

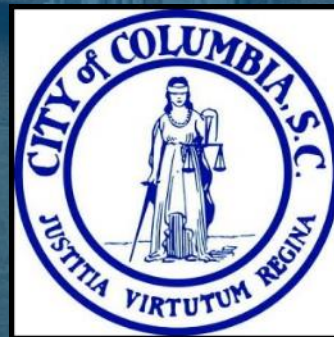
Columbia Canal: Public Engagement

FEMA PA-04-SC-4241-PW 00289 Columbia Canal, Columbia SC

National Historic Preservation Act (NHPA) and Adverse Effects



FEMA



Columbia Canal Public Engagement Meeting Welcome

Clint Shealy, P.E.

City of Columbia – Assistant City Manager
Columbia Water



DR4241 – Columbia Canal Repair

- October 2015 Flood Damage
- Purpose Today: Section 106 Historic Preservation Public Engagement Meeting



FEMA

Section 106 Public Engagement Forum

Dustin Ducote

FEMA Region 4 – Atlanta Region Office
Environmental Planning and Historic Preservation Specialist
Environmental Assessment Preparer



FEMA

Agenda and Presenters



**Clint Shealy –
Columbia Water**

**Jessica Jones –
SCEMD Recovery**

**Kirk Brown –
FEMA Public
Assistance**

**Kyle Crager –
Michael Baker
International**

**Dustin Ducote –
FEMA EHP**

**Leslie Johansen –
FEMA EHP**

**Crystal Paulk-
Buchanan –
FEMA External
Affairs**

**Vincent Abril –
FEMA External
Affairs**

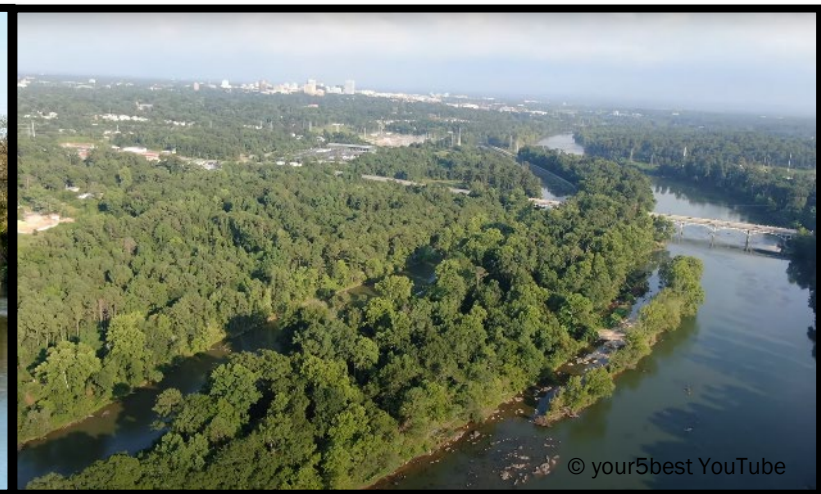
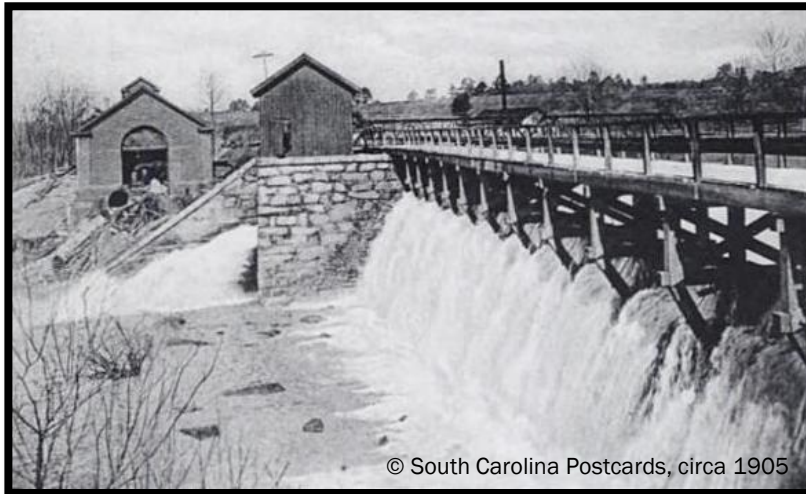


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What does the Canal mean to you?

Using the Freeform Chat please:

- List three things that come to mind when you think of the Columbia Canal
- Provide at least one way in which you currently use the canal

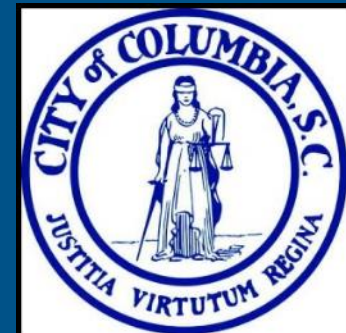


FEMA

Columbia Canal Damages

Clint Shealy, PE

City of Columbia – Assistant City Manager



CANAL DAMAGES – SITE 1 – Hydroelectric Plant



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CANAL DAMAGES – SITE 2 – Spillway



FEMA

CANAL DAMAGES – SITE 3 – Headgates



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CANAL DAMAGES – SITE 4 – Embankment Repairs



FEMA

DR 4241 and Columbia Canal Project

Jessica Jones

South Carolina Emergency Management Division
Recovery and Mitigation
PA Program Manager



Public Assistance



- Who is the Public Assistance Program designed to help?
- What is the Public Assistance Program?
- When and where is Public Assistance funding available?
- How is Public Assistance funding received?
 - FEMA - Administers
 - SCEMD - Recipient
 - City of Columbia – Subrecipient



2015 Severe Storms and Flooding

FEMA-4241-DR-SC

Declaration Date: October 5, 2015

Incident Period:

October 1, 2015 - October 23, 2015



Columbia Canal Project



- Canal repairs deemed eligible for FEMA Public Assistance program
- Scope of work development required detailed understanding of disaster-related damages and the work to be completed
- Anticipated final project amount approximately \$42M
- Funding award by FEMA is pending completion of the Environmental and Historic Preservation's Environmental Assessment (EA)
- Under FEMA policy, permanent work repairs should not commence until EA completion



Columbia Canal Compliance Review

Kirk Brown

FEMA Region 4 – Atlanta Region Office
Public Assistance
Emergency Management Specialist
FEMA Project Specialist



FEMA

Federal Emergency Management Agency (FEMA)

Public Assistance (PA)

The mission of FEMA's PA Program is to provide assistance to State, Territorial, Indian Tribal, and local governments, and certain types of Private Non-Profit (PNP) organizations so that communities can quickly respond to and recover from major disasters or emergencies declared by the President.



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Site 1 – Hydroelectric Powerhouse – Equipment & Site Repairs

Hydro Electric Plant:

Replace water damaged generators and electrical equipment. Repair minor damages and erosion to the facility and the surrounding area. Perform flood proofing mitigation.



FEMA

Site 2 – Spillway and Tainter Gates - Stoplog Replacement

Radial Arm Floodgates:

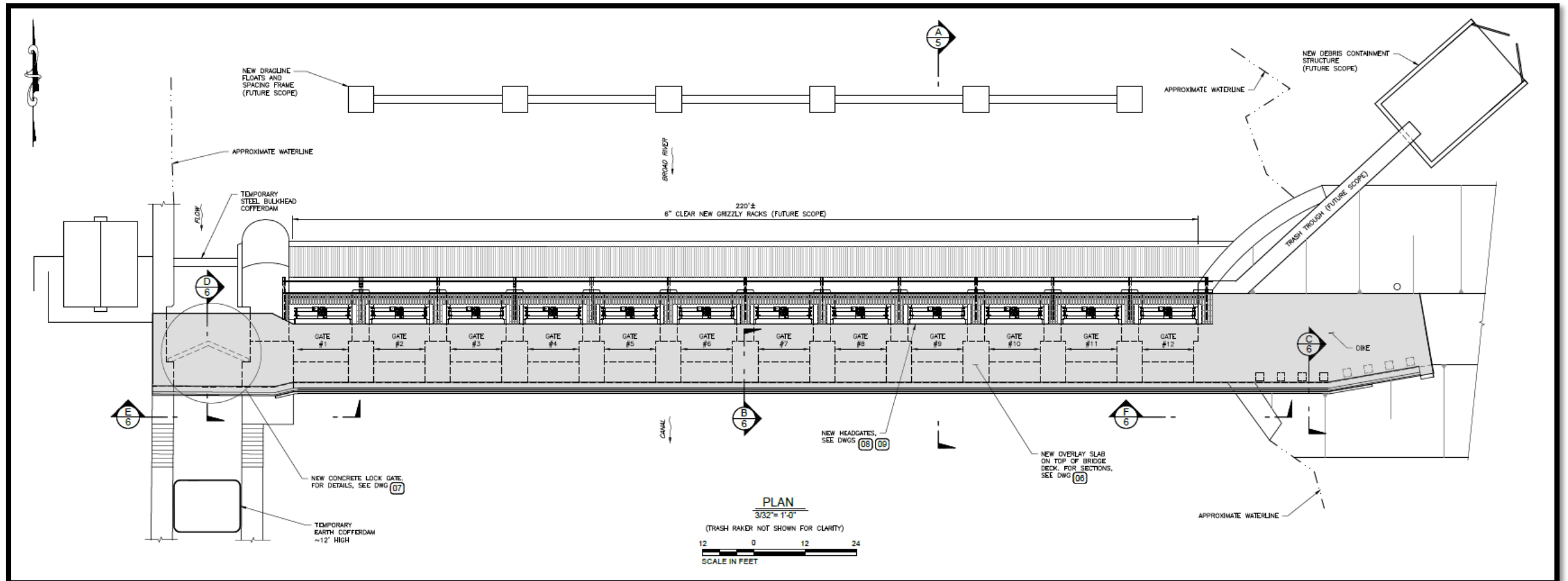
Replace stoplogs which were removed as emergency protective measures (EPM) during the disaster.



FEMA

Site 3 – Headgates – Repair & Improvements

Head Gates: Remove emergency bulkheads from 12 gate openings and remove sandbags and debris trapped under the actual gates



Site 4- Canal Breach and Embankment

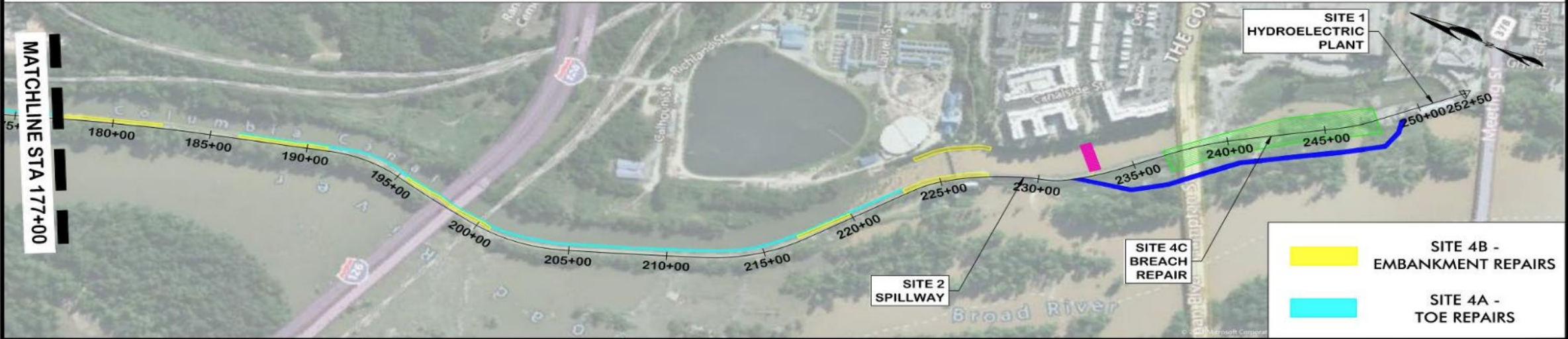
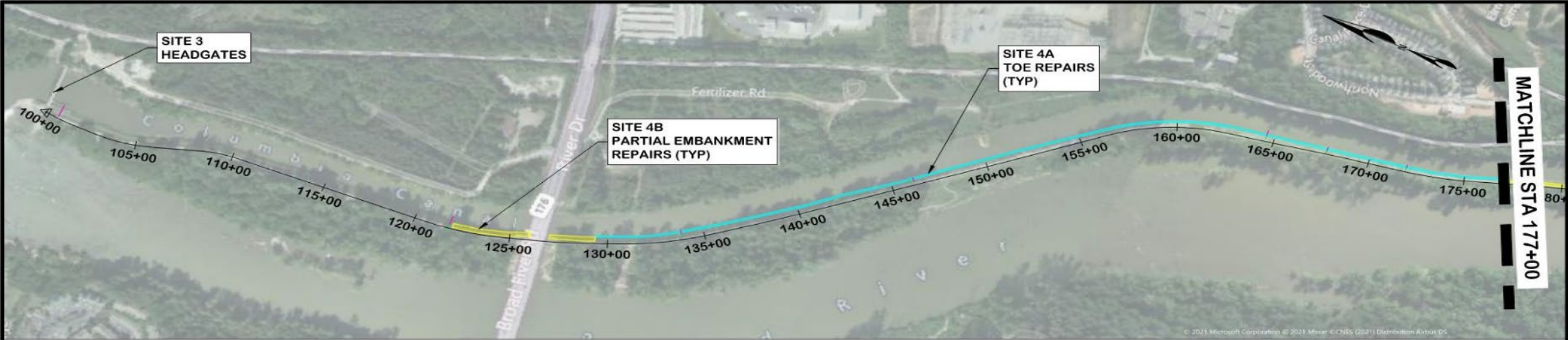
Canal Breach and Embankment:

Repair approximately 14,000 linear feet of embankment damages and stabilize these areas with Rip Rap. Repair approximately 1,125 linear feet of damaged levee at the Hydroelectric Plant. Remove temporary cofferdam at the Klapman Bridge, restore the area to pre-disaster conditions.



FEMA

Columbia Canal - Project Area



Michael Baker
INTERNATIONAL

COLUMBIA CANAL REPAIRS

COLUMBIA, SC

SITE 4 AREAS OF WORK AS UNDERSTOOD IN
DRAFT PW289 DR-4241 DATED JUNE 6, 2018

ATTACHMENT NO.

OVERALL PLAN

DATE: JULY 2021

1810586 - Columbia Canal Rehabilitation Project - Final EIR - GIS Database Editing - 10/11/2021 - 11:00 AM - 11:00 AM - 11:00 AM - 11:00 AM

Columbia Canal Compliance Review

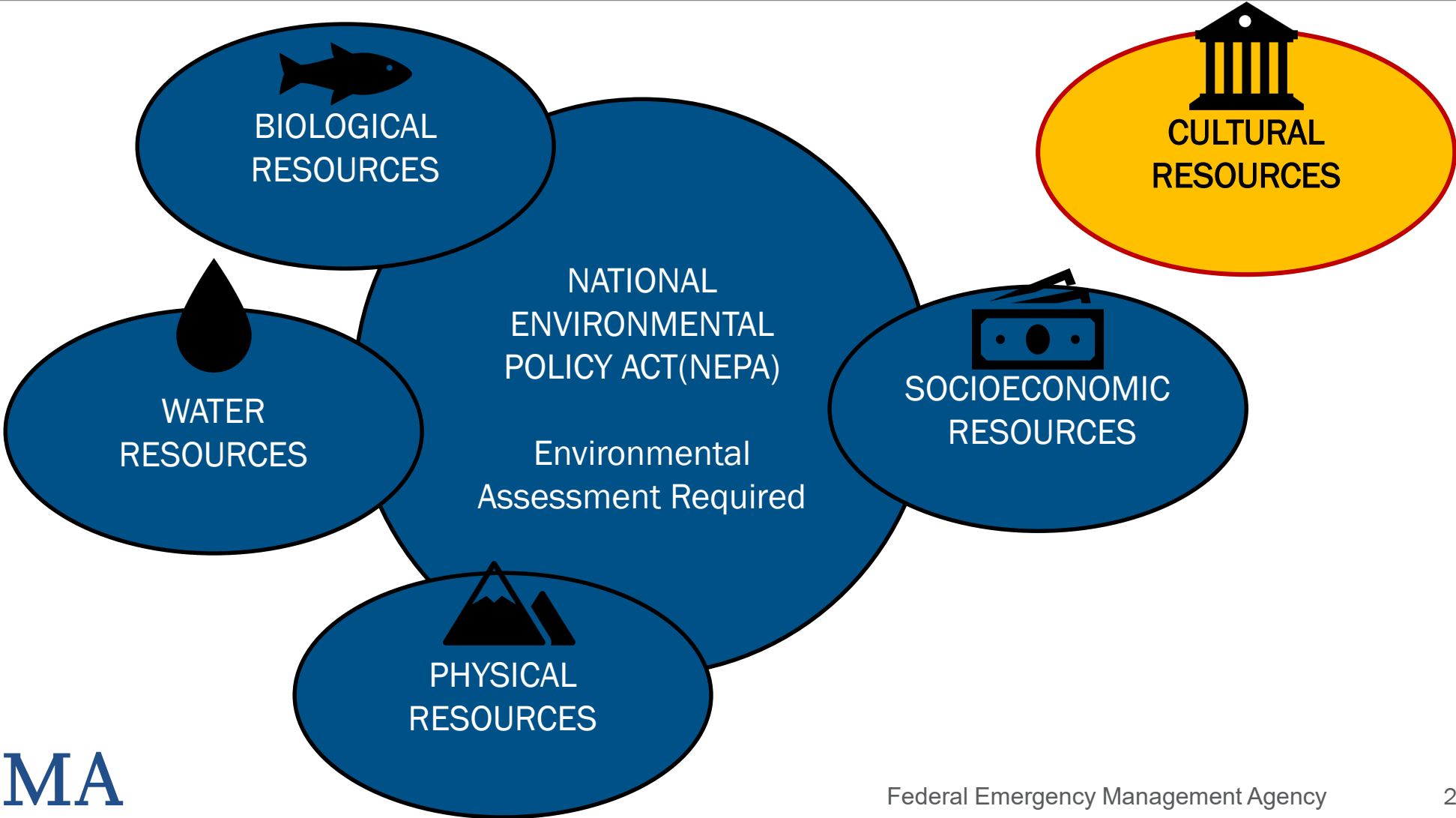
Dustin Ducote

FEMA Region 4 – Atlanta Region Office
Environmental Planning and Historic Preservation Specialist
Environmental Assessment Preparer



FEMA

Overview of FEMA EHP Compliance Review



FEMA

General Status of the Environmental Assessment (EA)

FEMA Determination of EA Required

EA Kick-Off Meeting

Surveys and Reports

Consultations with Federal and State Agencies including Interested Tribes

Section 106 Public Engagement Meeting and Comment Period

WE ARE HERE

EA Writing Process

Drafted EA Public Comment

EA Legal Review and Finding of No Significant Impacts (FONSI)

Final EA submitted for online publication and signed hardcopies distributed



FEMA

Columbia Canal Scope of Work and Effects to Historic Properties

Leslie Johansen, PhD

FEMA Region 4
Region 4 Section 106 Lead
& Tribal Liaison

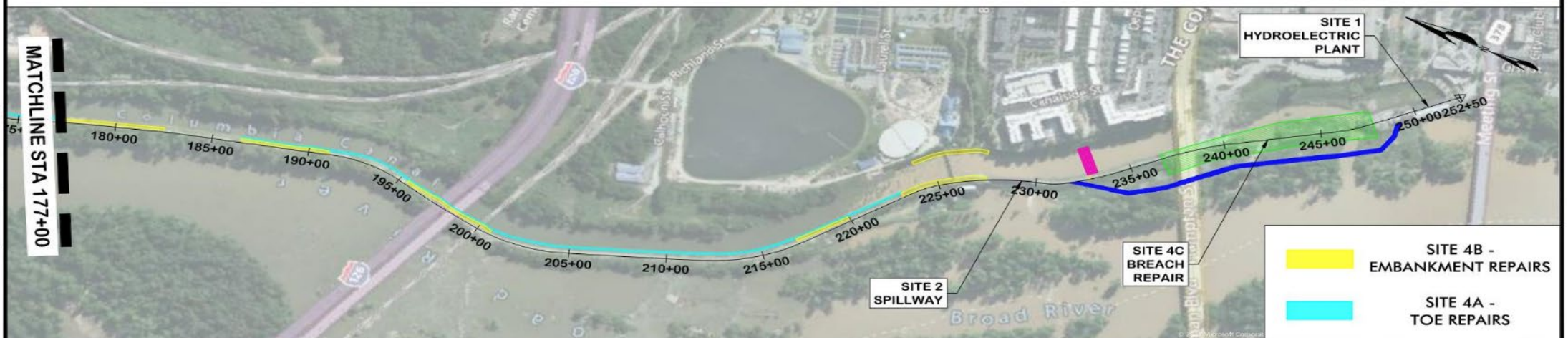
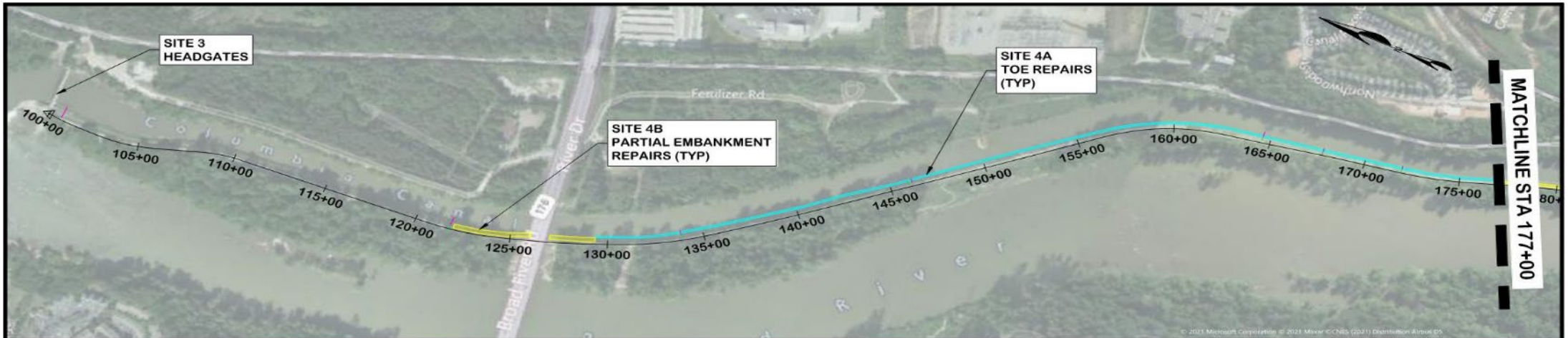
Kyle Crager, P.E.

Michael Baker, Intl
Water Services Manager



FEMA

Columbia Canal – Project Area



Michael Baker
INTERNATIONAL

COLUMBIA CANAL REPAIRS
COLUMBIA, SC

SITE 4 AREAS OF WORK AS UNDERSTOOD IN
DRAFT PW289 DR-4241 DATED JUNE 6, 2018

ATTACHMENT NO. OVERALL PLAN DATE: JULY 2021

W:\2021 - Canal & Dam\Projects\Site of First Entry - O&M\Coordinate - Embankment\0717_2021 - 3 View Plan - July 2021 - 3 View.dwg

Upper Canal - Repairs



	EMBANKMENT REPAIRS
	TOE SCOUR

Michael Baker
INTERNATIONAL

COLUMBIA CANAL REPAIRS
COLUMBIA, SC

SITE 4 AREAS OF WORK AS UNDERSTOOD IN DRAFT PW289 DR-4241 DATED JUNE 6, 2018.
ATTACHMENT NO. 1 OF 10
DATE: APR 2021

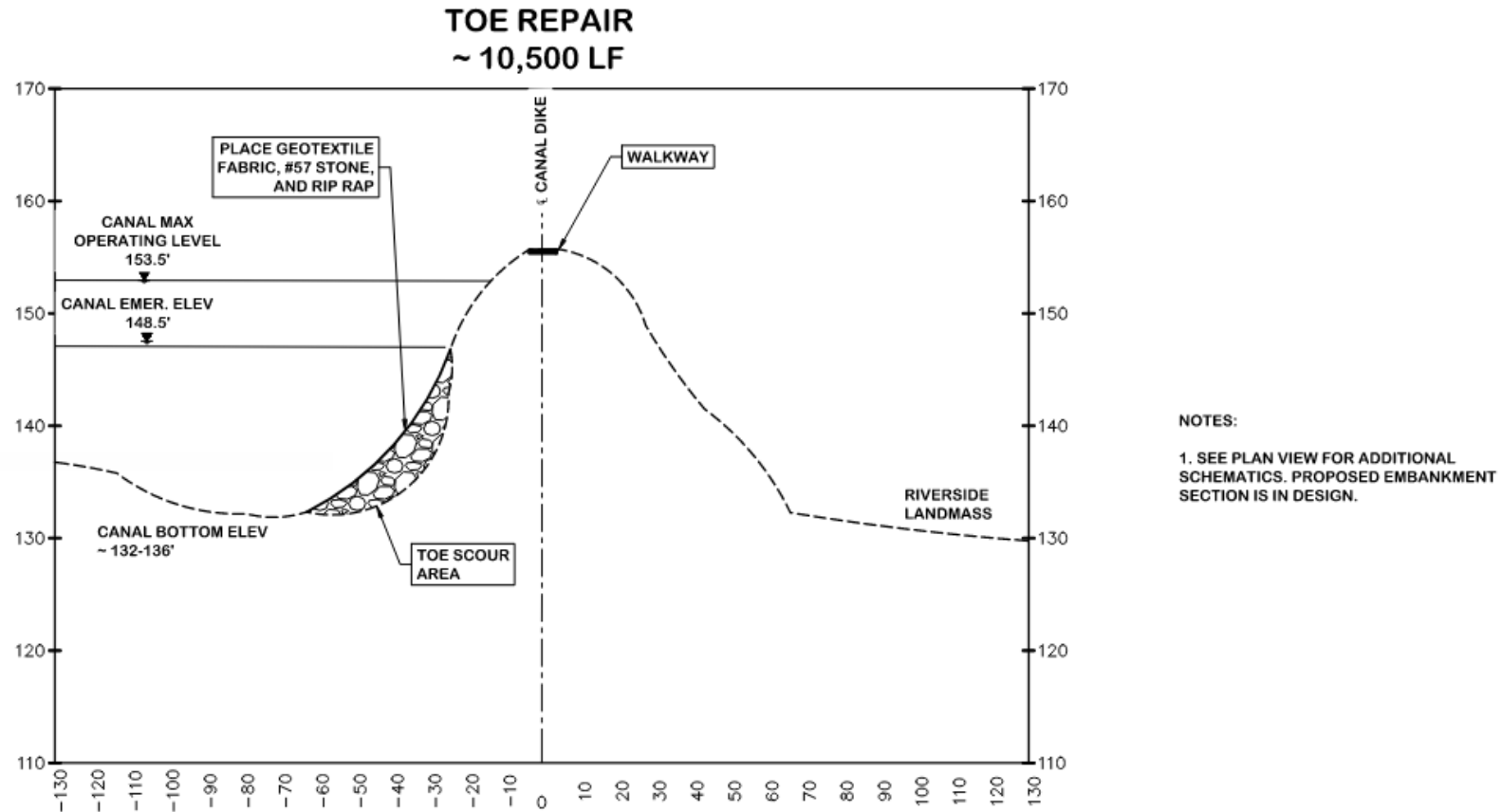
#13368 - Data compiled from GIS data by Michael Baker Corp. for the State of South Carolina, Department of Transportation, Office of Construction Services, dated 12/20/2018.

Site 4 – Upper Canal Embankment – Embankment Toe Repairs

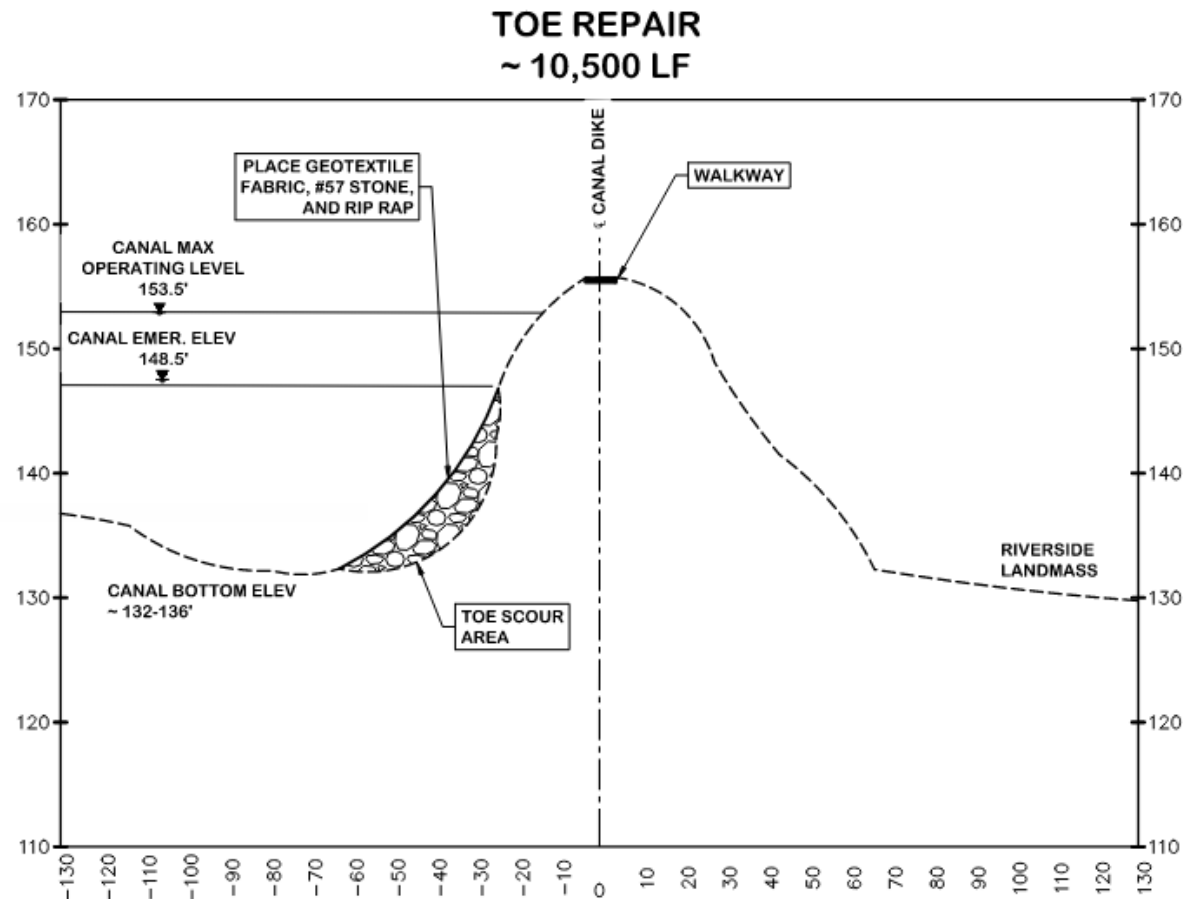


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Site 4A – Canal Embankment – Embankment Toe Repairs



Site 4 – Upper Canal Embankment – Embankment Toe Repairs



NOTES:

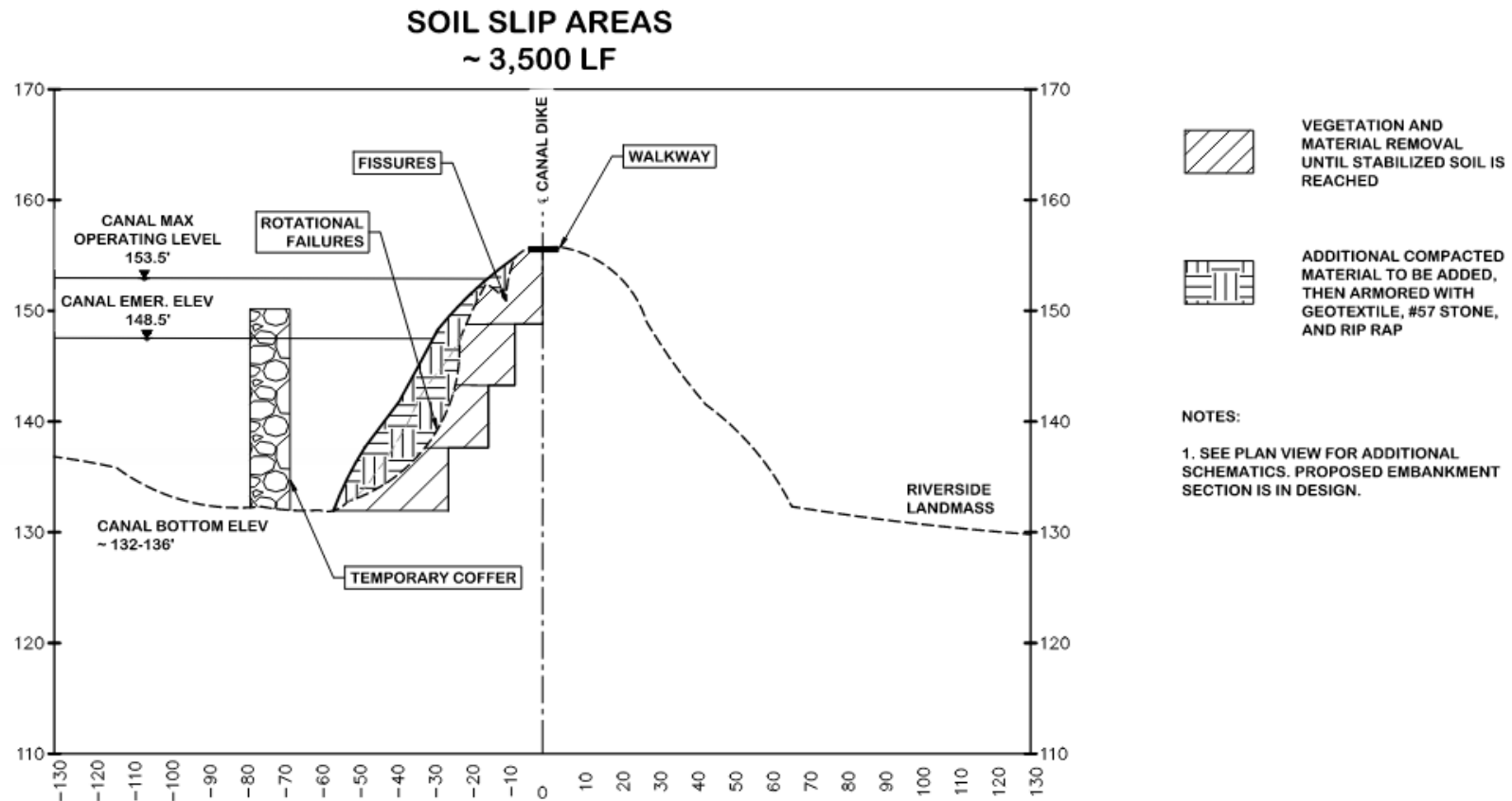
1. SEE PLAN VIEW FOR ADDITIONAL SCHEMATICS. PROPOSED EMBANKMENT SECTION IS IN DESIGN.

Site 4 – Upper Canal Embankment: Partial Embankment Slip Repairs (Soil slips)



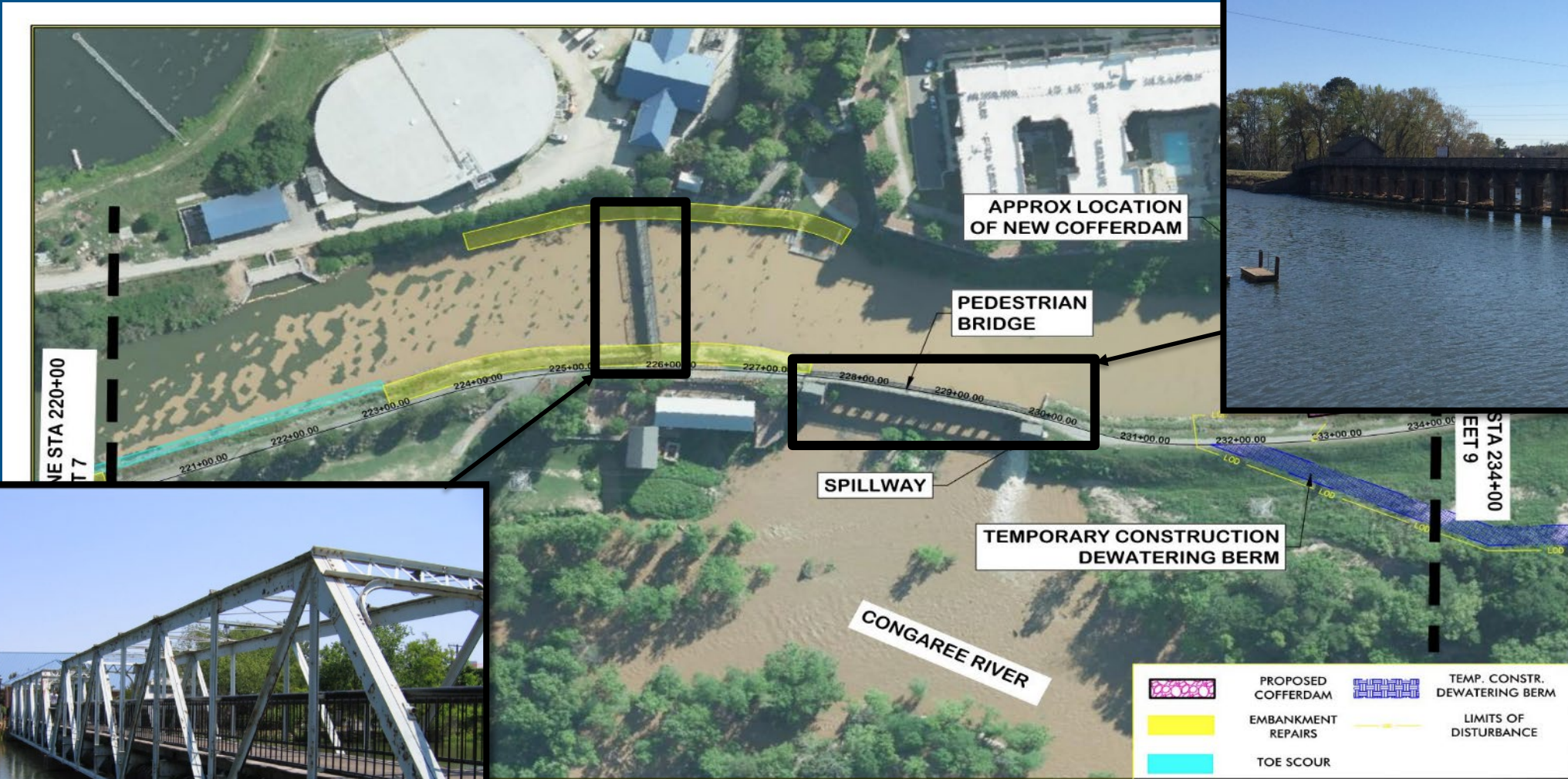
FEMA

Site 4B – Canal Embankment – Partial Embankment Slip Repairs (Soil slips)



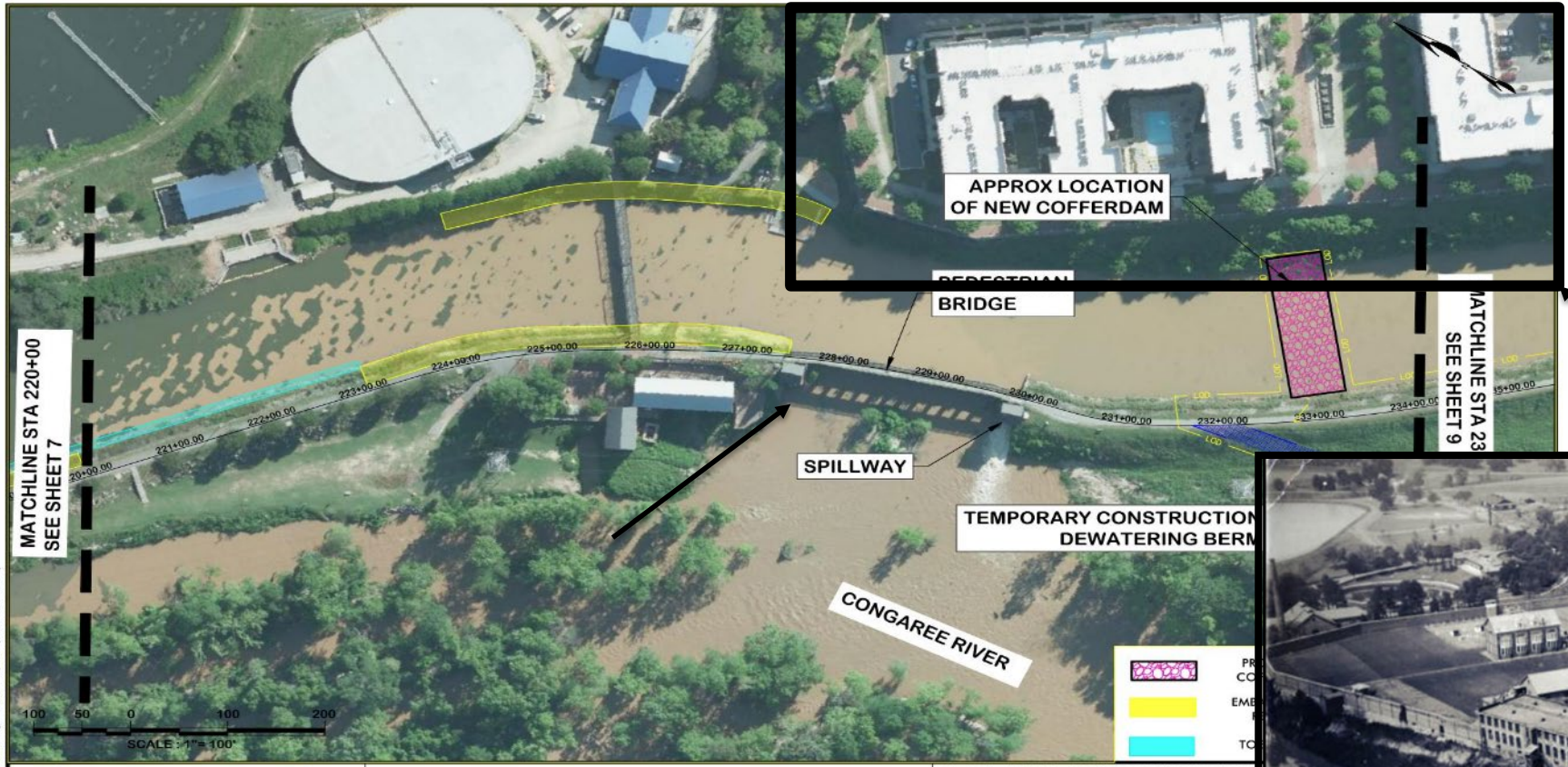
FEMA

RESOURCES: Spillway & Pedestrian Bridge



COLUMBIA CANAL REPAIRS	SITE 4 AREAS OF WORK AS UNDERSTOOD IN DRAFT PW289 DR-4241 DATED JUNE 6, 2018.	
COLUMBIA, SC	ATTACHMENT NO. 8 OF 10	DATE: APR 2021

RESOURCES: SC Penitentiary Boundary Wall

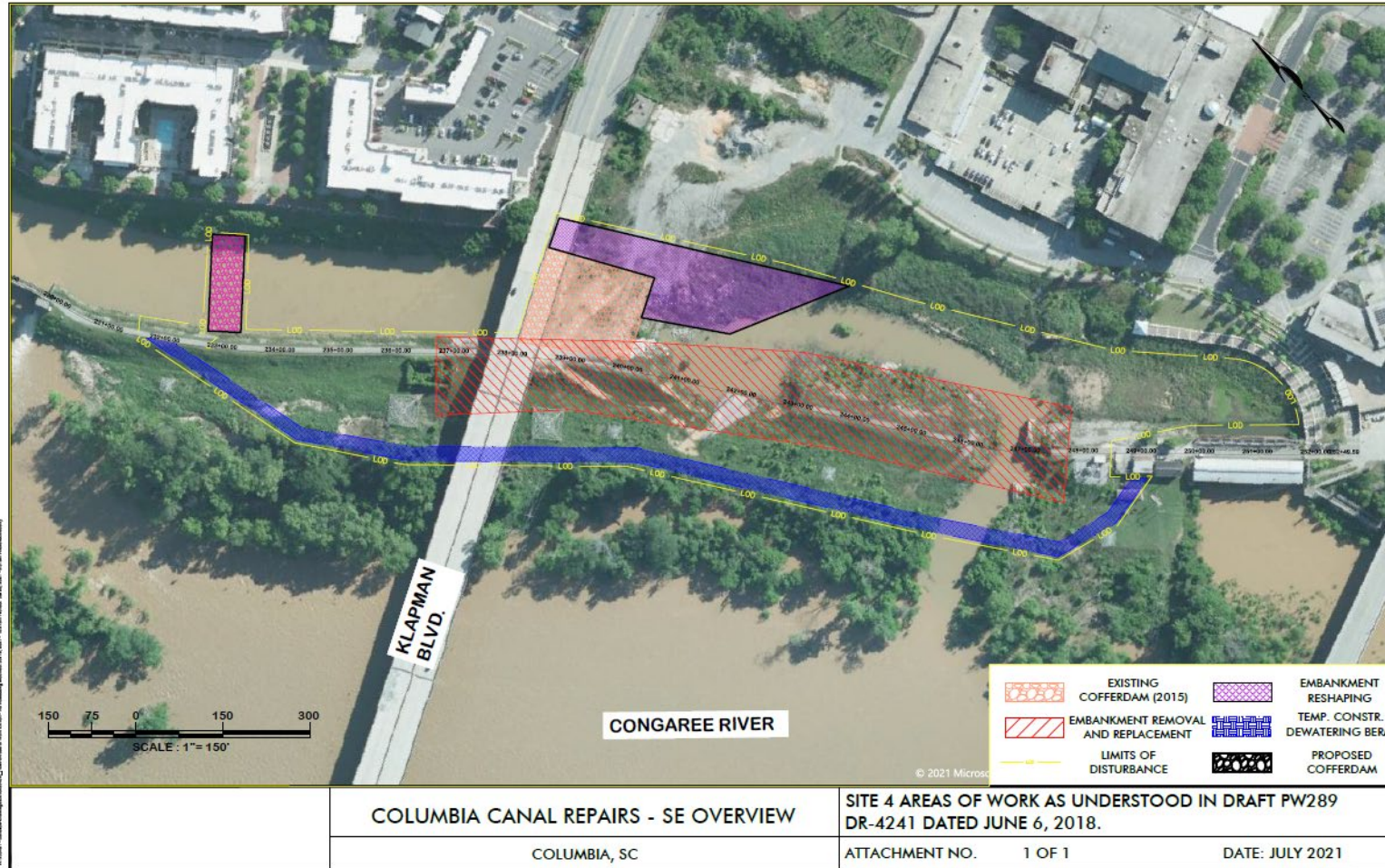


Michael Baker INTERNATIONAL	COLUMBIA CANAL REPAIRS	SITE 4 AREAS OF WORK AS UNDER DR-4241 DATED JUNE 6, 2018.
	COLUMBIA, SC	ATTACHMENT NO. 8 OF 10



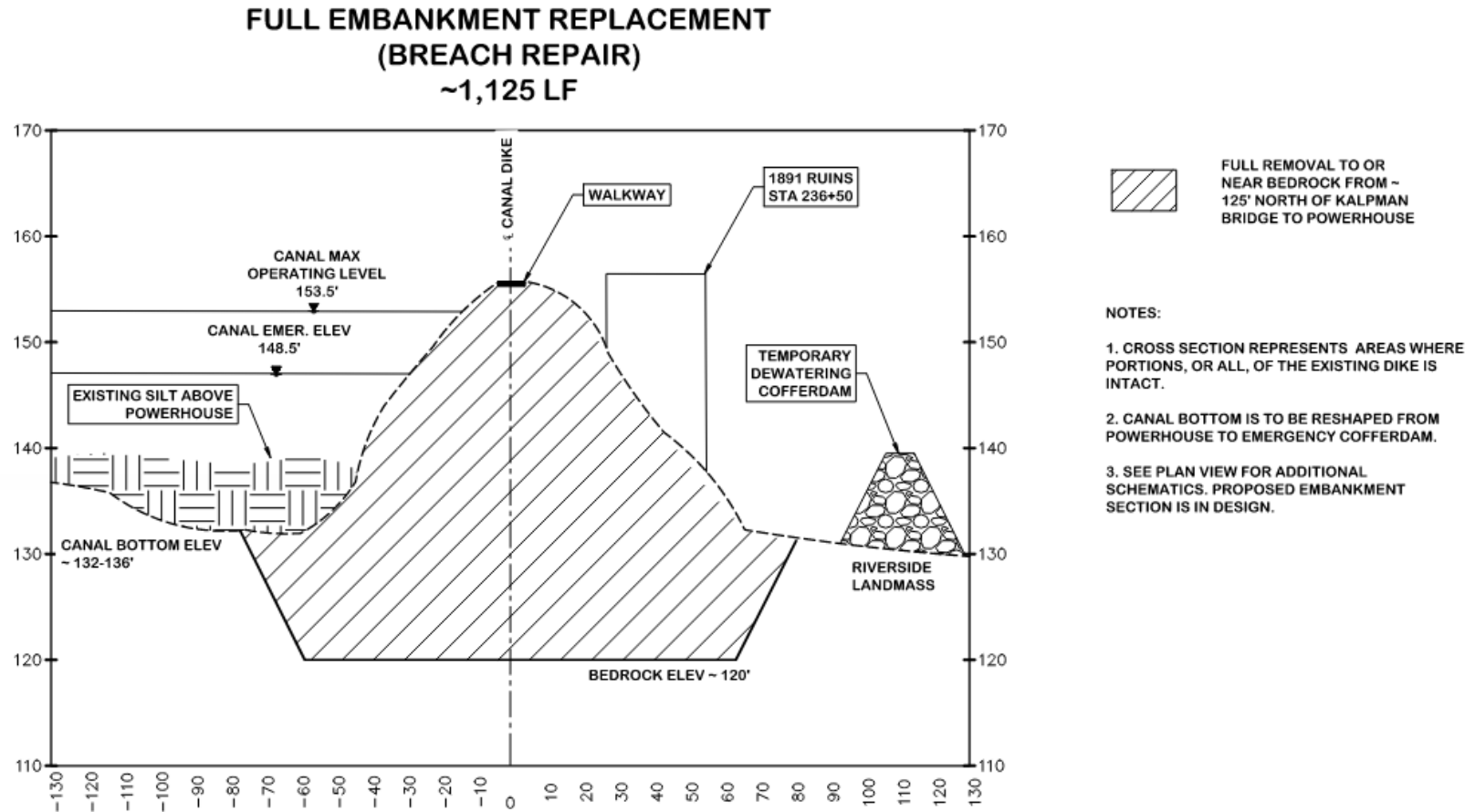
© Sargeant Studios, 1932 (Michael Baker, 2021)

Site 4B – Lower Canal Embankment Repairs



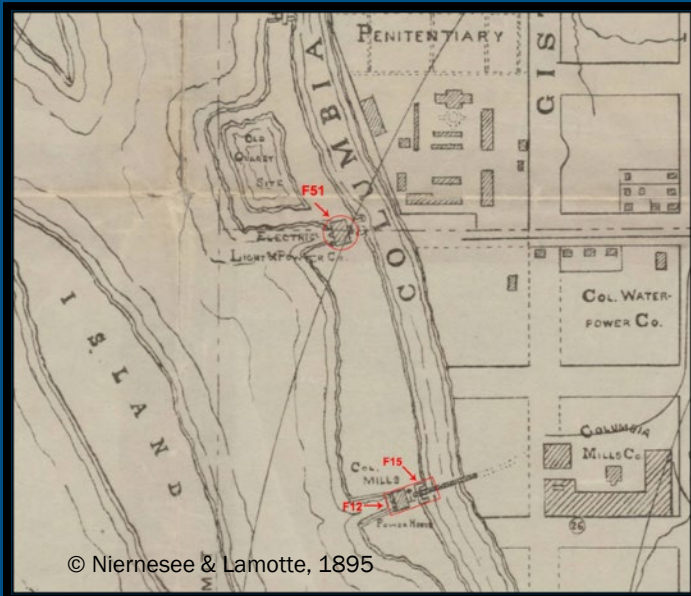
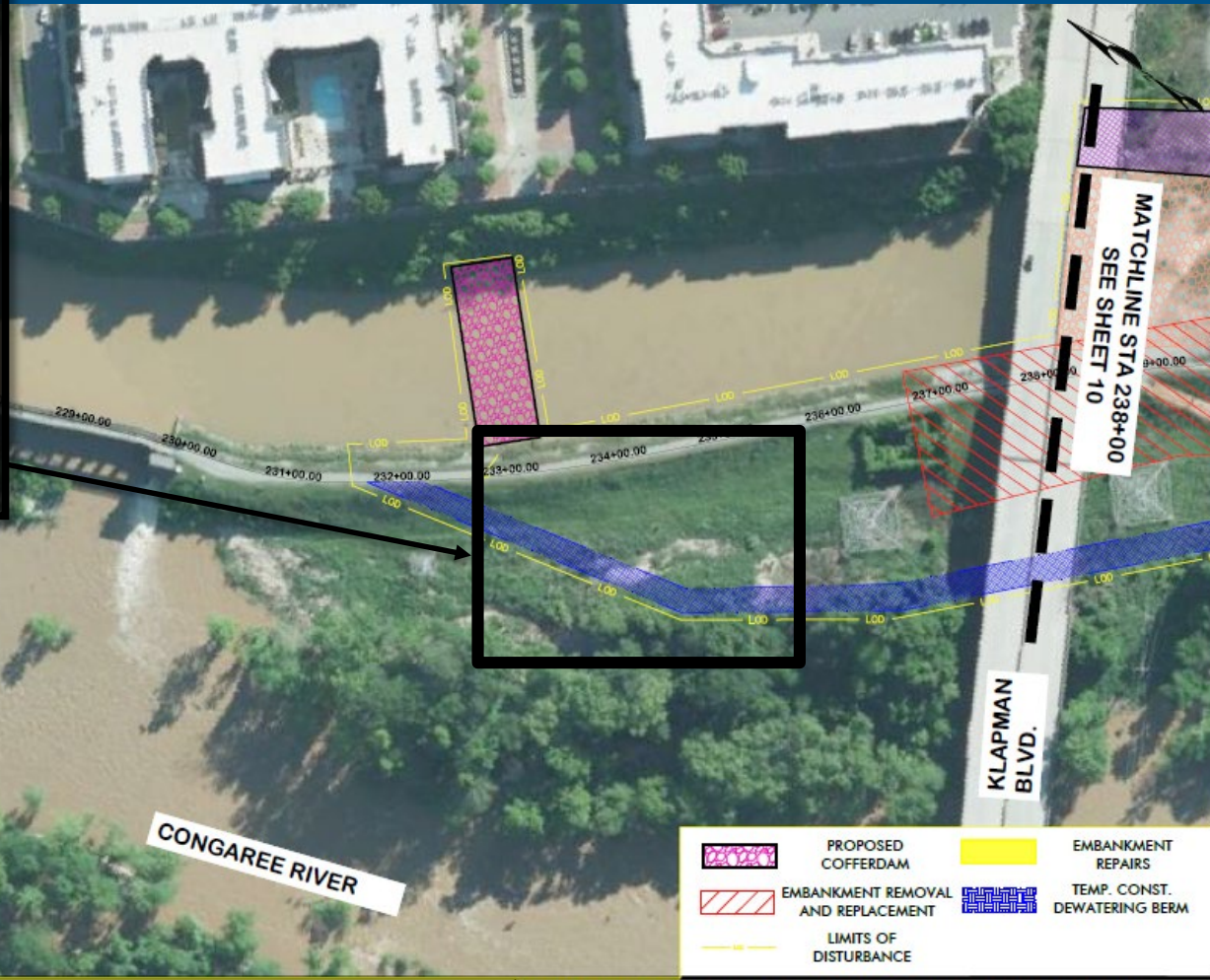
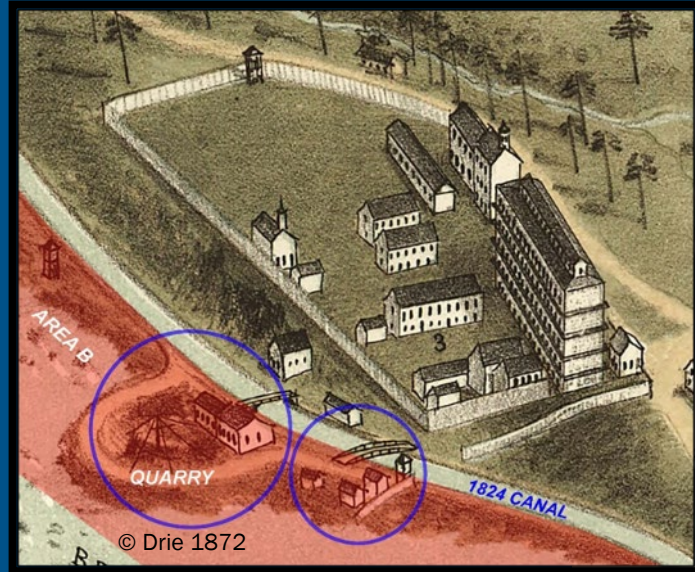
FEMA

Site 4C – Canal Embankment – Full Embankment Demolition and Replacement (Breach Repair)



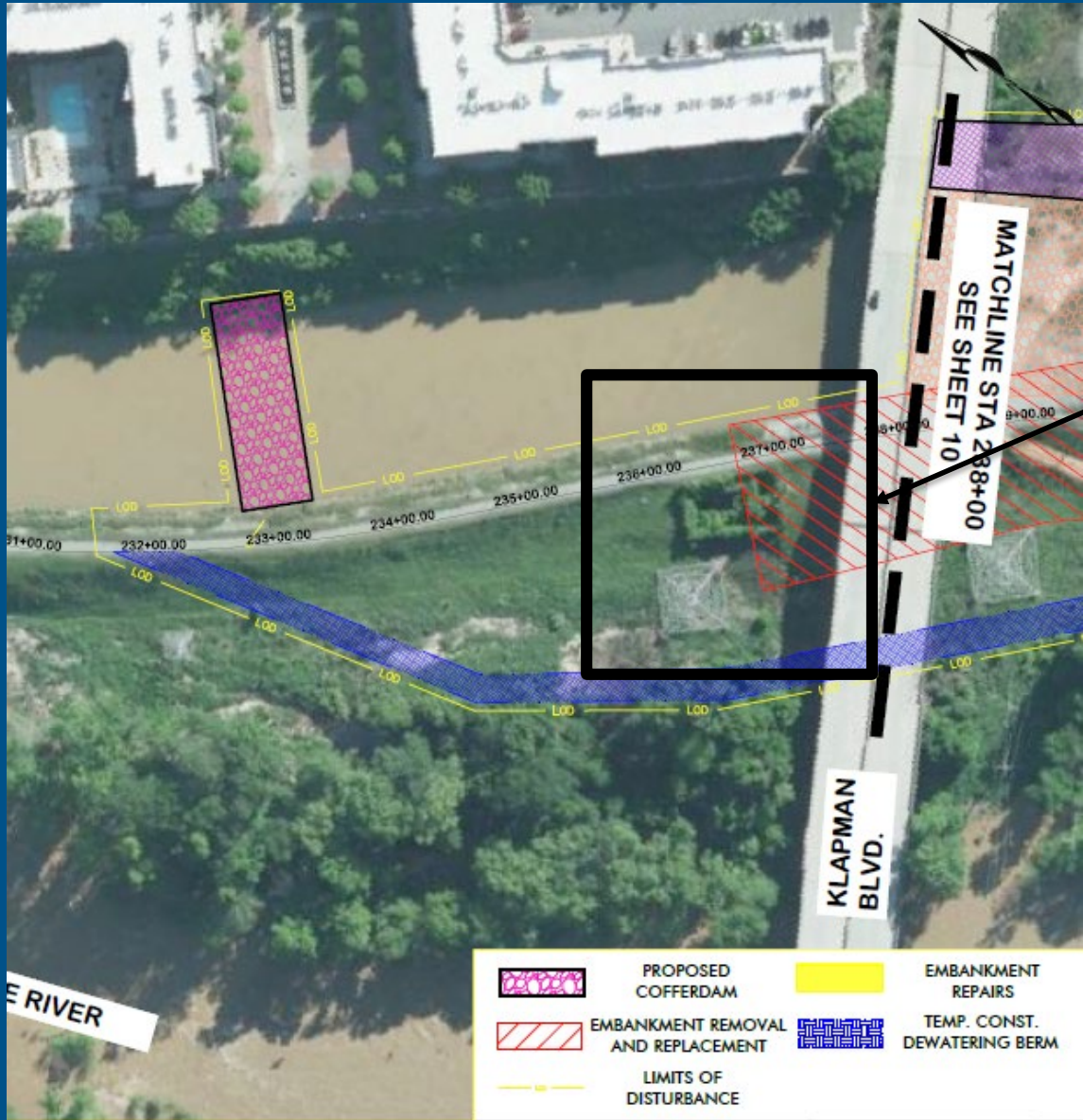
FEMA

RESOURCE- Quarry Site and Tow Path

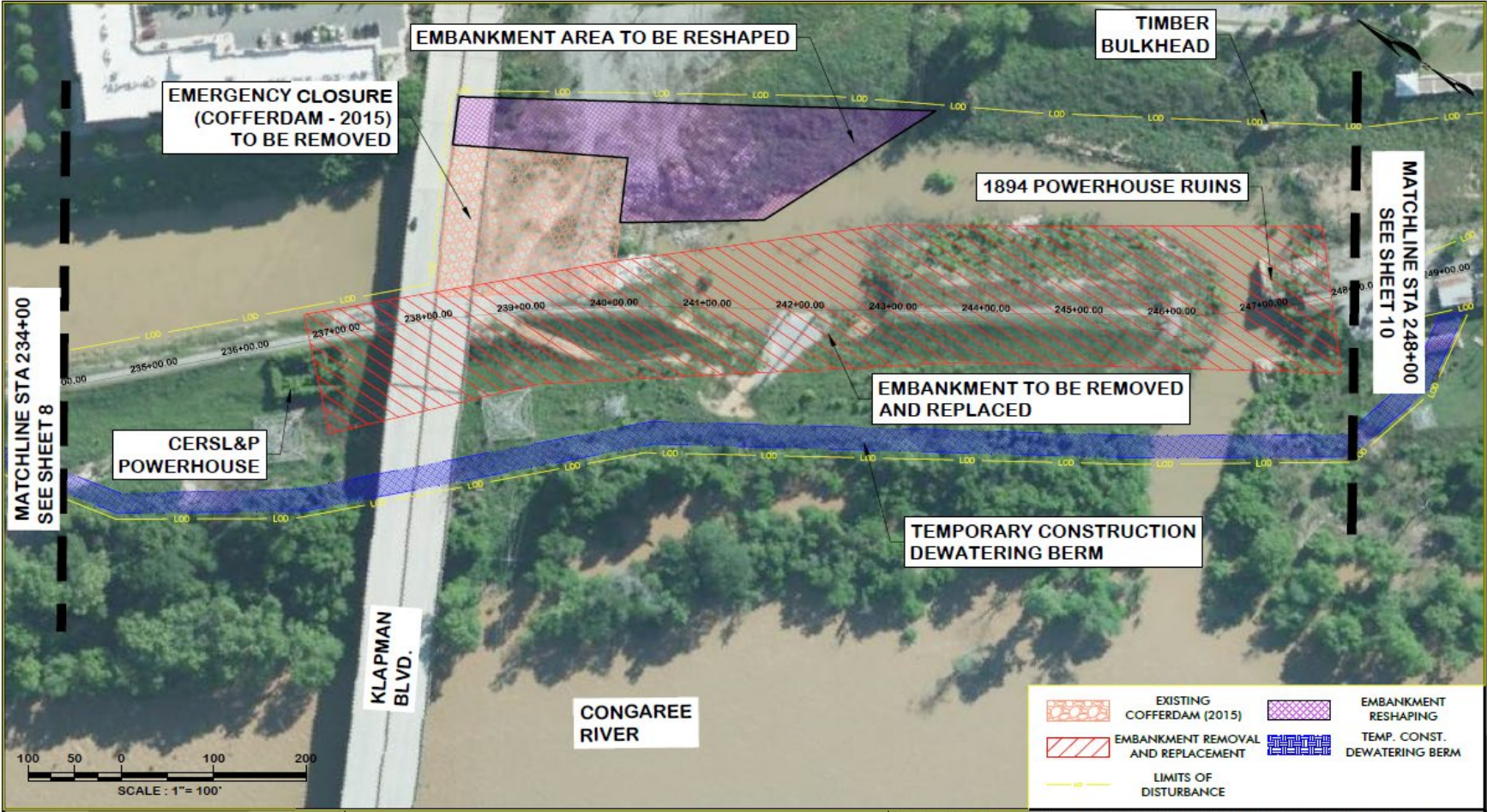


<p>COLUMBIA CANAL REPAIRS</p>	<p>SITE 4 AREAS OF WORK AS UNDERSTOOD IN DRAFT PW289 DR-4241 DATED JUNE 6, 2018.</p>	
<p>COLUMBIA, SC</p>	<p>ATTACHMENT NO. 9 OF 10</p>	<p>DATE: JULY 2021</p>

RESOURCE- CERSL&P Powerhouse Ruins



Lower Canal Embankment and Breach Repairs



	COLUMBIA CANAL REPAIRS	SITE 4 AREAS OF WORK AS UNDERSTOOD IN DRAFT PW289 DR-4241 DATED JUNE 6, 2018.
	COLUMBIA, SC	ATTACHMENT NO. 9 OF 10 DATE: MAY 2021

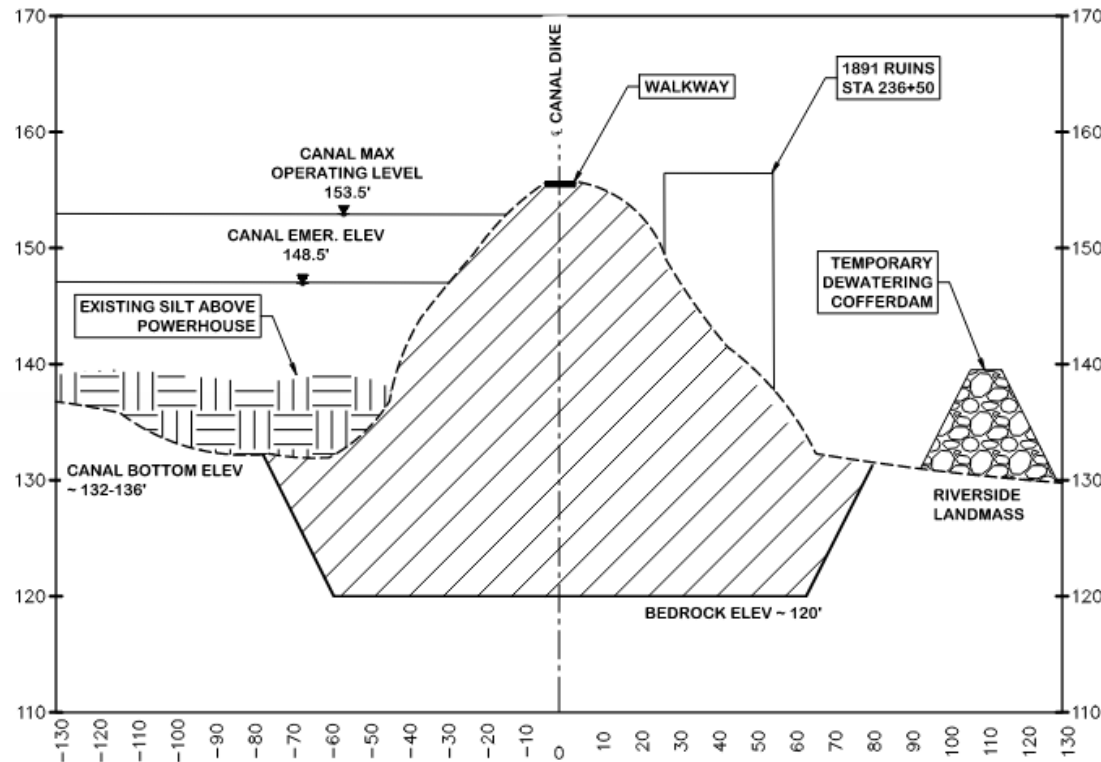
Site 4C – Canal Embankment – Full Embankment Demolition and Replacement (Breach Repair)



FEMA

Site 4C – Canal Embankment – Full Embankment Demolition and Replacement (Breach Repair)

FULL EMBANKMENT REPLACEMENT (BREACH REPAIR) ~1,125 LF



FULL REMOVAL TO OR NEAR BEDROCK FROM ~125' NORTH OF KALPMAN BRIDGE TO POWERHOUSE

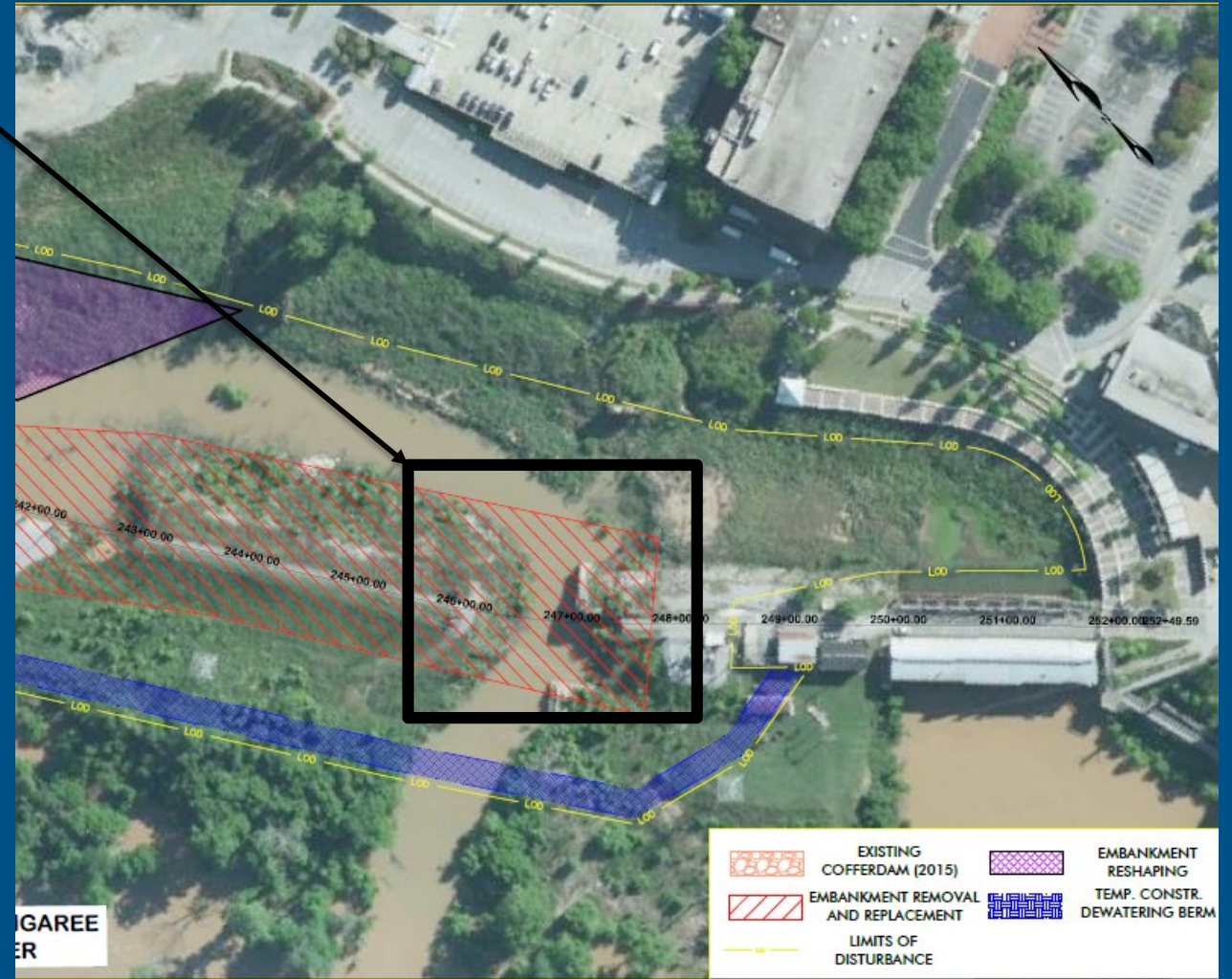
NOTES:

1. CROSS SECTION REPRESENTS AREAS WHERE PORTIONS, OR ALL, OF THE EXISTING DIKE IS INTACT.
2. CANAL BOTTOM IS TO BE RESHAPED FROM POWERHOUSE TO EMERGENCY COFFERDAM.
3. SEE PLAN VIEW FOR ADDITIONAL SCHEMATICS. PROPOSED EMBANKMENT SECTION IS IN DESIGN.



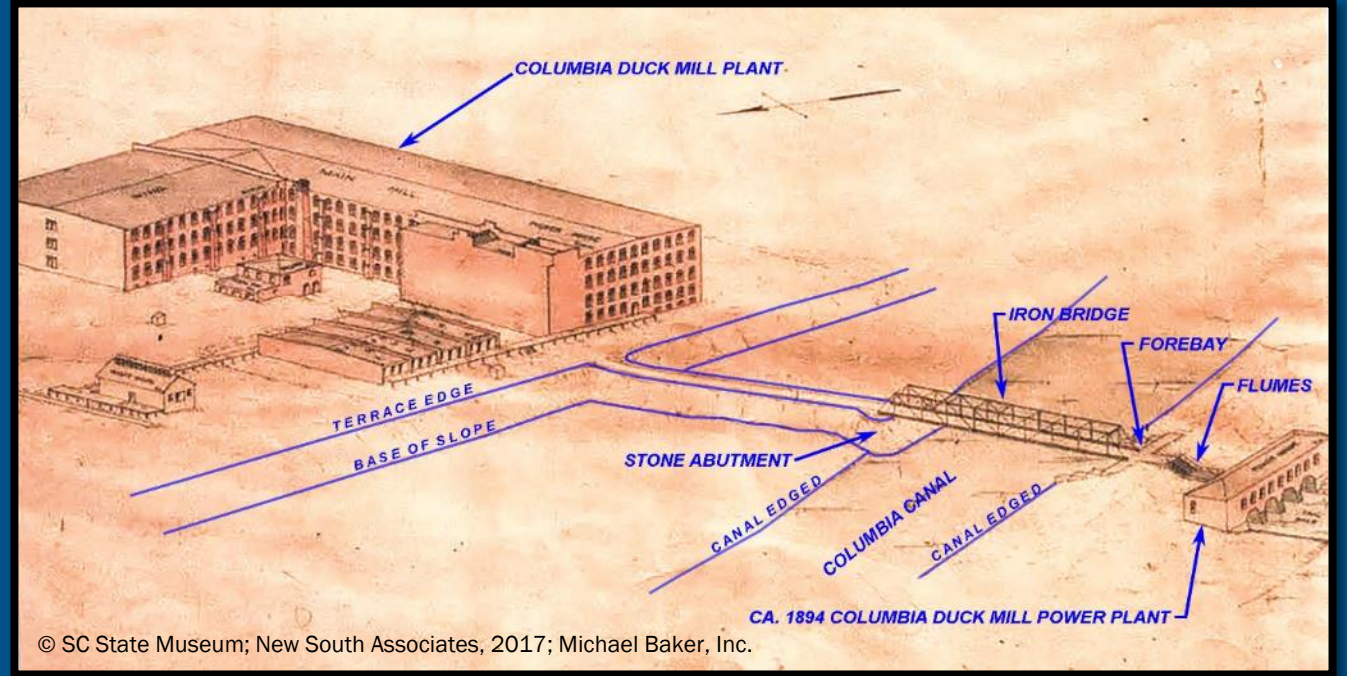
FEMA

RESOURCE- Columbia (Duck) Mill Powerplant, Flume and Forebay

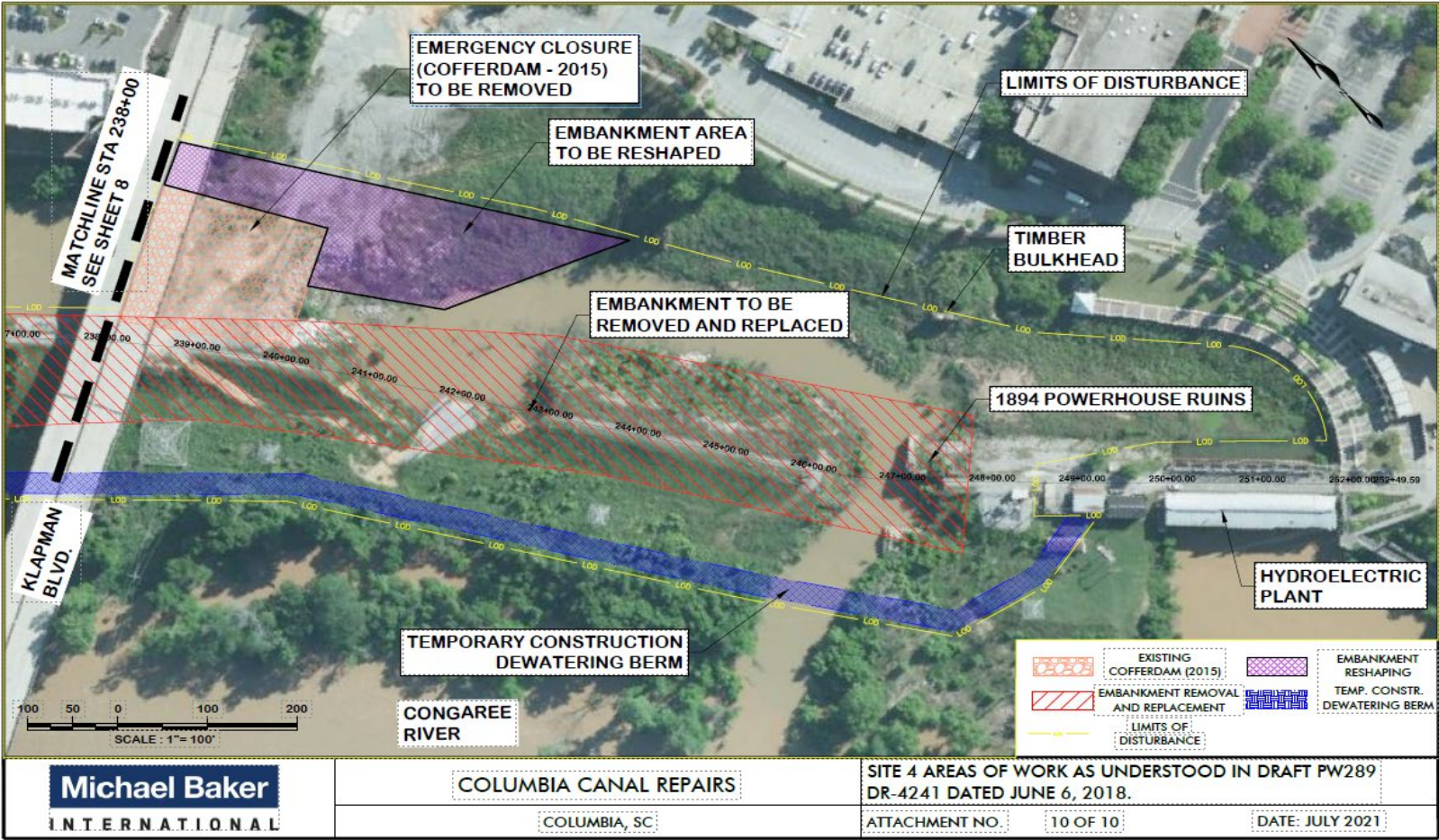


COLUMBIA CANAL REPAIRS		SITE 4 AREAS OF WORK AS UNDERSTOOD IN DRAFT PW289 DR-4241 DATED JUNE 6, 2018.	
COLUMBIA, SC	ATTACHMENT NO.	10 OF 10	DATE: JULY 2021

RESOURCE- Columbia (Duck) Mill Powerplant, Flume and Forebay

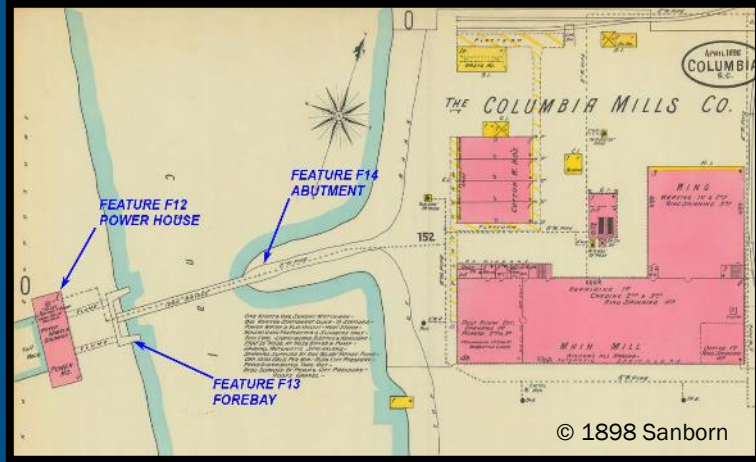


Reshaping City Side Embankment

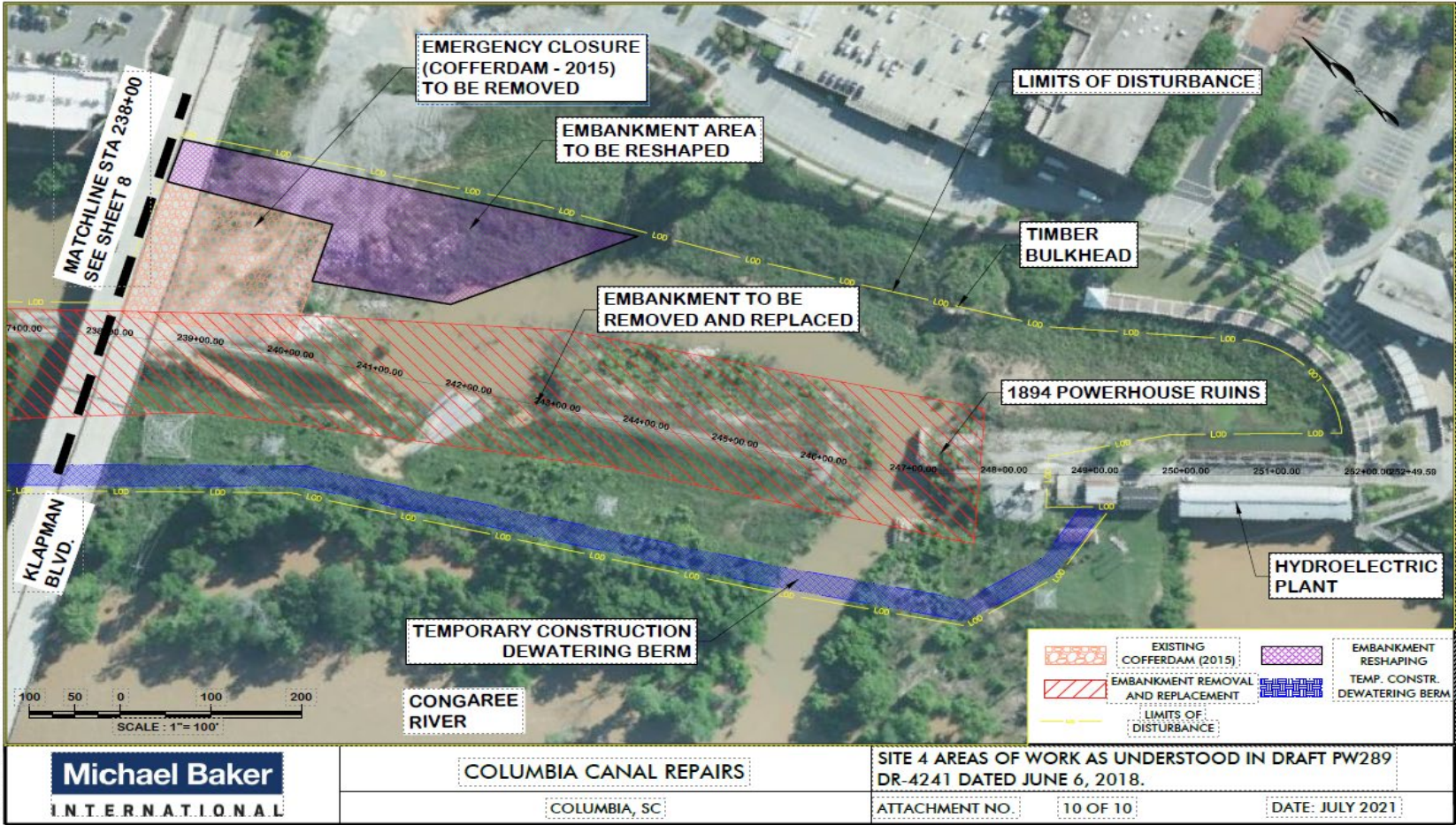


FEMA

RESOURCE- Cut-Stone Bridge Abutment (1894)



Reshaping Canal Bed



FEMA

RESOURCE- Timber Bulkhead

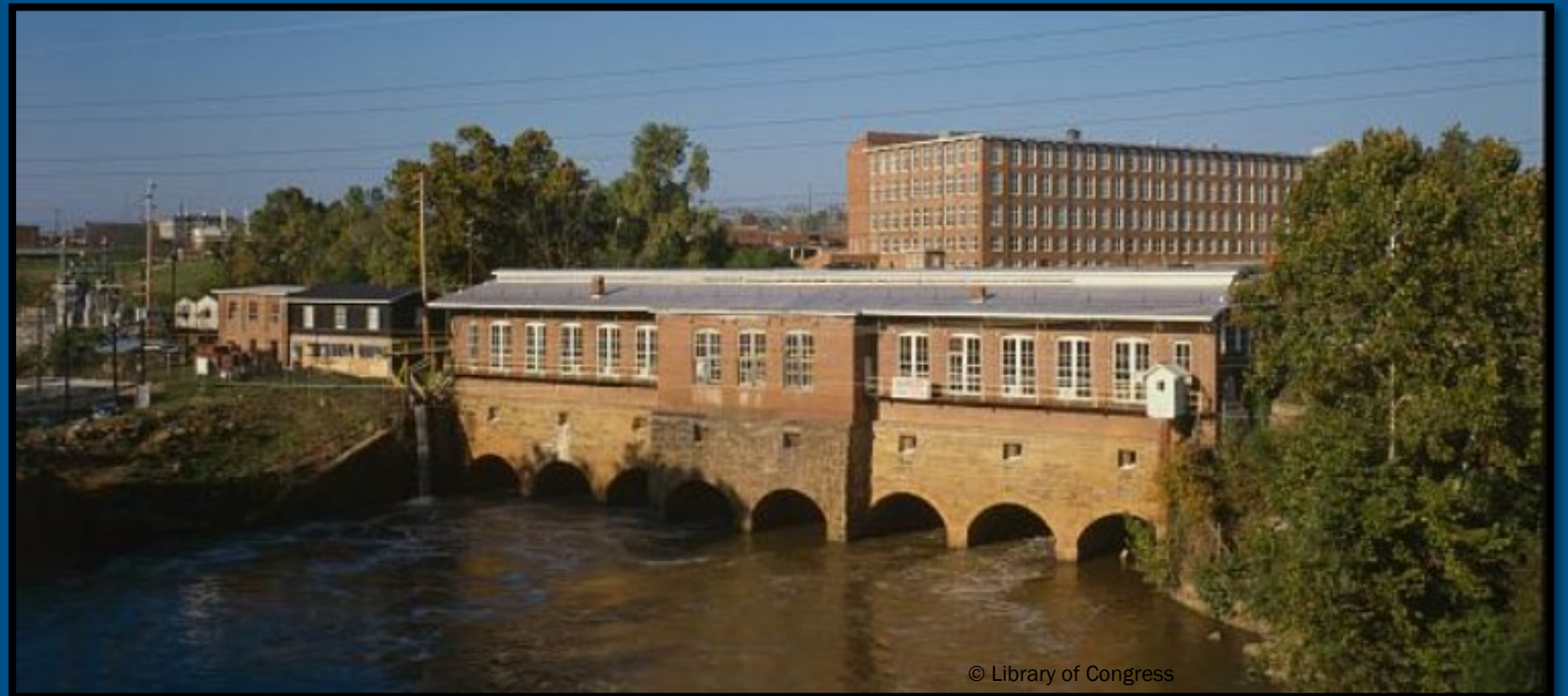


RESOURCE- Timber Bulkhead



Public Interest

- Are there any features the public may be aware of which may not have been considered?
- Is there any mitigation or treatment measures which the public may like to see?



FEMA

Columbia Canal – QUESTIONS and COMMENTS

FEMA, SC-EMD, and CITY



FEMA

Public Comment Period

Project Information

[The Columbia Canal Repair Project Website](#)

Recording of Meeting

[City of Columbia YouTube Page](#)

Additional Comments can be submitted until **August 11, 2021:**

Via Mail:

FEMA Region 4

Environmental Planning and Historic Preservation

3005 Chamblee Tucker Drive, Atlanta GA 30341

Via Email:

fema-r4ehp106@fema.dhs.gov



FEMA

Thank you for your Interest in the
Columbia Canal Repair Project
and
Considering Resources!



FEMA

