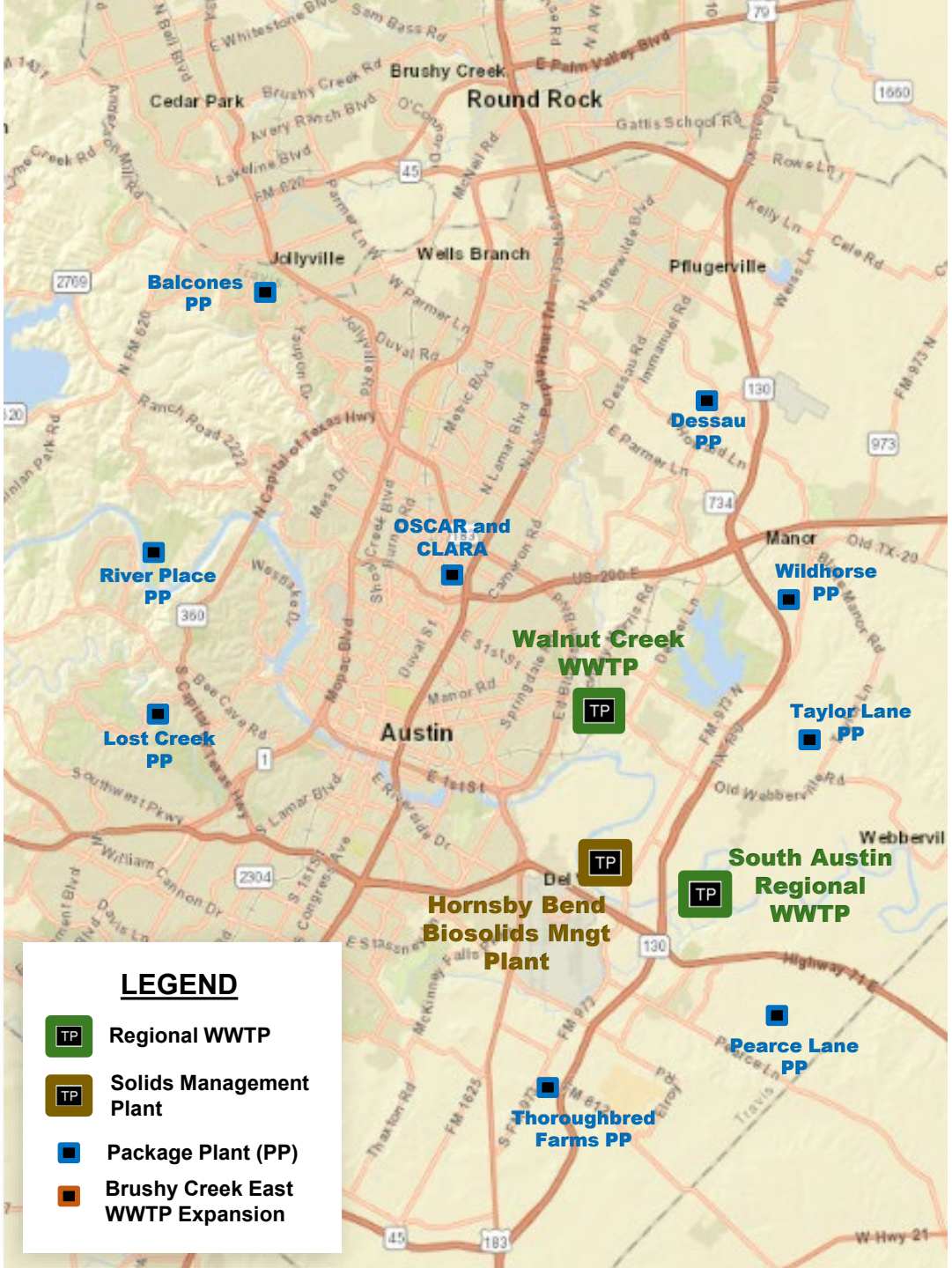
WALNUT CREEK WASTEWATER TREATMENT PLANT INVESTMENT

Investing in Austin's Future

Planning Commission
April 22, 2025

Charles Celauro, PE
Assistant Director, Austin Water
Engineering & Technical Services

Agenda



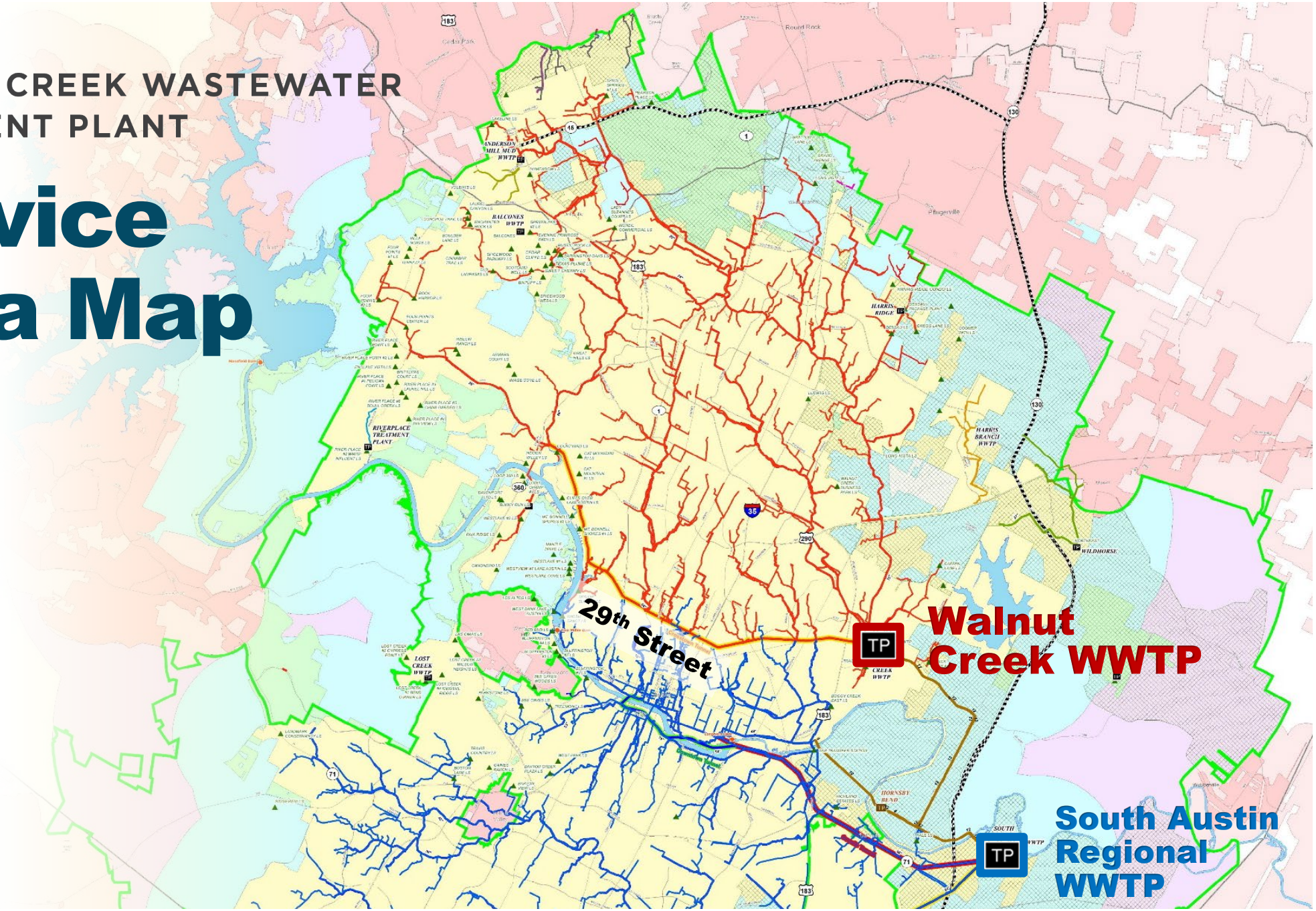
Wastewater by the Numbers

Austin Water Statics:

- **2,900 Miles of Gravity Lines**
- **59,000 Manholes**
- **137 Lift Stations**
- **78 Miles of Force Mains**
- **9 Decentralized Package WWTP**
- **1 Jointly Owned Wastewater System**
  Brushy Creek Wastewater System;
  COA Ownership is 9.87%
- **2 Regional Wastewater Treatment Plants**
  Walnut Creek & South Austin Regional WWTP
- **1 Biosolids Plant**
  Hornsby Bend Biosolids Management Plant

WALNUT CREEK WASTEWATER TREATMENT PLANT

Service Area Map



Plant History

Plant History

WALNUT CREEK WWTP

Rehabilitation and Renewal Projects

- **1977 – 18** MGD

Plant History

WALNUT CREEK WWTP

Rehabilitation and Renewal Projects

- **1977 – 18 MGD**
- **1987 – 40 MGD**
- **1990 – 60 MGD**
- **1999 – Colorado River Outfall**
- **2005 – 75 MGD**
- **2019 – Optimization & Facility Plan**

Plant History

WALNUT CREEK WWTP

Rehabilitation and Renewal Projects

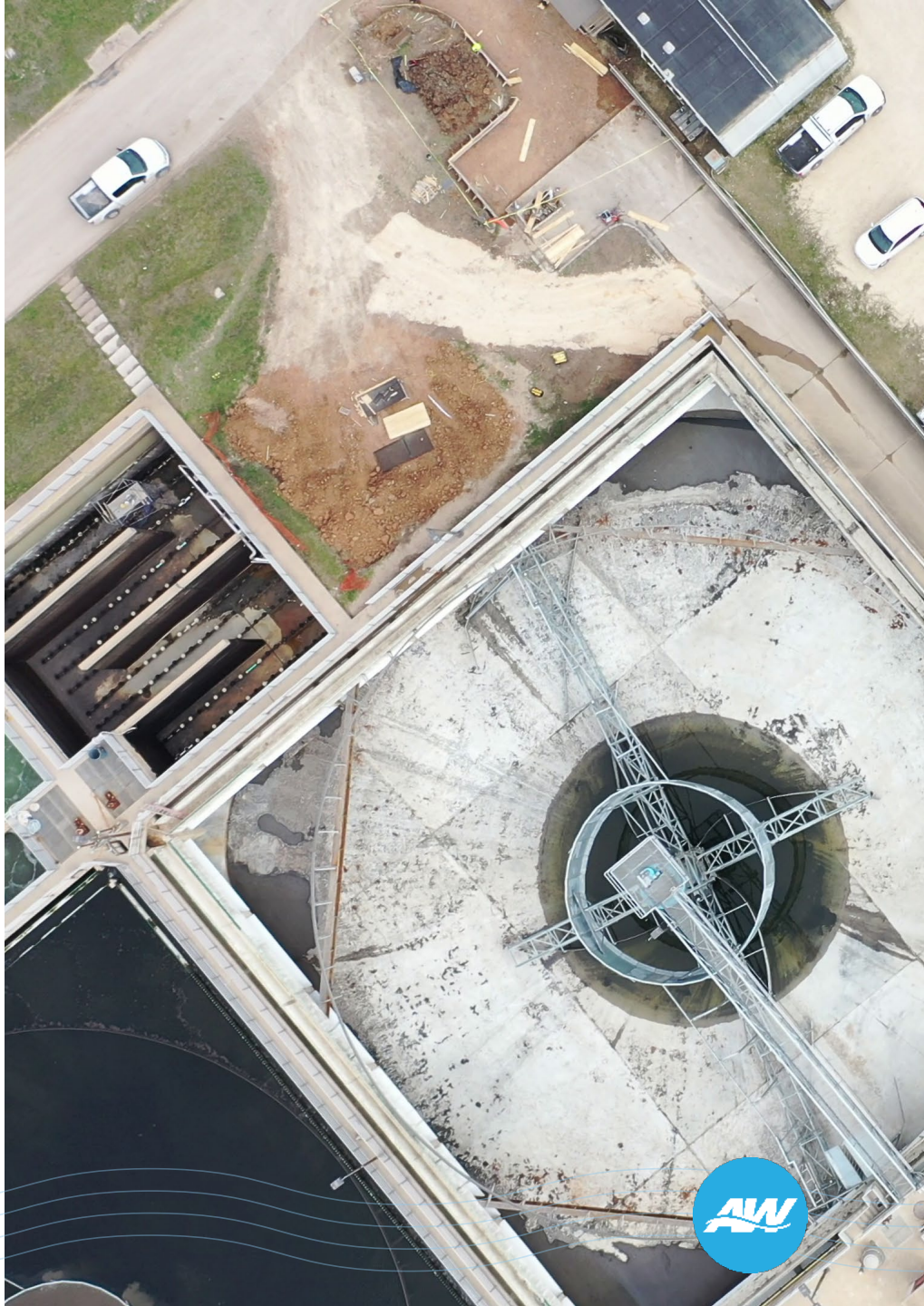
- **2000** – Reclaimed Water
- **2005** – Headworks #2
- **2009** – Electrical Distribution
- **2013** – Reclaimed Water
- **2017** – Tertiary Filter
- **2019** – Secondary Treatment
- **2020** – Sludge Thickener
- **2020** – Pump Replacements
- **2021** – Plant Control & Network
- **2022** – Gas Scrubber
- **2025** – Primary and Flow

WALNUT CREEK WASTEWATER TREATMENT PLANT INVESTMENT

Austin WATER

- Expanded Capacity
- Upgraded Treatment
- Flood Protection
- Advanced Odor Control
- Plant-Wide Modernization
- Safer Disinfection Process
- Continuous Service

Expanded Capacity



Plant-Wide Modernization

Upgraded Treatment

The treatment process for the existing plant and the expansion will be upgraded to reduce nutrient levels with a Biological Nutrient Removal (BNR) process, benefiting the health of the Colorado River downstream of Austin.

Safer Disinfection Process

Flood Protection

A flood wall will be built around the plant to protect it from floodwaters that could rise from nearby Walnut Creek.

Advanced Odor Control

Mitigate odors by incorporating advanced odor control technologies, such as biofilters, activated carbon filters, or basin covers.

Continuous Service

Expansion to 100 MGD and Enhancement

Renewal Projects
- Headworks #1 renewal
- Influent lift station

Expansion Projects
- New 25 MGD with nutrient removal
- Influent pipe
- Outfall pipe

Treatment Conversion
- 75 MGD with nutrient removal
- UV disinfection

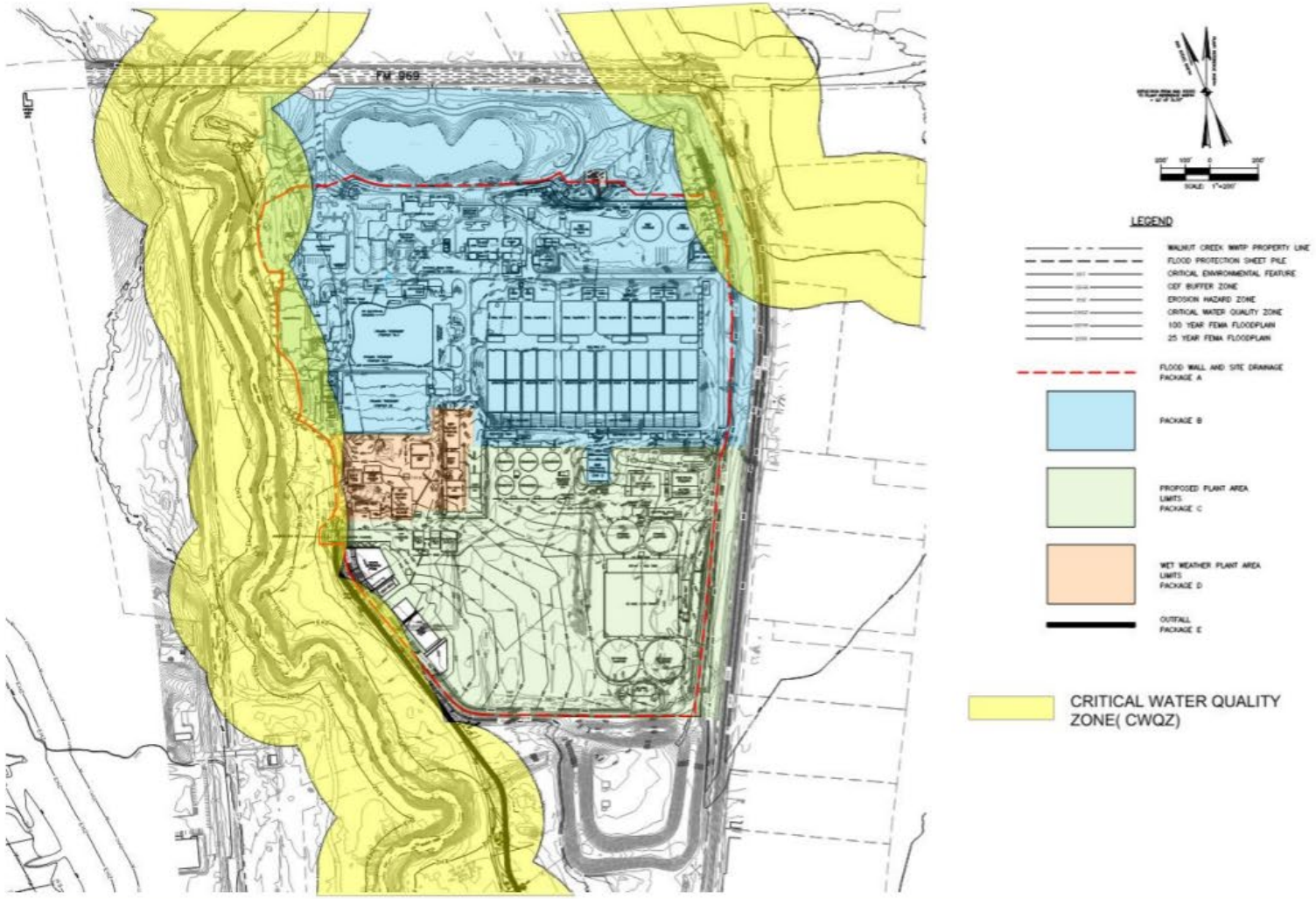
Protection of Plant
- Wet weather treatment facility
- Flood wall

Treatment Process Basins
Treatment Process Buildings
Flood Protection

Construction Packages

GMP 1	HW 1 and ILS, Electrical I&C, Abatement
GMP 2	Mobilization Site Services
GMP 3	Long Lead Items and Early Works
GMP 4	Floodwall & Site Drainage
GMP 5	25MGD Expansion
GMP 6	Wet Weather Facility
GMP 7	Existing 75MGD Rehabilitation
GMP 8	Outfall & Sitewide Civil

Construction in the CWQZ

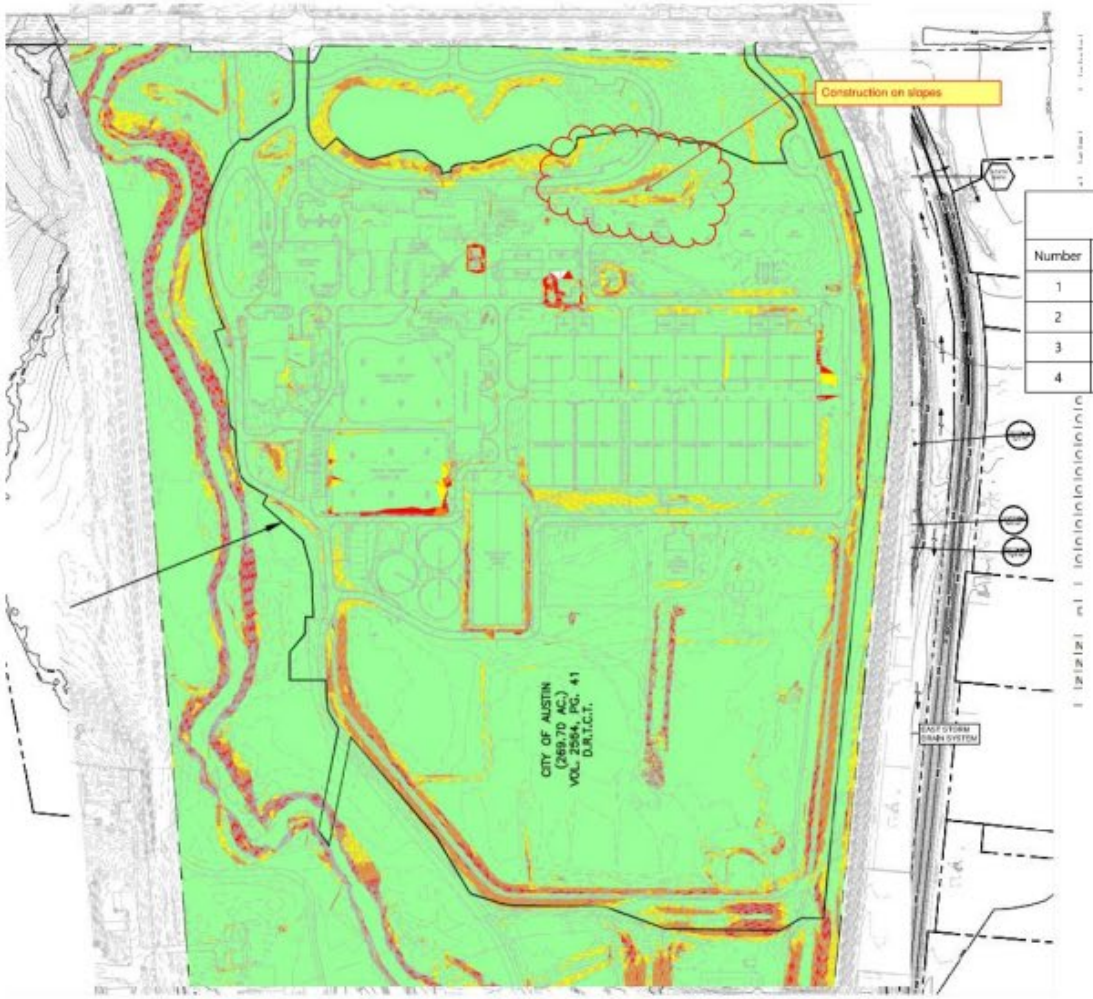


LDC 25-8-261

To allow construction of a floodplain wall within a Critical Water Quality Zone (CWQZ).

Mitigation for impact to CWQZ

Construction on Slopes



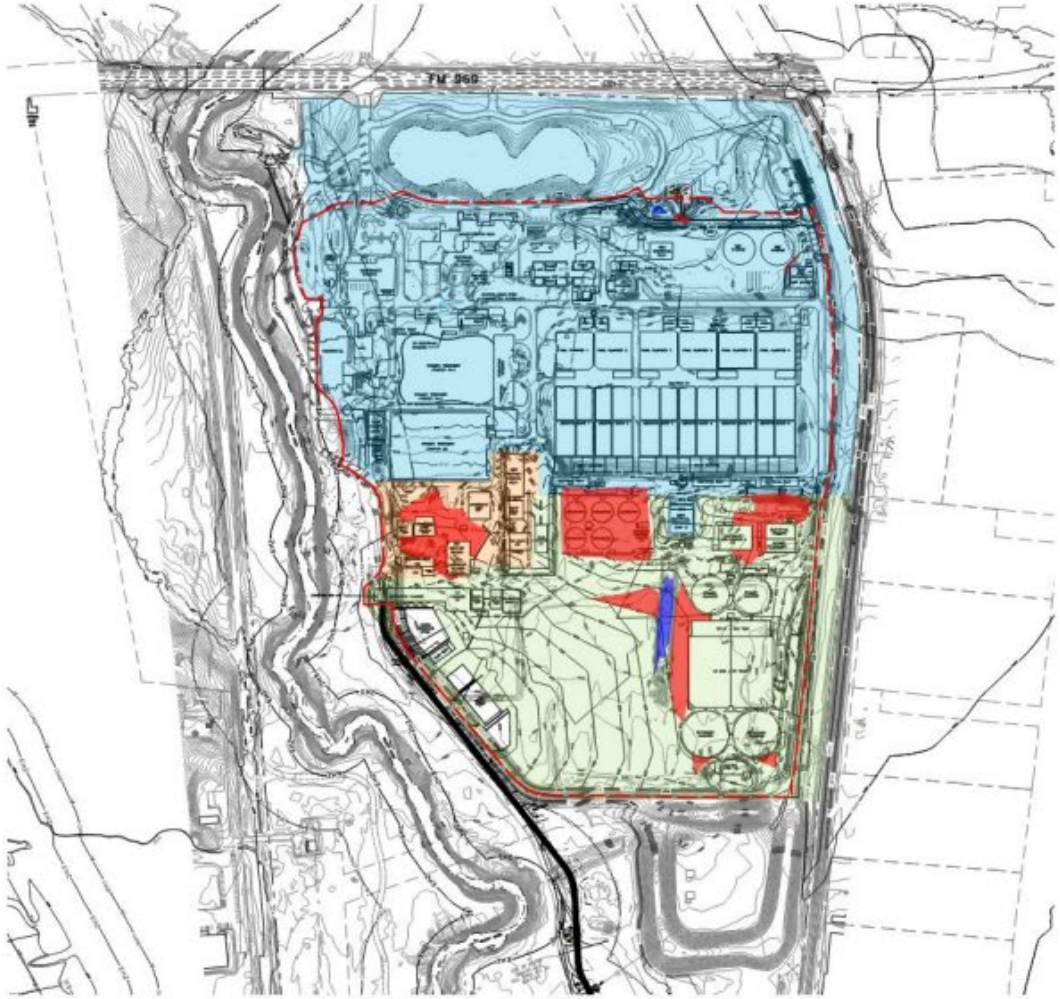
Slopes Table

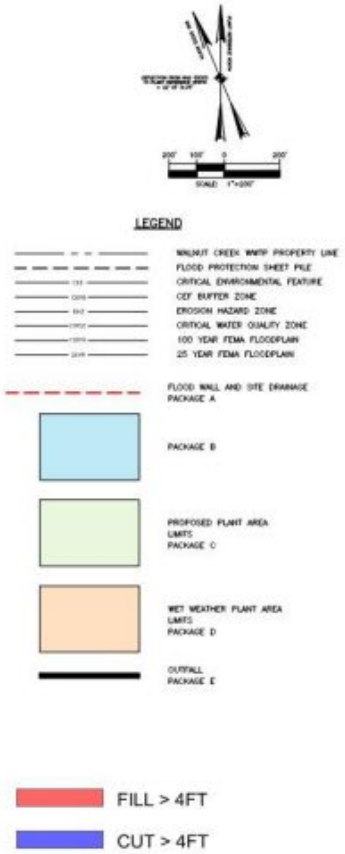
Number	Minimum Slope	Maximum Slope	Area (SF)	Color
1	0.00%	15.00%	3553547.23	
2	15.00%	25.00%	204731.27	
3	25.00%	35.00%	155465.16	
4	35.00%	100.00%	74162.77	

LDC 25-8-301

Administrative approval of roadway or driveway constructed on slopes in excess of 15%

Cut and Fill





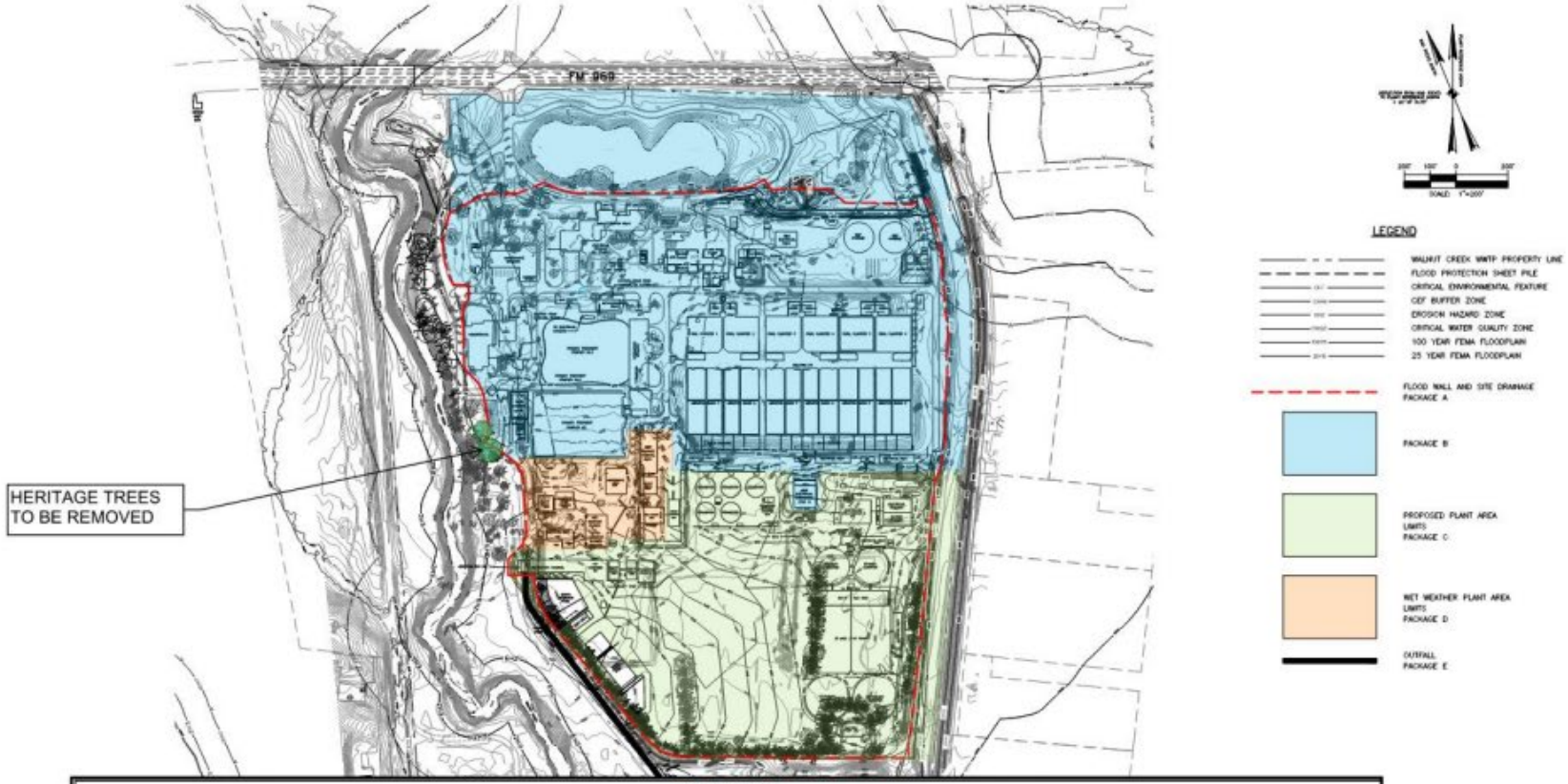
LDC 25-8-341

To allow cut to be administratively approved up to 25 ft.

LDC 25-8-342

To allow fill to be administratively approved up to 25 ft.

Heritage Trees



TREE MITIGATION TABLE									
TOTALS									
TREES		SURVEYING		REMOVAL				MITIGATION	
TREES	548	APPENDIX F TREES SURVEYED	499	TREES REMOVED	337	NON-APPENDIX F TREE INCHES REMOVED	463	INCHES TO BE MITIGATED	3312.25
INCHES	8212	APPENDIX F TREE INCHES SURVEYED	7615	INCHES REMOVED	4638	DDI APPENDIX F TREE INCHES REMOVED	8	MITIGATION REPLACEMENT INCHES PLANTED	
PROTECTED TREES	124	HERITAGE TREE INCHES SURVEYED	1075.5	PROTECTED TREES REMOVED	67			REPLACEMENT INCHES PLANTED ON SITE (PRIVATE TREES)	
HERITAGE TREES	31	NON-APPENDIX F TREES SURVEYED	45	APPENDIX F TREE INCHES REMOVED	4512			REPLACEMENT ROW INCHES PLANTED	
		NON-APPENDIX F TREE INCHES SURVEYED	597	HERITAGE TREE INCHES REMOVED	88			PRIVATE INCHES OWED TO UFRF	
		INVASIVE TREE INCHES SURVEYED	354	HERITAGE TREES REMOVED	2			PUBLIC INCHES OWED TO UFRF	
				DDI HERITAGE TREE INCHES REMOVED	0				
				DDI NON-APPENDIX F TREE INCHES REMOVED	0				
				DDI INVASIVE INCHES REMOVED	0				

LDC 25-8-642 & 25-8-643

Administrative approval allowed for removal of two Heritage Trees.

Other Code Amendments

There may be amendments to the following sections of the LDC:

- Chapter 25-1 Related to general requirements and procedures
- Chapter 25-5 Related to the approval of multiple site plans
- Chapter 25-7 Related to the administrative approval of a floodplain variance

Staff Recommendation

Staff recommends approval of the proposed site-specific amendments and associated variances with the following conditions:

- The project is required to seek administrative variances for proposed development that exceeds or modifies the requirements of:
  - 25-8-301 (Construction on Slopes)
  - 25-8-341 (Cut Requirements)
  - 25-8-342 (Fill Requirements)
  - 25-8-642 & 25-8-643 (Heritage Trees)
- For administrative variances granted by this ordinance, the project must demonstrate that no feasible, code compliant design alternatives exist.
- The project is designed to bore the new effluent waterline under Walnut Creek instead of using an open cut channel.
- The project extends the CWQZ associated with the southern most segment of Walnut Creek to an area 150% the size of the proposed impacted CWQZ.
- The project commits to relocation of impacted heritage trees where feasible.