

Facility Manual

For the NYSDEC Part 360 Series Permit
Modification/Renewal

Goshen Transfer Station Facility

DEC Application Number (3-3330-00094/00001)

MARCH 2024

PRESENTED TO

I.W.S. Transfer Systems of N.Y., Inc.

95 Hartley Road
Goshen, NY 10924

SUBMITTED BY

Cornerstone Engineering and Geology, PLLC
100 Crystal Run Road, Suite 101
Middletown, NY 10941

P +1.877.294.9070
F +1.877.845.1456
tetrattech.com

Facility Manual

For the NYSDEC Part 360 Series Permit
Modification/Renewal

Goshen Transfer Station Facility

DEC Application Number (3-3330-00094/00001)

MARCH 2024

PRESENTED TO

I.W.S. Transfer Systems of N.Y., Inc.

95 Hartley Road
Goshen, NY 10924

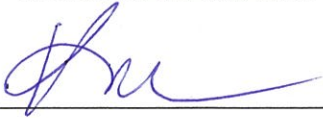
SUBMITTED BY

Cornerstone Engineering and Geology, PLLC
100 Crystal Run Road, Suite 101
Middletown, NY 10941

P +1.877.294.9070
F +1.877.845.1456
tetrattech.com

REPORT CERTIFICATION

The material and data in this report were prepared under the supervision and direction of the undersigned.



Kristen M. Thordahl, P.E.
Project Engineer

3/27/2024

Date



TABLE OF CONTENTS

1.0	INTRODUCTION	1-1
1.1	Purpose and Objective	1-1
1.2	Consistency with Solid Waste Management Plan	1-1
1.3	NYSDEC Submittal Requirements	1-1
2.0	SITE INFORMATION	2-1
2.1	Background.....	2-1
2.2	Proposed Facility Modification	2-2
2.3	Location and Property Boundaries	2-2
2.4	Financial Surety	2-2
3.0	FACILITY DESCRIPTION	3-1
3.1	Materials Handled	3-1
3.2	Facility Design Capacity	3-1
3.3	Site Access and Security	3-1
3.3.1	Visitors	3-2
3.3.2	Signs	3-2
3.4	Utilities	3-2
3.5	Stormwater.....	3-2
3.6	Fire Protection System	3-2
3.7	Building HVAC	3-3
3.7.1	Dust and Odor Control System.....	3-3
3.8	Loading Area.....	3-3
3.9	Scales	3-3
3.9.1	Loadout Scale	3-4
3.10	Mobile Equipment	3-4
3.10.1	Mobile Equipment Fuel Storage and Dispensing	3-4
4.0	OPERATING PLAN	4-1
4.1	Hours of Operation	4-1
4.2	Service Area	4-1
4.3	Start-up and Scheduled Shutdown Operations	4-1
4.4	Traffic Circulation	4-2
4.4.1	Traffic Routes to and From the Facility.....	4-2
4.4.2	Vehicle Staging	4-2
4.4.3	On-Site Traffic Patterns	4-2
4.5	Site Operations	4-3
4.5.1	Waste Tipping Operations	4-4
4.5.2	Transfer Operations.....	4-5
4.6	Facility Process Flow Diagrams.....	4-5
4.7	Materials Recovery and Disposal Providers.....	4-5
4.8	Material Storage.....	4-6
4.8.1	Storage Durations	4-6
4.9	Nuisance Mitigation	4-7

4.9.1	Litter	4-7
4.9.2	Dust and Odor Control System	4-7
4.9.3	Insect and Vector Control	4-7
4.9.4	Noise Control	4-8
4.9.5	Protection of Surface Waters and Groundwater	4-8
4.10	Safety	4-9
5.0	WASTE CONTROL PLAN	5-1
5.1	Screening of Inbound Materials	5-1
5.2	Random Load Inspections	5-1
5.3	Radioactive Waste Detection Plan	5-2
5.4	Management of Unauthorized Wastes	5-2
5.5	Management of Hot Loads	5-3
5.6	Training of Personnel	5-3
6.0	STAFFING AND TRAINING PLAN	6-1
6.1	Purpose	6-1
6.2	Essential Operational Positions and Responsibilities	6-1
6.2.1	Facility Manager	6-1
6.2.2	Facility Supervisor	6-2
6.2.3	Scale Master	6-2
6.2.4	Equipment Operators	6-2
6.2.5	Laborers/Sorters	6-3
6.2.6	Maintenance Staff	6-3
6.3	Employee Training	6-4
6.4	Shift Coverage	6-5
6.5	Training Records	6-5
7.0	FACILITY INSPECTION PLAN	7-6
7.1	Frequency of Inspection	7-6
7.2	Routine Inspections	7-6
8.0	FACILITY MAINTENANCE PLAN	8-1
8.1	Purpose	8-1
8.2	Planning and Scheduling	8-1
8.3	Maintenance of Building Exterior and Structure	8-1
8.4	Maintenance of Gutters, Downspouts and Drainpipes	8-1
8.5	Maintenance of the Fire Protection System and Fire Extinguishers	8-1
8.6	Maintenance of Ventilation System	8-2
8.7	Maintenance of Dust and Odor Control System	8-2
8.8	Maintenance of Building Access/Egress Doors	8-2
8.9	Maintenance of Interior Plumbing System	8-2
8.10	Maintenance of Leachate Management System	8-2
8.11	Maintenance of Truck Scales	8-2
8.12	Mobile Equipment	8-3
8.12.1	Maintenance	8-3

8.12.2	Breakdown	8-3
8.12.3	Spare Parts and Supplies	8-3
9.0	EMERGENCY RESPONSE PLAN	9-1
9.1	Procedures for Contingent Situations	9-1
9.1.1	Site Communications	9-2
9.2	Designation of Emergency Coordinators	9-3
9.2.1	Responsibilities of the Emergency Coordinator	9-3
9.2.2	Evacuation Plan for Facility Personnel	9-4
9.3	Preparedness, Prevention and Response to Contingent Events	9-5
9.3.1	Personal Protective Equipment (PPE)	9-5
9.3.2	Staff Training	9-5
9.3.3	Fire Protection and Prevention	9-5
9.3.4	Smoking	9-6
9.3.5	Fire Response	9-6
9.3.6	Dust, Particulates, and Odor Control	9-6
9.3.7	Excessive Noise	9-6
9.3.8	Vectors	9-7
9.3.9	Site Security	9-7
9.3.10	Loss of Water or Electricity	9-7
9.3.11	Protection of Surface Waters and Groundwater	9-7
9.3.12	Provision for Equipment Breakdown or Power Failure	9-8
9.4	Medical Emergency/First Aid	9-8
9.5	Information For Emergency Services	9-9
9.5.1	Properties of Materials Involved	9-9
9.5.2	Associated Hazards of Solid Waste	9-9
9.5.3	Emergency Vehicle Access	9-9
9.5.4	Distribution and Availability of Plan	9-9
9.6	Severe Weather	9-9
9.6.1	Snow, Sleet & Hail	9-9
9.6.2	Rain	9-10
9.6.3	Wind	9-10
9.6.4	Extreme Heat	9-10
9.6.5	Extreme Cold	9-10
9.7	Unauthorized Wastes	9-10
9.8	Unusual Traffic Conditions	9-11
9.8.1	Queuing	9-11
9.8.2	Unusual Traffic Conditions on Surrounding Roadways	9-11
9.9	Unscheduled shutdown	9-11
9.10	Emergency Notification to NYSDEC	9-11
9.11	Closure	9-12
10.0	REPORTING AND RECORDKEEPING	10-1
10.1	Records Security	10-1
11.0	CLOSURE	11-1

11.1	Site Clean-up and Restoration.....	11-1
11.2	Closure Cost Estimate	11-2

12.0 LIMITATIONS 3

TABLES

Table 1	Emergency Contact Information
Table 2	Current NYSDEC Authorized Waste Destination Facilities
Table 3	Radiation Detection System Daily Background Reading Log
Table 4	Emergency Response Plan Implementation Report
Table 5	Random Load Inspection Form
Table 6	Radiation Detection System Weekly Field Source Check Log
Table 7	NYSDEC Notification Form
Table 8	IWS Transfer Station Weekly Facility Inspection Log
Table 9	Weekly Leachate Collection System Inspection Log
Table 10	Annual Inspection Checklist
Table 11	Facility Complaint Log

FIGURES

Figure 1	Site Location Map
Figure 2	Tipping Floor Emergency Storage Pile Volume
Figure 3	Queueing – Operational Site Plan
Figure 4	Process Flow Diagram, Combined MSW and C&D Debris (Part 362-3)
Figure 5	Process Flow Diagram, MSW (Part 362-3) and C&D Debris (Part 361-5)
Figure 6	Tipping Floor Operational Surge Pile Volume
Figure 7	Emergency Access Route to Hospital

DRAWINGS

Sheet No. 0, Cover Sheet
Sheet No. 1, Regional Map
Sheet No. 2, Vicinity Map
Sheet No. 3, Truck Route Map
Sheet No. 4, Zoning and Land Use Map
Sheet No. 5, Existing Site Plan
Sheet No. 6, Proposed Site Plan
Sheet No. 7, Proposed Vehicle Circulation Plan
Sheet No. 8, Proposed Evacuation Plan
Sheet No. 9, Proposed General Arrangement Floor Plan
Sheet No. 10, Proposed Operations Floor Plan
Sheet No. 11, Proposed Building Elevations
Sheet No. 12, Proposed Building Elevations
Sheet No. 13, Proposed Site Details
Sheet No. 14, Proposed Leachate Management Details
Sheet No. 15, Proposed Water Supply Tank Details
Sheet No. 16, Proposed Erosion and Sediment Control Details
Sheet No. 17, Proposed Miscellaneous Details

APPENDICES

Appendix A	Existing Solid Waste Facility Permit
Appendix B	Financial Surety Bond
Appendix C	Closure Cost Estimate
Appendix D	Equipment List and Specifications
Appendix E	Destination Facilities and Associated Permits
Appendix F	Exterminator Contract
Appendix G	Unauthorized Waste Handling Procedures

REGULATORY SUMMARY TABLES

Regulatory Summary Table 1	Facility Manual, 6 NYCRR Part 360 Series Solid Waste Management Facilities
Regulatory Summary Table 2	Facility Manual, Subpart 361-5 Construction and Demolition Debris Handling and Recovery Facilities
Regulatory Summary Table 3	Facility Manual, Subpart 362-3 Transfer Facilities

1.0 INTRODUCTION

1.1 PURPOSE AND OBJECTIVE

This Facility Manual (Manual) has been prepared to demonstrate compliance of the Goshen Transfer Station (TS or Facility) with the operational requirements of 6 NYCRR Part 360 and provide operational guidelines to be implemented and followed upon approval by the New York State Department of Environmental Conservation (NYSDEC). As part of the NYSDEC Part 360 Series Solid Waste Management Facilities Permit Application (Permit Application) process, this Manual and supporting documentation has been compiled for review and approval by the NYSDEC.

The basic objectives of this Manual are as follows:

- To protect public health and the environment by ensuring that wastes are properly managed at the Facility in accordance with applicable federal, state and local laws and Facility permits.
- To protect employee health and safety by adopting and adhering to acknowledged industry standards concerning Facility operations.

A copy of this Manual shall be maintained at the Facility for use and reference by its personnel. This Manual will also be made available, upon request, for inspection and review by agencies having jurisdiction over the Facility and/or its operation(s).

1.2 CONSISTENCY WITH SOLID WASTE MANAGEMENT PLAN

New York State's Beyond Waste Plan sets forth a new path for solid waste management. The plan shifts from a perspective of focusing on "end-of-the-pipe" waste management techniques to looking "upstream" and more comprehensively at how materials that would otherwise become waste can be more sustainably managed through the state's economy. This shift is central to the state's ability to adapt to an age of growing pressure to reduce demand for energy, reduce dependence on disposal, minimize emission of greenhouse gases and create green employment jobs.

The Goshen Facility accepts Construction and Demolition debris (C&D debris) and Municipal Solid Waste (MSW). The Facility no longer handles recyclable materials, which are now transported to the Millennium Material Recovery Facility (MRF) in Airmont, New York for processing. IWS is committed to divert materials from thermal treatment and disposal by culling recyclables from tipped C&D debris. The NYSDEC is committed to sustain and manage resources, the environment, and economic competitiveness by placing emphasis on waste reduction and recycling, while providing an equitable waste management infrastructure where the needs of its residents, businesses and industry are met. The Goshen Transfer Station Facility meets these commitments.

1.3 NYSDEC SUBMITTAL REQUIREMENTS

As per General Condition 3, Applications for Permit Renewals, Modifications or Transfer of the Facility's existing Solid Waste Management Facility Permit (SWMF Permit) shall be submitted to the following:

Regional Permit Administrator
New York State Department of Environmental Conservation
Region 3 Headquarters
21 South Putt Corners Road
New Paltz, New York 12561-1620

All other submissions required by the Facility's SWMF Permit shall be submitted to the above address as well to the following address:

Bureau of Permitting and Planning
Division of Materials Management
New York State Department of Environmental Conservation
625 Broadway, 9th Floor
Albany, New York 12233-7258

2.0 SITE INFORMATION

2.1 BACKGROUND

The Facility currently holds SWMF Permit #3-3330-00094/00001 that was issued by the NYSDEC on September 26, 2019 and will expire on September 25, 2024. A copy of the existing Solid Waste Facility Permit is included in Appendix A.

The NYSDEC permits the Facility to receive waste during the following periods:

- Monday through Friday: 7:00 A.M. to 3:30 P.M.
- Saturday: 7:00 A.M. to 12:00 P.M. (Noon)

The NYSDEC permits the Facility to process waste during the following periods:

- Monday through Friday: 7:00 A.M. to 6:00 P.M.
- Saturday: 7:00 A.M. to 12:00 P.M. (Noon)

The Facility may process waste from 7:00 A.M. to 7:00 P.M. for the two (2) operating days immediately after Memorial Day, Independence Day, and Labor Day.

Material receipt, delivery, or other operations are prohibited on all Sundays.

The Facility may not operate on the following New York State Holidays: New Year's Day, Memorial Day, Independence Day (4th of July), Labor Day, Thanksgiving, and Christmas, unless otherwise authorized by the NYSDEC.

Fully loaded trailers or rail canisters may be picked up at the Facility for shipment off-site before and after the operational hours listed above, provided no other solid waste handling activity takes place at the Facility and that a log of such activities is maintained and submitted with the annual report. The trailers will be weighed and the tonnage included in the daily tonnage limits and recordkeeping requirements for the Facility.

The current NYSDEC SWMF Permit allows the Facility to accept Construction and Demolition debris (C&D debris) and Municipal Solid Waste (MSW) at a maximum combined rate of 600 tons per day, not to exceed 2,370 tons per week. The Facility may also accept Source-Separated Recyclables (SSR) at a maximum of 70 tons per day, not to exceed 385 tons per week.

Daily activities include the receipt, initial inspection, and weighing of Tipping Vehicles; tipping of solid waste onto the Tipping Floor; inspection of tipped materials; transfer of materials to Transfer Trailers/Rail Containers, and daily transportation and disposal of residual wastes to various disposal facilities. The degree of recycling and separation is variable as it is dependent on waste composition and the effectiveness of manual removal.

The Facility is prohibited from accepting friable asbestos waste, defined as follows: *Friable asbestos-containing waste means any waste containing greater than one percent asbestos that can be crumbled, pulverized, or reduced to powder by hand pressure when dry; and any asbestos-containing waste that is collected in a pollution control device designed to remove asbestos. This definition does not include friable asbestos-containing wastes that are discarded by a household.* However, C&D debris which contains minor amounts of non-friable asbestos, and which is not categorized as asbestos waste by Part 360, may be accepted but may not be pulverized, shredded, ground, or handled in a manner that causes the material to become airborne or friable.

The Facility is not authorized to accept tires in bulk but may accept tires which are incidental to incoming loads of MSW. The tires shall be separated from the MSW and stored separately in enclosed containers prior to shipment to a facility authorized to accept bulk tires. The Facility may store up to 1,000 waste tires on site in closed containers.

Hazardous waste, liquid waste, regulated medical waste, and other such materials are not accepted at the Facility.

2.2 PROPOSED FACILITY MODIFICATION

IWS proposes to construct a 9,345 square foot Transfer Station Building (proposed TS Building Addition) to the existing Transfer Station Building (existing TS Building), along with an approximately 430 square foot Mechanical and Electrical Room for housing the fire water pump and electrical equipment for the proposed Combined Transfer Station Building. The proposed TS Building Addition will include a new Loadout Tunnel that will be equipped with a Loadout Tunnel Scale and Tarping Rack. The existing tarping rack located adjacent to the Maintenance Shop/Office Building will be removed and the function replaced by facilities inside the Loadout Tunnel.

The curb cut at the Facility entrance on Hartley Road will be extended to 75 feet for easier access of trucks in and out of the Facility.

Leachate from the proposed addition will be directed into a new dual-walled underground leachate storage tank. The water for the fire suppression system in the proposed TS Building will be provided via a new 65,000-gallon Water Storage and Supply Tank (above ground).

IWS has previously submitted a permit modification requesting that the 70 TPD of source-separated recyclables be converted to MSW and C&D debris which will allow the Facility to accept up to 670 TPD of MSW and C&D debris under Part 362-3, or a maximum of 570 TPD of MSW and a maximum of 100 TPD of C&D debris when the Facility is operating under both Part 362-3 as a Transfer Facility and Part 361-5 as Construction and Demolition Debris Handling and Recovery Facilities. Recyclable materials are now directed to the Millennium MRF in Airmont, NY. This Application has been prepared to reflect the proposed total capacity of 670 TPD of MSW and C&D debris.

The upgraded Facility, as described above and depicted on the Engineering Drawings, has received local approval from the Town of Goshen Planning Board, dependent on approval from NYSDEC.

2.3 LOCATION AND PROPERTY BOUNDARIES

The Facility is located at 95 Hartley Road in Goshen, New York. Refer to Figure 1, Site Location Map. The 3-acre Site is located on Section 12, Block 1, Lot 21.21 in the Town of Goshen and is situated in the I, Industrial Zoning District. Operation of a solid waste management Facility requires a special use permit from the Town of Goshen. The site location is shown on Sheet No. 1, "Regional Map" and Sheet No. 2, "Vicinity Map" and on Figure 1, "Site Location Map".

The Facility is bounded to the north, south and west by other tax parcels zoned I. A portion of the Amy's Kitchen natural foods production facility is currently being constructed directly to the north of the Facility and to the west on the opposite side of the Wallkill River. The closed Al Turi Landfill is located to the south and west of the Facility. Property located across Harley Road to the east is zoned CO, Commercial/Office Mixed-Use. IWS owns the parcel directly across the street which is used for vehicle and container storage. On Time Disposal and HIG Fabrications are also located across Hartley Road to the east of the Facility. On Time Disposal provides roll-off container rentals to customers, HIG fabricates automobile chassis and parts for race cars.

As per FEMA Flood Insurance Rate Map (FIRM) Panel 269 of 630 (No. 36071C0269E), last revised on August 3, 2009, the Facility is located in Zone X, areas determined to be outside the 0.2% annual chance floodplain. The Facility is not located in or adjacent to a State or Federally regulated wetland or wetland check zone. Flood hazard areas and regulated wetlands in the vicinity of the Facility are depicted on the Engineering Drawings.

2.4 FINANCIAL SURETY

As per Solid Waste Management Permit Condition No. 35 of the existing SWMF Permit, IWS maintains financial surety in the amount of \$195,000 in favor of the New York State Department of Environmental Conservation. A

copy of the existing surety bond is included in Appendix B. An updated closure cost estimate is included in Appendix C.

3.0 FACILITY DESCRIPTION

3.1 MATERIALS HANDLED

The material streams currently permitted at the Facility include MSW and C&D debris and Source-Separated Recyclables (SSR). It is a priority of IWS to continue to reduce solid waste volumes scheduled for landfill disposal through methods of recycling. The Facility is permitted to accept MSW and C&D debris up to a maximum combined rate of 600 TPD. With the construction of the addition to the TS Building and the elimination of the currently permitted 70 TPD of SSR, the Facility is requesting a SWMF Permit modification so the Facility can be permitted to accept up to 670 TPD of MSW and C&D debris, resulting in no change to the total maximum of 670 TPD of waste material.

Wastes that will not be accepted at the Facility include the following:

- Radioactive Materials;
- Suspected Hazardous Waste;
- Liquid Waste;
- Biosolids;
- Chemical or Explosive Wastes;
- Industrial Wastes, as defined in 6 NYCRR Part 360 and/or Part 371;
- Infectious or Medical Wastes, as defined in Public Health Law 1389-aa and Environmental Conservation Law Article 27 Section 1501;
- Suspected Asbestos Containing Waste;
- Electrical fixtures containing hazardous liquids such as fluorescent light ballasts or transformers;
- Fluorescent lights;
- Drums, fuel tanks, or containers greater than 10 gallons in size, and any containers having more than 1 inch of residue remaining on the bottom;
- Source-separated food scraps; or
- Fill material, or similar material from a site being remediated pursuant to a program administered by the NYSDEC or EPA unless accompanied by written approval from the NYSDEC or EPA.

3.2 FACILITY DESIGN CAPACITY

The TS has been designed with a material handling capacity in excess of the existing inbound material rate of 670 TPD of a combination of MSW and C&D debris. As demonstrated by the Throughput Capacity Calculations and Truck Queuing Model, both of which are described below and included in Appendix C of the Engineering Report, projected waste processing and vehicle traffic at this operating capacity will be easily accommodated by the TS Building and Facility layout.

3.3 SITE ACCESS AND SECURITY

Access and egress to the Facility is from a single access location along Hartley Road. Only those vehicles transporting solid waste in covered vehicles or confined vehicles will be allowed access to the Facility. Access to the TS receiving and processing areas is restricted to authorized personnel. At the close of business hours all doors and the access gate is secured and locked to prevent unauthorized access and to preclude illegal dumping.

3.3.1 Visitors

Visitors must sign in and sign out in the existing Office Building. Because of the nature of activities at the Facility, anyone entering the site must receive sufficient instruction to understand the operation and utilize appropriate safety and protective measures. Visitors will not be left unattended and will be escorted whenever entering the waste handling area. Visitors will be provided with the necessary PPE when they enter the Facility, which is subsequently returned prior to departing the Facility.

3.3.2 Signs

Signage is conspicuously posted at the entrance to the Facility along Hartley Road detailing the operator name, address of the Facility, hours of operation, types of wastes accepted and not accepted, regular business and emergency phone numbers, NYSDEC permit numbers, and complaint telephone numbers.

Additional information on the vehicle traffic at the Facility, as well as traveling to and from the site, is discussed in Section 4.4.1, "Traffic Routes To and From the Facility".

3.4 UTILITIES

Electrical Services to the Facility is provided by Orange and Rockland Utilities, Inc. Water is supplied to the Facility by a private well. The Facility maintains two (2) fully functioning restrooms and two (2) restrooms that are currently not in use. The two (2) fully functioning restrooms are situated on the first floor of the Office Building. The two (2) restrooms that are currently closed are located on the second floor of the Office Building, which is also not in use.

Water for operational and fire protection, which is located at several locations within the Facility, will be provided by a proposed 65,000-gallon storage and supply tank. This tank will initially be filled via a commercial water truck. Periodically, the tank will be filled via the groundwater well and pumps located on site. The Location of this tank is shown on Sheet No. 6, "Proposed Site Plan."

Sanitary wastewater from the Facility is discharged into an on-site holding tank which is located on the southwestern side of the Office Building. The holding tank is emptied on a regular basis by a licensed hauler for offsite treatment.

Leachate generated within the TS Building will be directed toward the Loadout Tunnel via sloped floors and directed via vertical scuppers on the interior wall of the Loadout Tunnel and collected via floor drains in the Loadout Tunnel and conveyed via dual-walled gravity pipe to a to an underground, dual-walled leachate storage tank situated outside of the TS along the southern end of the building. Leachate from the western portion of the TS Building will also be collected and directed via dual-walled gravity pipe to the existing underground, dual-walled leachate storage tank on the west side of the existing TS Building.

3.5 STORMWATER

The proposed modifications will result in the disturbance of less than 1 acre of land and will not result in an increase in impervious surface area since the area where the addition is to be constructed is currently paved. As such, no changes to the current stormwater collection system is required. Stormwater discharges from the site are currently managed in accordance with the site's existing SPDES Multi-Sector General Permit (Permit I.D. No. NYR00F289). Required monitoring records are maintained at the Facility and filed in accordance with the MSGP.

3.6 FIRE PROTECTION SYSTEM

Fire protection for the TS Building will be provided by a suspended "dry" sprinkler system that will consist of a ceiling mounted pipe network and sprinkler heads. The water supply for the sprinkler system will be provided via a 65,000 gallon above ground water storage and supply tank.

In addition, fire extinguishers will be located at numerous locations throughout the TS Building and Electric Room. These fire extinguishers will be suitable for use on Class A, B, and C fires making them effective against fires involving wood, paper, cloth, rubber, plastics, flammable liquids, gases and greases, and for electrical components.

The locations of each fire protection device are shown on the Sheet No. 9, "Proposed General Arrangement Floor Plan".

3.7 BUILDING HVAC

The Facility's Ventilation System will provide a minimum of six (6) building volume air changes per hour and serve to maintain negative air pressure within the Building. Refer to Appendix D of the Engineering Report for supporting calculations. The TS Building will be equipped with a ventilation system consisting of exhaust fans and intake louvers, which will be located on the roof and sides of the Facility. The exhaust fans will be equipped with electrostatic filters in order to control the dust generated by the C&D debris. The buildings Electric Room will be heated using electric (or propane) heating units.

3.7.1 Dust and Odor Control System

A high-pressure dust and odor control misting system will be installed within the ceiling structure of the TS Building. This system will include atomizing spray heads, set to discharge a combination of atomized water mixed with an odor neutralizing agent at timed intervals. The atomizing spray heads will be distributed to provide coverage over the Tipping Floor and at each of the exhaust fans. When combined with an odor neutralizing agent, the atomized discharge from the misting system will serve to absorb and/or eliminate odors while successfully mitigating dust emissions that may be generated as a result of the MSW or C&D debris processing operations.

3.8 LOADING AREA

The south side of the TS Building addition will be equipped with a partial grade separation Loadout Tunnel to allow a Transfer Trailer/Rail Containers to be loaded inside of the TS Building in a dedicated area separate from the Tipping Floor. The Loadout Tunnel will be constructed of concrete. The Transfer Trailer/Rail Containers loading position within the Loadout Tunnel will be equipped with a certified Loadout Tunnel Scale to allow Equipment Operators to obtain accurate load and axle weights during loading operations. Digital readouts will be mounted above the Loadout Tunnel Scale and will be observable to the Equipment Operators. These readouts will indicate individual Transfer Trailer axle weights (*or groupings of axles*), as well as total vehicle weight.

The Loadout Tunnel Scale will be equipped with removable scale decks and durable load cells that are designed for expedited cleaning of the shallow scale pit, to facilitate the removal of material that may accumulate during loading operations.

Leachate generated in the Loadout Tunnel will drain via sloped concrete floors to floor drains into sumps within the scale pits, for collection by the Leachate Management System, as described in Section 4.9.5.3, "Management of Leachate".

3.9 SCALES

There is one (1) Truck Scale located at this Facility which is situated adjacent to the Office Building. The Truck Scale is a Mettler Toledo scale, Model 7562. A Radiation Detection System, Ludlum Measurements, Inc., Model 44-99 Gamma Scintillator, is situated at the scale which is used to detect radioactive materials that may be in the Tipping Vehicles.

The location and orientation of the Truck Scale is depicted on Sheet No. 5, "Existing Site Plan." Specifications for the above pieces of equipment can be found in Appendix D.

3.9.1 Loadout Scale

The Transfer Trailer loading position within the TS will be equipped with a certified Loadout Scale to allow Equipment Operators to obtain accurate load weights during loading operations. Four (4) digital readouts will be mounted above the Loadout Scale and be observable to the Equipment Operators. These readouts will indicate individual Transfer Trailer axle weights (or groupings of axles), as well as total vehicle weight.

The Loadout Scale will be similar to the model presented in Appendix D, with removable scale decks and durable load cells that are designed for expedited cleaning of the shallow scale pit, to facilitate the removal of material that may accumulate during loading operations.

Leachate and rinse water generated in the Loadout Tunnel will drain via sloped concrete floors into sumps within the scale pits, for collection by the Leachate Management System, as described in Section 4.9.5.3, "Leachate Management System".

The location and orientation of the Loadout Scale and Leachate Management System is depicted on Sheet No. 9, "Proposed General Arrangement Floor Plan," with details of the scale pit sump and pipe included on Sheet No. 14, "Proposed Leachate Management Details."

3.10 MOBILE EQUIPMENT

In order to process the inbound material streams, the Facility will employ a combination of the following mobile equipment:

- (2) Wheel Loader (Caterpillar 950)
- (1) Excavator (CAT 32)
- (1) Backhoe (Caterpillar 416)
- (3) Yard Tractor (Capacity)
- (1) Yard Tractor (MACK)

Appendix D of this Manual includes equipment specifications typical of the mobile equipment utilized at the Facility.

The above equipment list and associated specifications represent a sample of equipment capable of performing tasks required by the Facility operations. Any or all of the equipment pieces specified in this Manual or its appendices may be substituted with equally capable machinery upon approval from the NYSDEC. The necessary equipment will be available at the Facility during hours of operation to prevent curtailment of operations because of equipment failure, except under extraordinary conditions beyond IWS's control.

In the event of equipment failure, IWS will rent similar equipment to provide immediate backup. IWS will notify the NYSDEC of such situation.

3.10.1 Mobile Equipment Fuel Storage and Dispensing

The Facility has a 500-gallon and a 2,000-gallon aboveground double-walled diesel fuel tanks that are used for fueling the on-site mobile equipment. These tanks are located in the former Recycling Area Building and are both registered with the NYSDEC. These existing fuel tanks will be relocated to an area along the west side of the Maintenance Building following construction of the building addition.

4.0 OPERATING PLAN

4.1 HOURS OF OPERATION

The NYSDEC permits the Facility to receive waste during the following periods:

- Monday through Friday: 7:00 A.M. to 3:30 P.M.
- Saturday: 7:00 A.M. to 12:00 P.M. (Noon)

The NYSDEC permits the Facility to process waste during the following periods:

- Monday through Friday: 7:00 A.M. to 6:00 P.M.
- Saturday: 7:00 A.M. to 12:00 P.M. (Noon)

The Facility may process waste from 7:00 A.M. to 7:00 P.M. only on the two (2) operating days immediately after Memorial Day, Independence Day, and Labor Day.

All receipt, delivery, or other operations are prohibited on all Sundays.

The Facility may not operate on the following New York State Holidays: New Year's Day, Memorial Day, Independence Day (4th of July), Labor Day, Thanksgiving, and Christmas, unless otherwise authorized by the NYSDEC.

Fully loaded trailers may be picked up at the Facility; for shipment off-site before and after the operational hours listed above, provided no other solid waste handling activity takes place at the Facility and that a log of such activities is maintained and submitted with the annual report. The trailers must be weighed, and this tonnage must be included in the daily tonnage limits and recordkeeping requirements for the Facility. The NYSDEC authorized waste destination facilities currently used by Facility is provided in Table 2.

Traffic generated by the handling of inbound empty Transfer Trailers/Rail Containers, the pickup of fully or partially loaded Transfer Trailers/Rail Containers, and the movement of support vehicles for maintenance or repair on facilities and equipment will be acceptable outside of the authorized hours of operation. Any other operations (including trailer loading) outside of the hours of operation must first receive contingency approval from the NYSDEC Regional Materials Management Supervisor (RMMS).

4.2 SERVICE AREA

The Facility only accepts wastes as described within this Manual and as authorized by the NYSDEC. The Facility accepts most of its waste materials from the Orange County, New York. It remains a priority of the Facility to continue to reduce solid waste volumes scheduled for landfill disposal through methods of recycling and material recovery.

The service area is depicted on Sheet No. 1, "Regional Map".

4.3 START-UP AND SCHEDULED SHUTDOWN OPERATIONS

During start-up, the Facility Supervisor or designee prepares for incoming Tipping Vehicles, completes the Radiation Detection System Daily Background Reading Log (Table 3), walks the site and conducts the daily safety briefing.

In the event of a scheduled shutdown, the Facility Supervisor would close the Facility to inbound Tipping Vehicles and the Equipment Operator would turn off the equipment.

4.4 TRAFFIC CIRCULATION

The vehicular traffic flow to and from the Facility, as well as on site, has been designed to maximize efficiency of movement, while minimizing impacts on surrounding roadways.

Vehicular traffic projections were developed based on historical tipping records and the proposed permitted capacity of 670 TPD. Expected traffic volume calculations are further explained within Section 3.2, “Facility Design Capacity”.

Tipping Vehicles and Transfer Trailers/Rail Containers enter and exit the Facility via lawful truck routes as described below.

4.4.1 Traffic Routes to and From the Facility

The Facility is permitted to accept up to 600 TPD of a combination of MSW and C&D debris and a up to 70 TPD of SSR. The requested maximum waste acceptance volume of 670 TPD of MSW and C&D debris will result in no increase on vehicle trips to and from the Facility. Based upon current operations, on average there is approximately 107 inbound tipping vehicles and approximately 27 outbound transfer trailers per day. These values extrapolated to 670 TPD equate to approximately 122 inbound tipping vehicles and approximately 36 outbound transfer trailers per day. Since there is no change to throughput or material type as part of this permit modification, there will be no change in the number of inbound and outbound vehicles.

Sheet No. 3, “Truck Route Map” depicts the routes used to access the Facility that is situated on Hartley Road, less than 2,300 feet north of NYS Route 17M. Major roadways used by tipping vehicles and transfer trailers include NYS Route 17M, and NYS Route 17 to the east and Interstate Route 84 to the west.

4.4.2 Vehicle Staging

Truck queuing areas for the Facility will be designated between the entrance to the Facility that is situated off of Hartley Road and the Facility scale. This queuing area provides ample space for queuing inbound vehicles and will also allow unobstructed traffic movement on Hartley Road. Facility personnel will utilize portable hand-held radios to advise the Facility Manager or designee of the availability of queuing areas in order to maintain smooth operating conditions at the Facility. Figure 3, “Queuing – Operational Site Plan” shows the required pre-scale queuing for two (2) inbound tipping vehicles. As shown, there is ample space along the on-site access area for 6 additional tipping vehicles.

4.4.3 On-Site Traffic Patterns

Inbound Tipping Vehicles and empty Transfer Trailers/Rail Containers will enter the Facility through the existing Facility entrance along Hartley Road.

Inbound Tipping Vehicles travel west to the existing Truck Scale. After processing at the Truck Scale area is completed, these Tipping Vehicles will traverse from the Truck Scale to the TS Building. When Tipping Vehicles have reached the vicinity of the TS, site personnel will direct the Tipping Vehicles to the appropriate area of the TS Building. Vehicles that can tip their load onto the floor will be directed to one of the Tipping Floor entry doors and a location within the TS Building where the unloading of materials will be performed.

After unloading on the concrete Tipping Floor, the Tipping Vehicles will exit the TS Building via the roll-up door, return to the Truck Scale, finalize the transaction with the Weighmaster, and exit the Facility Hartley Road. IWS vehicles and tipping vehicles with tare weights on record with the TS Facility do not require a second scaling.

Empty Transfer Trailers and Rail Containers will bypass the Truck Scale area, and head directly to the TS Building or to the empty Trailer storage area at the western side of the Facility. Transfer Trailers/Rail Containers will be

backed into the Loadout Tunnel from the west side and stage atop the Loadout Scale to obtain a tare weight and prior to the initiation of waste transfer operations. Once fully loaded, the Transfer Trailer and Rail Containers will be tarped before exiting the Loadout Tunnel. The tarped Transfer Trailers/Rail Containers will exit via Hartley Road toward Route 17M or be stored on the Trailer Storage Pad on the west side of the TS Building.

The frequency of truck traffic to the TS has been evaluated within the Throughput Capacity Calculations and Truck Queuing Model, both included within Appendix C of the Engineering Report, which demonstrate more than adequate truck traffic capacity in the proposed Facility layout.

The proposed flow of materials and traffic within the Facility is depicted on Sheet No. 7, "Proposed Vehicle Circulation Plan."

Based upon current operations, extrapolating the current weekday and Saturday vehicle count to 670 TPD, there would be approximately 127 inbound tipping vehicles and approximately 36 outbound Transfer Trailers/Rail Containers per day based upon current operations. Appendix C of the Engineering Report contains a detailed queuing summary.

4.5 SITE OPERATIONS

Inbound Tipping Vehicles and empty Transfer Trailers/Rail Containers will enter the Facility through the existing entrance along Hartley. Inbound Tipping Vehicles then travel to the Truck Scale. If necessary, while the vehicles are on the Truck Scale, vehicle drivers may exit vehicles to initiate the transaction process with the Scale Master.

After processing at the Truck Scale area is completed, the Tipping Vehicles will traverse from the Truck Scale to the TS Building. When Tipping Vehicles have reached the vicinity of the TS Building, site personnel will direct the Tipping Vehicles into the TS Building where the unloading of materials will be performed.

The Facility Manager or designee will be in charge of the operations at the Facility including traffic control and material handling. Empty Transfer Trailers and Rail Containers will bypass the Truck Scale area north of the Maintenance Building, and around the south side of the Maintenance Building. In this area, empty inbound Transfer Trailers and Rail Containers will typically be maneuvered backing into the Loadout Tunnel on the south side of the TS Building. Loaded and empty Transfer Trailers/Rail Containers that are dropped off and stored on the Trailer Pad will be driven through waste loading operations and stowed utilizing a dedicated Trailer Jockey. At times during operations, it may be operationally convenient for an empty inbound Transfer Trailer/Rail Containers to not stow the loaded Transfer Trailers or Rail Containers, and instead head toward the TS Building Loadout Tunnel in preparation of direct live-loading of waste.

Once loading is completed, the Transfer Trailer or Rail Container will be tarped within the Loadout Tunnel. The Loadout Tunnel tarping area will be equipped with a tether system to enable personnel to safely "tie-off" before executing tarping actions. Loaded Transfer Trailers and Rail Containers will be covered and secured prior to leaving the immediate vicinity of the TS Building.

Typically, a Trailer Jockey will pull a loaded Transfer Trailer or Rail Container out of the Loadout Tunnel's overhead roll-up door, maneuver immediately south of the Maintenance Building and around the north side of the Building before backing onto the leachate collection equipped Trailer Pad. An over the road Tractor will engage loaded Transfer Trailers and Rail Containers that are stored on the Trailer Pad and proceed along the north side of the Facility and exit via Hartley Road. Live loaded Transfer Trailers proceed out of the Loadout Tunnel, obtain shipping documentation, and exit the Facility via Hartley Road.

Waste materials leaving the Facility will be accompanied by a tracking document, acceptable to the NYSDEC, indicating at a minimum, where the material was generated, the hauler, and the destination. This document will be signed by the hauler upon delivery to the destination. The owner or operator of the receiving facility will also sign the document and be instructed to return the form to the Operator within two (2) weeks. Should the material be

transported to another solid waste facility for further processing, and subsequently transferred again, an additional tracking document will be required to document that the material was ultimately treated or disposed of at an authorized solid waste facility. A record of all transactions will be maintained on site for a period not less than seven (7) years from the date of recording.

4.5.1 Waste Tipping Operations

Inbound Tipping Vehicles drive onto the Truck Scale where the gross vehicle weight will be obtained. If the Scale Master determines, upon inquiry of the driver, that the load contains unauthorized waste, the driver will be advised accordingly, and Facility personnel will be notified via the intercom system or via a hand-held radio not to permit the Tipping Vehicle to enter the tipping area. This is the first step in the waste screening/inspection program.

If the load contains acceptable material, and the driver has obtained a signed truck weight ticket from the Scale Master, the Tipping Vehicles will then pull forward off the scale and will be directed by the Facility Manager or designee to one of the tipping bay areas.

Based on market and disposal conditions, the Facility may manage MSW and C&D debris separately, or MSW and C&D debris may be commingled and managed as a single waste type. If and when C&D debris is separately managed, a portion of the Tipping Floor will be designated for C&D debris use. Tipping Vehicles will be directed to the appropriate area of the Tipping Floor if the materials are to be handled separately. Operational flexibility will be provided as any of these unloading positions may be used for any material type and will be dependent on the material types being delivered, the storage of material on the Tipping Floor, the availability of Transfer Trailers or Rail Containers, and other operational considerations.

An Equipment Operator or designee within the Tipping Floor area will also serve to direct inbound Tipping Vehicles using hand signals. As instructed by the Scale Master and the Tipping Floor personnel, drivers of the Tipping Vehicles will be directed to proceed only after making eye contact with a Facility employee and being directed/signaled by that Facility employee.

After the Tipping Vehicle enters the TS Building, and prior to unloading on the Tipping Floor, Tipping Floor personnel and/or the Equipment Operator or designee will visually inspect the Tipping Vehicle and look for unauthorized materials, or evidence thereof, in the presence of the driver, prior to the tipping. If unauthorized material is found in the load prior to tipping, IWS reserves the right to reject the entire load and not accept it for processing. Immediately upon tipping, Tipping Floor personnel and/or Equipment Operator or designee will visually inspect the load for unauthorized materials. If unauthorized materials are discovered after unloading, IWS will immediately secure such waste and the handling of the materials in accordance with the procedures outlined in Section 5.0, "Waste Control Plan." Occasional items of identified unauthorized materials will be removed from the Tipping Floor by hand picking after the waste is unloaded.

After the waste material is tipped, it is loaded into a Transfer Trailer or Rail Container, or it is temporarily stockpiled in the designated storage areas on the Tipping Floor. After waste tipping, Tipping Vehicles will exit the TS Building. If a tare weight is on record for the Tipping Vehicle, it may by-pass the Truck Scale and exit the Facility. If a tare weight is not on-file for the Tipping Vehicle, the outbound Tipping Vehicle will maneuver to the Truck Scale to obtain a tare weight to complete the transaction. The Facility maintains a database of vehicle tare weights of Tipping Vehicles that frequent the Facility which eliminates the need for the vehicle to be weighed after tipping to complete a transaction.

The total maximum processing time for inbound Tipping Vehicles to unload waste, as described above, is typically performed in approximately ten (10) minutes.

4.5.2 Transfer Operations

Transfer Trailers/Rail Containers will be backed into the Loadout Tunnel and positioned upon the Loadout Tunnel Scale. Digital readouts mounted above the Loadout Tunnel Scale and observable to the Equipment Operators or designee will allow the Transfer Trailers to be properly loaded to maximize each outgoing load. These readouts will indicate individual Transfer Trailer axle weights (or groupings of axles), as well as total vehicle weight.

Mobile equipment, such as a Wheel Loader and/or Mobile Excavator, operating on the Tipping Floor will be used for loading the Transfer Trailer or Rail Container. Waste material will be systematically placed, compacted, leveled, and groomed within the Transfer Trailer or Rail Container. When the Transfer Trailer or Rail Container is loaded to the desired weight, the gross vehicle weight will be transmitted to the Scale Master in the Truck Scale along with the previously obtained tare weight. The Transfer Trailer or Rail Container driver will tarp and cover the top of the Transfer Trailer/Rail Container, prior to leaving the TS Building using the tarping station within the Transfer Tunnel. Prior to deploying the tarp, the driver or designated employee will connect to the tether system to safely “tie-off” before executing Transfer Trailer tarping actions. The tarp will be secured to prevent blowing litter at the Facility. When the tarping is completed, the loaded Transfer Trailer will either be stored on the Trailer Pad for future shipment from the Facility or will be driven from the site.

Table 2 lists the NYSDEC authorized waste destination facilities currently used by IWS. (Refer to Appendix E of the Facility Manual for the disposal facility permit, a table summarizing the name, address, contact person, type of authorization, expiration date of authorization, and the amount of each type of material that the Facility can send to each disposal facility). Due to ever changing market conditions beyond IWS control, available disposal facilities may change. IWS will request approval from the NYSDEC for additional facility disposal facilities prior to use.

4.6 FACILITY PROCESS FLOW DIAGRAMS

The flow of materials through the Facility is depicted in Figure 4, “Facility Process Flow Diagram, Combined MSW and C&D Debris (Part 362-3)”. This figure illustrates the receipt and handling of MSW and C&D debris separately. MSW and C&D debris may be handled together.

The average daily amount of MSW and C&D accepted at the Facility is approximately 395 TPD or 1,411 cubic yards based upon an average density of 560 pounds per cubic yard for the combined waste stream. The maximum daily tonnage will not exceed 670 TPD or 2,393 cubic yards. This equates to an approximate average annual tonnage of 123,240 TPY or 440,143 cubic yards and a maximum of 209,040 TPY or approximately 746,571 cubic yards of MSW and C&D.

Figure 5, “Facility Process Flow Diagram, MSW (Part 362-3) and C&D Debris (Part 361-5)”. The average daily amount of MSW accepted at the Facility is approximately 348 TPD or 1,160 cubic yards based upon an average density of 600 pounds per cubic yard. The maximum daily tonnage of MSW not exceed 590 TPD or 1,967 cubic yards. This equates to an approximate average annual tonnage of 108,576 TPY or 361,920 cubic yards and a maximum of 184,080 TPY or approximately 613,600 cubic yards of MSW.

The average daily tonnage of C&D accepted at the Facility is approximately 47 TPD or 188 cubic yards based upon an average density of 500 pounds per cubic yard. The maximum daily tonnage will not exceed 80 TPD or 320 cubic yards. This equates to an approximate average annual tonnage of 14,664 TPY or 58,656 cubic yards and a maximum of 24,960 TPY or approximately 99,840 cubic yards of C&D.

4.7 MATERIALS RECOVERY AND DISPOSAL PROVIDERS

IWS has established relationships with markets for the recovered materials from the Facility. These markets, as presented in Table 2, will continue to be used and others may be added as market conditions and availability may change.

The IWS Goshen Facility utilizes the services of several authorized disposal facilities for the MSW and C&D debris leaving the Facility. In accordance with disposal contracts, the ultimate disposal site for waste from the Facility will be an approved facility utilized at the discretion of IWS. Many in state options are available to be used as disposal facilities, as presented in Table 2. IWS may form disposal agreements that utilize any combination of approved facilities, including those listed on this Table.

Recyclable materials recovered from C&D debris in accordance with the SWMF Permit will be transported to a provider listed on Table 2.

Materials will be separated from C&D debris to be recycled or to be reused for a specific use if approved by the NYSDEC. Material that is not recovered will be sent to a permitted landfill or waste-to-energy facility.

Recyclables recovered from the C&D debris will not be stored onsite for more than sixty (60) days unless prior written approval has been granted by the NYSDEC Region 3.

4.8 MATERIAL STORAGE

The proposed TS Building will include approximately 17,206 square feet for Tipping Vehicle unloading, waste transfer/material recovery operations, and temporary material storage. Floor space requirement calculations, as they relate to the ability of the TS Building to store an entire day of capacity under emergency conditions, are discussed below and depicted on Figure 2, "Tipping Floor Emergency Storage Pile Volume."

Approximately 7,430 square feet of Tipping Floor space within the TS Building may be utilized for emergency storage of unprocessed MSW and/or C&D debris. Unconfined storage slopes are calculated to be one (1) horizontal to one (1) vertical. Stacking of waste an average of twelve feet (12') high would equate to a total capacity of 2,415 cubic yards, or 676 tons of MSW and C&D (*applying a density of 560 pounds per cubic yard on the Tipping Floor*). Pile 1 equates to approximately 1,845 cubic yards and Pile 2 equates to approximately 570 cubic yards.

Throughput Capacity Calculations included in Appendix C contains a Collection Vehicle Queuing Analysis, a Tipping Floor Surge Pile Analysis, and Emergency Storage Area Calculations.

Appendix C also presents calculations for the maximum anticipated surge pile resultant from 670 TPD capacity of MSW and C&D would equal six hundred and forty-two (642) cubic yards or approximately one-hundred and eighty (180) tons. Figure 6, "Tipping Floor Operational Surge Pile Volume" demonstrates this projected MSW and C&D surge piles under proposed operating conditions.

4.8.1 Storage Durations

When operating under Part 362-3, MSW and C&D debris received at the TS will be processed and loaded into a Transfer Trailer or Rail Containers by the end of each day and removed from the Facility by the end of the next business day after the container becomes full or within seven (7) calendar days of receipt, whichever comes first. If a Transfer Trailer or Rail Containers is not fully loaded at the end of the day, it will remain in the Loadout Tunnel until the next day. The Tipping Floor shall be cleaned at the end of each operating day.

When operating under both Part 362-3 and Part 361-5, C&D debris, will be processed within 30 days of receipt.

Unauthorized material discovered within the Facility will be removed within seven (7) days of receipt, in accordance with the procedures in Section 5.0, "Waste Control Plan".

4.9 NUISANCE MITIGATION

4.9.1 Litter

The amount of litter encountered at the Facility is anticipated to be minimal due to all waste tipping, handling, and processing occurring within the confines of the TS Building, and loaded Trailers and Rail Containers will be tarped before leaving the TS Building. The Facility perimeter, access roadway, maneuvering yard, and queuing and staging areas will be policed daily by Facility personnel for litter. Open top Tipping Vehicles shall be adequately covered prior to entering the Facility and will not be permitted to remove their tarps until being instructed to do so by Facility personnel. Similarly, loaded Transfer Trailers/Rail Containers will be covered prior to exiting the Loadout Tunnel.

As part of the waste receiving and waste loading operations, vehicle tires will be visually inspected. Facility employees will be instructed to check tires which may carry material outside the TS Building. If there is evidence of material attached to tires of vehicles, the tires will be cleaned prior to exiting the TS Building.

Routine housekeeping will be a normal part of daily operations to ensure a clean, well-maintained work environment.

4.9.2 Dust and Odor Control System

Waste loading, unloading, and recyclable recovery activities will take place within the confines of the TS Building. Vehicular access to the building interior will be controlled using a roll-up doors. Materials transported from the TS will be in covered and/or enclosed vehicles. These measures will aide in the mitigation of airborne dust and odor transmission to the surrounding area.

The TS Building addition will be constructed with air exchange fan units to provide a minimum of six (6) building volume air changes per hour. The air exchange fan units will draw fresh air from active roll-up doors and wall mounted air exchange inlet louvers to replace air from the interior of the TS Building. This air exchange system is depicted on Sheet No. 9, "Proposed General Arrangement Floor Plan" and Sheet No. 11 and 12, "Proposed Building Elevations."

As a part of routine housekeeping, clearing of the material tipping areas of the TS will occur on a daily basis to promote prompt removal of waste materials from the Tipping Floor and reduce the presence of nuisance odors.

Dust and odor control measures will also include a high pressure atomizing system that is outfitted with odor control capacity. This system will disperse a combination of atomized water to provide dust suppression and a liquid odor neutralization product designed to absorb and/or eliminate odors associated with solid waste transfer stations. The Facility will utilize standard products manufactured for this application by NCM, AiReactor, or other specialty companies. The proposed misting system layout is shown on Sheet No. 10, "Proposed Operations Floor Plan".

The Facility utilizes a water truck during dry times to limit dust generated by traffic within the Facility.

4.9.3 Insect and Vector Control

In order to control insects and vectors at the Facility, a commitment to diligent building cleanliness and efficient throughput of material will be practiced. Tipping and loading operations will be performed within the confines of the TS Building. A local licensed insect and vermin control company is retained by the Facility. A copy of the current exterminator contract is included in Appendix F.

The site is graded to promote drainage and preclude ponding of water. Should ponded water areas be identified, these areas will be repaired by the patching of pavement or the filling of depressions. Hose bibs are located within the building to enable the Tipping Floor and Loadout Tunnel to rinse regularly. The resultant rinse water will be contained within the TS Building and be managed as leachate. As discussed further in Section 4.9.5, "Protection

of Surface Waters and Groundwater”, leachate from the proposed TS Building will be collected and stored in double walled, corrosion-resistant holding tanks.

4.9.4 Noise Control

Facility staff are trained to determine the normal acceptable noise levels at the Facility perimeter during operations. Noise impacts will be largely mitigated by conducting waste tipping and processing operations within the confines of the TS Building. Excessive noise levels detected by Facility personnel will be brought to the attention of the Facility Manager or designee.

If the source of the unacceptable noise is determined as emanating from a vehicle or piece of equipment not owned by the Facility, the Facility Manager or designee will notify the Driver and Owner of this violation and advise them that future acceptance of that vehicle will be in jeopardy until adequate repairs are completed or it will be refused future access.

In the case where vehicles are owned by the IWS, the Maintenance Staff or designee will ensure that those vehicles are equipped with properly operating muffler systems (designed to suppress exhaust noise ≤ 80 dBA at a distance of 50 feet) as part of their regularly scheduled maintenance program. Should it be determined that the source of the excessive noise emanates from equipment owned by the Facility, corrective maintenance will be performed.

A Noise Study was completed on February 8, 2023 as a requirement of the current SWF Permit. The nearest residential land use to the Facility is one single family home located approximately 1,500 feet to the north of the Facility on Hartley Road. The background sound levels are dominated by the traffic and road noise from Route 17M to the south and also Route 17 (aka I-86) to the north. The area has a constant low hum from the traffic associated with these roadways.

The Leq measured onsite had a SPL of 80.4 dBA however this would be approximately 50.9 dBA at nearest residence on Hartley Road, using only distance for sound attenuation. As such, the residence on Hartley Road to the north of the Transfer Station is not impacted by noise generated from the Transfer Station operations. Based on the results of the February 8, 2023, noise assessment and the land use in the area, the Facility does not have any negative sound impacts on adjacent properties given the sound pressure levels present, the background noise levels generated by the roadways in the area, and the land uses adjacent to the Transfer Station. Additionally, due to the distance to the nearest residential land use and the background noise conditions associated with traffic and road noise from Route 17 and 17M, sound levels generated at the Goshen Transfer Station have no impact on residential land uses in the area.

The IWS Facility has been operating for decades with no history of noise problems or complaints from adjacent property owners or other nearby neighbors. The recent noise assessment showed that the Facility does not have any negative sound impacts on adjacent properties given the sound pressure levels present and the land uses adjacent to and in the vicinity of the existing Transfer Station. It is expected that these results will improve as a result of the construction of the TS Building addition since operations will be for fully conducted in the fully enclosed building.

4.9.5 Protection of Surface Waters and Groundwater

4.9.5.1 Spill Control Equipment

Spill control products will be maintained on site for response to an accidental spill or leak from a piece of mobile equipment (such as from a hydraulic hose) or to collect liquids discharged during a minor firefighting event. The procedure for control will be to deploy spill control products over the spill area, contain the resultant product and contaminant mixture, and dispose of the mixture with other landfill-bound waste.

Should a spill occur that releases a potentially toxic or suspected hazardous material, the spill shall be immediately contained; and the Town of Goshen Fire Department shall be immediately contacted by calling 911. The NYSDEC Regional On-Site Environmental Monitors Coordinator (ROSEMC) shall also be contacted at (845) 256-3138. If necessary, the NYSDEC twenty-four (24) Hour Spill Hotline shall be immediately notified at (800) 457-7362. Spills and associated remediation efforts will be documented on a Table 4, Emergency Response Plan Implementation Report, or similar means, for inclusion in the Facility's annual report.

4.9.5.2 Stormwater Management

Stormwater from the pavement area is collected by either a catch basin that discharges into a sampling manhole from which it is discharged via a 12-inch diameter culvert or overland flow. Down drains control stormwater from the roof of the Facility and direct water toward the low-lying lot to the south where stormwater will infiltrate into the ground.

Stormwater discharges from the site will be managed in accordance with the site's existing SPDES Multi-Sector General Permit (Permit I.D. No. NYR00F289). Required monitoring records will be maintained and filed in accordance with this permit and the associated Stormwater Pollution Prevention Plan (SWPPP).

4.9.5.3 Management of Leachate

Material handling operations will take place on the reinforced concrete Tipping Floor within the TS Building. To ensure the collection of liquids that may be generated during the waste handling and processing operations within the TS Building, as well as wash down water, the Tipping Floor will be constructed to slope inward from the door openings and pitch toward the push wall that divides the Tipping Floor from the Loadout Tunnel. Liquid that is not absorbed by the solid waste will be directed through push wall openings adjacent to the proposed Loadout Tunnel and down vertical channels in the Loadout Tunnel wall and will be conveyed by gravity via double-walled piping to a double-walled underground leachate storage tank. Likewise, and leachate or other liquids in the Loadout Tunnel will be collected in sumps and directed to the leachate storage tank via the double-walled piping.

This design approach to the collection and conveyance of liquids generated from transfer station operations has a proven track record of optimizing the management of leachate while minimizing the maintenance requirements persistent to other approaches (i.e., floor drains and associated piping in the Tipping Floor area).

Leachate generated in the western side of the existing TS Building will be collected in floor drains along the western entrances and directed to the existing leachate storage tank to the west of the TS Building via the double-walled piping.

Any leachate from trailers being stored on the Proposed Transfer Trailer Staging Area, as well as any stormwater coming into contact with this Staging Area, will be collected in a trough which drains to the existing leachate storage tank on the west side of the TS Building.

The liquid level in the leachate tanks will be monitored daily by a Facility employee. When a tank nears three-quarter (3/4) capacity, it will be emptied by the Facility's permitted wastewater hauler. The tank also include high-level alarm systems.

The Leachate Management System serving the new TS Building is depicted on Sheet No. 9, "Proposed General Arrangement Floor Plan". Details are shown on Sheet No. 14, "Proposed Leachate Management Details".

4.10 SAFETY

Safety is one of IWS's most important values. Rigorous and frequent safety classes and meetings will be the hallmark of the culture at the IWS Goshen Facility. IWS recognizes the risk in the daily operations and will take precautions to best ensure the safety of the employees. IWS will continually ensure that the health and safety at the Facility are in compliance with Occupational Safety and Health Administration (OSHA) regulations. Where

required, the Facility will be equipped with the proper safety equipment including fire extinguishers, eye wash stations, first-aid kits, safety glasses, gloves, hard hats, and safety vests.

5.0 WASTE CONTROL PLAN

This Waste Control Plan has been prepared to provide guidance in the identification of unauthorized inbound materials at the Facility, as prohibited by the NYSDEC.

The Facility has a Waste Control Plan to exclude the receipt of unauthorized wastes, including regulated hazardous waste. This Plan includes the following:

- Conspicuously posted signage indicating hours of operation and the types of solid waste accepted and not accepted;
- Visual observation of inbound materials;
- Procedures to manage unauthorized waste, including suspected hazardous waste, upon discovery;
- Notification procedures to report to the NYSDEC the discovery of unauthorized waste, including suspected hazardous waste; and;
- Training of Facility personnel to recognize unauthorized waste, including likely or suspected hazardous wastes.

In addition to the unauthorized wastes specifically identified herein, the Facility maintains the right to reject any load of waste found to be unacceptable at any time.

5.1 SCREENING OF INBOUND MATERIALS

On the approach to the Scale House, there will be a clearly posted copy of the Facility's notice concerning the types of materials the Facility will accept, and the types of materials that the Facility will reject. Suspicious loads, new customers, and customers that have been found to violate authorized materials rules in the past will be targeted for higher levels of scrutiny regarding load inspection.

It is the responsibility of the Scale Master to perform an initial inspection of inbound Tipping Vehicles by questioning drivers at the inbound Truck Scale. The Scale Master has been trained in the recognition of unauthorized wastes and will have the authority to refuse any loads which are believed to contain materials that the Facility is not permitted to receive. This initial inspection will attempt to determine the following information:

- Confirmation of types of material in the load; and
- Verification that the load conforms to the Facility's 6 NYCRR Part 360 Permit.

After a Tipping Vehicle has been weighed, it will proceed to the Tipping Floor of the TS Building. While the material loads are being deposited onto the Tipping Floors, Facility Laborers/Sorters and/or Equipment Operators will act as interior solid waste inspectors and perform a visual inspection of deposited materials. The Laborers/Sorters and/or Equipment Operators will be trained in the recognition of unauthorized waste types and have the authority to refuse any materials that the Facility is not permitted to handle.

5.2 RANDOM LOAD INSPECTIONS

As part of the Facility's Waste Control Plan, inbound Tipping Vehicles will be indiscriminately selected to undergo a detailed random inspection by Facility Laborers/Sorters who will be trained in the recognition of unauthorized and hazardous waste types. Tipping Vehicles belonging to transporters with a history of violating Facility material acceptance protocol, as well as transporters new to the Facility, will be subject to a greater frequency of inspection at the Truck Scale.

These detailed inspections will be documented using the Facility's Random Load Inspection Form. A sample of this form is included as Table 5 of this Manual.

5.3 RADIOACTIVE WASTE DETECTION PLAN

In the event radioactive waste is detected, the Radioactive Material Unauthorized Waste Procedure included in Appendix G will be followed. The Facility has a radiation detection system, Model 44-99 Gamma Scintillator radiation detection system as manufactured by Ludlum Measurements, Inc. installed at the scale.

The investigation alarm is set at least two times, but no greater than five times, the Facility background radiation level. Background radiation readings are measured and recorded daily on the Radiation Detection System Daily Background Reading Log (included as Table 3 of this Manual). Weekly field source checks are also conducted at the Facility and are recorded on the Weekly Field Source Check Log (included as Table 6). A repeatable 3D source geometry is utilized for the weekly source checks. Documentation of the annual calibration is stored at the Facility.

The Scale Operator is responsible for overseeing the response if radioactive wastes are detected, following the more detailed procedures presented in Appendix G for an incident of this type. Table 4, Emergency Response Plan Implementation Report and Table 7, NYSDEC Notification Form are available for use in recordkeeping and notification purposes.

Facility employees receive training on the radiation detection system operating procedures and radiation investigation alarm response procedures on an annual basis.

5.4 MANAGEMENT OF UNAUTHORIZED WASTES

If unauthorized material is detected by the Scale Master during the initial screening, the Tipping Vehicle carrying the load is denied entry to the Facility. Once tipped within the Building, a Laborer/Sorter observes each load as it is deposited on the Tipping Floor. The sight and/or smell of an unauthorized waste are usually the most apparent characteristics in the identification process. Unauthorized materials detected on the Tipping Floor will be temporarily segregated before being transported to the Initial Staging Area for Unauthorized Waste. If possible, the Tipping Vehicle of origin will be held on site until vehicle identification information can be recorded. If a Tipping Vehicle that tipped unauthorized material were to leave the Facility prior to identification attempts will be made to identify the origin of the material using security cameras recordings.

If the unauthorized waste is suspected to be hazardous, it is placed in a lined, sealed container and is secured in the Initial Staging Area for Unauthorized Waste for pick-up by an authorized licensed hauler who shall transport the unauthorized waste to a Facility approved to receive it for treatment, disposal, or transfer.

If unauthorized waste is liquid, hazardous, friable asbestos, or otherwise cannot be safely secured in the unauthorized waste storage area, such unauthorized waste must be secured on the tipping floor.

Warnings and financial penalties will be given to customers found to deliver unauthorized wastes with a progressive option to disallow Facility use should delivery of unauthorized material continue. Unauthorized material discovery within the Facility will be removed within 7 days of receipt.

If the unauthorized waste is not removed within 7 days of discovery, the Facility shall notify the NYSDEC Regional On-Site Environmental Monitors Coordinator (ROSEMC) by phone (845-256-3138) or via email at David.Pollock@dec.ny.gov with the following information:

- the date and time such unauthorized waste was discovered;
- the location where the unauthorized waste is stored;
- a description of how such waste is secured;

- the amount of such waste;
- the identification of such waste, (if known);
- why such waste cannot be removed from the Facility within the 7-day deadline, and
- when and how such waste shall be so removed from the facility. A record of each incident must be available for NYSDEC's review.

Reporting of unauthorized waste receipt will also be made to the NYSDEC within the annual monitoring report and records of each incident will be maintained on site. Table 4, Emergency Response Plan Implementation Report and Table 7, NYSDEC Notification Form are included in the Tables section of this Manual.

Specific waste handling procedures to be utilized upon the receipt of an unauthorized waste material are included within Appendix G of this Manual.

5.5 MANAGEMENT OF HOT LOADS

If a Hot Load were to be detected in a Tipping Vehicle or should a fire develop on the Tipping Floor, the effected material would be tipped within or moved via Wheel Loader to an area outside of the TS Building.

Once the material has been contained outdoors, mobile equipment may be utilized to isolate suspect materials from the remainder of the deposited load. Upon isolation, extinguishment by water may be initiated. Liquid generated by a minor firefighting event will be collected through the utilization of the Facility's spill control equipment. Water needed for the firefighting effort will be supplied via hose bibs located in the Tipping Floor area.

Additionally, numerous fire extinguishers are located within the TS Building.

The Scale Master is responsible for detecting Hot Loads prior to and during scaling. Laborers/Sorters or designee will be responsible for detecting Hot Loads while the Tipping Vehicle is in transit to the proposed TS Building and during tipping procedures. The Equipment Operator(s) and/or Laborers/Sorters will be responsible for detecting Hot Loads within the TS Building.

5.6 TRAINING OF PERSONNEL

Personnel employed at the Facility such as the Scale Master, Equipment Operators, and Laborers/Sorters are trained in the recognition and identification of unauthorized waste types, as well as the associated proper material handling and reporting procedures.

Refer to Section 6.0, "Staffing and Training Plan" for a more detailed description of employee training.

6.0 STAFFING AND TRAINING PLAN

6.1 PURPOSE

The Staffing and Training Plan has been developed for the purpose of providing a suitable number of properly skilled and trained employees to perform the managerial, administrative, and operational tasks necessary to conduct uninterrupted operation of the Facility. To ensure the responsibilities of these positions will be performed regardless of staffing variation, employees will be cross trained in various aspects of Facility operation and an individual employee may be trained to perform the responsibilities of multiple positions.

The following sections describe the staff anticipated for the Facility.

6.2 ESSENTIAL OPERATIONAL POSITIONS AND RESPONSIBILITIES

6.2.1 Facility Manager

6.2.1.1 Responsibilities

The Facility Manager is responsible for the overall operation of the Facility. This position is experienced in the management of material handling operations and has the responsibility for hiring appropriate staff, scheduling staff coverage, overseeing daily material handling and maintenance activities, and assuring the accurate and timely completion of recordkeeping and reporting. The specific responsibilities of the Facility Manager include:

- Administration, operation, and maintenance of the entire Facility.
- Exercise direct authority over all the Facility functions and personnel, in accordance with approved policies, procedures and regulations.
- Regularly inspect the Facility.
- Analyze and evaluate the operation and maintenance functions and initiate or recommend new or improved practices.
- Develop plans and procedures to ensure efficient Facility operation.
- Maintain Training Log Book, including certifications for all employees.

In addition, the Facility Manager is responsible for the implementation of the Facility specific Health and Safety Plan, including ensuring all Facility staff have the proper operating, safety and emergency response training for their position, oversee implementation of the Facility specific health and safety training, monitor Facility staff for health and safety program and maintain health and safety recordkeeping and reporting. The Facility Manager is in charge of coordinating periodic safety meetings and maintaining compliance with OSHA requirements.

6.2.1.2 Training

At a minimum, a high school education, five (5) years of related facility experience and certification as a Scale Master, will be required for this position.

The Facility Manager will complete, at minimum, an approved OSHA 40 Hour Training and is trained of the specifics of solid waste handling, Facility operations, and safety. Further training into such aspects as recognition of unauthorized and hazardous materials and other functions unique to job performance will be required.

6.2.2 Facility Supervisor

6.2.2.1 Responsibilities

The Facility Supervisor is responsible for making sure that all workers follow the various federal, state, and local laws relative to the inspection and handling of solid waste. Additionally, the Facility Supervisor reports to company management on a weekly basis to discuss operational problems and other relevant issues. Typically, the Facility Supervisor is an individual who has been promoted from the lower staff levels at this Facility or a similar facility and has several years of solid waste handling experience. The Facility Supervisor acts as the Emergency Coordinator when the Facility Manager is not on site.

The Facility Supervisor reports to the Facility Manager.

6.2.2.2 Training

At a minimum, a high school education, three (3) years of related facility experience will be required for this position.

The Facility Manager will complete, at minimum, an approved OSHA 40 Hour Training and is trained of the specifics of solid waste handling, Facility operations, and safety. Further training into such aspects as recognition of unauthorized and hazardous materials and other functions unique to job performance will be required.

6.2.3 Scale Master

6.2.3.1 Responsibilities

The Scale Master is entrusted with the following responsibilities regarding traffic and waste flow:

- Consistently determine accurate inbound and outbound vehicle/material weights.
- Enter applicable and required data into the computer data management system for company records and as required by the NYSDEC regulations and NYSDEC permit.
- Review and verification of all forms in accordance with NYSDEC regulations.
- Proficiently operate and interface with scaling and reporting software to provide accurate internal records and satisfy NYSDEC reporting requirements.
- Conduct and/or oversee random load inspections of incoming tipping vehicles.
- Establish themselves as the first point of contact for incoming vehicles by advising drivers to follow directions from Facility personnel for all traffic movements when navigating Facility.
- Monitor incoming loads for any evidence the loads might be smoldering or burning.

The Scale Master position reports to the Facility Manager.

6.2.3.2 Training

At a minimum, high school education and certification by the State as a weigh master is required for this position. Training for this position will be performed on the job assisted by the supplier of a computer system and Facility management.

6.2.4 Equipment Operators

6.2.4.1 Responsibilities

The position of Equipment Operator encompasses all personnel who may operate the Facility mobile equipment. These personnel will be capable of operating each piece of equipment and possess the following responsibilities.

- Proficiently operate assigned equipment in the safest manner possible.

- Perform daily equipment inspections and ensure equipment maintenance is performed when necessary through communications with the Facility Manager and Maintenance Staff.
- Start up and shut down equipment according to equipment manufacturer and company procedures.
- Identify waste (authorized or unauthorized) and/or recyclable type.
- Act as traffic controller by directing trucks to tipping and loadout areas within Facility.
- Manage incoming waste loads.
- Efficiently coordinate and manage the loading of transfer trailers.

The Equipment Operators report to the Facility Manager or designee.

6.2.4.2 Training

It is anticipated that Equipment Operators will be experienced and knowledgeable of proper practices pertaining to operation of machinery necessary to perform their job functions. They will be trained on the specifics of machinery operation as they pertain to Facility goals through on-the-job training. The suppliers of equipment provide instruction manuals to be read by the Equipment Operators of the equipment for purposes of maintaining performance levels and safety.

Equipment Operators will be trained for the specifics of solid waste handling, Facility operations, and safety. Further training into such aspects as recognition of unauthorized and hazardous materials and other functions unique to job performance will likely be administered.

No specific educational level is required for this position.

6.2.5 Laborers/Sorters

6.2.5.1 Responsibilities

It is the responsibility of Facility Laborers/Sorters to hand pick recyclables from tipped incoming material. When not performing material separation duties, it is the responsibility of Facility Laborers/Sorters to perform general site maintenance and cleanup, perform litter control and wash down procedures and assist the Facility Maintenance Staff where necessary. The Laborers/Sorters report directly to the Facility Manager.

6.2.5.2 Training

As a minimum, Laborers/Sorters assigned to the transfer operations area and the supervisory person for the recycling operations area Sorters will be trained for solid waste handling, Facility operations, and safety. Further training into such aspects as recognition of unauthorized and hazardous materials and other functions unique to job performance will likely be administered.

No specific educational level is required for this position.

6.2.6 Maintenance Staff

6.2.6.1 Responsibilities

The Maintenance Staff consist of Maintenance Mechanics. The Maintenance Mechanics report to the Facility Manager. The Maintenance Mechanic position responsibilities include performing mechanical work in connection with the maintaining and repairing of mechanical equipment (such as pumps) in accordance with applicable safety procedures, including lock out / tag out procedures. The Maintenance Mechanic will also be responsible for supervising the work of an Assistant Mechanic or Laborer if required. The Maintenance Mechanic will be responsible for the preventive maintenance program as per manufacturer requirements and unplanned equipment outages.

The Maintenance Mechanic is also responsible for the routine maintenance of the mobile equipment that is used at the Facility, including for example, wheel loader, hydraulic excavator, and water truck. Responsibilities include preventative and routine minor maintenance duties in accordance with applicable safety procedures, including lock out / tag out as required.

6.2.6.2 Training

Maintenance Staff will be experienced and knowledgeable of proper practices pertaining to the repair of the Facility appurtenances and operational equipment. The suppliers of the mobile material handling equipment provide operations and maintenance manuals to be read by the Maintenance Staff for purposes of maintaining performance levels and safety.

Maintenance Staff complete further training into such aspects as recognition of unauthorized and hazardous materials and other functions unique to job performance that will likely be administered.

No specific educational level is required for these positions.

6.3 EMPLOYEE TRAINING

IWS is committed to protecting the health and safety of all its employees. This commitment is the foundation of the company's core values and culture. These values will not be compromised under any circumstances. IWS continuously builds on their resolute commitment to workplace health and safety, in order for the company to accomplish its goal of becoming the safest workplace possible their employees, customers, contractors and the general public's interest.

As per 6 NYCRR Part 360.16(c)(4)(iii), the operation of a Solid Waste Management Facility must be conducted by an individual who has the authority and knowledge to make and implement decisions regarding operating conditions at the Facility. To meet this requirement, IWS has designated the Facility Manager as the employee that presents the IWS safety training courses to the Facility staff. Facility staff, regardless of their job responsibilities at the Facility receives the same training. The IWS training will also include health and safety training.

IWS has a comprehensive and proactive safety program which will include written safety protocols that have been established to encourage worker safety at the Facility. These protocols will be integrated into the weekly and monthly safety training sessions. A copy of these safety protocols will be maintained at the Facility and will be available to Facility employees at all times.

The Facility Manager conducts the weekly tailgate safety meetings ("Safety Mondays"), during which potential safety hazards related to each aspect of the Facility will be discussed, such as the type of PPE required by the employee to minimize safety hazards, and the proper notification procedures for injury-related incidents.

The Facility Manager or designee will also conduct a more comprehensive training session on a monthly basis to enforce IWS safety policies. Topics covered will typically include regulations (OSHA, New York State Department of Labor/ Public Employee Safety and Health Bureau, NYSDEC) and safe operating practices (equipment operation, safety devices, SDS, PPE, etc.). The monthly training sessions will include quizzes and each employee in attendance must sign-off indicating they understood the training that was presented. Each employee in attendance will sign a Training Session Roster, which attests the employee understood the topics covered in the session.

All training presented is from IWS training courses. IWS safety training courses include information, such as the Facility's standard operating procedures. Initial employee training focuses on the employee's duties they will be initially performing which will ensure the Facility continues to comply with IWS safety standards and with the NYSDEC's 6 NYCRR Part 360 Series regulations.

IWS training will focus on the hazards associated with infectious and hazardous materials and the means to identify and correctly handle unauthorized wastes. The training will also include site-specific training in solid waste handling

and transfer station operations. In addition to detailing the routine procedures of Facility operations, this site-specific training will include emergency topics such as emergency spill response, fire extinguisher use, and fire safety. Facility employees will complete weekly and monthly safety training which serves to re-emphasize previous training and to maintain employee safety at the Facility.

IWS training courses may include the following topics:

- Site Procedures and Processes;
- Start-up and Shutdown of Facility Operations;
- Blood-borne pathogens and biohazards;
- Cold and heat stress;
- Use and care of Personal Protective Equipment (PPE);
- Unauthorized waste recognition and handling procedures,
- Radiation detection system operating procedures and alarm response procedures;
- NYSDEC Facility permit; and
- Emergency Response Plan.

In addition, newly hired employees initially engage in actual field activities under the direct supervision of a trained experienced Facility Manager or designee.

Although each employee may have a specified job title, most employees will be required to assume other positions as deemed necessary by current site activities.

6.4 SHIFT COVERAGE

The Facility Manager coordinates schedules to provide appropriate staffing for each of the operations areas throughout the day.

During hours of Facility operation, at a minimum, the person in charge of the transfer station operation will have the 40-hour OSHA Hazwoper training.

6.5 TRAINING RECORDS

To assure management's commitment to training and safety, training forms will be used to track the required training process at IWS. Documentation of training will be maintained at the Facility, or electronically.

7.0 FACILITY INSPECTION PLAN

7.1 FREQUENCY OF INSPECTION

This Facility Inspection Plan has been prepared to establish schedules for inspecting various components of the Facility and indicates recommended items to be inspected, recommended inspections to be performed, and routine maintenance procedures and their respective frequency. The Facility Manager or designee will be responsible for overseeing inspections and housekeeping, as well as overseeing the additional tasks outlined in this Facility Inspection Plan.

Suppliers of the mobile and stationary equipment will provide recommended maintenance schedules which will be adhered to by the Facility. Inspections of all other building and site components by the Operator will be in accordance with the following general outline.

Completed written inspection are maintained at the Facility, or electronically.

7.2 ROUTINE INSPECTIONS

Routine Facility inspections will be performed as per the previously presented Inspection Plan. Daily, weekly, monthly, and quarterly inspection will be performed. Should inspections reveal the necessity to alter inspection frequencies or include additional inspection areas, the Inspection Plan will be revised accordingly.

7.2.1.1 Daily Inspection

The Ventilation System and dust and odor control will be monitored on a daily basis to ensure system function. The Leachate Management System structures are monitored daily. The doors and emergency exits, the interior plumbing system, eye wash(s), security devices, machinery and mobile equipment, and the Truck Scales will also be inspected on a daily basis.

The radiation detection system background reading is taken on a daily basis and logged on the Radiation Detection System, Daily Background Reading form (Table 3). As previously stated, a copy of completed Facility Operating and Inspection Logs are compiled and maintained at the Facility.

The Tipping Floor surface is cleared of waste daily by either washing or sweeping in accordance with the Facility's SWMF Permit.

7.2.1.2 Weekly Inspection

IWS completes a comprehensive weekly inspection of the Facility which encompasses each of the items covered under the daily inspections and also includes the inspection of Building downspouts, Building and equipment surfaces for dust accumulation, bollard integrity and visibility, fire extinguisher condition and integrity, first aid kit inventory, spill control equipment, emergency lighting system test, Radiation Detection System functionality and calibration, electrical system integrity and function, Leachate Management System secondary containment and overflow alarms, and Tipping Floor integrity. Following the completion of each weekly inspection, the Facility Manager completes and files a copy of the Weekly Facility Inspection Log. (Refer to Table 8).

Also, the Facility Operator/Scale Operator records the findings as to the condition, status, and other select inspection, maintenance, and housekeeping items on a Weekly Leachate Collection System Inspection Log (Table 9).

7.2.1.3 Annual Inspections

Annual Facility inspections will cover each of the items covered under the daily and monthly inspections and also take into account Building exterior components such as the roof, siding, and foundation walls. The interior walls of the Building will be washed once per year to remove debris. Additionally, the Tipping Floor is inspected annual by a Professional Engineer licensed in the State of New York. A report of Tipping Floor Inspection Report is submitted to the NYSDEC.

In addition, the Truck Scales will be inspected and certified for trade by the Orange County Consumer Affairs and Weight and Measures. Copies of the scale certifications will be maintained at the Facility. The Radiation Detection System is also calibrated on an annual basis. Copies of these certifications are maintained at the Facility.

Following the completion of each annual inspection, the Facility Manager or designee will record their findings on a copy of the Annual Inspection Checklist (Table 10).

8.0 FACILITY MAINTENANCE PLAN

8.1 PURPOSE

To ensure that the availability and function of the Facility and equipment will be kept in efficient operating condition, a proactive Maintenance Plan will be implemented at the Facility.

The recommended maintenance program for the Facility will provide for the inspection and preventive maintenance of operational components on a time scheduled basis in accordance with industry best practices and/or equipment manufacturer's recommendations. These maintenance activities will be overseen by the Facility Manager and performed by the Facility's Maintenance Staff and Laborers/Sorters.

Maintenance Manuals for specific equipment will be separately bound documents and will be available at the Facility and are not included with this Manual.

Appendix D of this Manual includes equipment specifications of the Facility equipment.

8.2 PLANNING AND SCHEDULING

Routine maintenance activities will be planned to account for staffing considerations and to allow for parts or supplies to be obtained. Schedules will be prepared to have preventive maintenance performed, when required, and as part of the Maintenance Staff and Laborer's regularly scheduled activities.

Mobile and stationary equipment will be maintained in accordance with the original equipment manufacturers recommendations. At the start of each shift, Equipment Operators will be required to perform routine, preventative "pre-checks".

8.3 MAINTENANCE OF BUILDING EXTERIOR AND STRUCTURE

Preventive maintenance is performed on the Building exterior and structure to ensure asset integrity and life cycle.

Non-scheduled maintenance is performed as necessary by Facility Maintenance Staff and Laborers/Sorters. Non-scheduled maintenance requiring specific skills and/or experience will be performed by a vendor on call to the Facility.

8.4 MAINTENANCE OF GUTTERS, DOWNSPOUTS AND DRAINPIPES

Roof gutters, downspouts, and drainpipes may be susceptible to clogging or restriction of flow from collection of debris. Gutters and downspouts will be inspected as per the Facility Inspection Plan for deficiencies such as cracks, holes, and loose attachment points. Drainpipes will be inspected for clogging and cleared as necessary.

8.5 MAINTENANCE OF THE FIRE PROTECTION SYSTEM AND FIRE EXTINGUISHERS

Preventive maintenance is performed on the Fire Protection Equipment in accordance with the manufacturer's recommendations.

Non-scheduled maintenance is performed as necessary by Facility Maintenance Staff and Laborers/Sorters. Non-scheduled maintenance requiring specific product experience is performed by manufacturer or equipment vendor representatives on call to the Facility.

8.6 MAINTENANCE OF VENTILATION SYSTEM

Preventive maintenance is performed on the Ventilation System in accordance with the manufacturer's recommendations.

Non-scheduled maintenance is performed as necessary by Facility Maintenance Staff and Laborers/Sorters. Non-scheduled maintenance requiring specific product experience is performed by manufacturer or equipment vendor representatives on call to the Facility.

8.7 MAINTENANCE OF DUST AND ODOR CONTROL SYSTEM

Preventive maintenance is performed on the Dust and Odor Control System in accordance with the manufacturer's recommendations to ensure consistent, proper function.

Non-scheduled maintenance is performed as necessary by Facility Maintenance Staff and Laborers/Sorters. Non-scheduled maintenance requiring specific product experience will be performed by manufacturer or equipment vendor representatives on call to the Facility.

8.8 MAINTENANCE OF BUILDING ACCESS/EGRESS DOORS

Preventive maintenance will be performed on the man doors and roll-up doors in accordance with the manufacturer's recommendations. Non-scheduled maintenance will be performed as necessary by Facility Maintenance Staff or Laborers/Sorters. Non-scheduled maintenance requiring specific product experience will be performed by the manufacturer or equipment vendor representatives on call to the Facility. The Facility will maintain an inventory of commonly required spare parts to facilitate routine maintenance.

8.9 MAINTENANCE OF INTERIOR PLUMBING SYSTEM

Interior plumbing system components will be inspected for clogging and excessive build-up as described in the Facility Inspection Plan of this Manual. Sediment and debris removal will occur at the direction of the Facility Manager.

8.10 MAINTENANCE OF LEACHATE MANAGEMENT SYSTEM

The Leachate Management System components will be inspected for clogging and excessive build-up as described in the Facility Inspection Plan of this Manual. Sediment and debris removal will occur as necessary.

The collection structures and the underground leachate storage tanks will be inspected for cracking, subsidence, spalling, erosion, and deterioration and will be repaired as necessary.

Disposal of debris, trash, sediment, and other waste material removed from the structures will occur in compliance with all applicable local, state, and federal regulations.

8.11 MAINTENANCE OF TRUCK SCALES

Preventive maintenance will be performed on the Facility's Scales in accordance with the manufacturer's recommendations and in accordance with applicable rules and regulations with the Orange County Consumer Affairs and Weight and Measures.

Normal maintenance includes clearing the space beneath the deck surfaces as required to ensure proper functioning of the load cells. Non-scheduled maintenance will be performed as necessary by Facility Maintenance

Staff or Laborers/Sorters. Non-scheduled maintenance requiring specific product experience will be performed by manufacturer or equipment vendor representatives on call to the Facility.

The Facility will maintain an inventory of routinely required spare parts to facilitate routine maintenance and minimize down time of the Scales.

8.12 MOBILE EQUIPMENT

8.12.1 Maintenance

Preventive maintenance is performed on the mobile equipment in accordance with the manufacturer's recommendations.

Non-scheduled maintenance is performed as necessary at the direction of the Facility Manager. Non-scheduled maintenance requiring specific product experience is performed by manufacturer or equipment vendor representatives when requested by Facility personnel. Equipment maintenance is typically performed on-site or at an off-site location, as determined by the Facility Manager.

The Facility maintains an inventory of commonly required spare parts to facilitate routine maintenance.

8.12.2 Breakdown

In the event of breakdown or non-scheduled maintenance, work will be performed, as appropriate, by the Maintenance Staff. Non-scheduled maintenance requiring specific product experience will be performed by the manufacturer or equipment vendor representatives on call to the Facility. The Facility will maintain an inventory of routinely required spare parts to facilitate routine maintenance and minimize down time of critical processing and operating equipment.

In the event that mobile equipment sustains a breakdown requiring an extensive repair period, substitute equipment may be obtained on a rental basis until the equipment can be placed back into service.

8.12.3 Spare Parts and Supplies

Adequate quantities of select parts and supplies, including hydraulic lines, motor and hydraulic oil, spill containment products, and other common items will be stored on site to ensure these materials will be available when needed. These supplies will be purchased from suppliers sufficiently in advance of their need to ensure that they will be available before they are required.

9.0 EMERGENCY RESPONSE PLAN

This Emergency Response Plan (Plan) has been prepared to demonstrate compliance of the Facility with the emergency requirements of 6 NYCRR Part 360 and provide emergency operational guidelines to be implemented and followed.

As a safety guidance document, this section prescribes feasible responses to contingencies which may develop during the operation of the Facility. This Plan has been prepared to meet the requirements of 6 NYCRR Part 360 and may be enacted when situations develop that affect the Facility from operating under the routines prescribed within the companion documents and/or possess the potential to endanger human health and safety or the environment. Components of the Plan include:

- Procedures for Contingent Situations;
- Preparedness, Prevention, and Response to Contingent Events;
- Medical Emergencies/First Aid;
- Information for Emergency Services;
- Severe Weather;
- Unauthorized Wastes;
- Unusual Traffic Conditions;
- Reporting and Recordkeeping;
- Closure.

It is IWS's intent to maintain legible and complete reproductions of this Plan at the Facility and to distribute copies of this Plan to the local police and fire departments, the hospital, Orange County Department of Health, and state and local emergency response teams which may be called upon to provide emergency services at the Facility.

At a minimum, revisions to this Plan should occur when feedback is obtained from the above agencies and agreed upon by IWS management or if Facility operations deviate from those described herein.

9.1 PROCEDURES FOR CONTINGENT SITUATIONS

A contingent or emergency situation is defined as the occurrence of a non-routine or adverse conditions at the Facility, including equipment breakdown, power failure, fire, explosion, material release or spill, or threats to human health, safety, or the environment. If a contingent situation occurs at the Facility, the Emergency Coordinator will implement the following actions:

1. Immediately identify the type of contingent or emergency event, the character, source, amount and extent of any discharge/damage, and, if necessary, notify appropriate State or local agencies with designated response roles if assistance is needed;
2. Concurrently, assess possible hazards to public health or the environment that may result and, if necessary:
 - a. Notify appropriate local authorities if an assessment indicates that evacuation of local areas may be advisable;
 - b. Call the Regional On-Site Environmental Monitors Coordinator (ROSEM) at (845) 256-3138 with the following information:
 - i. the name and address of the Facility where the event occurred;
 - ii. The date and time of the event; and

- iii. The name and phone number of a Facility staff person the NYSDEC can contact regarding such event.;
- c. Notify the NYSDEC 24 Hour Spill Hotline at (800) 457-7362, reporting the type of emergency. If necessary, be prepared to report the type of substance and the estimated quantity discharged, if known, the location of the discharge, actions the person reporting the discharge is currently taking or proposing to take in order to mitigate the discharge, and any other information concerning the incident which the NYSDEC may request at the time of notification.
- d. If for any reason the Facility has to be shut down all IWS collection vehicles will be directed to other transfer facilities as appropriate and all regular outside haulers will be notified to make other arrangements. Additionally, due to its proximity to the Orange County Transfer Station Facility in New Hampton, the Orange County Department of Environmental Facilities & Services will be notified.

If present, the Facility Manager will act as the Emergency Coordinator; if not, the Facility Manager or designee will act as the Emergency Coordinator. The Emergency Coordinator will take all reasonable measures to ensure that a contingent situation does not spread to other areas of the Facility, including the collection and containment of any released pollutants and, if necessary, the cessation of operations.

Immediately after an emergency situation, the Emergency Coordinator will provide for appropriate treatment, storage or disposal of waste contaminated soil, water, or any other material contaminated as a result of the event.

The Emergency Coordinator will ensure that no waste is processed in the affected area until cleanup procedures are completed, and all equipment is again fit for its intended use, at which time, site operations will commence at their discretion. Once operations have returned to normal, the Emergency Coordinator will notify the NYSDEC Regional OSEMC, and, if necessary, appropriate local authorities.

If required by the NYSDEC, the Emergency Coordinator shall submit a written report of the incident to the NYSDEC Regional OSEMC. Regardless of the time of the event, before end of the next business day following the event, the Facility operator shall, in addition, fax a written statement to the NYSDEC Regional OSEMC at (845) 256-3138 with the following information:

1. The name and address of Facility where the event occurred;
2. The date, time, and specific location of the event;
3. The circumstances leading up to the event;
4. An adequately detailed description of the subject event;
5. An explanation of how the event was handled;
6. An explanation of the steps that the Facility operator shall take to avoid and/or better handle such an event; and
7. The name and phone number of a Facility staff person the NYSDEC can contact regarding such event.

Emergency Response Plan Implementation Report (Table 4), the NYSDEC Notification Form (Table 7) and the Facility Complaint Log (refer to Table 11), included in the Tables section of this Manual, are available for use in compiling the written report.

A comprehensive list of Emergency Contact Information, included as Table 1, is posted in conspicuous locations at the Facility.

9.1.1 Site Communications

Site communications include a land-line telephone, cellular telephones, and hand-held radios permitting constant and immediate communications between Facility employees, as well as off-site emergency personnel.

Should telephones or radios become non-functional (*in the event of excessive noise, equipment failure, loss of signal, etc.*) hand signals will be employed. Workers will be instructed in standard practices for this situation.

9.2 DESIGNATION OF EMERGENCY COORDINATORS

If an emergency situation occurs at the Facility, employees must contact the designated Emergency Coordinator. If present, the Facility Manager acts as the Emergency Coordinator; if not, the Facility Operator / Scale Master will act as the Emergency Coordinator.

At all times during hours of Facility operation, there will be at least one (1) Emergency Coordinator on site or on call, with the authority to commit the necessary resources of the Facility to carry out the provisions of the Emergency Response Plan. A comprehensive list of Emergency Contact Information is included as Table 1 within this Manual.

9.2.1 Responsibilities of the Emergency Coordinator

The Emergency Coordinator is responsible for maintaining the health and welfare of Facility personnel and the surrounding community with respect to contingent conditions at the site. The Emergency Coordinator is responsible for taking the steps necessary to implement this Plan, contact emergency services, and manage the safe egress of Facility personnel from affected areas until site operations can be returned to normal.

9.2.1.1 Implementation of Emergency Response Plan

This Plan is to be implemented in response to the occurrence of situations that prevent the Facility from operating in conformance with the routines prescribed within the companion documents and/or possess the potential to endanger human health and safety or the environment such as fire, explosion, material release or spill. Upon identification of these conditions, the Emergency Coordinator will be immediately notified as described below.

9.2.1.2 Notification of Proper Persons

In the event of an imminent or actual contingent occurrence, the first person on the scene must notify the Emergency Coordinator, who in turn will initiate a proper response to the situation in question. Notification of the Emergency Coordinator is to be performed second only to notification of on-site personnel proximate to the occurrence and/or site evacuation, depending on the magnitude of the situation.

Having been apprised of the situation, the Emergency Coordinator will then proceed to notify all Facility personnel by initiating the internal communications system, (if not previously initiated), and, if necessary, aid in evacuation. Progression of notification will continue to local, State, and Federal response agencies deemed appropriate by the Emergency Coordinator.

Table 1 of this Plan is a comprehensive list of Emergency Contact Information, including the phone numbers of Emergency Coordinators and emergency response services, which will be posted in conspicuous locations of the Facility.

9.2.1.3 Identification of Threat

Should an imminent or actual contingent event occur it is the responsibility of the Emergency Coordinator to identify the origin of this threat, prior to initiating a contingency response.

9.2.1.4 Assessment of Situation

Should an imminent or actual contingent event occur requiring the initiation of contingency measures, it is the responsibility of the Emergency Coordinator to make an assessment as to the extent of the area affected by the

situation. This assessment may (or may not) be limited to operational areas within the Facility or areas of surrounding communities.

Once this assessment has been established, it is the responsibility of the Emergency Coordinator to contact applicable local response units and the NYSDEC to provide information pertinent to the contingent situation.

9.2.1.5 Establishment and Evaluation of Control Procedures

The Emergency Coordinator is responsible for ensuring the establishment of controls to guard against a worsening of the situation. Although implemented measures will vary depending upon the situation, all controls established will be to be evaluated by the Emergency Coordinator in terms of their effectiveness in preventing the promulgation of a contingent situation.

9.2.1.6 Remediation of Effected Area

In a time, which will occur as soon as is reasonably possible after a contingent event, the Emergency Coordinator is responsible for ensuring that wastes, liquids, or other contaminated materials associated with the contingency be stored and disposed of in a manner consistent with State and Federal rules and regulations. The Emergency Coordinator is also responsible for ensuring that emergency equipment is replenished or replaced, as necessary.

9.2.2 Evacuation Plan for Facility Personnel

Select contingent events may require evacuation of Facility personnel to a pre-determined, on-site assembly area for the purposes of verifying head count, ensuring that staff are positioned out of harm's way, while providing for direct communication.

The Emergency Coordinator will make the decision to evacuate the site and will, at that time, indicate this decision by verbally notifying all personnel. The evacuation will proceed according to posted evacuation routes; personnel will assemble across the street from the Facility entrance gate on Hartley Road for roll call as directed in regular Facility drills and safety training. The Emergency Coordinator will then ensure that all personnel are accounted for and that the site is accessible to emergency service vehicles. Communication between groups will be maintained, as necessary, through the methods described within Section 9.1.1, "Site Communications". Sheet No. 8, "Evacuation Route Plan" present emergency egress routes within the Facility limits. Evacuation routes are labeled as per 29 CFR 1910.145 (Specifications for Accident Prevention Signs and Fags) and per any applicable local rules and regulations.

Once the affected area has been isolated from traffic, appropriate actions should be taken, e.g., activation of fire extinguishers and/or hosing and removal of combustible material. The Emergency Coordinator will also be responsible for contacting any support teams needed to assist in responding to an event. The Coordinator will also contact the Regional On-site Environmental Monitors Coordinator by telephone (845) 256-3138 or e-mail at David.Pollock@dec.ny.gov.

New employees will be informed of the evacuation routes and rally points. Additionally, the Emergency Coordinator periodically conducts evacuation exercises so that the employees become familiar with the evacuation routes and assembly areas.

9.3 PREPAREDNESS, PREVENTION AND RESPONSE TO CONTINGENT EVENTS

9.3.1 Personal Protective Equipment (PPE)

The risk of injury resulting from work related activities can be minimized through the proper use of PPE, appropriate mechanical guards, and employee training.

Because of the nature of the materials processed and the manner in which these materials will be processed at the Transfer Station, physical hazards will be the major worker safety concern at the site. It is important, therefore, that personnel be trained to understand these hazards and the application of PPE and safety requirements to minimize potential physical hazards.

Operating personnel are trained in the proper use of this protective equipment. Management will assure that an adequate supply of personnel protective equipment is always maintained at the Facility. PPE is stored in the equipment room of the Facility. In addition, first aid kits and an eye wash station are available within the TS Building.

9.3.2 Staff Training

As described in Section 6.0, "Staffing and Training Plan", Facility personnel will be required to complete IWS's corporate safety training program, which will include the identification, description, control of work-related hazards, and site-specific training in solid waste handling and transfer station operations.

Facility personnel also have access to Emergency Contact Information, presented in Table 1.

9.3.3 Fire Protection and Prevention

Fire protection at the site will be provided by the Goshen Fire District. This Plan will be provided to the Fire District in order to familiarize emergency responders with Facility access, operations, and infrastructure, including the Facility's systems.

Personnel staffing the Facility receive periodic training on the proper use of on-site firefighting equipment. Descriptions of the fire protection strategies to be utilized during Facility operation are presented below.

9.3.3.1 Fire Suppression and Fire Extinguishers

The Facility's proposed Transfer Station Building Addition and existing Transfer Station Building will be equipped with a sprinkler system designed to suppress a fire within the building. The sprinkler system will be serviced by a 65,000-gallon water storage and supply tank. Additionally, numerous fire extinguishers are located around the Facility. The fire extinguishers will be suitable for use on Class A, B, and C fires making them suitable for use against fires involving wood, paper, cloth, rubber, plastics, flammable liquids, gases, and greases, and for electrical components. Facility personnel have been trained in the use of fire extinguishers and know to immediately call for professional assistance when necessary.

In the unlikely event of a fire or explosion at the Facility, Facility personnel will call the Goshen Volunteer Fire Department at 911. Once the situation is under control, the NYSDEC Regional On-site Environmental Monitors Coordinator will be contact by either telephone at (845) 256-3138 or via e-mail at David.Pollock@dec.ny.gov. The Emergency Response Plan Implementation Report and the NYSDEC Notification Form, included in the Tables section of this Manual, are available for IWS Goshen TS personnel use.

9.3.4 Smoking

Smoking, open flames, or other lighted objects will be prohibited at the Facility. IWS prohibits smoking within Facility and in the vicinity of flammable or combustible materials.

9.3.5 Fire Response

Should a fire develop on the Tipping Floor, an alarm condition will be triggered by the area operations personnel and emergency response services will then be alerted. The Emergency Coordinator will then be notified, and an emergency action plan initiated.

In the event of a fire within the waste on the Tipping Floor, mobile equipment is to be used (*at the discretion of the Emergency Coordinator and to the extent possible*) to transport suspect material out to the Hot Load Area where it may be safely extinguished by Facility staff and/or local emergency services.

Should the fire originate within mobile equipment on the Tipping Floor, the equipment shall be isolated from removing waste from the TS Building or by driving the vehicle out of the TS Building where it may be safely extinguished by operations staff and/or local emergency services. Liquid generated by a firefighting event will be collected through the utilization of the Facility's spill control equipment.

Material handling operations shall cease until the Emergency Coordinator has determined the cause of the fire and that there is no further threat of fire in the Facility. Area operations personnel shall be evacuated from the area until the Emergency Coordinator has determined that it is safe to re-enter the Facility.

9.3.6 Dust, Particulates, and Odor Control

Periodic visual inspections will be also performed to assess the extent of dust accumulation and identify areas in need of dust removal.

Odors generated from operations within the TS Building is subject to treatment through the use of manually activated spray fogger units. Waste transfer vehicles are covered or tarped upon entering and exiting the site. Waste is regularly removed from the site at the end of each day. All overhead doors are kept closed when not being regularly accessed.

Tipping, storage, and loading operations take place inside the TS Building. All loaded vehicles must be removed no later than the close of the next business day or within seven calendar days of receipt, whichever comes first. As per the Facility's Permit, the Tipping Floor must be cleared of solid waste at the end of each day. During this time, the Tipping Floor is cleaned by sweeping and/or washing.

9.3.7 Excessive Noise

Facility staff will be trained to determine the normal acceptable noise levels at the Facility during operations. Noise impacts will be largely mitigated by conducting waste tipping and processing operations within the confines of the TS Building. Excessive noise levels detected by Facility personnel will be brought to the attention of the Emergency Coordinator.

The Facility is situated in an industrial area. All waste is handled indoors and the site is bounded by a closed landfill, Hartley Road and other industrial uses, which are major noise sources, including traffic on Hartley Road. There is truck traffic servicing nearby commercial and industrial facilities, noise from other vehicles accessing the commercial and industrial Facilities located along Hartley Road.

If the source of the unacceptable noise is determined as emanating from a vehicle or piece of equipment not owned by IWS, the Facility Manager will notify the Driver and Owner of this violation and advise them that future acceptance of that vehicle will be in jeopardy until adequate repairs are completed or it will be refused future access.

Vehicles and equipment are maintained so that their exhaust systems perform within manufacturer's specification. Should it be determined that the source of the excessive noise at the Facility emanates from a vehicle or equipment owned IWS, the Emergency Coordinator will be notified, and corrective maintenance will be performed to attain this standard.

9.3.8 Vectors

The control of potential vectors at the Facility will be addressed with a commitment to operational practices that include efficient throughput of materials and the routine inspection and maintenance procedures detailed within this Plan. Handling of MSW and C&D debris is performed within the TS Building and the Tipping Floor and deodorized as noted above.

In addition, a local licensed pest control company is contracted by IWS to provide for routine inspection and services. If needed, IWS can request unscheduled visits to the Facility to maintain control of vectors, if necessary.

9.3.9 Site Security

The Facility is sufficiently staffed which prevents an unauthorized entrance into the Facility. The Facility is also equipped with closed circuit security cameras. At the close of business hours, or when no attendant is on duty, the Facility gate is secured and locked to prevent unauthorized access and possible subsequent injury to personnel, and to preclude illegal dumping.

9.3.10 Loss of Water or Electricity

Electric service is provided by Orange and Rockland and water is provided by a private on site well. Should there be any interruption to electricity, portable generators would be utilized to provide power to critical Facility systems (*i.e., scale, lighting, etc.*).

An interruption of water service would have minimal effect on the Facility's operation; however, if the interruption exceeds 24 hours, the Facility will retain a water truck from a third-party vendor to effectively control dust while operating, if required.

In the event of a widespread interruption of utility services due to hurricane damage, waste could still be accepted on a short-term basis since there is available storage volume at the site.

Since the Facility utilizes a manually activated spray fogger units, the loss of power will not impact odor control.

9.3.11 Protection of Surface Waters and Groundwater

9.3.11.1 Spill Control Equipment

In the event of a spill, the employees will be instructed to contact the Emergency Coordinator to determine the extent and nature of the spill and direct remedial efforts as appropriate. Spill control products are maintained next to the aboveground fuel tanks. A supply of adsorbent material will also be stored in the Maintenance Shop for response to an accidental spill or leak from a piece of mobile equipment (such as from a hydraulic hose) or to collect liquids discharged during a firefighting event. The procedure for control is to deploy spill control products over the spill area, contain the resultant product and contaminant mixture, and dispose of the mixture with other, landfill-bound waste.

Should a spill occur that releases a potentially toxic or suspected hazardous material, the spill shall be immediately contained, call the Goshen Fire District at 911 and the NYSDEC ROSEMC at (845) 256-3138. If necessary, the NYSDEC 24 Hour Spill Hotline shall be immediately notified at (800) 457-7362. Spills and associated remediation efforts will be documented on an Emergency Response Plan Implementation Report (Table 4), or similar means,

for inclusion in the Facility's annual report. The Spill Prevention and Countermeasures Plan (SPCC) contains the list of procedures for a fluid spill to be followed by Facility personnel.

9.3.11.2 Collection of Leachate and Wastewater

Material handling operations take place on the reinforced concrete Tipping Floor and Loadout Tunnel within the TS Building to guard against the potential for impacts associated with leachate or wash-down water to surface waters, soils, or groundwater. Leachate generated in the TS Building that is not absorbed by the solid waste is directed into double-walled underground leachate storage tanks via double-walled piping. Trailer storage is also on concrete pad which drains any water coming into contact with the floor a leachate storage tank.

9.3.12 Provision for Equipment Breakdown or Power Failure

In the event of a Facility outage or other significant malfunction, which results in the Facility's inability to receive or process materials in accordance with permitted daily capacity and the operational procedures detailed within this Plan, the ROSEMC will be immediately notified via fax or email. The NYSDEC Notification Form included as Table 7 of this Plan may be utilized to satisfy this notification requirement. Additionally, a record of these events will be documented in the Facility's annual report. The Emergency Response Plan Implementation Report included as Table 4 of this Plan is available for these recordkeeping purposes. At no time shall the capacity of the delineated tipping areas for storage be exceeded nor shall vehicles be permitted to queue other than in the areas designated at the Facility for this purpose.

If, for a period lasting more than twenty-four (24) hours, the Facility's ability to receive and/or process materials were to continue to be impeded as described above, the hours of waste acceptance may be reduced and/or, Tipping Vehicles may be directed to proceed to the following:

- IWS Crossroads Transfer Station.

The phone numbers of customers and haulers, their dispatchers, and company supervisors will be maintained at the Facility to facilitate a smooth transition to this possible adjustment of operational hours.

9.3.12.1 Mobile Equipment

Daily operation of the Facility relies upon the use of mobile equipment; the breakdown of which, may potentially interrupt operations at the Facility. In the event of a required mobile equipment repair which would affect the Facility's ability to sustain daily throughput rates, a replacement piece of mobile equipment may be obtained from the reserves of IWS, its sister companies, or rented from a local equipment vendor. As such, the failure of a piece of mobile equipment at the Facility would only result in a minimally extended period of waste processing to compensate for delays incurred during equipment replacement.

Maintenance Staff will be employed for the purpose of performing routine maintenance on mobile equipment. To complete this routine maintenance or in the event that repairs exceed the capacity or ability of the Facility Maintenance Staff, both on-site and off-site mobile equipment service may be performed by third party local vendors. For equipment that may be out of service for an extended period of time, replacement equipment may be made available by a local equipment vendor.

9.4 MEDICAL EMERGENCY/FIRST AID

Any care which has been administered by an Emergency Coordinator will be continued until a medical professional can arrive and is prepared to relieve the care giver. Contact information for local emergency medical response units are presented in Table 1. Figure 7 presents the access route to the nearest hospital. For non-emergencies, the Facility maintains a first aid kit in the breakroom.

For non-emergencies, the Facility maintains a first aid kit in the breakroom.

Facility employees receive training in Bloodborne Pathogens to comply with OSHA 1910.1030. Should an event resulting in a medical emergency occur, the Emergency Coordinator will be informed, and a trained emergency medical response unit is to be summoned as soon as is reasonably possible.

9.5 INFORMATION FOR EMERGENCY SERVICES

In responding to an emergency incident at the Facility, the information in the following subsections will be obtained and made available to emergency services:

9.5.1 Properties of Materials Involved

The Facility handles material streams classified as MSW, C&D debris and SSR. MSW and C&D debris waste streams typically include materials generated from household and commercial waste. Items associated with these waste stream may include, but not be limited to, food waste, paper, and plastics.

9.5.2 Associated Hazards of Solid Waste

Of the waste types permitted for acceptance at the Facility, hazards associated with the handling of these materials will be generally limited primarily to physical hazards.

The Facility will not accept known suspected hazardous, regulated medical, contained gaseous waste, or wastes other than those classified above.

Limited quantities of unauthorized wastes may be stored within the Unauthorized Waste Staging Area at the Facility.

9.5.3 Emergency Vehicle Access

Emergency vehicles are able to enter the Facility from Hartley Road. Access to the TS Building is through the overhead doors. Emergency vehicles can also access the Maintenance Shop through the overhead doors.

9.5.4 Distribution and Availability of Plan

Copies of this Plan, including the appendices, will be made available upon request to the Goshen Volunteer Fire Department and Goshen Town Police Department or the New York State Police, the nearest hospital, Orange County Department of Health, and state and local emergency response teams, which may be called upon to provide emergency services at the Facility. Should alterations be made to the Facility's infrastructure, these same parties may be apprised of the modifications and solicited for input regarding the adaptation of emergency plans.

Additionally, a copy of this Emergency Response Plan will be maintained on site and will be made available to contractors and equipment suppliers who may operate at the Facility.

9.6 SEVERE WEATHER

Severe weather conditions represent the potential to interrupt normal operations due to such impacts as impaired mobile equipment operation, limited visibility, limited manual dexterity and interrupted electrical services. This section addresses the planned response in the event of severe weather induced contingencies.

9.6.1 Snow, Sleet & Hail

Snow, sleet, and hail can impair mobile equipment operation by creating slippery conditions, reduction in travel speed, and visibility limitations. These conditions may become a concern for vehicle and pedestrian traffic outside of the operational areas. Material handling operations will be performed inside of the TS Building and therefore should not be directly affected by inclement weather.

The mobile equipment at the Facility will be used to clear snow from the entrance and site roadways at the Facility. Under severe snow, sleet, or hail events, waste acceptance may be temporarily suspended or reduced.

9.6.2 Rain

Rain can impair mobile equipment operation by creating slippery conditions, flooding, reduction in travel speed, and visibility limitations. These conditions may become a concern for vehicle and pedestrian traffic outside of the operational areas. Material handling operations are performed inside of the TS Building and therefore should not be directly affected by inclement weather. Under severe rain conditions, waste acceptance may be temporarily suspended or reduced.

9.6.3 Wind

Severe wind has the potential to damage facilities and drastically increase the potential for windblown waste and litter. Material handling operations is performed inside of the Building and therefore should not be directly affected by inclement weather. Tarping and untarping activities will occur inside the TS Building, as such severe wind conditions should not be an issue. Under severe wind conditions, waste acceptance may be temporarily suspended or reduced.

9.6.4 Extreme Heat

Excessive heat can result in serious health concerns for Facility operational staff. Workers may be exposed to excessive heat during hot weather. Physical signs of early heat illness are mild dizziness, fatigue or irritability, decreased concentration or impaired judgment. Continued exposure can result in heat exhaustion and heat stroke. Heat stroke is a medical emergency that requires immediate medical attention.

Training to know the signs of heat stress and heat-related illnesses will be included in the basic safety training provided to all employees. Facility workers will be regularly briefed on using caution during warm weather. Precautions will be taken to give employees appropriate breaks in the climate-controlled break room and provide adequate drinking water to maintain hydration. The Facility Manager, the Scale Master and Equipment Operators will maintain close contact with employees exposed to excessive heat and ensure that workers are taking breaks and drinking water.

During periods of excessive heat, mobile equipment operation will also be closely monitored to ensure that no single piece of equipment is being unnecessarily taxed or over utilized to prevent breakdown or risk to the employee.

9.6.5 Extreme Cold

Extended periods of excessive cold can create difficult working conditions, reduce traction on navigable surfaces, promote the freezing of water pipes, and create difficulty in starting mobile equipment. Operations personnel will be equipped with suitable cold weather apparel to allow continuous ability to perform their job functions. In order to reduce cold weather starting problems, mobile equipment are equipped with block heaters, as required. Critical liquid piping and mechanical components will be insulated, and heat traced can provided to supplemental protection against freezing.

9.7 UNAUTHORIZED WASTES

The Facility will only accept materials as authorized by the NYSDEC. Other materials are to be designated as unauthorized and managed in accordance with the procedures detailed within Appendix G, Unauthorized Waste Handling Procedures.

Facility operations include procedures for screening and removal of unauthorized waste types from the inbound waste streams as described below and further detailed under Section 5.0, "Waste Control Plan".

9.8 UNUSUAL TRAFFIC CONDITIONS

Due to the nature of deliveries and the potential for routine maintenance of roadways it is possible that unusual traffic conditions could develop which, if not managed properly, could result in a disruption of Facility traffic and traffic on local roadways. The following subsections outline measures to be undertaken in such an instance.

9.8.1 Queuing

Tipping Vehicles and Transfer Trailers/Rail Containers enter and exit the Facility via lawful truck routes as shown within the Sheet No. 3, "Truck Route Map". There is room for twenty (20) vehicles to queue on-site, as such there is no backup onto Hartley Road.

Facility personnel utilize portable hand-held radios to advise the Facility Manager of the availability of queuing areas in order to maintain smooth operating conditions at the Facility.

9.8.2 Unusual Traffic Conditions on Surrounding Roadways

There are several commercial and/or industrial establishments located in the area surrounding the Facility. As such, there may be unusual traffic condition that occurs off the site which is beyond the control of the TS Facility. However, in the event of unusual traffic conditions, IWS shall attempt to reschedule the arrival of trucks to minimize traffic congestions and queuing. As appropriate, IWS shall advise the relevant government agency of such unusual traffic condition.

9.9 UNSCHEDULED SHUTDOWN

In the event of an unscheduled shutdown, inbound tipping vehicles will be redirected to the IWS Crossroads Transfer Station in Hilburn, New York or the Orange County Transfer Station located on Training Center Lane in New Hampton, New York.

9.10 EMERGENCY NOTIFICATION TO NYSDEC

In case of each of the following events:

1. a fatality or injury on-site;
2. a fire, explosion, or other significant event which affects Facility operation;
3. the activation of the Facility's alarm system, or
4. an unscheduled closure of the Facility exceeding 24 hours.

The Facility operator shall take the following steps, as appropriate.

If the event occurs on a non-holiday weekday, from 9:00 AM to 4:00 PM, the Facility Manager or designee shall immediately call the Regional OSEMC at (845) 256-3138 with the following information:

1. The name and address of the Facility where the event occurred;
2. The date and time of the event; and
3. The name and phone number of a Facility staff person the NYSDEC can contact regarding such event.

Regardless of the time of the event, before noon on the next business day following the event, the Facility operator shall, in addition, fax a written statement to the Regional OSEMC at (845) 256-3138 with the following information:

1. The name and address of Facility where the event occurred;
2. The date, time, and specific location of the event;
3. The circumstances leading up to the event;
4. An adequately detailed description of the subject event;
5. An explanation of how the event was handled;
6. An explanation of the steps the Facility operator shall take to avoid and/or better handle such an event; and
7. The name and phone number of a Facility staff person the NYSDEC can contact regarding such event.

9.11 CLOSURE

Closure of the Facility will be in accordance Section 11.0 of this Facility Manual.

10.0 REPORTING AND RECORDKEEPING

IWS prepares and submits an annual report to the NYSDEC as per 6 NYCRR Part 360.19(k)(3) for the operation of its Facility, no later than March 1st of each year for the previous calendar year. These reports must include summaries of the daily records accounting for throughput and details of equipment added to the Facility and occurrences which have led to changes in Facility procedures.

Daily operational records will be maintained by the Facility and filed on site, indicating the date, signature of information recorder, and quantity and destination of material by category. Facility Operating and Inspection Logs, performed at the frequency described in Section 7.0, "Facility Inspection Plan", include the date and time of the inspection, the name of the inspector, a description of the inspection, the observations recorded, and the date and nature of actions made as a result of the inspection. Examples of the typical reporting logs may be found in the Tables section of this Manual.

Operational records will be maintained on site for a period of not less than seven (7) years.

In the event of an emergency event at the Facility, including fires, receipt of unauthorized waste, spills, an unscheduled Facility shutdown, liquid detected in the interstitial space of the oil/water separator, or a damage and/or malfunction of a Facility structure, the NYSDEC Region 3 Materials Management will be immediately notified via fax or email. The NYSDEC Notification Form included as Table 7 may be utilized to satisfy this notification requirement. Additionally, a record of these events will be documented in the Facility's annual report. Table 4, the Emergency Response Plan Implementation Report is available to the Facility for recordkeeping purposes.

Copies of the 6 NYCRR Part 360 Permit and Conditions, this Manual, and the most recent annual report will be maintained at the Facility and be available for ready reference by Facility personnel and be available for inspection and review by the NYSDEC and/or agencies having jurisdiction over the Facility and/or its operation(s).

10.1 RECORDS SECURITY

IWS utilizes the following types of record security:

1. Protection from unauthorized use (e.g., theft, espionage, etc.). The usual practice is to maintain these records under lock and key. Personnel and medical records are considered secured files which will only be released only to authorized individuals.
2. Protection against damage from natural causes (e.g., heat, water, dust, etc.). This protection is provided by selection of adequate file cabinets. In addition, redundancy, (i.e., duplicate copies of important documents will be retained in separate offices).

11.0 CLOSURE

Closure of the Facility will be in accordance with the requirements of 6 NYCRR 360.21 and include the following:

- Notification to the NYSDEC in writing thirty (30) days prior to the anticipated final receipt of waste and within seven (7) days of completion of all closure activities;
- Within thirty (30) days after receiving the final quantities of wastes, an annual report will be submitted to the NYSDEC as required;
- Within sixty (60) days after receiving the final quantity of waste, any remaining waste will be removed and delivered to a facility authorized to accept the waste, and;
- Within ninety (90) days after receiving the final quantity of waste, all closure activities will be completed, including removal of all products resulting from the processing of waste and decontamination of all equipment and structures in any aspect of waste management, in a manner acceptable to the NYSDEC.

Pursuant to 6 NYCRR Part 360, this preliminary Closure Plan has been developed in response to the closure requirements for operating a Solid Waste Management Facility. A more detailed plan may be developed if a closure investigation is required. A closure investigation may be needed if releases of hazardous materials have occurred at the Facility that may have impacted subsurface soils or groundwater. It is unlikely that such a closure investigation will be required at this Facility since hazardous waste is not accepted at the Facility. The response to spills, as described in Section 9.0, "Emergency Response Plan", implemented by the Facility is standard operating procedures.

Should specific closure measures beyond those described below be required, a closure implementation/investigation plan will be submitted to the NYSDEC for approval prior to implementation.

11.1 SITE CLEAN-UP AND RESTORATION

At the cessation of site operations, all solid waste will be appropriately disposed at approved facilities. MSW and C&D debris will be stockpiled separately and transported for disposal. The goal is to reduce the volume of material which would require other disposal arrangements. This will be completed within thirty (30) days of the decision to close the Facility. The site will be fully secured to preclude potential illegal dumping. The closing of the Facility is not anticipated to cause any adverse effect on the surrounding community, as such, it is assumed that no additional or unusual processing steps will be required. All remaining waste will be properly disposed of utilizing permitted solid waste transporters and permitted disposal facilities. The Facility will be left in a "broom clean" condition. Since the MSW and C&D debris storage, tipping and loading operations occur within the TS Building with a concrete floor and floor drains that transmit any liquid that may leach from the waste, it is highly unlikely that any soil or groundwater impacts would occur, as noted earlier.

Vectors will be appropriately treated by a professional exterminator as necessary and removed from the site. A program to treat on-site vectors will be developed to ensure that no adverse impact will occur to the surrounding community.

The efficacy of the site clean-up efforts will be verified as such efforts are completed. Verification procedures may include, but are not limited to, visual inspections, air monitoring, and the collection and analysis of wipe samples.

Any waste generated or contained by site clean-up efforts will be appropriately handled, stored, and disposed in accordance with all applicable rules and regulations.

Hazardous and toxic wastes, as determined by testing, will be handled separately and disposed of in accordance with all applicable rules and regulations at a licensed Treatment Storage and Disposal Facility (TSDF). The site will be left in a "broom clean" condition.

Once the site has been determined to be fit for closure, via verification of the efficacy of any site clean-up efforts performed, the site will be restored to its original grade condition.

Within forty-five (45) days of the completion of the closure activities, the Facility will submit a Closure Certification Report to the NYSDEC certifying the Facility has been closed in accordance with 6 NYCRR Part 360 series; and certifying that the need for further maintenance or corrective actions is minimized and that adverse environmental or health impacts such as, but not limited to, contravention of surface water and groundwater quality standards, gas migration, odors and vectors are prevented or remedied. The Closure Certification Report will be prepared by a Professional Engineer licensed in the State of New York.

11.2 CLOSURE COST ESTIMATE

The proposed closure cost estimate for the Facility is included as Appendix C to this Manual.

The closure cost estimate does not include any soils and/or groundwater remediation, vector control, or any service or product not specifically detailed or mentioned in this section and is subject to actual Closure Plan requirements and site conditions at the time of closing.

IWS maintains financial surety to ensure the Closure Plan will be implemented, including the removal of solid waste by a third-party vendor. Copies of the current surety bond and riders thereto are enclosed in Appendix B.

12.0 LIMITATIONS

The work product included in the attached was undertaken in full conformity with generally accepted professional consulting principles and practices and to the fullest extent as allowed by law we expressly disclaim all warranties, express or implied, including warranties of merchantability or fitness for a particular purpose. The work product was completed in full conformity with the contract with our client and this document is solely for the use and reliance of our client and the NYSDEC (unless previously agreed upon that a third party could rely on the work product) and any reliance on this work product by an unapproved outside party is at such party's risk.

The work product herein (including opinions, conclusions, suggestions, etc.) was prepared based on the situations and circumstances as found at the time, location, scope and goal of our performance and thus should be relied upon and used by our client recognizing these considerations and limitations. Cornerstone Engineering and Geology, PLLC shall not be liable for the consequences of any change in environmental standards, practices, or regulations following the completion of our work and there is no warrant to the veracity of information provided by third parties, or the partial utilization of this work product.

TABLES

TABLE 1
I.W.S. TRANSFER SYSTEMS OF N.Y., INC.
GOSHEN TRANSFER STATION
95 HARTLEY ROAD, GOSHEN, NEW YORK 10924

EMERGENCY CONTACT INFORMATION

Listing of Responsible Parties and Telephone Numbers

FIRE	
Goshen Fire District	(845) 294-6002 or 911
FIRST AID/AMBULANCE	
Goshen Volunteer Ambulance Corps	(845) 294-9695 or 911
POLICE	
Goshen Town Police Department	(845) 294-9555 or 911
HOSPITALS	
Garnett Health Medical Center	(845) 333-1000 or 911
ENVIRONMENTAL EMERGENCIES	
Spills, Hazardous/Toxic Materials	
DEC 24 Hour Spill Hotline	(800) 457-7362
NYSDEC Region 3 General Number	(845) 255-3042
Regional On-Site Environmental Monitors Coordinator	(845) 256-3138
NYSDEC Regional Materials Management Supervisor	Phone: (845) 256-3000 Fax: (845) 255-3414
NY State Emergency Response Commission (SERC)	(518) 292-2302
EMERGENCY COORDINATORS	
Mr. Ronald Rueger Director of Post Collections Operations NY State	Office: (845) 572-3366 Cell: (973) 494-3944
Mr. Ozzie Burris Transfer Station Manager	Office: (845) 572-3366 Cell: (845) 263-9682

TABLE 2

**I.W.S. TRANSFER SYSTEMS OF N.Y., INC.
GOSHEN TRANSFER STATION
95 HARTLEY ROAD, GOSHEN, NEW YORK 10924**

CURRENT RECYCLING & NYSDEC AUTHORIZED WASTE DESTINATION FACILITIES

Putrescible Solid Waste

1. Apex Landfill
11 County Road 78
Amsterdam, OH 43903
Facility Contact: Joseph Tatarek, 740-543-4389
2. Keystone Landfill
PO Box 249
249 Dunham Drive
Dunmore, PA 18512
Facility Contact: Dan O'Brien, 570-343-5782
3. Chemung County Sanitary Landfill
1488 County Route 60
Chemung, NY 14825
Facility Contact: Matthew East, 800-227-3552

Recyclables

1. Millennium Paper Recycling, Inc.
25 North Airmont Road
Airmont, NY 10901
Facility Contact: Ron Rueger, 973-494-3944

Waste Tires

1. Tire Management, LLC
280-286 Marshall Street
Paterson, NJ 07503
Facility Contact: 800-244-7704

E-Waste

1. IWS Transfer Systems of NY, Inc.
89 Black Meadow Road
Chester, NY 10918

Regulated Medical Waste

1. Stericycle, Inc.
910 East 138th Street
Bronx, NY 10454

**I.W.S. TRANSFER SYSTEMS OF N.Y., INC.
GOSHEN TRANSFER STATION
95 HARTLEY ROAD, GOSHEN, NEW YORK 10924**

A background reading must be measured and recorded at least daily.

[illegible]

TABLE 4

I.W.S. TRANSFER SYSTEMS OF N.Y., INC.
GOSHEN TRANSFER STATION
95 HARTLEY ROAD, GOSHEN, NEW YORK 10924

EMERGENCY RESPONSE PLAN IMPLEMENTATION REPORT

Manager: _____ Date: _____

Event Requiring Plan Implementation: Date: _____ Time: _____

Personnel Involved: _____

Event Location and Description:

Actions Taken (Emergency responses initiated, authorities contacted, follow-up actions taken):

Additional Comments:

Notification to NYSDEC Required: Yes _____ No _____

Notification to NYSDEC Completed, if Required: Yes _____ No _____

Using the NYSDEC Notification Form or equivalent means, the NYSDEC Region 3 shall be notified of any emergency situations, including fires, receipt of unauthorized waste, detection of radioactive materials, spills, a cessation of operation at the facility, liquid detected in secondary containment systems, or if any structure or component becomes damaged or malfunctions.

Signed: _____

Title: _____

TABLE 5

I.W.S. TRANSFER SYSTEMS OF N.Y., INC.
GOSHEN TRANSFER STATION
95 HARTLEY ROAD, GOSHEN, NEW YORK 10924

RANDOM LOAD INSPECTION FORM

Inspector's Name: _____ Date: _____

Date of Inspection: _____ Time: _____

Weather Conditions: _____

Description of Waste: _____

Facility Generator: _____

Facility Generator Address: _____

If Unauthorized Waste, describe Type/Observation and Actions Taken:

If Hazardous Waste, describe Type/Observation and Actions Taken:

Final Disposition of Unauthorized and/or Hazardous Waste:

Photographs Taken: Yes _____ No _____

Driver's Signature: _____

Notification to NYSDEC Required: Yes _____ No _____

Notification to NYSDEC Completed, if Required: Yes _____ No _____

Inspector's Signed: _____

Title: _____

**I.W.S. TRANSFER SYSTEMS OF N.Y., INC.
GOSHEN TRANSFER STATION
95 HARTLEY ROAD, GOSHEN, NEW YORK 10924**

A repeatable 3D geometry source check must be conducted and recorded weekly.

[illegible]

TABLE 7

I.W.S. TRANSFER SYSTEMS OF N.Y., INC.
GOSHEN TRANSFER STATION
95 HARTLEY ROAD, GOSHEN, NEW YORK 10924

NYSDEC NOTIFICATION FORM

To: _____ From: 95 Hartley Road

Fax: _____ Tel. (866) 342-5497
Pgs. _____ Date: _____

Purpose of Notification (circle one):

Construction Activity	Emergency Event	Emergency Repairs	Planned Activity	Unauthorized Waste	Interruption of Service
--------------------------	--------------------	----------------------	---------------------	-----------------------	----------------------------

Nature of Event & Response / Repair / Construction Activity / Planned Activity:

Proposed Schedules Event / Repair / Construction Activity / Planned Activity:

If Unauthorized Waste cannot be removed within 7 days, provide the following information:

- (a) Date & time unauthorized waste was discovered _____
- (b) Where & how such waste is secured _____
- (c) Amount of such waste _____
- (d) Identification of such waste (if known) _____
- (e) Why such waste cannot be so removed from the Facility within the 7 day deadline _____
- (f) When and how such waste shall be so removed from the Facility _____

Signed: _____

Title: _____

TABLE 8

IWS TRANSFER STATION WEEKLY FACILITY INSPECTION LOG			
Date:		Facility: Goshen Transfer Station	
Check List	SAT	UNSAT	COMMENTS (Note all deficiencies and repairs)
OUTDOOR MAINTENANCE (Litter picked up, Roadway Swept, Signage, Groundskeeping)			
INTERIOR MAINTENANCE (Doors functioning, Interior Damage, Lights, Alarms, Building Equipment)			
EQUIPMENT MAINTENANCE (Adequate size and numbers of equipment, Replacement equipment utilized)			
LOADING AREA (Floor cleaned at end of day, drains functioning, tip floor wear and tear, push wall condition)			
DUST CONTROL (Is dust a visibility hazard, blowing offsite, Dust buildup on structure cleaned?)			
ODOR CONTROL (Odor control system operational, damaged, perimeter odor control walks performed)			
VECTOR CONTROL (Vectors minimized, pest control contractor visits, using active & passive measures)			
DRAINAGE SYSTEM (Leachate lines/sumps/drains clear and flowing stormwater swales/channels clear)			
WEIGH SCALE (Calibrated,Damaged)			
LEACHATE TANK (High alarm, alarm test, pump out record)			
ELECTRICAL (lights & doors powered, scale powered)			
FIRE PROTECTION (Fire suppression system operational, sufficient fire extinguishers)			
SAFETY PROTECTION/PPE (Adequate numbers of PPE equipment, Spill Kits, Harness, Brooms/Rakes/Shovels)			
PETROLEUM/ FUEL STORAGE TANKS (Tank required inspections, Permit Valid)			
RADIATION DETECTOR (Functional, Calibrated)			
RESTROOMS (Clean, sufficient supplies)			
SCALE HOUSE/ OFFICE (Clean, Damaged noted)			
RECORD KEEPING (In/Out tonnage, Vehicle/Load inspections. Visitor/Odor/Complaint Logs)			
CONTINGENCY NOTIFICATIONS (Initial Incident form sent. Followup & closeout forms sent)			

Daily Notes & Observations:

SITE SUPERVISOR:

DATE:

TABLE 9

I.W.S. TRANSFER SYSTEMS OF N.Y., INC.
GOSHEN TRANSFER STATION
95 HARTLEY ROAD, GOSHEN, NEW YORK 10924

WEEKLY LEACHATE COLLECTION SYSTEM INSPECTION LOG

Date of Inspection: _____

Secondary Containment System:

Condition: _____

Comments: _____

Overfill Protection Systems:

Condition: _____

Comments: _____

Leachate Collection / Conveyance Systems:

Condition: _____

Comments: _____

Sumps / Floats / Piping / Overall Condition:

Condition: _____

Comments: _____

Overall Condition of Above Ground Tank & Sump:

Condition: _____

Comments: _____

TABLE 10

**I.W.S. TRANSFER SYSTEMS OF N.Y., INC.
GOSHEN TRANSFER STATION
95 HARTLEY ROAD, GOSHEN, NEW YORK 10924**

ANNUAL INSPECTION CHECKLIST

DATE _____

NAME AND TITLE OF PERSON FILLING OUT THIS INSPECTION LOG

Site Component	Symptom	Completed?
Building Exteriors - Roof, Siding	Weathering, Integrity	☐ Yes ☐ No
Building Exteriors – Foundation Walls	Cracking	☐ Yes ☐ No
Building Interior – Walls	Cracking and Wear	☐ Yes ☐ No
Building Tip Floor	Cracking and Wear	☐ Yes ☐ No
Roof Gutters and Downspouts	Integrity	☐ Yes ☐ No
	Clear of Debris	☐ Yes ☐ No
Fire Protection Systems	Integrity	☐ Yes ☐ No
	Water Pressure	☐ Yes ☐ No
Ventilation System – Fans and Louvres	Resistance	☐ Yes ☐ No
	Bearings	☐ Yes ☐ No
Electrical System - Panels	Integrity	☐ Yes ☐ No
	Disconnects	☐ Yes ☐ No
	Breaker Function	☐ Yes ☐ No
Truck Scales	Annual Inspection and Certification for trade by Orange County Department of Weights and Measures	☐ Yes ☐ No

COMMENTS:

TABLE 11

I.W.S. TRANSFER SYSTEMS OF N.Y., INC.
GOSHEN TRANSFER STATION
95 HARTLEY ROAD, GOSHEN, NEW YORK 10924

FACILITY COMPLAINT LOG

Supervisor: _____

Date: _____

Time: _____

Name of Person Reporting Complaint: _____

Nature of Complaint:

Weather Conditions at Time of Complaint:

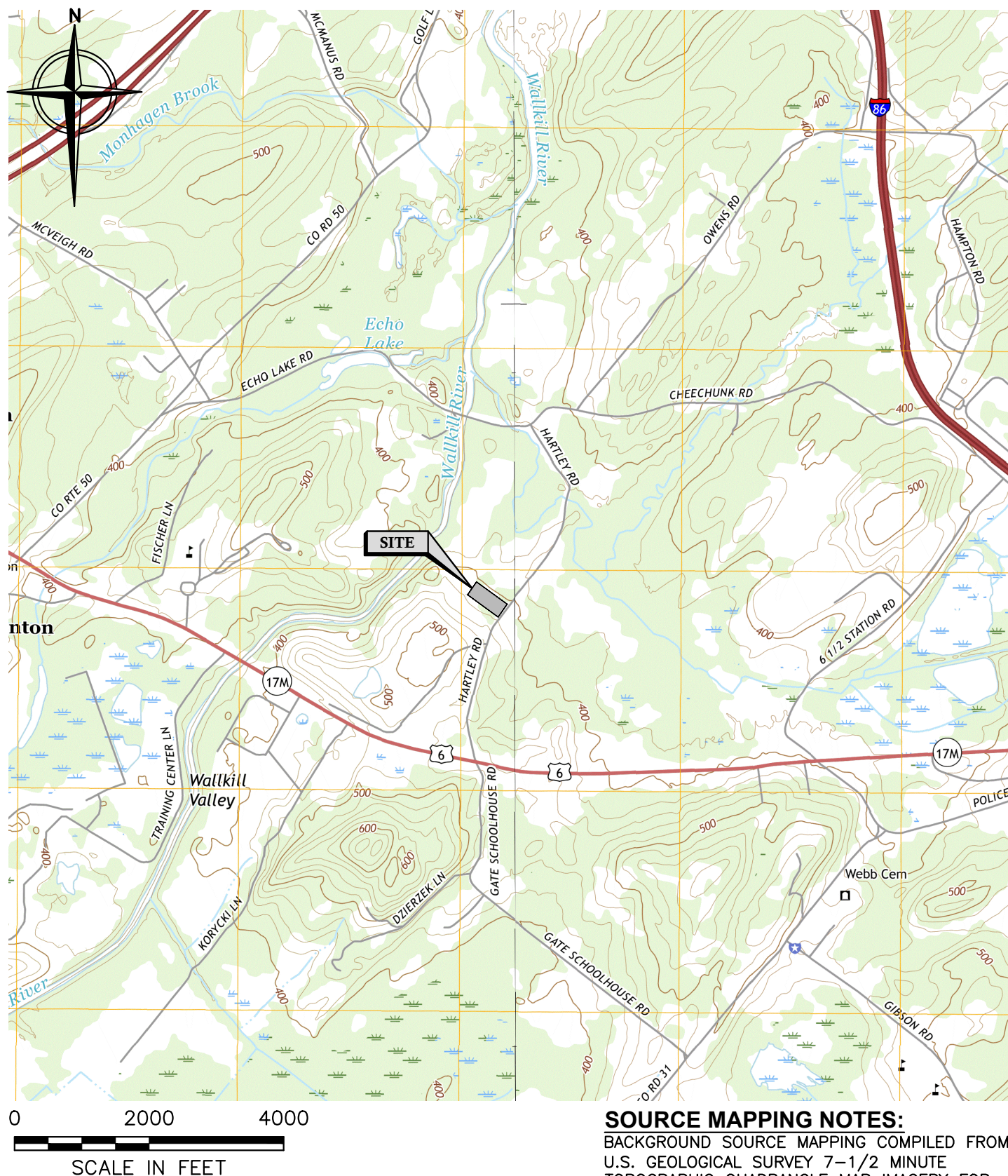
Actions Taken and Results:

Additional Comments:

Signed: _____

Title: _____

FIGURES



This drawing represents intellectual property of Cornerstone. Any modification to the original by other than Cornerstone personnel violates its original purpose and as such is rendered void. Cornerstone will not be held liable for any changes made to this document without express written consent of the originator.

SOURCE MAPPING NOTES:

BACKGROUND SOURCE MAPPING COMPILED FROM U.S. GEOLOGICAL SURVEY 7-1/2 MINUTE TOPOGRAPHIC QUADRANGLE MAP IMAGERY FOR GOSHEN (2016), AND MIDDLETOWN (2016).

Unauthorized alteration or addition to this plan bearing a licensed professional's seal is a violation of Section 7209, Sub-Division 2, of the New York Education Law. Only copies from the original of this plan marked with an original professional's seal shall be considered to be valid true copies.



PREPARED BY:
CORNERSTONE ENGINEERING AND GEOLOGY, PLLC

ALL PROFESSIONAL ENGINEERING WORK IS PERFORMED BY DULY LICENSED PROFESSIONAL ENGINEERS UNDER THE APPROPRIATE STATE REGISTERED PROFESSIONAL ENTITY.

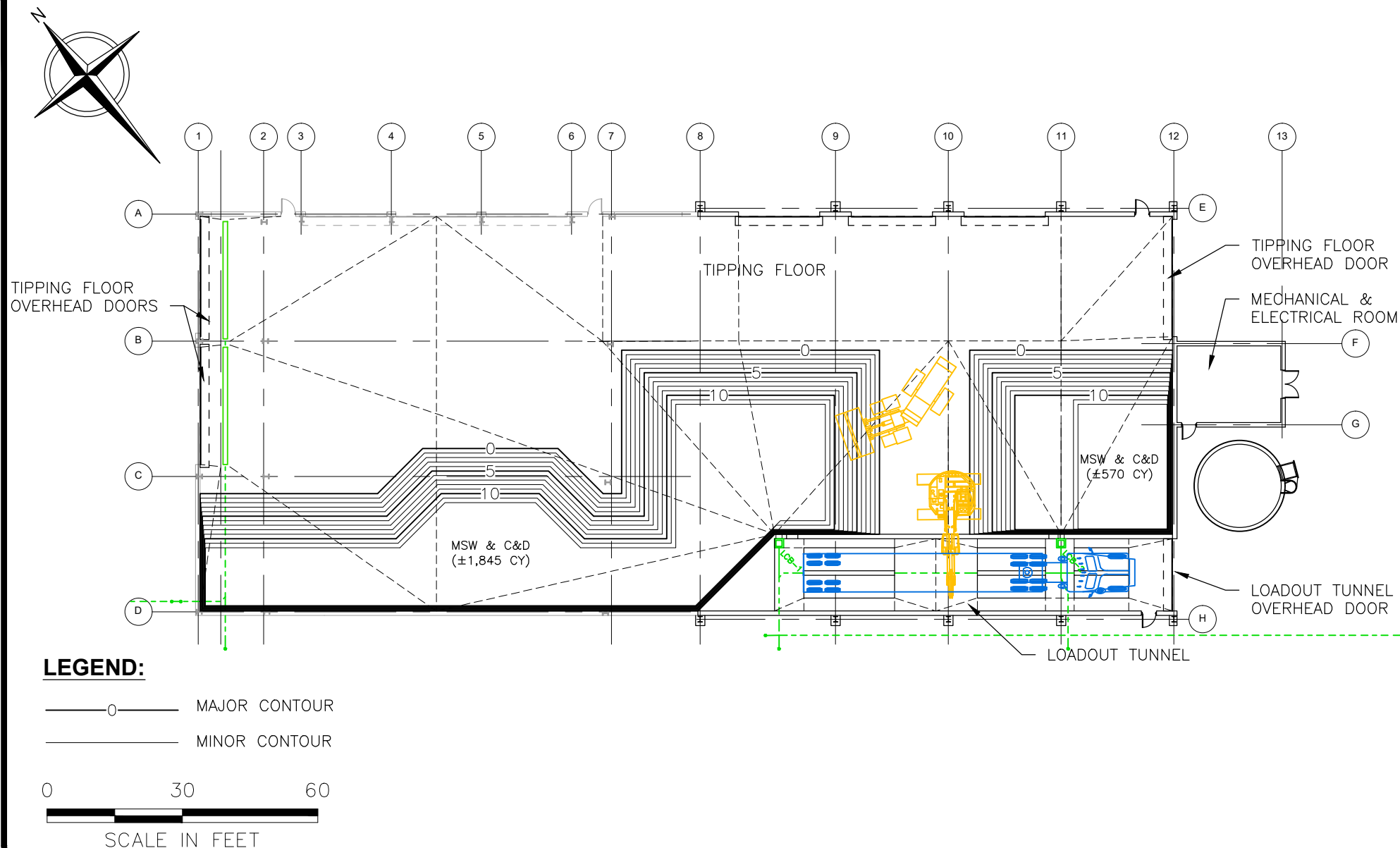
IWS TRANSFER SYSTEMS OF NY, INC.
GOSHEN TRANSFER STATION
95 HARTLEY ROAD, GOSHEN, NEW YORK 10924

SITE LOCATION MAP

FIGURE NO.

1

PROJECT NO.
4233429



Unauthorized alteration or addition to this plan bearing a licensed professional's seal is a violation of Section 7209, Sub-Division 2, of the New York Education Law. Only copies from the original of this plan marked with an original professional's seal shall be considered to be valid true copies.

This drawing represents intellectual property of Cornerstone Engineering and Geology, PLLC. Any modification to the original by other than Cornerstone Engineering and Geology, PLLC personnel violates its original purpose and as such is rendered void. Cornerstone Engineering and Geology, PLLC will not be held liable for any changes made to this document without express written consent of the originator.

DATE OF ISSUE MARCH 2024
DRAWN BY JLB
DESIGNED BY BPF/KMT
CHECKED BY ACS
APPROVED BY KMT



PREPARED BY:
CORNERSTONE ENGINEERING AND GEOLOGY, PLLC

ALL PROFESSIONAL ENGINEERING WORK IS PERFORMED BY DULY LICENSED PROFESSIONAL ENGINEERS UNDER THE APPROPRIATE STATE REGISTERED PROFESSIONAL ENTITY.

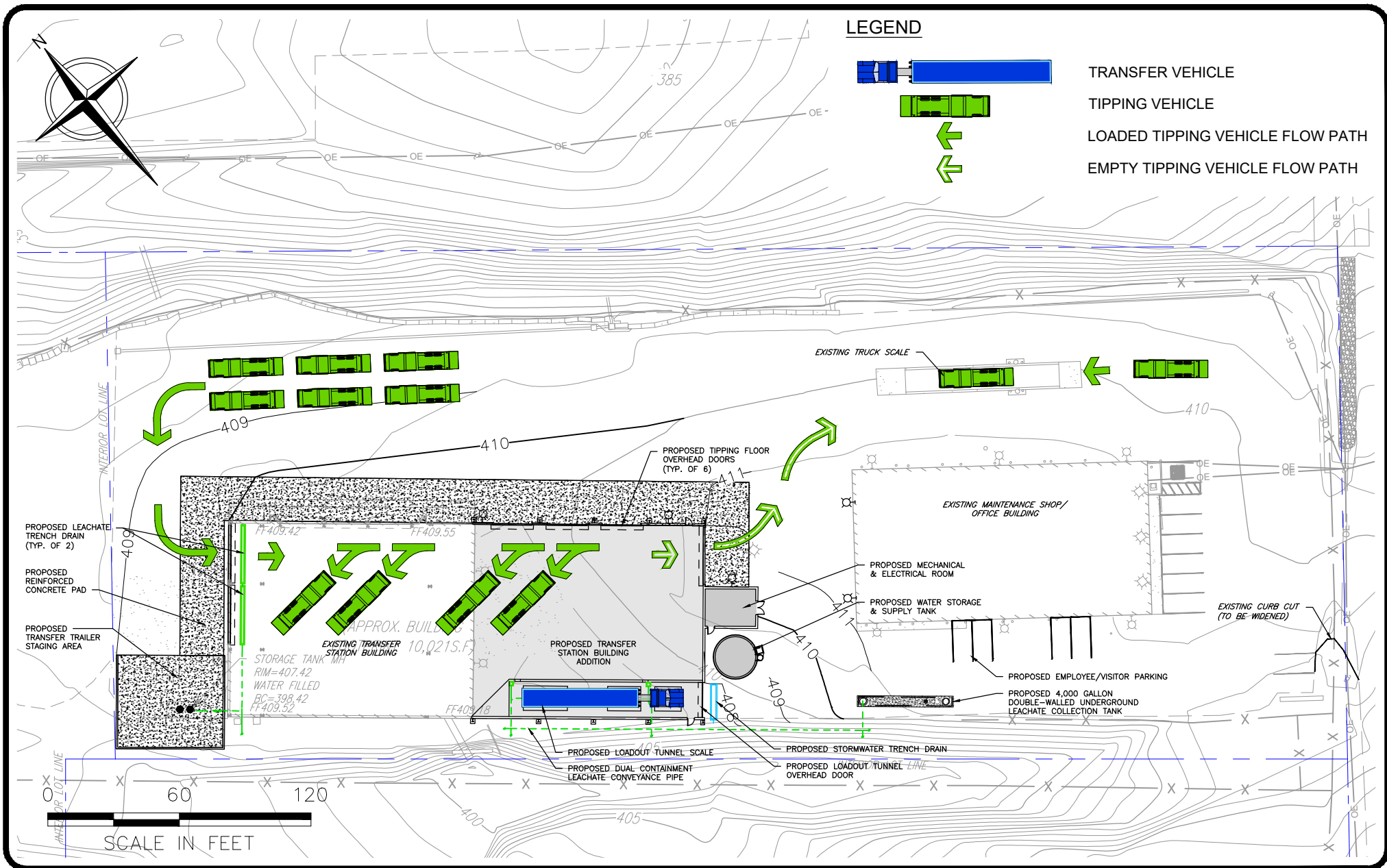
I.W.S. TRANSFER SYSTEMS OF N.Y., INC.
GOSHEN TRANSFER STATION
95 HARTLEY ROAD, GOSHEN, NEW YORK

PROPOSED FACILITY MODIFICATIONS
TIPPING FLOOR EMERGENCY STORAGE PILE VOLUME

FIGURE NO.

2

PROJECT NO.
4223429



Unauthorized alteration or addition to this plan bearing a licensed professional's seal is a violation of Section 7209, Sub-Division 2, of the New York Education Law. Only copies from the original of this plan marked with an original professional's seal shall be considered to be valid true copies.

This drawing represents intellectual property of Cornerstone Engineering and Geology, PLLC. Any modification to the original by other than Cornerstone Engineering and Geology, PLLC personnel violates its original purpose and as such is rendered void. Cornerstone Engineering and Geology, PLLC will not be held liable for any changes made to this document without express written consent of the originator.

DATE OF ISSUE MARCH 2024
 DRAWN BY JLB
 CHECKED BY ACS
 DESIGNED BY BPF/KMT
 APPROVED BY KMT



PREPARED BY:
 CORNERSTONE ENGINEERING AND GEOLOGY, PLLC

ALL PROFESSIONAL ENGINEERING WORK IS PERFORMED BY DULY LICENSED PROFESSIONAL ENGINEERS UNDER THE APPROPRIATE STATE REGISTERED PROFESSIONAL ENTITY.

I.W.S. TRANSFER SYSTEMS OF N.Y., INC.
 GOSHEN TRANSFER STATION
 95 HARTLEY ROAD, GOSHEN, NEW YORK

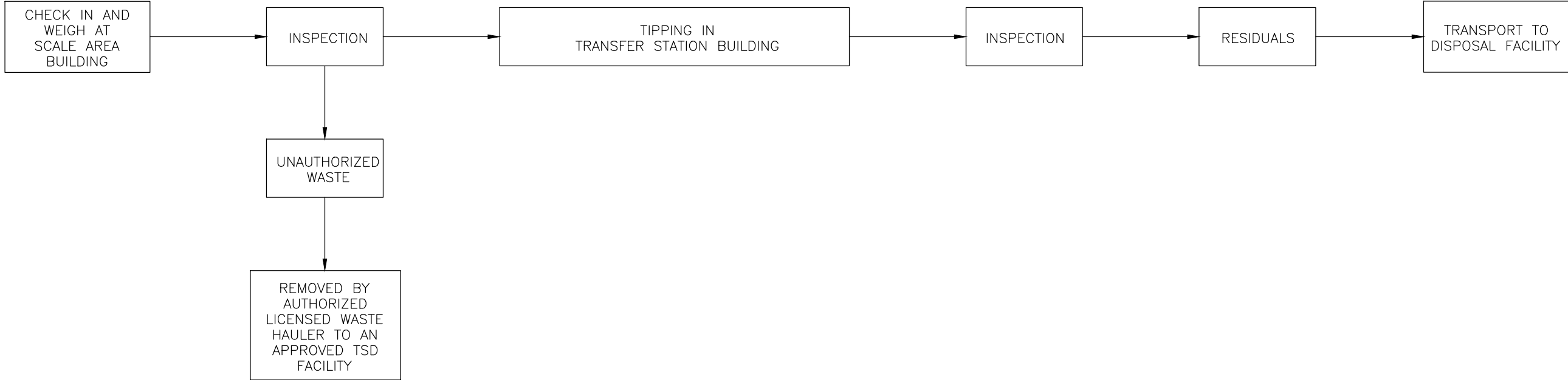
**PROPOSED FACILITY MODIFICATIONS
 QUEUING - OPERATIONAL SITE PLAN**

FIGURE NO.

3

PROJECT NO.
 4223429

MSW AND C&D PROCESSING MAXIMUM OF 670 TPD (2,393 CY) AND AVERAGE OF 395 TPD (1,411 CY)



Unauthorized alteration or addition to this plan bearing a licensed professional's seal is a violation of Section 7209, Sub-Division 2, of the New York Education Law. Only copies from the original of this plan marked with an original professional's seal shall be considered to be valid true copies.

This drawing represents intellectual property of Cornerstone. Any modification to the original by other than Cornerstone personnel violates its original purpose and as such is rendered void. Cornerstone will not be held liable for any changes made to this document without express written consent of the originator.



PREPARED BY:
CORNERSTONE ENGINEERING AND GEOLOGY, PLLC

ALL PROFESSIONAL ENGINEERING WORK IS PERFORMED BY DULY LICENSED PROFESSIONAL ENGINEERS UNDER THE APPROPRIATE STATE REGISTERED PROFESSIONAL ENTITY.

IWS TRANSFER SYSTEMS OF NY, INC.
GOSHEN TRANSFER STATION
95 HARTLEY ROAD, GOSHEN, NY 10924

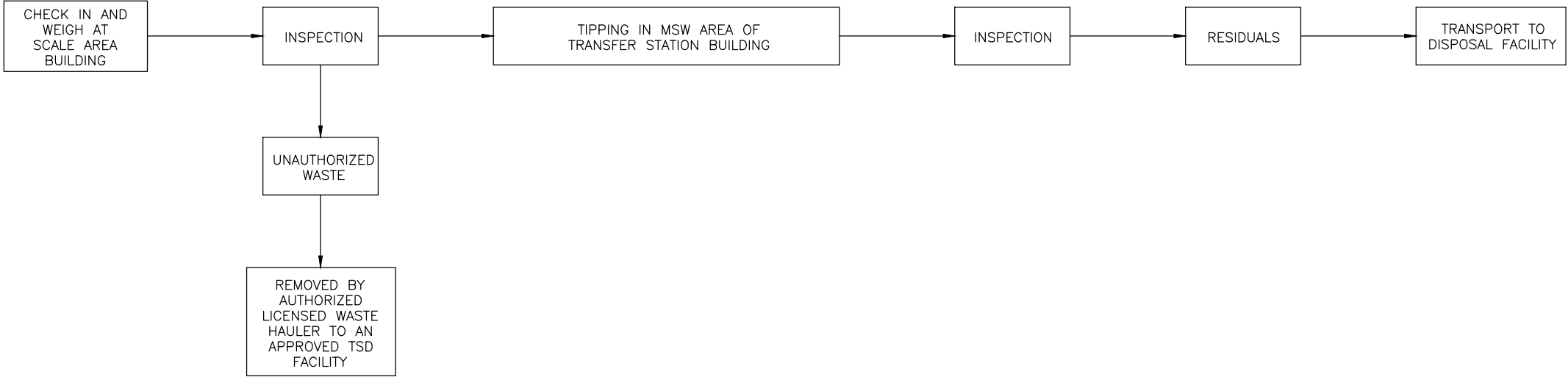
**PROCESS FLOW DIAGRAM
MSW & C&D DEBRIS (PART 362-3)**

FIGURE NO.

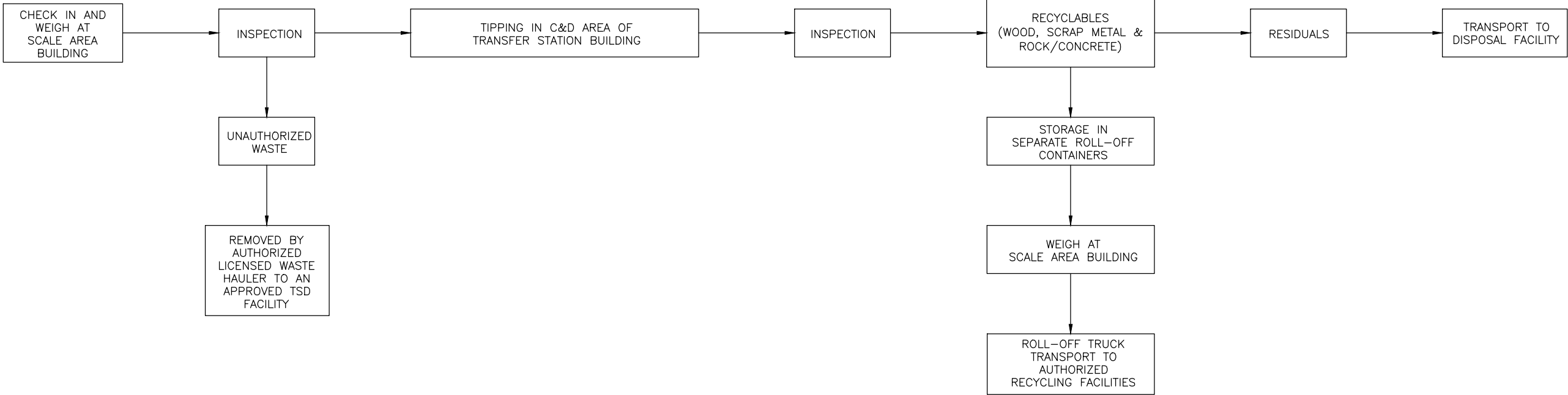
4

PROJECT NO.
4223429

MSW PROCESSING MAXIMUM OF 590 TPD (1,967 CY) AND AVERAGE OF 348 TPD (1,160CY)



C&D PROCESSING MAXIMUM OF 80 TPD (320 CY) AND AVERAGE OF 47 TPD (180 CY)



Unauthorized alteration or addition to this plan bearing a licensed professional's seal is a violation of Section 7209, Sub-Division 2, of the New York Education Law. Only copies from the original of this plan marked with an original professional's seal shall be considered to be valid true copies.

This drawing represents intellectual property of Cornerstone. Any modification to the original by other than Cornerstone personnel violates its original purpose and as such is rendered void. Cornerstone will not be held liable for any changes made to this document without express written consent of the originator.



PREPARED BY:
CORNERSTONE ENGINEERING AND GEOLOGY, PLLC

ALL PROFESSIONAL ENGINEERING WORK IS PERFORMED BY DULY LICENSED PROFESSIONAL ENGINEERS UNDER THE APPROPRIATE STATE REGISTERED PROFESSIONAL ENTITY.

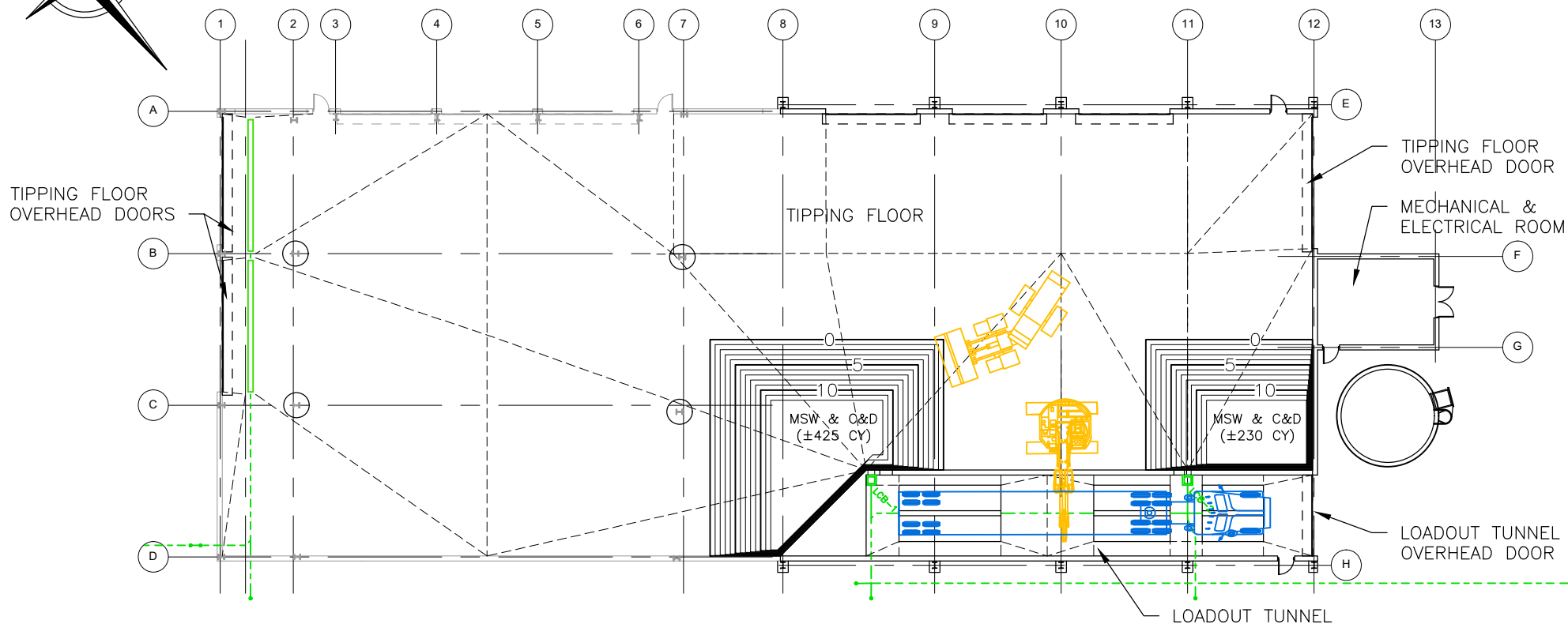
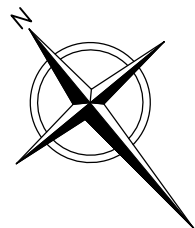
IWS TRANSFER SYSTEMS OF NY, INC.
GOSHEN TRANSFER STATION
95 HARTLEY ROAD, GOSHEN, NY 10924

PROCESS FLOW DIAGRAM
MSW (PART 362-3) & C&D DEBRIS (PART 361-5)

FIGURE NO.

5

PROJECT NO.
4223429



LEGEND:

- 0 — MAJOR CONTOUR
- - - MINOR CONTOUR

0 30 60

SCALE IN FEET

Unauthorized alteration or addition to this plan bearing a licensed professional's seal is a violation of Section 7209, Sub-Division 2, of the New York Education Law. Only copies from the original of this plan marked with an original professional's seal shall be considered to be valid true copies.

This drawing represents intellectual property of Cornerstone Engineering and Geology, PLLC. Any modification to the original by other than Cornerstone Engineering and Geology, PLLC personnel violates its original purpose and as such is rendered void. Cornerstone Engineering and Geology, PLLC will not be held liable for any changes made to this document without express written consent of the originator.

DATE OF ISSUE MARCH 2024
 DRAWN BY JLB
 DESIGNED BY BPF/KMT
 CHECKED BY ACS
 APPROVED BY KMT



PREPARED BY:
 CORNERSTONE ENGINEERING AND GEOLOGY, PLLC

ALL PROFESSIONAL ENGINEERING WORK IS PERFORMED BY DULY LICENSED PROFESSIONAL ENGINEERS UNDER THE APPROPRIATE STATE REGISTERED PROFESSIONAL ENTITY.

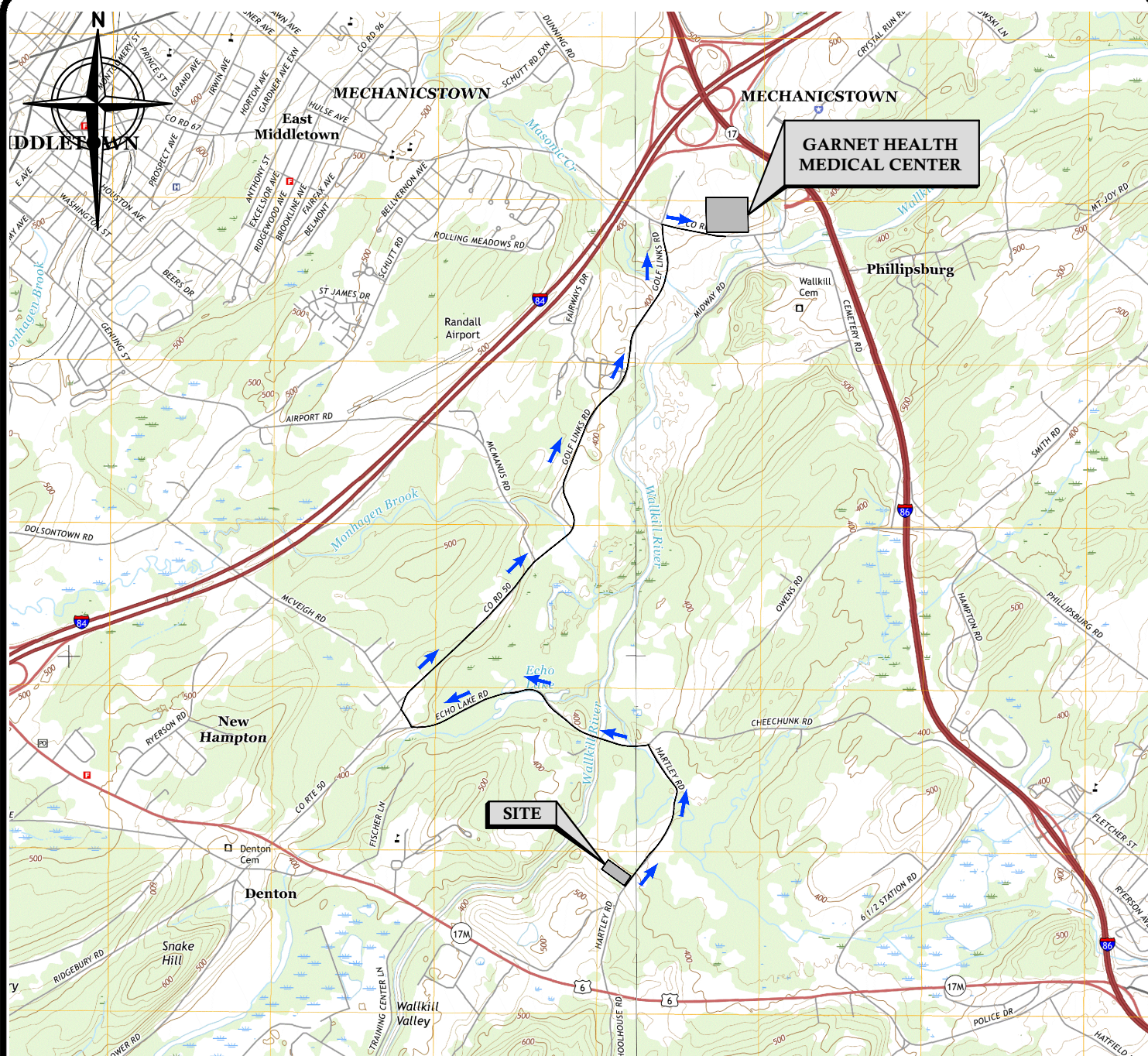
I.W.S. TRANSFER SYSTEMS OF N.Y., INC.
 GOSHEN TRANSFER STATION
 95 HARTLEY ROAD, GOSHEN, NEW YORK

PROPOSED FACILITY MODIFICATIONS
TIPPING FLOOR OPERATIONAL SURGE PILE VOLUME

FIGURE NO.

6

PROJECT NO.
 4223429



DIRECTIONS TO HOSPITAL:

FROM 95 HARTLEY ROAD, GOSHEN, NY TO GARNET HEALTH MEDICAL CENTER LOCATED AT 707 EAST MAIN STREET, MIDDLETOWN, NY

1. HEAD NORTHEAST ON HARTLEY ROAD (TURN LEFT) TOWARDS ORANGE HERITAGE TRAIL.
2. TURN LEFT ONTO ECHO LAKE ROAD.
3. TURN RIGHT ONTO COUNTY ROAD 50 (GOLF LINKS ROAD).
4. TURN RIGHT ONTO EAST MAIN STREET.
5. GARNET HEALTH MEDICAL CENTER IS ON THE LEFT.

0 3000 6000
SCALE IN FEET

This drawing represents intellectual property of Cornerstone. Any modification to the original by other than Cornerstone personnel violates its original purpose and as such is rendered void. Cornerstone will not be held liable for any changes made to this document without express written consent of the originator.

Unauthorized alteration or addition to this plan bearing a licensed professional's seal is a violation of Section 7209, Sub-Division 2, of the New York Education Law. Only copies from the original of this plan marked with an original professional's seal shall be considered to be valid true copies.



PREPARED BY:
CORNERSTONE ENGINEERING AND GEOLOGY, PLLC

ALL PROFESSIONAL ENGINEERING WORK IS PERFORMED BY DULY LICENSED PROFESSIONAL ENGINEERS UNDER THE APPROPRIATE STATE REGISTERED PROFESSIONAL ENTITY.

IWS TRANSFER SYSTEMS OF NY, INC.
GOSHEN TRANSFER STATION
95 HARTLEY ROAD, GOSHEN, NEW YORK 10924
EMERGENCY ACCESS ROUTE TO HOSPITAL

FIGURE NO.

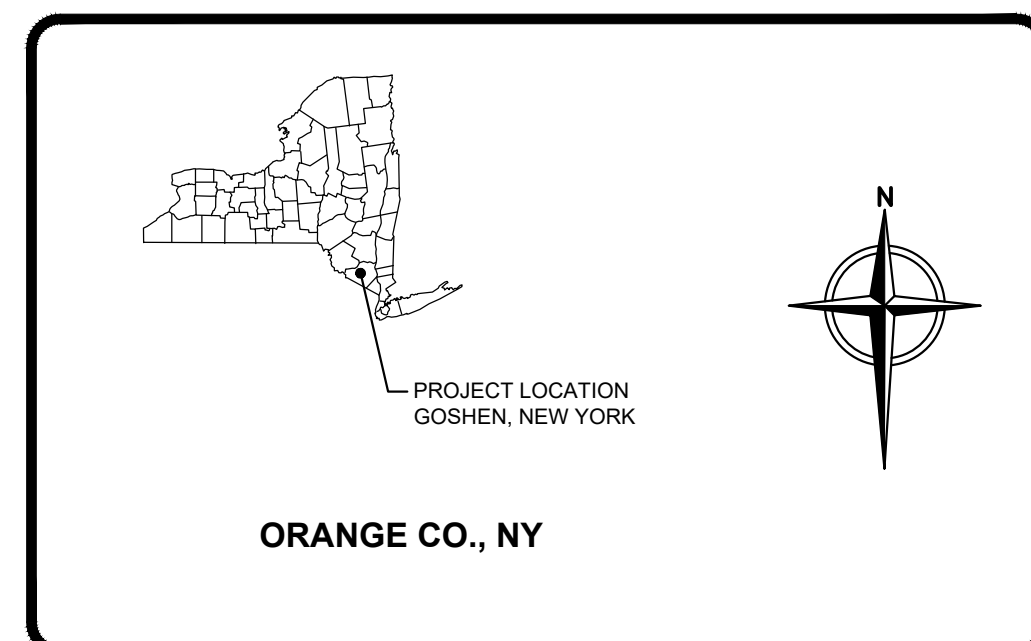
7

PROJECT NO.
4233429

DRAWINGS

Fig. 10. PROJECTS van Goyen (423149) - TRANSFER STATION DESIGN_Plot SWADEC SET122428 S-00-COVER SHEET.dwg Layout: COVER User: b.diermestschm Mar 26, 2024 - 5:25pm

MARCH 2024



LOCATION MAPS

INDEX OF DRAWINGS

0	COVER SHEET
1	REGIONAL MAP
2	VICINITY MAP
3	TRUCK ROUTE MAP
4	ZONING & LAND USE MAP
5	EXISTING SITE PLAN
6	PROPOSED SITE PLAN
7	PROPOSED VEHICLE CIRCULATION PLAN
8	PROPOSED EVACUATION PLAN
9	PROPOSED GENERAL ARRANGEMENT FLOOR PLAN
10	PROPOSED OPERATIONS FLOOR PLAN
11	PROPOSED BUILDING ELEVATIONS
12	PROPOSED BUILDING ELEVATIONS
13	PROPOSED SITE DETAILS
14	PROPOSED LEACHATE MANAGEMENT DETAILS
15	PROPOSED WATER SUPPLY TANK DETAILS
16	PROPOSED EROSION & SEDIMENT CONTROL DETAILS
17	PROPOSED MISCELLANEOUS DETAILS

PREPARED BY:



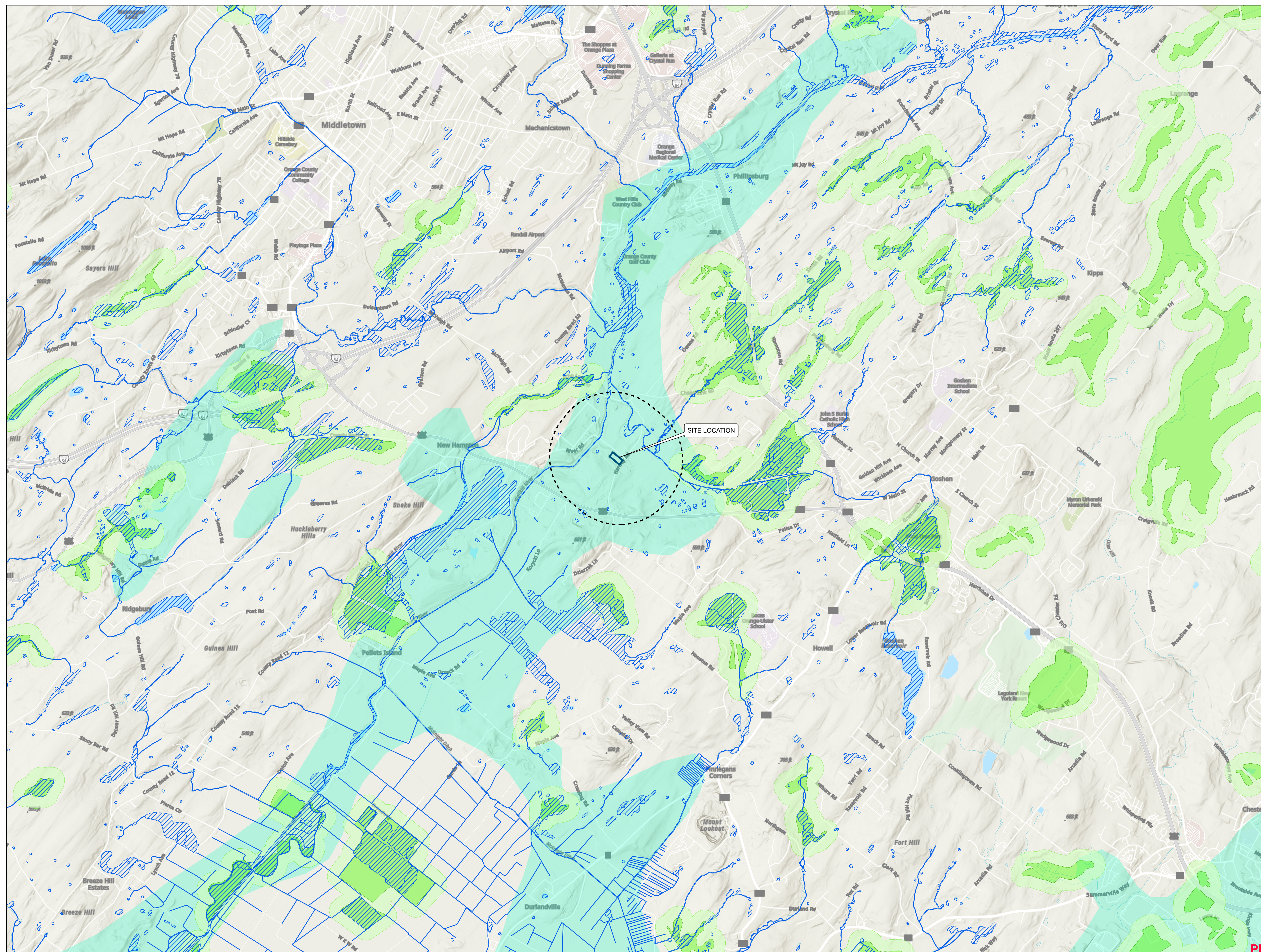
PREPARED BY:
CORNERSTONE ENGINEERING AND GEOLOGY, PLLC

**100 CRYSTAL RUN ROAD
SUITE 101
MIDDLETOWN, NEW YORK 10941
Tel: (877) 294-9070
Fax (845) 692-5894**

Unauthorized alteration or addition to this plan bearing a licensed professional's seal is a violation of Section 7209, Sub-Division 2, of the New York Education Law. Only copies from the original of this plan marked with an original professional's seal shall be considered to be valid true copies.

This drawing represents intellectual property of Cornerstone. Any modification to the original by other than Cornerstone personnel violates its original purpose and as such is rendered void. Cornerstone will not be held liable for any changes made to this document without express written consent of the originator.

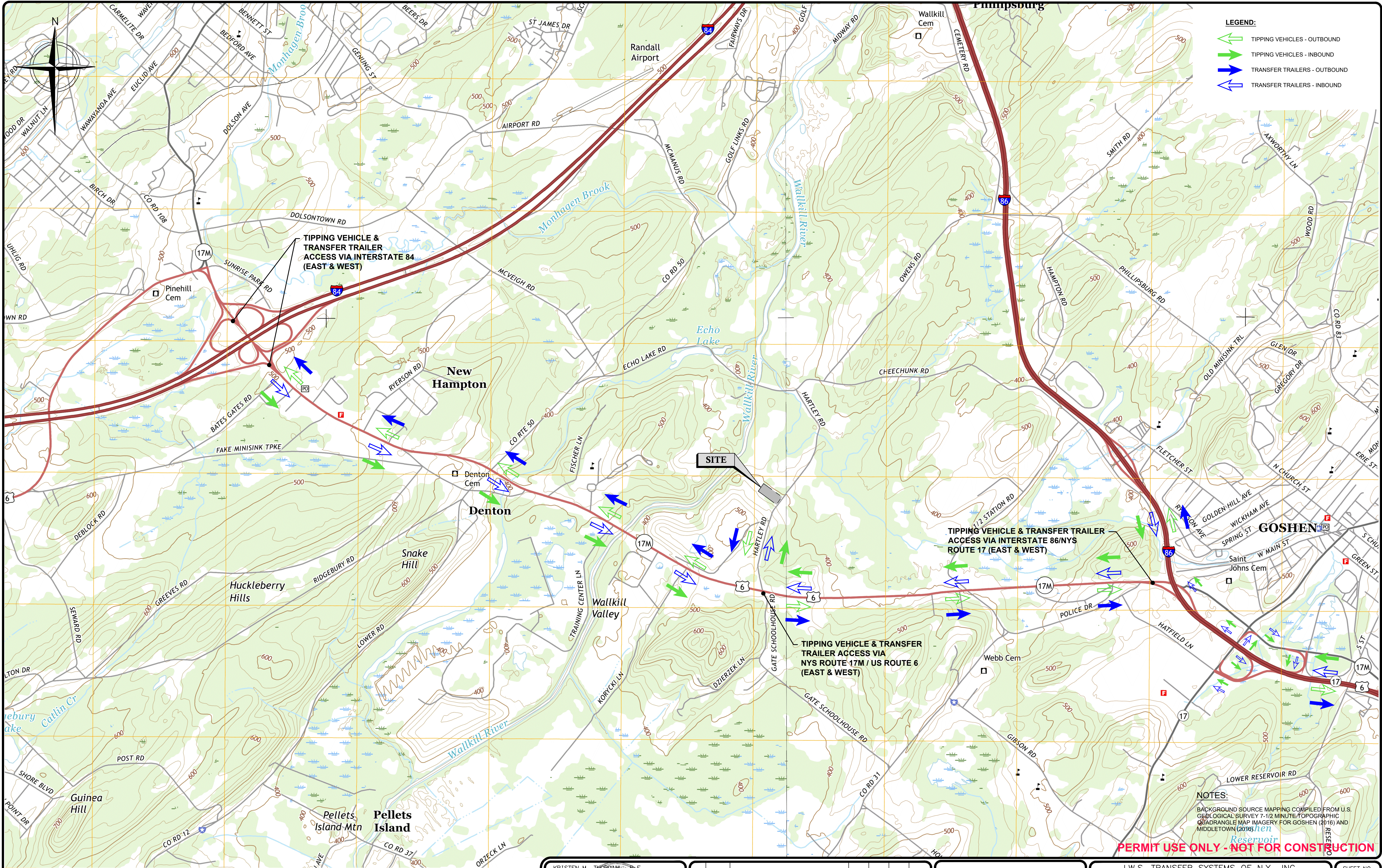
PROJECT NO. 4223429



 **cornerstone**
PLLC

PREPARED BY:
CORNERSTONE ENGINEERING, AND GEOLOGY, PLLC

ALL PROFESSIONAL ENGINEERING WORK IS PERFORMED BY DULY LICENSED PROFESSIONAL ENGINEERS UNDER



- LEGEND:**
- TIPPING VEHICLES - OUTBOUND
 - TIPPING VEHICLES - INBOUND
 - TRANSFER TRAILERS - OUTBOUND
 - TRANSFER TRAILERS - INBOUND

NOTES:
BACKGROUND SOURCE MAPPING COMPILED FROM U.S. GEOLOGICAL SURVEY 7-1/2 MINUTE TOPOGRAPHIC QUADRANGLE MAP IMAGERY FOR GOSHEN (2016) AND MIDDLETOWN (2016).

PERMIT USE ONLY - NOT FOR CONSTRUCTION

KRISTEN M. THORNTON, P.E.
N.Y.P.E. No. 067294-1 Date

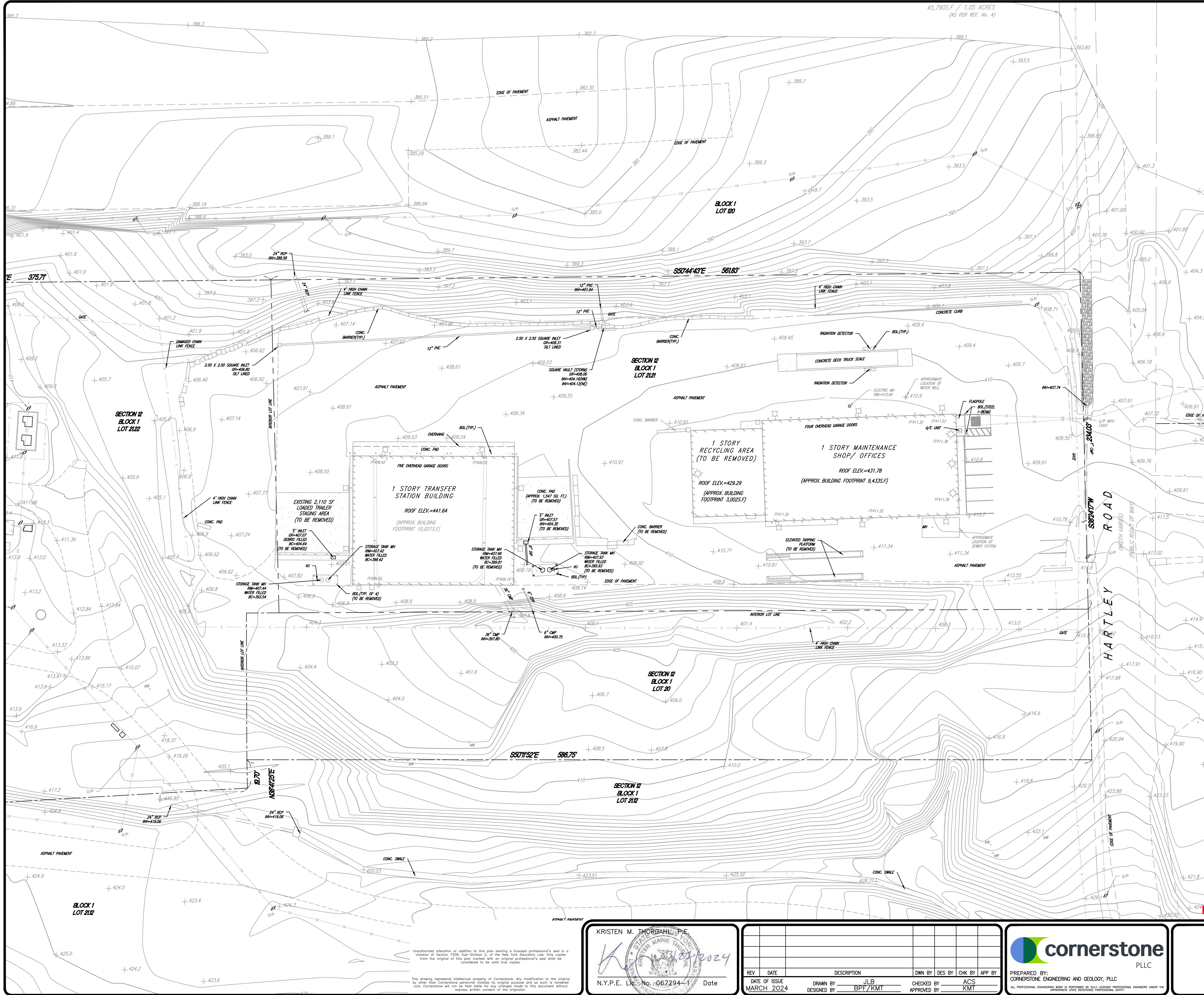
REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
1	MARCH 2024	DATE OF ISSUE				
		DRAWN BY	JLB		ACS	
		DESIGNED BY	BPF/KMT			
		CHECKED BY			KMT	
		APPROVED BY				

cornerstone PLLC
PREPARED BY:
CORNERSTONE ENGINEERING AND GEOLOGY, PLLC
ALL PROFESSIONAL ENGINEERING WORK IS PERFORMED BY DULY LICENSED PROFESSIONAL ENGINEERS UNDER THE APPROPRIATE STATE REGISTERED PROFESSIONAL SEAL.

I.W.S. TRANSFER SYSTEMS OF N.Y., INC.
GOSHEN TRANSFER STATION
95 HARTLEY ROAD, GOSHEN, NEW YORK
**PROPOSED FACILITY MODIFICATIONS
TRUCK ROUTE MAP**

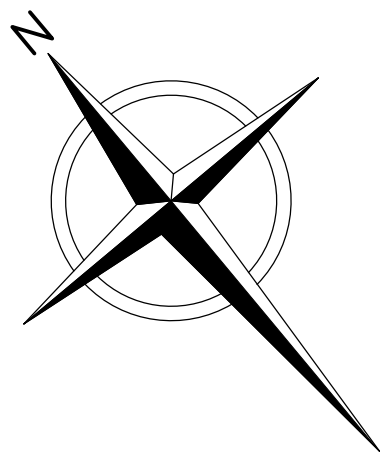
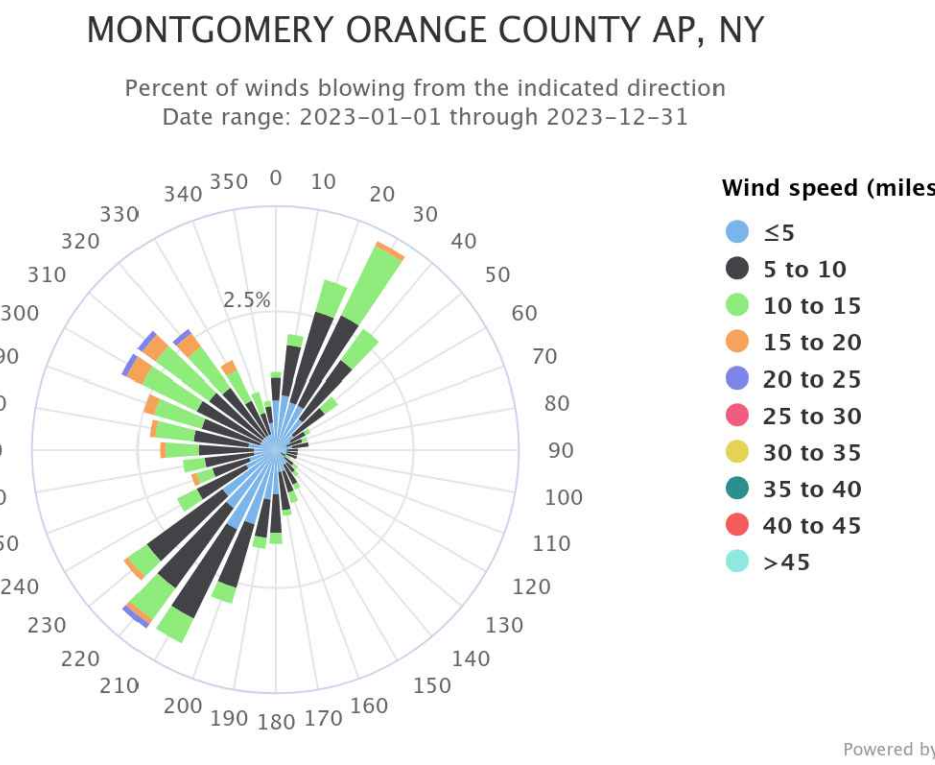
SHEET NO.
3
PROJECT NO.
4223429

1" = 1/2" 0" 1000 2000
SCALE IN FEET
File: X:\PROJECTS\Yan\Goshen\4223429 - TRANSFER STATION DESIGN_Plan_Sat\DEC SET\23429-5-03-TRUCK ROUTE Map.dwg Layout: SHEET 03 User: b.pandey\mtd\plasma Mar 26, 2024 - 5:28pm



- LEGEND**
- PROPERTY LINE
 - ADJACENT PROPERTY LINE
 - EASEMENT LINE
 - RIGHT OF WAY LINE
 - EXISTING MINOR CONTOURS
 - EXISTING MAJOR CONTOURS (AS LABELED)
 - EXISTING GROUND ELEVATION
 - EXISTING EDGE OF PAVEMENT
 - EXISTING EDGE OF GRAVEL
 - EXISTING FENCE LINE
 - EXISTING CONCRETE
 - EXISTING BUILDING
 - EXISTING TREE LINE
 - EXISTING GUIDE RAIL
 - EXISTING CURB LINE
 - EXISTING OVERHEAD WIRE
 - EXISTING UTILITY POLE
 - EXISTING CULVERT

- NOTES:**
- SITE BOUNDARY & TOPOGRAPHY SURVEY, LOT 17.32, 20, 21.21 & 21.22 OF BLOCK 1, PORTIONS OF LOTS 18, 21.12, 112, & 120 OF BLOCK 1, TOWN OF GOSHEN, ORANGE COUNTY, NEW YORK. SHEET 1 OF 1, DATED 3/20/2024, BY DRESDNER ROBIN OF JERSEY CITY, NEW JERSEY.
 - HORIZONTAL DATUM IS REFERENCED TO NEW YORK STATE PLANE COORDINATE SYSTEM, EAST ZONE, NORTH AMERICAN DATUM (NAD 83), US SURVEY FEET.
 - VERTICAL DATUM BASED UPON NYGEOD 12 GRS80, US SURVEY FEET. CONTOUR INTERVAL IS ONE FOOT.



0 30 60
SCALE IN FEET

PERMIT USE ONLY - NOT FOR CONSTRUCTION

KRISTEN M. THORBAKE, P.E.
N.Y.P.E. License No. 067294-1
Date

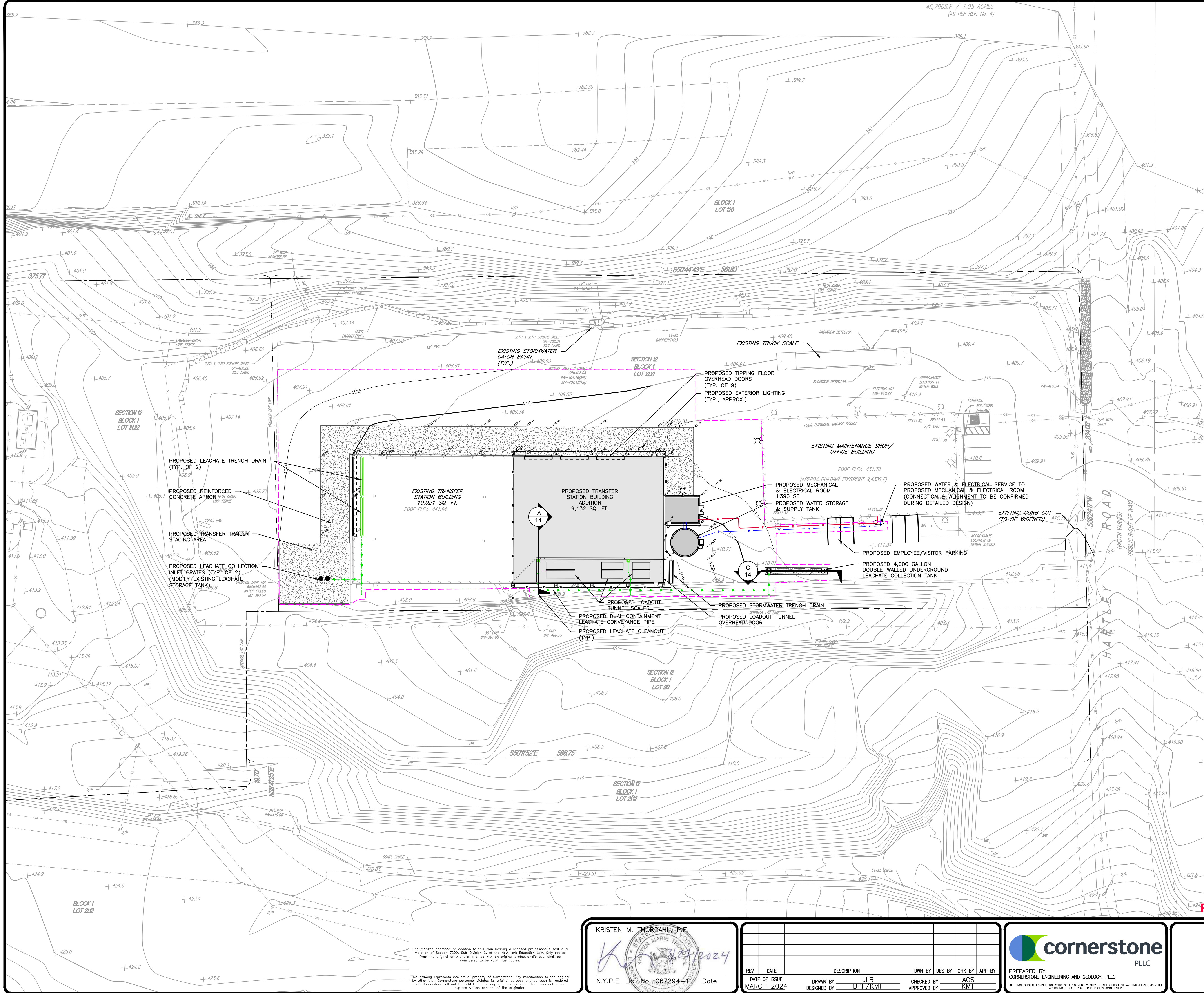
REV	DATE	DESCRIPTION	OWN BY	DES BY	CHK BY	APP BY
1	MARCH 2024	DATE OF ISSUE	JLB	ACS	KMT	
2		DESIGNED BY	BPF/KMT			
3		CHECKED BY				
4		APPROVED BY				

cornerstone PLLC
PREPARED BY:
CORNERSTONE ENGINEERING AND GEOLOGY, PLLC
ALL PROFESSIONAL ENGINEERING WORK IS PERFORMED BY FULLY LICENSED PROFESSIONAL ENGINEERS UNDER THE APPROPRIATE STATE REGISTERED PROFESSIONAL ENTITY.

I.W.S. TRANSFER SYSTEMS OF N.Y., INC.
GOSHEN TRANSFER STATION
95 HARTLEY ROAD, GOSHEN, NEW YORK

**PROPOSED FACILITY MODIFICATIONS
EXISTING SITE PLAN**

SHEET NO.
5
PROJECT NO.
4223429

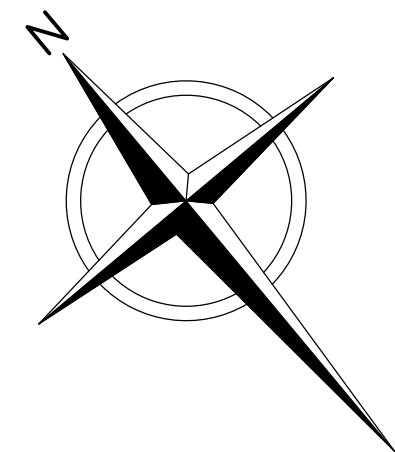


LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- EASEMENT LINE
- RIGHT OF WAY LINE
- EXISTING MINOR CONTOURS
- EXISTING MAJOR CONTOURS (AS LABELED)
- EXISTING GROUND ELEVATION
- EXISTING EDGE OF PAVEMENT
- EXISTING EDGE OF GRAVEL
- EXISTING FENCE LINE
- EXISTING CONCRETE
- EXISTING BUILDING
- EXISTING TREE LINE
- EXISTING GUIDE RAIL
- EXISTING CURB LINE
- EXISTING OVERHEAD WIRE
- EXISTING UTILITY POLE
- EXISTING CULVERT
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED STRUCTURE
- PROPOSED DUAL CONTAINMENT LEACHATE CONVEYANCE PIPE
- PROPOSED LEACHATE TRENCH DRAIN
- PROPOSED REINFORCED CONCRETE PAD
- PROPOSED STORMWATER MANAGEMENT PIPING
- PROPOSED STORMWATER TRENCH DRAIN
- LIMIT OF DISTURBANCE (APPROXIMATE)

NOTES:

- SEE PLAN SHEET 5 OF THIS PLAN SET FOR LEGEND AND BASE MAP NOTES.
- ANY IMPORTED TOPSOIL SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS.
- OFF-SITE DISPOSAL OF EXCESS CUT SHALL BE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS.



0 30 60
SCALE IN FEET

PERMIT USE ONLY - NOT FOR CONSTRUCTION

KRISTEN M. THORBAHL, P.E.



N.Y.P.E. Lic. No. 067294-1 Date

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
1	MARCH 2024	DATE OF ISSUE	JLB	DESIGNED BY	BPF/KMT	ACS
2				CHECKED BY		KMT
3				APPROVED BY		



PREPARED BY:
CORNERSTONE ENGINEERING AND GEOLOGY, PLLC
ALL PROFESSIONAL ENGINEERING WORK IS PERFORMED BY DULY LICENSED PROFESSIONAL ENGINEERS UNDER THE APPROPRIATE STATE REGISTERED PROFESSIONAL ENTITY.

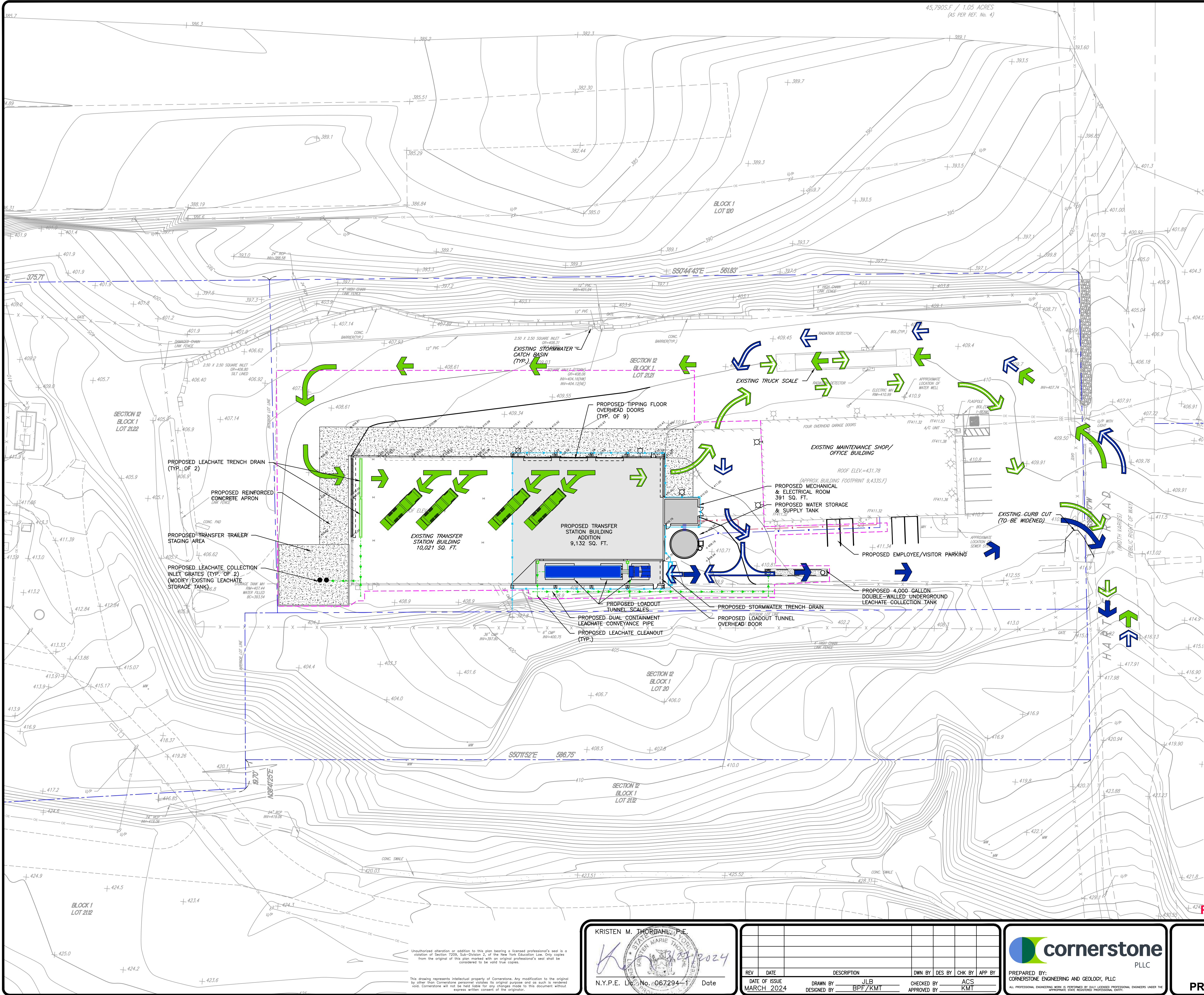
I.W.S. TRANSFER SYSTEMS OF N.Y., INC.
GOSHEN TRANSFER STATION
95 HARTLEY ROAD, GOSHEN, NEW YORK

PROPOSED FACILITY MODIFICATIONS
PROPOSED SITE PLAN

SHEET NO.

6

PROJECT NO.
4223429

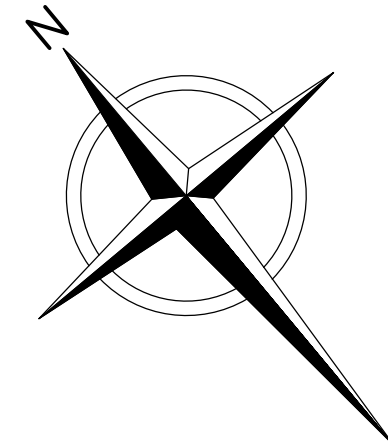


LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- EASEMENT LINE
- RIGHT OF WAY LINE
- EXISTING MINOR CONTOURS
- EXISTING MAJOR CONTOURS (AS LABELED)
- EXISTING GROUND ELEVATION
- EXISTING EDGE OF PAVEMENT
- EXISTING EDGE OF GRAVEL
- EXISTING FENCE LINE
- EXISTING CONCRETE
- EXISTING BUILDING
- EXISTING TREE LINE
- EXISTING GUIDE RAIL
- EXISTING CURB LINE
- EXISTING OVERHEAD WIRE
- EXISTING UTILITY POLE
- EXISTING CULVERT
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED STRUCTURE
- PROPOSED DUAL CONTAINMENT LEACHATE CONVEYANCE PIPE
- PROPOSED LEACHATE TRENCH DRAIN
- PROPOSED REINFORCED CONCRETE PAD
- PROPOSED STORMWATER MANAGEMENT PIPING
- PROPOSED STORMWATER TRENCH DRAIN
- LIMIT OF DISTURBANCE (APPROXIMATE)
- TRANSFER VEHICLE
- TIPPING VEHICLE
- LOADED TIPPING VEHICLE FLOW PATH
- EMPTY TIPPING VEHICLE FLOW PATH
- LOADED TRANSFER VEHICLE FLOW PATH
- EMPTY TRANSFER VEHICLE FLOW PATH

NOTES:

- SEE PLAN SHEET 5 OF THIS PLAN SET FOR LEGEND AND BASE MAP NOTES.



0 30 60
SCALE IN FEET

PERMIT USE ONLY - NOT FOR CONSTRUCTION

KRISTEN M. THORBAHL, P.E.



N.Y.P.E. License No. 067294-1 Date

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
	DATE OF ISSUE					
	MARCH 2024	DRAWN BY JLB		CHECKED BY ACS		
		DESIGNED BY BPF/KMT		APPROVED BY KMT		



PREPARED BY:
CORNERSTONE ENGINEERING AND GEOLOGY, PLLC
ALL PROFESSIONAL ENGINEERING WORK IS PERFORMED BY DULY LICENSED PROFESSIONAL ENGINEERS UNDER THE APPROPRIATE STATE REGISTERED PROFESSIONAL ENTITY.

I.W.S. TRANSFER SYSTEMS OF N.Y., INC.
GOSHEN TRANSFER STATION
95 HARTLEY ROAD, GOSHEN, NEW YORK

PROPOSED FACILITY MODIFICATIONS
PROPOSED VEHICLE CIRCULATION PLAN

SHEET NO.

7

PROJECT NO.
4223429



- NOTES:**
1. SEE PLAN SHEET 5 OF THIS PLAN SET FOR LEGEND AND BASE MAP NOTES.

NOTES:

1. SEE PLAN SHEET 5 OF THIS PLAN SET FOR LEGEND AND BASE MAP NOTES.



I.W.S. TRANSFER SYSTEMS OF N.Y., INC.
GOSHEN TRANSFER STATION
95 HARTLEY ROAD, GOSHEN, NEW YORK

SHEET NO.
8
PROJECT NO.
4223429

Unauthorized alteration or addition to this plan bearing a licensed professional's seal is a violation of Section 7209, Sub-Division 2, of the New York Education Law. Only copies from the original of this plan marked with an original professional's seal shall be considered to be valid true copies.

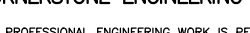
This drawing represents intellectual property of Cornerstone. Any modification to the original by other than Cornerstone personnel violates its original purpose and as such is rendered void. Cornerstone will not be held liable for any charges made to this document without express written consent of the originator.

KRISTEN M. THORBAUM, P.E.

  2024

N.Y.P.E. Lic. No. 067294-1 Date

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
	DATE OF ISSUE MARCH 2024	DRAWN BY JLB DESIGNED BY BPF/ZKMT		CHECKED BY ACS	KMT	



cornerstone
PLLC

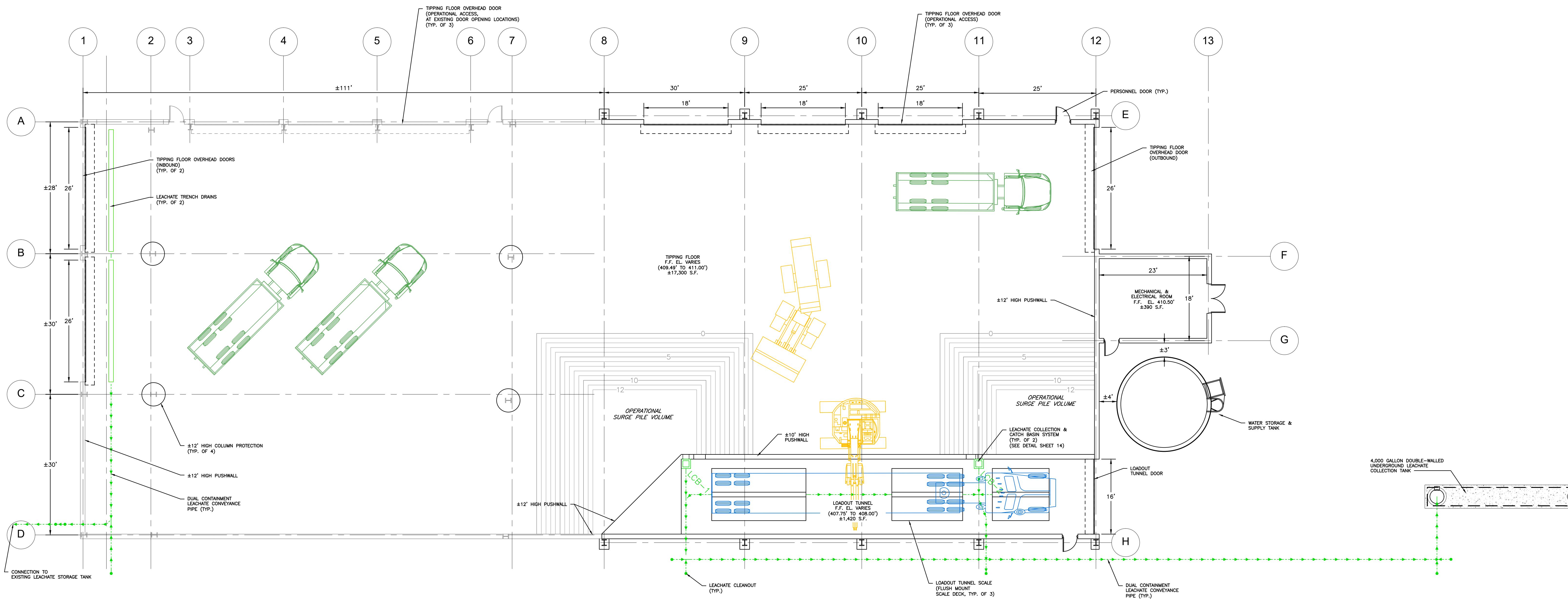
PREPARED BY:
CORNERSTONE ENGINEERING AND GEOLOGY, PLLC

ALL PROFESSIONAL ENGINEERING WORK IS PERFORMED BY DULY LICENSED PROFESSIONAL ENGINEERS UNDER THE
APPROPRIATE STATE REGISTERED PROFESSIONAL ENTITY.

I.W.S. TRANSFER SYSTEMS OF N.Y., INC.
GOSHEN TRANSFER STATION
95 HARTLEY ROAD, GOSHEN, NEW YORK

SHEET NO.
9
PROJECT NO.
4223429

File: A:\PROJECTS\W\Goshen\4223429 - TRANSFER STATION DESIGN\Plan Set\4223429-S-10-PROPOSED OPERATIONS FLOOR PLAN.dwg Layout: SHEET 10 User: b.jedimort@cornerstone.com Mar 26, 2024 - 5:27pm



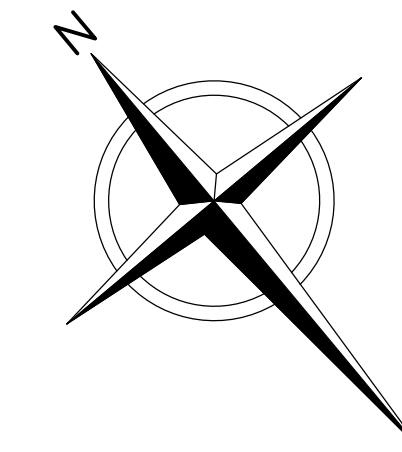
FLOOR PLAN

SCALE: 1" = 10'

1
10

NOTES:

1. THE LOCATIONS OF EMERGENCY EQUIPMENT, INCLUDING FIRE EXTINGUISHERS AND FIRE ALARM PULL BOXES, WILL BE IN ACCORDANCE WITH STATE AND LOCAL BUILDING CODES AND NFPA REQUIREMENTS.



PERMIT USE ONLY - NOT FOR CONSTRUCTION

Unauthorized alteration or addition to this plan bearing a licensed professional's seal is a violation of Section 7209, Sub-Division 2, of the New York Education Law. Only copies from the original of this plan marked with an original professional's seal shall be considered to be valid true copies.

This drawing represents intellectual property of Cornerstone. Any modification to the original by other than Cornerstone personnel violates its original purpose and as such is rendered void. Cornerstone will not be held liable for any changes made to this document without express written consent of the originator.

KRISTEN M. THORBAHL, P.E.



N.Y.P.E. License No. 067294-1 Date

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
1	MARCH 2024		JLB		ACS	
		DESIGNED BY	BPF/KMT	CHECKED BY	KMT	

cornerstone PLLC

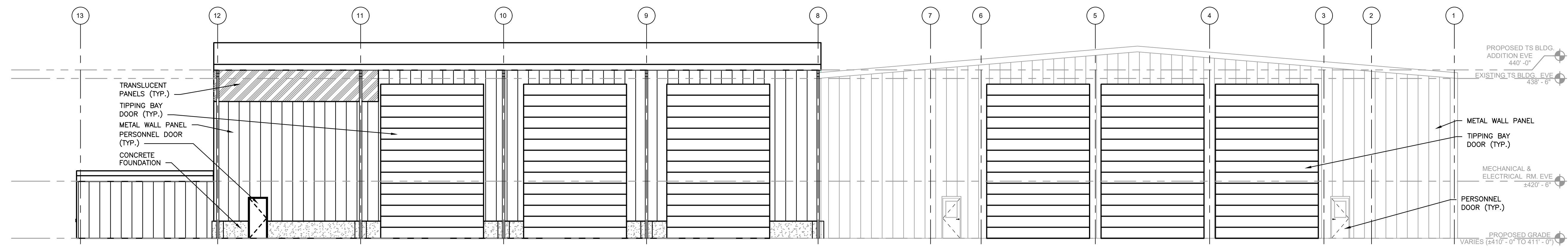
PREPARED BY:
CORNERSTONE ENGINEERING AND GEOLOGY, PLLC

ALL PROFESSIONAL ENGINEERING WORK IS PERFORMED BY DULY LICENSED PROFESSIONAL ENGINEERS UNDER THE APPROPRIATE STATE REGISTERED PROFESSIONAL ENTITY.

I.W.S. TRANSFER SYSTEMS OF N.Y., INC.
GOSHEN TRANSFER STATION
95 HARTLEY ROAD, GOSHEN, NEW YORK

PROPOSED FACILITY MODIFICATIONS
PROPOSED OPERATIONS FLOOR PLAN

SHEET NO.
10
PROJECT NO.
4223429



PERMIT USE ONLY - NOT FOR CONSTRUCTION

I.W.S. TRANSFER SYSTEMS OF N.Y., INC.
GOSHEN TRANSFER STATION
95 HARTLEY ROAD, GOSHEN, NEW YORK

PROPOSED FACILITY MODIFICATIONS

PROPOSED BUILDING ELEVATIONS

SHEET NO.

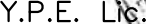
11

PROJECT NO.
223429

Unauthorized alteration or addition to this plan bearing a licensed professional's seal is violation of Section 7209, Sub-Division 2, of the New York Education Law. Only copies from the original of this plan marked with an original professional's seal shall be considered to be valid true copies.

This drawing represents intellectual property of Cornerstone. Any modification to the original by other than Cornerstone personnel violates its original purpose and as such is rendered void. Cornerstone will not be held liable for any changes made to this document without express written consent of the originator.

BODHI A. PIEDMONT-FLEISCHMANN, P.E.



N.Y.P.E. Lic. No. 099699 Date

REV	DATE
DATE OF ISSUE MARCH 2023	

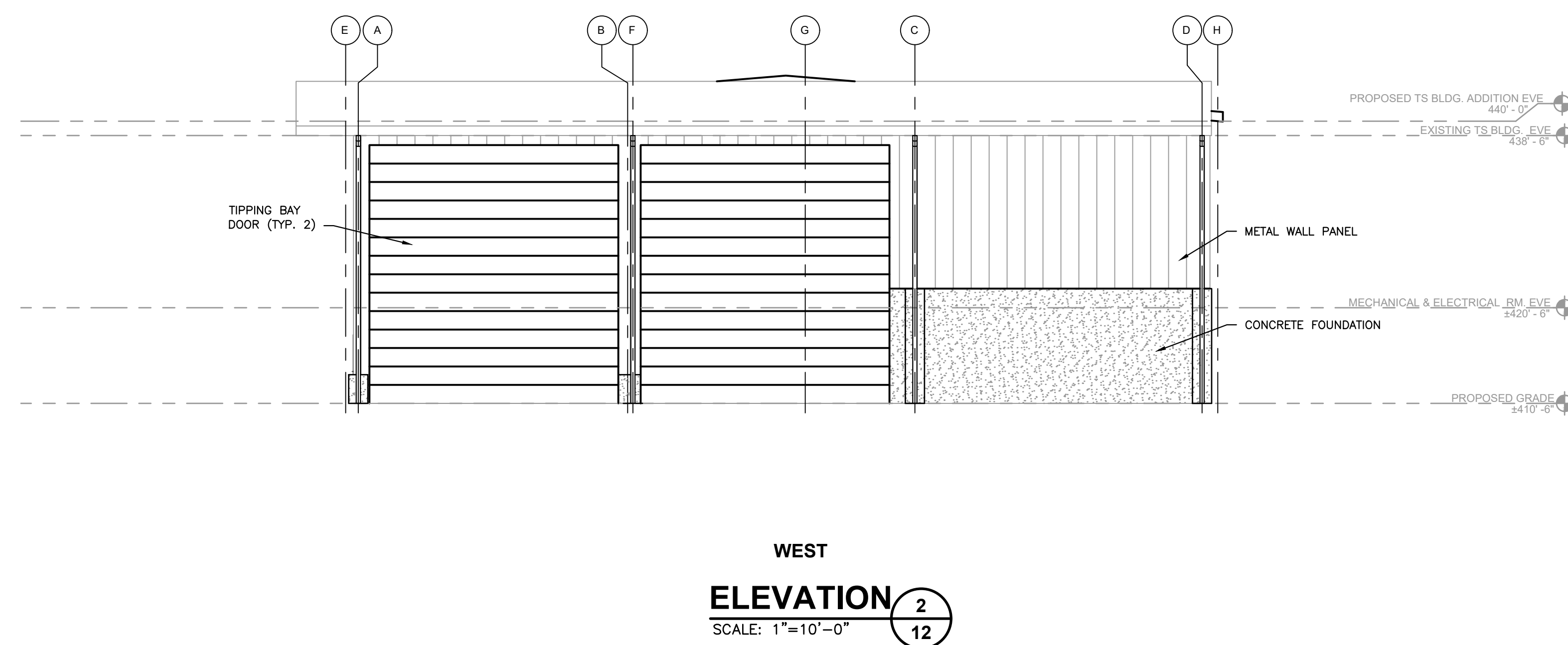
DESCRIPTION

DRAWN BY JLB

PREPARED BY PREZKMT

	DWN BY	DES BY	CHK BY	APP BY
	CHECKED BY	ACS		
		KMT		

PREPARED BY:
CORNERSTONE ENGINEERING AND GEOLOGY, PLLC



SHEET NO.
12
PROJECT NO.
4223429

Unauthorized alteration or addition to this plan bearing a licensed professional's seal is violation of Section 7209, Sub-Division 2, of the New York Education Law. Only copies from the original of this plan marked with an original professional's seal shall be considered to be valid true copies.

This drawing represents intellectual property of Cornerstone. Any modification to the origin by other than Cornerstone personnel violates its original purpose and as such is rendered void. Cornerstone will not be held liable for any changes made to this document without

BODHI A. PIEDMONT-FLEISCHMANN, P.E.

  12/31/2024

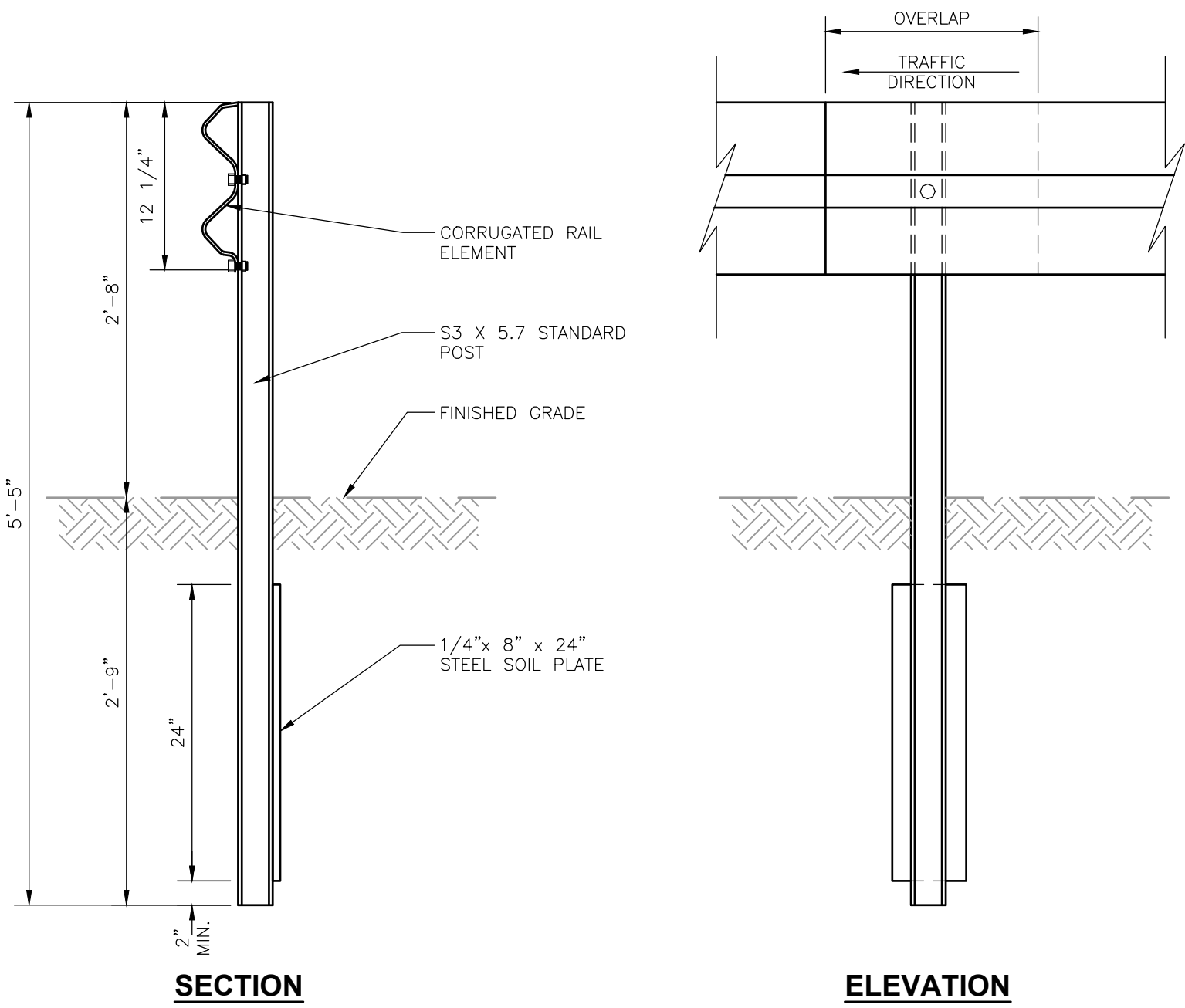
N.Y.P.E. Lic. No. 099699 Date

[illegible]

 **cornerstone**
PLLC

PREPARED BY:
CORNERSTONE ENGINEERING AND GEOLOGY, PLLC

ALL PROFESSIONAL ENGINEERING WORK IS PERFORMED BY DULY LICENSED PROFESSIONAL ENGINEERS UNDER THE



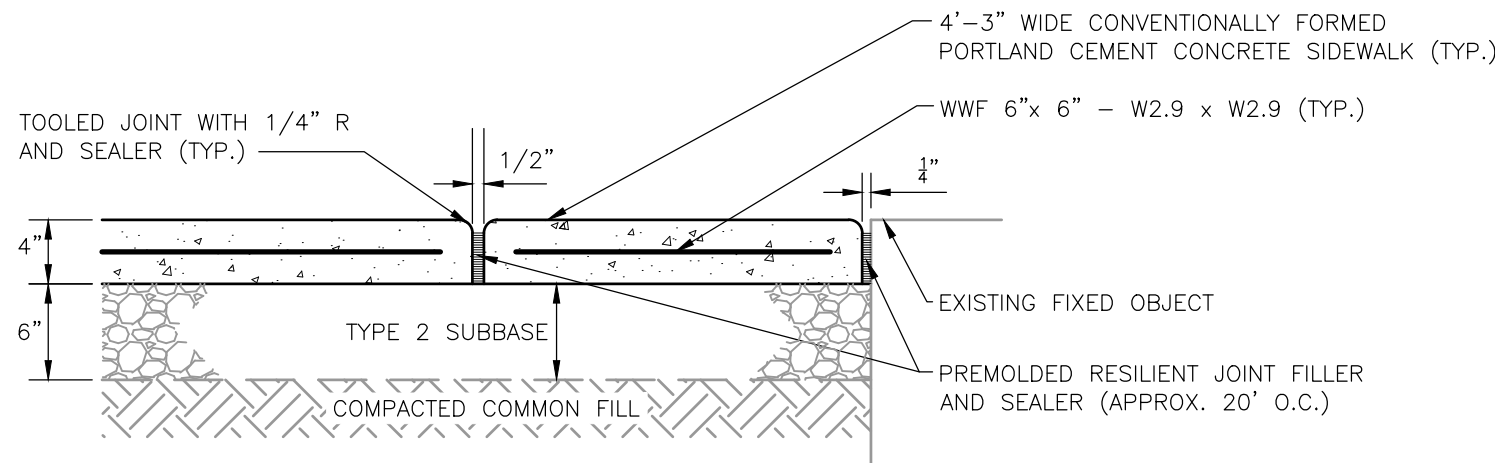
- NOTES:
- GUIDE RAIL SHALL BE IN ACCORDANCE WITH NYSDOT CORRUGATED BEAM GUIDE RAIL, U.S. CUSTOMARY STANDARD SHEET 606-07.
 - GUIDE RAIL SHALL MEET ALL REQUIREMENTS OF THE LATEST EDITION OF THE NYSDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 710-20.
 - ALL RAIL SPLICES TO OVERLAP IN THE DIRECTION OF TRAFFIC FLOW.

W-BEAM GUIDE RAIL

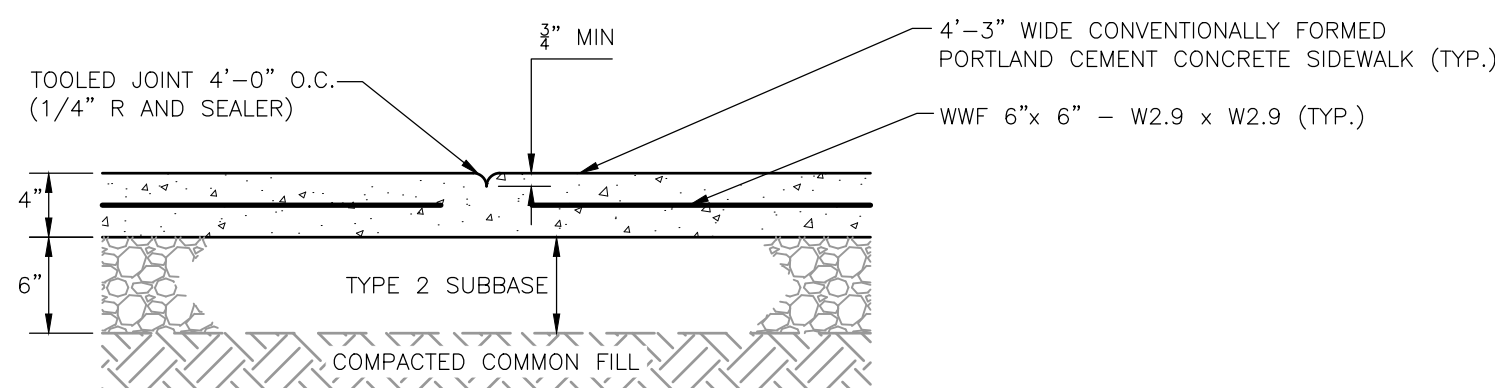
DETAIL

SCALE: 1"=1'

1
13



EXPANSION JOINT



CONTRACTION JOINT

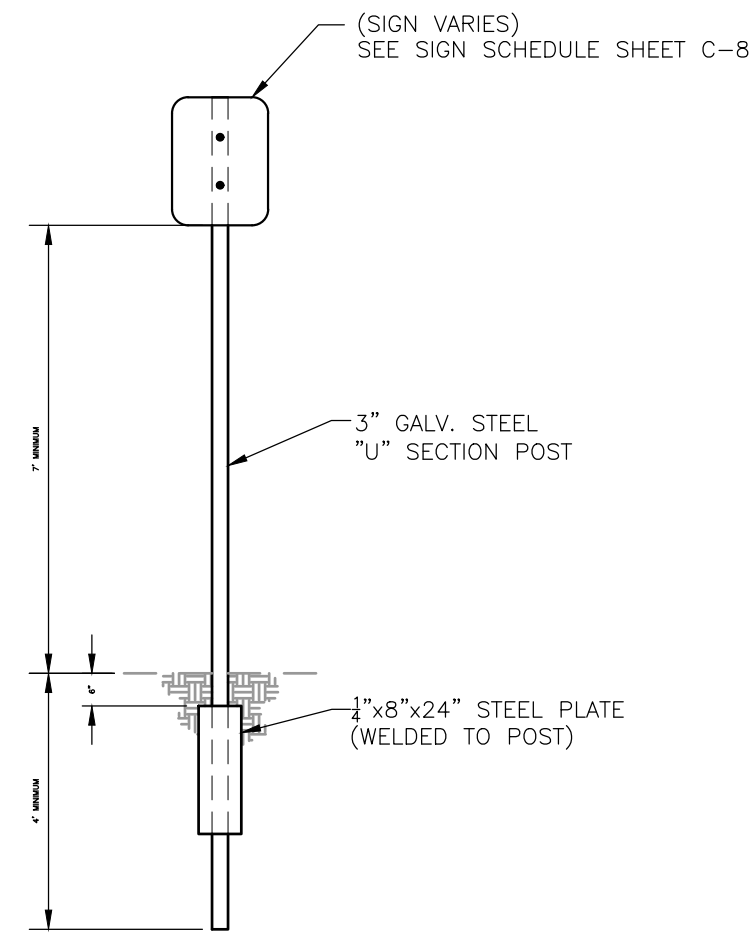
- NOTES:
- MATERIALS AND METHODS OF CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION (NYSDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, DATED JANUARY 12, 2012, AND ALL ADDENDA THERETO; THE ONLY EXCEPTION BEING THAT THE WORK OF THIS CONTRACT SHALL BE MEASURED IN ENGLISH UNITS.
 - SIDEWALK CONSTRUCTION AND MATERIALS SHALL CONFORM WITH SECTION 608 - SIDEWALKS, DRIVEWAYS, BICYCLE PATHS, AND VEGETATION CONTROL STRIPS OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.
 - PREMOLDED RESILIENT JOINT FILLER SHALL CONFORM WITH SECTION 705-07 - PREMOLDED RESILIENT JOINT FILLER OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.
 - ALL EXPOSED SURFACES TO HAVE BROOMED TEXTURE.
 - JOINTS SHALL NOT BE SAW CUT.

CONCRETE SIDEWALK

DETAIL

SCALE: N.T.S.

6
13



NOTES:

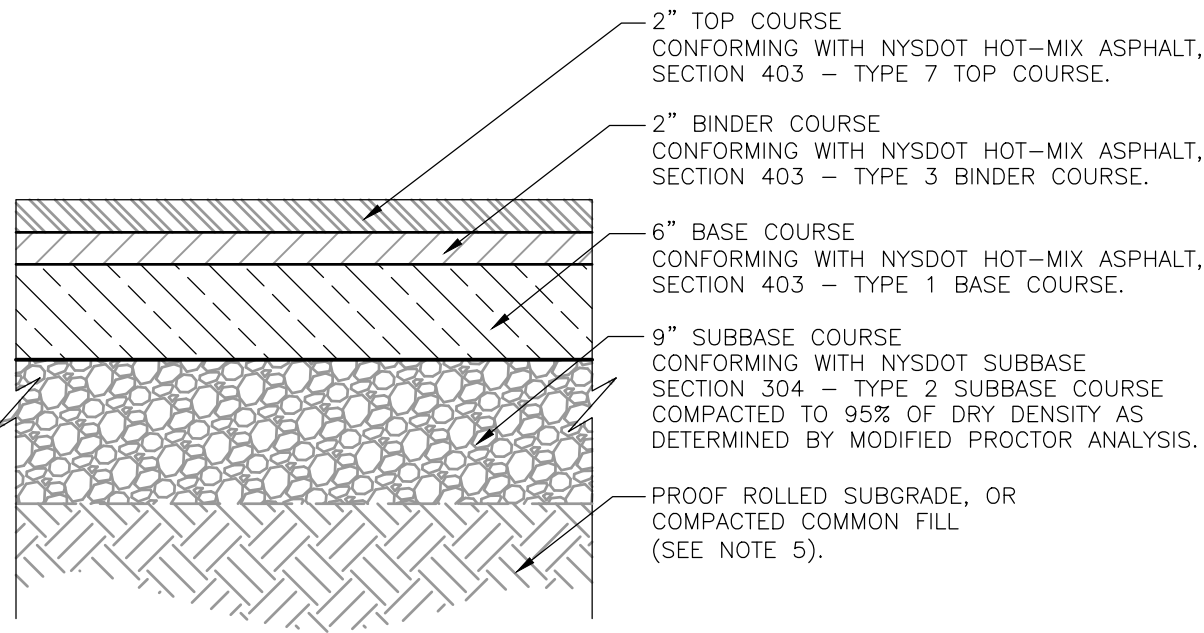
- SIGN MOUNTING HEIGHT SHALL BE A MINIMUM OF 7'. MINIMUM MOUNTING HEIGHT MAY BE ADJUSTED ONLY IN ACCORDANCE WITH PROVISIONS OUTLINED IN THE STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS."
- SIGN POST SHALL BE IN ACCORDANCE W/ NYSDOT STANDARD SHEET 645-01.

SINGLE POST SIGN MOUNTING

DETAIL

SCALE: 1"=3'

2
13



NOTES:

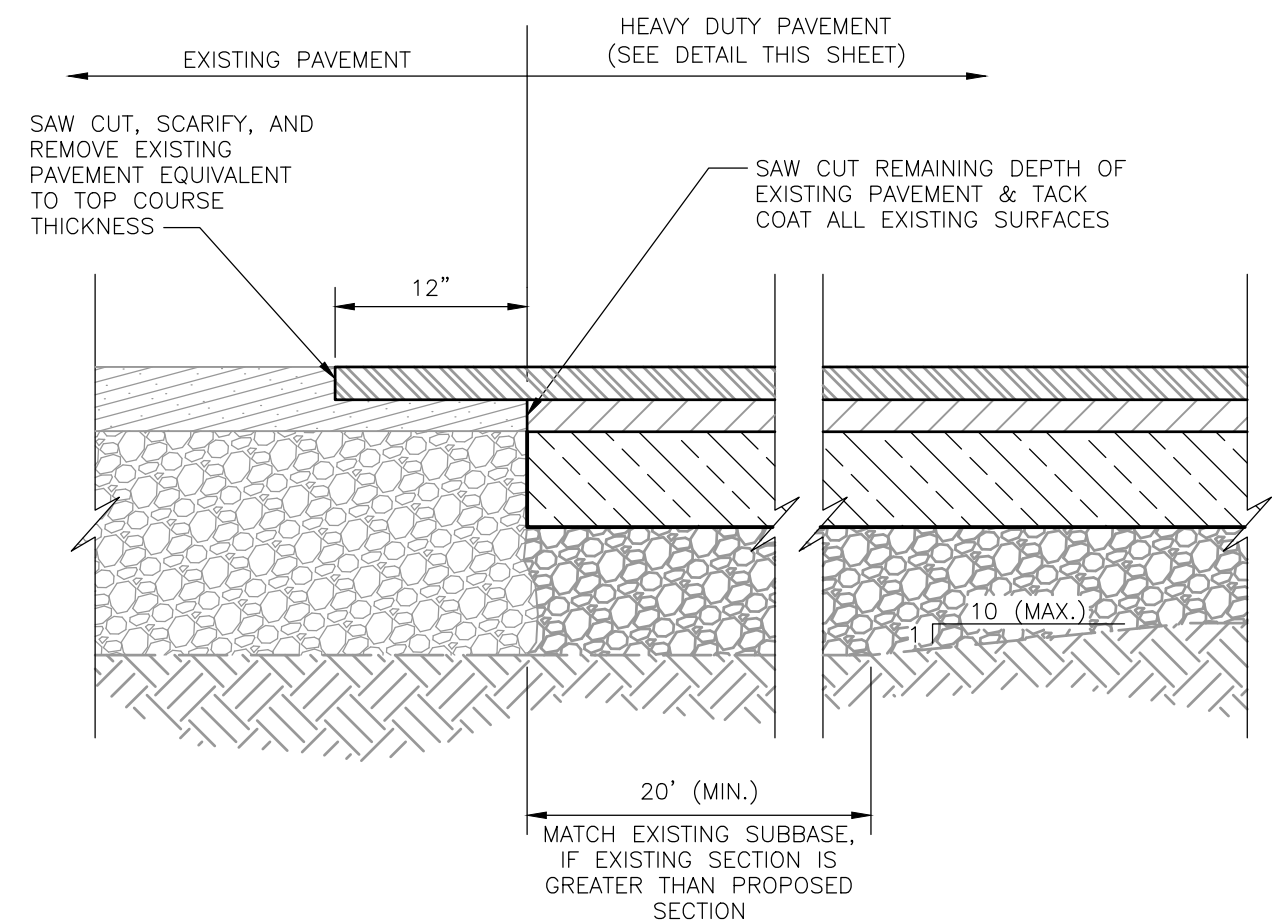
- MATERIALS AND METHODS OF CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION (NYSDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, DATED JANUARY 12, 2012, AND ALL ADDENDA THERETO; THE ONLY EXCEPTION BEING THAT THE WORK OF THIS CONTRACT SHALL BE MEASURED IN ENGLISH UNITS.
- SUBBASE MATERIAL SHALL CONFORM WITH SECTION 304 - SUBBASE COURSE OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS AND THE TYPE CALLED OUT IN THESE DRAWINGS.
- HOT MIX ASPHALT PAVEMENT SHALL CONFORM WITH SECTION 400-HOT MIX ASPHALT OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS AND THE TYPE CALLED OUT IN THESE DRAWINGS. ALTHOUGH SECTION 400 IN ITS ENTIRETY IS REFERENCED, THE HOT MIX ASPHALT PAVEMENT(S) SPECIFIED FOR THIS CONTRACT SHALL BE AS SPECIFIED UNDER SECTION 403-HOT MIX ASPHALT PAVEMENTS FOR MUNICIPALITIES.
- TACK COAT WHEN SPECIFIED OR CALLED OUT IN THESE DRAWINGS OR REQUIRED BY THE REFERENCED SPECIFICATIONS SHALL CONFORM WITH SECTION 407-TACK COAT OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.
- WHERE IT IS NECESSARY TO PLACE FILL FOR PURPOSES OF BRINGING THE SUBGRADE ELEVATION UP TO A SPECIFIED GRADE, THE FILL MATERIAL PLACED SHALL BE IN CONFORMANCE WITH SECTION 203-EXCAVATION AND EMBANKMENT OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.

HEAVY DUTY PAVEMENT

SECTION

SCALE: 1"=1'

3
13

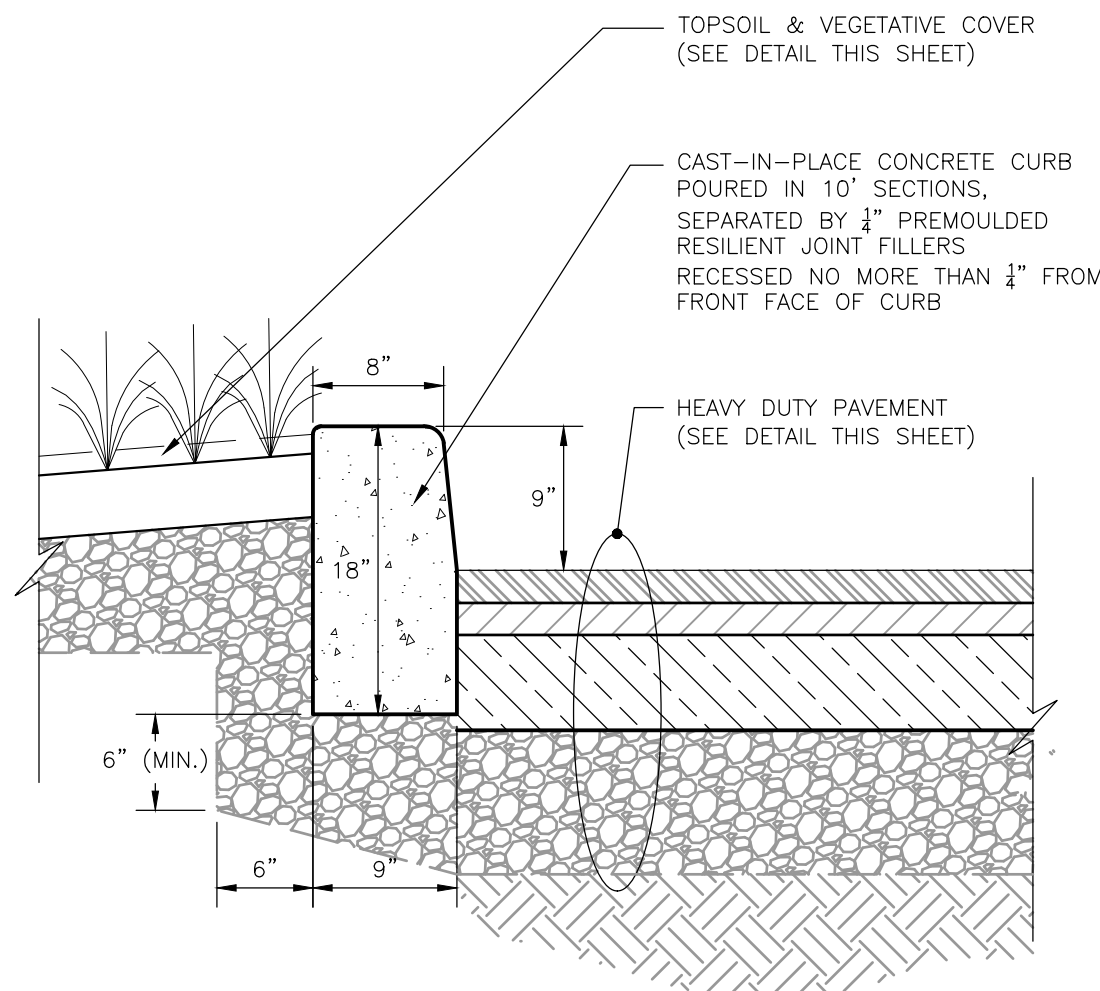


PAVEMENT TRANSITION

SECTION

SCALE: 1"=1'

5
13



NOTES:

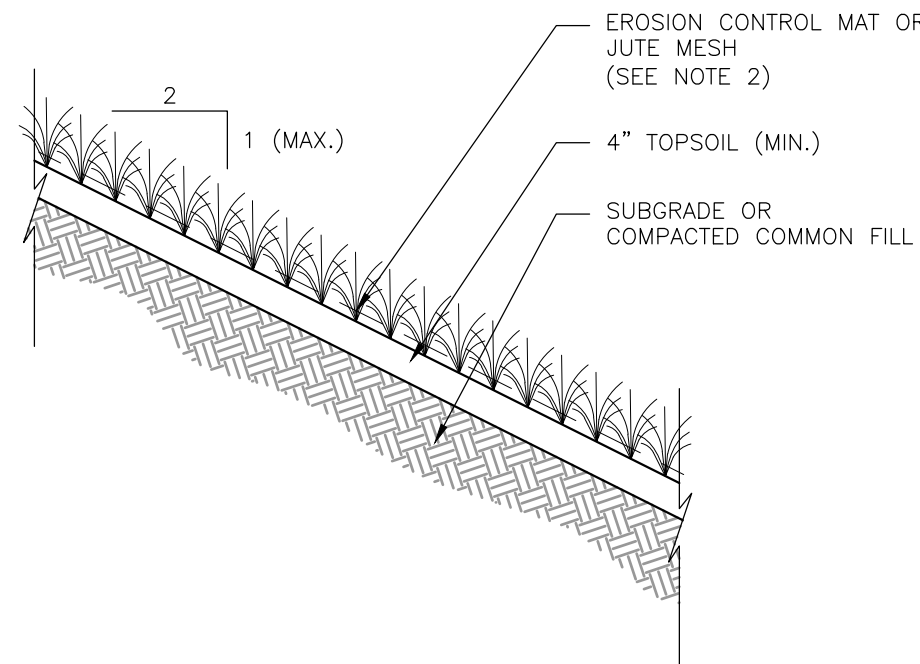
- MATERIALS AND METHODS OF CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION (NYSDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, DATED JANUARY 12, 2012, AND ALL ADDENDA THERETO; THE ONLY EXCEPTION BEING THAT THE WORK OF THIS CONTRACT SHALL BE MEASURED IN ENGLISH UNITS.
- CURB CONSTRUCTION AND MATERIALS SHALL CONFORM WITH SECTION 609 - CURB AND CURB & GUTTER OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.
- PREMOLDED RESILIENT JOINT FILLER SHALL CONFORM WITH SECTION 705-07 - PREMOLDED RESILIENT JOINT FILLER OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.
- PRECAST CONCRETE CURB MAY BE SUBSTITUTED WHEN ALTERNATE CONSTRUCTION DETAILS ARE SUBMITTED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.

TYPICAL CONCRETE CURB

DETAIL

SCALE: 1" = 1'

7
13



NOTES:

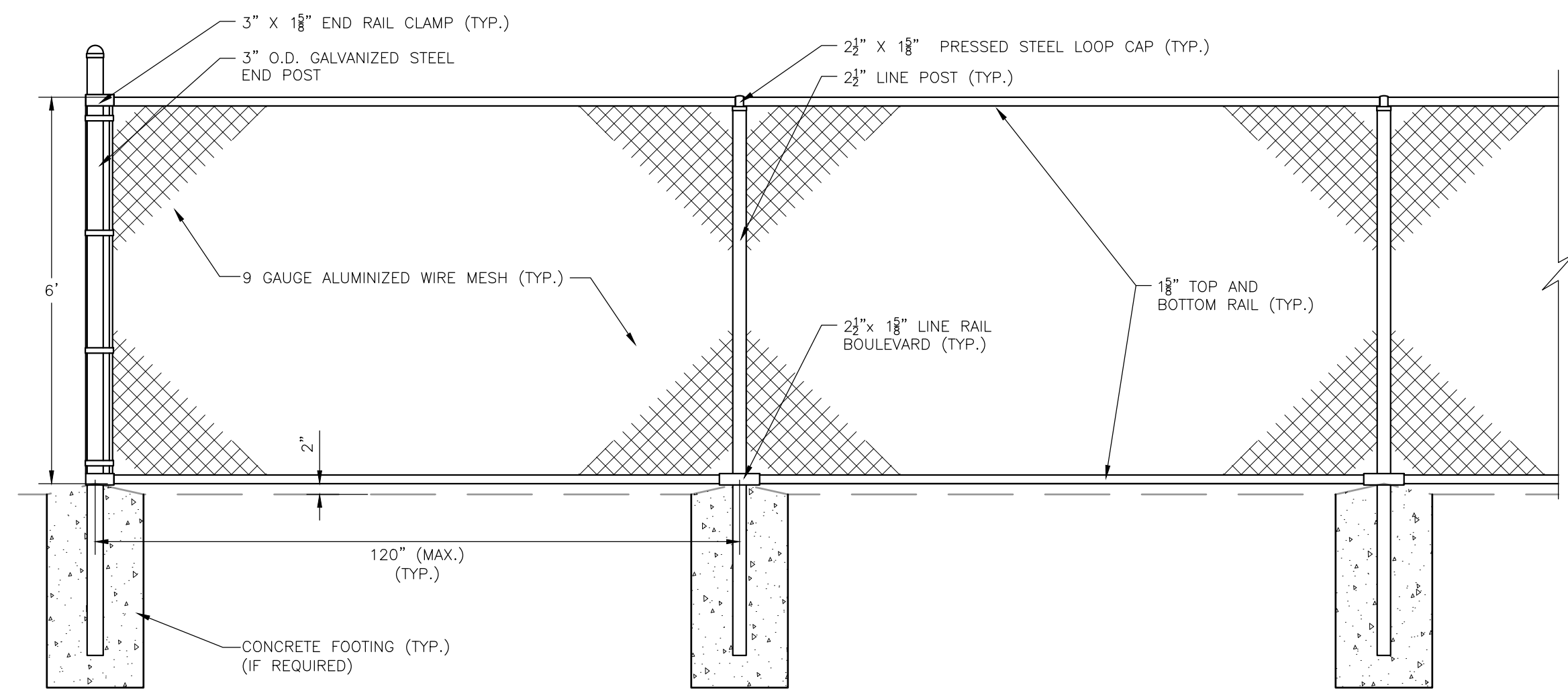
- APPLICATION OF FERTILIZER, SEED, AND MULCH TO BE APPLIED IN ACCORDANCE WITH THE SITE RESTORATION SPECIFICATION AND THE NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.
- ON SLOPES STEEPER THAN 10%, EROSION CONTROL MAT TO BE INSTALLED IN COMPLIANCE WITH NYSDOT STANDARD SPECIFICATIONS. ON SLOPES SHALLOWER THAN 10%, JUTE MESH TO BE INSTALLED IN COMPLIANCE WITH NYSDOT STANDARD SPECIFICATIONS.
- ON SLOPES STEEPER THAN 2H:1V, SOIL REINFORCING MAY BE REQUIRED.

TOPSOIL & VEGETATIVE COVER

DETAIL

SCALE: 1"=2'

8
13



CHAIN LINK FENCE

DETAIL

SCALE: 1"=2'

9
13

PERMIT USE ONLY - NOT FOR CONSTRUCTION

I.W.S. TRANSFER SYSTEMS OF N.Y., INC.
GOSHEN TRANSFER STATION
95 HARTLEY ROAD, GOSHEN, NEW YORK

PROPOSED FACILITY MODIFICATIONS
PROPOSED SITE DETAILS

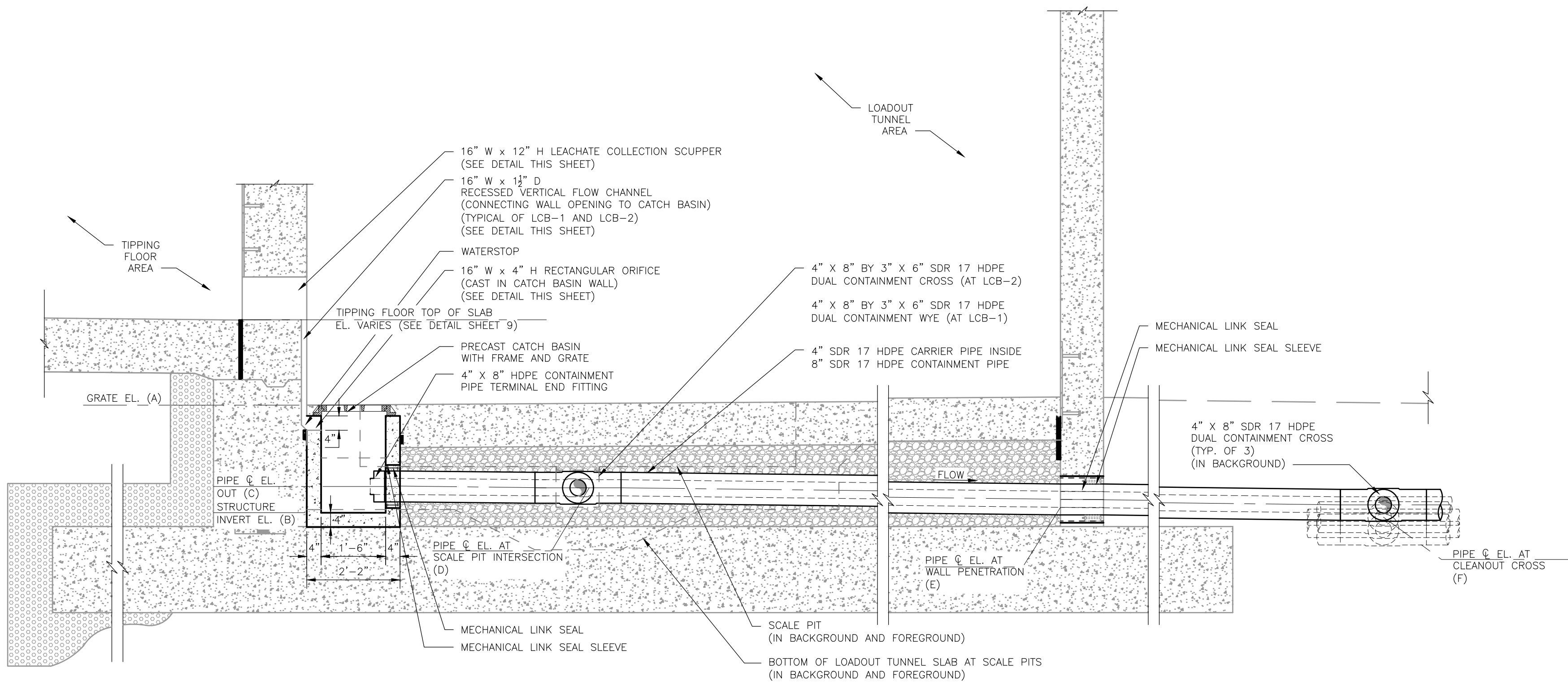
SHEET NO.
13
PROJECT NO.
4223429

KRISTEN M. THORBAHN, P.E.

N.Y.P.E. Lic. No. 067294-1 Date

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
1	MARCH 2024	DATE OF ISSUE				
2		DESIGNED BY	JLB		ACS	
3		CHECKED BY	BPF/KMT		KMT	
4		APPROVED BY				

cornerstone
PLLC
PREPARED BY:
CORNERSTONE ENGINEERING AND GEOLOGY, PLLC
ALL PROFESSIONAL ENGINEERING WORK IS PERFORMED BY DULY LICENSED PROFESSIONAL ENGINEERS UNDER THE APPROPRIATE STATE REGISTERED PROFESSIONAL ENTITY.



STRUCTURE	GRATE EL. (A)	STRUCTURE INVERT EL. (B)	PIPE Ø EL. OUT (C)	PIPE Ø EL. AT SCALE PIT INTERSECTION (D)	PIPE Ø EL. AT WALL PENETRATION (E)	PIPE Ø EL. AT CLEANOUT CROSS (F)
LCB-1	407.75	405.25	405.79	405.70	405.55	405.44
LCB-2	407.75	405.25	404.44	405.70	404.75	404.16

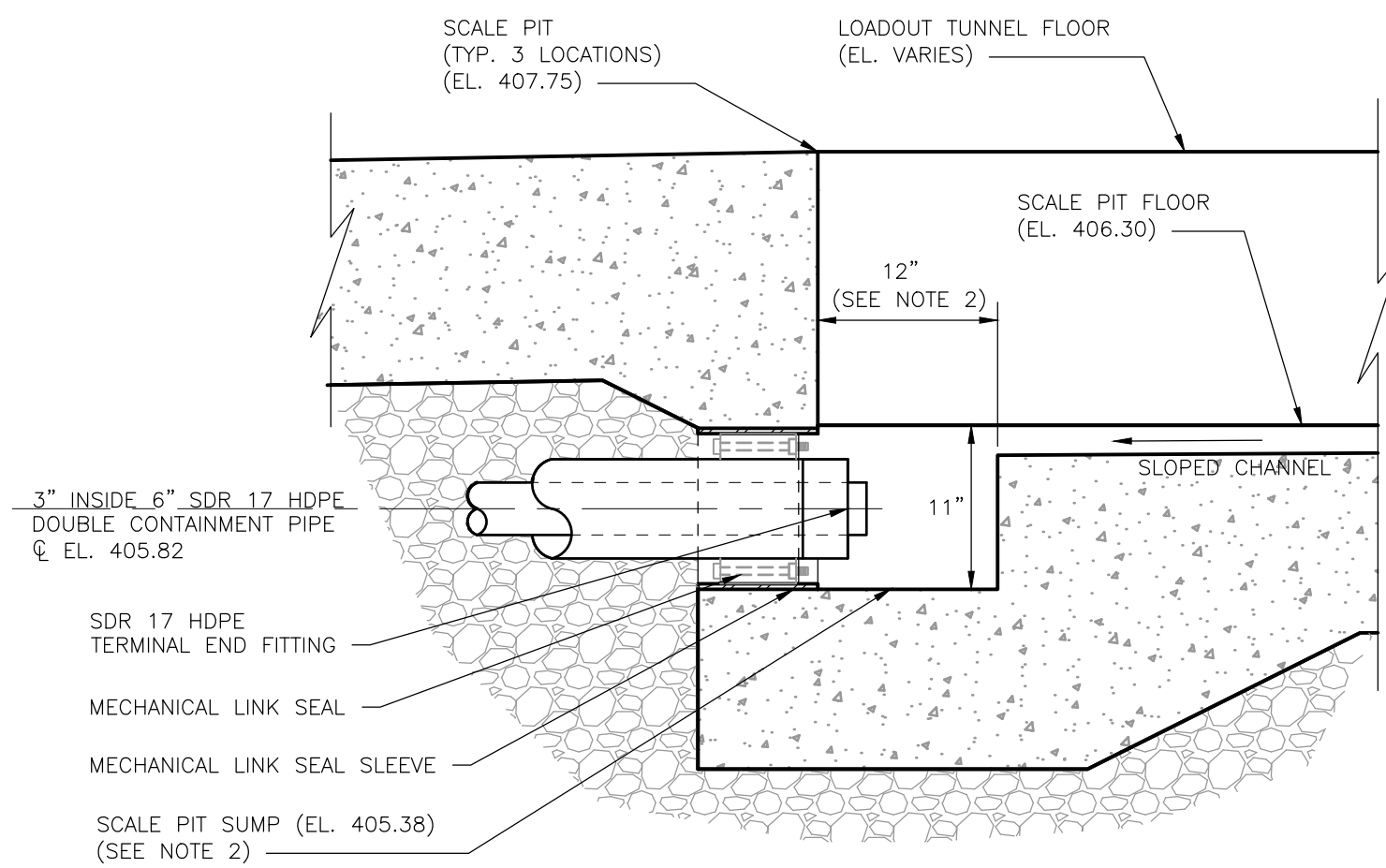
- NOTES:
- FOR FURTHER CLARITY REGARDING HORIZONTAL ALIGNMENT OF STRUCTURES AND LEACHATE PIPING, SEE DETAIL SHEET 9, "PROPOSED GENERAL ARRANGEMENT FLOOR PLAN".
 - DEPICTED CATCH BASIN IS REPRESENTATIVE OF A 18" X 18" CATCH BASIN, MEETING H20 HIGHWAY LOADING.
 - FRAME AND GRATE MODEL 18" X 18", MEETING H20 HIGHWAY LOADING.
 - THE INTERIOR OF THE CATCH BASIN WILL BE INSTALLED WITH A CORROSION RESISTANT COATING OR LINING.

LEACHATE COLLECTION & CATCH BASIN SYSTEM

SECTION

SCALE: 1"= 2'

1
14



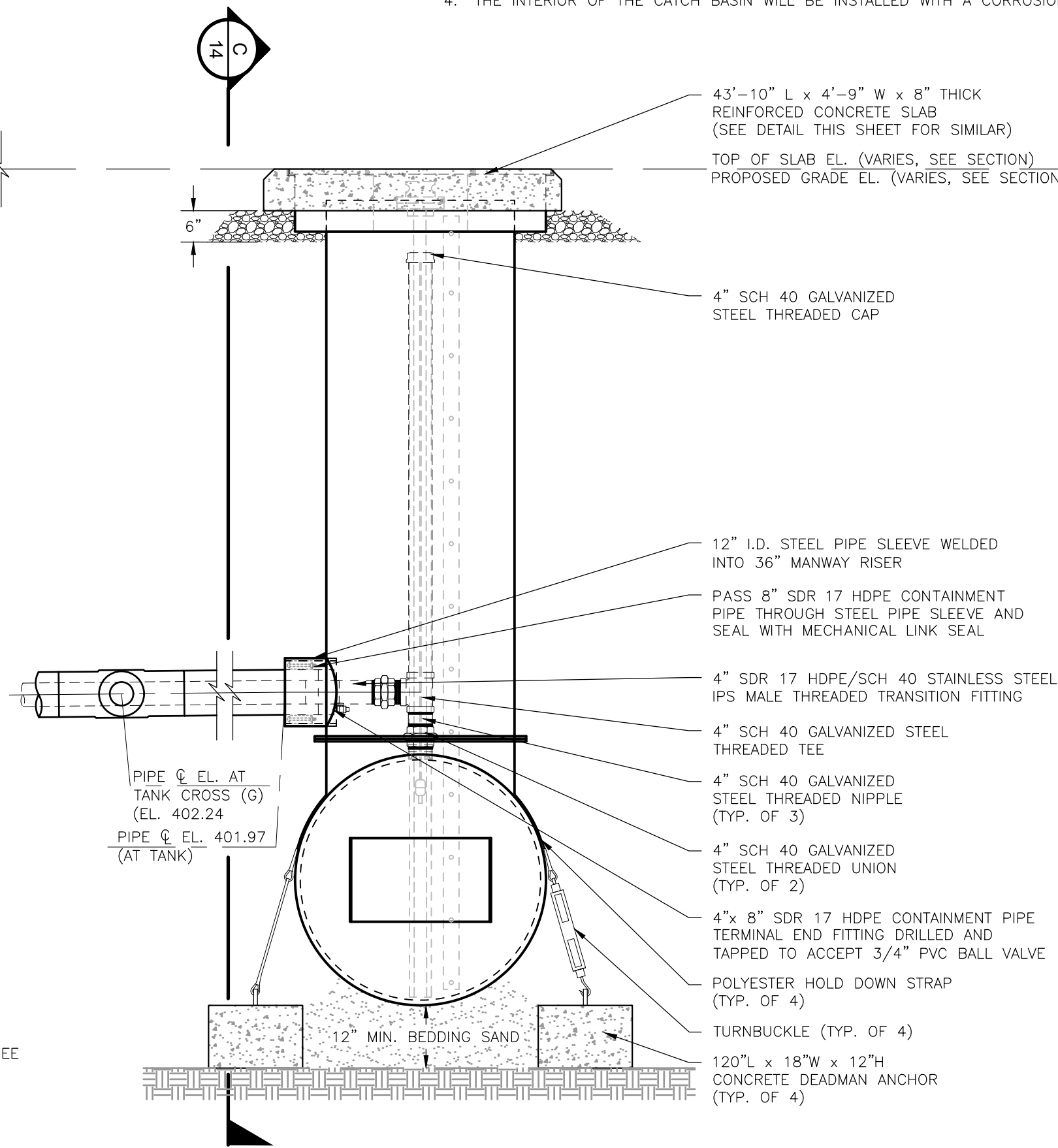
- NOTES:
- FOR FURTHER CLARITY REGARDING HORIZONTAL ALIGNMENT OF STRUCTURES AND LEACHATE CONVEYANCE PIPING, SEE DETAIL SHEET 9, "PROPOSED GENERAL ARRANGEMENT FLOOR PLAN".
 - THE SCALE PIT SUMP SHALL BE 12" WIDE AND 12" LONG (TYP.).

SCALE PIT SUMP & LEACHATE CONVEYANCE PIPE

DETAIL

SCALE: 1"= 1'

2
14

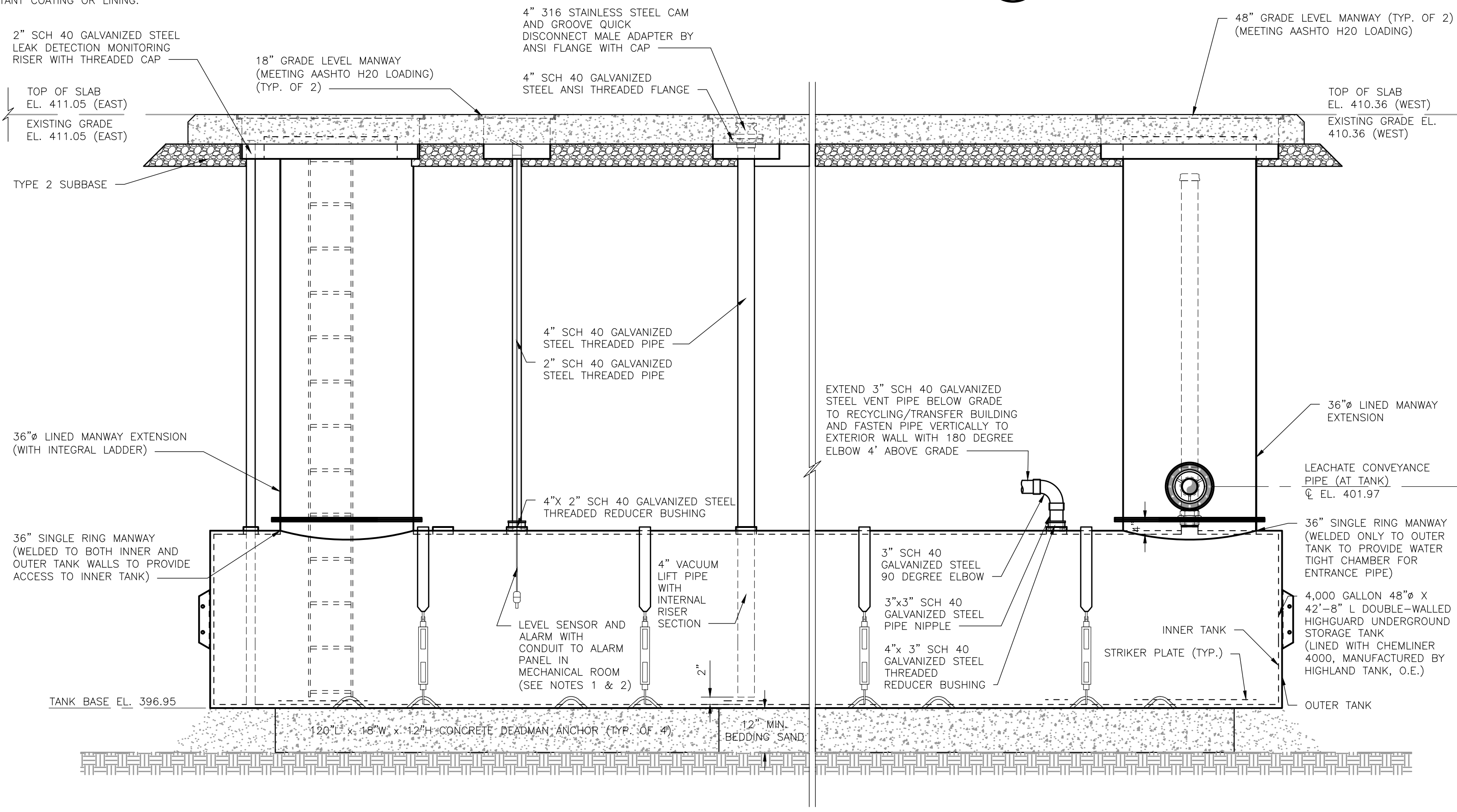


4,000 GALLON DOUBLE-WALLED UNDERGROUND LEACHATE COLLECTION TANK

SECTION

SCALE: 1"= 2'

B
14



- NOTES:
- LEVEL SENSOR TO BE SERIES HTF STANDARD TWO FLOAT SENSOR (AS MANUFACTURED BY HIGHLAND TANK, O.E.). INITIAL FLOAT TO BE INSTALLED AT AN ELEVATION TO TRIGGER A LEVEL ALARM WHEN THE LIQUID LEVEL IN THE TANK REACHES APPROXIMATELY 75% OF TANK CAPACITY BY VOLUME. SECOND FLOAT TO BE INSTALLED AT AN ELEVATION TO TRIGGER A HIGH LEVEL ALARM WHEN THE LIQUID LEVEL IN THE TANK REACHES APPROXIMATELY 90% OF TANK CAPACITY BY VOLUME.
 - LEVEL SENSOR TO BE CONNECTED TO TWO CHANNEL ALARM PANEL.
 - REINFORCED CONCRETE SLAB FOR LEACHATE STORAGE TANK TO BE REINFORCED WITH #5 BARS @ 12" O.C. EACH WAY, WITH TWO (2) ADDITIONAL #5 BARS AROUND OPENINGS.

4,000 GALLON DOUBLE-WALLED UNDERGROUND LEACHATE COLLECTION TANK

SECTION

SCALE: 1"=2'

C
14

PERMIT USE ONLY - NOT FOR CONSTRUCTION

I.W.S. TRANSFER SYSTEMS OF N.Y., INC.
GOSHEN TRANSFER STATION
95 HARTLEY ROAD, GOSHEN, NEW YORK

PROPOSED FACILITY MODIFICATIONS PROPOSED LEACHATE MANAGEMENT DETAILS

SHEET NO.
14
PROJECT NO.
4223429

KRISTEN M. THORBAKE, P.E.
N.Y.P.E. Lic. No. 067294-1 Date

REV	DATE	DESCRIPTION	OWN BY	DES BY	CHK BY	APP BY
1	MARCH 2024	DATE OF ISSUE	DESIGNED BY	JLB	ACS	KMT
2			CHECKED BY			
3			APPROVED BY			

cornerstone
PLLC
PREPARED BY:
CORNERSTONE ENGINEERING AND GEOLOGY, PLLC
ALL PROFESSIONAL ENGINEERING WORK IS PERFORMED BY DULY LICENSED PROFESSIONAL ENGINEERS UNDER THE APPROPRIATE STATE REGISTERED PROFESSIONAL ENTITY.



1. ALL PIPING ABOVE THE FROST DEPTH ELEVATION TO BE HEAT TRACED AND INSULATED.

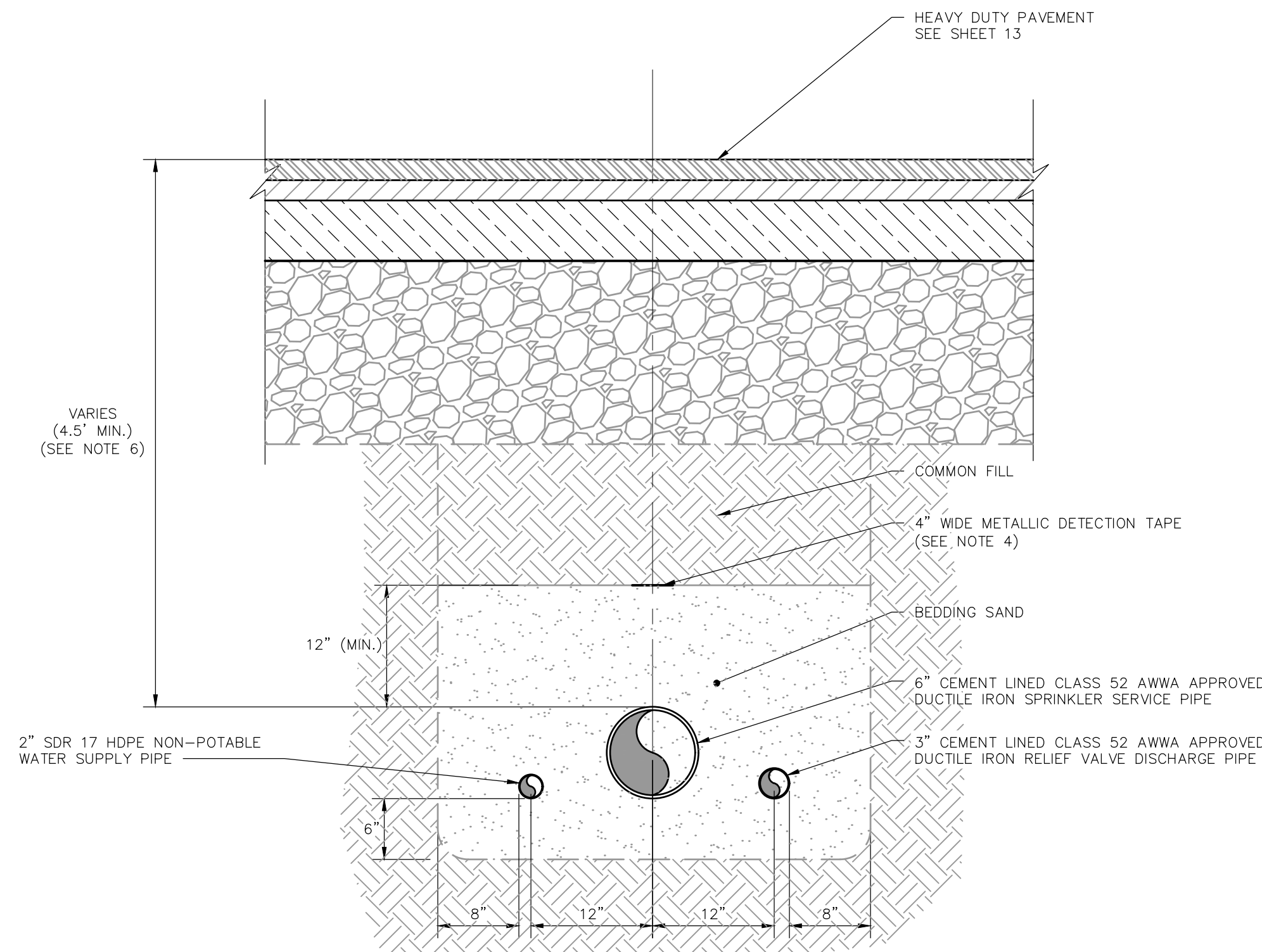
**ABOVE GROUND
WATER STORAGE & SUPPLY TANK**

DETAIL

SCALE: 1" = 4'

Unauthorized alteration or addition to this plan bearing a licensed professional's seal is violation of Section 7209, Sub-Division 2, of the New York Education Law. Only copies from the original of this plan marked with an original professional's seal shall be considered to be valid true copies.

This drawing represents intellectual property of Cornerstone. Any modification to the original by other than Cornerstone personnel violates its original purpose and as such is rendered void. Cornerstone will not be held liable for any changes made to this document without express written consent of the originator.



NOTES:

1. BEDDING SAND BE SHALL BE FREE OF ANY SHARP OBJECTS WHICH COULD PUNCTURE OR OTHERWISE CAUSE DAMAGE TO THE STRUCTURES/EQUIPMENT REQUIRING ITS SUPPORT. IT SHALL BE CLEAN SAND WITH SUBANGULAR OR SUBROUND GRAINS, AND A MAXIMUM PARTICLE SIZE OF 3/4". THE SOIL SHALL BE ACCEPTABLE TO THE ENGINEER PRIOR TO PLACEMENT AND SHALL MEET THE FOLLOWING GRADATION REQUIREMENTS:

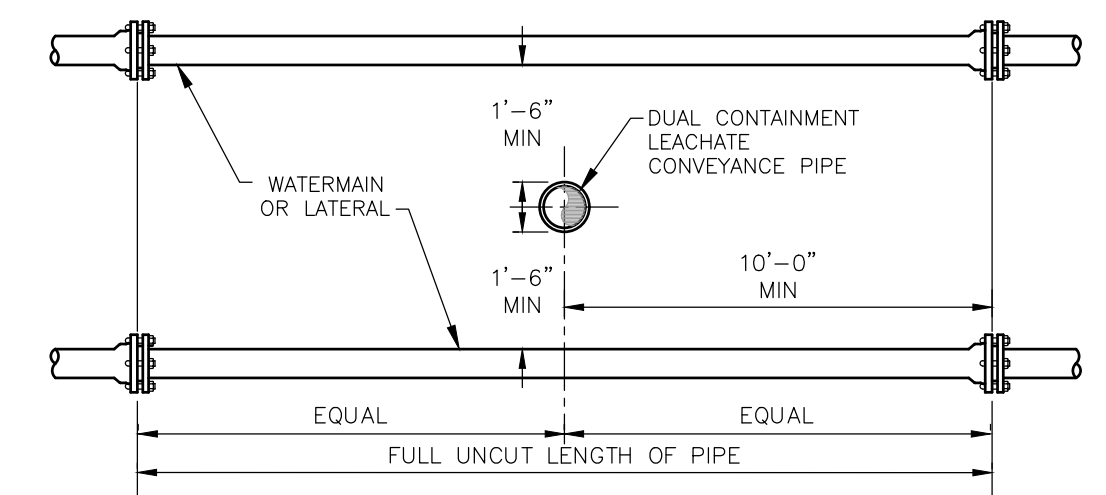
<u>SIEVE DESIGNATION</u>	<u>% PASSING</u>
3/4"	100%
NO. 40	0-70%
NO. 200	0-10%

2. COMMON FILL SHALL BE NATURAL RUN-OF-BANK (R.O.B.) OR EXCAVATED ON-SITE MATERIAL FREE OF SOFT, NONDURABLE PARTICLES, ORGANIC MATERIALS, AND ELONGATED PARTICLES, AND SHALL BE WELL GRADED FROM COARSE TO FINE PARTICLES HAVING NO PARTICLES WITH A DIMENSION IN EXCESS OF SIX INCHES (6"), LESS THAN 50% QUANTITY BY WEIGHT PASSING THE NO. 200 SIEVE, AND LESS THAN 10% BY WEIGHT SMALLER THAN 0.002 MILLIMETERS (CLAY). COMMON FILL GRADATIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT.
3. CARE SHALL BE TAKEN TO ENSURE THAT FILL IS MADE COMPACT AND TIGHT FROM 6" BELOW THE BOTTOM OF THE PIPE TO A MINIMUM HEIGHT OF 72" TO 78" ABOVE CENTER DIAMETER. THIS INITIAL BEDDING AND BACKFILL SHALL BE MADE IN 6" MAXIMUM LIFTS AND COMPACTED USING HAND OPERATED EQUIPMENT.
4. INSTALL CONTINUOUS 4" WIDE METALLIC DETECTION TAPE DURING BACKFILLING OF TRENCH. LOCATE TAPE 12" ABOVE PROPOSED PIPE OR DIRECTLY BELOW PAVEMENT.
5. TRENCHING SHALL BE IMPLEMENTED IN ACCORDANCE WITH O.S.H.A. STANDARDS.
6. THE MINIMUM DEPTH TO THE TOP OF PIPE MAY BE REDUCED THROUGH THE USE OF APPROPRIATE INSULATION, SHOULD THIS ALTERATION BE APPROVED BY THE GEOTECHNICAL CONTRACTOR. THE GEOTECHNICAL CONTRACTOR SHALL SUBMIT DETAILED PROPOSED PROTECTION AND DESIGN JUSTIFICATION, WITH DEMONSTRATION OF CONFORMANCE WITH ALL APPLICABLE CODE REQUIREMENTS, FOR REVIEW AND APPROVAL BY THE ENGINEER.

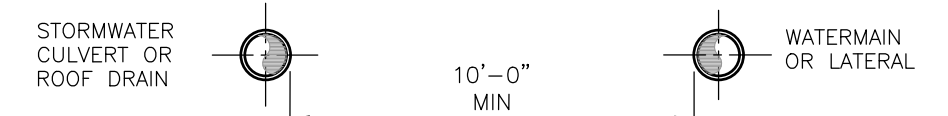
WATER SERVICE PIPING TRENCH & BEDDING

DETAIL

SCALE: NOT TO SCALE



VERTICAL SEPARATION



HORIZONTAL SEPARATION

NOTE:

1. NO DEVIATION IN THE SEPARATION REQUIREMENTS WILL BE PERMITTED WITHOUT THE EXPRESS APPROVAL OF THE ORANGE COUNTY DEPARTMENT OF HEALTH. CONCRETE ENCASEMENT OF WATER SERVICE PIPING OR OFFSETTING OF WATER SERVICE PIPING MAY BE REQUIRED WHERE SEPARATION DISTANCES CANNOT BE MAINTAINED.

WATER SERVICE & LEACHATE PIPING SEPARATION

DETAIL

SCALE: NOT TO SCALE

3

15

PERMIT USE ONLY - NOT FOR CONSTRUCTION

I.W.S. TRANSFER SYSTEMS OF N.Y., INC.
GOSHEN TRANSFER STATION
95 HARTLEY ROAD, GOSHEN, NEW YORK

PROPOSED FACILITY MODIFICATIONS

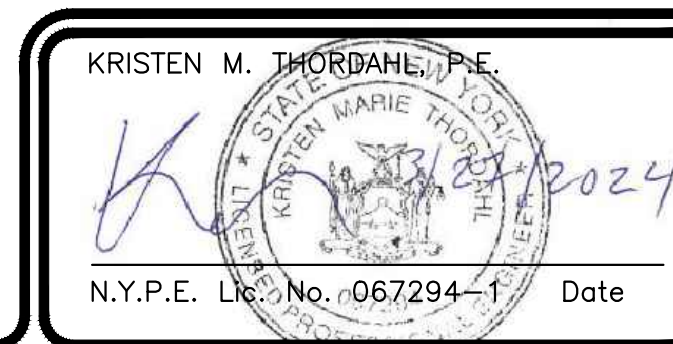
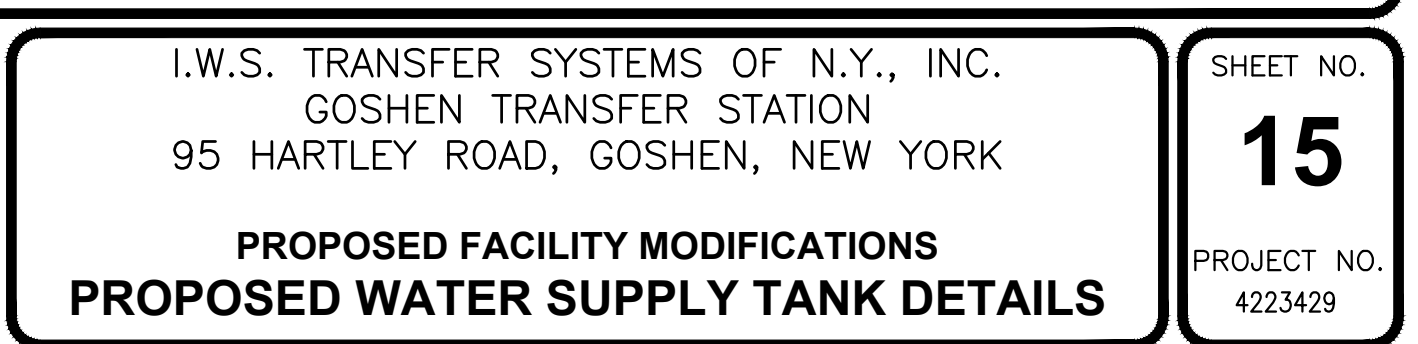
PROPOSED WATER SUPPLY TANK DETAILS

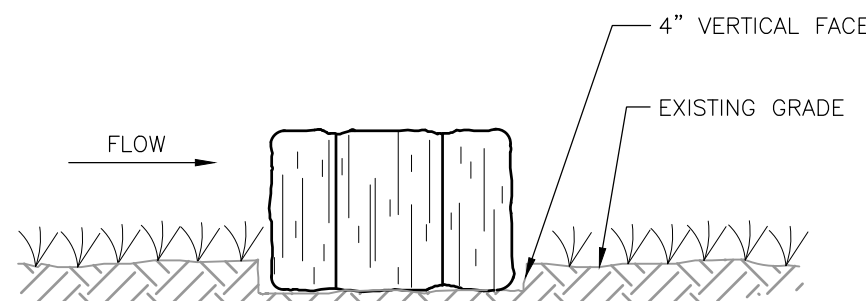
SHEET NO.

15

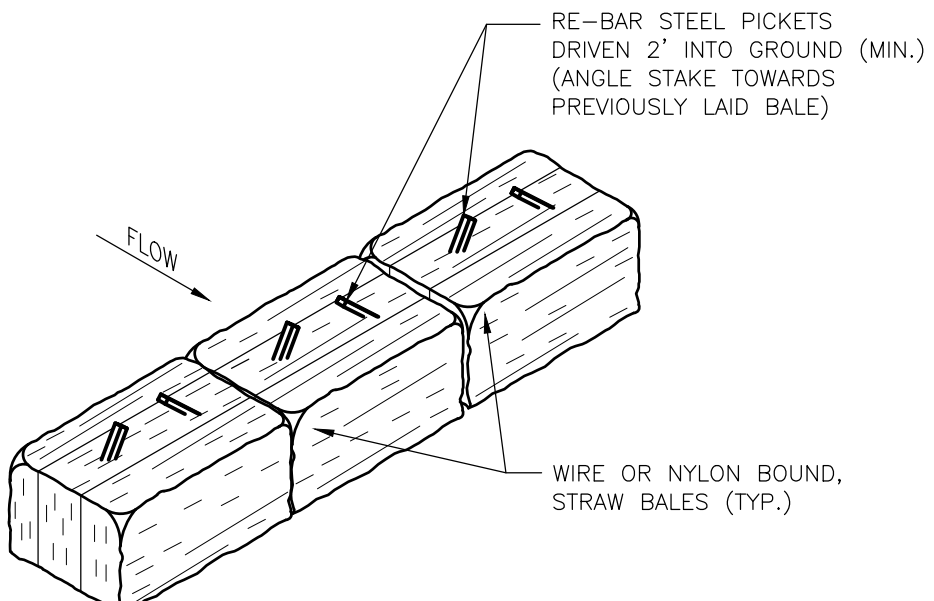
PROJECT NO.

23429

[illegible]



EMBEDDING VIEW



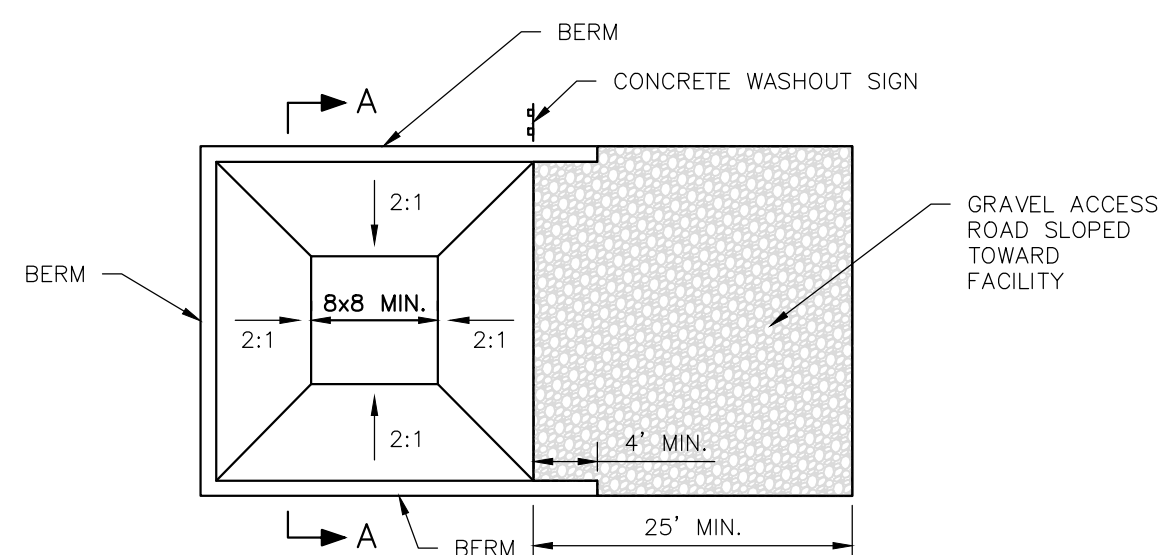
ISOMETRIC VIEW

STRAW BALE

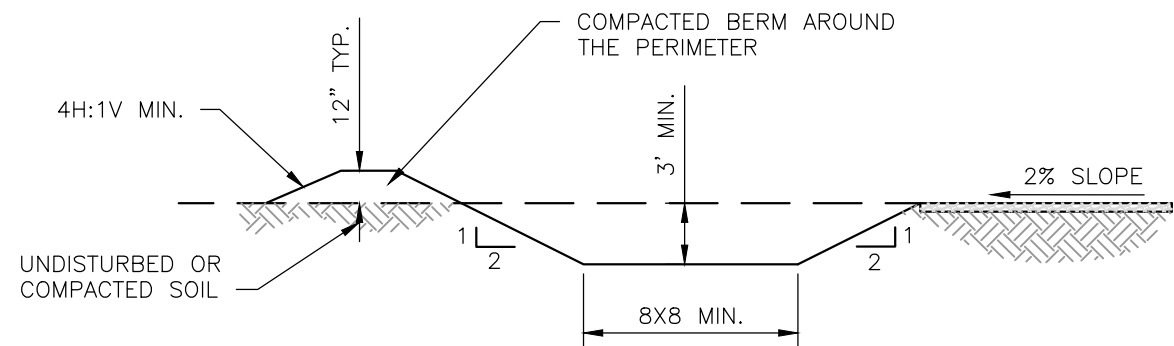
DETAIL

SCALE: N.T.S.

1
16



PLAN



SECTION "A"

NOTES:

1. LOCATE THE FACILITY A MINIMUM OF 100 FEET FROM DRAINAGE SWALES, STORM DRAIN INLETS, WETLANDS, STREAMS AND OTHER SURFACE WATER.
2. PREVENT SURFACE WATER FROM ENTERING THE STRUCTURE EXCEPT FOR THE ACCESS ROAD.
3. PROVIDE A GRAVEL ACCESS ROAD TO FACILITY THAT IS SLOPED DOWN TO FACILITY.
4. SIGNS SHALL BE PLACED TO DIRECT DRIVERS TO THE FACILITY AFTER THEIR LOAD IS DISCHARGED.
5. ALL WASHOUT FACILITIES SHALL BE LINED TO PREVENT LEACHING OF LIQUIDS INTO THE GROUND. THE LINER SHALL BE PLASTIC SHEETING HAVING A MINIMUM THICKNESS OF 10 MILS WITH NO HOLES OR TEARS, AND ANCHORED BEYOND THE TOP OF THE PIT WITH AN EARTHEN BERM, SAND BAGS, STONE, OR OTHER STRUCTURAL APPURTENANCES EXCEPT AT THE ACCESS POINT.
6. PREFABRICATED WASHOUT FACILITIES CAN BE USED BUT THEY MUST CAPTURE AND CONTAIN CONCRETE WASH AND BE SIMILARLY SIZED AS SHOWN ABOVE AND LOCATED AS NOTED ABOVE.
7. WASH WATER IS ESTIMATED TO BE 7 GALLONS PER CHUTE AND 50 GALLONS PER HOPPER OF A PUMP TRUCK AND/OR DISCHARGING DRUM.

MAINTENANCE:

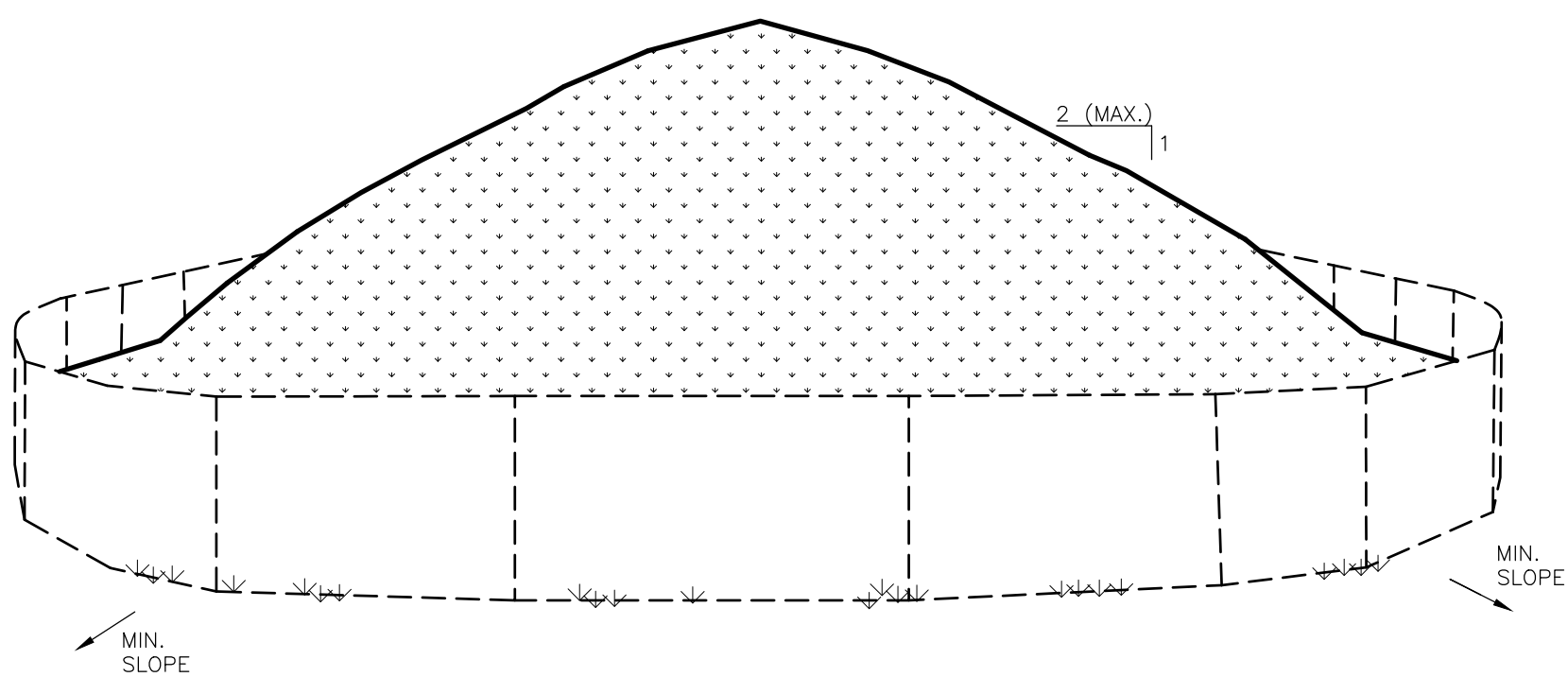
1. CONCRETE WASHOUT FACILITIES SHALL BE INSPECTED DAILY.
2. DAMAGED OR LEAKING FACILITIES SHALL BE DEACTIVATED AND REPAIRED OR REPLACED IMMEDIATELY.
3. EXCESS ACCUMULATED RAINWATER OVER HARDENED CONCRETE SHALL BE PUMPED TO A STABILIZED AREA, SUCH AS A GRASS FILTER STRIP.
4. ACCUMULATED HARDENED MATERIAL SHALL BE REMOVED WHEN 75% OF THE STORAGE CAPACITY OF THE FACILITY IS FILLED. ANY EXCESS WASH WATER SHALL BE PUMPED INTO A CONTAINMENT VESSEL AND PROPERLY DISPOSED OF OFF-SITE AT A PERMITTED C&D LANDFILL. NO ONSITE DISPOSAL WILL BE ALLOWED.
5. THE PLASTIC LINER SHALL BE REPLACED WITH EACH CLEANING OF THE FACILITY.
6. INSPECT PROJECT SITE FREQUENTLY TO ENSURE THAT NO CONCRETE DISCHARGES ARE TAKING PLACE IN NON-DESIGNATED AREAS.

CONCRETE DELIVERY TRUCK WASHOUT AREA

DETAIL

SCALE: N.T.S.

3
16



NOTES:

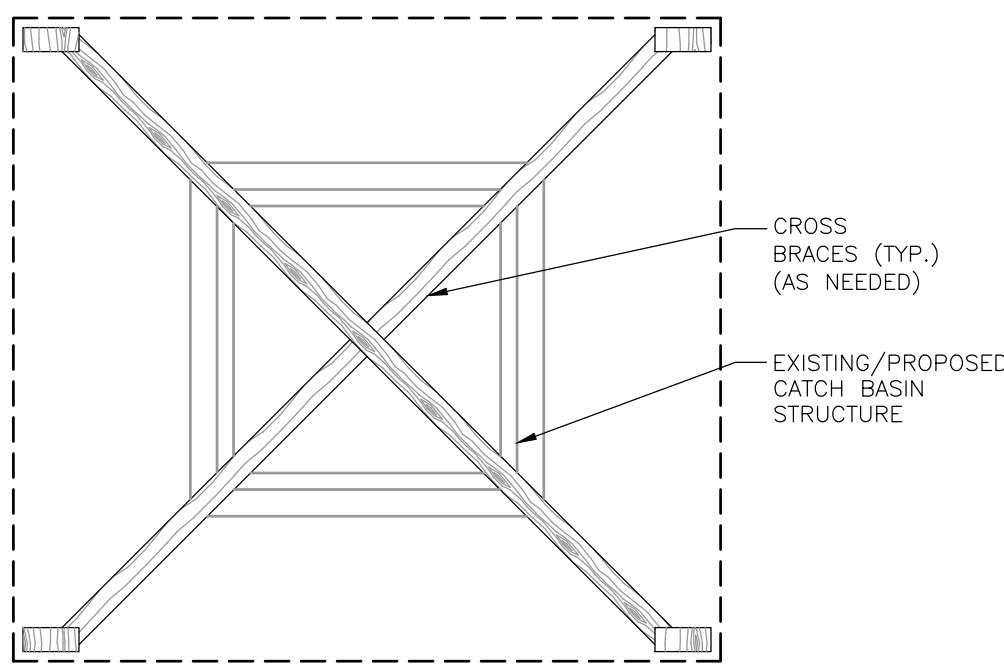
1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 2H:1V.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH SILT FENCING, THEN STABILIZED WITH VEGETATION OR COVERED SHOULD THE STOCKPILE REMAIN FOR MORE THAN FOURTEEN (14) DAYS.
4. PLACEMENT OF THE SURROUNDING SILT FENCE SHALL BE IN ACCORDANCE WITH THE SILT FENCE DETAIL.
5. STOCKPILE HEIGHT SHOULD NOT EXCEED TWENTY (20) FEET.

TEMPORARY SOIL STOCKPILE

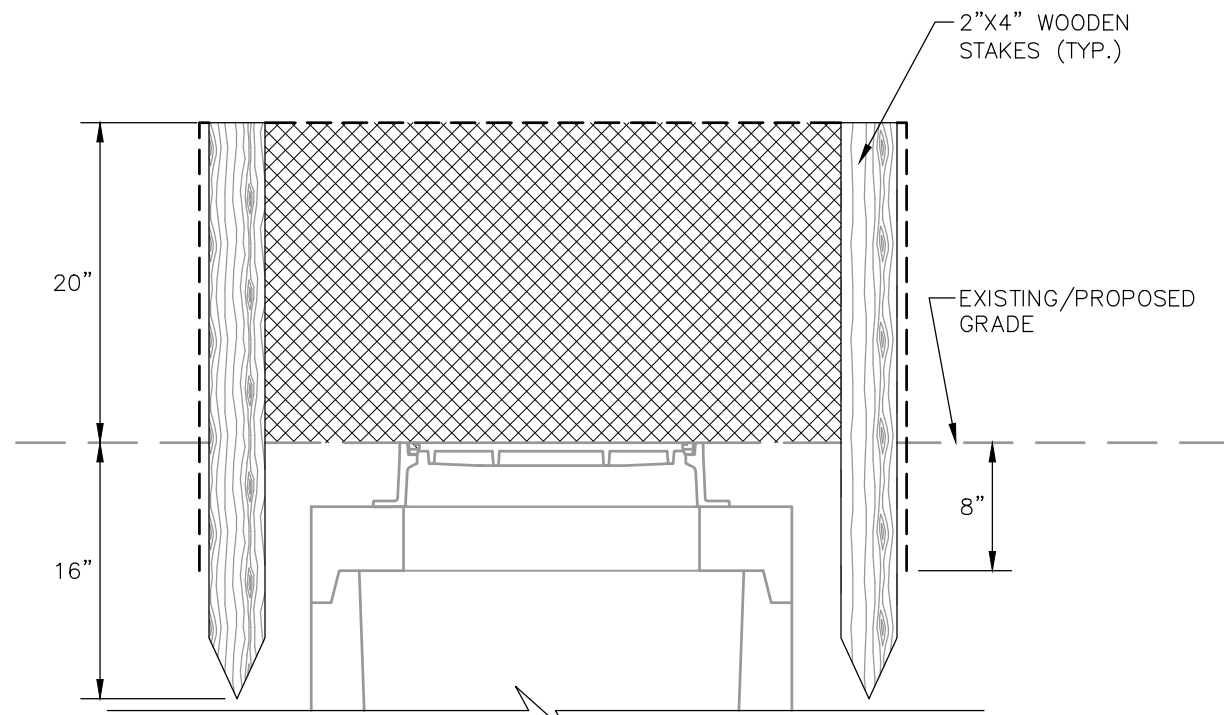
DETAIL

SCALE: N.T.S.

2
16



PLAN VIEW



SIDE VIEW

NOTES:

1. CUT FABRIC FROM CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED, OVERLAP TO THE NEXT STAKE.
2. STAKE MATERIALS WILL BE STANDARD 2"x4" WOOD OR EQUIVALENT, WITH A MINIMUM LENGTH OF 3 FEET.
3. SPACE STAKES EVENLY AROUND INLET 3 FEET APART AND DRIVE MINIMUM 16" DEEP. SPANS GREATER THAN 3 FEET MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND FABRIC FOR SUPPORT.
4. FABRIC SHALL BE EMBEDDED 8" MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
5. A 2"x4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVERFLOW STABILITY.
6. INLET PROTECTION SHALL REMAIN IN-PLACE UNTIL SITE HAS BEEN STABILIZED.

DANDY SACK INLET PROTECTION

DETAIL

SCALE: N.T.S.

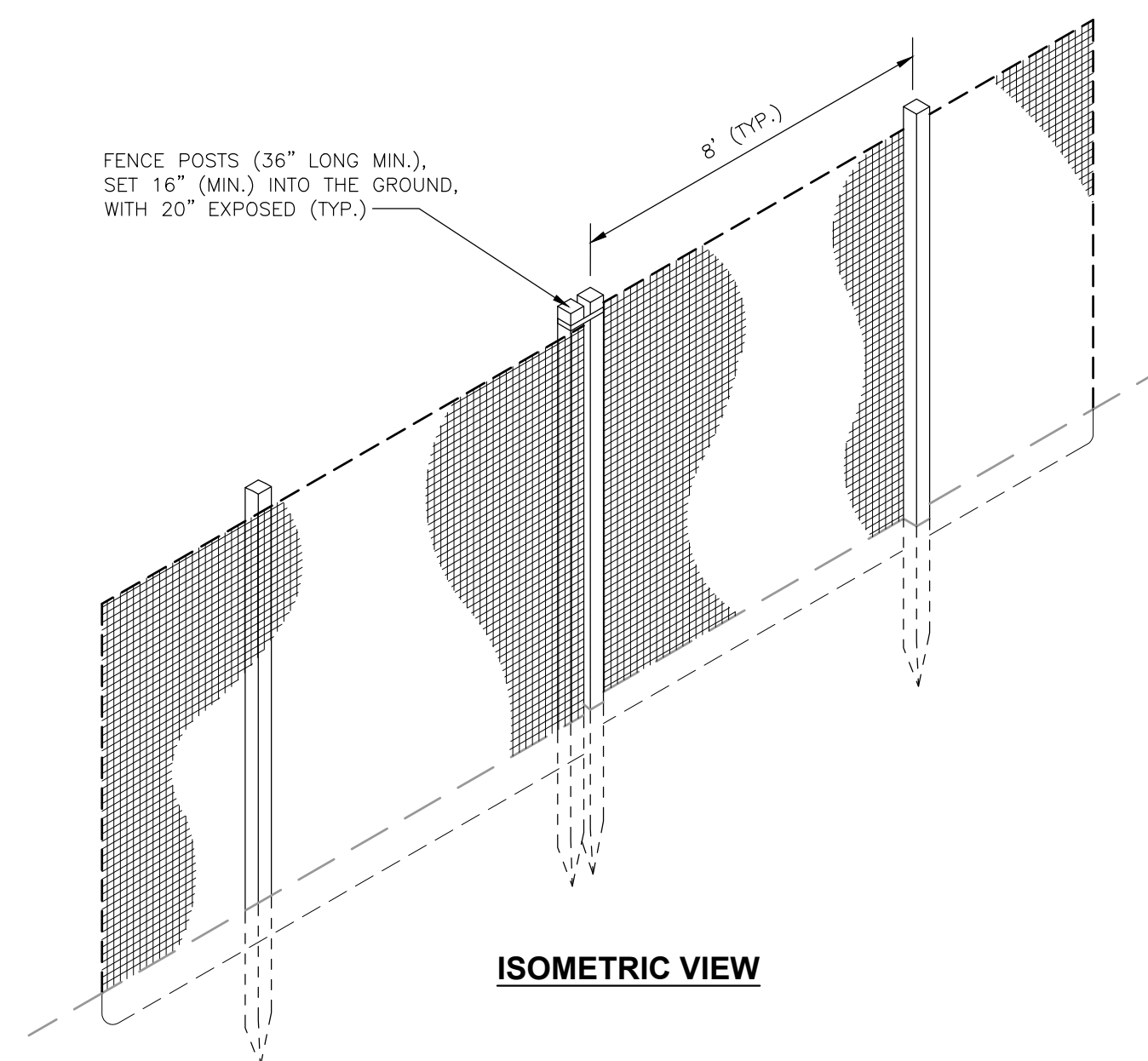
4
16

CATCH BASIN INLET PROTECTION

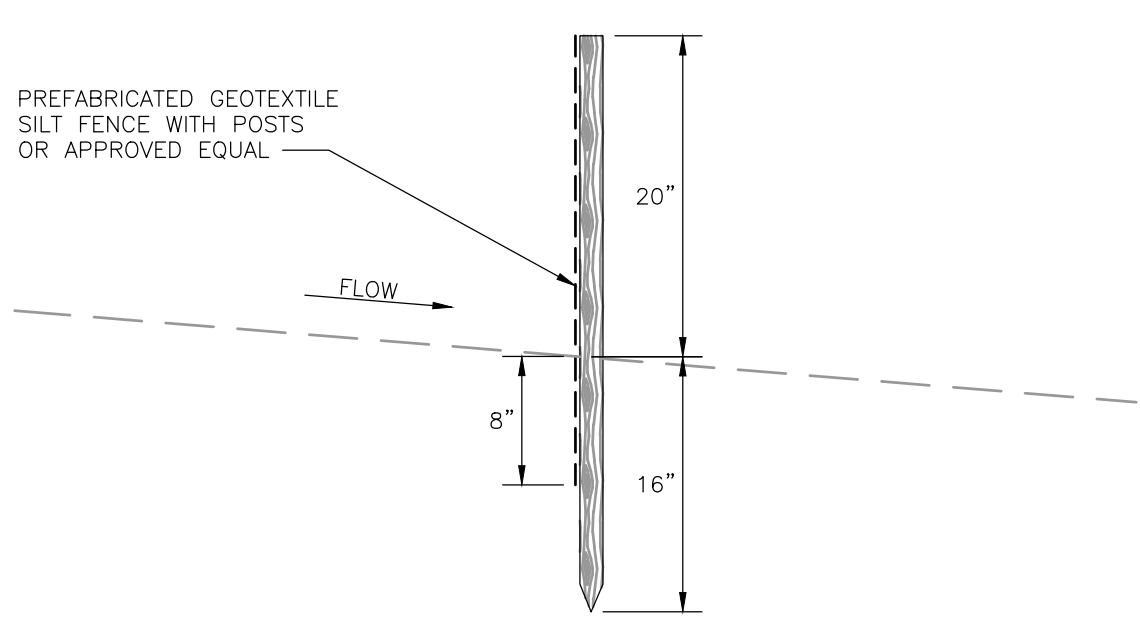
DETAIL

SCALE: 1"=1'

5
16



ISOMETRIC VIEW



SECTION VIEW

NOTES:

1. DUE TO THE DENSE COMPACTION AND PHYSICAL COMPOSITION OF THE IN-SITU SOILS THE CONTRACTOR MAY BE REQUIRED TO UTILIZE ALTERNATE MATERIALS FOR USE AS FENCE POSTS OR PRE-DRILL EMBEDMENT CORES TO ENSURE SATISFACTORY INSTALLATION AND PERFORMANCE OF THE SILT FENCE.
2. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
3. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 12" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE.
4. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 6" AND FOLDED. FILTER CLOTH SHALL BE TENAX 700 OR APPROVED EQUAL.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIALS REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
6. MAXIMUM DRAINAGE AREA FOR OVERLAND FLOW TO A SILT FENCE SHALL NOT EXCEED 1/4 ACRE PER 100 FEET OF FENCE.
7. SILT FENCE SHALL BE USED WHERE EROSION COULD OCCUR IN THE FORM OF SHEET EROSION.
8. SILT FENCE SHALL NOT BE USED WHEN A CONCENTRATION OF WATER IS FLOWING TO THE BARRIER.
9. MAXIMUM ALLOWABLE SLOPE LENGTHS CONTRIBUTING RUN-OFF TO A SILT FENCE ARE:

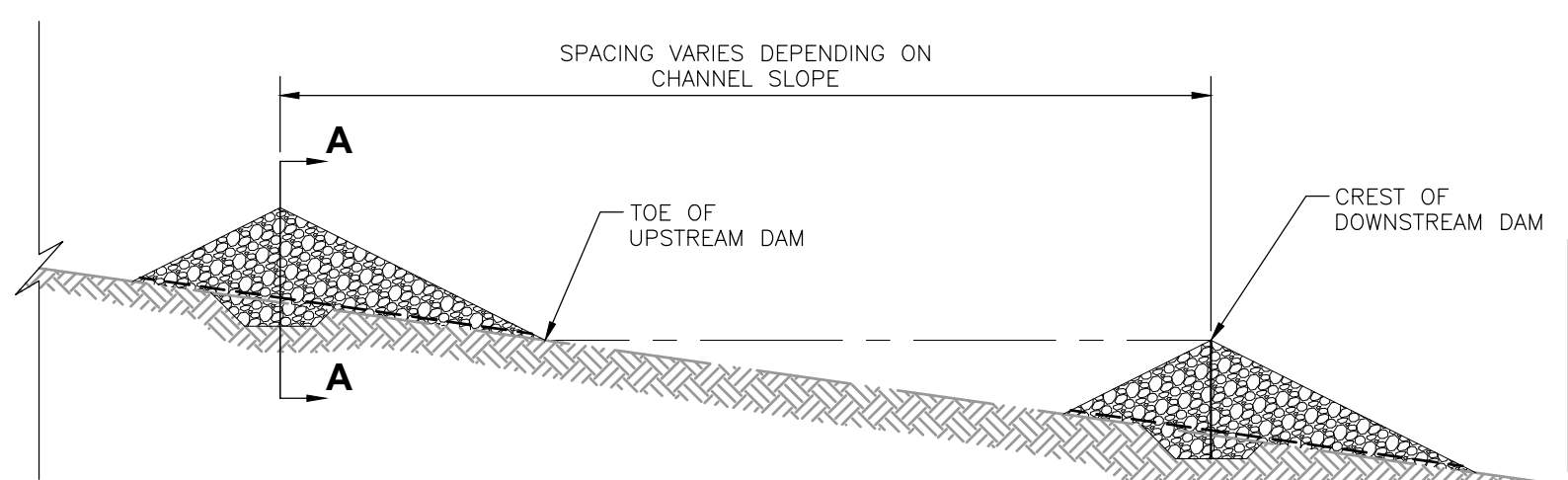
SLOPE STEEPNESS	MAXIMUM SLOPE LENGTH(FT)
2:1	25
3:1	50
4:1	75
5:1 OR FLATTER	100

REINFORCED SILT FENCE

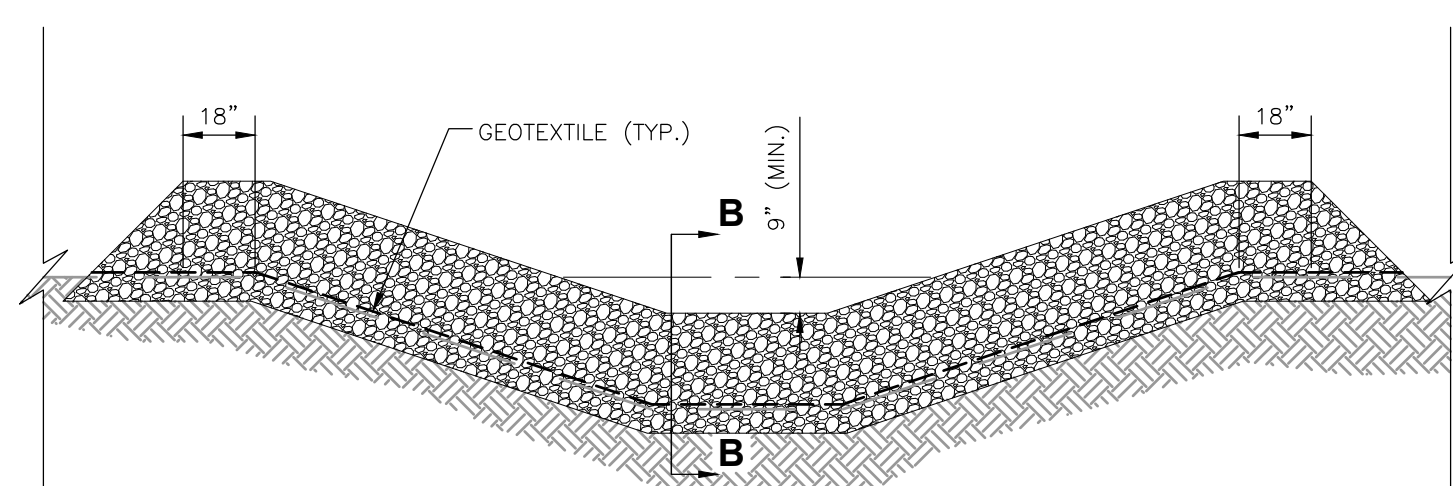
DETAIL

SCALE: N.T.S.

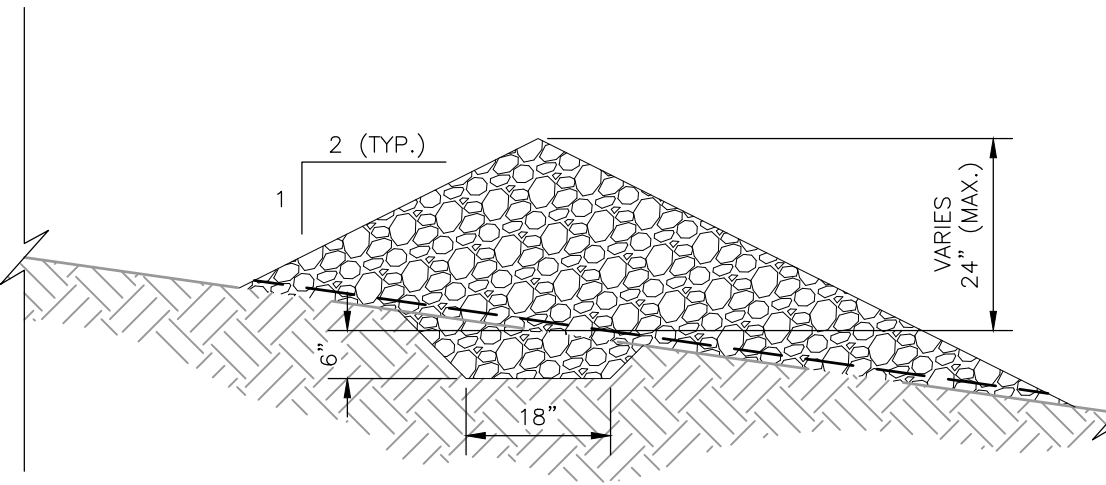
6
16



PROFILE



SECTION A-A



SECTION B-B

NOTES:

1. PLACEMENT OF STONE CHECK DAMS WILL BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION.
2. STONE SHALL BE PLACED ON A GEOTEXTILE FOUNDATION TO THE LINES, GRADES AND LOCATIONS SHOWN ON THE PLAN AND/OR DETERMINED BY THE ENGINEER DURING CONSTRUCTION.
3. SET SPACING OF CHECK DAMS SUCH THAT THE ELEVATIONS OF THE CREST OF THE DOWNSTREAM DAM ARE AT THE SAME ELEVATION OF THE TOE OF THE UPSTREAM DAM.
4. EXTEND THE STONE A MINIMUM OF EIGHTEEN INCHES (18") BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
5. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR EROSION CONTROL MAT AS APPROPRIATE.
6. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAM ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.
7. MAXIMUM DRAINAGE AREA IS TWO ACRES (2 AC).

STONE CHECK DAM

DETAIL

SCALE: N.T.S.

7
16

PERMIT USE ONLY - NOT FOR CONSTRUCTION

I.W.S. TRANSFER SYSTEMS OF N.Y., INC.
GOSHEN TRANSFER STATION
95 HARTLEY ROAD, GOSHEN, NEW YORK

PROPOSED FACILITY MODIFICATIONS
PROPOSED EROSION & SEDIMENT CONTROL DETAILS

SHEET NO.

16

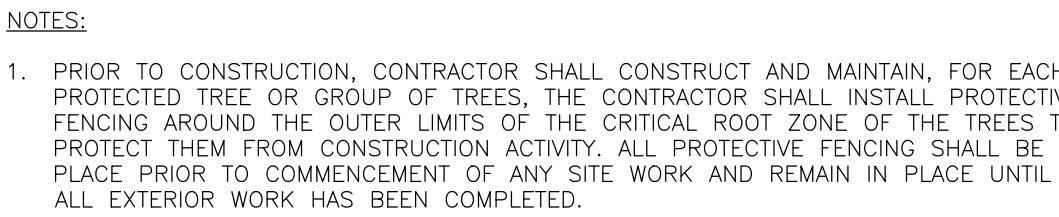
PROJECT NO.
4223429

BODHI A. PIEDMONT-LEISCHMANN, P.E.

N.Y.P.E. Lic. No. 099699 Date

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
1	MARCH 2024	DATE OF ISSUE				
2		DRAWN BY	JLB		ACS	
3		DESIGNED BY	BPF/KMT		KMT	
4		CHECKED BY				
5		APPROVED BY				

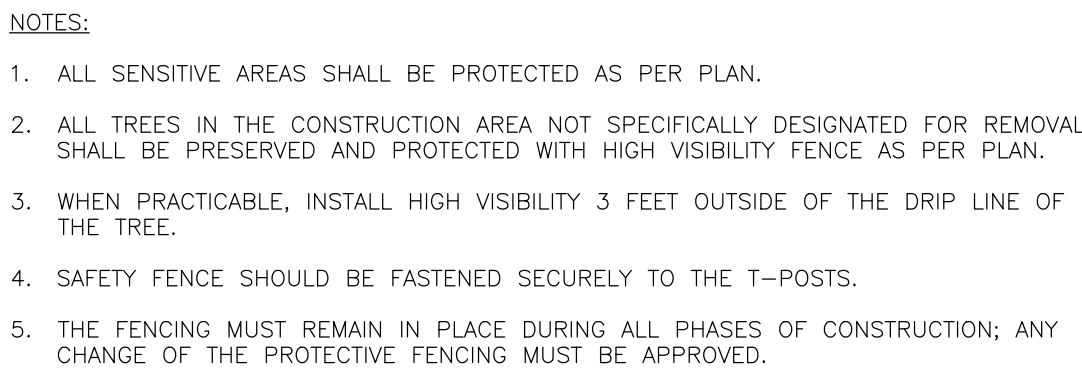
cornerstone
PLLC
PREPARED BY:
CORNERSTONE ENGINEERING AND GEOLOGY, PLLC
ALL PROFESSIONAL ENGINEERING WORK IS PERFORMED BY DULY LICENSED PROFESSIONAL ENGINEERS UNDER THE APPROPRIATE STATE REGISTERED PROFESSIONAL SEAL.



DETAIL

SCALE: 1"=1'

1
17

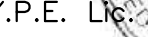


DETAIL

SCALE: NOT TO SCALE

2
17

This drawing represents intellectual property of Cornerstone. Any modification to the original by other than Cornerstone personnel violates its original purpose and as such is rendered void. Cornerstone will not be held liable for any changes made to this document without express written consent of the originator.

 3/27/2024

N.Y.P.E. Lic. No. 099699 Date

 **cornerstone**
PLLC

PREPARED BY:
CORNERSTONE ENGINEERING AND GEOLOGY, PLLC

ALL PROFESSIONAL ENGINEERING WORK IS PERFORMED BY DULY LICENSED PROFESSIONAL ENGINEERS UNDER THE
APPROPRIATE STATE REGISTERED PROFESSIONAL ENTITY.

PROPOSED FACILITY MODIFICATIONS

PROPOSED MISCELLANEOUS DETAILS

PROJECT NO
4223429

APPENDIX A

EXISTING SOLID WASTE FACILITY PERMIT



PERMIT

Under the Environmental Conservation Law (ECL)

Permittee and Facility Information

Permit Issued To:

IWS TRANSFER SYSTEMS OF NY INC
89 BLACK MEADOW ROAD
CHESTER, NY 10918-2219

Facility:

GOSHEN TRANSFER STATION
95 HARTLEY RD
GOSHEN, NY 10924

RON RUEGER

973-494-3944

Operator: IWS Transfer Systems of NY, Inc.

Facility Owner: IWS Transfer Systems of NY, Inc., 300 Frank W. Burr Blvd., Ste 39, Teaneck, NJ 07666

Facility Location: in GOSHEN in ORANGE COUNTY

Facility Principal Reference Point: NYTM-E: 552.2 NYTM-N: 4583.8

Latitude: 41°24'14.6" Longitude: 74°22'31.8"

Authorized Activity: To continue to operate a Transfer Station to accept Municipal, Commercial, Institutional Solid Waste (MSW), Construction and Demolition Debris (C&D), and single and dual stream recyclables at a combined maximum rate of 600 tons per day of combined MSW & C&D and 70 tons per day of recyclables. The facility cannot receive more than 2,370 tons of combined MSW & C&D, and 385 tons of recyclables for the week in accordance with the plans and reports listed in the Special Conditions of this permit and as may be further conditioned herein.

Permit Authorizations

Solid Waste Management - Under Article 27, Title 7

Permit ID 3-3330-00094/00001

Renewal

Effective Date: 9/26/2019

Expiration Date: 9/25/2024

NYSDEC Approval

By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, and all conditions included as part of this permit.

Permit Administrator: REBECCA S CRIST, Deputy Regional Permit Administrator

Address: NYSDEC Region 3 Headquarters
21 S Putt Corners Rd
New Paltz, NY 12561

Authorized Signature: _____

Date 09/26/2019



Distribution List

Zachary Cogon, DEC Division of Materials Management, Region 3
Lin Lin, DEC Division of Materials Management, Region 3
Richard Clarkson, DEC Division of Materials Management, Albany
Kristen Thordahl, Cornerstone PLLC
Town of Goshen Supervisor
Orange County Department of Health

Permit Components

SOLID WASTE MANAGEMENT PERMIT CONDITIONS

GENERAL CONDITIONS, APPLY TO ALL AUTHORIZED PERMITS

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

SOLID WASTE MANAGEMENT PERMIT CONDITIONS

1. Part 360 The facility must operate in conformance and compliance with 6NYCRR Part 360 series Solid Waste Management Facilities Regulations (Part 360 series) or any revisions hereafter promulgated and any State law, rule, code, or regulation; and, the special and general conditions of this permit.

Failure of the permittee to meet any of the terms and conditions of this permit is a violation of Part 360 series regulations and may subject the permittee to enforcement action.

2. Compliance Initial issuance or renewal of this permit shall not be construed as a determination by the Department that the facility is in compliance with applicable regulations or with the permit conditions. That determination will be made by the Department by means of periodic facility inspections and compliance audits.

AUTHORIZED WASTE AND OPERATIONS

3. Acceptable Wastes The facility shall accept Municipal, Commercial, and Institutional Solid Waste (MSW), Construction and Demolition Debris (C&D), as defined by 6 NYCRR Part 360 series. The permittee may also accept and handle source-separated recyclables, including recyclable glass, plastic, metal, paper, and cardboard, provided it is adequately controlled so as to prevent litter, odor and vector problems and is stored inside or in covered containers to prevent exposure to the elements.

The facility is prohibited from accepting asbestos waste as defined in Part 360.2(b)(117). However, C&D debris which contains minor amounts of non-friable asbestos and which is not categorized as asbestos waste in Part 360 series, may be accepted but may not be pulverized, shredded, ground, or handled in any manner that causes the material to become airborne or friable.



The facility is not authorized to accept tires in bulk, but may accept tires which are incidental to incoming loads of MSW. The tires shall be separated from the MSW and stored separately in enclosed containers prior to shipment to a facility authorized to accept bulk tires. The permittee may store up to 1,000 waste tires on site in closed containers.

4. Tonnage Limits The permittee is authorized to accept Municipal, Commercial, and Institutional Solid Waste (MSW), Construction and Demolition Debris (C&D), and source-separated recyclables as noted below:

- A maximum of 600 TONS PER DAY of MSW and C&D, not to exceed 2,370 TONS PER WEEK when operating only under Part 362-3 as Transfer Facilities; OR,
- A maximum of 500 TONS PER DAY of MSW, not to exceed 1,975 TONS PER WEEK, and a maximum of 100 TONS PER DAY of C&D, not to exceed 395 TONS PER WEEK, when the facility is operating under both Part 362-3 as Transfer Facilities and Part 361-5 as Construction and Demolition Debris Handling and Recovery Facilities.

Upon notification and completion of the construction of the recycling handling area approved by the Department, the facility may also accept and handle a maximum of 70 TONS PER DAY of source-separated recyclables, not to exceed 385 TONS per WEEK, in accordance with the Department approved plan.

The facility currently handles MSW and C&D as mixed loads for disposal purposes, but wants to retain the right to handle each waste stream separately. If the facility opts to change the current method of handling the permitted waste stream (as outlined in the revised Operations and Maintenance Manual noted in Solid Waste Permit Condition 26), the facility must notify the Department thirty (30) days in advance of such change.

5. Unacceptable Wastes The permittee is prohibited from accepting hazardous waste; liquid waste; sewage sludge or septage; chemical or explosive wastes; or industrial wastes as defined in 6NYCRR Part 360 and/or Part 371; infectious or medical wastes as defined in Public Health Law 1389-aa and Environmental Conservation Law Article 27, Section 1501; waste tires in bulk; yard wastes; or asbestos wastes; unless authorized in writing by the Regional Materials Management Engineer (RMME).

6. Operating Hours The facility may RECEIVE waste during the following periods:

MONDAY THROUGH FRIDAY:	between 7:00 A.M. and 3:30 P.M.
SATURDAY:	between 7:00 A.M. and 12:00 P.M. (NOON)

The facility may PROCESS waste during the following periods:

MONDAY THROUGH FRIDAY:	between 7:00 A.M. and 6:00 P.M.
SATURDAY:	between 7:00 A.M. and 12:00 P.M. (NOON)

AND the facility may PROCESS waste from 7:00 A.M. to 7:00 P.M. ONLY for the two operating days immediately after each of these holidays: Memorial Day, Independence Day, and Labor Day.

Processing shall occur inside the building only, to remove the waste from the tipping floor, to process material, and to load material into containers or trucks.



All receipt, delivery, or other operations are prohibited on all Sundays.

The facility shall not operate on the following New York State holidays: New Years Day, Memorial Day, Independence Day (4th of July), Labor Day, Thanksgiving and Christmas, unless otherwise authorized by the Department.

Fully loaded trailers may be picked up at the facility for shipment off-site before and after the operational hours listed above, provided no other solid waste handling activity takes place at the facility and that a log of such activities is maintained and submitted with the annual report. The trailers must be weighed and this tonnage must be included in the daily tonnage limits and recordkeeping requirements for the facility.

7. Ultimate Disposal of Waste All solid waste passing through the facility must be ultimately treated or disposed of at a facility authorized by the Department if located in New York State, or by the appropriate governmental agency or agencies if in other states, territories, or nations.

8. Comprehensive Recycling Analysis The permittee shall only accept solid waste generated by sources located within municipalities or planning units which are included in a comprehensive recycling analysis (CRA) which has been approved by the Department pursuant to 6 NYCRR Part 360.11 and which have implemented the recyclables recovery program determined to be feasible by the analysis.

WASTE ACCEPTING AND HANDLING

9. Control Program Pursuant to Part 360.19(c), a control program, which must include an employee training program, must be instituted to recognize and properly handle unauthorized waste brought to the facility. An employee who has been trained in accordance with the Department approved training program must be present as loads of incoming solid waste are discharged onto the tipping floor or processing pad to inspect each load for unauthorized waste.

Unauthorized waste received at the facility shall be removed from the facility within twenty-four (24) hours of receipt. The Department must be notified of each incident as specified elsewhere in this permit, and in the annual report. Records of each incident shall be maintained pursuant to Part 360.19(k) and made available for Department review at the facility. At a minimum, the record of the incident shall contain the date the waste was received, the type of waste received, the date of disposal, the disposal method, and the location of disposal. Any unauthorized waste accepted at the facility must be managed in accordance with the applicable Federal or State laws and regulations.

10. Vehicles All loaded incoming and outgoing vehicles must be appropriately covered, enclosed, or otherwise secured, so as to prevent dust and blowing litter. The permittee shall deny entry to any vehicle that does not comply with this condition.

11. Tipping Floor Unless otherwise authorized in writing by the Department, all MSW/C&D waste shall be removed from the tipping floor at the end of each operating day. The tipping floor shall be cleaned at the end of the day by washing or by sweeping. Putrescible solid waste which cannot be shipped off-site may be stored in enclosed containers inside the building or on the leachate containment zones overnight and must be removed no later than the next business day. Outside storage of putrescible waste is prohibited.



If the permittee initiates separate MSW and C&D operations pursuant to Solid Waste Permit Condition 4, the facility may store C&D overnight on the tipping floor until the start of the next business day.

12. C&D and Recyclables from C&D All processed C&D and recyclables culled from C&D must be transported in accordance with 6 NYCRR Part 361-5. All C&D and recyclables culled from C&D must be tracked using the Department's Tracking Form or a form that has received written Department approval.

All C&D (processed and unprocessed) and recyclables culled from C&D must be managed and stored in accordance with Part 361-5. All unprocessed and processed C&D must be processed and stored in areas with appropriate leachate collection systems having monitorable secondary containment. Recyclables recovered from the C&D debris and source-separated recyclables cannot be stored onsite for more than sixty (60) days unless prior written approval has been granted by the Regional Materials Management Engineer (RMME). All recovered material(s) must be stored in a manner approved by the Department.

MITIGATION OF IMPACTS

13. Tracking The permittee shall regularly inspect the condition of off-site roads which provide immediate access to and from the facility, to determine if dirt, mud or litter from the facility or from vehicles using the facility is being deposited thereon. The permittee shall take such steps as may be necessary (including, but not limited to, paving of on-site access roads) to prevent such conditions or to correct them promptly if they develop. The actual site shall also be regularly inspected and cleaned of all debris and dirt.

14. Nuisance Conditions The operation of the facility must be conducted in such a manner that dust, litter, vectors, noise, and odors do not cause a nuisance condition or pose a threat to health and safety. Any operational changes deemed necessary by the Department to correct nuisance conditions must be implemented, including immediate cessation of all or part of the facility's operation.

The Department may require modification of vector controls in the approved plans if, in the Department's sole discretion, it determines that the controls in place are not adequate. All vector control methods shall be documented in a log book maintained at the facility. The log shall contain the date, type of action taken, person and company taking the action, and location of said action.

15. Noise At least once a year, the permittee shall conduct a noise survey to determine compliance with 6 NYCRR Part 360.19(j). The survey shall be carried out by an individual with expertise in noise analysis. The report must be submitted to the Department within thirty days of when the data has been obtained. In addition to what is required in Part 360 series and the Department's noise guidance document, this report shall also contain the raw data, including any interference that may have been observed during the data collection process (for example, cars passing by) and the operational conditions of the facility (equipment, trucks, etc.).

If it is demonstrated that site conditions make noise impacts on the surrounding community unlikely, the permittee may petition the Department to waive annual monitoring. If a waiver is granted, the noise survey must be conducted upon renewal of the permit. The Department reserves the option to reinstitute the annual noise survey requirement if, at its sole discretion, the Department determines that conditions at the site have changed and the waiver is no longer justified.



FACILITY MAINTENANCE

16. Leachate Collection All interstitial spaces, secondary containment systems, overflow protection systems, leachate collection/conveyance systems, and the overall condition of the above ground tank and sumps must be inspected and recorded on a weekly basis.

All leachate collection components must be kept unobstructed and free draining at all times. Leachate must be collected and properly disposed of from all waste hauling trailers stored onsite. In the event of an overflow of the collection tanks, operations will cease until they are pumped out, washed down, cleared of debris, or otherwise repaired. Leachate must not be allowed to overflow the collection sump within the load-out trailer tunnel.

Reports of the weekly inspections and the quantities of leachate removed, as well as the final destination for leachate disposal, must be maintained at the facility for at least seven (7) years and be available for Department review at the facility.

17. Tipping Floor Annually, the facility tipping floor shall be emptied of all material and cleaned to allow inspection by a Professional Engineer (PE) to determine its condition. This inspection shall be done on a schedule approved by the Department and shall occur in the same month of each succeeding year. The facility may change the month of the floor inspection providing that the time elapsed between inspections does not exceed twelve (12) months. A report must be submitted to the Department, complete with photographs, within thirty (30) days of the floor inspection describing any results and any problems encountered. In the report, the permittee shall describe what action, if any, is proposed to address any concerns found. The permittee will take whatever measures are necessary to prevent the release of contaminants (including leachate) into the environment, including but not limited to cessation of waste handling in the affected areas. The Department reserves the right to have the facility clean the tipping floor at any time for inspection if it is suspected the integrity of the floor might be questionable.

18. Walls The receiving facility building walls shall be cleaned a minimum of once a year.

CONSTRUCTION REQUIREMENTS

19. New Construction At least ninety (90) days prior to commencement of any new construction, including subsequent phases, the permittee shall submit to the Department for its review and approval, engineering plans prepared by an individual who is licensed to practice engineering in the State of New York. Except for emergency repairs, no construction shall commence until written approval is received from the Department. All construction activities at this site must be supervised by an individual licensed to practice engineering in the State of New York.

All construction shall be in strict conformance with the provisions of the special conditions of this permit; 6 NYCRR Part 360 series regulations and any revisions hereafter promulgated; and, to the extent that they do not conflict with this permit and Part 360 series.

20. Plans and Specifications All construction shall be in strict conformance with engineering plans and specifications prepared by a professional engineer (PE) licensed to practice in New York State, and any revisions to those plans and reports which are approved in writing by the Department.



21. Notification The permittee must notify the Department in writing and five (5) days prior to commencement of any construction, including subsequent phases of a construction project, to provide the Department with an opportunity to observe and inspect the construction.

22. Certification A Construction Certification Report signed, stamped and certified by a professional engineer (PE) licensed to practice in the State of New York, must be submitted to the Department within forty-five (45) days after completion of any construction. The construction certification report must certify that the construction was completed in accordance with the PE certified plans and/or reports and in compliance with all applicable 6 NYCRR Part 360 series regulations. As-built drawings of the new construction and the entire facility, as well as photographs, shall be submitted to the Department as part of the Report. Operation of the portion of the facility subject to the certification report cannot begin until the Department has reviewed an acceptable construction certification report as described above and has provided written approval to the permittee.

ENVIRONMENTAL MONITOR

23. Assignment Pursuant to Part 360.20, the permittee shall fund an on-site environmental monitor (OSEM). Department employees shall act as OSEMs at the facility. The OSEM shall be present during all aspects of facility operation and construction at times designated by the Department. It is not the intention of this condition to prevent the permittee from conducting such activities as are otherwise authorized by this permit if the OSEM is unable to be present at any particular time.

24. Facilities The permittee shall provide office space which shall at a minimum include a desk, chair, phone, internet connection, and any other appropriate office equipment required by the OSEM to undertake normal duties. This office space and equipment must be acceptable to the Department.

25. Monitor Account The account to fund the environmental monitor(s), if established under permit, shall be as follows:

- A. The permittee shall fund environmental monitoring services to be performed by or on behalf of the Department. These monitoring services will include, but not be limited to, the scope of work in an annual environmental monitoring work plan which is incorporated by reference and enforceable under this Permit.
- B. The permittee shall provide to the Department on an annual basis the funds necessary to support the activities set forth in the annual environmental monitoring work plan. The sum to be provided will be based on the annual budgeted amount and is subject to annual revision. Subsequent annual payments shall be made for the duration of this Permit or until the environmental monitoring services are no longer necessary, whichever comes first.
- C. The permittee shall be billed annually, prior to the start of each State Fiscal Year (SFY) (April 1). If this Permit is to first become effective subsequent to April 1, the initial bill will be for an amount sufficient to meet the anticipated cost of the environmental monitoring services through the end of the current SFY.
- D. The Department may revise the required annual bill on an annual basis to include all of the Department's estimated costs associated with the environmental monitoring services. The annual revision may take into account such factors as inflation, salary increases, changes in the fringe benefits rate, changes in operating hours and procedures, changes in non-personal



service costs (including travel, training, sampling and analytical, and equipment costs, etc.), an increase or decrease in the level of environmental monitoring services necessary, and an increase or decrease in the number of environmental monitors. Upon written request by the permittee, the Department shall provide the Permittee with a written explanation of the basis for any revisions. If such a revision is required, the Department will notify the permittee no later than sixty (60) days in advance.

- E. Prior to making its annual payment, the permittee will receive, and have an opportunity to review, an annual environmental monitoring work plan that the Department will undertake during the year.
- F. Payments are to be made in advance of the period in which they will be expended and shall be made in full within thirty (30) days of receiving a bill from the Department. The bill from the Department to the Permittee will provide information regarding to whom payments should be made payable and the address to which payments should be sent.
- G. Failure to make the required payments shall be a violation of this Permit. The Department reserves all rights to take appropriate action to enforce the above payment provisions.
- H. The environmental monitor shall, when present at any of the permittee facilities, abide by all of the permittee health and safety and operational requirements and policies, if such requirements and policies exist and provided they are not inconsistent with Department policies and labor management contracts, and further provided, however, that this shall not be construed as limiting the environmental monitor's powers as otherwise provided for by law and shall not result in the environmental monitor being afforded less protection than otherwise provided to the environmental monitor by State and Federal health and safety requirements.
- I. The environmental monitor shall receive from the permittee all general and site-specific safety training which is normally given to new facility/site employees for all areas of the facility or site. This training will be a supplement to the health and safety training that the environmental monitor receives from the Department.
- J. Upon selection of the environmental monitor, the permittee shall immediately furnish to the environmental monitor any facility/site health and safety and operational requirements and policies. Within five (5) days of any revision to the facility/site health and safety and operational requirements and policies, the Permittee shall furnish to the environmental monitor the health and safety and operational requirements and policies.
- K. The environmental monitor shall be permitted to use environmental monitoring and data collection devices (e.g., photo ionization detectors, cameras, video recording devices, computers, cell phones, etc.) deemed necessary by the Department to evaluate and document observed conditions. Copies of the data or images collected from areas where confidentiality is a concern shall be provided to the permittee upon their request. The permittee may request the data and images be considered confidential information if appropriate.



- L. It will remain the responsibility of the permittee to contact the Spill Hotline or any Division within the Department regarding any required notification of any spill, release, exceedances etc. Notification to the environmental monitor will not be considered sufficient to replace any required notifications.

APPROVED DOCUMENTS

26. Approved or Relevant Documents The facility shall be operated in conformance with the following approved or relevant plans and documents, to the extent they do not conflict with 6 NYCRR Part 360 series Solid Waste Management Facilities Regulations and this permit:

- a) 6 NYCRR Part 360 series permit renewal application and compliance report, and supporting information, dated October 21, 2018, submitted by Cornerstone Engineering on behalf of IWS. This includes the following revised documents
 - a. Operations Plan
 - b. Waste Control Plan
 - c. Personnel Staffing & Training Plan
 - d. Facility Inspection Plan
 - e. Facility Maintenance Plan
 - f. Contingency Plan
 - g. Closure Plan
- b) *Engineering Report for a Recycling Facility*, Wehran New York, Inc., April 1991.
- c) *Engineering Report for "93 Upgrade"*, Cassidy Environmental, October 1993.
- d) Plans for the Construction of Drip Pad Improvements, Sterling Environmental Engineering, P.C., April 19, 2007.
- e) Response to NOIA dated on September 10, 2019 submitted by Kristen M. Thordahl, P.E. on behalf of IWS on the updated closure cost estimate.

The above documents supersede all previously approved plans for the facility.

SUBMISSIONS, APPROVALS AND NOTIFICATIONS

27. Submissions Unless otherwise specified, all submissions required by this permit shall be made as follows:

One paper copy and one digital copy on CD to:

Regional Materials Management Engineer
Division of Materials Management – Region 3
New York State Department of Environmental Conservation
21 South Putt Corners Road
New Paltz, New York, 12561-1620



One paper copy and one digital copy on CD to:

Bureau of Permitting and Planning
Division of Materials Management
New York State Department of Environmental Conservation
625 Broadway, 9th Floor
Albany, New York 12233-7258

28. Approvals All approvals required by this permit shall be obtained in writing from either the Regional Materials Management Engineer (RMME) or the Regional Permit Administrator (RPA), or their designees dependent on the specific condition requiring such approval.

The permittee shall obtain prior approval from the Department for any new construction or work which will result in a modification of the facility or any component of the facility.

Prior approval is not required for the repair or replacement of a facility component provided that such repair or replacement does not result in a modification of the facility or any component of the facility and provided that the Department is notified in writing five (5) days prior to commencement of the repair or replacement work to allow Department oversight of the work.

Emergency or other repairs to facility components which result in a modification, as defined above, are undertaken at the risk of the permittee, unless prior approval is granted by the Department. The permittee shall restore the facility to its previously approved configuration, if directed to do so by the Department.

29. Notifications The permittee shall notify the Regional On-Site Environmental Monitors Coordinator by telephone (845-256-3138) or e-mail (David.pollock@dec.ny.gov) **immediately** of any emergency situations, including fires, receipt of unauthorized waste, spills, a cessation of operation at the facility, liquid detected in any secondary containment system, or if any structure or component becomes damaged or malfunctions in any way. The notification shall describe the nature of the emergency, emergency actions taken or proposed, and the schedule for implementation of the emergency actions. These emergency incidents must be further documented in the facility's annual report.

Prior to performing any non-routine construction, monitoring, or maintenance activity, (except for emergency repairs), the RMME shall be notified in writing at least five (5) business days in advance of such activity.

REPORTS AND RECORDS

30. Permit and Plans A copy of this permit, along with all documents mentioned in the special conditions and documents required by 6 NYCRR Part 360 series, must be available for inspection by NYSDEC, or the Orange County Health Department, during operational hours at the project site.

The permittee shall make all facility employees familiar with the approved Operations & Maintenance Manual and Contingency Plan and have them available for ready reference on the site. The permittee shall provide copies of the approved plans to the Orange County Health Department.



The facility shall have an individual(s) on site that is(are) sufficiently trained in the implementation of the Contingency Plan and is/are sufficiently trained in incident response. The permittee shall be responsible for making these documents available for non-English speaking employees whose primary language is other than English. These documents must be available to employees no later than sixty (60) days after the effective date of this permit and/or the start of a new employee with special language requirements.

31. Updates All reports, plans and manuals, unless otherwise specified in the permit application or special conditions, must be updated no less frequently than renewal of the permit to operate. The permittee must submit revised plans and reports at any time that such revisions are necessary to comply with revised 6 NYCRR Part 360 series regulations and/or whenever the permittee is notified by the Department that revisions are necessary to comply with applicable 6 NYCRR Part 360 series regulations, regardless of whether or not such plans or reports have been previously approved. All updated plans, manuals, and reports must be prepared, stamped and signed by a Professional Engineer licensed to practice engineering in the State of New York.

32. Annual Report An annual report shall be submitted no later than March 1 of each calendar year while this permit is in effect. The annual report must be prepared in accordance with Part 360.19(k)(3). The annual report must include a revised closure/post-closure cost estimate in accordance with Part 360 series. If closure costs have changed, an updated financial assurance mechanism and an updated standby trust agreement (if applicable) must be provided to the Department.

33. Logs and Inspections A daily log for receipt and transport of C&D debris, MSW and source-separated recyclables shall be maintained in accordance with 6 NYCRR Part 360.19(k)(2) and be available for Department review. The daily log must contain, at a minimum: the date; name and signature of the individual recording the information; the quantity, description, and origin of C&D debris, MSW, and recyclables received at the facility; the quantity and destination of recyclables sent from the facility by major category; and, the quantity and destination of C&D debris and MSW sent from the facility for disposal.

Any complaint received by the permittee about the operation of this facility must be documented in a complaint log book, with a description of action taken to alleviate the concern and the results of the action. Documentation must be available for review at the Department's request. The log must contain the date and time of the complaint, nature of the complaint, name of person (whether Department staff, resident, employees, etc.) reporting the complaint, weather conditions at time of complaint, the action taken to alleviate the condition, and the effectiveness of the actions taken.

All incoming waste and recyclables received at the facility must be inspected prior to acceptance and inspected again after tipping for unacceptable and/or unauthorized wastes. Inspections of random and/or suspicious loads must be recorded on a daily basis and must contain the date of the inspection; the signature of the individual recording the information; a description of the wastes; the type of unauthorized waste found (if applicable); and the final disposition of the unauthorized waste. Such records must be maintained at the site and be available for Department review.

All inspection logs, records and monitoring records shall be maintained on-site by the permittee for a period of seven (7) years from the date of recording.



CHANGES IN OWNERSHIP OR MANAGEMENT

34. Transfer Process Pursuant to 6 NYCRR Part 621, prior to a change in the owner(s) or the operator(s) of the facility, the permittee is required to submit for approval, on Department-approved forms, information needed by the Department to determine the fitness of the individual or company who will assume operation or ownership of the facility. The following requirements apply:

- a. If the permittee intends to contract with an individual or company to become a new operator of the facility, the permittee must notify the Department Regional Materials Management Engineer (RMME) in writing at least thirty (30) days prior to the proposed change in operator and the proposed operator must submit a completed Record of Compliance (ROC) form.
- b. For a corporate permittee, whose stock is privately held, if there is any change in officers, principals, directors or stockholders of the permitted company, the permittee must notify the Department Regional Materials Management Engineer (RMME) at least thirty (30) days prior to this change and submit a completed ROC form for each officer, principal, etc. that is proposed to change.
- c. If an individual or another company acquires any or all of the stock of the permitted company, the stock buyer must notify the Department at least thirty (30) days prior to the proposed change in stock ownership and submit a completed ROC form. If the stock buyer is a non-publicly traded company, then any officer, principal, director or stockholder of the company acquiring the stock, as well as the company itself, must submit a completed ROC form. If the new stockholder is a publicly traded company, any stockholder of it who owns (or increases their stock ownership to) at least 25% of the publicly traded stock must submit a "30-day prior notification" and a completed ROC form to the Department.

FINANCIAL ASSURANCE

35. Instrument In accordance with 6 NYCRR Part 360.22 of this title, the permittee shall maintain with the Department a form of Financial Assurance acceptable to the Department, in the amount of \$195,000 for closure and post-closure monitoring of this facility. Such financial document shall clearly state any expiration date assigned by the financial institution or permittee. Neither the provision of the Financial Assurance, nor any act of the Department in drawing upon the financial funding shall relieve the permittee of their obligation to comply with this permit and the requirements to close the facility properly. The surety shall be in a form acceptable to the Department, and submitted to:

Regional Materials Management Engineer
Division of Materials Management (Financial Assurance) – Region 3
New York State Department of Environmental Conservation
21 South Putt Corners Road
New Paltz, New York 12561-1620

As this facility already has an accepted financial assurance instrument on file with the department, the permittee will adjust the amount to reflect the revised closure cost estimate indicated above within ninety (90) days of issuance of this Permit.



36. Adjustment The Department reserves the right to adjust the amount of the Financial Assurance to account for changing closure costs and for non-compliance with any conditions of this permit or any requirement of Part 360 series. Additionally, the permittee shall update and make annual adjustments to the Closure Cost Estimate and Financial Assurance instrument annually in accordance with Part 360.22(b)(3).

37. Termination In the event that the financial institution or permittee proposes to terminate the Financial Assurance at any time, the permittee shall, no less than thirty (30) days prior to the effective date of such termination, provide a substitute Financial Assurance in the same amount and form, or other form acceptable to DEC. If an acceptable substitute has not been provided by thirty (30) days prior to the termination date, DEC may draw upon the Financial Assurance for its amount and hold the amount drawn as a cash collateral guarantee until such time as an acceptable substitute is provided or if necessary during the time prior to the provision of a substitute Financial Assurance, may expend such sums as may be required in the event of the permittee's default of its obligations regarding compliance with this permit, the Permit to Operate this facility or its closure.

CLOSURE REQUIREMENTS

38. Closure Unless this permit is renewed, the permittee shall close the site prior to the expiration date of this permit or prior to the expiration of any renewals of this permit in accordance with the closure requirements in 6 NYCRR Part 360.21 and any approved closure plan.

Within forty-five (45) days of the completion of the closure activities, the permittee shall submit to the RMME a certification, prepared and stamped by a Professional Engineer licensed to practice engineering in New York State, that the facility has been closed in accordance with 6 NYCRR Part 360 series; and certifying that the need for further maintenance or corrective actions is minimized and that adverse environmental or health impacts such as, but not limited to, contravention of surface water and groundwater quality standards, gas migration, odors and vectors are prevented or remedied.

CESSATION of CONSTRUCTION or OPERATIONS

39. Cessation The facility must routinely and regularly receive authorized solid waste during the permit period. All equipment necessary for the safe and compliant operation of the facility, and required by the approved Engineering Report, O&M Manual, Contingency Plan, and the terms of this permit, must be in place and functional at all times. If construction or operation activities allowed under this permit cease for a period of twelve (12) consecutive months, the permit automatically expires on the last day of the 12th month following cessation of activities. There is no automatic expiration when the cessation of construction or operation is caused by factors beyond the reasonable control of the permittee, as determined by the Department, or when such cessation is in accordance with the provisions of the permit.

40. Conformance With Plans All activities authorized by this permit must be in strict conformance with the permit application, plans and materials prepared by Cornerstone Engineering, Geology and Land Surveying, PLLC on February 2018.



GENERAL CONDITIONS - Apply to ALL Authorized Permits:

1. Facility Inspection by The Department The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71- 0301 and SAPA 401(3).

The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

2. Relationship of this Permit to Other Department Orders and Determinations Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

3. Applications For Permit Renewals, Modifications or Transfers The permittee must submit a separate written application to the Department for permit renewal, modification or transfer of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing. Submission of applications for permit renewal, modification or transfer are to be submitted to:

Regional Permit Administrator
NYSDEC Region 3 Headquarters
21 S Putt Corners Rd
New Paltz, NY12561

4. Submission of Renewal Application The permittee must submit a renewal application at least 180 days before permit expiration for the following permit authorizations: Solid Waste Management.

5. Permit Modifications, Suspensions and Revocations by the Department The Department reserves the right to exercise all available authority to modify, suspend or revoke this permit. The grounds for modification, suspension or revocation include:

- a. materially false or inaccurate statements in the permit application or supporting papers;
- b. failure by the permittee to comply with any terms or conditions of the permit;
- c. exceeding the scope of the project as described in the permit application;
- d. newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;



- e. noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

6. Permit Transfer Permits are transferrable unless specifically prohibited by statute, regulation or another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification

The permittee, excepting state or federal agencies, expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees, and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suits, or actions naming the DEC and arising under Article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

Item B: Permittee's Contractors to Comply with Permit

The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

Item C: Permittee Responsible for Obtaining Other Required Permits

The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required to carry out the activities that are authorized by this permit.

Item D: No Right to Trespass or Interfere with Riparian Rights

This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.

Item E: SEQR Type II Action Under the State Environmental Quality Review Act (SEQR), this project has been determined to be a Type II Action and therefore is not subject to further procedures under this law.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Permits, Region 3
21 South Platt Corners Road, New Paltz, NY 12561-1620
P: (845) 256-3054 | F: (845) 255-4659
www.dec.ny.gov



Department of
Environmental
Conservation

IMPORTANT NOTICE TO ALL PERMITTEES

The permit you requested is enclosed. Please read it carefully and note the conditions that are included in it. The permit is valid for only that activity expressly authorized therein; work beyond the scope of the permit may be considered a violation of law and be subject to appropriate enforcement action. Granting of this permit does not relieve the permittee of the responsibility of obtaining any other permission, consent or approval from any other federal, state, or local government which may be required.

Please note the expiration date of the permit. Applications for permit renewal should be made well in advance of the expiration date (minimum of 30 days) and submitted to the Regional Permit Administrator at the above address. For SPDES, Solid Waste and Hazardous Waste Permits, renewals must be made at least 180 days prior to the expiration date.

The DEC permit number & program ID number noted on page 1 under "Permit Authorization" of the permit are important and should be retained for your records. These numbers should be referenced on all correspondence related to the permit, and on any future applications for permits associated with this facility/project area.

If a permit notice sign is enclosed, you must post it at the work site with appropriate weather protection, as well as a copy of the permit per General Condition 1.

If the permit is associated with a project that will entail construction of new water pollution control facilities or modifications to existing facilities, plan approval for the system design will be required from the appropriate Department's regional Division of Water or delegated local Health Department, as specified in the State Pollutant Discharge Elimination System (SPDES) permit.

If you have any questions on the extent of work authorized or your obligations under the permit, please contact the staff person indicated below or the Division of Environmental Permits at the above address.

Sarah Pawliczak
Division of Environmental Permits, Region 3
Telephone (845) 256-3050

- ☐ Applicable only if checked. Please note all work authorized under this permit is prohibited during trout spawning season commencing October 1 and ending April 30.
- ☐ Applicable only if checked for STORMWATER SPDES INFORMATION: We have determined that your project requires coverage under the General Stormwater SPDES Permit. You must file a Notice of Intent to obtain coverage under the General Permit. This form can be downloaded at: <http://www.dec.ny.gov/chemical/43133.html>
- ☐ Applicable only if checked - MS4 Areas: This site is within an MS4 area (Municipal Separate Storm Sewer System), therefore the SWPPP must be reviewed and accepted by the municipality. The MS-4 Acceptance Form must be submitted in addition to the Notice of Intent.



Department of
Environmental
Conservation

APPENDIX B

FINANCIAL SURETY BOND

SURETY RIDER

To be attached to and form a part of

Bond No. 0175249

dated 1/4/2013
effective
(MONTH-DAY-YEAR)

executed by I.W.S Transfer Systems of NY, Inc.
(PRINCIPAL)

, as Principal,

and by Berkley Insurance Company, as Surety,

in favor of New York State Department of Environmental Conservation, Division of Environmental Permits
(OBLIGEE)

in consideration of the mutual agreements herein contained the Principal and the Surety hereby consent to changing

The Bond Amount

From: One Hundred Fifty-seven Thousand Four Hundred Thirty Eight And No/100 (\$157,438.00)

To: One Hundred Ninety-five Thousand And No/100 (\$195,000.00)

Nothing herein contained shall vary, alter or extend any provision or condition of this bond except as herein expressly stated.

This rider
is effective 1/4/2020
(MONTH-DAY-YEAR)

Signed and Sealed 11/7/2019
(MONTH-DAY-YEAR)

I.W.S Transfer Systems of NY, Inc.
(PRINCIPAL)

By: _____
(PRINCIPAL)

Berkley Insurance Company
(SURETY)

By: Francesca Papa
Francesca Papa, Attorney-in-Fact

Individual Acknowledgment

State of _____
County of _____

On the _____ day of _____, 20____, before me personally appeared _____
to me known and known to me to be the person described in and who executed the foregoing instrument
and _____ he _____ thereupon acknowledged to me that _____ he _____ executed the same.

Notary Public

Partnership/L.L.C. Acknowledgment

State of _____
County of _____

On the _____ day of _____, 20____, before me personally appeared _____
to me known and known to me to be one of the firm of _____
described in and who executed the foregoing instrument and _____ he _____ thereupon acknowledged
to me that _____ he _____ executed the same as and for the act and deed of said firm.

Notary Public

Corporate Acknowledgment

State of New Jersey
County of Bergen

On the 8th day of November, 2019, before me personally appeared Ronald Bergamini
to me known, who being by me duly sworn, did depose and say the ☒ he is the Chief Executive Officer
of the I.W.S. Transfer Systems of NY, Inc
the corporation described in and which executed the foregoing instrument that ☒ he knows
the seal of said corporation, that the seal affixed to said instrument is such corporate seal, that it was so
affixed by order of the board of directors of said corporation, and that ☒ he signed his
name thereto by like order

D'Ambrosio

Notary Public

ANGELINA J. D'AMBROSIO
NOTARY PUBLIC OF NEW JERSEY
Comm. # 50071117
My Commission Expires 10/31/2022

STATE OF New York
COUNTY OF Kings

On November 7, 2019 before me, the undersigned, a Notary Public in and for said county, personally appeared Francesca Papa who is to me well known, who being duly sworn, did depose and say that he resides in New York, NY that he is Attorney-in-Fact of Berkley Insurance Company

a corporation, the corporation described in and who executed the within instrument as surety. That he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was thereto affixed by order to the Board of Directors of said corporation, and that he signed his name thereto by like order.

Terry Ann Gonzales-Selman

TERRY ANN GONZALES-SELMAN
Notary Public, State of New York
No. 01GO6272513
Qualified in Kings County
Commission Expires November 19, 2020

POWER OF ATTORNEY
BERKLEY INSURANCE COMPANY
WILMINGTON, DELAWARE

NO. 01-5500

NOTICE: The warning found elsewhere in this Power of Attorney affects the validity thereof. Please review carefully.

KNOW ALL MEN BY THESE PRESENTS, that BERKLEY INSURANCE COMPANY (the "Company"), a corporation duly organized and existing under the laws of the State of Delaware, having its principal office in Greenwich, CT, has made, constituted and appointed, and does by these presents make, constitute and appoint: *James P. Holland; Theresa Giraldo; Francesca Papa; Annette M. Leuschner; Mariya Leonidov; or TerryAnn Gonzales-Selman of Marsh USA, Inc. of New York, NY* its true and lawful Attorney-in-Fact, to sign its name as surety only as delineated below and to execute, seal, acknowledge and deliver any and all bonds and undertakings, with the exception of Financial Guaranty Insurance, providing that no single obligation shall exceed **One Hundred Million and 00/100 U.S. Dollars (U.S.\$100,000,000.00)**, to the same extent as if such bonds had been duly executed and acknowledged by the regularly elected officers of the Company at its principal office in their own proper persons.

This Power of Attorney shall be construed and enforced in accordance with, and governed by, the laws of the State of Delaware, without giving effect to the principles of conflicts of laws thereof. This Power of Attorney is granted pursuant to the following resolutions which were duly and validly adopted at a meeting of the Board of Directors of the Company held on January 25, 2010:

RESOLVED, that, with respect to the Surety business written by Berkley Surety, the Chairman of the Board, Chief Executive Officer, President or any Vice President of the Company, in conjunction with the Secretary or any Assistant Secretary are hereby authorized to execute powers of attorney authorizing and qualifying the attorney-in-fact named therein to execute bonds, undertakings, recognizances, or other suretyship obligations on behalf of the Company, and to affix the corporate seal of the Company to powers of attorney executed pursuant hereto; and said officers may remove any such attorney-in-fact and revoke any power of attorney previously granted; and further

RESOLVED, that such power of attorney limits the acts of those named therein to the bonds, undertakings, recognizances, or other suretyship obligations specifically named therein, and they have no authority to bind the Company except in the manner and to the extent therein stated; and further

RESOLVED, that such power of attorney revokes all previous powers issued on behalf of the attorney-in-fact named; and further

RESOLVED, that the signature of any authorized officer and the seal of the Company may be affixed by facsimile to any power of attorney or certification thereof authorizing the execution and delivery of any bond, undertaking, recognizance, or other suretyship obligation of the Company; and such signature and seal when so used shall have the same force and effect as though manually affixed. The Company may continue to use for the purposes herein stated the facsimile signature of any person or persons who shall have been such officer or officers of the Company, notwithstanding the fact that they may have ceased to be such at the time when such instruments shall be issued.

IN WITNESS WHEREOF, the Company has caused these presents to be signed and attested by its appropriate officers and its corporate seal hereunto affixed this 18th day of September, 2018.

Attest:

(Seal)

By

Ira S. Lederman
Senior Vice President & Secretary

Berkley Insurance Company

By

Jeffrey M. Hafter
Senior Vice President

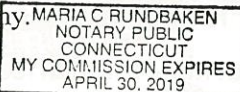
WARNING: THIS POWER INVALID IF NOT PRINTED ON BLUE "BERKLEY" SECURITY PAPER.

STATE OF CONNECTICUT)

) ss:

COUNTY OF FAIRFIELD)

Sworn to before me, a Notary Public in the State of Connecticut, this 18th day of September, 2018, by Ira S. Lederman and Jeffrey M. Hafter who are sworn to me to be the Executive Vice President and Secretary, and the Senior Vice President, respectively, of Berkley Insurance Company.



Maria C. Rundbaken
Notary Public, State of Connecticut

CERTIFICATE

I, the undersigned, Assistant Secretary of BERKLEY INSURANCE COMPANY, DO HEREBY CERTIFY that the foregoing is a true, correct and complete copy of the original Power of Attorney; that said Power of Attorney has not been revoked or rescinded and that the authority of the Attorney-in-Fact set forth therein, who executed the bond or undertaking to which this Power of Attorney is attached, is in full force and effect as of this date.

Given under my hand and seal of the Company, this 7th day of November, 2019.

(Seal)

Vincent P. Forte
Vincent P. Forte

WARNING - Any unauthorized reproduction or alteration of this document is prohibited. This power of attorney is void unless seals are readable and the certification seal at the bottom is embossed. The background imprint, warning and verification instructions (on reverse) must be in blue ink.

Please **verify the authenticity** of the instrument attached to this Power by:

Toll-Free Telephone: (800) 456-5486; or

Electronic Mail: BSGInquiry@berkleysurety.com

Any written notices, inquiries, claims or demands to the Surety on the bond attached to this Power should be directed to:

Berkley Surety
412 Mount Kemble Ave.
Suite 310N
Morristown, NJ 07960
Attention: Surety Claims Department

Or

Email: BSGClaim@berkleysurety.com

Please include with all communications the bond number and the name of the principal on the bond. Where a claim is being asserted, please set forth generally the basis of the claim. In the case of a payment or performance bond, please also identify the project to which the bond pertains.

Berkley Surety is a member company of W. R. Berkley Corporation that underwrites surety business on behalf of Berkley Insurance Company, Berkley Regional Insurance Company and Carolina Casualty Insurance Company.

BERKLEY INSURANCE COMPANY

STATUTORY BALANCE SHEET DECEMBER 31, 2018 (AMOUNTS IN THOUSANDS)

Admitted Assets

Bonds	\$	8,936,473
Common & Preferred Stocks		3,901,319
Cash & Short Term Investments		706,293
Premiums Receivable		1,633,437
Other Assets		<u>3,522,744</u>
<u>Total Admitted Assets</u>	\$	<u>18,700,266</u>

Liabilities & Surplus

Loss & LAE Reserves	\$	9,831,515
Unearned Premium Reserves		2,632,790
Other Liabilities		<u>648,032</u>
<u>Total Liabilities</u>	\$	<u>13,112,336</u>

Common Stock	\$	43,000
Preferred Stock		10
Additional Paid In Capital		2,887,640
Unassigned Surplus		<u>2,657,280</u>
<u>Total Policyholders' Surplus</u>	\$	<u>5,587,930</u>

<u>Total Liabilities & Surplus</u>	\$	<u>18,700,266</u>
--	----	-------------------

Officers:

President: William Robert Berkley, Jr.
Secretary: Ira Seth Lederman
Treasurer: Richard Mark Baio
Asst. Treasurer: Bertman Adam Braud, Jr.
Asst. Treasurer: Ann Marie Collins
Asst. Treasurer: Susan Paula Tingleff

Directors:

William Robert Berkley
(Executive Chairman)
William Robert Berkley, Jr.
Ira Seth Lederman
Richard Mark Baio
Paul James Hancock
Carol Josephine LaPunzina
James Gerald Shiel

APPENDIX C

CLOSURE COST ESTIMATE



Goshen Transfer Station IWS Transfer Systems of NY, Inc. Closure Cost Summary

By: KMT Date: 2/13/2024
Check: _____ Date: _____

Item No.	Item	Approximate Quantity	Unit	Unit Price	Total Price
1	Waste Disposal, including transportation	670	Ton	\$ 155.00	\$ 103,850.00
2	Waste Loading	2	Days	\$ 6,320.00	\$ 12,640.00
3	Leachate Disposal and Tank Cleanout	5,500	GAL	\$ 1.00	\$ 5,500.00
4	Facility Cleaning (Power Wash walls, roof and floor)	19,366	SF	\$ 0.10	\$ 1,936.60
5	Soil Sampling & Analytical Services	1	Event	\$ 10,000.00	\$ 10,000.00

SUBTOTAL = \$133,926.60

Contingencies (20%) = \$26,785.32

SUBTOTAL = \$160,711.92

Third Party Engineering Fees (20%) = \$32,142.38

TOTAL = \$192,854.30

8.3% Inflation per year = \$16,006.91

5 years permit duration = \$80,034.54

Total Closure Cost at end of permit in 2029 = \$272,888.84

Established Surety Bond = \$272,900.00

APPENDIX D

EQUIPMENT LIST AND SPECIFICATIONS

**I.W.S. TRANSFER SYSTEMS OF N.Y., INC.
GOSHEN TRANSFER STATION
95 HARTLEY ROAD, GOSHEN, NEW YORK**

EQUIPMENT LIST

Equipment No.	Number of Units on Site	Equipment Description
1	2	CAT 950 Rubber Tire Wheel Loader or equal
2	1	CAT 320 Excavator or equal
3	1	CAT 416 Backhoe or equal
4	3	Capacity Yard Truck or equal
5	1	MACK Yard Truck or equal
6	1	Aquastore Water Storage Tank or equal
7	4	Greenheck Fan Model SBS-2L48-30 or equal
8	1	Highland 4,000 Gallon Dual Walled Underground Leachate Storage Tank or equal
9	1	Rice Lake Loadout Tunnel Scale or equal
10	1	Mettler Toledo Truck Scale Model 7562 or equal

WHEEL LOADER

950M

WHEEL LOADER



Engine Maximum Power
Operating Weight

TIER 3/STAGE IIIA EQUIVALENT¹

196 kW (263 hp)
19 213 kg (42,357 lb)

TIER 4 FINAL/STAGE V²

187 kW (250 hp)
19 213 kg (42,357 lb)

¹ Meets Brazil MAR-1 and UN ECE R96 Stage IIIA emission standards, equivalent to U.S. EPA Tier 3 and EU Stage IIIA.

² Meets U.S. EPA Tier 4 Final, either EU Stage V or EU Stage IV* emission standards.

*Stage IV engines comply with the transition provisions of the EU nonroad emission regulation



The Cat® 950M Wheel Loader offers significant fuel savings while lowering long-term costs. Cat wheel loaders meet emission standards and are designed to improve fuel economy without interrupting performance. The reliability, durability, and versatility result in machines that are better built to meet your needs.

CAT® 950M

GREATER EFFICIENCY



WHEEL LOADERS MADE FOR MORE

Cat wheel loaders were built with efficiency in mind, offering you the best in:

- + RELIABILITY
- + DURABILITY
- + PRODUCTIVITY
- + FUEL EFFICIENCY

Experience higher performance while reducing costs and fuel consumption with Cat wheel loaders.

GREATER PRODUCTIVITY

Applying proven technology and components means more dependable results for your work.

BETTER FUEL EFFICIENCY

Deep system integration results in lower fuel consumption on average as compared to previous generation machines.

EASIER TO MAINTAIN

Extended engine oil, engine oil filter, hydraulic filter, and transmission oil change intervals save you time, money, and energy.

All comparisons to previous generation.

FAST PAYBACK

How **CAT PAYLOAD WITH PRODUCTION MEASUREMENT** paid for itself in less than a week for one quarry customer.*



... **PAYBACK: 6 DAYS** ...

CALCULATE **YOUR** ESTIMATED PAYBACK TIME AT
MA-CATINFO.COM/PAYLOADCALCULATOR

*Your results will vary. Six-day payback and 17% productivity boost based on results from
ma-catinfo.com/payloadcalculator

Not legal for trade.



COMPONENTS YOU CAN COUNT ON

Every machine is equipped with a combination of proven electronic, hydraulic, cooling, and power train systems. Our components save you time, money, and effort.



RELIABLE, PROVEN COMPONENTS & TECHNOLOGY

Staying ahead of the competition, Caterpillar offers a wide variety of cutting-edge technologies to get the job done quickly and easily with outstanding accuracy.

PRODUCTIVE RESULTS

WORK SMART AND MOVE MORE

PERFORMANCE SERIES BUCKETS

Easy-to-load Performance Series Buckets improve material retention and reduce dig times, significantly improving productivity and fuel efficiency, resulting in unsurpassed production capabilities with increased fill factors – ranging from 100% to 115%.

ADVANCED POWERSHIFT TRANSMISSION

With the addition of a 5-speed transmission including a lock-up clutch torque converter, our power trains deliver smooth shifting, fast acceleration, and speed on grade, amplifying your performance and fuel efficiency.

OPTIMIZED RIDE CONTROL SYSTEM

Dual accumulator system enables a wide payload range and a better ride. Improves ride quality and smoothness over rough terrain, increasing your confidence, comfort, and efficiency, ensuring excellent material retention.



BETTER TRACTION

Differential locks are activated on-the-go which improves traction resulting in increased productivity while also reducing tire scuffing for reduced operating costs.

AUXILIARY COUNTERWEIGHT

Equipped with an auxiliary counterweight, payloads can be increased by installing larger buckets in compliance with Caterpillar payload policy.

THE RIGHT TECHNOLOGIES

Fine-tuned for the right applications:

- + BETTER FUEL ECONOMY, MAXIMIZED UPTIME, AND LOWER MAINTENANCE COSTS
- + HIGH POWER AND PERFORMANCE ACROSS A VARIETY OF APPLICATIONS
- + ENHANCED RELIABILITY THROUGH COMMONALITY AND SIMPLICITY OF DESIGN
- + WORLD-CLASS SUPPORT FROM THE CAT DEALER NETWORK
- + DURABLE DESIGNS WITH LONG LIFE TO OVERHAUL



ENHANCED POWER TRAIN

Our power trains come standard with a lock-up clutch transmission, matching the engine power to increase fuel efficiency while delivering optimal performance.



DURABLE AXLES

M Series axles are designed to handle your extreme applications. The rear axle oscillates for excellent stability and traction on even the roughest terrain.



OPTIMIZED Z-BAR LINKAGE

Parallel lift capabilities, high breakout forces, and high tilt forces at maximum lift enhance performance and versatility.



OPTIMIZED HYDRAULICS

Our hydraulic systems come equipped with a mono-block main hydraulic valve. This design reduces weight while decreasing leak points by 40%.



DURABLE FRAMES

The robotically welded two-piece structural frame absorbs impact associated with excavation and loading, while the hitch system provides high bearing force capacity.



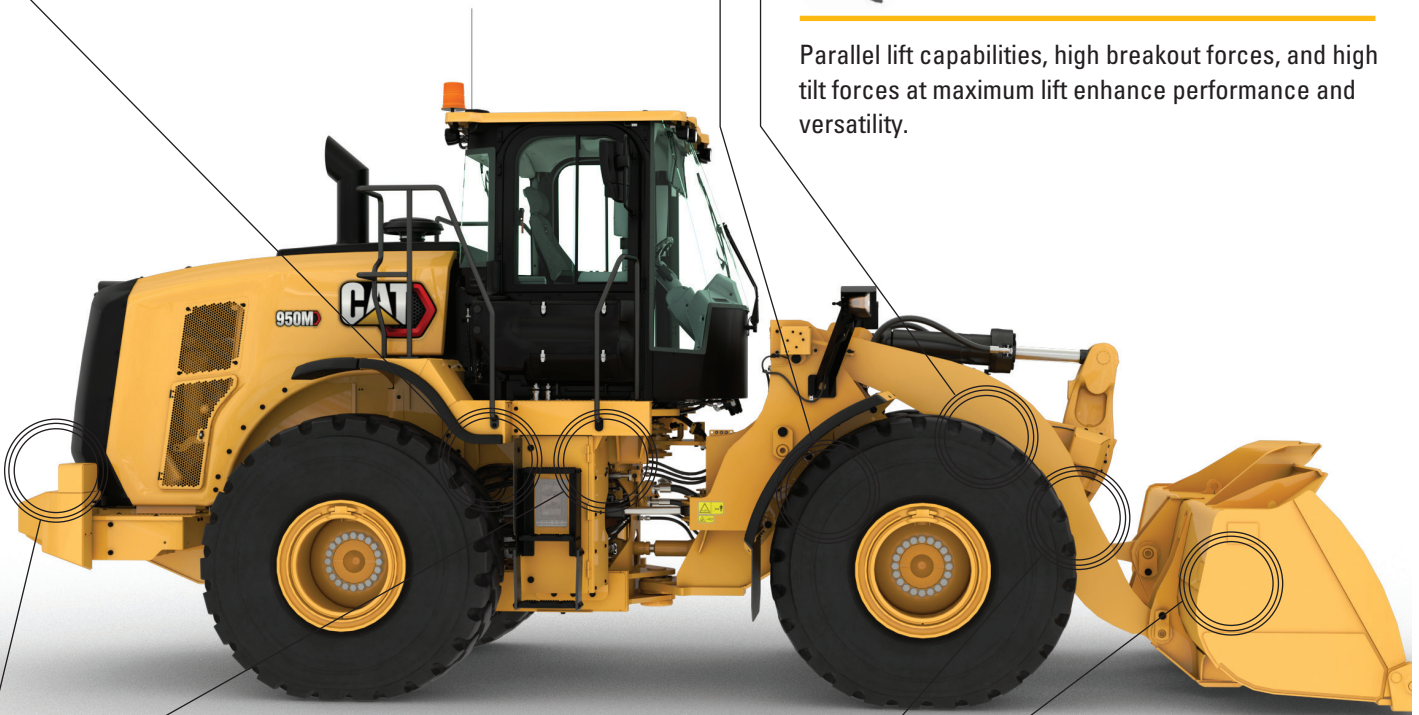
EXTENSIVE RANGE OF ATTACHMENTS

Do more jobs with one machine. An extensive range of work tools and bucket styles are available to customize these machines for your operation.



CAT FUSION™ COUPLER SYSTEM

Caterpillar patented, Fusion is a wheel loader coupler system performing virtually identical to pin-on, with all the flexibility of a quick coupler system.





INCREASE PRODUCTIVITY AND EFFICIENCY UP TO 15%

CAT® CONNECT TECHNOLOGY

Technology gives you the edge. Operators of all experience levels will dig and load with more confidence, speed, and accuracy. The result? Better productivity and lower costs.



PAYLOAD

Provides you accurate weighing* of the materials you are loading and hauling. Payload data is displayed in real-time to improve productivity and reduce overloading. Optional Advanced Productivity subscription provides comprehensive actionable information to help you manage and improve the productivity and profitability of your operations.



DETECT

Enhances awareness of the environment around working equipment and provides alerts to help keep people and assets safe on the jobsite.



LINK

Wirelessly connects you to your equipment, giving you access to essential information you need to know to run your business. Gain valuable insight into how your machine or fleet is performing, allowing you to make timely, fact-based decisions that can boost jobsite efficiency and productivity.

*Not legal for trade.

REAL-TIME INFORMATION FROM CAT LINK

TAKES THE GUESSWORK OUT OF MANAGING YOUR EQUIPMENT

Cat Link hardware (Product Link™) and software (VisionLink®) work together to put equipment information at your fingertips. Get real-time access to information on every machine in your fleet on any jobsite—no matter the size of the operation or the brands of equipment you run.



PRODUCT LINK

Track asset location, hours, fuel usage, diagnostic codes, idle time, and more to improve your productivity and lower your operating costs. Cellular connectivity comes standard. Satellite connectivity is available.



VISIONLINK

Using the online VisionLink interface, you can see a common, collective view of your information, making it easier to manage a mixed fleet and make informed decisions about your equipment.



MY.CAT.COM

You can also access Caterpillar and Cat dealer information at my.cat.com. My.cat.com gives you access to PM schedules, parts and service records, warranty coverage, and more—with a single login. Plus, you can link directly to your VisionLink account.

SUPERIOR FUEL EFFICIENCY



ENGINE AND EMISSIONS

High power density and fuel efficiency set our engines apart. Certified to meet emission standards, our engines feature Cat electronics, a fuel injection process, and air-management systems.

EFFICIENT ENGINE STRUCTURE

Significantly improved performance and fuel economy through engine speed and overall system heat load reduction.

ADVANCED SYSTEM INTEGRATION

Lower fuel consumption resulting from the system integration of the engine and emissions system, power train, hydraulic system, and cooling system.

PRODUCTIVE ECONOMY MODE

Automatically control engine torque and speed based on the machine's power train load, placing them in the most efficient operating range for fuel and performance.

NEXT GENERATION FUEL SYSTEMS

Cat injection timing regulates the fuel injection process through a series of timed microbursts, providing more control of combustion for the cleanest, most efficient fuel burn.

CAT NO_x REDUCTION SYSTEM

The Cat NO_x Reduction System (NRS) captures and cools a small quantity of exhaust gas, then routes it back into the combustion chamber where it reduces temperatures and emissions (Tier 4 Final, Stage V only).

AFTERTREATMENT TECHNOLOGIES

The Selective Catalytic Reduction (SCR) has been added to our demonstrated aftertreatment solution, fully meeting emission standards (Tier 4 Final, Stage V only).

EASY TO OPERATE

SAFE. COMFORTABLE. ACCESSIBLE.

A quiet operating environment and intuitive controls help to reduce the fatigue, stresses, sounds, and temperatures of a demanding job.



CAB ACCESS

Inclined steps and convenient grab handles ease accessibility to the operating space.



BETTER RIDE CONTROL

The next generation of ride control works as a shock absorber, improving ride quality over rough terrain.



GREATER VISIBILITY

Extended windows enhance visibility while convex and spot mirrors extend the driver's view on the sides and rear.



ADVANCED SEAT

The next generation of operator comfort includes an easily adjustable seat with updated styling and a revolutionary suspension system. It comes in three trim levels and can be equipped with a 4-point harness.



NOISE REDUCTION

Sound-suppression, seals, and viscous cab mounts decrease noise and vibration for a quieter work environment.



PRECISION STEERING

Choose the standard steering wheel configuration or the optional seat-mounted electro-hydraulic joystick steering system

TOUCHSCREEN DISPLAY

Easy interface, machine controls, rear vision camera, intuitive navigation, and integrated Cat Production Measurement payload system let operators modify and monitor their machines instantly.

CENTRAL DISPLAY

Featuring a large text box with information about machine operation, features, system troubleshooting, and calibration, the central display is equipped with LED indicators and analog gauges, allowing the operator to easily analyze key systems.

CONTROL PANEL

With easy-to-reach controls and touchscreen display, the LED switch panel provides immediate access to frequently required functions, even while wearing gloves.



EASIER MAINTENANCE MORE SAVINGS



Cat wheel loaders are easy to maintain and service, eliminating any potential waste of time or money. Major components are rebuildable, giving the machine a second life, and often a third life.

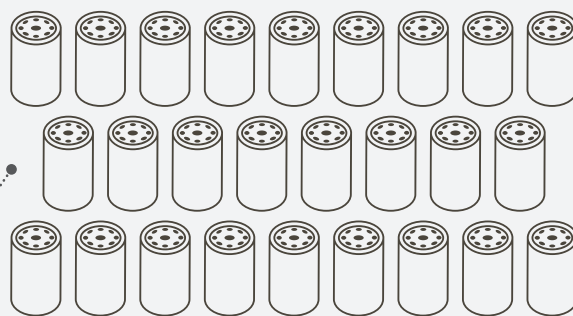
KEY FEATURES SAVING YOU TIME, MONEY, AND ENERGY:

- + Extended engine oil and engine oil filter change interval up to 1,000 hours (Tier 4 Final, Stage V only)
- + Extended hydraulic filter change interval up to 1,000 hours
- + Extended transmission oil change interval up to 2,000 hours
- + Optional integrated Cat Autolube system
- + Remote flash support
- + Longer tire life with on-the-go traction aids
- + Safe and simple preventive maintenance



LOWER MAINTENANCE COSTS

**SAVE ON MAINTENANCE
BY USING FEWER FILTERS**



Extended filter change intervals mean using fewer filters over the machine's lifetime.

DO MORE JOBS

VERSATILE ATTACHMENTS AND COUPLERS

For worksites that demand more, you need a wheel loader that is purpose-built for the job. Cat work tools are engineered to handle all of your specific application needs.



OPTIMIZED Z-BAR LINKAGE

The optimized Z-bar linkage combines parallel lift capabilities with the Performance Series Buckets and the Fusion Coupler work tool range to enhance visibility, performance, and fuel efficiency.



FUSION QUICK COUPLER

The Fusion Coupler System allows machines to use a wide range of tools that can each be picked up by machines of varying sizes. Fusion is designed to integrate the work tool and the machine by pulling the coupler and tool closer to the loader, increasing overall lift capability.

- + Improved machine performance
- + Unsurpassed durability
- + Increased visibility

HIGH LIFT LINKAGE

The optional high lift linkage offers increased hinge pin height to load more easily in a variety of applications with any type of bucket or fork.



PERFORMANCE SERIES BUCKETS

Performance Series Buckets use a system-based approach to balance bucket shape with the machine's lift and tilt capacity, weight, and linkage. A variety of work tools and bucket styles let you customize these machines to meet your operation needs.

- + Easy loading
- + Fuel efficient
- + Carry more
- + Lower operating costs
- + Higher productivity



Industrial and Waste Handler

Industrial and waste packages offer integrated guards to protect your machine from the harsh environment of a scrap or waste handling application.

Forestry Arrangement

The forestry package includes a heavy-duty linkage, a larger tilt cylinder, and a heavier counterweight to handle the larger loads met in logging and mill yard applications.

TECHNICAL SPECIFICATIONS

See cat.com for complete specifications.

ENGINE – TIER 3/STAGE IIIA EQUIVALENT			
Engine Model	Cat C7.1		
Maximum Power @ 2,000 rpm – SAE J1995	196 kW	263 hp	
Maximum Power @ 2,000 rpm – ISO 14396	195 kW	261 hp	
Maximum Power @ 2,000 rpm – ISO 14396 (metric)	265 hp		
Maximum Net Power @ 2,000 rpm – SAE J1349	185 kW	248 hp	
Maximum Net Power @ 2,000 rpm – ISO 9249	185 kW	248 hp	
Maximum Net Power @ 2,000 rpm – ISO 9249 (metric)	252 hp		
Peak Gross Torque (1,400 rpm) – SAE J1995	1053 N·m	777 lbf-ft	
Peak Gross Torque (1,400 rpm) – ISO 14396	1050 N·m	774 lbf-ft	
Maximum Net Torque (1,400 rpm)	984 N·m	726 lbf-ft	
Displacement	7.01 L	428 in³	

ENGINE – TIER 4 FINAL/STAGE V			
Engine Model	Cat C7.1		
Maximum Power @ 2,100 rpm – SAE J1995	187 kW	250 hp	
Maximum Power @ 2,100 rpm – ISO 14396	186 kW	249 hp	
Maximum Power @ 2,100 rpm – ISO 14396 (metric)	253 hp		
Maximum Net Power @ 2,100 rpm – SAE J1349	171 kW	230 hp	
Maximum Net Power @ 2,100 rpm – ISO 9249	171 kW	230 hp	
Maximum Net Power @ 2,100 rpm – ISO 9249 (metric)	232 hp		
Peak Gross Torque (1,300 rpm) – SAE J1995	1235 N·m	911 lbf-ft	
Peak Gross Torque (1,300 rpm) – ISO 14396	1231 N·m	908 lbf-ft	
Maximum Net Torque (1,300 rpm)	1163 N·m	858 lbf-ft	
Displacement	7.01 L	428 in³	

- The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential = 1430). The system contains 1.6 kg of refrigerant which has a CO₂ equivalent of 2.288 metric tonnes.

WEIGHTS			
Operating Weight	19 213 kg	42,357 lb	

- Weight based on a machine configuration with Michelin 23.5R25 XHA2 L3 radial tires, full fluids, operator, standard counterweight, cold start, roading fenders, Product Link, manual diff lock/open axles (front/rear), power train guard, secondary steering, sound suppression, and a 3.1 m³ (4.1 yd³) general purpose bucket with BOCE.

BUCKET CAPACITIES			
Bucket Range	2.5-9.2 m³	3.3-12.0 yd³	

TRANSMISSION					
Forward 1	6.9 km/h	4.3 mph	Forward 5	39.5 km/h	24.5 mph
Forward 2	12 km/h	7.5 mph	Reverse 1	6.9 km/h	4.3 mph
Forward 3	19.3 km/h	12.0 mph	Reverse 2	12 km/h	7.5 mph
Forward 4	25.7 km/h	16.0 mph	Reverse 3	25.7 km/h	16.0 mph

- Maximum travel speed in standard vehicle with empty bucket and standard L3 tires with 787 mm (31 in) roll radius.

SERVICE REFILL CAPACITIES			
Fuel Tank	275 L	72.6 gal	
DEF Tank	16 L	4.2 gal	
Cooling System	59 L	15.6 gal	
Crankcase	22 L	5.8 gal	
Transmission	43 L	11.4 gal	
Differentials and Final Drives – Front	43 L	11.4 gal	
Differentials and Final Drives – Rear	43 L	11.4 gal	
Hydraulic Tank	125 L	33.0 gal	

SOUND	
With Cooling Fan Speed at Maximum Value:	
Operator Sound Pressure Level (ISO 6396:2008)	
Tier 3/Stage IIIA Equivalent	72 dB(A)
Tier 4 Final/Stage V	70 dB(A)
Exterior Sound Power Level (ISO 6395:2008)	107 dB(A)
Exterior Sound Pressure Level (SAE J88:2013)	75 dB(A)*

*Distance of 15 m (49.2 ft), moving forward in second gear ratio.

With Cooling Fan Speed at 70% of Maximum Value:**	
Operator Sound Pressure Level (ISO 6396:2008)	69 dB(A)
Exterior Sound Power Level	104 dB(A)***

**For machines in European Union countries and in countries that adopt the "EU Directives."

***European Union Directive "2000/14/EC" as amended by "2005/88/EC."

OPERATING SPECIFICATIONS			
Static Tipping Load – Full 37° Turn – with Tire Deflection	11 005 kg	24,262 lb	
Static Tipping Load – Full 37° Turn – no Tire Deflection	11 760 kg	25,926 lb	
Breakout Force	181 kN	40,690 lbf	

- For a machine configuration as defined under "Weight."
- Full compliance to ISO 14397-1:2007 Sections 1 thru 6, which requires 2% verification between calculations and testing.

HYDRAULIC SYSTEM			
Implement Pump Type	Variable Axial Piston		
Implement System:			
Maximum Pump Output (2,150 rpm)	286 L/min	76 gal/min	
Maximum Operating Pressure	29 300 kPa	4,250 psi	
Hydraulic Cycle Time – Total	9.1 Seconds		

DIMENSIONS			
	Standard Lift		High Lift
Height to Top of Hood	2697 mm	8'10"	2697 mm 8'10"
Height to Top of Exhaust Pipe	3413 mm	11'2"	3413 mm 11'2"
Height to Top of ROPS	3446 mm	11'4"	3446 mm 11'4"
Ground Clearance	367 mm	1'2"	367 mm 1'2"
Center Line of Rear Axle to Edge of Counterweight	1942 mm	6'4"	2071 mm 6'10"
Center Line of Rear Axle to Hitch	1675 mm	5'6"	1675 mm 5'6"
Wheelbase	3350 mm	11'0"	3350 mm 11'0"
Overall Length (without bucket)	6906 mm	22'8"	7488 mm 24'7"
Hinge Pin Height at Maximum Lift	647 mm	2'1"	782 mm 2'7"
Hinge Pin Height at Carry	4027 mm	13'3"	4527 mm 14'10"
Lift Arm Clearance at Maximum Lift	3280 mm	10'9"	3634 mm 11'11"
Rack Back at Maximum Lift	59 degrees		56 degrees
Rack Back at Carry Height	46 degrees		49 degrees
Rack Back at Ground	38 degrees		42 degrees
Maximum Width over Tires	2822 mm	9'4"	2822 mm 9'4"
Tread Width	2140 mm	7'0"	2140 mm 7'0"

- All dimensions are approximate and based on Michelin 23.5R25 XHA2 L3 radial tires.

STANDARD & OPTIONAL EQUIPMENT

Standard and optional equipment may vary. Consult your Cat dealer for details.

OPERATOR ENVIRONMENT	STANDARD	OPTIONAL
Cab, pressurized, sound suppression	•	
Door, remote opening system		•
Touchscreen display	•	
Steering		
Steering wheel	•	
EH: Joystick steering		•
EH: Controls, parking brake	•	
Seat, cloth, air suspension	•	
Seat, suede/cloth, air suspension, heated		•
Seat, leather/cloth, air suspension, heated/cooled		•
Radio, AM/FM, Bluetooth®, CD/USB/MP3/Sirius XM, CB ready		•
Visibility: Mirrors, rear vision camera	•	
Air conditioner, heater, defroster (auto temp, fan)	•	
Windows, front, heavy duty, or full guards		•
CAT TECHNOLOGIES	STANDARD	OPTIONAL
Link: Product Link	•	
Link: VIMS™		•
Detect: Rear vision camera	•	
Detect: Cat Rear Object Detection		•
Machine Security System		•
Printer, Aggregate Autodig, Cat Production Measurement 2.0		•
POWER TRAIN	STANDARD	OPTIONAL
Cat C7.1 engine, meets emission standards	•	
Emissions: CEM, DPF, DEF (Tier 4 Final/Stage V)	•	
Fuel priming pump, fuel/water separator	•	
Radiator, high debris, wide fin spacing		•
Fan, variable pitch fan, auto/manual control		•
Torque converter, lock up clutch	•	
Precleaner, engine air intake	•	
Brakes, full hydraulic, Integrated Braking System, wear indicators	•	
Axles, manual differential locks, ecology drains	•	
Axles, automatic locks, oil cooler, temperature seals, guards		•

HYDRAULICS	STANDARD	OPTIONAL
Hydraulic system, steering, load sensing	•	
Ride Control, 2V	•	
3 rd and 4 th function w/ Ride Control		•
Oil sampling valves, hoses, Cat XT™	•	
ELECTRICAL	STANDARD	OPTIONAL
Starter, electric, heavy duty	•	
Starting and charging system, 24V	•	
Lights: Halogen, 4 work lights, 2 roading lights, 2 rear vision lights	•	
Lights: Additional 4 halogen work lights OR replace full lighting with LED packages		•
Cold start, 120V, 240V		•
MONITORING SYSTEM	STANDARD	OPTIONAL
Gauges: Speedometer, temperature, fuel level, DEF level	•	
Indicators: Regeneration, temperature, pressure, battery, oil, DEF	•	
ADDITIONAL EQUIPMENT	STANDARD	OPTIONAL
Cat Autolube System		•
Fenders, roading		•
Guard, power train		•
Oil change, high speed engine		•
Precleaner, turbine		•
Precleaner, trash		•
LINKAGE	STANDARD	OPTIONAL
High Lift		•
Forestry		•
Quick Coupler Ready		•
Linkage, Z-bar, cast crosstube/tilt lever	•	
Kickout, lift and tilt, automatic	•	
OTHER OPTIONAL CONFIGURATIONS	STANDARD	OPTIONAL
Industrial and Waste Handler		•
Forestry		•
Steel Mill (T3 equivalent only)		•
Auxiliary Counterweight		•

Not all features are available in all regions. Please check with your local Cat dealer for specific offering availability in your area.

For additional information, refer to the Technical Specifications brochures for the 966M model available at www.cat.com or your Cat dealer.



For more complete information on Cat products, dealer services and industry solutions, visit us on the web at www.cat.com

VisionLink® is a trademark of Trimble Navigation Limited, registered in the United States and in other countries.

Materials and specifications are subject to change without notice. Featured machines in photos may include additional equipment. See your Cat dealer for available options.

© 2020 Caterpillar. All Rights Reserved. CAT, CATERPILLAR, LET'S DO THE WORK, their respective logos, VIMS, Fusion, XT, Product Link, "Caterpillar Corporate Yellow", the "Power Edge" and Cat "Modern Hex" trade dress as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.

www.cat.com www.caterpillar.com

AEXQ2439-01
Replaces AEXQ2439-00
2020 Product Update





For: Wheel Loaders

Type: Buckets

Applications: Recycling Solid Waste Handling

Features At-A-Glance

- Specifically designed for use in transfer stations and tipping floor applications.
- Shallow in design yet very tall with high visibility spill guard.
- Design is also suited for dozing and piling but can be used in loading applications as well.
- Available in capacities up to 18 yards.
- Pre-drilled for OEM cutting edges and rubber edges.
- Available in pin-on and various coupler hook-ups (Volvo®, JRB®, etc.).



Loader Class	Capacity (Yards)	Width (up to)	Height	Weight (lbs)
L-200	4.00	104"	60"	3,560
L-300	5.50	112"	73"	4,650
L-500	6.80	112"	84"	6,120
L-600	7.25	126"	84"	6,980
L-700	11.25	134"	96"	8,220
L-800	13.25	144"	98"	8,900

Dozing Style Refuse Bucket



Quality Attachments Since 1978

PEMBERTON

PO Box 521000, Longwood FL 32752-1000 USA • 800-393-6688

EXCAVATOR



320

Hydraulic Excavator

Technical Specifications

Engine

Engine Model	Cat® C4.4 ACERT™	
Net Power (ISO 9249)	121 kW	162 hp
Net Power (SAE J1349)	121 kW	162 hp
Gross Power (ISO 14396/SAE J1995)	122 kW	164 hp
Bore	105 mm	4 in
Stroke	127 mm	5 in
Displacement	4.4 L	269 in ³

- The 320 meets U.S. EPA Tier 4 Final emission standards.
- Recommended for use up to 4500 m (14,764 ft) altitude with engine power derate above 3000 m (9,842.5 ft).
- Net power advertised is the power available at the flywheel when the engine is equipped with fan, air cleaner, muffler and alternator.
- Rating at 1,800 rpm.

Engine rpm

Operation	1,650 rpm
Travel	1,800 rpm

Swing Mechanism

Swing Speed	11.30 rpm
Maximum Swing Torque	74 kN·m 54,440 lbf·ft

Weights

Operating Weight	22 500 kg	49,600 lb
------------------	-----------	-----------

- Reach boom, R2.9 (9'6") stick, HD 1.19 m³ (1.56 yd³) bucket and 790 mm (31 in) triple grouser shoes.

Track

Standard Track Shoe Width	790 mm	31 in
Number of Shoes (each side)	49	
Number of Track Rollers (each side)	8	
Number of Carrier Rollers (each side)	2	

Drive

Maximum Gradeability	35°/70%	
Maximum Travel Speed	5.7 km/h	3.5 mph
Maximum Drawbar Pull – Long Undercarriage	205 kN	45,996 lbf

Hydraulic System

Main System – Maximum Flow (Implement)	429 L/min (214.5 × 2 pumps)	113 gal/min (56.5 × 2 pumps)
Swing System – Maximum Flow	No swing pump	
Maximum Pressure – Equipment – Normal	35 000 kPa	5,075 psi
Maximum Pressure – Equipment – Lift Mode	38 000 kPa	5,510 psi
Maximum Pressure – Travel	34 300 kPa	4,974 psi
Maximum Pressure – Swing	26 800 kPa	3,886 psi
Boom Cylinder – Bore	120 mm	5 in
Boom Cylinder – Stroke	1260 mm	50 in
Stick Cylinder – Bore	140 mm	6 in
Stick Cylinder – Stroke	1504 mm	59 in
Bucket Cylinder – Bore	120 mm	5 in
Bucket Cylinder – Stroke	1104 mm	43 in

320 Hydraulic Excavator Specifications

Service Refill Capacities

Fuel Tank Capacity	345 L	86.6 gal
Cooling System	25 L	6.6 gal
Engine Oil	15 L	4.0 gal
Swing Drive (each)	5 L	1.3 gal
Final Drive (each)	5 L	1.3 gal
Hydraulic System (including tank)	234 L	61.8 gal
Hydraulic Tank	115 L	30.4 gal
DEF Tank	39 L	10.3 gal

Standards

Brakes	ISO 10265:2008
Cab/FOGS	ISO 10262:1998
Cab/ROPS	ISO 12117-2:2008

Sound Performance

ISO 6395 (external)	99 dB(A)
ISO 6396 (inside cab)	70 dB(A)

- When properly installed and maintained, the cab offered by Caterpillar, when tested with doors and windows closed according to ANSI/SAE J1166 OCT98, meets OSHA and MSHA requirements for operator sound exposure limits in effect at time of manufacture.
- Hearing protection may be needed when operating with an open operator station and cab (when not properly maintained or doors/windows open) for extended periods or in a noisy environment.

Operating Weight and Ground Pressure

	790 mm (31 in) Triple Grouser Shoes			
	Weight		Ground Pressure	
4.2 mt (9,300 lb) Counterweight + Base Machine				
Reach Boom + R2.9 (9'6") Stick + 1.14 m³ (1.49 yd³) GD Bucket	22 400 kg	49,400 lb	35.4 kPa	5.1 psi

All operating weights include a 90% fuel tank with 75 kg (165 lb) operator.

320 Hydraulic Excavator Specifications

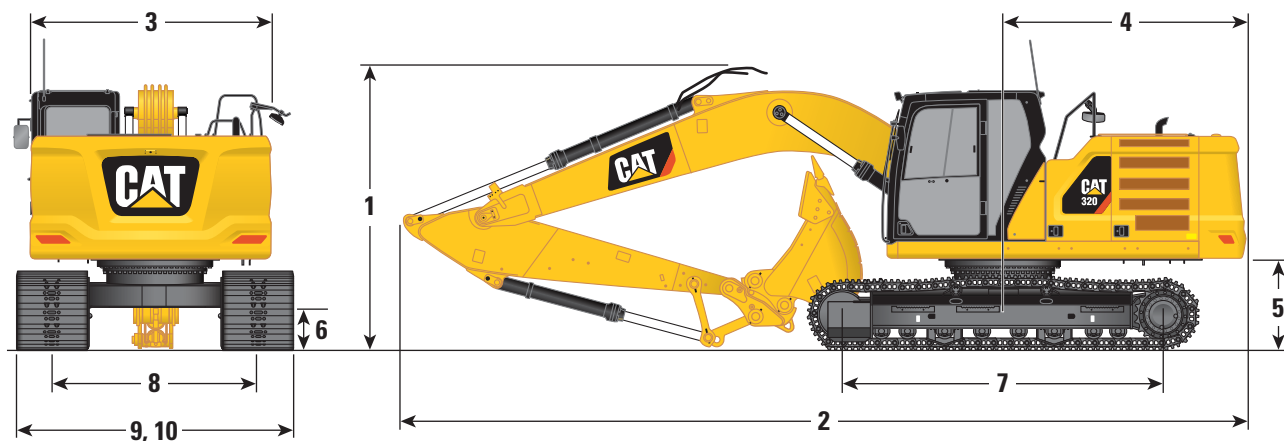
Major Component Weights

	kg	lb
Base Machine (with 4.2 mt [9,300 lb] counterweight, semi-HD swing frame, standard base frame with HD track rollers and standard carrier rollers for long undercarriage, with boom cylinder – does not include 90% fuel and 75 kg [165 lb] operator)	14 800	32,600
Track Shoes:		
790 mm (31 in) Width, 10 mm (0.39 in) Thick Triple Grouser Track Shoes for Long Undercarriage with Step Extension for ISO 2867	3370	7,400
Two Boom Cylinders	340	750
Weight of 90% Fuel Tank and 75 kg (165 lb) Operator	310	680
Counterweights:		
4.2 mt (9,300 lb) Counterweight	4200	9,300
4.7 mt (10,400 lb) Counterweight (only for Super Long Reach)	4700	10,400
Swing Frame:		
Semi-HD Swing Frame, for C4.4 ACERT	1910	4,210
Standard and Long Undercarriage:		
Standard Base Frame with HD Track Rollers and Standard Carrier Rollers for Long Undercarriage	4390	9,700
Booms (including lines, pins, stick cylinder):		
Reach Boom (5.7 m/18'8")	1710	3,800
Super Long Reach Boom (8.85 m/29'0")	2170	4,800
Sticks (including lines, pins, bucket cylinder, bucket linkage):		
Reach Stick (R2.9B1/9'6")	1300	2,900
Super Long Reach Stick (6.28A/20'7")	1340	3,000
Buckets (without linkage):		
1.19 m³ (1.56 yd³) HD	880	1,940
1.0 m³ (1.31 yd³) HD	850	1,870
0.57 m³ (0.75 yd³) Ditch Cleaning	390	850
Quick Couplers:		
Pin Grabber QC	390	850

320 Hydraulic Excavator Specifications

Dimensions

All dimensions are approximate and may vary depending on bucket selection.

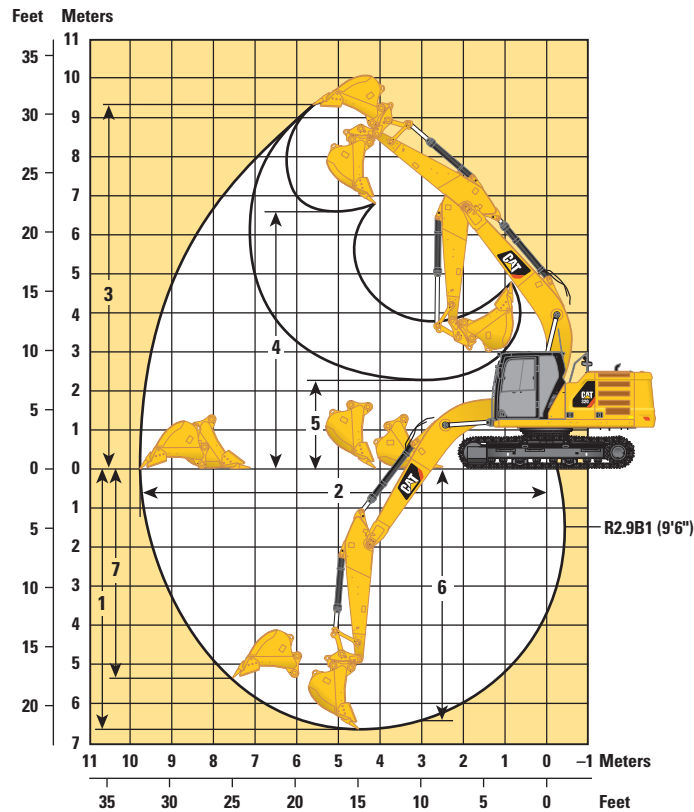


Boom Options	Reach Boom 5.7 m (18'8")		SLR Boom 8.85 m (29'0")			
Stick Options	Reach Stick R2.9B1 (9'6")		SLR Stick 6.28A (20'7")			
			6.28A (20'7")		6.28A (20'7")	
1 Machine Height:						
Top of Cab Height	2960 mm	9'9"	2960 mm	9'9"	2960 mm	9'9"
Top of FOGS Height	3100 mm	10'2"	3100 mm	10'2"	3100 mm	10'2"
Handrails Height	2950 mm	9'8"	2950 mm	9'8"	2950 mm	9'8"
With Boom/Stick/Bucket Installed	3160 mm	10'4"	3190 mm	10'6"	3190 mm	10'6"
With Boom/Stick Installed	2910 mm	9'7"	3070 mm	10'1"	3070 mm	10'1"
With Boom Installed	2480 mm	8'2"	2650 mm	8'8"	2650 mm	8'8"
2 Machine Length:						
With Boom/Stick/Bucket Installed	9530 mm	31'3"	12 750 mm	41'10"	12 750 mm	41'10"
With Boom/Stick Installed	9500 mm	31'2"	12 760 mm	41'10"	12 760 mm	41'10"
With Boom Installed	8450 mm	27'9"	8920 mm	29'3"	8920 mm	29'3"
3 Upperframe Width without Walkways	2780 mm	9'1"	2780 mm	9'1"	2780 mm	9'1"
4 Tail Swing Radius	2830 mm	9'3"	2830 mm	9'3"	2830 mm	9'3"
5 Counterweight Clearance	1050 mm	3'5"	1050 mm	3'5"	1050 mm	3'5"
6 Ground Clearance	470 mm	1'7"	470 mm	1'7"	470 mm	1'7"
7 Track Length – Length to Center of Rollers	3650 mm	12'0"	3650 mm	12'0"	3650 mm	12'0"
8 Track Gauge – Extended	2380 mm	7'9"	2380 mm	7'9"	2380 mm	7'9"
9 Track Width:						
790 mm (31 in) Shoes	3170 mm	10'5"	3170 mm	10'5"	3170 mm	10'5"
10 Undercarriage Width (with steps/without steps):						
790 mm (31 in) Shoes	3170 mm	10'5"	3170 mm	10'5"	3170 mm	10'5"
Bucket Type	GD		Ditch Cleaning (DC)		GD	
Bucket Capacity	1.14 m³	1.50 yd³	0.57 m³	0.75 yd³	0.53 m³	0.69 yd³
Bucket Tip Radius	1470 mm	4'10"	1070 mm	3'6"	1220 mm	4'0"

320 Hydraulic Excavator Specifications

Working Ranges

All dimensions are approximate and may vary depending on bucket selection.



Boom Option

**Reach Boom
5.7 m (18'8")**

Stick Option

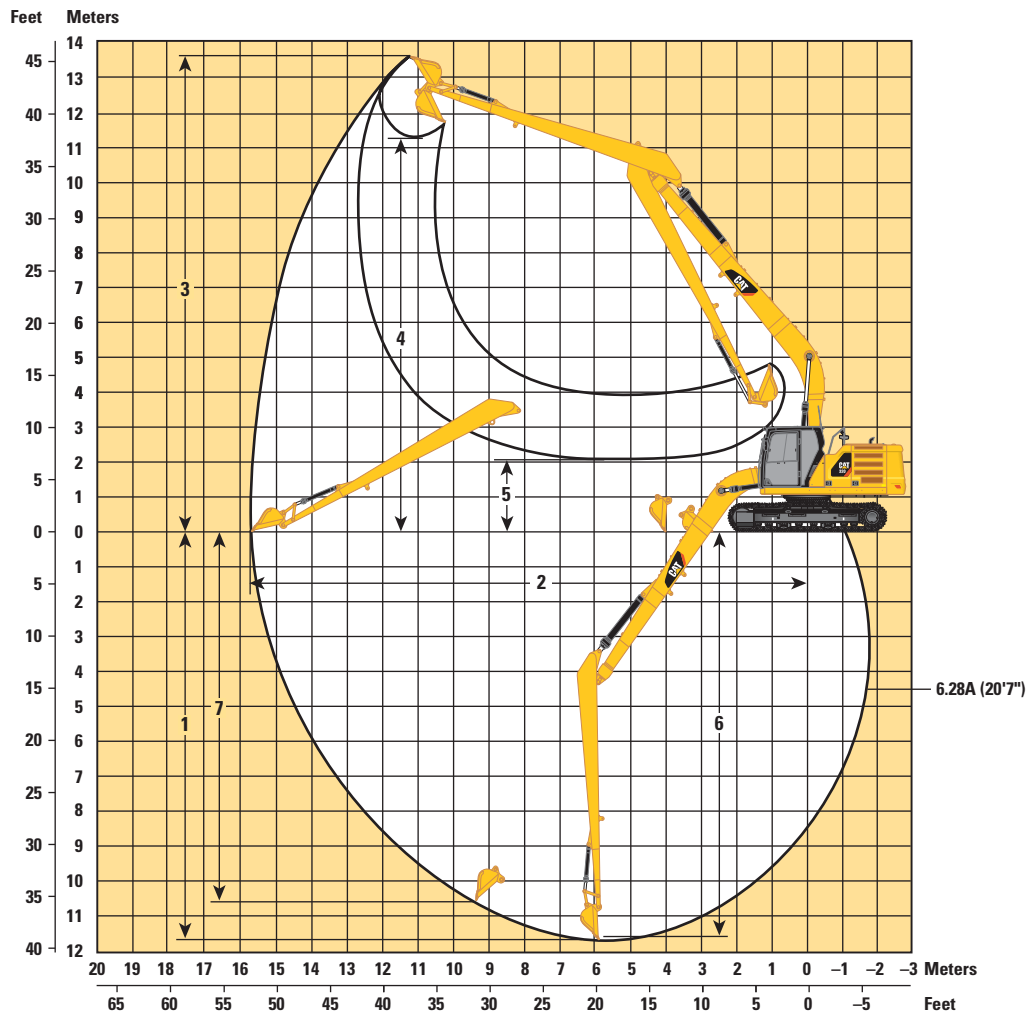
**Reach Stick
R2.9B1 (9'6")**

1 Maximum Digging Depth	6620 mm	21'9"
2 Maximum Reach at Ground Line	9760 mm	32'0"
3 Maximum Cutting Height	9330 mm	30'7"
4 Maximum Loading Height	6590 mm	21'7"
5 Minimum Loading Height	2270 mm	7'5"
6 Maximum Depth Cut for 2440 mm (8'0") Level Bottom	6440 mm	21'2"
7 Maximum Vertical Wall Digging Depth	5360 mm	17'7"
Bucket Digging Force (SAE)	143 kN	32,233 lbf
Bucket Digging Force (ISO)	163 kN	36,711 lbf
Stick Digging Force (SAE)	105 kN	23,668 lbf
Stick Digging Force (ISO)	109 kN	24,486 lbf
Bucket Type	GD	
Bucket Capacity	1.14 m ³	1.50 yd ³
Bucket Tip Radius	1470 mm	4'10"

320 Hydraulic Excavator Specifications

Working Ranges

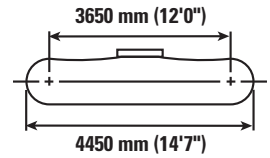
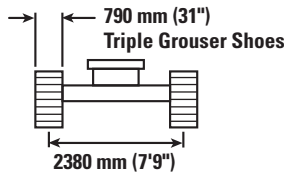
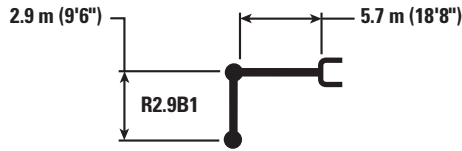
All dimensions are approximate and may vary depending on bucket selection.

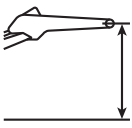


Boom Option		SLR Boom 8.85 m (29'0")			
Stick Option		SLR Stick			
		6.28A (20'7")		6.28A (20'7")	
1	Maximum Digging Depth	11 540 mm	37'10"	11 690 mm	38'4"
2	Maximum Reach at Ground Line	15 570 mm	51'1"	15 730 mm	51'7"
3	Maximum Cutting Height	13 540 mm	44'5"	13 610 mm	44'8"
4	Maximum Loading Height	11 440 mm	37'6"	11 290 mm	37'0"
5	Minimum Loading Height	2240 mm	7'4"	2080 mm	6'10"
6	Maximum Depth Cut for 2440 mm (8'0") Level Bottom	11 440 mm	37'6"	11 590 mm	38'0"
7	Maximum Vertical Wall Digging Depth	11 020 mm	36'2"	10 560 mm	34'8"
Bucket Digging Force (SAE)		62 kN	13,841 lbf	54 kN	12,119 lbf
Bucket Digging Force (ISO)		62 kN	13,841 lbf	60 kN	13,549 lbf
Stick Digging Force (SAE)		49 kN	10,950 lbf	48 kN	10,791 lbf
Stick Digging Force (ISO)		49 kN	10,950 lbf	49 kN	10,950 lbf
Bucket Type		Ditch Cleaning (DC)		GD	
Bucket Capacity		0.57 m³	0.75 yd³	0.53 m³	0.69 yd³
Bucket Tip Radius		1070 mm	3'6"	1230 mm	4'0"

320 Hydraulic Excavator Specifications

Reach Boom Lift Capacities – Counterweight: 4.2 mt (9,300 lb) – without Bucket



		1500 mm/60 in		3000 mm/120 in		4500 mm/180 in		6000 mm/240 in		7500 mm/300 in				mm in
														
7500 mm 300 in	kg lb							*4950	*4950			*4300 *9,550	*4300 *9,550	6150 240
6000 mm 240 in	kg lb							*5450 *11,950	*5450 11,900			*4000 *8,800	*4000 *8,800	7290 290
4500 mm 180 in	kg lb							*6000 *13,000	5400 11,600	*5650 *12,350	3800 8,200	*3900 *8,600	3450 7,600	7990 320
3000 mm 120 in	kg lb					*8700 *18,750	7850 16,850	*6850 *14,900	5150 11,100	5750 12,300	3700 8,000	*4000 *8,800	3150 6,950	8360 330
1500 mm 60 in	kg lb					*10 550 *22,800	7350 15,800	*7800 16,800	4900 10,600	5600 12,050	3600 7,750	*4250 *9,350	3050 6,700	8450 340
0 mm 0 in	kg lb			*6600 *15,200	*6600 *15,200	*11 600 *25,050	7050 15,200	7600 16,400	4750 10,250	5500 11,850	3500 7,600	*4700 *10,350	3100 6,800	8260 330
-1500 mm -60 in	kg lb	*7100 *15,800	*7100 *15,800	*11 400 *25,900	*11 400 *25,900	*11 700 *25,350	6950 15,000	7550 16,200	4700 10,050	5500 11,800	3500 7,550	5250 11,500	3350 7,350	7780 310
-3000 mm -120 in	kg lb	*12 100 *27,150	*12 100 *27,150	*15 500 *33,600	13 550 29,050	*10 950 *23,700	7050 15,150	7600 16,300	4700 10,150			6150 13,650	3900 8,700	6950 280
-4500 mm -180 in	kg lb			*12 400 *26,550	*12 400 *26,550	*8950 *19,000	7250 15,600					*6750 *14,850	5400 12,100	5600 220



ISO 10567



*Indicates that the load is limited by hydraulic lifting capacity rather than tipping load. The above loads are in compliance with hydraulic excavator lift capacity standard ISO 10567:2007. They do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. Weight of all lifting accessories must be deducted from the above lifting capacities. Lifting capacities are based on the machine standing on a firm, uniform supporting surface. The use of a work tool attachment point to handle/lift objects, could affect the machine lift performance.

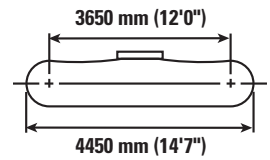
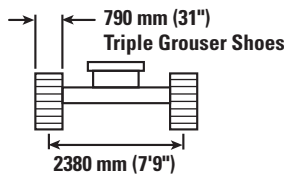
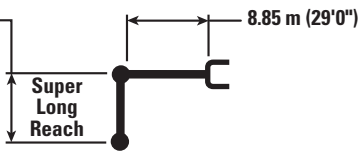
Lift capacity stays with $\pm 5\%$ for all available track shoes.

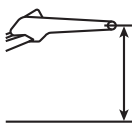
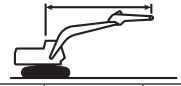
Always refer to the appropriate Operation and Maintenance Manual for specific product information.

320 Hydraulic Excavator Specifications

Super Long Reach Boom Lift Capacities – Counterweight: 4.7 mt (10,400 lb) – without Bucket

6.28 m (20'7")



		1500 mm/60 in		3000 mm/120 in		4500 mm/180 in		6000 mm/240 in		7500 mm/300 in				
														mm in
12 000 mm 480 in	kg lb											*1250 *2,800	*1250 *2,800	10 350 400
10 500 mm 420 in	kg lb											*1200 *2,600	*1200 *2,600	11 660 460
9000 mm 360 in	kg lb											*1150 *2,450	*1150 *2,450	12 660 500
7500 mm 300 in	kg lb											*1100 *2,400	*1100 *2,400	13 410 530
6000 mm 240 in	kg lb											*1100 *2,400	*1100 *2,400	13 970 550
4500 mm 180 in	kg lb											*1100 *2,400	*1100 *2,400	14 340 570
3000 mm 120 in	kg lb			*4700 *11,850	*4700 *11,850	*6750 *14,450	*6750 *14,450	*5000 *10,750	*5000 *10,750	*4100 *8,800	3700 7,950	*1150 *2,500	*1150 *2,500	14 550 580
1500 mm 60 in	kg lb					*6750 *16,000	6550 14,200	*5900 *12,750	4550 9,800	*4650 *10,050	3350 7,250	*1200 *2,600	1150 2,500	14 600 580
0 mm 0 in	kg lb			*2000 *4,550	*2000 *4,550	*4650 *10,700	*4650 *10,700	*6650 *14,350	4100 8,850	5100 11,000	3100 6,600	*1250 *2,750	1150 2,450	14 490 570
−1500 mm −60 in	kg lb	*2100 *4,600	*2100 *4,600	*2700 *6,100	*2700 *6,100	*4650 *10,500	*4650 *10,500	6700 14,400	3850 8,250	4900 10,550	2850 6,150	*1350 *3,000	1150 2,500	14 230 560
−3000 mm −120 in	kg lb	*2850 *6,350	*2850 *6,350	*3550 *7,900	*3550 *7,900	*5200 *11,750	*5200 *11,750	6550 14,100	3700 7,950	4750 10,250	2750 5,900	*1500 *3,300	1200 2,600	13 790 550
−4500 mm −180 in	kg lb	*3650 *8,150	*3650 *8,150	*4400 *9,900	*4400 *9,900	*6050 *13,700	5550 11,950	6500 14,000	3650 7,850	4700 10,100	2700 5,800	*1700 *3,750	1250 2,800	13 170 520
−6000 mm −240 in	kg lb	*4550 *10,150	*4550 *10,150	*5400 *12,150	*5400 *12,150	*7200 *16,350	5650 12,200	6550 14,100	3700 7,950	4700 10,150	2700 5,850	*2000 *4,450	1400 3,100	12 340 490
−7500 mm −300 in	kg lb	*5500 *12,250	*5500 *12,250	*6600 *14,800	*6600 *14,800	*8300 *17,800	5850 12,600	*6450 *13,850	3800 8,200	4800 10,350	2800 6,000	*2500 *5,650	1650 3,700	11 240 440
−9000 mm −360 in	kg lb			*7950 *18,000	*7950 *18,000	*7050 *14,950	6150 13,250	*5550 *11,800	4000 8,650	*4500 *9,500	2950 6,300	*3100 *6,800	2100 4,700	9800 380



ISO 10567



*Indicates that the load is limited by hydraulic lifting capacity rather than tipping load. The above loads are in compliance with hydraulic excavator lift capacity standard ISO 10567:2007. They do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. Weight of all lifting accessories must be deducted from the above lifting capacities. Lifting capacities are based on the machine standing on a firm, uniform supporting surface. The use of a work tool attachment point to handle/lift objects, could affect the machine lift performance.

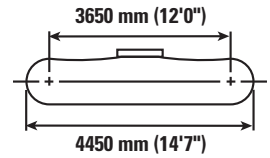
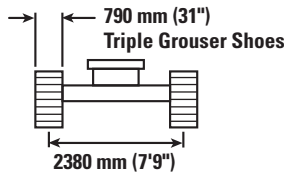
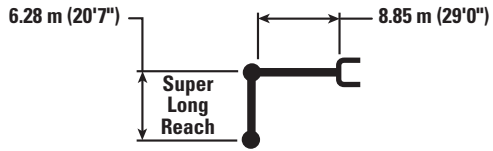
Lift capacity stays with $\pm 5\%$ for all available track shoes.

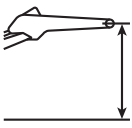
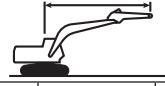
Always refer to the appropriate Operation and Maintenance Manual for specific product information.

(continued on next page)

320 Hydraulic Excavator Specifications

Super Long Reach Boom Lift Capacities – Counterweight: 4.7 mt (10,400 lb) – without Bucket *(continued)*



		9000 mm/360 in		10 500 mm/420 in		12 000 mm/480 in		13 500 mm/540 in				mm in
												
12 000 mm 480 in	kg lb									*1250 *2,800	*1250 *2,800	10 350 400
10 500 mm 420 in	kg lb			*2350 *4,700	*2350 *4,700					*1200 *2,600	*1200 *2,600	11 660 460
9000 mm 360 in	kg lb			*2450 *5,450	*2450 *5,450	*2000 *3,650	2000 *3,650			*1150 *2,450	*1150 *2,450	12 660 500
7500 mm 300 in	kg lb			*2550 *5,550	2550 5,450	*2500 *5,400	1950 4,150			*1100 *2,400	*1100 *2,400	13 410 530
6000 mm 240 in	kg lb			*2700 *5,900	2450 5,250	*2600 *5,700	1900 4,050	*1850 *3,250	1500 3,100	*1100 *2,400	*1100 *2,400	13 970 550
4500 mm 180 in	kg lb	*3150 *6,850	3050 6,500	*2900 *6,300	2350 5,000	*2750 *5,950	1850 3,900	2350 *4,600	1450 3,050	*1100 *2,400	*1100 *2,400	14 340 570
3000 mm 120 in	kg lb	*3500 *7,600	2800 6,050	*3150 *6,850	2200 4,700	2800 6,000	1750 3,700	2300 4,900	1400 2,950	*1150 *2,500	*1150 *2,500	14 550 580
1500 mm 60 in	kg lb	*3900 *8,400	2600 5,550	3300 7,150	2050 4,400	2700 5,800	1650 3,500	2250 4,800	1350 2,800	*1200 *2,600	1150 2,500	14 600 580
0 mm 0 in	kg lb	3950 8,550	2400 5,150	3200 6,850	1900 4,100	2600 5,600	1550 3,300	2200 4,650	1300 2,700	*1250 *2,750	1150 2,450	14 490 570
-1500 mm -60 in	kg lb	3800 8,200	2250 4,850	3100 6,600	1800 3,900	2550 5,450	1500 3,200	2150 4,600	1250 2,650	*1350 *3,000	1150 2,500	14 230 560
-3000 mm -120 in	kg lb	3700 7,950	2150 4,650	3000 6,450	1750 3,750	2500 5,350	1450 3,100	2100 *3,650	1200 2,600	*1500 *3,300	1200 2,600	13 790 550
-4500 mm -180 in	kg lb	3650 7,850	2100 4,550	2950 6,350	1700 3,700	2500 5,350	1450 3,050			*1700 *3,750	1250 2,800	13 170 520
-6000 mm -240 in	kg lb	3650 7,900	2100 4,550	3000 6,400	1750 3,700	2500 *5,150	1450 3,150			*2000 *4,450	1400 3,100	12 340 490
-7500 mm -300 in	kg lb	3700 8,050	2200 4,700	3050 6,600	1800 3,850					*2500 *5,650	1650 3,700	11 240 440
-9000 mm -360 in	kg lb	*3600 *7,500	2300 5,000							*3100 *6,800	2100 4,700	9800 380



ISO 10567



*Indicates that the load is limited by hydraulic lifting capacity rather than tipping load. The above loads are in compliance with hydraulic excavator lift capacity standard ISO 10567:2007. They do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. Weight of all lifting accessories must be deducted from the above lifting capacities. Lifting capacities are based on the machine standing on a firm, uniform supporting surface. The use of a work tool attachment point to handle/lift objects, could affect the machine lift performance.

Lift capacity stays with ±5% for all available track shoes.

Always refer to the appropriate Operation and Maintenance Manual for specific product information.

320 Hydraulic Excavator Specifications

Bucket Specifications and Compatibility – 320

	Linkage	Width		Capacity		Weight		Fill	4.2 mt (9,300 lb) Counterweight	4.7 mt (10,400 lb) Counterweight	
		mm	in	m³	yd³	kg	lb		%	Reach Boom	SLR Boom
										R2.9 (9'6")	6.28A (20'7")
Pin-On (No Quick Coupler)											
General Duty – Capacity (GDC)	B	600	24	0.55	0.72	619	1,363	100	●		
	B	750	30	0.75	0.98	710	1,566	100	●		
	B	900	36	0.95	1.24	787	1,735	100	●		
	B	1050	42	1.16	1.52	848	1,870	100	⊙		
	B	1200	48	1.38	1.80	926	2,041	100	⊖		
	B	1350	54	1.59	2.08	1004	2,213	100	X		
General Duty – Capacity (GDC) – Wide Tip	B	600	24	0.55	0.72	633	1,394	100	●		
	B	750	30	0.75	0.98	731	1,612	100	●		
	B	900	36	0.95	1.24	813	1,793	100	●		
	B	1050	42	1.16	1.52	895	1,973	100	⊙		
	B	1200	48	1.38	1.80	979	2,158	100	⊖		
	B	1350	54	1.59	2.08	1063	2,343	100	X		
Heavy Duty (HD)	B	600	24	0.46	0.61	649	1,431	100	●		
	B	750	30	0.64	0.84	748	1,649	100	●		
	B	900	36	0.81	1.06	826	1,821	100	●		
	B	1050	42	1.00	1.31	880	1,940	100	●		
	B	1200	48	1.19	1.56	972	2,141	100	⊙		
	B	1350	54	1.38	1.81	1054	2,322	100	X		
Heavy Duty – Power (HDP)	B	900	36	0.79	1.03	842	1,856	100	●		
	B	1050	42	0.96	1.26	907	1,999	100	●		
	B	1200	48	1.14	1.49	993	2,188	100	X		
Severe Duty (SD)	B	600	24	0.46	0.61	694	1,530	90	●		
	B	750	30	0.64	0.84	802	1,768	90	●		
	B	900	36	0.81	1.06	889	1,959	90	●		
	B	1050	42	1.00	1.31	964	2,125	90	●		
	B	1200	48	1.19	1.56	1053	2,320	90	⊙		
Severe Duty – Power (SDP)	B	900	36	0.79	1.03	908	2,001	90	●		
Mud/Cleanup (M/CU)	B	1700	72	1.60	2.09	979	2,158	100	○		
Ditch Cleaning (DC)	B	1500	60	1.01	1.32	652	1,437	100	●		
	B	1800	72	1.24	1.62	740	1,631	100	⊙		
Ditch Cleaning – Tilt (DCT)	B	1500	60	0.90	1.18	948	2,090	100	●		
	B	1800	72	1.11	1.45	1063	2,344	100	⊙		
	B	1800	72	1.40	1.83	1148	2,531	100	○		
	B	2000	79	1.23	1.61	1132	2,496	100	⊖		
General Duty (GD)	312	900	36	0.53	0.69	403	888	100		◇	
Ditch Cleaning (DC) Long Reach	312	1200	48	0.57	0.74	386	851	100		◇	
Maximum load with pin-on (payload + bucket)								kg	3010	800	
								lb	6,636	1,764	

The above loads are in compliance with hydraulic excavator standard EN474, they do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity with front linkage fully extended at ground line with bucket curled.

Capacity based on ISO 7451.

Bucket weight with General Duty tips.

Maximum Material Density:

- 2100 kg/m³ (3,500 lb/yd³)
- ⊙ 1800 kg/m³ (3,000 lb/yd³)
- ⊖ 1500 kg/m³ (2,500 lb/yd³)
- 1200 kg/m³ (2,000 lb/yd³)
- ◇ 900 kg/m³ (1,500 lb/yd³)
- X Not Recommended

Caterpillar recommends using appropriate work tools to maximize the value customers receive from our products. Use of work tools, including buckets, which are outside of Caterpillar's recommendations or specifications for weight, dimensions, flows, pressures, etc. may result in less-than-optimal performance, including but not limited to reductions in production, stability, reliability, and component durability. Improper use of a work tool resulting in sweeping, prying, twisting and/or catching of heavy loads will reduce the life of the boom and stick.

320 Hydraulic Excavator Specifications

Bucket Specifications and Compatibility – 320 Long

	Linkage	Width		Capacity		Weight		Fill	4.2 mt (9,300 lb) Counterweight	4.7 mt (10,400 lb) Counterweight	
		mm	in	m³	yd³	kg	lb		%	Reach Boom	SLR Boom
									R2.9 (9'6")	6.28A (20'7")	
With Cat Pin Grabber Coupler											
General Duty – Capacity (GDC)	B	600	24	0.55	0.72	619	1,363	100	●		
	B	750	30	0.75	0.98	710	1,566	100	●		
	B	900	36	0.95	1.24	787	1,735	100	⊙		
	B	1050	42	1.16	1.52	848	1,870	100	⊖		
	B	1200	48	1.38	1.80	926	2,041	100	○		
	B	1350	54	1.59	2.08	1004	2,213	100	◇		
General Duty – Capacity (GDC) – Wide Tip	B	600	24	0.55	0.72	633	1,394	100	●		
	B	750	30	0.75	0.98	731	1,612	100	●		
	B	900	36	0.95	1.24	813	1,793	100	⊙		
	B	1050	42	1.16	1.52	895	1,973	100	⊖		
	B	1200	48	1.38	1.80	979	2,158	100	○		
	B	1350	54	1.59	2.08	1063	2,343	100	◇		
Heavy Duty (HD)	B	600	24	0.46	0.61	649	1,431	100	●		
	B	750	30	0.64	0.84	748	1,649	100	●		
	B	900	36	0.81	1.06	826	1,821	100	●		
	B	1050	42	1.00	1.31	880	1,940	100	⊙		
	B	1200	48	1.19	1.56	972	2,141	100	○		
	B	1350	54	1.38	1.81	1054	2,322	100	○		
Heavy Duty – Power (HDP)	B	900	36	0.79	1.03	842	1,856	100	●		
	B	1050	42	0.96	1.26	907	1,999	100	⊙		
	B	1200	48	1.14	1.49	993	2,188	100	⊖		
Heavy Duty – Pin Grabber Performance (HD – PGP)	B	600	24	0.44	0.57	676	1,491	100	●		
	B	750	30	0.60	0.79	778	1,715	100	●		
	B	900	36	0.76	1.00	864	1,904	100	●		
	B	1050	42	0.93	1.22	928	2,045	100	⊙		
	B	1200	48	1.11	1.45	1016	2,239	100	⊖		
	B	1350	54	1.28	1.67	1104	2,432	100	○		
Severe Duty (SD)	B	600	24	0.46	0.61	694	1,530	90	●		
	B	750	30	0.64	0.84	802	1,768	90	●		
	B	900	36	0.81	1.06	889	1,959	90	●		
	B	1050	42	1.00	1.31	964	2,125	90	⊙		
	B	1200	48	1.19	1.56	1053	2,320	90	⊖		
Severe Duty – Power (SDP)	B	900	36	0.79	1.03	908	2,001	90	●		
Mud/Cleanup (M/CU)	B	1700	72	1.60	2.09	979	2,158	100	◇		
Ditch Cleaning (DC)	B	1500	60	1.01	1.32	652	1,437	100	⊙		
	B	1800	72	1.24	1.62	740	1,631	100	⊖		
Ditch Cleaning – Tilt (DCT)	B	1500	60	0.90	1.18	948	2,090	100	⊙		
	B	1800	72	1.11	1.45	1063	2,344	100	○		
	B	1800	72	1.40	1.83	1148	2,531	100	◇		
	B	2000	79	1.23	1.61	1132	2,496	100	○		
Maximum load with coupler (payload + bucket)								kg	2588	378	
								lb	5,706	834	

The above loads are in compliance with hydraulic excavator standard EN474, they do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity with front linkage fully extended at ground line with bucket curled.

Capacity based on ISO 7451.

Bucket weight with General Duty tips.

Maximum Material Density:

- 2100 kg/m³ (3,500 lb/yd³)
- ⊙ 1800 kg/m³ (3,000 lb/yd³)
- ⊖ 1500 kg/m³ (2,500 lb/yd³)
- 1200 kg/m³ (2,000 lb/yd³)
- ◇ 900 kg/m³ (1,500 lb/yd³)

Caterpillar recommends using appropriate work tools to maximize the value customers receive from our products. Use of work tools, including buckets, which are outside of Caterpillar's recommendations or specifications for weight, dimensions, flows, pressures, etc. may result in less-than-optimal performance, including but not limited to reductions in production, stability, reliability, and component durability. Improper use of a work tool resulting in sweeping, prying, twisting and/or catching of heavy loads will reduce the life of the boom and stick.

320 Hydraulic Excavator Specifications

Work Tool Offering Guide*

Boom Type		Reach Boom
Stick Size		R2.9 (9'6")
Hydraulic Hammer	B20	50% C
	H115Es	
	H120Es	50% C
	H130Es	50% P
Multi-Processor	MP318 CC Jaw	
	MP318 D Jaw	
	MP318 P Jaw	^
	MP318 U Jaw	
	MP318 S Jaw	
Pulverizer	P215	
Demolition and Sorting Grapple	G315B-D/R	^
	G320B-D/R	**, ##
	G315B-WH	^
Scrap and Demolition Shear	S320B	
	S325B	#
	S2050	#
Compactor (Vibratory Plate)	CVP110	
Orange Peel Grapple		
Trash Grapple		
Thumbs		
Rakes		
Pin Grabber Coupler	Cat PG	

These work tools are available for the 320.
Consult your Cat dealer for proper match.

*Offerings not available in all areas. Matches are dependent on excavator configurations. Consult your Cat dealer to determine what is offered in your area and for proper work tool match.

Match	
** Match; Pin-On only	
# Match; Boom Mount	
## Work over the front only	
^ Work over the front only with Cat PG (match; Pin-On and Cat PG)	
50% P Allowed usage with Pin-On and Coupler on machine less than 50%	
50% C Allowed usage with Coupler on machine less than 50%	

Demolition and Sorting Grapple: D – Demolition shells, R – Recycling shells, WH – Waste Handling shells

Standard and Optional Equipment

Standard and optional equipment may vary. Consult your Cat dealer for details.

	Standard	Optional		Standard	Optional
ENGINE			UNDERCARRIAGE AND STRUCTURES		
Cat C4.4 ACERT Twin Turbo Tier 4 Final diesel engine	✓		Tie-down points on base frame (ISO 15818 compliant)	✓	
Three selectable power modes	✓		Center track guiding guard	✓	
One-touch low idle with automatic engine speed control	✓		Standard bottom guards	✓	
Automatic engine idle shutdown	✓		Standard swivel guard	✓	
Work up to 3000 m (9,842.5 ft) above sea level without engine power de-rating	✓		Standard travel motor guards	✓	
46° C (115° F) high-ambient cooling capacity	✓		Grease lubricated track links	✓	
52° C (125° F) high-ambient cooling capacity		✓	4200 kg (9,300 lb) counterweight	✓	
Cold starting capability for -32° C (-25° F)	✓		4700 kg (10,400 lb) counterweight for Super Long Reach		✓
Double element air filter with integrated precleaner	✓		Semi-HD swing frame for C4.4 ACERT	✓	
Electric fuel priming pump	✓		Standard swing bearing	✓	
Reversible electric cooling fans	✓		Base frame with HD track rollers and standard carrier rollers	✓	
Biodiesel capability up to B20	✓		Final drive with standard travel motor	✓	
HYDRAULIC SYSTEM			BOOM, STICKS AND LINKAGES		
Boom and stick regeneration circuits	✓		790 mm (31 in) triple grouser track shoes	✓	
Electronic main control valve	✓		5.7 m (18'8") Reach boom	✓	
Auto hydraulic oil warm up	✓		2.9 m (9'6") stick	✓	
Automatic two-speed travel	✓		Super Long Reach 8.85 m (29'0") boom		✓
Boom and stick drift reduction valve	✓		Super Long Reach 6.28 m (20'7") stick		✓
Element type main hydraulic filter	✓		Bucket linkage, B1-family without lifting eye, Cat GRADE	✓	
Slider joysticks	✓		Bucket linkage, A-family without lifting eye, SLR		✓
Tandem type electronic main pump	✓				
Hammer return filter circuit		✓			
Combined flow/high pressure auxiliary circuit		✓			
Medium pressure auxiliary circuit		✓			
Quick coupler circuit for Cat Pin Grabber		✓			
Fine swing control	✓				

(continued on next page)

320 Standard and Optional Equipment

Standard and Optional Equipment *(continued)*

Standard and optional equipment may vary. Consult your Cat dealer for details.

	Standard	Optional		Standard	Optional
ELECTRICAL SYSTEM			SERVICE AND MAINTENANCE		
Machine electronic control module (×2)	✓		Sampling ports for Scheduled Oil Sampling (S·O·S SM)	✓	
1,000 CCA maintenance-free batteries (×2)	✓		Preventative Maintenance ready (QuickEvac TM)		✓
Centralized electrical disconnect switch	✓		Grouped location for engine oil and fuel filters	✓	
Programmable time-delay LED working lights	✓		Ground level second dipstick for engine oil	✓	
LED chassis light, LH and RH boom lights for Reach and SLR, cab lights	✓		Remote flash	✓	
CAT CONNECT TECHNOLOGY			SAFETY AND SECURITY		
Cat Product Link TM	✓		Rearview camera and side RH mirror	✓	
Cat GRADE with 2D (not available on SLR)	✓		360° visibility		✓
Cat GRADE with Advanced 2D (not available on SLR)		✓	Neutral lever (lock out) for all controls	✓	
Cat GRADE with 3D (not available on SLR)		✓	Anti-skid plate and countersunk bolts on service platform	✓	
Cat Assist:	✓		Ground-level accessible secondary engine shutoff switch in cab	✓	
– Boom Assist			Radiator screen		✓
– Bucket Assist			Bluetooth [®] receiver	✓	
– Swing Assist			RH handrail and hand hold (ISO 2867 compliant)	✓	
– Grade Assist			Travel alarm	✓	
Cat Payload:	✓				
– Payload Information					
– Static Weigh					
– Auto Calibration					

320 Attachments

Dealer Installed Kit and Attachments

Attachments may vary. Consult your Cat dealer for details.

CAB

- Radial lower wiper for 70/30 with washer
- LH/RH electrical pedal for tool control
- Dual exit rear window kit
- Rain protector plus cab light cover
- Seat belt, retractable (75 mm/3 in width)

SAFETY AND SECURITY

- Bluetooth key fob

ELECTRICAL

- Jump start wiring
- LED premium lighting package

GUARDS

- Standard swivel guard
- Side rubber bumper
- FOGS (not compatible with cab light cover, rain protector)
- Mesh guard full front (not compatible with cab light cover, rain protector)
- Mesh guard lower half front
- Full protecting vandalism guard

Cab Options

	Deluxe
ROPS, standard sound suppression	●
High-resolution 203 mm (8 in) LCD touch screen monitor	●
High-resolution 203 mm (8 in) LCD touch screen monitor + additional monitor (only for use with Cat GRADE with Advanced 2D or Cat GRADE with 3D)	○
High-resolution 254 mm (10 in) LCD touch screen monitor (only for use with 360° visibility)	○
High-resolution 254 mm (10 in) LCD touch screen monitor + additional monitor (only for use with 360° visibility and Cat GRADE with Advanced 2D or Cat GRADE with 3D)	○
Automatic bi-level air conditioner	●
Jog dial and shortcut keys for monitor control	●
Keyless push-to-start engine control	●
Height-adjustable console, infinite with no tool	●
Air-adjustable seat suspension	●
51 mm (2 in) seat belt	●
Seat heater	●
Tilt-up left-side console	●
Bluetooth integrated radio with USB ports	●
2×12V DC outlets	●
Document storage	●
Cup and bottle holders	●
Two-piece front window, openable	●
Upper radial wiper with 70/30 with washer	●
Polycarbonate skylight hatch, openable	●
LED dome and lower interior lights	●
Roller front sunscreen	●
Roller rear sunscreen	○
Rain protector and cab light covers (only for use with 360° visibility)	●
Beacon ready	●
Washable floor mat	●
Storage tray in pump compartment	●
Straight travel pedal	○

● Standard

○ Optional

For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at www.cat.com

© 2018 Caterpillar
All rights reserved

Materials and specifications are subject to change without notice. Featured machines in photos may include additional equipment. See your Cat dealer for available options.

CAT, CATERPILLAR, SAFETY.CAT.COM, their respective logos, "Caterpillar Yellow" and the "Power Edge" trade dress, as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.

AEXQ2161-01 (01-2018)
Replaces AEXQ2161
Build Number: 07A
(North America)



BACKHOE



Cat[®] 416

BACKHOE LOADER

The Cat[®] 416 Backhoe Loader delivers performance, increased fuel efficiency, superior hydraulic system and an all new operator station. The 416 features the following:

- **Ergonomic Operator Station** – Ample legroom inside the cab makes rotating the seat simple. The air suspension seat provides comfort to the operator while roading.
- **Braking Performance** – Hydraulically boosted brakes provide excellent braking power, with less effort from the operator.
- **Load Sensing Hydraulics** – The Cat backhoe loader's load sensing piston pump provides full hydraulic lifting and digging forces at any engine speed. Variable flow pump matches hydraulic power to work demands.
- **Machine Performance** – The 416 Backhoe Loader delivers superior breakout forces and aggressiveness in hard bank applications.
- **Machine Versatility** – A broad range of performance matched Cat Work Tools make the Cat backhoe loader the most versatile machine on the job site. All backhoe loaders have standard thumb ready sticks.
- **Dual Lock Coupler** – Cat dual lock coupler is available from the factory. The coupler makes work tool changes quick and easy.

Specifications

Engine

	Standard		Optional	
Engine Model	Cat 3054C Mechanical Turbocharged		Cat C4.4 Mechanical Turbocharged Aftercooled	
Gross Power (SAE J1995:2014)	69 kW	93 hp	71 kW	96 hp
Engine Power (ISO 14396:2002)	68 kW	92 hp	70 kW	94 hp
Rated Net Power @ 2,200 rpm				
SAE J1349:2011	64 kW	86 hp	65 kW	87 hp
ISO 9249:2007	64 kW	86 hp	65 kW	87 hp
80/1269/EEC	65 kW	87 hp	65 kW	87 hp
Peak Net Power				
SAE J1349:2011	65 kW	87 hp	66 kW	89 hp
ISO 9249:2007	65 kW	88 hp	66 kW	89 hp
80/1269/EEC	65 kW	88 hp	66 kW	89 hp
Bore	105 mm	4.13 in	105 mm	4.13 in
Stroke	127 mm	5 in	127 mm	5 in
Displacement	4.4 L	268 in ³	4.4 L	268 in ³
Net Torque Rise @ 1,400 rpm	38%		37%	
Net Peak Torque SAE J1349:2011	384 N-m	283 lbf-ft	383 N-m	282 lbf-ft

- Cat 3054C engine emits equivalent to U.S. EPA Tier 2/EU Stage II. Optional Cat C4.4 engine emits equivalent to U.S. EPA Tier 3/EU Stage IIIA.
- Net power advertised is the power available at the flywheel when the engine is equipped with fan, air cleaner, muffler and alternator.

Weights*

Operating Weight		
Minimum	7214 kg	15,904 lb
Maximum (ROPS Capacity)	11 000 kg	24,251 lb
Cab, ROPS/FOPS	163 kg	359 lb
Air Conditioning	46 kg	101 lb
Four Wheel Drive	178 kg	392 lb
MP Bucket (1.0 m ³ /1.30 yd ³) (no forks or teeth)	745 kg	1,642 lb
Extendible Stick	299 kg	659 lb
Counterweights (Option 1)	115 kg	255 lb
Counterweights (Option 2)	240 kg	530 lb
Counterweights (Option 3)	460 kg	1,015 lb

*Specifications shown are for machine equipped with ROPS Canopy, 2WD, standard stick, 0.76 m³ (1.0 yd³) general purpose loader bucket, 610 mm (24 in) standard duty backhoe bucket, 115 kg (255 lb) counterweight, 80 kg (176 lb) operator and full fuel tank.



416 Backhoe Loader

Transmission

Power Shuttle Transmission – Standard			
Forward – 1st	5.4 km/h	3.4 mph	
	8.9 km/h	5.5 mph	
	20 km/h	13 mph	
	36 km/h	23 mph	
Reverse – 1st	5.4 km/h	3.4 mph	
	8.9 km/h	5.5 mph	
	20 km/h	13 mph	
	36 km/h	23 mph	

Axle Ratings

Front Axle, 2WD			
Static	22 964 kg	50,582 lb	
Dynamic	9186 kg	20,233 lb	
Front Axle, 4WD			
Static	22 964 kg	50,582 lb	
Dynamic	9186 kg	20,233 lb	
Rear Axle			
Static	22 964 kg	50,582 lb	
Dynamic	9186 kg	20,233 lb	

Hydraulic System

Type	Closed Center	
Pump Type	Variable Flow, Axial Piston	
Pump Capacity @ 2,200 rpm	132 L/min	35 gal/min
System Pressure – Backhoe	23 000 kPa	3,336 psi
System Pressure – Loader	23 000 kPa	3,336 psi

Steering

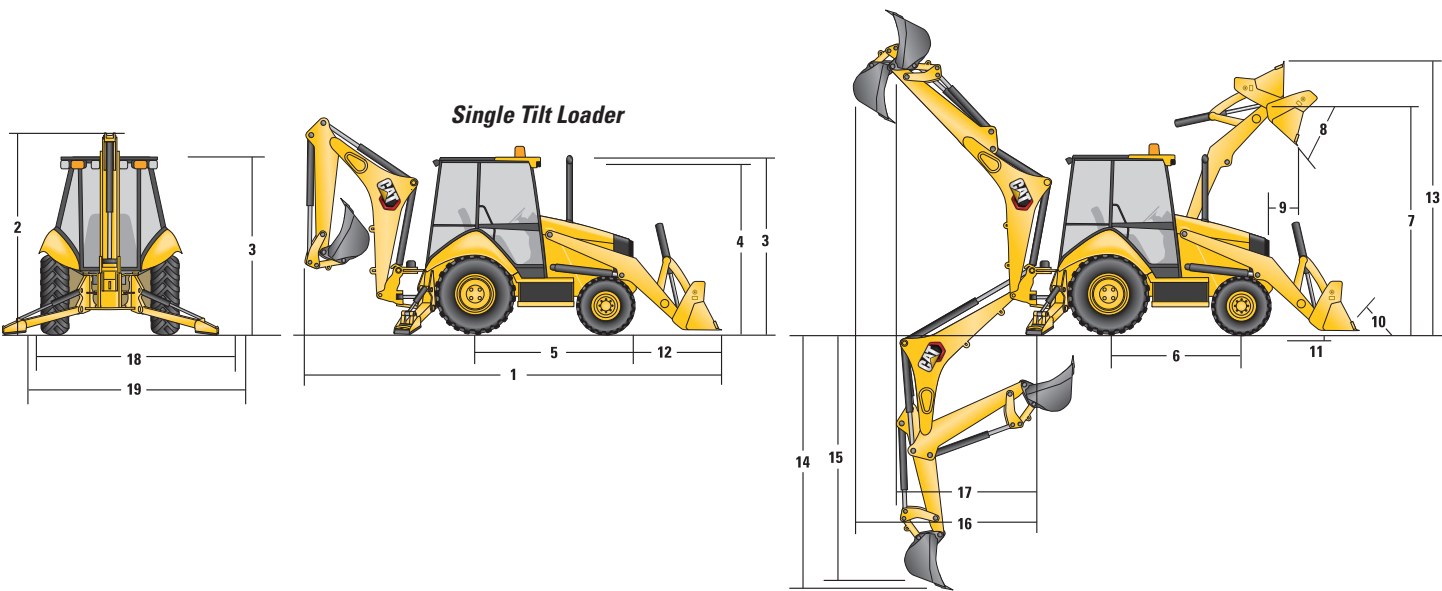
Type	Front Wheel	
Power Steering	Hydrostatic	
Bore	65 mm	2.6 in
Stroke	120 mm	4.7 in
Rod Diameter	36 mm	1.4 in
Axle Oscillation	11°	
Turning Circle – 2WD/4WD (inner wheel not braked)		
Outside, Front Wheels	8.18 m	26'10"
Outside, Widest Loading Bucket	10.97 m	36'0"

Service Refill Capacities

Cooling System with Air Conditioning	18.5 L	4.9 gal
Fuel Tank	160 L	42 gal
Engine Oil with Filter	8.8 L	2.3 gal
Transmission – Power Shuttle		
2WD	15 L	4 gal
4WD	15 L	4 gal
Rear Axle	16.5 L	4.4 gal
Planetaries	1.7 L	0.4 gal
Front Axle (4WD)	11 L	2.9 gal
Planetaries	0.7 L	0.2 gal
Hydraulic System	90 L	23.8 gal
Hydraulic Tank	40 L	10.6 gal

Tires

- Choices listed as combination of front/rear tires:
- Front: 11L-16 (12 ply) F-3; Rear: 19.5L-24 (12 ply) R4 ATU
 - Front: 12.5/80-18 (12 ply) 1-3; Rear: 19.5L-24 (12 ply) ATU
 - Front: 12.5/80-18 NHS (12 ply) 1-3; Rear: 21L-24 (16 ply) R4 ATU
 - Front: 340-80R 18; Rear: 500/70R24 157B



Dimensions

Single Tilt Loader

	0.76 m³ (1.0 yd³) GP Bucket		1.0 m³ (1.30 yd³) GP Bucket		1.0 m³ (1.31 yd³) MP Bucket		1.00 m³ (1.31 yd³) MP Bucket with Forks	
1 Overall Length (Loader on Ground) – Standard Stick	7027 mm	23'1"	7140 mm	23'5"	7057 mm	23'2"	7057 mm	23'2"
Overall Length (Loader on Ground) – Extendible Stick	7033 mm	23'1"	7145 mm	23'5"	7063 mm	23'2"	7063 mm	23'2"
Overall Transport Length – Standard Stick	7085 mm	23'3"	7168 mm	23'6"	7132 mm	23'5"	7132 mm	23'5"
Overall Transport Length – Extendible Stick	7091 mm	23'3"	7174 mm	23'6"	7137 mm	23'5"	7137 mm	23'5"
2 Overall Transport Height – Standard Stick	3577 mm	11'9"	3577 mm	11'9"	3577 mm	11'9"	3577 mm	11'9"
Overall Transport Height – Extendible Stick	3631 mm	11'11"	3631 mm	11'11"	3631 mm	11'11"	3631 mm	11'11"
Overall Width	2322 mm	7'7"	2322 mm	7'7"	2322 mm	7'7"	2322 mm	7'7"
3 Height to Top of Cab/Canopy	2819 mm	9'3"	2819 mm	9'3"	2819 mm	9'3"	2819 mm	9'3"
4 Height to Top of Exhaust Stack	2744 mm	9'0"	2744 mm	9'0"	2744 mm	9'0"	2744 mm	9'0"
Height to Loader Hinge Pin (Transport)	381 mm	1'3"	381 mm	1'3"	432 mm	1'5"	432 mm	1'5"
Ground Clearance (minimum)	294 mm	1'0"	294 mm	1'0"	294 mm	1'0"	294 mm	1'0"
5 Rear Axle Centerline to Front Grill	2705 mm	8'10"	2705 mm	8'10"	2705 mm	8'10"	2705 mm	8'10"
Front Wheel Tread Gauge	1895 mm	6'3"	1895 mm	6'3"	1895 mm	6'3"	1895 mm	6'3"
Rear Wheel Tread Gauge	1714 mm	5'7"	1714 mm	5'7"	1714 mm	5'7"	1714 mm	5'7"
6 Wheelbase 2WD/4WD	2200 mm	7'3"	2200 mm	7'3"	2200 mm	7'3"	2200 mm	7'3"

Loader Bucket Dimensions and Performance

Single Tilt Loader

	0.76 m³ (1.0 yd³) GP Bucket		1.0 m³ (1.30 yd³) GP Bucket		1.0 m³ (1.31 yd³) MP Bucket		1.00 m³ (1.31 yd³) MP Bucket with Forks	
Capacity (SAE Rated)	0.76 m³	1.0 yd³	1.0 m³	1.30 yd³	1.0 m³	1.31 yd³	1.0 m³	1.31 yd³
Overall Bucket Width	2262 mm	89 in	2262 mm	89 in	2279 mm	90 in	2279 mm	90 in
Lift Capacity at Maximum Height	3062 kg	6,751 lb	2964 kg	6,535 lb	2771 kg	6,108 lb	2656 kg	5,855 lb
Lift Breakout Force	47 919 N	10,772 lbf	45 326 N	10,189 lbf	44 392 N	9,979 lbf	42 904 N	9,645 lbf
Tilt Breakout Force	54 629 N	12,281 lbf	45 993 N	10,339 lbf	52 674 N	11,841 lbf	51 760 N	11,636 lbf
Tipping Load at Breakout Point	6831 kg	15,059 lb	6358 kg	14,016 lb	6428 kg	14,172 lb	6286 kg	13,858 lb
7 Maximum Hinge Pin Height	3474 mm	11'5"	3474 mm	11'5"	3474 mm	11'5"	3474 mm	11'5"
8 Dump Angle at Full Height	44°		44°		44°		44°	
Dump Height at Maximum Angle	2824 mm	9'3"	2746 mm	9'0"	2798 mm	9'2"	2798 mm	9'2"
9 Dump Reach at Maximum Angle	727 mm	2'5"	808 mm	2'8"	716 mm	2'4"	716 mm	2'4"
10 Maximum Bucket Rollback at Ground Level	37°		37°		38°		38°	
11 Digging Depth	83 mm	3"	83 mm	3"	110 mm	4"	110 mm	4"
Maximum Grading Angle	116°		112°		116°		116°	
Width of Dozer Cutting Edge	N/A		N/A		2262 mm	7'5"	2262 mm	7'5"
12 Grill to Bucket Cutting Edge, Carry Position	1404 mm	4'7"	1487 mm	4'11"	1451 mm	4'9"	1451 mm	4'9"
13 Maximum Operating Height	4206 mm	13'10"	4355 mm	14'3"	4404 mm	14'5"	4878 mm	16'0"
Jaw Opening Maximum	N/A		N/A		790 mm	2'7"	790 mm	2'7"
Bucket Jaw Clamping Force	N/A		N/A		50 600 N	11,375 lbf	50 600 N	11,375 lbf
Weight (does not include teeth or forks)	384 kg	847 lb	451 kg	994 lb	745 kg	1,642 lb	915 kg	2,017 lb

Backhoe Dimensions and Performance

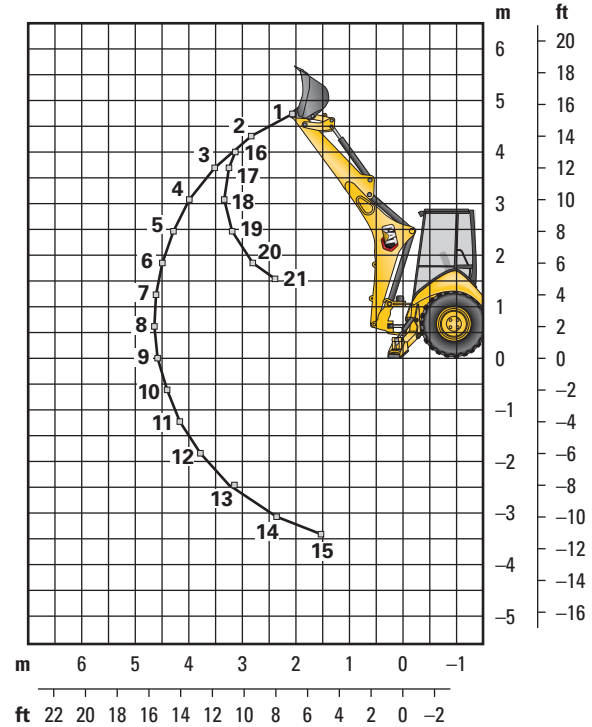
	Standard Stick		E-Stick Retracted		E-Stick Extended	
14 Digging Depth, SAE (max.)	4348 mm	14'3"	4389 mm	14'5"	5441 mm	17'11"
15 Digging Depth, 610 mm (2 ft) Flat Bottom	4309 mm	14'2"	4350 mm	14'4"	5404 mm	17'10"
Reach from Rear Axle Centerline at Ground Line	6702 mm	22'1"	6738 mm	22'2"	7742 mm	25'6"
16 Reach from Swing Pivot at Ground Line	5612 mm	18'5"	5648 mm	18'7"	6652 mm	21'10"
Maximum Operating Height	5525 mm	18'2"	5549 mm	18'3"	6286 mm	20'8"
Loading Height	3643 mm	11'11"	3600 mm	11'9"	4170 mm	13'7"
17 Loading Reach	1838 mm	6'0"	1925 mm	6'4"	2840 mm	9'4"
Swing Arc	180°		180°		180°	
Bucket Rotation	205°		205°		205°	
18 Stabilizer Spread, Operating Position (center)	3310 mm	10'10"	3310 mm	10'10"	3310 mm	10'10"
Stabilizer Spread, Operating Position (outside)	3770 mm	12'4"	3770 mm	12'4"	3770 mm	12'4"
Stabilizer Spread, Transport Position	2322 mm	7'7"	2322 mm	7'7"	2322 mm	7'7"
Bucket Dig Force	59 118 N	13,290 lbf	58 287 N	13,103 lbf	58 287 N	13,103 lbf
Stick Dig Force	32 378 N	7,279 lbf	32 421 N	7,289 lbf	23 796 N	5,350 lbf

416 Backhoe Loader

Backhoe Lift Capacity

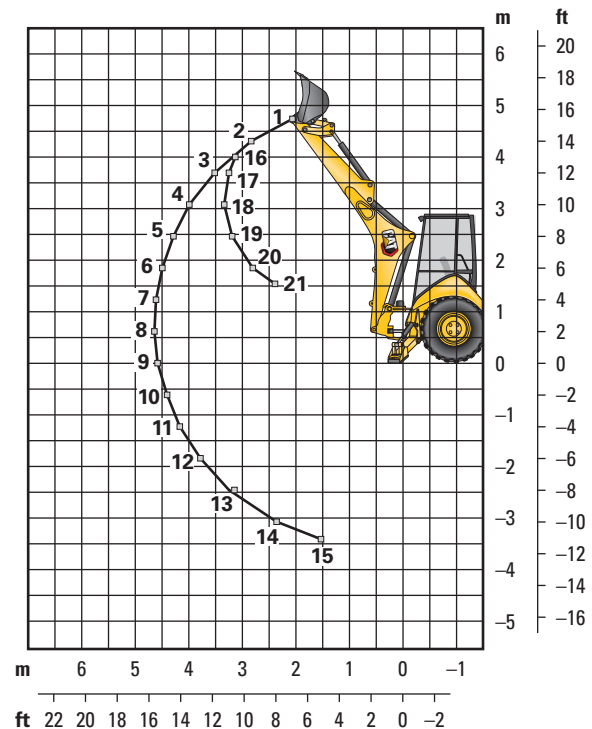
Cat 416 Standard Stick

Boom Lifting	kg	lb
1	1296	2,851
2	1410	3,101
3	1419	3,123
4	1379	3,033
5	1326	2,917
6	1271	2,797
7	1218	2,680
8	1168	2,569
9	1121	2,466
10	1078	2,372
11	1039	2,286
12	1006	2,213
13	981	2,157
14	979	2,153
15	1073	2,361
Stick Lifting	kg	lb
16	1312	2,885
17	1849	4,068
18	2307	5,075
19	2400	5,280
20	2790	6,137
21	5561	12,234



Cat 416 Extendible Stick – Retracted

Boom Lifting	kg	lb
1	1117	2,457
2	1214	2,670
3	1212	2,665
4	1166	2,566
5	1111	2,444
6	1054	2,319
7	999	2,197
8	946	2,082
9	897	1,974
10	852	1,873
11	809	1,780
12	771	1,696
13	738	1,623
14	718	1,580
15	767	1,687
Stick Lifting	kg	lb
16	1169	2,572
17	1694	3,726
18	2107	4,634
19	2183	4,802
20	2533	5,573
21	4983	10,963

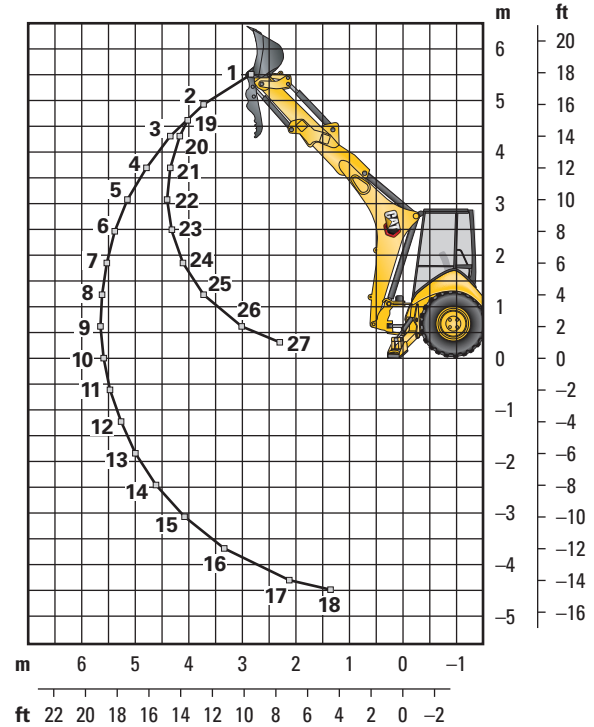


Lift Capacities are over-end values. Machine equipped with 4WD, ROPS, 0.76 m³ (1.00 yd³) general purpose bucket and no counterweight. Extendible stick includes 460 kg (1,015 lb) counterweight.

Backhoe Lift Capacity

Cat 416 Extendible Stick – Extended

Boom Lifting		kg	lb
1		617	1,357
2		750	1,650
3		797	1,752
4		802	1,765
5		791	1,741
6		770	1,695
7		750	1,649
8		726	1,597
9		702	1,544
10		679	1,493
11		657	1,445
12		637	1,401
13		620	1,363
14		607	1,334
15		601	1,322
16		612	1,347
17		699	1,537
18		1030	2,267
Stick Lifting		kg	lb
19		552	1,214
20		735	1,617
21		987	2,171
22		1162	2,556
23		1307	2,876
24		1460	3,212
25		1679	3,694
26		2192	4,823
27		5301	11,662



Lift Capacities are over-end values. Machine equipped with 4WD, ROPS, 0.76 m³ (1.00 yd³) general purpose bucket and no counterweight. Extendible stick includes 460 kg (1,015 lb) counterweight.

416 Backhoe Loader

Counterweights (Minimum Counterweight Recommendations)

Standard Stick			
Loader Bucket	Power Train	kg	lb
GP	2WD	240	530
GP	4WD	115	255
MP	2WD/4WD	no counterweight	

Extendible Stick			
Loader Bucket	Power Train	kg	lb
GP	2WD/4WD	460	1,015
MP	2WD	240	530
MP	4WD	115	255

Backhoe Buckets (With weld on adapters and pin-on teeth)

Standard Duty						
Width		Rated Capacity		Weight		No. of Teeth
mm	in	L	ft³	kg	lb	
305	12	80	2.8	111	245	3
457	18	120	4.2	122	268	4
610	24	180	6.2	141	291	5
762	30	230	8.1	157	345	5
914	36	290	10.2	176	388	6

Heavy Duty						
Width		Rated Capacity		Weight		No. of Teeth
mm	in	L	ft³	kg	lb	
305	12	80	2.8	121	266	3
406	16	110	3.9	128	282	3
457	18	120	4.2	135	299	4
610	24	180	6.2	151	333	5
762	30	230	8.1	177	391	5
914	36	290	10.2	201	443	6

Soil Excavation						
Width		Rated Capacity		Weight		No. of Teeth
mm	in	L	ft³	kg	lb	
457	18	180	6.4	155	341	4
610	24	240	8.5	182	402	5
762	30	320	11.3	206	454	5
914	36	380	13.4	233	513	6

Heavy Duty Rock						
Width		Rated Capacity		Weight		No. of Teeth
mm	in	L	ft³	kg	lb	
305	12	70	2.5	127	279	3
457	18	130	4.6	146	322	4
610	24	200	7.0	174	381	5
762	30	270	9.5	197	434	5
914	36	330	11.7	224	493	6

Coral						
Width		Rated Capacity		Weight		No. of Teeth
mm	in	L	ft³	kg	lb	
305	12	60	2.1	134	295	4
457	18	100	3.5	155	341	6
610	24	140	4.9	182	402	8
762	30	190	6.7	210	463	10

Heavy Duty – Pin Lock						
Width		Rated Capacity		Weight		No. of Teeth
mm	in	L	ft³	kg	lb	
305	12	96	3.4	113	249	3
406	16	123	4.3	131	288	3
457	18	139	4.9	139	307	4
610	24	207	7.3	168	370	5
762	30	275	9.7	194	428	5
914	36	345	12.2	224	494	6

High Capacity – Pin Lock						
Width		Rated Capacity		Weight		No. of Teeth
mm	in	L	ft³	kg	lb	
305	12	96	4.6	113	287	3
406	16	123	5.6	131	327	3
457	18	139	6.5	139	346	4
610	24	207	9.6	168	414	5
762	30	275	12.9	194	475	5
914	36	345	16.2	224	543	6

STANDARD EQUIPMENT

POWER TRAIN

- Air cleaner
- Brake, secondary parking
- Brakes, hydraulically boosted, oil disc, dual pedals, interlocking
- Coolant/antifreeze, extended life
- Diagnostic port for engine
- Differential lock, loader joystick
- Engine, Cat 3054C, Mechanical Turbocharged, emits equivalent to Tier 2/ Stage II
- Engine enclosure, sound suppression removal panels
- Fast reversing shuttle, all gears
- Filters, spin-on: fuel, engine oil, transmission oil, water separator
- Filters, bowl and cartridge: hydraulic fluid
- High ambient cooling package
- Torque converter
- Transmission, four speed, syncromesh
- Transmission neutralizer switch
- Two Wheel Drive

OPERATOR ENVIRONMENT

- Backhoe controls, mechanical two lever
- Canopy, ROPS/FOPS
- Coat restraint
- Drink holders, two
- Fan, suction and guard
- Floor mat
- Gauge cluster
 - Gauges: coolant temperature, fuel level, tachometer
- Indicators: air cleaner service, water separator service, engine coolant, oil pressure, torque converter temperature high, fuel level, charging, engine warning #1, engine warning #2, action lamp, wait to start

- Instrument panel lights
- Mechanical two lever controls
- Mirror, rearview
- Seat belt, retractable, 51 mm (2 in)
- Seat, mechanical suspension, vinyl
- Storage compartment, lockable
- Storage tray
- Fixed Steering Column on canopies
- Throttle, hand and foot, manual

HYDRAULIC SYSTEM

- Face seals, O-ring
- Hydraulic hose, XT™
- Hydraulic oil cooler
- Hydraulic oil level sight gauge
- Hydraulic valve, hydrostatic steering
- Hydraulic valves, loader 2 function
- Hydraulic valves, backhoe 4 function
- Hydraulics, load sensing with variable displacement piston pump

ELECTRICAL

- Alarm, back-up
- Alternator, 120 amp
- Audible system fault alarm
- Battery, maintenance-free, 880 CCA
- Battery disconnect switch
- Battery remote jumpstart
- Dome light (cab only)
- Flashing hazards/signal lights
- Key start/stop system

- Lights, working (2 front, 2 rear)
- Power receptacle, 12 volt, 2 internal, 1 external
- Product Link™, cellular, PL240 (only for certified countries)
- Socket, two roof
- Starting system, glow plugs
- Stop and tail lights
- Warning horn, electric

OTHER

- Boom transport lock
- Brace, lift cylinder
- Bucket level indicator
- Counterweight, bumper
- Fenders, rear
- Fuel tank, fully enclosed
- Fully hinged front grill for cooling package cleaning access
- Ground level fuel fill
- Hood lock, inside cab
- Loader, self-leveling, return-to-dig and transmission disconnect switch
- Loader, single tilt
- Open circuit breather
- Power steering, hydrostatic
- Stabilizer shoes, street
- Swing transport lock
- Tires
- Toolbox, external, lockable
- Transport tie-downs

416 Backhoe Loader

OPTIONAL EQUIPMENT

- Cab, standard
- Cold weather fuel (–30° C/–22° F)
- Counterweights, 115 kg (255 lb), 240 kg (530 lb) or 460 kg (1,015 lb)
- Engine, Cat C4.4, emits equivalent to Tier 3/ Stage IIIA
- Fenders, front with integral steps
- Four Wheel Drive
- Guard, stabilizer, rock
- Hydraulic valves, loader (3rd valve for GP, MP or Quick Coupler)
- Hydraulic valves, backhoe (5th and 6th function)
- Hydraulic lines, combined function auxiliary
- Product Link, cellular, PL641I
- Product Link, satellite, PL631E
- Quick Coupler, manual, dual lock
- Radio, Bluetooth
- Rotating beacon, magnetic mount
- Seat, air suspension, fabric with armrest
- Security system keypad
- Stabilizer pads, street
- Stick, extendible
- Storage box
- Vandalism protection, gauge cover
- Work Tool Attachments such as general purpose buckets, multi purpose buckets, heavy duty backhoe buckets and standard duty backhoe buckets. See your Cat dealer for more information.

For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at www.cat.com

© 2021 Caterpillar
All rights reserved

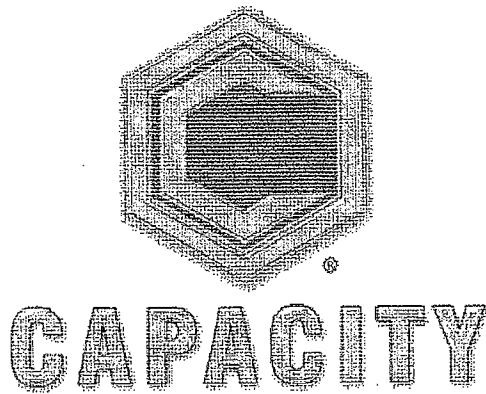
Materials and specifications are subject to change without notice. Featured machines in photos may include additional equipment. See your Cat dealer for available options.

CAT, CATERPILLAR, LET'S DO THE WORK, their respective logos, "Caterpillar Corporate Yellow," the "Power Edge" and Cat "Modern Hex" trade dress as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.

AEHQ8332-01 (06-2021)
Replaces AEHQ8332
Build Number: 07A
(South America, excluding Brazil)



YARD JOCKEYS



The TJ5000 series are comfortable, functional tractors offering a GCW of 81,000 lbs. and gradeability of 81,000 lbs. @ 22% grade.

TJ5000 Off Road

81,000# GCW

Comfortable yet functional, this off road model is ideal for warehouse/distribution applications.

Exclusive DuraRide® air spring suspension system available

Dedicated cab platform with complete in-house cab construction

High strength frame, RBM 4,248,960 in. lbs.

Exclusive DuraPlus™ 10-year frame warranty available (with DuraRide)

Durable metal dash with Power Distribution Center (PDC), multiplexer module and weather box, enclosed vehicle electrical center (LED diagnostics)

Optional 54", 60", 66" and 72" tall cabs



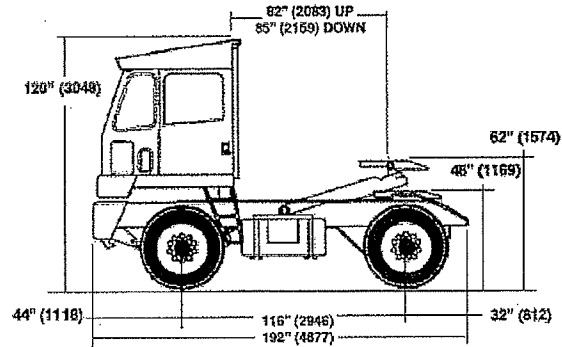
Some items shown represent optional equipment.

The Trailer Jockey People
CUSTOMER FOCUSED • QUALITY DRIVEN

TJ5000 Off Road

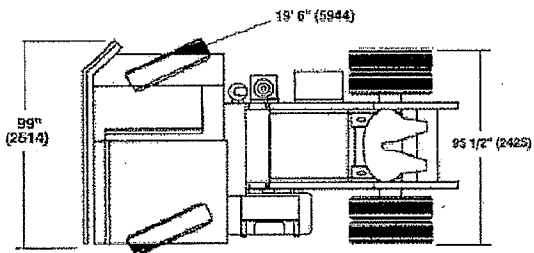
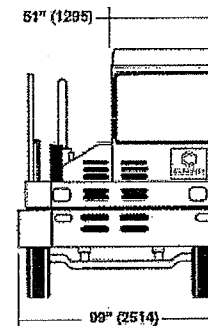
Standard Features

Engine	Cummins QSBT3 6.7L Elite 183 HP, EPA Industrial Turbo Diesel
Transmission	Allison RDS3500 Electronic Automatic
Front Axle	Eaton E1322I, 13,200 lb.
Rear Axle	Eaton S23-190, 7.83:1, 30,000 lb.
Wheelbase	116"
Steering	Hydrostatic, Power
Fifth Wheel	Holland FW35, 70,000 lb.
Lift Cylinders	5", 70,000 lb. Hydraulic
Tires	11 X 22.5 16 Ply
Exhaust	Vertical
Paint	Cab White, Frame Black, Rims White



Cab Features

One Piece Cab Design
VISTA IIE 60, Comfort Cab
Electric Cab Tilt
Seat Belt
Electronic Back-up Alarm
Tinted Glass
Level Sweep-out Cab Floor
Gauges: Air, Fuel, Hour, Volt, Temp and Oil
Back-lit Instrument Panel with DOT Icons with Heavy-Duty Mil-Spec. Connectors Throughout Unit
High Strength Metal Dash
Insulated Firewall Covering (engine side)
45,000 BTU Heater/Defroster/Fresh Air
Overhead Storage Compartment
Pop Open Vent (front quarter panel)
Electric Windshield Wipers
Air Intake Restriction Indicator (Engine Mount)
Engine Datalink Controlled Instruments
Radiator Sight Glass
Engine Dust Shield



Some items shown represent optional equipment. Due to ongoing engineering improvements, Capacity reserves the right to make changes without notification. Capacity is a subsidiary of Collins Industries, Inc.

Frame Features

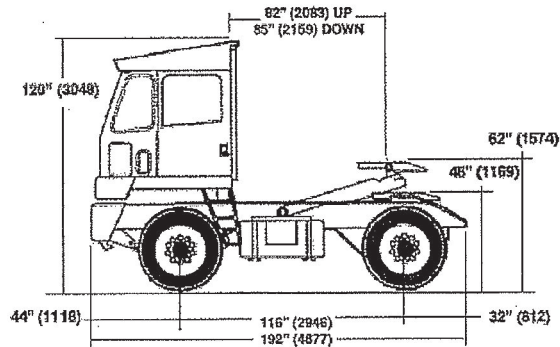
ASTM A529 12" X 3" Preformed Structural Steel
RBM 4,248,960 in. lbs.
50 Degree Tapered Bumper and Deck
50 Gallon Rectangular Fuel Tank
Front Tow Hooks
(2) G31, 700CCA, Low Maintenance Batteries
3 Tank, FMVSS Style Split Brake System
Rear Frame Rail Extends Beyond Crossmember
Automatic Slack Adjusters
All Steps, Handrails & Grating - Safety Yellow

Distributed by:

TJ5000 Off Road

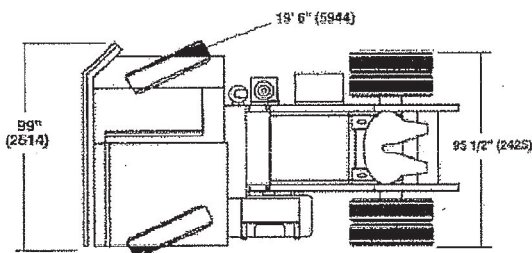
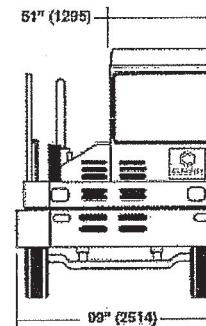
Standard Features

Engine	Cummins QSBT3 6.7L Elite 183 HP, EPA Industrial Turbo Diesel
Transmission	Allison RDS3500 Electronic Automatic
Front Axle	Eaton E1322I, 13,200 lb.
Rear Axle	Eaton S23-190, 7.83:1, 30,000 lb.
Wheelbase	116"
Steering	Hydrostatic, Power
Fifth Wheel	Holland FW35, 70,000 lb.
Lift Cylinders	5", 70,000 lb. Hydraulic
Tires	11 X 22.5 16 Ply
Exhaust	Vertical
Paint	Cab White, Frame Black, Rims White



Cab Features

One Piece Cab Design
VISTA IIE 60, Comfort Cab
Electric Cab Tilt
Seat Belt
Electronic Back-up Alarm
Tinted Glass
Level Sweep-out Cab Floor
Gauges: Air, Fuel, Hour, Volt, Temp and Oil
Back-lit Instrument Panel with DOT Icons with Heavy-Duty Mil-Spec. Connectors Throughout Unit
High Strength Metal Dash
Insulated Firewall Covering (engine side)
45,000 BTU Heater/Defroster/Fresh Air
Overhead Storage Compartment
Pop Open Vent (front quarter panel)
Electric Windshield Wipers
Air Intake Restriction Indicator (Engine Mount)
Engine Datalink Controlled Instruments
Radiator Sight Glass
Engine Dust Shield



Some items shown represent optional equipment. Due to ongoing engineering improvements, Capacity reserves the right to make changes without notification. Capacity is a subsidiary of Collins Industries, Inc.

Frame Features

ASTM A529 12" X 3" Preformed Structural Steel
RBM 4,248,960 in. lbs.
50 Degree Tapered Bumper and Deck
50 Gallon Rectangular Fuel Tank
Front Tow Hooks
(2) G31, 700CCA, Low Maintenance Batteries
3 Tank, FMVSS Style Split Brake System
Rear Frame Rail Extends Beyond Crossmember
Automatic Slack Adjusters
All Steps, Handrails & Grating - Safety Yellow

Distributed by:

WATER STORAGE TANK

AQUASTORE®

Glass-Fused-To-Steel Liquid Storage Tanks

CST



» Glass Tanks with a Heart of Steel™

A LEGACY OF INNOVATION

CST Industries, Inc. has a long and storied history of turning raw steel into the finest storage tanks available. Our unique glass-fused-to-steel technology was introduced more than 67 years ago. Today, CST is dedicated to the design, fabrication and installation of glass-fused-to-steel storage tanks.

After more than 100,000 installations of field proven performance, Aquastore® tanks remain the markets preferred choice for potable water storage and liquid applications. With tens of thousands of satisfied customers, Aquastore tanks are engineered to be the very best.

CST has an ongoing research/product improvement program dedicated to constantly enhancing our manufacturing processes. As the leading innovator, CST ensures **Vitrium™ TiO₂** and **Edgecoat II™** technology is utilized on every tank for maximum corrosion resistance and the longest life span available. When you purchase an Aquastore, you get the best tank, EVERY TIME.

With Aquastore, you get the highest engineered quality, best service, longest product life and greatest value in liquid storage tanks.

Aquastore owners choose CST's glass-fused-to-steel technology over all other tank designs for several reasons:

- Never EVER needs painting
- Aquastore tanks are manufactured using Vitrium coating technology enhanced with TiO₂
- Edgecoat II technology, the ONLY process in the world that provides optimum glass encapsulation on all (4) four sides of the sheet
- Greater lifetime value compared to other tank designs
- Fastest construction time – Easy assembly without cranes or special equipment
- Expandable to accommodate future requirements
- Available in diameters from 11 feet (3.3 m) to 243 feet (74 m) and capacity from 20,000 gallons (75 cu m) to over 6 million gallons (22,700 cu m)
- Specific tank designs, options and accessories to meet every customers needs
- Lowest life cycle cost of all other available tank designs



All Aquastore tanks are manufactured exclusively in the USA with only USA steel and supported by the world's most experienced Local Authorized Dealer Network

Steel Gives You Strength Glass Gives You Protection



ENHANCED GLASS-FUSED-TO-STEEL TECHNOLOGY

Aquastore's glass-fused-to-steel is the premium technology in the tank market. Glass coating's physical properties are specially suited to municipal and industrial storage applications. The factory-applied silica glass coating on Aquastore tanks forms a hard, inert barrier for both the interior and exterior tank surfaces to guard against weather and corrosion. Glass-fused-to-steel is impermeable to liquids and vapors, controls undercutting caused by corrosion and offers excellent impact and abrasion resistance. The color won't fade or chalk and graffiti can easily be removed. ***It never needs painting!***



A multi-step process is the heart of the glass-fused-to-steel technology system:

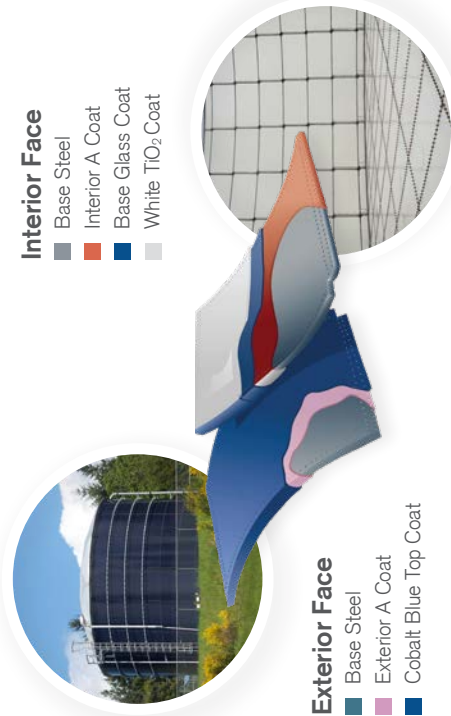
- Fabricated sheets are grit blasted to a uniform, near white surface
- Formulations of borosilicate, minerals, water and clays are blended into a sprayable slurry called "slip"
- After inspection, the slurry is fused to the steel sheets at temperatures above 1500° F (815° C) resulting in an ionic exchange of materials and forming a covalent bond producing the distinctive glossy Aquastore glass finish
- The molten glass reacts with the profiled steel surface to form an inert, inorganic chemical and mechanical bond

State-of-the-art porcelain enameling furnace improves quality, saves energy, increases production and speeds delivery of glass-fused-to-steel products to customers.

The interior of ALL Aquastore tanks feature Vitrium™ coating technology enhanced with titanium dioxide (TiO₂) for the toughest glass available. This coating combines the outstanding chemical and physical resistant properties of titanium-enhanced glass with a highly engineered, ultra-fine glass bubble structure essential to flexibility, quality and longevity. This process results in high performance glass-fused-to-steel technology. Vitrium features and benefits include:

- Tough TiO₂ glass formulations provides longer life
- White interior is easier to inspect than darker coatings
- Factory certified holiday-free sheets
- Designed for use in both cold and hot climates
- Designed, fabricated, shipped and supported within the USA

Guaranteeing the best quality available from our manufacturing facility to your jobsite.



Glass frit is specially formulated to produce the distinctive cobalt blue Aquastore glass coating.

ENGINEERED EDGECOAT TECHNOLOGY

Edgecoat II™ is a result of CST's commitment to an ongoing product development and improvement program. This continuous innovative *Edgecoat II technology is the ONLY process in the world that provides optimum glass encapsulation on all (4) four sides of the sheet edges*. CST took the best Edgecoat technology in the world and made it better with Edgecoat II.

Following Porcelain Enameling Institute guidelines (PEI-101), Edgecoat II sheets are mechanically rounded to specific radii that provides maximum glass adhesion to steel. The combination delivers the maximum corrosion resistance of Vitrium glass coating with the greatest protection on every sheet.

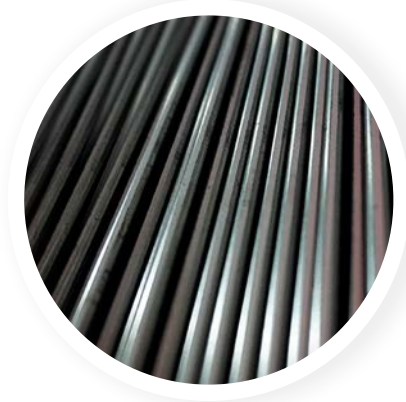
The Edgecoat II engineered approach involves stringent plant quality control procedures to ensure the Edgecoat II remains in place throughout the life of the tank.

Sheet edge corrosion on steel is aesthetically unpleasant and will significantly limit the life of your storage tank. Due to the manufacturing expense and professional engineering necessary to coat the steel edges, other glass tank providers will leave them uncoated and exposed; relying solely on the sealant fillet to prevent corrosion in this area. CST's improved process of mechanically rounding the sheet edges to exact radii ensures adherence of the glass for complete encapsulation on every sheet edge.



Aquastore glass-fused-to-steel tanks with Vitrium TiO₂ and enhanced Edgecoat II technology, offer complete encapsulation and corrosion protection. CST continues to lead innovative improvements in areas that are most susceptible to environmental attack.

The physical properties of all Aquastore tanks' glass coating are especially suited to municipal and industrial liquid storage applications. The tank designs incorporate recognized standards assuring high-quality long-lasting municipal and industrial liquid storage tanks.



Engineered Edge

Benefits of Edgecoat II include:

- 5 mils of glass encapsulation on every sheet edge
- Glass is applied on all (4) four sides of the rectangular sheet edges providing the greatest protection
- Edges are engineered to ensure optimum radii for each individual gauge of steel providing the maximum and consistent glass edge
- No sharp edges on tank sheets, eliminating safety hazards
- Highest quality finish

TANK ECONOMICS & LIFETIME VALUE

All tanks are not created equal! The glass-fused-to-steel technology in an Aquastore tank delivers greater lifetime value than any other tank provider. When you add up the tank benefits over its life cycle, the advantages of an Aquastore cannot be beat. It is simply the best quality, lowest maintenance and most flexible tank available.

CONSIDERING CONCRETE OR WELDED?

The biggest economic advantage is that an Aquastore tank never needs painting! The budgeted dollars that may be used to repair a concrete tank or repaint a welded tank every 8 – 15 years can be diverted to other municipal or industrial needs. The modular design allows for rapid installation and flexibility when compared to concrete and welded construction.

Concrete tanks are expensive, involve long construction periods, need a lot of room to build and are not "maintenance free". AWWA allows for leaking, and some level of cracking is expected. Concrete tanks require a lengthy construction time compared to an Aquastore tank, especially when expensive concrete roofs are involved and must be field coated to meet NSF approval.

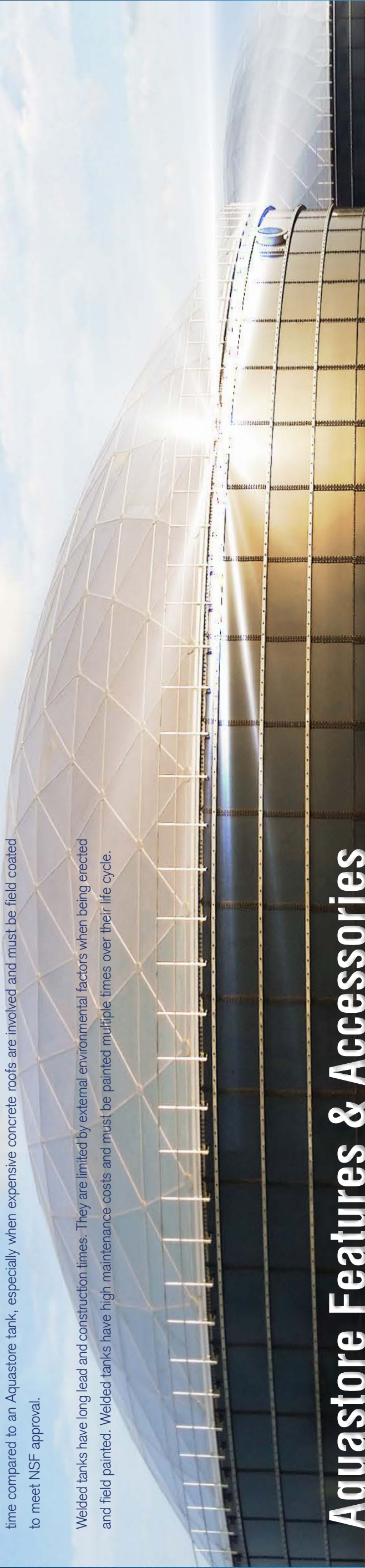
Welded tanks have long lead and construction times. They are limited by external environmental factors when being erected and field painted. Welded tanks have high maintenance costs and must be painted multiple times over their life cycle.

EXTERIOR COLOR OPTIONS

Aquastore glass coatings are available in standard cobalt blue and four other exterior colors. Inquire for custom colors.

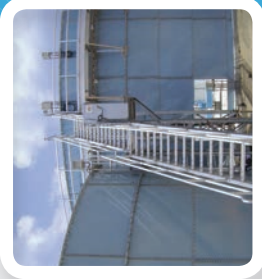
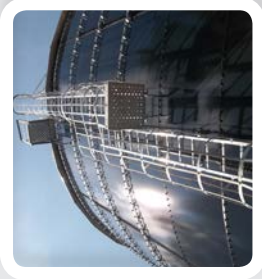
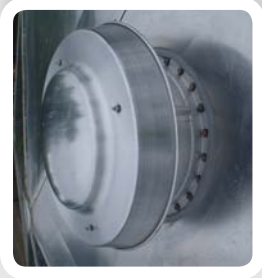


Look for the white interior as a result of the TiO₂ coating formula and technology that ensure the maximum corrosion protection for your tank. The white interior provides an added benefit of full visual exposure of your tank during inspections.



Aquastore Features & Accessories

Cathodic Protection	Gravity Vent	Ladder: Cage & Platform	Sidewall Manways	Hardware and Sealants	Accessories & More
An Aquastore tank's progressive cathodic protection system uses sacrificial anodes to protect the reinforcing bars, mitigate corrosion and provide protection to internal submerged surfaces of the tank. It is incorporated into the Aquastore tank's warranty.	Aquastore tank gravity vents are designed to allow for air exchange during filling and emptying. They are equipped with corrosion-resistant bird and insect screens.	Aquastore tank ladders are constructed of aluminum rails and rungs with hot-dip galvanized cages and step off platforms. Ladders with locking safety cage doors are available.	Aquastore tank manways are designed in accordance with AWWA D103 Standards. They are 24 inches (61 cm), 30 inches (76 cm) or 36 inches (91 cm) in diameter and are manufactured with hot-dip galvanized or stainless steel. Manways are provided with a davit hinge connection for easy access.	The hardware and sealants are specific to each application. Chlorine resistant sealants, hardware with protective covers and heavy duty plastic bolt caps are also available for added protection.	A variety of accessories are available to meet specific needs. Accessories include: • Roof walkways, railings & staircases • Level indicators • Nozzles • And many more



TANK APPLICATIONS

Aquastore storage tanks with Vitrium glass-fused-to-steel are ideal for the following designs and applications:



Composite Elevated



Standpipe



Leachate



Ground Storage Tank



Fire Protection



Anaerobic Digestion



Municipal Wastewater
Clarifier / Sludge /
Storage / Mixing

FROM THE TOP DOWN - FASTER, SAFER CONSTRUCTION

Every Aquastore tank is factory engineered to customer specifications. Since all components are manufactured in the factory and easily assembled, Aquastore tanks can be installed in many types of weather conditions that field-welded steel or concrete tanks cannot. Tanks are assembled from the top down by factory-trained professional building crews using CST's Proof Load Tested and PE stamped jacking systems that safely and progressively elevate the structure without the need for expensive cranes, large staging areas or extensive scaffolding. Erection crews can stay safely on the ground. This construction method enables rapid, logical progress for timely completion.

- Small footprint
- Site work savings
- Year round construction
- Fast turnaround
- Quick erection
- Trained and certified crews

Floors

Aquastore floors can be glass-fused-to-steel or reinforced concrete. Steel floors have the same superior glass coating as the Aquastore glass-fused-to-steel sheets. When using concrete, Aquastore walls are embedded in the foundation. Authorized Aquastore Dealers can provide site preparation and foundation installation.

Sidewalls

Sidewall erection is completed using a series of specially engineered motorized jacks. Each glass-fused-to-steel panel is bolted and sealed into place. Upon completion, the motorized jacks raise the sidewall ring so subsequent rings can be erected. Erecting an Aquastore tank does not require heavy-load cranes or lifting equipment on-site. This unique installation process allows for construction in remote regions, as well as metropolitan areas.

Roofs or Domes

The flush batten OptiDome® is a next generation aluminum geodesic dome. OptiDome aluminum domes incorporate a flush batten design that effectively sheds water and reduces ponding on the panels. With a Double Web I-Beam customers get the most efficient, functional, long lasting dome solution in the industry. OptiDome is easy to install and requires less sealant than typical geodesic domes. CST's OptiDome design efficiently complies with the latest requirements that have been adopted by 2010 Aluminum Design Manual, Eurocode, and International Building Code 2012.

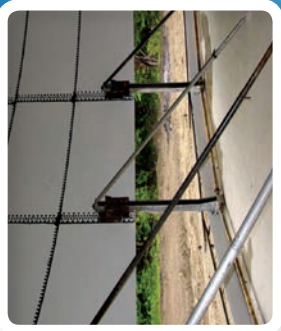
Every OptiDome is custom designed to meet the specific requirements of each project and can be engineered for any snow, wind or suspended load capacity, as well as span-to-rise-ratio. The all-aluminum free span OptiDome's are available for the complete range of Aquastore tanks.

Glass-fused-to-steel roofs are available up to 31' in diameter and aluminum geodesic domes are available in all sizes.

Glass-fused-to-steel roofs are manufactured with hard tooling and include radially sectioned steel panels. The roofs are assembled using the same sealant and bolting techniques as the sidewall panels.

Sealants

Aquastore tanks feature sealants specifically formulated for chemical resistance appropriate to the application. Each sealant is inspected on a batch-by-batch basis to ensure quality. The sealant is suitable for contact with potable water and is certified to meet ANSI/NSF Additives Standard 61 for indirect additives and is chlorine resistant. Sealants cure to a rubber-like consistency, have excellent adhesion to the glass coating, low shrinkage and are utilized for both interior and exterior use.



Most Experienced Dealer Network

CST delivers Aquastore tanks through a network of Authorized Aquastore Dealers. These organizations and their sales representatives are available to discuss project requirements from inception to completion. Experience in your region and application knowledge are valuable during all stages, from project development to specification to erection to the completed and tested tank.

Pricing, budget estimates, foundation layouts, project scheduling, approval drawings and foundation construction are just a few of the areas where Authorized Aquastore Dealers can help. Our customers deal with one source from start to finish, including service after installation. Dealers provide excellent customer service, are local and knowledgeable of your area and building requirements.

Authorized Aquastore Dealers offer a turn-key package to customers providing service, support and expertise from start to finish. In addition to selling and erecting an Aquastore tank, dealer sales and service specialists provide the following:

- Value engineering – total cost analysis
- Tank configuration and layout data
- Budgeting
- Product engineering specifications
- Design criteria assistance
- Tank layout drawings
- Approval drawings
- Certified drawings
- Site preparation and layout
- Tank construction scheduling
- Structural calculations
- Tank testing and commissioning
- Tank inspection
- Maintenance services
- Relocation or expansion
- Concrete work
- Pipe work (inlet, outlet, overflow, decant, etc.)
- Insulation (spray foam, battens, etc.)
- Dome installations
- Turn-key tank construction
- After sale service

Turnkey package from site preparation to completed and tested tank.

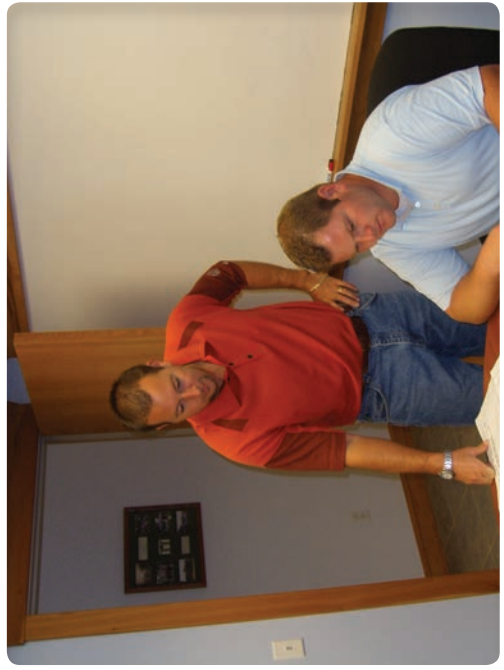


» Best in Industry Warranty

For more than 67 years, CST has offered the most comprehensive manufacturer's warranty in the industry. The field-proven performance history of Aquastore tanks is one more indication that our products are built to last.

An Aquastore tank requires minimal maintenance over its life cycle and CST's Authorized Aquastore Dealers will provide complete service packages tailored to your application needs. Most importantly, the glass-fused-to-steel technology provides protection from environmental impact and never needs painting, saving hundreds of thousands of dollars over time.

Always there when you need us,
just a phone call away...

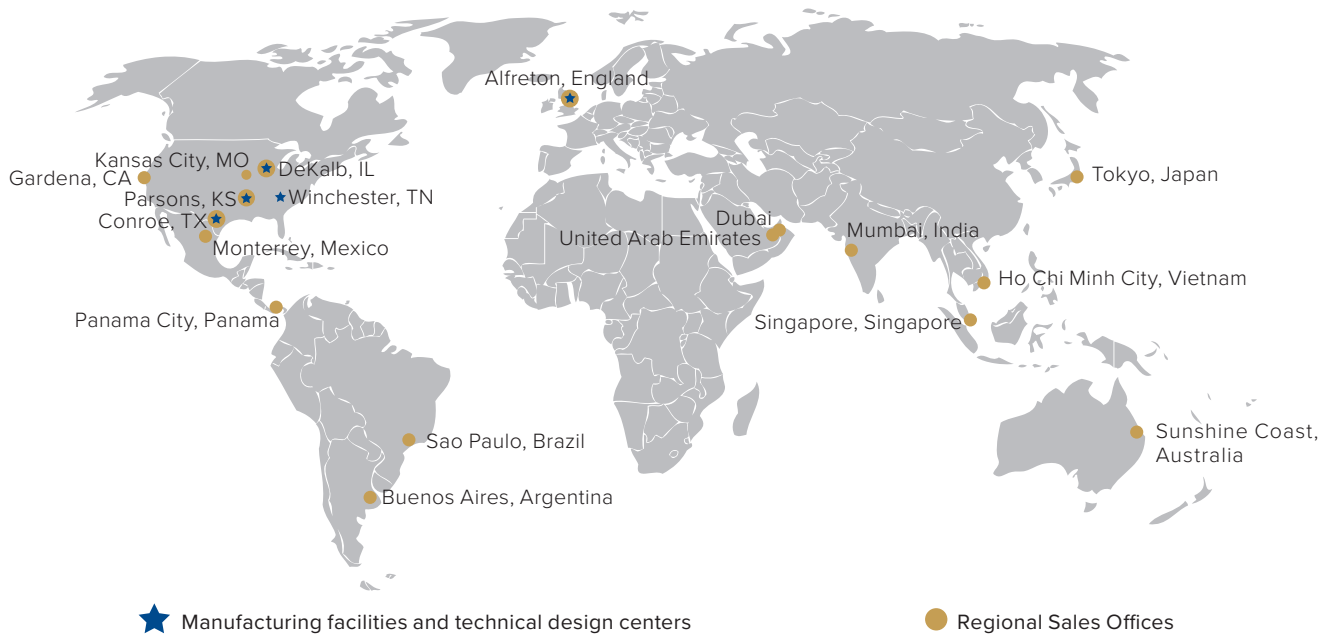


Find your nearest Aquastore Dealer in the dealer locator section at aquastore.com or call **815-756-1551** today!

CST is committed to providing its customers with the highest engineered quality, best service, longest product life and greatest value for every storage solution we supply. Contact CST for all of your water, wastewater and liquid applications.

Worldwide Availability

CST Global Manufacturing and Offices



Certifications and Capabilities:

- ISO 9001:2015
- AISC
- IBC
- Individual State Building Codes
- ANSI/AWWA D103
- NBCC
- FM 4020/4021
- British Standard 7543:2003
- EN 15282/ISO 28765
- NFPA Standard 22
- ANSI/NSF 61



For more information, call **815-756-1551** or visit **aquastore.com** to find an Authorized Aquastore Dealer nearest you.

ESD-635 6 in. Frame, 35 deg Blade

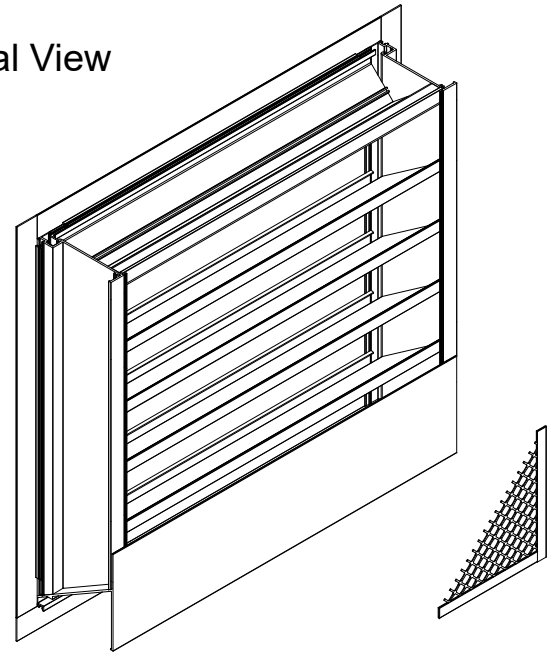
APPLICATION & DESIGN

ESD-635 is a weather louver designed to protect air intake and exhaust openings in building exterior walls. Design incorporates drain gutters in the head member and horizontal blades to channel water to the jambs where water is further channeled through vertical downspouts and out at the sloped sill. The ESD-635 is an extremely efficient louver with AMCA LICENSED PERFORMANCE DATA enabling designers to select and apply with confidence.

PRODUCT DETAILS

Frame:	6 in. x 0.081 in. Frame Thickness
Frame Type:	Flanged, 1.5 in., Exterior
Blades:	0.081 in. Fixed Blade Thickness
Material:	Aluminum
Sizing:	Nominal
Shape:	Rectangular
Construction:	Mechanically Fastened

Internal View



Width and Height furnished approximately 0.25 under size.

OPTIONS & ACCESSORIES

Finish:	Mill
Bird Screen:	0.75 in. x 0.05 in., Flat Expanded Aluminum, Internal, Mill Finish
Union Label:	No Preference
Warranty:	1 year Standard Product Warranty

SUMMARY

ID #	TAG	QTY.	W (in.)	H (in.)	FREE AREA (ft ²)	FREE AREA (%)	SECT. WIDE	SECT. HIGH	SHIP SECT.
1-1		4	108	60	27.55	61.2	1	1	4

PERFORMANCE

ID #	TAG	APPLICATION	VOLUME (CFM)	PRESSURE DROP (in. wg)	FREE AREA VELOCITY (ft/min)	BPWP (ft/min)
1-1		Intake	20,000	0.07	707	1,250

**Calculated pressure drop does not include the effects of screens, filters or other accessories

Total Louver Qty:	4	Total Weight (lb):	706	Louver Area (ft²):	180
Total Ship Sect.:	4				

**Weight shown is an estimate only based on the default base product configuration without options or accessories.

Larger openings may require field assembly of multiple louver panels to make up the overall opening size. Individual louver panels are designed to withstand windloads up to a maximum of 25 PSF (size and configuration dependent). Design, materials and installation of structural reinforcement required to adequately support large sections or multiple section assemblies within a large opening are not provided by Greenheck. Options and accessories including, but not limited to, screens, filter racks, louver doors, and blankoff panels are not subject to structural analysis unless indicated otherwise by Greenheck. Unless specifically indicated, the following are NOT included in the quote provided: structural steel, installation hardware (anchors, angle clips, continuous angles, shims, fasteners, inserts, backer rod and sealant), field measuring and/or installation, miscellaneous flashing, trim or enclosures, blank off panels, mullion covers or mullion hardware, hinged frames or removable subframes, custom bird/insect screen, 3-coat, metallic and/or exotic paint finishes, bituminous paints for unlike metals, any applicable taxes, stamped and sealed structural calculations seismic calculations or job specific engineered submittal drawings.

Model: SBS-3L48-30

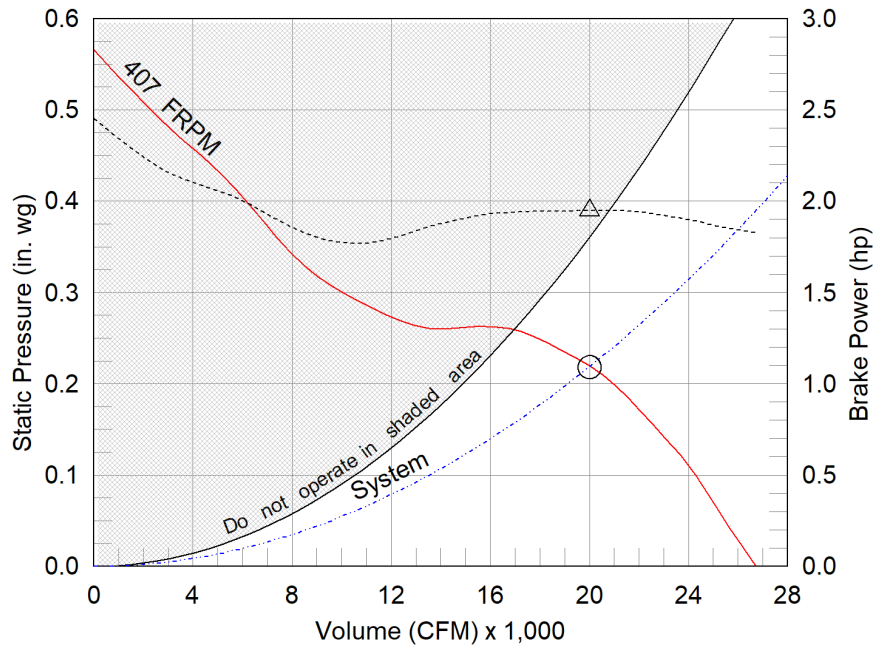
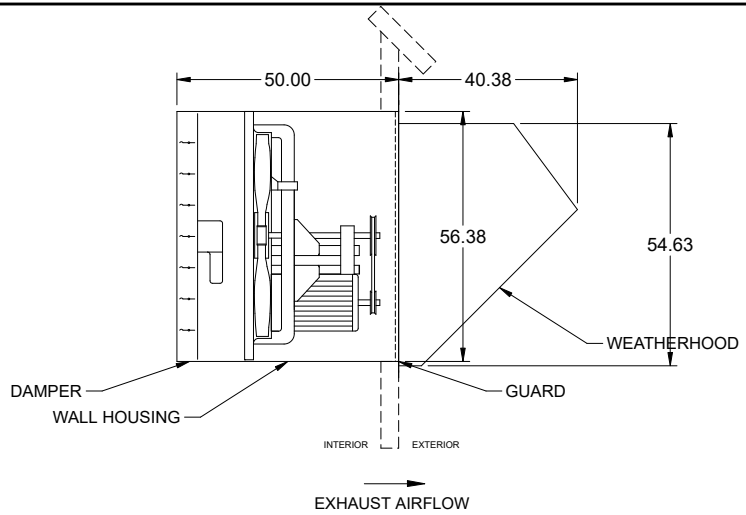
Sidewall Belt Drive Fan

Motor Access From Ext. of Bldg.

Dimensional	
Quantity	4
Weight w/o Acc's (lb)	302
Weight w/ Acc's (lb)	778
Max T Motor Frame Size	215
Optional Damper (in.)	50 x 50
Wall Opening (in.)	57.75 x 57.75

Performance	
Requested Volume (CFM)	20,000
Actual Volume (CFM)	20,000
Total External SP (in. wg)	0.218
Fan RPM	407
Operating Power (hp)	1.95
Elevation (ft)	341
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.074
Drive Loss (%)	4.9
Tip Speed (ft/min)	5,111
Static Eff. (%)	37

Motor	
Motor Mounted	Yes
Size (hp)	3
Voltage/Cycle/Phase	208/60/3
Enclosure	TEFC
Motor RPM	1725
Efficiency Rating	NEMA Premium
Windings	1
NEC FLA* (Amps)	10.6



- △ Operating Bhp point
- Operating point at Total External SP
- Fan curve
- - - System curve
- Brake horsepower curve

Static Pressure Calculations

External SP	0.125 in. wg
Damper	0.047 in. wg
Wall Housing	0.046 in. wg
Total External SP	0.218 in. wg

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
Inlet	87	84	79	77	74	71	67	60	80	68	17.1

Notes:

All dimensions shown are in units of in.
*NEC FLA, MCA and MOP are for reference only – based on tables 430.248 or 430.25 of National Electric Code 2020. Actual motor FLA may vary, for sizing thermal overload, consult factory. MCA and MOP values shown only account for the motor, not accessories (damper actuator, field supplied VFD, etc).
LwA - A weighted sound power level, based on ANSI S1.4
dBA - A weighted sound pressure level, based on 11.5 dB attenuation per Octave band at 5 ft - dBA levels are not licensed by AMCA International
Sones - calculated using AMCA 301 at 5 ft
The motor provided on this fan is inverter ready and meets NEMA MG1 Part 31.4.4.2



Model: SBS-3L48-30

Sidewall Belt Drive Fan

Standard Construction Features:

- Galvanized steel fan panel - Die formed, galvanized steel drive frame assembly
- Fabricated steel propeller for Levels 1 and 2, welded and painted steel for Level 3
- Adjustable motor pulley - Ball bearing motors - Fan shaft mounted in ball bearing pillow blocks - Static resistant belts - Corrosion resistant fasteners

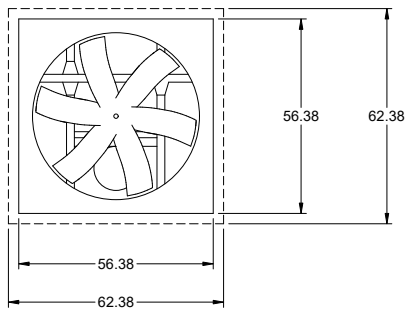
Selected Options & Accessories:

NEMA Premium Efficient Motor - meets NEMA Table 12-12
Motor VFD Rated without Shaft Grounding Protection
UL/cUL 705 Listed - "Power Ventilators"
Airflow Direction: Exhaust
Long Wall Hsg, Flush Exterior, w/ OSHA Grd.
Motor Access: From Ext. of Bldg.
Weatherhood, Aluminum 45 deg. with Bird Screen
Extended Bearing Lube Lines
Bearings with Grease Fittings
One Point Wiring
Unit Warranty: 1 Yr (Standard)
Damper Mounted, VCD-23-PB-50X50, Not Coated
Damper Actuator (AFBUP), 208 VAC Actuated w/ 115 VAC Transformer

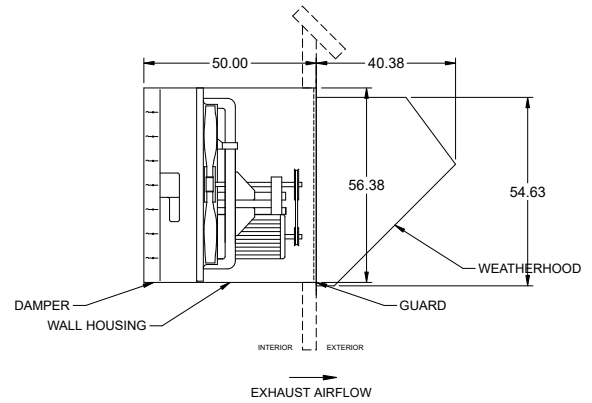
Assembly Drawing

Type: Sidewall Belt Drive Fan

DRAWING VIEWED FROM INTERIOR



END VIEW DIMENSIONS ARE FOR HOUSING NOT FAN PANEL
WALL OPENING 57.75 SQ.
MOTOR IS ACCESSIBLE FROM EXTERIOR OF BUILDING
THIS IS AN EXHAUST FAN DUE TO MOTOR ORIENTATION

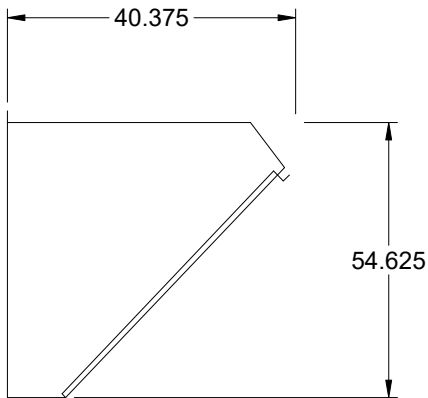


Notes: All dimensions shown are in units of in..

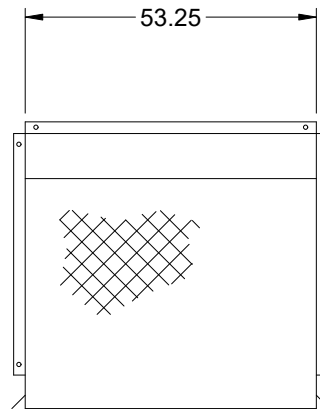
45 Degree Weatherhood

Standard Construction Features:

Galvanized Steel or aluminum construction. 0.5 welded wire birdscreen. Prepunched mounting holes. Field assembled.



SIDE VIEW

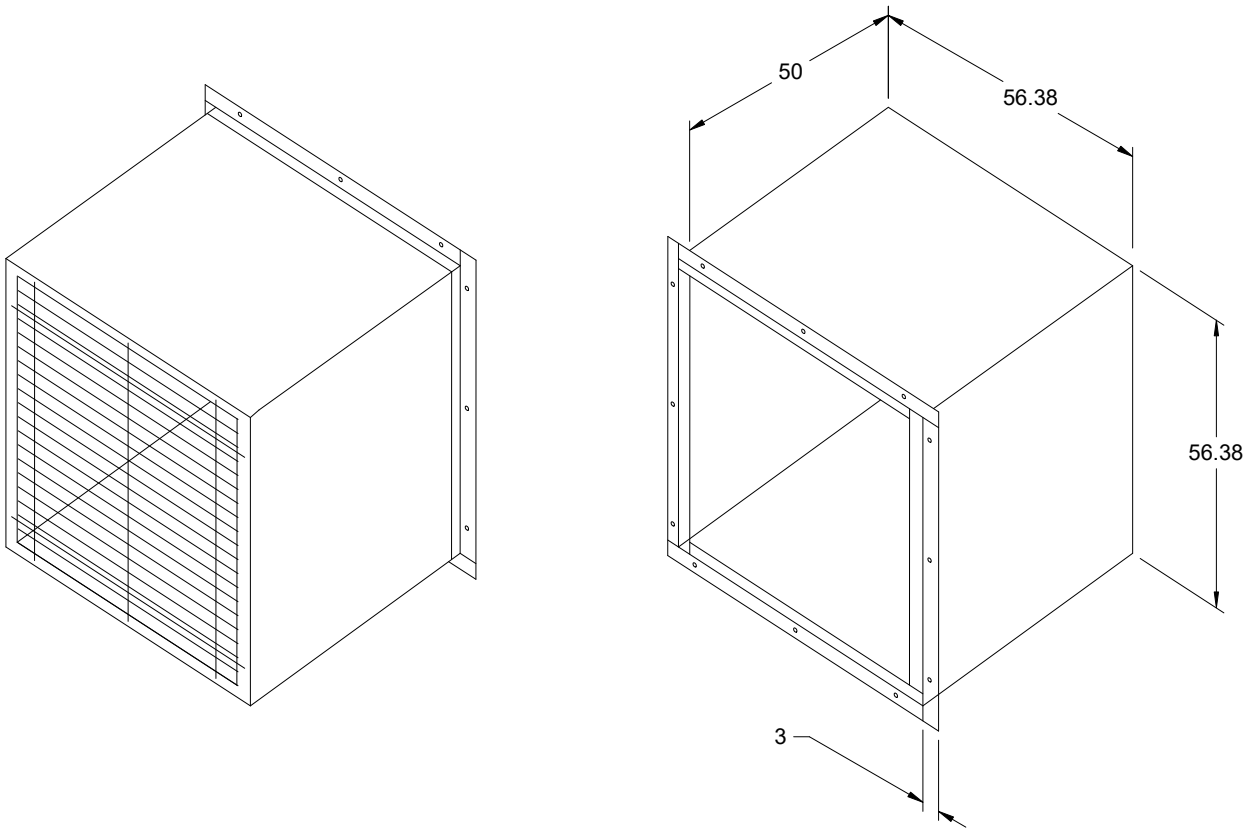


ELEVATION VIEW

Long Wall Housing

Standard Construction Features:

- Galvanized steel construction - Heavy gauge mounting flanges - Pre-punched mounting holes - Inside flanges allow damper to be mounted - Overlapping weatherhood flange keeps rain out - OSHA Protective guard of welded steel wire completely protects the drive side of the wall housing.



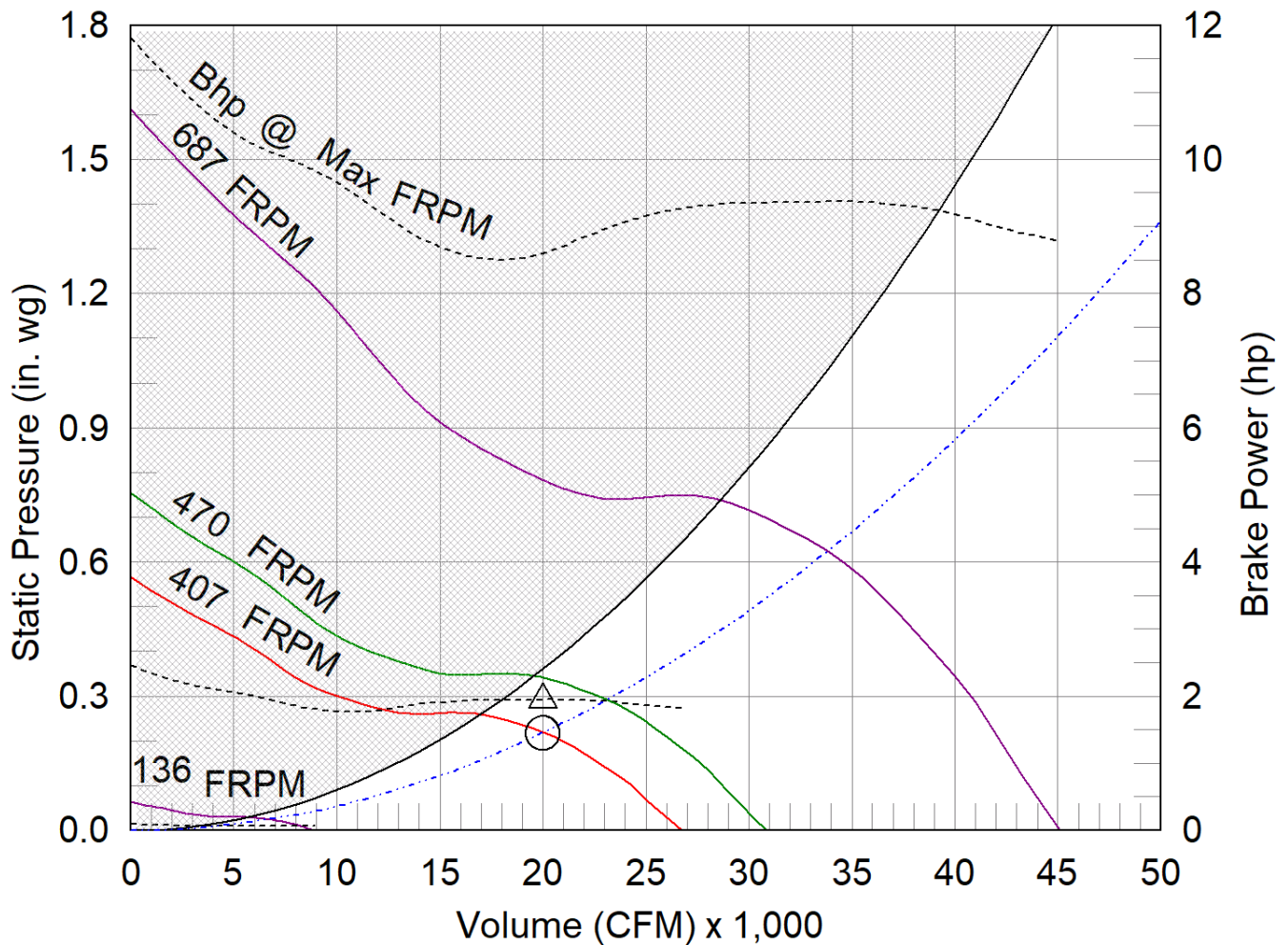
Notes: All dimensions shown are in units of in.

SBS-3L48-30

Min/Max Fan Curve

Performance

Requested Volume (CFM)	Actual Volume (CFM)	Total External SP (in. wg)	Fan RPM	Operating Power (hp)
20,000	20,000	0.218	407	1.95



- △ Operating Bhp point
- Operating point at Total External SP
- Fan curve
- System curve
- Brake horsepower curve

ESD-635 6 in. Frame, 35 deg Blade

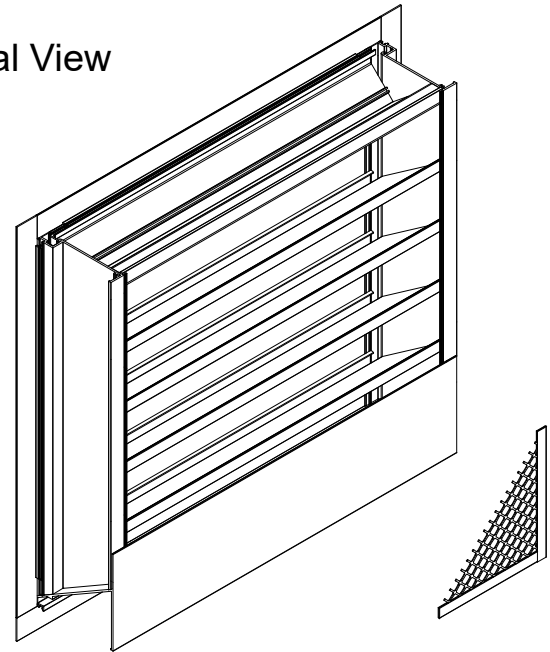
APPLICATION & DESIGN

ESD-635 is a weather louver designed to protect air intake and exhaust openings in building exterior walls. Design incorporates drain gutters in the head member and horizontal blades to channel water to the jambs where water is further channeled through vertical downspouts and out at the sloped sill. The ESD-635 is an extremely efficient louver with AMCA LICENSED PERFORMANCE DATA enabling designers to select and apply with confidence.

PRODUCT DETAILS

Frame:	6 in. x 0.081 in. Frame Thickness
Frame Type:	Flanged, 1.5 in., Exterior
Blades:	0.081 in. Fixed Blade Thickness
Material:	Aluminum
Sizing:	Nominal
Shape:	Rectangular
Construction:	Mechanically Fastened

Internal View



Width and Height furnished approximately 0.25 under size.

OPTIONS & ACCESSORIES

Finish:	Mill
Bird Screen:	0.75 in. x 0.05 in., Flat Expanded Aluminum, Internal, Mill Finish
Union Label:	No Preference
Warranty:	1 year Standard Product Warranty

SUMMARY

ID #	TAG	QTY.	W (in.)	H (in.)	FREE AREA (ft ²)	FREE AREA (%)	SECT. WIDE	SECT. HIGH	SHIP SECT.
4-1		4	108	84	40.12	63.7	1	1	4

PERFORMANCE

ID #	TAG	APPLICATION	VOLUME (CFM)	PRESSURE DROP (in. wg)	FREE AREA VELOCITY (ft/min)	BPWP (ft/min)
4-1		Intake	20,000	0.04	495	1,250

**Calculated pressure drop does not include the effects of screens, filters or other accessories

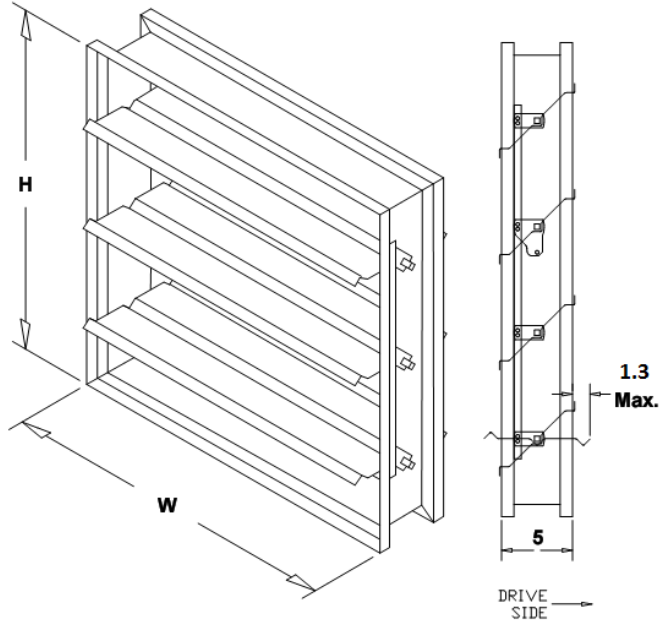
Total Louver Qty:	4	Total Weight (lb):	990	Louver Area (ft²):	252
Total Ship Sect.:	4				

**Weight shown is an estimate only based on the default base product configuration without options or accessories.

Larger openings may require field assembly of multiple louver panels to make up the overall opening size. Individual louver panels are designed to withstand windloads up to a maximum of 25 PSF (size and configuration dependent). Design, materials and installation of structural reinforcement required to adequately support large sections or multiple section assemblies within a large opening are not provided by Greenheck. Options and accessories including, but not limited to, screens, filter racks, louver doors, and blankoff panels are not subject to structural analysis unless indicated otherwise by Greenheck. Unless specifically indicated, the following are NOT included in the quote provided: structural steel, installation hardware (anchors, angle clips, continuous angles, shims, fasteners, inserts, backer rod and sealant), field measuring and/or installation, miscellaneous flashing, trim or enclosures, blank off panels, mullion covers or mullion hardware, hinged frames or removable subframes, custom bird/insect screen, 3-coat, metallic and/or exotic paint finishes, bituminous paints for unlike metals, any applicable taxes, stamped and sealed structural calculations seismic calculations or job specific engineered submittal drawings.

Control Damper

Model: VCD-23



Standard Construction Features:

- Model VCD-23 is a well built low leakage control damper for automatic control or manual balancing applications
- Galvanized 16 ga channel frame
- Galvanized blades with reinforcements
- Side mounted steel linkage is concealed in the frame to prevent additional pressure drop
- Axles are steel and 0.5 in. dia.
- Synthetic axle bearings
- Width and height furnished approximately 0.25 in. undersized
- Field wiring is required to individual components

Damper Configuration:

ID #:	Tag:	Quantity:	W (in.):	H (in.):	Act Qty:	Actuator Model:
6	EF-1,2,3,4	4	50	50	1	AFBUP

Notes: All dimensions shown are in units of in.
Width And height furnished approximately 0.25 in. undersize

Louvers Mill Aluminum Finish

Aluminum in the mill finish state will be commercially smooth and substantially free from blisters, inclusions, voids, slivers and kinks. Slight discontinuity resulting from flow and die lines inherent in the extrusion process will exist. Occasional discontinuities that can be reasonably removed making the surface suitable for finishing operations are acceptable. Although aluminum is naturally resistant to corrosion, its appearance changes as a result of weathering and aging. Aluminum in the mill finish state may also have a non-uniform surface appearance resulting from oil, heat and oxide discoloration inherent in the manufacturing process.

LEACHATE STORAGE TANK

HighGuard Underground Steel Storage Tanks

Superior Tanks for a Tough Environment

HT-1089



Highland Tank®



A 75 mil (min) coating
is applied to the steel
grit-blasted tank surface

UL-Listed Steel
Primary Tank 10
gauge to .375"
thick



The HighGuard Tank features a strong dielectric coating of high solids polyurethane for protection, even under the most difficult conditions. HighGuard resists surface damage due to impact or abrasion that may occur during transportation, rigging and installation.

In fact, HighGuard underground storage tanks are so tough they require no cathodic protection or expensive corrosion monitoring. They out-perform fiberglass-reinforced polyester (FRP) clad tanks and do not require any artificial reinforcement.

HighGuard is superior in strength and rugged in appearance. After manufacturing and rigorous testing, the tank's exterior surfaces are commercially blasted with steel grit in preparation for coating.

The HighGuard protective coating is a dense, solvent-free, tar-free, two-component polyurethane coating system with high impact properties and tensile strength.

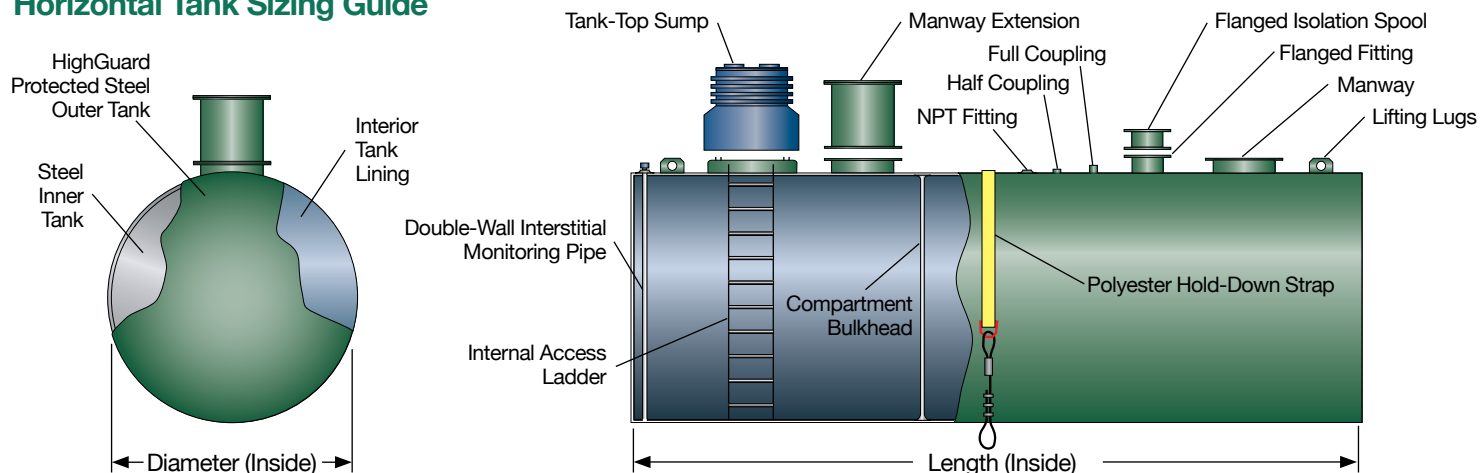
The coating is spray-applied with special equipment that ensures an even application of 75 mils over the entire surface of the tank.

The finished tank is quality checked by a 15,000-volt spark test to ensure coating integrity and effective corrosion protection that can be measured in decades, rather than years.

Unmatched Quality & Service



Horizontal Tank Sizing Guide



HighGuard Features

- UL-58 and UL-1746 compliant
- Provides 75 mils dielectric polyurethane protection
- Cured films are free of pores
- Must pass a 15,000 volt spark test before shipment
- Strong, flexible and resistant to impact, abrasion and corrosion
- No cathodic protection monitoring required
- Highland standard 10-year limited warranty
- Highland 30-year limited warranty is available

Flexible Designs

- Volumes from 240-50,000 gallons
- Custom sizes
- Multi-product storage compartments

Product Compatible

- Alternate fuel compatible without the additional cost of internal linings
- Safe storage for all motor fuels and biofuels, including biodiesel and ethanol blends

Environmentally Friendly

- Most environmentally-friendly coating on the market
- Uses no hazardous materials in production
- Can be disposed of as a non-hazardous material – steel tanks are 100% recyclable

Cost Effective

- On a total installed-cost basis, HighGuard's cost is less than any other unmonitored tank configuration on the market today
- No job site spark or air test required
- Lightweight construction for lower shipping and handling costs

Volume Gallons	Tank Dimensions	
	Diameter	Length
240	3'-2"	4'-0"
300	3'-2"	5'-0"
500	4'-0"	5'-5"
1,000	4'-0"	10'-9"
1,000	5'-4"	6'-0"
1,500	5'-4"	9'-0"
2,000	5'-4"	12'-0"
2,500	5'-4"	15'-0"
3,000	5'-4"	18'-0"
4,000	5'-4"	24'-0"
4,000	6'-0"	19'-0"
4,000	8'-0"	10'-8"
5,000	6'-0"	23'-10"
5,000	8'-0"	13'-4"
6,000	6'-0"	28'-8"
6,000	8'-0"	16'-0"
8,000	10'-0"	14'-0"
8,000	8'-0"	21'-4"
10,000	10'-0"	17'-0"
10,000	8'-0"	26'-8"
12,000	10'-0"	20'-6"
12,000	8'-0"	32'-0"
15,000	10'-0"	25'-6"
15,000	8'-0"	40'-0"
20,000	10'-0"	34'-0"
20,000	10'-6"	31'-0"
25,000	10'-0"	42'-6"
25,000	10'-6"	38'-9"
30,000	10'-0"	51'-2"
30,000	10'-6"	46'-6"
40,000	12'-0"	47'-6"
50,000	12'-0"	59'-6"



Please visit us at www.highlandtank.com

One Highland Road
Stoystown, PA 15563
P: 814-893-5701
F: 814-893-6126

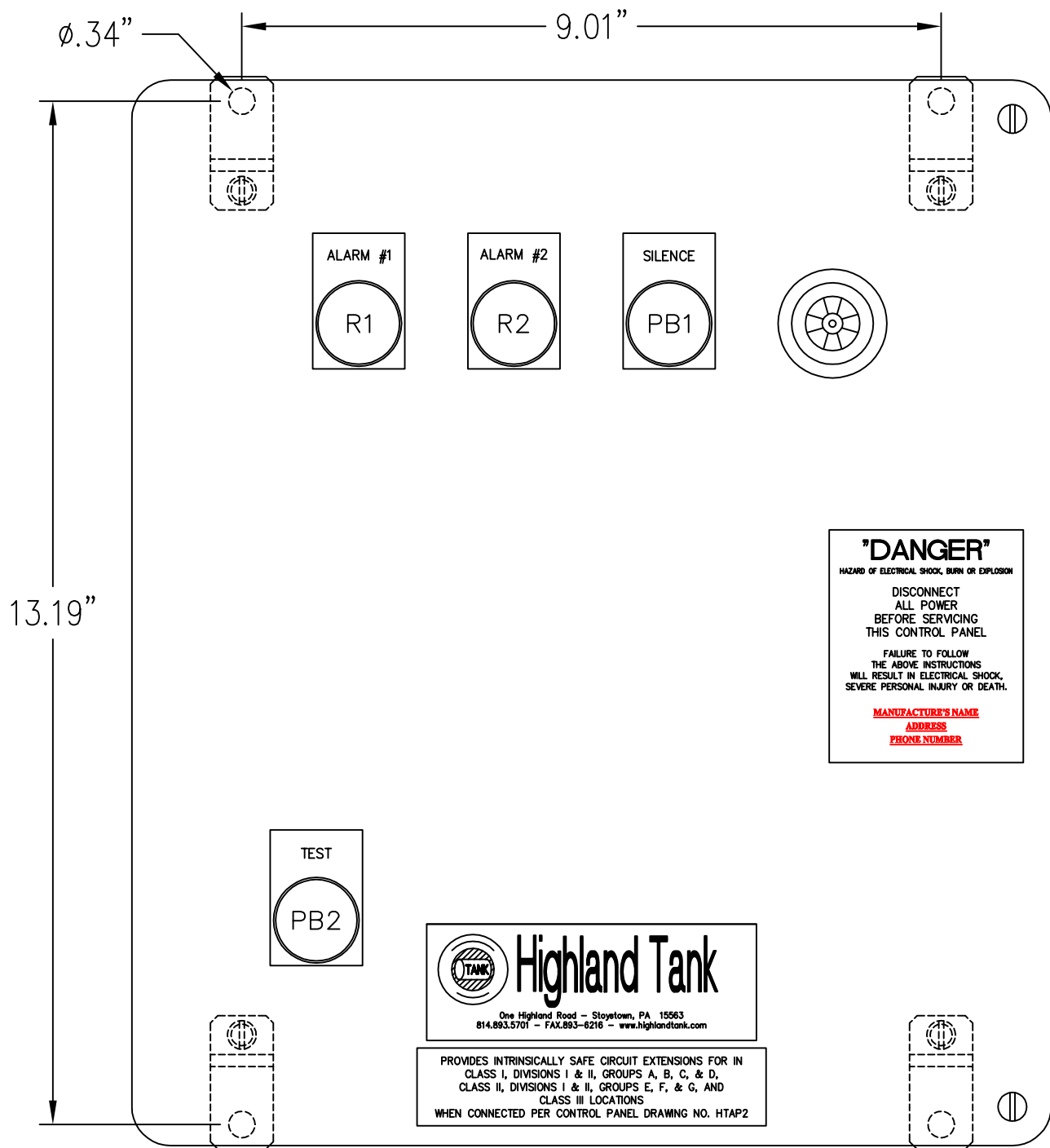
4535 Elizabethtown Road
Manheim, PA 17545
P: 717-664-0600
F: 717-664-0617

958 19th Street
Watervliet, NY 12189
P: 518-273-0801
F: 518-273-1365

2700 Patterson Street
Greensboro, NC 27407
P: 336-218-0801
F: 336-218-1292

2225 Chestnut Street
Lebanon, PA 17042
P: 717-664-0602
F: 717-664-0631

1510 Stoystown Road
Friedens, PA 15541
P: 814-443-6800
F: 814-444-8662

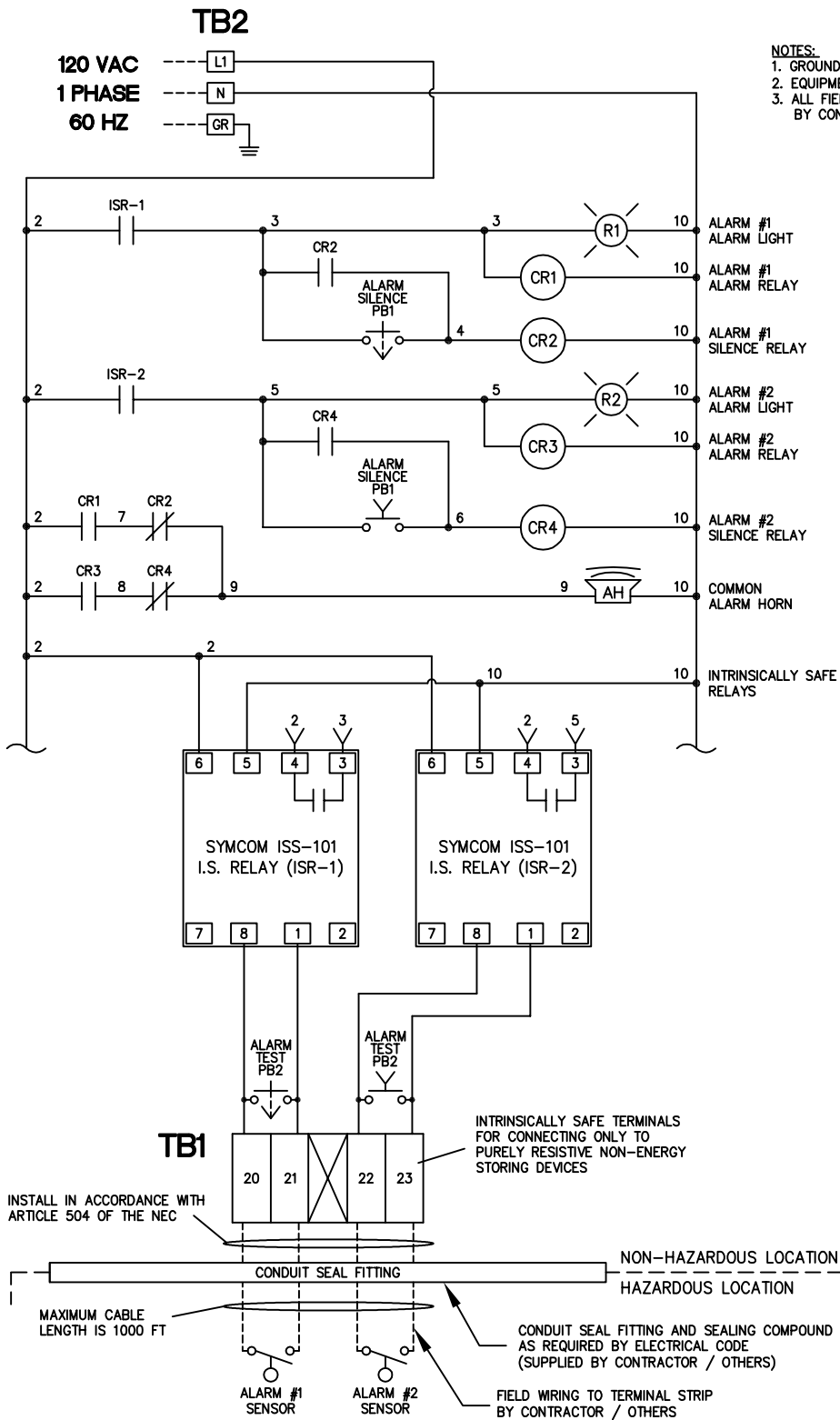


ENCLOSURE
(12"x 10"x 6")
NEMA 4X FIBERGLASS



MANUFACTURED IN ACCORDANCE TO
UL 698A STANDARDS

		Highland Tank®	
TWO CHANNEL ALARM PANEL WITH LIGHTS, HORN, SILENCE CIRCUIT & AUX. CONTACTS			
CUSTOMER:			
PROJECT:			
QUOTE NO:		CHK'D BY:	
SCALE: NTS	DATE:	DWG. BY:	DWG. NO: HTAP2-1

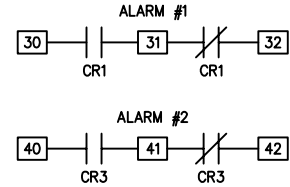


- NOTES:**
1. GROUND PER N.E.C. AND LOCAL CODES.
 2. EQUIPMENT SHOWN W/ POWER OFF.
 3. ALL FIELD WIRING, REPRESENTED BY DASHED LINES, BY CONTRACTOR.

TB2

AUXILIARY DRY CONTACTS

NON-INTRINSICALLY SAFE TERMINALS
FOR CUSTOMERS USE



NOTE: AUX CONTACTS NOT TO
EXCEED 10 AMP / 120 V

PANELS SUITABLE FOR
INTRINSICALLY SAFE CIRCUIT
EXTENSIONS FOR USE IN:
CLASS I, GROUPS A,B,C,D
CLASS II, GROUPS E,F,G
CLASS III

NOTE:
PANEL DESIGNED TO INTERFACE WITH
NORMALLY OPEN INPUTS ONLY (ALARM ON CLOSE)



MANUFACTURED IN ACCORDANCE TO
UL 698A STANDARDS



Highland Tank®

TWO CHANNEL ALARM PANEL WITH LIGHTS,
HORN, SILENCE CIRCUIT & AUX. CONTACTS

CUSTOMER:

PROJECT:

QUOTE NO:

CHK'D BY:

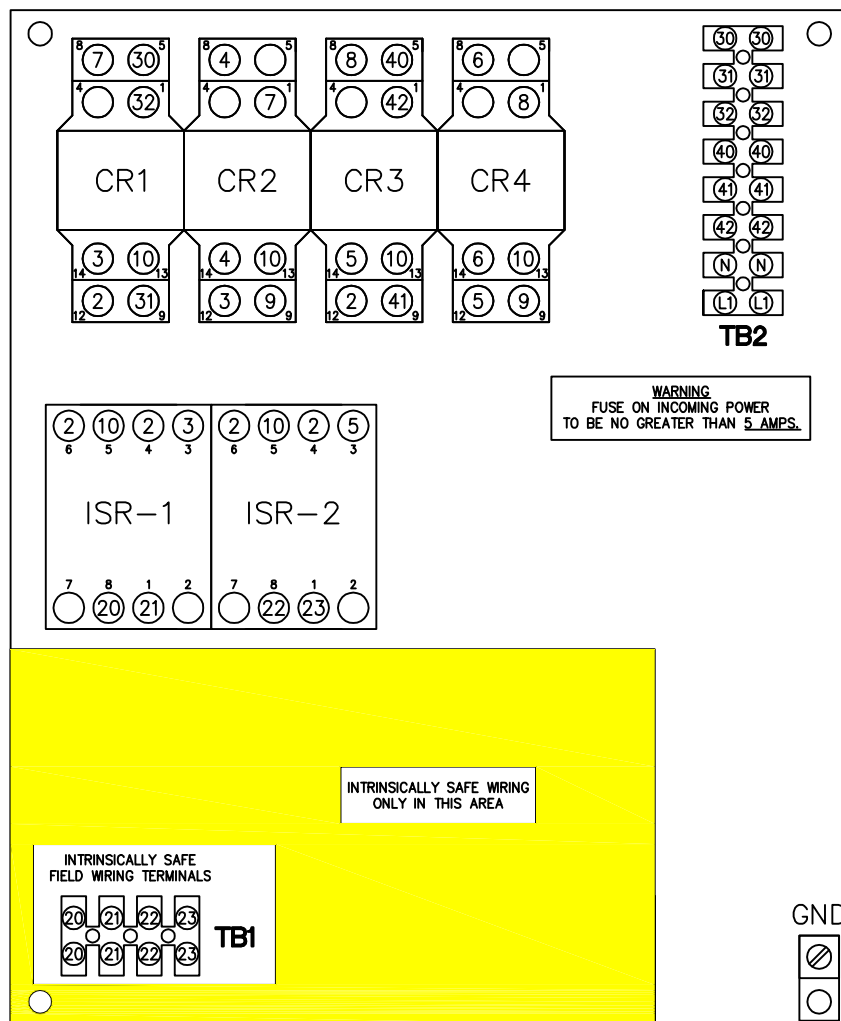
SCALE: NTS

DATE:

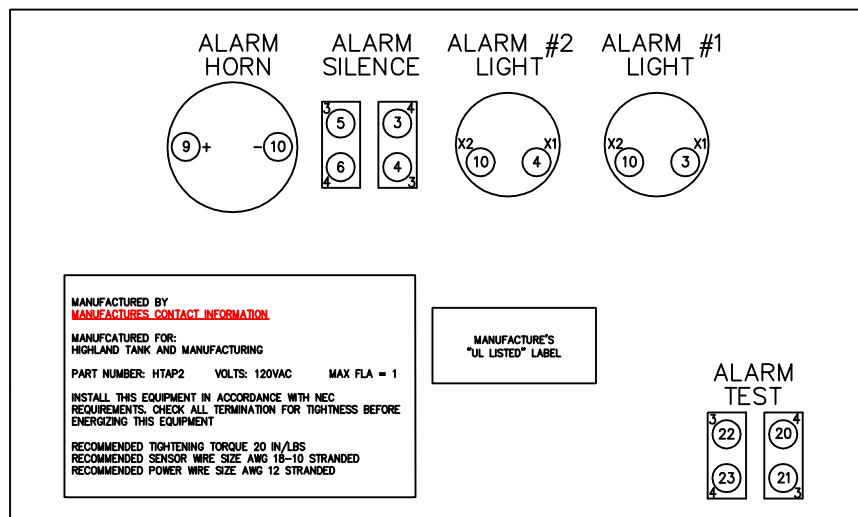
DWG. BY:

DWG. NO:

HTAP2-2



PANEL INTERIOR



REAR VIEW OF ENCLOSURE DOOR

		Highland Tank®	
TWO CHANNEL ALARM PANEL WITH LIGHTS, HORN, SILENCE CIRCUIT & AUX. CONTACTS			
CUSTOMER:			
PROJECT:			
QUOTE NO:		CHK'D BY:	
SCALE: NTS	DATE:	DWG. BY:	DWG. NO: HTAP2-3



MANUFACTURED IN ACCORDANCE TO
UL 698A STANDARDS

LEGEND

8
(20)

PANEL COMPONENT TERMINAL NO.
TERMINATED WIRE NO.

BILL OF MATERIALS

QUANTITY	PART NUMBER	DESCRIPTION
----------	-------------	-------------

CUTLER HAMMER

2	M22-D-S-K20	Pushbutton Assembly, Flush, Black, 2-N.O.
2	C22-L-R230R	Pilot Light Assembly, Red LED

IDEC

4	RH2B-UL-AC120	Relay, DPDT, 120 VAC Coil, with LED
4	SH2B-05	Relay Base, RH Series, DPDT

ALLIED MOULDED PRODUCTS

1	AM1206H	Single Door Wall Mount Enclosure with Painted Steel Back Panel NEMA 4X, Fiberglass, Size: 12" x 10" x 6" (HWD)
---	---------	---

AC/DC EQUIPMENT

1	MC-09-201-QG	Alarm Horn, 120 VAC, NEMA 4X with Gasket
---	--------------	--

SYMCOM

2	ISS-101	Intrinsically Safe Relay with Socket (OT08-PC)
---	---------	--

WECO

1	323-HDS/12	Terminal Block, 12-Pole, Cut to Suit
1	BST-323/12	Terminal Marking Strip, 12-Pole, Cut to Suit



MANUFACTURED IN ACCORDANCE TO
UL 698A STANDARDS



Highland Tank[®]

TWO CHANNEL ALARM PANEL WITH LIGHTS,
HORN, SILENCE CIRCUIT & AUX. CONTACTS

CUSTOMER:

PROJECT:

QUOTE NO:

CHK'D BY:

SCALE:
NTS

DATE:

DWG. BY:

DWG. NO:

HTAP2-4

HTAP 2 Alarm Panel Wiring Instructions:

Terminal Block Two (TB2):

Incoming 120V 60Hz 1Phase Power

Neutral (White) Wire to “N”- Neutral Terminal
Hot (Black) Wire to “L1”- Line Voltage Terminal
Ground Wire to “G”- Ground Lug

Auxiliary Contacts (Form “C” Dry Contacts):

Rated at: 10A at 28VDC, 10A at 120VAC

Auxiliary Contacts can be utilized for relaying an alarm signal, for example, to a remote alarm panel.

Channel One (Corresponding to Alarm Circuit Terminals “20” and “21”):

Terminals “30” and “31” are Dry (Un-Powered) Contacts – Normally Open (Close on Alarm)

Terminals “31” and “32” are Dry (Un-Powered) Contacts – Normally Closed (Open on Alarm)

Channel Two (Corresponding to Alarm Circuit Terminals “22” and “23”):

Terminals “40” and “41” are Dry (Un-Powered) Contacts – Normally Open (Close on Alarm)

Terminals “41” and “42” are Dry (Un-Powered) Contacts – Normally Closed (Open on Alarm)

Terminal Block One (TB1):

Depending on the type of sensor(s) supplied for this alarm panel system, wire as follows:

Two Float Level Sensor (Standard Sensor) Model: HTF

Top Float: (2) YELLOW Leads From Level Sensor To “20” and “21” Terminals

Bottom Float: (2) RED Leads From Level Sensor To “22” and “23” Terminals

Single Float Level Sensor (Standard Sensor) Model: HTF and Leak Sensor Model: HTLP

Single Float: (2) RED Leads From Level Sensor To “20” and “21” Terminals

Leak Sensor: RED and BLACK Leads From Leak Sensor To “22” and “23” Terminals

Two Float Level Sensor (Suspended Sensor) Model: HTSF

Top Float: GREEN and WHITE Leads From Level Sensor To “20” and “21” Terminals

Bottom Float: RED and BLACK Leads From Level Sensor To “22” and “23” Terminals

Single Float Level Sensor (Suspended Sensor) Model: HSTF and Leak Sensor Model: HTLP

Single Float: RED and BLACK Leads From Level Sensor To “20” and “21” Terminals

Leak Sensor: RED and BLACK Leads From Leak Sensor To “22” and “23” Terminals

Notes:

1. For operational clarity, identify and label the alarm light signals (on the front of the panel enclosure) with the corresponding sensor. For Example, High Fluid Level, High-High Fluid Level, Low Fluid Level, Low-Low Fluid Level, High Oil Interface, High-High Oil Interface, Leak.). Reference the Highland Tank Submittal Drawing for More Details.
2. Float Sensor Typical Usages are:
 - “A” Float -- High Fluid Level
 - “B” Float -- Low Fluid Level
 - “E” Float – High Oil Interface Level – Interface floats are weighted to float in water, but sink in oil
3. **Oil Water Separator Application:** Oil accumulates on top of the water and displaces the water in a downward direction towards the bottom of the vessel; therefore, the top float is the High Oil Interface Float and the Bottom Float is the High-High Oil Interface Float
4. **Oil Water Separator Application: The Interface Level Alarm(s) will sound when the unit is empty. Fill with clean water before activating alarm system.**

Warning: Installation and Servicing of electrical equipment should only be completed by qualified personnel who are familiar with local codes and standard safety procedures.

Read and understand all instructions before attempting to install or service any electrical equipment.

Follow all jurisdictional safety regulations when working on electrical equipment.

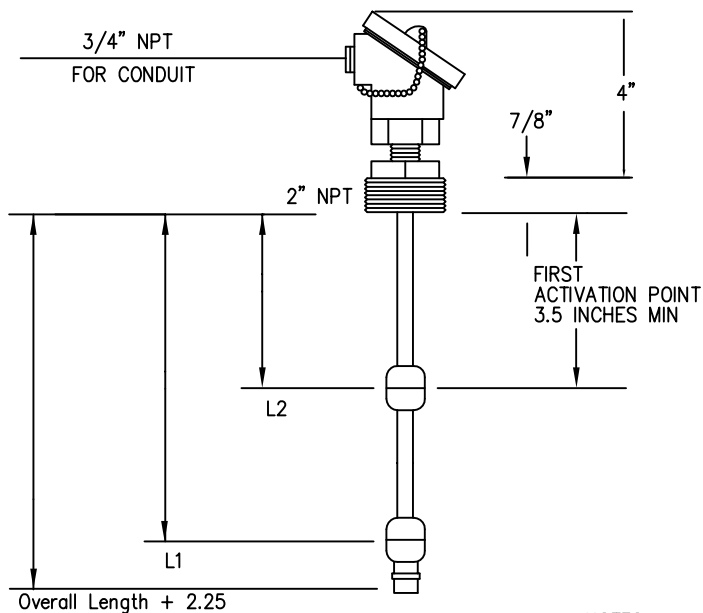
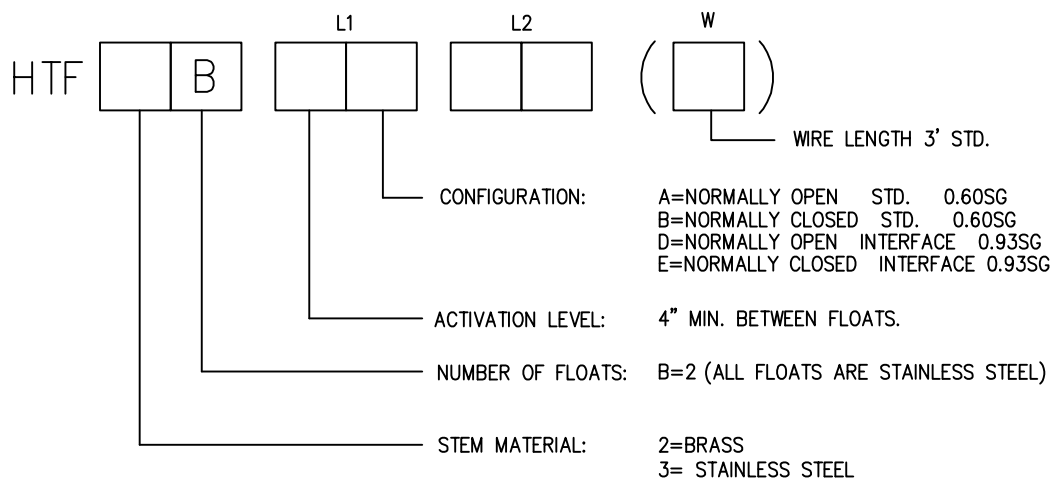
Series HTF Standard Two Float Sensor



Highland Tank

Engineering Bulletin

One Highland Road, Stoystown Pa.15563
814-893-5701 - Fax 893-6126
www.Highlandtank.com
email: staff @ highlandtank.com



SPECIFICATIONS:

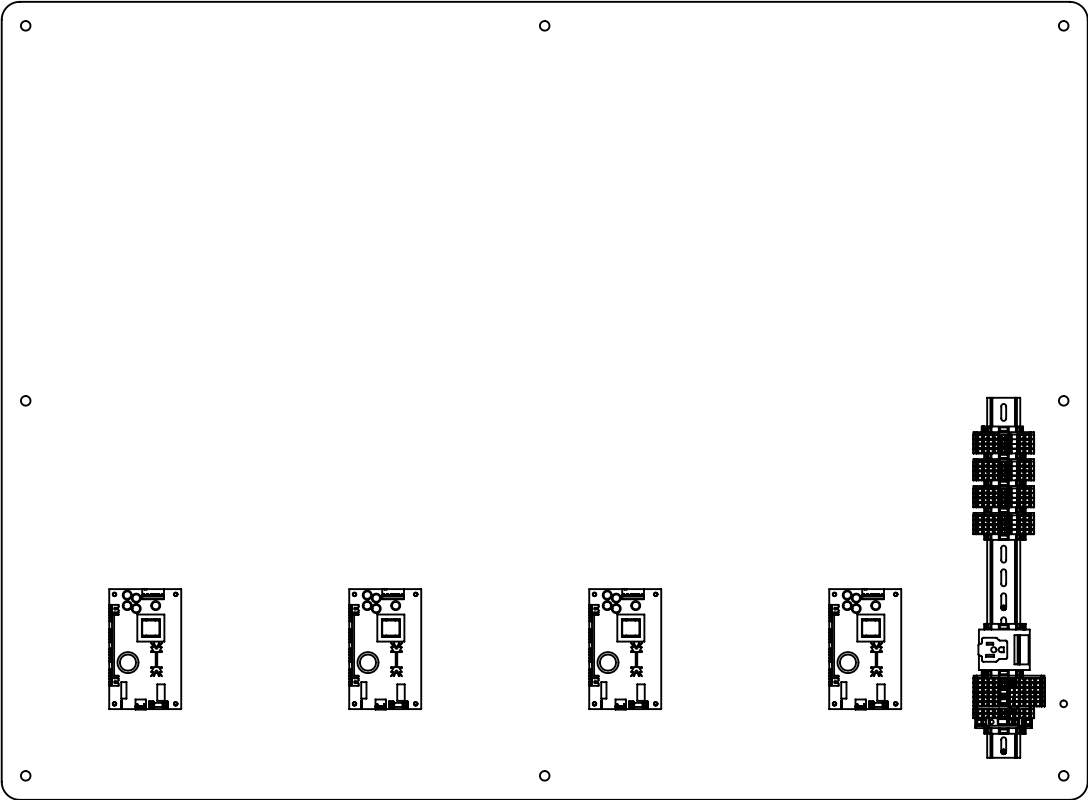
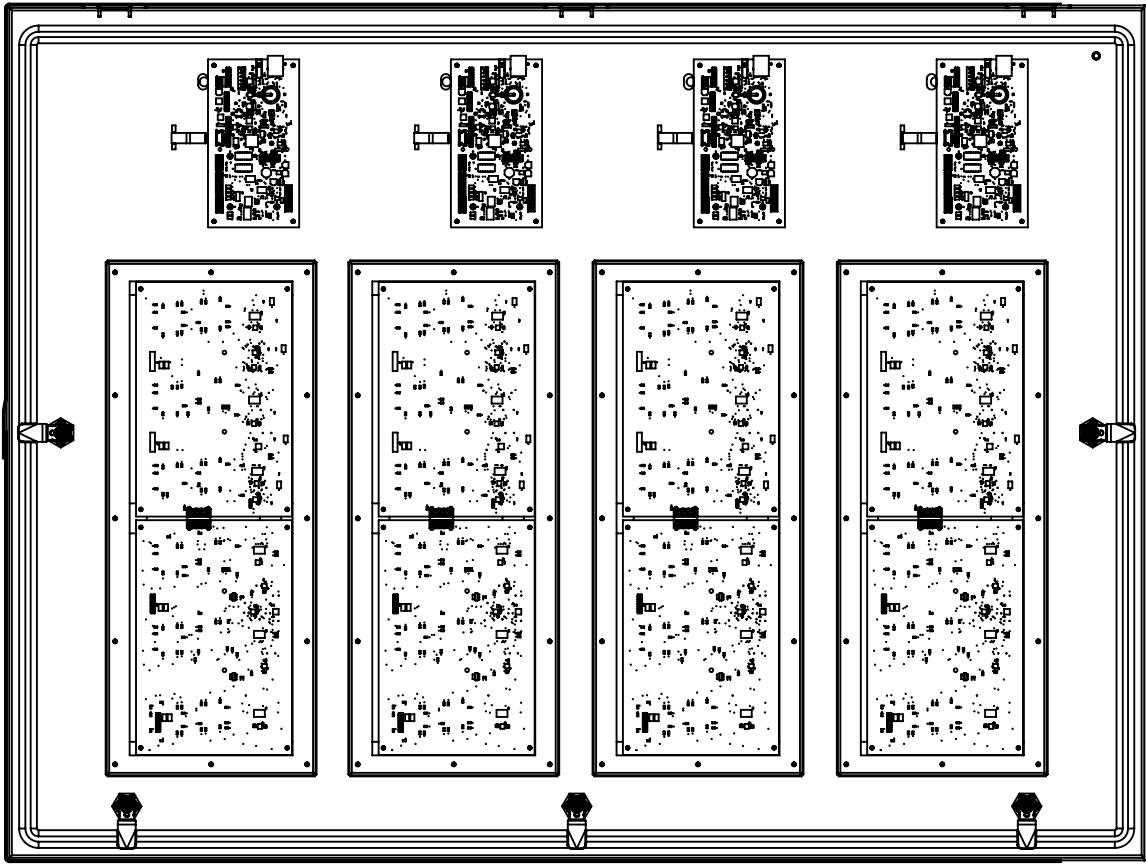
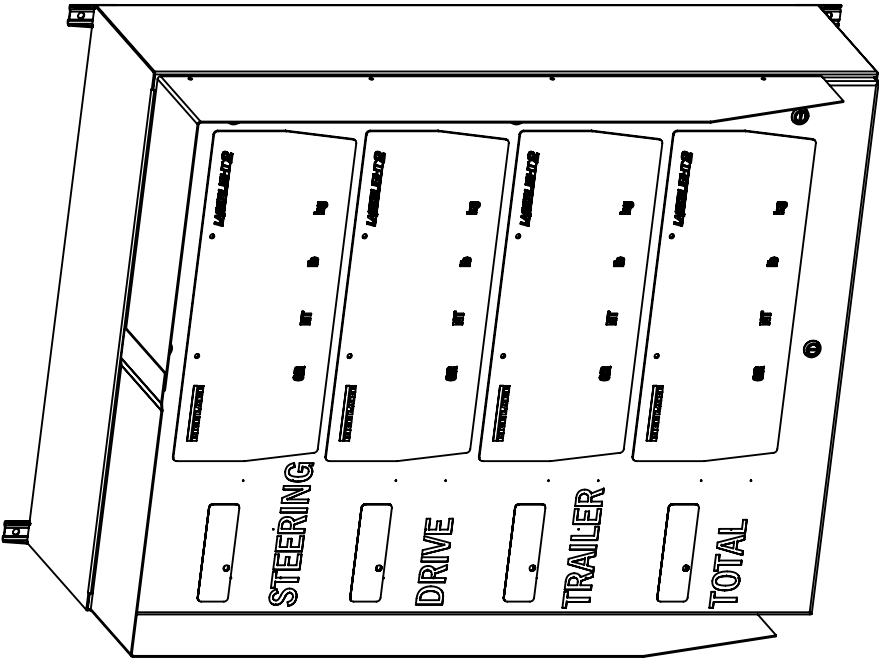
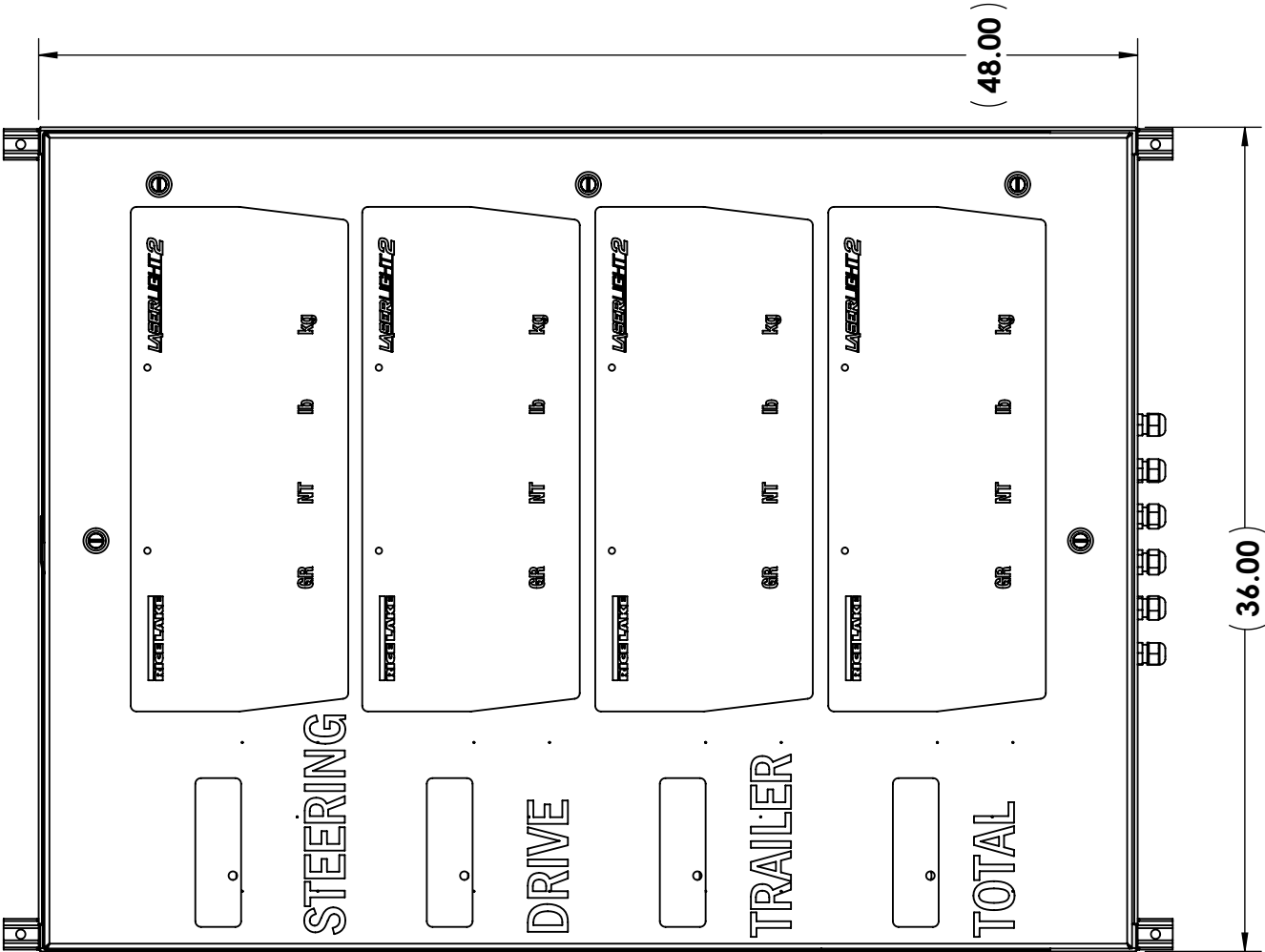
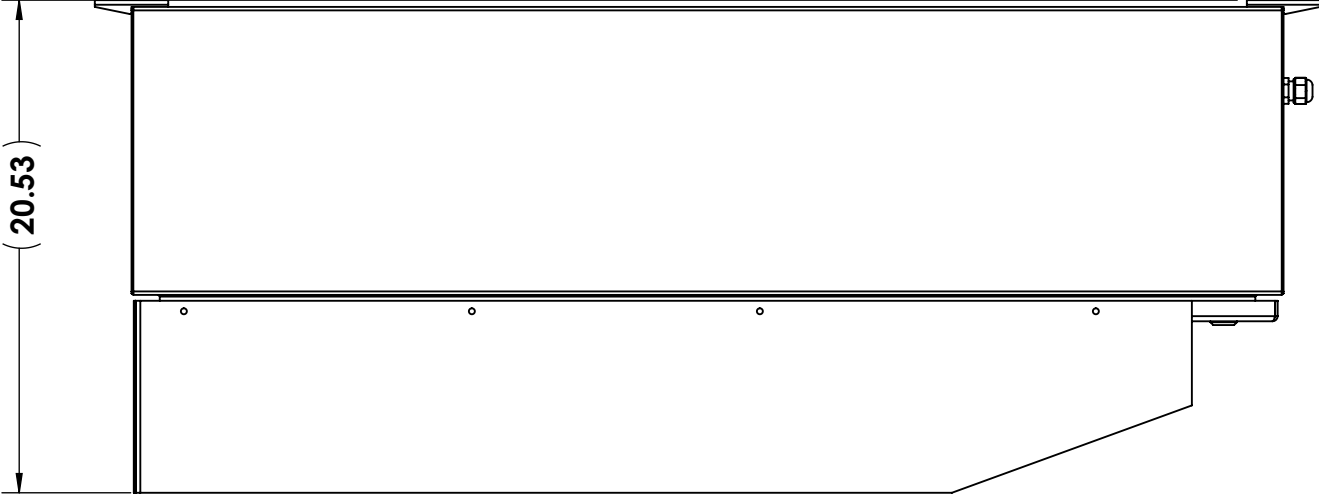
HOUSING:	CAST ALUMINUM NEMA 4X
FITTING:	BRASS OR STAINLESS STEEL
THREAD SIZE* :	2" NPT
FLOAT SIZE:	1.85" DIA x 3.01" HIGH
CONTACT RATING:	FOR INTRINSICALLY SAFE CONTROL CIRCUIT ONLY
STEM SIZE:	1/2"
SPECIFIC GRAVITY:	0.6 STANDARD 0.93 INTERFACE
WIRE COLOR CODE FOR 10' OR LESS :	L1=RED L2=YELLOW
WIRE COLOR CODE FOR GREATER THAN 10' :	L1 = RED & BLACK L2 = GREEN & WHITE

NOTES:

- 1) FOR TOTAL LENGTHS OVER 8 FEET, CONTACT HIGHLAND TANK
- 2) ACTIVATION LEVEL TOLERANCE +/- .125"
- 3) CONSULT FACTORY FOR OPTIONAL MOUNTING OPTIONS

LOADOUT TUNNEL SCALE

REVISION				INIT		DATE	
REV	ECO	DESCRIPTION		MWE		05/30/2019	
A	-	ENGINEERING RELEASE					



NOTES:
1. BREAK SHARP EDGES.

DESIGNED BY / DATE		DRAWN BY / DATE		FEEB APPROVAL / DATE	
M. EKENSTEDT 05/30/2019		M. EKENSTEDT 05/30/2019		M. EKENSTEDT 05/30/2019	
TREATMENT		THIS DRAWING AND INFORMATION CONTAINED HEREIN, IS AND REMAINS THE PROPERTY OF RICE LAKE WEIGHING SYSTEMS, INC. HEREINAFTER REFERRED TO AS "RICE LAKE". IT IS TO BE USED ONLY FOR THE PROJECT AND FOR THE CUSTOMER'S ORDERS. IT SHALL NOT BE DISCLOSED OR COPIED WITHOUT RLWS SPECIFIC WRITTEN CONSENT AND SHALL BE IMMEDIATELY RETURNED UPON REQUEST.		UNLESS OTHERWISE SPECIFIED UNITS TO BE INCHES. ALL THREADS TO BE CLASS 2 AFTER TREATMENT	
NONE		TOLERANCES DRAWING TOLERANCES UNLESS OTHERWISE SPECIFIED SURFACE FINISH DO NOT SCALE XXX: ±.03 XXX: ±.010 ANGLE: ±1°		DESCRIPTION KIOSK, CUSTOM	
NUMBER OF CRANES: MINIMUM CRANE CAPACITY: ESTIMATED WEIGHT (POUNDS) 56.29		SCALE 1:8 1 OF 1		MATERIAL SEE BOM	
		THIRD ANGLE PROJECTION P/N		REV A	

RICE LAKE
WEIGHING SYSTEMS

LASERLIGHT 2

REMOTE DISPLAY



*Shown with flange mount
and radio option.*

RICE LAKE
WEIGHING SYSTEMS

800-472-6703
www.ricelake.com

LASERLIGHT2

REMOTE DISPLAY

Bright and Vivid Display, Even in Direct Sunlight

Prominently display weight, numeric data and messages with the LaserLight2 remote display. A super-bright LED display with non-glare lens provides sharp seven-segment, six-digit characters that are easy to read. Never lose visibility in dark conditions or experience wash-out in direct sunlight. Simply power up a LaserLight2 remote display in your application and the benefits are clearly visible.



A redesigned enclosure provides easy access to internal components. The front panel swings open for convenient setup and service, yet

is securely held in place. The weather-tight, IP66 rated enclosure provides superior protection for worry-free daily use. The external keypad makes navigating configuration options safe and easy with up, down, left and

right arrow keys as well as Enter, Setup, Mode, Set and Learn buttons.

Available in four-inch or six-inch character sizes, LaserLight2 remote displays include annunciators for gross, net, pounds, and kilograms. For added convenience, time and date is also included.

To simplify installation and make retrofitting an attractive option, Auto Learn mode identifies communication formats and data rates used by existing weight indicators. Use LaserLight2 with virtually any weight indicator and you'll experience a seamless installation every time.

Mounting options include a flange tab which accommodates 1/4-inch hardware for vertical surface or pole mounting, or VESA mounting bracket for increased versatility. With the VESA mount, a wide variety of readily available mounting options are compatible with the LaserLight2.



The LaserLight2 remote display—providing crisp, accurate weight readings in any condition to ensure your process is always in clear view.

Standard Features

- Six high-intensity red digits (double-row discrete LED)
- Auto Learn mode of communication protocols
- Hold displayed weight (demand input)
- Software selectable standstill mode for no updates while in motion
- Mirror (reverse image) feature, auto mode
- Durable weather-tight IP66 enclosure
- Adjustable daylight/night intensity
- Non-glare contrast filtered lens
- RS-232, 20 mA, and RS-485 communications
- Auto sensing 115/230 VAC power supply
- PEMs locations accommodate flange or VESA mounting brackets
- Polyethylene breather vent inhibits internal moisture buildup
- Red, green and arrow lights in Stop/Go model

Options

- Pole mount bracket
- Fiber-optic interface
- Radio interface
- cUL versions available
- Stainless steel enclosure
- Display visor

Specifications

Display:	6-digit, 7-segment discrete oval precision optical performance red LED lamps Contrast enhanced optical filtering lens 1- or 2- place decimal or comma indication 4 annunciators for GR, NT, lb, kg 4-inch red, green ball/arrow in Stop/Go model
Maximum Viewing Distance:	4-inch: 200ft (60m) 6-inch: 300ft (100m)
Input Interface:	RS-232, RS-485, 20 mA current loop (active or passive, switch selectable)
Output interface:	Independently configurable echo out port, RS-232
Input Data Format:	Baud Rate: 1200, 2400, 4800, 9600 and 19,200 self-learning or software selectable
Character Format:	7 or 8 data bits; even, odd, or no parity; 1 or 2 stop bits, self-learning or software selectable
Update:	Continuous or out-of-motion only; software selectable
Power Consumption:	4-inch: 21 watt 6-inch: 27 watt
Time:	Software enable/disable, 12- or 24-hour format
Date:	Software enable/disable, US or ISO format
Rating/Material:	IP66 Weather tight, mild steel, black powder coated
Dimensions:	4-inch (L x H): 22.28in x 9.8in 6-inch (L x H): 30.63in x 12.77in Stop/Go (L x H): 30.63in x 12.77in (flanges add 3.16 inches in width)
Weight:	4-inch: 20lb (9kg) 6-inch and Stop/Go: 25lb (11kg)
Operating Temperature Range:	-40°F to 120°F (-40°C to 49°C)
Warranty:	Two-year limited warranty

Your Rice Lake Weighing Systems distributor is:

RICE LAKE
WEIGHING SYSTEMS

230 W. Coleman St. • Rice Lake, WI 54868 • USA
TEL: 715-234-9171 • FAX: 715-234-6967 • www.ricelake.com

An ISO registered company © 2017 Rice Lake Weighing Systems PN 168341 4/17
Specifications subject to change without notice.

LaserLight2™

Four-inch or Six-inch, Four-inch Stop/Go Remote Display



Standard Features

- Available with a 4-in or 6-in display
- Six high-intensity red digits (double-row discrete LED)
- Time and date displayed when scale is empty
- Auto Learn mode of communication protocols
- Hold displayed weight (demand input)
- Software selectable standstill mode for no updates while in motion
- Durable weathertight IP66 enclosure
- Adjustable daylight/night intensity
- Non-glare contrast filtered lens
- Mirror (reverse image) function
- RS-232, 20 mA and RS-485 communications
- Auto sensing 115/230 VAC power supply
- PEMs for VESA flat-wall mount or side-mounting flange
- Polyethylene breather vent inhibits internal moisture buildup
- Red, green and arrow lights in stop/go version

APPROVALS*



*See Specific Part Numbers

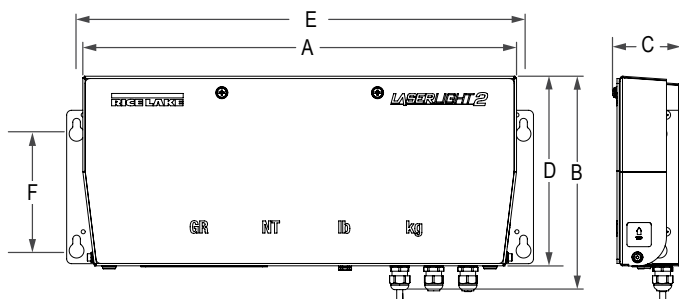
Dimensions

22-inch Enclosure (Four-inch Model)

A	22.28 in (565 mm)	D	9.80 in (250 mm)
B	10.96 in (280 mm)	E	23.00 in (584 mm)
C	3.28 in (85 mm)	F	6.00 in (152 mm) 3/8 in bolt

31-inch Enclosure (Six-inch and Stop/Go Models)

A	30.63 in (780 mm)	D	12.77 in (325 mm)
B	13.94 in (355 mm)	E	31.00 in (787 mm)
C	3.73 in (95 mm)	F	7.75 in (197 mm) 3/8 in bolt



Specifications

Display:

6-digit, 7-segment discrete oval red LED lamps
Contrast enhanced optical filtering lens
1- or 2-place decimal or comma indication
4 annunciators for GR, NT, lb, kg
4-inch red, green ball/arrow in Stop/Go model

Maximum Viewing Distance:

4 in: 250 ft (75 m)
6 in: 300 ft (100 m)

Input Interface:

RS-232, RS-485, 20 mA current loop (active or passive, switch selectable)

Output Interface:

Independently configurable echo out port or RS-232

Input Data Format:

Baud Rate: 1200, 2400, 4800, 9600 and 19200
self-learning or software selectable

Character Format:

7 or 8 data bits; even, odd, or no parity; 1 or 2 stop bits, self-learning or software selectable

Update:

Continuous or out-of-motion only; software selectable

Power Consumption:

4 in: 21 watt
6 in: 27 watt

Time:

Software enable/disable, 12- or 24-hour format

Date:

Software enable/disable, US or ISO format

Rating/Material:

IP66 weather tight, mild steel, powder coated

Dimensions:

4-inch (L x H): 22.28 in x 9.8 in
6-inch (L x H): 30.63 in x 12.77 in
Stop/Go (L x H): 30.63 in x 12.77 in
(flanges add 2.00 in width)

Weight:

4 in: 20 lb (9 kg)
6 in: 25 lb (11 kg)

Operating Temperature Range:

-40°F to 120°F (-40°C to 49°C)

Warranty:

Two-year limited warranty

Approvals:

UL/cUL on specific part numbers

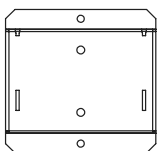
Part Number/Price

Part #	Description	Est. Weight	Price
Flange Mounted (included)			
167091	LaserLight2 remote display 4-inch (100 mm) includes PN 175305	20 lb	Consult
179521*	LaserLight2 remote display 4-inch (100 mm) marked UL/cUL includes PN 175305	20 lb	Consult
175286	LaserLight2 remote display 4-inch (100 mm) stainless steel includes PN 179910	20 lb	Consult
167092	LaserLight2 remote display 6-inch (150 mm) includes PN 175306	25 lb	Consult
179523*	LaserLight2 remote display 6-inch (150 mm) marked UL/cUL includes PN 175306	25 lb	Consult
167093	LaserLight2 remote display Stop/Go 4-inch (100 mm) includes PN 175306	25 lb	Consult
179525*	LaserLight2 remote display Stop/Go 4-inch (100 mm) marked UL/cUL includes PN 175306	25 lb	Consult
187120	LaserLight2 remote display Stop/Go 4-inch (100 mm) stainless steel includes PN 187123	25 lb	Consult
VESA Mounted (included)			
175860	LaserLight2 remote display 4-inch (100 mm) includes PN 175213	20 lb	Consult
179522*	LaserLight2 remote display 4-inch (100 mm) marked UL/cUL includes PN 175213	20 lb	Consult
175861	LaserLight2 remote display 6-inch (150 mm) includes PN 175213	25 lb	Consult
179524*	LaserLight2 remote display 6-inch (150 mm) marked UL/cUL includes PN 175213	25 lb	Consult
175862	LaserLight2 remote display Stop/Go 4-inch (100 mm) includes PN 175213	25 lb	Consult
179526*	LaserLight2 remote display Stop/Go 4-inch (100 mm) marked UL/cUL includes PN 175213	25 lb	Consult

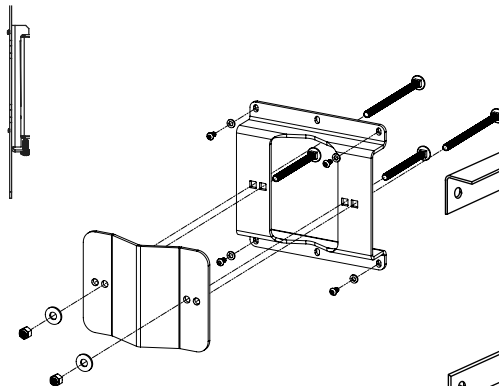
*UL/cUL on specific models

Options/Accessories

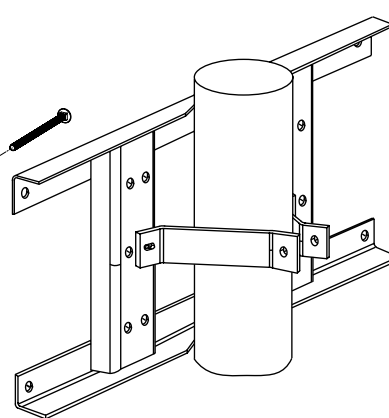
Part #	Description	Price
175052	Wireless interface, pair of ConnexLink Radios and mount	Consult
Consult	LaserLight2 green display (modified LED boards)	Consult
175213	Mount bracket, VESA flat-wall option (included with VESA mounted remote)	Consult
175305	Mount bracket, 4-inch flange option (included with flange mounted remote)	Consult
175306	Mount bracket, 6-inch flange option (included with flange mounted remote)	Consult
179910	Mount bracket, 4-inch stainless steel flange option (included with flange mounted stainless steel remote)	Consult
187124	Mount bracket, 6-inch stainless steel flange option (included with flange mounted stainless steel remote)	Consult
75856	Pole mount kit, 4-inch flange option (24-inch wide frame for 4-8 inch dia. pole)	Consult
77775	Pole mount kit, 6-inch and 4-inch stop/go flange option (32-inch wide frame for 4-8 inch dia. pole)	Consult
177865	Pole mount kit, VESA flat-wall option mount for 2-6 inch pole	Consult
178790	Offset kit (right or left flag mount) for universal pole mount (requires PN 177865)	Consult
181224	Visor for 22 inch enclosure (not required for weather protection)	Consult
181801	Visor for 31 inch enclosure (not required for weather protection)	Consult



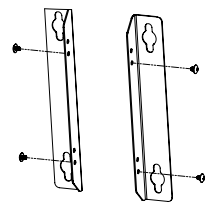
VESA flat-wall mount
PN 175213



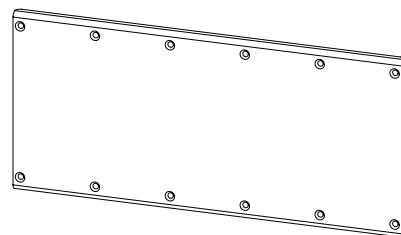
VESA pole mount kit
PN 177865



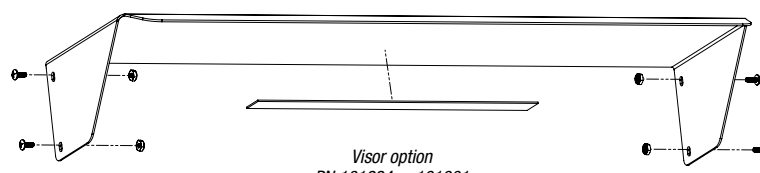
Flange pole mount kit
PN 75856 or 77775



Flange mount
PN 175305, 175306,
179910, 187124



Offset kit
PN 178790



Visor option
PN 181224 or 181801

LaserLight2™ Remote Display

Pole Mount Kit Installation

This document contains drawings, replacement parts lists, and instructions for installing the optional pole mount for the 4" and 6" LaserLight2 Remote Displays. See the LaserLight2 Technical Manual (PN 175775) for general installation and configuration and calibration information.



Manuals and additional resources are available from the Rice Lake Weighing Systems website at www.ricelake.com

Warranty information can be found on the website at www.ricelake.com/warranties



The LaserLight2 has no on/off switch. Before working with the unit, ensure the power cord is disconnected from the power outlet.

The LaserLight2 Remote Display can be easily mounted to a pole or steel I-beam using the optional pole mounting weldment and clinching brackets. The pole mounting kit can accommodate either the 4" or the 6" LaserLight2.

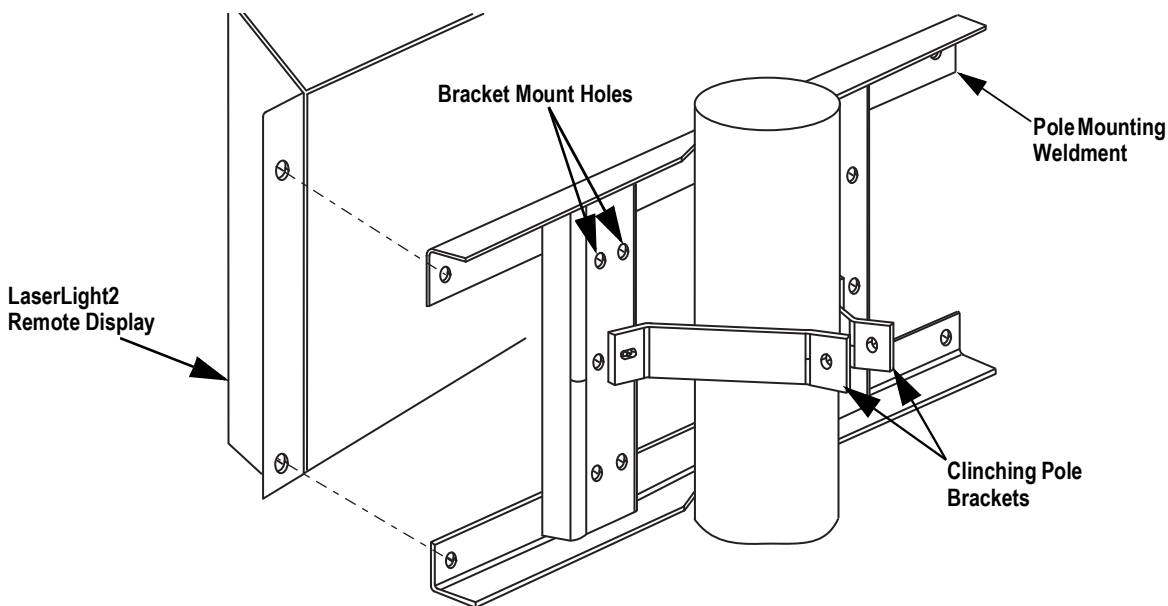


Figure 1. Optional Pole Mount Kit



The 4" models are attached to the pole mounting weldment at the center holes using two clinching pole brackets.

The 6" models use four clinching pole brackets and are connected using the top and bottom hole alignments.



The pole mounting weldment has two sets of mount holes. The two sets of bracket mount holes are for alternate diameter poles. The inner mount holes are used for smaller diameter poles while the outer mount holes are used for larger diameter poles.

Installation

1. Attach the clinching pole brackets to the pole mounting weldment using the 3/8"-16NC x 1" cap screws, washers and lock nuts supplied. See the information above for clinching pole bracket placement.
2. Attach the clinching pole brackets together using the 3/8-16NC x 2-3/4" bolt, washers and lock nut supplied. Tighten as necessary.
3. Repeat [Step 1–Step 2](#) for second set of clinching pole brackets if installing for a 6" model.
4. Align the back of the LaserLight2 Remote Display to the holes in the pole mount weldment. Secure with 5/16-18NC x 1/2" bolts, washers and nuts.

Replacement Parts

Table 1 lists the replacement parts for the pole mount options for the LaserLight2 4" Remote Display (PN 75856) and the LaserLight2 6" Remote Display (PN 77775).

Part No.	Description	Model	
		4" Qty.	6" Qty.
77000	4" Pole Mounting Weldment	1	–
76998	6" Pole Mounting Weldment	–	1
14646	Nut, Lock 5/16-18NC	4	4
14747	Bolt, 3/8-16NC x 2-3/4	1	2
14735	Bolt, 5/16-18NC x 1/2	4	4
15019	Cap Screws, 3/8-16NC x 1	2	4
21939	Washers 5/16 Type A	8	8
21938	Washers 3/8 Type A	4	8
22072	Lock Nuts, 3/8-16NC	3	6
76999	Clinching Pole Bracket	2	4
77001	Machine Screws 3/8-16NC x 6	3	6

Table 1. Replacement Parts



© Rice Lake Weighing Systems Specifications subject to change without notice.
Rice Lake Weighing Systems is an ISO 9001 registered company.

230 W. Coleman St. • Rice Lake, WI 54868 • USA
U.S. 800-472-6703 • Canada/Mexico 800-321-6703 • International 715-234-9171 • Europe +31 (0)26 472 1319

LaserLight2™ Remote Display

ConnexLink™ Wireless Radio 900 MHZ Installation Instructions

Available for PNs 167091, 167092 and 167093

The ConnexLink Wireless Radio allows communication between the LaserLight2 Remote Display and an indicator with matching radio installed.

See the LaserLight2 Installation Manual, PN 175775, for general installation, configuration and calibration information.



Manuals and additional resources are available from the Rice Lake Weighing Systems website at www.ricelake.com

Warranty information can be found on the website at www.ricelake.com/warranties



The LaserLight2 has no on/off switch. Before opening the unit, ensure the power cord is disconnected from the power outlet.

Item	Part No.	Description	QTY.
	175053	Bracket Assembly, ConnexLink Radio	1
	180683	Cable Assembly, Transceiver RF	1
	180684	Cable Assembly, Power Supply	1
	129662	Pair Transceivers, RF	1
	15631	Cable Tie, 3 inch nylon	1

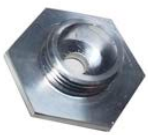
Item	Part No.	Description	QTY.
	14839	Screw, Mach 6-32NCx1/4	6
	102131	Antenna	1
	166240	Antenna Cable Extension	1
	202131	Bulkhead Adapter	1
	30376	1/2 NPT Nylon Seal Ring	1
	15630	1/2 NPT, Black Locknut	1

Table 1. ConnexLink Wireless Radio Kit (PN 175052) Parts List

The ConnexLink Wireless Radio can be installed in the 4", 6" or 4-SG LaserLight Remote Display. Use the following steps to install the ConnexLink Wireless Radio option;



Some procedures described in this manual require accessing the inside of the remote display enclosure. These procedures are to be performed by qualified service personnel only.



To ensure that the correct radio is installed with the remote display and the indicator, each radio is marked with either CLIENT and SERVER.

Client is to be installed with the remote display and the Server is to be installed with the indicator.

1. Open the LaserLight2 enclosure.
2. Flip the enclosure front panel downward exposing the cabinet interior.
3. Unplug and remove the main power supply wire harness.

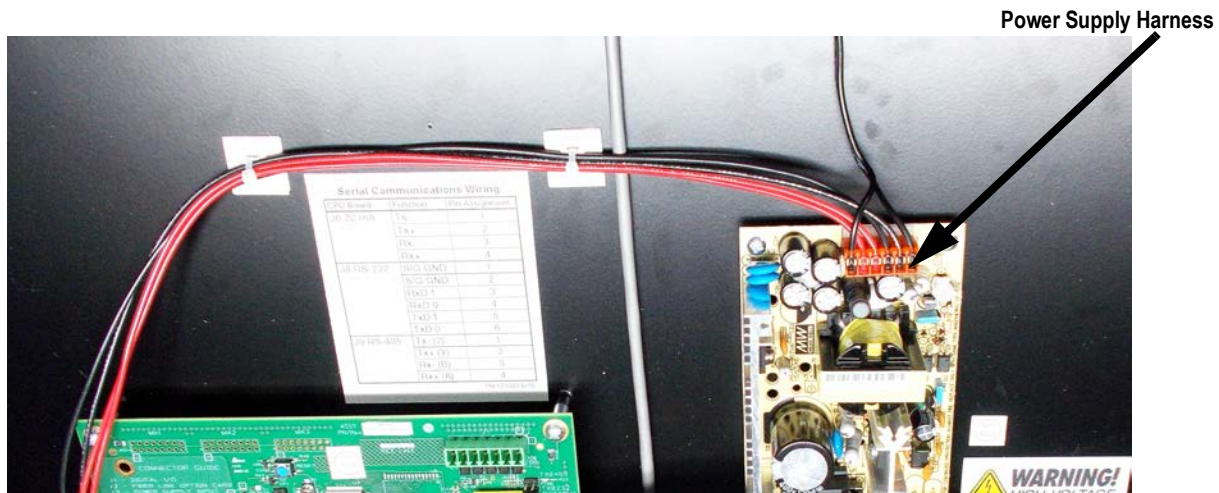


Figure 1. Remove Power Cable Wire Harness

4. Remove entire cord grip (1 of 2), in the bottom panel of the LaserLight2 (shown in Figure 5 on page 2).
5. Attach the bracket assembly to the enclosure using screws provided, as shown in Figure 2.

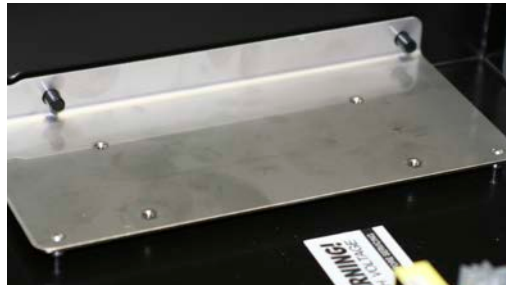


Figure 2. Attach Mount Plate and Bracket Assembly

6. Secure the antenna assembly by threading the bulkhead adapter through the enclosure hole.

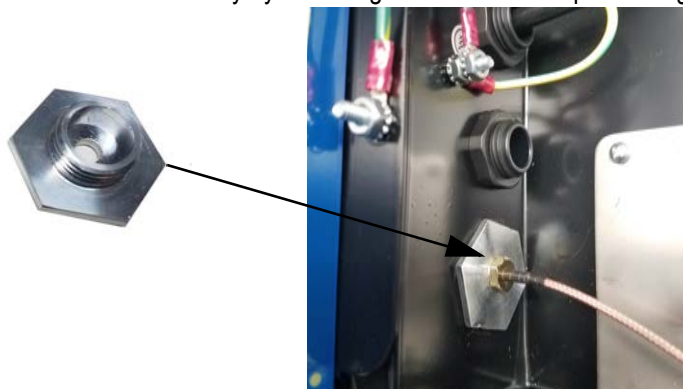


Figure 3. Secure Antenna Assembly

7. Secure bulkhead adapter using nylon seal ring (30376) and black locknut (15630). Thread the antenna extension cable through the bulkhead adapter and secure with a tooth washer and nut.



Figure 4. Thread Antenna Extension Cable Through

8. Thread the antenna onto the antenna extension cable.



Figure 5. Thread Antenna onto LaserLight2

9. Plug the 9-pin end of the RF Transceiver cable assembly to the ConnexLink Wireless Radio. Finger tighten.



Figure 6. Plug 9-Pin Connector

10. The 6-pin end of the RF transceiver cable assembly attaches to J8 on the CPU board.

11. Attach the antenna cable extension to the ConnexLink Wireless Radio.



Figure 7. Attach Cable Extension Antenna to ConnexLink Wireless Radio

12. Mount the ConnexLink Wireless Radio onto the bracket assembly, using the screws provided.



Figure 8. Mount ConnexLink Radio to Bracket

13. Attach the new power supply cable harness to the power supply and the CPU board.

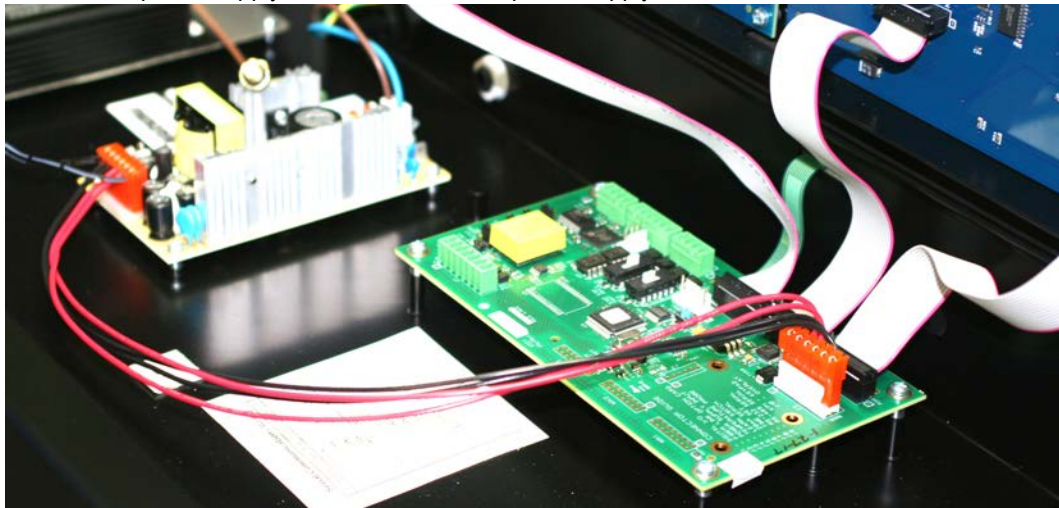


Figure 9. Connect the Power Supply Harness

14. Plug the power cord into the radio.



Figure 10. Connect Cable Assemblies



Note See the applicable indicator manual for further information.

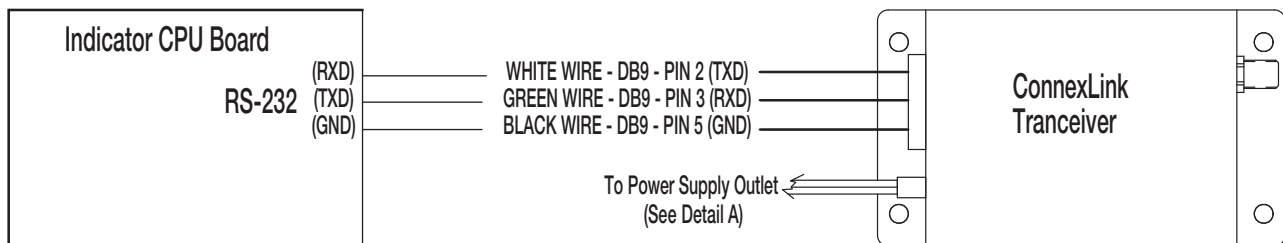


Figure 11. Connect ConnexLink Wireless Radio to Indicator



© Rice Lake Weighing Systems Specifications subject to change without notice.
Rice Lake Weighing Systems is an ISO 9001 registered company.

230 W. Coleman St. • Rice Lake, WI 54868 • USA
U.S. 800-472-6703 • Canada/Mexico 800-321-6703 • International 715-234-9171 • Europe +31 (0)26 472 1319

www.ricelake.com

TRUCK SCALE

Home News & Analysis Products & Suppliers Standards Library Reference Library Engineering Community Stay Informed
<http://www.globalspec.com> <http://www.globalspec.com> <http://www.globalspec.com> <http://www.globalspec.com> <http://www.globalspec.com> <http://www.globalspec.com>



Products & Suppliers

Search Products & Suppliers

GO


<http://www.globalspec.com>

SENSORS, TRANSDUCERS AND DETECTORS

/productfinder/sensors_transducers_detectors/
[METTLER-TOLEDO, INC. \(/search/products?comp=1926&vid=92833\)](http://www.globalspec.com/search/products?comp=1926&vid=92833)

OVER-THE-ROAD WEIGHBRIDGE -- 7562 TRUCKMATE TRUCK SCALES

METTLER TOLEDO

Scales and Balances from Mettler-Toledo, Inc.

Over-the-Road Weighbridge -- 7562 TRUCKMATE Truck Scales

comp=1926&sqid=0

Mettler-Toledo, Inc.

[List your products or services on Engineering360](#)
<http://www.globalspec.com/Email/LListYourProducts?comp=0>

Contact Information

1900 Polaris Parkway
Columbus, OH 43240 USA

Phone: (888) 867-8324

Fax: (614) 438-4525

Business Type: Manufacturer

[SupplierWebsite](#)

[Get More Info](#)
[on Supplier's Site \(/GoTo/GoToWebPage?Context=Part:Over-the-Road+Weighbridge+--+7562+TRUCKMATE+Truck+Scales&gotoURL=http%3A%2F%2Fus.mt.com%2Fus%2Fen%2Fhome%2Fproducts%2Ftransport_and_logistics_solutions%2Fvehicle_scales_tls%2Fovertheroad_weighbridges_tls%2F7562_TRUCKMATE_Truck_Scales_2.html&gototype=ToCPartWebPage&VID=92833&Comp=1926&OemId=0\)](#)



Enlarge

Model 7562 is a steel-deck scale for weighing over-the-road vehicles. This "Cycle Duty" all-steel truck scale is ideal for high-use applications. Its modules are factory assembled and easy to install or move. Orthotropic ribs add torsional rigidity for off-center loading. Foundation options: floating beam slab, adjustable footer, pit. POWERCELL load cells transmit a powerful signal for accurate, reliable weighing.

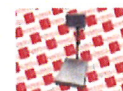
Specifications

Product Category	Scales and Balances
Type	Truck Scale
Specifications	
Capacity	200000 lbs (90703 kg)
Resolution	20 lbs (9.07 kg)
Width	120 to 132 inch (3048 to 3353 mm)
Length	180 to 1560 inch (4572 to 39624 mm)
Material	Steel
Display	None
Ratings / Certifications	NTEP Certified; Other; FM Approved, Ex

For more information:

[More Info on Supplier Site \(/GoTo/GoToWebPage?Context=Part:Over-the-Road+Weighbridge+--+7562+TRUCKMATE+Truck+Scales&gotoURL=http%3A%2F%2Fus.mt.com%2Fus%2Fen%2Fhome%2Fproducts%2Ftransport_and_logistics_solutions%2Fvehicle_scales_tls%2Fovertheroad_weighbridges_tls%2F7562_TRUCKMATE_Truck_Scales_2.html&gototype=ToCPartWebPage&VID=92833&Comp=1926&OemId=0\)](#)
[Share Via Email \(/\)](#)
[Print This Page \(/javascript:void\(0\)\)](#)
[Save Product \(/javascript:void\(0\)\)](#)

Similar Products


</SpecSearch/PartSpecs?partid={B4E05BA8-2842444C-B91A-0402E2622391}&vid=336341&comp=192>
[SCALE](#)
[DIGITAL .15AMP](#)
[10.2VDC 150LB/60KG](#)
[-- WS60LVR000](#)
</SpecSearch/PartSpecs?partid={B4E05BA8-2842444C-B91A-0402E2622391}&vid=336341&comp=192>
[Radwell International](#)

</SpecSearch/PartSpecs?partid={984C75E8-CAEC4922-ABD2-1415DC7CA234}&vid=335701&comp=192>
[1113683](#)
</SpecSearch/PartSpecs?partid={984C75E8-CAEC4922-ABD2-1415DC7CA234}&vid=335701&comp=192>
[RS Components, Ltd.](#)

</SpecSearch/PartSpecs?partid={E4E82AD7-5ED34030-8116-1B0D0A016321}&vid=97108&comp=192>
[Belt Scale --](#)
[Milltronics MBS](#)
</SpecSearch/PartSpecs?partid={E4E82AD7-5ED34030-8116-1B0D0A016321}&vid=97108&comp=192>
[4030-8116-](#)

APPENDIX E

DESTINATION FACILITIES AND ASSOCIATED PERMITS

SUMMARY OF NYSDEC AUTHORIZED WASTE DESTINATION FACILITIES

Page 1 of 1

Destination Facility	Facility Contact	Type of Authorization	Solid Waste Facility Permit Expiration Date	Amount To be Sent to Facility
1. Apex Sanitary Landfill 11 County Road 78 Amsterdam, OH 43903	Brian J. Largent, P.E. 740-543-4389	Disposal of Municipal Solid Waste and Construction and Demolition Debris	December 31, 2024	No Limit
2. Keystone Sanitary Landfill 249 Dunham Drive Dunmore, PA 18512	Dan O'Brien 570-343-5782	Disposal of Municipal Solid Waste and Construction and Demolition Debris	April 6, 2025	No Limit

Apex Sanitary Landfill



March 7, 2024

RE: Goshen Transfer Station
95 Hartley Road
Goshen, NY 10924

Hillburn (Crossroads) Transfer Station
331 Route 17 South
Hillburn, NY 10931

To Whom it May Concern,

Please be advised that Interstate Waste Transfer Systems NY has disposal capacity for waste generated from the above facilities at the Apex Landfill. The Apex Landfill located in Amsterdam, OH, is permitted to accept non-hazardous Municipal Solid Waste and Construction and Demolition material.

The landfill contact person is Luke Farinaro (740-543-4389).

We have attached our 2024 MSW License and our Permit to Install (PTI).

Please let us know if you have any questions or required additional information.

Sincerely,
Apex Environmental, LLC/Interstate Waste Services, Inc.

Bryan J. Largent, P.E.
Landfill Engineer

Attachments: 2024 MSW License
PTI 06-08448

2024



2024

Solid Waste Facility License Municipal Solid Waste Landfill

License Expires December 31, 2024

Facility: Apex Environmental LLC CID: 148118 11 County Road 78 Amsterdam, OH 43903	Licensee: Apex Environmental LLC 11 County Road 78 Amsterdam, OH 43903
--	---

This license has been issued in accordance with the requirements of state law, is subject to revocation or suspension for cause, and is not transferable without the consent of the approved Board of Health and the Director of the Ohio Environmental Protection Agency.

Licensing Authority: Jefferson County General Health District

Conditions of Licensure:

The Licensee hereunder, its agents, employees, and all others in active concert with said licensee, including the facility owner and operator, shall be subject to and shall comply with the following conditions of this license:

1. All applicable requirements of Ohio Revised Code Chapters 3734, 3767, 6111, and 3704 and rules adopted thereunder.
2. Permits-to-install, plans, operational reports, other authorizing documents, and administrative and judicial orders applicable to this facility and as approved by the Director of the Ohio Environmental Protection Agency.
3. This license is conditional upon payment of the applicable fee to the Board of Health or the Director, as appropriate, within 30 days after issuance.
4. By applying for and accepting this license, the licensee specifically consents in advance and agrees to allow the Director, the Health District, or an authorized representative, to enter upon the licensee's premises at any reasonable time during the construction and/or operation of the facility for the purpose of inspecting, conducting tests, collecting samples, or examining records or reports pertaining to construction, modification, installation, or operation of the facility. The licensee hereby acknowledges and agrees that any and all rights of access granted herein shall not be deemed to be unreasonable or unlawful under Ohio Revised Code Sec. 3734.07. The licensee, its agents, employees, and all others in active concert with said licensee shall maintain and operate the facility to which the license pertains in a sanitary manner so as not to create a nuisance, cause or contribute to water pollution, or create a health hazard. This license shall not be construed to constitute a defense to any civil or criminal action brought by the State of Ohio or any duly authorized representative thereof to enforce the provisions of Chapters 3734, 3767, 6111, or 3704 of the Ohio Revised Code, or regulations issued thereunder. Issuance of this license does not relieve the licensee of the duty to comply with all applicable federal, state, and local laws, regulations and ordinances.

☐ If checked, Additional Conditions Apply to This License (See Back, or Attachment)


Health Commissioner

12-19-2023
Date Issued



John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

March 21, 2017

Mr. Joe Tatarek
Apex Environmental, LLC
11 County Road 78
P.O. Box 157
Amsterdam, OH 43903

**Re: Apex Sanitary landfill
Permit - Long Term
Approval
Municipal Solid Waste Landfills
Jefferson County
MSWL018772**

**Re: Apex Sanitary Landfill
Permit - Long Term
Variance
Municipal Solid Waste landfills
Jefferson County
MSWL018772**

Subject: Final Permit to Install Application for Apex Sanitary Landfill

Dear Mr. Tatarek:

The Ohio Environmental Protection Agency, pursuant to Ohio Administrative Code (OAC) Rule 3745-27-02 and OAC Chapter 3745-42, has reviewed the application for a permit with accompanying detail plans, specifications and/or information (hereinafter referred to as "application") regarding the above-referenced facility. This application has been approved by the Director subject to the conditions of compliance contained in the permit approval enclosed herewith and with all applicable laws, rules and standards. All construction must be supervised by an engineer or expert qualified in such work. Because the permit approval contains conditions of compliance, I urge you to read it carefully. Also, enclosed is a Response to Comments.

You are requested to submit, within thirty (30) days of the date of issuance of this Permit to Install, the required permit fee balance of seventy nine thousand six hundred dollars (\$80,000.00 - \$400.00 application fee = \$79,600.00), plus the variance fee balance of fifteen dollars payable to **Treasurer, State of Ohio**. Please send the required payment to:

Ohio Environmental Protection Agency
Permit to Install Fee
Dept L-2711
Columbus, OH 43260-2711

Mr. Joe Tatarek
Apex Sanitary Landfill
Page 2

Payment of the \$79,600.00 plus \$15.00 fee within 30 days is a requirement of ORC Sections 3745.11 (Q) and (V). Failure to timely submit the required permit fee will result in an assessment of late penalties.

You are hereby notified that this action of the Director of Ohio EPA (Director) is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00 made payable to "Treasurer, State of Ohio." The Commission, in its discretion, may reduce the fee if by affidavit it is demonstrated that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
77 South High Street 17th Floor
Columbus, Ohio 43215

If you have any questions, please contact the Ohio EPA District Office to which you submitted your application.

Sincerely,



Greg Nichols, Administrative Processing Unit
Division of Materials and Waste Management

Enclosure

cc: Megan Ujvari, DMWM, CO
Scott Hester, DMWM, CO
Jeremy Carroll, DMWM, CO
Matt Boyer, DMWM, CO
Kristopher Weiss, PIC
Craig Walkenspaw, DMWM, SEDO
Rich Fox, DMWM, SEDO
Joe Goicochea, DMWM, SEDO
Carla Gampolo, Jefferson County General Health District

OHIO ENVIRONMENTAL PROTECTION AGENCY

PERMIT TO INSTALL

Application Number: 06-08448
Application Received: October 28, 2011
Permit Fee: \$80,000.00
Permit Fee Balance: \$79,600.00
Variance Fee: \$15.00
Variance Fee Balance: \$15.00

Applicant: Apex Environmental, LLC
Address: 11 County Road 78 - P.O. Box 157
Amsterdam, OH 43903

Ohio EPA MAR 21 '17
Entered Directors Journal

Facility: Apex Sanitary Landfill

Location: The facility is located east of Jefferson County Road 78 and Harrison County Road 51 and approximately one-mile north of State Route 646, and is within both Springfield Township, Jefferson County and German Township, Harrison County.

Permit: Vertical and Lateral Expansion and Authorized Maximum Daily Waste Receipt Increase, Municipal Solid Waste Landfill

Issuance Date: MARCH 21, 2017

Effective Date: MARCH 21, 2017

The above-named entity is hereby issued a permit to install (permit) for the above-described source pursuant to Ohio Administrative Code (OAC) Rule 3745-27-02 and OAC Chapter 3745-42. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed and/or modified in accordance with the plans, specifications, and/or information accompanying the permit application, the above-described source of environmental pollutants will operate in compliance with applicable state and federal laws, rules, and regulations, and does not constitute expressed or implied assurances that, if constructed and/or modified in accordance with those plans, specifications, and/or information accompanying the permit application, the above-described source of environmental pollutants will be granted the necessary operating permits and/or licenses. This permit is issued subject to the attached conditions which are hereby incorporated and made a part hereof.

Ohio Environmental Protection Agency


Craig W. Butler, Director

PERMIT SUMMARY

This permit (PTI Number 06-08448) authorizes the vertical and lateral expansion of the approved limits of waste placement and increases the authorized maximum daily waste receipt (AMDWR) from 7,500 tons to 10,000 tons at the existing Apex Sanitary Landfill (Facility) in Jefferson and Harrison Counties, Ohio. Apex Environmental, LLC (Apex) is the owner, operator, and applicant.

The vertical and lateral expansion will create an additional 61,093,000 cubic yards of approved disposal capacity, which increases the total disposal capacity to 83,616,618 cubic yards. The total acreage within the limits of waste placement will increase by 171 acres, which increases the total footprint to 288.5 acres. The vertical and lateral expansion will extend the landfill's life by an estimated 16.0 years at the AMDWR of 10,000 tons, which increases the total remaining life to 17.9 years.

The Facility will incorporate into its construction such features as a composite liner system (recompacted clay, a geosynthetic clay liner, and a geomembrane liner), leachate collection and management system, a surface water management system, ground water monitoring system, an explosive gas monitoring system, an explosive gas extraction system, and a final closure cap system. The permit also incorporates 30 years of post-closure care and financial assurance for closure and post-closure care.

This permit grants Apex two exemptions, from Ohio Administrative Code (OAC) Rule 3745-27-07(H)(2)(b), which requires that the sanitary landfill facility not be located in a limestone or sandstone quarry, and OAC Rule 3745-27-07(H)(4)(d), which requires that the limits of solid waste placement of the sanitary landfill not be located within two hundred (200) feet of areas determined by Ohio EPA or the United States Army Corps of Engineers (USACE) to be a stream, lake, or wetland. This permit also grants Apex one variance, from OAC Rule 3745-27-07(H)(3)(c), which requires that a sanitary landfill be at least one thousand (1,000) feet from a water supply well.

This summary is provided solely for informational purposes and does not constitute a part of, or otherwise affect, the attached permit.

PERMIT CONDITIONS

1. The Director of the Ohio Environmental Protection Agency (Director), or an authorized representative, may enter upon the premises of the above-named applicant (permittee) at any reasonable time during construction and operation for the purpose of making inspections, conducting tests, or examining records or reports pertaining to the construction, modification, or installation of the above-described source of environmental pollutants (municipal solid waste disposal facility).
2. The Facility shall be constructed in strict accordance with the plans, specifications, and information submitted to the Ohio Environmental Protection Agency (Ohio

EPA) which constitute this permit. There shall be no deviation from the approved permit or permit conditions without the express, written approval of Ohio EPA. Any deviation from the approved plans or the permit conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the Facility will operate in compliance with all Ohio laws and regulations. Additional landfill components shall be installed upon orders of Ohio EPA if the Facility is inadequate or cannot meet applicable standards.

3. Issuance of this permit does not relieve the permittee of the duty to comply with all applicable federal, state, and local laws, ordinances, and regulations.
4. This permit shall apply only to the facilities shown on the plans, specifications, and information submitted as part of PTI Application Number 06-08448 received on October 28, 2011, with subsequent revisions received through May 23, 2016.
5. This permit may be modified, or alternatively revoked and reissued, to comply with any revisions to OAC Chapter 3745-27 applicable to this municipal solid waste disposal facility.
6. The permittee shall provide for the proper maintenance and operation of the Facility in accordance with the provisions of OAC Chapter 3745-27.
7. Nothing in this permit shall be construed to authorize any waiver from the requirements of any applicable federal or state laws or regulations except as specified herein. This permit shall not be interpreted to release the permittee from responsibility under Ohio Revised Code (ORC) Chapters 3704, 3714, 3734, or 6111; under the Federal Clean Water Act, the Resource Conservation and Recovery Act, or the Comprehensive Environmental Response, Compensation, and Liability Act; or from other applicable requirements for remedying conditions resulting from any release of contaminants to the environment.
8. This permit does not authorize the acceptance of any hazardous or infectious wastes, except for those excluded from hazardous or infectious waste regulation by ORC Chapter 3734.
9. This permit does not authorize the acceptance of any asbestos or asbestos-containing waste material that is subject to the provisions of NESHAP, 40 CFR Part 61, Subpart M. No such asbestos or asbestos-containing waste material may be accepted without first obtaining the necessary permits from Ohio EPA.
10. Not later than seven (7) days prior to starting any construction authorized under this permit, the permittee shall submit to Ohio EPA, Division of Materials and Waste Management (DMWM), Southeast District Office (SEDO) and Jefferson County General Health District (JCGHD) written notification of the anticipated construction start date so that construction of the Facility can be routinely inspected by Ohio EPA, DMWM, SEDO and JCGHD.

11. The permittee shall perform the following activities during construction of the Facility in accordance with the cited provisions of OAC Chapter 3745-27 as follows:
 - a. The pre-construction tests required by OAC Rule 3745-27-08(D) shall be performed and the test results submitted to Ohio EPA, DMWM, SEDO not later than seven (7) days prior to the intended use of the materials in construction.
 - b. The pre-construction interface tests required by OAC Rule 3745-27-08(G) shall be performed and the test results submitted to Ohio EPA, DMWM, SEDO not later than seven (7) days prior to the use of each geosynthetic material authorized by this permit.
 - c. The construction certification report required by OAC Rule 3745-27-08(H) shall be submitted to Ohio EPA, DMWM, SEDO and JCGHD not later than forty-five (45) days prior to the anticipated date of waste receipt in any newly constructed areas. Pursuant to OAC Rule 3745-27-19(C)(1), the permittee shall not accept waste in a phase until Ohio EPA, DMWM, SEDO provides written concurrence of the construction certification report for that phase.
12. The permittee shall provide for the following inspections and facility maintenance:
 - a. The permittee shall provide for daily inspection of the Facility and completion of the Municipal Solid Waste Landfill Daily Log of Operations, Form 3. Written results of the inspections, including any corrective actions taken, shall be made available to Ohio EPA, DMWM, SEDO or JCGHD upon request.
 - b. The permittee shall provide for weekly inspection of surface water control structures, including sedimentation ponds, sedimentation pond discharge structures, constructed wetlands, ditches, and culverts and completion of the Municipal Solid Waste Landfill Daily Log of Operations, Form 4. Prompt corrective actions shall be taken if necessary. Written results of the inspections, including any corrective actions taken, shall be made available to Ohio EPA, DMWM, SEDO or JCGHD upon request.
 - c. To ensure proper operation of the sedimentation pond(s), the pond(s) shall be evaluated annually and cleaned out as necessary when the volume of the settled particles necessitates cleaning based on inspection results or to maintain the storage volume required by OAC Rule 3745-27-08(D)(3).
13. The Facility's authorized maximum daily waste receipt (AMDWR) is established to be ten thousand (10,000) tons. The permittee shall not accept more than 10,000 tons of solid waste for disposal at the Facility on any calendar day. This limit supersedes any previously established AMDWR for the Facility.

14. The permittee shall execute and fund a financial assurance instrument or increase the amount listed on the existing financial instrument in accordance with OAC Rules 3745-27-15, 3745-27-16, and 3745-27-17 for the current cost estimates of the Facility, including the costs for the newly authorized disposal area. Funding shall be completed prior to waste acceptance in any disposal area newly authorized by this permit to install.
15. The permittee shall comply with the requirements of all previously-issued authorizing documents for the Facility, except, to the extent that this permit specifies requirements different from, or in addition to, the requirements of those previously-issued authorizing documents, the permittee shall comply with this permit. This permit, and the conditions herein, shall take precedence over any conflicting requirements.
16. The permittee shall construct a composite cap system, in accordance with OAC Rule 3745-27-08, across an area of the existing landfill footprint equal to the area of composite liner system being constructed in the contiguous expansion footprint. The composite cap system shall be constructed and a certification submitted within 12 months of the date of construction certification of the lined area. The composite cap system is to be constructed and certified on at least 80 acres within 14 years of the contiguous expansion's initial construction certification.

END OF PERMIT CONDITIONS

EXEMPTIONS

Pursuant to ORC Section 3734.02(G) and OAC Rule 3745-27-03(B), the Director may, by order, exempt any person generating, collecting, storing, treating, disposing of, or transporting solid wastes, including scrap tires, from any requirement of ORC Chapter 3734 or any rules adopted thereunder if granting the exemption is unlikely to adversely affect the public health or safety or the environment.

Exemption from OAC Rule 3745-27-07(H)(2)(b) Limestone or Sandstone Quarry

OAC Rule 3745-27-07(H)(2)(b) requires that the sanitary landfill facility is not located in a limestone quarry or sandstone quarry. The Facility is located in a historic coal strip mine and to a lesser extent a historic underground mine. Some limestone remains in limited areas within the landfill's "limits of excavation." As these areas have been and are encountered, and depending on the quality of the material, the limestone has been recovered for both use at the landfill and for limited commercial sale. Therefore, Apex maintains a permit from ODNR for the mining activities. The site is not a limestone quarrying operation that results in a large depression with highwalls, a high water table, and an accumulation of surface water in the excavated pit. Where the limestone is

excavated as part of landfill construction, any mine spoil is removed, the limestone excavated, and the rock below the limestone removed to achieve the design base grades for the landfill. There are no deep depressions to accumulate ground water or highwalls to create a path for leachate migration or stability concerns. Additionally, the landfill is designed to provide the required 15 feet of isolation distance between the base of the recompacted soil liner and the top of the uppermost aquifer system.

The limestone mining which has taken place at the Facility to date, and the limestone mining that is planned, will not compromise the suitability of the site for operating a sanitary landfill facility and maintaining a ground water monitoring network or the stability of the landfill.

Ohio EPA has reviewed the exemption request and, for the reasons noted herein, has determined that granting the requested exemption from the requirement that the sanitary landfill facility not be located in a limestone quarry or sandstone quarry is unlikely to adversely affect the public health or safety or the environment. Therefore, Apex is hereby granted an exemption, pursuant to ORC Section 3734.02(G) and OAC Rule 3745-27-03(B), from the requirement of OAC Rule 3745-27-07(H)(2)(b) that the Facility not be located in a limestone quarry or sandstone quarry. This exemption shall apply only to the activities proposed in PTI Application Number 06-08448. This exemption shall remain in effect throughout the effective period of this permit unless otherwise revoked.

**Exemption from OAC Rule 3745-27-07(H)(4)(d)
200 Feet from Surface Waters**

OAC Rule 3745-27-07(H)(4)(d) requires that the limits of solid waste placement of the sanitary landfill facility are not located within two hundred feet (200) of areas determined by Ohio EPA or the United States Army Corps of Engineers (USACE) to be a stream, lake, or wetland. The proposed Facility expansion includes wetlands, streams, and ponds within the proposed disturbance area. Apex has identified 11 wetland areas, varying from 0.01 to 5.89 acres, encompassing about 14 total acres, 11 streams with 4300 linear feet of stream length, and 11 open water mine pits amounting to about 4.5 acres.

A Jurisdictional Waters Delineation Report was submitted to USACE and was approved by letter dated September 21, 2012. A Section 401 Water Quality Certification and a Level Three Isolated Wetland Permit were issued by Ohio EPA on September 6, 2016. A Section 404 Permit remains pending with USACE.

Ohio EPA has reviewed the exemption request and has determined that, because Apex has obtained the Section 401 Water Quality Certification and the Level Three Isolated Wetland Permit and is prohibited from commencing any activities for which a Section 404 Permit is required until such time as the Section 404 Permit is obtained, granting the requested exemption from the requirement that the limits of solid waste placement of the sanitary landfill are not located within two hundred feet (200) of a stream, lake, or wetland is unlikely to adversely affect the public health or safety or the environment. Therefore,

Apex is hereby granted an exemption, pursuant to ORC Section 3734.02(G) and OAC Rule 3745-27-03(B), from the requirement of OAC Rule 3745-27-07(H)(4)(d) that the limits of solid waste placement at the Facility not be located within two hundred feet (200) of a stream, lake, or wetland. Apex shall not commence any activities at the Facility for which a Section 404 Permit is required unless Apex has obtained the required Section 404 Permit. This exemption shall apply only to the activities proposed in PTI Application Number 06-08448. This exemption shall remain in effect throughout the effective period of this permit unless otherwise revoked.

END OF EXEMPTIONS

VARIANCE

Pursuant to ORC Section 3734.02(A) and OAC Rule 3745-27-03(C), the Director may grant a variance if the applicant demonstrates to the Director's satisfaction that construction, operation, closure activities, and/or post-closure activities of the solid waste facility in the manner approved by the variance and any terms and conditions imposed as part of the variance will not create a nuisance or a hazard to public health or safety or the environment and are unlikely to result in a violation of any other requirements of ORC Chapters 3704, 3714, 3734, and 6111 and any rules adopted thereunder.

Variance from OAC Rule 3745-27-07(H)(3)(c) 1,000 Feet from Water Supply Well

OAC Rule 3745-27-07(H)(3)(c) requires that the limits of solid waste placement of the sanitary landfill facility are not located within one thousand feet (1,000) of a water supply well unless the water supply well meets specific provisions of the siting criterion. A water supply well, controlled by Apex and adjacent to the main office, is used to provide water to the office sinks and toilets. The well is located within one thousand feet (1,000) of the limits of solid waste placement proposed in PTI Application Number 06-08448. However, the well will not be within one thousand feet (1,000) of disposed waste until Phase 10 of the expansion. Apex proposes to continue using the water supply well until the actual disposed waste is nearing the one-thousand-foot (1,000) setback from the well. Prior to waste encroaching within one thousand feet (1,000) of the well, Apex proposes to decommission the well and replace it with a well that meets the siting restriction by being at least five hundred feet (500) upgradient or one thousand feet (1,000) downgradient of the limits of solid waste placement or separated by a hydrogeologic barrier, or, Apex may install a potable water tank for the office.

Ohio EPA has reviewed the variance request and, for the reasons noted herein, has determined that granting the requested variance from the requirement that the limits of solid waste placement of the Facility are not located within one thousand feet (1,000) of a water supply well will not create a nuisance or a hazard to public health or safety or the environment and is unlikely to result in a violation of any other requirements of ORC Chapters 3704, 3714, 3734, and 6111 and any rules adopted thereunder. Therefore,

Apex is hereby granted a variance, pursuant to ORC Section 3734.02(A) and OAC Rule 3745-27-03(C), from the requirement of OAC Rule 3745-27-07(H)(3)(c) that the limits of solid waste placement at the Facility not be located within one thousand feet (1,000) of a water supply well. Prior to waste disposal at the Facility encroaching within one thousand feet (1,000) of the water supply well, Apex shall decommission the water supply well and implement one of the options proposed in PTI Application Number 06-08448 in accordance with law and rule. This variance shall apply only to the activities proposed in PTI Application Number 06-08448. This variance shall remain in effect throughout the effective period of this permit unless otherwise revoked.

END OF VARIANCE



**Division of Materials and Waste Management
Response to Comments**

Subject: Apex Sanitary Landfill
Permit-to-Install Application No. 06-08448
Lateral and Vertical Expansion with AMDWR Increase

Re: Apex Sanitary Landfill; Permit - Long Term; Public Response; Municipal
Solid Waste Landfills; Jefferson County; MSWL018772

Agency Contacts for this Project

Division Contact: Craig Walkenspaw
Division of Materials and Waste Management
(740) 380-5440
craig.walkenspaw@epa.ohio.gov

Public Involvement Coordinator: Kristopher Weiss
Public Information Center
(614) 644-2160
kristopher.weiss@epa.ohio.gov

Ohio EPA held a public hearing Dec. 13, 2016 concerning a draft permit-to-install (PTI) issued to Apex Environmental, LLC (Apex) for a vertical and lateral expansion and authorized maximum daily waste receipt (AMDWR) increase for the Apex Sanitary Landfill located at 11 County Road 78, Amsterdam, Jefferson County. This document summarizes the comments and questions received at the public hearing and during the associated public comment period, which ended Dec. 20, 2016.

Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health. Often, public concerns fall outside the scope of that authority. For example, concerns about zoning issues are addressed at the local level. Ohio EPA may respond to those concerns in this document by identifying another government agency with more direct authority over the issue.

In an effort to help you review this document, the comments and questions are grouped by topic and organized in a consistent format. The topics include Landfill Operations, Design and Construction, Compliance Monitoring, and Miscellaneous.

LANDFILL OPERATIONS

Comment 1: A question was raised regarding the volume of methane produced by the landfill and the status of a landfill gas-to-energy project.

Response 1: The landfill's Gas Collection and Control System (GCCS) collects and destroys some 3,000 standard cubic feet per minute (SCFM) of landfill gas. The landfill's three flares are permitted through Ohio EPA's Division of Air Pollution Control (DAPC). Apex is required to submit an annual emission report to Ohio EPA. Any decision to pursue a landfill gas-to-energy project would be a business decision of the owner. If the owner decides to pursue such a project, the landfill's air permit would likely need to be modified.

Comment 2: A concern was raised about the source of soils used for the landfill's daily operations and construction.

Response 2: The soils used to operate and construct the landfill are progressively excavated from within or near the permitted limits of the landfill's developing footprint. As the next cell is excavated, soils are screened to create recompacted soil liner material. Soils are also used for daily, intermediate, and transitional covers or structural fill. Within the permit application's soil balance model, a shortfall of some 1 million cubic yards of material is projected, which will likely be borrowed from elsewhere within Apex's 1,285-acre contiguous property.

Comment 3: A question was raised about the landfill's projected operating life as currently permitted versus the proposed expansion.

Response 3: A solid waste permit allows a specific volume for waste disposal, which is often called the landfill's "permitted air space." The operating life of a landfill is a function of the permitted air space and the rate of waste acceptance.

At the previously-established AMDWR of 7,500 tons per day with the remaining previously-permitted capacity of 7.3 million cubic yards, the

landfill would be filled within 2.5 years. At the current rate of about 3,000 tons per day, filling would take approximately 6.4 years.

As presented in the permit application, as the waste acceptance rate varies from 2,000 tons per day to the newly-established AMDWR of 10,000 tons per day, the projected remaining life of the expanded landfill ranges from 89.3 years to 17.9 years. At the current rate of about 3,000 tons per day, filling of the expanded landfill will take approximately 67 years.

Comment 4: Concerns were raised about the proposed increase to the landfill's AMDWR.

Response 4: The landfill's previously established AMDWR was 7,500 tons. AMDWR is defined as the maximum amount of solid waste a facility may receive on any calendar day. The AMDWR does not apply to the acceptance of non-solid waste materials such as construction demolition debris. This approved solid waste permit (PTI No. 06-08448) established a new AMDWR of 10,000 tons. The landfill's recently approved air permit limits waste receipt to 10,000 tons per day of solid waste and other wastes, including construction and demolition debris. Thus, though the AMDWR established in the solid waste permit only limits the amount of solid waste that the facility may receive on any calendar day, the air permit will limit the total amount of solid waste and other waste, such as construction and demolition debris, that can be accepted at the landfill to 10,000 tons a day. If the landfill's actual waste receipts increase significantly above current average daily waste receipts, Apex may need to adjust operational practices, including utilizing additional equipment, to comply with applicable operational regulations.

Comment 5: Several individuals expressed concerns about past and present odors originating from the landfill and their potential impact if the proposed permit is issued.

Response 5: Ohio EPA received the application for the proposed expansion Oct. 28, 2011. At that time, Apex was experiencing difficulty controlling odors. On Dec. 11, 2011, Director's Final Findings and Orders (DFF&Os) were issued to Apex to address the offsite odors. On June 3, 2013,

subsequent DFF&Os required Apex to perform specific odor-control measures. On July 20, 2015, Ohio EPA approved an Odor Management Plan (OMP), which is incorporated into the permit application. The OMP includes best practices to control odor, including the semi-annual review and expansion of the GCCS, monthly surface emission monitoring of the landfill, and daily onsite and offsite odor monitoring. In addition to the OMP, Jefferson County General Health District performs twice-monthly offsite odor monitoring of the landfill.

Apex installs GCCS components to minimize the passive release of landfill gas and its associated odors. The GCCS expansion-and-installation schedule is prescribed by the OMP and the federal New Source Performance Standards (NSPS) air pollution rules. The OMP requires a more aggressive schedule for the GCCS expansion and installation than NSPS. The OMP requires Apex to review the GCCS by Feb. 1 and Aug. 1 of each year and submit a plan for the expansion of the system in all areas of the landfill that are generating landfill gas.

Comment 6: **A prepared statement included the following comment: “According to county, state, and federal agencies, conditions at the Apex Environmental Landfill have created a public nuisance.”**

Response 6: Ohio EPA is unaware of any determination that Apex has created a “public nuisance”, as defined in OAC Rule 3745-15-07. OAC Rule 3745-15-07 (Air Pollution Nuisance Prohibited) states the following: “The emission or escape into the open air from any source or sources whatsoever, of smoke, ashes, dust, dirt, grime, acids, fumes, gases, vapors, or any other substances or combinations of substances, in such manner or in such amounts as to endanger the health, safety or welfare of the public, or cause unreasonable injury or damage to property, is hereby found and declared to be a public nuisance. It shall be unlawful for any person to cause, permit or maintain any such public nuisance.”

Additionally, “The emission or escape into the open air from any source or sources of odors whatsoever that is subject to regulation under Chapter 3745-17, 3745-18, 3745-21, or 3745-31 of the Administrative Code and is operated in such a manner to emit such amounts of odor as to endanger the health, safety, or welfare of the public, or cause

unreasonable injury or damage to property, is hereby found and declared to be a public nuisance. It shall be unlawful for any person to cause, permit or maintain any such public nuisance.”

Citations of a public nuisance would come as a result of a citizen complaint and associated investigation. Review of past correspondence indicates that Apex has not been cited as a public nuisance by Ohio EPA to date.

As DAPC's duty is to ensure compliance with the federal Clean Air Act and with state rules and regulations and to maintain air quality with respect to air pollutants, odor complaints associated with the landfill are instead handled at the local level, usually within the county health department.

Ohio EPA has not cited a violation for nuisance at this facility; however, in the past, Apex has been cited for failure to strictly control odors relative to OAC Rule 3745-27-19(B)(3). This rule citation does not declare that a nuisance has been created. As a result of the OAC Rule 3745-27-19(B)(3) violations, Ohio EPA escalated enforcement, which resulted in two consent orders that established odor-control practices at the landfill. Through these orders, Apex was returned to substantial compliance. With the incorporation of defined and enforceable odor control practices into Apex's approved OMP, the orders were terminated.

Comment 7: **A commenter asked for clarification regarding the number of working faces at the landfill and the progression of the working face(s) during landfill operation.**

Response 7: A landfill's working face is the active area where waste is being received, spread, and compacted. As required by rule, Apex may operate a single working face, unless "select waste" is being placed within a recently certified cell to provide protection for its composite liner components. In addition, OAC Rule 3745-27-19 and the landfill's OMP require the application of daily cover and limiting the working face to the smallest practicable size.

Comment 8: Concerns were raised about fugitive dusts originating from the landfill during its daily operations.

Response 8: Fugitive dust is regulated by DAPC. For a landfill, DAPC issues an air permit which requires a "work practice plan" for the control of fugitive dust on roadways. The "reasonably available control measures" are used to minimize or eliminate visible particulate emissions of fugitive dust by periodic application of water or other suitable dust-suppression chemicals and, if needed, to eliminate the use of unpaved roadways. The work practice plan requires the tracking of inspections and treatments implemented. Because the facility is located within Jefferson County, an area identified in Appendix A of OAC Rule 3745-17-08, Apex must comply with the requirements established for facilities in Appendix A areas, such that visible particulate emissions from any unpaved roadways or parking areas are not to exceed 13 minutes during any 60-minute time period, as determined by USEPA Method 22.

With respect to fugitive dust created by landfill operations, the landfill's permit requires that "reasonably available control measures" are used. These include watering haul roads, minimizing drop heights for waste dumping/unloading, waste compaction, soil excavation and handling, covering of waste with soil, and minimizing wind erosion from landfill surfaces. Landfill operators perform daily inspections of landfill fugitive dust operations/sources to determine the need for implementing control measures. In addition, an emission limitation is established to ensure visible fugitive particulate emissions shall not exceed 20 percent opacity as a three-minute average, as determined by U.S. EPA Method 9.

DESIGN AND CONSTRUCTION

Comment 9: Clarification was sought about the previous permit modification, which changed the landfill's final slope design.

Response 9: On Dec. 31, 2009, Apex received PTI No. 06-08438, which increased the slope of the landfill's final cap system from four horizontal to one vertical (4:1) to three horizontal to one vertical (3:1). The new design

does incorporate surface water-control benches along the length of its slopes. Effectively, this modification increased the landfill's permitted air space by 4,981,668 cubic yards. The design for the final slopes of three horizontal to one vertical was reviewed by Ohio EPA and considered acceptable to provide for the required factor of safety for slope stability.

Comment 10: A question was asked regarding the typical schedule for the installation of landfill gas wells.

Response 10: Apex installs GCCS components to minimize the passive release of landfill gas and its associated odors. The GCCS expansion-and-installation schedule is prescribed by the OMP and the federal NSPS rules. The OMP requires a more aggressive schedule for the GCCS expansion and installation than NSPS. The OMP requires Apex to review the GCCS by Feb. 1 and Aug. 1 of each year and submit a plan for the expansion of the system in all areas of the landfill that are generating landfill gas.

Comment 11: A concern was raised regarding the proposed expansion's maximum elevation.

Response 11: The proposed expansion's final cap system will have a maximum height of 1,577 feet above mean sea level (msl) which, if filled to its design capacity, is 28 feet higher than Ohio's highest natural elevation (1,549 feet above msl) at Campbell Hill near Bellefontaine. As required by rule, Ohio EPA reviewed the engineering design, including slope stability and the crushing strength of pipe components, and determined that the facility design meets applicable requirements. Ohio EPA does not have the authority to consider the proposed elevation of the facility. This concern would be best addressed locally by zoning through the applicable townships.

Comment 12: A concern was raised relative to fracking, earthquakes, and the landfill's stability.

Response 12: The potential impacts of a natural or induced earthquake were evaluated during the proposed expansion's slope stability modelling. This stability modelling considers seismic activity. Ohio EPA reviewed the

engineering design, including slope stability, and determined that the facility design meets applicable requirements.

COMPLIANCE MONITORING

Comment 13: A concern was raised about the landfill's noncompliance noted at the July 20, 2016 Jefferson County Board of Health meeting.

Response 13: As an "approved health department", Jefferson County General Health District (JCGHD) administers and enforces the state's solid waste program, which includes inspection of the landfill. On July 20, 2016, JCGHD issued a notice of violation to Apex for violations observed during its July 17, 2016 inspection. On Aug. 18, 2016, JCGHD documented that Apex resolved all violations cited in the July 20, 2016 letter. During inspections that have occurred since that time, JCGHD has not observed recurring violations.

Comment 14: A concern was raised about being unable to find inspection letters on Ohio EPA's public records website.

Response 14: In an effort to provide easy access to public records, Ohio EPA posts regulatory documents submitted to the Agency and correspondence sent by the Agency on its eDocs system. This web-based system is limited to documents defined as public records maintained by Ohio EPA and does not include public records maintained by other agencies. JCGHD administers and enforces the state's solid waste program in its county, which includes inspection of the landfill and retention of inspection correspondence. JCGHD may be contacted to request copies of inspection correspondence and other public records.

Comment 15: A concern was raised about the health department and Ohio EPA's odor detection efforts and how often odor monitoring occurs.

Response 15: JCGHD administers and enforces the state's solid waste program, which includes inspection of the landfill. Generally, JCGHD performs twice-monthly odor monitoring of the landfill and can be contacted to request

copies of inspection correspondence and other public records. Ohio EPA provides technical assistance to local health departments that administer and enforce the state's solid waste program.

Comment 16: A concern was raised about the enforcement of rules and regulations applicable to the landfill.

Response 16: Although Ohio EPA maintains the authority to administer and enforce the state's solid waste program, as an approved health department, JCGHD administers and enforces the solid waste program in Jefferson County, which includes inspection of the landfill and resulting inspection correspondence. As an approved health district, JCGHD receives the same inspection and enforcement authority that would otherwise be asserted by Ohio EPA. Ohio EPA provides technical assistance to local health departments that administer and enforce the state's solid waste program. In addition, Ohio EPA annually evaluates local health departments to, in part, support a consistent statewide inspection program.

Comment 17: Several individuals emphasized that Apex must be held responsible for offsite odors, working face size, equipment breakdowns, and other issues.

Response 17: During its July 17, 2016 inspection, JCGHD observed violations related to working face size, equipment breakdowns, and other operational matters. These violations were documented in inspection correspondence dated July 20, 2016. In response to cited violations, Apex took the necessary actions to return to compliance. During inspections that have occurred since July 20, 2016, JCGHD has not observed recurring violations

Ohio EPA's Division of Materials and Waste Management and JCGHD have cited Apex on numerous occasions for the "failure to control" odors relative to OAC Rule 3745-27-19(B)(3), which states the following: "The owner or operator shall operate the facility in such a manner that noise, dust, and odors are strictly controlled so as not to cause a nuisance or a health hazard." Escalated enforcement has resulted in two consensual DFF&Os that established odor-control practices at the landfill. Through

these orders, Apex was returned to substantial compliance. With the incorporation of practices into the Apex's approved OMP, the orders have been terminated.

MISCELLANEOUS

Comment 18: Mr. Don Costello provided to Ohio EPA a copy of a revised 2016 report titled: *Air Quality in Ohio: Impacts of Unconventional Natural Gas Drilling (UNGD)*.

Response 18: In reading the report, the purpose of the study was to analyze air quality before, during, and after unconventional natural gas drilling. In February 2014, 25 passive air samplers were placed for three weeks on 23 properties in or near Carroll County. One of the 25 air monitors was reportedly placed on Mr. Costello's property in Jefferson County, which is some 5,770 feet north of the landfill. The air sampling methods were used to collect samples for polycyclic aromatic hydrocarbons (PAHs) analysis. Sixty-two PAHs were analyzed in the samples from the study, and 32 of the 62 PAHs were detected at measurable concentrations. At all stations, quantitative human health risk assessment estimated risks below the U.S. EPA's acceptable risk level. Furthermore, the report compared the results to data for 17 PAHs from reference locations in rural Michigan and rural Canada. In comparison, the results from the Carroll County study had much lower concentrations than the reference rural locations. In other words, the air quality, relative to PAHs, was assessed to be better in Carroll County than the referenced locations in rural Michigan and rural Canada.

PAHs are a group of more than 100 different chemicals that are released from burning coal, oil, gasoline, trash, tobacco, wood, or other organic substances such as charcoal-broiled meat. PAHs are not permitted emissions from Apex. Permitted emissions from Apex include methane, non-methane organic compounds, volatile organic compounds, particulates, carbon monoxide, nitrogen oxides, hazardous air pollutants, hydrogen chloride, and sulfur dioxide. Therefore, this study is not relevant to the landfill or its proposed expansion.

Comment 19: An individual asked if air monitors could be staged in proximity to the landfill to assess its impact to air quality?

Response 19: Air monitoring for the landfill is not supported by U.S. EPA guidance and requirements. Ohio EPA follows federal general guidance and requirements for air monitoring in 40 CFR 58, Appendix D, including monitoring 1) areas of expected high concentrations, 2) areas of high population density, 3) areas with significant sources, 4) general background concentration sites, and 5) areas of regional transport of a pollutant. Monitoring locations must meet U.S. EPA requirements, and state and local air agencies must be available to operate and maintain the sites and equipment, collect samples for analyses, and conduct data collection and reporting.

Furthermore, prior to issuance of an air permit, the agency evaluates whether emissions associated with a facility are protective of human health and the environment.

For additional information pertaining to air monitoring in Ohio, please see: <http://www.epa.ohio.gov/dapc/ams/amsmain.aspx>

U.S. EPA performed an air quality study in September 2013. In particular, U.S. EPA, in conjunction with Ohio EPA, used Geospatial Measurements of Air Pollution to measure hydrogen sulfide and methane, in addition to taking a small number of volatile organic compounds (VOCs) grab samples on public roads around the landfill on multiple days to gather baseline data. Weather conditions were conducive to differentiating the landfill from other sources and sampling occurred at different times of the day. On the days of sampling, there were no exceedances of health screening levels for hydrogen sulfide or VOCs at the sampling locations. Methane does not have a health screening level. Methane, hydrogen sulfide, and VOCs were elevated downwind of the landfill compared to background levels. Odors were, at times, intense and extended well beyond the landfill's property line during the U.S. EPA air monitoring study. The report may be found on Ohio EPA's eDocs system at: <http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=591739>

Comment 20: Please clarify the details of prior wetland and stream mitigation projects.

Response 20: Wetland mitigation requirements in 401 Water Quality Certification (Ohio EPA ID number 049815)

For impacts to 2.71 acres of jurisdictional Category 2 wetlands, Apex restored 2.0 acres of wetlands in the backwater area of the reconstructed dam on-site, restored 3.5 acres of wetland at an off-site location, and preserved 16 acres of Category 3 wetlands and 34 acres of buffer. The performance goal of the restored wetlands is to reach Category 2 wetland status.

Wetland mitigation requirements in isolated wetland permit (Ohio EPA ID number 049816)

For impacts to 0.15 acres of Category 2 wetlands, Apex developed a minimum of 2.03 acres of emergent wetlands in the 'Quarry Pond' area and preserved 4.75 acres of emergent wetlands. The performance goal of the restored wetland is to reach Category 2 wetland status.

Status of wetland mitigation for 401 Water Quality Certification (Ohio EPA ID number 049815)

Conservation easements have been placed on the mitigation areas, including the 16 acres of preserved Category 3 wetlands. The easement is held and monitored quarterly by Jefferson Soil and Water Conservation District.

The dam reconstruction site, Faith Ranch, and Goose Creek areas are meeting their performance standards and have been released from monitoring by Ohio EPA.

Status of wetland mitigation for isolated wetland permit (Ohio EPA ID number 049816)

Conservation easements have been placed on the mitigation areas, including the 4.75 acres of preserved wetlands. The easement is held and monitored quarterly by Jefferson Soil and Water Conservation District.

Monitoring at the Quarry Pond site is ongoing, and Apex has submitted the 2016 monitoring report to Ohio EPA and is continuing to work toward performance standards for this site. Currently, the Quarry Pond site has not been released by Ohio EPA.

Comment 21: Please clarify the details of the pending wetland and stream mitigation projects.

Response 21: 401 Water Quality Certification and isolated wetland permit mitigation for Apex Expansion:

Ohio Revised Code 6111.30 states, in part:

- I. Mitigation required by a section 401 water quality certification may be accomplished by any of the following:
 - (1) Purchasing credits at a mitigation bank approved in accordance with 33 C.F.R. 332.8;
 - (2) Participating in an in-lieu fee mitigation program approved in accordance with 33 C.F.R. 332.8;
 - (3) Constructing individual mitigation projects.

The In-Lieu Fee program involves the restoration, establishment, enhancement, and preservation of aquatic resources through funds paid to a governmental or non-profit natural resources management entity to satisfy compensatory mitigation requirements for Ohio EPA Section 401 Water Quality Certifications, Isolated Wetland Permits, and Director's Findings and Orders documents.

The proposed expansion will impact 13.92 acres of wetlands and 4,301 feet of headwater intermittent and ephemeral streams. To mitigate for these impacts, Apex has secured 29.34 acre-based wetland mitigation credits and 7,196 foot-based stream mitigation credits from Stream + Wetlands Foundation, which is an In-Lieu Fee sponsor that has been approved by Ohio EPA and the U.S. Army Corps of Engineers (U.S. ACE).

On Sept. 6, 2016, Ohio EPA issued the Section 401 Water Quality Certification No. 124004 and the Ohio Isolated Wetland Permit No. 164923, which authorize the wetland and stream impacts and mitigation for the lateral expansion.

Comment 22: Concerns were raised about declining property values, excessive noise, inconvenience, and personal annoyance.

Response 22: Ohio EPA does not have the authority to consider property values, excessive noise, inconvenience, or personal annoyance within the scope of a permit application's review. These concerns would be best addressed locally by zoning through the appropriate townships.

Comment 23: A concern was raised about waste haulers traveling off their designated route to the landfill and, instead, driving through residential neighborhoods. A concern was raised about railroad impacts as well.

Response 23: Ohio EPA has no jurisdiction over the transportation of solid waste. These concerns would be best addressed locally through the appropriate township.

Comment 24: A concern was raised about possible ground water contamination and whether residential wells would be monitored.

Response 24: As required by Ohio's landfill regulations, Apex maintains a ground water monitoring program to identify any impact to ground water resulting from the landfill. The network of monitoring wells is designed to identify any impact prior to its migration off-property. Apex samples the monitoring wells, and the results are submitted to Ohio EPA and JCGHD. Ohio EPA reviews required reports for quality, accuracy, and completeness. To date, Ohio EPA has not identified any impact to ground water resulting from the landfill. Apex must perform semi-annual ground water monitoring for the life of the landfill and for at least 30 years after closure. If any adverse impacts to ground water were detected, Ohio's landfill regulations would require Apex to assess the impact and employ corrective measures. JCGHD may be contacted for any questions related to private drinking water wells.

Comment 25: Requests were made for an extension to the public comment period due to the inclement weather on Dec. 13, 2016, which was the night of the public hearing.

Response 25: After considering requests to extend the public comment period, Ohio EPA decided to maintain its original Dec. 20 deadline. In addition to testimony provided during the public hearing, Ohio EPA also considers written comments that can be mailed or sent electronically. Written comments are afforded the same relevance as testimony received at the hearing. All comments are considered before a decision is made on the permit application.

Comment 26: Please clarify the details behind the two exemptions and one variance requested for the proposed landfill expansion.

Response 26: **Exemption #1: setback from limestone quarry**

The first exemption is from OAC Rule 3745-27-07(H)(2)(b), which requires that a sanitary landfill facility not be located in a limestone quarry or sandstone quarry. The landfill is located in a historical coal strip mine and to a lesser extent a historical shallow underground mine. Some limestone remains in limited areas within the landfill's "limits of excavation." As these areas have been and are encountered, and depending on the quality of the material, the limestone has been recovered for both use at the landfill and for limited commercial sale. Therefore, Apex maintains a permit from the Ohio Department of Natural Resources (ODNR) for the mining activities. The site is not a limestone quarrying operation that results in a large depression with highwalls, a high water table, and an accumulation of surface water in the excavated pit. Where the limestone is excavated as part of landfill construction, any mine spoil is removed, the limestone excavated, and the rock below the limestone removed to achieve the design base grades for the landfill. Additionally, the landfill is designed to provide the required 15 feet of isolation distance between the base of the recompacted soil liner and the top of the uppermost aquifer system. The limestone mining, which has taken place at the landfill to date, and the limestone mining that is planned, will not compromise the suitability of the site for operating a

sanitary landfill. Ohio EPA has reviewed the exemption request and determined that granting the requested exemption from the requirement that the sanitary landfill facility not be located in a limestone quarry or sandstone quarry is unlikely to adversely affect the public health or safety or the environment.

Exemption #2: setback from surface waters

The second exemption is from OAC Rule 2745-27-07(H)(4)(d), which requires that the limits of solid waste placement of the sanitary landfill not be located within 200 feet of areas determined by Ohio EPA or the U.S. ACE to be a stream, lake, or wetland. The proposed landfill expansion includes wetlands, streams, and ponds within the proposed disturbance area. Apex has identified 11 wetland areas, varying from 0.01 to 5.89 acres, encompassing about 14 total acres, 11 streams with 4,300 linear feet of stream length, and 11 open water mine pits amounting to about 4.5 acres. A Jurisdictional Waters Delineation Report was submitted to U.S. ACE and was approved by letter dated Sept. 21, 2012. A Section 401 Water Quality Certification and a Level Three Isolated Wetland Permit were issued by Ohio EPA on Sept. 6, 2016. A Section 404 Permit remains pending with U.S. ACE. Ohio EPA has reviewed the exemption request and has determined that granting the requested exemption from the requirement that the limits of solid waste placement of the sanitary landfill are not located within 200 feet of a stream, lake, or wetland is unlikely to adversely affect the public health or safety or the environment. This exemption prohibits Apex from commencing any activities located within this setback until Apex has first obtained the required Section 404 Permit from the U.S. ACE.

Variance: setback from a water supply well

The variance is from OAC Rule 3745-27-07(H)(3)(c), which requires that a sanitary landfill be at least 1,000 feet from a water supply well unless the water supply well meets specific provisions of the siting criterion. A water supply well, controlled by Apex and adjacent to the main office, is used to provide water to the office sinks and toilets. The well is located within 1,000 feet of the limits of solid waste placement proposed in PTI Application No. 06-08448. However, the well will not be within 1,000 feet

of disposed waste until Phase 10 of the expansion is constructed. Apex proposes to continue using the water supply well until the actual disposed waste is nearing the 1,000-foot setback from the well. Prior to waste encroaching within 1,000 feet of the well, Apex proposes to properly abandon the well. Ohio EPA has reviewed the variance request and has determined that granting the requested variance from the requirement that the limits of solid waste placement of the landfill are not located within 1,000 feet of a water supply well will not create a nuisance or a hazard to public health or safety or the environment and is unlikely to result in a violation of any other requirements of ORC Chapters 3704, 3714, 3734, and 6111 and any rules adopted thereunder. Therefore, this permit includes a variance, pursuant to ORC Section 3734.02(A) and OAC Rule 3745-27-03(C), from the requirement of OAC Rule 3745-27-07(H)(3)(c) that the limits of solid waste placement at the landfill not be located within 1,000 feet of a water supply well. Prior to waste disposal at the landfill encroaching within 1,000 feet of the water supply well, Apex is required to properly abandon and seal the water supply well in accordance with OAC Rule 3745-9-10, ORC Section 1521.05(C), and any applicable Ohio laws or regulations.

End of Comments

Keystone Sanitary Landfill



March 7, 2024

IWS Transfer Systems, Inc.
300 Frank W. Burr Blvd.
Teaneck, NJ 07666

RE: Goshen Generated Waste

Dear Sir:

Please be advised that Keystone Sanitary Landfill is willing and able to accept the municipal solid waste and construction & demolition waste from the above referenced facility for disposal for the term of the contract provided the Landfill is open, operating, and accepting waste under its present permit.

Our facility operates under permit number 101247 and is in good standing with the Pennsylvania Department of Environmental Protection.

The obligation of Keystone to accept waste will be modified or terminated at our discretion following an external or internal event that has a material adverse impact on the Landfill's ability to perform including but not limited to: (1) a temporary or permanent government mandated interruption, shutdown or closure of the landfill, including any permit suspension, revocation or unilateral modification; (2) a temporary or permanent government reduction in the permitted tonnage of the landfill or a restriction upon any type of waste, including restriction based upon the geographic origin of waste; (3) change of ownership; (4) or a force majeure.

If you have any questions, please do not hesitate to call me.

Sincerely,

A handwritten signature in black ink that reads "Dan O'Brien".

Dan O'Brien
Business Manager



pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

April 6, 2015

Keystone Sanitary Landfill, Inc.
c/o Mr. Joseph Dexter, P. E., Site Manager
249 Dunham Drive
Dunmore, PA 18512

Re: Permit Renewal
Keystone Sanitary Landfill, Inc.
Dunmore & Throop Boroughs, Lackawanna County
Facility I.D. # 101247-A141
APS # 835066, AUTH ID 1013288

Dear Mr. Dexter:

Enclosed is the permit renewal for Solid Waste Management Permit No. 101247 which the Department is issuing to Keystone Sanitary Landfill, Inc. for the continued operation of a municipal waste landfill known as Keystone Sanitary Landfill. This permit renewal allows Keystone Sanitary Landfill, Inc. to continue to operate this facility per the approved application and the terms and conditions of this permit until April 6, 2025. This permit renewal is based information in the application entitled "Permit Renewal Application" received by the Department on February 11, 2014. Supplemental information was received by the Department on April 18, 2014 and March 4, 2015. The application was prepared by CECC Associates, Inc.

Enclosed as part of this approval is a permit modification Form 13-A. Any conditions stated on the Form 13-A modifies and replaces permit conditions regarding your operating permit. All other items and conditions from your permit shall remain in force and effect.

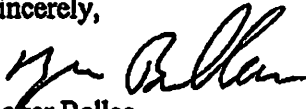
Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section 7514, and the Administrative Agency Law, 2 Pa. C.S., Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, P.O. Box 8457, Harrisburg, PA 17105-8457, 717-787-3483. TDD users may contact the Board through the Pennsylvania Relay Service, 800-654-5984. Appeals must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute provides a different time period. Copies of the appeal form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in Braille or on audiotape from the Secretary to the Board at 717-787-3483. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST REACH THE BOARD WITHIN 30 DAYS. YOU DO NOT NEED A LAWYER TO FILE AN APPEAL WITH THE BOARD.

IMPORTANT LEGAL RIGHTS ARE AT STAKE, HOWEVER, SO YOU SHOULD SHOW THIS DOCUMENT TO A LAWYER AT ONCE. IF YOU CANNOT AFFORD A LAWYER, YOU MAY QUALIFY FOR FREE PRO BONO REPRESENTATION. CALL THE SECRETARY TO THE BOARD (717-787-3483) FOR MORE INFORMATION.

If you have any questions regarding this matter, please contact Jeffrey Spaide at (570) 830-3111.

Sincerely,



Roger Bellas
Environmental Program Manager
Waste Management Program

Enclosure

cc: Dunmore Borough (w/enclosure)
Throop Borough (w/enclosure)
Lackawanna County (w/enclosure)
David J. Osborne, P.E. (w/enclosure)

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENTFORM NO. 13-A
MODIFICATION TO SOLID WASTE DISPOSAL AND/OR PROCESSING PERMIT

Under the provisions of Act 97, the Solid Waste Management Act of July 7, 1980, Solid Waste Permit Number 101247 issued on (date original permit was issued) May 23, 1990 to (permittee) Keystone Sanitary Landfill, Inc.
(address) 249 Dunham Drive
Dunmore, PA 18512

is hereby modified as follows:

1. This permit modification is being issued pursuant to the Pennsylvania Solid Waste Management Act of July 7, 1980 and the Municipal Waste Management Regulations effective September 14, 2002.
2. This permit renewal is based on the information in the application package received by the Department on February 11, 2014 entitled "Permit Renewal Application". Supplemental information was received by the Department on April 18, 2014 and March 4, 2015. The application was prepared by CECO Associates, Inc. The application included the following documents:
 - a. GIF – General Information Form
 - b. Form A – Application for Municipal or Residual Waste Permit
 - c. Form B – Professional Certification
 - d. Form B1 – Application Form Certification
 - e. Form C1 – Compliance History Certification
 - f. Form L – Contingency Plan
 - g. Form 46 – Relationship Between Municipal Waste Management Plans and Permits
 - h. Permit Renewal – Volume Calculations
 - i. Appendix 1 thru 11 – Municipal Waste Disposal Agreement with various counties
 - j. Appendix 12 and 13 – Municipal & Host County Notification Letters
 - k. Appendix 14 – Proof of Publication – received April 18, 2014
 - l. Certified Mail Receipts – received April 18, 2014
 - m. Form HW-C – Compliance History – received March 4, 2015
3. This permit renewal allows Keystone Sanitary Landfill, Inc. to continue operation of this facility per the approved application and the existing terms and conditions of this permit until April 6, 2025.

This modification shall be attached to the existing Solid Waste Permit described above and shall become a part thereof effective on (date) April 6, 2015.



FOR THE DEPARTMENT OF ENVIRONMENTAL
PROTECTION

APPENDIX F

EXTERMINATOR CONTRACT

HORIZON PEST CONTROL

PROTECTING HEALTH & PROPERTY
COMMERCIAL PEST MANAGEMENT AGREEMENT

BILLING ADDRESS

Interstate Waste Services	
89 Black Meadow Rd	
Chester	NY
W	

SERVICE LOCATION

Interstate Waste Services	
95 Hrtley Roac	
Goshen	NY

START DATE:

Covered Pests

A	Ants (excludes Pharaoh & Carpenter Ants)
M	Mice & Rats
O	Centipedes, Crickets, Millipedes, Pill Bugs, Sow Bugs & Spiders

DURATION OF CONTRACT:

R	Cockroaches (American, Brown Banded, German & Oriental)
ILT	Insect Light Trap Program (Fruit, Drain, House & Blow Flies)
EPT	Exterior Perimeter Treatment (..... treatments / year)
DC	Drain Cleaning Program (small fly control & prevention)

This agreement authorizes Horizon Pest Control to provide pest control services as specified below:

Inspect and monitor monthly. 18 EBS-2 Bldgs Breakrm/Offices

Equipment		
Type	Price	#
Tin Cat	\$ 15	
EBS	\$ 22	
EBS Rock	\$ 35	
Pheromone	\$ 15	
ILT		

DAMAGED OR MISSING EQUIPMENT WILL BE REPLACED BY HORIZON AND BILLED TO THE CLIENT. _____ Initial

Results of service are relative to and dependent upon the cooperation given by the Client as to housekeeping, sanitation conditions, maintenance, accessibility of areas to be serviced and extent of preparation. The Client agrees to cooperate with Horizon in whatever reasonable manner necessary to facilitate treatment and control. The following preparations are to be made by the Client prior to the arrival of our service Technician(s).

Client Responsible for: Facility access. *Please ask us about our Employee Residential Service discount for your employees*

Horizon Pest Control reserves the right to refuse performing services if preparations have not been made prior to Horizon's arrival. A charge of \$_____ will be made should this occur.

OUR TECHNICIANS MAY ADJUST METHODS OF CONTROL AFTER OBSERVING CONDITIONS AT TIME OF SERVICE.

THIS CONTRACT IS LIMITED TO THE TREATMENT OF THE ABOVE SERVICE LOCATION(S) ONLY. THERE IS NO PEST DAMAGE WARRANTY EXPRESSED OR IMPLIED, NOR DOES IT PROVIDE FOR REPAIRS OR COMPENSATION THEREOF. HORIZON PEST CONTROL AND ITS EMPLOYEES ARE FULLY INSURED, CERTIFICATION AVAILABLE UPON REQUEST.

SERVICE GUARANTEE: WE AGREE TO CONTROL THE ABOVE NAMED PESTS IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THIS CONTRACT. ALL LABOR AND MATERIALS WILL BE FURNISHED TO PROVIDE EFFICIENT AND EFFECTIVE PEST CONTROL IN ACCORDANCE WITH FEDERAL AND STATE REGULATIONS.

PLEASE NOTE: THE CUSTOMER AGREES TO MAKE THE PREMISES AVAILABLE FOR SERVICE AND ACCEPT SERVICE EACH VISIT. IF SERVICE IS REFUSED HORIZON PEST CONTROL WILL, AT ITS OPTION, CHARGE THE CUSTOMER.

Payment terms - Net 30 day

Emergency service for covered pests is available at no charge if performed during regular business hours.

	TOTAL MONTHLY FEE
Fees	\$ 121.80
Tax	\$ 9.90
Frequency	
Price/Service	\$ 131.70

THIS IS AN ONGOING SERVICE AGREEMENT AND MAY BE CANCELED AT ANY TIME BY EITHER PARTY WITH 30 DAYS WRITTEN NOTICE

NOTICE: YOU, THE CLIENT MAY CANCEL THIS TRANSACTION AT ANY TIME PRIOR TO MIDNIGHT OF THE THIRD BUSINESS DAY AFTER THE DATE OF THIS TRANSACTION, PROVIDED THE SERVICE HAS NOT BEEN STARTED OR COMPLETED.

ACCEPTANCE OF AGREEMENT - I have read Horizon's Commercial Pest Control Service Agreement front and back and wish to accept the program.

DIGITAL SIGNATURE: By checking this box ☐ and typing my name, _____, I am electronically signing this document, dated _____

By signing this contract, digitally or physically, I, the customer, certify that I have read and fully understand the provisions on the front and back of the Contract with all its terms and conditions without limitation, and it being specifically understood that: Horizon, and the undersigned are bound only by the terms and conditions of this Contract and not by any other representations oral or otherwise.

INITIAL _____ ADDITIONAL TERMS AND CONDITIONS ON REVERSE SIDE

THE FINANCE CHARGE IS COMPUTED BY A PERIODIC RATE OF 1.5% PER MONTH ON ALL BALANCES PAST DUE 30 DAYS OR MORE (AN ANNUAL PERCENTAGE RATE OF 18%). ALL INVOICES REFERRED FOR COLLECTION WILL BE SUBJECT TO COST OF COLLECTION, ATTORNEY'S FEES, AND INTEREST AT THE THEN MAXIMUM RATE.

APPENDIX G

UNAUTHORIZED WASTE HANDLING PROCEDURES

UNAUTHORIZED WASTE HANDLING PROCEDURES

Handling Procedures in Response to:

FLUID SPILL (Page 1 of 2)

- 1) Should a Fluid Spill be observed, attempt to identify the fluid as one which has originated from a piece of waste handling equipment or an inbound tipping vehicle (*fluids may include hydraulic fluid, engine oil, brake fluid, coolant, etc.*). While assessing the threat, be aware of the potential safety threats associated with fluids including flammability, respiratory, and slip hazards.
- 2) Secure the area around the Fluid Spill, temporarily suspend waste delivery/handling operations in the affected area, and notify the Emergency Coordinator who will assess the situation and make the appropriate notifications:
 - a. Contact the NYSDEC 24 Hour Spill Hotline at (800) 457-7362 and local Emergency Response Services at 911 to alert them of the situation, if necessary;
 - b. Contact the Regional On-Site Environmental Monitors Coordinator at (845) 256-3138 to alert them of the situation, if necessary.

The order of the above notifications may vary depending upon the type of incident.

- 3) **Required PPE:**
 - a. Head Protection (*hard hat*);
 - b. Body Protection (*safety vest and disposable overalls*);
 - c. Eye and Face Protection (*goggles or face shield*);
 - d. Hand Protection (*chemical resistant work gloves*);
 - e. Foot Protection (*work boots with disposable overshoes*).
- 4) **ONLY** properly equipped personnel that have received appropriate training are permitted to mitigate Fluid Spills.
- 5) Control the source of the spill and/or flow of liquid.
- 6) Apply spill control materials to and around the affected area.
- 7) Utilize hand tools and/or mobile equipment to collect the mitigated Fluid Spill materials.
- 8) Dispose of the Fluid Spill materials within outbound solid waste materials.
- 9) Attempt to identify the piece of equipment/Tipping Vehicle of origin.
 - a. If the leak has originated from a Facility owned piece of waste handling equipment, notify the Facility Manager and/or Maintenance Staff (*who will make arrangements for equipment repair*);
 - b. If the leak has originated from a Tipping Vehicle, document the transporter's name, date/time of the incident, and contact in the Incident Notes below. Notify officials of the company owning the vehicle and/or the waste generator.
- 10) After the Fluid Spill has been disposed of:
 - a. Notify the Emergency Coordinator (*to replenish spill control materials*);
 - b. Resume normal operations; and
 - c. Record details of the incident on a Facility Emergency Response Report and document the incident within the Facility's Annual Report.

UNAUTHORIZED WASTE HANDLING PROCEDURES

Handling Procedures in Response to:

FLUID SPILL (Page 2 of 2)

Incident Notes:

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

Sign and Date: _____

UNAUTHORIZED WASTE HANDLING PROCEDURES

Handling Procedures in Response to:

SUSPECTED HAZARDOUS MATERIAL (Page 1 of 2)

- 1) Identify the Suspected Hazardous Material as one which either is, or may potentially be, hazardous as per 6 NYCRR Part 371 (*including materials which appear to exhibit characteristics of corrosivity, ignitability, reactivity, or have markings or labels which identify material as hazardous*).
 - a. **If suspect material cannot be identified as a Non-hazardous material, treat the material in accordance with the following handling procedures.**
- 2) Temporarily suspend waste delivery/handling operations in the affected area and notify the Emergency Coordinator who will:
 - a. Contact authorized hazardous material remediation service provider permitted under 6 NYCRR Part 364. Be prepared to describe the quantity and type (*if possible*) to responding unit;
 - b. Contact the New York State Department of Environmental Conservation, Region 3 Division of Hazardous Materials at (845) 256-3137 to alert them of the situation;
 - c. Contact the Regional On-Site Environmental Monitors Coordinator at (845) 256-3138 to alert them of the situation, if necessary.

The order of the above notifications may vary depending upon the type of incident.
- 3) **Required PPE:**
 - a. Head Protection (*hard hat*);
 - b. Body Protection (*safety vest and disposable overalls*);
 - c. Eye Protection (*goggles or face shield*);
 - d. Hand Protection (*chemical resistant work gloves*);
 - e. Foot Protection (*work boots with disposable overshoes*).
- 4) **ONLY** properly equipped personnel that have received appropriate training are permitted to manage Suspected Hazardous Material.
- 5) **Do Not Directly Handle the Suspect Material.** If possible, utilize mobile equipment to separate and segregate the Suspected Hazardous Material from waste materials and secure within the Unauthorized Waste Storage Area. Segregate all machinery and tools that have come in contact with the substance as necessary.
- 6) The Emergency Coordinator shall contact the Facility's designated hazardous material or unauthorized waste removal service to remove the collected hazardous material either when the container approaches maximum capacity or within twenty-four (24) hours of material receipt (*whichever occurs first*).
- 7) Prepare a manifest or tracking document, if applicable.
- 8) If the Unauthorized Waste cannot be removed from the Facility within 24 hours, complete the NYSDEC Notification Form and fax it to the NYSDEC at (845) 255-0716.
- 9) After the authorized hazardous material remediation service provider has removed the material or if material can be isolated:
 - a. Resume normal operations;
 - b. Work with the NYSDEC to attempt to identify Tipping Vehicle of material origin and document the transporter's name and the date/time of the incident in the Incident Notes below; and
 - c. Record details of the incident on a Facility Emergency Response Implementation Report, the Unauthorized Waste Log Book and document the incident within the Facility's Annual Report.

UNAUTHORIZED WASTE HANDLING PROCEDURES

Handling Procedures in Response to:
SUSPECTED HAZARDOUS MATERIAL (Page 2 of 2)

Incident Notes:

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Sign and Date: _____

UNAUTHORIZED WASTE HANDLING PROCEDURES

Handling Procedures in Response to:

REGULATED MEDICAL WASTE (Page 1 of 2)

- 1) Identify the material as one which either is, or may potentially be Regulated Medical Waste as defined by 6 NYCRR Part 360.2(b)(228) (*including materials contained within red disposal bags, materials bearing the international symbol for biological hazard, needles, syringes, scalpels, vacutainers, etc.*). While assessing the threat, be aware of the following:
 - a. Potential safety threats associated with Regulated Medical Waste include infectious wastes, biological wastes, and waste sharps;
 - b. **If suspect material cannot be identified as NOT being Regulated Medical Waste, treat the suspect material in accordance with the following handling procedures.**
- 2) Secure and temporarily suspend waste delivery/handling operations in the affected area and notify the Emergency Coordinator who will:
 - a. Contact authorized medical waste remediation service provider permitted under 6 NYCRR Part 364. Be prepared to describe the quantity and type (*if possible*) to responding unit;
 - b. Contact the New York State Department of Environmental Conservation, Region 3 Division of Hazardous Materials at (845) 256-3137, and alert them of the situation;
 - c. Contact the Regional On-Site Environmental Monitors Coordinator at (845) 256-3138 to alert them of the situation, if necessary.

The order of the above notifications may vary depending upon the type of incident.
- 3) **Required PPE:**
 - a. Head Protection (*hard hat*);
 - b. Body Protection (*safety vest and disposable overalls*);
 - c. Eye Protection (*goggles or face shield*);
 - d. Hand Protection (*chemical and puncture resistant work gloves*);
 - e. Foot Protection (*work boots with disposable overshoes*).
- 4) **ONLY** properly equipped personnel that have received appropriate training are permitted to manage suspected Regulated Medical Waste.
 - 5) **Do Not Directly Handle the Suspect Material.** If possible, utilize hand tools/equipment to isolate the suspected Regulated Medical Waste from other waste material and secure in the Biohazard Container located in located in the Unauthorized Waste Storage Area. Segregate all hand tools/equipment that have come in contact with the substance as necessary.
- 6) The Emergency Coordinator shall contact the Facility's designated regulated medical waste or unauthorized waste removal service to remove the collected hazardous material either when the container approaches maximum capacity or within seven (7) days of material receipt (*whichever occurs first*).
- 7) Obtain copy of the regulated medical waste tracking form from medical waste remediation service provider.

UNAUTHORIZED WASTE HANDLING PROCEDURES

Handling Procedures in Response to:

REGULATED MEDICAL WASTE (Page 2 of 2)

- 8) After the medical waste remediation service provider has removed the material or if material can be isolated:
 - a. Decontaminate that affected area and the hand tools/equipment used to isolate the material using a ten percent (10%) bleach solution;
 - b. Thoroughly wash hands with a disinfecting, antibacterial soap;
 - c. Notify the Emergency Coordinator (*who will make further arrangements for temporary storage/disposal and assess the need to replenish PPE and Biohazard Containers*);
 - d. Resume normal operations;
 - e. Work with the NYSDEC to attempt to identify Tipping Vehicle of material origin and document the transporter's name and the date/time of the incident in the Incident Notes below; and
 - f. Record details of the incident on a Facility Emergency Response Plan Implementation Report, on the Unauthorized Waste Log and document the incident within the Facility's Annual Report.

Incident Notes:

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Sign and Date: _____

UNAUTHORIZED WASTE HANDLING PROCEDURES

Handling Procedures in Response to:

WASTE SHARPS (Page 1 of 2)

- 1) Identify the material as one which either is, or may potentially be a Waste Sharp as defined by 6 NYCRR Part 360.2(b)(228)(i)(d) (*including needles, syringes, scalpels, vacutainers, etc.*). While assessing the threat, be aware of the potential safety threats associated with Waste Sharps including infectious and biological hazards.
- 2) Should Waste Sharps be identified, communicate the threat to those in the immediate vicinity.
- 3) Secure and temporarily suspend waste delivery/handling operations in the affected area and notify the Emergency Coordinator who will assess the situation and make the appropriate notifications:
 - a. Contact authorized medical waste remediation service provider permitted under 6 NYCRR;
 - b. Contact the NYSDEC Regional Division of Materials Management by telephone at (845) 256-3000 or e-mail to alert them of the situation;
 - a. Contact additional appropriate agencies, if necessary.

The order of the above notifications may vary depending upon the type of incident.

- 4) **Required PPE:**
 - a. Head Protection (*hard hat*);
 - b. Body Protection (*safety vest*);
 - c. Eye Protection (*safety glasses*);
 - d. Hand Protection (*puncture resistant work gloves*);
 - e. Foot Protection (*work boots*).
- 5) **ONLY** properly equipped personnel that have received appropriate training are permitted to manage Waste Sharps.
- 6) If possible, utilize hand tools to make a preliminary inspection of the Waste Sharp(s). Determine the quantity and type of the waste, and photograph utilizing a digital camera.
- 7) If the discovered Waste Sharps are of a manageable quantity, don the additional personal protective equipment listed above.
- 8) **Do Not Directly Handle the Suspect Material.** If possible, utilize hand tools to collect the Waste Sharps and place them into the approved Waste Sharps Container located in the Unauthorized Waste Staging Area. Additional Waste Sharps Containers will be stocked within the Office Building, as required. Segregate all machinery and tools that have come in contact with the substance as necessary.
- 9) The Emergency Coordinator shall contact the Facility's designated medical waste remediation service provider to remove the Waste Sharps either when the container approaches maximum capacity or within seven (7) days of material receipt (*whichever occurs first*).
- 10) Obtain copy of Medical Waste Tracking Form from the waste removal service vendor.

UNAUTHORIZED WASTE HANDLING PROCEDURES

Handling Procedures in Response to:

WASTE SHARPS (Page 2 of 2)

11) After the waste has been secured:

- Decontaminate that affected area and the hand tools/equipment used to isolate the material using a ten percent (10%) bleach solution;
- Thoroughly wash hands with a disinfecting, antibacterial soap;
- Notify the Emergency Coordinator (*who will make further arrangements for temporary storage/disposal and assess the need to replenish PPE and Waste Sharps Containers*);
- Resume normal operations;
- Work with the NYSDEC to attempt to identify customer vehicle of material origin and document the transporter's name and the date/time of the incident in the Incident Notes below; and
- Record details of the incident on a Facility's Emergency Response Plan Implementation Report, the Unauthorized Waste Log and document the incident within the Facility's annual report.

Incident Notes:

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Sign and Date: _____

UNAUTHORIZED WASTE HANDLING PROCEDURES

Handling Procedures in Response to:

RADIOACTIVE MATERIAL (Page 1 of 1)

- 1) Should the radioactive waste be detected by the radiation detection system, the vehicle must be stopped at the Scale. The Scale Operator must obtain the driver's name, name and phone number of dispatcher of hauler's company and origin of load.
- 2) Secure and temporarily suspend waste delivery/handling operations in the affected area and notify the Emergency Coordinator and/or Facility Supervisor who will:
 - a. Contact the New York State Department of Environmental Conservation, Region 3 Division of Hazardous Materials at (845) 256-3137, and alert them of the situation;
 - b. Contact the On-Site Environmental Monitor, and alert them of the situation;
 - c. Contact the New York State Department of Environmental Conservation, Radioactive Materials Management Section at 518-402-8652;
 - d. Contact additional appropriate agencies, if necessary.

The order of the above notifications may vary depending upon the type of incident.

- 3) The Tipping Vehicle will be refused entry into the Facility and will be requested to exit the Facility immediately. Prior to exiting the Facility, a Special Permit DOT-SP 11406 permit shall be obtained in order to return to public roadways. This permit can be obtained by completing the DOT-SP 11406 Shipment Approval Form that can be accessed via the link: [dot-sp 11406 revision 2023.pdf](https://dot-sp.11406.revision.2023.pdf) (ymaws.com) (electronic fillable form) or completing the attached form. The completed form shall be emailed to the following: Thomas.Papura@dec.ny.gov, Paul.Armani@dec.ny.gov and r3dmm@dec.ny.gov.
- 4) **Required PPE:**
 - a. Head Protection (*hard hat*);
 - b. Body Protection (*safety vest*);
 - c. Eye Protection (*safety glasses*);
 - d. Hand Protection (*leather work gloves*);
 - e. Foot Protection (*work boots*).
- 4) Do Not Handle the Suspect Material and Stay at Least 20 Feet from the Vehicle. **ONLY** properly equipped personnel that have received OSHA 40-hour HAZWOPER Training, in addition to Site-Specific Training shall be allowed to collect the Radioactive Material.
- 5) After the Radioactive Material has been isolated:
 - a. Resume normal operations;
 - b. Attempt to identify Tipping Vehicle of material origin and document the transporter's name, origin of waste, truck number, date/time of the incident, detector reading, disposition of waste, and date of disposition in the Incident Notes below;
 - c. Record details of the incident on a Facility Emergency Response Implementation Report and document the incident within the Facility's Annual Report.

Incident Notes:

Sign and Date: _____

Annex A DOT-SP 11406 SHIPMENT APPROVAL FORM

Approval Number _____ (Refer to SP 11406, 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 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 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-11406

Shipment Approval #:

- - -

Date: _____

10.d. Requires this label to be affixed to two opposing sides of the conveyance

RADIOACTIVE
US DOT SP-11406

Shipment Approval #:

- - -

Date: _____

UNAUTHORIZED WASTE HANDLING PROCEDURES

Handling Procedures in Response to:

AUTOMOTIVE BATTERIES (Page 1 of 1)

- 1) Identify the unauthorized material as an Automotive Battery. Observe physical characteristics, for leakage, smoke, etc.
 - a. **If the Automotive Battery is leaking or smoking, treat the material in accordance with "Suspected Hazardous Material" handling procedures.**
- 2) Secure and temporarily suspend waste delivery/handling operations in the affected area and notify the Emergency Coordinator who will:
 - a. Notify the transporter and apply applicable handling/servicing fee to the delivery, if applicable.
- 3) **Required PPE:**
 - a. Head Protection (*hard hat*);
 - b. Body Protection (*safety vest*);
 - c. Eye Protection (*face shield*);
 - d. Hand Protection (*chemical resistant work gloves*);
 - e. Foot Protection (*work boots*).
- 4) **ONLY** properly equipped personnel that have received the appropriate training are permitted to manage Automotive Batteries. Automotive Batteries received at the Facility may be temporarily segregated and secure within the Unauthorized Waste Storage Area.
- 5) After the Automotive Battery has been secured in the Unauthorized Waste Storage Area, resume normal operations.
- 6) Once the Automotive Battery Storage Container is nearing capacity, the Facility Manager will contact the appropriate Recycling Coordinator.

Incident Notes:

Sign and Date: _____

UNAUTHORIZED WASTE HANDLING PROCEDURES

Handling Procedures in Response to:

ELECTRONIC WASTE (E-WASTE) (Page 1 of 1)

- 1) Identify the material as one which is E-Waste (*including computers, mobile phones, televisions, and other electronic devices and circuitry*).
- 2) Secure and temporarily suspend waste delivery/handling operations in the affected area and notify the Emergency Coordinator who will:
 - a. Notify the transporter and apply applicable handling/servicing fee to the delivery, if applicable.
- 3) **Required PPE:**
 - a. Head Protection (*hard hat*);
 - b. Body Protection (*safety vest*);
 - c. Eye Protection (*safety glasses*);
 - d. Hand Protection (*puncture resistant work gloves*);
 - e. Foot Protection (*work boots*).
- 4) **ONLY** properly equipped personnel that have received the appropriate training shall be allowed to collect the E-Waste(s) and transport them to the E-waste Storage Container(s) located next to the Unauthorized Waste Storage Area.
- 5) If possible, utilize facility labor/equipment to isolate the E-Waste(s) from other waste material and to transport to the E-Waste Storage Container.
- 6) After the E-Waste(s) has been secured in the E-Waste Storage Container or segregated on the Tipping Floor, resume normal operations.
- 7) Once the E-waste Storage Container(s) is nearing capacity, the Facility Manager will arrange for transport to a designated recycling facility.

Incident Notes:

Sign and Date: _____

UNAUTHORIZED WASTE HANDLING PROCEDURES

Handling Procedures in Response to:

WASTE TIRES (Page 1 of 1)

- 1) Identify the approximate quantity of Waste Tires observed.
- 2) Secure and temporarily suspend waste delivery/handling operations in the affected area and notify the Emergency Coordinator who will:
 - a. Notify the notify transporter and apply applicable handling/servicing fee to the delivery, if applicable.
- 3) **Required PPE:**
 - a. Head Protection (*hard hat*);
 - b. Body Protection (*safety vest*);
 - c. Eye Protection (*safety glasses*);
 - d. Hand Protection (*puncture resistant work gloves*);
 - e. Foot Protection (*work boots*).
- 4) **ONLY** properly equipped personnel that have received the appropriate training shall be allowed to collect the Waste Tire(s) and transport them to the Unauthorized Waste Storage Area utilizing facility labor/equipment.
- 5) After the Waste Tire(s) has been secured in the Unauthorized Waste Storage Area, resume normal operations.
- 6) Once the Waste Tires have accumulated in number to warrant transport, the Facility Manager will arrange for transport to a designated recycling facility.

Incident Notes:

Sign and Date: _____

UNAUTHORIZED WASTE HANDLING PROCEDURES

Handling Procedures in Response to: MATERIALS CONTAINING CHLOROFLUOROCARBONS (CFCs) (Page 1 of 2)

- 1) Identify the material as one which either contains, or may contain, a Chlorofluorocarbon (CFC). Typical materials which may contain CFCs include refrigerators, freezers, air conditioning units, water coolers, aerosol propellants, and select cleaning/degreasing solvents.
 - a. **If suspect material cannot be identified as one which does NOT contain CFCs, treat the material in accordance with the following handling procedures.**
- 2) Temporarily suspend waste delivery/handling operations in the affected area. Utilize facility labor/equipment to isolate the suspected CFC material from other waste material. White goods that are suspected to contain CFCs will be temporarily segregated in the Unauthorized Waste Storage Area. Aerosol propellants and cleaning/degreasing solvents will also be secured in the Unauthorized Waste Storage Area. Once the suspected CFC material is isolated, resume normal facility operations.
 - a. Contact authorized CFC remediation service provider who will either recover the CFC material or remove the item containing CFCs. Be prepared to describe the quantity and type (*if possible*) to the responding unit;
 - b. Notify the transporter and apply applicable handling/servicing fee to the delivery, if applicable.
- 3) In the case of CFC discharge, notify the Emergency Coordinator who will:
 - a. Contact the DEC 24 Hour Spill Hotline at (800) 457-7362, if necessary.
 - b. Contact the Regional On-Site Environmental Monitors Coordinator at (845) 256-3138 to alert them of the situation; and
 - c. Contact additional appropriate agencies, if necessary;

The order of the above notifications may vary depending upon the type of incident.
- 4) **Required PPE:**
 - a. Head Protection (*hard hat*);
 - b. Body Protection (*disposable overalls and safety vest*);
 - c. Eye Protection (*goggles*);
 - d. Hand Protection (*puncture resistant work gloves*);
 - e. Foot Protection (*work boots*).
- 5) **ONLY** properly equipped personnel that have received the appropriate training are permitted to manage materials containing CFCs.
- 6) After the CFC remediation service provider has removed the material or if material can be recovered:
 - a. Resume normal operations;
 - b. Record additional details of the incident below, if applicable.

Handling Procedures in Response to:
MATERIALS CONTAINING CHLOROFLUOROCARBONS (CFCs)
(Page 2 of 2)

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Goshen Transfer Station