SPECIFIER NOTE: THIS DOCUMENT IS INTENDED TO BE A GUIDE FOR RESEARCHING ENVIRONMENTAL ISSUES RELATIVE TO BUILDING PRODUCTS. ISSUES ARE ORGANIZED UNDER THREE PRIMARY CATEGORIES: RESOURCE MANAGEMENT, TOXICITY, AND PERFORMANCE.

ENVIRONMENTAL IMPACT QUESTIONNAIRE (EIQ)

I. DIRECTIONS

A. Complete the following questionnaire and submit for review to:

Angela Weber webera@stolaf.edu _____

_____

_____

_____

B. Relate information concerning only one product per questionnaire.

C. All questions may not apply to every product or manufacturer. It is not expected the manufacturer will have addressed all of the environmental concerns expressed in the EIQ.

1. Respond to every question even if response is “not available”, “not applicable”, or “no”.
2. Attach additional sheets as required. Reference additional sheets to correspond with the question number.

II. IDENTIFICATION

A. Material/Product: **Porcelain Tile** _____

Brand Name: **EcoCycle**_____

Manufacturer: **Crossville, Inc. Crossville, TN** _____

What is the primary use or application for this product?

Floor tile in high-traffic areas _____

_____

_____

B. Contact for EIQ:

Name: **John Blanton/www.Crossville.com**_____ Title: _____

Address: **P.O. Box 1168, Crossville, TN**_____ Zip Code: **38557** _____

Telephone: **931-484-2110**_____ FAX: _____ Date: **January 27, 2006**

III. RESOURCE MANAGEMENT

A. Renewable Resources:

1. List renewable resources used as product raw materials. Provide percentage amounts in relation to complete (100 percent) product.

Renewable Resource	*Percentage*
Feldspar_____	**50%** _____
High-quality ball clays _____	**50%** _____
_____	_____
_____	_____

2. Does manufacturer obtain raw materials or fabricate this product outside of the United States: ____Y __**X**__N?

   a. If yes, are United States environmental standards or more strict standards followed in these countries: ____Y ____N?

   b. List countries involved.

   _____

   _____

B. Managed Resources:

1. Does extraction of product raw materials or fabrication of this product affect endangered specie(s): ____Y ____N?

   a. If yes, list species and describe effect, including methods for negative effects.

Endangered Species	*Effect*
_____	_____

2. Products Containing Wood: Are wood materials obtained from certified sustainable forestry operations: ____Y ____N?

a. If yes, provide name of certification organization for each wood species being used in this project.

Species	*Certification Organization*
_____	_____
_____	_____
_____	_____

b. If no, state where the product resources are produced and describe forestry operations.

Product Resources	*Forestry Operations*
_____	_____
_____	_____
_____	_____

C. Recycled Content:

1. List recycled materials used as product raw materials; distinguish pre-consumer and post-consumer materials. Provide percentage amounts in relation to complete (100 percent) product.

Recycled Material	*% Pre-Consumer*	*% Post-Consumer*
Post-industrial waste material _____	_____	**at least 50%** _____
_____	_____	_____
_____	_____	_____

D. Embodied Energy:

1. Product Transport:

a. Where are raw materials acquired? Identify state and country.

Raw Material	*Source (State and Country)*
Clay and minerals _____	**TN, GA, NC** _____
_____	_____
_____	_____
_____	_____

b. Describe means of transporting raw materials to the manufacturing plant.

Raw Material	*Transportation*
_____	_____
_____	_____

c. Where is product manufactured/fabricated? Identify state and country.

Crossville, TN _____

d. Is the product warehoused locally, regionally, or nationally?

_____

e. Describe means of transporting product to distribution facilities.

The company's strategic locations on major U.S. shipping routes further reduces energy used in transporting products. _____

2. Production Energy: List energy sources used in production process; indicate which are renewable energy sources (e.g. wind, solar). Provide percentage amounts in relation to complete (100 percent) product.

Energy Sources	*Renewable*	*Percentage*
Natural Gas_____	____Y _**X**__N	_____
_____	____Y ____N	_____
_____	____Y ____N	_____

3. Provide an embodied energy study of the product from extraction of raw materials through production and assembly. Include an estimate for the total number of BTU's required per pound of finished products. Identify parameters for study.

_____

_____

4. Describe measures the manufacturer has taken to minimize energy usage in the production process.

Efficiency programs maximize the use of natural gas and minimize waste products during manufacturing. Sophisticated dust collection systems and reclamation processes reclaim and reuse most of the unfired waste materials from manufacturing. Stringent quality standards are imposed to helpeliminate defective products and minimize wasteful firing.

E. Reuse/Recyclability/Disposal:

1. Reuse:

   a. Can product be reused directly (in same or similar use): ____Y ____N?

   b. If yes, discuss the possibility of direct reuse of the product after project demolition.

   _____

   _____

2. Recycling:

   a. Can product be recycled: ____Y ____N?

   b. If yes, list the parts of the product which can be post-consumer recycled into raw materials for the product and the parts which can be post-consumer recycled into other types of items. Provide percentage amounts in relation to complete (100 percent) product.

Post-Consumer - Raw	*Post-Consumer - Other*	*Percentage*
_____	_____	_____
_____	_____	_____
_____	_____	_____

   c. If yes, describe the process of separation of the parts for post-consumer recycling from the product.

   _____

   _____

   d. If yes, list current markets using recycled materials from the product.

   _____

   _____

   e. If yes, estimate the practical number of times this item can be recycled. _____

3. Describe the manufacturer's policy and program to facilitate the recycling or reuse of its product by accepting product returns at the end of their "useful life".

   _____

   _____

   _____

IV. TOXICITY/HAZARDOUS MATERIALS

A. Toxic/Hazardous By-Products:

1. List the production wastes involved with the manufacture of this item. Distinguish the production wastes between toxic and non-toxic. Provide percentage amounts in relation to complete (100 percent) product.

Toxic	*Non-Toxic*	*Percentage*
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

2. Estimate the quantity of production waste produced per unit of finished product.

_____

3. Is reclamation of production waste done on site: ____Y ____N? With outside services: ____Y ____N?

   a. If outside services are used, list companies involved.

   _____

   _____

   _____

4. Is waste water reclaimed by manufacturer: __**X**__Y ____N?

   a. If yes, describe the process of recycling/reuse of waste water.

   Water used during manufacturing is returned clean to its natural habitat.

   Crossville, Inc. has twice earned citations for its effective wastewater management policies.

   _____

   _____

5. Describe the manufacturer's active steps to minimize or eliminate production wastes; include process of liquid and solid waste material treatment or reclamation if performed at manufacturing site.

_____

_____

_____

_____

6. Describe the manufacturing procedures and chemicals involved that would be considered better than industry standard.

_____

_____

_____

B. Toxic/Hazardous Contents (carcinogens and other hazards inherent in product/material):

1. Provide a complete chemical profile of the item; include all chemical components and provide percentage amounts in relation to complete (100 percent) product; identify biocides (mildewcides or in-can preservatives) and carcinogens listed by any of the following:

   a. United States Environmental Protection Agency (EPA) Carcinogen Assessment Group (CAG) list of carcinogens.

   b. Clean Air Act Sections 109, 111, and 112.

   c. The National Toxicology Program's latest published "Annual Report on Carcinogens".

   d. IARC Human Carcinogens (Group 1, 2A, and 2B).

   e. California Proposition 65.

Chemical	*Carcinogen*	*Percentage*
_____	_____Y _____N	_____
_____	_____Y _____N	_____
_____	_____Y _____N	_____
_____	_____Y _____N	_____
_____	_____Y _____N	_____
_____	_____Y _____N	_____

C. Material Safety Data Sheet (MSDS):

1. Provide Material Safety Data Sheet (MSDS).

a. Articles: Finished products which are manufactured off-site and shipped to the project for installation while conforming to Title 29 of the Code of Federal Regulations, OSHA Hazard Communication Regulation 29CRF 1910.1200, Section (b)5 and Section (c) are defined as articles. If by being defined as an article, a MSDS has not been developed for a particular product, then provide MSDS on raw materials, goods, and items used in the fabrication of that article.

D. Outgassing/Reactivity:

1. Chlorofluorocarbon (CFC):

a. Are CFC's or HCFC's used in the manufacture and/or content of the item specified: ____Y ____N?

b. If CFC's or HCFC's were previously used in the product and/or its manufacture, describe measures taken by manufacturer to eliminate their use.

_____

_____

_____

2. Indoor Air Quality:

a. Does the product outgas (emit) carcinogens or other hazardous substances into the air after installation, including final curing/drying: ____Y _**X**___N?

b. If yes, submit IAQ test report.

E. Electromagnetic Radiation:

1. Does the product emit electromagnetic radiation: ____Y ____N?

2. If yes, at what rate per hour? _____

3. If yes, describe methods for installation, use, and maintenance of product to minimize generation of and occupant exposure to electromagnetic radiation.

_____

_____

_____

_____

F. Compliance with Regulations (Environmental Statutory Compliance):

1. Does the manufacturer meet all federal, state, and local environmental laws, including laws governing air emissions, waste water treatment, and solid waste disposal/treatment: ____Y ____N?
2. Has the manufacturer met the above criteria for the previous five years: ____Y ____N?
3. List the applicable standard.

_____

_____

_____

4. Does the product meet applicable industry standards, such as ASTM, Green Seal, manufacturing standards, LA or NY research report numbers, and UL approvals: ____Y ____N? List these standards.

_____

_____

V. PERFORMANCE - INSTALLATION

A. Environmental Procedures/Precautions:

1. Describe special procedures and precautions to be used while handling and installing the product:

Crossville's Porcelain tile is not an original source of contaminants. Crossville's environmentally sensitive raw materials and manufacturing processes and its simple, inert installation materials and procedures benefit IAQ. _____

_____

2. Identify accessories, such as fasteners, sealers, and adhesives that are non-toxic (or less toxic than industry standard), energy efficient, or recycled or recyclable products?

Glazed or factory finished tiles emit less VOCs than using on-site sealing products. Use a low-VOC, water-based grout sealant to increase resistance to moisture and staining. __

_____

_____

_____

B. Installation Energy:

1. Product Transport: List the means to transport the finished product to the construction site.

_____

_____

2. Installation: List energy means and describe energy requirements for installation of the product.

Wet saw with continuous rim diamond tip blades are used to cut tile, the most energy consuming part of installation. _____

C. Construction Waste:

1. List the recommended method(s) for proper products disposal; stipulate preferred method and restrictions which might apply.

_____

_____

_____

2. Comment on the environmental impact of the product as a waste material.

_____

_____

_____

3. Packaging:

a. Describe packaging for the product.

Shipped in brown kraft paper caartons that are easily recyclable for use in other products. _____

_____

b. Does manufacturer accept return of used packaging for reuse: ____Y ____N?

c. If yes, state limitations and procedures for packaging return.

_____

_____

_____

_____

VI. PERFORMANCE - OPERATIONS

A. Maintenance

1. Describe the recommended cleaning and maintenance for the product using products which have minimal VOC emission.

   Very easy to care for with simple, water-based cleaning materials. ___

   _____

   _____

2. Estimate the “useful life” expectancy for this product.

   Made to last the lifespan of the building with few or no repairs. _____

3. Are replacement parts available: ____Y ____N?

   a. If yes, can replacement parts be installed in the field: ____Y ____N?

4. Provide a copy of the life cycle analysis for this product.

5. Provide a copy of the manufacturer’s warranty for this product.

B. Energy Efficiency (energy required to operate/maintain):

1. Estimate BTU’s required to operate the product when new? _____; after five years? _____; after ten years? _____

C. Compliance with Regulations (Environmental Statutory Compliance):

1. Does the product meet all federal, state, and local environmental laws, including laws governing energy efficiency and air emissions: ____Y ____N?

2. Has the product met the above criteria for the previous five years: ____Y ____N?

3. List the applicable standards.

   _____

   _____

   _____

   _____

   _____

   _____

   _____

   _____

VII. CORPORATE COMMITMENT

A. Corporate Environmental Policy:

1. Provide copy of manufacturer's stated environmental policies.

END OF ENVIRONMENTAL IMPACT QUESTIONNAIRE