



**CITY OF LEE'S SUMMIT  
PUBLIC WORKS DEPARTMENT**

**PUBLIC WORKS APPROVED PRODUCTS LIST**

This document is provided as a benefit to contractors and suppliers who are performing work in the City of Lee's Summit. The Public Works Approved Products List shall not be used as a substitute for catalog cuts, certifications or shop drawings. This list is updated periodically. The products indicated on the list are approved, but are subject to final field inspection before acceptance.

Vendors wishing to add a product to the list shall submit a Public Works Product Evaluation Form with supporting documentation to the Public Works Engineering Department. Vendors may also submit items, at no cost to the City, for evaluation. Public Works may test new stormwater products. Once a product has been added to the approved products list, minor product changes do not require an evaluation, although the vendor shall submit specification sheets and a sample of the product for the Public Works to inspect. During an initial review, the following will be considered:

- Does the documentation received indicate that the product will perform as stated?
- Does a true need exist for the product in Lee's Summit?
- Will the product be economically competitive?
- Will the product function properly with existing City facilities?
- Will new equipment and new skills be needed to maintain the product?

The vendor supplying the product shall provide specifications and a certification that the product meets and or exceeds Public Works specifications before any testing is performed. Products that are not performing satisfactorily will be removed from the approved products list if the vendor cannot provide timely correction of the problem.

If a vendor is proposing a product that does not meet Public Works specifications, an explanation of why the product meets or exceeds the current specifications must be provided by the vendor in writing. If approved, the product may be tested to determine if the product is satisfactory. If the product is satisfactory, Public Works will consider a revision to the applicable specifications. Products will not be added to the Approved Products List that do not meet Public Works specifications.

Products not performing as required or not supported by vendors or manufacturers are subject to removal from the list. Grounds for removal of products may include, but are not limited to:

- Significant change in product specifications or design without notification to Public Works,
- Failure to correct or replace products that are defective in manufacturing or workmanship,
- Repeated patterns of malfunction of a product not adequately corrected by vendor,
- Unreasonable pricing or timing of repair parts or repair work,
- Excessive delivery times for purchases.

Changes in standard specifications may also necessitate removal of specific products from the list. The product will be retained on the list if it is revised to meet the new criteria.

## 1. STORMWATER PRODUCTS

### MANHOLE CASTINGS

#### **SLAB MANHOLE, FRAME & COVER**

#### **MODEL**

(Standard Drawings STM-1, STM-2, STM-3, STM-6, STM-7)

Lee's Summit Part Number

Frame: LS103A

Cover: See LSMO Storm Manhole Cover and Frame Details, STM-6 and STM-7

Clay & Bailey ..... 2002, 2007

Deeter ..... 1332

#### **STANDARD 24" MANHOLE, FRAME & COVER**

#### **MODEL**

(Standard Drawings STM-1, STM-2, STM-3, STM-6, STM-7)

Lee's Summit Part Number

Frame: LS101A

Cover: LSMO Storm Manhole Cover and Frame Details, STM-6 and STM-7

Clay & Bailey ..... 2007MR, 2007

E.J. .... 1502

R.B. Agarwalla & Co ..... 2007-01-6000

Deeter ..... 1320

### MANHOLE STEPS

(Standard Drawings STM-1, STM-2, STM-3)

#### **MODEL**

M. A. Industries ..... PS-2-PF

American Step Co ..... ML-13-NCR

## 2. GEOGRID / WOVEN GEOTEXTILES FOR ROADWAY CONSTRUCTION

The following products have been evaluated, and considered suitable products that meet the intent of the referenced specifications for geogrid / woven geotextiles used for subgrade improvement under pavements.

<b>Approved Geogrid Products</b>	<b>Approved Woven Geotextile Products</b>
Tensor BX 1200	Tencate / Mirafi HP370
Tensor Triax TX140	Tencate / Mirafi HP570
Tensor Triax TX160	Tencate / Mirafi RS380i
Tencate / Mirafi BXG12	Tencate / Mirafi RS580i
TerraGrid RX1200	Geotex 3x3UF
BOSTD RX1200	Geotex 4x4UF

Biaxial Geogrid, Triangular Geogrid and Woven Geotextiles for roadway reconstruction listed in the table above are approved materials. Manufactures may submit materials for review and approval to the City. Those products shall meet or exceed the following standards.

1. Geogrids and woven geotextiles shall be made of polypropylene.
2. Grid structure shall be either triangular or rectangular in shape.
3. The geogrid shall be integrally formed through punching and drawing of extruded sheets of polypropylene.
4. Manufacturer’s Certification: The Contractor shall furnish the manufacturer’s certified test results attesting that the material meets the requirements stated in these specifications, including minimum average roll values (MARV) for each type of geogrid used. The test results shall include roll numbers and identification, sampling procedures, and a description of test methods used.

**Table 1: Biaxial/Rectangular Shaped Geogrid and Woven Geotextile Properties for Subgrade Improvement / Base Reinforcement**

Property	Test Method	
Index Properties		MARV
2% Strain, lbs/ft	ASTM D6637	MD <sup>1</sup> = 410    XMD <sup>2</sup> =620
5% Strain, lbs/ft	ASTM D6637	MD <sup>1</sup> = 810    XMD <sup>2</sup> =1,340
Structural Integrity		
Junction Efficiency, %	GRI-GG2	>93%
Flexural Stiffness or Rigidity	ASTM D5732 or D1388	0.22 lb-in
Durability		
Ultraviolet Stability	ASTM D4355	>98%

<sup>1</sup> MD = Machine direction (longitudinal to roll)

<sup>2</sup> XMD = Transverse or cross direction (across roll width)

**Triangular shaped Geogrid:**

1. The geogrid shall be oriented in three substantially equilateral directions so the resulting ribs have a high degree of molecular orientation which continues at least in part through the mass of the integral node.
2. The resulting geogrid structure shall have apertures that are triangular in shape, and shall have ribs with depth-to-width ratios greater than 1.0.

(table of properties on following page)

**Table 2: Triangular Geogrid Properties for Subgrade Stabilization**

<b>Property</b>	<b>Test Method</b>	<b>Triangular Geogrid Properties</b>
Junction efficiency	GRI-GG2-87 GRI-GG1-87	93 %
Radial stiffness at 0.5% strain	ASTM D 6637	15,430 lb/ft min.
<b>Rib Pitch</b>		
Longitudinal	N/A	1.6 in. min.
Diagonal		
Mid-rib depth	N/A	0.05 in. min.
Mid-rib width	N/A	0.04 in. min.
<b>Durability</b>		
Chemical resistance	EPA 9090 Immersion	90-100%
Ultra-violet light and weathering (500 hrs)	ASTM D 4355	90-100%