City of
SACRAMENTO
Department of Public Works

DEPARTMENT OF
PUBLIC WORKS

OFFICE OF THE DIRECTOR

915 I STREET
ROOM 2000
SACRAMENTO, CA
95814-2604

PH 916-808-7100
FAX 916-808-5573

Date: November 24, 2014

Mr. Joseph Szabo
FRA Administrator
Federal Railroad Administration
U.S. Department of Transportation
1200 New Jersey Avenue, S.E.
Washington, D.C. 20590

Re: Buy America Act Waiver Requests
Sacramento Valley Station – Phase 2 Intermodal (FR-TII-0011-13-01-00)

Dear Mr. Szabo:

As Project Manager for the Sacramento Valley Station – Phase 2 Intermodal project, I am writing to request two waivers for products which do not conform to the requirements of the Buy American Act (BAA) for manufactured goods domestic manufacturing processes requirements as stipulated in the terms of our TIGER Grant agreement. I have been in consultation with Linda Martin, Chris Van Nostrand and Todd McIntyre at FRA to better understand the requirements of BAA, which has been of immense help to our design and construction team. To date, we have identified the two items herein, and are not aware of additional specified items in noncompliance with BAA. Our $30 million rehabilitation project began construction October 22, 2014, and we are in the process of reviewing product submittals from the contractor. All subcontractors have submitted certification of compliance with the provisions of BAA, with the following two exceptions listed below.

The products for which we seek waivers are particular to the building trades and were specified by the designers for the particular applications to the historic and sustainability goals of the project and are as follows:

1) Linoleum flooring by Forbo Flooring Products, manufactured in the Netherlands, which is listed in the USDA Catalog of Bio-based Preferred Products;

2) A system of components known as Variable Refrigerant Flow (VRF) air conditioning systems produced by only four manufactures, all of which are manufactured overseas.

Please find enclosed waiver request applications for each manufactured good with supporting documentation. I will be glad to provide additional information as needed in your review.

Sincerely,

Gregory Taylor

Gregory Taylor, AIA, Supervising Architect/Project Manager
Sacramento Valley Station – Phase 2 Intermodal
City of Sacramento
Department of Public Works

cc. Jerry Way, Director of Public Works, City of Sacramento
Tim Williams, ZGF Architects, LLP
Nathan Dietrich, District Director, Congresswoman Doris O. Matsui

Form for Non-availability Determination Request

REQUEST FOR WAIVER OF THE BUY AMERICA REQUIREMENTS
[49 U.S.C § 24405(a)]

1. Description of Project:

The Sacramento Valley Station Phase II project is rehabilitation of the historic 68,000 SF train station in downtown Sacramento, CA funded with 2012 TIGER Grant (round 4) funds. After renovation, the facility will include Amtrak station facilities, commercial retail and office space. Project requirements include achieving minimum LEED (Leadership in Energy and Environmental Design) Silver certification, energy performance at least 15% better than the California Energy Code, and historic preservation criteria, and the project is on-track to achieve LEED Gold. The Sacramento Valley Station is listed on the National Register of Historic Places and the project renovation has been designed within the parameters of the Secretary of Interiors Standards for Rehabilitation and has received approval from State Historic Preservation Officer (SHPO).

2. Description of Manufactured Good for Requested Waiver:

Marmoleum by Forbo Flooring Systems is a true linoleum product following historic manufacturing from natural materials including linseed oil, natural rosins, wood flour as was origninally produced in the late 19th century. It is a true sustainable product and has been recognized by the USDA as a biobased product and listed in the BioPreferred Program Catalog http://www.biopreferred.gov/BioPreferred/faces/catalog/Catalog.xhtml and afforded federal procurement preference.

3. Effort to Secure Compliant Manufactured Good:

True linoleum is not manufactured in the United States.

4. Description of Bidding Process:

Bidding for Resilient Flooring work including Marmoleum was done competitively with three (3) subcontractor bids received on each flooring bid package. Bidders were required to submit Buy America Certification Certificate of Compliance with 49 U.S.C. § 24405(a)(1), or if known not to be in compliance, the subcontractor was required to submit a Certificate of Non-Compliance. Both Certificates are attached in Exhibit B.

5. Cost Differentials:

As there are no known domestic alternatives, cost differentials are not directly applicable to this waiver request.

6. Citation:

The City of Sacramento requests a waiver of the Buy America requirements for FRA-administered projects based on "non-availability" according to 49 U.S.C. § 24405(a)(2). This

product is manufactured outside of the United States in the Netherlands by Forbo, but are "not produced in the U.S. in sufficient and reasonably available quantities and of a satisfactory quality." 49 U.S.C. § 24405(a)(2).

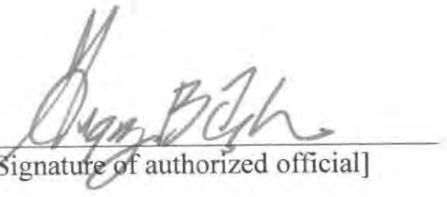
7. Justification for Waiver:

The City of Sacramento requests a waiver of the Buy America for Marmoleum as manufactured by Forbo (Netherlands). Marmoleum is a 100% bio based renewable product. Forbo Marmoleum was chosen for this rehabilitation project because of its LEED contribution, its Historical accuracy and durability. This flooring type is the only one which meets the project LEED, historic preservation, and durability requirements, and therefore request that manufactured Marmoleum be waived from the requirements of 49 U.S.C. § 24405(a).

As cited above, the Bio Preferred Program established under USDA ruling 71 FR 13686 states that "biobased products from a designated country (as defined in Federal Acquisition Regulation section 25.003) would receive the same preference extended to U.S. sourced biobased products. Marmoleum meets these criteria as listed in the Bio Preferred Catalog. Please also see Exhibit A (attached product information).

8. Contact Information for Responsible Party:

Greg Taylor, AIA, Supervising Architect
Department of Public Works
City of Sacramento
915 I Street
Sacramento, CA 95814
Ph: 916.808.5268



[Signature of authorized official]

GREGORY B. TAYLOR

[Print name of official signing, title, and name of organization]

11-25-14

[Date]

EXHIBIT A

MCT

marmoleum® composition tile

certified sustainable tile

Worthington Kilbourne High School, Worthington, OH, photo: Nicole Dixon Photographic

creating better environments

forbo

FLOORING SYSTEMS

MCT topshield

marmoleum® composition tile
certified sustainable tile

The opportunity to make a difference

The flooring industry is an evolutionary business, not revolutionary. It evolves over time, however, there are occasional historical benchmarks of dramatic shifts in the market. One of those occurred in the 1970's when, for environmental and health reasons, the market rapidly shifted from VAT (Vinyl Asbestos Tile) to VCT (Vinyl Composition Tile). This was driven by the asbestos component in VAT. VCT, which is the cheapest, most expensive floor covering you can purchase, is THE base grade commercial resilient flooring used in the industry today. This is driven by first-cost concerns, rather than cost of ownership. It is now time for the market to make a major shift again.

For improved health and cost performance, it is time to move away from a high chemical usage for cleaning and maintenance, plasticized PVC-based product, to the only occupancy ready product with a third party, peer-reviewed publicly disclosed LCA analysis showing its exceptional environmental and performance profile, MCT – Marmoleum Composition Tile.

The Market Signals Align

Plasticized PVC, a petroleum based raw material, is rapidly increasing in price. As such, VCT, which utilizes PVC as a raw material, has rapidly increased prices in the market. At the same time, the true environmental and health concerns about Plasticized PVC continue to penetrate the market. VCT product price increases have dramatically narrowed the gap between the installed prices of VCT and the installed prices of MCT, making market transformation rapidly achievable.

Forbo will guarantee that MCT will INSTALL in a non-residential application for $2.75-$3.55 ft² (in Canada: $3.50-$3.95 ft²), material, adhesive, and labor inclusive (exclusive of subfloor preparation and moisture mitigation). *Please see MCT pricing guarantee for complete details.*

In addition, MCT offers the following benefits:

- Occupancy ready finish (Topshield), meaning the floor does not require any initial coats of finish (visit www.floorcostcomparison.com)
- 10 times higher indentation resistance, and better stain resistance
- Inherent bacteriostatic efficacy including MRSA and C-difficile
- Natural anti-static properties to repel dust and dirt, making it easy to maintain a clean and healthy environment
- Made from readily renewable raw materials
- Passes CHPS 01350 and other stringent IAQ standards
- MCT is USDA Certified 100% biobased

USDA CERTIFIED BIOBASED PRODUCT

flax flower

The Marmoleum Story

Made from natural raw materials, including linseed oil, pine rosin and wood flour, Marmoleum is biodegradable and environmentally friendly. The natural properties of Marmoleum cause it to strengthen over its life. When properly maintained, Marmoleum will retain its attractive appearance for decades.

In addition, Marmoleum helps create a healthier indoor environment. Naturally occurring anti-microbial properties inhibit the growth of many micro-organisms, including allergen producing dust mites and the MRSA strains of bacteria. Marmoleum also has natural anti-static properties to repel dust and dirt, making it easier to maintain a clean and hygienic environment.

Marmoleum's water-based Topshield finish eliminates the need for initial maintenance and chemicals, while providing lower cleaning costs and a better long-term appearance retention.

From the indoor environment to the natural environment, Marmoleum helps create better environments.

certified sustainable flooring

MCT-607 white marble	MCT-713 calico	MCT-3050 white birch	MCT-412 cool green	MCT-3120 rosato
MCT-795 butter	MCT-793 cotswold	MCT-707 barley	MCT-810 flax	MCT-621 dove grey
MCT-3141 himalaya	MCT-3075 shell	MCT-3234 forest ground	MCT-629 eiger	MCT-3055 fresco blue
MCT-767 rust	MCT-3233 shitake	MCT-3222 jade	MCT-3134 azzurro	MCT-3127 bleeckerstreet
MCT-3048 graphite	MCT-3030 blue	MCT-3201 eucalyptus	MCT-3235 tobacco leaf	MCT-2939 black

Ft. Hayes School of the Arts, Columbus, OH.
photo: Nicole Dixon Photographic

SMART certified

Forbo Flooring Systems was awarded the Sustainable Materials Rating Technology® (SMaRT®) Sustainable Platinum Certification for Marmoleum and Bulletin Board products. The SMaRT® Consensus Sustainable Product Standards (CSPS) were developed by The Institute for Market Transformation to Sustainability (MTS) to evaluate the environmental performance of a building product over its life. CSPS is important in combating today's climate of greenwashing, as it is an independently done, peer-reviewed, consensus based standard that allows for transparent communication.

Forbo's Marmoleum and Bulletin Board products achieved credit towards Sustainable Platinum Level Certification in the following categories: Safe for Public Health & Environment, Renewable Energy and Energy Efficiency, Biobased or Recycled Materials, Innovation in Manufacturing, Facility or Company Based Manufacturing, and Reclamation, Sustainable Reuse or End of Life Management. For more information on Forbo's commitment to the environment, call **1-800-842-7839** to request our **'Sustain'** brochure, or download the brochure from our website, **www.forboflooringNA.com**.

MCT topshield
marmoleum® composition tile

10 reasons
to choose Marmoleum Composition Tile (MCT) over Vinyl Composition Tile (VCT)

1. Better balance between initial cost, ongoing costs, and performance:
   Guaranteed (non-residential) installed pricing $2.75 - $3.55 ft² for MCT (in Canada: $3.50-$3.95 ft²). Material, adhesive, and labor inclusive (exclusive of subfloor preparation and moisture mitigation).
   Please see MCT pricing guarantee for complete details.
2. MCT requires no initial maintenance, whereas VCT does require initial maintenance (the true hidden cost).
   - MCT features an excellent cost of ownership as compared to VCT. www.floorcostcomparison.com
   - MCT requires no costly stripping and recoating over its life.
3. MCT is anti-static so dust and dirt do not stick like they do to VCT.
4. MCT combats MRSA and other strains of bacteria.
5. MCT has double the System Service Life of VCT (as demonstrated in a recent System Service Life study).
6. MCT has a look that lasts. MCT's seams won't shrink open over time like VCT's.
7. MCT has 10 times the indentation resistance of VCT.
8. MCT is quieter under foot than VCT.
9. MCT is more repairable than VCT (including scratches, gouges, and burns).
10. MCT is certified to the Triple Bottom Line.
    - Sustainable Platinum Certified under the SMaRT® Sustainable Product Standard
    - meets the California CHPS 01350 for IEQ
    - manufactured in an ISO 9001 and 14001 certified facility
    - publicly available, independently done, third party peer reviewed Life Cycle Assessment (a downloadable version of this report can be found on: www.leidenuniv.nl/cml/ssp/publications/lcalinoleum.pdf)
    - no chlorine gas release during fire
    - local installer training and schools
    - IEQ compliant adhesives
    - financially beneficial to LEED® projects (for updated information on LEED® compliance, please visit www.forboflooringNA.com)
    - the most LCA based certifications of any resilient flooring product
    - USDA Certfied 100% biobased content

USDA CERTIFIED BIOBASED PRODUCT

Marmoleum® Composition Tile (MCT) Technical Specifications

1. PRODUCT NAME / MANUFACTURER

1.1. Product: Marmoleum® Composition Tile (MCT) Linoleum Resilient Floor Covering

1.2. Manufacturer:
Forbo Flooring, Inc.
Humboldt Industrial Park
Hazleton, PA 18202
Phone: (800) 842-7839
(570) 459-0771
Fax: (570) 450-0258
Web: www.forboflooringNA.com

1.3. Product Description:
Construction: MCT is a homogeneous floor covering made of primarily natural materials consisting of linseed oil, wood flour, rosin binders, dry pigments mixed and calendared onto a polyester backing to ensure optimum dimensional stability. Topshield™ finish: This innovative, water-based finish is the biggest breakthrough in linoleum in many years. Topshield™ considerably reduces the need for cleaning and maintenance, ensuring lower costs and a better appearance.

Physical Characteristics: (dimensions are approximate)
Size: ..... 13" x 13" approx. (33 cm x 33 cm)
Gauge: ..... 0.080" (2.0 mm)
Backing: ..... Polyester
Packaging: ..... 45 tiles (53.82 ft², 5 m²) 13" x 13" tiles, 2.0 mm

Perrysburg High School, Perrysburg, OH, photo: WB Products

2. PRODUCT PERFORMANCE AND TECHNICAL DATA

Reference Specification:
ASTM F2195 Standard Specification for Linoleum Tile Flooring MCT meets or exceeds all technical requirements as set forth in this reference specification

2.1. Slip Resistance:
MCT meets or exceeds A.D.A. recommendations of .6 for flat surfaces when tested in accordance with ASTM D 2047.

2.2. Castor Resistance:
EN 425: Suitable for office chairs with castors.

2.3. Impact Sound Reduction:
6db when tested in accordance with ISO 20717-2
Contact Forbo Technical Services for additional information.

2.4. Resistance to Bacteria:
MCT provides a self-sanitizing quality in the form of a bactericidal effect. Tests indicate that Marmoleum® Composition Tile has a sterile zone around the material, inhibiting contaminants such as staphylococcus aureas.

2.5. Fire Testing:
ASTM E 662/NFPA 258 (Smoke Density)-450 or less
ASTM E 648/NFPA 253 (Critical Radiant Flux)-Class 1
CAN/UCL - S 102.2 - M88 Flame Spread Rating and Smoke

2.6. Cigarette Resistance:
MCT resists cigarette burns. Burning cigarettes will leave only a brown mark, which can be rubbed out using steel wool or a scouring pad.

2.7. Chemical Resistance: (Exposure time 1 hour)
- Diluted Acids – Sulfuric, Nitric, Hydrochloric, Acetic, Lactic, Citric ..... No Effect
- Sodium Hydroxide ..... Softening
- Ammonia ..... Poss Softening
- Soda Solution, Soap Solution (Slightly Alkaline) ..... No Effect
- Gasoline, White Spirit, Paraffin, Benzene, Toluene, Methyl Alcohol, Methyl Ethyl Ketone, Ethyl Acetate, Ether, Acetone .... Poss Softening
- Mineral Oil, Vegetable Oil, Animal Fat ..... No Effect
- Blood, Urine, Excrement ..... No Effect
- Lipstick ..... No Effect
- Formaldehyde, Hydrogen Peroxide 3% ..... No Effect
- Hot Chili Paste, Shoe Polish, Iodine ..... Staining
- Betadine ..... Staining
- Silver Nitrate ..... Staining/Poss Softening
- Bitumen ..... No Effect
- Methylene Blue ..... Staining
- Salt Water ..... No Effect

2.8. Sustainable Platinum Certified to the Market Transformation to Sustainability (MTS) SMaRT® Sustainable Product Standard

Tested in accordance with ASTM F 925, Standard Test Method for Resistance to Chemicals of Resilient Flooring
** MCT is NOT resistant to prolonged exposure to high alkalis.

How do we measure up? **MCT** *vs* **VCT**

the "measuring stick"	MCT	VCT
ingredients	MCT is made from natural ingredients including linseed oil, wood flour, rosins, mixed and calendered onto a polyester backing for dimensional stability. MCT is environmentally friendly.	VCT is composed of binder, fillers and pigments. The vinyl content can be as low as 13% to 16% of the total weight. (The lower the vinyl the more maintenance required / fillers absorb stains.)
heat welding	MCT is heat weldable for water proof, hygienic seams, or for an added design option.	VCT has NO option for heat welding. (Tiles shrink, as it outgasses leaving gaps that harbor dirt & bacteria.)
anti-static properties	MCT, due to its natural ingredients has anti-static properties to repel dust and dirt, making it easy to maintain a clean and healthy environment.	VCT is NOT anti-static.
bio-based	MCT is USDA Certified 100% bio-based.	VCT is 0% bio-based.
maintenance	MCT can be maintained by dry or wet maintenance systems. The dry system is easy to use and can save up to 60% in floor care costs when compared to wet maintenance systems.	VCT requires higher maintenance costs. Initial maintenance requires stripping and 5 coats of wax. Regular maintenance requires continual stripping and recoating.
hygienic properties	MCT is the ideal flooring for people with respiratory disorders. Its natural, inherent properties actually halt the breeding of many micro-organisms.	VCT does NOT have antimicrobial properties.
It is the consensus of all resilient flooring manufacturers that a subfloor must have the proper conditions to receive resilient flooring. The subfloor must be smooth, rigid, flat, level, permanently dry, clean and free of all foreign material such as dust, paint, grease, oils, solvents, curing and hardening compounds, sealers, bond breakers, asphalt and old adhesive residue. As a guideline ASTM F710 is referred to.		
subfloor preparation	MCT has the ability to conform to subfloor movement without cracking or breaking.	Because of the construction of VCT, foreign materials trapped between the flooring material and the subfloor may cause cracking through the surface of the product. This cracking or breaking can also hold true if movement in the subfloor occurs.

flax seeds

Cost of Ownership Comparison: **MCT** *vs* **VCT**

	quality VCT	MCT
Material Cost Premium Per Square Foot	$0	$0.45
Labor Premium Per Square Foot (Average Installation Rate/Day)	$0	$0.15
Installed Premium Per Square Foot	$0	$0.60
Annual Maintenance Savings Per Square Foot	$0	$0.90
Pay Back Period Savings	$0	6-9 months
Estimated 10 Year Savings Per Square Foot	$0	$14.50

VCT

MCT

Grosse Pointe High School, Grosse Pointe, MI, photo: Beth Singer Photography

Forbo labels, certifications, standards:

membership / associations:

product:

international organization for standardization (iso):

forbo installation training:

MCT

marmoleum® composition tile

certified sustainable tile

Forbo Flooring Systems
North American Headquarters
8 Maplewood Drive
Humboldt Industrial Park
Hazleton, PA 18202
1-800-842-7839
570-459-0771
Fax: 570-450-0258
www.forboflooringNA.com
www.floorcostcomparison.com
info.na@forbo.com

Forbo Flooring Systems
Canada Office
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1-866-661-2351
416-661-2351
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www.forboflooringNA.com
www.floorcostcomparison.com
info.na@forbo.com

creating better environments

04/10/50K/MDW - R 8/12

forbo FLOORING SYSTEMS

GSA Schedule

forbo FLOORING SYSTEMS

How does the "Buy America Act" (BAA) impact the procurement of products "Designated" to receive Federal Procurement Preferences?

The BAA is a requirement founded and enacted on the principal of "National Interest and National Security". As such, the BAA does not restrict procurement of products "designated" as a Federal Procurement Preference. The designation process is earned because of the products positive impacts on National Interest and National Security". Further, the official "designation" of a product places a legal obligation for Federal Agencies to execute a preference for the procurement of that product. The USDA Biopreferred program was enacted addressing ..."climate change impact reduction, energy/environmental security, and economic development"... in part to address the positive associated with specific procurements as related to "National Interest and National Security". Thus, there is no justification in the BAA or otherwise that requires a procurement action against the interest of the Country.

Detailed Clarifications:

Federal Register: http://www.gpo.gov/fdsys/pkg/FR-2006-03-16/pdf/06-2323.pdf

Says in part:
On March 16, 2006, USDA published a final rule (71 FR 13686) designating six items within which biobased products will be afforded the procurement preference, as required by section 9002 of FSRIA. In the final rule, USDA responded to a comment that questioned how USDA intends to implement the preference program consistent with the United States' international trade obligations. The response in the final rule stated that "biobased products from any designated country [as defined in Federal Acquisition Regulation section 25.003] would receive the same preference extended to U.S.-sourced biobased products. In order to clarify and make this policy applicable to all biobased designations, USDA plans to propose a broad-based revision to the USDA biobased procurement guidelines (7 CFR part 2902)." 71 FR 13690.

The purpose of this interim final rule, therefore, is three-fold:
(1) To revise the Guidelines (i.e., 7 CFR part 2902) to make them consistent with the changes to section 9002 of FSRIA as the result of the Energy Policy Act of 2005,
(2) to ensure the Guidelines are consistent with existing policy concerning incidental purchases, and
(3) to clarify existing USDA policy regarding the equal treatment by procuring agencies of certain non-domestic biobased products.

Because the interim final rule responds to a statutory amendment that became effective August 8, 2005, and because it codifies USDA policy as already stated in the first final rule designating biobased products, the interim final rule is effective immediately.

FAR updates supporting designated products:

23.404 Agency affirmative procurement programs.

(a) An agency must establish an affirmative procurement program for EPA and USDA-designated items if the agency's purchases of designated items exceed the threshold set forth in 23.400.

(1) Agencies have a period of 1 year to revise their procurement program(s) after the designation of any new item by EPA or USDA.

(2) Technical or requirements personnel and procurement personnel are responsible for the preparation, implementation, and monitoring of affirmative procurement programs.

(3) Agency affirmative procurement programs must include—

(i) A recovered materials and biobased products preference program;

(ii) An agency promotion program;

(iii) For EPA-designated items only, a program for requiring reasonable estimates, certification, and verification of recovered material used in the performance of contracts. Both the recovered material content and biobased programs require pre-award certification that the products meet EPA or USDA recommendations. A second certification is required at contract completion for recovered material content; and

(iv) Annual review and monitoring of the effectiveness of the program.

(b) "Exemptions".

(1) Agency affirmative procurement programs must require that 100 percent of purchases of EPA or USDA-designated items contain recovered material or biobased content, respectively, unless the item cannot be acquired—

(i) Competitively within a reasonable time frame;

(ii) Meeting reasonable performance standards; or

(iii) At a reasonable price.

(2) EPA and USDA may provide categorical exemptions for items that they designate, when procured for a specific purpose. For example, some USDA-designated items such as mobile equipment hydraulic fluids, diesel fuel additives, and penetrating lubricants (see 7 CFR 2902.10 et seq.) are excluded from the preferred procurement requirement for the application of the USDA-designated item to one or both of the following:

(i) Spacecraft system and launch support equipment.

(ii) Military equipment, i.e., a product or system designed or procured for combat or combat-related missions.

(c) Agency affirmative procurement programs must provide guidance for purchases of EPA-designated items at or below the micro-purchase threshold.

(d) Agencies may use their own specifications or commercial product descriptions when procuring products containing recovered materials or biobased products. When using either, the contract should specify—

(1) For products containing recovered materials, that the product is composed of the—

(i) Highest percent of recovered materials practicable; or

(ii) Minimum content standards in accordance with EPA's Recovered Materials Advisory Notices; and

(2) For biobased products, that the product is composed of—

(i) The highest percentage of biobased material practicable; or

(ii) USDA's recommended minimum contents standards.

(e) Agencies shall treat as eligible for the preference for biobased products, products from "designated countries," as defined in 25.003, provided that those products—

(1) Meet the criteria for the definition of biobased product, except that the products need not meet the requirement that renewable agricultural materials (including plant, animal, and marine materials) or forestry materials in such product must be domestic; and

(2) Otherwise meet all requirements for participation in the preference program.

FP designation page of the BioPreferred Program:

http://www.biopreferred.gov/bioPreferredCatalog/faces/jsp/catalogLanding.jsp

ISO-17025 Accredited Testing Laboratory

PJLA ISO/IEC 17025:2005 Testing Accreditation# 59423

Beta Analytic Inc.
4985 SW 74 Court
Miami, Florida 33155 USA
Tel: 305-667-5167
Fax: 305-663-0964
info@betalabservices.com
www.betalabservices.com

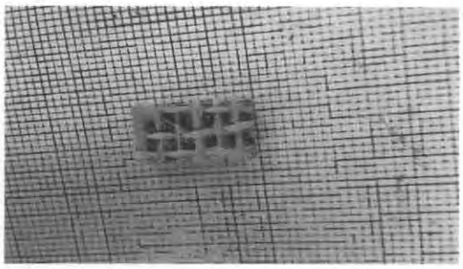
Summary of Results : Biobased Determination using ASTM-D6866-11

Submitter:	Mr. Scott Day	**Date Received**	October 04, 2011
Company:	Forbo Flooring Systems	**Date Reported**	October 07, 2011

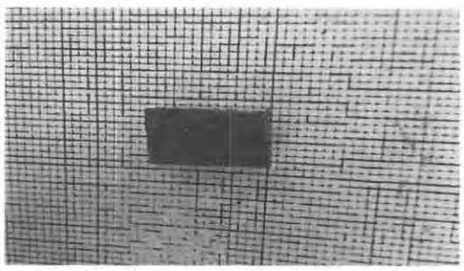
Laboratory Number	Submitter Label	Material	Method of Analysis	Biobased Result
Beta-306947	Marmoleum / Marmoleum (USDA Application# 2281)	Biobased Solid	Method-B	100 %

Package received -labeling COC

View of content



Representative sample analyzed - frontside
(1mm x 1mm scale)



Representative sample analyzed - backside
(1mm x 1mm scale)

* ASTM-D6866 cites precision on The Mean Biobased Result as +/- 3% (absolute). This is the most conservative estimate of error in the measurement of complex biobased containing solids and liquids based on empirical results. Real precision for readily combustible and homogenous materials (e.g. gasoline) and especially samples recieved as CO2 (e.g. flue gas or CEMS exhaust) can be as low as +/- 0.5-2%. The result only applies to the analyzed material. Fluctuations in carbon content within a batch of product, gasoline or flue gas must be determined separately (e.g. averaged measurements of multiple solids or liquids, and single measurement of the combination of gas aliquots collected over time). The accuracy of the result as it applies to the analyzed product, fuel, or flue gas relies upon all the carbon in the analyzed material originating from either recently respired atmospheric carbon dioxide (within the last decade) or fossil carbon (more than 50,000 years old). "Percent biobased" specifically relates % renewable (or fossil) carbon to total carbon, not to total mass or molecular weight. Mean Biobased estimates greater than 100% are assigned a value of 100% for simplification.

ISO-17025 Accredited Testing Laboratory

PJLA ISO/IEC 17025:2005 Testing Accreditation# 59423

Beta Analytic Inc.
4985 SW 74 Court
Miami, Florida 33155 USA
Tel: 305-667-5167
Fax: 305-663-0964
info@betalabservices.com
www.betalabservices.com

Analytical Measure : Biobased Determination using ASTM-D6866-11

Submitter: Mr. Scott Day **Date received** October 04, 2011

Company: Forbo Flooring Systems **Date reported** October 07, 2011

Submitter label	Material	Laboratory Number	Percent modern carbon (pmc)	Atmospheric correction factor
Marmoleum / Marmoleum (USDA Application# 2281)	Biobased Solid	Beta-306947	107.9 +/- 0.4 pMC	x 0.95

Note: % biobased = pMC x 0.95

* ASTM-D6866 cites precision on The Mean Biobased Result as +/- 3% (absolute). This is the most conservative estimate of error in the measurement of complex biobased containing solids and liquids based on empirical results. Real precision for readily combustible and homogenous materials (e.g. gasoline) and especially samples recieved as CO2 (e.g. flue gas or CEMS exhaust) can be as low as +/- 0.5-2%. The result only applies to the analyzed material. Fluctuations in carbon content within a batch of product, gasoline or flue gas must be determined separately (e.g. averaged measurements of multiple solids or liquids, and single measurement of the combination of gas aliquots collected over time). The accuracy of the result as it applies to the analyzed product, fuel, or flue gas relies upon all the carbon in the analyzed material originating from either recently respired atmospheric carbon dioxide (within the last decade) or fossil carbon (more than 50,000 years old). "Percent biobased" specifically relates % renewable (or fossil) carbon to total carbon, not to total mass or molecular weight. Mean Biobased estimates greater than 100% are assigned a value of 100% for simplification.

ISO-17025 Accredited Testing Laboratory

PJLA ISO/IEC 17025:2005 Testing Accreditation# 59423

Beta Analytic Inc.
4985 SW 74 Court
Miami, Florida 33155 USA
Tel: 305-667-5167
Fax: 305-663-0964
info@betalabservices.com
www.betalabservices.com

Report of Biobased Content Analysis using ASTM-D6866-11

Submitter: Forbo Flooring Systems

Submitter Label: Marmoleum / Marmoleum (USDA Application# 2281)

Laboratory Number: Beta-306947

Material: Biobased Solid

Date Receieved: October 04, 2011

Date Reported: October 07, 2011

Mean Biobased Result : 100 % *

Proportions Biobased vs. Fossil Based indicated by 14C content

* ASTM-D6866 cites precision on The Mean Biobased Result as +/- 3% (absolute). This is the most conservative estimate of error in the measurement of complex biobased containing solids and liquids based on empirical results. Real precision for readily combustible and homogenous materials (e.g. gasoline) and especially samples recieved as CO2 (e.g. flue gas or CEMS exhaust) can be as low as +/- 0.5-2%. The result only applies to the analyzed material. Fluctuations in carbon content within a batch of product, gasoline or flue gas must be determined separately (e.g. averaged measurements of multiple solids or liquids, and single measurement of the combination of gas aliquots collected over time). The accuracy of the result as it applies to the analyzed product, fuel, or flue gas relies upon all the carbon in the analyzed material originating from either recently respired atmospheric carbon dioxide (within the last decade) or fossil carbon (more than 50,000 years old). "Percent biobased" specifically relates % renewable (or fossil) carbon to total carbon, not to total mass or molecular weight. Mean Biobased estimates greater than 100% are assigned a value of 100% for simplification.

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Explanation of Results

Biobased Analysis using ASTM-D6866-11, April 2011

The application of ASTM-D6866 to derive a "Biobased content" is built on the same concepts as radiocarbon dating, but without use of the age equations. It is done by deriving a ratio of the amount of radiocarbon (14C) in an unknown sample to that of a modern reference standard. This ratio is calculated as a percentage with the units "pMC" (percent modern carbon). If the material being analyzed is a mixture of present day radiocarbon and fossil carbon (containing no radiocarbon), then the pMC value obtained correlates directly to the amount of biomass derived carbon in the sample.

The modern reference standard used in radiocarbon dating is a NIST (National Institute of Standards and Technology) standard with a known radiocarbon content equivalent approximately to the year AD 1950. AD 1950 was chosen since it represented a time prior to thermo-nuclear weapons testing which introduced large amounts of excess radiocarbon into the atmosphere with each explosion (termed "bomb carbon"). This was a logical point in time to use as a reference for archaeologists and geologists. For an archaeologist or geologist using radiocarbon dates, AD 1950 equals "zero years old". It also represents 100 pMC.

"Bomb carbon" in the atmosphere reached almost twice normal levels in 1963 at the peak of testing and prior to the treaty halting the testing. Its distribution within the atmosphere has been approximated since its appearance, showing values that are greater than 100 pMC for plants and animals living since AD 1950. It has gradually decreased over time with today's value being near 105 pMC. This means that a fresh biomass material such as corn, sugar cane or soybeans would give a radiocarbon signature near 105 pMC.

Combining fossil carbon with present day carbon into a material will result in a dilution of the present day pMC content. By presuming ~105 pMC represents present day biomass materials and 0 pMC represents petroleum derivatives, the measured pMC value for that material will reflect the proportions of the two component types. For example, a material derived 100% from present day soybeans would give a radiocarbon signature near 105 pMC. But if it was diluted with 50% petroleum carbon, it would give a radiocarbon signature near 53 pMC.

The "biobased content" of a material is reported as a percent value relating total renewable organic carbon to total organic carbon. The final result is calculated by multiplying the pMC value measured for the material by 0.95 (to adjust for bomb carbon effect). The final value is cited as the MEAN BIOBASED RESULT and assumes all the components within the analyzed material were either present day living (within the last decade) or fossil in origin.

The results provided in this report are uniquely applicable to the analyzed material and are reported using the designated labeling provided with the sample. Although analytical precision is typically 0.1 to 0.5 pMC, empirical data has demonstrated that indeterminant errors can introduce uncertainty to 2 to 3 pMC. As such, ASTM-D6866 cites an uncertainty of +/- 3 % (absolute) on each result. Remember the results only relate carbon source, not mass source. A reported percentage does not represent to the total mass of fossil vs. renewable components present. Only the amount of renewable carbon vs fossil carbon present is indicated.

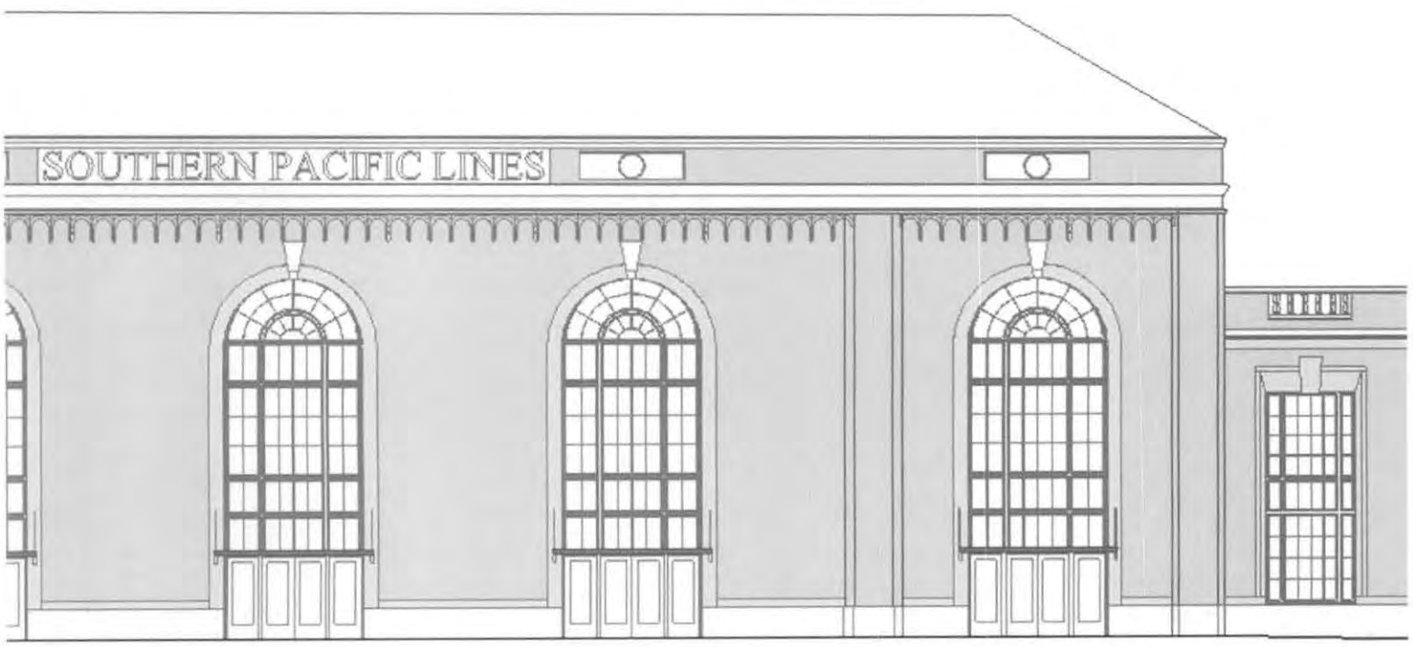
EXHIBIT B

City of Sacramento

Sacramento Valley Station – Phase 2

CONSTRUCTION SET

October 17, 2014



ZGF

SECTION 01 14 20

BUY AMERICA

PART 1 - GENERAL

1.01 Buy America

A. Contractor and all subcontractors and suppliers shall comply with the Buy America requirements for the entirety of this project.

B. The contractor shall comply with 49 U.S.C. § 24405(a) as applied and interpreted by the Federal Railroad Administration (FRA). This section provides that Federal funds may not be obligated unless steel, iron, and manufactured products used in FRA funded projects are produced in the United States, or unless a waiver has been granted by the FRA.

C. The Contractor must submit to the Owner the Buy America Certification, certifying compliance with Buy America Requirements. Where, to the Contractor's knowledge, compliance with the full provisions is not possible, the contractor shall submit a Certification of Non-Compliance with Buy America requirements as well as a complete waiver request and written justification for waiver request. A waiver request shall meet all of the requirements stipulated by FRA.

1.02 Submittals

All submittals shall comply with sections 01 25 00 and 01 33 00 of these specifications.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

END OF SECTION 01 14 20

Sacramento Valley Station – Phase 2

BUY AMERICA CERTIFICATION

This certification is a requirement when providing a bid for steel, iron, or manufactured products.

Certificate of Compliance with 49 U.S.C. §24405(a)

The bidder or offeror hereby certifies that it will meet the requirements of 49 U.S.C.§24405(a)(1).

Date _____

Signature _____

Company Name _____

Name _____

Title _____

Contractor must submit to the Owner this Buy America certification with all bids or offers on FRA-funded contracts, except those subject to a general waiver. Bids or offers that are not accompanied by a completed Buy America certification must be rejected as non-responsive.

Sacramento Valley Station – Phase 2

BUY AMERICA CERTIFICATION-NON COMPLIANCE

This certification is a requirement when providing a bid for steel, iron, or manufactured products.

Certificate of Non-Compliance with 49 U.S.C. 24405(a)

The bidder or offeror hereby certifies that it cannot meet the requirements of 49 U.S.C. .§ 24405(a)(1).

Date _____

Signature _____

Company Name _____

Name _____

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Contractor must submit to the Owner this Buy America certification with all bids or offers on FRA-funded contracts, except those subject to a general waiver. Bids or offers that are not accompanied by a completed Buy America certification must be rejected as non-responsive.

Form for Non-availability Determination Request

REQUEST FOR WAIVER OF THE BUY AMERICA REQUIREMENTS
[49 U.S.C § 24405(a)]

1. Description of Project:

The Sacramento Valley Station Phase II project is rehabilitation of the historic 68,000 SF train station in downtown Sacramento, CA funded with 2012 TIGER Grant (round 4) funds. After renovation, the facility will include Amtrak station facilities, commercial retail and office space. Project requirements include achieving minimum LEED Silver certification, energy performance at least 15% better than the California Energy Code, and historic preservation criteria. The Sacramento Valley Station is listed on the National Register of Historic Places and the project renovation has been designed within the parameters of the Secretary of Interiors Standards for Rehabilitation and has received approval from State Historic Preservation Officer (SHPO). The need for large diameter air ducts which would conflict with the interior space of the historic structure space requirements future flexibility.

2. Description of Manufactured Good for Requested Waiver:

The City of Sacramento requests a waiver of the Buy America for a System Class of manufactured goods known in the building trades as Variable Refrigerant Flow (VRF), or also referred to as Variable Refrigerant Volume (VRV), heat pumps and air conditioning systems (the "Products") in the Sacramento Valley Station Phase II project (the "Project"). The VRF system delivers heating and cooling to the conditioned space via compact fan coil units and small diameter refrigerant piping. [David]

System Description: The major VRF system components are:

1. Fan coil units which deliver heating and cooling to the conditioned space
2. Compressor/Condenser units that exchange heat with the outside environment or other sources
3. Branch Controllers (also called Branch Selectors) which control refrigerant flow between compressor units and fan coils
4. Control equipment, including room thermostats and temperature sensors
5. Refrigerant Piping

For all manufactures, the Fan Coils, Compressor/Condenser, Branch Controllers and Control Equipment must be provided by the same manufacturer. Refrigerant piping is not manufacturer specific, and will be sourced domestically. The final assembly and testing of the overall system takes place at the project site. The refrigerant piping will be domestically sourced, but other components are manufactured outside the United States, primarily in Japan or Korea with a negligible amount of US sourced content. This technology was originally developed in Japan, and while it is becoming fairly common in the United States, but is not manufactured in the US at this time.

The function of these Products within this Project are to efficiently provide air conditioning (heating and cooling) to 85% of the building area. Important functional qualities of the system are:

1. Cooling and heating efficiency (EER, COP and heat recovery),
2. Compact size of the equipment
3. Compact distribution requirements for the working heat transfer fluid (refrigerant piping)
4. Flexibility for reconfiguration for future tenant needs

The VRF systems including the components produced by the listed manufactures uniquely meet the functional requirements and therefore were selected and specified for the project (see EXHIBIT A).

3. Effort to Secure Compliant Manufactured Good:

The Project mechanical engineer has inquired with all VRF manufacturers Mitsubishi, Daikin, Hitachi, and LG as to whether they or any of their competitors can comply with the Buy America requirements of 49 U.S.C. § 24405(a). All manufacturers have responded that US manufactured VRF equipment is not available. While all components are manufactured outside of the United States, component assembly by this class of system requires on-site installation.

4. Description of Bidding Process:

Bidding for Mechanical work was done competitively with four (4) subcontractor bids received on each mechanical bid package. Bidders were required to submit Buy America Certification Certificate of Compliance with 49 U.S.C. § 24405(a)(1), or if known not to be in compliance, the subcontractor was required to submit a Certificate of Non-Compliance. Both Certificates are attached in Exhibit B.

5. Cost Differentials:

As there are no known domestic alternatives, cost differentials are not directly applicable to this waiver request, however the use of a air-sourced system other than a VRF system would have significant cost impacts to the physical configuration of the building and in many areas, be in direct conflict with the Secretary of Interiors Standards for Rehabilitation as a result of spatial reconfiguration to accommodate large ducts and roof top air handling units. In many areas due to the structural configuration of the interior spaces, introduction of large ductwork would have impacts to interior spaces which could likely be deemed significant by SHPO.

6. Citation:

The City of Sacramento requests a waiver of the Buy America requirements for FRA-administered projects based on "non-availability" according to 49 U.S.C. § 24405(a)(2). These Products are manufactured outside of the United States by several companies, but are "not produced in the U.S. in sufficient and reasonably available quantities and of a satisfactory quality." 49 U.S.C. § 24405(a)(2).

7. Justification for Waiver:

This system type is the only solution which can meet the project energy conservation, historic preservation, and flexibility requirements, and therefore request that manufactured VRF air conditioning system components from Mitsubishi, Daikin, Hitachi and LG, be waived from the requirements of 49 U.S.C. § 24405(a) as noted above.

8. Contact Information for Responsible Party:

Greg Taylor, AIA, Supervising Architect
Department of Public Works
City of Sacramento
915 I Street
Sacramento, CA 95814
Ph: 916.808.5268

[Signature of authorized official]

GREGORY B. TAYLOR
[Print name of official signing, title, and name of organization]

11-25-14
[Date]

EXHIBIT A

ZGF
ZIMMER GUNSUL FRASCA ARCHITECTS LLP

PORTLAND
SEATTLE
LOS ANGELES
WASHINGTON DC
NEW YORK

925 Fourth Avenue
Suite 2400
Seattle, WA 98104
T 206 623 9414
F 206 623 7528
www.zgf.com

Consultants

MEP

ARUP
719 SECOND AVE STE 400
SEATTLE, WA 98104
T 206-749-9674

STRUCTURAL

SIMPSON GUMPERTZ & HEGER INC
THE LANDMARK
1 MARKET ST STE 600
SAN FRANCISCO, CA 94105
T 415-495-3700

HISTORIC PRESERVATION

PAGE & TURNBULL
3601 C ST, STE B
SACRAMENTO, CA 95816
T 916-930-9903

CIVIL

CUNNINGHAM ENGINEERING
2120 20TH ST STE 3
SACRAMENTO, CA 95818
T 916-455-2088

LIGHTING

BEN FA LIGHTING
3481 CASCADE TERRACE
WEST LINN, OR 97068
T 503-387-9157

Revisions

1	Addendum 1	07/18/2014

Public Works
CITY OF SACRAMENTO

DEPARTMENT OF PUBLIC WORKS

CITY OF SACRAMENTO
915 I STREET
SACRAMENTO, CA 95814
T 916-264-5011

SACRAMENTO VALLEY STATION PHASE 2

401 I STREET
SACRAMENTO, CA 95814

Drawing Title

MECHANICAL SCHEDULES

Date:	June 23, 2014
ZGF No:	021731
Drawn By:	JDD
Checked By:	DSO

Drawing No.

M0.04

DR-5

10/15/2014 9:38:32 AM

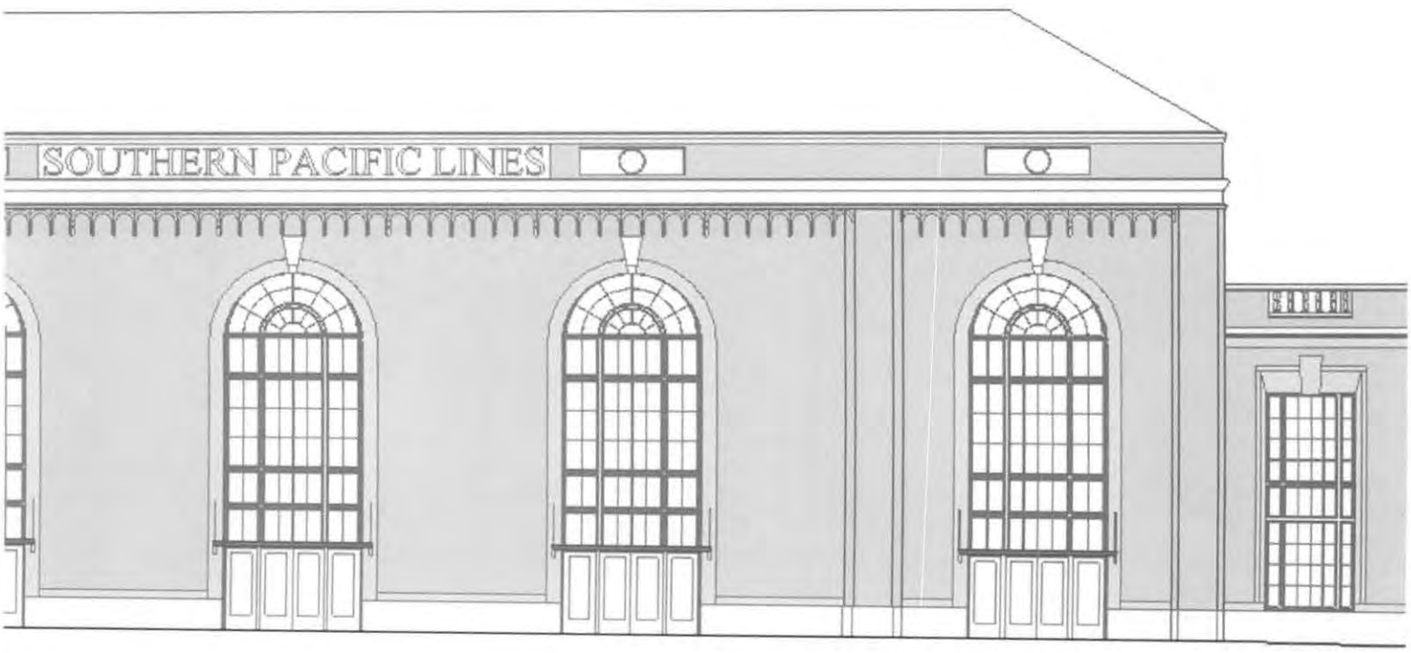
EXHIBIT B

City of Sacramento

Sacramento Valley Station – Phase 2

CONSTRUCTION SET

October 17, 2014



ZGF

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Sacramento Valley Station – Phase 2

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Sacramento Valley Station – Phase 2

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