**ANNEX C SCOPE OF WORKS**
**For RFQ – Mitigation of Agricultural Runoff from Green Land Dairy, Smith's Parish**
**Ref: 2025-013Q-MPW**

**Government of Bermuda**
**Scope of Works**
**Mitigation of Agricultural Runoff from Green Land Dairy, Smith's Parish**

## 1. Background

The Green Land Dairy Farm in Smith's Parish sits on land that drains downslope into the Railway Trail and nearby residential properties.

The Government intends to install a series of stone barriers and soak-a-ways north of the cow shed to capture, slow, and filter runoff before it reaches the Railway Trail.

## 2. Objectives

- Stop contaminated runoff from reaching the Railway Trail and neighbouring properties.
- Use simple, durable methods: stone barriers, soak-a-ways, grading, and vegetation.
- Provide a long-term solution that is cost-effective and easy to maintain.

## 3. Scope of Works

### 3.1 Works to be Completed by Contractor

### A. Stone Barrier Construction

- Build **three (3) low dry-rubble stone barriers**, each no longer than (**see Plan**).
- Locations:
  - 80 ft south of the railway trail (Barrier 1)
  - 65 ft south of the railway trail (Barrier 2)
  - 50 ft south of the railway trail (Barrier 3, furthest north)
- Each barrier to be about **2 ft high by 1 ft – 6 inches wide**, with ends turned slightly upslope and a shallow low point (notch) in the middle.
- Include a short apron of stone on the downslope side to prevent scouring.
- Use sound local limestone rubble, stacked and packed tightly.

### B. Soak-a-ways (Infiltration Pits)

- Construct **two soak-a-ways**:
  1. Between Barrier 1 and Barrier 2.
  2. Between Barrier 2 and Barrier 3.

- Each soak-a-way to be:
  - **Depth:** 5 ft.
  - **Width/Length:** 5 ft x 20 ft
  - **Excavation:** To firm limestone subgrade.
  - **Filling material:** Clean, washed stone (hard limestone) of sizes 2-4 inches (50-100 mm).
  - **Layer thickness:** Fill to within 2 ft of excavated ground.
  - **Top layer:** Final 2 ft - 6 inches to be coarse gravel (¾ - 1½ inches) capped with geotextile and finished 6 inches of topsoil then grass to blend into surroundings.

  - **Construction detail:** Vertical sides, geotextile lining to prevent fine soil from clogging, stone placed in lifts with light compaction by hand.

- Soak-a-ways to receive overflow from barriers, allowing runoff to soak into ground and reducing discharge further north.

**C. Drainage Adjustments Between Barriers**

- Grade gently between barriers to spread water out evenly and direct it into soak-a-ways.

**D. Vegetation and Stabilisation**

- Grass or turf immediately between barriers 1 & 2 as well as 2 & 3 with grass seeds (to be specified) and maintain for one (1) month to allow wild growth thereafter.
- Grass (to be specified and supplied) immediately downslope of the last barrier (Barrier 3) to further filter runoff and around soak-a-way outfalls.

**E. Project Management**

- Provide a project manager for coordination, scheduling, and reporting.
- Submit weekly progress reports and a final handover package.

**3.2 Works by Government**

- Land surveying (to set barrier and soak-a-way locations to include inverts) will be completed by the Department of Public Lands and Buildings Land Surveying Section.

**4. Deliverables**

- Three stone barriers complete with returns, notches, and aprons.
- Two soak-a-ways constructed to specification.
- Site graded and stabilised with turf.
- As-built documentation and simple maintenance guide.
- Progress and final reports.

**5. Standards**

- All stone to be durable Bermuda limestone, free from soil or weak material.
- Soak-a-way stone must be washed, angular, and sized 2-4 inches.
- Geotextile fabric to be nonwoven, medium grade, allowing water through but retaining soil.
- Barriers and soak-a-ways to remain stable under normal storm events.

**6. Timeline**

- Construction expected to take **2 months** from Notice to Proceed.