Safety & Environmental Best Management Practices associated with Engineered Earthen Structures

EHSS Phosphate Business

1 Purpose:

The purpose of this document is to provide required Best Management Practices as a complement to the Phosphate Business policies, Programs and best practices for ground control, working around water, and the operation of mobile equipment, to specifically address best practices when working in and around engineered earthen structures such as clay settling areas, gypsum stack systems, elevated ditch systems, and perimeter stormwater containment / recharge systems.

2 Scope:

This Best Management Practices document applies to all Mosaic Phosphate Business operating facilities and covers all employees and contractors performing related work on Mosaic property.

3 Reason for implementation:

Due to numerous incidents and near misses that have occurred in the past few years, the best practices in this document are being implemented to minimize environmental and safety risks, as an interim, while formal site-specific guidance is developed.

4 Specific Requirements:

4.1 All specific earthmoving and dewatering activities in and around engineered slopes and elevated berms, dams, and dikes should be reviewed by the civil / geotechnical engineering group prior to initiation.

4.2 Special care should be taken to confirm slopes and nearby roadways are stable when water levels are drawn down rapidly within adjacent ditches, mine cuts, rim ditches, and ponded water areas within clay settling areas, gypsum stack systems, and reclamation projects. This includes careful inspection for the presence of washouts, cracking, depressions, excessive drainage, erosion of soils or gypsum, and bridging of soils or gypsum over voids and caverns.

4.3 Roads at the crest and toe of embankment slopes shall not be utilized for haul routes or continuous heavy equipment traffic unless reviewed and approved by the site civil / geotechnical engineer.

4.4 The inner berm of perimeter BMP systems shall not be utilized for vehicle or heavy equipment traffic unless approved by the site civil/geotechnical engineer after conducting appropriate stability analyses to confirm slopes are stable.

4.5 Activities on the top of CSA embankments, BMP berms, and gypsum stack systems shall be limited to those that are essential to construct, operate, maintain, or inspect the facility. All other activities such as maintenance of equipment, staging of materials, temporary stockpiling, etc., shall be conducted entirely outside of the system, inclusive of perimeter ditches and inspection roads unless pre-approved by the civil / geotechnical engineering group.

4.6 All contractors and employees working in, on, or adjacent to these systems shall be introduced to basic dam/BMP/stack safety concepts by a Mosaic supervisor, project manager, civil / geotechnical engineer, or other qualified person who has completed annual dam / gypsum stack training requirements.

4.7 Employees and contractors working on or around these systems should be observant of their work area, particularly for any unsafe conditions such as cracks, depressions, sloughing, unusual seepage, changes in vegetation, and other indicators of unstable ground conditions. Any abnormal conditions should be reported immediately and all work in the area should be suspended so that workers and equipment can be moved away from the area of concern.

4.8 No pipelines, powerlines, or similar operational infrastructure shall be installed within the structure or surrounding inspection roads without express approval from the civil / geotechnical engineering group.

4.9 All facilities shall work with the civil/geotechnical engineering group to identify site-specific existing risks under this guidance as soon as possible and to develop formal guidance, controls, and training to address existing and future risks as site conditions change and develop.