped with--

  (1) A vacuum gauge, visible to a person seated in the normal driving position, which indicates the vacuum (in millimeters or inches of mercury) available for braking; and

  (2) A warning signal that is audible or visible to a person in the normal driving position and provides a continuous warning to the driver whenever the vacuum in the vehicle's supply reservoir is less than 203 mm (8 inches) of mercury.

- Hydraulic brakes applied or assisted by air or vacuum. Each vehicle equipped with hydraulically activated service brakes which are applied or assisted by compressed air or vacuum, and to which FMVSS No. 105 was not applicable on the date of manufacture, must be equipped with a warning signal thatconforms to paragraph (b) of this section for the hydraulic portion of the system; paragraph (c) of this section for the air assist/air applied portion; or paragraph (d) of this section for the vacuum assist/vacuum applied portion. This paragraph shall not be construed as requiring air pressure gauges or vacuum gauges, only warning signals.

- Exceptions. The rules in paragraphs (c), (d) and (e) of this section do not apply to property carrying commercial motor vehicles which have less than three axles and (1) were manufactured before July 1, 1973, and (2) have a manufacturer's gross vehicle weight rating less than 4,536 kg (10,001 pounds).

49 CFR 393.52 Brake Performance

- Upon application of its service brakes, a motor vehicle or combination of motor vehicles must under any condition of loading in which it is found on a public highway, be capable of--

  (1) Developing a braking force at least equal to the percentage of its gross weight specified in the table in paragraph (d) of this section;

  (2) Decelerating to a stop from 20 miles per hour at not less than the rate specified in the table in paragraph (d) of this section; and

  (3) Stopping from 20 miles per hour in a distance, measured from the point at which movement of the service brake pedal or control begins, that is not greater than the distance specified in the table in paragraph (d) of this

section; or, for motor vehicles or motor vehicle combinations that have a GVWR or GVW greater than 4,536 kg (10,000 pounds),

(4) Developing only the braking force specified in paragraph (a)(1) of this section and the stopping distance specified in paragraph (a)(3) of this section, if braking force is measured by a performance-based brake tester which meets the requirements of functional specifications for performance-based brake testers for commercial motor vehicles, where braking force is the sum of the braking force at each wheel of the vehicle or vehicle combination as a percentage of gross vehicle or combination weight.

- Upon application of its emergency brake system and with no other brake system applied, a motor vehicle or combination of motor vehicles must, under any condition of loading in which it is found on a public highway, be capable of stopping from 20 miles per hour in a distance, measured from the point at which movement of the emergency brake control begins, that is not greater than the distance specified in the table in paragraph (d) of this section.

- Conformity to the stopping-distance requirements of paragraphs (a) and (b) of this section shall be determined under the following conditions:

  (1) Any test must be made with the vehicle on a hard surface that is substantially level, dry, smooth, and free of loose material.

  (2) The vehicle must be in the center of a 12-foot-wide lane when the test begins and must not deviate from that lane during the test.

- Vehicle brake performance table:

Type of motor vehicle	Service brake systems: Braking force as a percentage of gross vehicle or combination weight	Service brake systems: Deceleration in feet per second per second	Service brake systems: Application & braking distance in feet from initial speed at 20 mph	Emergency brake systems: Application and braking distance in feet from initial speed of 20 mph
A. Passenger-carrying vehicles:				
(1) Vehicles with a seating capacity of 10 persons or less, including driver, and built on a passenger car chassis...	65.2	21	20	54
(2) Vehicles with a seating capacity of	52.8	17	25	66

more than 10 persons, including driver, and built on a passenger car chassis; vehicles built on a truck or bus chassis and having a manufacturer's GVWR of 10,000 pounds or less.....				
(3) All other passenger-carrying vehicles.....	43.5	14	35	85
B. Property-carrying vehicles:				
(1) Single unit vehicles having a manufacturer's GVWR of 10,000 pounds or less.....	52.8	17	25	66
(2) Single unit vehicles having a manufacturer's GVWR of more than 10,000 pounds, except truck tractors. Combinations of a 2-axle towing vehicle and trailer having a GVWR of 3,000 pounds or less. All combinations of 2 or less vehicles in drive-away or tow-away operation.....	43.5	14	35	85
(3) All other property-carrying vehicles and combinations of property-carrying vehicles.....	43.5	14	40	90

Table Notes:

(a) There is a definite mathematical relationship between the figures in columns 2 and 3. If thedecelerations set forth in column 3 are divided by 32.2 feet per-second per-second, the figures in column 2 will be obtained. (For example, 21 divided by 32.2 equals 65.2 percent.) Column 2 is included in the tabulation because certain brake testing devices utilize this factor.

(b) The decelerations specified in column 3 are an indication of the effectiveness of the basic brakes, and as measured in practical brake testing are the maximum decelerations attained at some time during the stop. These decelerations as measured in brake tests cannot be used to compute the values in column 4 because the deceleration is not sustained at the same rate over the entire period of the stop. The deceleration increases from zero to a maximum during a period of brake system application and brake-force buildup. Also, other factors may cause the deceleration to decrease after reaching a maximum. The added distance that results because maximum deceleration is not sustained is included in the figures in column 4 but is not indicated by the usual brake-testing devices for checking deceleration.

(c) The distances in column 4 and the decelerations in column 3 are not directly related. ``Brake-system application and braking distance in feet'' (column 4) is a definite measure of the overall effectiveness of the braking system, being the distance traveled between the point at which the driver starts to move the braking controls and the point at which the vehicle comes to rest. It includes distance traveled while the brakes are being applied and distance traveled while the brakes are retarding the vehicle.

(d) The distance traveled during the period of brake-system application and brake-force buildup varies with vehicle type, being negligible for many passenger cars and greatest for combinations of commercial vehicles. This fact accounts for the variation from 20 to 40 feet in the values in column 4 for the various classes of vehicles.

(e) The terms ``GVWR'' and ``GVW'' refer to the manufacturer's gross vehicle weight rating and the actual gross vehicle weight, respectively.

49 CFR 393.53 Automatic Brake Adjusters and Brake Adjustment Indicators

- Automatic brake adjusters (hydraulic brake systems).
    - Each commercial motor vehicle manufactured on or after October 20, 1993, and equipped with a hydraulic brake system, shall meet the automatic brake adjustment system requirements of Federal Motor Vehicle Safety Standard No. 105 (49 CFR 571.105, S5.1) applicable to the vehicle at the time it was manufactured.

- Automatic brake adjusters (air brake systems).
    - Each commercial motor vehicle manufactured on or after October 20, 1994, and equipped with an air brake system shall meet the automatic brake adjustment system requirements of Federal Motor Vehicle Safety Standard No. 121 (49 CFR 571.121, S5.1.8) applicable to the vehicle at the time it was manufactured.

- Brake adjustment indicator (air brake systems).
    - On each commercial motor vehicle manufactured on or after October 20, 1994, and equipped with an air brake system which contains an external automatic adjustment mechanism and an exposed pushrod, the condition of service brake under-adjustment shall be displayed by a brake adjustment indicator conforming to the requirements of Federal Motor Vehicle Safety Standard No. 121 (49 CFR 571.121, S5.1.8) applicable to the vehicle at the time it was manufactured.

49 CFR 393.55 Antilock Brake Systems

- Hydraulic brake systems. Each truck and bus manufactured on or after March 1, 1999 (except trucks and buses engaged in driveaway-towaway operations), and equipped with a hydraulic brake system, shall be equipped with an antilock brake system that meets the requirements of Federal Motor Vehicle Safety Standard (FMVSS) No. 105 (49 CFR 571.105, S5.5).

- ABS malfunction indicators for hydraulic braked vehicles. Each hydraulic braked vehicle subject to the requirements of paragraph (a) of this section shall be equipped with an ABS malfunction indicator system that meets the requirements of FMVSS No. 105 (49 CFR 571.105, S5.3).

- Air brake systems

    - Each truck tractor manufactured on or after March 1, 1997 (except truck tractors engaged in driveaway-towaway operations), shall be equipped with an antilock brake system that meets the requirements of FMVSS No. 121 (49 CFR 571.121, S5.1.6.1(b)).
    - Each air braked commercial motor vehicle other than a truck tractor, manufactured on or after March 1, 1998 (except commercial motor vehicles engaged in driveaway-towaway operations), shall be equipped with an antilock brake system that meets the requirements of FMVSS No. 121 (49 CFR 571.121, S5.1.6.1(a) for trucks and buses, S5.2.3 for semitrailers, converter dollies and full trailers).

- ABS malfunction circuits and signals for air braked vehicles.
    - Each truck tractor manufactured on or after March 1, 1997, and each single-unit air braked vehicle manufactured on or after March 1, 1998, subject to the requirements of paragraph (c) of this section, shall be equipped with an electrical circuit that is capable of signaling a malfunction that affects the generation or transmission of response or control signals to the vehicle's antilock brake system (49 CFR 571.121, S5.1.6.2(a)).
    - Each truck tractor manufactured on or after March 1, 2001, and each single-unit vehicle that is equipped to tow another air-braked vehicle, subject to the requirements of paragraph (c) of this section, shall be equipped with an electrical circuit that is capable of transmitting a malfunction signal from the antilock brake system(s) on the towed vehicle(s) to the trailer ABS malfunction lamp in the cab of the towing vehicle, and shall have the means for connection of the electrical circuit to the towed vehicle. The ABS malfunction circuit and signal shall meet the requirements of FMVSS No. 121 (49 CFR 571.121, S5.1.6.2(b)).
    - Each semitrailer, trailer converter dolly, and full trailer manufactured on or after March 1, 2001, and subject to the requirements of paragraph (c)(2) of this section, shall be equipped with an electrical circuit that is capable of signaling a malfunction in the trailer's antilock brake system,and shall have the means for connection of this ABS malfunction circuit to the towing vehicle. In addition, each trailer manufactured on or after March 1, 2001, subject to the requirements of paragraph (c)(2) of this section, that is designed to tow another air-brake equipped trailer shall be capable of transmitting a malfunction signal from the antilock brake system(s) of the trailer(s) it tows to the vehicle in front of the trailer. The ABS malfunction circuit and signal shall meet the requirements of FMVSS No. 121 (49 CFR 571.121, S5.2.3.2).

- Exterior ABS malfunction indicator lamps for trailers. Each trailer (including a trailer converter dolly) manufactured on or after March 1, 1998 and before March 1, 2009, and subject to the requirements of paragraph (c)(2) of this section, shall be equipped with an ABS malfunction indicator lamp which meets the requirements of FMVSS No. 121 (49 CFR 571.121, S5.2.3.3).

49 CFR 393.60 Glazing in Specified Openings

- Glazing material. Glazing material used in windshields, windows, and doors on a motor vehicle manufactured on or after December 25, 1968, shall at a minimum meet the requirements of Federal Motor Vehicle Safety Standard (FMVSS) No. 205 in effect on the date of manufacture of the motor vehicle. The glazing material shall be marked in accordance with FMVSS No. 205 (49 CFR 571.205, S6).

- Windshields required. Each bus, truck and truck-tractor shall be equipped with a windshield. Each windshield or portion of a multi-piece windshield shall be mounted using the full periphery of the glazing material.

- Windshield condition. With the exception of the conditions listed in paragraphs (c)(1), (c)(2), and (c)(3) of this section, each windshield shall be free of discoloration or damage in the area extending upward from the height of the top of the steering wheel (excluding a 51 mm (2 inch) border at the top of the windshield) and extending from a 25 mm (1 inch) border at each side of the windshield or windshield panel. Exceptions:

    (1) Coloring or tinting which meets the requirements of paragraph (d) of this section;

    (2) Any crack that is not intersected by any other cracks;

    (3) Any damaged area which can be covered by a disc 19 mm (\3/4\ inch) in diameter if not closer than 76 mm (3 inches) to any other similarly damaged area.

- Coloring or tinting of windshields and windows. Coloring or tinting of windshields and the windows to the immediate right and left of the driver is allowed, provided the parallel luminous transmittance through the colored or tinted glazing is not less than 70 percent of the light at normal incidence in those portions of the windshield or

windows which are marked as having a parallel luminous transmittance of not less than 70 percent. The transmittance restriction does not apply to other windows on the commercial motor vehicle.

- Prohibition on obstructions to the driver's field of view--(1) Devices mounted at the top of the windshield. Antennas, transponders, and similar devices must not be mounted more than 152 mm (6 inches) below the upper edge of the windshield. These devices must be located outside the area swept by the windshield wipers, and outside the driver's sight lines to the road and highway signs and signals.

- Decals and stickers mounted on the windshield. Commercial Vehicle Safety Alliance (CVSA) inspection decals, and stickers and/or decals required under Federal or State laws may be placed at the bottom or sides of the windshield provided such decals or stickers do not extend more than 115 mm (4\1/2\ inches) from the bottom of the windshield and are located outside the area swept by the windshield wipers, and outside the driver's sight lines to the road and highway signs or signals.

49 CFR 393.61 Truck & Truck Tractor Window Construction

Each truck and truck tractor (except trucks engaged in armored car service) shall have at least one window on each side of the driver's compartment. Each window must have a minimum area of1,290 cm\2\ (200 in\2\) formed by a rectangle 33 cm by 45 cm (13 inches by 17\3/4\ inches). The maximum radius of the corner arcs shall not exceed 152 mm (6 inches). The long axis of the rectangle shall not make an angle of more than 45 degrees with the surface on which the unladen vehicle stands. If the cab is designed with a folding door or doors or with clear openings where doors or windows are customarily located, no windows shall be required in those locations.

49 CFR 393.65 All Fuel Systems

Authority: Sec. 204, Interstate Commerce Act, as amended, 49 U.S.C. 304; sec. 6, Department of Transportation Act, 49 U.S.C. 1655; delegation of authority at 49 CFR 1.48 and 389.4.

- Application of the rules in this section. The rules in this section apply to systems for containing and supplying fuel for the operation of motor vehicles or for the operation of auxiliary equipment installed on, or used in connection with, motor vehicles.

- Location. Each fuel system must be located on the motor vehicle so that--

  (1) No part of the system extends beyond the widest part of the vehicle;

  (2) No part of a fuel tank is forward of the front axle of a power unit;

  (3) Fuel spilled vertically from a fuel tank while it is being filled will not contact any part of the exhaust or electrical systems of the vehicle, except the fuel level indicator assembly;

  (4) Fill pipe openings are located outside the vehicle's passenger compartment and its cargo compartment;

  (5) A fuel line does not extend between a towed vehicle and the vehicle that is towing it while the combination of vehicles is in motion; and

  (6) No part of the fuel system of a bus manufactured on or after January 1, 1973, is located within or above the passenger compartment.

- Fuel tank installation. Each fuel tank must be securely attached to the motor vehicle in a workmanlike manner.

- Gravity or syphon feed prohibited. A fuel system must not supply fuel by gravity or syphon feed directly to the carburetor or injector.

- Selection control valve location. If a fuel system includes a selection control valve which is operable by the driver to regulate the flow of fuel from two or more fuel tanks, the valve must be installed so that either--

  (1) The driver may operate it while watching the roadway and without leaving his/her driving position; or

  (2) The driver must stop the vehicle and leave his/her seat in order to operate the valve.

- Fuel lines. A fuel line which is not completely enclosed in a protective housing must not extend more than 2 inches below the fuel tank or its sump. Diesel fuel crossover, return, and withdrawal lines which extend below the bottom of the tank or sump must be protected against damage from impact. Every fuel line must be--

  (1) Long enough and flexible enough to accommodate normal movements of the parts to which it is attached without incurring damage; and

  (2) Secured against chafing, kinking, or other causes of mechanical damage.

- Excess flow valve. When pressure devices are used to force fuel from a fuel tank, a device which prevents the flow of fuel from the fuel tank if the fuel feed line is broken must be installed in the fuel system.

49 CFR 393.67 Liquid Fuel Tanks

- Application of the rules in this section. The rules in this section apply to tanks containing or supplying fuel for the operation of commercial motor vehicles or for the operation of auxiliary equipment installed on, or used in connection with commercial motor vehicles.

  (1) A liquid fuel tank manufactured on or after January 1, 1973, and a side-mounted gasoline tank must conform to all rules in this section.

  (2) A diesel fuel tank manufactured before January 1, 1973, and mounted on a bus must conform to the rules in paragraphs (c)(7)(iii) and (d)(2) of this section.

  (3) A diesel fuel tank manufactured before January 1, 1973, and mounted ona vehicle other than a bus must conform to the rules in paragraph(c)(7)(iii) of this section.

  (4) A gasoline tank, other than a side-mounted gasoline tank, manufactured before January 1, 1973, and mounted on a bus must conform to the rules in paragraphs (c) (1) through (10) and (d)(2) of this section.

  (5) A gasoline tank, other than a side-mounted gasoline tank, manufactured before January 1, 1973, and mounted on a vehicle other than a bus must conform to the rules in paragraphs (c) (1) through (10), inclusive, of this section.

  (6) Private motor carrier of passengers. Motor carriers engaged in the private transportation of passengers may continue to operate a commercial motor vehicle which was not subject to this section or 49 CFR 571.301 at the time of its manufacture, provided the fuel tank of such vehicle is maintained to the original manufacturer's standards.

  (7) Motor vehicles that meet the fuel system integrity requirements of 49 CFR 571.301 are exempt from the requirements of this subpart, as they apply to the vehicle's fueling system.

- Definitions. As used in this section--

(1) The term liquid fuel tank means a fuel tank designed to contain a fuel that is liquid at normal atmospheric pressures and temperatures.

(2) A side-mounted fuel tank is a liquid fuel tank which--

(i) If mounted on a truck tractor, extends outboard of the vehicle frame and outside of the plan view outline of the cab; or

(ii) If mounted on a truck, extends outboard of a line parallel to the longitudinal centerline of the truck and tangent to the outboard side of a front tire in a straight ahead position. In determining whether a fuel tank on a truck or truck tractor is side-mounted, the fill pipe is not considered a part of the tank.

- Construction of liquid fuel tanks

(1) Joints. Joints of a fuel tank body must be closed by arc-, gas-, seam-, or spot-welding, by brazing, by silver soldering, or by techniques which provide heat resistance and mechanical securement at least equal to those specifically named. Joints must not be closed solely by crimping or by soldering with a lead-based or other soft solder.

(2) Fittings. The fuel tank body must have flanges or spuds suitable for the installation of all fittings.

(3) Threads. The threads of all fittings must be Dryseal American Standard Taper Pipe Thread or Dryseal SAE Short Taper Pipe Thread, specified in Society of Automotive Engineers Standard J476, as contained in the 1971 edition of the ``SAE Handbook,'' except that straight(nontapered) threads may be used on fittings having integral flanges and using gaskets for sealing. At least four full threads must be in engagement in each fitting.

(4) Drains and bottom fittings.

(i) Drains or other bottom fittings must not extend more than three-fourths of an inch below the lowest part of the fuel tank or sump.

(ii) Drains or other bottom fittings must be protected against damage from impact.

(iii) If a fuel tank has drains the drain fittings must permit substantially complete drainage of the tank.

(iv) Drains or other bottom fittings must be installed in a flange or spud designed to accommodate it.

(5) Fuel withdrawal fittings. Except for diesel fuel tanks, the fittings through which fuel is withdrawn from a fuel tank must be located above the normal level of fuel in the tank when the tank is full.

(6) [Reserved]

(7) Fill pipe.

(i) Each fill pipe must be designed and constructed to minimize the risk of fuel spillage during fueling operations and when the vehicle is involved in a crash.

(ii) For diesel-fueled vehicles, the fill pipe and vents of a fuel tank having a capacity of more than 94.75 L (25 gallons) of fuel must permit filling the tank with fuel at a rate of at least 75.8 L/m (20 gallons per minute) without fuel spillage.

(iii) For gasoline- and methanol-fueled vehicles with a GVWR of 3,744 kg (8,500 pounds) or less, the vehicle must permit filling the tank with fuel dispensed at the applicable fill rate required by the regulations of the Environmental Protection Agency under 40 CFR 80.22.

(iv) For gasoline- and methanol-fueled vehicles with a GVWR of 14,000 pounds (6,400 kg) or less, the vehicle must comply with the applicable fuel-spitback prevention and onboard refueling vapor recovery regulations of the Environmental Protection Agency under 40 CFR part 86.

(v) Each fill pipe must be fitted with a cap that can be fastened securely over the opening in the fill pipe. Screw threads or a bayonet-type point are methods of conforming to the requirements of paragraph(c) of this section.

(8) Safety venting system. A liquid fuel tank with a capacity of more than 25 gallons of fuel must have a venting system which, in the event the tank is subjected to fire, will prevent internal tank pressure from rupturing the tank's body, seams, or bottom opening (if any).

(9) Pressure resistance. The body and fittings of a liquid fuel tank with a capacity of more than 25 gallons of fuel must be capable of withstanding an internal hydrostatic pressure equal to 150 percent of the maximum internal pressure reached in the tank during the safety venting systems test specified in paragraph (d)(1) of this section.

(10) Air vent. Each fuel tank must be equipped with a nonspill air vent (such as a ball check). The air vent may be combined with the fill-pipe cap or safety vent, or it may be a separate unit installed on the fuel tank.

(11) Markings. If the body of a fuel tank is readily visible when the tank is installed on the vehicle, the tank must be plainly marked with its liquid capacity. The tank must also be plainly marked with a warning against filling it to more than 95 percent of its liquid capacity.

(12) Overfill restriction. A liquid fuel tank manufactured on or after January 1, 1973, must be designed and constructed so that--

(i) The tank cannot be filled, in a normal filling operation, with a quantity of fuel that exceeds 95 percent of the tank's liquid capacity; and

(ii) When the tank is filled, normal expansion of the fuel will not cause fuel spillage.

- Liquid fuel tank tests. Each liquid fuel tank must be capable of passing the tests specified in paragraphs (d)(1) and (2) of this section. The specified tests are a measure of performance only. Alternative procedures which assure that equipment meets the required performance standards may be used. .

(1) Safety venting system test—

(i) Procedure. Fill the tank three-fourths full with fuel, seal the fuel feed outlet, and invert the tank. When the fuel temperature is between 50 [deg]F. and 80 [deg]F., apply an enveloping flame to the tank so that the temperature of the fuel rises at a rate of not less than 6 [deg]F. and not more than 8 [deg]F. per minute.

(ii) Required performance. The safety venting system required by paragraph (c)(8) of this section must activate before the internal pressure in the tank exceeds 50 pounds per square inch, gauge, and the internal pressure must not thereafter exceed the pressure at which the system activated by more than five pounds per square inch despite any further increase in the temperature of the fuel.

(2) Leakage test—

(i) Procedure. Fill the tank to capacity with fuel having a temperature between 50 [deg]F. and 80 [deg]F. With the fill-pipe cap installed, turn the tank through an angle of 150[deg] in any direction about any axis from its normal position.

(ii) Required performance. Neither the tank nor any fitting may leak more than a total of one ounce by weight of fuel per minute in any position the tank assumes during the test.

- Side-mounted liquid fuel tank tests. Each side-mounted liquid fuel tank must be capable of passing the tests specified in paragraphs (e)(1) and (2) of this section and the test specified in paragraphs (d)(1) and (2) of this section. The specified tests are a measure of performance only. Alternative procedures which assure that equipment meets the required performance criteria may be used.

(1) Drop test—

(i) Procedure. Fill the tank with a quantity of water having a weight equal to the weight of the maximum fuel load of the tank and drop the tank 30 feet onto an unyielding surface so that it lands squarely on one corner.

(ii) Required performance. Neither the tank nor any fitting may leak morethan a total of 1 ounce by weight of water per minute.

(2) Fill-pipe test—

(i) Procedure. Fill the tank with a quantity of water having a weight equal to the weight of the maximum fuel load of the tank and drop the tank 10 feet onto an unyielding surface so that it lands squarely on its fill-pipe.

(ii) Required performance. Neither the tank nor any fitting may leak more than a total of 1 ounce by weight of water per minute.

- Certification and markings. Each liquid fuel tank shall be legibly and permanently marked by the manufacturer with the following minimum information:

(1) The month and year of manufacture,

(2) The manufacturer's name on tanks manufactured on and after July 1, 1989, and means of identifying the facility at which the tank was manufactured, and

(3) A certificate that it conforms to the rules in this section applicable to the tank. The certificate must be in the form set forth in either of the following:

(i) If a tank conforms to all rules in this section pertaining to side-mounted fuel tanks: ``Meets all FMCSA side-mounted tank requirements.''

(ii) If a tank conforms to all rules in this section pertaining to tanks which are not side-mounted fuel tanks: ``Meets all FMCSA requirements for non-side-mounted fuel tanks.''

(iii) The form of certificate specified in paragraph (f)(3) (i) or (ii) of this section may be used on a liquid fuel tank manufactured before July 11, 1973, but it is not mandatory for liquid fuel tanks manufactured before March 7, 1989. The form of certification manufactured on or before March 7, 1989, must meet the requirements in effect at the time of manufacture.

(4) Exception. The following previously exempted vehicles are not required to carry the certification and marking specified in paragraphs (f)(1) through (3) of this section:

(i) Ford vehicles with GVWR over 10,000 pounds identified as follows: The vehicle identification numbers (VINs) contain A, K, L, M, N, W, or X in the fourth position.

(ii) GM G-Vans (Chevrolet Express and GMC Savanna) and full-sized C/K trucks (Chevrolet Silverado and GMC Sierra) with GVWR over 10,000 pounds identified as follows: The VINs contain either a ``J'' or a ``K'' in the fourth position. In addition, the seventh position of the VINs on the G-Van will contain a ``1.''

49 CFR 393.68 Compressed Natural Gas Fuel Containers

- Applicability. The rules in this section apply to compressed natural gas (CNG) fuel containers used for supplying fuel for the operation of commercial motor vehicles or for the operation of auxiliary equipment installed on, or used in connection with commercial motor vehicles.

- CNG containers manufactured on or after March 26, 1995. Any motor vehicle manufactured on or after March 26, 1995, and equipped with a CNG fuel tank must meet the CNG container requirements of FMVSS No. 304 (49 CFR 571.304) in effect at the time of manufacture of the vehicle.

- Labeling. Each CNG fuel container shall be permanently labeled in accordance with the requirements of FMVSS No. 304, S7.4.

49 CFR 393.69 Liquefied Petroleum Gas Systems

- A fuel system that uses liquefied petroleum gas as a fuel for the operation of a motor vehicle or for the operation of auxiliary equipment installed on, or used in connection with, a motor vehicle must conform to the ``Standards for the Storage and Handling of Liquefied Petroleum Gases'' of the National Fire Protection Association, Battery March Park, Quincy, MA 02269, as follows:

(1) A fuel system installed before December 31, 1962, must conform to the 1951 edition of the Standards.

(2) A fuel system installed on or after December 31, 1962, and before January 1, 1973, must conform to Division IV of the June 1959 edition of the Standards.

(3) A fuel system installed on or after January 1, 1973, and providing fuel for propulsion of the motor vehicle must conform to Division IV of the 1969 edition of the Standards.

(4) A fuel system installed on or after January 1, 1973, and providing fuel for the operation of auxiliary equipment must conform to Division VII of the 1969 edition of the Standards.

- When the rules in this section require a fuel system to conform to a specific edition of the Standards, the fuel system may conform to the applicable provisions in a later edition of the Standards specified in this section.
- The tank of a fuel system must be marked to indicate that the system conforms to the Standards.

49 CFR 393.70 Coupling Devices & Towing Methods, Except for Driveway-Towaway Operations

- Tracking. When two or more vehicles are operated in combination, the coupling devices connecting the vehicles shall be designed, constructed, and installed, and the vehicles shall be designed and constructed, so that when the combination is operated in a straight line on a level, smooth, paved surface, the path of the towed vehicle will not deviate more than 3 inches to either side of the path of the vehicle that tows it.

- Fifth wheel assemblies—

  (1) Mounting—

  (i) Lower half. The lower half of a fifth wheel mounted on a truck tractor or converter dolly must be secured to the frame of that vehicle with properly designed brackets, mounting plates or angles and properly tightened bolts of adequate size and grade, or devices that provide equivalent security. The installation shall not cause cracking, warping, or deformation of the frame. The installation must include a device for positively preventing the lower half of the fifth wheel from shifting on the frame to which it is attached.

  (ii) Upper half. The upper half of a fifth wheel must be fastened to the motor vehicle with at least the same security required for the installation of the lower half on a truck tractor or converter dolly.

  (2) Locking. Every fifth wheel assembly must have a locking mechanism. The locking mechanism, and any adapter used in conjunction with it, must prevent separation of the upper and lower halves of the fifth wheel assembly unless a positive manual release is activated. The release may be located so that the driver can operate it from the cab. If a motor vehicle has a fifth wheel designed and constructed to be readily separable, the fifth wheel locking devices shall apply automatically on coupling.

  (3) Location. The lower half of a fifth wheel shall be located so that, regardless of the condition of loading, the relationship between the kingpin and the rear axle or axles of the towing motor vehicle will properly distribute the gross weight of both the towed and towing vehicles on the axles of those vehicles, will not unduly interfere with the steering, braking, and other maneuvering of the towing vehicle, and will not otherwise contribute to unsafe operation of the vehicles comprising the combination. The upper half of a fifth wheel shall be located so that the weight of the vehicles is properly distributed on their axles and the combination of vehicles will operate safely during normal operation.

- Towing of full trailers. A full trailer must be equipped with a tow-bar and a means of attaching the tow-bar to the towing and towed vehicles. The tow-bar and the means of attaching it must--

  (1) Be structurally adequate for the weight being drawn;

  (2) Be properly and securely mounted;

  (3) Provide for adequate articulation at the connection without excessive slack at that location; and

(4) Be provided with a locking device that prevents accidental separation of the towed and towing vehicles.

49 CFR 393.75 Tires

(a) No motor vehicle shall be operated on any tire that (1) has body ply or belt material exposed through the tread or sidewall, (2) has any tread or sidewall separation, (3) is flat or has an audible leak, or (4) has a cut to the extent that the ply or belt material is exposed.

(b) Any tire on the front wheels of a bus, truck, or truck tractor shall have a tread groove pattern depth of at least \4/32\ of an inch when measured at any point on a major tread groove. The measurements shall not be made where tie bars, humps, or fillets are located.

(c) Except as provided in paragraph (b) of this section, tires shall have a tread groove pattern depth of at least \2/32\ of an inch when measured in a major tread groove. The measurement shall not be made where tie bars, humps or fillets are located.

(d) No bus shall be operated with regrooved, recapped or retreaded tires on the front wheels.

(e) A regrooved tire with a load-carrying capacity equal to or greater than 2,232 kg (4,920 pounds) shall not be used on the front wheels of any truck or truck tractor.

(f) Tire loading restrictions (except on manufactured homes). No motor vehicle (except manufactured homes, which are governed by paragraph (g) of this section) shall be operated with tires that carry a weight greater than that marked on the sidewall of the tire or, in the absence of such a marking, a weight greater than that specified for the tires in any of the publications of any of the organizations listed in Federal Motor Vehicle Safety Standard No. 119 (49 CFR 571.119, S5.1(b)) unless:

(1) The vehicle is being operated under the terms of a special permit issued by the State; and

(2) The vehicle is being operated at a reduced speed to compensate for the tire loading in excess of the manufacturer's rated capacity for the tire. In no case shall the speed exceed 80 km/hr (50 mph).

(g)(1) Tire loading restrictions for manufactured homes built before January 1, 2002. Manufactured homes that are labeled pursuant to 24 CFR 3282.362(c)(2)(i) before January 1, 2002, must not be transported on tires that are loaded more than 18 percent over the load rating marked on the sidewall of the tire or, in the absence of such a marking, more than 18 percent over the load rating specified in any of the publications of any of the organizations listed in FMVSS No. 119 (49 CFR 571.119, S5.1(b)). Manufactured homes labeled before January 1, 2002, transported on tires overloaded by 9 percent or more must not be operated at speeds exceeding 80 km/hr (50 mph).

(2) Tire loading restrictions for manufactured homes built on or after January 1, 2002. Manufactured homes that are labeled pursuant to 24 CFR 3282.362(c)(2)(i) on or after January 1, 2002, must not be transported on tires loaded beyond the load rating marked on the sidewall of the tire or, in the absence of such a marking, the load rating specified in any of the publicationsof any of the organizations listed in FMVSS No. 119 (49 CFR 571.119, S5.1(b)).

(h) Tire inflation pressure. (1) No motor vehicle shall be operated on a tire which has a cold inflation pressure less than that specified for the load being carried.

(2) If the inflation pressure of the tire has been increased by heat because of the recent operation of the vehicle, the cold inflation pressure shall be estimated by subtracting the inflation buildup factor shown in Table 1 from the measured inflation pressure.

Table 1--Inflation Pressure Measurement Correction for Heat

Average speed of vehicle in the previous hour	Minimum inflation pressure buildup	
	Tires with 1,814 kg (4,000 lbs.) maximum load rating or less	Tires with over 1,814 kg (4,000 lbs.) load rating
66-88.5 km/hr (41-55 mph).....	34.5 kPa (5 psi)..	103.4 kPa (15 psi).

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49 CFR 393.77 Heaters

On every motor vehicle, every heater shall comply with the following requirements:

(a) Prohibited types of heaters. The installation or use of the following types of heaters is prohibited:

(1) Exhaust heaters. Any type of exhaust heater in which the engine exhaust gases are conducted into or through any space occupied by persons or any heater which conducts engine compartment air into any such space.

(2) Unenclosed flame heaters. Any type of heater employing a flame which is not fully enclosed, except that such heaters are not prohibited when used for heating the cargo of tank motor vehicles.

(3) Heaters permitting fuel leakage. Any type of heater from the burner of which there could be spillage or leakage of fuel upon the tilting or overturning of the vehicle in which it is mounted.

(4) Heaters permitting air contamination. Any heater taking air, heated or to be heated, from the engine compartment or from direct contact with any portion of the exhaust system; or any heater taking air in ducts from the outside atmosphere to be conveyed through the engine compartment, unless said ducts are so constructed and installed as to prevent contamination of the air so conveyed by exhaust or engine compartment gases.

(5) Solid fuel heaters except wood charcoal. Any stove or other heater employing solid fuel except wood charcoal.

(6) Portable heaters. Portable heaters shall not be used in any space occupied by persons except the cargo space of motor vehicles which are being loaded or unloaded.

(b) Heater specifications. All heaters shall comply with the following specifications:

(1) Heating elements, protection. Every heater shall be so located or protected as to prevent contact therewith by occupants, unless the surface temperature of the protecting grilles or of any exposed portions of the heaters, inclusive of exhaust stacks, pipes, or conduits shall be lower than would cause contact burns. Adequate protection shall be afforded against igniting parts of the vehicle or burning occupants by direct radiation. Wood charcoal heaters shall be enclosed within a metal barrel, drum, or similar protective enclosure which enclosure shall be provided with a securely fastened cover.

(2) Moving parts, guards. Effective guards shall be provided for the protection of passengers or occupants against injury by fans, belts, or any other moving parts.

(3) Heaters, secured. Every heater and every heater enclosure shall be securely fastened to the vehicle in a substantial manner so as to provide against relative motion within the vehicle during normal usage or in the event the vehicle overturns. Every heater shall be so designed, constructed, and mounted as to minimize the likelihood of disassembly of any of its parts, including exhaust stacks, pipes, or conduits, upon overturn of the vehicle in or on which it is mounted. Wood charcoal heaters shall be secured against relative motion within the enclosure required by paragraph (c)(1) of this section, and the enclosure shall be securely fastened to the motor vehicle.

(4) Relative motion between fuel tank and heater. When either in normal operation or in the event of overturn, there is or is likely to be relative motion between the fuel tank for a heater and the heater, or between either of such units and the fuel lines between them, a suitable means shall be provided at the point of greatest relative motion so as to allow this motion without causing failure of the fuel lines.

(5) Operating controls to be protected. On every bus designed to transport more than 15 passengers, including the driver, means shall be provided to prevent unauthorized persons from tampering with the operating controls. Such means

may include remote control by the driver; installation of controls at inaccessible places; control of adjustments by key or keys; enclosure of controls in a locked space, locking of controls, or other means of accomplishing this purpose.

(6) Heater hoses. Hoses for all hot water and steam heater systems shall be specifically designed and constructed for that purpose.

(7) Electrical apparatus. Every heater employing any electrical apparatus shall be equipped with electrical conductors, switches, connectors, and other electrical parts of ample current-carrying capacity to provide against overheating; any electric motor employed in any heater shall be of adequate size and so located that it will not be overheated; electrical circuits shall be provided with fuses and/or circuit breakers to provide against electrical overloading; and all electrical conductors employed in or leading to any heater shall be secured against dangling, chafing, and rubbing and shall have suitable protection against any other condition likely to produce short or open circuits.

Note: Electrical parts certified as proper for use by Underwriters' Laboratories, Inc., shall be deemed to comply with the foregoing requirements.

(8) Storage battery caps. If a separate storage battery is located within the personnel or cargo space, such battery shall be securely mounted and equipped with nonspill filler caps.

(9) Combustion heater exhaust construction. Every heater employing the combustion of oil, gas, liquefied petroleum gas, or any other combustible material shall be provided with substantial means of conducting the products of combustion to the outside of the vehicle: Provided, however, That this requirement shall not apply to heaters used solely to heat the cargo space of motor vehicles where such motor vehicles or heaters are equipped with means specifically designed and maintained so that the carbon monoxide concentration will never exceed 0.2 percent in the cargo space. The exhaust pipe, stack, or conduit if required shall be sufficiently substantial and so secured as to provide reasonable assurance against leakage or discharge of products of combustion within the vehicle and, if necessary, shall be so insulated as to make unlikely the burning or charring of parts of the vehicle by radiation or by direct contact. The place of discharge of the products of combustion to the atmosphere and the means of discharge of such products shall be such as to minimize the likelihood of their reentry into the vehicle under all operating conditions.

(10) Combustion chamber construction. The design and construction of any combustion-type heater except cargo space heaters permitted by the proviso of paragraph (c)(9) of this section and unenclosed flame heaters used for heating cargo of tank motor vehicles shall be such as to provide against the leakage of products of combustion into air to be heated and circulated. The material employed in combustion chambers shall be such as to provide against leakage because of corrosion, oxidation, or other deterioration. Joints between combustion chambers and the air chambers with which they are in thermal and mechanical contact shall be so designed and constructed as to prevent leakage between the chambers and the materials employed in such joints shall have melting points substantially higher than the maximumtemperatures likely to be attained at the points of jointure.

(11) Heater fuel tank location. Every bus designed to transport more than 15 passengers, including the driver, with heaters of the combustion type shall have fuel tanks therefor located outside of and lower than the passenger space. When necessary, suitable protection shall be afforded by shielding or other means against the puncturing of any such tank or its connections by flying stones or other objects.

(12) Heater, automatic fuel control. Gravity or siphon feed shall not be permitted for heaters using liquid fuels. Heaters using liquid fuels shall be equipped with automatic means for shutting off the fuel or for reducing such flow of fuel to the smallest practicable magnitude, in the event of overturn of the vehicle. Heaters using liquefied petroleum gas as fuel shall have the fuel line equipped with automatic means at the source of supply for shutting off the fuel in the event of separation, breakage, or disconnection of any of the fuel lines between the supply source and the heater.

(13) ``Tell-tale'' indicators. Heaters subject to paragraph (c)(14) of this section and not provided with automatic controls shall be provided with ``tell-tale'' means to indicate to the driver that the heater is properly functioning. This requirement shall not apply to heaters used solely for the cargo space in semitrailers or full trailers.

(14) Shut-off control. Automatic means, or manual means if the control is readily accessible to the driver without moving from the driver's seat, shall be provided to shut off the fuel and electrical supply in case of failure of the heater to function for any reason, or in case the heater should function improperly or overheat. This requirement shall not apply to wood charcoal heaters or to heaters used solely to heat the contents of cargo tank motor vehicles, but wood charcoal heaters must be provided with a controlled method of regulating the flow of combustion air.

(15) Certification required. Every combustion-type heater, except wood charcoal heaters, the date of manufacture of which is subsequent to December 31, 1952, and every wood charcoal heater, the date of manufacture of which is subsequent to September 1, 1953, shall be marked plainly to indicate the type of service for which such heater is designed and with a certification by the manufacturer that the heater meets the applicable requirements for such use. For example, ``Meets I.C.C. Bus Heater Requirements,'' Meets I.C.C. Flue-Vented Cargo Space Heater Requirements,'' and after December 31, 1967, such certification shall read ``Meets FMCSA Bus Heater Requirements,'' ``Meets FMCSA Flue-Vented Cargo Space Heater Requirements,'' etc.

(i) Exception. The certification for a catalytic heater which is used in transporting flammable liquid or gas shall be as prescribed under Sec. 177.834(1) of this title.

49 CFR 393.78 Windshield Wiping & Washing Systems

- Vehicles manufactured on or after December 25, 1968. Each bus, truck, and truck-tractor manufactured on or after December 25, 1968, must have a windshield wiping system that meets the requirements of FMVSS No. 104 (S4.1) in effect on the date of manufacture. Each of these vehicles must have a windshield washing system that meets the requirements of FMVSS No. 104 (S4.2.2) in effect on the date of manufacture.

- Vehicles manufactured between June 30, 1953, and December 24, 1968. Each truck, truck-tractor, and bus manufactured between June 30, 1953, and December 24, 1968, shall be equipped with a power-driven windshield wiping system with at least two wiper blades, one on each side of the centerline of the windshield. Motor vehicles which depend upon vacuum to operate the windshield wipers, shall have the wiper system constructed and maintained such that the performance of the wipers will not be adversely affected by a change in the intake manifold pressure.

- Driveaway-towaway operations. Windshield wiping and washing systems need not be in working condition while a commercial motor vehicle is being towed in a driveaway-towaway operation.

49 CFR 393.79 Windshield Defrosting & Defogging Systems

- Vehicles manufactured on or after December 25, 1968. Each bus, truck, and truck-tractor manufactured on or after December 25, 1968, must have a windshield defrosting and defogging system that meets the requirements of FMVSS No. 103 in effect on the date of manufacture.

- Vehicles manufactured before December 25, 1968. Each bus, truck, and truck-tractor shall be equipped with a means for preventing the accumulation of ice, snow, frost, or condensation that could obstruct the driver's view through the windshield while the vehicle is being driven.

49 CFR 393.80 Rear-vision Mirrors

- Every bus, truck, and truck tractor shall be equipped with two rear-vision mirrors, one at each side, firmly attached to the outside of the motor vehicle, and so located as to reflect to the driver a view of the highway to the rear, along both sides of the vehicle. All such regulated rear-vision mirrors and their replacements shall meet, as a minimum, the requirements of FMVSS No. 111 (49 CFR 571.111) in force at the time the vehicle was manufactured.

- Exceptions.
    - Mirrors installed on a vehicle manufactured prior to January 1, 1981, may be continued in service, provided that if the mirrors are replaced they shall be replaced with mirrors meeting, as a minimum, the requirements of FMVSS No. 111 (49 CFR 571.111) in force at the time the vehicle was manufactured.

49 CFR 393.80 Rear-vision Mirrors (CONT'D.)

- Only one outside mirror shall be required, which shall be on the driver's side, on trucks which are so constructed that the driver has a view to the rear by means of an interior mirror.
- In driveway-towaway operations, the driven vehicle shall have at least one mirror furnishing a clear view to the rear.

49 CFR 393.81 Horn

Every bus, truck, truck-tractor, and every driven motor vehicle in driveaway-towaway operations shall be equipped with a horn and actuating elements which shall be in such condition as to give an adequate and reliable warning signal.

49 CFR 393.82 Speedometer

Each bus, truck, and truck-tractor must be equipped with a speedometer indicating vehicle speed in miles per hour and/or kilometers per hour. The speedometer must be accurate to within plus or minus 8 km/hr (5 mph) at a speed of 80 km/hr (50 mph).

49 CFR 393.83 Exhaust Systems

- Every motor vehicle having a device (other than as part of its cargo) capable of expelling harmful combustion fumes shall have a system to direct the discharge of such fumes. No part shall be located where its location would likely result in burning, charring, or damaging the electrical wiring, the fuel supply, or any combustible part of the motor vehicle.
- No exhaust system shall discharge to the atmosphere at a location immediately below the fuel tank or the fuel tank filler pipe.
- The exhaust system of a bus powered by a gasoline engine shall discharge to the atmosphere at or within 6 inches forward of the rearmost part of the bus.
- The exhaust system of a bus using fuels other than gasoline shall discharge to the atmosphere either:
  - At or within 15 inches forward of the rearmost part of the vehicle; or
  - To the rear of all doors or windows designed to be open, except windows designed to be opened solely as emergency exits.
- The exhaust system of every truck and truck tractor shall discharge to the atmosphere at a location to the rear of the cab or, if the exhaust projects above the cab, at a location near the rear of the cab.
- No part of the exhaust system shall be temporarily repaired with wrap or patches.
- No part of the exhaust system shall leak or discharge at a point forward of or directly below the driver/sleeper compartment. The exhaust outlet may discharge above the cab/sleeper roofline.
- The exhaust system must be securely fastened to the vehicle.
- Exhaust systems may use hangers which permit required movement due to expansion and contraction caused by heat of the exhaust and relative motion between engine and chassis of a vehicle.

49 CFR 393.84 Floors

The flooring in all motor vehicles shall be substantially constructed, free of unnecessary holes and openings, and shall be maintained so as to minimize the entrance of fumes, exhaust gases, or fire. Floors shall not be permeated with oil or other substances likely to cause injury to persons using the floor as a traction surface.

49 CFR 393.86 Rear Impact Guards & Rear End Protection

- General requirements for trailers and semitrailers manufactured on or after January 26, 1998. Each trailer and semitrailer with a gross vehicle weight rating of 4,536 kg (10,000 pounds) or more, and manufactured on or after January 26, 1998, must be equipped with a rear impact guard that meets the requirements of Federal Motor Vehicle Safety Standard No. 223 (49 CFR 571.223) in effect at the time the vehicle was manufactured. When the rear impact guard is installed on the trailer or semitrailer, the vehicle must, at a minimum, meet the requirements of FMVSS No. 224 (49 CFR 571.224) in effect at the time the vehicle was manufactured. The requirements of paragraph (a) of this section do not apply to pole trailers (as defined in Sec. 390.5 of this chapter); pulpwood trailers, low chassis vehicles, special purpose vehicles, wheels back vehicles (as defined in Sec. 393.5); and trailers towed in driveaway-towaway operations (as defined in Sec. 390.5).

- Impact guard width. The outermost surfaces of the horizontal member of the guard must extend to within 100 mm (4 inches) of the side extremities of the vehicle. The outermost surface of the horizontal member shall not extend beyond the side extremity of the vehicle.

- Guard height. The vertical distance between the bottom edge of the horizontal member of the guard and the ground shall not exceed 560 mm (22 inches) at any point across the full width of the member. Guards with rounded corners may curve upward within 255 mm (10 inches) of the longitudinal vertical planes that are tangent to the side extremities of the vehicle.

- Guard rear surface. At any height 560 mm (22 inches) or more above the ground, the rearmost surface of the horizontal member of the guard must be within 305 mm (12 inches) of the rear extremity of the vehicle. This paragraph shall not be construed to prohibit the rear surface of the guard from extending beyond the rear extremity of the vehicle. Guards with rounded corners may curve forward within 255 mm (10 inches) of the side extremity.

- Cross-sectional vertical height. The horizontal member of each guard must have a cross sectional vertical height of at least 100 mm (3.94 inches) at any point across the guard width.

- Certification and labeling requirements for rear impact protection guards. Each rear impact guard used to satisfy the requirements of paragraph (a)(1) of this section must be permanently marked or labeled as required by FMVSS No. 223 (49 CFR 571.223, S5.3). The label must be on the forward-facing surface of the horizontal member of the guard, 305 mm (12 inches) inboard of the right end of the guard.

The certification label must contain the following information:

- The impact guard manufacturer's name and address;

- The statement ``Manufactured in ----'' (inserting the month and year that the guard was manufactured); and,

- The letters ``DOT'', constituting a certification by the guard manufacturer that the guard conforms to all requirements of FMVSS No. 223.

- Requirements for motor vehicles manufactured after December 31, 1952 (except trailers or semitrailers manufactured on or after January 26, 1998). Each motor vehicle manufactured after December 31, 1952, (except

truck tractors, pole trailers, pulpwood trailers, or vehicles in driveaway-towaway operations) in which the vertical distance between the rear bottom edge of the body (or the chassis assembly if the chassis is the rearmost part of the vehicle) and the ground is greater than 76.2 cm (30 inches) when the motor vehicle is empty, shall be equipped with a rear impact guard(s). The rear impact guard(s) must be installed and maintained in such a manner that:

- The vertical distance between the bottom of the guard(s) and the ground does not exceed 76.2 cm (30 inches) when the motor vehicle is empty;
- The maximum lateral distance between the closest points between guards, if more than one is used, does not exceed 61 cm (24 inches);
- The outermost surfaces of the horizontal member of the guard are no more than 45.7 cm (18 inches) from each side extremity of the motor vehicle;
- The impact guard(s) are no more than 61 cm (24 inches) forward of the rear extremity of the motor vehicle.

- Construction and attachment. The rear impact guard(s) must be substantially constructed and attached by means of bolts, welding, or other comparable means.

- Vehicle components and structures that may be used to satisfy the requirements of paragraph (b) of this section. Low chassis vehicles, special purpose vehicles, or wheels back vehicles constructed and maintained so that the body, chassis, or other parts of the vehicle provide the rear end protection comparable to impact guard(s) conforming to the requirements of paragraph (b)(1) of this section shall be considered to be in compliance with those requirements.

49 CFR 393.87 Warning Flags on Projecting Loads

- Any commercial motor vehicle transporting a load which extends beyond the sides by more than 102 mm (4 inches) or more than 1,219 mm (4 feet) beyond the rear must have the extremities of the load marked with red or orange fluorescent warning flags. Each warning flag must be at least 457 mm (18 inches) square.

- Position of flags. There must be a single flag at the extreme rear if the projecting load is two feet wide or less. Two warning flags are required if the projecting load is wider than two feet. Flags must be located to indicate maximum width of loads which extend beyond the sides and/or rear of the vehicle.

49 CFR 393.93 Seats, Seat Belt Assemblies, and Seat Belt Assembly Anchorages

- Trucks and truck tractors
    - Trucks and truck tractors manufactured on and after January 1, 1965, and before July 1, 1971. Except as provided in paragraph (d) of this section, after June 30, 1972, every truck and truck tractor manufactured on or after January 1, 1965, and before July 1, 1971, must be equipped with a Type 1 or Type 2 seat belt assembly that conforms to Federal Motor Vehicle Safety Standard No. 209 (Sec. 571.209) installed at the driver's seat and at the right front outboard seat, if the vehicle has one, and seat belt assembly anchorages that conform to the location and geometric requirements of Federal Motor Vehicle Safety Standard No. 210 (Sec. 571.210) for each seat belt assembly that is required by this subparagraph.
- Trucks and truck tractors manufactured on or after July 1, 1971.
    - Every truck and truck tractor manufactured on or after July 1, 1971, except a truck or truck tractor being transported in driveaway-towaway operation and having an incomplete vehicle seating and cab configuration, must conform to the requirements of Federal Motor Vehicle Safety Standard No. 208 \1\ (Sec. 571.208) (relating to installation of seat belt assemblies) and Federal Motor Vehicle Safety Standard No. 210 \1\ (Sec. 571.210) (relating to installation of seat belt assembly anchorages). \1\ See footnote to Sec. 393.93(a).
- Trucks and truck tractors manufactured on or after January 1, 1972.
    - Every truck and truck tractor manufactured on or after January 1, 1972, except atruck or truck tractor being transported in driveaway-towaway operation and having an incomplete vehicle seating and cab configuration, must conform to the requirements of Federal Motor Vehicle Safety Standard No. 207 \1\ (Sec. 571.207) (relating to seating systems).
- Effective date of standards. Whenever paragraph (a) or (b) of this section requires conformity to a Federal Motor Vehicle Safety Standard, the vehicle or equipment must conform to the version of the Standard that is in effect on the date the vehicle is manufactured or on the date the vehicle is modified to conform to the requirements of paragraph (a) or (b) of this section, whichever is later.
- Trucks and truck tractors manufactured on or after January 1, 1965, and before July 1, 1971, and operated in the State of Hawaii, must comply with the provisions of paragraph (b) of this section on and after January 1, 1976.

49 CFR 393.94 Interior Noise Levels in Power Units

- Applicability of this section. The interior noise level requirements apply to all trucks, truck-tractors, and buses.
- General rule. The interior sound level at the driver's seating position of a motor vehicle must not exceed 90 dB(A) when measured in accordance with paragraph (c) of this section.

49 CFR 393.94 Interior Noise Levels in Power Units (CONT'D.)

- Test procedure:
    - (1) Park the vehicle at a location so that no large reflecting surfaces, such as other vehicles, signboards, buildings, or hills, are within 50 feet of the driver's seating position.
    - Close all vehicle doors, windows, and vents. Turn off all power-operated accessories.
    - Place the driver in his/her normal seated position at the vehicle's controls. Evacuate all occupants except the driver and the person conducting the test.
    - The sound level meters used to determine compliance with the requirements of this section must meet the American National Standards Institute ``Specification for Sound Level Meters,'' ANSI S1.4--1983. (See Sec. 393.7(b) for information on the incorporation by reference and availability of this document.)
    - Locate the microphone, oriented vertically upward, 6 inches to the right of, in the same plane as, and directly in line with, the driver's right ear.
    - With the vehicle's transmission in neutral gear, accelerate its engine to either its maximum governed engine speed, if it is equipped with an engine governor, or its speed at its maximum rated horsepower, if it is not equipped with an engine governor. Stabilize the engine at that speed.
    - Observe the A-weighted sound level reading on the meter for the stabilized engine speed condition. Record that reading, if the reading has not been influenced by extraneous noise sources such as motor vehicles operating on adjacent roadways.
    - Return the vehicle's engine speed to idle and repeat the procedures specified in paragraphs (c) (6) and (7) of this section until two maximum sound levels within 2 dB of each other are recorded. Numerically average those two maximum sound level readings.
    - The average obtained in accordance with paragraph (c)(8) of this section is the vehicle's interior sound level at the driver's seating position for the purpose of determining whether the vehicle conforms to the rule in paragraph (b) of this section. However, a 2 dB tolerance over the sound level limitation specified in that paragraph is permitted to allow for variations in test conditions and variations in the capabilities of meters.
    - If the motor vehicle's engine radiator fan drive is equipped with a clutch or similar device that automatically either reduces the rotational speed of the fan or completely disengages the fan from its power source in response to reduced engine cooling loads the vehicle may be parked before testing with its engine running at high idle or any other speed the operator may choose, for sufficient time but not more than 10 minutes, to permit the engine radiator fan to automatically disengage.

49 CFR 393.95 Emergency Equipment on All Power Units

Each truck, truck tractor, and bus (except those towed in driveaway-towaway operations) must be equipped as follows:

- Fire Extinguishers

    (1) Minimum ratings:

    (i) A power unit that is used to transport hazardous materials in a quantity that requires placarding (See Sec. 177.823 of this title) must be equipped with a fire extinguisher having an Underwriters' Laboratories rating of 10 B:C or more.

    (ii) A power unit that is not used to transport hazardous materials must be equipped with either:

(A) A fire extinguisher having an Underwriters' Laboratories rating of 5 B:C or more; or

(B) Two fire extinguishers, each of which has an Underwriters' Laboratories rating of 4 B:C or more.

(2) Labeling and marking. Each fire extinguisher required by this section must be labeled or marked by the manufacturer with its Underwriters' Laboratories rating.

(3) Visual Indicators. The fire extinguisher must be designed, constructed, and maintained to permit visual determination of whether it is fully charged.

(4) Condition, location, and mounting. The fire extinguisher(s) must be filled and located so that it is readily accessible for use. The extinguisher(s) must be securely mounted to prevent sliding, rolling, or vertical movement relative to the motor vehicle.

(5) Extinguishing agents. The fire extinguisher must use an extinguishing agent that does not need protection from freezing. Extinguishing agents must comply with the toxicity provisions of the Environmental Protection Agency's Significant New Alternatives Policy (SNAP) regulations under 40 CFR Part 82, Subpart G.

- Spare fuses. Power units for which fuses are needed to operate any required parts and accessories must have at least one spare fuse for each type/size of fuse needed for those parts and accessories.

- Warning devices for stopped vehicles. Except as provided in paragraph (g) of this section, one of the following options must be used:

  (1) Three bidirectional emergency reflective triangles that conform to the requirements of Federal Motor Vehicle Safety Standard No. 125, Sec. 571.125 of this title; or

  (2) At least 6 fusees or 3 liquid-burning flares. The vehicle must have as many additional fusees or liquid-burning flares as are necessary to satisfy the requirements of Sec. 392.22.

  (3) Other warning devices may be used in addition to, but not in lieu of, the required warning devices, provided those warning devices do not decrease the effectiveness of the required warning devices.

- Restrictions on the use of flame-producing devices. Liquid-burning flares, fusees, oil lanterns, or any signal produced by a flame shall not be carried on any commercial motor vehicle transporting Division 1.1, 1.2, 1.3 (explosives) hazardous materials; any cargo tank motor vehicle used for the transportation of Division 2.1 (flammable gas) or Class 3 (flammable liquid) hazardous materials whether loaded or empty; or any commercial motor vehicle using compressed gas as a motor fuel.

- Requirements for fusees and liquid-burning flares. Each fusee shall be capable of burning for 30 minutes, and each liquid-burning flare shall contain enough fuel to burn continuously for at least 60 minutes. Fusees and liquid-burning flares shall conform to the requirements of Underwriters Laboratories, Inc., UL No. 912, Highway Emergency Signals, Fourth Edition, July 30, 1979, (with an amendment dated November 9, 1981). (See Sec. 393.7(c) for information on the incorporation by reference and availability of this document.) Each fusee and liquid-burning flare shall be marked with the UL symbol in accordance with the requirements of UL 912.

- Requirements for red flags. Red flags shall be not less than 12 inches square, with standards adequate to maintain the flags in an upright position.

49 CFR 393.100 Which types of commercial motor vehicles are subject to the cargo securement standards of this subpart, and what general requirements apply?

Source: 67 FR 61225, Sept. 27, 2002, unless otherwise noted.

- Applicability. The rules in this subpart are applicable to trucks, truck tractors, semitrailers, full trailers, and pole trailers.

- Prevention against loss of load. Each commercial motor vehicle must, when transporting cargo on public roads, be loaded and equipped, and the cargo secured, in accordance with this subpart to prevent the cargo from leaking, spilling, blowing or falling from the motor vehicle.

- Prevention against shifting of load. Cargo must be contained, immobilized or secured in accordance with this subpart to prevent shifting upon or within the vehicle to such an extent that the vehicle's stability or maneuverability is adversely affected.

49 CFR 393.102 What are the minimum performance criteria for cargo securement devices and systems?

- Performance criteria

  (1) Breaking Strength. Tiedown assemblies (including chains, wire rope, steel strapping, synthetic webbing, and cordage) and other attachment or fastening devices used to secure articles of cargo to, or in, commercial motor vehicles must be designed, installed, and maintained to ensure that the maximum forces acting on the devices or systems do not exceed the manufacturer's breaking strength rating under the following conditions, applied separately:

  (i) 0.8 g deceleration in the forward direction;

  (ii) 0.5 g acceleration in the rearward direction; and

  (iii) 0.5 g acceleration in a lateral direction.

  (2) Working Load Limit. Tiedown assemblies (including chains, wire rope, steel strapping, synthetic webbing, and cordage) and other attachment or fastening devices used to secure articles of cargo to, or in, commercial motor vehicles must be designed, installed, and maintained to ensure that the forces acting on the devices or systems do not exceed the working load limit for the devices under the following conditions, applied separately:

  (i) 0.435 g deceleration in the forward direction;

  (ii) 0.5 g acceleration in the rearward direction; and

  (iii) 0.25 g acceleration in a lateral direction.

- Performance criteria for devices to prevent vertical movement of loads that are not contained within the structure of the vehicle. Securement systems must provide a downward force equivalent to at least 20 percent of the weight of the article of cargo if the article is not fully contained within the structure of the vehicle. If the article is fully contained within the structure of the vehicle, it may be secured in accordance with Sec. 393.106(b).

- Equivalent means of securement. The means of securing articles of cargo are considered to meet the performance requirements of this section if the cargo is ``

  (1) Immobilized, such so that it cannot shift or tip to the extent that the vehicle's stability or maneuverability is adversely affected; or

  (2) Transported in a sided vehicle that has walls of adequate strength, such that each article of cargo within the vehicle is in contact with, or sufficiently close to a wall or other articles, so that it cannot shift or tip to the extent that the vehicle's stability or maneuverability is adversely affected; or

(3) Secured in accordance with the applicable requirements of Sec. Sec. 393.104 through 393.136.

49 CFR 393.104 What standards must cargo securement devices and systems meet in order to satisfy the requirements of this subpart?

- General. All devices and systems used to secure cargo to or within a vehicle must be capable of meeting the requirements of Sec. 393.102.
- Prohibition on the use of damaged securement devices. All tiedowns, cargo securement systems, parts and components used to secure cargo must be in proper working order when used to perform that function with no damaged or weakened components, such as, but not limited to, cracks or cuts that will adversely affect their performance for cargo securement purposes, including reducing the working load limit.
- Vehicle structures and anchor points. Vehicle structures, floors, walls, decks, tiedown anchor points, headerboards, bulkheads, stakes, posts, and associated mounting pockets used to contain or secure articles of cargo must be strong enough to meet the performance criteria of Sec. 393.102, with no damaged or weakened components, such as, but not limited to, cracks or cuts that will adversely affect their performance for cargo securement purposes, including reducing the working load limit.
- Material for dunnage, chocks, cradles, shoring bars, blocking and bracing. Material used as dunnage or dunnage bags, chocks, cradles, shoring bars, or used for blocking and bracing, must not have damage or defects which would compromise the effectiveness of the securement system.
- Manufacturing standards for tiedown assemblies. Tiedown assemblies (including chains, wire rope, steel strapping, synthetic webbing, and cordage) and other attachment or fastening devices used to secure articles of cargo to, or in, commercial motor vehicles must conform to the following applicable standards:

An assembly component of . . .	Must conform to . . .
(1) Steel strapping 1,2	Standard Specification for Strapping, Flat Steel and Seals, American Society for Testing and Materials (ASTM) D3953-97, February 1998.\4\
(2) Chain	National Association of Chain Manufacturers' Welded Steel Chain Specifications, dated September 28, 2005.\4\
(3) Webbing	Web Sling and Tiedown Association's Recommended Standard Specification for Synthetic Web Tiedowns, WSTDA-T1, 1998.\4\

(4) Wire rope \3\..... Wire Rope Technical Board's Wire Rope Users Manual, 2nd Edition, November 1985.\4\

(5) Cordage..... Cordage Institute rope standard:

(i) PETRS-2, Polyester Fiber Rope, three-Strand and eight-Strand Constructions, January 1993; \4\

(ii) PPRS-2, Polypropylene Fiber Rope, three-Strand and eight-Strand Constructions, August 1992; \4\

(iii) CRS-1, Polyester/Polypropylene Composite Rope Specifications, three-Strand and eight-Strand Standard Construction, May 1979; \4\

(iv) NRS-1, Nylon Rope Specifications, three-Strand and eight-Strand Standard Construction, May 1979; \4\ and

(v) C-1, Double Braided Nylon Rope Specifications DBN, January 1984.\4\

\1\ Steel strapping not marked by the manufacturer with a working load limit will be considered to have a working load limit equal to one-fourth of the breaking strength listed in ASTM D3953-97.

\2\ Steel strapping 25.4 mm (1 inch) or wider must have at least two pairs of crimps in each seal and, when an end-over-end lap joint is formed, must be sealed with at least two seals.

\3\ Wire rope which is not marked by the manufacturer with a working load limit shall be considered to have a working load limit equal to one-fourth of the nominal strength listed in the manual.

\4\ See Sec. 393.7 for information on the incorporation by reference and availability of this document.

- Use of tiedowns
    - Tiedowns and securing devices must not contain knots.
    - If a tiedown is repaired, it must be repaired in accordance with the applicable standards in paragraph (e) of this section, or the manufacturer's instructions.

- Each tiedown must be attached and secured in a manner that prevents it from becoming loose, unfastening, opening or releasing while the vehicle is in transit.

- Edge protection must be used whenever a tiedown would be subject to abrasion or cutting at the point where it touches an article of cargo. The edge protection must resist abrasion, cutting and crushing.

49 CFR 393.106 What are the general requirements for securing articles of cargo?

- Applicability. The rules in this section are applicable to the transportation of all types of articles of cargo, except commodities in bulk that lack structure or fixed shape (e.g., liquids, gases, grain, liquid concrete, sand, gravel, aggregates) and are transported in a tank, hopper, box, or similar device that forms part of the structure of a commercial motor vehicle. The rules in this section apply to the cargo types covered by the commodity-specific rules of Sec. 393.116 through Sec. 393.136. The commodity-specific rules take precedence over the general requirements of this section when additional requirements are given for a commodity listed in those sections.

- General. Cargo must be firmly immobilized or secured on or within a vehicle by structures of adequate strength, dunnage or dunnage bags, shoring bars, tiedowns or a combination of these.

- Cargo placement and restraint

  - Articles of cargo that are likely to roll must be restrained by chocks, wedges, a cradle or other equivalent means to prevent rolling. The means of preventing rolling must not be capable of becoming unintentionally unfastened or loose while the vehicle is in transit.

  - Articles or cargo placed beside each other and secured by transverse tiedowns must either:

    (i) Be placed in direct contact with each other, or

    (ii) Be prevented from shifting towards each other while in transit.

- Aggregate working load limit for tiedowns. The aggregate working load limit of tiedowns used to secure an article or group of articles against movement must be at least one-half times the weight of the article or group of articles. The aggregate working load limit is the sum of:

  (1) One-half the working load limit of each tiedown that goes from an anchor point on the vehicle to an anchor point on an article of cargo;

  (2) One-half the working load limit of each tiedown that is attached to an anchor point on the vehicle, passes through, over, or around the article of cargo, and is then attached to an anchor point on the same side of the vehicle.

  (3) The working load limit for each tiedown that goes from an anchor point on the vehicle, through, over, or around the article of cargo, and then attaches to another anchor point on the other side of the vehicle.

49 CFR 393.108 How is the working load limit of a tiedown, or the load restraining value of a friction mat, determined?

- The working load limit (WLL) of a tiedown, associated connector or attachment mechanism is the lowest working load limit of any of its components (including tensioner), or the working load limit of the anchor points to which it is attached, whichever is less.

- The working load limits of tiedowns may be determined by using either the tiedown manufacturer's markings or by using the tables in this section. The working load limits listed in the tables are to be used when the tiedown

material is not marked by the manufacturer with the working load limit. Tiedown materials which are marked by the manufacturer with working load limits that differ fromthe tables, shall be considered to have a working load limit equal to the value for which they are marked.

- Synthetic cordage (e.g., nylon, polypropylene, polyester) which is not marked or labeled to enable identification of its composition or working load limit shall be considered to have a working load limit equal to that for polypropylene fiber rope.

- Welded steel chain which is not marked or labeled to enable identification of its grade or working load limit shall be considered to have a working load limit equal to that for grade 30 proof coil chain.

- Wire rope which is not marked by the manufacturer with a working load limit shall be considered to have a working load limit equal to one-fourth of the nominal strength listed in the Wire Rope Users Manual.

- Wire which is not marked or labeled to enable identification of its construction type shall be considered to have a working load limit equal to that for 6 x 37, fiber core wire rope.

- Manila rope which is not marked by the manufacturer with a working load limit shall be considered to have a working load limit based on its diameter as provided in the tables of working load limits.

- Friction mats which are not marked or rated by the manufacturer shall be considered to provide resistance to horizontal movement equal to 50 percent of the weight placed on the mat.

Tables to Sec. 393.108

[Working Load Limits (WLL), Chain]

Size mm (inches)	WLL in kg (pounds)				
	Grade 30 proof coil	Grade 43 high test	Grade 70 transport	Grade 80 alloy	Grade 100 alloy
1. 7 (1/4).....	580 (1,300)	1,180 (2,600)	1,430 (3,150)	1,570 (3,500)	1,950 (4,300)
2. 8 (5/16).....	860 (1,900)	1,770 (3,900)	2,130 (4,700)	2,000 (4,500)	2,600 (5,700)
3. 10 (3/8).....	1,200 (2,650)	2,450 (5,400)	2,990 (6,600)	3,200 (7,100)	4,000 (8,800)
4. 11 (7/16).....	1,680 (3,700)	3,270 (7,200)	3,970 (8,750)		
5. 13 (1/2).....	2,030 (4,500)	4,170 (9,200)	5,130 (11,300)	5,400 (12,000)	6,800 (15,000)
6. 16 (5/8).....	3,130 (6,900)	5,910 (13,000)	7,170 (15,800)	8,200 (18,100)	10,300 (22,600)
Chain Mark Examples:					
Example 1.....	3	4	7	8	10
Example 2.....	30	43	70	80	100
Example 3.....	300	430	700	800	1000

Synthetic Webbing

Width mm (inches)	WLL kg (pounds)
45 (1\3/4\).....	790 (1,750)
50 (2).....	910 (2,000)
75 (3).....	1,360 (3,000)
100 (4).....	1,810 (4,000)

Wire Rope (6 x 37, Fiber Core)

Diameter mm (inches)	WLL kg (pounds)
7 (1/4)	640 (1,400)
8 (5/16)	950 (2,100)
10 (3/8)	1,360 (3,000)
11 (7/16)	1,860 (4,100)
13 (1/2)	2,400 (5,300)
16 (5/8)	3,770 (8,300)
20 (3/4)	4,940 (10,900)
22 (7/8)	7,300 (16,100)
25 (1)	9,480 (20,900)

Manila Rope

Diameter mm (inches)	WLL kg (pounds)
10 (3/8)	90 (205)
11 (7/16)	120 (265)
13 (1/2)	150 (315)
16 (5/8)	210 (465)
20 (3/4)	290 (640)
25 (1)	480 (1,050)

Polypropylene Fiber Rope WLL (3-Strand and 8-Strand Constructions)

Diameter mm (inches)	WLL kg (pounds)
10 (3/8)	180 (400)
11 (7/16)	240 (525)

13 (1/2).....	280 (625)
16 (5/8).....	420 (925)
20 (3/4).....	580 (1,275)
25 (1).....	950 (2,100)

Polyester Fiber Rope WLL (3-Strand and 8-Strand Constructions)

Diameter mm (inches)	WLL kg (pounds)
10 (3/8).....	250 (555)
11 (7/16).....	340 (750)
13 (1/2).....	440 (960)
16 (5/8).....	680 (1,500)
20 (3/4).....	850 (1,880)
25 (1).....	1,500 (3,300)

Nylon Rope

Diameter mm (inches)	WLL kg (pounds)
10 (3/8).....	130 (278)
11 (7/16).....	190 (410)
13 (1/2).....	240 (525)
16 (5/8).....	420 (935)
20 (3/4).....	640 (1,420)
25 (1).....	1,140 (2,520)

Double Braided Nylon Rope

Diameter mm (inches)	WLL kg (pounds)

10 (3/8).....	150 (336)
11 (7/16).....	230 (502)
13 (1/2).....	300 (655)
16 (5/8).....	510 (1,130)
20 (3/4).....	830 (1,840)
25 (1).....	1,470 (3,250)

Steel Strapping

Width x thickness mm (inches)	WLL kg (pounds)
31.7 x .74 (1 1/4 x 0.029).....	540 (1,190)
31.7 x .79 (1\1/4\ x 0.031).....	540 (1,190)
31.7 x .89 (1\1/4\ x 0.035).....	540 (1,190)
31.7 x 1.12 (1\1/4\ x 0.044).....	770 (1,690)
31.7 x 1.27 (1\1/4\ x 0.05).....	770 (1,690)
31.7 x 1.5 (1\1/4\ x 0.057).....	870 (1,925)
50.8 x 1.12 (2 x 0.044).....	1,200 (2,650)
50.8 x 1.27 (2 x 0.05).....	1,200 (2,650)

49 CFR 393.110 What else do I have to do to determine the minimum number of tiedowns?

- When tiedowns are used as part of a cargo securement system, the minimum number of tiedowns required to secure an article or group of articles against movement depends on the length of the article(s) being secured, and the requirements of paragraphs (b) and (c) of this section. These requirements are in addition to the rules under Sec. 393.106.

- When an article is not blocked or positioned to prevent movement in the forward direction by a headerboard, bulkhead, other cargo that is positioned to prevent movement, or other appropriate blocking devices, it must be secured by at least:

  (1) One tiedown for articles 5 feet (1.52 meters) or less in length, and 1,100 pounds (500 kg) or less in weight;

  (2) Two tiedowns if the article is:

  (i) 5 feet (1.52 meters) or less in length and more than 1,100 pounds (500 kg) in weight; or

(ii) Longer than 5 feet (1.52 meters) but less than or equal to 10 feet (3.04 meters) in length, irrespective of the weight.

(3) Two tiedowns if the article is longer than 10 feet (3.04 meters), and one additional tiedown for every 10 feet (3.04 meters) of article length, or fraction thereof, beyond the first 10 feet (3.04 meters) of length.

- If an individual article is blocked, braced, or immobilized to prevent movement in the forward direction by a headerboard, bulkhead, other articles which are adequately secured or by an appropriate blocking or immobilization method, it must be secured by at least one tiedown for every 3.04 meters (10 feet) of article length, or fraction thereof.

- Special rule for special purpose vehicles. The rules in this section do not apply to a vehicle transporting one or more articles of cargo such as, but not limited to, machinery or fabricated structural items (e.g., steel or concrete beams, crane booms, girders, and trusses, etc.) which, because of their design, size, shape, or weight, must be fastened by special methods. However, any article of cargo carried on that vehicle must be securely and adequately fastened to the vehicle.

49 CFR 393.112 Must a Tiedown be Adjustable?

Each tiedown, or its associated connectors, or its attachment mechanisms must be designed, constructed, and maintained so the driver of an in-transit commercial motor vehicle can tighten them. However, this requirement does not apply to the use of steel strapping.

49 CFR 393.114 What are the requirements for front end structures used as part of a cargo securement system?

- Applicability. The rules in this section are applicable to commercialmotor vehicles transporting articles of cargo that are in contact with the front end structure of the vehicle. The front end structure on these cargo-carrying vehicles must meet the performance requirements of this section.

- Height and width.

    - (1) The front end structure must extend either to a height of 4 feet above the floor of the vehicle or to a height at which it blocks forward movement of any item or article of cargo being carried on the vehicle, whichever is lower.

    - The front end structure must have a width which is at least equal to the width of the vehicle or which blocks forward movement of any article of cargo being transported on the vehicle, whichever is narrower.

- Strength. The front end structure must be capable of withstanding the following horizontal forward static load:

    - For a front end structure less than 6 feet in height, a horizontal forward static load equal to one-half (0.5) of the weight of the articles of cargo being transported on the vehicle uniformly distributed over the entire portion of the front end structure that is within 4 feet above the vehicle's floor or that is at or below a height above the vehicle's floor at which it blocks forward movement of any article of the vehicle's cargo, whichever is less; or

    - For a front end structure 6 feet in height or higher, a horizontal forward static load equal to four-tenths (0.4) of the weight of the articles of cargo being transported on the vehicle uniformly distributed over the entire front end structure.

- Penetration resistance. The front end structure must be designed, constructed, and maintained so that it is capable of resisting penetration by any article of cargo that contacts it when the vehicle decelerates at a rate of 20

feet per second, per second. The front end structure must have no aperture large enough to permit any article of cargo in contact with the structure to pass through it.

- Substitute devices. The requirements of this section may be met by the use of devices performing the same functions as a front end structure, if the devices are at least as strong as, and provide protection against shifting articles of cargo at least equal to, a front end structure which conforms to those requirements.

49 CFR 393.126 What are the rules for securing intermodal containers?

- Applicability. The rules in this section apply to the transportation of intermodal containers. Cargo contained within an intermodal container must be secured in accordance with the provisions of Sec. Sec. 393.100 through 393.114 or, if applicable, the commodity specific rules of this part.

- Securement of intermodal containers transported on container chassis vehicle(s).

    - All lower corners of the intermodal container must be secured to the container chassis with securement devices or integral locking devices that cannot unintentionally become unfastened while the vehicle is in transit.

    - The securement devices must restrain the container from moving more than 1.27 cm (1/2 in) forward, more than 1.27 cm (1/2 in) aft, more than 1.27 cm (1/2 in) to the right, more than 1.27 cm (1/2 in) to the left, or more than 2.54 cm (1 in) vertically.

    - The front and rear of the container must be secured independently.

- Securement of loaded intermodal containers transported on vehicles other than container chassis vehicle(s).

    - All lower corners of the intermodal container must rest upon the vehicle, or the corners must be supported by a structure capable of bearing the weight of the container and that support structure must be independently secured to the motor vehicle.

    - Each container must be secured to the vehicle by:

        (i) Chains, wire ropes or integral devices which are fixed to all lower corners; or

        (ii) Crossed chains which are fixed to all upper corners; and,

    - The front and rear of the container must be secured independently. Each chain, wire rope, or integral locking device must be attached to the container in a manner that prevents it from being unintentionally unfastened while the vehicle is in transit.

- Securement of empty intermodal containers transported on vehicles other than container chassis vehicle(s). Empty intermodal containers transported on vehicles other than container chassis vehicles do not have to have all lower corners of the intermodal container resting upon the vehicle, or have all lower corners supported by a structure capable of bearing the weight of the empty container, provided:

    - The empty intermodal container is balanced and positioned on the vehicle in a manner such that the container is stable before the addition of tiedowns or other securement equipment; and,

    - The amount of overhang for the empty container on the trailer does not exceed five feet on either the front or rear of the trailer;

    - The empty intermodal container must not interfere with the vehicle's maneuverability; and,

    - The empty intermodal container is secured to prevent lateral, longitudinal, or vertical shifting.

49 CFR 393.130 What are the rules for securing heavy vehicles, equipment and machinery?

- Applicability. The rules in this section apply to the transportation of heavy vehicles, equipment and machinery which operate on wheels or tracks, such as front end loaders, bulldozers, tractors, and power shovels and which individually weigh 4,536 kg (10,000 lb.) or more. Vehicles, equipment and machinery which is lighter than 4,536

kg (10,000 lb.) may also be secured in accordance with the provisions of this section, with Sec. 393.128, or in accordance with the provisions of Sec. Sec. 393.100 through 393.114.

- Preparation of equipment being transported
    - Accessory equipment, such as hydraulic shovels, must be completely lowered and secured to the vehicle.
    - Articulated vehicles shall be restrained in a manner that prevents articulation while in transit.
- Securement of heavy vehicles, equipment or machinery with crawler tracks or wheels
    - In addition to the requirements of paragraph (b) of this section, heavy equipment or machinery with crawler tracks or wheels must be restrained against movement in the lateral, forward, rearward, and vertical direction using a minimum of four tiedowns.
    - Each of the tiedowns must be affixed as close as practicable to the front and rear of the vehicle, or mounting points on the vehicle that have been specifically designed for that purpose.

49 CFR 393.134 What are the rules for securing roll-on/roll-off or hook lift containers?

- Applicability. The rules in this section apply to the transportation of roll-on/roll-off or hook lift containers.
- Securement of a roll-on/roll-off and hook lift container. Each roll-on/roll-off and hook lift container carried on a vehicle which is not equipped with an integral securement system must be:
    - Blocked against forward movement by the lifting device, stops, a combination of both or other suitable restraint mechanism;
    - Secured to the front of the vehicle by the lifting device or other suitable restraint against lateral and vertical movement;
    - Secured to the rear of the vehicle with at least one of the following mechanisms:

        (i) One tiedown attached to both the vehicle chassis and the container chassis;

        (ii) Two tiedowns installed lengthwise, each securing one side of the container to one of the vehicle's side rails; or

        (iii) Two hooks, or an equivalent mechanism, securing both sides of the container to the vehicle chassis at least as effectively as the tiedowns in the two previous items.
    - The mechanisms used to secure the rear end of a roll-on/roll off or hook lift container must be installed no more than two meters (6 ft 7 in) from the rear of the container.
    - In the event that one or more of the front stops or lifting devices are missing, damaged or not compatible, additional manually installed tiedowns must be used to secure the container to the vehicle, providing the same level of securement as the missing, damaged or incompatible components.

49 CFR 393.201 Frames

Source: 53 FR 49402, Dec. 7, 1988, unless otherwise noted.

- The frame or chassis of each commercial motor vehicle shall not be cracked, loose, sagging or broken.
- Bolts or brackets securing the cab or the body of the vehicle to the frame must not be loose, broken, or missing.
- The frame rail flanges between the axles shall not be bent, cut or notched, except as specified by the manufacturer.
- Parts and accessories shall not be welded to the frame or chassis of a commercial motor vehicle except in accordance with the vehicle manufacturer's recommendations. Any welded repair of the frame must also be in accordance with the vehicle manufacturer's recommendations.
- No holes shall be drilled in the top or bottom rail flanges, except as specified by the manufacturer.

49 CFR 393.203 Cab & Body Components

- The cab compartment doors or door parts used as an entrance or exist shall not be missing or broken. Doors shall not sag so that they cannot be properly opened or closed. No door shall be wired shut or otherwise secured in the closed position so that it cannot be readily opened. Exception: When the vehicle is loaded with pipe or bar stock that blocks the door and the cab has a roof exit.
- Bolts or brackets securing the cab or the body of the vehicle to the frame shall not be loose, broken, or missing.
- The hood must be securely fastened.
- All seats must be securely mounted.
- The front bumper must not be missing, loosely attached, or protruding beyond the confines of the vehicle so as to create a hazard.

49 CFR 393.205 Wheels

- Wheels and rims shall not be cracked or broken.
- Stud or bolt holes on the wheels shall shall not be elongated (out of round).
- Nuts or bolts shall not be missing or loose

49 CFR 393.207 Suspension Systems

- Axles. No axle positioning part shall be cracked, broken, loose or missing. All axles must be in proper alignment.
- Adjustable axles. Adjustable axle assemblies shall not have locking pins missing or disengaged.
- Leaf springs. No leaf spring shall be cracked, broken, or missing nor shifted out of position.
- Coil springs. No coil spring shall be cracked or broken.
- Torsion bar. No torsion bar or torsion bar suspension shall be cracked or broken.
- Air suspensions. The air pressure regulator valve shall not allow air into the suspension system until at least 55 psi is in the braking system. The vehicle shall be level (not tilting to the left or right). Air leakage shall not be greater than 3 psi in a 5-minute time period when the vehicle's air pressure gauge shows normal operating pressure.
- Air suspension exhaust controls. The air suspension exhaust controls must not have the capability to exhaust air from the suspension system of one axle of a two-axle air suspension trailer unless the controls are either located on the trailer, or the power unit and trailer combination are not capable of traveling at a speed greater than 10 miles per hour while the air is exhausted from the suspension system. This paragraph shall not be construed to prohibit--
    - Devices that could exhaust air from both axle systems simultaneously; or
    - Lift axles on multi-axle units.

49 CFR 393.209 Steering Wheel Systems

- The steering wheel shall be secured and must not have any spokes cracked through or missing.
- Steering wheel lash
    - The steering wheel lash shall not exceed the following parameters:

Steering wheel diameter	Manual steering system	Power steering system
406 mm or less (16 inches or less).	51 mm (2 inches)....	108 mm (4\1/4\ inches)
457 mm (18 inches).....	57 mm (2\1/4\ inches)	121 mm (4\3/4\ inches)
483 mm (19 inches).....	60 mm (2\3/8\ inches)	127 mm (5 inches)
508 mm (20 inches).....	64 mm (2\1/2\ inches)	133 mm (5\1/4\ inches)
533 mm (21 inches).....	67 mm (2\5/8\ inches)	140 mm (5\1/2\ inches)
559 mm (22 inches).....	70 mm (2\3/4\ inches)	146 mm (5\3/4\ inches)

    - For steering wheel diameters not listed in paragraph (b)(1) of this section the steering wheel lash shall not exceed 14 degrees angular rotation for manual steering systems, and 30 degrees angular rotation for power steering systems.

- Steering column. The steering column must be securely fastened.
- Steering system. Universal joints and ball-and-socket joints shall not be worn, faulty or repaired by welding. The steering gear box shall not have loose or missing mounting bolts or cracks in the gear box or mounting brackets. The pitman arm on the steering gear output shaft shall not be loose. Steering wheels shall turn freely through the limit of travel in both directions.
- Power steering systems. All components of the power system must be in operating condition. No parts shall be loose or broken. Belts shall not be frayed, cracked or slipping. The system shall not leak. The power steering system shall have sufficient fluid in the reservoir.

49 CFR 395.0 Hours of Scope of Drivers

49 CFR 395.1 Scope of Rules

Syracuse Haulers Waste Removal, Inc. runs a short haul intrastate fleet

Drivers:

- Operate within a 100 air-mile radius of the normal work reporting location
- Return to the work reporting location and is released from work within 11 consecutive hours
- Has at least 10 consecutive hours off-duty separating each 11 hours on-duty

Syracuse Haulers Waste Removal, Inc. maintains and retains for a period of 6 months accurate and true time records showing:

- The time the driver reports for duty each day
- Total number of hours the driver is on duty each day
- The time the driver is released from duty each day
- The total time for the preceding 7 days

49 CFR 395.2 Definition

The following definitions have been deemed applicable to Syracuse Haulers Waste Removal, Inc.

Driving time means all time spent at the driving controls of a commercial motor vehicle in operation.

Eight consecutive days means the period of 8 consecutive days beginning on any day at the time designated by the motor carrier for a 24-hour period.

Multiple stops means all stops made in any one village, town, or city may be computed as one.

On duty time means all time from the time a driver begins to work or is required to be in readiness to work until the time the driver is relieved from work and all responsibility for performing work.

On duty time shall include:

(1) All time at a plant, terminal, facility, or other property of a motor carrier or shipper, or on any public property, waiting to be dispatched, unless the driver has been relieved from duty by the motor carrier;

(2) All time inspecting, servicing, or conditioning any commercial motor vehicle at any time;

(3) All driving time as defined in the term driving time;

(4) All time, other than driving time, in or upon any commercial motor vehicle except time spent resting in a sleeper berth;

(5) All time loading or unloading a commercial motor vehicle, supervising, or assisting in the loading or unloading, attending a commercial motor vehicle being loaded or unloaded, remaining in readiness to operate the commercial motor vehicle, or in giving or receiving receipts for shipments loaded or unloaded;

(6) All time repairing, obtaining assistance, or remaining in attendance upon a disabled commercial motor vehicle;

(7) All time spent providing a breath sample or urine specimen, including travel time to and from the collection site, in order to comply with the random, reasonable suspicion, post-accident, or follow-up testing required by part 382 of this subchapter when directed by a motor carrier;

(8) Performing any other work in the capacity, employ, or service of a motor carrier; and

(9) Performing any compensated work for a person who is not a motor carrier.

Seven consecutive days means the period of 7 consecutive days beginning on any day at the time designated by the motor carrier for a 24-hour period.

Twenty-four-hour period means any 24-consecutive-hour period beginning at the time designated by the motor carrier for the terminal from which the driver is normally dispatched.

49 CFR 395.3 Maximum Driving Time for Property-Carrying Vehicles

Syracuse Haulers Waste Removal, Inc. shall not permit or require any driver used by it to drive a property-carrying commercial motor vehicle, nor shall any such driver drive:

- More than 11 cumulative hours following 10 consecutive hours off-duty; or
- No motor carrier shall permit or require a driver of a property-carrying commercial motor vehicle to drive, nor shall any driver drive a property-carrying commercial motor vehicle, regardless of the number of motor carriers using the driver's services, for any period after:
    - Having been on duty 60 hours in any period of 7 consecutive days if the employing motor carrier does not operate commercial motor vehicles every day of the week; or
    - Having been on duty 70 hours in any period of 8 consecutive days if the employing motor carrier operates commercial motor vehicles every day of the week.
    - Any period of 7 consecutive days may end with the beginning of any off-duty period of 34 or more consecutive hours; or
    - Any period of 8 consecutive days may end with the beginning of any off-duty period of 34 or more consecutive hours.

49 CFR 395.13 Drivers Declared Out of Service

- Authority to declare drivers out of service. Every special agent of the Federal Motor Carrier Safety Administration is authorized to declare a driver out of service and to notify the motor carrier of that declaration, upon finding at the time and place of examination that the driver has violated the out of service criteria as set forth herein.
- Out of service criteria = no driver shall drive after being on-duty in excess of the maximum periods permitted by this part.
- Responsibilities of motor carriers = no motor carrier shall require or permit a driver who has been declared out of service to operate a commercial motor vehicle until that driver may lawfully do so under the rules in this part.
- A motor carrier shall complete the ``Motor Carrier Certification of Action Taken'' portion of the form MCS-63 (Driver-Vehicle Examination Report) and deliver the copy of the form either personally or by mail to the Division Administrator or State Director Federal Motor Carrier Safety Administration, at the address specified upon the form within 15 days following the date of examination. If the motor carrier mails the form, delivery is made on the date it is postmarked.
- Responsibilities of the driver = no driver who has been declared out of service shall operate a commercial motor vehicle until that driver may lawfully do so under the rules of this part.

- A driver to whom a form has been tendered declaring the driver out of service shall within 24 hours thereafter deliver or mail the copy to a person or place designated by motor carrier to receive it.

49 CFR 396.0 Inspection, Repair & Maintenance

49 CFR 396.1 Scope

Syracuse Haulers Waste Removal, Inc. shall comply and be conversant with the rules of this part.

49 CFR 396.3 Inspection, Repair & Maintenance

Syracuse Haulers Waste Removal, Inc. shall systematically inspect, repair & maintain, or cause to be systematically inspected, repaired, and maintained, all motor vehicles subject to its control.

- Parts and accessories shall be in safe and proper operating condition at all times which includes any additional parts and accessories which may affect safety of operation, including but not limited to, frame and frame assemblies, suspension systems, axles and attaching parts, wheels and rims, and steering systems.

- Pushout windows, emergency doors, and emergency door marking lights in buses shall be inspected at least every 90 days.

- Required records--For vehicles controlled for 30 consecutive days or more, except for a private motor carrier of passengers (nonbusiness), the motor carriers shall maintain, or cause to be maintained, the following record for each vehicle:

    - An identification of the vehicle including company number, if so marked, make, serial number, year, and tire size. In addition, if the motor vehicle is not owned by the motor carrier, the record shall identify the name of the person furnishing the vehicle;
    - A means to indicate the nature and due date of the various inspection and maintenance operations to be performed;
    - A record of inspection, repairs, and maintenance indicating their date and nature; and
    - A record of tests conducted on pushout windows, emergency doors, and emergency door marking lights on buses.

- Record retention. The records required by this section shall be retained where the vehicle is either housed or maintained for a period of 1 year and for 6 months after the motor vehicle leaves the motor carrier's control.

49 CFR 396.5 Lubrication

Syracuse Haulers Waste Removal, Inc. shall ensure that each motor vehicle subject to its control is:

- Properly lubricated

- Free of oil and grease leaks

49 CFR 396.7 Unsafe Operations Forbidden

Syracuse Haulers Waste Removal, Inc.’s vehicles shall not be:

- Operated in such a condition as to likely cause an accident or a breakdown of the vehicle.

- Exemption. Any motor vehicle discovered to be in an unsafe condition while being operated on the highway may be continued in operation only to the nearest place where repairs can safely be effected. Such operation shall be conducted only if it is less hazardous to the public than to permit the vehicle to remain on the highway.

49 CFR 396.9 Inspection of Motor Vehicles in Operation

Syracuse Haulers Waste Removal, Inc. will:

- Have only FMCSA authorized personnel perform inspections
- The Driver Vehicle Examination Report shall be used to record results of motor vehicle inspections conducted by authorized FMCSA personnel.
- Authorized personnel shall declare and mark ``out of service'' any motor vehicle which by reason of its mechanical condition or loading would likely cause an accident or a breakdown.
- Shall not permit any person to operate nor shall any person operate any motor vehicle declared and marked ``out of service'' until all repairs required by the ``out of service notice'' have been satisfactorily completed.
- Will have the driver of any motor vehicle receiving an inspection report deliver it to the motor carrier operating the vehicle upon his/her arrival at the facility.
- The report shall be examined and violations or defects noted thereon shall be corrected.

- Within 15 days following the date of the inspection, Syracuse Haulers Waste Removal, Inc. shall:
    - Certify that all violations noted have been corrected by completing the ``Signature of Carrier Official, Title, and Date Signed'' portions of the form
    - Return the completed roadside inspection form to the issuing agency at the address indicated on the form and retain a copy at the motor carrier's principal place of business or where the vehicle is housed for 12 months from the date of the inspection.

49 CFR 396.11 Driver Vehicle Inspection Reports

Syracuse Haulers Waste Removal, Inc. requires from it’s drivers a pre/post trip vehicle checklist which includes above and beyond the following:

- Service brakes including trailer brake connections
- Parking (hand) brake
- Steering mechanism
- Lighting devices and reflectors
- Tires
- Horn
- Windshield wipers
- Rear vision mirrors
- Coupling devices
- Wheels and rims
- Emergency equipment

Report content shall identify:

- The vehicle and list any defect or deficiency discovered by or reported to the driver which would affect the safety of operation of the vehicle or result in its mechanical breakdown. If no defect or deficiency is discovered by or reported to the driver, the report shall so indicate. In all instances, the driver shall sign the report. If a driver operates more than one vehicle during the day, a report shall be prepared for each vehicle operated.
- Prior to requiring or permitting a driver to operate a vehicle, Syracuse Haulers Waste Removal, Inc. shall repair any defect or deficiency listed on the driver vehicle inspection report which would be likely to affect the safety of operation of the vehicle.
- Syracuse Haulers Waste Removal, Inc. shall certify on the original driver vehicle inspection report which lists any defect or deficiency that the defect or deficiency has been repaired or that repair is unnecessary before the vehicle is operated again.

- Syracuse Haulers Waste Removal, Inc. shall maintain the original driver vehicle inspection report, the certification of repairs, and the certification of the driver's review for three months from the date the written report was prepared.

49 CFR 396.13 Driver Inspection

Before driving a motor vehicle, Syracuse Haulers Waste Removal, Inc. drivers will:

- Be satisfied that the motor vehicle is in safe operating condition
- Review the last driver vehicle inspection report
- Sign the report, only if defects or deficiencies were noted by the driver who prepared the report, to acknowledge that the driver has reviewed it and that there is a certification that the required repairs have been performed.

49 CFR 396.17 Periodic Inspections

Syracuse Haulers Waste Removal, Inc. shall inspect every commercial motor vehicle as required, to include each vehicle in a combination vehicle.

Syracuse Haulers Waste Removal, Inc. shall:

- inspect or cause to be inspected all motor vehicles subject to its control.
- not use a commercial motor vehicle unless each component identified has passed an inspection at least once during the preceding 12 months and documentation of such inspection is on the vehicle.

The documentation may be:

- The inspection report prepared by an authorized FMCSA inspector, or
- Other forms of documentation, based on the inspection report, which contains the following information:
    - The date of inspection
    - Name and address of the motor carrier or other entity where the inspection report is maintained
    - Information uniquely identifying the vehicle inspected if not clearly marked on the motor vehicle; and
    - A certification that the vehicle has passed an inspection

It shall be the responsibility of Syracuse Haulers Waste Removal, Inc. to ensure that all parts and accessories not meeting the minimum standards set forth herein are repaired promptly.

49 CFR 396.19 Inspector Qualifications

Syracuse Haulers Waste Removal, Inc. will have only New York State Registered Inspection facilities inspect all vehicles.

49 CFR 396.21 Periodic Inspection Recordkeeping Requirements

Syracuse Haulers Waste Removal, Inc. certifies that:

- The qualified inspector performing the inspection shall prepare a report which:
    - Identifies the individual performing the inspection;
    - Identifies the motor carrier operating the vehicle;
    - Identifies the date of the inspection;
    - Identifies the vehicle inspected;
    - Identifies the vehicle components inspected and describes the results of the inspection, including the identification of those components not meeting the minimum standards; and
    - Certifies the accuracy and completeness of the inspection as complying with all the requirements of this section.
- The original or a copy of the inspection report shall be retained by Syracuse Haulers Waste Removal, Inc. for a period of fourteen months from the date of the inspection report. The original or a copy of the inspection report shall be retained where the vehicle is either housed or maintained.
- The original or a copy of the inspection report shall be available for inspection upon demand of an authorized Federal, State or local official.

49 CFR 396.25 Qualifications of Brake Inspectors

Syracuse Haulers Waste Removal, Inc. certifies that:

- The motor carrier shall ensure that all inspections, maintenance, repairs or service to the brakes of its commercial motor vehicles, are performed in compliance
- For purposes of definition, brake inspector means any employee who is responsible for ensuring all brake inspections, maintenance, service, or repairs to any commercial motor vehicle, subject to Syracuse Haulers Waste Removal, Inc.'s control, meet the applicable Federal standards.
- Syracuse Haulers Waste Removal, Inc. shall not require or permit any employee who does not meet the minimum brake inspector qualifications to be responsible for the inspection, maintenance, service or repairs of any brakes on its commercial motor vehicles.
- Syracuse Haulers Waste Removal, Inc. shall ensure that each brake inspector is qualified as follows:
    - Understands the brake service or inspection task to be accomplished and can perform that task; and
    - Is knowledgeable of and has mastered the methods, procedures, tools and equipment used when performing an assigned brake service or inspection task; and

- Is capable of performing the assigned brake service or inspection by reason of experience, training or both as follows:
  - Has successfully completed an apprenticeship program sponsored by a State, a Federal agency or a labor union, or a training program approved by a State or Federal agency, or has a certificate from New York State which qualifies the person to perform the assigned brake service or inspection task; or
  - Has brake-related training or experience or a combination thereof totaling at least one year. Such training or experience may consist of:
    - Participation in a training program sponsored by a brake or vehicle manufacturer or similar commercial training program designed to train students in brake maintenance or inspection similar to the assigned brake service or inspection tasks; or
    - Experience performing brake maintenance or inspection similar to the assigned brake service or inspection task in a motor carrier maintenance program; or
    - Experience performing brake maintenance or inspection similar to the assigned brake service or inspection task at a commercial garage, fleet leasing company, or similar facility.

- Syracuse Haulers Waste Removal, Inc. shall not employ any person as a brake inspector unless the evidence of the inspector's qualifications, is maintained by Syracuse Haulers Waste Removal, Inc. at its principal place of business. The evidence must be maintained for the period during which the brake inspector is employed in that capacity and for one year thereafter.

NEXGEN® **GALAXY 2R**®

TWO-RAM BALER SPECIFICATIONS

2R-310W-84 - FULL PENETRATION MODELS

Specification **#310W84** Revision Date: **1/15/2009**

Application - Most medium density recyclable fibers, plastic and metal recyclables & low density MSW

Construction - Heavy-duty structural members properly jigged & fixtured to ensure proper alignment. CAD designed reinforced & braced as required by engineering standards.

GENERAL PERFORMANCE SPECIFICATIONS

Charge Box Size		84"			
Horsepower		2 x 30	100	2 x 50	2 x 75
GPM		128	200	274	300
Average Dry Cycle Time in Sec.**		22.5	15.3	11.8	11
Cycles per Minute		2.6	3.9	5.0	5.4
Eject Cycle Time (5 ties)***		31 Sec.	30 Sec.	28 Sec.	28 Sec.
Oil Capacity		300 Gal.	400 Gal.	600 Gal.	600 Gal.
Displacement (CF/HR)		13,000	19,200	24,900	26,600
Infeed Density	Efficiency	TONS per Hour			
1.5 LB/CF	55%	5.4	7.9	10.3	10.9
3 LB/CF	46%	9.0	13.2	17.2	18.3
4.5 LB/CF	38%	11.1	16.4	21.3	22.7
6 LB/CF	32%	12.5	18.4	23.9	25.5

PRESSURE SPECIFICATIONS

Compressing Cylinder	10" Diameter - 140" Stroke - 7" Rod
Eject Cylinder	8" Diameter - 90" Stroke - 6" Rod
Normal Operating Pressure	4,000 PSI
Full Penetration Stroke	5" From Compression Wall
Compressing Force (PSI)	314,100# - 157 Tons (188 PSI)
Ejector Force (PSI)	201,000# - 100 Tons (199 PSI)

DIMENSIONAL SPECIFICATIONS

Feed Opening	57 3/4" W x 84" L			
Charge Box (Cube)	60" W x 84" L x 28" H (81.5 CF)			
Length	30'-4" (add 3'-6" f/ hyd clearance)			
Width	18'-6" (add 2' f/ hyd clear; add 7' f/ bale table)			
Body Height	51-1/4"			
Top of Hopper	92"			
Weight (incl power unit, no oil)	2x30 - 66,800 #	100 - 66,200 #	2x50 - 72,400 #	2x75 - 73,400 #
Weight w/Stamper Option (incl p.u.)	2x30 - 70,400 #	100 - 69,800 #	2x50 - 76,000 #	2x75 - 77,000 #

BALE WEIGHT & DENSITIES

Bale Size - Approximately 30" High x 45" Wide x 64" Long - (50 cubic feet)

Maximum Weights & Densities*

OCC	Up to 1,600# - (32#/CF)	UBC	Up to 1,100# - (22#/CF)
ONP	Up to 1,600# - (32#/CF)	PET	Up to 1,400# - (28#/CF)
Mixed Office Waste	Up to 1,600# - (32#/CF)	HDPE	Up to 1,450# - (29#/CF)
Copper Wire	Up to 3,000# - (60#/CF)	Steel Cans	Up to 2,000# - (40#/CF)
Aluminum Siding or Sheet	Up to 1,900# - (38#/CF)	MSW	Up to 2,500# - (50#/CF)

* Bale weights, densities and production ratings are based on the typical infeed densities indicated. Feed rates and densities may be affected by feed method, moisture content and material shapes. Production will be less when using the ***NexDoor***®. *NEXGEN*® balers meet existing ANSI standards at the time of manufacture

** Cycle times include 2-1/2 seconds for decompression and valve shift.

*** Eject cycle times are with a plug bale and no bale door.

Power unit does not include hydraulic fluid.

NEXGEN TWO-RAM BALER SPECIFICATIONS
GALAXY 2R-310W-84 MODELS

ELECTRICAL SPECIFICATIONS

Main Motor	2x30 HP, 100 HP, 2x50 HP, or 2x75 HP - TEFC
Main Voltage	460 Volt - 3 Phase - 60 Hertz
Starting Arrangement	Across the Line
Motor Control Center	UL Listed NEMA 12 Enclosure
Control Voltage	24 Volt DC - 120 VAC
Controls	PLC Controls with Bale Recipies and Diagnostics
Operator Interface	TFT Color Touchscreen
Disconnect	Lockable Circuit Breaker

HYDRAULIC SPECIFICATIONS

Powerpack Type	Flooded Suction Type with High-Flow Hydraulic Manifold (Except 100 HP)
Pump System - 4000 PSI	Low Pressure Vane Pump & High Pressure Piston Pump (100 HP Vane Pumps)
Powerpack Location	Floor-mounted located on ejector side of compression cylinder
Air to Oil Cooler	1 HP (2x30 & 100) - 3 HP (2x50 & 2x75) Fan
Circulating Pump	2 HP(100 HP) - 20 HP(2x50 & 2x75) - Includes Tier Circuit
Filtration	(100, 2x50, 2x75) 10 Micron; (2x30) 6 Micron
Tier Flow	12 GPM
Cylinder mount	Cross-tube self adjusting mount

GENERAL FEATURES

Automatic Wire Tier	Accent 470 or L & P Model 330 or 340 or equal
Adjustable gib bars (hold-downs) from outside the machine	
Shear Beam is adjustable from outside the machine (A-514 Steel) (S-7 Steel on Metals Package)	
Infrared Actuators (2 sets); Ultrasonic (2 sets)	
Regenerative hydraulic circuit	
Automation Pkg w/Infeed Management System	
Long Range Laser Sensor & Positioning on Main Ram, Ejector Ram, & NexDoor	
Ram shear blade is replaceable and reversible	
Body shear blade is serrated & replaceable	
Tongue & groove charge chamber floor	
NexDoor System - serves as separation door, bale release, bale clamp & allows bale width variation	
Hopper View Door	
5' Bale Table	
Free-standing operator center with PLC Controls and Color Touchscreen Interface	
CAD documented replaceable abrasive resistant steel liners on the floor, and sides	
Paint - baked on - 12 standard colors	

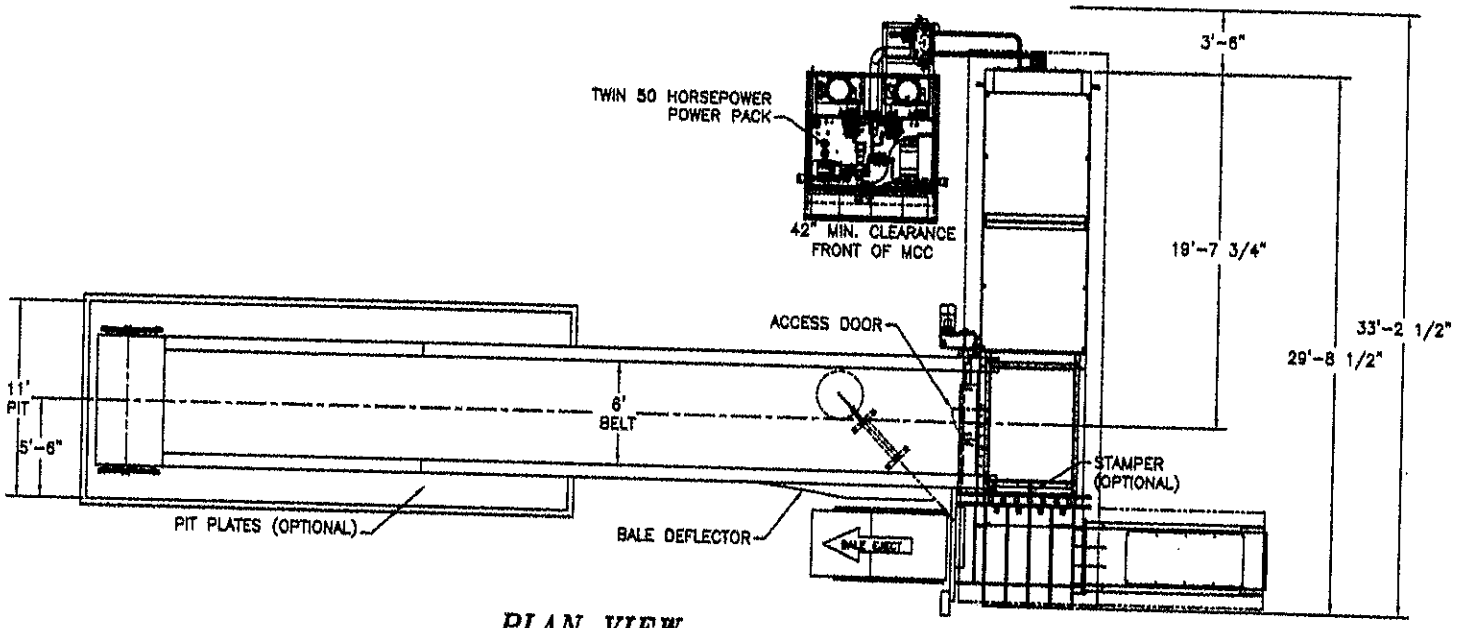
AVAILABLE OPTIONS

Operator Platform & Stairs
Hopper Monitoring System (High Definition Camera & Monitor)
Operators Cabin with A/C & Heat
Material Stamper
10" Color Enhanced Multi-language Touchscreen Interface
Solid Waste Package
Metals Package
Conveyor Controls with VFD or Motor Starter
Additional Photocell Actuators
Oil heater
Other wire tiers
Other voltages
Other hopper arrangements
Modem

TEEL REINFORCED 3000 PSI CONCRETE SLAB
/ITH MINIMUM 3/4" STEEL FOUNDATION PLATE
'ER FOUNDATION DETAIL**.

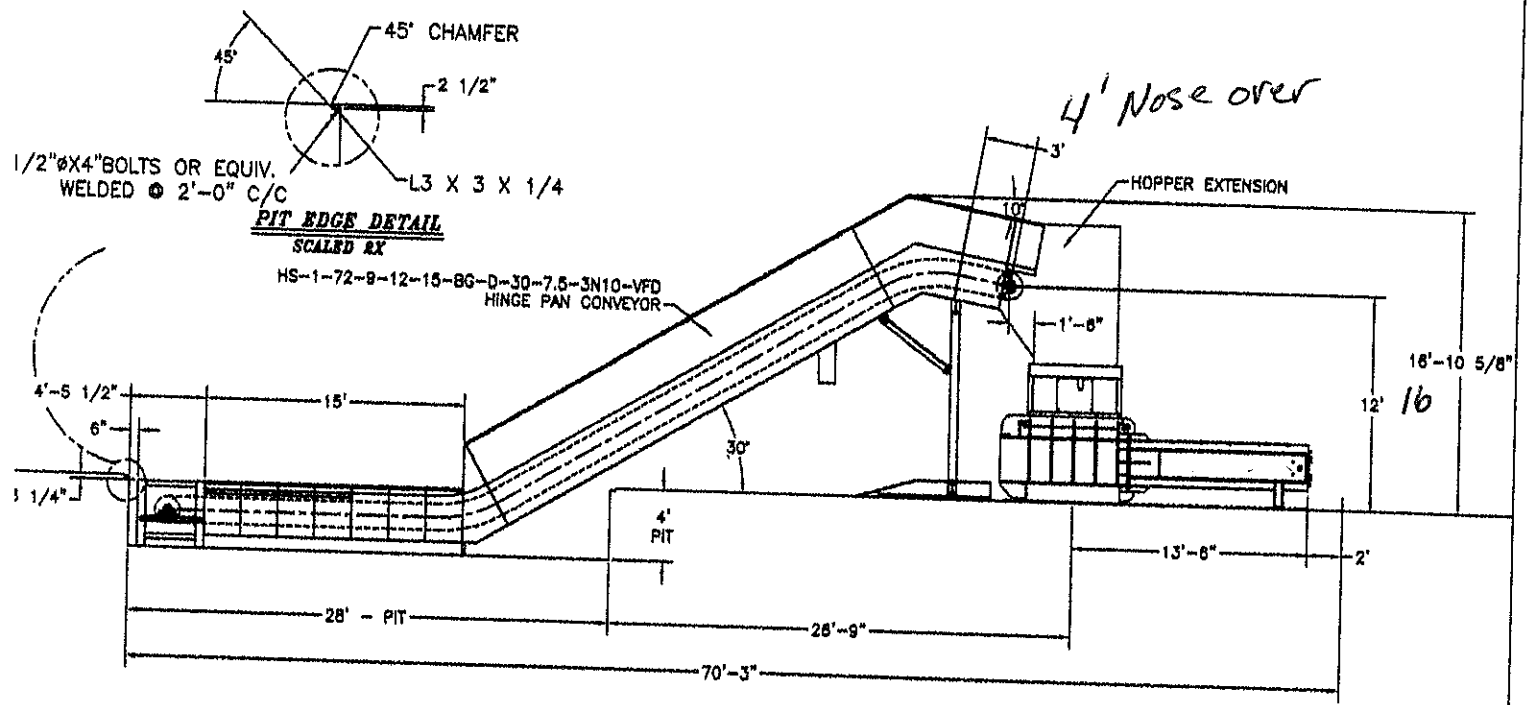
3/4" STEEL FOUNDATION PLATE IS RECOMMENDED TO PREVENT POSSIBLE FLOOR DAMAGE TO THE CONCRETE SLAB. MARATHON EQUIPMENT COMPANY WILL NOT BE RESPONSIBLE FOR ANY FLOOR DAMAGE IF THE RECOMMENDED 3/4" MIN. STEEL FOUNDATION PLATE IS NOT USED.

NOTE:
THIS DRAWING IS AN ACCURATE DEPICTION OF EQUIPMENT PROVIDED BY MARATHON ONLY. ANY REPRESENTATION OF BUILDING AND OTHER EQUIPMENT ARE FROM BEST AVAILABLE INFORMATION AND MAY OR MAY NOT BE ACCURATE. DIMENSIONS MAY CHANGE UP ON ACTUAL DESIGN



PLAN VIEW

CONTROL STATION LOCATION IS FLEXIBLE



PIT EDGE DETAIL
SCALED 8X

ELEVATION

TITLE:
2R-310-84-W-D-S TWO RAM BALER
72" WIDE HINGE PAN CONV 9" PITCH

DR. JW
CK. APP.

MARATHON®
A DOVER COMPANY

Galaxy2R®
Two-Ram Baler (Wide Model)

Full-penetration compaction ram produces high density bales

Easily switch between various recyclable materials with the programmable controller

Multi-purpose door can serve as a bale separator, bale release, or bale clamp

Environmental Solutions Group
A DOVER COMPANY

Marathon's line of Galaxy2R® two-ram balers feature a combination of state-of-the-art electronics and advanced structural engineering to make powerful and efficient balers.

Galaxy2R Two-Ram Baler

Powerful and efficient baling

Marathon's Galaxy2R two-ram balers feature a full-penetration compaction ram to produce high density bales. The programmable PLC controller features automatic and manual controls, diagnostics, and bale set-up functions. The controller allows you to easily switch recyclable materials. Adding the optional metals package makes the Galaxy2R perfect for scrap applications.

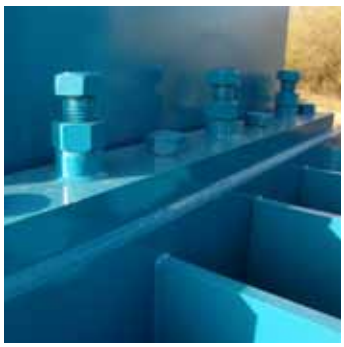
The Galaxy2R series balers feature a multi-purpose door that can serve as a bale separator, bale release, or bale clamp. It also allows for variable bale widths. The Galaxy2R balers also come with components such as a high-efficiency power unit, adjustable shear beam, replaceable and reversible shear blades, and main ram and ejector ram laser positioning.

Shown with optional operator platform

The Galaxy2R is designed to fit a variety of applications:

- Non-Ferrous scrap*
- Material Recovery Facilities (MRF)
- Recycling centers
- Distribution centers
- Large paper and plastic processors
- MSW (with solid waste package)

** Subject to maximum recommended material size*



The Galaxy2R® features an adjustable shear beam that enables you to adjust the shear blades from the exterior of the machine.

High-efficiency power units available from 30 HP up to 2x100 HP

- TEFC motor (Totally Enclosed Fan Cooled)
- Flooded suction pumping system with high-flow hydraulic manifold
- 10 micron filtration system
- Pressure and current transducers
- Separate cooling and tier circuit and air-to-oil cooler.

The Galaxy2R features a heavy-duty reinforced honeycomb structure for maximum performance.

Maestro™ color touch-screen operator interface PLC programmable controller features automatic and manual controls, diagnostics and bale set-up functions. Available with multi-language function.

Multi-purpose door can serve as a bale separator, bale release, or bale clamp. It also allows for variable bale widths.

The main ram, ejector ram, and multi-purpose door are controlled by a long range laser sensor. Tie positioning is determined by the laser and eliminates the need for a counter wheel.

The Galaxy2R ram shear blade is replaceable and reversible. The body shear blade is serrated, adjustable, and replaceable. Replaceable 500 Brinell steel liners on the floor, sides, and platens offer superior wear resistance.

The optional stamper automatically clears shear jams.

EZ-TRAX™ Conveyors

Marathon Recycling Solutions offers custom engineered conveying systems to handle a wide variety of bulk material and scrap handling applications. These range from light-duty slider beds to heavy-duty steel belt conveyors and complete turnkey MRF systems.

Factory Start-ups

Marathon provides on-site set-up and comprehensive baler operation training for your personnel.

Galaxy2R® Two-Ram Baler (Wide Model)

Specifications	2R310W	2R450W
Power unit	2x30 / 100 / 2x50 / 2x75	100 / 2x50 / 2x75 / 2x100
Cycle Time (no load averages)	9.8 to 25.2 sec.	11.1 to 23.9 sec.
Compression force	314,160 LBF	452,390 LBF
Ram face pressure	188 psi	270 psi
Feed opening width	57" 1448mm	57" 1448mm
Feed opening length	70" / 84" / 102" 1778mm / 2134mm / 2591mm	84" / 102" 2134mm / 2591mm
Baler size (with 70"L feed opening)	31'7" x 20'1" x 4'4" 9627mm x 6121mm x 1321mm	N/A
Baler size (with 84"L feed opening)	33'10" x 20'1" x 4'4" 10312mm x 6121mm x 1321mm	37'3" x 22'2" x 4'7" 11354mm x 6756mm x 1397mm
Baler size (with 102"L feed opening)	37' x 20'1" 4'4" 11278mm x 6121mm x 1321mm	40'3" x 22'2" x 4'7" 12268mm x 6756mm x 1397mm
Baler weights	77,500 to 91,000 lbs. 35153 kg to 41277 kg	102,200 to 114,100 lbs. 46357 kg to 51755 kg
Bale Weight Data		
OCC	up to 1,600 lbs. 726 kg	up to 1,850 lbs. 839 kg
SOP	up to 1,400 lbs. 635 kg	up to 1,600 lbs. 726 kg
ONP	up to 1,600 lbs. 726 kg	up to 1,800 lbs. 816 kg
PET	up to 1,300 lbs. 590 kg	up to 1,600 lbs. 726 kg
HDPE	up to 1,400 lbs. 635 kg	up to 1,600 lbs. 726 kg
UBC	up to 1,000 lbs. 454 kg	up to 1,200 lbs. 544 kg
Steel cans	up to 2,200 lbs. 998 kg	up to 2,600 lbs. 1179 kg
MSW	up to 2,200 lbs. 998 kg	up to 2,500 lbs. 1134 kg
AL extrusions*	up to 1,300 lbs. 590 kg	up to 1,350 lbs. 612 kg
AL siding	up to 1,600 lbs. 726 kg	up to 2,000 lbs. 907 kg
AL/CU radiators	up to 1,600 lbs. 726 kg	up to 2,000 lbs. 907 kg
Misc. AL*	up to 2,000 lbs. 907 kg	up to 2,400 lbs. 1089 kg
*** subject to maximum recommended material size**		

Rental and Leasing Programs Available

For detailed specifications, recommendations, or free economic studies comparing various systems, contact Marathon Customer Care at ***1-800-633-8974***.

Authorized Dealer:

Marathon Equipment Company
P.O. Box 1798
Vernon, AL 35592-1798
800.633.8974
www.marathonequipment.com

NJPA Contract #060612-ESG

Environmental Solutions Group
A DOVER COMPANY
www.doveresg.com

Pictures in this literature are illustrative only. Specifications are subject to change without notice in order to accommodate improvements to the equipment. Complies with ANSI standard Z245.5 and applicable OSHA Regulations. Products must be used with safe practice and in accordance with said regulations and standards.

Syracuse Haulers Waste Removal, Inc.
Bloodborne Pathogens Exposure Report

Exposed Employee Information:

Name:_____
Classification:_____

Exposure Description:

Date of Exposure:_____ Time of Exposure:_____
1. What body fluid(s) were you in contact with?
Blood:_____ Feces: _____ Saliva:_____ Sputum:_____
Sweat:_____ Tears: _____ Urine:_____ Vomit:_____
Vaginal Secretions:_____ Other (describe):_____

2. What was the method of contact:
_____ Needle stick with contaminated needle
_____ Blood or body fluids into natural body openings (e.g., nose, mouth, eye)
_____ Blood or body fluids in cut, wound, sores, or rashes less than 24 hrs old
Please specify_____
_____ Blood or body fluids on intact skin
_____ Other (describe specifically):

3. How did the exposure occur?
_____
_____

4. What action was taken in response to the exposure to remove the contamination (e.g. hand washing)? _____

5. What personal protective equipment was being used at the time of exposure?
_____
_____

6. Please describe any other information related to the incident (use a separate piece of paper if needed):_____
_____

Source of Exposure:

Name (source of exposure):_____ Sex:_____
Blood drawn?_____ Consent needed? _____ Medical treatment received?_____

Medical Information:

1. Did employee seek medical attention?_____ Date:_____
If yes, where?_____
2. Did employee complete claim for workers' compensation benefits? _____

_____ _____
Employee's Signature **Date**

Syracuse Haulers Waste Removal, Inc.
Exposure Determination Questionnaire

The following short answer questionnaire can assist in determining if an employee has had an exposure:

1. Is the fluid or substance with which the employee came in contact one of the following?

(CIRCLE YES OR NO)

Blood	YES / NO
Semen	YES / NO
Vaginal Secretions	YES / NO
Any body fluid/matter visibly contaminated with blood	YES / NO
Other fluid or secretions, specify_____	YES / NO
Respiratory secretions	YES / NO

2. Did the fluid or substance (identified above in #1) enter the employee's body through the following?

(CIRCLE YES OR NO)

Needle stick injury	YES / NO
Laceration by contaminated object	YES / NO
Open cut, wound, non-intact skin	YES / NO
Splash or contact with eyes, mouth or nose	YES / NO
Prolonged respiratory contact	YES / NO

If answers to both #1 and #2 are yes, the employee should be considered to have sustained a significant exposure and needs to seek medical treatment.

Syracuse Haulers Waste Removal, Inc.
Post-Exposure Evaluation & Follow-up Checklist

The following steps must be taken, and information transmitted, in case of an employee's exposure to bloodborne pathogens:

ACTIVITY	**COMPLETION DATE**
• Bloodborne Pathogens Exposure Report completed by employee	_____
• Employee provided with claim for workers'compensation packet	_____
• Source individual identified:	_____

_____
Source Individual

• Appointment arranged for employee with healthcare professional	_____

_____
Professional's Name

• Documentation forwarded to healthcare professional:	_____

- Copy of Bloodborne Pathogens Exposure Control Plan
- Copy of exposed employee's job description
- Copy of Bloodborne Pathogens Exposure Report
- Source individual information, if known
- Copy of employee's Hep B vaccination records

• Source individual's blood tested and results given to exposed employee	_____
or	
Consent has not been able to be obtained	_____
• Human Resources notified	_____

_____ _____
Supervisor's signature Date

Original: Human Resources Copy: Employee

Syracuse Haulers Waste Removal, Inc.
Hepatitis B Vaccination
Post-Exposure Medical Evaluation Declination

I understand that due to my occupational exposure incident to potential infectious materials, I may be at risk of acquiring hepatitis B virus (HBV) infection or other bloodborne pathogens.

I have been given the opportunity to receive a ***post-exposure medical evaluation,*** at no charge to myself.

I UNDERSTAND THAT AN IMMEDIATE MEDICAL EVALUATION IS RECOMMENDED; HOWEVER, I DECLINE THIS MEDICAL EVALUATION AT THIS TIME.

EMPLOYEE NAME:_____

_____ _____
Employee's Signature Date

Product description

GXG-1987 Handheld Carbon Monoxide Meter with High Precision CO Gas Tester Monitor Detector Gauge 0-1000ppm GM8805

GXG-1987 GM8805 Carbon monoxide Meter can detect carbon monoxide concentration, observing concentration value all the time.
It has quite clear large LCD screen and voice and light alarm indication, making sure that it can detect dangerous gas and inform
operators of precautions under adverse situation. It is widely used in petroleum, chemistry, coal mine, metallurgy, paper making,
fire- fighting, municipal administration, telecommunication, food, textile and other industries.

Specifications
Main Color: Black
Detected Gas: CO in the air
Measuring Range: 0-1000ppm
Resolution: 1ppm
Minimum Reading: 1ppm
Basic Error: +/-5%(f.s), +/-10ppm
Response Time: 60 seconds
Sensor Type: Electrochemical CO sensor
Operating Environment: 0-50 degrees Celsius / 32-122 degrees Fahrenheit, 10-90%RH
Storage Environment: -10-80 degrees Celsius, -14-176 degrees Fahrenheit, 10-75%RH
Power: 2 * 1.5V AAA battery
Weight: 104g / 3.67oz
Size: 55 * 29 * 135mm / 2.16 * 1.14 * 5.3in
Package Weight: 182g / 6.44oz
Package Size: 16.5 * 8 * 4cm / 6.5 * 3.15 * 1.57in

Package List
1 * Carbon Monoxide Detector
1 * English User Manual

Company: Syracuse Haulers

Attention: Steve / Kathy / James

Email: sruge@syracusehaulers.com; khornberger@syracusehaulers.com; jamesorsborne@gmail.com

CSR: Isabel Kania (ikania@cpgco.com)

Min Weight: 40,000 lbs *unless stated otherwise below*

CPG
Continental Paper Grading
Solutions for Global Paper Needs

Month:
July 2021

* Please email the Bill of Ladings to bolc@cpgco.com | Fax: 905-286-3677 *

Date	New	Grade	Notes	Load #	Release	Carrier	P/U date
		Postal Mix	Min: 40,000 lbs Max: 42,000 lbs			Mill	
		Postal Mix	Min: 40,000 lbs Max: 42,000 lbs			Mill	
		Postal Mix	Min: 40,000 lbs Max: 42,000 lbs			Mill	
		Postal Mix	Min: 40,000 lbs Max: 42,000 lbs			Mill	
1-Jul		OCC	Min: 40,000 lbs Max: 42,000 lbs	2034031	1410592	Mill	1-Jul
6-Jul		OCC	Min: 40,000 lbs Max: 42,000 lbs	2034032	1410593	Mill	6-Jul
8-Jul		OCC	Min: 40,000 lbs Max: 42,000 lbs	2033875	7-033	Lavalle	8-Jul
9-Jul		OCC	Min: 40,000 lbs Max: 42,000 lbs	U10056	7-125	Lavalle	7/9
14-Jul	New	OCC	Min: 40,000 lbs Max: 42,000 lbs	2034036	1410597	Mill	7/14
15-Jul	New	OCC	Min: 40,000 lbs Max: 42,000 lbs	2034037	1410598	Mill	7/15
16-Jul	New	OCC	Min: 40,000 lbs Max: 42,000 lbs	2034038 Y	1410599 X	Mill	7/16
21-Jul	New	OCC	Min: 40,000 lbs Max: 42,000 lbs	2034039	1410600	Mill	
22-Jul	New	OCC	Min: 40,000 lbs Max: 42,000 lbs	2034040	1410601	Mill	
23-Jul	New	OCC	Min: 40,000 lbs Max: 42,000 lbs	2034041	1410602	Mill	
28-Jul	New	OCC	Min: 40,000 lbs Max: 42,000 lbs	2034042	1410603	Mill	
29-Jul	New	OCC	Min: 40,000 lbs Max: 42,000 lbs	2034043	1410604	Mill	
30-Jul	New	OCC	Min: 40,000 lbs Max: 42,000 lbs	2034044	1410605	Mill	
		OCC	Min: 40,000 lbs Max: 42,000 lbs				
		OCC	Min: 40,000 lbs Max: 42,000 lbs				
		OCC	Min: 40,000 lbs Max: 42,000 lbs				
		OCC	Min: 40,000 lbs Max: 42,000 lbs				

Continental Paper Grading of Canada
6790 Centrury Avenue - Suite 301
Mississauga, Ontario

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. 7A-354

Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

PERMIT ISSUED TO:

SYRACUSE HAULERS WASTE REMOVAL, INC.
6223 THOMPSON ROAD, SUITE 1000
SYRACUSE, NY 13206

PERMIT TYPE:

☐ NEW
■ RENEWAL
☐ MODIFICATION

CONTACT NAME:	STEVE RUGE	EFFECTIVE DATE:	11/01/2020
COUNTY:	ONONDAGA	EXPIRATION DATE:	**10/31/2021**
TELEPHONE NO:	(315)426-6771	US EPA ID NUMBER:	

AUTHORIZED WASTE TYPES BY DESTINATION FACILITY:

The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
Auburn Landfill No 2	Auburn , NY	Asbestos	
Ava Landfill	Boonville , NY	Non-Hazardous Industrial/Commercial Asbestos Waste Tires	
Bristol Hill SLF	Fulton , NY	Non-Hazardous Industrial/Commercial Asbestos	
Chaffee Landfill	Chaffee , NY	Non-Hazardous Industrial/Commercial	
Cortland County Landfill Westside Extension	McGraw , NY	Non-Hazardous Industrial/Commercial	
CWM CHEMICAL SERVICES LLC	MODEL CITY , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
Development Authority of the North Country Landfill	Rodman , NY	Non-Hazardous Industrial/Commercial Asbestos	
High Acres Western Expansion Landfill	Fairport , NY	Non-Hazardous Industrial/Commercial Sludge from Sewage or Water Supply Treatment Plant	
Ontario County Sanitary Landfill	Stanley , NY	Non-Hazardous Industrial/Commercial Asbestos Petroleum Contaminated Soil Sludge from Sewage or Water Supply Treatment Plant	
Seneca Meadows LF	Waterloo , NY	Non-Hazardous Industrial/Commercial Asbestos Sludge	

*** AUTHORIZED WASTE TYPES BY DESTINATION FACILITY LISTING (continued on next page) ***

NOTE: By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the Environmental Conservation Law, all applicable regulations, and the General Conditions printed on the back of this page.

ADDRESS:

New York State Department of Environmental Conservation
Division of Materials Management - Waste Transporter Program
625 Broadway, 9th Floor
Albany, NY 12233-7251

AUTHORIZED SIGNATURE: Laura Stevens Digitally signed by Laura Stevens Date: 2020.10.23 09:42:10 -04'00' Date: ____/____/____

Directions to Transfer Station

From Points <u>North</u>:
1: Take I-81 SOUTH.
2: Merge onto I-690 EAST toward EAST SYRACUSE.
3: Take the THOMPSON RD / RT-635 / BRIDGE ST Exit, EXIT 16-17, toward EAST SYRACUSE.
4: Merge onto THOMPSON RD / NY-635 NORTH via EXIT 16N.
5: Syracuse Haulers is on the LEFT in 1.4 miles. (Turn at stop light with “Metalico” sign.)

From Points <u>South</u>:
1: Take I-81 NORTH.
2: Merge onto I-690 EAST toward EAST SYRACUSE.
3: Take the THOMPSON RD / RT-635 / BRIDGE ST Exit, EXIT 16-17, toward EAST SYRACUSE.
4: Merge onto THOMPSON RD / NY-635 NORTH via EXIT 16N.
5: Syracuse Haulers is on the LEFT in 1.4 miles. (Turn at stop light with “Metalico” sign.)

From Points <u>East</u>:
1: Take I-90 WEST / NEW YORK STATE THRUWAY WEST toward Buffalo.
2: Take EXIT 35 toward RT-298 / SYRACUSE / EAST SYRACUSE.
3: Enter roundabout and take 3rd exit onto THOMPSON RD / NY-635 SOUTH.
4: Syracuse Haulers is on the RIGHT in 1.1 miles. (Turn at stop light with “Metalico” sign.)

From Points <u>West</u>:
1: Take I-90 / NEW YORK STATE THRUWAY EAST toward Albany.
2: Take EXIT 35 toward RT-298 / SYRACUSE / EAST SYRACUSE.
3: Enter roundabout and take 3rd exit onto THOMPSON RD / NY-635 SOUTH.
4: Syracuse Haulers is on the RIGHT in 1.1 miles. (Turn at stop light with “Metalico” sign.)

From <u>Oswego</u>:
1: Take NY-481 SOUTH.
2: Merge onto I-81 SOUTH via EXIT 9S toward SYRACUSE.
3: Merge onto I-90 EAST / NEW YORK STATE THRUWAY EAST via EXIT 25A toward ALBANY.
4: Take EXIT 35 toward RT-298 / SYRACUSE / EAST SYRACUSE.
5: Enter roundabout and take 3rd exit onto THOMPSON RD / NY-635 SOUTH.
6: Syracuse Haulers is on the RIGHT in 1.1 miles. (Turn at stop light with “Metalico” sign.)

DISPOSAL SITES

FACILITY	WASTE STREAM	ADDRESS	HOURS OF OPERATION	CONTACTS	COMMENTS	
BRUIN COMPUTERS	CPU'S, MONITORS	1001 Vine St. Liverpool NY	Appt. Only	John Napa	Call prior to approval - Must be palletized, will PU for additional charge	
CLIFTON RECYLING	Clean Wood	3400 Court Street Syracuse, NY 13206	M-F: 7:30 am - 4:30 pm April -Aug. Sat. 8:00am - 12:00	Randy: 315-463-1170	Per load rates MUST BE CLEAN	
CAMILLUS LANDFILL	C&D	4600 West Genesee Street, Syracuse, NY 13219	M-F (From MAY 1 to last SAT. in OCT): 7:00 am - 4:00 pm; M-F (From NOV. to APRIL): 7:30 am - 2:30 pm; 1st and 3rd SAT of each month, all year round: 7:00 am - 11:30 am.	Main Office: 488-4846 Ron Cell: 391-7667 Ron Office: 330-3041 Mark Cell: 345-0688	MUST BE NO LATER THAN 15 MINUTES BEFORE CLOSE Consent # 7-0058-85-11	
CORTLAND CTY LANDFILL	C&D	4708 Townline Road, McGraw, NY 13101	M-F: 8:00 am - 3:30 pm; 2nd SAT of each month: 9:00 am - 1:00 pm	Office:607-756-8077 Landfill: 607-753-5345 Don Chambers: 607-753-9377	Accepts only debris from Cortland County.	
FCR - Ontario Casella Recycling	Recyclables	1879 Route 5 & Route 20 Stanley, NY 14561	M-F: 7:00 am - 2:45 pm	Office: 585-526-4789	Truck must enter landfill by no later than 2:45	
EMPIRE RECYCLING	PAPER	4642 Crossroads Parkway Dr., Liverpool, NY 13088	M-F: 7:30 am - 2:30 pm; SAT - SUN: Closed	315-793-3650 (Office); 315-790-9799 (BOB); 315.243.1972 (JOHN EASTON, Scale house)		
LANCO	Hard-fill CLEAN	7330 Eastman Road North Syracuse, NY 13212	M-F: 8:00 am - 5:00 pm	Office: 315-452-0568 Tony: 315-374-3548	See Paul or Denny to inspect loads MUST be SUPER CLEAN	
LIVERPOOL MRF WM Recycle America	CARDBOARD, CO-MINGLE	4550 Steelway Boulevard, North Liverpool, NY 13090	M-F: 6:00 am - 5:00 pm; SAT - SUN: Closed	Main: 315-481-9323 Kevin (GM): 374-2318 Robert (DM): 374-2386	Open on Saturday following a holiday in the week from 6:00 AM - 2:00 PM.	
MADISON COUNTY LANDFILL	TRASH, C&D	6663 Buyea Road, Wampsville, NY 13163	T-F: 7:10 am - 3:30 pm; SAT: 7:10 am - 2:30 pm; SUN: Closed; MON: Closed	Amy Miller: 315-361-8469	Accepts only debris from Madison County. MUST be in no later than 3:00	
METALICO	METALS	6223 Thompson Road, Syracuse, NY 13206	M-F: 7:00 am - 5:00 pm; SAT: 8am - noon	Office: 315-463-9500 Mike: 575-7428		
MILL CREEK	BRUSH	6414 East Taft Road, East Syracuse, NY 13057	M-F (April - Oct): 7:00 am - 5:00 pm; M-F (Oct. - March): 7:00 am - 12:00 pm; SAT (April - Oct): 7:00 am - 12: 00 pm; SAT (Oct - March): 7:00 am - 3:30 pm	Office: 315-452-9400 Rick Cell: 315-729-7624 Pete Cell: 315-729-7676	Call ahead in the winter. Stumps/Brush call ahead	
OCRRA - COVANTA Tony trash cop 952-5558	TRASH	5801 Rock Cut Road Jamesville, NY 13078	M-F: 6:00 am - 4:00 pm; SAT: 7:00 am - 11:00 am; SUN: Closed	315-498-4111, 315-498-9892; Scalehouse ext. 3318; LARRY EVANS is Facilities Mgr.	If holiday falls on Monday or during the week, facility is open on Saturday from 6:00 AM - 4:00 PM.	
OCRRA - LEY CREEK	TRASH, C&D, WOOD, ROOFING	5158 Ley Creek Drive Liverpool, NY 13088	M-F (April - Oct.): 6:00 am - 3:30 pm; M-F (Oct. - March): 6:30 am - 2:30 pm; Open the 2nd and 4th Saturday of each month, year round.	Office:315-701-1267 Jeff cell:315-952-4597		
OCRRA - AMBOY	BRUSH, COMPOST CLEAN WOOD	6296 Airport Rd Camillus NY 13209	APRIL 1 - Nov. 28 M, TU, TH, F, SA: 9am-4pm Closed Wed & Sun	Direct Line:295-0734	Prohibited Items: blacktop, concrete, dirt, garbage,glass landscape fabric,lumber, metal, paper, plastic items, rocks, rubber,soil, stumps and over sized tree trunks	
OCRRA - JAMESVILLE	BRUSH, CLEAN WOOD	4370 Route 91 Jamesville NY 13078	APRIL 1 - Nov. 28 M,TH, F, SA: 9am-12 W & Sat: 9am-4 Closed Tues & Sun		Prohibited Items: blacktop, concrete, dirt, garbage,glass landscape fabric,lumber, metal, paper, plastic items, rocks, rubber,soil, stumps and over sized tree trunks	
ONEIDA HERKIMER - (ROME TRANSFER)	MSW	575 Perimeter Rd., Rome, NY 13440	M-F: 8:00 am - 4:00 pm	MAIN NUMBER: 315-733-1224	FLOW CONTROL	
	CD		SAT: 8:00 AM - 12:00 PM	Jane		
			SUN: CLOSED	Scale 339-0288		
ONEIDA HERKIMER - (UTICA TRANSFER)	MSW	80 Leland Ave. Extension, Utica, NY	M-F: 7:00 AM - 4:00 PM	MAIN NUMBER: 315-733-1224	FLOW CONTROL	
	CD		SAT - SUN: CLOSED			
ONEIDA HERKIMER - (AVA LANDFILL) 358-4068	MSW	7044 State Route 294, Boonville, NY	M-F: 7:00 AM - 3:30 PM	MAIN NUMBER: 315-733-1224	FLOW CONTROL	
	CD		SAT: BY APPT			
	ASBESTOS		SUN: CLOSED			
ONTARIO LANDFILL 55 - r/r tires 30cd	C&D ASBESTOS	1879 Route 5 & Route 20 Stanley, NY 14561	M-F 8:00am - 2:00 pm Sat & Sun closed	Office - 585-526-4420 Kristen Tom Coluchi Sales 607-437-0368 FAX: 585-526-5457	Truck must enter landfill by no later than 12:00 $55 R/R Tires $30 C&D	
OSWEGO CITY ENERGY RECOVERY FACILITY	MSW C&D	2801 State Route 481 Fulton NY 13069	T-F: 7:00am - 4:30pm site by 4 Sat: 8:00am - 12:00pm site by 11:30 Sun & Mon closed	Office - 315-591-9280	24 Hr access to Transfer Station with swipe card NO TV's Yard Waste $50	
				Mark Powell - 591-9221		
				Lori - 591-9210		
Oswego City Landfill Bristol Hill NO TV's	C&D ASBESTOS truck waste $50	2801 State Route 3 Fulton NY 13069	T-F: 7:30am - 3:30pm site by 3 Sat: 8:00am - 11:30am site by 11			

DISPOSAL SITES

FACILITY	WASTE STREAM	ADDRESS	HOURS OF OPERATION	CONTACTS	COMMENTS	
Rodman Landfill DANC	C&D Asbestos	23400 NYS RT 177 Rodman, NY 13682	M-F: 7:15am - 3:00pm Sat & Sun closed	Office - 315-232-3236	you must get prior auth to dump ASB. Fax Auth at least 24hrs prior	
SENECA MEADOWS	HAZARDOUS MATERIALS; TRASH	1786 Salcman Rd Waterloo NY 13165	M-F: 7:00 am - 4:00 pm; SAT - 6:00 am - 11:30 pm; SUN: Closed	800-724-7537; ANN SPRAGUE, permits; DENNY 585-303-0420 + PAUL 585-303-9913, quotes and general information	Call for Landfill wind conditions when delivering sand; C&D and Sand loads must be on site by 3 p.m. on weekdays & 10:30 a.m. on Saturdays.	
SMR FIBRE	Paper	4642 Crossraods Parkway Dr Liverpool, NY 13088	M-F: 7:30am - 2:30pm Sat & Sun Closed	Main Office - 315-453-2800 John Easton - 315-243-1972 Bob - 315-790-9799 Office - 315-793-3650		
SKANEATELES TRANSFER STATION	Compost	24 Jordan St, Skaneateles, NY	Tues - Sat: 7:00 - 2:30 Closed Sun & Mon	Main: 315-673-4190		
Spano	Hardfill - Clean	555 State Fair Blvd Syracuse NY 13204	6:00 am - 7:00 pm Call Prior	Office - 315-487-2000 Fax - 315-701-0122 Jim Spano - 3150374-4389	NO concrete/asphalt mix $50.00 per load	
Toad Hollow Farm	Compost	4505 Tanner Rd Nedrow NY	Appt for late hours	Bill Guptel - 315-469-4596		
TH Kinsella	Hardfill Blacktop Concrete	8086 East Genesee St Fayetteville NY 13066	M-F: 7:00am - 4:15pm Sat: 7:00am- 11:45 Sun closed	Jeff - 315-637-3390	accepts clean dirt as well, winter hours close at 3:30pm	
TH Kinsella	Blacktop Concrete	4800Solvay Road Ext Jamescille NY 13078	M-F: 7:00am - 4:15pm Sat & Sun closed	Jeff - 315-637-3390	Only excepts concrete, blacktop or mixed	
Weitsman	Metals	333 Bridge St Syracuse NY	M-F: 8:00am - 6:30pm Saturday: 8:00 - 4:00 Sunday 8:00 - 2:00	Office = 315-488-3171		
Metropolitan Paper	Cardboard Paper	847 Shepard Ave Brooklyn NY 11208	Pick UP	Office - 718-257-8584	Hauling - Johnson trucking Adam - 802-473-0252	
SCS Recovery	Tires	4870 Packard Road Niagra Falls NY	Pick UP	Office - 716-278-2000		
Recycle City	Cardboard Paper	891 Newark Ave. Elizabeth NJ 07028	24/7	Office - 908-351-0669 Joe Fanara 917-754-4738	Fax - 908-351-0669	
Newtech Recycling	electronics, tv's cables, wiring phones, batteries	110 Hiawatha Blvd. Syracuse NY Village Office Supply	Call for appointment	Phone: 732-564-3110 Fax: 732-469-8943	Call for appt. & pricing	
USA GYPSUM	Drywall gypsum based material	190A Texter Mountian Road Reinholds, PA 17569	Will Pick Up	Terry Weaver - 717-335-0379	call prior with load size for PU appointment	
CPG Continental Paper Grading	Cardboard Paper Postal Mix	6790 Century Avenue Suite 301 Mississauga, Ontario L5N 2V8	Broker	Isabel Kania - 905-286-3689 Miro Seperic - 519-404-7330 cell	call prior with load size and material for PU appointment	
Westrock	Cardboard	19320 - 1998 Milton Ave Syracuse, NY 13209	Mill Buyer	Marianne Whipple 716-698-7995	Call for PU and pricing	
Northstar Pulp & Paper Company, Inc	Cardboard, Postal Mix, White Paper	89 Guion Street Springfield, MA 01104	Mill Buyer	Aaron Goodman 860-214-8510	Call for PU and pricing	
GP Harmon Recycling, LLC	Plastic, Postal Mix	One Jericho Plaza Suite 204 Jericho NY 11753	Mill Buyer	516-997-3400	Call for PU and pricing	

Annex A DOT-SP 10656 SHIPMENT APPROVAL FORM

Approval Number _____ _____ _____ _____ (Refer to SP 10656, paras. 8a-8b)

This shipment of scrap metal or related materials for recycle contains unidentified radioactive material causing low levels of radiation outside the transport vehicle. Shipment is under Special permit DOT-SP 10656 without a determination of materials meeting or not meeting the regulatory definition of radioactive material. The shipment is a minor radiological concern based on considerations of the U.S. Department of Transportation and the state official signing this shipment approval document.

In case of an emergency, notify the National Response Center @ 800-424-8802 and the ⑧ authorizing official and give the Special permit No. and Approval No.

SECTION 1 - DETAILS of DETECTION SITE, MATERIALS, ORIGIN, and DESTINATION

① Detection Facility

Facility name: _____ Type: _____

Address: _____

Contact person: _____ Email: _____ Phone: _____

Description of scrap and release risks: _____

Radiation Measurement

Survey Date (YYYY-MM-DD): _____ Survey Time (HH:MM 24hr): _____

Bkg. reading: _____ Units: _____ Vehicle cab (max): _____ Units: _____

Load (max): _____ Units: _____

Location of highest reading on vehicle and additional info:

_____

Instrument manufacturer/model: _____

Surveyor's name: _____ Organization: _____ Phone: _____

② Carrier

Company name: _____ Operator: _____

Mode: _____ Vehicle type: _____ Vehicle I.D. #: _____

Contact person: _____ Email: _____ Phone: _____

③ Shipment Origin

Company name: _____

Address: _____

Contact person: _____ Email: _____ Phone: _____

④ Destination for Identification and Disposition ☑ *Check if same as Shipment Origin ③*

If carrier and shipper to this location are different than ②, provide their information in "Section 5 - Remarks, Other Information".

Company name: _____

Address: _____

Contact person: _____ Email: _____ Phone: _____

SECTION 2 - RADIATION CONTROL OFFICIALS

⑤ Origin State Official

Name: _____ Organization: _____

Phone: _____ Email: _____

⑥ Transit State(s) Official(s)*

Name: _____ Organization: _____

Phone: _____ Email: _____

Name: _____ Organization: _____

Phone: _____ Email: _____

**Additional Transit State information should be listed in the "Section 5 - Remarks, Other Information".*

⑦ Destination State Official ☐ *Check if same as Origin State Official ⑤*

Name: _____ Organization: _____

Phone: _____ Email: _____

SECTION 3 - APPROVAL of SHIPMENT and SPECIAL CONDITIONS

⑧ Detection State Official ☐ *Check if same as Origin State Official ⑤*

Name: _____ Title: _____ Organization: _____

Phone: _____ Email: _____

Special Conditions:

_____

Date: _____ Signature: _____

☐ *DOT-SP process initiated, but not completed. Provide comments in "Section 5 - Remarks, Other Information".*

SECTION 4 - IDENTIFICATION and DISPOSITION INFORMATION at DESTINATION

Identification Details: _____

Radionuclide: Other (e.g. Lu-177): _____

Disposition Details:

_____

⑨ **Disposition State Official** ☐ *Check if same as Destination State Official* ⑦

Name: _____ Date: _____

Title: _____ Organization: _____

Phone: _____ Email: _____

SECTION 5 - REMARKS, OTHER INFORMATION:

_____

In case of an emergency, notify the National Response Center @ 800-424-8802 and the ⑧ authorizing official and give the Special permit No. and Approval No.

SECTION 6 - RECORD of TRANSMITTALS (Circumstances may influence distribution)

Shipment Approval – Date sent by ⑧ to ①, ②, ③, ④, ⑤, ⑥, and ⑦:

Record of Identification and Disposition – Date Sent by ⑨ to ⑤, ⑦, ⑧, and other:

Completed DOT SP Form – Date Sent or Uploaded by ⑨ to OED CRCPD & Other:

If "Other," please provide details in the "Section 5 - Remarks, Other Information".

RADIOACTIVE

US DOT SP-10656

Shipment Approval #:

\- \- \-

Date: _____

Complies with 10.d. conveyance marking requirements.

RADIOACTIVE

US DOT SP-10656

Shipment Approval #:

\- \- \-

Date: _____

Complies with 10.d. conveyance marking requirements.

Annex A DOT-SP 11406 SHIPMENT APPROVAL FORM

Approval Number _____ _____ _____ _____ (Refer to SP 11406, paras. 8a-8b)

This shipment of waste contains unidentified radioactive material causing low levels of radiation outside the transport vehicle. Shipment is under Special permit DOT-SP 11406 without a determination of materials meeting or not meeting the regulatory definition of radioactive material. The shipment is a minor radiological concern based on considerations of the U.S. Department of Transportation and the state official signing this shipment approval document.

In case of an emergency, notify the National Response Center @ 800-424-8802 and the ⑧ authorizing official and give the Special permit No. and Approval No.

SECTION 1 - DETAILS of DETECTION SITE, MATERIALS, ORIGIN, and DESTINATION

① Detection Facility

Facility name: _____ Type: _____

Address: _____

Contact person: _____ Email: _____ Phone: _____

Description of waste and release risks: _____

Radiation Measurement

Survey Date (YYYY-MM-DD): _____ Survey Time (HH:MM 24hr): _____

Bkg. reading: _____ Units: _____ Vehicle cab (max): _____ Units: _____

Load (max): _____ Units: _____

Location of highest reading on vehicle and additional info:

_____

Instrument manufacturer/model: _____

Surveyor's name: _____ Organization: _____ Phone: _____

② Carrier

Company name: _____ Operator: _____

Mode: _____ Vehicle type: _____ Vehicle I.D. #: _____

Contact person: _____ Email: _____ Phone: _____

③ Shipment Origin

Company name: _____

Address: _____

Contact person: _____ Email: _____ Phone: _____

④ Destination for Identification and Disposition ☑ *Check if same as Shipment Origin ③*
If carrier and shipper to this location are different than ②, provide their information in "Section 5 - Remarks, Other Information".

Company name: _____

Address: _____

Contact person: _____ Email: _____ Phone: _____

SECTION 2 - RADIATION CONTROL OFFICIALS

⑤ Origin State Official

Name: _____ Organization: _____

Phone: _____ Email: _____

⑥ Transit State(s) Official(s)*

Name: _____ Organization: _____

Phone: _____ Email: _____

Name: _____ Organization: _____

Phone: _____ Email: _____

**Additional Transit State information should be listed in the "Section 5 - Remarks, Other Information".*

⑦ Destination State Official ☐ *Check if same as Origin State Official ⑤*

Name: _____ Organization: _____

Phone: _____ Email: _____

SECTION 3 - APPROVAL of SHIPMENT and SPECIAL CONDITIONS

⑧ Detection State Official ☐ *Check if same as Origin State Official ⑤*

Name: _____ Title: _____ Organization: _____

Phone: _____ Email: _____

Special Conditions:

_____

Date: _____ Signature: _____

☐ *DOT-SP process initiated, but not completed. Provide comments in "Section 5 - Remarks, Other Information".*

SECTION 4 - IDENTIFICATION and DISPOSITION INFORMATION at DESTINATION

Identification Details: _____

Radionuclide: Other (e.g. Lu-177): _____

Disposition Details:

---

⑨ **Disposition State Official** ☐ *Check if same as Destination State Official* ⑦

Name: _____ Date: _____

Title: _____ Organization: _____

Phone: _____ Email: _____

SECTION 5 - REMARKS, OTHER INFORMATION:

In case of an emergency, notify the National Response Center @ 800-424-8802 and the ⑧ authorizing official and give the Special permit No. and Approval No.

SECTION 6 - RECORD of TRANSMITTALS (Circumstances may influence distribution)

Shipment Approval – Date sent by ⑧ to ①, ②, ③, ④, ⑤, ⑥, and ⑦:

Record of Identification and Disposition – Date Sent by ⑨ to ⑤, ⑦, ⑧, and other:

Completed DOT SP Form – Date Sent or Uploaded by ⑨ to OED CRCPD & Other:

If "Other," please provide details in the "Section 5 - Remarks, Other Information".

RADIOACTIVE
US DOT SP-11406

Shipment Approval #:

- - -

Date: _____

Complies with 10.d. conveyance marking requirements.

RADIOACTIVE
US DOT SP-11406

Shipment Approval #:

- - -

Date: _____

Complies with 10.d. conveyance marking requirements.

DRIVER VEHICLE CHECK

Date_____

Truck #_____ **Hour Meter:** Beginning_____ Ending_____ **TOTAL**_____

Driver _____ **Odometer:** Beginning_____ Ending_____ **TOTAL**_____

UNDER HOOD OR CAB

USAGE

___ ENGINE OIL
QTS._____
___ POWER STEERING
QTS._____
___ COOLANT
QTS._____
___ TRANS
QTS._____
___ BELTS

___ BATTERY

PRE TRIP

IN CAB/START ENGINE

TURN ON
___ ALL LIGHTS
___ WIPERS
___ HEATERS
___ DEFROSTER
___ P.T.O.
___ ALL GAUGES
___ HORN
___ FIRST AID KIT
___ FLARES/REFLECTORS
___ CLUTCH PLAY
___ ROLLING BRAKE CHECK
___ HYDRAULICS (OPERATE)

WALK AROUND VEHICLE

___ ALL LIGHTS
___ MIRRORS
___ GLASS (CLEAN)
___ AIR LEAKES
___ SPRINGS
___ LICENSE PLATES
___ FIRE EXTINGUISHER
___ BACK UP ALARM
___ TIRES
___ LUG NUTS USAGE
___ HYDRAULIC OIL QTS._____
___ FUEL - GALS.
___ CLEAN BEHIND BLADE
___ CLEAN OUT TRAPS

POST TRIP

IN CAB/START ENGINE

TURN ON
___ ALL LIGHTS
___ WIPERS
___ HEATERS
___ DEFROSTER
___ P.T.O.
___ ALL GAUGES
___ HORN
___ FIRST AID KIT
___ FLARES/REFLECTORS
___ CLUTCH PLAY
___ ROLLING BRAKE CHECK
___ HYDRAULICS (OPERATE)

WALK AROUND VEHICLE

___ ALL LIGHTS
___ MIRRORS
___ GLASS (CLEAN)
___ AIR LEAKES
___ SPRINGS
___ LICENSE PLATES
___ FIRE EXTINGUISHER
___ BACK UP ALARM
___ TIRES
___ LUG NUTS USAGE
___ HYDRAULIC OIL QTS._____
___ FUEL - GALS.
___ CLEAN BEHIND BLADE
___ CLEAN OUT TRAPS

COMPONENT	PROBLEM
ENGINE	
STEERING	
TRANSMISSION	
BRAKES	
HYDRAULIC SYSTEM	
ELECTRICAL SYSTEM	
TIRES	
OTHER	

END OF REPORT

Driver _____ Trainer_____

Shop Supervisor _____ Date_____

This report is to be turned into dispatch at the end of each work day whether you have a problem or not. Inspect your truck at the start and end of each day. Clean your cab.

White Copy - Dispatch/Garage Copy **Yellow Copy** - Driver's Copy

SYRACUSE HAULERS

WASTE REMOVAL, INC.

Policy on Drug & Alcohol Testing

DOT (49 CFR)

Policy on Drug & Alcohol Testing

I. Purpose

To establish a Company-based alcohol and drug testing program to help prevent accidents and injuries resulting from the misuse of alcohol and drugs by covered drivers of commercial motor vehicles in compliance with the Federal Department of Transportation Regulations promulgated at Rule 49 CFR Part 49 CFR Part 382 and promulgated under the Omnibus Transportation Employee Testing Act of 1991, enacted October 28, 1991.

II. Applicability

This policy applies to all Company employees who operate commercial motor vehicles and are subject to the commercial driver's license (CDL) requirements of the Code of Federal Regulations promulgated under the Omnibus Transportation Act.

III. Objectives

- To establish rules and procedures to deter all illegal drug use, and deter on-duty, pre-duty, and post-accident alcohol use, as well as on-duty alcohol impairment stemming from pre-duty use, for all covered drivers who perform safety functions.
- To detect and eliminate the possibility that Company covered drivers will perform safety-sensitive functions after testing positive for alcohol or drugs.
- To comply with applicable federal and state laws, including the Omnibus Transportation Employee Testing Act of 1991.
- To provide reasonable measures for the early detection of personnel not fit to perform activities within the scope of this policy.
- To maintain a workplace free of drugs and alcohol.
- To inform employees through education, in service training, and other appropriate forums, about illegal drugs and alcohol abuse, their use, possession, distribution, and the effects of such substances.

IV. Testing

There are several occasions when an individual will be subject to drug and alcohol screening tests pursuant to this policy. Prior to the administration of the following tests, the Company or its testing agent will notify the covered driver that the test is required under the Code of Federal Regulations. The testing occasions shall include:

A. Pre-Duty Testing

Pre-Duty testing is testing for drugs that the Company will administer after a conditional offer of employment has been extended and prior to any covered driver's performance of a safety-sensitive function. If the pre-duty drug testing reveals a presence of drugs, it will result in revocation of the conditional offer of employment. The Company, may, in its sole discretion, forego pre-duty testing where the exceptions promulgated at DOT 49 CFR 382.301 (b) or (c), relating to drug and alcohol testing of covered drivers by their previous employers, are satisfied.

B. Reasonable Suspicion Testing

Reasonable Suspicion testing is alcohol and drug testing that the Company will conduct when it has reasonable suspicion to believe that a covered driver has engaged in conduct prohibited by this policy. (Reasonable suspicion testing will not be conducted based upon the suspicion that a covered driver has violated the provision of this policy prohibiting covered drivers from being on duty or operating commercial motor vehicles while the driver possesses unmanifested alcohol). Reasonable suspicion must be based upon specific, contemporaneous, articulable observations concerning the appearance, behavior, speech, or body odors of a covered driver by a Company supervisor who is specially trained to recognize alcohol misuse or drug use.

The Company shall not administer a reasonable suspicion alcohol test more than eight (8) hours following a determination that reasonable suspicion exists to believe that the alcohol prohibitions of this policy have been violated.

Notwithstanding the absence of a reasonable suspicion alcohol test, the Company will not permit any covered driver to report for duty or remain on duty requiring the performance of a safety-sensitive function while the driver is under the influence of, or impaired by, alcohol as shown by behavioral, speech, and performance indicators of alcohol misuse, until an alcohol test is administered and the driver's blood alcohol concentration measures .02 or 24 hours have elapsed following a determination that reasonable suspicion exists to believe that the alcohol prohibitions of this policy have been violated. A written record shall be made of observations leading to reasonable suspicion, signed by the supervisor or person who made the observations, within

twenty-four (24) hours of the observed behavior or before the results of drugs tested are released, whichever is earlier.

Drivers covered by this paragraph are subject to alcohol testing as follows: Immediately prior to the start of duty in a safety-sensitive function, or during duty hours in a safety-sensitive function, or immediately following completion of duty in a safety-sensitive function. Reasonable suspicion drug testing may be conducted at any time the covered driver is on duty for the Company.

C. Random Testing

Random testing is unannounced testing for alcohol and drugs administered in a statistically random manner throughout the year to covered drivers employed by the Company so that all covered drivers have an equal probability of selection each time said random pool is created for selection.

Drivers covered by this paragraph are subject to alcohol testing as follows: Immediately prior to the start of duty in a safety-sensitive function, or during duty hours in a safety-sensitive function, or immediately following completion of duty in a safety-sensitive function. Random drug testing may be conducted at any time the covered driver is on duty for the Company.

D. Post-Accident Testing

A post accident test is a test for alcohol and drugs administered following an accident involving a commercial motor vehicle to each surviving covered driver.

1. Who was performing safety-sensitive functions with respect to the vehicle, if the accident involved the loss of human life;

2. Who receives a citation under state or local law for a moving violation arising from the accident, if the accident resulted in bodily injury to a person who as a result of the injury immediately receives medical treatment away from the scene of the accident, or

3. Who receives a citation under state or local law for a moving violation arising from the accident, if the accident resulted in one or more motor vehicles incurring disabling damages as a result of the accident requiring the vehicle(s) to be transported away from the scene by a tow truck or other vehicle;

The Company will not administer a post-accident alcohol test more than eight hours following the accident and will not administer a post-accident drug test more than 32 hours following the accident. A covered driver who is subject to post-accident testing shall remain readily available for such testing or may be deemed by the Company to

have refused to submit to testing. This shall not be construed to require the delay of necessary medical attention for injured individuals following an accident or to prohibit a covered driver from leaving the scene of an accident for the period necessary to obtain assistance in responding to the accident or to obtain necessary emergency medical care.

The results of the breath or blood test for the use of alcohol or a urine test for the use of drugs, conducted by federal, state, or local officials having independent authority for the test, shall be considered to meet the requirements of the policy covering post-accident testing, provided such tests conform to applicable federal, state, or local requirements and that the results of the test are obtained by the Company.

E. Return to Duty Testing

Return to duty testing is alcohol and drug testing conducted after a covered driver has engaged in prohibited conduct under this policy, completed counseling prescribed by a substance abuse professional, if any, and prior to his return to the performance of a safety-sensitive function. Before a covered driver may return to the performance of safety-sensitive functions, he/she must undergo return to duty testing with an alcohol test indicated a BAC of less than .02 and a drug test indicating a verified negative result for illegal drugs.

F. Follow-Up Testing

Follow-up tests are given following a determination by the Substance Abuse Professional (SAP) that a driver is in need of assistance in resolving problems associated with misuses of alcohol and/or drugs. This is an unannounced test, given at least six (6) times within twelve (12) months with the actual frequency and number of tests determined by the substance abuse professional (SAP), but in no event may the follow-up testing continue for a period beyond 60 months from the covered driver's return to duty. The substance abuse professional may terminate the requirement of follow-up testing at any time after the first six (6) tests have been administered if he/she determines that follow-up testing is no longer necessary.

Drivers covered by this paragraph are subject to alcohol testing as follows: Immediately prior to the start of duty in a safety-sensitive function, or during duty hours in a safety-sensitive function, or immediately following completion of duty in a safety-sensitive function. Follow-up drug testing may be conducted at any time the covered driver is on duty for the Company.

V. Definitions

See Appendix A.

VI. Alcohol and Drug Testing Procedures

Alcohol

Alcohol testing will be administered by a Breath Alcohol Technician (BAT) certified by the completion of a NHTSA model course, trained in utilizing an evidential breath testing device (EBT) that conforms to the requirements promulgated at the Department of Transportation 49 CFR part 40.51. The EBT used for testing shall meet the standards promulgated at the Department of Transportation 49 CFR 40.53 and have a quality assurance plan (QAP) developed by the manufacturer to ensure proper calibration. Testing will be conducted in a location that affords visual and aural privacy to individuals being tested.

If the initial test reveals a blood alcohol concentration of .02 or greater, a confirmatory test must be performed. The confirmatory test will produce the only result from which disciplinary action may be taken. If the blood alcohol concentration is greater than .02 but less than .04 the covered driver will be suspended from performing safety-sensitive functions for 24 hours. If the blood alcohol concentration is .04 or greater, the covered driver will be suspended from the performance of safety-sensitive functions for an indefinite period. (For an in depth explanation of the alcohol testing procedures, please refer to Appendix B – Department of Transportation 49 CFR Part 30 Subpart C.)

Drugs

A Department of Health and Human Services certified laboratory will perform drug testing on urine samples provided by covered drivers. The drugs for which tests will be conducted are:

a) Marijuana (THC)

b) Cocaine

c) Phencyclidine (PCP)

d) Opiates

e) Amphetamines

The cutoff levels for these drugs will conform to those promulgated at the Department of Transportation 49 CFR Part 40.

The Company and the certified laboratory will conduct the collection, shipment, testing, and chain-of-custody in a manner promulgated under the Department of Transportation Rule 49 CFR Part 40 to insure the integrity of the testing process.

The split urine specimen method of testing will be utilized providing one sample for preliminary screening and initial confirmation, and a second sample for a second confirmation test if needed at a later date. The cost for testing this split sample will be the employee's responsibility. The MRO will conduct a final review of all positive test results to assess possible alternative medical explanations for the results. (For an in depth explanation of the drug testing procedures, please refer to Appendix B – Department of Transportation 49 CFR Part 40 Subpart B.)

Alcohol and Drug

- The Company will ensure that alcohol and drug test information is maintained in a confidential manner in conformity with the Department of Transportation Rule 49 CFR Part 40.
- The Company will ensure that all contracts between the Company and any other entity involved in the alcohol and drug testing program will comply with the procedures set forth in the Department of Transportation Rule 49 CFR Part 40.
- The Company will conform to the requirements in the Department of Transportation Rule 49 CFR Part 40 in all aspects.

Uncompleted Testing

If a screening or confirmation test cannot be completed, or if an event occurs that would invalidate the test, the BAT shall, if practical, begin a new screening or confirmation test, as applicable, e.g., using a new breath alcohol testing form with a new sequential test number (in the case of a screening test conducted on an EBT that meets the requirements of 40.53(b) or in the case of a confirmation test.)

VII. Refusal to Submit to Testing

A covered driver shall not refuse to submit to a post-accident alcohol or drugs test required under this policy, a random alcohol or drugs test required under this policy, a reasonable suspicion alcohol or drugs test required under this policy, or a follow-up alcohol or drugs test required under this policy. The Company will not permit any covered driver to perform safety-sensitive functions subsequent to a refusal to submit to a test required under this policy until the individual is evaluated by a substance abuse professional, and completes a substance abuse program designed by a substance abuse professional, if any, and undergoes a return to duty alcohol test revealing a BAC of less than .02 and a drug test with a verified negative result. In other words, a refusal to submit to testing is equivalent of an alcohol test revealing a BAC of .04 or greater or a controlled substance test with a positive result. A refusal to be tested shall be defined as a refusal by an employee to complete and sign the breath alcohol test-

ing form or to complete the drug screening chain of custody form, to provide breath, to provide and adequate amount of breath, to provide an adequate amount of urine or otherwise to cooperate with the testing process in a way that prevents the completion of the test. The BAT or collector shall record such refusal in the remarks section of the form. The testing process shall then be terminated and the BAT or collector shall immediately notify the Company.

VIII. Prohibited Conduct

A. Alcohol

1. No covered driver shall report for duty or remain on duty requiring the performance of safety-sensitive functions while having an alcohol concentration of .04 or greater. The Company shall not permit the covered driver to perform or continue to perform safety-sensitive functions if it has actual knowledge that a driver has an alcohol concentration of .04 or greater.
2. A covered driver shall not be on duty or operate a commercial motor vehicle while the covered driver possesses alcohol, unless the alcohol is manifested and transported as part of a shipment. The Company shall not permit the covered driver to drive or continue to drive a commercial motor vehicle if it has actual knowledge that a driver possesses unmanifested alcohol.
3. A covered driver shall not use alcohol while performing safety-sensitive functions. The Company shall not permit the driver to perform or continue to perform safety-sensitive functions if it has actual knowledge that a driver is using alcohol while performing safety-sensitive functions.
4. No covered driver shall perform safety-sensitive functions within four (4) hours after using alcohol. The Company shall not permit the driver to perform or continue to perform safety-sensitive functions if it has actual knowledge that a driver has used alcohol within four (4) hours. [1]
5. A covered driver required to take a post-accident alcohol test shall not use alcohol for eight (8) hours following the accident, or until he/she undergoes a post-accident alcohol test, whichever is first.

B. Drugs

1. The Company will not permit a covered driver to perform safety-sensitive functions who has used any illegal drug or controlled substance except when the use is pursuant to the instructions of a physician who has advised the Company that the substance does not adversely affect the driver's abil-

ity to safely operate a commercial motor vehicle. It is the driver's responsibility to notify the Company if this situation is applicable.

2. Independent of the requirements of the Omnibus Transportation Employee Testing Act of 1991 and the regulations promulgated there under, the covered driver must notify the Company that he/she is using controlled substances pursuant to the instructions of the physician who has advised the driver that the substance does not adversely affect the driver's ability to safely operate a commercial motor vehicle.

IX. Referral, Evaluation and Treatment

1. The Company shall make available to the covered driver information regarding the resources available for evaluating and resolving problems associated with the misuse of alcohol and use of drugs, including the names, addresses, and telephone numbers of substances abuse professionals and counseling and treatment programs.

2. The Company shall ensure that each covered driver who engages in conduct prohibited by this policy shall be evaluated by a substance abuse professional who shall determine what assistance, if any, the employee needs in resolving problems associated with alcohol misuse and drug use. The costs associated with this evaluation shall, to the extent available, be covered by the Company's health insurance policy.

3. Before a covered driver returns to duty requiring the performance of a safety-sensitive function after engaging in conduct prohibited by this policy, the covered driver shall undergo a return to duty alcohol test with a result indicating an alcohol concentration of less than .02 if the conduct involved alcohol, or a drug test with a verified negative result if the conduct involved a controlled substance. (See below for conduct involving use of a controlled substance.)

4. Each covered driver identified as needing assistance in resolving problems associated with alcohol misuse or drug use shall:

    a. Be evaluated by a substance abuse professional to determine if the covered driver has properly followed any rehabilitation program prescribed under paragraph 2 of this policy.

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[1] *The State of New York Department of Motor Vehicles Commissioner's Regulations Part 6 Article 19-A 509-1 (1a). No person shall consume a drug, controlled substance, or intoxicating liquor, regardless of its alcoholic content, or be under the influence of an intoxicating liquor or drug, within six hours before going on duty or operating, or have physical control of a bus.*

b. Shall be subjected to unannounced follow-up alcohol and drug tests administered by the Company following the covered driver's return to duty. The number and frequency of such follow-up tests shall be directed by the substance abuse professional and consist of at least six (6) tests in the first twelve (12) months following the covered driver's return to duty. The Company may direct the covered driver to undergo return-to-duty follow-up testing for both alcohol and drugs, if the substance abuse professional determines that return-to-duty and follow-up testing for both alcohol drugs is necessary for that particular covered driver. Such testing shall be in conformance with this policy and the requirements of 49 CFR Part 40. Follow-up testing shall not exceed sixty (60) months from the date of the covered driver's return to duty. The substance abuse professional may terminate the requirement at any time after the first six (6) tests have been administered, if the substance abuse professional determines that such testing is no longer necessary.

c. The evaluation and rehabilitation may be provided by the Company, but a substance abuse professional under contract with the Company or by a substance abuse professional not affiliated with the Company. The choice of a substance abuse professional and assignment of costs shall be made in accordance with Company/driver agreements and Company policies.

d. The Company shall ensure that a substance abuse professional who determines that a covered driver requires assistance in resolving problems with the alcohol misuse or drug use does not refer the covered driver to the substance abuse professional's private practice, or to a person or organization from which the substance abuse professional receives remuneration, or in which the substance abuse professional has a financial interest.

e. The requirements of this section with respect to referral, evaluation, and rehabilitation do not apply to applicants who refuse to submit to a pre-duty alcohol or drug test or who have a pre-duty alcohol test with a result indicating an alcohol concentration of .04 or a drug test with a verified positive test result.

X. Consequences for Covered Drivers

A covered driver shall not perform safety-sensitive functions, including driving a commercial motor vehicle, if the covered driver has engaged in conduct prohibited by this policy or an alcohol or drug rule of any DOT agency.

The Company will not permit any driver to perform safety-sensitive functions, including driving a commercial motor vehicle, if said driver has tested positive for alcohol and/or drugs. The Company will not permit any covered driver found to have a blood alcohol concentration of at least .02 and less than .04 to perform safety-sensitive functions for 24 hours following the administration of the test. A covered driver found to have a blood alcohol concentration of .02 or greater but less than .04 shall receive a 24-hour suspension from the performance of safety-sensitive functions.

Consequences for violating this policy will include: suspension from the performance of safety-sensitive functions, referral to a substance abuse professional, the requirement that a substance abuse professional certify the covered driver's completion of a prescribed substance abuse program, if any, and the requirement that the covered driver pass an alcohol test with a BAC of less than .02 or controlled substance prior to the return to the performance of safety-sensitive functions. Independent of the requirements of the Omnibus Transportation Employee Testing Act of 1991 and the regulations promulgated there under, covered drivers who have been found to have violated the prohibited conduct under this policy:

1. Will be immediately suspended from their safety-sensitive function without pay.
2. If the violation is for the illegal use or possession of drugs in accordance with this policy after a review of all pertinent facts leading to the suspension, the covered driver shall be terminated.
3. If a covered driver refused to a post-accident drug test, a reasonable suspicion drug test, a random drug test or a follow-up drug test, the covered driver shall be terminated.
4. If, the use of alcohol registers on the EBT with an alcohol content of 0.02 to 0.0399 (but less than 0.04), the counseling through the District's EAP or other similar service agency. A second violation for the use of alcohol under this policy shall result in a suspension without pay pending a review of the employee's work record for disciplinary action, up to and including discharge.
5. If, the use of alcohol registers on the EBT with an alcohol content of 0.04 or greater, the covered driver shall be directed to seek assistance and/or counseling through the Company's EAP or other similar service agency. A second violation for the use of alcohol under this policy shall result in a suspension without pay pending a review of the employee's work record for disciplinary action, up to and including discharge pursuant to Section IX herein.
6. If, the covered driver refuses to submit to a post-accident alcohol test, a reasonable suspicion alcohol test, a random alcohol test, or a follow-up alcohol test, the

covered driver shall be directed to seek assistance and/or counseling through the Company's EAP or other similar service agency. A second violation for the use of alcohol under this policy shall result in a suspension without pay pending a review of the employee's work record for disciplinary action, up to and including discharge.

7. The above actions shall be taken in accordance with the provisions of the employee's collective bargaining agreement or 75 of the Civil Service Law, whichever is applicable.

XI. Employee Notification

The Company shall provide a copy of this policy to each covered driver and to his/her collective bargaining agent. Each covered driver is required to sign a statement certifying that he/she has received this information. The Company shall maintain the original signed certification for a minimum of two (2) years. The Company may provide a copy of the certification to the covered driver upon request.

XII. Savings Clause

If any provision of this policy is determined in a tribunal of competent jurisdiction to be inconsistent with any superseding legal requirements, that provision shall be considered modified or deleted so as to comply with the superseding legal requirements, without any effect on the remaining policy provisions.

APPENDIX A

Definitions

Alcohol
The intoxicating agent in beverage alcohol, ethyl alcohol, or other low molecular weight alcohols, including methyl and isopropyl alcohol.

Alcohol Use
The consumption of any beverage, mixture, or preparation, including any medication containing alcohol.

Breath Alcohol Technician (BAT)
An individual who operates an evidential breath testing device and instructs and assists individuals in the alcohol testing process.

BAC
Blood Alcohol Concentration (BAC) is the content of alcohol in an individual's blood.

Commercial Motor Vehicle
A motor vehicle or a combination of motor vehicles used in commerce to transport passengers or property if the motor vehicle:

1. has a gross combination weight of 26,001 or more pounds inclusive of a towed unit with a gross vehicle weight rating of more than 10,000 pounds or
2. has a gross vehicle weight rating of 26,001 or more pounds, or
3. is designated to transport 16 or more passengers, including the driver, or
4. is of any size and is used in the transportation of materials found to be hazardous for the purposes of Hazardous Materials Transportation Act and which require the motor vehicle to be placarded under the Hazardous Material Regulations (49 CFR Part 172, subpart F).

Confirmation Test

In drug testing, a second analytical procedure to identify the presence of a specific drug or metabolite that is independent of the screening test and that uses a different technique and chemical principle from that of a screening test in order to ensure reliability and accuracy. Gas chromatography/mass spectrometry (GC/MS) is the only authorized confirmation method for cocaine, marijuana, opiates, amphetamines, and phencyclidine. In alcohol testing, a second test following a screening test with a result of .02 or greater, that provides quantitative data of alcohol concentration.

Covered Driver

Company employees who operate commercial motor vehicles and applicants for employment with the district who are applying for positions as drivers of commercial motor vehicles (for the purposes of pre-duty testing only).

Evidential Breath Testing Device (EBT)

A device approved by the National Highway Traffic Safety Administration (NHTSA) for the evidential testing of breath and placed on NHTSA's Conforming Product's List of Evidential Breath Measurement Devices (CPL).

Medical Review Officer

A licensed physician responsible for receiving laboratory results generated by the District's drug test program, who has knowledge of substance abuse disorders and has appropriate medical training to interpret and evaluate an individual's positive test result together with his or her medical history and any other relevant biomedical information.

Refusal to Submit

A covered driver who (1) fails to provide adequate breath for testing without a valid medical explanation after he or she has received a notice of the requirement for the breath testing; (2) fails to provide adequate urine for drugs testing without a valid medical explanation after he or she has received notice of the requirement for urine testing; (3) engages in conduct that clearly obstructs the testing process; or (4) otherwise refuses to submit, will be classified as having refused to submit to an alcohol or drug test, a refusal to submit to either an alcohol or drug test will carry the same consequences as a failure of a required test.

Screening Test

In alcohol testing, means an analytical procedure to determine whether a driver may have a prohibited concentration of alcohol in his or her system. In drug testing, an immunoassay procedure to eliminate "negative" urine specimens from further consideration.

Safety-Sensitive Function

Any of those on-duty functions (promulgated at 49 CFR 395.2 on-duty time) as listed below:

a. All time at a carrier or shipper plant, terminal, facility, or other property, waiting to be dispatched, unless the driver had been relieved from duty by the Company.

b. All time inspecting equipment as required by the Federal Motor Carrier Safety Regulations (FMCSR's) or otherwise inspecting, servicing, or conditioning any commercial motor vehicle at any time.

c. All time spent at the driving controls of a commercial motor vehicle in operation.

d. All time, other than driving time, spent on or in a commercial motor vehicle (except for time spent resting in the sleeper berth).

e. All time spent loading or unloading a commercial motor vehicle, supervising, or assisting in the loading or unloading, attending a vehicle being loaded or unloaded, remaining in readiness to operate the vehicle, or in giving or receiving receipts for shipments loaded or unloaded.

f. All time spent performing the driver's requirements associated with an accident promulgated at 49 CFR 392.40 and 392.41.

g. All time repairing, obtaining assistance, or remaining in attendance upon a disabled vehicle.

Substance Abuse Professional

A substance abuse professional means a licensed physician (Medical Doctor or Doctor of Osteopathy), or a licensed or certified psychologist, social worker, employee assistance professional or addiction counselor (certified by the National Association of Alcoholism and Drug Abuse Counselors Certification Commission) with knowledge of and clinical experience in the diagnosis and treatment of alcohol and drugs-related disorder.

SYRACUSE HAULERS

WASTE REMOVAL, INC.

Syracuse, N.Y.

I, _____, have received a copy of

Syracuse Haulers Waste Removal, Inc.'s **Policy on Drug and Alcohol Testing,**

on this date of _____.

Signature: _____

Date: _____

SYRACUSE HAULERS
WASTE REMOVAL, INC.
Syracuse, N.Y.
128 Ball Circle, Syracuse, NY 13210-4208
Ph: 315/426-6771 · Fax: 315/426-6770
www.syracusehaulers.com

EMERGENCY CONTACTS

TYPE	PRIORITY RESPONSE	RESPONDER	TELEPHONE
AMBULANCE	**EMERGENCY**		**911**
AMBULANCE	Non-Emergency		911
ASBESTOS	**EMERGENCY**	**Summit Environmental**	**(315) 374-2203**
ASBESTOS	EMERGENCY	Summit Environmental	(315) 374-2211
ASBESTOS	Non-Emergency	Summit Environmental	(315) 437-1418
BLOODBORNE PATHOGENS	**EMERGENCY**	**University Hospital**	**(315) 464-8633**
BLOODBORNE PATHOGENS	EMERGENCY	Northeast Medical Urgent	(315) 637-7800
EMERGENCY COORDINATOR (1st)	**EMERGENCY**	**Brad Remington**	**(315) 706-6849**
EMERGENCY COORDINATOR (2nd)	**EMERGENCY**	**Roy Shaffer**	**(315) 396-7760**
FRONT OFFICE (3rd)	**EMERGENCY**	**Dianna Amidon**	**(315) 426-6771**
FIRE	**EMERGENCY**		**911**
FIRE	Non-Emergency	Village of East Syracuse	(315) 671-3380
FIRE	Non-Emergency	Town of DeWitt	(315) 446-3195
FIRE	Non-Emergency	Jamesville	(315) 492-2872
HAZARDOUS MATERIAL	EMERGENCY	NYS DEC	(800) 457-7362
HAZARDOUS MATERIAL	Non-Emergency	NYS DEC	(315) 426-7400
HAZARDOUS MATERIAL	**EMERGENCY**	**Safety Kleen**	**(888) 375-5336**
HAZARDOUS MATERIAL	Non-Emergency	Safety Kleen	(315) 455-1426
HAZARDOUS MATERIAL (LARGE QTY)	EMERGENCY	National Response Center	(800) 424-8802
HOSPITAL (PRIMARY)	**EMERGENCY**	**University Hospital**	**(315) 464-8633**
HOSPITAL (SECONDARY)	EMERGENCY	St. Josephs Hospital	(315) 448-5111
OWNER OF TRANSFER STATION	**EMERGENCY**	**Rocco Grosso**	**(315) 440-6819**
POISON	**EMERGENCY**	**National**	**(800) 222-1222**
POISON	EMERGENCY	Local	(315) 464-7078
POLICE (LOCAL)	**EMERGENCY**		**911**
POLICE (LOCAL)	Non-Emergency	Town of DeWitt	(315) 449-3640
POLICE (STATE)	Non-Emergency	NYS Troop D, Zone 2	(315) 455-2826
RADIATION	**EMERGENCY**		**911**

DAILY EQUIPMENT CHECK

Date _____

Operator _____ **Hour Meter** **Start** _____ **End** _____ **Total** _____

Equipment _____

General Appearance			
Engine Operation/Check Belts			
* Engine Oil / Water Level			
* Trans Oil Level			
Trans/Conv Operation			
* Hyd or Misc. Oil Level			
* Brake Level & Operation			
Grease			
Batteries			
* Fuel Level ☐ Gas ☐ Fuel			
* Coolant Level			
Cutting Edges or Teeth			
Hydraulic Cylinders & Rods			
Hyd and Air Hoses			
Operation (All Items): Controls			
Cab Windows, Interior, Seats			
Fans, Belts			
Brakes			
Back-Up Alarm/Horn			
Windshield Wiper			
Seat Belts			
(R) Front Tire(s) - Proper Inflation, Flaps, Cuts, Lug Nuts			
(L) Front Tire(s) - Proper Inflation, Flaps, Cuts, Lug Nuts			
(R) Rear Tire(s) - Proper Inflation, Flaps, Cuts, Lug Nuts			
(L) Rear Tire(s) - Proper Inflation, Flaps, Cuts, Lug Nuts			
Lights/Mirrors			
Exhaust System/Excessive Noise			
Tow Hitch/Stand, Safety Chains			
Vibration Check			
Fire Extinguisher			
(Starred Items * = record level)	**G = Good NR = Needs Repair**	**G = Good NR = Needs Repair**	

Component	Problem
Engine	
Steering	
Transmission	
Brakes	
Hydraulic System	
Electrical System	
Tires	
Other	

Operator _____

Shop Supervisor _____

Date _____

This report is to be turned into the **Shop Supervisor** at the end of each work day, whether you have a problem or not. **Inspect your equipment at the start and end of each day.** Clean your cab.

UNIT #	Year	Make	Model	Type	Dept.	Unloaded WGT	Maximum Loaded WGT	Hopper Capacity (Est. Cu Yd)	Vehicle ID	Plate #	Body Serial Number	Body Make	Engine	Reg. Expiration	Reg. Fee	Div. Permit #
		Genie	Z-45/25	Boom Lift					Z452507-31999							
DZ - 1		Komatsu	D31A-17	Dozer					AT5D1568	N/A				N/A		
EX - 1	2007	Komatsu	PC78US-6	Excavator			15850	0.37	9664	N/A				N/A		Diesel
EX - 2	2012	CAT	320E	Excavator					C8N01742	N/A						
M1	2017	Mitsubishi	FGC-25 Type 25	Forklift					AF82B-03554	N/A	Gas	Hydraulics		N/A		Diesel
M2	1993	Mitsubishi	FGC30	Forklift					AF83A-00485	N/A	Propane/Green	Garage				
M3	2015	Mitsubishi	FG25N	Forklift						N/A						
C1		Clark	DPS201	Forklift					GP138I-30-6495	N/A		Paint		N/A		Diesel
C2		Clark	DPS22I	Forklift					GP138I-0175-7218K0F109	N/A		Washbay		N/A		Diesel
C3		Clark	DPS221	Forklift					GP1381-0175-721K0P109	N/A				N/A		Diesel
H1	1963	Hyster	H40XL	Forklift					A177B11785G	N/A	Diesel/Yellow	Welders		N/A		Diesel
H2	1996	Hyster	S50XM	Forklift					D187V04266T	N/A	Propane	Baler				
		IRB Forks	Model #721D	Forks					S/N#0503-105656-612							
GC#1	1995	Yamaha	G14AM	Golf Cart					JN3-116507	N/A						Gas
GC#2	1992	Club Car	DS Gas	Golf Cart					AG9215280368	N/A						Gas
GC#3	2000	Yamaha	G16AU	Golf Cart					JN6-F4236-40	N/A						Gas
GC#4				Golf Cart						N/A						Gas
	2010	John Deere	LA175	Lawn Tractor					GXA175A206185	N/A				N/A		
Lift#1		Marklift	J25	Lift (Large)						N/A						
Lift#2		JLG	CM1432	Lift (Small)						N/A						
TR	1989	Tampo	RS580	Roller			22,470		2292025A							Diesel
	2017	Fisher		Salt Spreader					F178007							
Lift#3		JLG	2033E	Scissor Lift					200039797	N/A						
		Tennant	355/Gas	Sweeper		2350	5200	14 cu ft/1400	355-2427	N/A				N/A		
		Tennant	355/Gas	Sweeper					355-4430							
		Tennant	6500/Gas	Sweeper					6500-6800							
	2011	JLG	G1055A	Telehandler												
UTV#1		Kawasaki		Utility Vehicle						N/A						Gas
#320-1	2007	Komatsu	WA320-5L	Wheel Loader		13880	31337	5.5	A33157	N/A				N/A		Diesel
#320-2	2016	Komatsu	WA320-7	Wheel Loader					S/N 80908	N/A				N/A		Diesel
#W70	2007	Komatsu	WA70-5	Wheel Loader			11816	2	H50968	N/A				N/A		
	1968	Case	W7E	Wheel Loader					9960504	N/A				N/A		
	2020	Case														

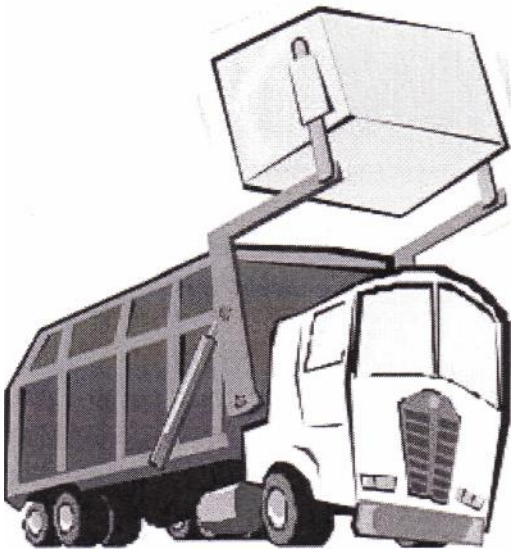
OSHA Act of 1970
General Duty Clause Section 5 (a) (1)
Ergonomics

In an effort to identify ergonomic hazards in the workplace and implement feasible measures to control these hazards, all employees will be given an ergonomic checklist which is job specific, to review and utilize. It will be incorporated into their training materials.

Index

Introduction
Ergonomic Checklists
for the Solid Waste Industry

Each year many injuries occur in the solid waste industry from either using improper lifting or reaching techniques or not preparing the body for physically demanding work. Usually this occurs from a lack of body awareness and not knowing how to keep the body in balance. By keeping the body in the neutral posture position, the forces required to perform physically demanding work can be reduced. By following good technique and preparing your body for such activities, employees can reduce the likelihood of an ergonomic injury.



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Stretching for Solid Waste Employees

- **Cervical Turn and Tilt**

Proper Technique

1. This stretch can be performed while sitting or standing.
2. Simply turn your head from side to side and look down toward your shoulder. 3 Hold for 10-15 seconds.
3. Repeat 3 times.

Precautions

- DO NOT be aggressive. This stretch is to be done with passive and gentle movements.
- Breathe normally.

- **Cat-Cow**

Proper Technique

1. Stand with your feet hip-width apart. Place your hands on your thighs, look down at the floor and pull your stomach towards your back rounding your spine like a cat.
2. Hold for 5 seconds.
3. Slowly sag your back towards your stomach, pulling your shoulders back, putting a slight curve in the back and look forward.
4. Repeat both steps 15-20 times.

Precautions

- DO NOT move quickly.
- DO NOT over extend your neck.
- It may feel awkward at first, but after a while it will be easy.

- **Side Stretch**

Proper Technique

1. Stand with your feet hip width apart. Stretch both arms over your head and place your hands on your head. Slowly bend to one side. Hold for 5 seconds.
2. Return to the stretching position.
3. Repeat 5 times.
4. Switch sides.

Precautions

- DO NOT twist your body.

- Use slow and controlled motions.

- **Shoulder Girdle Stretch**

Proper Technique

1. Place palm of one hand on the elbow of your other arm and pull it gently across your body. Hold for 5 seconds.
2. Release.
3. Repeat 5 times for each side.

Precautions

- DO NOT move quickly.

- **Shoulder Shrugs**

Proper Technique

1. Stand erect and raise shoulders up toward your ears. Hold for a moment and lower shoulders slowly with control to the neutral position.
2. Hand weights in each hand can be added for this exercise.

Precautions

- Proper technique is more important than repetitions.
- DO NOT roll your shoulders.
- Lift straight up and lower slowly.
- Exhale on the lift.

- **Arm Lift**

Proper Technique

1. While standing in a balanced position, raise your right arm and lower your left arm. With arm straight, gently push your arms backwards and then forwards.
2. Do 5 times then switch,
3. Repeat 5 times.

Precautions

- Keep your head and neck balanced.
- Use smooth and controlled movements.

- **Calf Stretch**

Proper Technique

1. Position yourself with your arms braced against a wall or solid surface of truck with one foot about 12 inches behind the other.
2. Slowly bend your front knee. Hold for 10 to 30 seconds.
3. Switch sides.
4. Repeat 5 times.

Precautions

- DO NOT lift your back heel off the floor.
- DO NOT arch your back.
- DO NOT bounce on your foot
- Use slow and controlled movements.

- **The Plank**

Proper Technique

1. Straighten one leg in front of you with your heel on the floor, toe up. Bend your opposite leg, place your hands on your support leg and lean forward from your hips.
2. Hold for 10 seconds.
3. Repeat with other leg.

Precautions

- Lift your toe for a harder stretch
- Keep your balance.

- **Quadricep Femoris**

Proper Technique

1. Stand on one foot and grasp the ankle of the foot in the air. Pull your heel to your buttocks and hold for 10-15 seconds. Stay facing forward do not lean to one side.
2. Release and repeat with opposite leg.
3. Perform this exercise 3 times on each leg.

Precautions

- Watch your balance.
- DO NOT twist your back to reach your leg.
- Keep your hand on a wall.
- Bend knee of supporting leg.

- **Leg Extensions**

Proper Technique

1. Sit on a chair and extend your leg.
2. Hold for a moment and return to neutral position.
3. Perform 2 sets on each leg.
4. Ankle weights can be used on this exercise.

Precautions

- DO NOT move quickly

Ergonomic Checklist for: Mechanics & Maintenance Staff

Ergonomic Risk Factors

- Awkward Posture
- Static Loading
- Deviated Wrist/Hand/Arm Postures
- Forceful Exertions
- Extended Reaches
- Contact Stress

Standing on Concrete Surfaces

Train employees on body mechanics of standing.

1. Have a relaxed posture.
2. Place feet shoulder width apart with weight distributed evenly on both feet.
3. Try to keep upper body upright, don't slouch.
4. Bend at the waist, not the shoulders.

Use shoe or boot cushioning inserts to prevent fatigue. Use anti-fatigue mats for cushioning.

Stretch throughout your shift.

Consider using sit/stand stools and creepers.

Routine Lifting and Carrying

Train employees regarding body mechanics of manually lifting, lowering, or carrying.

1. Assess the size and weight of object before lifting.
2, Do you need two people?
3. Get as close as possible to the load.
4. Face the load — toes should be pointing at the object.
5. Bend the knees to get into position to lift.
6. Grab object with both hands.
7. Ensure good hold.
8. Look straight ahead with head up.
9. With rear down begin the lift.
10. Keep the natural curve in your back as you lift.
11. Keep load in front of you.
12. Tum with your feet- not your body.
13. Do not twist.

Use hoist or lifting devices where feasible. Use carts or dollies where possible.

If employees are wearing gloves, ensure good fit.

Stretch before you lift or lower containers.

Pushing and Pulling Containers

Train employees regarding body mecharics of pushing and pulling.

1. Stretch before pushing/pulling container. Your body can stiffen up.
2. Push the cart if at all possible; pull as a last resort.
3. Size up the required force to push the container.
4. Push with legs and keep your head up.
5. Keep close to the container as you push — keep head up.

Use of Tools

Hand held tool weights should not exceed 10 pounds.

Use power tools where possible.

Suspend power tools to reduce weight being held and supported by mechanic. Maintain tools to lessen vibration.

Use power grips, not pinch grips.

Keep reaches within 18 inches of the body, so that the elbow is not fully extended when forces are applied.

Keep work object at a height where elbows are at a 90 degree or less.

Use tools with stabilizing handles.

Power tools should be wrapped with anti-vibration material.

When possible, purchase tools with stabilizing handles.

DO NOT use your hand as a tool.

Healthy Habits

Get plenty of rest, drink plenty of fluids-64 ounces per day, maintain a healthy diet, maintain good posture, and remember to stretch throughout the day.

Stretching

These stretches may help reduce ergonomic hazards associated with solid waste collection operations.

1. Cat-Cow

Proper Technique

A. Stand with your feet hip-width apart. Place your hands on your thighs, look down at the floor and pull your stomach towards your back rounding your spine like a cat.
B. Hold for 5 seconds.
C. Slowly sag your back towards your stomach, pulling your shoulders back, putting a slight curve in your back and look forward.
D. Repeat both steps 15-20 times.

Precautions

- DO NOT move quickly.
- DO NOT over extend your neck.
- It may feel awkward at first, but after a while it will be easy.

2. Shoulder Girdle Stretch

Proper Technique

A. Place palm of one hand on the elbow of your other arm and pull it gently across your body. Hold for 5 seconds. Release.
B. Repeat 5 times for each side.

Precautions

- DO NOT move quickly.

3. The Plank

Proper Technique

A. Straighten one leg in front of you with your heel on the floor, toe up. Bend your opposite leg, place your hands on your support leg and lean forward from your hips.
B. Hold for 10 seconds.
C. Repeat with other leg.

Precautions

- Lift your toe for a harder stretch
- Keep your balance.

Automated Side Loader Ergonomic Checklist

Ergonomic Risk Factors

Awkward Posture	Forceful Exertions
Static Loading	Extended Reaches
Deviated Wrist/Hand/Arm Posture	Contact Stress

Entering a Cab of Truck

Train employees on body mechanics of cab access.

1. Body and feet should face truck.
2. As you step onto first step grab door with left hand.
3. Grab handle with right hand.
4. Maintain all three points of contact
5. Turn body smoothly as you reach cab of vehicle and slide into seat do not jerk or twist suddenly.

Sitting While Driving

Train employees on body mechanics associated with driving and how to adjust seat to provide proper body support while driving.

1. Check sears suspension and position - adjust for your weight and height. Your body should feel supported by the seat. Adjust seat forward or backward, up or down to fit your body.
2. Sit up properly - make sure your entire back makes contact with the seat.
3. Knees should be slightly bent and reach pedals easily.
4. Arms should be bent slightly — shoulders against back of seat_
5. Do not sit on wallet — remove from your pocket as it could compress nerves.
6. Remember, don't slouch. Keep proper posture throughout the day.

Review/assess current seating in vehicles to determine if repair or replacement may be needed. Let your supervisor know if your seat needs to be repaired.

Visibility

Mirrors/Cameras (Front, Sides, Rear)

1. Adjust mirrors and cameras to minimize turning your head to either side or peering forward.
2. Let your supervisor know if you need additional mirrors or cameras.

Pushing and Pulling Containers

Train employees regarding body mechanics of manually moving ASL containers.

6. Stretch before pushing/pulling container. Your body can stiffen up between stops while driving.
7. Push the cart if at all possible; pull as a last resort.
8 Size up the required force to push the container.
9. Push with legs and keep your head up.

10. Keep close to the container as you push — keep head up.

Using Driving/Operating Controls —

1. Train employees to support their arms and hands by resting them on support surfaces.
2. Train employees on how to avoid contact stress, such as compression points or sharp edges, by providing padding/cushions to surfaces creating contact stress points.

Exiting Cab of Truck

Train employees on body mechanics of cab egress.

1. Turn body smoothly as you exit cab of vehicle, slide out of seat do not jerk or twist suddenly.
2. Body and feet should face truck.
3. As you step out, maintain three points of contact use steps the entire way down.
4. Do not jump from the cab.

Healthy Habits

Get plenty of rest, drink plenty of fluids-64 ounces per day, maintain a healthy diet, maintain good posture, and remember to stretch throughout the day.

Stretching

These stretches may help reduce ergonomic hazards associated with solid waste collection operations.

1. Cervical Turn and Tilt

Proper Technique

A. This stretch can be performed while sitting or standing.
B. Simply turn your head from side to side and look down toward your shoulder.
C. Hold for 10-15 seconds.
D. Repeat 3 times.

Precautions

- DO NOT be aggressive. This stretch is to be done with passive and gentle movements.
- Breathe normally.

2. Shoulder Girdle Stretch

Proper Technique

A. Place palm of one hand on the elbow of your other arm and pull it gently across your body. Hold for 5 seconds. Release.
B. Repeat 5 times for each side.

Precautions

- DO NOT move quickly.

3. Shoulder Shrugs

Proper Technique

A Stand erect and raise shoulders up toward your ears. Hold for a moment and lower shoulders slowly with control to the neutral position.

13_ Perform two sets of 12 with a minute rest between sets.

Precautions

- Proper technique is more important than repetitions.
- DO NOT roll your shoulders.
- Lift straight up and lower slowly.
- Exhale on the lift

Manual Rear *End* Loader Ergonomic Checklist

Ergonomic Risk Factors

Awkward Posture	Forceful Exertions
Static Loading	Extended Reaches
Deviated Wrist/Hand/Arm Postures	Contact Stress

Entering a Cab of Truck

Train employees on body mechanics of cab access.

6_ Body and feet should face truck.

7. As you step onto first step grab door with left hand.
8. Grab handle with right hand.
9. Maintain all three points of contact.
10. Turn body smoothly as you reach cab of vehicle and slide into seat - do not jerk or twist suddenly.

Sitting While Driving

Train employees on body mechanics associated with driving and how to adjust seat to provide proper body support while driving.

7. Check seat's suspension and position - adjust for your weight and height. Your body should feel supported by the seat. Adjust seat forward or backward, up or down to fit your body.
8. Sit up properly - make sure your entire back makes contact with the seat.
9. Knees should be slightly bent and reach pedals easily.
10. Arms should be bent slightly — shoulders against back of seat.
11. Do not sit on wallet— remove from your pocket as it could compress nerves.
12. Remember, don't slouch. Keep proper posture throughout the day.

Review/assess current seating in vehicles to determine if repair or replacement may be needed. Let your supervisor know if your seat needs to be repaired.

Visibility

Mirrors/Cameras (Front, Sides, Rear)

1. Adjust mirrors and cameras to minimize turning your head to either side or peering forward.
2. Let your supervisor know if you need additional mirrors or cameras.

Lifting, Lowering, Carrying Containers

Train employees regarding importance of body mechanics for manually picking up residential trash from street.

1. Stretch before lifting/lowering/carrying container. Your body can stiffen up while driving/riding.
2. Assess the size and weight of the container before lifting.

3. Do you need two people?
4, Get as close as possible to the load.
5. Face the load — toes should be pointing at the object.
6. Bend the knees to get into position to lift.
7. Grab object with both hands.
8. Ensure good hold.
9. Look straight ahead with head up. 16. With rear down begin the lift. 11. Keep the natural curve in your back as you lift.
12.Keep load in front of you.
13. Turn with your feet-not your body.
14. Do not twist.

If employees are wearing gloves, ensure they are a good fit.

Stretch before you lift or lower containers, your body can stiffen up while driving or riding.

Using Driving/Operating Controls —

3. Train employees to support their arms and hands by resting them on support surfaces.
4. Train employees on how to avoid contact stress, such as compression points or sharp edges, by providing padding/cushions to surfaces creating contact stress points,

Exiting Cab of Truck

Train employees on body mechanics of cab egress.

5. Turn body smoothly as you exit cab of vehicle, slide out of seat do not jerk or twist suddenly.
6. Body and feet should face truck.
7. As you step out, maintain three points of contact — use steps the entire way down.
8. Do not jump from the cab.

Exiting Rear Load Riding Step

Train employees on the body mechanics of exiting the rear load riding step.

1 While riding, feet should be pointed toward vehicle.
2. After vehicle comes to a complete stop, back down from step without turning.
3. When you exit the step your feet and body should be facing the vehicle.

Healthy Habits

Get plenty of rest, drink plenty of fluids-64 ounces per day, maintain a healthy diet, maintain good posture, and remember to stretch throughout the day.

Stretching
These stretches may help reduce ergonomic hazards associated with solid waste collection operations.

1. Cat-Cow

Proper Technique

A. Stand with your feet hip-width apart. Place your hands on your thighs, look down at the floor and pull your stomach towards your back rounding your spine like a cat stretches.
B. Hold for 5 seconds.
C. Slowly sag your back towards the floor looking forward, rolling your shoulders back, putting a slight curve in your back.
D. Repeat both steps 15-20 times.

Precautions

- DO NOT move quickly.
- DO NOT over extend *your* neck.
- It may feel awkward at first, but after awhile it will be easy.

2. Side Stretch

Proper Technique

A. Stand with your feet hip width apart. Stretch both arms over your head and place your hands on your head. Slowly bend to one side. Hold for 5 seconds.
B. Return to the stretching position.
C. Repeat 5 times.
D. Switch sides.

Precautions

- DO NOT twist your body.
- Use slow and controlled motions.

3. Calf Stretch

Proper Technique

A. Position yourself with your arms braced against a wall or smooth surface of truck with one foot about 12 inches behind the other.
B. Slowly bend your front knee. Hold for 10 to 30 seconds.
C. Switch sides.
D. Repeat 5 times.

Precautions

- DO NOT lift your back heel off the floor.
- DO NOT arch your back.
- DO NOT bounce on your foot
- Use slow and controlled movements.

Residential Recycling Ergonomic Checklist

Ergonomic Risk Factors

Awkward Posture	Forceful Exertions
Static Loading	Extended Reaches
Deviated Wrist/Hand/Arm Postures	Contact Stress

Entering a Cab of Truck

Train employees on body mechanics of cab access.

11. Body and feet should face truck.
12. As you step onto first step grab door with left hand.
13. _ Grab handle with right hand.
14. Maintain all three points of contact.
15. Tum body smoothly as you reach cab of vehicle and slide into seat do not jerk or twist suddenly.

Sitting While Driving

Train employees on body mechanics associated with driving and how to adjust seat to provide proper body support while driving.

13. Check seat's suspension and position - adjust for your weight and height. Your body should feel supported by the seat. Adjust seat forward or backward, up or down to fit your body.
14. Sit up properly - make sure your entire back makes contact with the seat.
15. Knees should be slightly bent and reach pedals easily.
16. Arrns should be bent slightly — shoulders against back of seat.
17. Do not sit on wallet— remove from your pocket as it could compress nerves.
18. Remember, don't slouch. Keep proper posture throughout the day.

Review/assess current seating in vehicles to determine if repair or replacement may be needed. Let your supervisor know if your seat needs to be repaired.

Standing While Driving

1. Provide anti-fatigue matting to area where driver stands that does not interfere with driving controls or present a tripping hazard.
2. Provide shoe/boot inserts for cushioning.

Exiting Right Hand Drive (RHD) Vehicle

1. Train employees regarding body mechanics of exiting RHD side.
2. Provide padding to those parts of existing vehicles that employees contact (hit) when they enter or exit vehicle.

Visibility

Mirrors/Cameras (Front, Sides, Rear)

1. Adjust mirrors and cameras to minimize turning your head to either side or peering

forward.

2. Let your supervisor know if you need additional mirrors or cameras.

Lifting, Lowering, Carrying Containers

Train employees regarding body mechanics of manually picking up residential recydabies from street.

1. Stretch before lifting/lowering or carrying container your body can stiffen up while driving/riding.
2. Size up the load.
3. Get as close as possible to the load.
4. Face the container toes should be pointing at the object.
5. Bend the knees to get into position to lift.
6. Grab handles use both hands.

7, Ensure good hold.

8. Look straight ahead with head up.
9. With rear down begin the lift.
10. Keep the natural curve in your back as you lift.

11.Keep load in front of you.

12.Turn with your feet- not your body.

1 3.Do not twist.

If employees are wearing gloves ensure they are a good fit.

Using Driving/Operating Controls —

5. Train employees to support their arms and hands by resting them on support surfaces.
6. Train employees on how to avoid contact stress, such a compression points or sharps edges, by providing padding/cushions to surfaces creating contact stress points.
7. Educate employees regarding the importance of supporting the arms, shoulders and hands while operating controls.

Exiting Cab of Truck

Train employee on body mechanics of cab egress.

9. Turn body smoothly as you exit cab of vehicle, slide out of seat — do not jerk or twist suddenly.
10. Body and feet should face truck.
11. As you step out, maintain three points of contact use steps the entire way down.

12.Do not jump from the cab.

Healthy Habits

Get plenty of rest, drink plenty of fluids-64 ounces per day, maintain a healthy diet, maintain good posture, and remember to stretch throughout the day.

Stretching

These stretches may help reduce ergonomic hazards associated with solid waste collection operations.

1. Arm Lift

Proper Technique

A. While standing in a balanced position, raise your right arm and lower your left arm. While keeping arm straight, gently push your arms backwards and then forwards.
B. Do 5 times then switch,
C. Repeat 5 times,

Precautions

- Keep your head and neck balanced
- Use smooth and controlled movements.

2. Calf Stretch

Proper Technique

A. Position yourself with your arms braced against a waif or smooth surface of vehicle with one foot about 12 inches behind the other.
B. Slowly bend your front knee. Hold for 10 to 30 seconds.
C. Switch sides.
D. Repeat 5 times.

Precautions

- DO NOT lift your back heel off the floor.
- DO NOT arch your back.
- DO NOT bounce on your foot
- Use slow and controlled movements.

3. The Plank

Proper Technique

A. Straighten one leg in front of you with your heel on the floor, toe up. Bend your opposite leg, place your hands on your support leg and lean forward from your hips.
B. Hold for 10 seconds.
C. Repeat with other leg.

Precautions

- Lift your toe for a harder stretch
- Keep your balance.

Roll Off Ergonomic Checklist

Ergonomic Risk Factors

Awkward Posture	Forceful Exertions
Static Loading	Extended Reaches
Deviated Wrist/Hand/Arm Postures	Contact Stress

Entering a Cab of Truck

Train employees on body mechanics of cab access.

16. Body and feet should face truck.
17. As you step onto first step grab door with left hand.
18. Grab handle with right hand.
19. Maintain all three points of contact.
20. Turn body smoothly as you reach cab of vehicle and slide into seat- do not jerk or twist suddenly.

Sitting While Driving

Train employees on body mechanics associated with driving and how to adjust seat to provide proper body support while driving.

19. Check seat's suspension and position - adjust for your weight and height. **Your** body should feel supported by the seat. Adjust seat forward or backward, up or down to fit your body.
20. Sit up properly - make sure your entire back makes contact with the seat.
21. Knees should ***be*** slightly bent and reach pedals easily.
22. Arms should be bent slightly — shoulders against back of seat.
23. Do not sit on wallet— remove from your pocket as it could compress nerves.
24. Remember, don't slouch. Keep proper posture throughout the day.

Review/assess current seating in vehicles to determine if repair or replacement may be needed. Let your supervisor know if your seat needs to be repaired.

Visibility

Mirrors/Cameras (Front, Sides, Rear)

1. Adjust mirrors and cameras to minimize turning your head to either side or peering forward.

2_ Let your supervisor know if you need additional mirrors or cameras.

Manually Tarping Containers

Train employees regarding body mechanics when tarping loads.

1. Maintain three points of contact.
2. Avoid over-reaching.

Using Driving/Operating Controls

8. Train employees to support their arms and hands by resting them on support surfaces.
9. Train employees on how to avoid contact stress, such a compression points or sharps edges, by providing padding/cushions to surfaces creating contact stress points.

Container Loading

Train employees regarding body mechanics when connecting container to truck.

Exiting Cab of Truck

Train employees on body mechanics of cab egress.

13.Tum body smoothly as you exit cab of vehicle, slide out of seat do not jerk or twist suddenly.
14. Body and feet should face truck.
15.As you step out, maintain three points of contact — use steps the entire way down.
16. Do not jump from the cab.

Healthy Habits

Get plenty of rest, drink plenty of fluids-64 ounces per day, maintain a healthy diet, maintain good posture, and remember to stretch throughout the day.

Stretches

These stretches may help reduce ergonomic hazards associated with solid waste collection operations.

1. Side Stretch

Proper Technique

A. Stand with your feet hip width apart. Stretch both arms over your head and place your hands on your head. Slowly bend to one side. Hold for 5 seconds.
B. Return to the stretching position.
C. Repeat 5 times.
D. Switch sides.

Precautions

- DO NOT twist your body.
- Use slow *and* controlled motions.
- Hold hand held weights down, not over your head.

2. Arm Lift

Proper Technique

A. While standing in a balanced position, raise your right arm and lower your left arm. While keeping arm straight, gently push your arms backwards and then forwards.
B. Do 5 times then switch.

C. Repeat 5 times.

Precautions

- Keep your head and neck balanced.
- Use smooth and controlled movements.

3. Calf Stretch

Proper Technique

A. Position yourself with your arms braced against a wall or smooth surface of truck with one foot about 12 inches behind the other.
B. Slowly bend your front knee. Hold for 10 to 30 seconds.
C. Switch sides.
D. Repeat 5 times.

Precautions

- DO NOT lift your back heel off the floor
- DO NOT arch your back
- DO NOT bounce on your foot
- Use slow and controlled movements.

Transfer Station Equipment Operator
Ergonomic Checklist

Ergonomic Risk Factors

Awkward Posture	Forceful Exertions
Static Loading	Extended Readies
Deviated Wrist/Hand/Arm Postures	Contact Stress

Entering a Cab of Equipment

Train employees on body mechanics of equipment access.

21. Body and feet should face equipment.
22. As you step onto first step-grab support with left hand.
23. Grab other support with right hand.
24. Maintain all three points of contact as you climb up.
25. Turn body smoothly as you reach cab of equipment and slide into seat- do not jerk or twist suddenly.

Sitting While Operating Equipment

Train employees on body mechanics associated with operating equipment and how to adjust seat to provide proper body support while operating equipment. 25. Check seat's suspension and position - adjust for your weight and height.

Your body should feel supported by the seat. Adjust seat forward or backward, up or down to fit your body.

26. Sit up properly - make sure your entire back makes contact with the seat.
27. Knees should be slightly bent and reach pedals easily.
28. Arms should be bent slightly — shoulders against back of seat.
29. Do not sit on wallet— remove from your pocket as it could compress nerves.
30. Remember, don't slouch. Keep proper posture throughout the day.

Review/assess current seating in vehicles to determine if repair or replacement may be needed. Let your supervisor know if your seat needs to be repaired.

Visibility

Mirrors/Cameras (Front, Sides, Rear)

1. Adjust mirrors and cameras to minimize turning your head to either side or peering forward.
2. Let your supervisor know if you need additional mirrors or cameras.

Using Driving/Operating Controls

10. Train employees to support their arms and hands by resting them on support surfaces.
11. Train employees *on* how to avoid contact stress, such a compression points or sharps edges, by providing padding/cushions to surfaces creating contact stress points.

Exiting Cab of Equipment

Train employees on body mechanics of cab egress.

17. Turn body smoothly as you exit cab of equipment, slide out of seat — do not jerk or twist suddenly.
18. Body and feet should face equipment.
19. As you step out maintain three points of contact — use steps and supports the entire way down.
20 Do not jump from the cab.

Healthy Habits

Get plenty of rest, drink plenty of fluids-64 ounces per day, maintain a healthy diet, maintain good posture, and remember to stretch throughout the day.

Stretching

These stretches may help reduce ergonomic hazards associated with solid waste collection operations.

1. Shoulder Girdle Stretch

Proper Technique

A. Place palm of one hand on the elbow of your other arm and pull it gently across your body. Hold for 5 seconds. Release.
B. Repeat 5 times for each side.

Precautions

- DO NOT move quickly.

2. Shoulder Shrugs

Proper Technique

A. Stand erect and raise shoulders up toward your ears. Hold for a moment and lower shoulders slowly with control to the neutral position.
B. Hand weights in each hand can be added for this exercise at home

Precautions

- Proper technique is more important than repetitions.
- DO NOT roll your shoulders.
- Lift straight up and lower slowly.

3. Cervical Turn and Tilt

Proper Technique

A. This stretch can be performed while sitting or standing
B. Simply turn your head from side to side and look down toward your shoulder.
C. Hold for 10-15 seconds.
D. Repeat 3 times.

Precautions

- DO NOT be aggressive. This stretch is to be done with passive and gentle movements.
- Breathe normally.

Front End Loader Ergonomic Checklist

Ergonomic Risk Factors

Awkward Posture	Forceful Exertions
Static Loading	Extended Readies
Deviated Wrist/Hand/Arm Postures	Contact Stress

Entering a Cab of Truck

Train employees on body mechanics of cab access.

26_ Body and feet should face truck.

27. As you step onto first step grab door with left hand.
28. Grab handle with right hand.
29. Maintain all three points of contact.
30. Turn body smoothly as you reach cab of vehicle and slide into seat - do not jerk or twist suddenly.

Sitting While Driving

Train employees on body mechanics associated with driving and how to adjust seat to provide proper body support while driving.

31. Check seat's suspension and position - adjust for your weight and height Your body should feel supported by the seat. Adjust seat forward or backward, up or down to fit your body.
32. Sit up properly - make sure your entire back makes contact with the seat.
33. Knees should be slightly bent and reach pedals easily.

34.Arms should be bent slightly — shoulders against back of seat.

35. Do not sit on wallet— remove from your pocket as it could compress nerves.
36. Remember, don't slouch. Keep proper posture throughout the day.

Review/assess current seating in vehicles to determine if repair or replacement may be needed. Let your supervisor know if your seat needs to be repaired.

Visibility

Mirrors/Cameras (Front, Sides, Rear)

1. Adjust mirrors and cameras to minimize turning your head to either side or peering forward.

2_ Let your supervisor know if you need additional mirrors or cameras.

Pushing and Pulling Containers

Train employees regarding body mechanics of manually moving FEL containers.

Stretch before pushing/pulling container. Your body can stiffen up between stops while driving.

12. Push the cart if at all possible; pull as a last resort.
13. Size up the required force to push the container.
14. Push with legs and keep your head up.
15. Keep close to the container as you push — keep head up.

Using Driving/Operating Controls —

12.Train employees to support their arms and hands by resting them on support surfaces.

13.Train employees on how to avoid contact stress, such as compression points or sharps edges, by providing padding/cushions to surfaces creating contact stress points.

Exiting Cab of Truck

Train employees on body mechanics of cab egress.

21.Turn body smoothly as you exit cab of vehicle, slide out of seat — do not jerk or twist suddenly.

22. Body and feet should face truck.

23.As you step out, maintain three points of contact — use steps the entire way down.

24. Do not jump from the cab.

Healthy Habits

Get plenty of rest, drink plenty of fluids-64 ounces per day, maintain a healthy diet, maintain good posture, and remember to stretch throughout the day.

Stretching

These stretches may help reduce ergonomic hazards associated with solid waste collection operations.

1. Shoulder Girdle Stretch

Proper Technique

A. Place palm of one hand on the elbow of your other arm and pull it gently across your body. Hold for 5 seconds. Release.
B. Repeat 5 times for each side.

Precautions

- DO NOT move *quickly.*

2. Shoulder Shrugs

Proper Technique

A. Stand erect and raise shoulders up toward your ears. Hold for a moment and lower shoulders slowly with control to the neutral position.
B. Hand weights in each hand can be added for this exercise.

Precautions

- Proper technique is more important than repetitions.
- DO NOT roll your shoulders.
- Lift straight up and lower slowly.

3. Cervical Turn and Tilt

Proper Technique

A. This stretch *can* be performed while sitting or standing.
B. Simply turn your head from side to side and look down toward your shoulder.
C. Hold for 10-15 seconds.
D. Repeat 3 times.

Precautions

- DO NOT be aggressive. This stretch is to be done with passive and gentle movements.
- Breathe normally.

MRF Sorters Ergonomic Checklist

Ergonomic Risk Factors

Awkward Posture	Forceful Exertions
Static Loading	Extended Reaches
Deviated Wrist/Hand/Arm Postures	Contact Stress

Sorting Line

Train employees on body mechanics of standing.

5. Have a relaxed posture.
6. Place feet shoulder width apart with weight distributed evenly on both feet.
7. Try to keep upper body upright, don't slouch.
8. Bend at the waist, not the shoulders.

Use shoe or boot cushion inserts to prevent fatigue. Use anti-fatigue mats for cushioning.

Stretch **throughout your shift.**

Reaching

Reach smoothly-don't jerk.
When lifting items, lift smoothly and pull with minimal force. Move feet-don't just twist body.

Alternate hands.
Use both hands for large objects.

Floor Sorting

Train employees on body mechanics of floor sorting_

1. When pulling or lifting items, keep the S-curve in the back by bending your knees and keeping your head as upright as possible.
2. Bend *at* the knees.
3. DO NOT round the back.

Use a tool to spread recyclables out.

Pushing and Pulling Containers

Train employees regarding body mechanics of manually pushing and pulling containers.

16. Stretch before pushing/pulling container. Your body can stiffen up.
17. Push the cart if at all possible; pull as a last resort.
18. Size.up the required force to push the container.
19. Push with legs and keep your head up.
20. Keep dose to the container as you push — keep head up.

Lifting, Lowering, Carrying Containers
Empty residue containers when they are half full, reducing the weight of the object handled.

Use wheeled carts where possible.

Train employees regarding body mechanics of manually lifting, lowering and carrying containers.

14. Stretch before lifting/lowering or carrying container. Your body can stiffen up,
15. Assess the size and weight of the object before lifting.
16. Do you need two people?
17, Get as close as possible to the load.
18. Face the load toes should be pointing at the object
19. Bend the knees to get into position to lift.
20. Grab object with both hands.
21. Ensure good hold.
22. Look straight ahead with head up.
23. With rear down begin the lift.
24. Keep the natural curve in your back as you lift.
25. Keep load in front of you.
26. Turn with your feet- not your body.
27. Do not twist.

If employees are wearing gloves, ensure good fit.

Healthy Habits
Get plenty of rest, drink plenty of fluids-64 ounces per day, maintain a healthy diet, maintain good posture, and remember to stretch throughout the day.

Stretching
These stretches may help reduce ergonomic hazards associated with solid waste collection operations.

1. Cat-Cow

Proper Technique

A. Stand with your feet hip-width apart. Place your hands on your thighs, look down at the floor and pull your stomach towards your back rounding your spine like a cat.
B. Hold for 5 seconds.
C. Slowly sag your back towards your stomach, pulling your shoulders back, putting a slight curve into the back and look forward.
D. Repeat both steps 15-20 times.

Precautions

- DO NOT move quickly.

- DO NOT over extend your neck.
- It may feel awkward at first, but after a while it will be easy.

2. Cervical Turn *and Tilt*

Proper Technique

A. This stretch can be performed while sitting or standing.
B. Simply turn your head from side to side and look down toward your shoulder.
C. Hold for 10-15 seconds.
D. Repeat 3 times.

Precautions

- DO NOT be aggressive. This stretch is to be done with passive and gentle movements.
- Breathe no rmally.

3. Arm Lift

Proper Technique

A. While standing in a balanced position, raise your right arm and lower your left arm. While keeping arm straight, gently push your arms backwards and then forwards.
B. Do 5 times then switch.
C. Repeat 5 times.

Precautions

- Keep your head and neck balanced.
- Use smooth and controlled movements.

Syracuse Haulers Waste Removal, Inc.

Exposure Incident Report

Employee _____ SS#_____

Job Title _____ Dept / Location _____

Date of Incident _____ Date Incident Reported _____

Time of Incident _____ Individual Reported To _____

Title _____ Date Exposure Control Officer Notified _____

Initial of Exposure Control Officer _____ Date _____

Description of Incident (including time of exposure, route, circumstances)

_____
_____
_____
_____
_____
_____

Identification of Source Individual _____

First Aid Given _____

Referral to Health Care Provider _____

Signature of Employee _____ Date _____

Signature of
Exposure Control Officer _____ Date _____

Syracuse Haulers Waste Removal

Solid Waste Transfer Facility Inspection Checklist

Facility Name:_____ ID#_____ Date:_____

Operator Name:_____ Today's Operating Hours: Open_____ Close_____

Weather conditions:_____

Is this facility being operated in compliance with the following regulations(Yes or No)? Place an X in the appropriate column to denote compliance status. Placing an X in the column indicates that a violation has been noted. Write N/A in columns that are not applicable to this facility.This checklist is not all inclusive of regulations to transfer facility operations.

Operation of a Facility

_____ Operated in compliance with approved plans and/or any terms/conditiond
_____ Facility not altered or modified
_____ Maintain access roads
_____ Limit acess
_____ Post instructions at entrance/handling areas
_____ Prevent activities interfering with operations
_____ Confined waste handling area
_____ Control scattered litter
_____ Control noise, dust and odor
_____ Control vectors
_____ Adequate operable equipment
_____ Timely processing/storage of solid waste; storage is enclosed

Shall Not Accept

_____ Hazardous waste
_____ NESHAP regulated asbestos
_____ Waste containing liquids
_____ Untreated Infectious waste
_____ Lead-acid batteries
_____ Yard waste,source seperated or mixed yard waste
_____ Waste Oil
_____ Excessive Putrescible
_____ Fixtures or debris containing lead based paint

_____ **Contingency plans for:**

_____ Unauthorized wastes
_____ Fire,explosions, and spills
_____ Equipment failure
_____ Transfer facility unavailable

_____ Adequate fire control
_____ Maintain daily logs
_____ Copy of approved plans, including contingency plan, available
_____ Operations conducted on proper surfaces

License

_____ Valid license

Print Name of Inspector Completing Form_____

Inspector's Signature_____ Date:_____

GLOSSARY – BLOODBORNE PATHOGENS

Below is a list of terms and their definitions, which are commonly used in discussions of bloodborne pathogens:

Blood means human blood, human blood components, and products made from human blood.

Bloodborne Pathogens means pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV).

Contaminated means the presence or the reasonably anticipated presence of blood or other potentially infectious materials on an item or surface.

Contaminated Sharps means any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, broken glass, broken capillary tubes, and exposed ends of dental wires.

Decontamination means the use of physical or chemical means to remove, inactivate, or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal.

Engineering Controls means controls (e.g., sharps disposal containers, self-sheathing needles, safer medical devices, such as sharps with engineered sharps injury protections and needleless systems) that isolate or remove the bloodborne pathogens hazard from the workplace.

Exposure Incident means a specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials that results from the performance of an employee's duties.

Handwashing Facilities means a facility providing an adequate supply of running potable water, soap and single use towels or hot air drying machines.

HBV means hepatitis B virus.

HIV means human immunodeficiency virus.

Occupational Exposure means reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.

Other Potentially Infectious Materials means (1) The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids; (2) Any unfixed tissue or organ (other than intact skin) from a human (living or dead); and (3) HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.

GLOSSARY – BLOODBORNE PATHOGENS

Parenteral means piercing mucous membranes or the skin barrier through such events as needlesticks, human bites, cuts, and abrasions.

Personal Protective Equipment is specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes (e.g., uniforms, pants, shirts or blouses) not intended to function as protection against a hazard are not considered to be personal protective equipment.

Regulated Waste means liquid or semi-liquid blood or other potentially infectious materials; contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed; items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or other potentially infectious materials.

Source Individual means any individual, living or dead, whose blood or other potentially infectious materials may be a source of occupational exposure to the employee. Examples include, but are not limited to, hospital and clinic patients; clients in institutions for the developmentally disabled; trauma victims; clients of drug and alcohol treatment facilities; residents of hospices and nursing homes; human remains; and individuals who donate or sell blood or blood components.

Sterilize means the use of a physical or chemical procedure to destroy all microbial life including highly resistant bacterial endospores.

Universal Precautions is an approach to infection control. According to the concept of Universal Precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens.

Work Practice Controls means controls that reduce the likelihood of exposure by altering the manner in which a task is performed (e.g., prohibiting recapping of needles by a two-handed technique).

SYRACUSE HAULERS "WORDS"

1. Delivery (DEL) – take a specific size container to a customer, sometimes by designated time frame. There is a charge for a delivery. *Many times a supervisor will be at the job site to "spot" the container. Spot means to show you where to place it.

2.D/R (Dump & Return) – go to the job site, sometimes by designated time frames, to pick up specific container with specific load (ie: trash, c&d, steel, etc…) Take container to dump at appropriate landfill, once again designated land fill by load type, after emptying return to customer. Majority of the time to the same spot it was located, unless told by dispatch or supervisor on site to respot in new location.

3. DRTY (Dump & Return to OUR Yard) - go to the job site, sometimes by designated time frames, to pick up specific container with specific load (ie: trash, c&d, steel, etc…) Take container to dump at appropriate landfill, once again designated land fill by load type, after emptying return to OUR yard OR Delivery to another job site determined by dispatcher.

4. S/O "Easy Way" – take a container the same size as the existing container to a job location. Place empty container at site (once again may need to be spotted by supervisor) Load the remaining FULL container, take and dump at designated landfill according to load. Once empty you will either delivery container to a customer or bring it back to OUR yard. This will be determined by dispatcher.

5. S/O "Hard Way" - take a container the same size as the existing container to a job location. Place empty container at site out of the way. Load the full existing container on to truck and also place on site out of the way. Reload empty container and place in "open" spot were full container was setting. Reload full container , take and dump at designated landfill according to load. Once empty you will either delivery container to a customer or bring it back to OUR yard. This will be determined by dispatcher.

6. Frozen Load – A load that will not come out of the container. It will have to be manually shovel, pick, etc… out. Ask Rocco if there will be a charge to the customer for a "dig-out"

7. Dig-out – see above

8. Any terminology related to a container please see attached sheet labeled;
   Container Numbering Identification System

Glossary of Terms

TRANSFER STATION

SYRACUSE HAULERS
REMOVAL INC.

Glossary of Terms

Approved Design Capacity	the average daily tonnage to be received at the solid waste management facility during the quarter in which the most waste is anticipated to be received, as approved by the department. For solid waste incinerators or refuse-derived fuel processing facilities, or pyrolysis facilities, approved design capacity means the annual rated throughput capacity of the unit or units for treatment of solid waste as approved by the department
Approved Design Volume	the maximum in-place volume of solid waste, including cover material, to be received at the solid waste management facility during its active life, as approved by the department
Asbestos Waste	friable solid waste that contains more than one percent asbestos by weight and can be crumbled, pulverized or reduced to powder, when dry, by hand pressure. Asbestos waste also includes any asbestos-containing solid waste that is collected in a pollution control device designed to remove asbestos
Ash Residue	all solid residue and any entrained liquids resulting from the combustion of solid waste or solid waste in combination with fossil fuel at a solid waste incinerator, including bottom ash, boiler ash, fly ash and the solid residue of any air pollution control device used at a solid waste incinerator
Authorized Representative	the individual responsible for all overall operation of a solid waste management facility or an operational unit of a facility, such as the plant manager, superintendent or individual of equivalent responsibility who has authority and knowledge to make and implement decisions regarding operating conditions at the facility
Baler	a machine used to compress recyclables into bundles to reduce volume. Balers are often used on newspaper, plastics, and corrugated cardboard
Baling	the compaction of solid waste (shredded or non-shredded) or plastic and metal recyclables (flattened or non-flattened) into small rectangular blocks or bales. Baled solid waste is placed in a landfill in a similar fashion as a cell, with cover surrounding a bale or group of bales. Baling recyclable materials makes them easier to handle and transport
Biodegradable Material	materials that can be broken down by microorganisms into simple, stable compounds such as carbon dioxide and water. Most organic materials, such as food scraps and paper, are biodegradable
Buffer Zone	neutral area serving as a protective barrier separating two conflicting forces. An area that minimizes the impact of pollutants on the environment or public welfare. For example, a buffer zone is established between a composting facility and neighboring residents to minimize odor problems
Bulky Items	large items of refuse including, but not limited to, appliances, furniture, large auto parts, nonhazardous construction and demolition materials, trees, branches, and stumps that cannot be handled by normal solid waste processing, collection, or disposal methods
Buy-Back Center	a facility to which individuals bring recyclables in exchange for payment

Glossary of Terms

Clamshell Bucket	a bucket attachment for a crane. The bucket has two sides that come together when picking up material
Collection	the process of picking up wastes from residences, businesses, or a collection point, loading them into a vehicle, and transporting them to a processing, transfer, or disposal site
Combustibles	burnable materials in the waste stream, including paper, plastics, wood, and food and garden wastes
Combustion	the burning of materials in an incinerator
Commercial Waste	waste materials originating in wholesale, retail, institutional, or service establishments, such as office buildings, stores, markets, theaters, hotels, and warehouses.
Commingled Recyclables	two or more recyclables materials collected together (i.e. not separated) In some types of collection programs, recyclable materials may be commingled, as long as they do not contaminate each other. For example, glass and plastic can be commingled, but glass and oil cannot
Communal Collection	a system of collection in which individuals bring their waste directly to a central point, from which it is collected
Compaction Station	a type of transfer station in which waste is compacted as an intermediate step before sending it to a disposal site
Compactor Vehicle	a collection vehicle using high-power mechanical or hydraulic equipment to reduce the volume of solid waste
Composting Facility	a solid waste management facility used to provide aerobic, thermophilic decomposition of solid organic constituents of solid waste to produce a stable, humus-like material
Construction & Demolition Waste	materials such as bricks, concrete, drywall, lumber, miscellaneous metal parts and sheets, packaging materials, etc. resulting from the construction, remodeling, repair, or demolition of buildings, bridges, pavements, and other structures
Container	any portable device in which a material is stored, transported, treated, disposed of or otherwise handled
Contingency Plan	a document describing organized, planned and technically coordinated and financially feasible courses of action to be followed in case of emergency or other special conditions including, but not limited to, equipment breakdowns, fire, odor, vectors, explosion, spills, receipt or release of hazardous or toxic materials or substances, groundwater, surface water or air contamination attributable to a solid waste management facility and other incidents that could threaten human health or safety or the environment
Converter	a company that creates a more usable material from a raw product

Glossary of Terms

Conveying Line	a conveyor belt assembly that is used in a facility such as a MRF or IPC, to move materials from the tipping floor/pit to other areas of the facility
Corrugated Paper	paper or cardboard having either a series of wrinkles or folds, or alternating ridges and grooves
Cullet	clean, usually color-sorted, crushed glass used to make new glass products
Curbside Collection	programs in which recyclable materials are collected at the curb, the edge of a sidewalk or in front of a residence or shop, often from special containers, and then taken to various processing facilities
Detinning	recovering tin from “tin” cans by a chemical process that makes the remaining steel more easily recycled
Direct Discharge Non-Compaction Station	a type of transfer station in which refuse goes directly from smaller collection vehicles into the larger transportation vehicles. This type of station has a waste storage capacity of less than one day.
Discharge	the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying or dumping of any solid waste, or solid waste constituent, including leachate, into or on any air, land or water
Disposal	the final handling of solid waste, following collection, processing, or incineration. Disposal most often means placement of wastes in a dump or a landfill
Diversion Rate	the amount of material being diverted for recycling, compared to the total amount that was previously disposed of
Domestic Sewage	water-carried human and animal wastes from residences, buildings, industrial establishments or other places, together with such groundwater infiltration and surface waste as may be present
Drop-off Collection	a method of collecting recyclable or compostable materials in which the materials are taken by individuals to collection sites, where they deposit the materials into designated containers
Drop-off Center	an area or facility for receiving compostables or recyclabes that are dropped off by waste generators
End-use Market	a company that purchases recycled materials for use as feedstock in manufacturing new products
Energy Recovery	Conversion of waste to energy, generally through the combustion of processed or raw refuse to produce steam

Glossary of Terms

Ferrous Metals	metals derived from iron. They can be removed from commingled materials using large magnets at separation facilities
Food Sludge	solid, semisolid, or liquid residue that is nonrecognizable but identifiable by analysis or is certified as solely a byproduct of plant, fruit, vegetable, or dairy processing (e.g. milk and cheese whey, brewery and winery waste, byproducts from canned, frozen, or preserved fruit and vegetable processing operations, etc.)
Garbage	putrescible solid waste including animal and vegetable waste resulting from the handling, storage, sale, preparation, cooking or serving of foods. Garbage originates primarily in home kitchens, stores, markets, restaurants and other places where food is stored, prepared or served
Gaylord Box	a heavy corrugated box (4 feet square) that is used as a dumpster for collecting wastes and other materials
Glassphalt	a mixture of asphalt that includes a small amount of finely crushed glass as an admixture
Hammermill	a type of crusher or shredder used to break materials up into smaller pieces
Hazardous Waste	waste material that exhibits a characteristic of hazardous waste as defined in RCRA (ignitability, corrosivity, reactivity, or toxicity) is listed specifically in RCRA 261.3 Subpart D, is a mixture of either, or is designated locally or by the state as hazardous or undesirable for handling as part of the municipal solid waste and would not have to be treated as regulated hazardous waste if not from a household
Heavy Metals	metals of high atomic weight and destiny, such as mercury, lead, and cadmium, that are toxic to living organisms
Household Medical Waste	household solid waste which, but for its point of generation, would be a regulated medical waste
Household Hazardous Waste	household waste which but for its point of generation, would be a hazardous waste, including pesticides, paints and some cleaning compounds that are toxic to living organisms and/or the environment
Household Waste	solid waste discarded from single or multiple dwellings, hotels, motels, campsites, public and private recreation areas, ranger stations and other residential sources

Glossary of Terms

Industrial Waste	materials discarded from industrial operations or derived from manufacturing processes. Such processes may include, but are not limited to the following: electric power generation; fertilizer/agricultural chemicals; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay and concrete products; textile manufacturing; transportation equipment; and water treatment. The forms of such wastes are exemplified by but not limited to: liquids such as acids, alkalis, caustics, leachate, petroleum (and its derivatives), and processes or treatment wastewaters; sludges which are semi-solid substances resulting from process or treatment operations or residues from storage or use of liquids; solidified chemicals, paints or pigments; and dredge spoil generated by manufacturing or industrial processes, foundry sand, and the end or by-products of incineration or other forms of combustion. This term does not include oil or gas drilling, production, and treatment wastes (such as brines, oil, and frac fluids); overburden, spoil, or tailings resulting from mining; or solution mining brine and insoluble component wastes.
Inorganic Waste	waste composed of matter other than plant or animal (i.e. contains no carbon, such as sand, dust, glass, and many synthetics)
Institutional Waste	waste materials originating in schools, hospitals, prisons, research institutions, and other public buildings
Integrated Solid Waste Management	a practice using several alternative waste management techniques to manage and dispose of specific components of the municipal solid waste stream. Waste management alternatives include source reduction, recycling, composting, energy recovery, and landfilling.
Intermediate Processing Center (IPC)	usually refers to the type of materials recovery facility (MRF) that processes residentially collected mixed recyclables into new products available for markets; often used interchangeably with MRF
Itinerant Waste Buyer	a person who moves around the streets buying (or bartering for) reusable and recyclable materials
Knuckleboom Crane	a crane with a bending or pivot point in the boom, which enables it to reach over a longer horizontal distance
Land Clearing Debris	vegetative matter, soil and rock resulting from activities such as land clearing and grubbing, utility line maintenance or seasonal or storm-related cleanup such as trees, stumps, brush and leaves and including wood chips generated from these materials. Land clearing debris does not include yard waste which has been collected at the curbside
Landfilling	the final disposal of solid waste by placing it in a controlled fashion in a place intended to be permanent. This term is used for both controlled dumps and sanitary landfills
Loadout	the process of loading outbound transfer trailers with waste; or loading trucks with recyclables destined for the market

Glossary of Terms

Magnetic Separation	a system to remove ferrous metals from other materials in a mixed municipal waste stream. Magnets are used to collect the ferrous metals
Materials Recovery	obtaining materials that can be reused or recycled
Materials Recovery Facility (MRF)	a facility for separating commingled recyclables by manual or mechanical means. Some MRFs are designed to separate recyclables from mixed MSW. MRFs then bale and market the recovered materials
Mechanical Separation	the separation of waste into components using mechanical means, such as cyclones, trammels, and screens
Metal Salvage Facility	a facility that separates for recycling or reuse various types of metals from other types of metals or from equipment, appliances, and fixtures
Mixed Solid Waste	unsorted combinations of putrescible and nonputrescible waste materials discarded into the waste stream
Municipal Solid Waste (MSW)	MSW means household waste, commercial solid waste, nonhazardous sludge, conditionally exempt small quantity hazardous waste, and industrial solid waste
MSWM	municipal solid waste management = the planning & implementation of systems to handle MSW
Mulch	ground up or mixed yard trimmings placed around plants to prevent evaporation of moisture and freezing of roots and to nourish the soil
Night Soil	human excreta
Operator	also known as “facility operator,” this is the person responsible for the overall operation of a solid waste management facility or a part of a facility with the authority and knowledge to make and implement decisions, or whose actions or failure to act may result in noncompliance with the requirements of this Part or the department-approved operating conditions at the facility or on the property on which the facility is located
Organic Waste	technically, waste containing carbon, including paper, plastics, wood, food wastes, and yard wastes. In practice in MSWM, the term is often used in a more restricted sense to mean material that is more directly derived from plant or animal sources, and which can generally be decomposed by microorganisms
Pathogens	disease-causing agents, especially microorganisms such as bacteria, viruses, and fungi

Glossary of Terms

Permitee	the person who has received a permit
Platform/Pit Noncompaction Station	a type of transfer station that has a waste storage capacity of several days or more. While the waste is in temporary storage, recyclable materials may be removed
Post-Closure Care	a procedure of maintaining the environmental controls and appearance of a landfill after it has ceased to accept waste
Post-Consumer Materials	materials that a consumer has finished using, which the consumer may sell, give away, or discards as wastes
Post-Consumer Recycling	the reuse of materials generated from residential and commercial waste, excluding recycling of material from industrial processes that has not reached the consumer, such as glass broken in the manufacturing process
Precycling	the decision-making process consumers use to judge a purchase based on its waste implications. Criteria include whether a product is reusable, durable, and repairable; made from renewable or nonrenewable resources; over-packaged; or in a reusable container
Primary Material	a commercial material produced from virgin materials used for manufacturing basic products. Examples include wood pulp, iron ore, and silica sand
Processing	preparing MSW materials for subsequent use or management, using processes such as baling, magnetic separation, crushing, and shredding. The term is also sometimes used to mean separation of recyclables from mixed MSW
Producer Responsibility	a system in which a producer of products or services takes responsibility for the waste that results from the products or services marketed, by reducing materials used in production, making repairable or recyclable goods, and/or reducing packaging
Putrescible	the tendency of organic matter to decompose with the formation of malodorous byproducts. For the purpose of this Part, wood is not considered to be putrescible
Putrescible Waste	solid waste that contains organic matter capable of being decomposed by microorganisms and of such a character and proportion as to be capable of attracting or providing food for disease vectors
Queuing Distance	the space provided for incoming trucks to wait in line
Recover	any act or process by which recyclabes or reusables are separated from the solid waste stream

Glossary of Terms

Recyclable	solid waste that exhibits the potential to be used repeatedly, such as paper, glass, aluminum, corrugated cardboard, and plastic containers
Recyclables Handling & Recovery Facility	a solid waste processing facility, other than collection and transfer vehicles, at which nonputrescible recyclables are separated from the solid waste stream or at which previously separated nonputrescible recyclables are processed.
Recycling	the process by which materials otherwise destined for disposal are collected, reprocessed, or remanufactured, and are reused
Refuse	anything putrescible or nonputrescible that is discarded or rejected as useless or worthless, also called solid waste
Residential Waste	waste generated in single- and multiple-family homes
Residue	the materials remaining after processing, incineration, composting, or recycling. Residues are usually disposed of in landfills
Resource Recovery	a term describing the extraction and use of materials and energy from the waste stream. The term is sometimes used synonymously with energy recovery
Resource Recovery Facility	a combination of structures, machinery or devices utilized to separate, process, modify, convert, treat or prepare collected solid waste so that component materials or substances or recoverable resources may be recovered or used as a raw material or energy source
Reuse	the use of a product more than once in its same form for the same purpose; e.g. a soft drink bottle is reused when it is returned to the bottling company for refilling
Roll-Off Container	a large waste container that fits onto a tractor trailer that can be dropped off and picked up hydraulically
Rubbish	a general term for solid waste. Sometimes used to exclude food wastes and ashes
Salvage Area	a controlled, segregated area at a solid waste management facility where the facility owner or operator authorizes salvaging
Salvaging	at landfills or material recovery facilities, salvaging is the controlled separation of recyclable and reusable materials. Controlled means that the separation is monitored by operators.
Secondary Material	a material recovered from post-consumer wastes for use in place of a primary material in manufacturing a product

Glossary of Terms

Set-Out Container	a box or bucket used for residential waste that is placed outside for collection
Scavenging	at a landfill or material recovery facility, scavenging is the uncontrolled separation of recyclable and reusable materials. Uncontrolled means that the operator does not monitor the removal of materials, and in many cases prohibits it. Material scavenging of recyclables may also occur at the curb or at drop-off centers.
Scavenger	one who illegally removes materials at any point in the solid waste management system
Scrap	discarded or rejected industrial waste material often suitable for recycling
Scrap Metal Processor	a facility that processes only scrap metal materials destined for recycling
Secondary Material	a material that is used in place of a primary or raw material in manufacturing a product
Shredder	a mechanical device used to break waste materials into smaller pieces by tearing and impact action. Shredding solid waste is done to minimize its volume or make it more readily combustible
Solid Waste	any garbage, or refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved materials in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges that are point sources subject to permit or source, special nuclear, or by-product materials.
Solid Waste Management Facility	any facility employed beyond the initial solid waste collection process and managing solid waste, including but not limited to: storage areas or facilities; transfer stations; rail-haul or barge-haul facilities; landfills; disposal facilities; solid waste incinerators; refuse-derived fuel processing facilities; pyrolysis facilities; C&D debris processing facilities; land application facilities; composting facilities; surface impoundments; used oil storage, reprocessing, and rerefining facilities; recyclables handling and recovery facilities; waste tire storage facilities; and regulated medical waste treatment facilities. The term includes all structures, appurtenances, and improvements on the land used for the management or disposal of solid waste
Source Reduction	the design, manufacture, acquisition, and reuse of materials so as to minimize the quantity and/or toxicity of waste produced. Source reduction prevents waste either by redesigning products or by otherwise changing societal patterns of consumption, use, and waste generation.
Source Separation	the segregation of specific materials at the point of generation for separate collection. Residential generators source separate recyclables as part of curbside recycling programs
Source-Separated	recyclables discarded and collected in containers separate from non-recyclable waste. Bins or blue bags are used to separate residential recyclables; separate boxes or containers are used for commercial/industrial discards (e.g., corrugated cardboard packaging, wood pallets). Source-separated wastes usually are delivered to a material recover facility

Glossary of Terms

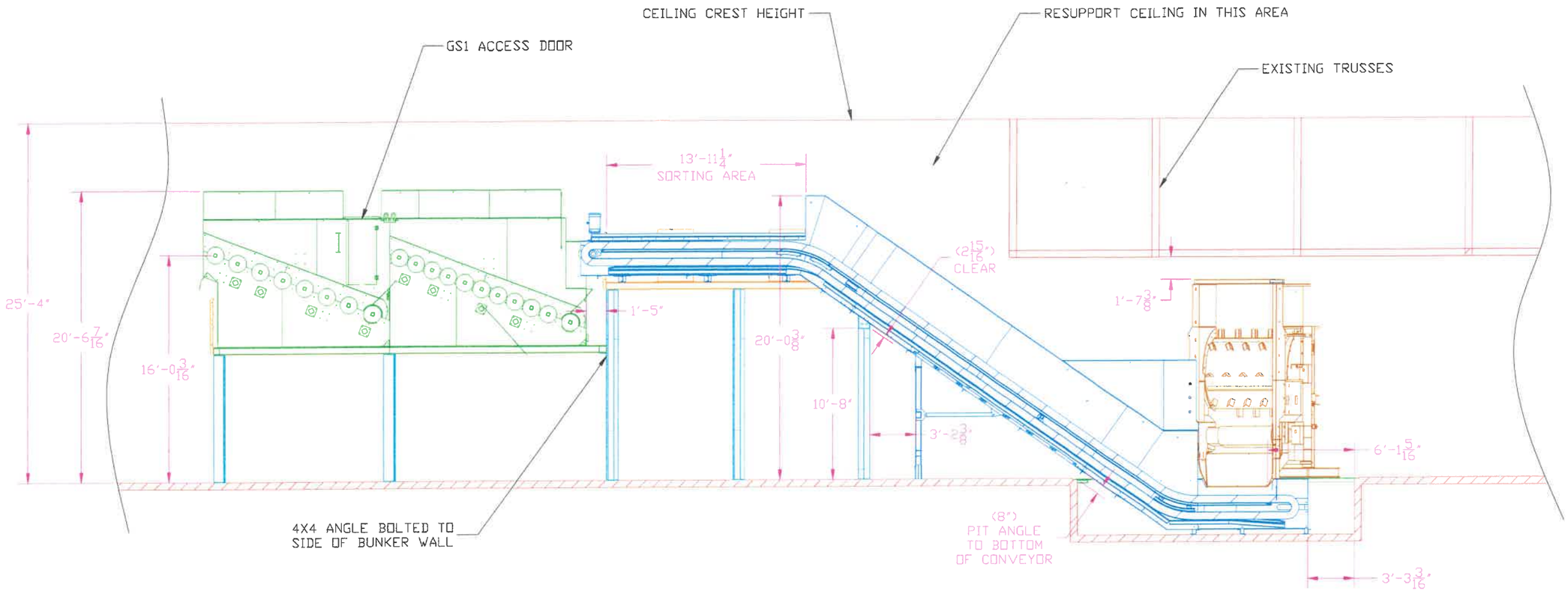
Special Waste	refers to items that require special or separate handling, such as household hazardous wastes, bulky wastes, tires, and used oil, medical waste, construction and demolition debris, war and earthquake debris, wet batteries, sewage sludge, human excreta, slaughterhouse waste, and industrial waste.
Start-Up	that period of time (not to exceed 180 days) starting with the initial receipt of solid waste, refuse-derived fuel, or regulated medical waste at the facility, in which a solid waste incinerator, refuse-derived fuel processing facility, pyrolysis unit or regulated medical waste treatment and destruction facility is breaking in and adjusting equipment before long term operation. This period provides for equipment adjustment and owner acceptance testing
Tipping Fee	a fee charged for the unloading or dumping of material at a landfill, transfer station, recycling center, or waste-to-energy facility, usually stated in dollars per ton (sometimes called a disposal or service fee)
Tipping Floor/Pit	unloading area for vehicles that are delivering municipal solid waste to a transfer station or municipal waste combustion facility. The floor of the transfer station where waste is unloaded (tipped) for inspection, sorting, and loading.
Tons Per Day (TPD)	the most common unit for measurement for waste generation, transfer and disposal. Accurate TPD measurements require a scale; conversion from “cubic yards” without a scale involves estimated density factors
Transfer	the act of moving waste from a collection vehicle to a larger transport vehicle
Transfer Point	a designated point, often at the edge of a neighborhood, where small collection vehicles transfer waste to larger vehicles for transport to disposal sites
Transfer Station	a permanent facility where waste materials are taken from smaller collection vehicles and placed in larger vehicles for transport, including truck trailers, railroad cars, or barges. Recycling and some processing may also take place at transfer stations. This is a solid waste management facility other than a recyclables handling and recovery facility, used oil facility, or a construction and demolition debris processing facility, where solid waste is received for the purpose of subsequent transfer to another solid waste management facility for further processing, treating, transfer or disposal. Transfer of solid waste from vehicle to vehicle for the purpose of consolidating loads, as part of the initial collection process, is not considered a transfer station provided the transfer activity occurs along the collection route where the point of transfer changes from day to day. Transfer of leakproof, closed containers of solid waste from vehicle to vehicle, including truck to train, for the purpose of consolidating loads for shipment to an authorized disposal or treatment facility, is not considered a transfer station provided: the contents of each container remain in their closed container during the transfer between vehicles; storage remains incidental to transport at the location where the containers are consolidated; containers are acceptable to the department and maintained in a safe, nuisance-free (e.g., dust, odor, noise, etc.) manner; and, the transfer location is under the ownership or control of the transporter
Transporter	a person engaged in the off-site transportation of solid waste by air, rail, highway or water
Trommel	a perforated, rotating, horizontal cylinder that may be used in resource recovery facilities to break open trash bags, remove glass in large enough pieces for easy recovery, and remove small abrasive items such as stones and dirt. Trommels have also been used to remove steel cans from incinerator residue

Glossary of Terms

Tub Grinder	machine used to grind or chip wood for mulching, composting or size reduction
Unadulterated Wood	wood that is not painted or treated with chemicals such as glues, preservatives or adhesives. Any painted wood or chemically treated wood (e.g. pressure treated wood, treated railroad ties) or wood containing glues or adhesives (e.g. plywood, particle board) is considered adulterated wood
Vector	a carrier that is capable of transmitting a disease causing pathogen from one organism to another including, but not limited to, flies and other insects, rodents, birds and vermin
Virgin Materials	any basic material for industrial processes that has not previously been used, for example, wood-pulp trees, iron ore, crude oil, bauxite
Waste Collector	a person employed by a local authority or a private firm to collect waste from residences, businesses, and community bins
Waste Dealer	a middleman who buys recyclable materials from waste generators and itinerant buyers and sells them, after sorting and some processing, to wholesale brokers or recycling industries
Waste Diversion	the process of separating certain materials at the transfer station to avoid the cost of hauling and the tipping fee at the landfill
Waste Picker	a person who picks out recyclables from mixed waste wherever it may be temporarily accessible or disposed of
Waste Reduction	waste reduction is a broad term encompassing all waste management methods – source reduction, recycling, composting – that result in reduction of waste going to a combustion facility or landfill. This ranges from legislation and product design to local programs designed to keep recyclables and compostables out of the final waste stream
Waste Screening	inspecting incoming wastes to preclude transport of hazardous wastes, dangerous substances, or materials that are incompatible with transfer station or landfill operations
Waste Stream	a term describing the total flow of solid waste from homes, businesses, institutions and manufacturing plants that must be recycled, burned, or disposed of in landfills; or any segment thereof, such as the “residential waste stream” or the “recyclable waste stream”
Waste Tire	any solid waste which consists of whole tires or portions of tires. Tire casings separated for retreading and tires with sufficient tread for resale shall be included under this term, however, crumb rubber shall not be considered a solid waste

Glossary of Terms

Waste-to-Energy System (WTE)	a method of converting MSW into a usable form of energy, usually through combustion. WTE plants include incinerators that produce steam for district heating or industrial use, or that generate electricity; they also include facilities that convert landfill gas to electricity
White Goods	large household appliances such as refrigerators, stoves, air conditioners, and washing machines



SECTION B-B

NOTE: ALL DIMENSIONS REFERENCE AND SUBJECT TO CHANGE WITH NOTIFICATION. PER DESIGN OR CUSTOMER APPROVAL.

Green Machine Sales, LLC
5 Gigante Drive Hampstead, NH 03841
Tel: (603) 329-7337 Fax (603) 329-7458
Designer's & Manufacturer's of Recycling Solid Waste Systems

CUSTOMER: SYRACUSE HAULERS

TITLE: SYRACUSE, NY
DRY WASTE SYSTEM
APPROVAL DRAWINGS

SIZE	DRAWN BY	DWG. NO.	REV
D	ADG	174386-APP	00

SCALE: 1/4"=1'-0" DATE: 7/26/19 SHEET: 4 OF 8

EMERGENCY RESPONSE AND MSDS SERVICES

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That's why Safety-Kleen, working with Infotrac, is delivering a smarter, more economical and accurate solution for managing your MSDS needs. The Safety-Kleen MSDS Service delivers a comprehensive solution to help satisfy the requirements of OSHA's Right-To-Know (CFR 29 1910.120 and 1910.1200) regulations.

Subscription service includes:

- Immediate access to more than 5 million MSDS documents
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- Access to 1st Response professionals to aid in neutralizing and disposing of your leak or spill
- Doctors and toxicologists available for addressing chemical exposures
- Turnkey awareness program that includes phone stickers, wallet cards, posters, and external signage
- Confidence that comes from the most trusted name in responsible cleaning and environmental services

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The Safety-Kleen Emergency Response (ER) Service is the fastest, most efficient solution for emergency preparedness.

Safety-Kleen's subscription ER service provides you with instant access to professionally-trained emergency response teams. These licensed, insured and bonded professionals are ready to respond to your chemical emergency 24 hours a day, 7 days a week.

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- One-Year unlimited emergency response toll free calls
- One-Year guaranteed pricing at reduced rates
- On-site management
- Detailed written incident reports
- Program awareness materials including phone stickers, wallet cards, wall poster, and external signage
- Authorized use of Safety-Kleen ER 24-hour Emergency Response phone number for all federal, state and local contingency plans
- Immediate response by having credit and authorization documents on file
- Assistance with regulatory agency reporting and documentation

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REGULATORY COMPLIANCE.
YOU HAVE TO DO IT. BUT YOU DON'T HAVE TO DO IT ALONE.

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- OSHA 300 Log Training and Review
- Hazard Communication Program
- Respiratory Protection
- Personal Protective Equipment (PPE)
- Emergency Response Planning
- Powered Industrial Trucks (Forklift)
- MSDS Review & Analysis
- Bloodborne Pathogens (BBP)
- Lockout/Tagout
- Confined Space Entry
- Industrial Hygiene Site Evaluation & Recommendations
- Hearing Conservation
- Hoist Inspection Program Development
- Hot Work (Welding)
- Accident Prevention Programs
- Fire Extinguishers
- Ergonomics

Environmental Compliance Training

- Hazardous Waste Management
- Written Waste Management Program
- RCRA Training
- Generator License Application & Reports
- Contingency Planning
- Recordkeeping Reviews
- SARA Tier II Assessment and Reporting
- Toxic Release Inventory – Form R/A Assessment & Reporting
- Toxic Pollution Prevention Planning
- Hazardous Materials Business Plans (CA Only)
- Spill Prevention Control and Countermeasures Assessment
- Agency Spill Reporting
- Air Emission Reports and Permitting (Regulatory Assessments – Including NESHAP Subpart A, KK and NSPS for Subpart QQ)
- Wastewater Discharge Permits and Plans
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safety-kleen

INCIDENT REPORT

Syracuse Haulers Waste Removal Inc.

When did the incident occur? Date _____ Time _____

Where did the incident occur?

How did the incident occur?

Who reported the crisis?

Under whose control and what regulatory authorities are responsible or affiliated with the crisis?

Describe the incident briefly.

Were there any chemicals/oils or raw materials involved?

Were there any reportable injuries, spills, or public notifications?

What course of action was taken?

Initially:

Follow-Up:

INCIDENT REPORT

(continued)

Syracuse Haulers Waste Removal Inc.

What actions are being taken to prevent re-occurrences of an incident of this type? (Attach additional sheets, if necessary.)

I hereby affirm the aforementioned is true to the best of my knowledge.

_____ _____ _____

Signature ***Title*** ***Date***

_____ _____

PRINT NAME **TELEPHONE NUMBER**

6223 Thompson Rd, Suite 1000, Syracuse, NY 13206 • Ph: 315/426-6771 • Fax: 315/426-6770 • www.syracusehaulers.com

LEED Notification Form

Company:

Project Name:

Project Location:

Start Date of Project:

Designated On- Site Contact(s):

Phone#:
Fax#:
Cell#:
Job Trailer#:

Type of Project (New Construction, Renovation, Addition, Other) (Circle One)

Syracuse Haulers on- Site Rep:

Initial On-Site Meeting

Date: Time: On- Site Contact:

Delivery Date:

Notes:

SYRACUSE HAULERS
WASTE REMOVAL, INC.

6223 Thompson Rd, Suite 1000, Syracuse, NY 13206 • Ph: 315/426-6771 • Fax: 315/426-6770 • www.syracusehaulers.com

Drivers Leed Policy

- Drivers are required to attend LEED identification training to educate them on what to look for at the job site for acceptable / unacceptable materials in the container. All drivers are equipped with cell phones and contact information on- site to alert contractor(s) if there is a contaminated load that needs to be addressed.

- Each project has notes attached to the dispatch ticket to notify the driver what type of material we are hauling and where the container is to be hauled to. (see attached dispatch ticket)

- Drivers inspect each container prior to pulling the container on the truck to verify the load. Containers that have unacceptable material such as solid waste are left on site and the customer is notified to remove the material from the container.

- Driver entering our Separation facility notify the Operations mgr, if the incoming load and where it is from. Operations inspect the each load coming in during the tipping process to check for any unacceptable material.

- Load is dumped on the tipping floor and separated by commodity into separate concrete bunkers. Loads are tracked by volume and % of load is measured by our trained staff and recorded on the customers Waste Management Plan and sent out weekly.

- Containers are labeled on- site to ensure the right material is loaded into each container. Drivers are required to make sure the signs area visible to the contractors after swapping out or delivering a container.

- Operations manager will meet with drivers prior to starting each project to familiarize them with the location of all the containers, the level of compliance for each project and the contacts on- site.

- "Tailgate Talks" are held on-site with Operations and drivers during the project if any changes are made in the project, i.e. location of containers during build out, additional items being added to the Waste Management Plan, specific items that will need special service during certain phases of the project (drywall).

SYRACUSE HAULERS
WASTE REMOVAL, INC.

6223 Thompson Rd, Suite 1000, Syracuse, NY 13206 • Ph: 315/426-6771 • Fax: 315/426-6770 • www.syracusehaulers.com

Construction Waste Management Plan

Company:
Project Name:
Project Location:
Start Date:
Designated Site Coordinator:

Construction Waste Management Goals:

- Target% of Recovery from Project-
- Divert waste from the construction processes from landfill/ incineration to alternative recycling opportunities.

On- Site Communication Plan:

- All containers on-site will be clearly label as to the acceptable contents by Syracuse Haulers.
- Signs will be posted next to each open top container inside the designated recycle area as to the material that is to be deposited inside container. Drivers will maintain the signs and report during each switch out of containers.
- Syracuse Haulers will review with all contractors on- site a lay out of the containers during initial “Tailgate Talks”.
- Any changes / additions to the plan will be communicated with all contractors involved. Copies of meetings will be available for those not able to attend.

Construction Waste Management Control

- On a weekly basis, Syracuse Haulers will send over a copy of the Waste Management Plan for the previous weeks hauls. Details to include the weight ticket for each haul the type of material, the amount recovered by weight and the end-user destination.
- General Contractor will be responsible for obtaining and submitting proper documentation for LEED credit.
- All subcontractors involved on the project will be handled the same way, with copies of all information being forwarded to the General Contactor.
- Percentages of all salvaged material will be calculated on a weekly basis, and rolled up into a monthly total to be reviewed by General Contractor.
- Syracuse Haulers will be available to meet with General or subcontractors to review/ modify current plan if needed.

Projected Construction Waste, Disposal and Handling

Concrete:

- Disposal Method- 20 yd. open-top container , labeled “Concrete Only”
- Load container on- site, any foreign material will be removed prior to loading. If container is off site, a location will be established by GC to allow material to be piled until suitable container has been placed. Location of the pile will be determined by the GC.
- Acceptable materials: Demolished concrete, concrete with rebar, Masonry units with mortar, washout from trucks/ bins.

Asphalt:

- Disposal method- 20yd. container, labeled “Asphalt Only”
- Load container on-site, any foreign material will be removed prior to loading. If container is off site, a location will be established by GC to allow material to be piled until suitable container has been placed. Location of pile will be determined by the GC.
- Acceptable Materials- Asphalt only, no concrete or other materials.

Scrap Metal:

- Disposal Method- 30yd, open top container, labeled “Scrap Metal Only”
- Load container on- site, any foreign material will be removed prior to loading. If container is off site, a location will be established by GC to allow material to be piled until suitable container has been placed. Location of the pile will be determined by the GC.
- Acceptable Materials- Ferrous, Non- Ferrous metals. Rebar, steel studs, metal flashing, scrap hardware (nails, bolts, etc.)

Wood Products:

- Disposal method- 30yd. open top containers labeled “Wood Scrap Only”
- Load container on- site, any foreign material will be removed prior to loading. If container is off site, a location will be established by GC to allow material to be piled until suitable container has been placed. Location of the pile will be determined by the GC.
- Acceptable materials- All untreated wood, pallets, wood scraps, treated wood (except anything dipped in Kerosene)

Cardboard:

- Disposal Method- 30 yd open/ enclosed containers labeled- “Cardboard Only”
- Load container on-site. GC will need to provide an area to stockpile additional material if the container is off site.
- Acceptable material- clean cardboard from jobsite, move in from furniture, fixings, appliances, etc.

Plastic:

- Disposal method- 30yd. open top containers , 95 gallon carts
- Syracuse Haulers representative will meet with GC to determine type and amount of containers based on material.
- Load container on-site. GC will need to provide an area to stockpile additional material if the container is off site.
- Acceptable materials- Shrink wrap, plastic buckets (paint, drywall), water bottles, energy drinks, PVC (need to verify amount with Syracuse Haulers Rep.), Plastic packaging material.

Paper:

- Disposal method- opens top containers, 95 gal. carts
- Syracuse Haulers representative will meet with GC to determine type and amount of containers based on material
- Load container on-site. GC will need to provide an area to stockpile additional material if the container is off site.
- Acceptable material- office paper, plan sheets, copy material, packaging paper.
-

C&D Material (unrecoverable loads)

- Disposal method- 30 yd. open top containers labeled, “Unrecoverable C&D material”
- A list of material will be agreed upon between Syracuse Haulers and the GC. Lists will be copied and supplied by Syracuse haulers and posted on the container message board. GC will have the responsibility of manning the area to ensure that recoverable material is not being off loaded into the containers.
- Unacceptable material- any item that is deemed non- recoverable by the GC and Syracuse Haulers.

Solid Waste:

- Disposal method- small commercial containers 2- 8 yd in size, serviced on- call material will be hauled away in a self-contained packer (front/ real load) to the a certified landfill/ waste to energy facility.
- Containers will remain on-site during the project; material will be dumped inside the truck and hauled away. Level of service or additional containers will be addressed with the GC to minimize the potential for loads to be contaminated.
- Acceptable materials- food waste, waste from job trailers that does not have any potential to be recycled.

Drywall:

- Disposal method- 30/40 yd. open top/ enclosed container
- Load container on- site, any foreign material will be removed prior to loading. If container is off site, a location will be established by GC to allow material to be piled until suitable container has been placed. Location of the pile will be determined by the GC.
- Material will need to be dry or under cover.
- Acceptable materials- Sheet rock, gypsum board, green board, used sheet rock from renovations.

Ceiling Tile:

- Disposal method- 40 yd. enclosed container
- Load container on- site, any foreign material will be removed prior to loading. If container is off site, a location will be established by GC to allow material to be piled until suitable container has been placed. Location of the pile will be determined by the GC.
- Material will need to be hand stacked inside container.
- Acceptable material- drop ceiling panels (non -asbestos)

Electrical Wire:

- Disposal method- open top containers
- Load container on- site, any foreign material will be removed prior to loading. If container is off site, a location will be established by GC to allow material to be piled until suitable container has been placed. Location of the pile will be determined by the GC.
- Acceptable materials- to be determined by Syracuse Haulers and the GC for the project.

2024

HAULER PERMIT

For Use of OCRRA Facilities

Hauler Permit effective the 1st day of January, 2024 by Onondaga County Resource Recovery Agency, valid through December 31, 2024.

2024 Hauler Permit Issued to: **SYRACUSE HAULERS WASTE REMOVAL, INC.**
(Name of Hauler Firm)

OCRRA Customer No.(s) **0538 - HAU**

Permit Issued By: _____

MIKE MOKRZYCKI
Title: **DEPUTY DIRECTOR**

OSHA
Forms for Recording
Work-Related Injuries and Illnesses

U.S. Department of Labor
Occupational Safety and Health Administration

Dear Employer:

This booklet includes the forms needed for maintaining occupational injury and illness records for 2004. These new forms have changed in several important ways from the 2003 recordkeeping forms.

In the December 17, 2002 Federal Register (67 FR 77165-77170), OSHA announced its decision to add an occupational hearing loss column to OSHA's Form 300, Log of Work-Related Injuries and Illnesses. This forms package contains modified Forms 300 and 300A which incorporate the additional column M(5) Hearing Loss. Employers required to complete the injury and illness forms must begin to use these forms on January 1, 2004.

In response to public suggestions, OSHA also has made several changes to the forms package to make the recordkeeping materials clearer and easier to use:

- On Form 300, we've switched the positions of the day count columns. The days "away from work" column now comes before the days "on job transfer or restriction."
- We've clarified the formulas for calculating incidence rates.
- We've added new recording criteria for occupational hearing loss to the "Overview" section.
- On Form 300, we've made the column heading "Classify the Case" more prominent to make it clear that employers should mark only one selection among the four columns offered.

The Occupational Safety and Health Administration shares with you the goal of preventing injuries and illnesses in our nation's workplaces. Accurate injury and illness records will help us achieve that goal.

Occupational Safety and Health Administration
U.S. Department of Labor

What's Inside...

In this package, you'll find everything you need to complete OSHA's *Log* and the *Summary of Work-Related Injuries and Illnesses* for the next several years. On the following pages, you'll find:

- ***An Overview: Recording Work-Related Injuries and Illnesses —*** General instructions for filling out the forms in this package and definitions of terms you should use when you classify your cases as injuries or illnesses.

- ***How to Fill Out the Log —*** An example to guide you in filling out the *Log* properly.

- ***Log of Work-Related Injuries and Illnesses —*** Several pages of the *Log* (but you may make as many copies of the *Log* as you need.) Notice that the *Log* is separate from the *Summary*.

- ***Summary of Work-Related Injuries and Illnesses —*** Removable *Summary* pages for easy posting at the end of the year. Note that you post the *Summary* only, not the *Log*.

- ***Worksheet to Help You Fill Out the Summary —*** A worksheet for figuring the average number of employees who worked for your establishment and the total number of hours worked.

- ***OSHA's 301: Injury and Illness Incident Report —*** A copy of the OSHA 301 to provide details about the incident. You may make as many copies as you need or use an equivalent form.

Take a few minutes to review this package. If you have any questions, ***visit us online at www.osha. gov*** **or** ***call your local OSHA office.*** We'll be happy to help you.

An Overview: Recording Work-Related Injuries and Illnesses

The Occupational Safety and Health (OSH) Act of 1970 requires certain employers to prepare and maintain records of work-related injuries and illnesses. Use these definitions when you classify cases on the Log. OSHA's recordkeeping regulation (see 29 CFR Part 1904) provides more information about the definitions below.

The *Log of Work-Related Injuries and Illnesses* (Form 300) is used to classify work-related injuries and illnesses and to note the extent and severity of each case. When an incident occurs, use the *Log* to record specific details about what happened and how it happened. The *Summary* — a separate form (Form 300A) — shows the totals for the year in each category. At the end of the year, post the *Summary* in a visible location so that your employees are aware of the injuries and illnesses occurring in their workplace.

Employers must keep a *Log* for each establishment or site. If you have more than one establishment, you must keep a separate *Log* and *Summary* for each physical location that is expected to be in operation for one year or longer.

Note that your employees have the right to review your injury and illness records. For more information, see 29 Code of Federal Regulations Part 1904.35, *Employee Involvement*.

Cases listed on the *Log of Work-Related Injuries and Illnesses* are not necessarily eligible for workers' compensation or other insurance benefits. Listing a case on the *Log* does not mean that the employer or worker was at fault or that an OSHA standard was violated.

When is an injury or illness considered work-related?

An injury or illness is considered work-related if an event or exposure in the work environment caused or contributed to the condition or significantly aggravated a preexisting condition. Work-relatedness is presumed for injuries and illnesses resulting from events or exposures occurring in the workplace, unless an exception specifically applies. See 29 CFR Part 1904.5(b)(2) for the exceptions. The work environment includes the establishment and other locations where one or more employees are working or are present as a condition of their employment. See 29 CFR Part 1904.5(b)(1).

Which work-related injuries and illnesses should you record?

Record those work-related injuries and illnesses that result in:

- death,
- loss of consciousness,
- days away from work,
- restricted work activity or job transfer, or
- medical treatment beyond first aid.

You must also record work-related injuries and illnesses that are significant (as defined below) or meet any of the additional criteria listed below.

You must record any significant work-related injury or illness that is diagnosed by a physician or other licensed health care professional. You must record any work-related case involving cancer, chronic irreversible disease, a fractured or cracked bone, or a punctured eardrum. See 29 CFR 1904.7.

What are the additional criteria?

You must record the following conditions when they are work-related:

- any needlestick injury or cut from a sharp object that is contaminated with another person's blood or other potentially infectious material;
- any case requiring an employee to be medically removed under the requirements of an OSHA health standard;
- tuberculosis infection as evidenced by a positive skin test or diagnosis by a physician or other licensed health care professional after exposure to a known case of active tuberculosis.
- an employee's hearing test (audiogram) reveals 1) that the employee has experienced a Standard Threshold Shift (STS) in hearing in one or both ears (averaged at 2000, 3000, and 4000 Hz) and 2) the employee's total hearing level is 25 decibels (dB) or more above audiometric zero (also averaged at 2000, 3000, and 4000 Hz) in the same ear(s) as the STS.

What is medical treatment?

Medical treatment includes managing and caring for a patient for the purpose of combating disease or disorder. The following are not considered medical treatments and are NOT recordable:

- visits to a doctor or health care professional solely for observation or counseling;

What do you need to do?

1. Within 7 calendar days after you receive information about a case, decide if the case is recordable under the OSHA recordkeeping requirements.
2. Determine whether the incident is a new case or a recurrence of an existing one.
3. Establish whether the case was work-related.
4. If the case is recordable, decide which form you will fill out as the injury and illness incident report.

   You may use *OSHA's 301: Injury and Illness Incident Report* or an equivalent form. Some state workers compensation, insurance, or other reports may be acceptable substitutes, as long as they provide the same information as the OSHA 301.

How to work with the Log

1. Identify the employee involved unless it is a privacy concern case as described below.
2. Identify when and where the case occurred.
3. Describe the case, as specifically as you can.
4. Classify the seriousness of the case by recording the **most serious outcome** associated with the case, with column G (Death) being the most serious and column J (Other recordable cases) being the least serious.
5. Identify whether the case is an injury or illness. If the case is an injury, check the injury category. If the case is an illness, check the appropriate illness category.

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- diagnostic procedures, including administering prescription medications that are used solely for diagnostic purposes; and
- any procedure that can be labeled first aid. (*See below for more information about first aid.*)

What is first aid?

If the incident required only the following types of treatment, consider it first aid. Do NOT record the case if it involves only:

- using non-prescription medications at non-prescription strength;
- administering tetanus immunizations;
- cleaning, flushing, or soaking wounds on the skin surface;
- using wound coverings, such as bandages, BandAids™, gauze pads, etc., or using SteriStrips™ or butterfly bandages.
- using hot or cold therapy;
- using any totally non-rigid means of support, such as elastic bandages, wraps, non-rigid back belts, etc.;
- using temporary immobilization devices while transporting an accident victim (splints, slings, neck collars, or back boards).
- drilling a fingernail or toenail to relieve pressure, or draining fluids from blisters;
- using eye patches;
- using simple irrigation or a cotton swab to remove foreign bodies not embedded in or adhered to the eye;
- using irrigation, tweezers, cotton swab or other simple means to remove splinters or foreign material from areas other than the eye;
- using finger guards;
- using massages;
- drinking fluids to relieve heat stress

How do you decide if the case involved restricted work?

Restricted work activity occurs when, as the result of a work-related injury or illness, an employer or health care professional keeps, or recommends keeping, an employee from doing the routine functions of his or her job or from working the full workday that the employee would have been scheduled to work before the injury or illness occurred.

How do you count the number of days of restricted work activity or the number of days away from work?

Count the number of calendar days the employee was on restricted work activity or was away from work as a result of the recordable injury or illness. Do not count the day on which the injury or illness occurred in this number. Begin counting days from the day after the incident occurs. If a single injury or illness involved both days away from work and days of restricted work activity, enter the total number of days for each. You may stop counting days of restricted work activity or days away from work once the total of either or the combination of both reaches 180 days.

Under what circumstances should you NOT enter the employee's name on the OSHA Form 300?

You must consider the following types of injuries or illnesses to be privacy concern cases:

- an injury or illness to an intimate body part or to the reproductive system,
- an injury or illness resulting from a sexual assault,
- a mental illness,
- a case of HIV infection, hepatitis, or tuberculosis,
- a needlestick injury or cut from a sharp object that is contaminated with blood or other potentially infectious material (see 29 CFR Part 1904.8 for definition), and
- other illnesses, if the employee independently and voluntarily requests that his or her name not be entered on the log.

You must not enter the employee's name on the OSHA 300 *Log* for these cases. Instead, enter "privacy case" in the space normally used for the employee's name. You must keep a separate, confidential list of the case numbers and employee names for the establishment's privacy concern cases so that you can update the cases and provide information to the government if asked to do so.

If you have a reasonable basis to believe that information describing the privacy concern case may be personally identifiable even though the employee's name has been omitted, you may use discretion in describing the injury or illness on both the OSHA 300 and 301 forms. You must enter enough information to identify the cause of the incident and the general severity of the injury or illness, but you do not need to include details of an intimate or private nature.

What if the outcome changes after you record the case?

If the outcome or extent of an injury or illness changes after you have recorded the case, simply draw a line through the original entry or, if you wish, delete or white-out the original entry. Then write the new entry where it belongs. Remember, you need to record the most serious outcome for each case.

Classifying injuries

An injury is any wound or damage to the body resulting from an event in the work environment.

Examples: Cut, puncture, laceration, abrasion, fracture, bruise, contusion, chipped tooth, amputation, insect bite, electrocution, or a thermal, chemical, electrical, or radiation burn. Sprain and strain injuries to muscles, joints, and connective tissues are classified as injuries when they result from a slip, trip, fall or other similar accidents.

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Classifying illnesses

Skin diseases or disorders

Skin diseases or disorders are illnesses involving the worker's skin that are caused by work exposure to chemicals, plants, or other substances.

Examples: Contact dermatitis, eczema, or rash caused by primary irritants and sensitizers or poisonous plants; oil acne; friction blisters, chrome ulcers; inflammation of the skin.

Respiratory conditions

Respiratory conditions are illnesses associated with breathing hazardous biological agents, chemicals, dust, gases, vapors, or fumes at work.

Examples: Silicosis, asbestosis, pneumonitis, pharyngitis, rhinitis or acute congestion; farmer's lung, beryllium disease, tuberculosis, occupational asthma, reactive airways dysfunction syndrome (RADS), chronic obstructive pulmonary disease (COPD), hypersensitivity pneumonitis, toxic inhalation injury, such as metal fume fever, chronic obstructive bronchitis, and other pneumoconioses.

Poisoning

Poisoning includes disorders evidenced by abnormal concentrations of toxic substances in blood, other tissues, other bodily fluids, or the breath that are caused by the ingestion or absorption of toxic substances into the body.

Examples: Poisoning by lead, mercury, cadmium, arsenic, or other metals; poisoning by carbon monoxide, hydrogen sulfide, or other gases; poisoning by benzene, benzol, carbon tetrachloride, or other organic solvents; poisoning by insecticide sprays, such as parathion or lead arsenate; poisoning by other chemicals, such as formaldehyde.

Hearing Loss

Noise-induced hearing loss is defined for recordkeeping purposes as a change in hearing threshold relative to the baseline audiogram of an average of 10 dB or more in either ear at 2000, 3000 and 4000 hertz, and the employee's total hearing level is 25 decibels (dB) or more above audiometric zero (also averaged at 2000, 3000, and 4000 hertz) in the same ear(s).

All other illnesses

All other occupational illnesses.

Examples: Heatstroke, sunstroke, heat exhaustion, heat stress and other effects of environmental heat; freezing, frostbite, and other effects of exposure to low temperatures; decompression sickness; effects of ionizing radiation (isotopes, x-rays, radium); effects of nonionizing radiation (welding flash, ultra-violet rays, lasers); anthrax; bloodborne pathogenic diseases, such as AIDS, HIV, hepatitis B or hepatitis C; brucellosis; malignant or benign tumors; histoplasmosis; coccidioidomycosis.

When must you post the Summary?

You must post the *Summary* only — not the *Log* — by February 1 of the year following the year covered by the form and keep it posted until April 30 of that year.

How long must you keep the Log and Summary on file?

You must keep the *Log* and *Summary* for 5 years following the year to which they pertain.

Do you have to send these forms to OSHA at the end of the year?

No. You do not have to send the completed forms to OSHA unless specifically asked to do so.

How can we help you?

If you have a question about how to fill out the *Log*,

- ❑ ***visit us online at www.osha.gov*** or
- ❑ ***call your local OSHA office.***

Optional

Calculating Injury and Illness Incidence Rates

What is an incidence rate?

An incidence rate is the number of recordable injuries and illnesses occurring among a given number of full-time workers (usually 100 full-time workers) over a given period of time (usually one year). To evaluate your firm's injury and illness experience over time or to compare your firm's experience with that of your industry as a whole, you need to compute your incidence rate. Because a specific number of workers and a specific period of time are involved, these rates can help you identify problems in your workplace and/or progress you may have made in preventing work-related injuries and illnesses.

How do you calculate an incidence rate?

You can compute an occupational injury and illness incidence rate for all recordable cases or for cases that involved days away from work for your firm quickly and easily. The formula requires that you follow instructions in paragraph (a) below for the total recordable cases or those in paragraph (b) for cases that involved days away from work, *and* for both rates the instructions in paragraph (c).

(a) *To find out the total number of recordable injuries and illnesses that occurred during the year,* count the number of line entries on your OSHA Form 300, or refer to the OSHA Form 300A and sum the entries for columns (G), (H), (I), and (J).

(b) *To find out the number of injuries and illnesses that involved days away from work,* count the number of line entries on your OSHA Form 300 that received a check mark in column (H), or refer to the entry for column (H) on the OSHA Form 300A.

(c) *The number of hours all employees actually worked during the year*. Refer to OSHA Form 300A and optional worksheet to calculate this number.

You can compute the incidence rate for all recordable cases of injuries and illnesses using the following formula:

Total number of injuries and illnesses x *200,000* ÷ *Number of hours worked by all employees* = *Total recordable case rate*

(The 200,000 figure in the formula represents the number of hours 100 employees working 40 hours per week, 50 weeks per year would work, and provides the standard base for calculating incidence rates.)

You can compute the incidence rate for recordable cases involving days away from work, days of restricted work activity or job transfer (DART) using the following formula:

(Number of entries in column H + Number of entries in column I) x *200,000* ÷ *Number of hours worked by all employees* = *DART incidence rate*

You can use the same formula to calculate incidence rates for other variables such as cases involving restricted work activity (column (I) on Form 300A), cases involving skin disorders (column (M-2) on Form 300A), etc. Just substitute the appropriate total for these cases, from Form 300A, into the formula in place of the total number of injuries and illnesses.

What can I compare my incidence rate to?

The Bureau of Labor Statistics (BLS) conducts a survey of occupational injuries and illnesses each year and publishes incidence rate data by various classifications (e.g., by industry, by employer size, etc.). You can obtain these published data at www.bls.gov/iif or by calling a BLS Regional Office.

Worksheet

Total number of injuries and illnesses		200,000	÷	Number of hours worked by all employees	=	Total recordable case rate
	x					

Number of entries in Column H + Column I		200,000	÷	Number of hours worked by all employees	=	DART incidence rate
	x					

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How to Fill Out the Log

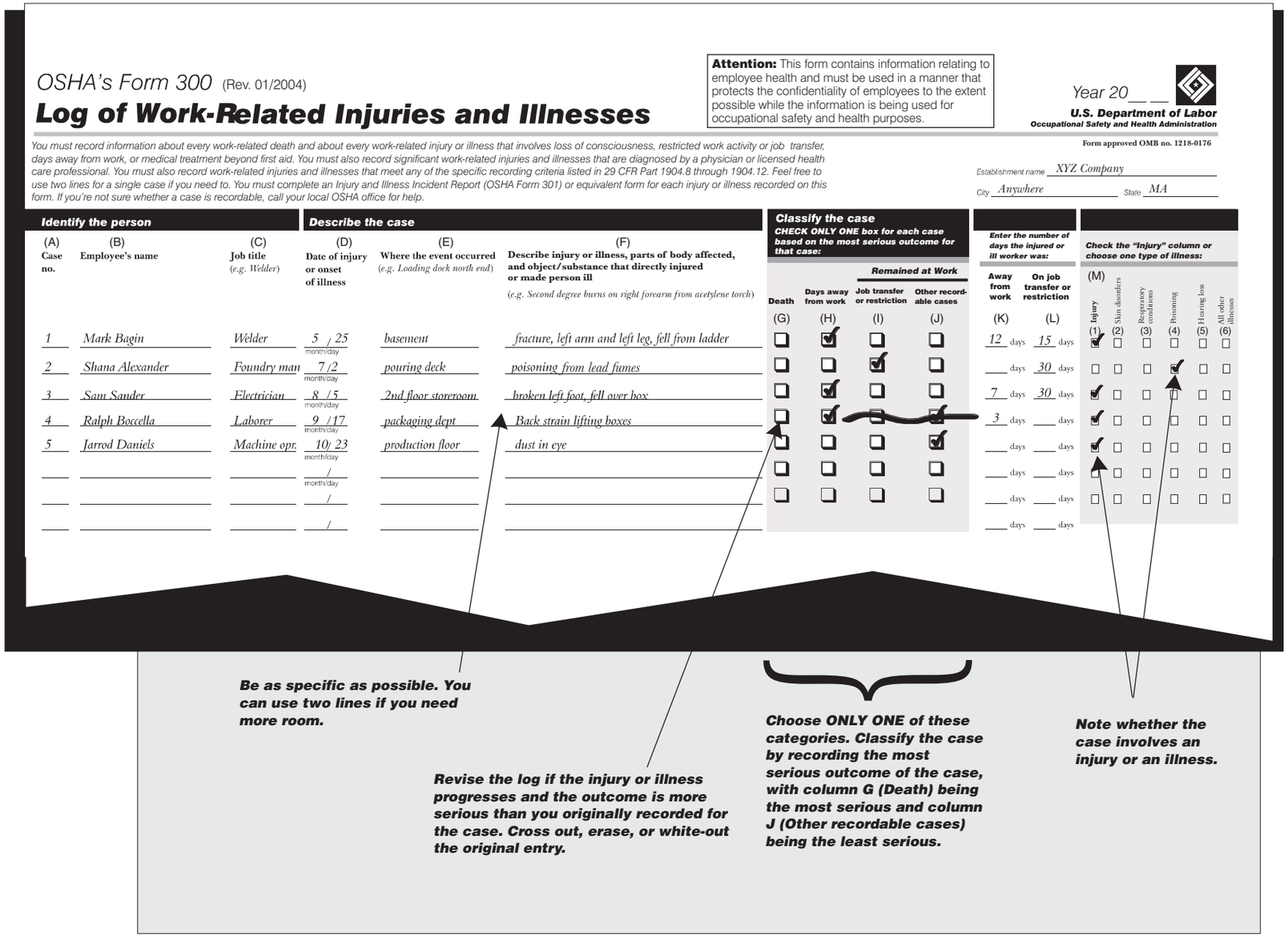
The *Log of Work-Related Injuries and Illnesses* is used to classify work-related injuries and illnesses and to note the extent and severity of each case. When an incident occurs, use the *Log* to record specific details about what happened and how it happened.

If your company has more than one establishment or site, you must keep separate records for each physical location that is expected to remain in operation for one year or longer.

We have given you several copies of the *Log* in this package. If you need more than we provided, you may photocopy and use as many as you need.

The *Summary* — a separate form — shows the work-related injury and illness totals for the year in each category. At the end of the year, count the number of incidents in each category and transfer the totals from the *Log* to the *Summary*. Then post the *Summary* in a visible location so that your employees are aware of injuries and illnesses occurring in their workplace.

You don't post the Log. You post only the Summary at the end of the year.



OSHA's Form 300 (Rev. 01/2004)

Log of Work-Related Injuries and Illnesses

Attention: This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health purposes.

Year 20__ __

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

You must record information about every work-related death and about every work-related injury or illness that involves loss of consciousness, restricted work activity or job transfer, days away from work, or medical treatment beyond first aid. You must also record significant work-related injuries and illnesses that are diagnosed by a physician or licensed health care professional. You must also record work-related injuries and illnesses that meet any of the specific recording criteria listed in 29 CFR Part 1904.8 through 1904.12. Feel free to use two lines for a single case if you need to. You must complete an Injury and Illness Incident Report (OSHA Form 301) or equivalent form for each injury or illness recorded on this form. If you're not sure whether a case is recordable, call your local OSHA office for help.

Establishment name: XYZ Company
City: Anywhere State: MA

Identify the person			Describe the case			Classify the case (CHECK ONLY ONE box for each case based on the most serious outcome for that case:)				Enter the number of days the injured or ill worker was:		Check the "Injury" column or choose one type of illness:					
							Remained at Work										
(A) Case no.	(B) Employee's name	(C) Job title (e.g. Welder)	(D) Date of injury or onset of illness	(E) Where the event occurred (e.g. Loading dock north end)	(F) Describe injury or illness, parts of body affected, and object/substance that directly injured or made person ill (e.g. Second degree burns on right forearm from acetylene torch)	Death (G)	Days away from work (H)	Job transfer or restriction (I)	Other recordable cases (J)	Away from work (K)	On job transfer or restriction (L)	(M) Injury (1)	Skin disorders (2)	Respiratory conditions (3)	Poisoning (4)	Hearing loss (5)	All other illnesses (6)
1	Mark Bagin	Welder	5/25	basement	fracture, left arm and left leg, fell from ladder	☐	☑	☐	☐	12 days	15 days	☑	☐	☐	☐	☐	☐
2	Shana Alexander	Foundry man	7/2	pouring deck	poisoning from lead fumes	☐	☐	☑	☐	___ days	30 days	☐	☐	☐	☑	☐	☐
3	Sam Sander	Electrician	8/5	2nd floor storeroom	broken left foot, fell over box	☐	☑	☐	☐	7 days	30 days	☑	☐	☐	☐	☐	☐
4	Ralph Boccella	Laborer	9/17	packaging dept	Back strain lifting boxes	☐	☑	☐	☐	3 days	___ days	☑	☐	☐	☐	☐	☐
5	Jarrod Daniels	Machine opr.	10/23	production floor	dust in eye	☐	☐	☐	☑	___ days	___ days	☑	☐	☐	☐	☐	☐
			/			☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
			/			☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
			/			☐	☐	☐	☐	___ days	___ days						

Be as specific as possible. You can use two lines if you need more room.

Revise the log if the injury or illness progresses and the outcome is more serious than you originally recorded for the case. Cross out, erase, or white-out the original entry.

Choose ONLY ONE of these categories. Classify the case by recording the most serious outcome of the case, with column G (Death) being the most serious and column J (Other recordable cases) being the least serious.

Note whether the case involves an injury or an illness.

OSHA's Form 300 (Rev. 01/2004)

Log of Work-Related Injuries and Illnesses

Attention: This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health purposes.

Year 20__ __

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

You must record information about every work-related death and about every work-related injury or illness that involves loss of consciousness, restricted work activity or job transfer, days away from work, or medical treatment beyond first aid. You must also record significant work-related injuries and illnesses that are diagnosed by a physician or licensed health care professional. You must also record work-related injuries and illnesses that meet any of the specific recording criteria listed in 29 CFR Part 1904.8 through 1904.12. Feel free to use two lines for a single case if you need to. You must complete an Injury and Illness Incident Report (OSHA Form 301) or equivalent form for each injury or illness recorded on this form. If you're not sure whether a case is recordable, call your local OSHA office for help.

Establishment name ____________________

City ________________ State ________

Identify the person			Describe the case			Classify the case: CHECK ONLY ONE box for each case based on the most serious outcome for that case:				Enter the number of days the injured or ill worker was:		Check the "Injury" column or choose one type of illness: (M)					
								Remained at Work									
(A) Case no.	(B) Employee's name	(C) Job title (*e.g., Welder*)	(D) Date of injury or onset of illness	(E) Where the event occurred (*e.g., Loading dock north end*)	(F) Describe injury or illness, parts of body affected, and object/substance that directly injured or made person ill (*e.g., Second degree burns on right forearm from acetylene torch*)	Death (G)	Days away from work (H)	Job transfer or restriction (I)	Other record-able cases (J)	Away from work (K)	On job transfer or restriction (L)	Injury (1)	Skin disorder (2)	Respiratory condition (3)	Poisoning (4)	Hearing loss (5)	All other illnesses (6)
			/ month/day			☐	☐	☐	☐	days	days	☐	☐	☐	☐	☐	☐
			/ month/day			☐	☐	☐	☐	days	days	☐	☐	☐	☐	☐	☐
			/ month/day			☐	☐	☐	☐	days	days	☐	☐	☐	☐	☐	☐
			/ month/day			☐	☐	☐	☐	days	days	☐	☐	☐	☐	☐	☐
			/ month/day			☐	☐	☐	☐	days	days	☐	☐	☐	☐	☐	☐
			/ month/day			☐	☐	☐	☐	days	days	☐	☐	☐	☐	☐	☐
			/ month/day			☐	☐	☐	☐	days	days	☐	☐	☐	☐	☐	☐
			/ month/day			☐	☐	☐	☐	days	days	☐	☐	☐	☐	☐	☐
			/ month/day			☐	☐	☐	☐	days	days	☐	☐	☐	☐	☐	☐
			/ month/day			☐	☐	☐	☐	days	days	☐	☐	☐	☐	☐	☐
			/ month/day			☐	☐	☐	☐	days	days	☐	☐	☐	☐	☐	☐
			/ month/day			☐	☐	☐	☐	days	days	☐	☐	☐	☐	☐	☐
			/ month/day			☐	☐	☐	☐	days	days	☐	☐	☐	☐	☐	☐
					Page totals ➤	___	___	___	___	___	___	___	___	___	___	___	___
												Injury (1)	Skin disorder (2)	Respiratory condition (3)	Poisoning (4)	Hearing loss (5)	All other illnesses (6)

Be sure to transfer these totals to the Summary page (Form 300A) before you post it.

Public reporting burden for this collection of information is estimated to average 14 minutes per response, including time to review the instructions, search and gather the data needed, and complete and review the collection of information. Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number. If you have any comments about these estimates or any other aspects of this data collection, contact: US Department of Labor, OSHA Office of Statistical Analysis, Room N-3644, 200 Constitution Avenue, NW, Washington, DC 20210. Do not send the completed forms to this office.

OSHA's Form 300A (Rev. 01/2004)

Summary of Work-Related Injuries and Illnesses

Year 20__ __

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

All establishments covered by Part 1904 must complete this Summary page, even if no work-related injuries or illnesses occurred during the year. Remember to review the Log to verify that the entries are complete and accurate before completing this summary.

Using the Log, count the individual entries you made for each category. Then write the totals below, making sure you've added the entries from every page of the Log. If you had no cases, write "0."

Employees, former employees, and their representatives have the right to review the OSHA Form 300 in its entirety. They also have limited access to the OSHA Form 301 or its equivalent. See 29 CFR Part 1904.35, in OSHA's recordkeeping rule, for further details on the access provisions for these forms.

Number of Cases

Total number of deaths	Total number of cases with days away from work	Total number of cases with job transfer or restriction	Total number of other recordable cases
_____	_____	_____	_____
(G)	(H)	(I)	(J)

Number of Days

Total number of days away from work	Total number of days of job transfer or restriction
_____	_____
(K)	(L)

Injury and Illness Types

Total number of . . .

(M)

(1) Injuries _____

(2) Skin disorders _____

(3) Respiratory conditions _____

(4) Poisonings _____

(5) Hearing loss _____

(6) All other illnesses _____

Post this Summary page from February 1 to April 30 of the year following the year covered by the form.

Establishment information

Your establishment name _____

Street _____

City _____ State _____ ZIP _____

Industry description (*e.g., Manufacture of motor truck trailers*)

_____

Standard Industrial Classification (SIC), if known (*e.g., 3715*)

___ ___ ___ ___

OR

North American Industrial Classification (NAICS), if known (e.g., 336212)

___ ___ ___ ___ ___ ___

Employment information *(If you don't have these figures, see the Worksheet on the back of this page to estimate.)*

Annual average number of employees _____

Total hours worked by all employees last year _____

Sign here

Knowingly falsifying this document may result in a fine.

I certify that I have examined this document and that to the best of my knowledge the entries are true, accurate, and complete.

_____ _____
Company executive Title

( ) - / /
Phone Date

Optional

Worksheet to Help You Fill Out the Summary

At the end of the year, OSHA requires you to enter the average number of employees and the total hours worked by your employees on the summary. If you don't have these figures, you can use the information on this page to estimate the numbers you will need to enter on the Summary page at the end of the year.

How to figure the average number of employees who worked for your establishment during the year:

❶ ***Add*** the total number of employees your establishment paid in all pay periods during the year. Include all employees: full-time, part-time, temporary, seasonal, salaried, and hourly.

The number of employees paid in all pay periods = ❶ _____

❷ ***Count*** the number of pay periods your establishment had during the year. Be sure to include any pay periods when you had no employees.

The number of pay periods during the year = ❷ _____

❸ ***Divide*** the number of employees by the number of pay periods.

❶ _____ / ❷ _____ = ❸ _____

❹ ***Round the answer*** to the next highest whole number. Write the rounded number in the blank marked *Annual average number of employees*.

The number rounded = ❹ _____

For example, Acme Construction figured its average employment this way:

For pay period...	Acme paid this number of employees...
1	10
2	0
3	15
4	30
5	40
▼	▼
24	20
25	15
26	+10
	830

Number of employees paid = 830 ❶

Number of pay periods = 26 ❷

830 / 26 = 31.92 ❸

31.92 rounds to 32 ❹

32 is the annual average number of employees

How to figure the total hours worked by all employees:

Include hours worked by salaried, hourly, part-time and seasonal workers, as well as hours worked by other workers subject to day to day supervision by your establishment (e.g., temporary help services workers).

Do not include vacation, sick leave, holidays, or any other non-work time, even if employees were paid for it. If your establishment keeps records of only the hours paid or if you have employees who are not paid by the hour, please estimate the hours that the employees actually worked.

If this number isn't available, you can use this optional worksheet to estimate it.

Optional Worksheet

_____ ***Find*** the number of full-time employees in your establishment for the year.

X _____ ***Multiply*** by the number of work hours for a full-time employee in a year.

_____ This is the number of full-time hours worked.

\+ _____ ***Add*** the number of any overtime hours as well as the hours worked by other employees (part-time, temporary, seasonal)

_____ ***Round*** the answer to the next highest whole number. Write the rounded number in the blank marked *Total hours worked by all employees last year.*

U.S. Department of Labor
Occupational Safety and Health Administration

OSHA's Form 301
Injury and Illness Incident Report

Attention: This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health purposes.

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

This *Injury and Illness Incident Report* is one of the first forms you must fill out when a recordable work-related injury or illness has occurred. Together with the *Log of Work-Related Injuries and Illnesses* and the accompanying *Summary,* these forms help the employer and OSHA develop a picture of the extent and severity of work-related incidents.

Within 7 calendar days after you receive information that a recordable work-related injury or illness has occurred, you must fill out this form or an equivalent. Some state workers' compensation, insurance, or other reports may be acceptable substitutes. To be considered an equivalent form, any substitute must contain all the information asked for on this form.

According to Public Law 91-596 and 29 CFR 1904, OSHA's recordkeeping rule, you must keep this form on file for 5 years following the year to which it pertains.

If you need additional copies of this form, you may photocopy and use as many as you need.

Completed by _____

Title _____

Phone (_____)_____--_____ **Date** ____/ ____/ ____

Information about the employee

1) **Full name** _____

2) **Street** _____

City _____ **State** _____ **ZIP** _____

3) **Date of birth** _____ / _____ / _____

4) **Date hired** _____ / _____ / _____

5) ❒ **Male**
❒ **Female**

Information about the physician or other health care professional

6) **Name of physician or other health care professional** _____

_____

7) **If treatment was given away from the worksite, where was it given?**

Facility _____

Street _____

City _____ **State** _____ **ZIP** _____

8) **Was employee treated in an emergency room?**
❒ **Yes**
❒ **No**

9) **Was employee hospitalized overnight as an in-patient?**
❒ **Yes**
❒ **No**

Information about the case

10) **Case number from the *Log*** _____ *(Transfer the case number from the Log after you record the case.)*

11) **Date of injury or illness** _____ / _____ / _____

12) **Time employee began work** _____ **AM / PM**

13) **Time of event** _____ **AM / PM** ☐ **Check if time cannot be determined**

14) ***What was the employee doing just before the incident occurred?*** **Describe the activity, as well as the tools, equipment, or material the employee was using. Be specific.** ***Examples:*** **"climbing a ladder while carrying roofing materials"; "spraying chlorine from hand sprayer"; "daily computer key-entry."**

15) ***What happened?*** **Tell us how the injury occurred.** ***Examples:*** **"When ladder slipped on wet floor, worker fell 20 feet"; "Worker was sprayed with chlorine when gasket broke during replacement"; "Worker developed soreness in wrist over time."**

16) ***What was the injury or illness?*** **Tell us the part of the body that was affected and how it was affected; be more specific than "hurt," "pain," or sore."** ***Examples:*** **"strained back"; "chemical burn, hand"; "carpal tunnel syndrome."**

17) ***What object or substance directly harmed the employee?*** ***Examples:*** **"concrete floor"; "chlorine"; "radial arm saw."** ***If this question does not apply to the incident, leave it blank.***

18) ***If the employee died, when did death occur?*** **Date of death** _____ / _____ / _____

If You Need Help...

If you need help deciding whether a case is recordable, or if you have questions about the information in this package, feel free to contact us. We'll gladly answer any questions you have.

- **Visit us online at www.osha.gov**
- **Call your OSHA Regional office and ask for the recordkeeping coordinator**

  or

- **Call your State Plan office**

Federal Jurisdiction

Region 1 - 617 / 565-9860
Connecticut; Massachusetts; Maine; New Hampshire; Rhode Island

Region 2 - 212 / 337-2378
New York; New Jersey

Region 3 - 215 / 861-4900
DC; Delaware; Pennsylvania; West Virginia

Region 4 - 404 / 562-2300
Alabama; Florida; Georgia; Mississippi

Region 5 - 312 / 353-2220
Illinois; Ohio; Wisconsin

Region 6 - 214 / 767-4731
Arkansas; Louisiana; Oklahoma; Texas

Region 7 - 816 / 426-5861
Kansas; Missouri; Nebraska

Region 8 - 303 / 844-1600
Colorado; Montana; North Dakota; South Dakota

Region 9 - 415 / 975-4310

Region 10 - 206 / 553-5930
Idaho

State Plan States

Alaska - 907 / 269-4957

Arizona - 602 / 542-5795

California - 415 / 703-5100

*Connecticut - 860 / 566-4380

Hawaii - 808 / 586-9100

Indiana - 317 / 232-2688

Iowa - 515 / 281-3661

Kentucky - 502 / 564-3070

Maryland - 410 / 767-2371

Michigan - 517 / 322-1848

Minnesota - 651 / 284-5050

Nevada - 702 / 486-9020

*New Jersey - 609 / 984-1389

New Mexico - 505 / 827-4230

*New York - 518 / 457-2574

North Carolina - 919 / 807-2875

Oregon - 503 / 378-3272

Puerto Rico - 787 / 754-2172

South Carolina - 803 / 734-9669

Tennessee - 615 / 741-2793

Utah - 801 / 530-6901

Vermont - 802 / 828-2765

Virginia - 804 / 786-6613

Virgin Islands - 340 / 772-1315

Washington - 360 / 902-5601

Wyoming - 307 / 777-7786

*Public Sector only

U.S. Department of Labor
Occupational Safety and Health Administration

U.S. Department of Labor
Occupational Safety and Health Administration

Have questions?

If you need help in filling out the *Log* or *Summary,* or if you have questions about whether a case is recordable, contact us. We'll be happy to help you. You can:

- Visit us online at: **www.osha.gov**
- Call your regional or state plan office. You'll find the phone number listed inside this cover.

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Part 360 Series Waste Tracking Document - Construction & Demolition Debris

This form may be used to satisfy the tracking document requirements of both section 361-5.6 and section 364-5.1 for the transport of C&D Debris

TYPE OF C&D DEBRIS:	☐ Limited-Use Fill ☐ Restricted-Use Fill ☐ Contaminated Fill ☐ Fill Material - Unknown ☐ General Fill ☐ Residue ☐ Construction Waste ☐ Demolition Waste ☐ Other (specify): _____
WASTE QUANTITY:	_____ Tons _____ Cubic Yards Check box to indicate quantity is estimated: ☐
LOCATION WHERE WASTE WAS PICKED UP:	Source Name: _____ Address: _____ City: _____ State: _____ Zip Code: _____

GENERATOR: Name: _____ DEC Permit/Reg. No. (if applicable): _____

Address: _____ City: _____ State: _____ Zip: _____

Authorized Representative of Generator: _____ Phone: _____

Transporter Name: _____

Receiving Facility Name: _____ ☐ Chosen by Transporter

Address: _____ City: _____ State: _____ Zip: _____

I have completed this tracking document describing the waste and identifying the transporter and receiving facility. I certify, under penalty of law, that the information provided in this waste tracking document has been prepared under my direction and supervision and further certify that the information contained herein is true and accurate. I am aware that any false statement made on this document is punishable pursuant to Section 210.45 of the Penal Law.

Signature: _____ Date: _____

TRANSPORTER: *To be completed by Transporter* DEC Permit/Registration No.: _____

Transporter Company Name: _____

Describe all Discrepancies in type or quantity of waste: _____

_____

Driver Name (print): _____ Phone: _____ Plate No.: _____

Signature: _____ Date: _____

RECEIVING FACILITY: *To be completed by Receiving site* DEC Permit/Reg. No. (if applicable): _____

Name: _____ Address: _____

City: _____ State: _____ Zip: _____ Put [X] for: ☐ interim processor, or ☐ final site

Describe all Discrepancies in type or quantity of waste: _____

_____

I certify, under penalty of law, that the information contained herein is true and accurate.
I am aware that any false statement made on this document is punishable pursuant to Section 210.45 of the Penal Law.

Print Name: _____ Phone: _____

Signature: _____ Date: _____

The completed tracking document for all waste types must be returned to the Generator <u>within two weeks</u> of receipt of the waste. Statewide for restricted-use fill, limited-use fill and contaminated fill, and for all waste types, except residue, generated in the City of New York, a copy of the completed tracking document **must also be provided to NYS DEC within 15 days** of waste delivery to the receiving facility. [ref: 6 NYCRR 364-5.1(b)(5)]

Return completed forms to NYS DEC by e-mail to transport@dec.ny.gov OR fax to 518-402-9034 OR mail to 625 Broadway, 9th Floor, Albany, NY 12233-7251.

TRANSFER FACILITY BALER - PREVENTATIVE MAINTENANCE

NEXGEN GALAXY 2R TWO-RAM BALER

Model 2R-310W-84, Specification #310W84

Preventative Maintenance Work Is To Be Performed As Follows:

- **Inspection of Electrical Control Panel:**
- **Wire condition:** tight connections, relays and switches for good contact and proper operation.
- **Safety and Limit Switches:** Inspect and adjust
- **Operation:** Warning lights, pressure gauge, key switches and emergency stop.
- **Structure:** Physical appearance, wear points, ground anchors, wiper blade and follower plate.
- **Lubrication and Inspection:** Door hinges, door handles, paddle latches, turnbuckles, access gates, motor, motor coupling, ram track and guides.
- **Hydraulic System Check:** Condition of hoses and fittings, oil level and condition, cylinder shaft wear and leakage. Operating pressure check. _____
- **Safety Standards:** OSHA and ANSI standards, infractions will be noted and remedies quoted on request.
- **Container:** Physical condition checking all rollers, door hinges, seals (if possible) and latching mechanisms, paint.
- **Life Expectancy:** Date of Manufacture, Charge Chamber wear, and estimated life expectancy of the unit under current operating conditions.

The Following Items Require Action. / See Description Below:

1)

2)

3)

4)

5)

Visual Inspection	
Item Conditions: 1 – Excellent 2 - Good 3 – Fair 4 – Needs Attention 5 = Poor / Action Required	
Site Conditions. Comments---	1 2 3 4 5
Housekeeping Near Equipment. Comments---	1 2 3 4 5
Machine Appearance, Comments---	1 2 3 4 5
Container Appearance, Comments---	1 2 3 4 5
Asphalt / Concrete Condition, Comments---	1 2 3 4 5
Mechanical Inspection	
Item Conditions: 1- Excellent 2 - Good 3 – Fair 4 – Needs Attention 5 = Poor / Action Required	
Mechanical, Structural, Welds, Comments---	1 2 3 4 5
Container Clamps, Comments---	1 2 3 4 5
Charging Chamber Guides, Comments---	1 2 3 4 5
Charging Chamber Floor, Comments---	1 2 3 4 5

TRANSFER FACILITY BALER - PREVENTATIVE MAINTENANCE

Charging Chamber Sides, Comments---	1 2 3 4 5
Hinges, Access Doors, Counter Balanced lid, Comments---	1 2 3 4 5
Hydraulic Cylinder Mounts & Pins, Comments---	1 2 3 4 5
Motor Drive Coupling, Comments---	1 2 3 4 5
Power Pak Access Cover, Condition, Comments---	1 2 3 4 5
Compactor, Baler Anchor System, Comments---	1 2 3 4 5

Electrical Inspection

Item Conditions: 1- Excellent 2 - Good 3 – Fair 4 – Needs Attention 5 = Poor / Action Required

Motor H.P.: ____ Volts ____ Phase: ____ FLA.: ____

Solenoid Valve Make: _____ Number: _____

Motor Contactor / Overload, Comments---	1 2 3 4 5
Control Relays, Comments---	1 2 3 4 5
Circuit Board / Controller, Comments---	1 2 3 4 5
Control Panel Switches / Contacts, Comments---	1 2 3 4 5
Directional Limit Switches, Comments---	1 2 3 4 5
Interlocks, Safety System, Comments---	1 2 3 4 5
Wiring & Harness, Comments---	1 2 3 4 5

Hydraulic System Inspection

Item Conditions: 1 – Excellent 2 - Good 3 – Fair 4 – Needs Attention 5 = Poor / Action Required

Pump Make: _____ Pump Size:_____

Cylinder(S): Bore: _____ Stroke: _____ Rod: _____

Manifold, Comments---	1 2 3 4 5
Relief Valve, Comments---	1 2 3 4 5
Pressure Sensing Device, Comments---	1 2 3 4 5
Hose / Fittings at Power Pack, Comments---	1 2 3 4 5
Cylinder Lines, Comments---	1 2 3 4 5
Oil Condition, Comments---	1 2 3 4 5
Oil Level, Comments---	1 2 3 4 5
Oil Filter, Comments---	1 2 3 4 5

Reservoir Capacity, Gallons / Approximate: _____

Oil & Filter Replacement Cost, Parts Only: _____

System Operation Check

Item Conditions: 1- Excellent 2 - Good 3 – Fair 4 – Needs Attention 5 = Poor / Action Required

Cylinder Extend / Amperage----------	1 2 3 4 5
Cylinder Relief Pressure / P.S.I.----------	1 2 3 4 5
Cylinder Relief Pressure/ Amperage----	1 2 3 4 5
Cylinder Full Pressure / P.S.I.----------	1 2 3 4 5
Cylinder Full Pressure / Amperage-------	1 2 3 4 5

Inspection Completed By:

Technician Name: _____ Date on Site:_____ Time:_____

TRANSFER FACILITY BALER - PREVENTATIVE MAINTENANCE

Additional Notes / Comments / Technical Information & Photos:

Syracuse Haulers Waste Removal, Inc.
Preventative Maintenance Equipment Inspection Checklist

Equipment Type_____ Model No. _____ HR Meter Reading _____ Date _____

Initial 250 Hours Service (only after first 250 hrs.)	OK	NR	Initials
1. Replace HST oil filter element			
2. Replace hydraulic tank filter element			

Every 50 Hours	OK	NR	Initials
1. Drain water, sediment from fuel tank			

Every 100 Hours Service	OK	NR	Initials
1. Lubricate rear axle pivot pin			
2. Clean air conditioner fresh air filter element			
3. Check oil level in hydraulic tank, add oil			
4. Check, clean, or replace air cleaner element			
5. Clean inside of cooling system			
6. Check oil level in transfer case, add oil			
7. Check axle oil level, add oil			
8. Clean axle case breather			
9. Clean air conditioner condenser			
10. Check window washing fluid level, add fluid			
11. Clean radiator cooling fins			
12. Check electrical intake air heater			
13. Replace bolt on cutting edge			
14. Replace bucket teeth			
15. Check air conditioner			
16. Replace slow-blow fuse			
17. Selection and inspection of tires			

Every 250 Hours Service	OK	NR	Initials
1. Check battery electrolyte level			
2. Check parking brake			
3. Chk air conditioner compressor belt tension, adjust			
4. Check for loose wheel hub bolts, tighten			
5. Clean air conditioner recirculation filter element			
6. Lubricating			

Every 500 Hours Service	OK	NR	Initials
1. Change oil in engine oil pan, replace engine oil filter			
2. Replace fuel filter cartridge			
3. Clean water separator strainer			

Every 1000 Hours Service	OK	NR	Initials
1. Change oil in transfer case			
2. Clean transfer case breather			
3. Replace HST oil filter element			
4. Replace corrosion resistor cartridge			
5. Lubricating			
6. Check mounting parts of turbocharger			
7. Check play of turbocharger rotor			
8. Check alternator belt tension, replace			

Every 2000 Hours Service	OK	NR	Initials
1. Change hydraulic oil and filter element			
2. Replace hydraulic tank breather element			
3. Change axle oil			
4. Replace air conditioner recirculation air filter			
5. Clean brake circuit strainer			
6. Check alternator, starting motor			
7. Check engine valve clearance, adjust			
8. Check brake disc wear			
9. Clean and check turbocharger			
10. Check accumulator gas pressure			
11. Check vibration damper			
12. Check vibration damper			

Every 4000 Hours Service	OK	NR	Initials
1. Lubricating			
2. Check water pump			

Periodic Replacement of Safety Critical Parts Every 2 Years or Every 4000 Hours, Whichever Comes First	OK	NR	Initials
1. Fuel hose (fuel tank—water separator)			
2. Fuel hose (water separator—pump)			
3. Fuel return hose (pum—fuel tank)			
4. Fuel spill hose (tube—fuel tank)			
5. Turbocharger lubricating hose			
6. Steering hose (pump—priority valve)			
7. Steering hose (priority valve—orbitrol valve)			
8. Steering hose (orbitrol valve—steering cylinder)			
9. Steering hose (steering cyl. line—cushion valve)			
10. Packings, seals, O-rings of steering cylinder			
11. Brake hose (gear pump—master cylinder)			
12. Brake hose (master cylinder—front brake)			
13. Brake hose (master cylinder—rear brake)			
14. Brake hose (master cylinder—accumulator)			
15. Brake hose (accumulator—charge valve)			
16. Brake hose (master cylinder—hydraulic tank)			
17. Brake hose (charge valve—hydraulic tank)			
18. O-rings and oil seals of brake valve			

Periodic Replacement of Safety Critical Parts Every 3 Years	OK	NR	Initials
1. Seat belt			

SYRACUSE HAULERS
WASTE REMOVAL, INC.

Syracuse Haulers Waste Removal, Inc.
Preventative Maintenance Green Machine Inspection Checklist

Equipment Type	Model No.	HR Meter Reading	Date

1. Daily	OK	NR	Initials
a. Remove any contamination that is wrapped around the drive shafts, tail shafts and spindle shafts.			
b. Remove any contamination that has accumulated at belt edges and beneath bed and conveyor belt.			
c. For components with belt, make sure belt is tracking properly. Make necessary adjustments to correct miss aligned belts.			
d. Assure all safety guards and stickers are in place and operational.			
e. Remove any contamination that is wrapped around return idlers and bed idlers.			

2. Weekly	OK	NR	Initials
a. Inspect for excessive vibration or shaking.			
b. Inspect auto lube oilers and fill proper levels, refer to Section IV of this manual:			
System Oiling and Greasing for Conveyors and Screens			
c. Inspect and remove contamination from any return pans.			

3. Monthly	OK	NR	Initials
a. Grease all pillow block bearings* on head and tail conveyor shafts every 300 hrs, refer to Section IV of this manual:			
System Oiling and Greasing for Conveyors and Screens			
b. Adjust belt sprockets to correct tension.			
c. Clean build up on return idlers.			
d. Check emergency stop switches to verify they are operating correctly.			

4. Biannually	OK	NR	Initials
a. Perform an amp reading for each system component and document in a record book.			
b. Check for increased lash in reducer drive.			
c. Check for lash in reducer drive.			
d. Check hydraulic reservoir for oil level.			
e. Check reducer oil level.			
f. Grease drive motor inner bearing.			
g. Grease drive motor inner bearing on zone drives.			
h. Grease the drive motor inner bearing on hydraulic power pack.			
i. Grease the drive motor inner bearings.			
j. Inspect roller shaft base plate bolts torque.			
k. Inspect bearing grub set screws.			
l. Inspect bearings for noise, heat, and loose inner races.			
m. Inspect belt wipers and skirt boards for wear.			
n. Inspect for carry deck bed wear.			
o. Inspect for roller chain and belt wear.			
p. Inspect for roller chain track wear.			
q. Inspect for slider bed wear.			
r. Inspect roller shafts for wear, alignment and roller slop.			
s. Inspect roller stub shafts for wear, alignment and roller slop.			
t. Perform Meggar Insulation Test.			
u. Swab down steel belt decking with penetrating oil.			
v. Take motor drive current draw readings to verify within rated parameters.			
w. Verify belt cleat is intact.			

*For Eddy Current conveyor bearing maintenance procedures refer to Sectioin 10 of this manual.