

## **OVERVIEW: Amoco/BP Petroleum Energy Dissipation**

Attempts with rock riprap to stabilize and dissipate energy at the bottom of a 30' drainage, "let-down" structure for Amoco (currently BP/Amoco) proved futile. Thousands of dollars had been invested into this project over the years with nothing proven to be effective. In 1998 Patrick Engineering decided to take a more proactive "engineered" solution to this difficult application. Utilizing approximately 100 24" A-Jacks concrete armor units, the solution proved to be both inexpensive and stable. When 100 24" A-Jacks are interlocked against one another this forms a matrix weighing in excess of 7,800 pounds of interlocking erosion protection and energy dissipation. The A-Jacks were installed for less than \$3,000 and wrapped with a polyester cable for additional stability to keep the individual units from dislodging from the matrix. As water tumbles down the concrete steps the A-Jacks break-up the energy from the stepped concrete structures before cascading into a Northern Illinois stream.



**PRODUCT:** 24" A-Jacks

**AMOUNT:** 100 Units

**DATE:** Summer 1998

**OWNER:** BP/Amoco  
Joliet, IL

**ENGINEER:** Patrick Engineering  
Attn. John Fehlberg  
Jack Steenken  
Lisle, IL 60532  
(630) 795-7200

**CONTRACTOR:** Amoco Construction Services

**SUBMITTED BY:** Doug Buch

**DATE:** January 2004

