

# Wellington Manure and Vegetation Collection Site Analysis

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## Executive Summary

The world class equestrian events in Wellington attract many national and international riders and residents who transport their horses to compete among the world's best riders and at facilities that are world class. This equestrian season is home to some 12,000-13,000 horses during the winter months of December through May and between 3,000- 4,000 horses during the summer months of June through September. October and November are transitional months as the season begins to gear up. All of which highlights the growth of equine in the Village, but at the same time highlights its transient nature.

As great as the horse is to Wellington and the region, there is a down side and with equine it's the fact that a 1,000 pound horse produces 9 tons of waste yearly, not including bedding. Studies have proven that a ton of horse waste contains 8 pounds of nitrogen, 2.5 pounds of phosphorus and 8 pounds of potassium. These nutrients in their raw form are not readily available for plant up-take without time for balancing. This means Wellington horse population produces an estimated 80 -100,000 tons of waste yearly, which would include an estimated 90 tons of phosphorus. If you assume that surrounding Wellington is an equal number of horses in Boynton, Delray, Loxahatchee Groves and the Acreage, the problem is easily magnified. There is no doubt that this influx of people and horses produces great economic benefits for business owners and residents of Wellington and the surrounding communities, it also creates challenges to overcome.

The challenge of how to dispose of or reuse the estimated 100,000 tons of livestock waste produced annually by Wellington horses, in a way that is environmentally responsible has been a top priority for the Village. Being a good neighbor and complying with permit requirements and settlement agreements have been both a challenge and costly. Finding private partners that have a sustainable business plan has been elusive, but promising. Currently US Sugar started about a year ago to accept delivered livestock waste to a 70 ac test field west of 20 mile bend. Atlas Peat and Soil has been a long time user and recently New Hope Power Company has expressed the need/desire to utilize the product, along with entrepreneurs who continue to explore business options. The Solid Waste Authority will accept the waste product in the short term, but long term is looking to eliminate this product from their waste stream.

The next challenge is how to efficiently collect this waste and provide it to an end user. There is no doubt that each time the waste is handling it costs money; however with over 600 equestrian properties and over 800 manure bins within the Village, the Livestock Waste Hauler remains the

most logical means of pickup and disposal. Typically hauling requires a Bobcat type loader to remove the waste from the manure bin and a dump truck in which haul and dispose of the waste. To date no end user has come forth as a hauler. The Village licensed 10 haulers for this past season and has had limited success in obtaining the hauling records as required by the Villages BPM ordinance. From the haulers we learned that they are paid by the load, not by weight or cubic yard. From this 2011 -12 information and again from the 2014 haulers meeting, the haulers indicated that an equestrian property paid \$150.00 to \$180.00 to empty a manure bin. Tipping fees range from \$30.00 a ton at the SWA (expected to be reduced to \$15.00/ton) at the Jog Road facility, to \$3.00 a cubic yard at Atlas Peat and Soil to the alleged \$25.00 a load to dump on an owner's property in Loxahatchee Groves (no longer allowed by Town ordinance) or Acreage. There are three (3) locally approved livestock waste disposal sites in this area; SWA, Atlas Peat and Soil and Zimmular Enterprises a nursery in Loxahatchee Groves who has advised the Village that they are not accepting the waste. The haulers, in there vying for business maintain a very tight profit margin. Cost such a fuel increases, vehicle maintenance, tipping fee as well as competition, all affects the hauling price.

From the meetings with the haulers we have determined that there is an average of 50 truckloads per day of horse waste collected in Wellington and hauled somewhere else for disposal or use. In some cases the manure is properly disposed of, but in other cases the manure is illegally dumped in Wellington or in neighboring communities. This illegal dumping is a regional environmental and surface water issue.

As an additional waste product, the Village of Wellington's residential and commercial areas produce large amounts of bulk vegetation. Wellington is currently contracted with Waste Management to remove an estimated 21,000 tons of bulk vegetative waste per year. Vegetation is an important additive to livestock manure to produce fertilizer and energy products and could be incorporated into an end product involving Wellington's livestock waste.

A proposed solution to address the manure challenge while creating a product from the Village's vegetation is to create a manure collection site within or near Wellington's boundaries. This collection site would allow manure haulers to drop their loads at a licensed and permitted location within or near Wellington, thus decreasing illegal dumping and providing Wellington control over how the waste is disposed of or reused. It would also allow Wellington to capitalize on its vegetative waste rather than simply paying for its removal. Benefits to the material haulers include:

- Reduced fuel costs of hauling manure long distances
- Reduced travel time
- Provides an economical alternative to illegal dumping
- Stabilizes the current market

A single collection location would be created where end-users of the manure and vegetation such as local farmers, commercial farmers, energy companies, and entrepreneurs could receive/purchase the products. Wellington would curb illegal dumping by turning a business of waste disposal into a business of waste collection for re- purposing /re-sale.

This business plan and feasibility study explores the benefits of investing in a livestock waste collection site, estimates the initial investment and operating costs of the site, recommends ideal site locations, and recommends tipping fees and a sale price of the manure and vegetation products that would allow Wellington to recoup the dollars invested.

## **Market Analysis**

### *Target Market*

The manure and vegetation collection site will have two target markets. The first market is the manure haulers and vegetation haulers. It needs to be economical for the manure haulers to dump at the collection site rather than hauling it outside of Wellington and the vegetation market can be addressed through a contract. This site, during season will need to have extended operating hours to accommodate the livestock waste hauling activities. The second target market is the end users of the manure and vegetation products. If the site has a constant flow of material coming in, it also will need a constant flow of trucks coming to receive/purchase and pick up the manure. These “end user” will be local farmers, commercial farmers, energy companies, and entrepreneurs.

### Manure Hauling Market (Source of Product)

There are currently ten licensed haulers within Wellington operating between 16 and 24 trucks in total. Using the data in the Equestrian Community Data Report, the trucks’ combined annual average trips per day is about 50 trips. There is a total of approximately 272,000 cubic yards of horse waste, which weighs 90,000 tons when you include bedding, which is produced in Wellington annually. From the hauler meeting operationally the haulers are working 12 -16 hours per day 7 days a week during season (December – May).

The equestrian industry has experienced expansive growth over the past few years and is expected to continue growing in the future. As the equestrian industry grows, the number of horses and amount of waste produced in Wellington will continue to increase along with the surrounding areas. The source product for the manure collection site is one that we predict will but will become more readily available as the equestrian industry grows, but will begin to obtain a market value a demand increases.

### Organic Fertilizer/Manure/Vegetation Market (Sale of Product)

In Wellington and the surrounding areas Atlas Peat & Soil appears to be one business that offers products that include livestock waste, there does not appear to be any other central locations where manure and vegetation products can be purchased in bulk. Commercial and local farmers, energy companies, and other buyers who want to use manure currently must hire/contact a hauler to go farm to farm or pay for haulers to drive to their location.

There is plenty of supply, and there is plenty of demand, but there is no easy or economical way to bridge the gap between supply and demand. Wellington's manure collection site will serve that roll in the market while fulfilling its environmental responsibilities to the area.

### *Needs of Customers*

The customers of Wellington's manure collection site are the end users of the manure and vegetation. Their needs are to have a supply of organic waste and vegetation in which to create soil amendments or energy products; they need to have a constant supply of the material, and to have an easy and economical way of purchasing the product.

### *Expected Market Share*

Wellington would provide a significant market share of manure haulers product. In order to operate in Wellington, haulers have to register with Wellington and pay a competitive licensing fee of \$500. Licensed haulers would be permitted to dump their trucks at the collection facility for lower cost than other locations. This would create a reality in which all licensed haulers in Wellington would want to unload their trucks at the collection site because it's cheaper, closer and accessible. A realistic market share percentage for haulers is 75% of all manure produced in Wellington will come through the collection site. Wellington can require that 100% of bulk vegetation collected in Wellington be brought to the collection site through contract.

By creating a collection site a significant market share of the manure and vegetation supply would be obtainable at a single location. Based on limited competition, current demand that is not being efficiently met, and the low prices we will put in place a facility that we believe can capture a large enough market share to ensure steady demand of the products at a single collection site.

### **Competitive Analysis**

Competition for truckloads of manure would come from individuals who have a farm they purchase product for, unlicensed haulers who cannot dump at the collection site, and residents of Wellington that intend to compost the manure they produce and use it on their own farms.

There are many retailers and wholesalers in the Wellington area that sell fertilizer in small and large amounts for local and commercial farms. There are few or possibly no sites in the

Wellington area where large commercial farming operations can go and fill a large truck with manure for their use. Small local farms that need a supply of manure need to either pick up directly from an equestrian farm or work with a hauler to use their farm as a drop location.

The Wellington collection site would make it easier for both commercial farms and local farms to pick up manure and vegetation products because large amounts of product would be located in one location for the large farms and it would bridge the gap between small farms and haulers.

## **Organization and Management**

The manure collection site will be managed by the Site Manager who will have five employees to help facilitate the operation of the facility. There will be a small office portable on site for a break room and administrative needs.

The site manager will report to the Director of Public Works, who in turn will report to the Director of Operations.

## **Marketing and Sales Management**

Wellington will inform all manure haulers of the transfer site by including it in the licensing process. In order to pick up manure in Village limits, the hauler must go through an application process to become licensed, and will be educated about the manure transfer site at that time.

Press releases, direct phone calls, mailers, and public notices will help advertise the site as a source of manure and vegetation for end users. The public broadcasting of the information will also help to reach haulers who are not yet licensed.

## **Service or Product Line**

The manure and vegetation products Wellington will provide have plenty of supply, but there is no easy and economical way of accessing that supply. By creating this waste collection site we essentially turn a waste pickup and disposal business into a waste pickup, resale, and reuse business. The supply and demand are both there; by providing this site we are bridging the gap between product and end user in Wellington and providing a solution to a community issue.

## Estimated Initial Investment

Category	Line Item	Unit	Unit Cost	Total Cost
Land Purchase	Purchase Land (AC)	12	\$50,000.00	\$600,000.00
Improvement	Land Clearing/Grading (Acres)	11	\$20,000.00	\$220,000.00
Improvement	Drainage Work on land (AC)	11	\$7,500.00	\$82,500.00
Improvement	Entrance/Exit Work (each)	2	\$25,000.00	\$50,000.00
Structures	Scale House-Office Building	1	\$35,000.00	\$35,000.00
Structures	Roof Structure	1	\$50,000.00	\$50,000.00
Structures	73' x 200' arch truss building	1	\$300,000.00	\$300,000.00
Infrastructure	100' X 100' Concrete Slab	1	\$42,500.00	\$42,500.00
Infrastructure	Roads/Shell rock (tons)	1	\$100,000.00	\$100,000.00
Infrastructure	Fencing and Other Security (lf)	1	\$75,000.00	\$75,000.00
Design/Permitting	Soft Costs (15% of construction)	1	\$98,250.00	\$98,250.00
Equipment	Loaders	2	\$130,000.00	\$260,000.00
Equipment	Horizontal Grinder	1	\$750,000.00	\$750,000.00
Equipment	Excavator	1	\$300,000.00	\$300,000.00
Equipment	Truck Scale	2	\$30,000.00	\$60,000.00
Equipment	Security Cameras	1	\$25,000.00	\$25,000.00
Equipment	Other Security Equipment	1	\$15,000.00	\$15,000.00
Equipment	Other-Miscellaneous	1	\$25,000.00	\$25,000.00
				\$3,088,250.00
20% Contingency				\$617,650.00
<b>Total</b>				<b>\$3,705,900.00</b>

## Estimated Operating Budget

Revenue Source	Units	Unit Price	Total Revenue
Hauler Fees	10	\$500.00	\$5,000.00
Manure Tipping Fees (tons)	75000	\$9.00	\$675,000.00
Vegetation Tipping Fees	21000	\$9.00	\$189,000.00
Manure Sales (tons)	75000	\$0.00	\$0.00
Vegetation Sales (tons)	21000	\$0.00	\$0.00
			<b>\$869,000.00</b>

Line Item	Units	Unit Cost	Total Cost
Site Manager	1	\$80,000.00	\$80,000.00
Loader Operator	1	\$50,000.00	\$50,000.00
Loader Operator	1	\$50,000.00	\$50,000.00
Maintenance Worker 2	1	\$40,000.00	\$40,000.00
Maintenance Worker 2	1	\$40,000.00	\$40,000.00
Maintenance Worker 2	1	\$40,000.00	\$40,000.00
Utilities	1	\$15,000.00	\$15,000.00
Fuel	1	\$20,000.00	\$20,000.00
Equipment Maintenance Site/Building	1	\$20,000.00	\$20,000.00
Maintenance	1	\$15,000.00	\$15,000.00
Estimated Debt Service Pmt	1	\$450,225.90	\$450,000.00
			<b>\$820,000.00</b>

**Over/(Under) Budget                      \$49,000.00**

*\*Livestock manure and vegetation is a product that could have value and be a revenue source at some point in the future. Initially, it is expected Wellington will not charge to pick up these materials from the site.*