



Kline's Island Sewer System

Regional Sewer Plan

Update to the Lehigh County Authority Board of Directors

May 12, 2025

Act 537 Plan Consultant Authorization Updates

*(following plan submission
to municipal planning
commissions)*

Authorizations Continuing:

- ARRO → Final Act 537 submission to DEP (through acceptance)
- Salzmann Hughes → As needed through upcoming intermunicipal agreement negotiations

Authorizations on Hold:

- Kleinfelder → planning/design work related to Kline's Island WWTP peak wet weather flows > 100MGD

Authorizations Ending:

- Arcadis → Selection of Solution; KISS Relief Interceptor Alignment Study
- Raftelis → KISS Financial Analysis
- Jacobs → Pretreatment Plant Master Plan
- AECOM → Program Management

The time is now

Most components of the KISS were built in 1920s through the 1980s.

Past generations invested heavily in creating the system that supports the quality of life we enjoy today.

It is time to reinvest – to ensure these benefits continue for our region's future.

KISS municipal leaders have been working on sewer planning for many years – **now is the time to finalize our plans and get started.**



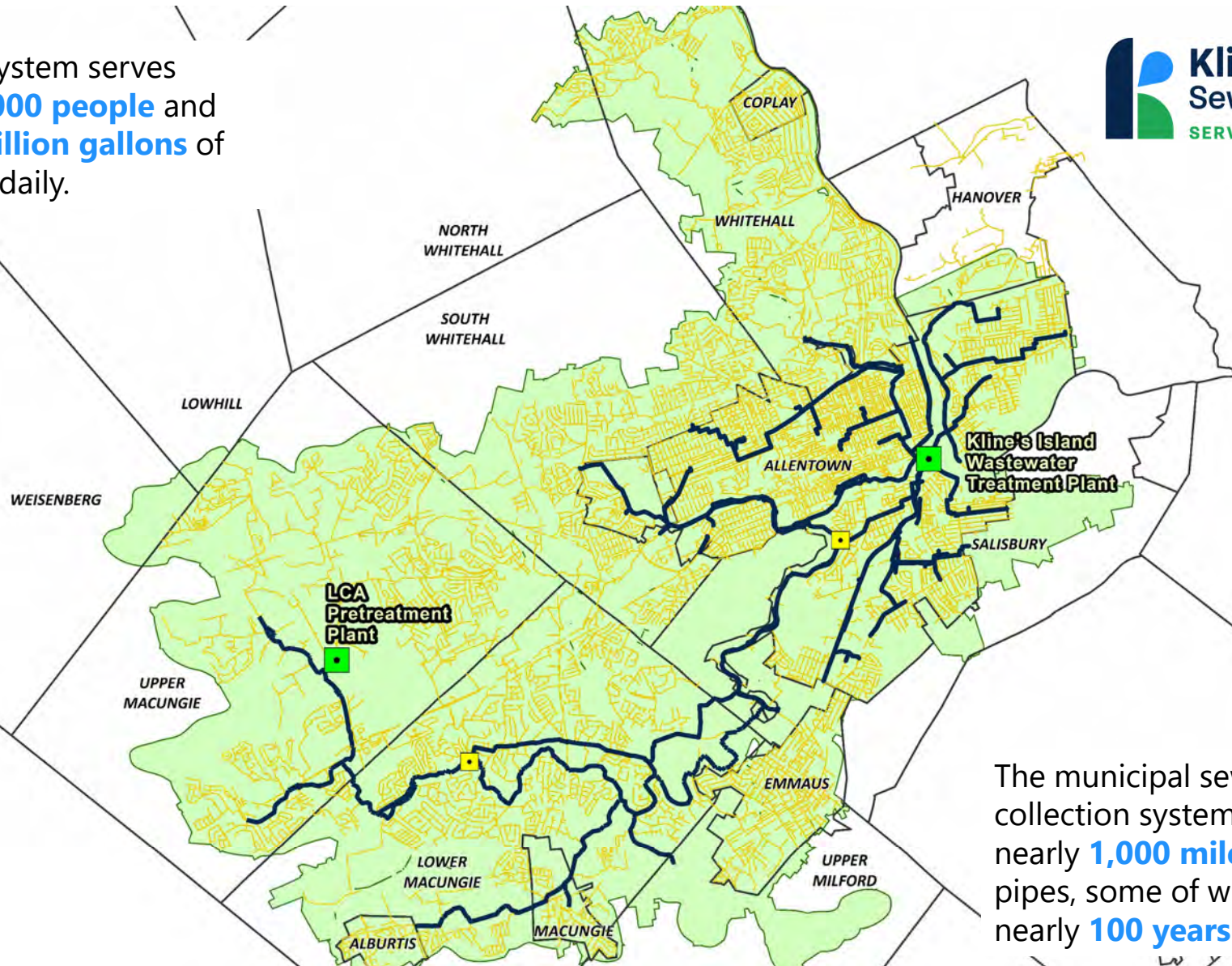
KISS Service Area

- | | | |
|------------------------|-----------------------------|--------------------------------|
| 1. City of Allentown | 6. Upper Macungie Township | 11. Upper Milford Township ** |
| 2. Borough of Emmaus | 7. Lower Macungie Township | 12. Hanover Township |
| 3. Borough of Macungie | 8. South Whitehall Township | 13. North Whitehall Township * |
| 4. Borough of Alburtis | 9. Salisbury Township | 14. Weisenberg Township ** |
| 5. Borough of Coplay * | 10. Whitehall Township * | 15. Lowhill Township ** |

* The Borough of Coplay, Whitehall Township, and North Whitehall Township receive sewer service through an agreement with the Coplay-Whitehall Sewer Authority.

** Lehigh County Authority (LCA) owns and operates the sewer systems serving Upper Milford, Weisenberg, and Lowhill townships.

The sewer system serves about **270,000 people** and treats **32 million gallons** of wastewater daily.



The municipal sewer collection systems include nearly **1,000 miles** of buried pipes, some of which are nearly **100 years old!**

Kline's Island Sewer System (KISS) Faces Major System Challenges



Aging Infrastructure

Most KISS communities struggle with deteriorating infrastructure that is 50 to 100 years old, causing leakage and sewer overflows



Capacity for New Connections

Many system components are at capacity today, regardless of the wet weather challenges, stalling potential economic development and growth



Size of Existing Infrastructure

Our infrastructure is not designed for wet weather events that leak rainwater into the system, making sewer overflows worse



Regulatory Oversight

System overflows and permit violations have increased regulatory oversight, restricted new connections, compelling us to take action



Inflow and Infiltration

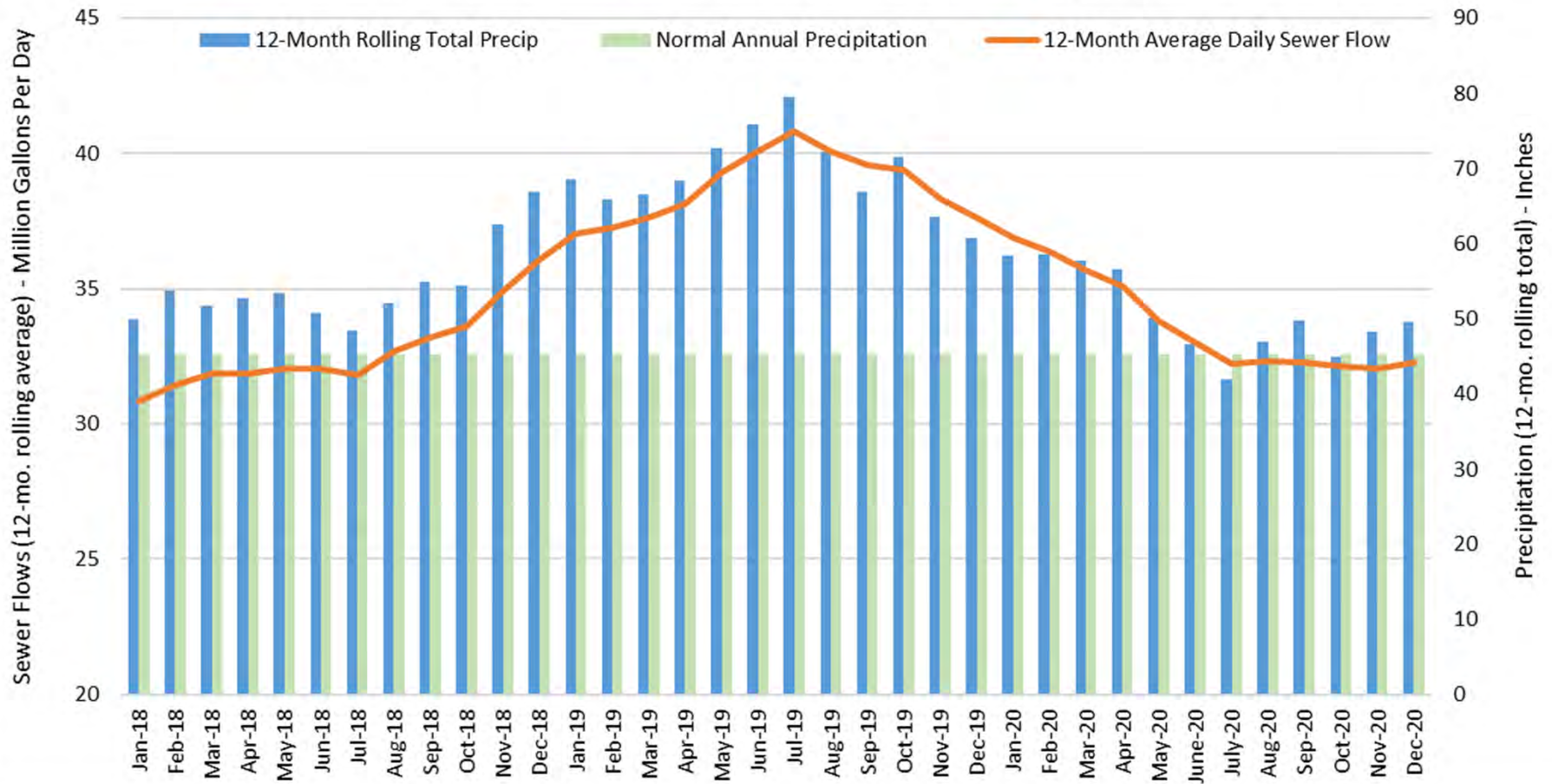
Our hydraulic model shows that **160 million gallons of water per day** enter the sewer system during wet weather.

The treatment plant can only process about half of that. When there's no place for the water to go, overflows happen.

And when it's not raining, nearly **10 million gallons of water** enters the system every day through leaking pipes.



12-Month Rolling Totals - Sewer Flows vs. Precipitation



Regulatory Action: A Brief Overview

Administrative Orders

2007 – 2009

U.S. EPA issues Administrative Orders (AOs) due to excessive sanitary sewer overflows and plant bypasses during wet weather

Wet Weather

2018 - 2019

Wet weather makes it clear the system needs significant investment

DEP Corrective Action

2019

System overload triggers corrective action with DEP, new connections limited until Act 537 Plan developed

2007 - 2017

2018 - 2019

2020 - 2025

Regional Collaboration

2009 – 2018

In response to AOs, some municipalities begin working together on regional sewer monitoring, with increased collaboration over time

Administrative Orders Lifted

2019

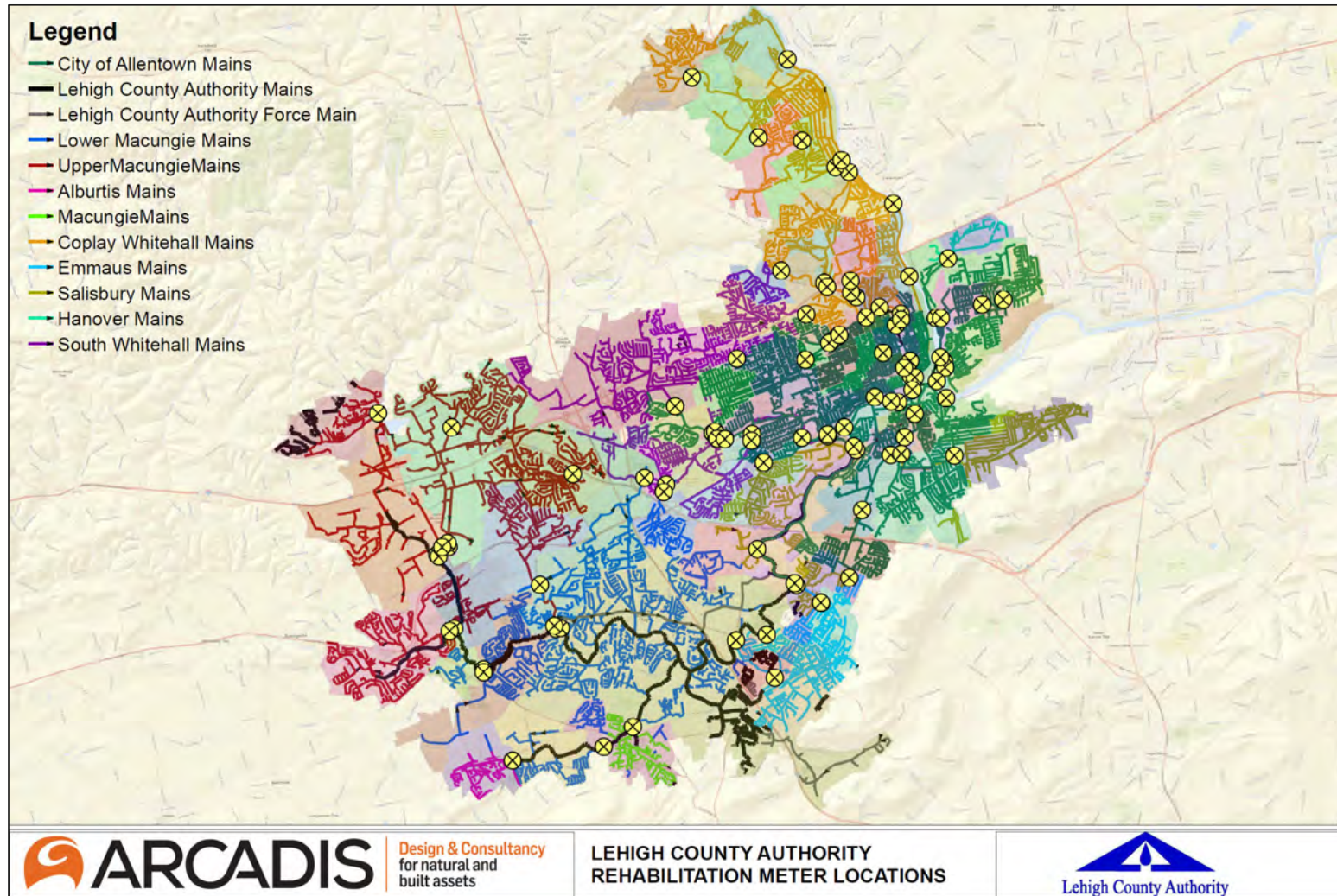
In response to regional collaboration, AOs are lifted, and oversight is transferred to the Pa. DEP

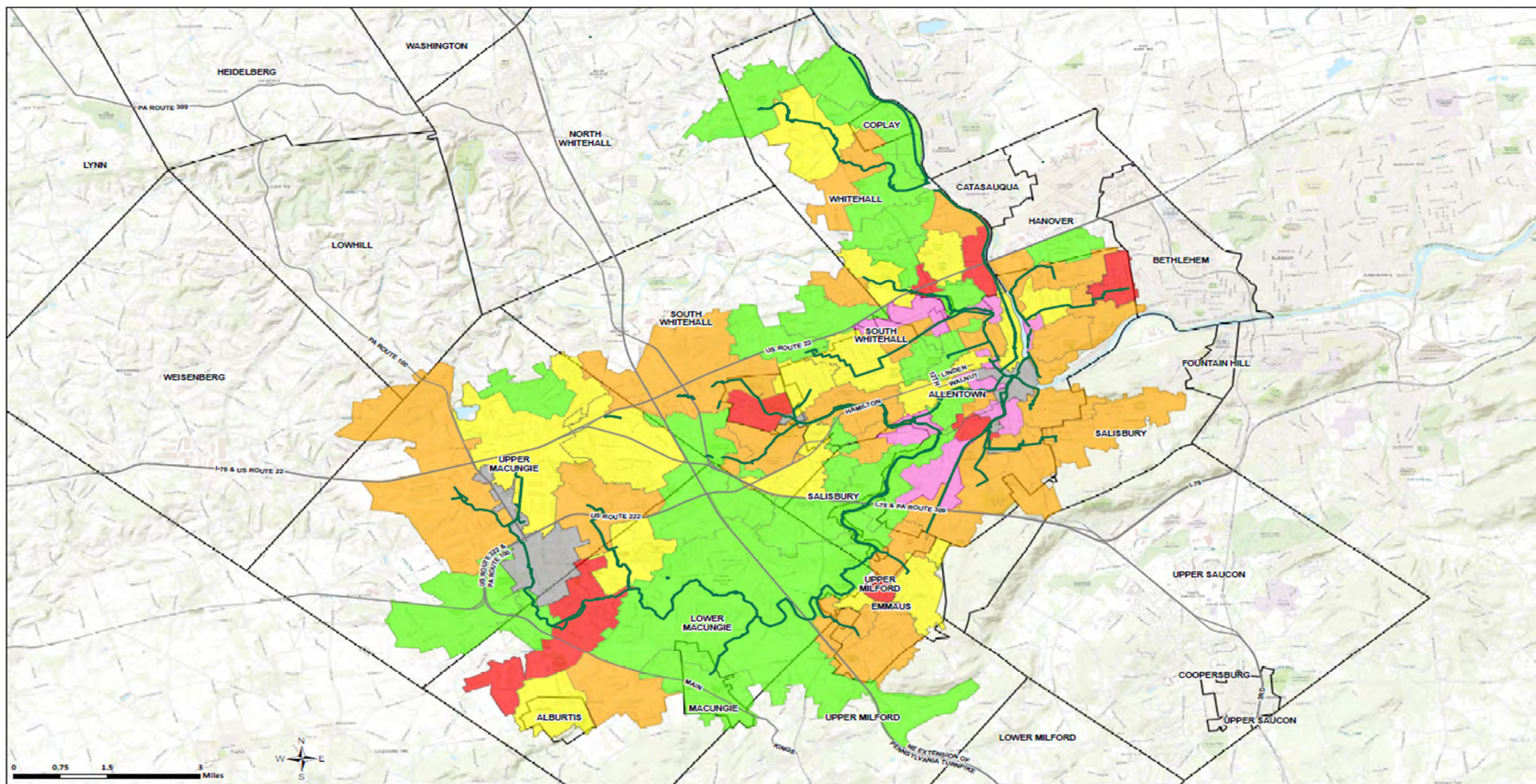
Act 537 Planning

2020 - 2025

DEP requires Act 537 Plan to be submitted by 2025, including solutions to overflows and plans to address long-term needs

2021 Flow Monitoring – Meter Locations





 Lehigh County Authority	<p>Length Normalized RDII (GPD/LF)</p> <table><tr><td><div></div> < 2</td><td><div></div> 2 - 4</td><td><div></div> 4 - 8</td><td><div></div> 8 - 15</td><td><div></div> > 15</td><td><div></div> No Study Conducted</td></tr></table> <p><div></div> Interceptor Main 18" and Over</p>	<div></div> < 2	<div></div> 2 - 4	<div></div> 4 - 8	<div></div> 8 - 15	<div></div> > 15	<div></div> No Study Conducted	<p>LEHIGH COUNTY AUTHORITY</p> <p>KISS I&I SUMMARY</p> <p>LEHIGH COUNTY, PENNSYLVANIA</p>	<p>Remarks:</p> <p>I&I studies were not able to be conducted in gray boundary areas</p>	<p>LEHIGH COUNTY AUTHORITY GIS</p> <p>DATE: 4/5/2022 SCALE: 1:44,000</p> <p>CREATED: CHECKED:</p>
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Major Alternatives Reviewed

1. Pretreatment Plant Conversion

- Upgrade pretreatment plant to full treatment
- Create new discharge point
- Divert XX MGD from KISS to new discharge point
- Reduce downstream investments needed

2. Expand Existing Infrastructure

- Upgrade Kline's Island to handle wet-weather flows
- Expand interceptors to remove bottlenecks
- Address pretreatment needs separately / directly with industries
- Reduce inflow & infiltration

10-Year Summary of Improvements & Costs

Plan Component	Cost Estimate
Municipal Sewer Rehabilitation Programs (now – 2035)	\$80 – \$100 million
Kline's Island Wastewater Treatment Plant (now – 2035)	\$70 – \$90 million
KISS Relief Interceptor (2030)	\$23 – \$30 million
Western Lehigh Relief Interceptor (2030+)	\$76 – \$98 million
TOTAL 10-YEAR COST ESTIMATE	\$249 – \$318 million

Other Potential Projects:

Other Municipal Interceptors

TBD if needed

Pretreatment Plant

Cost under review w/ industries

KISS Act 537: 5-Year Plan

Plan Component	Cost Estimate
Municipal Sewer Rehabilitation Programs	\$55 – \$60 million
Kline's Island Wastewater Treatment Plant	\$60 – \$65 million
Proposed Relief Interceptor	\$0 million
Western Lehigh Interceptor System	\$8 – \$10 million
TOTAL ACT 537 PLAN COST ESTIMATE	\$123 – \$135 million

Other Potential Projects:

Other Municipal Projects

TBD if needed

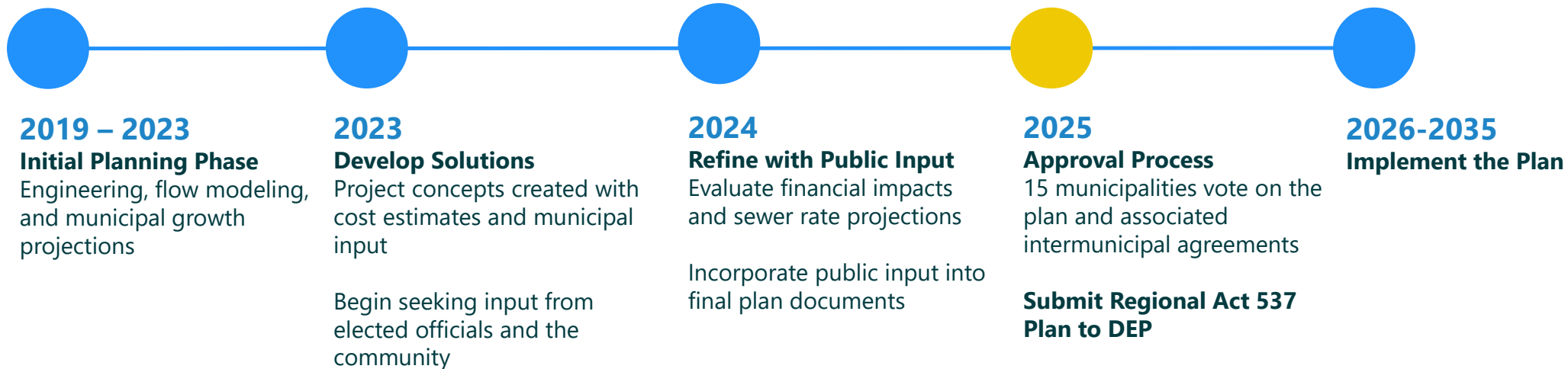
Pretreatment Plant

Cost under review w/ industries



Act 537 Plan Timeline

2019 - 2035



Act 537 Plan Review & Approval Process – DRAFT Timeline

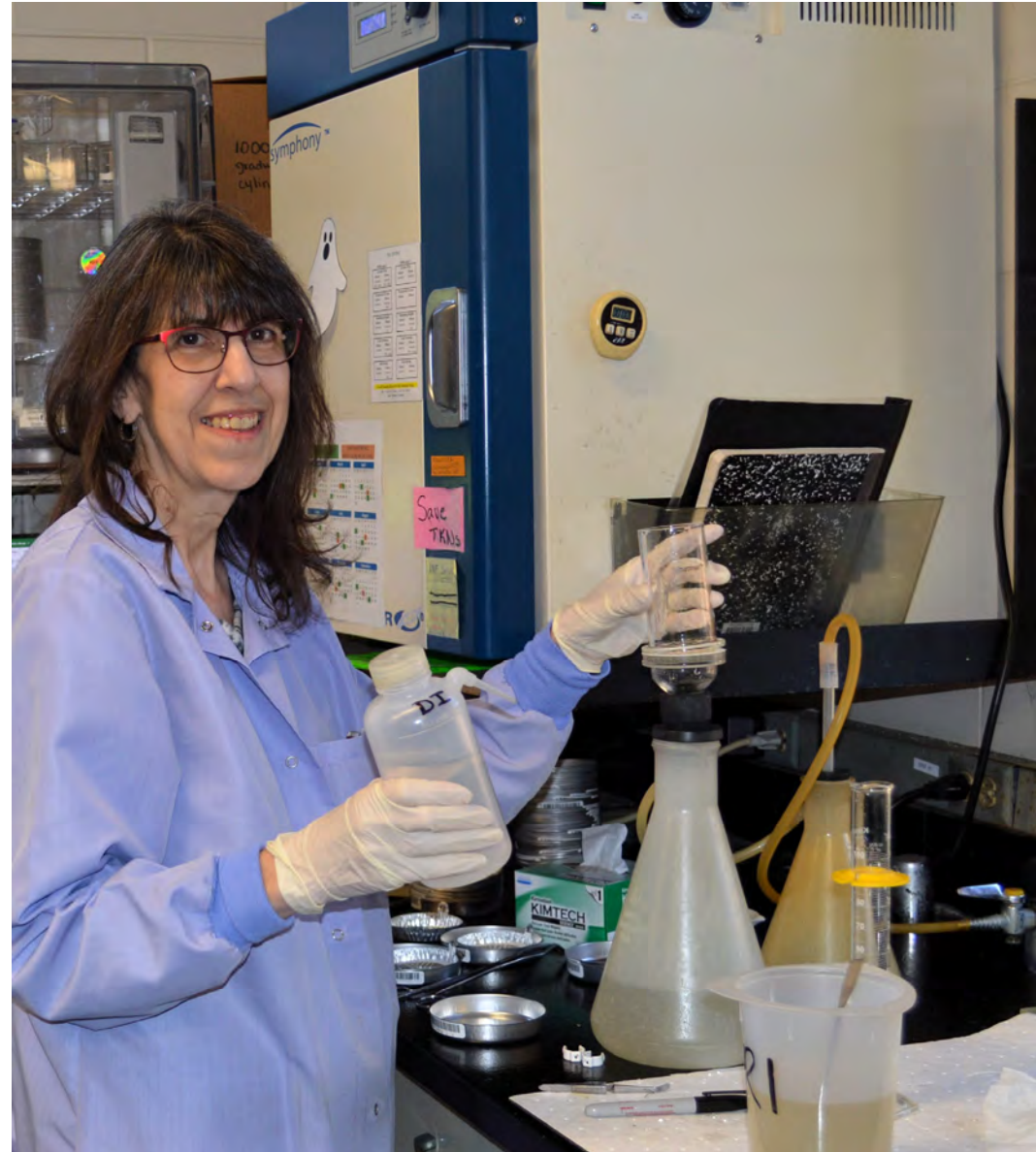
Action Steps	Start Date	End Date	# of Days
Final Draft of Act 537 Plan	Ongoing	4/15/2025	n/a
Planning Commission / Agency Review	4/15/2025	6/16/2025	62
Responses to Planning Review Comments	6/16/2025	7/2/2025	16
Publication / Advertisement Date	7/2/2025	7/2/2025	0
Public Comment Period	7/2/2025	8/1/2025	30
Responses to Public Comments	8/1/2025	8/16/2025	15
Final Act 537 Plan Delivered to Municipalities	8/16/2025	8/16/2025	0
Municipal Adoptions by Resolution	8/16/2025	9/27/2025	42
Compiling Documents	9/27/2025	10/14/2025	17
Submission to DEP	10/14/2025	10/14/2025	0
Municipal Review / Approval Process			182

This Plan is an Investment

To complete work through 2035, we estimate project costs to be **\$300 million**.

This is the largest ever investment our region has made in protecting public health and safeguarding the environment.

Our region's quality of life, clean water ways, and future generations are relying on us to make these investments now.





Discussion / Questions

Learn More: lehighcountysewer.org

Contact: LieselGross@LehighCountyAuthority.org