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## **OPERATION & MAINTENANCE - TEXTOMUR**

### **1. INTRODUCTION**

The Textomur system is a reinforced soil slope utilising steel mesh reinforcement as a sacrificial shutter, with a geogrid reinforcement creating the structural integrity of the slope.

The steel front face mesh is a retention mesh to support topsoil whilst vegetation establishes, or a clean stone layer with geotextile to separate it from the reinforced soil fill to form a slope face similar to gabions.

Materials used:-

|                                  |  |
|----------------------------------|--|
| Mesh reinforcing formwork:       | Mild steel mesh reinforcing cages              |
| Main geotextile reinforcement:   | Geogrid as detailed on design sections         |
| Front face retention geotextile: | Huesker HaTe 23.142 if topsoil facing required |
| Reinforced fill:                 | Well graded granular fill (6I or similar)      |

### **2. PHI GROUP DESIGN DRAWINGS**

Issued to suit project

### **3. CONSTRUCTION METHODS**

As per the standard detail drawings read in conjunction with project specific Works Package Plan.

### **4. MAINTENANCE PROCEDURES**

Any long term maintenance is basically periodic visual inspections to detect damage or abnormalities.

Any damage detected should be reported and advice on repair should be sought from Phi Group.

These would be typically annually, but will vary depending on the location of the slope and what it is supporting.

Abnormalities may include: localised bulging of the panels, significant bending or shearing of the steel cages, large shrubs growing from the face, excessive water coming through the face.

No requirement for any cleaning is anticipated. Inspections should check for accidental or malicious damage to the facing of the reinforced slope.

If any fencing has been installed at the top of the reinforced slope to prevent falls this will need to be inspected to ensure it remains suitable. Fencing will not last as long as the structure and will need to be replaced during the lifespan of the reinforced slope.

## 5. POINTS TO BE AWARE OF

### 5.1 Minor impact damage

The mesh facing is not part of the long-term structure and therefore any minor damage will not affect the performance of the reinforced soil slope. However, given that the slopes are generally adjacent to access route, gardens or public areas, any ends of the mesh should not be allowed to project from the face.

### 5.2 Major impact damage

As with any structure, affected areas may require re-building with localised support of the fill behind. Advice should be sought from Phi Group or a structural Engineer.

### 5.3 Fire damage

Local damage from grass-fires should not adversely affect the performance of the reinforced slope but may affect the topsoil retention mesh on the front face. But after a fire the components should be inspected for damage and advice should be sought from Phi Group or a structural Engineer.

### 5.4 Corrosion

The steel mesh is a sacrificial cage provided to provide good face to the slope during construction, with the geogrids being the structural components. Over the lifespan of the slope this steel mesh will corrode.

### 5.5 Cutting of Reinforcement

Under no circumstances should any layer of geogrid or geotextile reinforcement be cut parallel to the face of the reinforced slope.

### 5.5 Installation of Fence Posts/Services

Under no circumstances should any layer of geogrid or geotextile reinforcement be cut parallel to the face of the reinforced slope by continuous services. Reference should be made to the as-built drawings to determine if any proposed excavation would penetrate the geogrid or geotextile reinforcement. However, isolated puncturing of the top layer of geogrid or geotextile reinforcement is permitted up to maximum 300mm diameter at minimum 1.5m centres for the installation of fence posts. Rotary boring should not be adopted, the post holes should be manually dug and the small area of geogrid or geotextile reinforcement exposed should be cut with a sharp safety knife.

### 5.7 Settlement

The "method compaction" guidance within Specification for Highways Works; Series 500 is based upon achieving 95% compaction. It follows that some post-construction consolidation should be expected.

### 5.8 Vegetation

The Textomur system is designed to have vegetation on the sloped face such as grasses, ivy's or small shrubs as these cause no detriment to the design. However any shrub or plant with trunk greater than 15mm should be removed.

## 6. DEMOLITION AND DISMANTLING

No demolition should be undertaken without reference to Phi Group or a Structural Engineer.

## 7. RESIDUAL RISKS

As with any type of retaining structure, falling from height is a residual risk. When Phi Group installs a retaining structure it will normally have a fence already built in to the top. Occasionally post void formers will be left in the top for the Main Contractor to install a fence after our works are complete. This will ensure that falling from height from the top of the structure has been addressed, but the fencing will need to be maintained for the lifespan of the structure by others.

Retaining structures can be climbed by people and this may also be an issue. The Contractor will need to take any necessary steps to bring this to the end-users attention.

## 8. PRODUCT LITERATURE

Visit the Phi Group website at [www.phigroup.co.uk](http://www.phigroup.co.uk) for Brochure and further details.