

River Engineering

Serving clients throughout the world with a full range of water resource project services

AMEC's international group of water resource engineers and scientists are recognized as leaders in the industry. Clients worldwide rely on our river engineering expertise to tackle difficult problems, perform analysis, provide recommendations on existing systems and for design services. Our philosophy is to maximize benefits for mankind and the local/regional ecology in every project.

Services

AMEC provides feasibility studies, design and implementation, including the following:

- Stream Morphology and River Engineering
- Hydrological Analyses
- Aquatic Ecology and Habitat Enhancement
- Riparian Zone Management
- Water Quality Monitoring and Modeling
- Discharge and Sediment Monitoring
- Surface and Groundwater Interaction
- Computer Modeling
- Biotechnical Reclamation Measures
- Permitting and Regulatory Issues
- Environmental Impact Assessment
- Human Environment



Expertise

AMEC has broad experience in the design, planning and construction of river engineering projects. Multiple factors are considered prior to implementation, including environmental, physical, biological and human impacts.

- Regime Analysis and Modeling
- River Training Works
- Sediment Transportation Modeling and Analysis
- Stable Channel Design
- Streambank Stabilization
- Stream Restoration
- Scour Analysis
- Pipeline Stream Crossings
- Bridge and Culvert Crossing Design
- Aquatic Habitat Assessment and Design



Pipeline Stream Crossings

AMEC's pipeline stream crossing expertise includes:

- Direction Drill Feasibility
- Scour/Erosion Analysis
- Sag Bend Locations
- Ice Assessments
- Water and Sediment Control
- Fish Habitat Restoration



Sedimentation Control at Pipeline Crossings

AMEC has developed special experience in planning, design and implementation of sedimentation control systems. Our expertise in sedimentation at pipeline crossings includes the following:

- Hydrologic Forecasting and Risk Assessment
- Fisheries Habitat Assessment
- Preliminary Planning with Alternative Sediment Control Measures
- Flow and Suspended Sediment Monitoring
- Site Assessment and Documentation
- Detailed Design
- Construction Supervision/Inspection



River Hydraulics and Flood Control

AMEC's engineers and scientists use state-of-the-art processes to perform complex analyses on large river systems thousands of square miles in size. Our staff is well versed in the latest computer software in the industry and has the capability to create new programs as needed for specialized jobs. Notable clients include the U.S. Army Corps of Engineers, the Tennessee Valley Authority, the Chinese Government, and many others. Services include:

- Flood Warning Systems
- Lock and Dam Analysis and Design
- Flood Frequency Analysis
- Lock and Dam Analysis and Design
- Dam Break Analysis
- Real Time Flood Forecasting
- Predictive Flood Inundation Mapping



Clients

- Federal Governments
- Environment Canada/EPA
- World Bank
- Irrigation Districts
- International Oil, Gas and Pipeline Transmission Companies
- Pembina Resources Limited
- Forestry Companies
- State/Provincial Departments of Transportation
- International Mining Companies
- Hydropower Generation Companies
- Flood Control Agencies

For a list of office locations, company contacts and other services refer to:
www.amec.com/earthandenvironmental