# SAM

## Stable Channel Design

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Federal Highway Administration

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# SAM

## Cooperative Research and Development Agreement

- U.S. Army Corps of Engineers
  - WES (ERDC) – FORTRAN Software
- Ayres Associates
  - Windows Interface
- FHWA
  - Technology Applications Funds Coordinated Through Central Federal Lands Highway Division
- State DOTs and FHWA Site Licenses

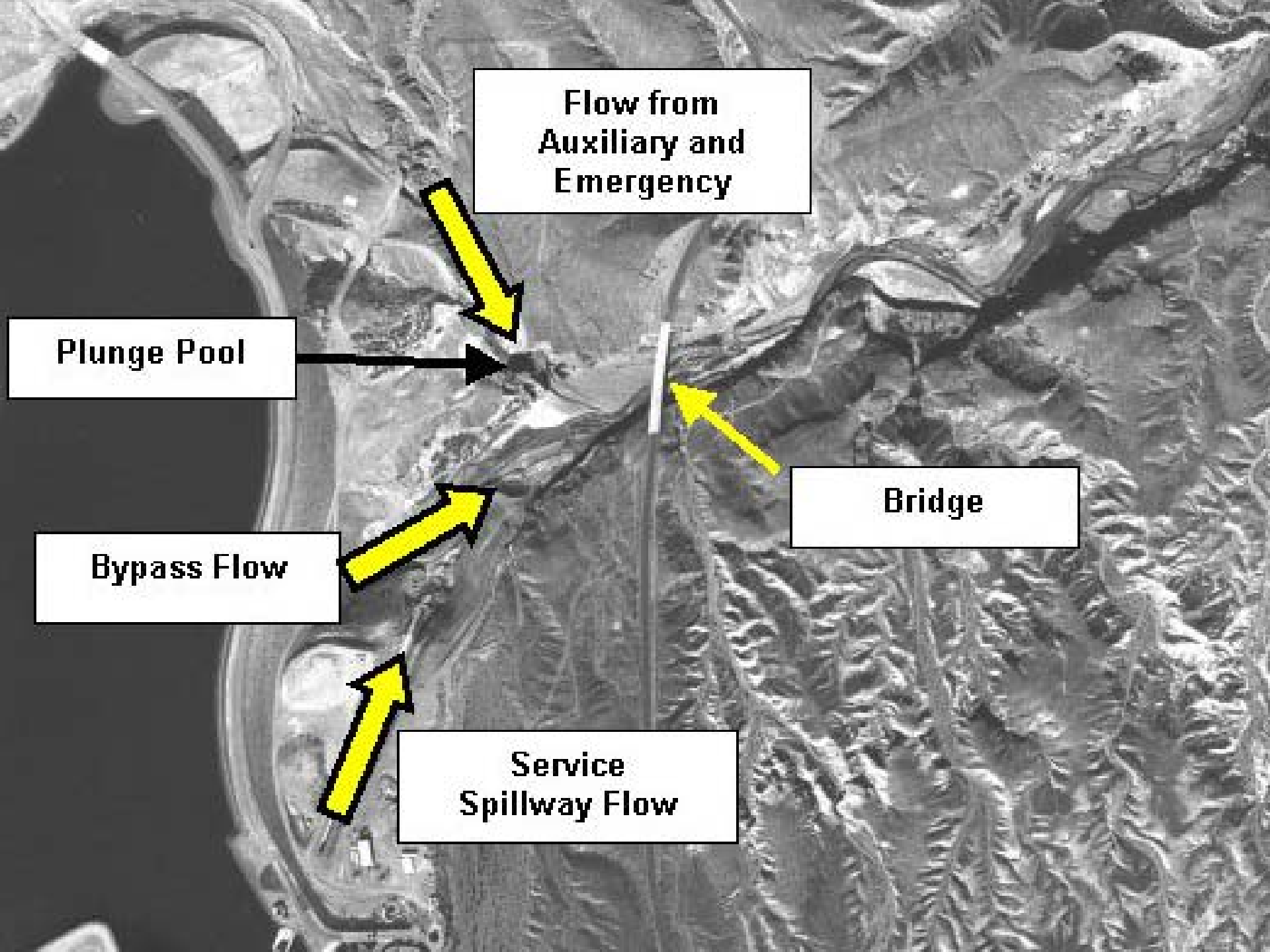
# SAM – Main Components

- SAM.hyd – Hydraulics
- SAM.sed – Sediment Transport
- SAM.yld – Sediment Yield

# SAM – Case Study

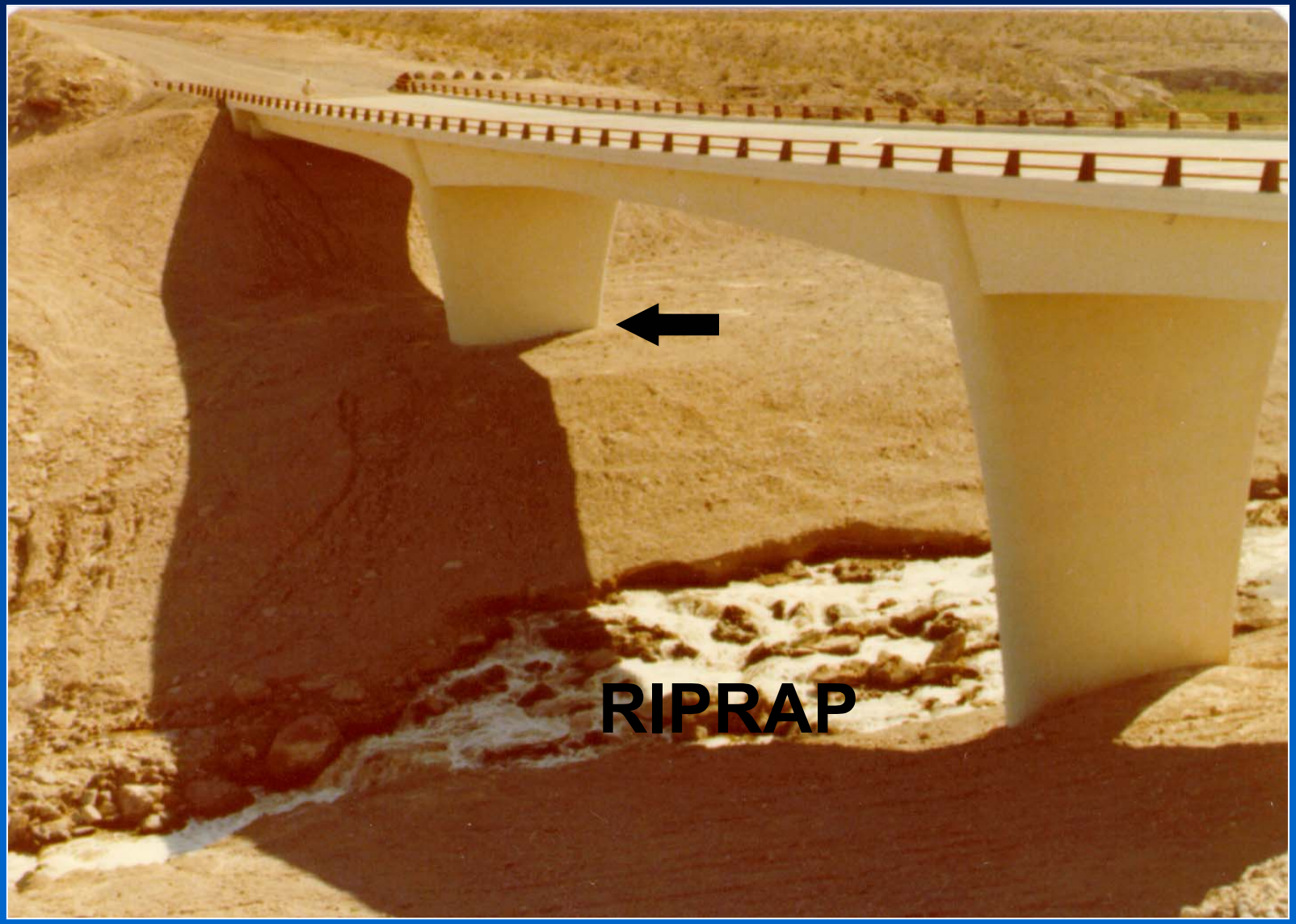
## Las Vegas Wash, Las Vegas NV

- FHWA Central Federal Lands Project
- Nevada State Route 147
- Downstream of Lake Las Vegas
- Upstream of Lake Mead
- Severe Channel Degradation


Flow from
Auxiliary and
Emergency
Plunge Pool
Bridge
Bypass Flow
Service
Spillway Flow

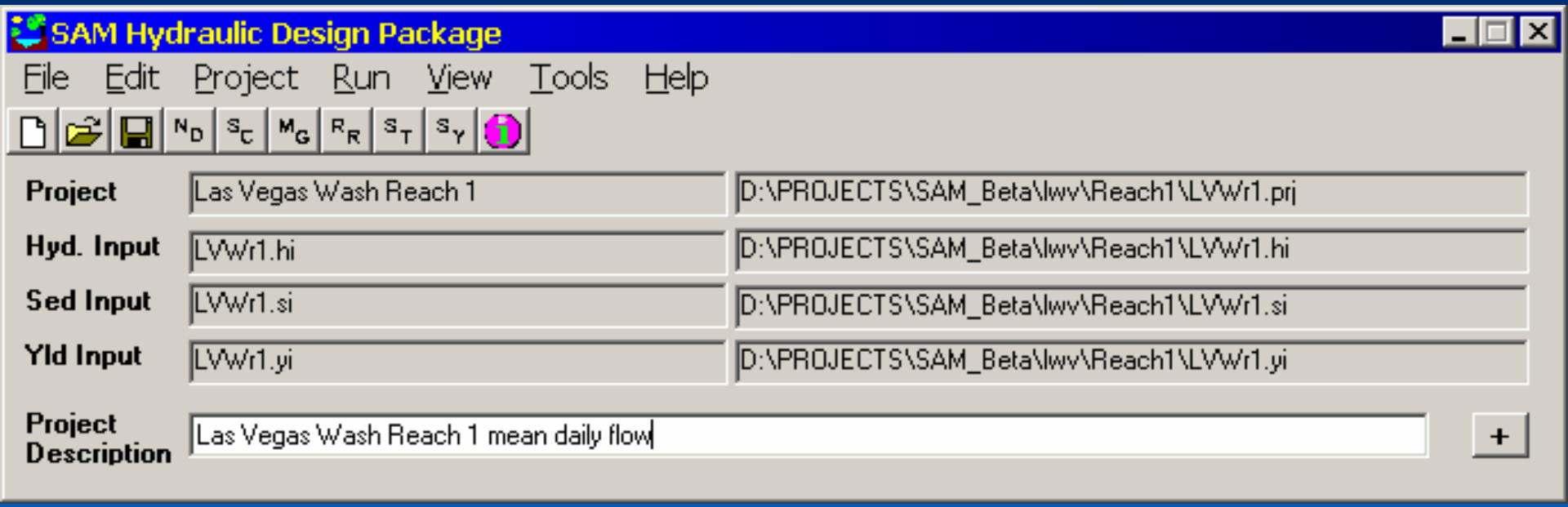
# SR 147 CROSSING - 1976

# BRIDGE CROSSING - 1978

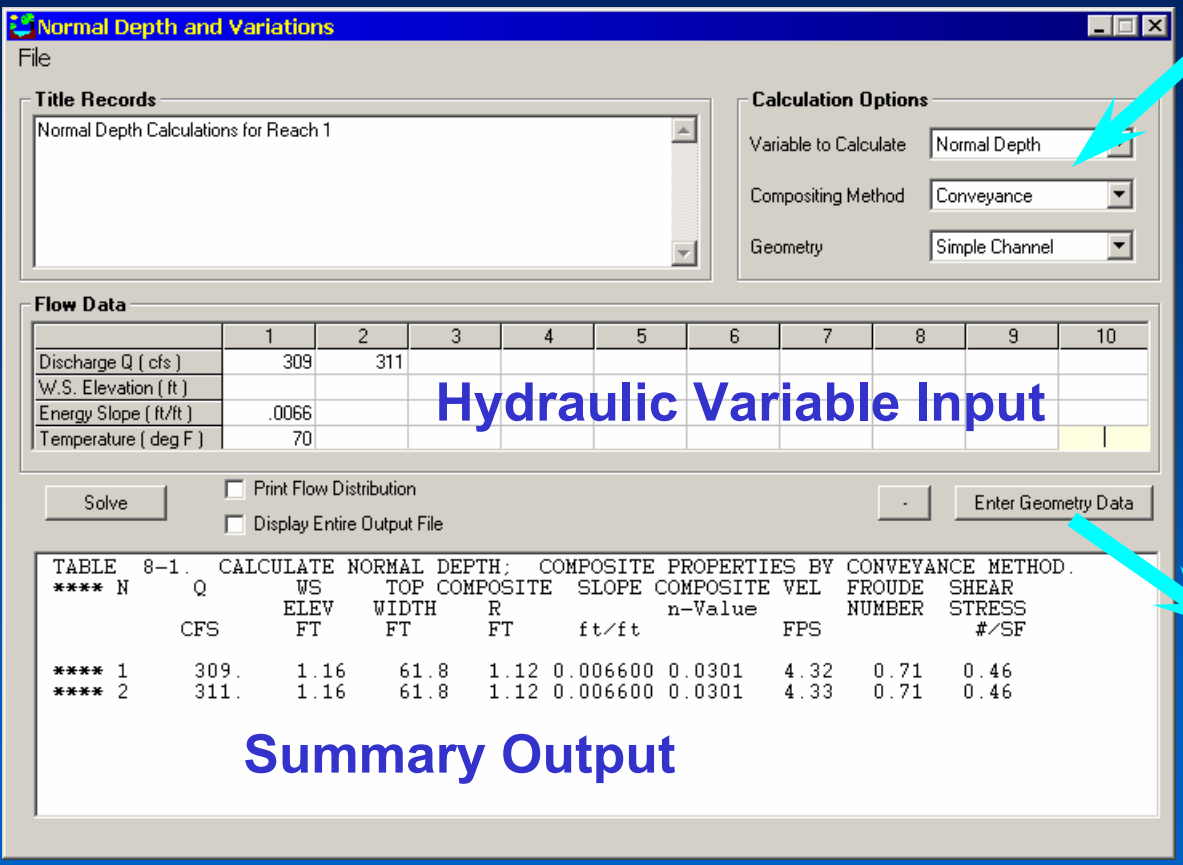


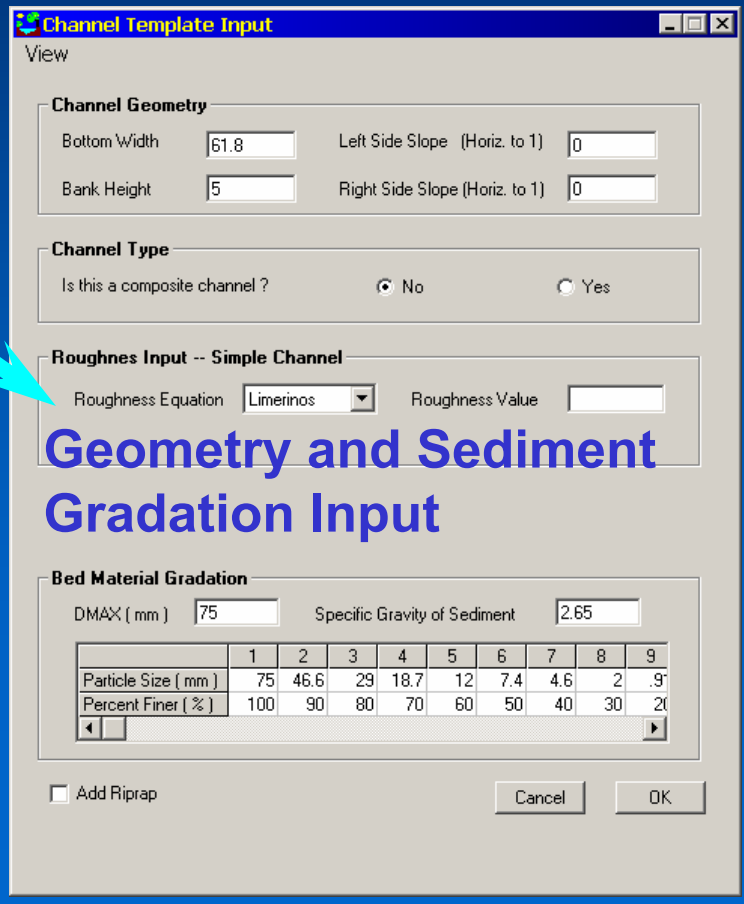

RIPRAP

# SAMWin – Main Menu

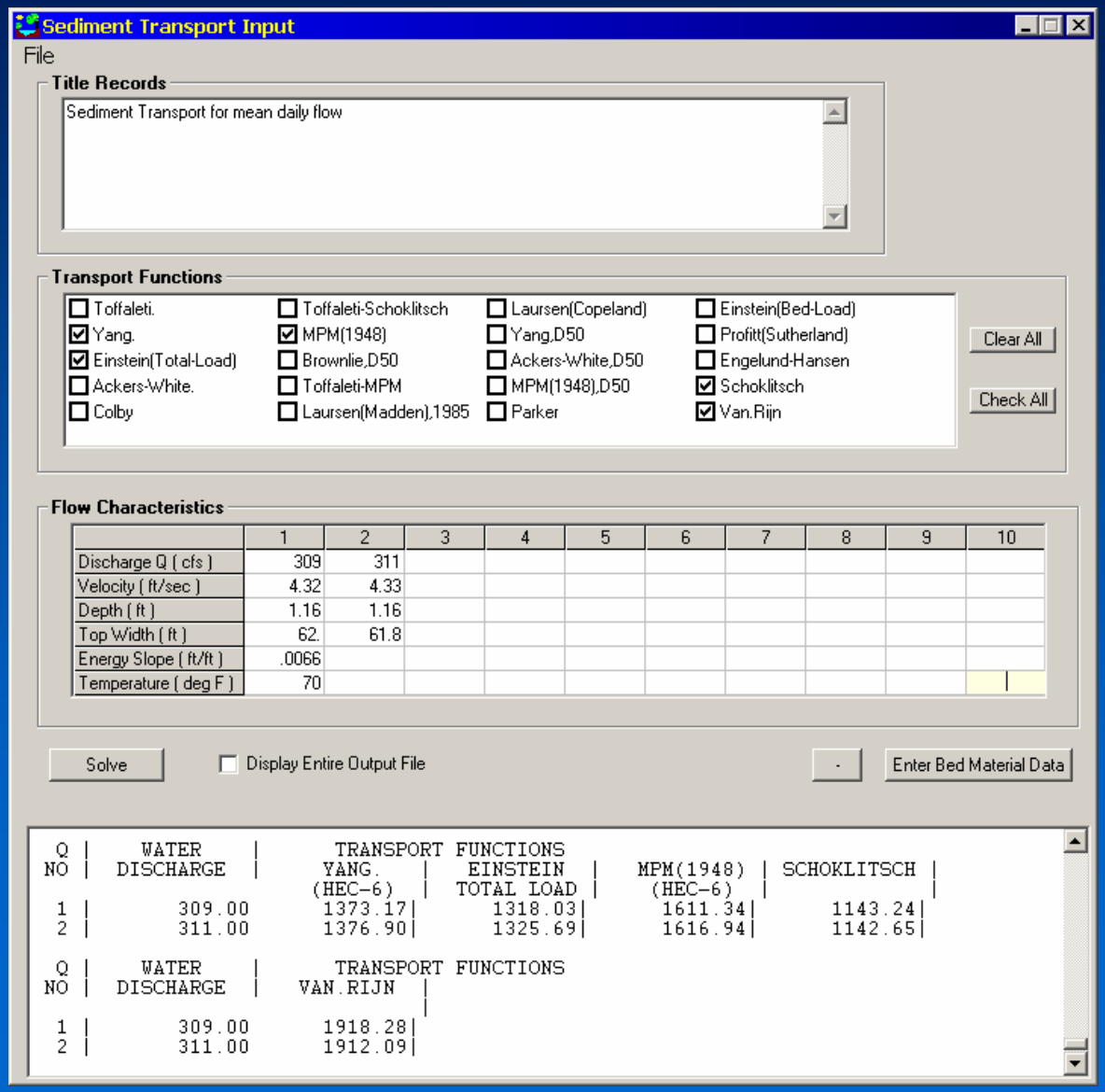


# SAMWin – Hydraulics



# SAMWin – Sediment Transport

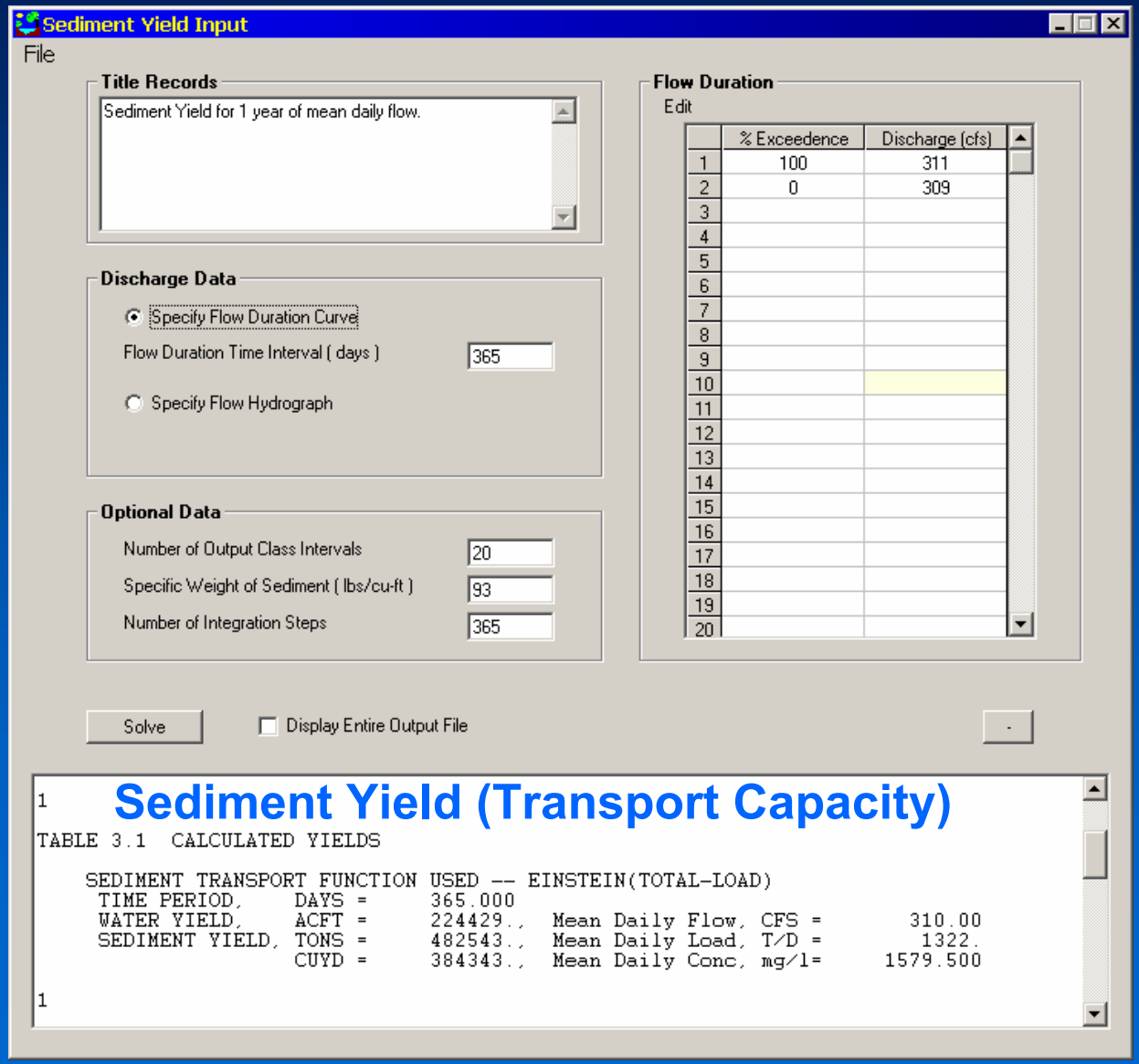



**Select Sediment Transport Functions**

**Hydraulic Results Carried Forward from SAM.hyd**

**Summary Output**

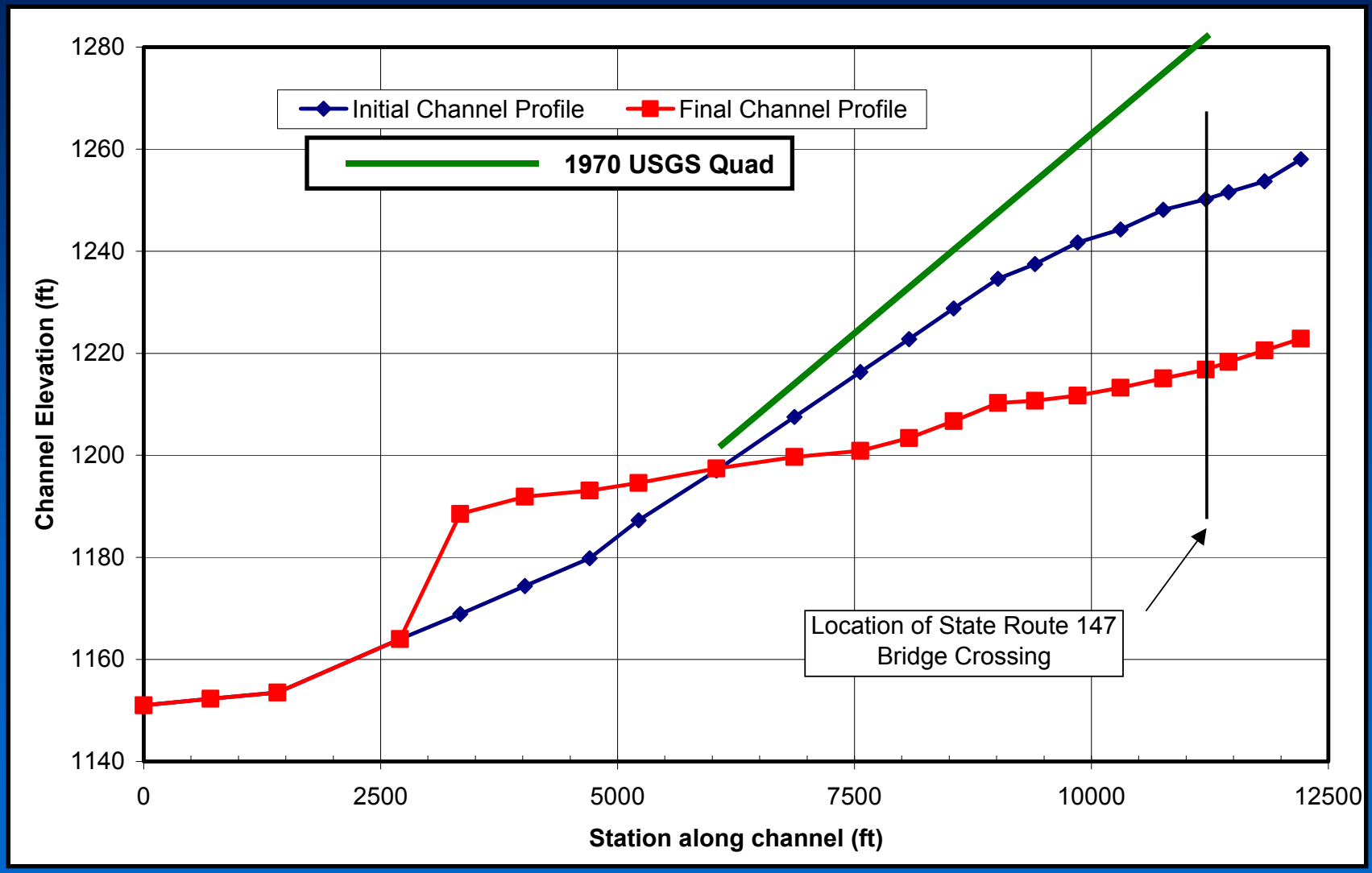
# SAMWin – Sediment Yield



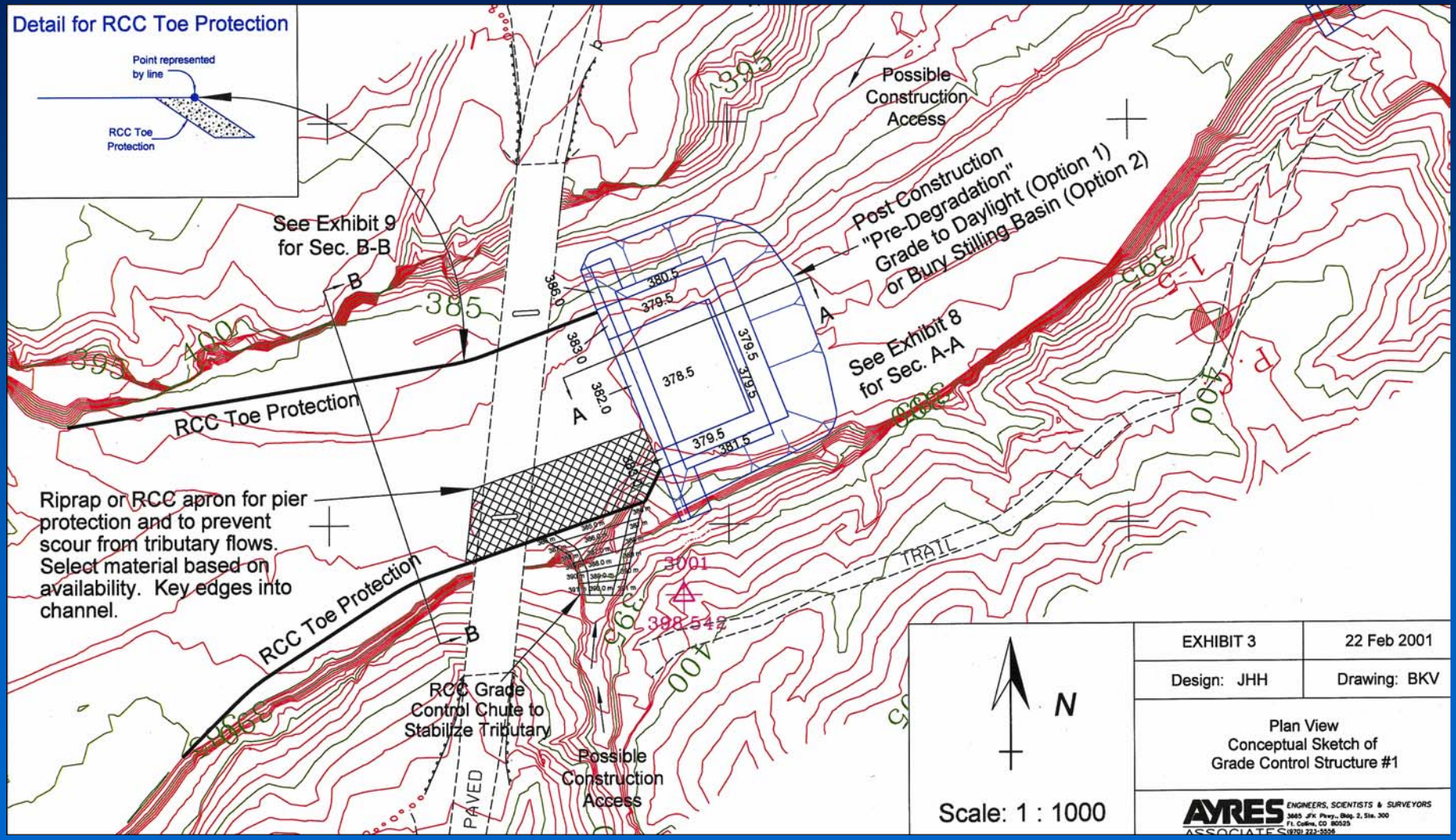

**Enter**
**Flow Duration Curve**
**or**
**Storm Hydrograph**

**Summary Output for Each Selected Sediment Transport Function in SAM.sed**

# BRI-STARS PROFILE



# GRADE CONTROL STRUCTURE



# GRADE CONTROL STRUCTURE

# SAM – Additional Components

- SAM.aid – Transport Function Guidance
- SAM.hyd – Stable Channel Dimensions
- Riprap Design
- Meander Planform Geometry

# SAMWin Summary

- Aggradation And Degradation Studies
- Distribution Should Occur Within Next 30-60 Days
- CD-ROM With Software, Installation Instructions, and Transmittal Letter