

# Town of Franklin

355 East Central Street  
Franklin, Massachusetts 02038-1352



Phone: (508) 520-4949  
www.franklinma.gov

OFFICE OF THE TOWN ADMINISTRATOR

December 30, 2020

**To:** Town Council

**From:** Jamie Hellen, Town Administrator

**RE: 21-02: Authorizing the Borrowing of Money to Pay Costs of the Beaver Street Interceptor Replacement Project**

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I am asking the Town Council to authorize the borrowing of \$25,000,000 to cover the costs of the Beaver Street Interceptor Replacement Project. This vote will begin an estimated five year long process to construct a replacement for the Beaver Street Interceptor.

Included in the packet are a series of project timelines and financial models outlining the project. The packet includes:

- An overview of costs associated with the project;
- Project schedule (including state SRF application);
- Estimated monthly drawdown over the life of the borrowing based on current assumptions; and
- October 21, 2020 Town Council project overview.

The project timeline is as follows:

- 2021 - 2022 - Begin formal design and apply for State Revolving Fund (SRF) loan;
- Second half of 2022 - Public bids due and contract negotiations (hopeful ability to get a shovel in the ground);
- 2022 - 2025 - Construction;
- 2025 - Post Construction closeout.

Sewer rate increases will need to be increased beginning in 2023. This is an estimate based on current conditions and assumptions based in the model, such as interest rates and markets at that time. The staff will do all that we can to mitigate increase to rates to pay for the project. That said, the potential cost of inaction on moving forward would far outweigh the cost of action on this critical public infrastructure project.

If you have any additional questions please feel free to ask.



## TOWN OF FRANKLIN

### RESOLUTION 21-02

#### **Authorizing the Borrowing of Money to Pay Costs of the Beaver Street Interceptor Replacement Project**

**Whereas:** The Town Council has been advised of a need to undertake the Replacement of the Beaver Street Sewer Interceptor,

**NOW THEREFORE BE IT ORDERED by the Town Council of the Town of Franklin that:**

- (1) \$25,000,000 is appropriated to pay costs of replacing the Beaver Street Sewer Interceptor, which project shall include, but not be limited to, a combination of: approximately 6,400 linear feet of cured-in-place pipe lining (CIPPL) rehabilitation; approximately 2,400 linear feet of replacement and upsizing of portions of the interceptor; approximately 5,000 linear feet of abandonment and re-routing for the portion of the existing interceptor in the wooded, wetlands easement; new force main and gravity sewer along Route 140 (West Central Street), from Beaver Street to Pond Street (in the vicinity of the Franklin Village Plaza); and the construction of three (3) new pump stations (Beaver St., Grove St. and Franklin Village Plaza) and their associated force mains, totalling approximately 8,100 linear feet; and that to meet this appropriation the Treasurer-Collector with the approval of the Town Administrator is authorized to borrow, at one time or from time to time, \$25,000,000 under G.L. c. 44, §7(1), §8(14) or pursuant to any other enabling authority, and to issue bonds or notes of the Town therefor.
- (2) All or any portion of the amount authorized to be borrowed by this resolution may be borrowed through the Massachusetts Clean Water Trust (the "Trust") established pursuant to G.L. c. 29C and, in connection therewith, the Town Administrator, the Town Treasurer and any other appropriate officials of the Town are hereby authorized to execute and deliver any agreements with the Trust and/or the Department of Environmental Protection of The Commonwealth of Massachusetts that may be necessary in order to obtain any such financing.
- (3) Any premium received upon the sale of any bonds or notes approved by this vote, less any such premium applied to the payment of the costs of issuance of such bonds or notes, may be applied to the payment of costs approved by this vote in accordance with M.G.L. c. 44, §20, thereby reducing the amount authorized to be borrowed to pay such costs by a like amount.

- (4) This Resolution shall become effective according to the provisions of the Town of Franklin Home Rule Charter.
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**DATED:** \_\_\_\_\_, 2021

**VOTED:**

**A True Record Attest:**

**UNANIMOUS:** \_\_\_\_\_

**YES:** \_\_\_\_\_ **NO:** \_\_\_\_\_

**ABSTAIN:** \_\_\_\_\_

**ABSENT:** \_\_\_\_\_

**RECUSED:** \_\_\_\_\_

**Nancy Danello**  
**Temporary Town Clerk**

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**Glenn Jones, Clerk**  
**Franklin Town Council**

**Town of Franklin, MA**  
**Beaver Street Interceptor Rehabilitation and Replacement**

**Budgetary Project Cost Breakdown <sup>1</sup>**

Engineering Design	\$1,511,500
Construction <sup>2</sup>	\$19,887,319
Construction and Post-Construction Engineering <sup>3</sup>	\$2,466,100
Police Details	\$1,135,081
Est. Total Project Cost:	\$25,000,000

1. Costs for easements or land takings are not included in the project costs.
2. Construction costs include 25% contingency and escalation to mid-point of construction.
3. Bidding and Award services are included in Construction Services and are SRF eligible.

**Breakdown of Design Engineering Costs**

Survey	\$140,000
Geotechnical Investigations	\$135,000
Permitting	\$48,000
Design, Plans and Specifications	\$1,180,000
State Revolving Fund Loan Application/Admin	\$8,500
Subtotal:	\$1,511,500

*Design Engineering services are not SRF eligible.*

**Breakdown of Construction and Post-Construction Engineering Costs**

Bidding/Addenda/Award of Contract	\$19,900
Construction Administration	\$636,400
Full-time, On-Site Resident Engineering	\$1,734,200
O&M Manuals, Start-Up and Training	\$23,900
Record Drawings	\$31,800
Close-Out Documentation	\$19,900
Subtotal:	\$2,466,100



Debt Service Schedule

Project: Beaver Street Interceptor

Amount	1,500,000.00	Total Interst @ 3.5%	551,250.00
# of Years	20	Total Debt Service	2,051,250.00
Interest Rate	3.50%	First Year Cost	127,500.00
Date of Issue	9/15/2022	Average Annual Cost	101,250.00

	Principal	Interest	Total
March-23		26,250.00	26,250.00
September-23	75,000.00	176,250.00	251,250.00
March-24		26,250.00	26,250.00
September-24	75,000.00	24,938.00	99,938.00
March-25		24,938.00	24,938.00
September-25	75,000.00	23,625.00	98,625.00
March-26		23,625.00	23,625.00
September-26	75,000.00	22,313.00	97,313.00
March-27		22,313.00	22,313.00
September-27	75,000.00	21,000.00	96,000.00
March-28		21,000.00	21,000.00
September-28	75,000.00	19,688.00	94,688.00
March-29		19,688.00	19,688.00
September-29	75,000.00	18,375.00	93,375.00
March-30		18,375.00	18,375.00
September-30	75,000.00	17,063.00	92,063.00
March-31		17,063.00	17,063.00
September-31	75,000.00	15,750.00	90,750.00
March-32		15,750.00	15,750.00
September-32	75,000.00	14,438.00	89,438.00
March-33		14,438.00	14,438.00
September-33	75,000.00	13,125.00	88,125.00
March-34		13,125.00	13,125.00

	Principal	Interest	Total
September-34	75,000.00	11,813.00	86,813.00
March-35		11,813.00	11,813.00
September-35	75,000.00	10,500.00	85,500.00
March-36		10,500.00	10,500.00
September-36	75,000.00	9,188.00	84,188.00
March-37		9,188.00	9,188.00
September-37	75,000.00	7,875.00	82,875.00
March-38		7,875.00	7,875.00
September-38	75,000.00	6,563.00	81,563.00
March-39		6,563.00	6,563.00
September-39	75,000.00	5,250.00	80,250.00
March-40		5,250.00	5,250.00
September-40	75,000.00	3,938.00	78,938.00
March-41		3,938.00	3,938.00
September-41	75,000.00	2,625.00	77,625.00
March-42		1,313.00	1,313.00
September-42	75,000.00	1,313.00	76,313.00
			-
	1,500,000.00	551,250.00	2,051,250.00

Debt Service Schedule

Project: Beaver Street Interceptor

Amount 23,500,000.00  
 # of Years 20  
 Interest Rate 1.50%  
 Date of Issue 9/15/2022

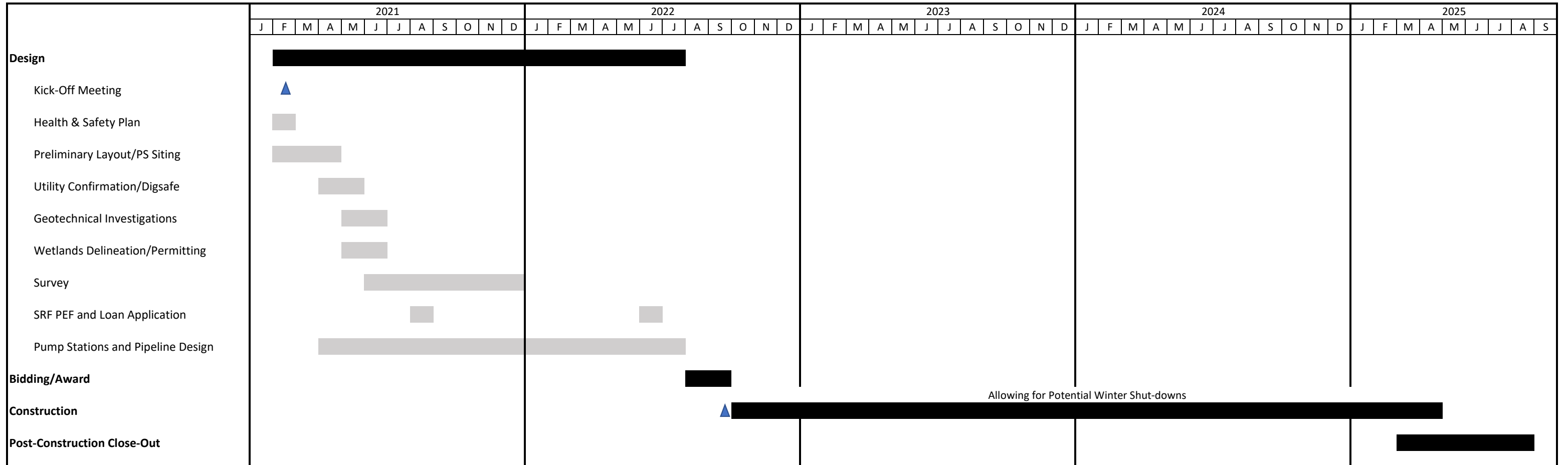
Total Interst @ 1.5% 3,701,250.00  
 Total Debt Service 27,201,250.00  
 First Year Cost 1,527,500.00  
 Average Annual Cost 1,351,250.00

	Principal	Interest	Total
March-23		176,250.00	176,250.00
September-23	1,175,000.00	176,250.00	1,351,250.00
March-24		167,438.00	167,438.00
September-24	1,175,000.00	167,435.00	1,342,435.00
March-25		158,625.00	158,625.00
September-25	1,175,000.00	158,625.00	1,333,625.00
March-26		149,813.00	149,813.00
September-26	1,175,000.00	149,813.00	1,324,813.00
March-27		141,000.00	141,000.00
September-27	1,175,000.00	141,000.00	1,316,000.00
March-28		132,188.00	132,188.00
September-28	1,175,000.00	132,188.00	1,307,188.00
March-29		123,375.00	123,375.00
September-29	1,175,000.00	123,375.00	1,298,375.00
March-30		114,563.00	114,563.00
September-30	1,175,000.00	114,563.00	1,289,563.00
March-31		105,750.00	105,750.00
September-31	1,175,000.00	105,750.00	1,280,750.00
March-32		96,938.00	96,938.00
September-32	1,175,000.00	96,938.00	1,271,938.00
March-33		88,125.00	88,125.00
September-33	1,175,000.00	88,125.00	1,263,125.00
March-34		79,313.00	79,313.00

	Principal	Interest	Total
Sep-34	1,175,000.00	79,313.00	1,254,313.00
March-35		70,500.00	70,500.00
September-35	1,175,000.00	70,500.00	1,245,500.00
March-36		61,688.00	61,688.00
September-36	1,175,000.00	61,688.00	1,236,688.00
March-37		52,875.00	52,875.00
September-37	1,175,000.00	52,875.00	1,227,875.00
March-38		44,063.00	44,063.00
September-38	1,175,000.00	44,063.00	1,219,063.00
March-39		35,250.00	35,250.00
September-39	1,175,000.00	35,250.00	1,210,250.00
March-40		26,438.00	26,438.00
September-40	1,175,000.00	26,438.00	1,201,438.00
March-41		17,625.00	17,625.00
September-41	1,175,000.00	17,625.00	1,192,625.00
March-42		8,813.00	8,813.00
September-42	1,175,000.00	8,813.00	1,183,813.00
			-
	23,500,000.00	371,250.00	27,201,250.00

**Town of Franklin, MA**  
**Beaver Street Interceptor Rehabilitation and Replacement**

**Projected Schedule**



**Franklin, MA**  
**Beaver Street Interceptor Renewal/Replacement**  
**Estimated Monthly Drawdown Schedule**

CY	Month	Monthly Drawdown	Cumulative Drawdown	
<b>2021</b>	Mar	\$83,972	\$83,972	
	Apr	\$83,972	\$167,944	
	May	\$83,972	\$251,917	
	Jun	\$83,972	\$335,889	
	Jul	\$83,972	\$419,861	
	Aug	\$83,972	\$503,833	
	Sep	\$83,972	\$587,806	
	Oct	\$83,972	\$671,778	
	Nov	\$83,972	\$755,750	
	Dec	\$83,972	\$839,722	
	<b>2022</b>	Jan	\$83,972	\$923,694
		Feb	\$83,972	\$1,007,667
Mar		\$83,972	\$1,091,639	
Apr		\$83,972	\$1,175,611	
May		\$83,972	\$1,259,583	
Jun		\$83,972	\$1,343,556	
Jul		\$83,972	\$1,427,528	
<b>Design Complete</b>	Aug	\$83,972	\$1,511,500	
<b>Bidding</b>	Sep	\$9,950	\$1,521,450	
<b>(SRF Drawdown)</b>	Oct	\$9,950	\$1,531,400	
<b>Begin Construction</b>	Nov	\$754,613	\$2,286,013	
	Dec	\$754,613	\$3,040,626	
<b>2023</b>	Jan	\$754,613	\$3,795,239	
	Feb	\$754,613	\$4,549,852	
	Mar	\$754,613	\$5,304,465	
	Apr	\$754,613	\$6,059,077	
	May	\$754,613	\$6,813,690	
	Jun	\$754,613	\$7,568,303	
	Jul	\$754,613	\$8,322,916	
	Aug	\$754,613	\$9,077,529	
	Sep	\$754,613	\$9,832,142	
	Oct	\$754,613	\$10,586,755	
	Nov	\$754,613	\$11,341,368	
	Dec	\$754,613	\$12,095,981	
<b>2024</b>	Jan	\$754,613	\$12,850,594	
	Feb	\$754,613	\$13,605,206	
	Mar	\$754,613	\$14,359,819	
	Apr	\$754,613	\$15,114,432	
	May	\$754,613	\$15,869,045	
	Jun	\$754,613	\$16,623,658	
	Jul	\$754,613	\$17,378,271	
	Aug	\$754,613	\$18,132,884	
	Sep	\$754,613	\$18,887,497	
	Oct	\$754,613	\$19,642,110	
	Nov	\$754,613	\$20,396,723	
	Dec	\$754,613	\$21,151,335	
<b>2025</b>	Jan	\$754,613	\$21,905,948	
	Feb	\$754,613	\$22,660,561	
	Mar	\$754,613	\$23,415,174	
	Apr	\$767,213	\$24,182,387	
<b>End Construction</b>	May	\$767,213	\$24,949,600	
<b>Close-Out</b>	Jun	\$12,600	\$24,962,200	
	Jul	\$12,600	\$24,974,800	
	Aug	\$12,600	\$24,987,400	
	Sep	\$12,600	<b>\$25,000,000</b>	
<b>Total:</b>		<b>\$25,000,000</b>		

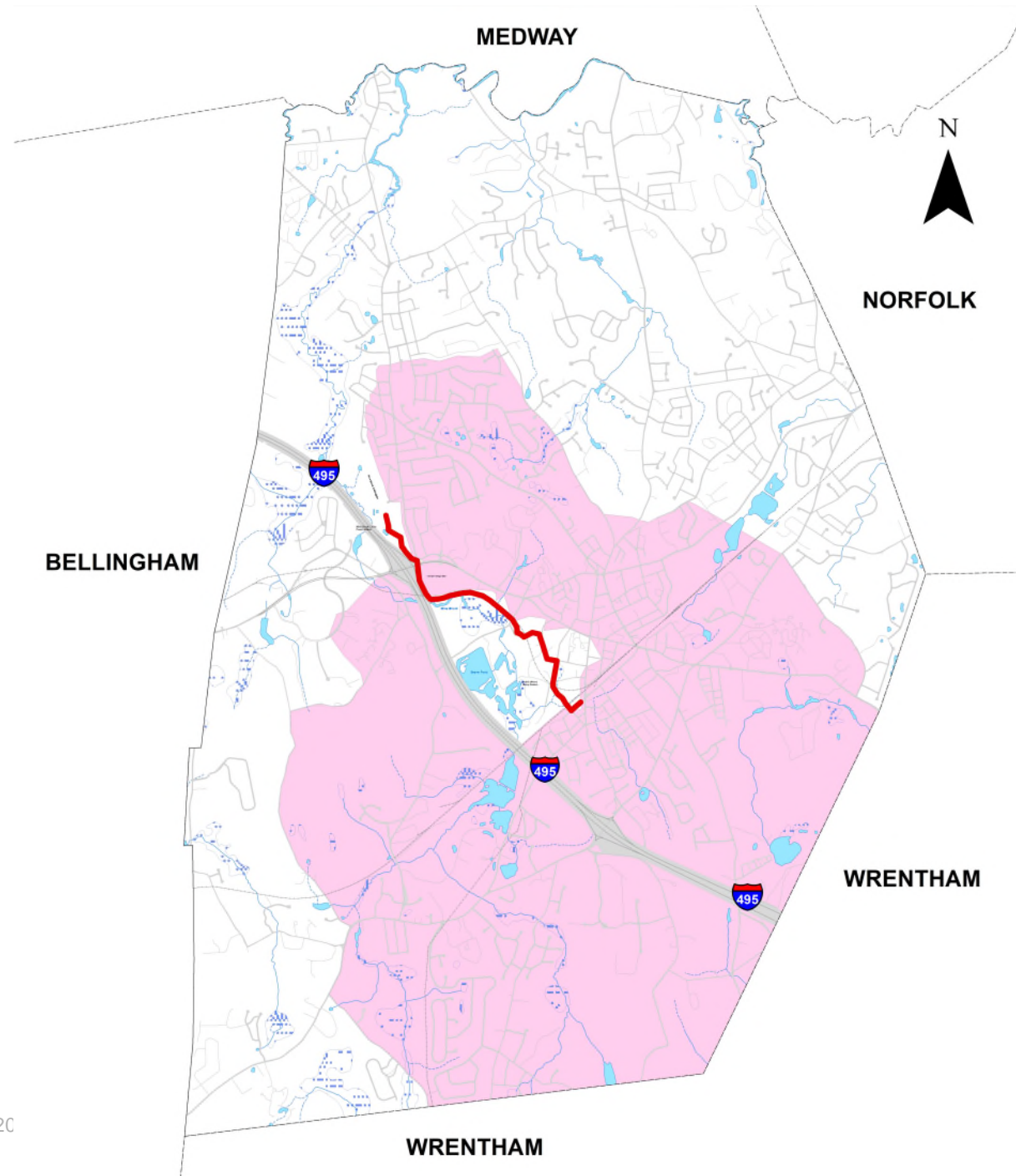


# BEAVER STREET INTERCEPTOR REPLACEMENT

Alternatives Analysis

Franklin Town Council Meeting – October 21, 2020

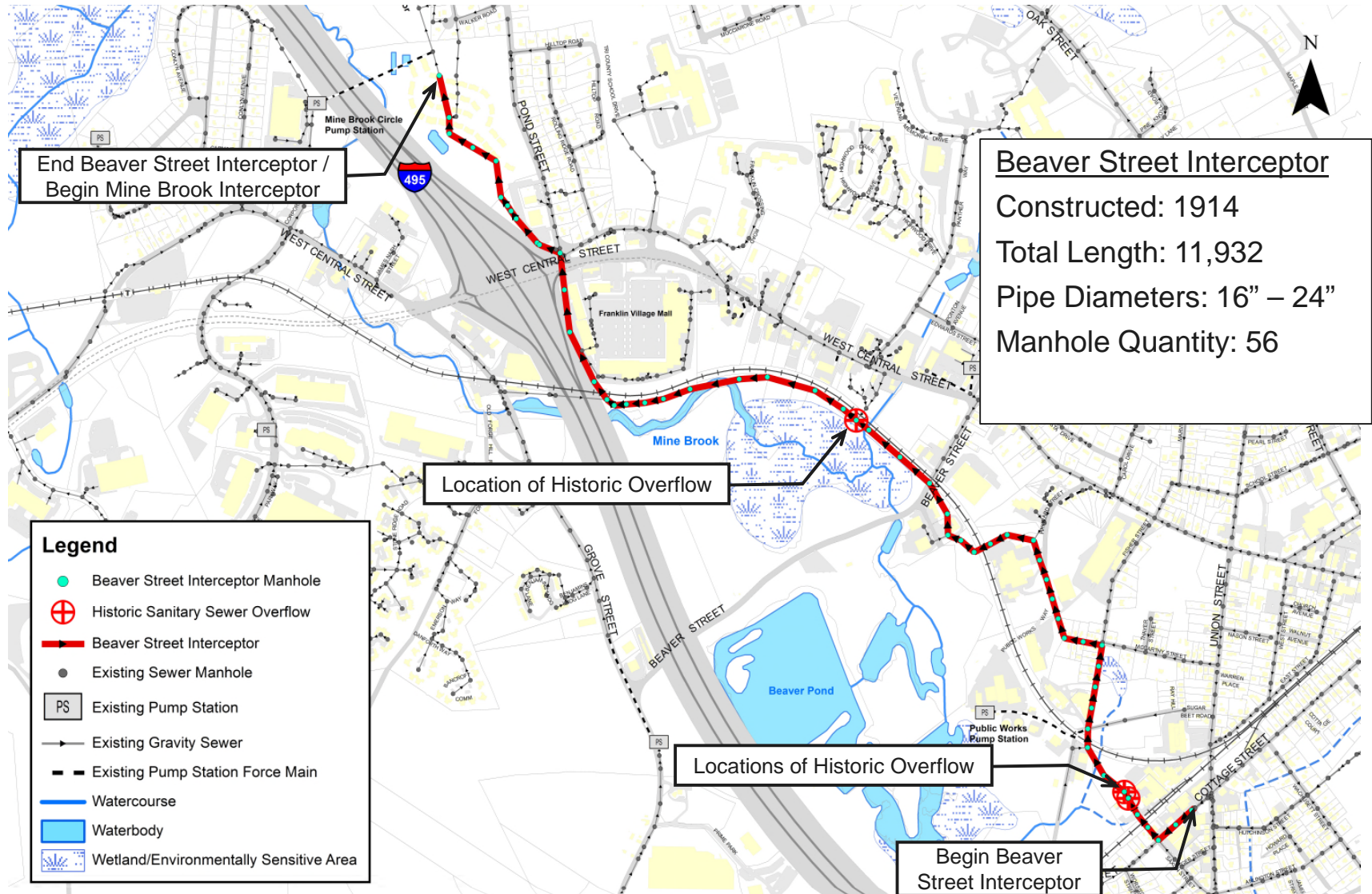
Brutus Cantoreggi, DPW Director  
Doug Martin, PE, Water & Sewer Superintendent  
Scott Haynes, PE, Arcadis



## Beaver Street Interceptor And Tributary Areas



# Beaver Street Interceptor (BSI) Existing Conditions



End Beaver Street Interceptor /  
Begin Mine Brook Interceptor

**Beaver Street Interceptor**  
 Constructed: 1914  
 Total Length: 11,932  
 Pipe Diameters: 16" – 24"  
 Manhole Quantity: 56

**Legend**

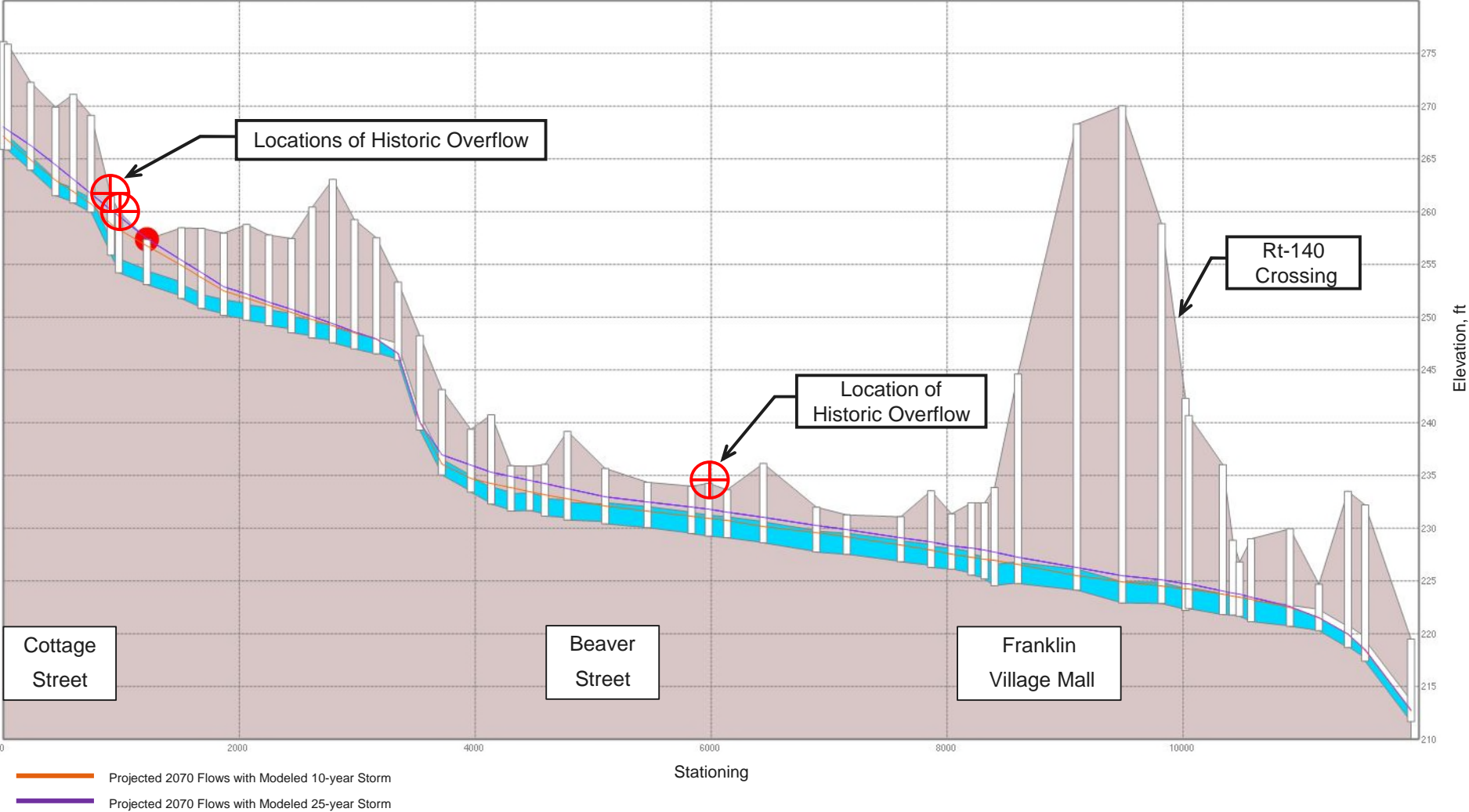
- Beaver Street Interceptor Manhole
- ⊕ Historic Sanitary Sewer Overflow
- - - Beaver Street Interceptor
- Existing Sewer Manhole
- PS Existing Pump Station
- Existing Gravity Sewer
- - - Existing Pump Station Force Main
- Watercourse
- Waterbody
- Wetland/Environmentally Sensitive Area

Location of Historic Overflow

Locations of Historic Overflow

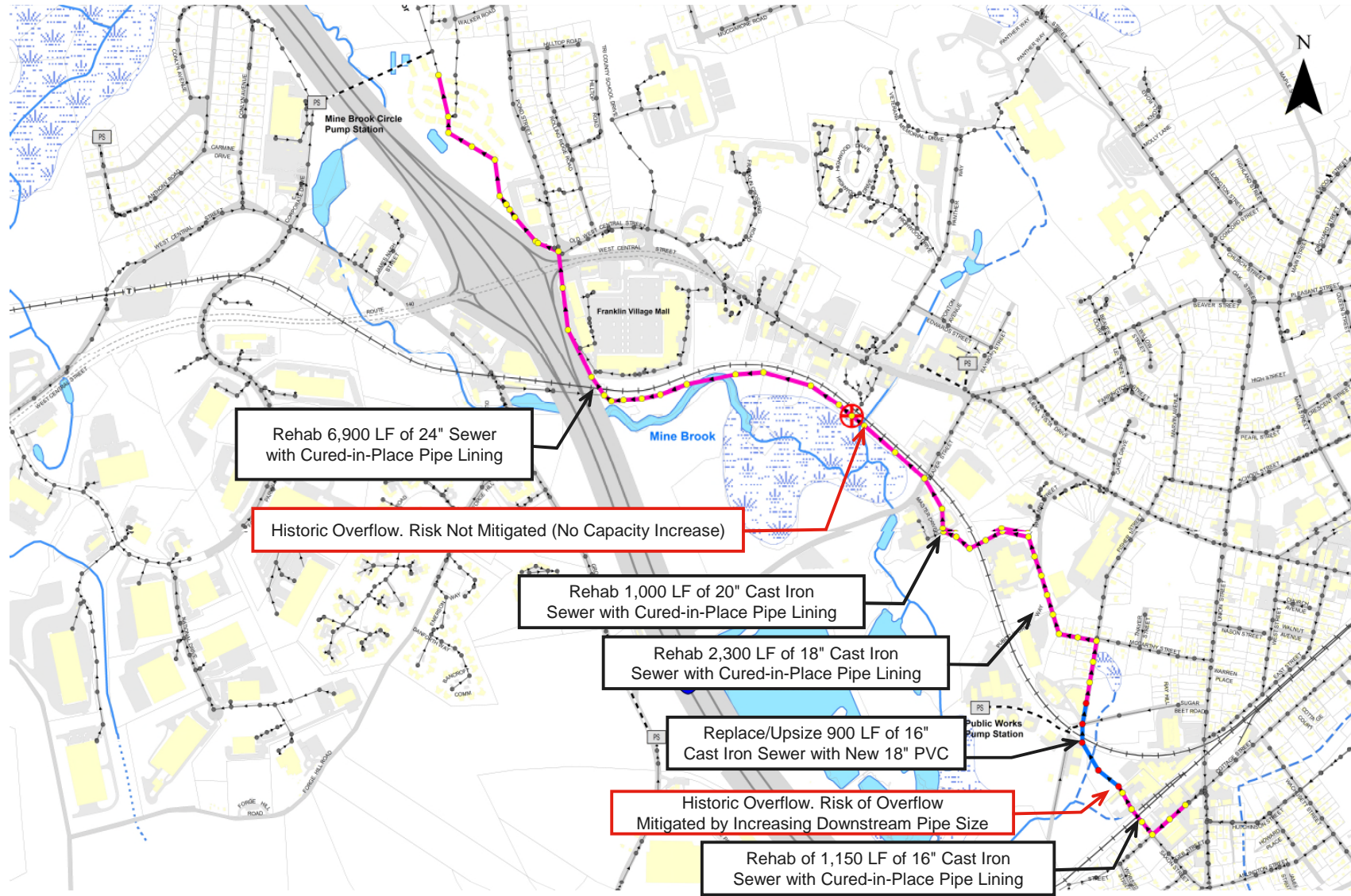
Begin Beaver  
Street Interceptor

# Existing Profile and Hydraulic Model at 50-year Buildout 10-year and 25-year Storm Events

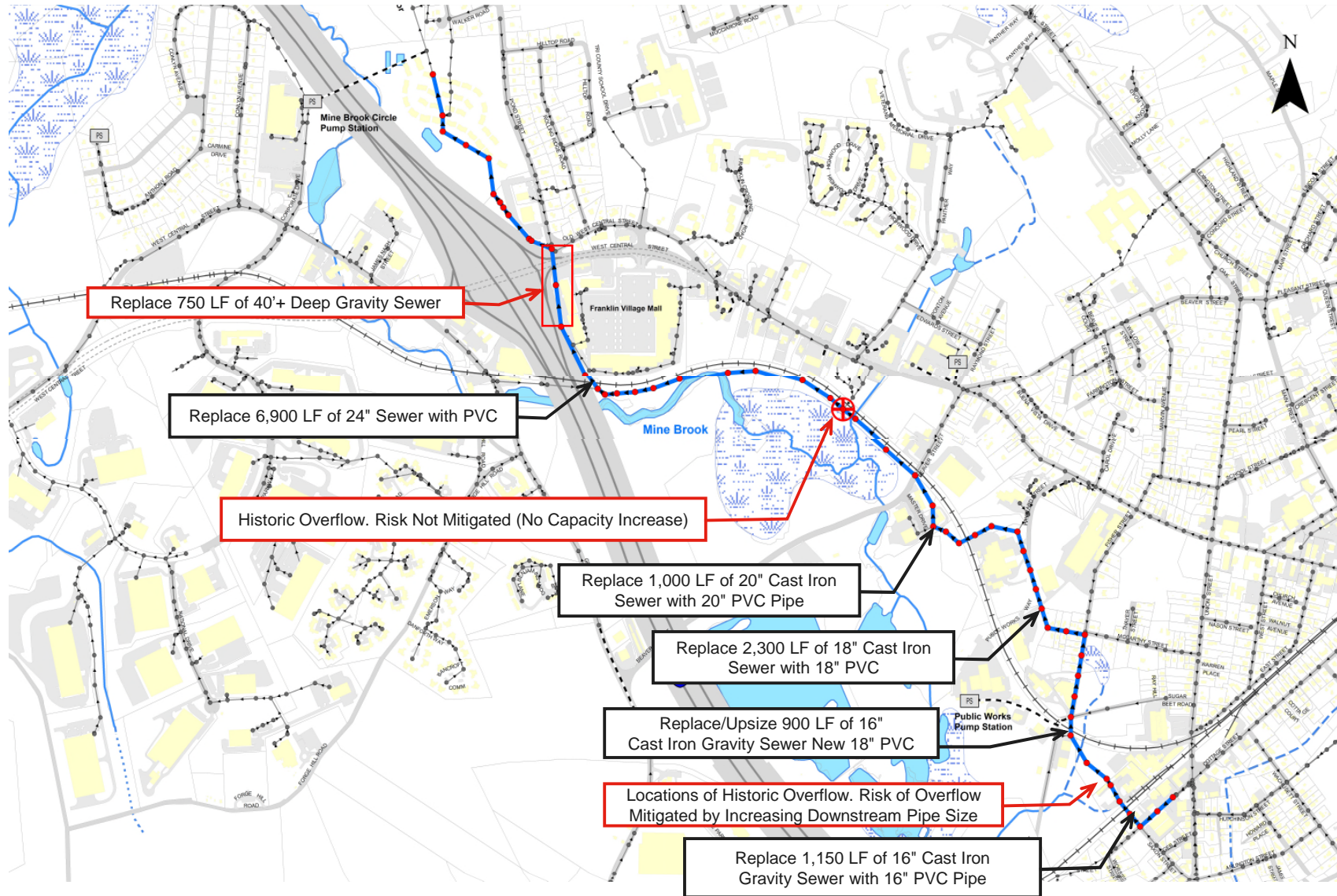




# Alternative 1 – Rehabilitation of Existing BSI

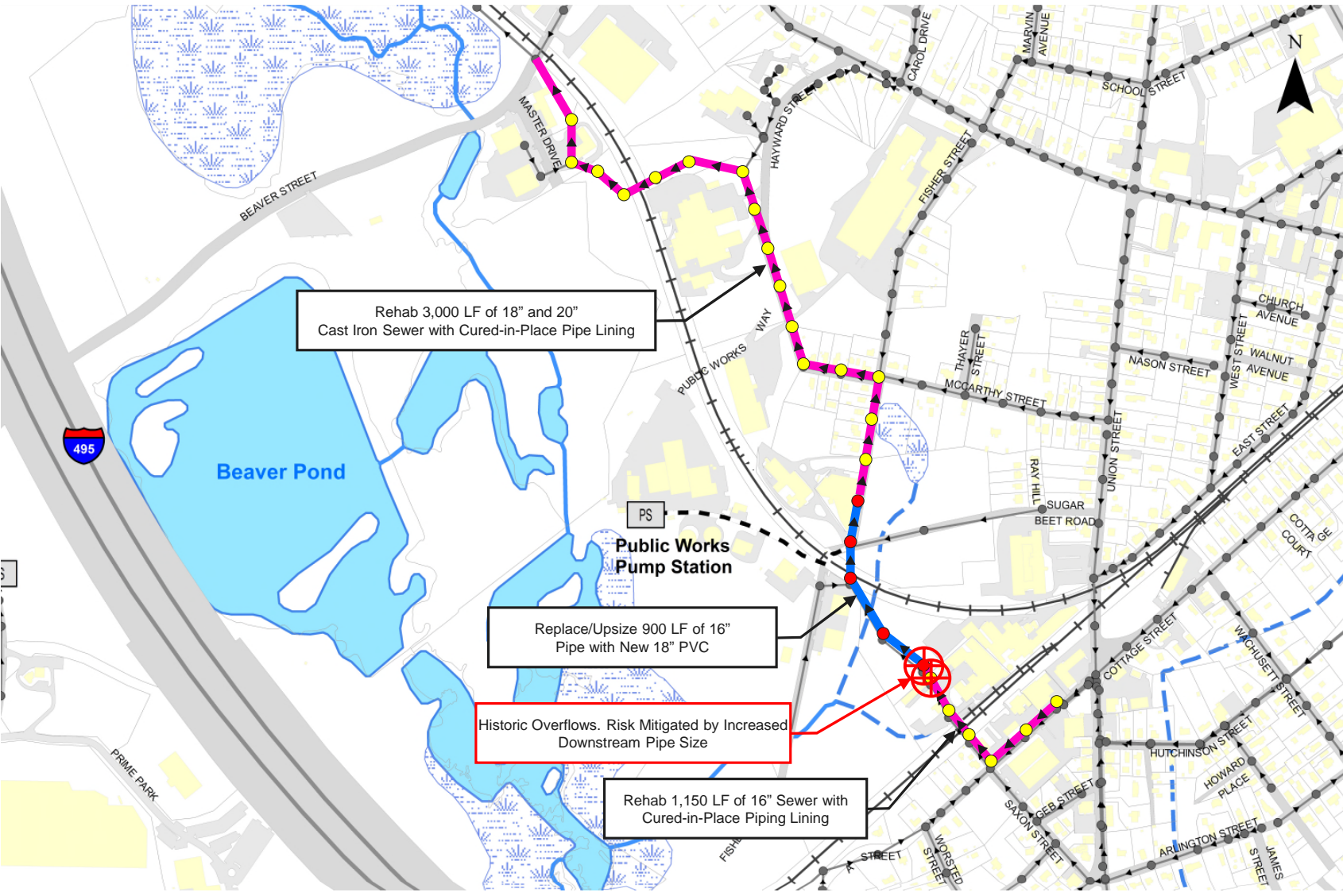


# Alternative 2 – BSI Replacement

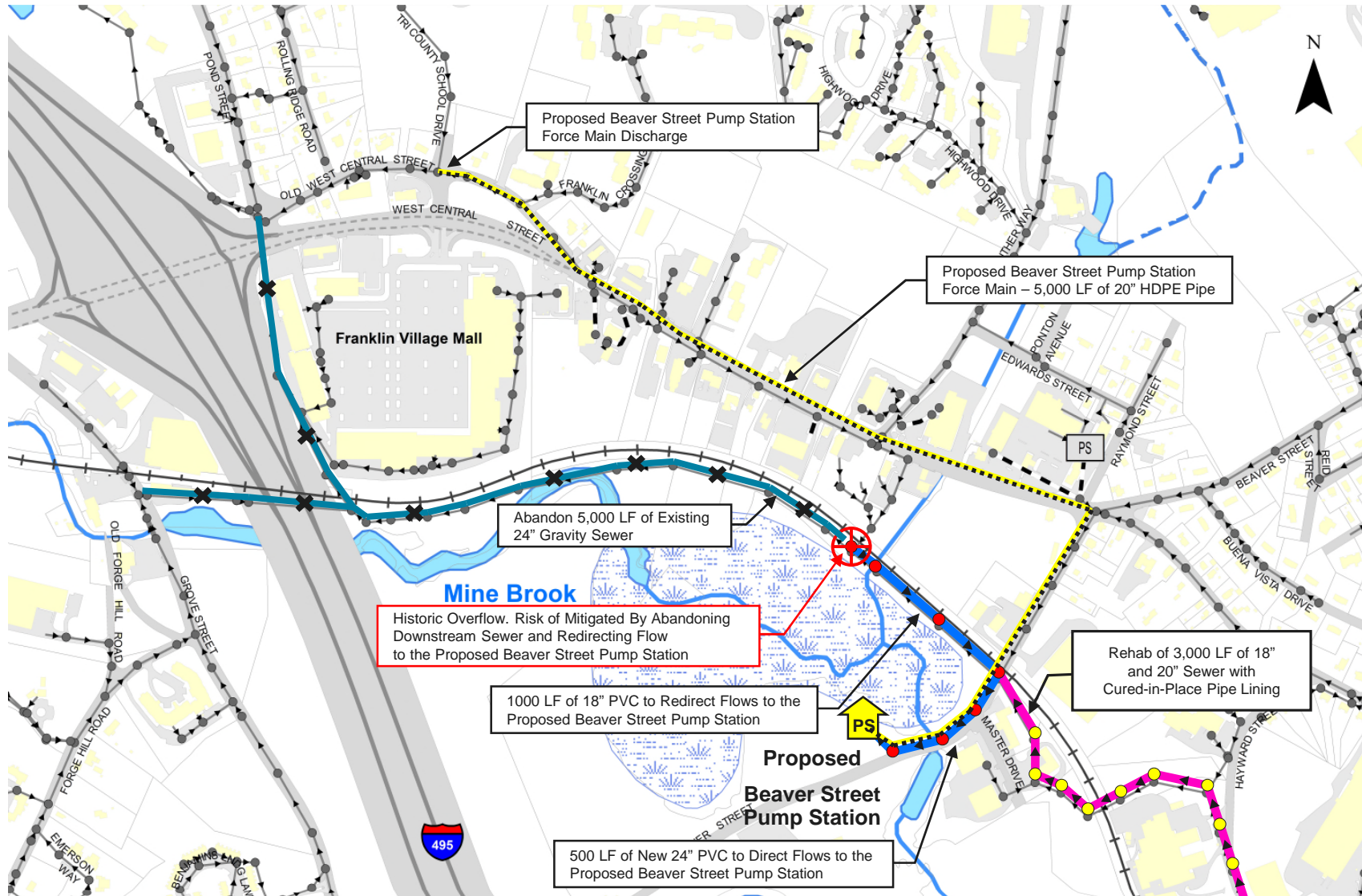




# Alternative 3 – Cottage St to Beaver St



## Alternative 3 – Beaver St. to Old West Central St.





# Alternative 3 – Old West Central St to Mine Brook Int.



## Project Cost Estimates and Comparison of Alternatives

Alternative	Cost Estimate
Alternative 1 – Rehabilitation of Existing BSI	\$9M
Alternative 2 – BSI Replacement	\$13M
Alternative 3 – Rehabilitation and Realignment of BSI	\$25M

Parameter	Relative Weight or Level of Importance	Alternative 1	Alternative 2	Alternative 3
Construction Cost	20%	5	3	2
Reliability of Design/Operation	10%	3	2	5
Risk of Overflows	20%	2	3	5
Environmental Concerns/Risk	15%	2	1	5
Maintenance	10%	3	3	2
Accessibility/Easements	15%	1	1	4
Impacts to Residents/Businesses	5%	4	4	3
Permitting Requirements	5%	2	1	3
	<b>100%</b>			
	<b>Weighted Average</b>	<b>2.8</b>	<b>2.3</b>	<b>3.8</b>
1 - Highly Disadvantageous , 2 – Disadvantageous, 3 – Neutral, 4 – Advantageous, 5 - Highly Advantageous				

# QUESTIONS

