

### 1. What are biosolids?

Biosolids are a nutrient-rich, solid by-product of wastewater treatment. At the City of Winnipeg's (City) sewage treatment plants, the solids are separated from the liquid wastewater. These solids, also known as sludge, are further treated and dewatered. After treatment, the solids are called biosolids.

### 2. What is biosolids land application?

Biosolids land application means applying biosolids to soil to supply nutrients and improve soil structure. The City's land application program will apply biosolids to local farmland. Land application is a widely accepted method to reuse biosolids. Biosolids land application is regulated by the Province of Manitoba, including requirements for soil suitability, timing of application, rate of application, setback distances, etc.

### 3. What are the benefits of applying biosolids to farmland?

Biosolids contain slow-releasing nutrients that are essential for plant growth. Biosolids add organic matter to improve the soil's ability to absorb and store moisture, and protect against erosion. The use of biosolids reduces the need for chemical fertilizers.

Farm producers use biosolids to improve crop growth and yield. Crops can use the nitrogen and phosphorous found in biosolids very efficiently because the nutrients are released slowly throughout the growing season. The crops can absorb the nutrients as they grow.

### 4. Why was the decision made for the City of Winnipeg to reuse the biosolids?

The Manitoba *Water Protection Act* states that the City's wastewater biosolids must be beneficially reused and nutrients must be recovered and recycled to the maximum extent possible.

The City's current practice of disposing biosolids in the landfill is not considered a beneficial reuse of biosolids and does not recover the nutrients.



### 5. What has the City of Winnipeg done with biosolids up until now?

Prior to 2011, the City used a portion of the biosolids for land application. Biosolids were delivered, spread and incorporated on farmland at no cost to landowners.

In January 2011, the land application program ended due to changes in the Manitoba *Water Protection Act*. The updated regulation prohibits land application in winter and decreases the allowable application rate of biosolids to farmland. Since 2011, the biosolids have been disposed at the Brady Road Resource Management Facility (landfill).

In 2014, the City completed the *Biosolids Master Plan*, which recommends multiple strategies to reuse biosolids. The City is currently pursuing three beneficial reuse strategies for biosolids:

- In May 2015, the City began a pilot project to compost a portion of the biosolids. Composting biosolids produces a stable end product, which is high in organic matter and can be used as a soil amendment.
- The City is currently developing a new biosolids land application program. The pilot project is planned for fall 2017, which will have 5,000 wet tonnes (WT) of biosolids applied to farmland.
- In 2017, there are plans to run a demonstration project to use a portion of the biosolids and other residuals for soil fabrication. The soil would be used as a top cover at the Brady Road Resource Management Facility (landfill).

### 6. What is the timeline for the land application program?

The City's Biosolids Land Application program includes three phases:

- Phase one, which began in early 2017, includes public engagement and applying for an environmental licence from the Province of Manitoba.
- Phase two is scheduled to begin in fall 2017, and includes a pilot project of 5,000 wet tonnes (WT) of biosolids applied to farmland.
- Phase three includes a plan for a 20,000 WT per year, three-year land application program, after successful completion of phase one and phase two.

### 7. How do I stay involved?

For more information, please visit: [winnipeg.ca/BiosolidsLandApplication](http://winnipeg.ca/BiosolidsLandApplication)

If you have any questions or comments about the program, please email [BiosolidsLandApplication@winnipeg.ca](mailto:BiosolidsLandApplication@winnipeg.ca) or call 1-888-882-3391