



Permitting Against the Clock: TPDES Permitting Strategies for Fast Growing Wastewater Systems



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Peter Reale, Plummer

Providing Essential Services

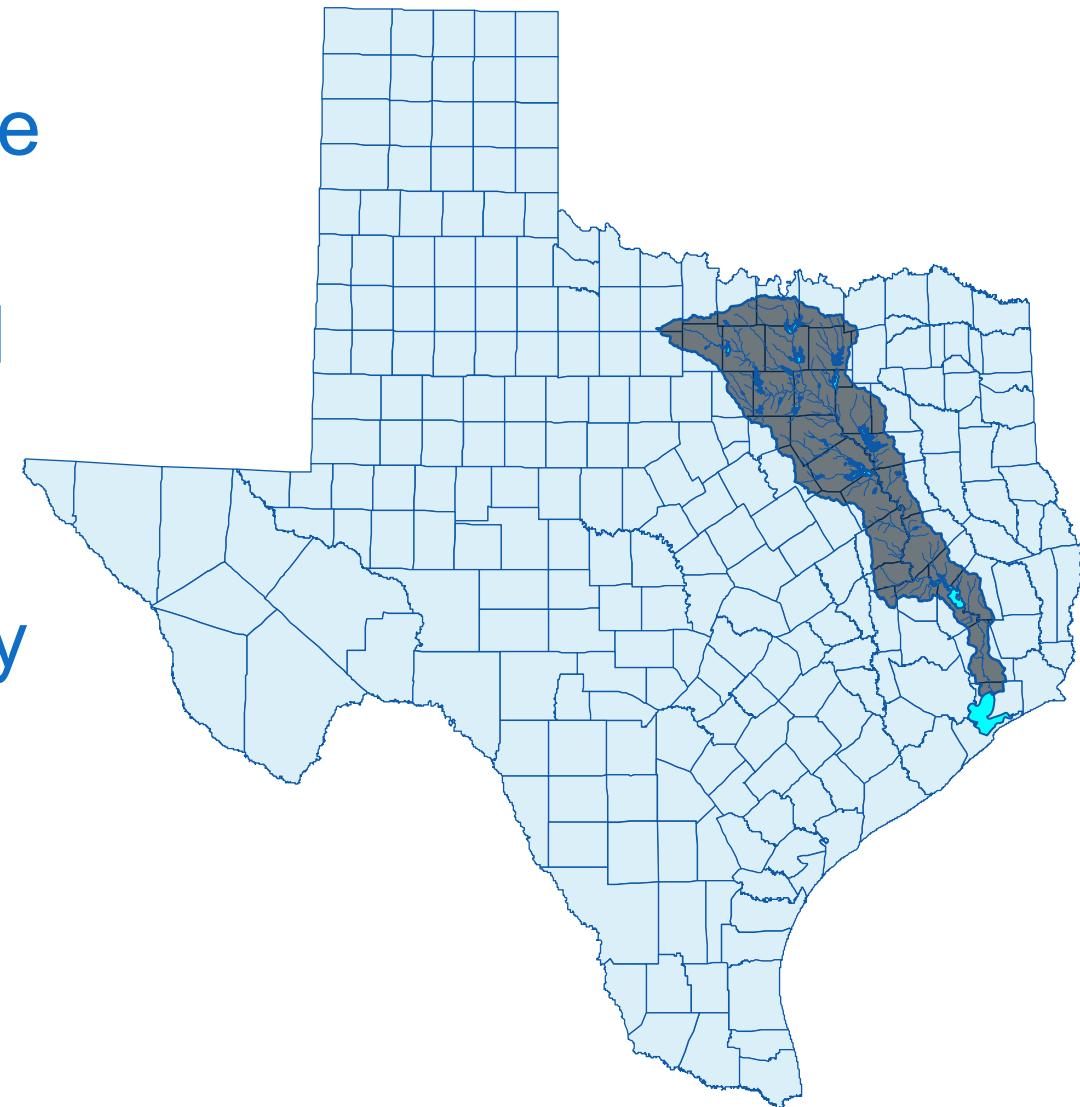
Largest wholesale provider of wastewater treatment services in Texas

Specializes in development and operation of multi-participant regional facilities



Trinity River Basin

- Nearly 18,000 square miles in the eastern third of the state
- Most developed large watershed in Texas
- Approximately half of Texas' population depends on the Trinity River basin for at least part of its water supply





TRA'S Three Functions

1. Provide water and wastewater-related services
 - Specifically authorized by Texas Legislature
 - Evolved into TRA's primary function
2. Sponsor federal water projects
 - Original goal was navigation and water supply
 - Local sponsorship complements federal government's investment
3. Develop and maintain a basin-wide master plan
 - Conceptual document, identifies objectives

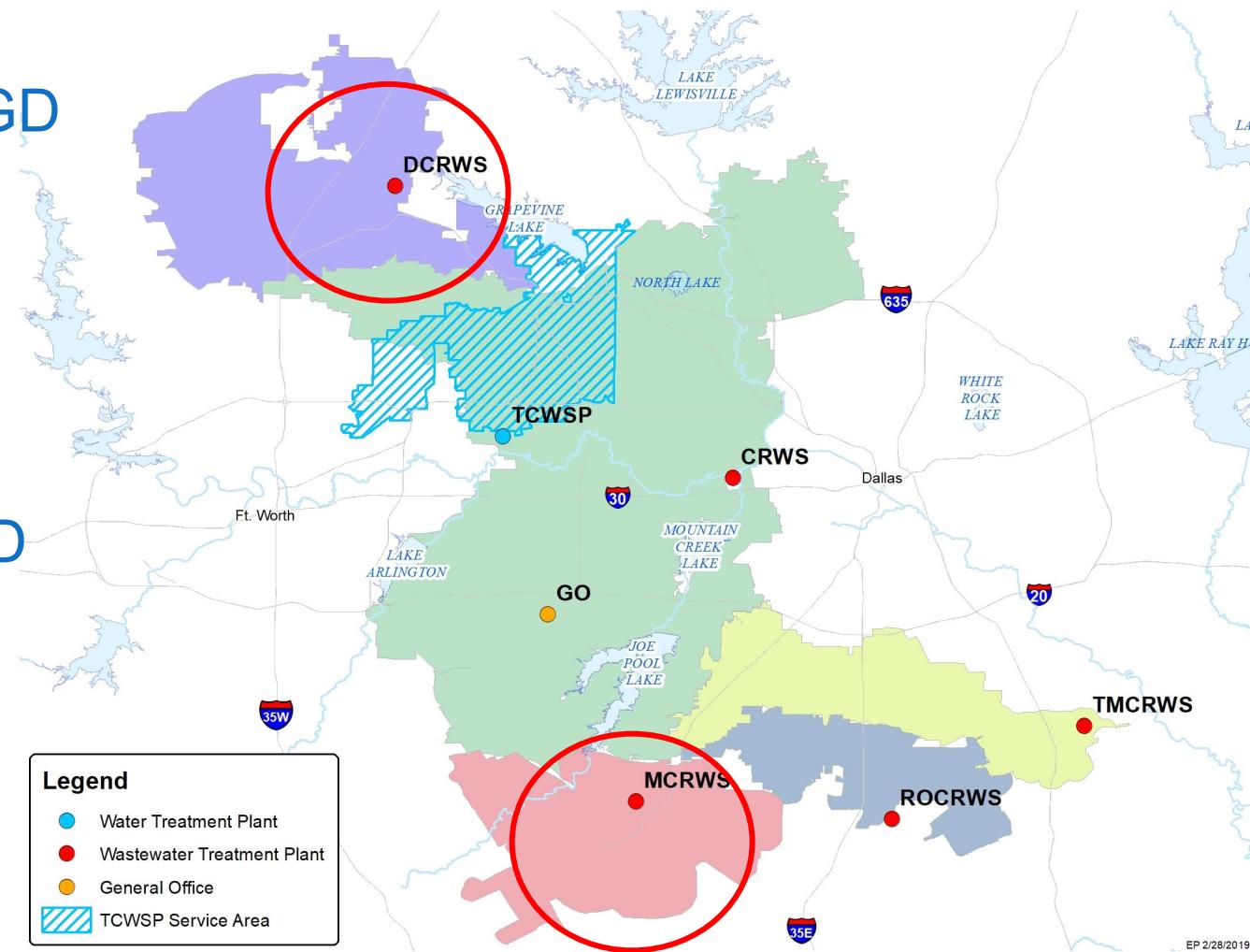
Northern Region Operating Projects

Wastewater Treatment Plants: 5

- Total treatment capacity: 235.0 MGD
- Miles of wastewater main: 341.94
- Wastewater pump stations: 11
- Meter stations: 182

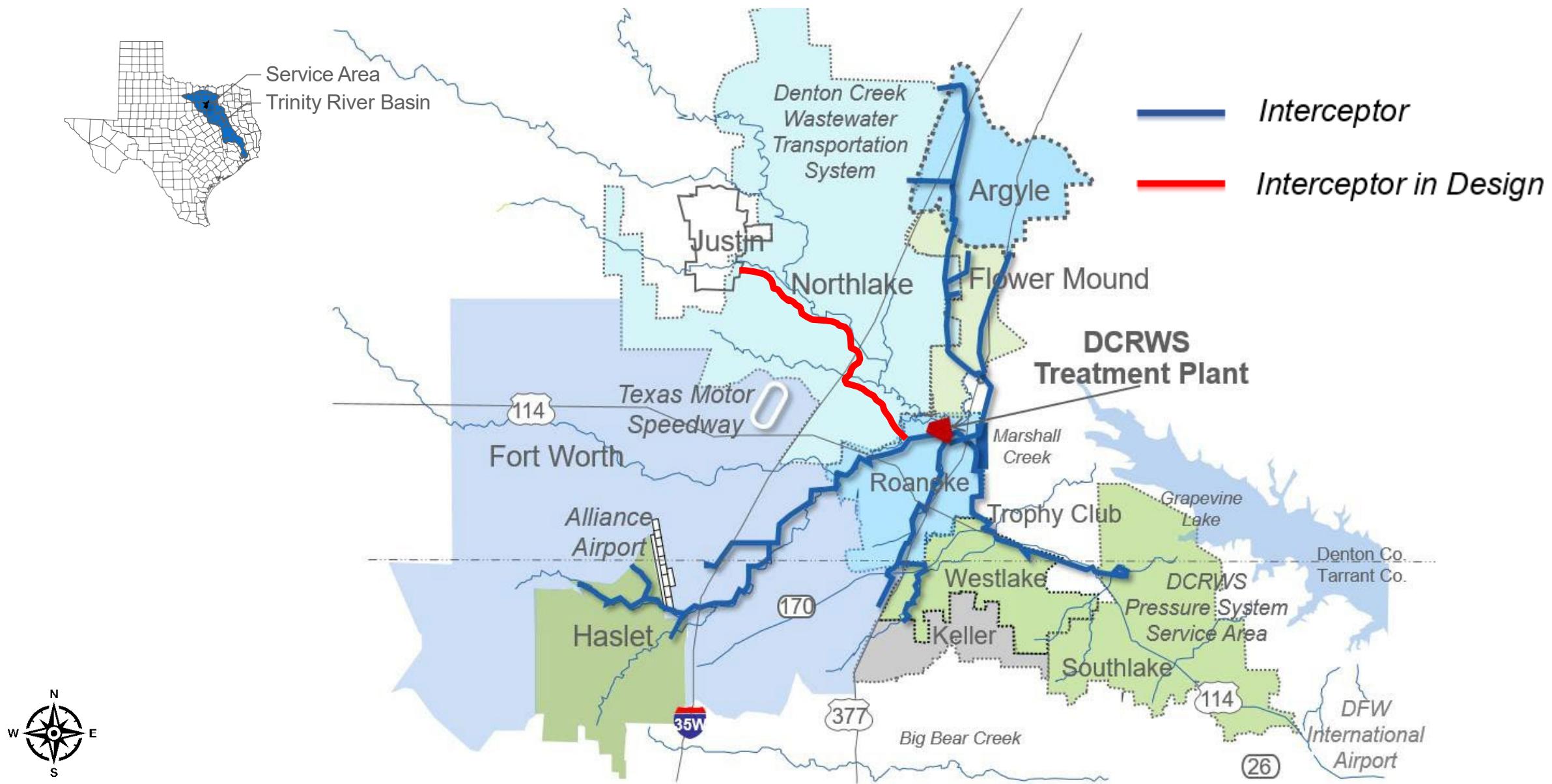
Water Treatment Plant: 1

- Total treatment capacity: 87.0 MGD
- Miles of water main: 38.9
- Water pump stations: 9

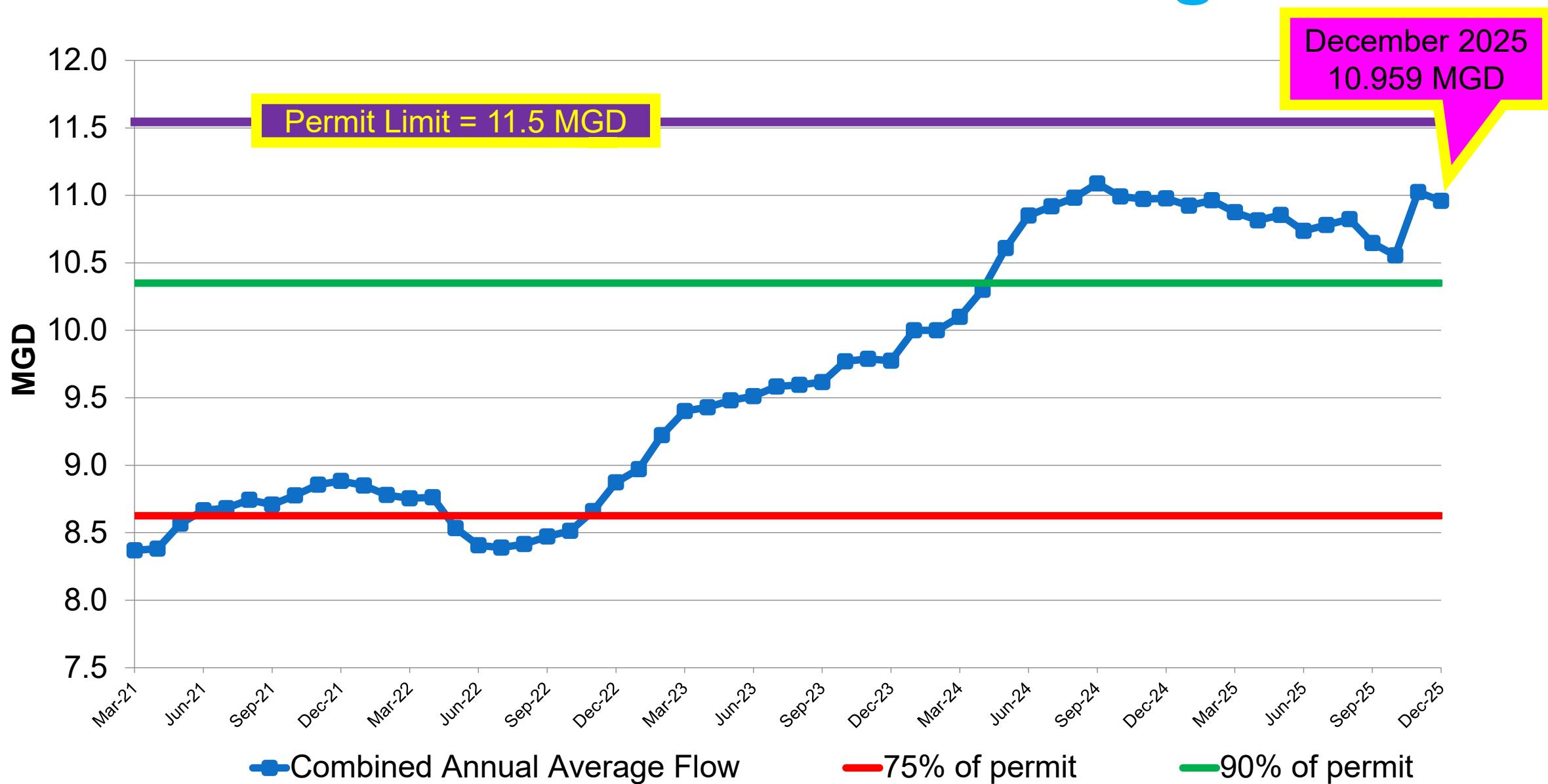


Denton Creek Regional Wastewater System

Trinity River Authority of Texas



DCRWS Effluent Annual Average Flow



DCRWS Treatment Plant – Active CIP



Peak Flow
Storage and
Rehabilitation
(In Construction)

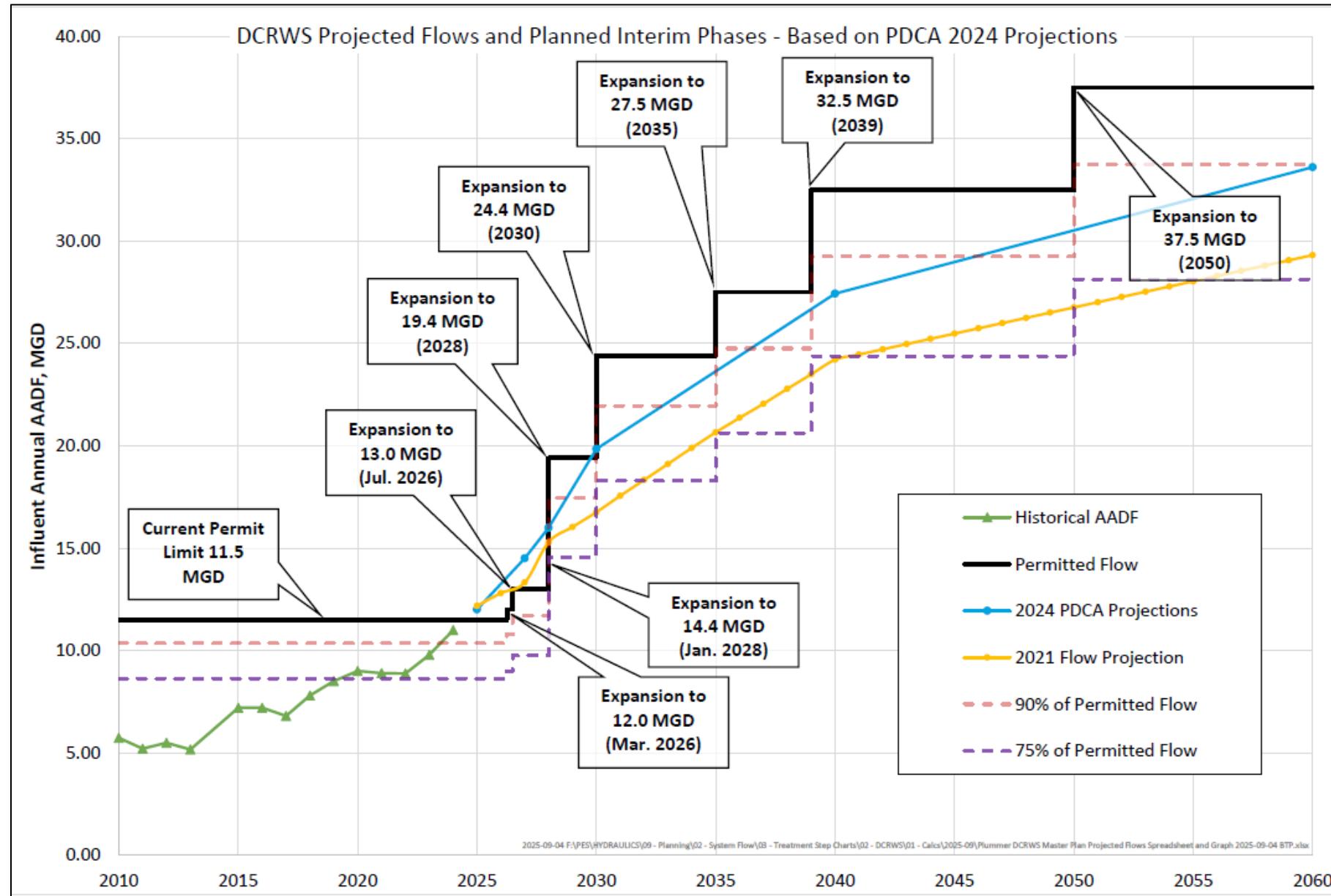
Dewatering
Improvements
(In Design)

EPS & UPS
Upgrades
(Starting
Construction)

Expansion from
11.5 MGD to
16.5/19.4 MGD
(In Construction)

Expansion to
24.4 MGD
(In Design)

DCRWS Master Planning



TPDES Permitting Overview



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
P.O. Box 13087
Austin, Texas 78711-3087

TPDES PERMIT NO.
WQ0013457001
*[For TCEQ office use only - EPA I.D.
No. TX0104957]*

This major amendment supersedes and
replaces TPDES Permit No.
WQ0013457001 issued on January
27, 2017.

PERMIT TO DISCHARGE WASTES
under provisions of
Section 402 of the Clean Water Act
and Chapter 26 of the Texas Water Code

Trinity River Authority of Texas

whose mailing address is

P.O. Box 240
Arlington, Texas 76004

is authorized to treat and discharge wastes from the Denton Creek Regional Wastewater Treatment Facility,
SIC Code 4952

located at 1687 North U.S. Highway 377, in the City of Roanoke, Denton County, Texas 76262

TPDES Permitting Overview

1



New
Permit
Application

2



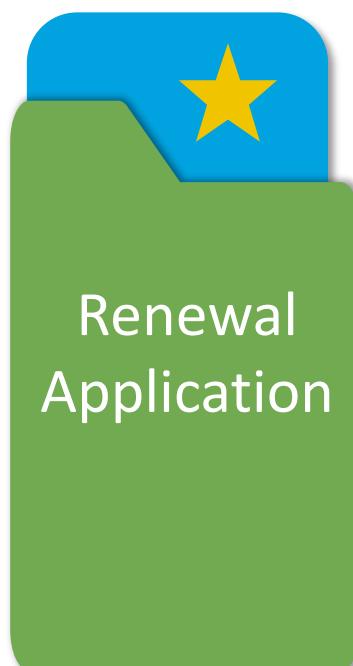
Major
Amendment
Application

3



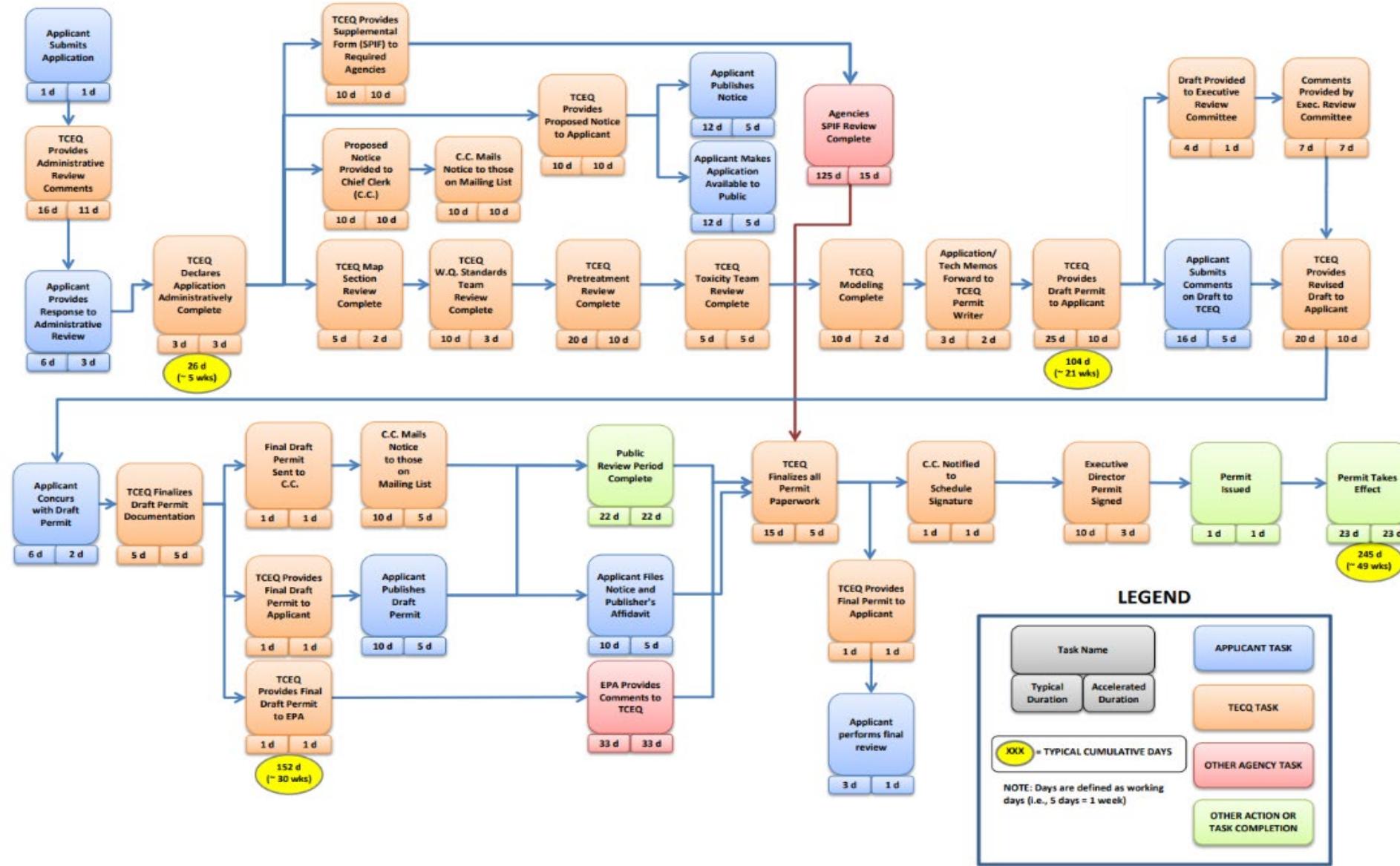
Minor
Amendment
Application

4

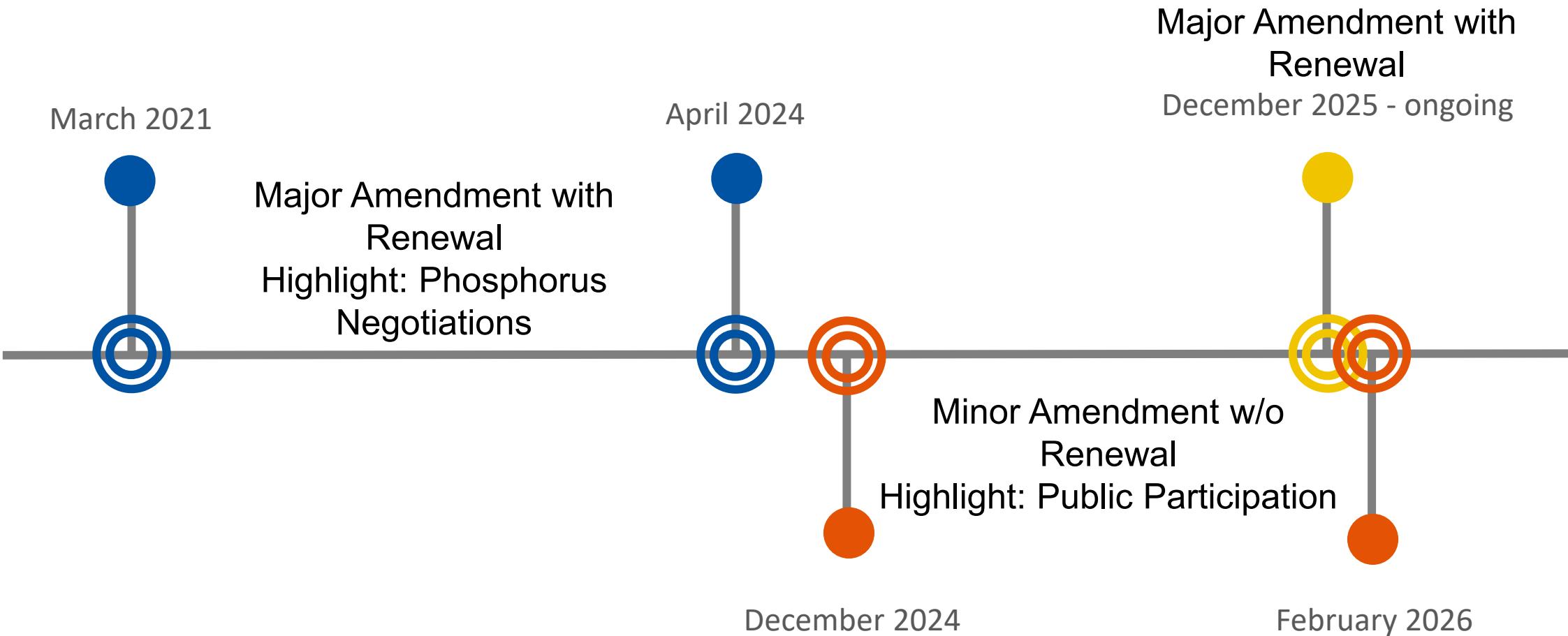


Renewal
Application

TPDES Permitting Overview



TPDES Application Types – DCRWS Case Studies



Potential Pitfalls – Public Participation

Public Notice	New and Major Amendments	Renewals	Minor Amendments
1 st Public Notice	NORI published in newspaper	NORI published in newspaper	-
2 nd Public Notice	NAPD published in newspaper	NAPD published in newspaper	Publication in Texas Register
Affected Party Notification	Adjacent landowners notified	-	-

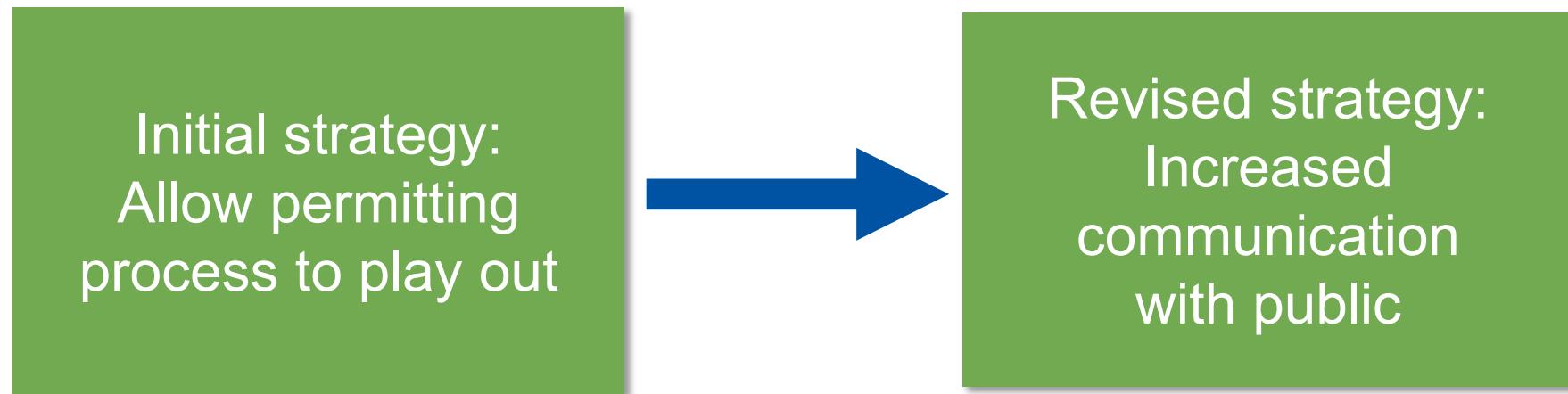
Potential Pitfalls – Public Participation

- Response to Comment - TCEQ
- Contested Case Hearings
 - Commissioners' determination
- State Office of Administrative Hearings (SOAH)

Date Received	Commentor	Correspondence Type	Comments Submitted Electronically
04/17/2024 11:15 PM	JOHNSON, RYAN	Withdrawal Comment Letter	
04/17/2024 1:39 PM	TURLEY, MICHAEL ANDREW	Withdrawal Comment Letter	
04/17/2024 1:39 PM	TURLEY, MICHAEL ANDREW	Withdrawal - Hearing Request	
09/10/2023 2:32 PM	TURLEY, MICHAEL ANDREW	Hearing Request English	Dear Chief Clerk, My family is very concerned to receive this information in the mail. We already experience strong odors from the plant on a regular basis. The odors from the plant smell of sewer and fecal matter and are extremely unpleasant. If this is already happening, how can the plant handle more flow? What is the health risk to my family? To that end, our son has a chronic cough, and the doctors don't know why. We have lived at this address since he was born. Could this be from the gases we are breathing in from the water treatment plant? We would like to request a contested case hearing and gather signatures from the neighborhood and school. We don't see how the plant can increase the flows on this magnitude if the situation already creates an unhealthy and unlivable situation for the surrounding community. We are worried and concerned about the health risk currently and moving forward. We are happy to discuss this in more detail. Please let us know the next steps as we hope we have rights and protection from this health concern in our community which can be avoided. V/r, Michael Turley

Potential Pitfalls – Public Participation

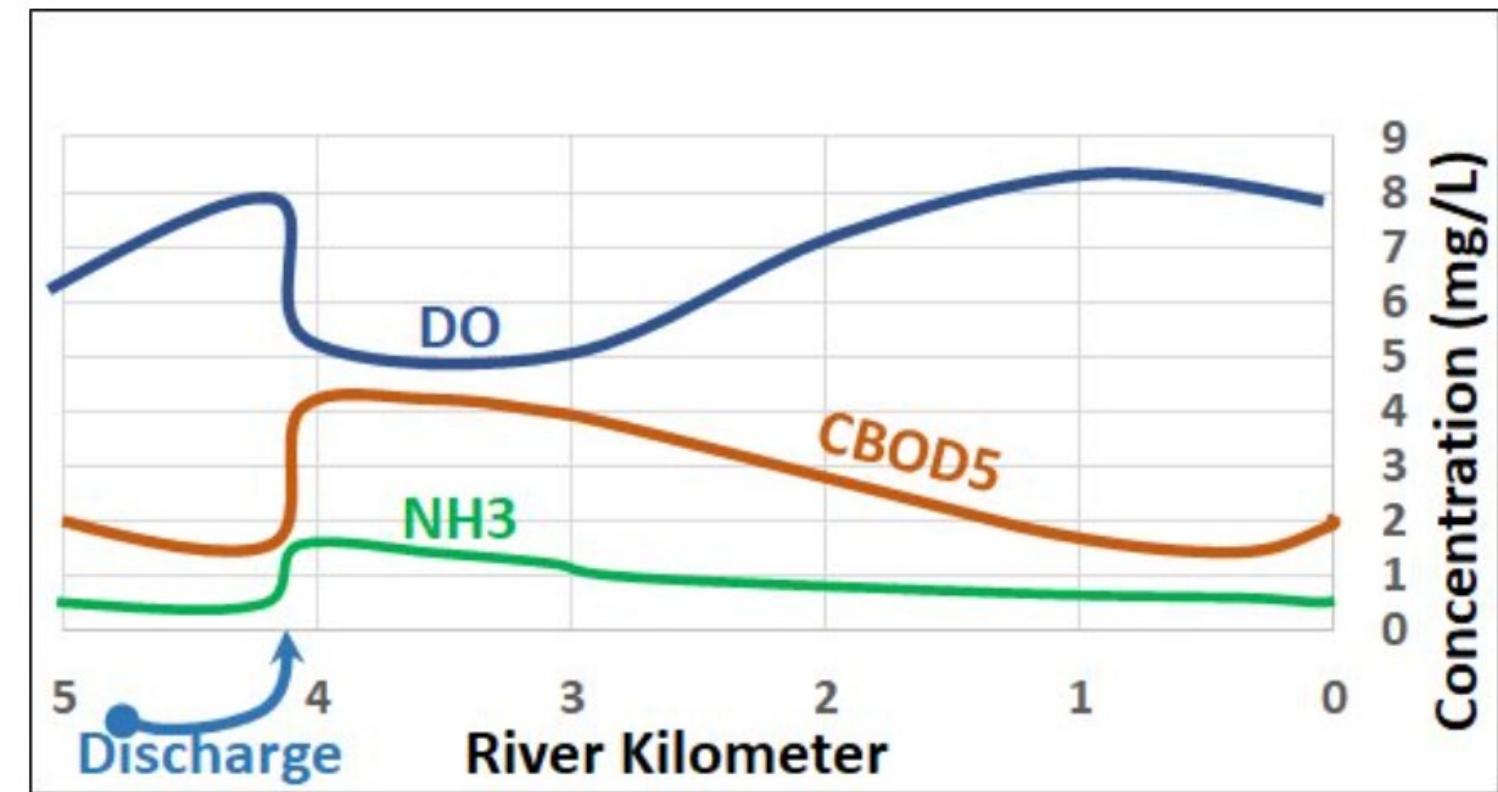
Public commenters focused on plant odors



Takeaway: the power of direct communication

Potential Pitfalls – Predicting Permit Limits

- Dissolved oxygen modeling
- TexTox – toxic pollutants
- Other limits – total phosphorus



Time Trade Off – Total Phosphorus

March 2021 - April 2024 – Major Amendment with Renewal

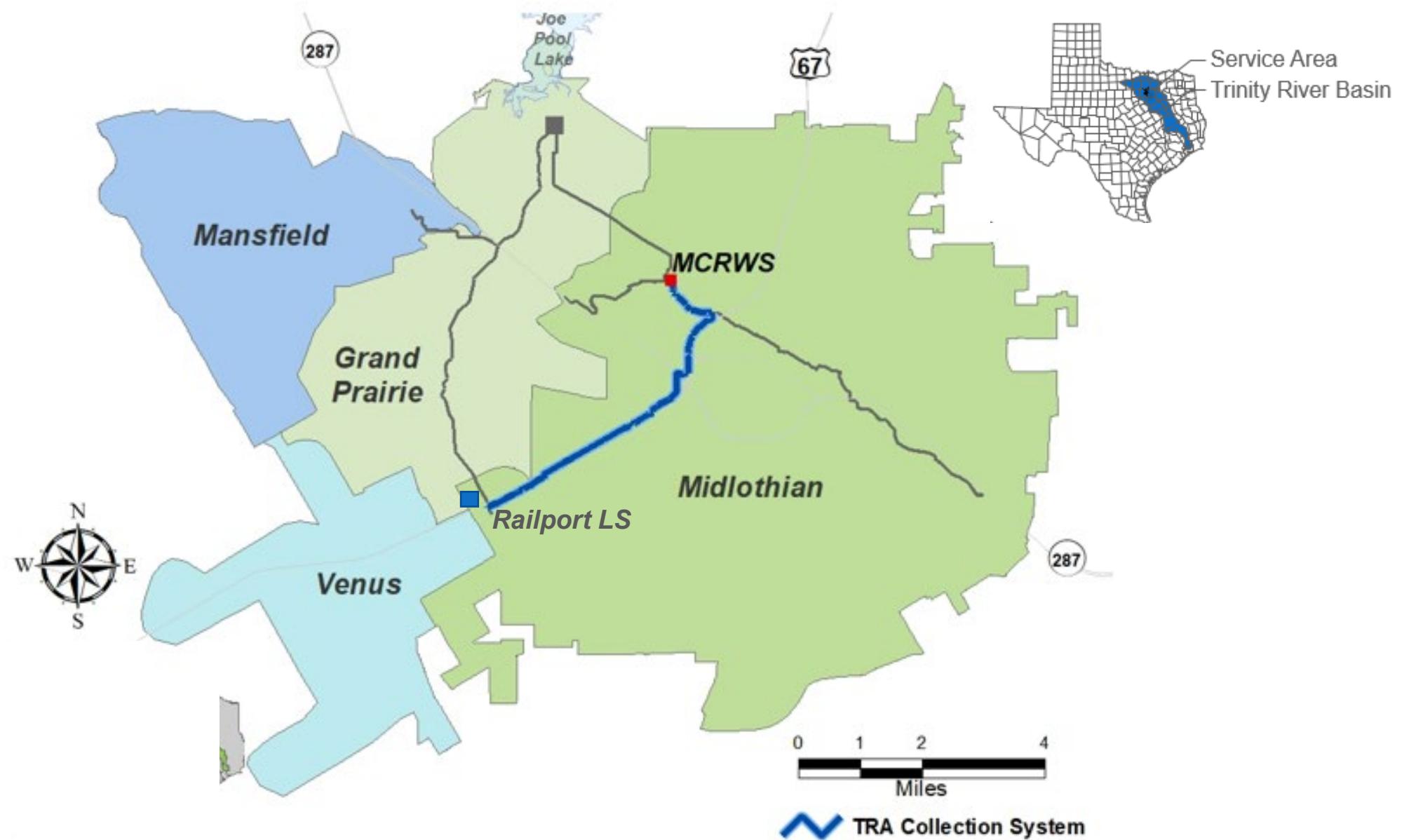
- Initial draft permit included total phosphorus limits down to 0.35 mg/L
- Plummer and TRA used TCEQ methods to provide technical justification
- Process involved many meetings with TCEQ
- Collaboration and inspiration – City of Justin

Takeaway: Strong technical justification *can* influence TCEQ decisions. Expect an iterative process that requires time, coordination, and persistence.

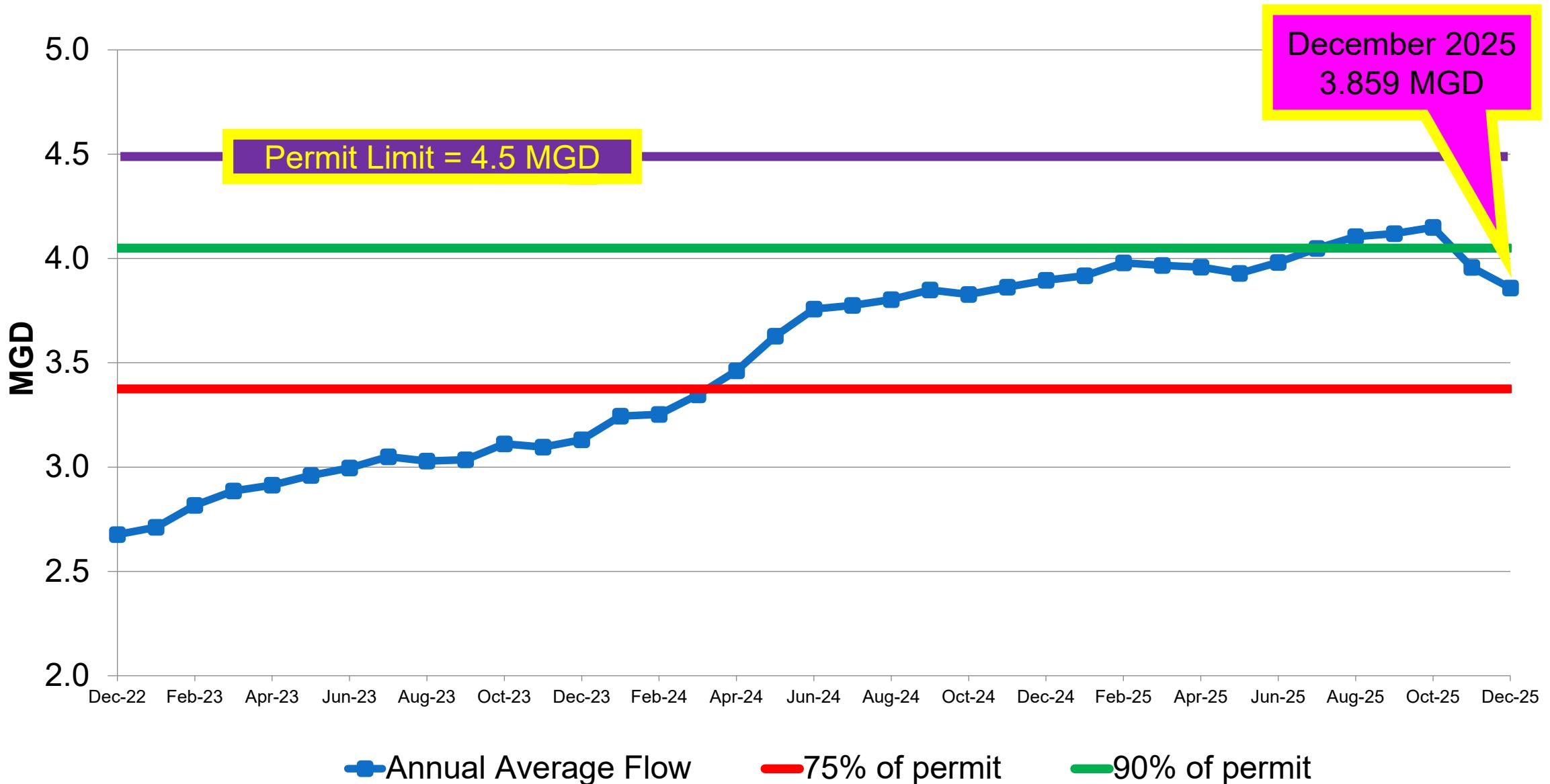
DCRWS Permitting - The Story is Not Over

- The expansions are not stopping
 - In design for a 24.4 MGD expansion
- Another Major Amendment
 - 19.4 MGD, 24.4 MGD, 27.5 MGD, 32.5 MGD
- Modeling indicates increased flow at Outfall 001
- Stakeholder Coordination with TCEQ (Advocating)
 - TRA telling the DCRWS story in meetings and phone conversations
 - TRA providing input on prioritizing permit review by urgency/need
 - Breaking the record for most permit phases - based on need

Mountain Creek Regional Wastewater System



MCRWS Effluent Annual Average Flow



MCRWS Treatment Plant – Active CIP



Emergency Power and UPS Upgrades (In Construction)

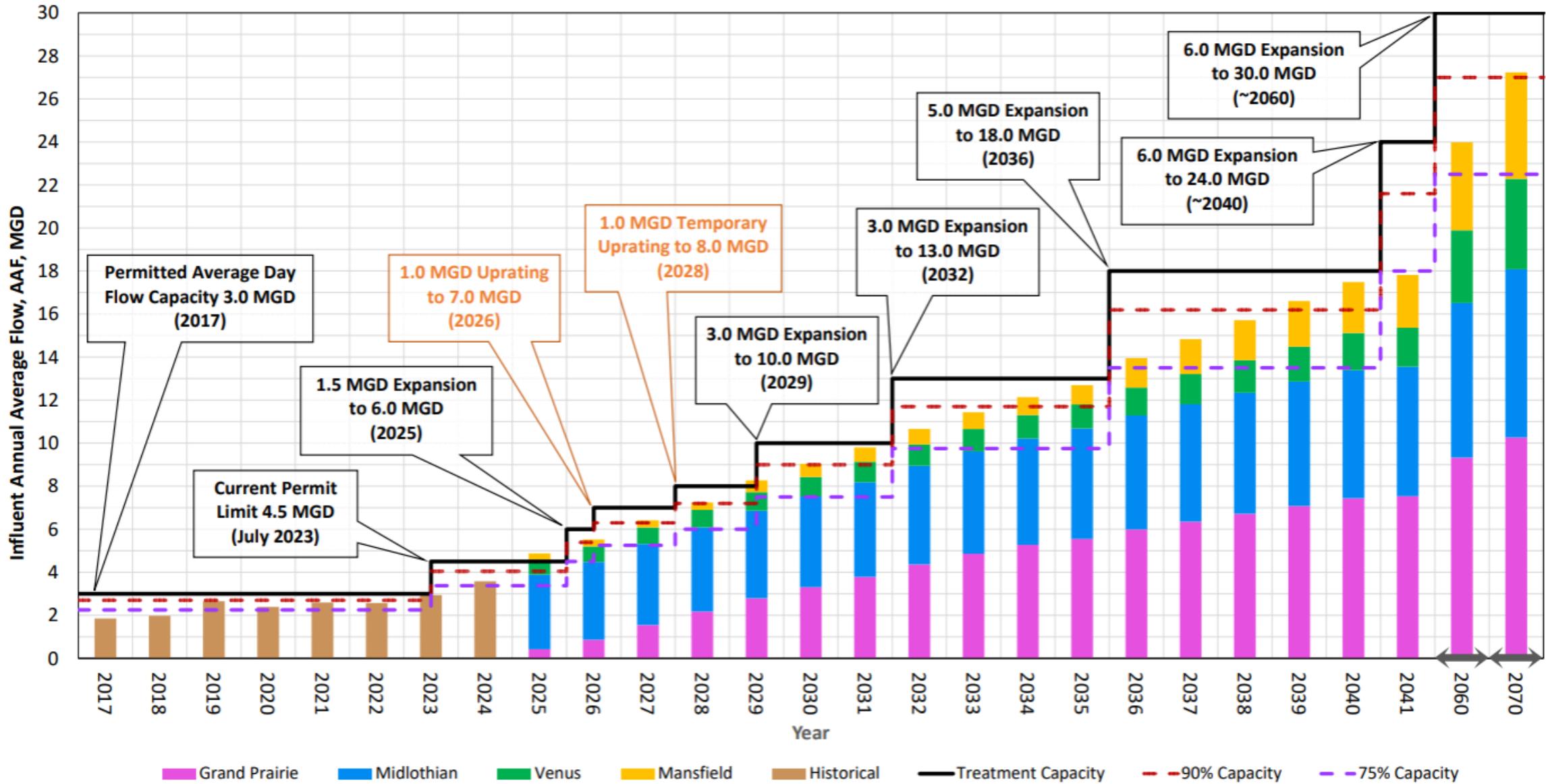
Expansion from
4.5 MGD to
6.0/7.0 MGD
(In Construction)

Expansion from
7.0 MGD to
10.0 MGD
(In Final Design)

MCRWS WWTP

Projected Flows and Plant Capacity Evaluation

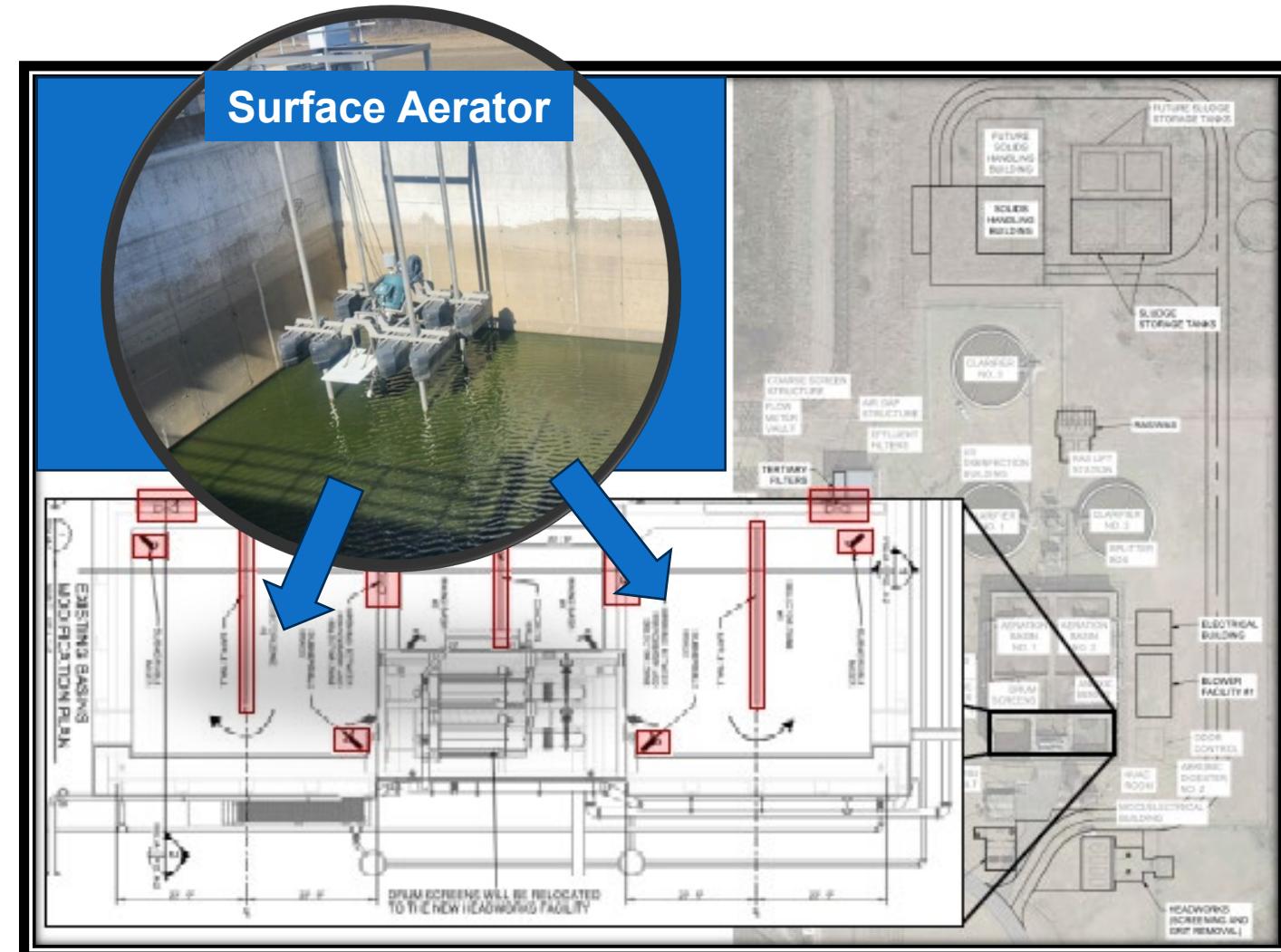
(08/04/2025)



Potential Pitfalls – Predicting Permit Limits

Temporary Flexible Phase

- 6.0 MGD Phase
 - Selector Zone Conversion done for Phosphorus treatment
- 8.0 MGD Phase
 - Reverting to Surface Aerators in selector zones
- Downside
 - Lose ability to optimize phosphorus treatment before 10.0 MGD
 - Careful planning needed
 - Last Resort



Takeaways

- Be proactive beyond the Master Plan to determine expansion timelines
 - Do you have champion or department monitoring trends?
- Know your permit, know the process
- Planning ahead will prevent delays in construction
 - 7-year permit planning start (2-2-3)
- Don't be afraid to ask but don't let it derail the process
- Advocate for yourself