August 12, 2010

Ronald Cerny
President & CEO
Connor Sport Court
939 South 700 West
Salt Lake City, UT 84104

Subject: Sport Base Environmental Impacts Evaluation Results

Dear Ron,

This letter presents the results of an evaluation by SWCA Environmental Performance Group (SWCA) of the estimated environmental impacts of the Connor Sport Court (CSC) "Sport Base" sub-flooring system versus a conventional concrete base for a sport floor.

The scope of work for this evaluation included the following tasks.

1. Product Review – SWCA reviewed the details of a typical Sport Base and a typical conventional flooring installation, including the types and quantities of materials used as well as the processes employed. For both systems, material quantities were based on a 1,500 ft^2 installation.
2. Research and Product Analysis – Using readily available embodied energy and lifecycle assessment data, SWCA conducted an analysis of the environmental impacts of each flooring system. This analysis focused on the energy, carbon dioxide (CO_2), and water impacts of each system.
3. Letter Report – SWCA prepared this letter report, summarizing our findings and presenting the analysis results.

Conventional and Sport Base System Summaries

Conventional Concrete Base System

A typical CSC installation of a conventional concrete court requires a four-inch base layer of compacted gravel and a four-inch concrete pad with 3# rebar on 30-inch centers. In addition, the concrete mixing process consumes approximately 36 gallons of water per cubic yard of concrete, the concrete must be pumped approximately 100 meters using a diesel pump, and approximately 50 gallons of water is used to aid in gravel compaction and site cleanup. The types and estimated quantities of materials employed in a conventional concrete installation are listed in Table 1 below.

Table 1. Materials Employed in a Conventional 1,500 ft^2 Concrete Installation

Material	Estimated Quantity
Gravel (base)	29 tons
Concrete	51 tons
3# Rebar	0.26 tons
Water	783 gallons
Diesel fuel (pump)	6 gallons

Sport Base System

A typical CSC Sport Base installation requires a four-inch base layer of compacted sand, but the concrete and rebar of a conventional system are replaced with CSC's Sport Base flooring, a system of 18-inch square panels made of 100% recycled thermoplastics. During the recycling process, these thermoplastics are ground down, melted, and then molded into the Sport Base panels. In addition, during installation approximately 700 nylon connectors are used to secure the panels together, and approximately 10 to 20 gallons of water is used to aid in sand compaction. No materials require pumping during the installation, and no water is needed for post-installation site cleanup. The types and estimated quantities of materials employed in a Sport Base installation are listed in Table 2 below.

Table 2. Materials Employed in a 1,500 ft^2 Sport Base Installation

Material	Estimated Quantity
Sand (base)	29 tons
Sport Base recycled panels	2.24 tons
Nylon connectors	0.05 tons
Water	20 gallons

Analysis Results

Summary of Impacts

The estimated energy, CO_2, water, and material tonnage impacts associated with a conventional concrete installation versus a Sport Base installation are summarized in Table 3 below.

Table 3. Estimated Impacts for 1,500 ft^2 Conventional Concrete and Sport Base Installations

Impact Area	Conventional Concrete	Sport Base
Energy (BTU)	69,860,799	32,216,807
CO_2 (lbs)	13,211	5,272
Water (gal)	783	20
Total solid material (tons)	80	31

The estimated benefits of the CSC Sport Base system of 100% recycled thermoplastic panels are summarized in Table 4 below. The values are also presented in an "equivalency" format to aid in the understanding of the environmental impact savings.

Table 4. Sport Base System Versus a Conventional Concrete 1,500 ft^2 Installation

Impact Area	Estimated Sport Base Impact Reduction
Impact Differences	
Energy (BTU)	37,643,992
CO_2 (lbs)	7,939
Water (gal)	763
Materials (tons)	49
Impact Reduction Equivalencies	
U.S.-average household electricity use (days)	378
Forest CO_2 sequestration capacity (acres)	2.4
Miles not driven (miles)	5,616
Oil (barrels)	6.5
U.S.-average personal water use (days)	7.6

CONCLUSIONS

Based on SWCA's evaluation, the data indicates that the "Sport Base" sub-flooring system requires less embodied energy, creates fewer emissions of the greenhouse gas CO_2, requires less water, and requires a lower mass of overall materials when compared to a standard conventional concrete base for a sport floor of the same square footage.

Sincerely,

Andrew Hultgren
Project Manager

Richard Young, PE
Sustainability Group Manager

Transmitted via Email