

McAlpine Lock Replacement Project

Project Summary and Status of Construction

Kathy Feger, PE
Louisville District, USACE



Scheduled Completion 2008
Preliminary Digital Photographic Rendering

Project Site



US Army Corps of Engineers

Welcome To McAlpine Locks and Dam

Vision Statement

The world's premier engineering organization.
Trained and ready to provide support anytime, anywhere.
A full spectrum Engineer Force of high quality,
Dedicated soldiers and civilians:

- Trained and ready;
- A vital part of the Army;
- Dedicated to public service;
- An Army values-based organization;

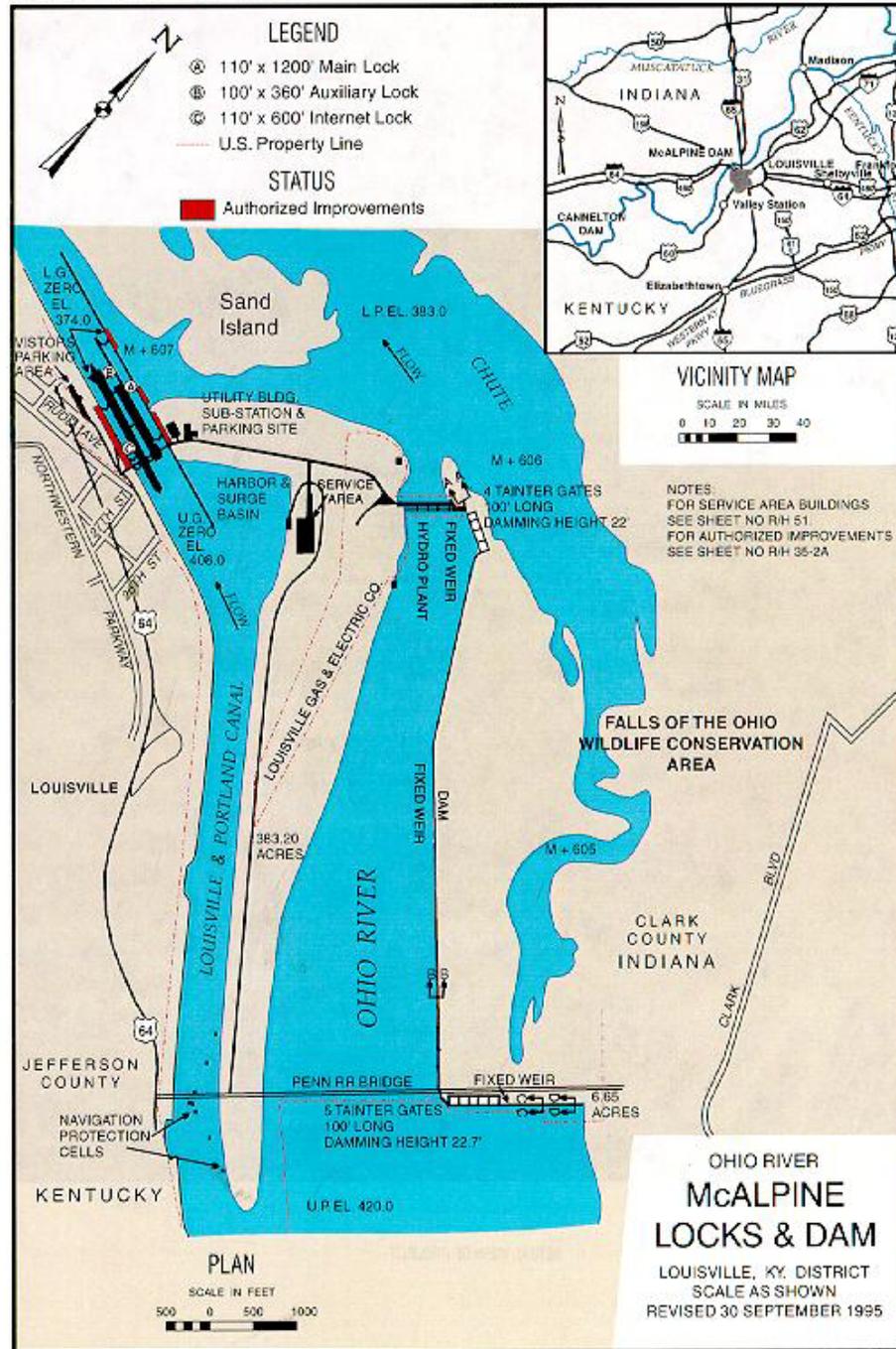
**One Corps Serving the Army
And the Nation**



**McAlpine Locks
Before Construction
1998**



OHIO RIVER R/H 35-2



Project Scope



BEFORE



AFTER

Scheduled Completion 2008
Preliminary Digital Photographic Rend



November 2002







Downstream Cofferdam Cell Armor



May 2002

Downstream Approach







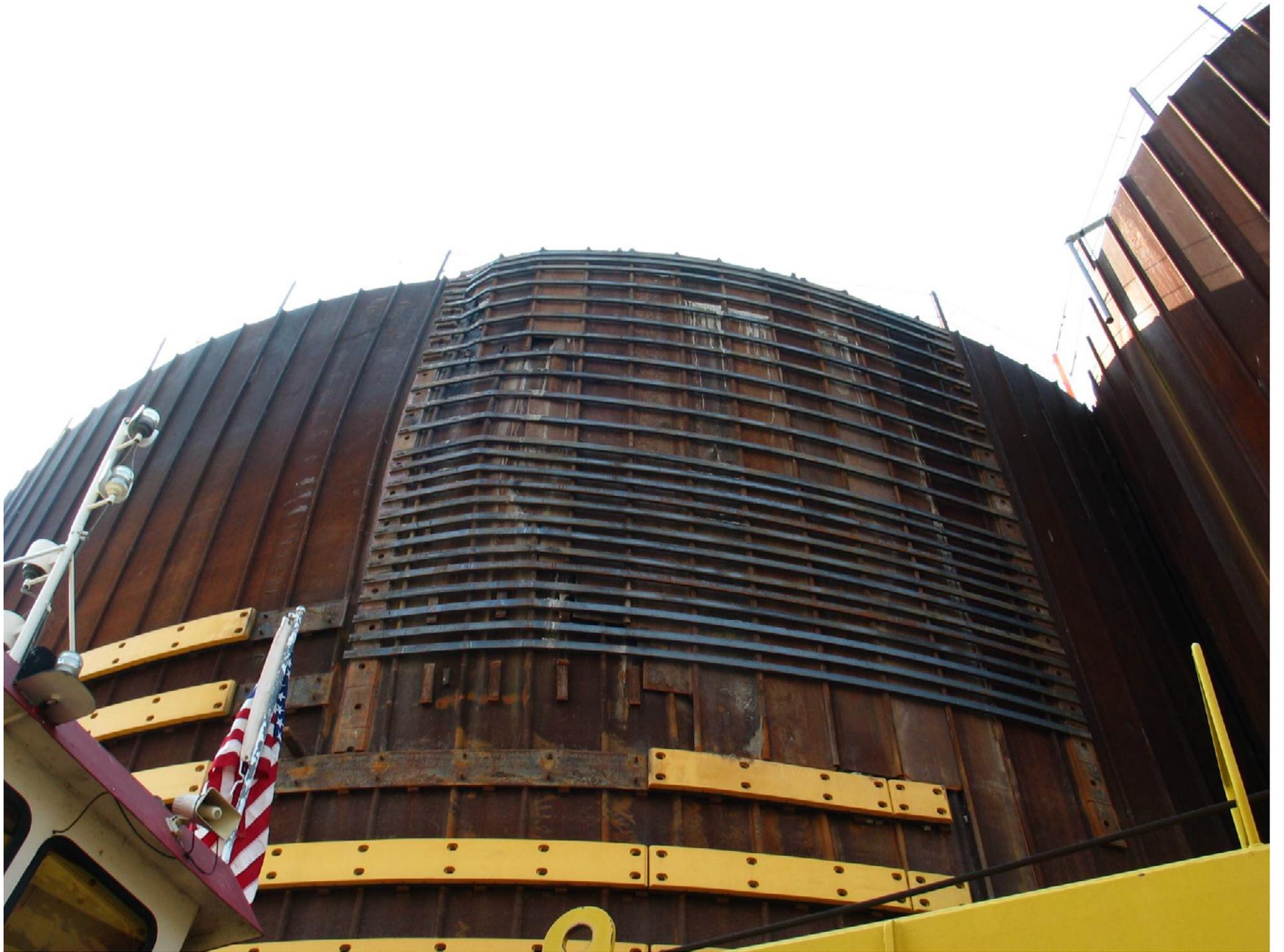












Project Scope - continued

**1200-ft Lock
South Wall**

← **Rock Anchor**

**Unwatered
Cofferdam Side
of Lock Wall**

**Concrete
Buttress**

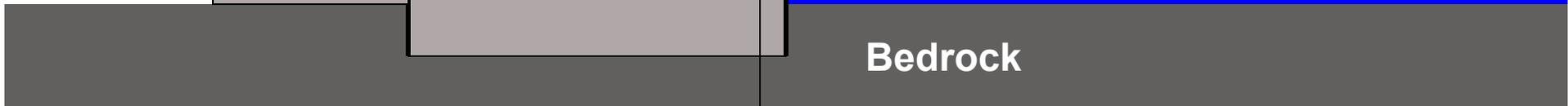


**Filling
Culvert**



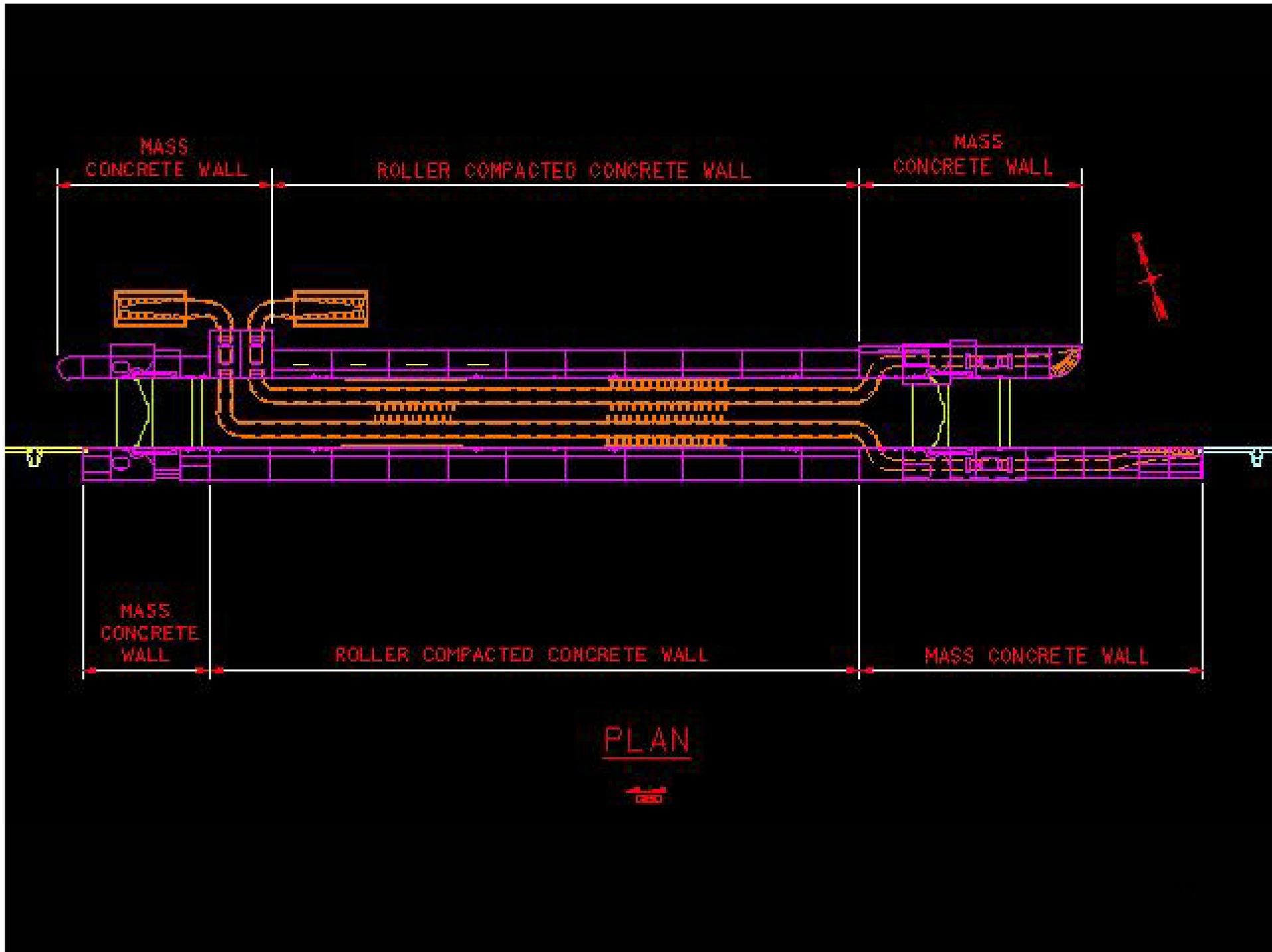
**1200-ft Lock Chamber
(Lock at Upper Pool)**

Bedrock















Status of Construction



May 2005



Construction Dates

Finish South Wall RCC	Done
Start Control Buildings	Aug. 05
Finish North Wall RCC	Oct. 05
Open New Bridge to Traffic	Dec. 05
Start Setting Miter Gates	Feb. 06
Finish Mass Concrete	Sept. 06
Rewater Cofferdam	June 07
Contract Completion	April 08
Scheduled Completion	June 08



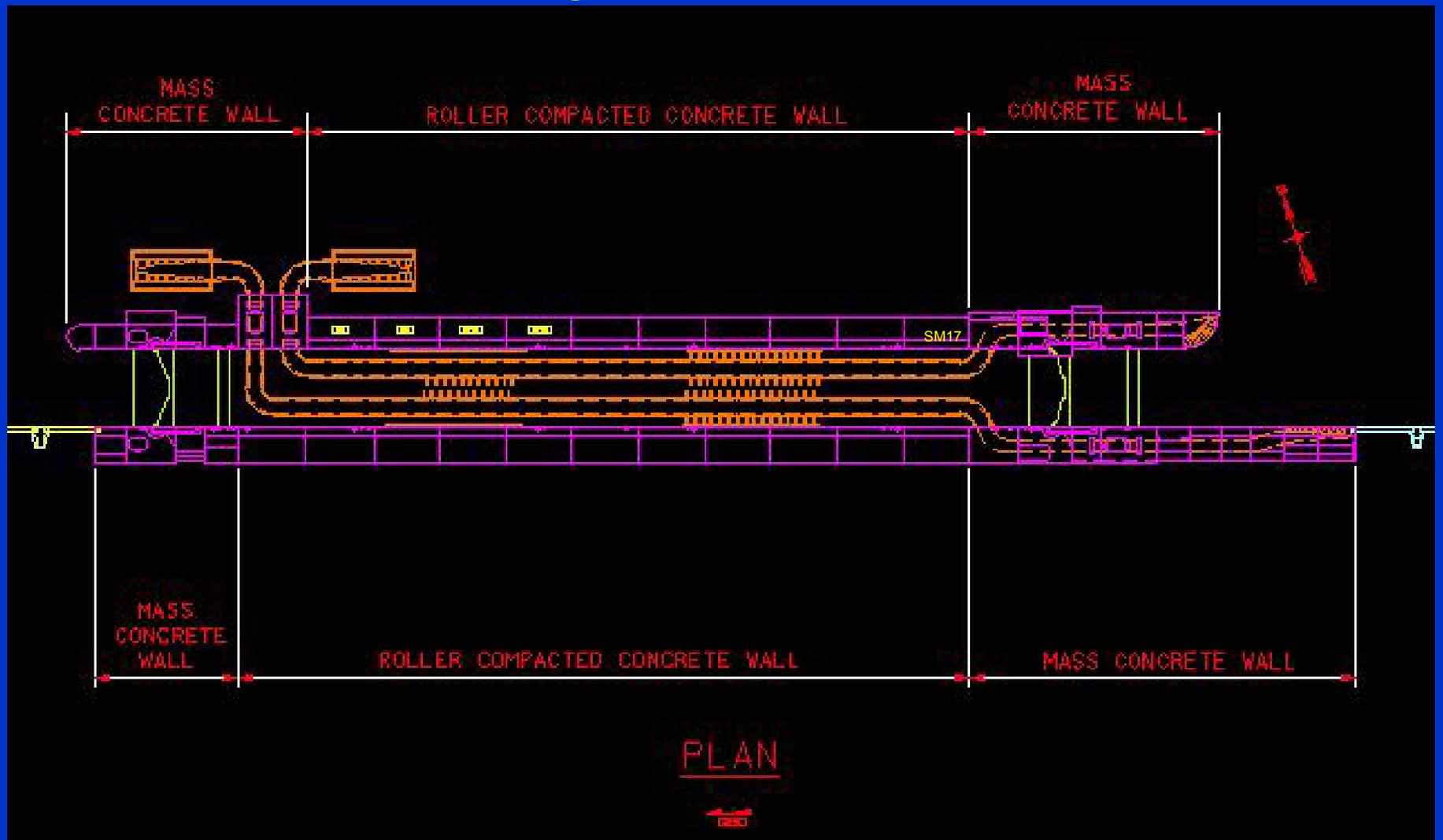
May 2005

Construction Issue

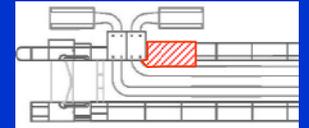
Monolith Foundations

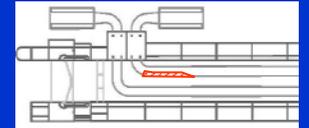
Conventional Concrete and RCC lock walls

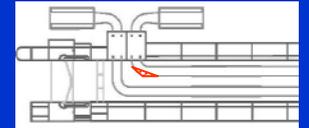
- Founded on rock
- Different founding elevations due to culverts











Two Rock Strength Parameters are
Affected:

Shear Strength Along the Offset
Seam

&

Bearing Capacity of Rock Mass

The background of the slide is a close-up, slightly blurred image of the American flag, showing the stars and stripes. In the lower right quadrant, there is a small, golden, illuminated icon of a castle or fortress with multiple towers and a central archway.

Kathy Feger, PE

Louisville District, USACE

(502) 315-6284

Kathleen.B.Feger@LRL02.usace.army.mil