

Mission:
To protect, promote & improve the health
of all people in Florida through integrated
state, county & community efforts.



Rick Scott
Governor

Celeste Philip, MD, MPH
State Surgeon General & Secretary

Vision: To be the Healthiest State in the Nation

May 27, 2016

ELECTRONIC CORRESPONDENCE

thawkins@wm.com

ISSUED TO:

Permittee:

Waste Management Inc. of Florida
2700 Wiles Road
Pompano Beach, FL 33073

WACS No.: 85192
Permit No: 0154998-016-SO
Issued: **May 31, 2016**
Expires: **May 31, 2017**

Authorized Representative

Tim Hawkins
President

PROJECT: Permit Renewal for the WM Recycling Sun 9 Facility

Dear Mr. Hawkings:

Enclosed is Permit Number 0154998-016-SO to continue to operate the WM Recycling Sun 9 Facility, a construction & demolition debris Waste Processing Facility, for an additional year to allow for completion of closure activities. Waste Management Inc. of Florida (WMIF) submitted a closure notification on February 25, 2016 and the Health Department inspected the site on March 7, 2016 and verified it was not operating and all solid waste and recovered materials were removed. There have been no changes since that time. WMIF is in process of completing the contamination evaluation required by specific condition H.2 of the permit. The Solid Waste Processing Facility is located at 1025 26th Street, West Palm Beach, Palm Beach County, Florida, 33407. Latitude: 26° 44' 17.5" North; Longitude: 80° 03' 48" West.

The permit is issued pursuant to Chapter 62-701, F.A.C and 403 F.S. *The Florida Department of Environmental Protection (DEP) has permitting jurisdiction under the provisions of Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, and 62-701 of the Florida Administrative Code (F.A.C.). However, in accordance with Section 403.182, F.S., DEP recognizes the Palm Beach County Health Department (PBC Health Department) as the approved local solid waste program in Palm Beach County. As such, DEP and the PBC Health Department have entered into a Specific Operating Agreement that authorizes the PBC Health Department to issue or deny permits for this type of solid waste management facilities located in Palm Beach County.*

NOTICE OF RIGHTS: A person whose substantial interests are affected by the Department's proposed agency action may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed (received) in the Palm Beach County Health Department Legal Office, located at 800 Clematis Street in West Palm Beach, Florida, 33401 [Telephone: (561) 671-4000, Fax (561) 837-5195].

Petitions by the permittee or any other persons must be filed within 14 days of receipt of this written notice. The petitioner shall mail a copy of the petition to the permittee at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall

the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the Department's action is based must contain the following information:

- (a) The name and address of each agency affected and each agency's file or identification number, if known;
- (b) The name, address, and telephone number of the petitioner; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination;
- (c) A statement of when and how the petitioner received notice of the agency decision;
- (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
- (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action;
- (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
- (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts on which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

In accordance with Section 120.573, F.S., the Department advises that mediation is not available in this case as an alternative to filing a petition for an administrative determination.

Any party to this order has the right to seek judicial review of it under Section 120.68, F.S., by filing a notice of appeal under Rule 9.110, Florida Rules of Appellate Procedure, with the clerk of the Palm Beach County Health Department Legal Office, located at 800 Clematis Street in West Palm Beach, Florida, 33401 (Telephone: (561) 671-4000, Fax (561) 837-5195), and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within thirty days after this order is filed with the clerk of the Department.

If you have any questions, please contact Jorge Patino, P.E. at 561-837-5900.

Executed in West Palm Beach, Florida

FLORIDA DEPARTMENT OF HEALTH PALM BEACH COUNTY



Laxmana Tallam, P.E., Environmental Administrator
Air and Waste Section

If you have any questions, contact:

Jorge Patino, P.E. Supervisor II
Air & Solid Waste Permitting and Compliance
Department of Health Palm Beach County
P.O. Box 29 (800 Clematis St.)
West Palm Beach, Florida, 33402-0029

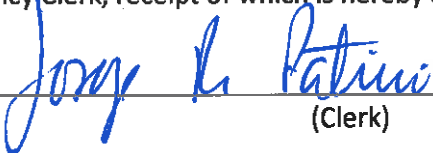
Division of Environmental Public Health

CERTIFICATE OF SERVICE


The undersigned duly designated agency clerk hereby certifies that the Notice of Permit and the Final Permit were sent by electronic mail (with received receipt) before the close of business on the date indicated below to the following persons.

| | | |
|---------------------------------------|-------|--|
| Tim Hawkins, WM, Inc. of Florida | email | thawkins@wm.com |
| Jim Christiansen, WM, Inc. of Florida | email | jchristi@wm.com |
| Amede Dimonnay, DEP/SED | email | amede.dimonnay@dep.state.fl.us |

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), F.S., with the designated agency Clerk, receipt of which is hereby acknowledged.



(Clerk)



(Date)

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Vision: To be the Healthiest State in the Nation

Permittee:

Waste Management Inc. of Florida
2700 Wiles Road
Pompano Beach, FL 33073

| |
|-----------------------------------|
| WACS No.: 851920 |
| Permit No.: 0154998-016-SO |
| Issued: May 31, 2016 |
| Expires: May 31, 2017 |

Authorized Representative

Tim Hawkins
President

COUNTY: Palm Beach
LAT/LONG.: 26° 42' 36" W/ 80° 02' 18" N
SEC./TOWNSHIP/RANGE: 22/43/43
PROJECT: Permit Renewal for additional one year

This permit is issued under the provision of Chapter 403, Florida Statutes (F.S.), and Chapters 62-4 and 62-701, Florida Administrative Code (F.A.C.). The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawings(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

TO: continue operation of: the WM Recycling Sun 9 Facility, a construction & demolition debris Waste Processing Facility, for an additional year to allow for completion of closure activities.

IN ACCORDANCE WITH: An application for permit renewal received on May 19, 2016.

LOCATED AT: t 1025 26th Street, West Palm Beach, Palm Beach County, Florida.

SUBJECT TO: General Conditions 1-15 and Specific Conditions in Subsections A (1-6), B (1-3), C (1-17), D (1-2), E (1 & 2), F (1-14), G, H (1-3), I (1 & 2), J (1 & 2), K, and L attached hereto below and Appendices A, B, C, D, EPA-601/602, CFR-258/I, and CFR-258/II.

Executed in West Palm Beach

This 31th day of May, 2016

FLORIDA DEPARTMENT OF HEALTH PALM BEACH COUNTY

Laxmana Tallam, P.E., Environmental Administrator
Air and Waste Section
Division of Environmental Public Health



GENERAL CONDITIONS (Rule 62-4.160, F.A.C.):

- (1) The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
- (2) This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
- (3) As provided in subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in this permit.
- (4) This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
- (5) This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
- (6) The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, are required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
- (7) The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:
 - (a) Have access to and copy any records that must be kept under conditions of the permit;
 - (b) Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
 - (c) Sample or monitor any substances or parameters at any location reasonable necessary to assure compliance with this permit or Department rules. Reasonable time may depend on the nature of the concern being investigated.
- (8) If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
 - (a) A description of and cause of noncompliance; and
 - (b) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to educe, eliminate, and prevent recurrence of the noncompliance. The permittee shall be responsible for any and all damages, which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

- (9) In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Section 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
- (10) The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 62-302.500, shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard.
- (11) This permit is transferable only upon Department approval in accordance with Rule 62-4.120 and 62-730.300 F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the Department approves the transfer.
- (12) This permit or a copy thereof shall be kept at the work site of the permitted activity.
- (13) This permit also constitutes:
- (a) Determination of Best Available Control Technology (BACT)
 - (b) Determination of Prevention of Significant Deterioration (PSD)
 - (c) Certification of compliance with state Water Quality Standards (Sec. 401, PL 92-500)
 - (d) Compliance with New Source Performance Standards
- (14) The permittee shall comply with the following:
- (a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
 - (b) The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
- Records of monitoring information shall include:
1. the date, exact place, and time of sampling or measurements;
 2. the person responsible for performing the sampling or measurements;
 3. the date's analyses were performed;
 4. the person responsible for performing the analyses;
 5. the analytical techniques or methods used;
 6. the results of such analyses.

(15)When requested by the Department, the permittee shall, within a reasonable time, furnish any information required by law, which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SPECIFIC CONDITIONS

A. Administrative Requirements

1. Documents Part of This Permit. The permit application **as received on May 19, 2016** is contained in the Department's files and is made a part of this permit.
2. Permit Modification. Any change to construction, operation or monitoring requirements of this permit may require a modification to this permit, in accordance with the provisions of **Rule 62-701.320(4), F.A.C.**
3. Permit Renewal. In order to ensure uninterrupted operation of this facility, a timely and sufficient permit renewal application must be submitted to the Department in accordance with **Rule 62-701.320(10), F.A.C.** A permit application submitted at least 61 days prior to the expiration of this permit is considered timely and sufficient.
4. Local Zoning. The Department does not evaluate compliance with local zoning or land use ordinances when determining whether to issue or deny any permit. Issuance of a permit does not relieve an applicant from compliance with local zoning or land use ordinances, or with any other laws, rules, or ordinances. **[Rule 62-701.220(5), F.A.C.]**
5. Transfer of Permit or Name Change. In accordance with **Rule 62-701.320(11), F.A.C.**, the Department must be notified in writing within 30 days: (1) of any sale or conveyance of the facility; (2) if a new or different person takes ownership or control of the facility; or (3) if the facility name is changed.
6. County License Fee. Pursuant to **Sections 11-20(c) & 11-24(1)** of the Palm Beach County Environmental Control Ordinance, the permittee shall obtain a county license annually.

B. Construction Requirements

1. General Construction Requirements. All construction shall be done in accordance with the approved Construction Plan. The Department shall be notified before any changes, other than minor deviations, to the approved Construction Plan are implemented in order to determine whether a permit modification is required.
2. Certification of Construction Completion. Upon completion of construction and prior to accepting any waste at the facility, the engineer of record shall certify to the Department in accordance with **Rule 62-701.320(9)(b), F.A.C.**, that the permitted construction is complete and was done in substantial conformance with the approved construction plans except where minor deviations were necessary. All deviations shall be described in detail and the reasons therefore enumerated.
3. Approval of Certification. The permittee shall not accept solid waste at the facility until one of the following has occurred: (1) the Department has stated in writing that it has no objection to the certification of construction completion; or (2) at least 30 days have passed since the certification was submitted and the Department has not responded in writing to the certification.

C. Operation Requirements

1. General Operating Requirements. The Permittee shall operate the facility in accordance with the approved Operation Plan, and the report prepared, signed and sealed by Brenda Ann Smith Clark, P.E. dated September 23, 2011, and revised on December 05, 2011. The Department shall be notified before any changes, other than minor deviations, to the approved Operation Plan are implemented in order to determine whether a permit modification is required.

2. Authorized Waste and Material Types. The facility is authorized to manage only the following:
 - a. Construction and demolition debris as defined in **Rule 62-701.200, F.A.C.**
 - b. Recovered materials as defined in **Rule 62-701.200, F.A.C.**
3. Unauthorized Waste Types. The facility is not authorized to accept or manage any waste types not listed in C.2. above. In addition, the facility is not authorized to accept or manage garbage, putrescible wastes, asbestos, and hazardous waste. Any unauthorized waste inadvertently received by the facility shall be managed in accordance with the approved Operation Plan.
4. Maximum Storage Quantities. The permittee shall not store in exceedance the lesser of the permitted volume or total volume given in the most current approved closure cost estimate backed by a financial assurance mechanism of solid waste (processed or unprocessed) at this facility. **The permittee shall not exceed the volume of any category or waste presented in the closure cost estimate, shown in Appendix A.**

If the facility has reached its permitted capacity for storage of wastes or recyclable materials, the permittee shall not accept additional waste for processing until sufficient capacity has been restored. Provisions shall be made for evaluating the quantity of all incoming solid waste and recovered materials. Storage areas shall be designed to hold the volume of materials, as estimated in the permit application until they are transferred for disposal or recycling. **[Rule 62-701.710(4)(i), F.A.C.]**

5. Facility Capacity. The facility shall not process more than 4,320 cubic yards of the waste per day.
6. Contingency Plan and Notification of Emergencies. The Permittee shall notify the Department in accordance with the approved Contingency Plan. Notification shall be made to the Solid Waste Section of the Palm Beach County Health Department at 561-837-5900.
7. Objectionable Odor Prohibited: The facility shall be operated to control objectionable odors in accordance with Rule 62-296.320(2), F.A.C. **[Rule 62-701.710(4)(d), F.A.C.]**
8. Dust: The owner or operator shall not allow the unconfined emissions of particulate matter in violation of Rule 62-296.320(4)(c), F.A.C. **[Rule 62-701.300(15), F.A.C.]**
 - a. No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials; construction, alteration, demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such emissions.
 - b. Reasonable precautions include the following:
 - (1) Paving and maintenance of roads, parking areas and yards.
 - (2) Application of water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing.
 - (3) Application of asphalt, water, oil, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar activities.
 - (4) Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the facility to prevent reentrainment, and from buildings or work areas to prevent particulate from becoming airborne.
 - (5) Landscaping or planting of vegetation.
 - (6) Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter.

- (7) Confining abrasive blasting where possible.
- (8) Enclosure or covering of conveyor systems.

[Rule 62-296.320(4)(c), F.A.C.]

9. Putrescible Wastes. Stored putrescible wastes shall not be allowed to remain unprocessed for more than 48 hours, however, if the operation plan includes provisions to control vectors and odors, putrescible wastes may be stored for up to seven days. Areas where waste is stored shall be cleaned at least weekly to prevent odor or vector problems, and all drains and leachate conveyances shall be kept clean so that leachate flow is not impeded. **[Rule 62-701.710(4)(b), F.A.C.]**

Storage of waste in containers shall be done in a manner that does not result in vector breeding or animal attraction or discharge of contaminants to the land or ground water or surface water, a public nuisance or violations of the conditions of this permit.

10. Hazardous Waste. If any regulated hazardous wastes are discovered to be deposited at the facility, the facility operator shall promptly notify the Department, the person responsible for shipping the wastes to the facility, and the generator of the wastes, if known. The area where the wastes are deposited shall immediately be cordoned off from public access. If the generator or hauler cannot be identified, the facility operator shall assure the cleanup, transportation, and disposal of the waste at a permitted hazardous waste management facility. In the event that hazardous wastes are discovered they shall be managed in accordance with the procedures provided in facility Operation Plan. **[Rule 62-701.710(4)(h), F.A.C.]**
11. Asbestos: This facility shall not accept or process any materials suspected of being asbestos or biomedical wastes. Should any asbestos, and/or biomedical wastes be delivered at the facility, the permittee shall immediately notify the Health Department, and shall arrange for the wastes to be returned to the generator or disposed of in accordance with applicable Department rules.
12. Tipping of all solid waste shall be conducted on the concrete pad. All solid waste that is not allowed to be processed on-site (unauthorized waste) shall be separated from the incoming solid waste on the concrete pad.
13. All separated materials and final products shall be kept in storage containers. No materials shall be placed outdoors on the ground, with the exception of concrete, brick, aggregates, stone, rock, wood, wood chips and processed/unprocessed yard trash.
14. All processing of incoming solid waste, except for yard trash and clean, untreated wood, into final products must be completed by the end of every working day. All solid waste that is not allowed to be processed on-site (unauthorized waste) shall be separated from the incoming waste immediately upon receipt.
15. Enclosed Areas: Tipping and processing areas that are in an enclosed building or a covered area shall have ventilations systems. The areas that are not enclosed shall be equipped with litter control devices and visual screening. **[Rule 62-701.710(3)(a), F.A.C.]**
16. Controlled Access: Access to the facility shall be controlled during the active life of the facility by fencing or other effective barriers to prevent disposal of unauthorized solid waste. **[Rule 62-701-710(4)(f), F.A.C.]**
17. Stormwater: Stormwater shall be controlled in accordance with Part IV of Chapter 373 F.S., and the rules promulgated there under. Applicants should be aware that other government agencies may also regulate stormwater management and may require separate permits. **[Permit Number 154998-012-SO]**

D. Operator/spotter Training Requirements

1. Operators and Spotters on Duty: Operators and spotters shall be trained in accordance with **Rule 62- 701.320(15), F.A.C.**
 - a. Trained operator shall be on duty whenever the facility is operating. Operating hours shall be posted at the facility.
 - b. At least one trained spotter shall be on duty at all times that waste is received at the site to inspect the incoming waste. Any unauthorized waste shall be removed from the waste stream and placed into appropriate containers for disposal at a permitted facility, in accordance with a schedule submitted as part of the operation plan.

[Rules 62-701.710(4)(c), F.A.C.]

2. Operator and spotter training and special criteria: The permittee is required to have trained operators or spotters, and shall not employ a person to perform, nor may any person perform, the duties of an operator or spotter at such facility unless that person is a trained operator or trained spotter. The permittee may employ interim spotters, but only if they work under the direct supervision of a trained spotter or trained operator. The permittee may employ an interim operator in lieu of a trained operator for no more than three consecutive months.
 - (a) The permittee shall ensure that operators employed at the facility are properly trained to operate the facility, and that spotters are properly trained to identify and properly manage any unauthorized waste, which is received at the facility. A training plan shall be included as part of the permit application. The training plan shall either include a list and schedule of those classes offered to the public which will be attended by the facility's operators and spotters, or shall include a description of the facility's in-house training program. All training courses, whether public or in-house, must be approved by the Department in accordance with Section 403.716, F.S. Any in house operator training program, which includes an examination required, must be administered by an independent third party. Any other in-house operator training program must be administered by a trained operator. Any in-house spotter training program must be administered by a trained operator or a trained spotter. The training plan, along with records documenting how the training plan is being implemented, shall be kept at the facility at all times and be made available for inspection by Department staff. The Department will maintain a list of relevant training courses, which are available in this State.
 - (b) In order to be considered trained, operators of the following facilities shall complete the following training requirements at courses described in the facility's operating plan:
 1. Operators of waste processing facilities shall complete 16 hours of initial training, and shall pass an examination as part of that training. Within three years after passing the examination, and every three years thereafter, operators shall complete an additional 8 hours of continued training.
 - (c) In order to be considered trained, spotters shall complete 8 hours of initial training at courses described in the facility's operating plan. Within three years after attending the initial training, and every three years thereafter, spotters shall complete an additional 4 hours of continued training.
 - (d) Spotter location
 1. The facility shall include in its operation plan the number and location of spotters and the procedures to be followed if unauthorized waste is discovered. Spotters shall be stationed where they can inspect each shipment of waste for unauthorized waste.

2. If spotters are to be located on heavy equipment spreading at the facility, the operation plan shall specifically provide for the following:
 - a. The heavy equipment operator is trained as an operator or spotter;
 - b. When unauthorized waste is discovered, the heavy equipment operator must either move the unauthorized waste away from the active area for later removal and proper management, or must stop operation and notify another person on the ground or on other equipment who will come to the active area and remove the unauthorized waste before operations are resumed; and
 - c. Each load of waste must be visually inspected for unauthorized waste prior to being compacted or loaded into a transfer vehicle.
- (e) Notwithstanding the definition in Rule 62-701.200, F.A.C., “operator” means any person, including the owner, who is principally engaged in, and is in charge of, the actual operation, supervision, and maintenance of a solid waste management facility and includes the on-site person in charge of a shift or period of operation during any part of the day, such as facility managers, supervisors and equipment operators. It does not include office personnel, laborers, equipment operators not in a supervisory capacity, transporters, corporate directors, elected officials, or other persons in managerial roles unless such persons are directly involved in on-site supervision or operation of a solid waste management facility. A trained operator may perform the duties of a trained spotter.
- (f) “Interim operator” means a person who has, in the opinion of the facility manager, shown competency in his chosen occupation through a combination of work experience, education and training and who has at least one year of experience at that facility or a similar facility. An interim operator must become a trained operator within one year of employment as an interim operator.
- (g) “Spotter” means a person employed at a solid waste management facility whose job it is to inspect incoming waste and to identify and properly manage any unauthorized waste that is received at the facility.
- (h) “Interim spotter” means a person who has, in the opinion of the facility manager, shown competency in his chosen occupation through a combination of work experience, education and training. An interim spotter must become a trained spotter or trained operator within three months of employment as an interim spotter.

[Rule 62-701.320(15), F.A.C.]

E. Emergency Preparedness and response

1. Every permitted solid waste management facility shall have, as part of its operation plan, a contingency plan appropriate for the type of facility to cover operational interruptions and emergencies such as fires, explosions, or natural disasters. The contingency plan shall be kept at the facility at all times and shall be accessible to facility operators. The contingency plan shall include:
 1. Designation of persons responsible for implementation of the contingency plan;
 2. Procedures for notification of appropriate emergency response persons, including the department, the local government, and local fire protection agencies;

3. A description of emergency procedures to be followed, including the location of fire-fighting equipment and explanations of how to use this equipment;
4. Provisions for the immediate shutting down of those parts of the facility affected by the emergency and notification to customers of the closure of the facility; and
5. Procedures for notification of neighbors and local government officials of the potential impacts of the emergency, and provisions to minimize those impacts.

[Rule 62-701.320(16)(a), F.A.C.]

2. Fire Protection:

- (b) In the case of a fire within the waste pile at a solid waste management facility, all reasonable efforts shall be made to immediately extinguish or control the fire. If the fire cannot be extinguished or controlled within an hour, the owner or operator shall immediately:
 1. Implement the contingency plan which is included as part of its operation plan;
 2. Cease accepting waste for disposal in those areas of the facility impacted by the fire; and
 3. Notify the department and the local government having jurisdiction over the facility of the fire and of the fire control plan being implemented by the owner or operator;
- (c) If the fire cannot be extinguished or controlled within 48 hours, the owner or operator shall notify the local fire protection agency and seek its assistance, and shall also notify the local government and any neighbors likely to be affected by the fire

[Rule 62-701.320(16)(c), F.A.C.]

F. Water Quality Monitoring Requirements

1. Zone of Discharge. The zone of discharge for this site shall be in accordance with the requirements of **Rule 62-520.465, F.A.C.** and extend horizontally to the property boundary as shown in **Appendix D** and extend vertically to the first confining layer. The permittee shall ensure that Class G-II water quality standards will not be exceeded at the boundary of the zone of discharge, per **Rule 62-520.420, F.A.C.**, and that ground water minimum criteria will not be exceeded outside the boundary of the zone of discharge, per **Rule 62-701.320(17), F.A.C.**
2. Waste processing facilities which accept only C & D debris are exempt from the requirement to provide a leachate control system according to **Rule 62-701.710(3)(b), F.A.C.**, provided that all areas where waste is stored or processed are covered by a ground water monitoring system which meets the requirements of Rule 62-701.730(4)(b), F.A.C. **[Rule 62-701.710(1)(d)2., F.A.C.]**

The facility has a ground water monitoring network -- **shown in Appendix C** -- that covers all areas where waste is stored and processed.
3. The facility shall install a minimum of one upgradient and two downgradient wells. **[Rule 62-701.730(8)(b), F.A.C.]**
4. Monitoring Wells and Installation of New Wells: The location of each monitor well in degrees, minutes and seconds (to two decimal places) of latitude and longitude, and the elevation of the top of the well casing to the nearest 0.01 foot, using a consistent, nationally recognized datum shall be determined by a Florida Licensed Professional Surveyor and Mapper, within fourteen (14) days of the certified completion of all wells proposed for this permit. The location information required in **[Permit Number 154998-012-SO]** shall be included. Upon completion of each well, Form 62-701.900(30), Monitoring

Well Completion Report, shall be submitted to the Health Department to report details of the well construction and location.

An identification number shall be assigned by the Department to each monitoring well in accordance with the Department’s Water Assurance Compliance System (WACS) database. The identification number shall be used on all water quality monitoring reports.

The facility proposes to close the existing well (MW-5C), and to install a new well (MW-5R2) at the northeast corner of the facility.

All monitor wells shall be clearly identified and maintained in good condition to prevent or minimize sampling interferences, loss of well integrity or vandalism. All monitoring wells shall have well maintained concrete pads and be properly sealed and locked. Monitor wells finished above grade shall be protected by bumper guards and steel risers. Monitor wells finished at or below grade shall have traffic bearing, steel plate cover assemblies.

The permittee shall maintain reasonable access to all of the monitoring well stations required by this permit. The permittee is responsible for maintaining the integrity of the monitoring well stations and protecting them from destruction or vandalism. Should any of these monitoring well stations be damaged or vandalized in any manner, or destroyed, the permittee shall notify the Department immediately upon discovery. The notification shall include pertinent information as to the cause, and what steps are being taken to replace the monitoring well station and to prevent the recurrence of such problems.

[Rule 62-701.510(3)(d), F.A.C.]

5. Notification to the Health Department: The Health Department shall be notified in writing as least fourteen (14) days prior to any well installation or regular sampling event so that the Department, if desired, may observe the drilling, sampling, or collect split samples.
6. The monitoring wells shall be sampled and analyzed at least **semi-annually** for the following parameters.

| Field Parameters | Laboratory Parameters | |
|---|------------------------|-------------------|
| pH | Aluminum | Arsenic |
| Turbidity | Chlorides | Cadmium |
| Temperature | Nitrate | Chromium |
| Specific Conductivity | Sulfate | Lead |
| Dissolved Oxygen | Total Dissolved Solids | Mercury |
| Water elevations | Iron | Total Ammonia – N |
| Colors and Sheens (by observation) | Sodium | Xylenes |
| Those parameters listed in EPA methods 601 and 602 (See Appendix EPA-601/602) | | |

The owner or operator of the facility may request a permit modification from the Health Department to delete specific laboratory parameters or field parameters from routine analyses of detection wells. The Department will grant a request for a permit modification upon a demonstration that these parameters are not reasonably expected to be in or derived from the waste, which was received or disposed of at the facility. **[Permit Number 154998-012-SO]**

7. Sampling and analysis for **initial background ground water quality** shall be for the parameters listed below.

| Field Parameters | Laboratory Parameters | |
|--|--|-------------------|
| pH | Aluminum | Sulfate |
| Turbidity | Chlorides | Total Ammonia – N |
| Temperature | Nitrate | Mercury |
| Specific Conductivity | Total | Dissolved Iron |
| Dissolved Oxygen | Sodium | |
| Static water level in wells before purging | Parameters listed in 40 CFR Part 258 Appendix I (See Appendix CFR-258/I) | |
| Colors and Sheens (by observation) | Parameters listed in 40 CFR Part 258 Appendix II (See Appendix CFR-258/II) | |

[Permit Number 154998-012-SO]

8. All background and detection wells shall be sampled and analyzed at least **once prior to permit renewal** for the following parameters.

| Field Parameters | Laboratory Parameters | |
|--|---|-------------------|
| pH | Aluminu | Sulfate |
| Turbidity | Chlorides | Total Ammonia – N |
| Temperature | Nitrate | Mercury |
| Specific Conductivity | Total | Dissolved Iron |
| Dissolved Oxygen | Sodium | |
| Static water level in wells before purging | Those parameters listed in 40 CFR Part 258 Appendix | |
| Colors and Sheens (by observation) | | |

[Permit Number 154998-012-SO]

9. The owner or operator shall notify the Health Department at least 14 days before the sampling is scheduled to occur so that the Department may collect split samples.

[Rule 62-701.510(8)(a), F.A.C.]

10. Electronic Reporting. Required water quality monitoring reports and all ground water, surface water and leachate analytical results shall be submitted electronically. Water quality monitoring reports shall be submitted in Adobe pdf format. The water quality data Electronic Data Deliverable (EDD) shall be provided to the Department in an electronic format consistent with requirements for importing the data into the Department's databases. Water quality monitoring reports shall be signed and sealed by a Florida registered professional geologist or professional engineer with experience in hydrogeological investigations and shall include the following:
- a) Cover letter;
 - b) Summary of exceedances and sampling problems, if any (e.g., variation from SOP field criteria);
 - c) Conclusions and recommendations;
 - d) Ground water contour maps;
 - e) Chain of custody forms;
 - f) Water levels, water elevation table;
 - g) Ground Water Monitoring Report Certification, using the appropriate Department form;

- h) Appropriate sampling information on Form FD 9000-24 (DEP-SOP-001/01); and,
- i) Laboratory and Field EDDs and error logs, as applicable.

All submittals in response to this specific condition shall be sent both to:

Palm Beach County Health Department

Air and Waste Section
P.O. Box: 29
800 Clematis Street
West Palm Beach, FL 33402

And to:

Florida Department of Environmental Protection

Solid Waste Section
2600 Blair Stone Road, MS 4565
Tallahassee, Florida, 32399-2400

11. Technical Report: A technical report signed and sealed by a professional geologist or professional engineer with experience in hydrogeologic investigations, shall be submitted to the Health Department every two and one-half years. The report shall summarize and interpret the water quality and leachate monitoring results and water level measurements collected during the past two and one-half years. The permittee shall include form 62-701.900(31), Water Quality Monitoring Certification, with each report certifying that the laboratory results have been reviewed and approved by the permittee. The report shall contain, at a minimum, the following:
- (1) Tabular displays of any data which shows that a monitoring parameter has been detected, and graphical displays of any leachate key indicator parameters detected (such as pH, specific conductance, TDS, TOC, sulfate, chloride, sodium and iron), including hydrographs for all monitor wells;
 - (2) Trend analyses of any monitoring parameters consistently detected;
 - (3) Comparisons among shallow, middle, and deep zone wells;
 - (4) Comparisons between background water quality and the water quality in detection and compliance wells;
 - (5) Correlations between related parameters such as total dissolved solids and specific conductance;
 - (6) Discussion of erratic and/or poorly correlated data;
 - (7) An interpretation of the ground water contour maps, including an evaluation of ground water flow rates; and
 - (8) An evaluation of the adequacy of the water quality monitoring frequency and sampling locations based upon site conditions.

[Rule 62-701.510(8)(b), F.A.C.]

12. The ground water monitoring plan received for this site in August 2001 with revisions was approved on August 30, 2001, pursuant to Rule 62-522.600, F.A.C., Chapters 62-302 and 62-701, F.A.C. The ground water monitoring plan was modified pursuant to application signed and sealed by the Brenda Clark, P.E. on September 23, 2011.

13. Evaluation monitoring and prevention measures:

- a) If monitoring parameters are detected in detection wells in concentrations which are significantly above background water quality, or which are at levels above the Department's water quality standards or criteria specified in Chapter 62-520, F.A.C., the permittee may resample the wells within 30 days after the sampling data is received, to confirm the data. Should the permittee choose not to resample, the Department will consider the water quality analysis as representative of current ground water conditions at the facility. If the data is confirmed, or if the permittee chooses not to resample, the permittee shall notify the Department in writing within 14 days of this finding.

Upon notification by the Department, the permittee shall initiate evaluation monitoring as follows:

1. Routine monitoring of all monitoring wells shall continue according to the requirements of specific condition F.6..
2. Except as provided in specific condition F.13(b), within 90 days of notification from the Health Department to initiate evaluation monitoring and annually thereafter, the permittee shall sample and analyze a representative sample of the background wells and all affected detection wells for the parameters listed in specific condition F.7. Any new parameters detected and confirmed in the affected downgradient wells shall be added to the routine ground water monitoring parameter lists required in specific condition F.6 for the affected wells.
3. Within 90 days of notification from the Health Department to initiate evaluation monitoring, the permittee shall install and sample compliance monitoring wells at the compliance line of the zone of discharge and downgradient from the affected detection monitoring wells. These wells shall be installed according to the requirements of specific condition F.4. Except as provided in specific condition F.13.(b), samples from these wells and the affected detection wells shall be analyzed quarterly for the parameters listed in specific condition F.8., and any other parameters detected in the affected detection and downgradient wells sampled in the above condition F.13.(a)2., and annually for the parameters listed in specific condition F.7. If any contaminants are detected and confirmed in compliance wells in concentrations that exceed both background levels and Department water quality standards or criteria, then the provisions of specific condition F.14 apply; otherwise the following subsections apply.
4. Within 180 days of notification from the Department to initiate evaluation monitoring, the permittee shall submit a contamination evaluation plan to the Health Department. This plan shall be designed to delineate the extent and cause of the contamination, in order to predict the likelihood that Department water quality standards will be violated outside the zone of discharge, and to evaluate methods to prevent any such violations. After the Health Department and the permittee agree that the plan is so designed, the permittee shall implement this plan and submit a contamination evaluation report in accordance with the plan. All reasonable efforts shall be made by the permittee to prevent further degradation of water quality from the facility's activities.
5. If the contamination evaluation report indicates that water quality standards of criteria are likely to be violated outside the zone of discharge, the permittee shall, within 90 days, submit a prevention measures plan to the Health Department. Upon approval, the permittee shall initiate prevention measures to prevent such violations.
6. The owner or operator may request a permit modification from the Health Department to use an alternate monitoring frequency, for repeated sampling during evaluation monitoring. The Health Department will grant such modification upon a demonstration that the alternate frequency is appropriate based upon site specific lithology of the aquifer and unsaturated zone, hydraulic

conductivity of the aquifer and unsaturated zone, ground water flow rates, minimum distance of travel and the fate and transport of parameters detected.

7. The owner or operator may request a permit modification from the Health Department to delete specific monitoring parameters or field parameters from evaluation analyses of detection or compliance wells. The Health Department will grant such modification upon a demonstration that these parameters are not reasonably expected to be in or derived from the waste contained in the unit.
 8. The permittee shall not discontinue evaluation monitoring, and return to routine monitoring only, until authorized to do so by the Department. The Department shall make this determination based upon the results of the contamination evaluation report and other relevant water quality data.
- (b) If the parameters detected in the detection wells identified in specific condition F.13.(a) consist only of iron, aluminum, manganese, sulfates, or total dissolved solids (TDS), either individually or in any combination, then only the detected parameters are required to be monitored in the representative background wells, affected detection wells and downgradient compliance wells required rather than the parameters listed in specific condition 42.

[Rules 62-701.510(6)(a) & (b), F.A.C.]

14. Corrective Actions: If any contaminants are detected and confirmed in compliance wells in concentrations that exceed both background levels and Department water quality standards or criteria, the permittee shall notify the Department within 14 days of this finding and shall initial corrective actions. Corrective actions shall comply with the applicable provisions of Chapter 62-780, F.A.C. Evaluation monitoring shall continue according to the requirements of specific condition 47(a).

Chapter 62-780, F.A.C. applies only to violations of ground water quality standards and criteria outside of the facility's permitted zone of discharge. Nothing herein is intended to limit a person's liability for site rehabilitation resulting from unauthorized spills, leaks, or discharges of pollutants or hazardous substances.

1. The provisions in Chapter 62-780, F.A.C. regarding assessment and remediation of contamination in soils do not apply.
2. The provisions in Chapter 62-780, F.A.C. regarding source removal, de minimis discharges, emergency response actions, interim source removal, do not apply.
3. To the extent that any requirements in Chapter 62-780, F.A.C. regarding notice, quality assurance, professional certification, frequency of sampling events, emergency response, or long-term care may conflict with similar requirements in Chapter 62-701, F.A.C., or in a facility's permit conditions, the requirements in Chapter 62-701, F.A.C. or the facility's permit, shall govern.

[Permit Number 154998-012-SO]

G. Gas Management System Requirements

[There are no gas management requirements for this facility.]

H. Closure Requirements

1. General Closure Requirements. The Permittee shall close the waste processing facility in accordance with the provisions of the approved Closure Plan. The Department shall be notified before any changes, other than minor deviations, to the approved Closure Plan are implemented in order to determine whether a permit modification is required.

2. Closure of the Facility: The facility shall comply with the closure plan submitted by the applicant as specified in condition no. C.1.

The permittee shall notify the Health Department in writing prior to ceasing operations, and shall specify a closing date. No waste shall be received by the facility after the closing date.

Within 30 days after receiving the final solid waste shipment, the permittee shall remove or otherwise dispose of all solid waste or residue in accordance with the approved closure plan. Stored putrescible wastes shall continue to be managed in accordance with Rule 62-701.710(4)(b), F.A.C.

Closure must be completed within 180 days after receiving the final solid waste shipment. Closure will include removal of all recovered materials from the site, as well as performing any contamination evaluation required by paragraph 62-701.710(2)(d)2., F.A.C. When closure is completed, the permittee shall certify in writing to the Health Department that closure is complete. The Health Department will make an inspection within 30 days to verify the closure and advise the permittee of the closure status.

[Permit Number 154998-012-SO]

3. Notifications. The Permittee shall notify the Department prior to ceasing operations, and shall submit a written certification to the Department when closure is complete.

I. Financial Assurance and Cost Estimates

1. Financial Assurance Mechanism. The permittee shall maintain, in good standing, the financial assurance mechanisms established to demonstrate proof of financial assurance. Support documentation and evidence of inflation adjustment increases shall be submitted within the time frames specified in Rule 62- 701.630, F.A.C.

All submittals in response to this specific condition shall be sent to:

Florida Department of Environmental Protection
Financial Coordinator - Solid Waste Section
2600 Blair Stone Road, MS 4565
Tallahassee, Florida 32399-2400

2. Annual Cost Estimates. The permittee shall annually adjust the closure cost estimate(s) for inflation using Form 62-701.900(28). Adjustments shall be made in accordance with Rule 62-701.630(4), F.A.C. and, as applicable, 40 CFR Part 264.142(a) and 264.144(a). An owner or operator using a letter of credit, guarantee bond, performance bond, financial test, corporate guarantee, trust fund or insurance shall submit the adjusted cost estimate(s) between January 1 and March 1. An owner or operator using an escrow account shall submit the adjusted estimate(s) between July 1 and September 1.

All submittals in response to this specific condition shall be sent to:

Palm Beach County Health Department
Air & Waste Section
800 Clematis Street [Rm# 405]
P.O. Box 29
West Palm Beach, FL 33402

with a copy to:

Florida Department of Environmental Protection
Financial Coordinator - Solid Waste Section

2600 Blair Stone Road, MS 4565
Tallahassee, Florida 32399-2400

J. Reporting Requirements

1. The permittee shall submit a monthly operating report (MOR) by the fifteenth (15) day of the succeeding month to:

Palm Beach County Health Department Air & Waste Section
800 Clematis Street [Rm# 405]
P.O. Box 29
West Palm Beach, FL 33402

MOR reports shall include the following information:

 - (a) Types and quantities of solid wastes received (cubic yards and/or tons);
 - (b) Types and quantities of solid wastes recycled;
 - (c) Types and quantities of solid waste remaining at the facility (cubic yards and/or tons); and
 - (d) Quantities of wastes that are landfilled, along with the name of the landfill(s).
2. The permittee shall complete DEP Form 62-701.900(7), "Annual Report for C&D Debris Facilities" attached as Appendix B, submit by April 1, of each year to the following offices. This report shall include a summary of the amounts and types of wastes disposed of or recycled, and shall cover the preceding calendar year. The county of origin of materials which are recycled, or a statement that the county of origin is unknown, shall be included in the report

Florida Department of Environmental Protection
Solid Waste Program Administrator
MS 4565
2600 Blair Stone Road Tallahassee, FL 32399-2400;

and to:

Palm Beach County Health Department Air & Waste Section
800 Clematis Street [Rm# 405]
P.O. Box 29
West Palm Beach, FL 33402

[Permit Number 154998-012-SO]

K. Record Keeping Requirements

1. A record book shall be kept on site with the following information entered on a daily basis. The records shall include the county of origin of the waste, if known. These records shall include each type of solid waste, recovered materials, residuals, and unacceptable waste which is processed, recycled, and disposed. Such records shall be compiled on a monthly basis and shall be available for inspection by the Department. The records shall be retained at the facility for three years. [Rule 62- 701.710(9)(a), F.A.C.]
 - (a) Quantity of solid waste received, processed, stored, removed (in cubic yards & by type)
 - (b) Quantity of recyclable material recovered (in cubic yards & by type)
 - (c) Quantity of recyclable material marketed (in cubic yards & by type)
 - (d) Quantity of solid waste disposed of (in cubic yards & by type) and location

L. Residuals and Recovered Screen Materials (RSM) Requirement

1. The facility is not authorized to produce RSM. Production of RSM and reuse of RSM shall require prior approval from the Health Department. **[Rule 62-701.730(13)(c), F.A.C.]**

Executed in Palm Beach County, Florida

FLORIDA DEPARTMENT OF HEALTH PALM BEACH COUNTY

Laxmana Tallam, P.E., Environmental Administrator
Air and Waste Section
Division of Environmental Public Health

FILED, on this date, pursuant to Section 120.52, F.S. with the designated Department Clerk, receipt of which is hereby acknowledged.

Clerk

Date

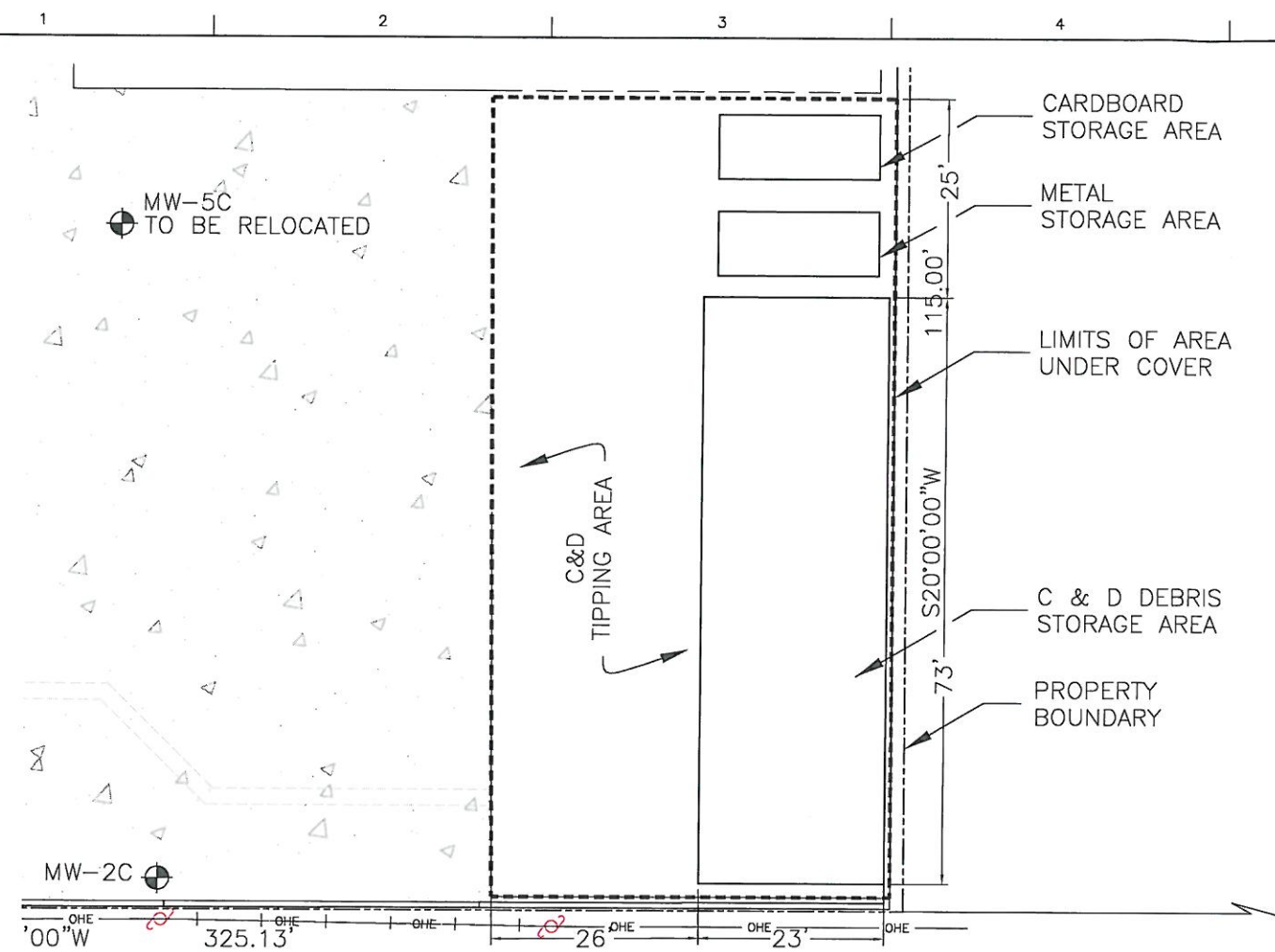
LIST OF APPENDECIES

| | |
|----------------------|--|
| Appendix A | Details of Storage Areas of Each Waste Category |
| Appendix B | Annual Report for C&D Debris Facilities |
| Appendix C | Existing/Proposed ground water monitoring wells and GW direction |
| Appendix D | Zone of Discharge (ZOD) - Property Boundary |
| Appendix EPA-601/602 | Parameters listed in EPA Methods 601 and 602 |
| Appendix CFR-258/I | Parameters listed in 40 CFR Part 258 Appendix I |
| Appendix CFR_258/II | Parameters listed in 40 CFR Part 258 Appendix II |

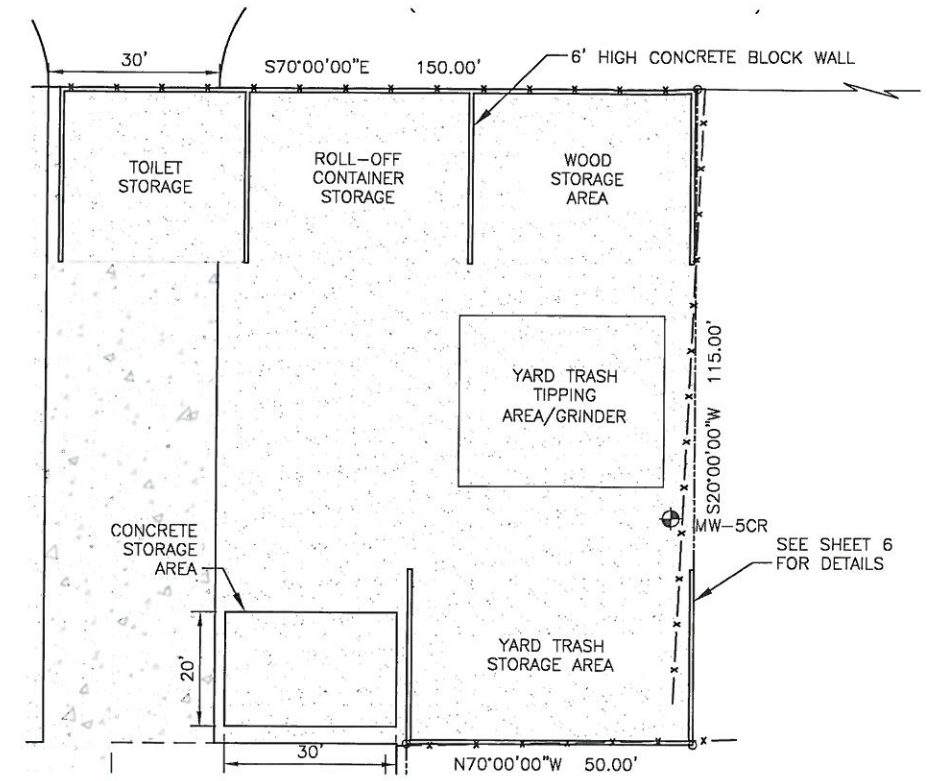
APPENDIX A

DETAILS OF STORAGE AREAS OF EACH WASTE CATEGORY

P:\01 - Solid Waste\Sun Recycling\14 - Monthly\165402\10 - Sun Recycling 9\13.00_CADD\RAI#1\Sheet Files\00C-06.dwg. Layout1, 12/5/2011 3:24:19 PM, CCarvajal



1
5
DETAIL
AREA UNDER COVER
SCALE: 1"=10'



2
5
DETAIL
YARD TRASH AREA
SCALE: 1"=15'

| MATERIAL VOLUME SUMMARY | | | | |
|-------------------------|------------------------|-------------|--------|--------|
| MATERIAL | AREA | DIMENSIONS | HEIGHT | VOLUME |
| C&D | TIPPING AREA | 26FT X 98FT | 4FT | 200 CY |
| C&D | STORAGE AREA | 23FT X 73FT | 5FT | 150 CY |
| CARDBOARD | ROLL-OFF CONTAINER | | | 20 CY |
| METAL | ROLL-OFF CONTAINER (2) | | | 40 CY |
| WOOD | STORAGE AREA | 30FT X 38FT | 5FT | 105 CY |
| CONCRETE | STORAGE AREA | 20FT X 30FT | 3FT | 35 CY |
| YARD TRASH | TIPPING AREA | 30FT X 36FT | 4FT | 85 CY |
| YARD TRASH | STORAGE AREA | 30FT X 50FT | 5FT | 139 CY |



| ISSUE | DATE | DESCRIPTION |
|-------|-----------|--------------------------------------|
| 1 | DEC. 2011 | RAI#1 REVISION TO STORAGE QUANTITIES |

| | |
|-----------------|----------------|
| PROJECT MANAGER | B. CLARK, P.E. |
| P.E. NO. | 42754 |
| DRAWN BY | C. CARVAJAL |
| DATE | |
| PROJECT NUMBER | 165402 |

Brenda Antmitch, Clark
5 December 2011

ENGINEERING DRAWINGS
 SOLID WASTE PERMIT
 MODIFICATION APPLICATION
 SUN RECYCLING 9
 1025 26th STREET
 WEST PALM BEACH, FL 33407

| | | |
|-------------------------------|------------|-------|
| COVERED AREA PLAN AND DETAILS | | |
| FILENAME | 00C-06.DWG | SHEET |
| SCALE | | 6 |

APPENDIX B

Annual Report for a Construction and Demolition Debris Facility

Annual Report for a Construction and Demolition Debris Facility

Converting C&D Debris from Volume to Weight
A Fact Sheet for C&D Debris Facility Operators

Background: Florida regulations require that permitted C&D facilities in the State report to the Florida Department of Environmental Protection (FDEP), by April 1 of each year, the amounts and types of wastes managed during the previous year. This requirement for C&D facilities was developed, as with the certification of recyclers program, to help determine if Counties over a population of 75,000 will meet the 30 percent waste reduction goal set forth in the law.

Problem: The FDEP tracks the amount of waste managed by weight (in tons). Many C&D facilities do not have scales though and only measure their waste by volume (in cubic yards).

Solution: A simple equation can be used to convert the volume of C&D debris (in cubic yards or yd^3) to weight (in tons):

$$\text{Weight of C\&D Debris} = \text{Volume of C\&D Debris} \times 0.24 \text{ tons/yd}^3$$

Example Calculation:

A C&D disposal facility receives 100,000 cubic yards of C&D debris in one year. The number of tons of C&D debris is calculated as follows:

$$\text{Weight of C\&D Debris} = 100,000 \text{ yd}^3 \times 0.24 \text{ tons/yd}^3 \text{ of C\&D}$$

$$\text{Weight of C\&D Debris} = 24,000 \text{ tons}$$

How was the conversion factor calculated?

The conversion factor, or average bulk density, was calculated by measuring the actual weights of loads of mixed C&D from facilities in Florida and comparing those weights to the volumes of the loads. Specifically, researchers at the University of Florida measured the weights, in tons, of 171 different loads of C&D debris at 10 facilities in the State and recorded the volume, in cubic yards, of each truck or container weighed. The conversion factor was then calculated by dividing the total weight by the total volume. For mixed C&D loads in Florida, the average bulk density was measured to be 484 pounds per cubic yard or approximately 0.24 tons of C&D per cubic yard. The graph at http://www.dep.state.fl.us/waste/quick_topics/forms/documents/62-701/reduction/converting.doc shows the distribution of C&D bulk densities that were measured by the researchers.



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road, MS 4555
Tallahassee, Florida 32399-2400

DEP Form #: 62-701.900(7), F.A.C.
Form Title: Annual Report for a Construction and Demolition Debris Facility
Effective Date: January 6, 2010
Incorporated in Rule: 62-701.710(9), F.A.C.

Annual Report for a Construction and Demolition Debris Facility

NOTE: Use one of these forms for each county from which the facility received materials

1. Company Name: _____
2. Name of Facility: _____ Landfill MRF TS
3. Physical Address: _____
4. Mailing Address: _____
5. County Location: _____
6. Debris County of Origin: _____
7. Company Contact: _____
(the individual responsible for this information)
8. Phone Number: _____ E-Mail: _____

| MATERIAL TYPES | MATERIALS RECOVERED | TOTAL TONS RECYCLED (SHIPPED) |
|---|--|--|
| <u>ASPHALT</u> | Used for _____ | Subtotal Asphalt _____ |
| <u>CONCRETE</u> | Source: Roads, Bridges, Sidewalks, Curbs Source: Building Construction/Demolition: Used for fill (lake or land) _____ Used for Road base _____ Other Use _____ | Subtotal Concrete _____ |
| <u>FINES / RECOVERED SCREEN MATERIALS</u> | Used for _____ | Subtotal Fines / RSM _____ |
| <u>WOOD</u> | Daily/Intermediate Cover _____ Waste-to-Energy fuel (see pg.2 for facility list) _____ Other processed fuel _____ Mulch, compost _____ Final cover _____ Other Use _____ | Subtotal Wood _____ |
| <u>LAND CLEARING DEBRIS</u> | Daily/Intermediate Cover _____ Waste-to-Energy fuel (see pg.2 for facility list) _____ Other processed fuel _____ Mulch, compost _____ Final cover _____ Other Use _____ | Subtotal Land Clearing Debris _____ |
| <u>DRYWALL</u> | All | Subtotal Drywall _____ |
| <u>SHINGLES/ROOFING</u> | How used? _____ | Subtotal Shingles/Roofing _____ |
| | | Subtotal Page 1 _____ Subtotal Page 2 _____ |

9. TOTAL TONS OF C&D DEBRIS RECYCLED (add subtotals page 1 & 2 above): _____
10. TOTAL TONS OF C&D DEBRIS DISPOSED (all debris landfilled): on-site off-site _____

Signature (authorized Representative) _____ Title _____ Date

Print Name

**Page 1 of 2
OVER PLEASE!!**

| MATERIAL TYPES | MATERIALS RECOVERED | TOTAL TONS RECYCLED |
|-----------------|---|-------------------------|
| <u>PAPER</u> | Old Corrugated Containers (OCC) | |
| | Other Paper | |
| | | Subtotal Paper _____ |
| <u>PLASTIC</u> | Plastic containers/buckets | |
| | All other plastic | |
| | | Subtotal Plastic _____ |
| <u>METALS</u> | Aluminum | |
| | Other Non-Ferrous (brass, copper, etc.) | |
| | Steel | |
| | Other Ferrous | |
| | | Subtotal Metals _____ |
| <u>TEXTILES</u> | Miscellaneous/carpet | Subtotal Textiles _____ |
| | | Subtotal Page 2 _____ |

Waste to Energy Facilities

- Bay County Resource Recovery
- Broward County N. Resource Recovery
- Broward County S. Resource Recovery
- Dade County Resource Recovery
- Hillsborough County SWE Recovery
- Lake County Resource Recovery
- Lee County SW Resource Recovery
- McKay Bay Refuse to Energy Project
- Southernmost WTE Facility
- North County Regional Resource Recovery
- Pasco County SW Resource Recovery
- Pinellas County Resource Recovery

Processed wood/land clearing debris that goes to any facility for fuel other than above is considered "Other Processed Fuel".

Mail completed form to:

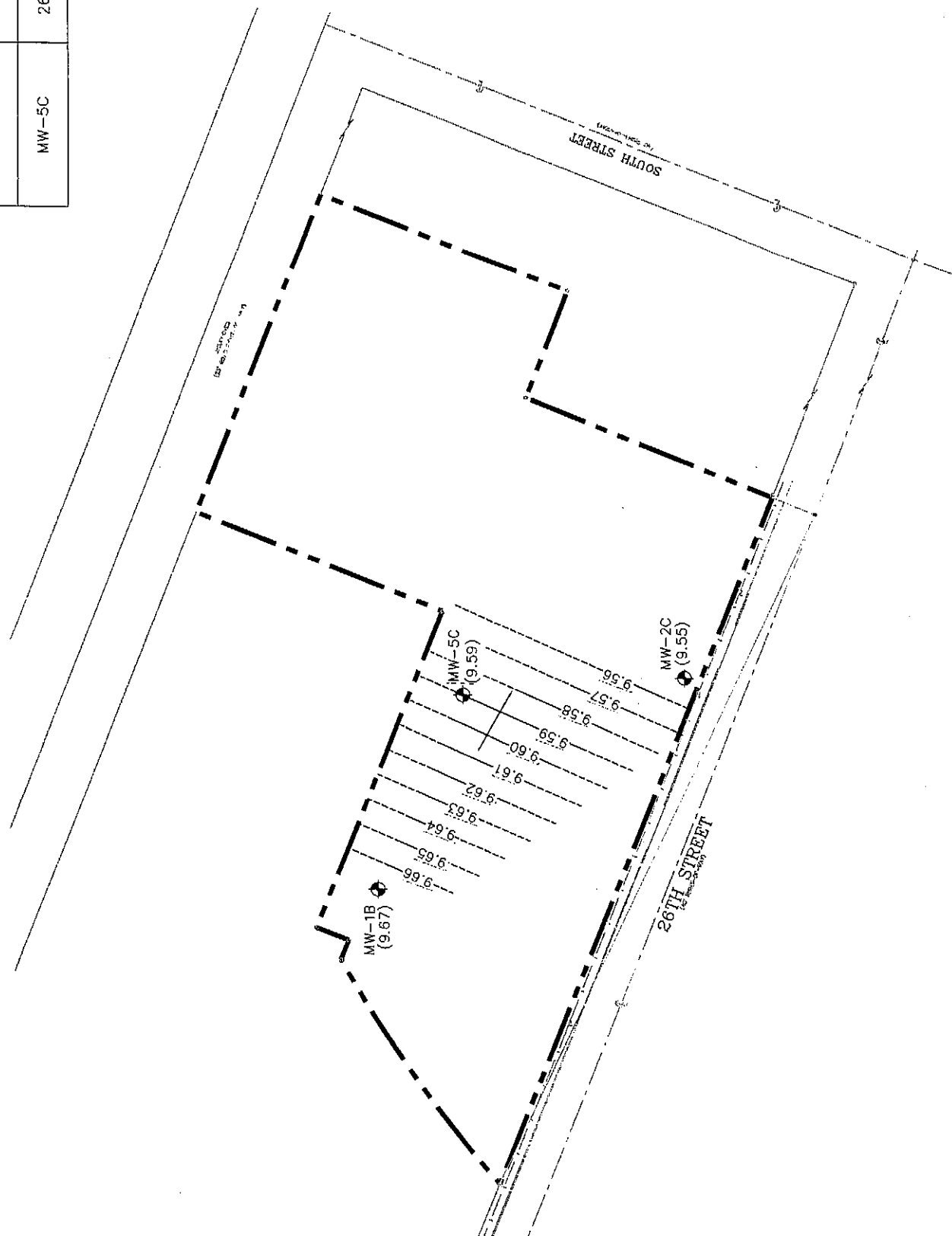
Florida Department of Environmental Protection
 Bureau of Solid & Hazardous Waste
 2600 Blair Stone Road, MS 4555
 Tallahassee, Florida 32399-2400

APPENDIX C

Location of Existing Wells and Ground Water Flow Direction

MONITORING WELL INFORMATION

| MONITORING WELL | LATITUDE (N) | LONGITUDE (W) | TOP OF CASING ELEVATION | DEPTH TO GROUNDWATER | GROUNDWATER ELEVATION |
|-----------------|--------------|---------------|-------------------------|----------------------|-----------------------|
| MW-1B | 26°44'18.50" | 80°03'49.04" | 19.98' | 10.31' | 9.67' |
| MW-2C | 26°44'17.18" | 80°03'49.04" | 21.49' | 11.90' | 9.59' |
| MW-5C | 26°44'18.14" | 80°03'48.09" | 21.85' | 12.30' | 9.55' |



LEGEND

- PROPERTY BOUNDARY
- MW-1B (9.67)
- GROUNDWATER ELEVATION
- DIRECTION OF GROUNDWATER FLOW
- 9.60 GROUNDWATER ELEVATION CONTOUR
- 9.56 APPROXIMATE GROUNDWATER ELEVATION CONTOUR

NOTES:

1. SURVEY DATA PROVIDED BY PINNELL SURVEY, INC.
2. ELEVATIONS PRESENTED ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.
3. GROUNDWATER ELEVATIONS WERE MEASURED BY XENCO LABORATORIES ON 22 DECEMBER 2010.



HDR
 HDR ENGINEERING, INC.
 10000 W. BOYD AVENUE
 SUITE 212
 FORT LAUDERDALE, FLORIDA 33309

| ISSUE | DATE | DESCRIPTION |
|-------|------|-------------|
| | | |
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| | | |

| | |
|--------------------------------|--|
| PROJECT MANAGER B. CLARK, P.E. | |
| DRAWN BY C. CARRAJAL | |
| | |
| PROJECT NUMBER 143260 | |

Pamela Carrajal
 24 January 2011

Sun Recycling 9
 PALM CITY TRANSFER AND RECYCLING
 1025 26th STREET
 WEST PALM BEACH, FLORIDA

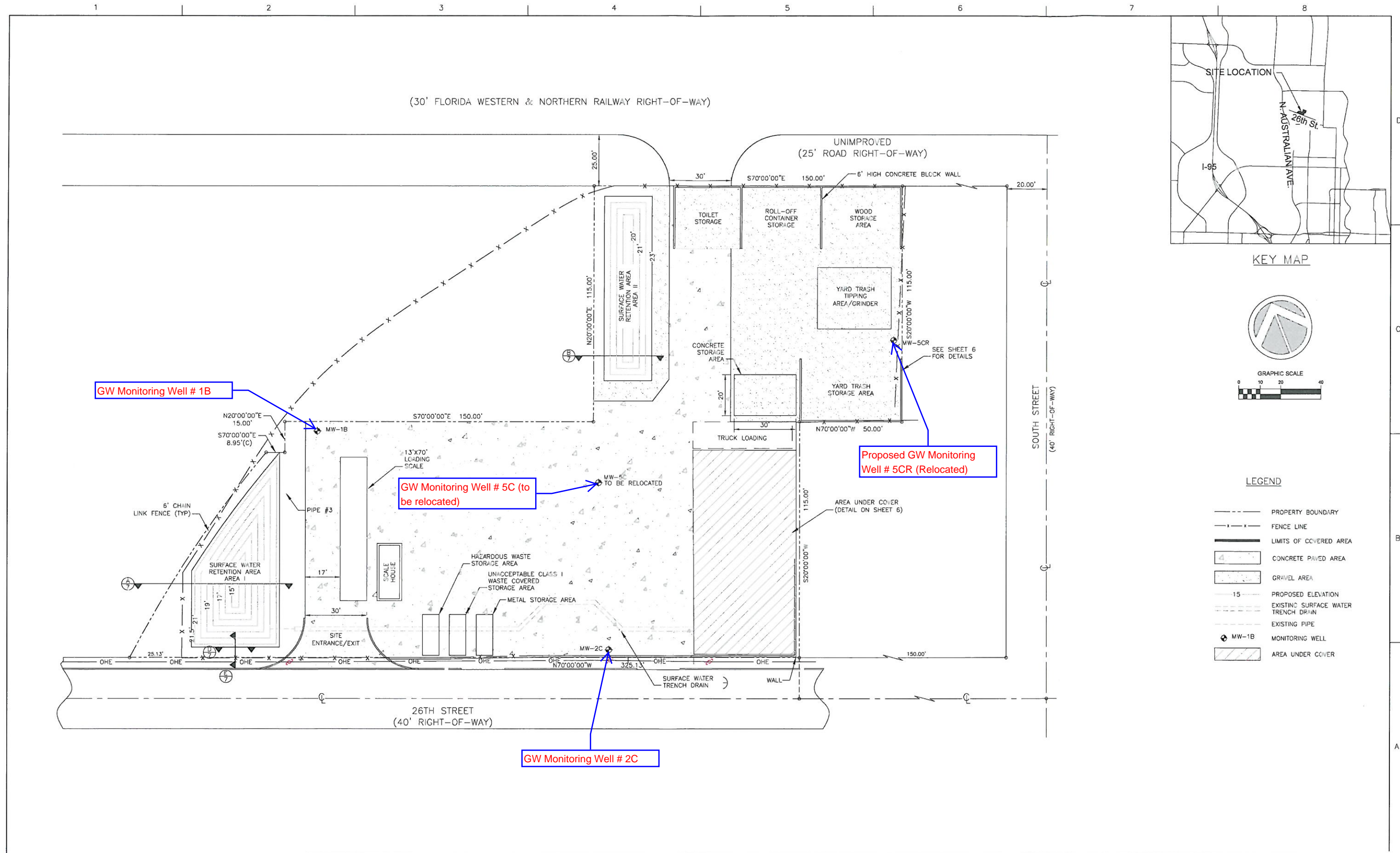
GROUNDWATER ELEVATION CONTOUR MAP

| | |
|----------------------------|----------|
| FILENAME SUN_9-FIGURE2.DWG | FIGURE 2 |
| SCALE AS SHOWN | |

APPENDIX D

Zone of Discharge (ZOD) – Property Boundary

P:\01 - Solid Waste\Sun Recycling\14 - Monthly\165402\10 - Sun Recycling 913.00_CADD\RAI#1\Sheet Files\00C-05.dwg_Layout1, 12/5/2011 3:23:58 PM, CCarvajal



HDR
 HDR ENGINEERING, INC.
 6310 NW 35th AVENUE
 SUITE 212
 FORT LAUDERDALE, FLORIDA 33309

| ISSUE | DATE | DESCRIPTION |
|-------|-----------|--------------------------------------|
| 1 | DEC. 2011 | RAI#1 REVISION TO STORAGE QUANTITIES |

| | |
|-----------------|----------------|
| PROJECT MANAGER | B. CLARK, P.E. |
| P.E. NO. | 42754 |
| DRAWN BY | C. CARVAJAL |
| DATE | |
| PROJECT NUMBER | 165402 |

*Prepared by Amanda Clark
 5 December 2011*

**ENGINEERING DRAWINGS
 SOLID WASTE PERMIT
 MODIFICATION APPLICATION
 SUN RECYCLING 9
 1025 26TH STREET
 WEST PALM BEACH, FL 33407**

| | | |
|---------------------------|------------|----------|
| PROPOSED SITE PLAN | | |
| FILENAME | 00C-05.DWG | SHEET |
| SCALE | | 5 |

APPENDIX EPA-601/602
Parameters listed in EPA methods 601 and 602

| Parameter | STORET No. | CAS No. | EPA TEST METHOD |
|---------------------------|-------------------|----------------|------------------------|
| 1,1,1-Trichloroethane | 34506 | 71-55-6 | 601 |
| 1,1,2,2-Tetrachloroethane | 34516 | 79-34-5 | 601 |
| 1,1,2-Trichloroethane | 34511 | 79-00-5 | 601 |
| 1,1-Dichloroethane | 34496 | 75-34-3 | 601 |
| 1,1-Dichloroethene | 34501 | 75-35-4 | 601 |
| 1,2-Dichlorobenzene | 34536 | 95-50-1 | 601 |
| 1,2-Dichlorobenzene | 34536 | 95-50-1 | 602 |
| 1,2-Dichloroethane | 34531 | 107-06-2 | 601 |
| 1,2-Dichloropropane | 34541 | 78-87-5 | 601 |
| 1,3-Dichlorobenzene | 34566 | 541-73-1 | 601 |
| 1,3-Dichlorobenzene | 34566 | 541-73-1 | 602 |
| 1,4-Dichlorobenzene | 34571 | 106-46-7 | 601 |
| 1,4-Dichlorobenzene | 34571 | 106-46-7 | 602 |
| 2-Chloroethylvinyl ether | 34576 | 100-75-8 | 601 |
| Benzene | 34030 | 71-43-2 | 602 |
| Bromodichloromethane | 32101 | 75-27-4 | 601 |
| Bromoform | 32104 | 75-25-2 | 601 |
| Bromomethane | 34413 | 74-83-9 | 601 |
| Carbon tetrachloride | 32102 | 56-23-5 | 601 |
| Chlorobenzene | 34301 | 108-90-7 | 601 |
| Chlorobenzene | 34301 | 108-90-7 | 602 |
| Chloroethane | 34311 | 75-00-3 | 601 |
| Chloroform | 32106 | 67-66-3 | 601 |
| Chloromethane | 34418 | 74-87-3 | 601 |
| cis-1,3-Dichloropropene | 34704 | 10061-01-5 | 601 |
| Dibromochloromethane | 32105 | 124-48-1 | 601 |
| Dichlorodifluoromethane | 34668 | 75-71-8 | 601 |
| Ethylbenzene | 34371 | 100-41-4 | 602 |
| Methylene chloride | 34423 | 75-09-2 | 601 |
| Tetrachloroethene | 34475 | 127-18-4 | 601 |
| Tetrachloroethene | 39180 | 79-01-6 | 601 |
| Toluene | 34010 | 108-88-3 | 602 |
| trans-1,2-Dichloroethene | 34546 | 156-60-5 | 601 |
| trans-1,3-Dichloropropene | 34699 | 10061-02-6 | 601 |
| Trichlorofluoromethane | 34488 | 75-69-4 | 601 |
| Vinyl chloride | 39715 | 75-01-4 | 601 |

APPENDIX CFR-258/I
Parameters Listed in 40 CFR Part 258 Appendix I

| Common name ¹ | CAS RN ² |
|--|---------------------|
| <i>Inorganic Constituents:</i> | |
| (1) Antimony | (Total) |
| (2) Arsenic | (Total) |
| (3) Barium | (Total) |
| (4) Beryllium | (Total) |
| (5) Cadmium | (Total) |
| (6) Chromium | (Total) |
| (7) Cobalt | (Total) |
| (8) Copper | (Total) |
| (9) Lead | (Total) |
| (10) Nickel | (Total) |
| (11) Selenium | (Total) |
| (12) Silver | (Total) |
| (13) Thallium | (Total) |
| (14) Vanadium | (Total) |
| (15) Zinc | (Total) |
| <i>Organic Constituents:</i> | |
| (16) Acetone | 67-64-1 |
| (17) Acrylonitrile | 107-13-1 |
| (18) Benzene | 71-43-2 |
| (19) Bromochloromethane | 74-97-5 |
| (20) Bromodichloromethane | 75-27-4 |
| (21) Bromoform; Tribromomethane | 75-25-2 |
| (22) Carbon disulfide | 75-15-0 |
| (23) Carbon tetrachloride | 56-23-5 |
| (24) Chlorobenzene | 108-90-7 |
| (25) Chloroethane; Ethyl chloride | 75-00-3 |
| (26) Chloroform; Trichloromethane | 67-66-3 |
| (27) Dibromochloromethane; Chlorodibromomethane | 124-48-1 |
| (28) 1,2-Dibromo-3-chloropropane; DBCP | 96-12-8 |
| (29) 1,2-Dibromoethane; Ethylene dibromide; EDB | 106-93-4 |
| (30) o-Dichlorobenzene; 1,2-Dichlorobenzene | 95-50-1 |
| (31) p-Dichlorobenzene; 1,4-Dichlorobenzene | 106-46-7 |
| (32) trans-1, 4-Dichloro-2-butene | 110-57-6 |
| (33) 1,1-Dichlorethane; Ethylidene chloride | 75-34-3 |
| (34) 1,2-Dichlorethane; Ethylene dichloride | 107-06-2 |
| (35) 1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride | 75-35-4 |
| (36) cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene | 156-59-2 |
| (37) trans-1, 2-Dichloroethylene; trans-1,2-Dichloroethene | 156-60-5 |
| (38) 1,2-Dichloropropane; Propylene dichloride | 78-87-5 |
| (39) cis-1,3-Dichloropropene | 10061-01-5 |
| (40) trans-1,3-Dichloropropene | 10061-02-6 |
| (41) Ethylbenzene | 100-41-4 |
| (42) 2-Hexanone; Methyl butyl ketone | 591-78-6 |
| (43) Methyl bromide; Bromomethane | 74-83-9 |
| (44) Methyl chloride; Chloromethane | 74-87-3 |
| (45) Methylene bromide; Dibromomethane | 74-95-3 |
| (46) Methylene chloride; Dichloromethane | 75-09-2 |
| (47) Methyl ethyl ketone; MEK; 2-Butanone | 78-93-3 |
| (48) Methyl iodide; Iodomethane | 74-88-4 |
| (49) 4-Methyl-2-pentanone; Methyl isobutyl ketone | 108-10-1 |
| (50) Styrene | 100-42-5 |
| (51) 1,1,1,2-Tetrachloroethane | 630-20-6 |
| (52) 1,1,2,2-Tetrachloroethane | 79-34-5 |
| (53) Tetrachloroethylene; Tetrachloroethene; Perchloroethylene | 127-18-4 |
| (54) Toluene | 108-88-3 |

| | |
|--|-----------|
| (55) 1,1,1-Trichloroethane; Methylchloroform | 71-55-6 |
| (56) 1,1,2-Trichloroethane | 79-00-5 |
| (57) Trichloroethylene; Trichloroethene | 79-01-6 |
| (58) Trichlorofluoromethane; CFC-11 | 75-69-4 |
| (59) 1,2,3-Trichloropropane | 96-18-4 |
| (60) Vinyl acetate | 108-05-4 |
| (61) Vinyl chloride | 75-01-4 |
| (62) Xylenes | 1330-20-7 |

¹Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

²Chemical Abstract Service registry number. Where "Total" is entered, all species in the ground water that contain this element are included.

[70 FR 34555, June 14, 2005; 70 FR 44150, Aug. 1, 2005]

APPENDIX CFR-258/II
Parameters Listed in 40 CFR Part 258 Appendix II

| Common name ¹ | CAS RN ² | Chemical abstracts service index name ³ |
|---|---------------------|--|
| Acenaphthene | 83-32-9 | Acenaphthylene, 1,2-dihydro- |
| Acenaphthylene | 208-96-8 | Acenaphthylene |
| Acetone | 67-64-1 | 2-Propanone |
| Acetonitrile; Methyl cyanide | 75-05-8 | Acetonitrile |
| Acetophenone | 98-86-2 | Ethanone, 1-phenyl- |
| 2-Acetylaminofluorene; 2-AAF | 53-96-3 | Acetamide, N-9H-fluoren-2-yl- |
| Acrolein | 107-02-8 | 2-Propenal |
| Acrylonitrile | 107-13-1 | 2-Propenenitrile |
| Aldrin | 309-00-2 | 1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro- 1,4,4a,5,8,8a-hexahydro-(1,4,4a,5,8,8a)- |
| Allyl chloride | 107-05-1 | 1-Propene, 3-chloro- |
| 4-Aminobiphenyl | 92-67-1 | [1,1'-Biphenyl]-4-amine |
| Anthracene | 120-12-7 | Anthracene |
| Antimony | (Total) | Antimony |
| Arsenic | (Total) | Arsenic |
| Barium | (Total) | Barium |
| Benzene | 71-43-2 | Benzene |
| Benzo[a]anthracene; Benzanthracene | 56-55-3 | Benz[a]anthracene |
| Benzo[b]fluoranthene | 205-99-2 | Benz[e]acephenanthrylene |
| Benzo[k]fluoranthene | 207-08-9 | Benzo[k]fluoranthene |
| Benzo[ghi]perylene | 191-24-2 | Benzo[ghi]perylene |
| Benzo[a]pyrene | 50-32-8 | Benzo[a]pyrene |
| Benzyl alcohol | 100-51-6 | Benzenemethanol |
| Beryllium | (Total) | Beryllium |
| alpha-BHC | 319-84-6 | Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1 α ,2 α ,3 β ,4 α ,5 β ,6 β)- |
| beta-BHC | 319-85-7 | Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1 α ,2 β ,3 α ,4 β ,5 α ,6 β)- |
| delta-BHC | 319-86-8 | Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1 α ,2 α ,3 α ,4 β ,5 α ,6 β)- |
| gamma-BHC; Lindane | 58-89-9 | Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1 α ,2 α ,3 β ,4 α ,5 α ,6 β)- |
| Bis(2-chloroethoxy)methane | 111-91-1 | Ethane, 1,1'-[methylenebis(oxy)]bis [2-chloro- |
| Bis(2-chloroethyl)ether; Dichloroethyl ether | 111-44-4 | Ethane, 1,1'-oxybis[2-chloro- |
| Bis(2-chloro-1-methylethyl) ether; 2,2'- Dichlorodiisopropyl ether; DCIP, See footnote 4 | 108-60-1 | Propane, 2,2'-oxybis[1-chloro- |
| Bis(2-ethylhexyl) phthalate | 117-81-7 | 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl)ester |
| Bromochloromethane; Chlorobromomethane | 74-97-5 | Methane, bromochloro- |
| Bromodichloromethane; Dibromochloromethane | 75-27-4 | Methane, bromodichloro- |
| Bromoform; Tribromomethane | 75-25-2 | Methane, tribromo- |
| 4-Bromophenyl phenyl ether | 101-55-3 | Benzene, 1-bromo-4-phenoxy- |
| Butyl benzyl phthalate; Benzyl butyl phthalate | 85-68-7 | 1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester |
| Cadmium | (Total) | Cadmium |
| Carbon disulfide | 75-15-0 | Carbon disulfide |
| Carbon tetrachloride | 56-23-5 | Methane, tetrachloro- |
| Chlordane | See footnote 5 | 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a- hexahydro- |
| p-Chloroaniline | 106-47-8 | Benzenamine, 4-chloro- |
| Chlorobenzene | 108-90-7 | Benzene, chloro- |
| Chlorobenzilate | 510-15-6 | Benzeneacetic acid, 4-chloro- (4-chlorophenyl)- -hydroxy-, ethyl ester. |
| p-Chloro-m-cresol; 4-Chloro-3-methylphenol | 59-50-7 | Phenol, 4-chloro-3-methyl- |
| Chloroethane; Ethyl chloride | 75-00-3 | Ethane, chloro- |
| Chloroform; Trichloromethane | 67-66-3 | Methane, trichloro- |
| 2-Chloronaphthalene | 91-58-7 | Naphthalene, 2-chloro- |
| 2-Chlorophenol | 95-57-8 | Phenol, 2-chloro- |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | Benzene, 1-chloro-4-phenoxy- |
| Chloroprene | 126-99-8 | 1,3-Butadiene, 2-chloro- |

| | | |
|--|------------|---|
| Chromium | (Total) | Chromium |
| Chrysene | 218-01-9 | Chrysene |
| Cobalt | (Total) | Cobalt |
| Copper | (Total) | Copper |
| m-Cresol; 3-Methylphenol | 108-39-4 | Phenol, 3-methyl- |
| o-Cresol; 2-Methylphenol | 95-48-7 | Phenol, 2-methyl- |
| p-Cresol; 4-Methylphenol | 106-44-5 | Phenol, 4-methyl- |
| Cyanide | 57-12-5 | Cyanide |
| 2,4-D; 2,4-Dichlorophenoxyacetic acid | 94-75-7 | Acetic acid, (2,4-dichlorophenoxy)- |
| 4,4'-DDD | 72-54-8 | Benzene 1,1'-(2,2-dichloroethylidene) bis[4-chloro- |
| 4,4'-DDE | 72-55-9 | Benzene, 1,1'-(dichloroethylidene) bis[4-chloro- |
| 4,4'-DDT | 50-29-3 | Benzene, 1,1'-(2,2,2-trichloroethylidene) bis[4-chloro- |
| Diallate | 2303-16-4 | Carbamothioic acid, bis(1-methylethyl)-, S- (2,3-dichloro-2-propenyl) ester. |
| Dibenz[a,h]anthracene | 53-70-3 | Dibenz[a,h]anthracene |
| Dibenzofuran | 132-64-9 | Dibenzofuran |
| Dibromochloromethane; Chlorodibromomethane | 124-48-1 | Methane, dibromochloro- |
| 1,2-Dibromo-3-chloropropane; DBCP | 96-12-8 | Propane, 1,2-dibromo-3-chloro- |
| 1,2-Dibromoethane; Ethylene dibromide; EDB | 106-93-4 | Ethane, 1,2-dibromo- |
| Di-n-butyl phthalate | 84-74-2 | 1,2-Benzenedicarboxylic acid, dibutyl ester |
| o-Dichlorobenzene; 1,2-Dichlorobenzene | 95-50-1 | Benzene, 1,2-dichloro- |
| m-Dichlorobenzene; 1,3-Dichlorobenzene | 541-73-1 | Benzene, 1,3-dichloro- |
| p-Dichlorobenzene; 1,4-Dichlorobenzene | 106-46-7 | Benzene, 1,4-dichloro- |
| 3,3'-Dichlorobenzidine | 91-94-1 | [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro- |
| trans-1,4-Dichloro-2-butene | 110-57-6 | 2-Butene, 1,4-dichloro-, (E)- |
| Dichlorodifluoromethane; CFC 12 | 75-71-8 | Methane, dichlorodifluoro- |
| 1,1-Dichloroethane; Ethylidene chloride | 75-34-3 | Ethane, 1,1-dichloro- |
| 1,2-Dichloroethane; Ethylene dichloride | 107-06-2 | Ethane, 1,2-dichloro- |
| 1,1-Dichloroethylene; 1,1-Dichloroethene; | 75-35-4 | Ethene, 1,1-dichloro- |
| Vinylidene chloride cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene | 156-59-2 | Ethene, 1,2-dichloro-(Z)- |
| trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene | 156-60-5 | Ethene, 1,2-dichloro-, (E)- |
| 2,4-Dichlorophenol | 120-83-2 | Phenol, 2,4-dichloro- |
| 2,6-Dichlorophenol | 87-65-0 | Phenol, 2,6-dichloro- |
| 1,2-Dichloropropane | 78-87-5 | Propane, 1,2-dichloro- |
| 1,3-Dichloropropane; Trimethylene dichloride | 142-28-9 | Propane, 1,3-dichloro- |
| 2,2-Dichloropropane; Isopropylidene chloride | 594-20-7 | Propane, 2,2-dichloro- |
| 1,1-Dichloropropene | 563-58-6 | 1-Propene, 1,1-dichloro- |
| cis-1,3-Dichloropropene | 10061-01-5 | 1-Propene, 1,3-dichloro-, (Z)- |
| trans-1,3-Dichloropropene | 10061-02-6 | 1-Propene, 1,3-dichloro-, (E)- |
| Dieldrin | 60-57-1 | 2,7:3,6-Dimethanonaphth [2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1 α ,2 β ,2 α ,3 β ,6 β ,6 α ,7 β ,7 α)- |
| Diethyl phthalate | 84-66-2 | 1,2-Benzenedicarboxylic acid, diethyl ester |
| O,O-Diethyl O-2-pyrazinyl phosphorothioate; | 297-97-2 | Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester. |
| Thionazin | | |
| Dimethoate | 60-51-5 | Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester |
| p-(Dimethylamino)azobenzene | 60-11-7 | Benzenamine, N,N-dimethyl-4-(phenylazo)- |
| 7,12-Dimethylbenz[a]anthracene | 57-97-6 | Benz[a]anthracene, 7,12-dimethyl- |
| 3,3'-Dimethylbenzidine | 119-93-7 | [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl- |
| alpha, alpha-Dimethylphenethylamine | 122-09-8 | Benzeneethanamine, α,α -dimethyl- |
| 2,4-Dimethylphenol; m-Xylenol | 105-67-9 | Phenol, 2,4-dimethyl- |
| Dimethyl phthalate | 131-11-3 | 1,2-Benzenedicarboxylic acid, dimethyl ester |
| m-Dinitrobenzene | 99-65-0 | Benzene, 1,3-dinitro- |
| 4,6-Dinitro-o-cresol; 4,6-Dinitro-2-methylphenol | 534-52-1 | Phenol, 2-methyl-4,6-dinitro- |
| 2,4-Dinitrophenol | 51-28-5 | Phenol, 2,4-dinitro- |
| 2,4-Dinitrotoluene | 121-14-2 | Benzene, 1-methyl-2,4-dinitro- |
| 2,6-Dinitrotoluene | 606-20-2 | Benzene, 2-methyl-1,3-dinitro- |
| Dinoseb; DNBP; 2-sec-Butyl-4,6-dinitrophenol | 88-85-7 | Phenol, 2-(1-methylpropyl)-4,6-dinitro- |
| Di-n-octyl phthalate | 117-84-0 | 1,2-Benzenedicarboxylic acid, dioctyl ester |

| | | |
|--|------------|--|
| Diphenylamine | 122-39-4 | Benzenamine, N-phenyl- |
| Disulfoton | 298-04-4 | Phosphorodithioic acid, O,O-diethyl S-[2- (ethylthio)ethyl] ester |
| Endosulfan I | 959-98-8 | 6,9-Methano-2,4,3-benzodiox-athiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide, |
| Endosulfan II | 33213-65-9 | 6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide, (3 α ,5 α ,6 β ,9 β , 9 α)- |
| Endosulfan sulfate | 1031-07-8 | 6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3,3-dioxide |
| Endrin | 72-20-8 | 2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1 α , 2 β ,2a β , 3 α ,6 α ,6a β ,7 β ,7 α)- |
| Endrin aldehyde | 7421-93-4 | 1,2,4-Methenocyclo-penta[cd]pentalene-5-carboxaldehyde,2,2a,3,3,4,7-hexachlorodecahydro-(1 α ,2 β ,2a β ,4 β ,4a β ,5 β ,6a β ,6b β ,7R*)- |
| Ethylbenzene | 100-41-4 | Benzene, ethyl- |
| Ethyl methacrylate | 97-63-2 | 2-Propenoic acid, 2-methyl-, ethyl ester |
| Ethyl methanesulfonate | 62-50-0 | Methanesulfonic acid, ethyl ester |
| Famphur | 52-85-7 | Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl]-O,O-dimethyl ester |
| Fluoranthene | 206-44-0 | Fluoranthene |
| Fluorene | 86-73-7 | 9H-Fluorene |
| Heptachlor | 76-44-8 | 4,7-Methano-1H-indene,1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- |
| Heptachlor epoxide | 1024-57-3 | 2,5-Methano-2H-indeno[1,2-b]oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a,-hexahydro-(1 α ,1b β ,2 α ,5 α ,5a β ,6 β ,6a α) |
| Hexachlorobenzene | 118-74-1 | Benzene, hexachloro- |
| Hexachlorobutadiene | 87-68-3 | 1,3-Butadiene, 1,1,2,3,4,4-hexachloro- |
| Hexachlorocyclopentadiene | 77-47-4 | 1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro- |
| Hexachloroethane | 67-72-1 | Ethane, hexachloro- |
| Hexachloropropene | 1888-71-7 | 1-Propene, 1,1,2,3,3,3-hexachloro- |
| 2-Hexanone; Methyl butyl ketone | 591-78-6 | 2-Hexanone |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | Indeno[1,2,3-cd]pyrene |
| Isobutyl alcohol | 78-83-1 | 1-Propanol, 2-methyl- |
| Isodrin | 465-73-6 | 1,4,5,8-Dimethanonaphthalene,1,2,3,4,1 0,10-hexachloro-1,4,4a,5,8,8a hexahydro-(1 α , 4 α , 4a β ,5 β ,8 β ,8a β)- |
| Isophorone | 78-59-1 | 2-Cyclohexen-1-one, 3,5,5-trimethyl- |
| Isosafrole | 120-58-1 | 1,3-Benzodioxole, 5-(1-propenyl)- |
| Kepone | 143-50-0 | 1,3,4-Metheno-2H-cyclobuta-[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro- |
| Lead | (Total) | Lead |
| Mercury | (Total) | Mercury |
| Methacrylonitrile | 126-98-7 | 2-Propenenitrile, 2-methyl- |
| Methapyrilene | 91-80-5 | 1,2,Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)- |
| Methoxychlor | 72-43-5 | Benzene, 1,1'-(2,2,2,2-trichloroethylidene)bis [4-methoxy- |
| Methyl bromide; Bromomethane | 74-83-9 | Methane, bromo- |
| Methyl chloride; Chloromethane | 74-87-3 | Methane, chloro- |
| 3-Methylcholanthrene | 56-49-5 | Benz[j]aceanthrylene, 1,2-dihydro-3-methyl- |
| Methyl ethyl ketone; MEK; 2-Butanone | 78-93-3 | 2-Butanone |
| Methyl iodide; Iodomethane | 74-88-4 | Methane, iodo- |
| Methyl methacrylate | 80-62-6 | 2-Propenoic acid, 2-methyl-, methyl ester |
| Methyl methanesulfonate | 66-27-3 | Methanesulfonic acid, methyl ester |
| 2-Methylnaphthalene | 91-57-6 | Naphthalene, 2-methyl- |
| Methyl parathion; Parathion methyl | 298-00-0 | Phosphorothioic acid, O,O-dimethyl |
| 4-Methyl-2-pentanone; Methyl isobutyl ketone | 108-10-1 | 2-Pentanone, 4-methyl- |
| Methylene bromide; Dibromomethane | 74-95-3 | Methane, dibromo- |
| Methylene chloride; Dichloromethane | 75-09-2 | Methane, dichloro- |
| Naphthalene | 91-20-3 | Naphthalene |
| 1,4-Naphthoquinone | 130-15-4 | 1,4-Naphthalenedione |
| 1-Naphthylamine | 134-32-7 | 1-Naphthalenamine |
| 2-Naphthylamine | 91-59-8 | 2-Naphthalenamine |
| Nickel | (Total) | Nickel |

| | | |
|--|----------------|--|
| o-Nitroaniline; 2-Nitroaniline | 88-74-4 | Benzenamine, 2-nitro- |
| m-Nitroaniline; 3-Nitroaniline | 99-09-2 | Benzenamine, 3-nitro- |
| p-Nitroaniline; 4-Nitroaniline | 100-01-6 | Benzenamine, 4-nitro- |
| Nitrobenzene | 98-95-3 | Benzene, nitro- |
| o-Nitrophenol; 2-Nitrophenol | 88-75-5 | Phenol, 2-nitro- |
| p-Nitrophenol; 4-Nitrophenol | 100-02-7 | Phenol, 4-nitro- |
| N-Nitrosodi-n-butylamine | 924-16-3 | 1-Butanamine, N-butyl-N-nitroso- |
| N-Nitrosodiethylamine | 55-18-5 | Ethanamine, N-ethyl-N-nitroso- |
| N-Nitrosodimethylamine | 62-75-9 | Methanamine, N-methyl-N-nitroso- |
| N-Nitrosodiphenylamine | 86-30-6 | Benzenamine, N-nitroso-N-phenyl- |
| N-Nitrosodipropylamine; N-Nitroso-N-dipropylamine; | 621-64-7 | 1-Propanamine, N-nitroso-N-propyl- |
| Di-n-propylnitrosamine | | |
| N-Nitrosomethylethalamine | 10595-95-6 | Ethanamine, N-methyl-N-nitroso- |
| N-Nitrosopiperidine | 100-75-4 | Piperidine, 1-nitroso- |
| N-Nitrosopyrrolidine | 930-55-2 | Pyrrolidine, 1-nitroso- |
| 5-Nitro-o-toluidine | 99-55-8 | Benzenamine, 2-methyl-5-nitro- |
| Parathion | 56-38-2 | Phosphorothioic acid, O,O-diethyl-O-(4-nitrophenyl) ester |
| Pentachlorobenzene | 608-93-5 | Benzene, pentachloro- |
| Pentachloronitrobenzene | 82-68-8 | Benzene, pentachloronitro- |
| Pentachlorophenol | 87-86-5 | Phenol, pentachloro- |
| Phenacetin | 62-44-2 | Acetamide, N-(4-ethoxyphenyl) |
| Phenanthrene | 85-01-8 | Phenanthrene |
| Phenol | 108-95-2 | Phenol |
| p-Phenylenediamine | 106-50-3 | 1,4-Benzenediamine |
| Phorate | 298-02-2 | Phosphorodithioic acid, O,O-diethyl S- [(ethylthio)methyl] ester |
| Polychlorinated biphenyls; PCBs | See footnote 6 | 1,1'-Biphenyl, chloro derivatives |
| Pronamide | 23950-58-5 | Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)- |
| Propionitrile; Ethyl cyanide | 107-12-0 | Propanenitrile |
| Pyrene | 129-00-0 | Pyrene |
| Safrole | 94-59-7 | 1,3-Benzodioxole, 5-(2-propenyl)- |
| Selenium | (Total) | Selenium |
| Silver | (Total) | Silver |
| Silvex; 2,4,5-TP | 93-72-1 | Propanoic acid, 2-(2,4,5-trichlorophenoxy)- |
| Styrene | 100-42-5 | Benzene, ethenyl- |
| Sulfide | 18496-25-8 | Sulfide |
| 2,4,5-T; 2,4,5-Trichlorophenoxyacetic acid | 93-76-5 | Acetic acid, (2,4,5-trichlorophenoxy)- |
| 2,3,7,8-TCDD; 2,3,7,8-Tetrachlorodibenzo- p-dioxin | 1746-01-6 | Dibenzo[b,e][1,4]dioxin, 2,3,7,8-tetrachloro- |
| 1,2,4,5-Tetrachlorobenzene | 95-94-3 | Benzene, 1,2,4,5-tetrachloro- |
| 1,1,1,2-Tetrachloroethane | 630-20-6 | Ethane, 1,1,1,2-tetrachloro- |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | Ethane, 1,1,2,2-tetrachloro- |
| Tetrachloroethylene; Tetrachloroethene; | 127-18-4 | Ethene, tetrachloro- |
| Perchloroethylene | | |
| 2,3,4,6-Tetrachlorophenol | 58-90-2 | Phenol, 2,3,4,6-tetrachloro- |
| Thallium | (Total) | Thallium |
| Tin | (Total) | Tin |
| Toluene | 108-88-3 | Benzene, methyl- |
| o-Toluidine | 95-53-4 | Benzenamine, 2-methyl- |
| Toxaphene | See footnote 7 | Toxaphene |
| 1,2,4-Trichlorobenzene | 120-82-1 | Benzene, 1,2,4-trichloro- |
| 1,1,1-Trichloroethane; Methylchloroform | 71-55-6 | Ethane, 1,1,1-trichloro- |
| 1,1,2-Trichloroethane | 79-00-5 | Ethane, 1,1,2-trichloro- |
| Trichloroethylene; Trichloroethene | 79-01-6 | Ethene, trichloro- |
| Trichlorofluoromethane; CFC-11 | 75-69-4 | Methane, trichlorofluoro- |
| 2,4,5-Trichlorophenol | 95-95-4 | Phenol, 2,4,5-trichloro- |
| 2,4,6-Trichlorophenol | 88-06-2 | Phenol, 2,4,6-trichloro- |
| 1,2,3-Trichloropropane | 96-18-4 | Propane, 1,2,3-trichloro- |
| O,O,O-Triethyl phosphorothioate | 126-68-1 | Phosphorothioic acid, O,O,O-triethyl ester |
| sym-Trinitrobenzene | 99-35-4 | Benzene, 1,3,5-trinitro- |
| Vanadium | (Total) | Vanadium |
| Vinyl acetate | 108-05-4 | Acetic acid, ethenyl ester |

¹Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

²Chemical Abstracts Service registry number. Where "Total" is entered, all species in the ground water that contain this element are included.

³CAS index names are those used in the 9th Cumulative Index.

⁴This substance is often called bis(2-chloroisopropyl) ether, the name Chemical Abstracts Service applies to its noncommercial isomer, propane, 2,2"-oxybis[2-chloro-(CAS RN 39638-32-9)].

⁵Chlordane: This entry includes alpha-chlordane (CAS RN 5103-71-9), beta-chlordane (CAS RN 5103-74-2), gamma-chlordane (CAS RN 5566-34-7), and constituents of chlordane (CAS RN 57-74-9 and CAS RN 12789-03-6).

⁶Polychlorinated biphenyls (CAS RN 1336-36-3); this category contains congener chemicals, including constituents of Aroclor-1016 (CAS RN 12674-11-2), Aroclor-1221 (CAS RN 11104-28-2), Aroclor-1232 (CAS RN 11141-16-5), Aroclor-1242 (CAS RN 53469-21-9), Aroclor-1248 (CAS RN 12672-29-6), Aroclor-1254 (CAS RN 11097-69-1), and Aroclor-1260 (CAS RN 11096-82-5).

⁷Toxaphene: This entry includes congener chemicals contained in technical toxaphene (CAS RN 8001-35-2), i.e., chlorinated camphene.

⁸Xylene (total): This entry includes o-xylene (CAS RN 96-47-6), m-xylene (CAS RN 108-38-3), p-xylene (CAS RN 106-42-3), and unspecified xylenes (dimethylbenzenes) (CAS RN 1330-20-7).

[70 FR 34556, June 14, 2005; 70 FR 44150, Aug. 1, 2005]