January & February 2016

The Monthly Dirt

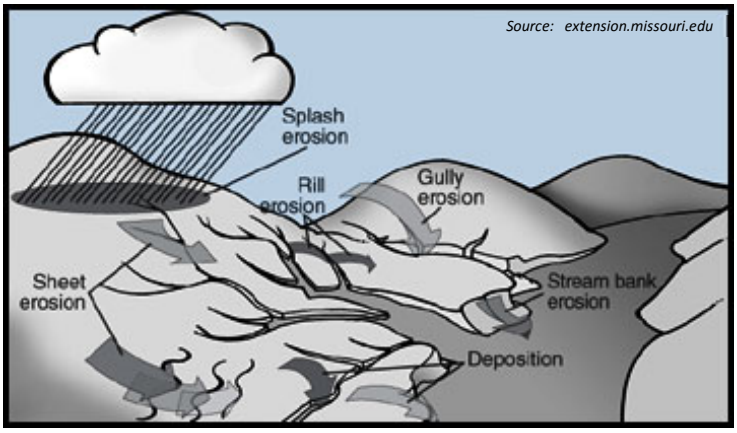
A Monthly Newsletter on the California Construction General Permit by WGR Southwest, Inc.

Working Undercover

Are we talking about storm water secret agents? Well, not exactly. But, just as undercover officers can accomplish amazing crime-stopping tasks in a quiet yet very effective manner, so can another type of "cover" accomplish amazing erosion-stopping tasks. We have seen this played out at numerous locations during the recent January 2016 rains. In this edition, *The Monthly Dirt* is going to take an undercover peak at a recent cover-up job.

The Problem – Exposed dirt, heavy rainfall, and turbidity - lots of it - from eroding soils. Take a peek at these "undercover" photos. The site had onsite storm water retention basins and other BMPs in place; but, heavy December and January rains quickly filled them to capacity. The contractor did not think there was a problem because of the absence of rills; but turbidity measurements were telling a different story with values well above the NAL. In addition, the municipal storm water inspector was sounding the alarm and demanding action. In response, the contractor was trying his best with wattle, additional storage, scattering some straw, and restricting access to the site. But, the project's QSD knew that this was a job needing a major cover-up.

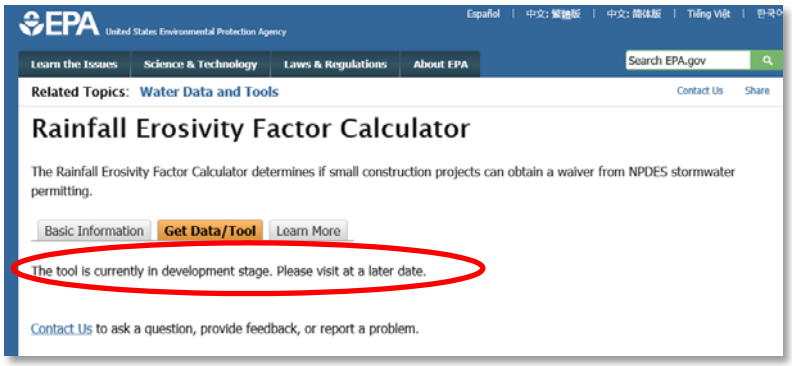
The Cover-up – While the contractor may have liked to have gone incognito and disappeared off the scene with the regulators, what really needed disappearing was the area of soil disturbance. John Teravskis, a QSD and CPESC, told *The Monthly Dirt* that "many people fail to understand the **five steps of erosion**. They see muddy water and high turbidity and think that it can't be stopped. They try all sorts of things to remove the sediment from the water, but the most effective thing to do is to stop the soil particles from becoming detached in the first place. The first step in the 5-step erosion process is **Splash Erosion** resulting from millions of raindrops splashing onto the soil. When a raindrop hits the dirt, it breaks free soil particles that are then mobilized by storm water runoff."



The answer is to break the erosion chain by covering the soil so that raindrops do not detach soil particles. The contractor at this site took the QSD's advice and, at about $3,100/acre, had the entire site sprayed with EarthGuard™ fiber matrix to cover the soil. The EarthGuard™ product was chosen because it requires little cure time, can be applied between rain events, and, at an application rate of 3,000 lbs./acre, it has an advertised RUSLE "C" factor of 0.002; making it a very effective and durable cover. Did the cover-up work? With turbidity values now measuring well below the NAL, let's just say this was one happy contractor who no longer needed to disguise themselves or their site. *MD*

Back to Manual "R" Calculations

Did you see this message the last time you tried to determine a project's risk level?



It was a surprise to many QSDs in California and, apparently, even to the Water Board. If you remember, the Water Board required this tool to be used to determine the "R" value for the RUSLE calculation in which R is the "Rainfall Erosivity Factor".

$$A = R * K * LS$$

A = Average Annual Soil Loss/Acre expressed in Tons
R = Rainfall Erosivity Factor
K = Soil Erodibility Factor
LS = Slope Length and Steepness Factor

The Erosivity Factor is a way to incorporate into the soil loss equation the intensity of the rainfall and its effect on erosion for a specific location. It is a function of the project's location, and starting and ending dates. This is not the first time that the USEPA's calculator has been taken off line during this term of the CGP. The last time it was not available, the State Water Board instructed QSDs and dischargers to perform a manual calculation of the "R" factor. Shortly after the USEPA calculator was again found to be off-line, *The Monthly Dirt* contacted Patrick Otsuji who is the Program Manager for the State's SMARTS system. Patrick stated that it is acceptable to again utilize the manual calculation method for the erosivity factor.

So how is "R" calculated manually? In 2012, the State Water Board issued their guidance on this which included the EPA's fact sheet. This document can be downloaded from the Water Board's website by clicking here. We have included as an attachment to this newsletter step-by-step instructions on how to determine the "R" value. Now, before you despair of the extra work needed to calculate the R factor, there may actually be a bit of a benefit to dischargers in performing the manual calculation. In our September 2014 newsletter, we chose 12 actual projects and compared R values for them generated from both the USEPA's calculator and from the manual derivation. We found that there was actually a slight advantage to dischargers in calculating the R value by the manual method, which tended to result in lower R values and, thus, more waivers. This was especially true in Northern California. So it looks like we are back to manually derived R values for now. We will let you know if and when the EPA's calculator comes back on-line. *MD*

Upcoming Training

Got SWPPP? Classes coming to Lodi:

- ✓ QSP/QSD Training, March 29 - 31, 2016
- ✓ BMP Roundup, A Day of Hands-on BMP Training April 14, 2016
- ✓ PDU Week, May 23 -27, 2016

(For more information about these classes, go to www.gotswppp.com.)

Need Specialized Training?

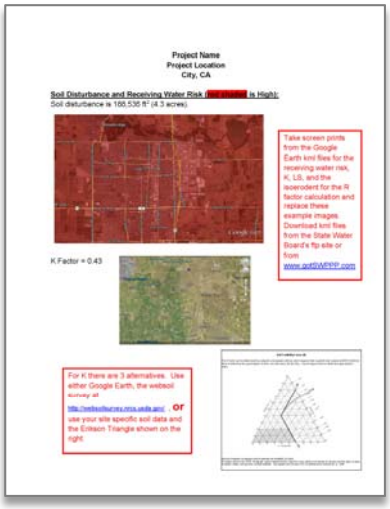
Call (209) 334-5363, ext. 110

Risk Determination Worksheet

Recently we have been getting quite a few requests for a worksheet that we developed and distributed back in 2012 to assist with the documentation of the risk determination process. Therefore, we thought it was time to revise it and re-release it. Please feel free to download this free MS Word document to assist you with performing risk determinations.

Click Here to Download

http://download.wgr-sw.com/documents/56ba3a3b34d39-Project-Risk-Determination-Template.zip



Please contact us if you have any questions ...

The Monthly Dirt Newsletter Editor:
John Teravskis, QSD/QSP, CPESC, QISP, ToR
jteravskis@wgr-sw.com
(209) 334-5363 ext. 110 or (209) 649-0877

Technical Questions about Environmental Compliance?
Call ...
Kevin Harcourt, QSP, CESSWI (Northern California)
kbharcourt@wgr-sw.com, (209) 373-8277

Gray Martz, QSD, PG (Southern California)
jgmartz@wgr-sw.com, (562) 799-8510 ext. 1002

Manual Calculation of the "R" Erosivity Factor

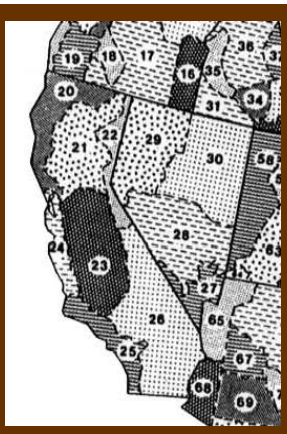
A summary of the information included in the State's and EPA's Guidance Document found at

http://www.waterboards.ca.gov/rwqcb7/water_issues/programs/stormwater/docs/cgp_r_factor.pdf

Step 1 – Find the Erosivity Index (EI) number on Figure 1:

- ✓ Identify which zone your project is in using Figure 1 on page 4 of the EPA's fact sheet. We realize that it would be much easier to do this if the map had cities, counties, and other landmarks identified on it. Unfortunately, it does not, so you may need to cross reference with other maps such as Google Earth or Google Maps. But still, it may be tough to determine which zone to use when a project is near the zone boundaries.
- ✓ Lodi is within Zone 23, therefore, the EI for Lodi is 23.

Figure 1. Erosivity Index Zone Map



Step 2 – Calculate the percentage of the Annual R value that applies to your project:

- ✓ Use Table 1 in the Fact Sheet (page 9).
- ✓ Find the corresponding percentages for the starting date and the ending date (Jun. 14 – Dec. 11, 2016).
- ✓ Subtract the starting percentage from the ending percentage.

Table 1. Erosivity Index (%EI Values extracted from USDA Manual 703)

All values are at the end of the day listed below - Linear interpolation between dates is acceptable.
EI as a percentage of Average Annual R Value Computed for Geographic Areas Shown in Figure 1

	Jan 1	Jan 16	Jan 31	Feb 15	Mar 1	Mar 16	Mar 31	Apr 15	Apr 30	May 15	May 30	Jun 14	Jun 29	Jul 14	Jul 29	Aug 13	Aug 28	Sept 12	Sept 27	Oct 12	Oct 27	Nov 11	Nov 26	Dec 11	Dec 31
23	0	7.9	15.0	20.9	25.7	31.1	35.7	40.2	43.2	46.2	47.7	48.8	49.4	49.9	50.7	51.8	54.1	57.7	62.8	65.9	70.1	77.3	86.8	93.5	100

- ✓ For Lodi (EI #23), % of EI = 93.5 – 48.8 = 44.7% of the R value.
- ✓ If the project lasted for more than one year, say from Jun. 14, 2016 – Dec. 31, 2017, the % EI would be 100% for the complete 2017 year, and 44.7% for the partial year or 144.7% of the R value.
- ✓ Every additional year is another 100%. The USEPA guidance document states that the EI cannot be greater than 100%; however, the State Water Board has made it clear that it can go beyond a 1-year time period.

Step 3 – Find the Isoerodent Value for your project and calculate the R Value:

- ✓ Use Figure 4 in the Fact Sheet (page 7) or download the isoerodent kml file from the State Water Board's ftp site or from www.gotSWPPP.com
- ✓ Find your project's location and, if necessary, interpolate the value. Yes, once again the map's quality is poor and hard to read, so we suggest using the downloadable kml file. The interpolation is somewhat subjective.
- ✓ For Lodi the isoerodent value is approx. 19 (interpolated).
- ✓ Therefore,

  R = (44.7% x 19)

  = 8.49 (not eligible for the waiver).

MONTHLY DIRT VALENTINE SPECIALS

QSP / QSD Training Coupon

Been waiting to get your QSP or QSD certification? Wait no longer!

Redeem this coupon for $50 off the normal QSP or QSD fee for the March 29 - 31, 2015 got SWPPP? Class in Lodi, CA

Use coupon code **VALENTINE** when registering at www.gotSWPPP.com

QSP Inspection Coupon

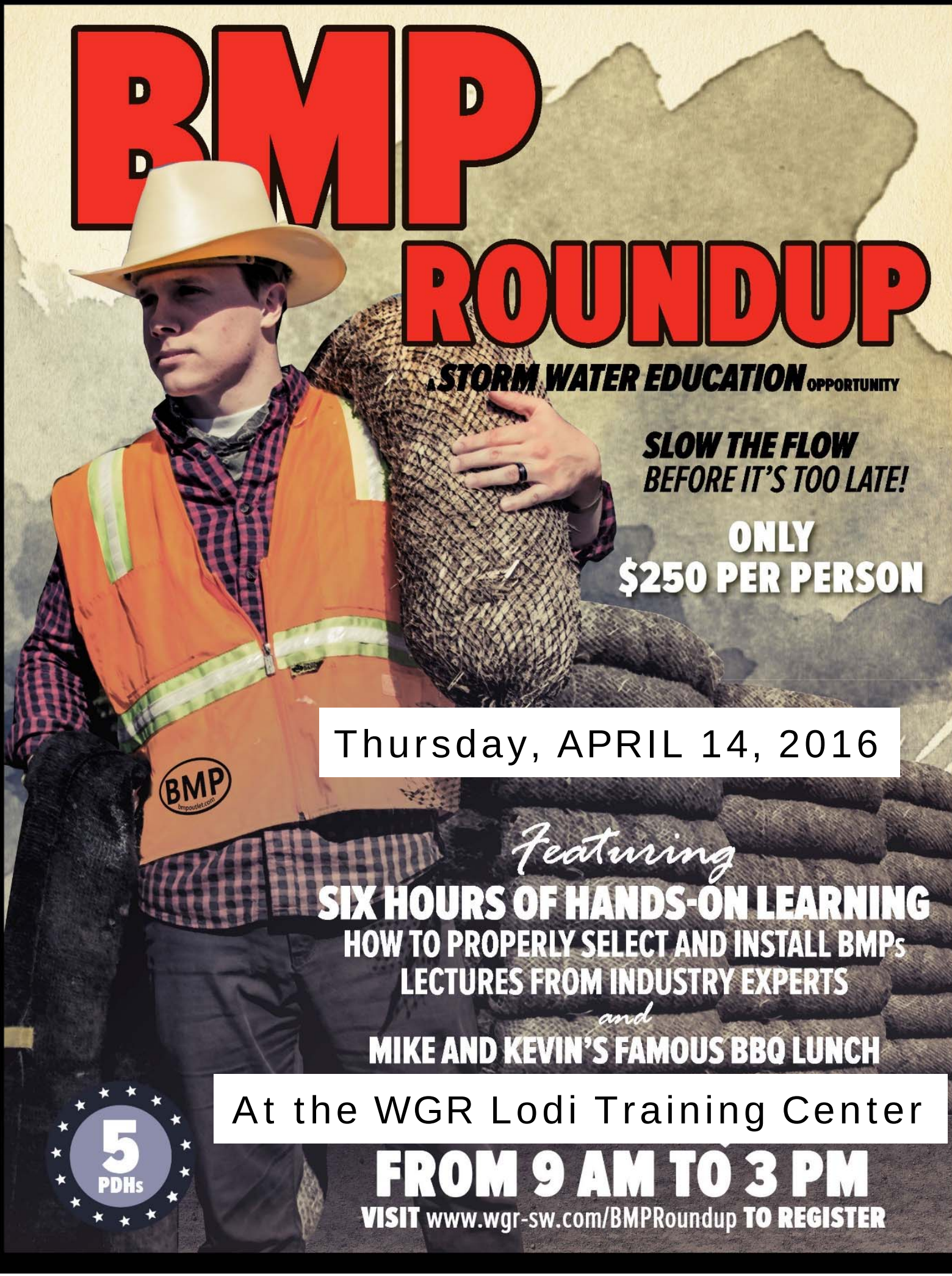
Have WGR's QSPs inspect your site and we will throw in a box of See's chocolates.

San Francisco Bay Area:	**$275/inspection**
Sacramento Area:	**$225/inspection**
San Joaquin County:	**$175/inspection**
Other Areas:	**Call for a quote**

Call Mike Lewis at (209) 334-5363 x116

Prices and chocolate offer valid for projects booked during the month of February 2016

Not valid for existing WGR projects.


BMP ROUNDUP
A STORM WATER EDUCATION OPPORTUNITY
SLOW THE FLOW
BEFORE IT'S TOO LATE!
ONLY
$250 PER PERSON
Thursday, APRIL 14, 2016
Featuring
SIX HOURS OF HANDS-ON LEARNING
HOW TO PROPERLY SELECT AND INSTALL BMPs
LECTURES FROM INDUSTRY EXPERTS
and
MIKE AND KEVIN'S FAMOUS BBQ LUNCH
At the WGR Lodi Training Center
5 PDHs
FROM 9 AM TO 3 PM
VISIT www.wgr-sw.com/BMPRoundup TO REGISTER

COME SEE OUR SHOWROOM!
11780 N. HWY 99,
Lodi CA 95220

PRODUCT SPOTLIGHT

The Hornet's Nest Drain Inlet Filter is a unique, under-grate storm drain filter, perfect for locations looking for basic drain protection with a clean appearance. The oversized base allows the filter to be used with many different sizes and shapes of drain inlets. Simply insert the filter, replace the grate, and trim the excess material for a custom fit and clean appearance. The yellow webbing secures the filter to the grate and doubles as lifting straps allowing for quick and easy removal of the filter and grate. The sediment collection cone has four overflow portals to ease congestion during heavy storm events.

Product Specifications:
- Material: 8-ounce non-woven geotextile
- Strapping: Weather resistant 2" polypropylene webbing
- Flow Rate: 90 GPM/foot
- Dimensions: 48" x 36"

BMP
bmpoutlet.com

BMP Outlet is a supply house for affordable erosion control products, drain inlet protection, sorbents, spill containment, and field instruments.

We have a large inventory of many different types of product, and can order whatever you need for your project.

Elima-Drip Pads

Eliminate drips underneath your vehicles and equipment with Elima-Drip drip containment pads. Elima-Drip pads are weighted absorbent pouches contained in heavy-duty vinyl sleeves, which protect the spill pads from accidental movement. The 50"x20" pad is capable of containing up to 50 ounces of oil, and the 30"x20" pad can contain up to 29 ounces. Best of all, these pads are reusable! Simply replace the pouch inside the vinyl sleeve.

Product Specifications:
Outside Material: Heavy-duty vinyl sleeve
Spill Containment Media: Absorbent pads
Dimensions: 50″x20″ or 30″x20″

Check out our website!
shop.bmpoutlet.com

BMP Outlet • sales@bmpoutlet.com • (916) 918-0408