

**COLORADO'S 2016 WASTE TIRE
MARKET DEVELOPMENT CONFERENCE**

**CAPTURING VALUE IN TIRE DERIVED
PRODUCTS**

PRESENTED BY RUBBEROSION

CAPTURING VALUE IN TIRE DERIVED PRODUCTS

- RUBBEROSION PRODUCTS ARE UTILIZED AS EROSION AND SEDIMENT CONTROL DEVICES TO MITIGATE SEDIMENT FROM ENTERING OUR NATURAL WATERWAYS THROUGH THE STORMWATER SYSTEM.
- STORMWATER RUNOFF IS GENERATED FROM RAIN AND SNOWMELT EVENTS THAT FLOW OVER LAND OR IMPERVIOUS SURFACES, SUCH AS PAVED STREETS, PARKING LOTS, AND BUILDING ROOFTOPS, AND DOES NOT SOAK INTO THE GROUND. THE RUNOFF PICKS UP POLLUTANTS LIKE TRASH, CHEMICALS, OILS, AND DIRT/SEDIMENT THAT CAN HARM OUR RIVERS, STREAMS, LAKES, AND COASTAL WATERS. TO PROTECT THESE RESOURCES, COMMUNITIES, CONSTRUCTION COMPANIES, INDUSTRIES, AND OTHERS, USE STORMWATER CONTROLS, KNOWN AS BEST MANAGEMENT PRACTICES (BMPs). THESE BMPs FILTER OUT POLLUTANTS AND/OR PREVENT POLLUTION BY CONTROLLING IT AT ITS SOURCE.
- SOURCE: [HTTPS://WWW.EPA.GOV/NPDES/NPDES-STORMWATER-PROGRAM](https://www.epa.gov/npdes/npdes-stormwater-program)

STORMWATER POLLUTANTS



THE VALUE THAT RECYCLED TIRES OFFER TO THE EROSION CONTROL INDUSTRY

- IDENTIFIED VALUE OF RECYCLED TIRE RUBBER IN EROSION CONTROL APPLICATIONS
 - PERMEABILITY
 - DURABILITY
 - WEIGHT PROPERTIES
 - AVAILABILITY
 - CUSTOMIZABLE
 - RECYCLED PRODUCT
 - COST EFFECTIVE

A PRODUCT LINE IS DEVELOPED

KRUSH RUBBER WATTLES

KRUSH RUBBERWATTLES



BENEFITS

- QUICK DEPLOYMENT
- DURABLE
- RECYCLED CONTENT
- 2-8 PTE'S PER WATTLE

INLET PROTECTION

MOLDED & LOOSE FILL
CRUMB RUBBER



MOLDED
CRUMB RUBBER



ROCK & MOLDED



INLET PROTECTION

SEDI-MAT



CURB CATCHER



VEHICLE TRACKING CONTROL

RUBBER ROD



VEHICLE TRACKING PAD



IN FIELD USE



THE VALUE OF CRUMB RUBBER AS A RAW MATERIAL

- CRUMB RUBBER ALLOWS FOR THE INCORPORATION OF ADDED VALUE COMPONENTS TO OUR PRODUCTS SUCH AS:
 - STRAPS, HANDLES AND, SECURING DEVICES
 - BMP'S DESIGNED TO SPECIFIC JOB SITE REQUIREMENTS
 - FLEXIBLE AND USER FRIENDLY IN THE FEILD
- CUSTOMIZABLE PRODUCTS AND APPLICATIONS
 - FLYING HORSE RANCH SHARK TEETH INLETS

CUSTOMIZABLE APPLICATIONS



CUSTOM INLET PROTECTION

BEFORE



AFTER





PROMOTING THE VALUE TO THE MARKETPLACE

- RESEARCH & DEVELOPMENT
- PROOF OF CONCEPT
- MARKET IDENTIFIED
- GOVERNMENT APPROVALS
- TESTING
- MARKETING
- MANUFACTURING

MARKET DEVELOPMENT GRANT FOR PRODUCT & MATERIAL TESTING

- RUBBEROSION AWARDED GRANT FUNDING TO PERFORM PRODUCT TESTING
- TESTING INCLUDED
 - UV DURABILITY
 - SMOLDER RESISTANCE
 - FILTRATION EFFICIENCY
 - FLOW RATE
 - SEDIMENT CAPTURE RATE

TEST RESULTS AND ANALYSIS

RUBBEROSION PRODUCTS

- SEDIMENT CAPTURE RATE 93%-96%
- FLOW RATE = 149 GAL/FT²/MIN
- DECREASE IN TURBIDITY
- DURABLE AGAINST UV
- NO SIGNS OF SMOLDER

COMPARABLES

- MINIMUM REQUIREMENT = 80%
- GEOTEXTILES = 146 GAL/FT²/MIN

TEST METHODS



TRI/ENVIRONMENTAL, INC.
A Texas Research International Company



CurbCatcher Installed Over Grate at Simulated Curb Inlet



Test Flow Introduced



Ponding and Sediment Build-up Over Protected Grate at 30 minutes and 90 minutes

CAPTURING THE VALUE OF TESTING

- PROOF OF PRODUCT
- PROVIDES BASELINE INFORMATION FOR ENGINEERING AND SPECIFICATIONS
- ALLOWS FOR MARKET ENTRANCE
- CREATES A STANDARD OR GUIDELINE FOR A NEW PRODUCT
- WE CAN NOW COMPARE AN APPLE TO AN ORANGE (THE TIRE STIGMA)

COMPARISONS APPLES TO ORANGES

RUBBEROSION INLET PRO



ROCK SOCK & CINDER BLOCKS



COMPARISONS

SEDIMAT MADE FROM CRUMB
RUBBER

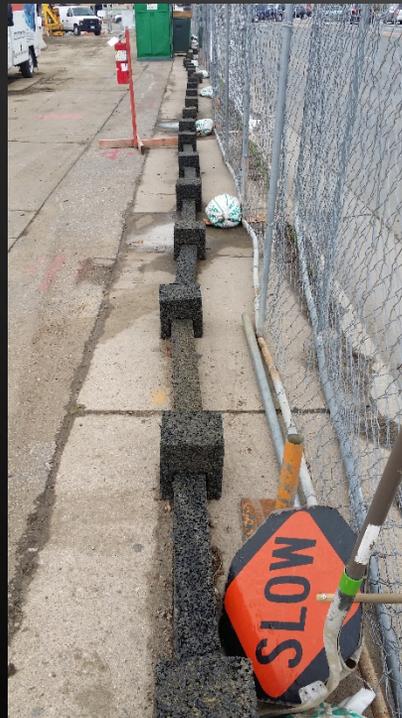


GEOTEXTILE



PERIMETER CONTROL

SEDI-BLOX MADE FROM CRUMB RUBBER



STRAW WATTLE



CHALLENGES TO CAPTURING VALUE

- NEGATIVE TIRE STIGMA
- GOVERNMENT APPROVALS
- REIMBURSEMENT PROGRAMS SUN SETTING
- CONTINUING MARKET DEVELOPMENT GRANTS
- MARKETPLACE TIMING
- CONTINUING PRODUCT DEVELOPMENT AND INNOVATION

MOVING FORWARD NEXT STEPS

- TO BECOME AN INDUSTRY LEADER
- PROMOTE THE VALUE OF TIRE DERIVED PRODUCTS
- FIND INDUSTRY CHAMPIONS TO DEMONSTRATE THE VALUE OF TIRE DERIVED PRODUCTS IN FIELD APPLICATIONS
- UTILIZE TESTING TO CREATE BASELINES AND STANDARDS FOR TIRE DERIVED PRODUCTS
- CONTINUE TO BUILD RELATIONSHIPS WITH GOVERNMENT AGENCIES
- CONTINUE TO BUILD RELATIONSHIPS WITH PROCESSORS

THANK YOU FOR CAPTURING VALUE IN
TIRE DERIVED PRODUCTS!

RUBBER  **inc.**

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