

# Franconia Bridge Rehabilitation

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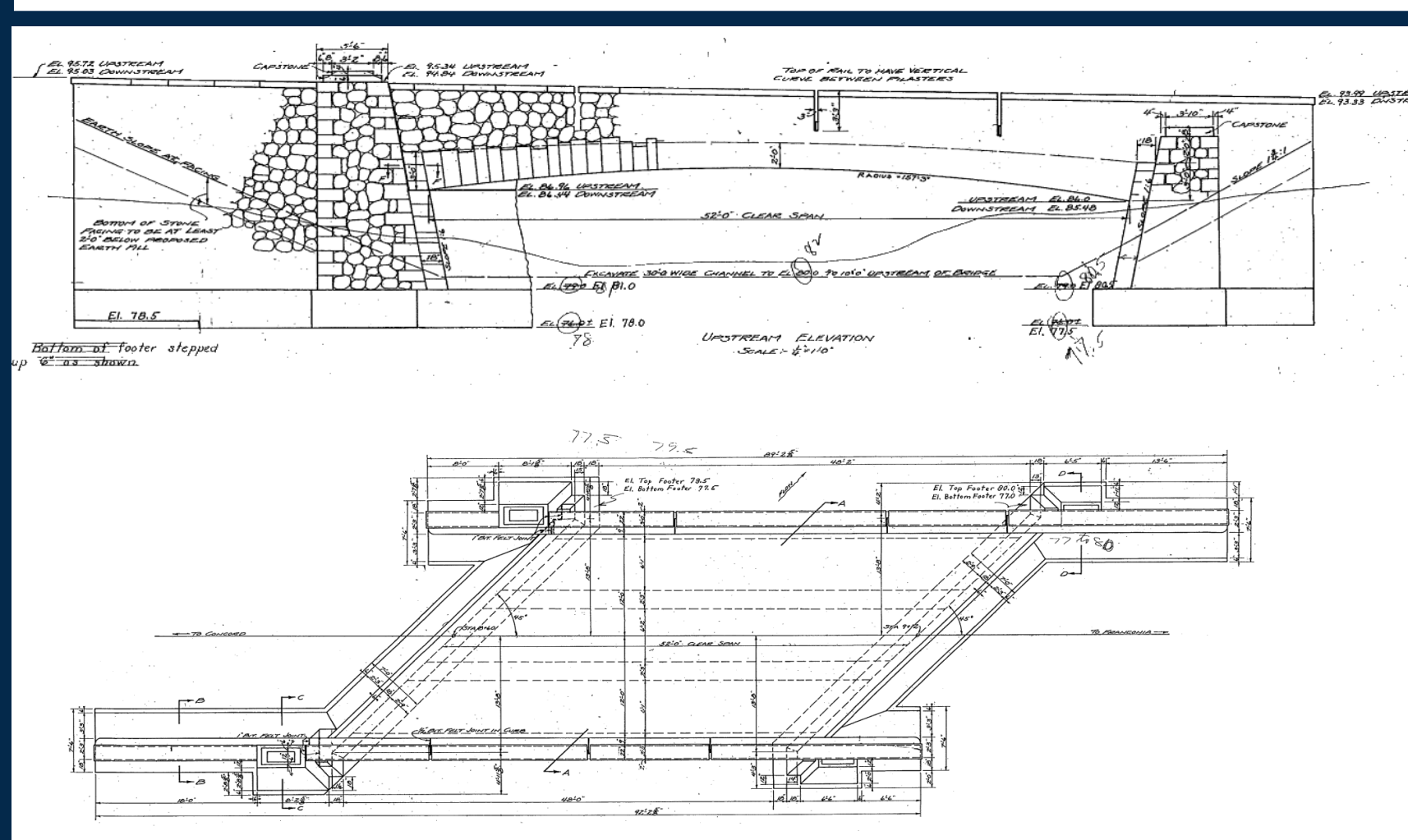
University of  
New Hampshire



## Northwest Site View



## Original Plans



## Bridge Details

Constructed **1932**  
 Bridge Span **52 ft.**  
 Deck Width **24 ft.**

## Existing Bridge Condition

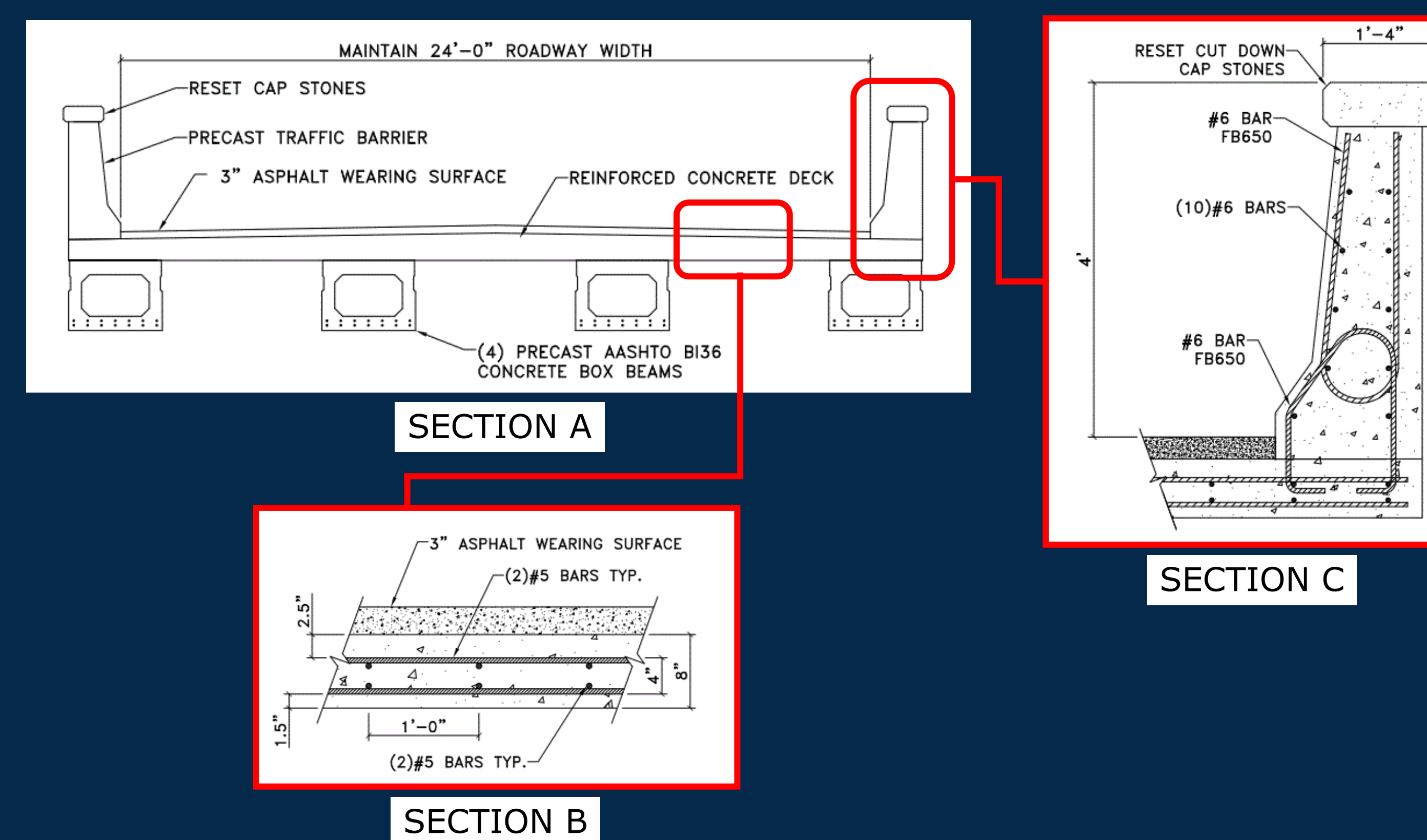


Added to NHDOT Red List in 2010

## Structural Design



Unfactored Loads		
Weight of All Beams	2.3	Kips/ft
Weight of Miscellaneous Detail	0.23	Kips/ft
Weight of Deck	2.4	Kips/ft
Weight of Barrier	2.0	Kips/ft
Weight of FWS	0.84	Kips/ft
Weight of Components and Attachments	7.0	Kips/ft
Weight of FWS and Utilities	1.84	Kips/ft
Weight of Lane Load	0.64	Kips/ft
Weight of Rear Axle	32	Kips
Weight of Middle Axle	32	Kips
Weight of Front Axle	8	Kips



## Aesthetics

**Section A:** Cross-section view of bridge deck, superstructure (Type B136 box beams) and guard rail  
**Section B:** Bridge Deck detail, 144 #5 bars utilized as steel reinforcement  
**Section C:** Guard rail detail, with reinforcement and retaining original capstones



"Old Man of the Mountain" Form Liner  
(NHDOT Item 570.71)



## Locus Map

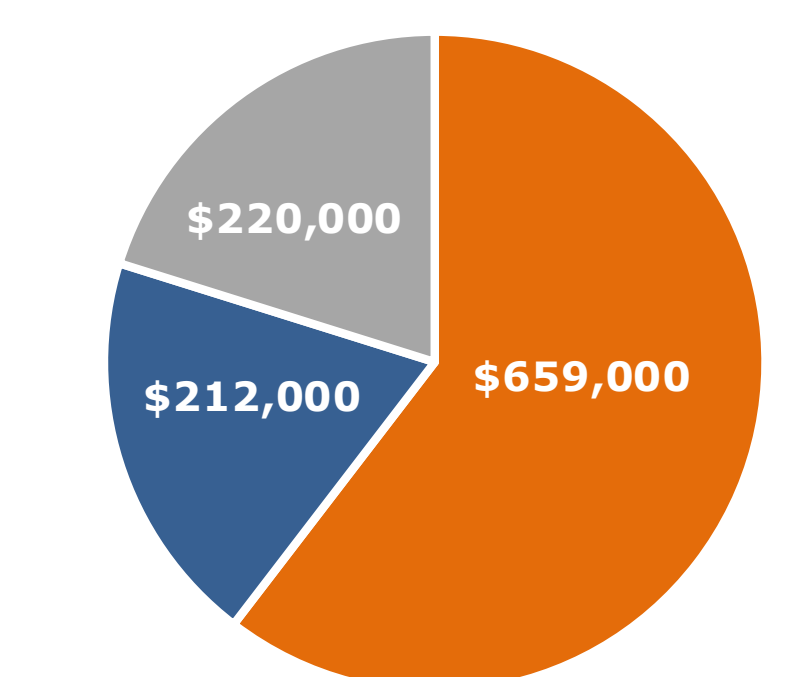


## Scope of Work

### Cost

Total Cost for Rehabilitation: \$1.1 Million

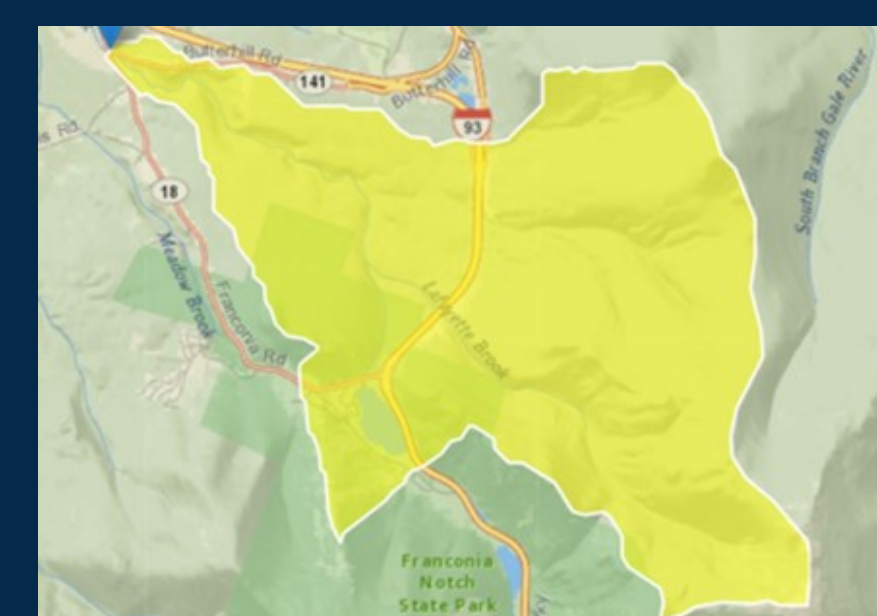
Anticipated Cost of Rehabilitation



• Structural Expenses • Removal Expenses • Other Expenses

## Hydraulics

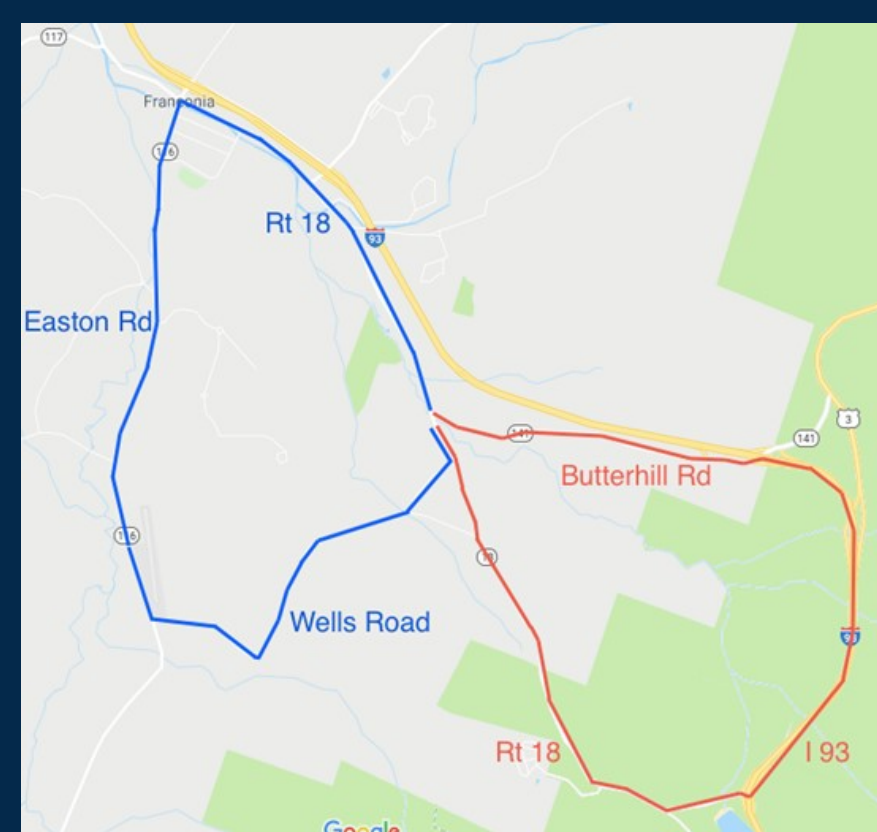
**100 Year WSE**  
 (Water Shed Elevation):  
**≤1ft below existing beams**



The new, un-arched beams will improve the bridge's hydraulic opening.

## Traffic + Community Impact

- **15-20 minutes** additional travel time
- **8-10 weeks** estimated construction time
- **Less than 500 ft** proximity to the closest business



## References

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