

3.12 Solid Waste

3.12.1 Existing Conditions

The Town of Amenia maintains a Town transfer station at Allen Sand & Gravel on Old Route 22 where residents can purchase a permit or tickets for individual visits. The Town does not provide solid waste pick-up service and businesses and residences must contract with private companies for solid waste removal.

Currently, Keane Stud, the existing thoroughbred farm, located on the project site includes six full-time employees who reside on site and generate approximately 7.2-lbs. per week of solid waste. Keane Stud contracts with a private sanitation service, Welsh Sanitation Services (WSS), for solid waste removal. Solid waste is hauled from the site once a week from one 6-yard dumpster to the Harlem Valley Transfer Station. Stable waste is currently stockpiled at the northwest corner of the site and hauled to an offsite disposal location.

3.12.2 Potential Impacts

Residential

Depot Hill Farm is anticipated to generate approximately 508 new residents. The U.S. Environmental Protection Agency (USEPA) estimated that residential solid waste production was approximately 4.6 lbs per person per day (<http://www.epa.gov/epaoswer/non-hw/muncpl/pubs/msw06.pdf>). This figure includes waste generated from residences, business and institutions. When accounting for the component of solid waste generated exclusively by residential uses, the per-capita generation declines to approximately 2.76 lbs per person per day. With a recycling rate which accounts for approximately 32.5% of the per capita waste generation, the solid waste discarded is 1.86 lbs per person per day and the solid waste recycled is 0.9 lbs per person per day. Table 3-54 below summarizes waste generation for Depot Hill Farm.

**Table 3-54
Anticipated Solid Waste Production**

Use	Maximum Estimated Population	Anticipated Weekly Solid Waste Generation*	Anticipated Yearly Generation**
137 Homes	508	Solid Waste = 3.32 tons/week	172.39 tons/year
		Recycling = 1.59 tons/week	82.68 tons/year
Equestrian Center/Stud Farm	15 full-time equivalent positions	Solid Waste = 90.0 lbs/week	2.34tons/year
TOTAL**			257.41 tons/year

Note: * denotes per USEPA 2006 estimate of 1.86 lbs. of discards to landfill solid waste production per person per day for residential uses only.

** denotes total solid waste of 176.95 tons/year + total recyclables 84.76 tons/year = 255.07 tons/year

Commercial/Recreational

In addition to residential units, Depot Hill Farm will include the Equestrian Complex with café employees, tack shop employee and community maintenance personnel, the Keane Stud farm and agricultural facilities totaling approximately 12 full-time and 6 part-time employees (including those who will maintain agricultural aspects of the site such as stable maintenance and Keane Stud employees), which is the equivalent of 15 full-time equivalent positions (FTE) who will contribute to the solid waste generated on the project site. In order to calculate the estimated solid waste generated by these commercial uses, a median generation rate of 1.2 lbs per day, (or 6 pounds per five-day work week) per FTE is assumed, based on data from the NYSDEC. On average, it is therefore estimated that the commercial components of the proposed Depot Hill Farm will generate approximately 18.0 pounds of solid waste per day (15 FTE x 1.2 lbs per employee per day) or 90.0 pounds per week (15 FTE x 6 lbs per week).

Waste will be required to be placed in bags. Waste will be transferred into the existing dairy barn, which will operate as a waste and recycling center, into larger containers or dumpster. It is anticipated that weekly pick up of the waste and recyclables by a local private hauler will occur.

Compost of Stable Waste

The existing practice of stable waste management at Keane Stud, removing straw and manure for disposal at an off-site location, will be discontinued. All stable waste will be managed on-farm in a composting operation. A compost system operator, employed by Depot Hill Farm, will manage the daily compost operations. The majority of animal waste that is collected is stall bedding. Animal waste will be removed from stalls and placed in the composting area, as designated on the plans. According to the publication, "Horse Stable Manure Management" (produced by the Penn State College of Agricultural Sciences, 2002, available at:

<http://pubs.cas.psu.edu/freepubs/pdfs/ub035.pdf>), the average 1,000-pound horse produces 0.81 cubic feet of manure a day. Including bedding plus the manure produced per day, the average daily stall waste produced would be 2.4 cubic feet per day. At maximum capacity, with all 116 stalls occupied, it is expected that 278 cubic feet or approximately 11 cubic yards of waste will be produced and managed on-site each day.

The compost operation will be accommodated in an area of 120 feet by 200 feet, with setbacks in accordance with Section 121-37E.2 of the Town of Amenia's Zoning Code, which stipulates that "agricultural structures containing animals, animal feed, or animal waste shall be set back at least 200 feet from watercourses and from lots that have existing residential uses, whether or not such residential lots are within an agricultural district. This setback requirement shall not apply to pre-existing con-conforming structures." The location of the composting facility relative to residential structures and watercourses and the 200-foot buffers can be seen in the Master Development Plan, Figure 1.A. According to the *On-Farm Composting Handbook* (Robert Rynk, ed., Natural Resource, Agriculture and Engineering Service, 1992, based on the work of the USDA Extension Service), compost facilities should be located, at minimum, two feet above the seasonal high water table or bedrock, and 100 feet from surface water-bodies and drinking water supply wells, 50 feet from a property line, 25 feet from drainage swales, and 200 to 500 feet from residences and businesses, although the owner and/or operator of the compost facility is exempt from the residential and business use setback. Windrows are expected to be no more than 6 feet high, 12 feet wide and 150 feet long; each windrow is expected to accommodate approximately 200 cubic yards of waste. Detailed design of the compost facility will be completed in the design phase of the project, however the preliminary design completed locates the compost area inside the west side of the ring road, central to all the equestrian uses on site, and over 760 feet from residential uses on or off site. The compost area is located out of drainageways, and will be surrounded by a vegetated buffer to intercept runoff which might occur during rain events, as recommended in the *On-Farm Composting Handbook*.

Stable waste will continue to be removed from the stalls daily. The waste material will be placed in a trailer and hauled, via the ring road to the composting pad. A composting pad is the surface occupied by windrows and piles during the active composting period. Although a firm surface is necessary, it does not have to be paved. Stable waste will be placed in windrows by a tractor. Once a new window row is created, it is turned regularly, until the composting process is complete. Composting is completed based on an assessment of the monitoring data, which includes a log of temperature, moisture and texture. A windrow turner or tractor with a loader bucket will be used to turn the material to facilitate the compost process. According to data from Cornell Cooperative Extension, an actively managed windrow of stable waste will typically be completed within 12 weeks. Windrows will be located beneath an open-sided pole barn to prevent excess moisture from generating runoff from the compost area. Finished compost will be placed in a curing pile adjacent to the windrows. Finished compost must cure for approximately 6 weeks before use. Finished compost will be spread in paddocks and hay fields to provide a stable source of nutrients to the fields.

Agricultural waste compost does not require permitting through the NYSDEC. A compost system operator, employed by Depot Hill Farm, will manage the daily compost operations. Daily operations will include the ongoing operations of building new windrows, turning existing windrows, and monitoring compost progress, i.e. temperature and moisture content. Once one windrow is composted, the material is moved to a curing pile and then will be spread in the

gardens, hay fields and paddocks. According to the *On-Farm Composting Handbook*, horse manure, when composted with straw bedding (as used at Keane Stud and proposed for use at Depot Hill Farm), is dry with a good carbon to nitrogen ratio, and it composts quickly and has low odor potential.

Construction Waste Management

The proposed residential units of Depot Hill Farm are anticipated to be pre-fabricated panelized home packages from Bensonwood. Home panels come via truck and are wrapped in plastic. Panels are fully finished for interior and exterior and construction waste materials are managed at the factory. Bensonwood will manage all wrap materials and return the materials to their factory for reuse. Other construction debris from infrastructure installation, is expected to be minimal. The Site Contractor will be responsible to store and manage all construction-related debris in a specified location and to remove such from the project site.

The construction debris will be hauled to and discarded at the Town of Washington landfill located on State Route 343. The landfill is located approximately 10-½ miles south west of the project site. The haul route to this transfer station is as follows: take a right off Depot Hill Road onto County Route 81 north, a left onto State Route 22/343 south, continue for approximately 7 miles then turn right onto State Route 343 to the landfill.

3.12.3 Mitigation Measures

The proposed project will generate a total of approximately 5 tons of solid waste and recyclables per week, a net increase of approximately 4.98 tons per week over the project's site's current solid waste generation.

It is anticipated that the proposed development will continue to use WSS for solid waste disposal, as well as for recycling of cardboards, bottles, cans and newspapers. Depot Hill Farm will utilize an existing dairy barn as an on-site waste and recycling storage facility for all waste disposal and WSS pick-up. By addressing waste management at Depot Hill Farm with one efficient facility, potential environmental, transportation and energy impacts typically associated with waste removal are greatly reduced. Refuse will be picked up twice per week by WSS and brought to the Dutchess County Resource Recovery Plant (DCRRP) located in Poughkeepsie, NY which is operated by the Dutchess County Resource Recovery Agency.

Based upon communication with Denise Walsh of the DCRRP on April 7, 2008, adequate capacity exists for picking up and processing the additional solid waste produced by the proposed project and no adverse impacts on available capacity are expected. Please see appendix C-20 of the DEIS text for the correspondence from the DCRRP. Therefore, no undue impacts on available capacity will result from Depot Hill Farm's expected solid waste output.