Mr. J. C. Brown  
President  
Creative Building Products  
4307 Arden Drive  
Fort Wayne, Indiana 46804-4446

Dear Mr. Brown:

This is in response to your February 29 letter requesting the Federal Highway Administration's acceptance of your company's recycled plastic blockouts for use in strong-post W-beam guardrail systems. Accompanying your letter were test data from the Rutgers Center for Plastics Recycling Research comparing the strength of your company's blockouts to wood blockouts (made of poplar) and product specifications. Enclosure 1 is a copy of these specifications. Additional drawings of the blockouts were received with your March 14 letter.

On August 23, 1995, Mr. David A. Krick submitted static test reports showing that CBP Plastic Lumber performed favorably when compared to other samples of recycled plastic materials. Because the other samples in the testing program were not identified, we asked for more specific information so that we could compare the results of tests on CBP material to plastic or wood products familiar to us.

The recent Rutgers testing compared the CBP Recycled Plastic Highway Spacer Block to similarly sized samples made from poplar. The strength at 10 percent strain was recorded for both the sample wood and recycled plastic blockouts. In addition, the secant modulus, and the energy absorbed at 10 percent strain were recorded. The results of these static laboratory tests showed that the recycled plastic blockouts were far stronger than the blockouts of poplar, with an orthogonal compressive strength of 7082 MPa for the plastic blockouts compared to 4244 MPa for the poplar blockouts. (Poplar has mechanical properties comparable to Douglas Fir and Southern Yellow Pine, except for its compressive strength, which is about 65 to 75 percent of these woods.)

Previous full-scale crash testing has shown that recycled blockouts by other manufacturers perform as well as wood blockouts, and static testing shows that CBP Recycled Plastic Highway Spacer Blocks are comparable or superior to wood or other plastic blockouts. Therefore your company's blockouts will be acceptable for use on the National Highway System, (NHS) when
requested by a State, when they are dimensionally the same as other solid wood or wood substitute blockouts that have previously been found acceptable on the NHS.

Our acceptance is limited to the crashworthiness characteristics of the blockouts and does not cover their durability aspects. Presumably, you can supply potential users with sufficient information on durability of the blockouts over the range of service conditions to assure proper performance. We anticipate that the States will require certification from Creative Building Products that the blockouts furnished have essentially the same chemistry, mechanical properties, and geometry as those used in the testing.

Because CBP Plastic Lumber blockouts are proprietary products, to be used in projects on the NHS: (a) they will have to be supplied through competitive bidding with equally suitable unpatented items; (b) the highway agency will have to certify that they are essential for synchronization with existing highway facilities or that no equally suitable alternate exists; or (c) they will have to be used for research or for a distinctive type of construction on relatively short sections of road for experimental purposes. Our regulations concerning proprietary products are contained in Title 23, Code of Federal Regulations, Section 635.411, a copy of which is enclosure 2.

Sincerely yours,

[Signature]

Seppo I. Sillan, Acting Chief, Federal-Aid and Design Division

2 Enclosures

Geometric and Roadside Design Acceptance Letter No. B35
MATERIAL SPECIFICATION

Product: Recycled Plastic Highway Spacer Block

Brown or black polyolefin compound blended from recycled post-consumer and post-industrial polymer materials diverted from the solid waste stream.

<table>
<thead>
<tr>
<th>Material</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Density Polyethylene</td>
<td>&gt;= 70%</td>
</tr>
<tr>
<td>Low Density Polyethylene</td>
<td>&lt;= 20%</td>
</tr>
<tr>
<td>Polypropylene</td>
<td>&lt;= 5%</td>
</tr>
<tr>
<td>Pigment (Color Concentrate)</td>
<td>&lt;= 3%</td>
</tr>
<tr>
<td>Mixed Post-Consumer Plastics (PET, PVC, PS, Other)</td>
<td>&lt;= 1%</td>
</tr>
<tr>
<td>Blowing Agents, Oils, Stabilizers</td>
<td>&lt;= .5%</td>
</tr>
<tr>
<td>Miscellaneous Non-Polymer Materials (Paper, Wood, Metal, Glass, Etc.)</td>
<td>&lt;= .5%</td>
</tr>
</tbody>
</table>
these materials must occur in the United States.

(2) The State has standard contract provisions that require the use of domestic materials and products, including steel, that are the same or of greater extent as the provisions set forth in this section.

(3) The State elects to exclude alternate bid provisions for foreign and domestic steel materials which comply with the following requirements. Any procedure for obtaining alternate bids based on furnishing foreign steel materials which is acceptable to the Division Administrator may be used. The contract provisions must (1) require all bidders to submit a bid based on furnishing domestic steel materials, and (11) clearly state that the contract will be awarded to the bidder who submits the lowest total bid based on furnishing domestic steel materials unless such total bid exceeds the lowest total bid based on furnishing foreign steel materials by more than 25 percent.

(4) When steel materials are used in a project, the requirements of this section do not prevent a minimal use of foreign steel materials and if the cost of such materials used does not exceed one-tenth of one percent (0.1 percent) of the total contract cost or $2,500, whichever is lower. For purposes of this paragraph, the cost is that shown to be the value of a steel product as they are delivered to the project.

(c) If a request for a waiver is submitted, the provisions of this section if:

(1) The application of those provisions would be inconsistent with the public interest;

(2) Steel materials/products are not produced in the United States; and reasonably available quantities which are of a satisfactory quality.

(d) The request for waiver, accompanied by supporting information, must be submitted in writing to the Regional Federal Highway Administrator (RFHWA) through the FHWA Division Administrator. A request must be submitted sufficiently in advance of the need for the waiver in order to allow time for review and action on the request. The RFHWA will have approval authority on the request.

(3) Requests for waivers may be made for specific projects, or for certain materials or products in specific geographic areas, or for combinations of both, depending on the circumstances.

(4) The denial of the request by the RFHWA may be appealed to the Federal Highway Administrator (Administrator), whose decision on the request shall be considered administratively final.

(5) A request for a waiver which involves material of public interest or availability issues or more than one FHWA region may be submitted to the RFHWA to the Administrator for action.

(6) A request for waiver and an appeal from a denial of a request must include facts and justification to support the granting of the waiver. The RFHWA response to a request or appeal will be in writing and made available to the public upon request. Any request for a nationwide waiver and FIWA's action on such a request may be published in the Federal Register for public comment.

(7) In determining whether the waiver is warranted, the FIWA will consider all appropriate factors including, but not limited to, cost, administrative burden, and delay that would be imposed if the provision were not waived.

(d) Standard State and Federal-aid contract procedures may be used to assure compliance with the requirements of this section.


§ 635.411 Material or product selection.

(a) Federal funds shall not participate, directly or indirectly, in payment for any premium or royalty on any patented or proprietary material, specification, or process specifically set forth in the plans and specifications for a project, unless:

(1) Such patented or proprietary item is purchased or obtained through competitive bidding with equally suitable unpatented items;

(2) The State highway agency certifies either that such patented or proprietary item is essential for synchronism with existing highway facilities, or that no equally suitable alternative exists;

(3) Such patented or proprietary item is used to research or for a distinctive type of construction on relatively short sections of road for experimental purposes.

(b) When there is available for purchase more than one nonpatented, nonproprietary material, semifinished or finished article or product that will fulfill the requirements for an item of work of a project and these available materials or products are judged to be of satisfactory quality and equally acceptable on the basis of engineering analysis and the anticipated prices for the related item(s) of work are estimated to be approximately the same, the PS&E for the project shall contain or include a discussion of the specifications for each such material or product that is considered acceptable for incorporation in the work. If the State highway agency desires to substitute some other acceptable material or product for the material or product designated by the successful bidder or the lowest bidder as the alternate, and such substitution results in an increase in costs, there will not be Federal participation in any increase in costs.

(c) A State highway agency may require a specific material or product when there are other acceptable materials and products, when such specific choice is approved by the Division Administrator as being in the public interest. When the Division Administrator's approval is not obtained, the Item will be nonparticipating unless bidding procedures are used that establish the unit price of each acceptable alternative. In such case, Federal participation will be based on the lowest price so established.

(d) Appendix A sets forth the FIWA's procedure for determining (1) the specification of alternative types of culvert pipes, and (2) the number and types of such alternatives which must be set forth in the specifications for various types of drainage installations.

(e) Reference in the specifications and on plans to single trade-name materials will not be approved on Federal-aid contracts.

§ 635.113 Guaranty and warranty clauses.

(a) As provided in paragraph (b) of this section, clauses that require the contractor to guarantee or warrant materials and workmanship or to otherwise maintain the work for a specified period after its satisfactory completion by the contractor and its final acceptance by the State, will not be approved for use in Federal-aid contracts. Work performed and materials replaced under such guaranty or warranty clauses after final acceptance of work are not eligible for Federal participation.

(b) Contracts which involve furnishing and/or installing electrical or mechanical equipment should generally include contract clauses that require:

(1) Manufacturer's warranties or guarantees on all electrical and mechanical equipment consistent with those provided as customary trade practice;

(2) Contractors' warranties or guaranties providing for satisfactory installation service of the mechanical and electrical equipment and related components for a period of 12 months following project acceptance.

§ 635.417 Convict produced materials.

(a) Materials produced by convict labor may only be incorporated in a Federal-aid highway construction project if such materials have been:

(1) Produced by convicts who are on parole, supervised release, or probation from a prison or

(2) Produced in a qualified prison facility and the cumulative annual production amount of such materials for use in Federal-aid highway construction does not exceed the amount of such materials produced to furnish the facilities for use in Federal-aid highway construction during the 12-month period ending June 30 of the calendar year in which the project began.

(b) Qualified prison facility means any prison facility in which convicts