

Engineering Services Section

November Commission Update

Rachel E. Smith, PE
Engineering Services Section Chief



SECTION UPDATES

- Staff Updates
- Addressing Accountability
- Addressing District Concerns
 - Reducing Time for TA Request Assignment
 - Reducing Backlog
 - Status of Extended Projects
 - Reducing Time to Final Design for JAA Approval
- Continued Improvement

STAFF UPDATES

- Team of 13 plus 4 open positions
 - Ten NC Professional Engineers

Team Lead – Starr Silvis, PE Fletcher – Regional Office		Team Lead – Chris Love, PE Raleigh – Central Office	
Matthew Berens, PE - Fletcher	Regional Engineer II	Matt Hall - Raleigh	Engineer Technician II
Samuel Bingham, PE - Rutherfordton	Part-Time Engineer	Kori Higgs, PE - Raleigh	Regional Engineer II
Demico Guy - Mocksville	Regional Engineer I	Robert Moore, PE - Raleigh	Regional Engineer II
Taryn Hendrickson, - Fletcher	Engineer Technician II	Vivien Zhong, PE - Raleigh	Regional Engineer II
Sam Just, PE - Fletcher	Regional Engineer II		
Levi Preston, PE - Mocksville	Regional Engineer II		



Tourist Baseball Game June 2025

STAFF UPDATES

Vacancies	
AgWRAP Engineer II	Engineer III - Combining positions for a Team Lead to address Intermediate/High Hazard Ponds, Pond Retrofits for Flood, and Hazard Creep for Ag Pond Embankments
AgWRAP Engineering Technician	
Helene TA Funded Positions (3 positions)	Engineer II – Reposting - Advertised
	Engineer II – Reposting – Not-Advertised
	Engineering Specialist – Reviewing Job Description (Vacant as of 11/07/2025)

STAFF UPDATES

Work outside of Cost Share and TA

- Support of EWP
 - Program assistance at the local level
 - Field Visits
 - Guidance Document
 - DSR Development
 - Surge Week
- Assisting with Biochar efforts

STAFF UPDATES

Work outside of Cost Share and TA

- Water Point Certification for Helene Impacted Fire Departments
- District Training and JAA
 - 6 CET presentations
 - 10+ Regional Trainings
 - Team leads assisting JAA Application reviews
- Developing a program for retrofits of Ag Ponds for Flood Storage

ADDRESSING ACCOUNTABILITY THROUGH PROJECT TRACKING

Prior to 2018 – Virtual Boss

- Not user friendly
- No opportunity for districts to view information

2018 to present – Teamwork Projects

- Districts are collaborators
- Project messaging
- Task tracking
- File sharing

13 tasks

Task lists

All lists

6

Project Construction Complete...

5

As-Built Survey (Standard)

1

Completed task lists

Data Collection (Standard)

3

Preliminary Design (Standard)

3

Final Design (Standard)

1

Data Collection (Standard)

3 tasks



◊ Milestone Data Collection at Project Site Completed (2 years ago)

✓ CL Chris Love Initial Contact ≡ Apr 13, 2022 by Chris L

✓ CL Chris Love Site Evaluation Apr 22, 2022 by Chris L

✓ MH Matt Hall Site Survey Sep 18, 2023 by Matt H

Preliminary Design (Standard)

3 tasks



◊ Milestone Preliminary Design Completed (2 years ago)

60% design approved by client

✓ CL Chris Love Preliminary Design ≡ Feb 24, 2023 by Chris L

✓ AF Abel Ferry Hydrology Apr 11, 2023 by Abel F 2

✓ JW Jamey Wal... +1 Client Approval of Preliminary Design (60%) Mon, Apr 21 by Chris L

Final Design (Standard)

1 task

ATTACHMENT 11

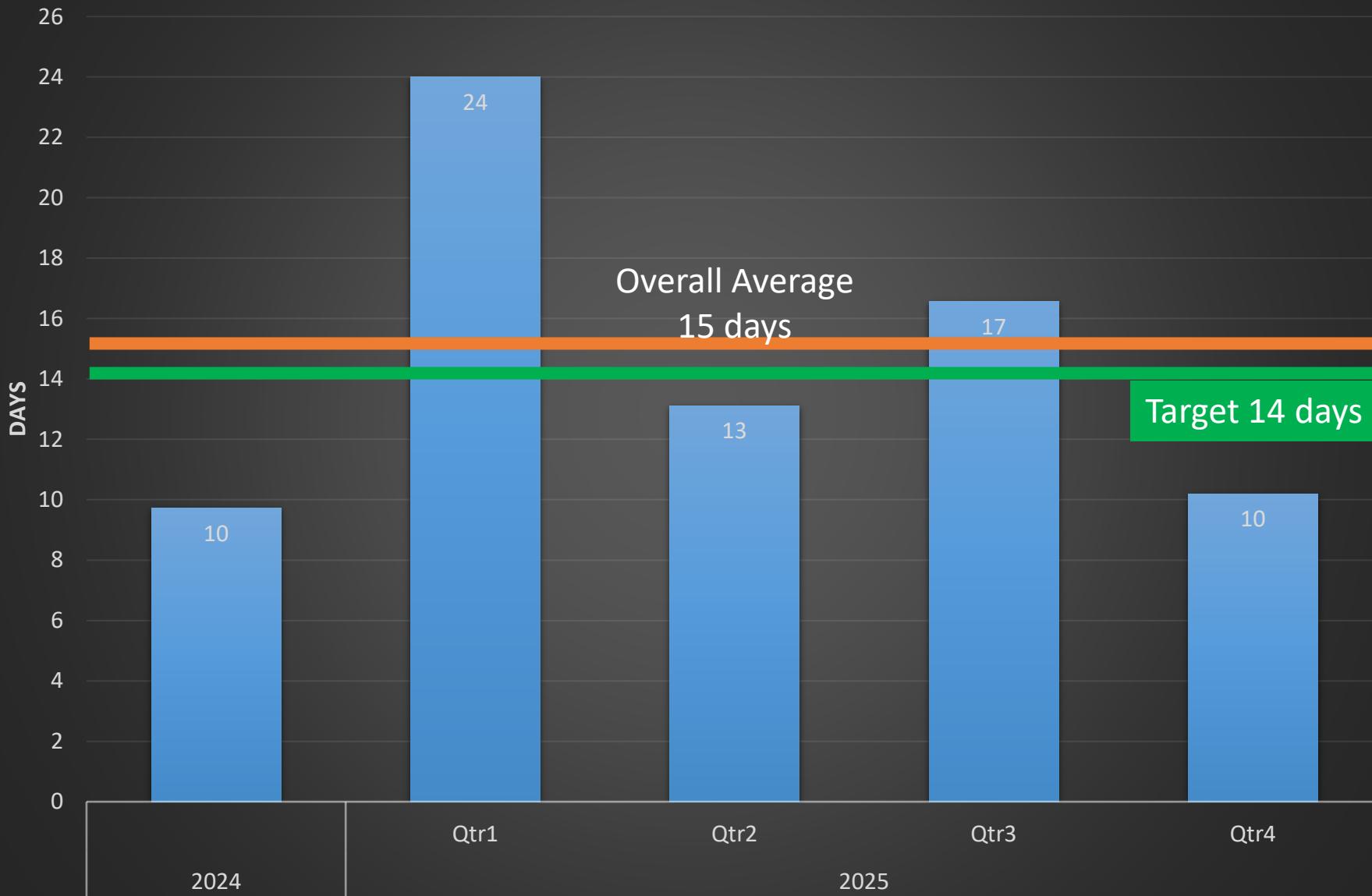
ADDRESSING ACCOUNTABILITY THROUGH PROJECT TRACKING

Project Prioritization Matrix

[https://fs3.formsite.com/ncdswc/images/Prioritization Matrix.xlsx](https://fs3.formsite.com/ncdswc/images/Prioritization%20Matrix.xlsx)

Key Responsibility	Priority - Level 1 Task Description	Priority - Level 2 Task Description	Priority - Level 3 Task Description	Priority - Level 4 Task Description
Conservation Project Design, Layout and Installation	SWCC Programs (AGWRAP, NCACSP, CCAP) Support projects associated with DSWC Grants Support projects associated w/ Grants where is DSWC partner Animal Waste Management - Irrigation Design Animal Waste Storage Structure	Federal Programs (EQIP, Resource Institute Project) Drainage/Land Smoothing Issues NCDA Special Projects Foundation Grant Projects (Lagoon Closures, Ponds) Conservation Projects not under contract	Mitigation projects (EEP, mitigation banks etc.) Support projects where DSWC is not a partner Waste Management plans/Wettable Acres (Eng. Send to DSWC Env Specialist/District Staff first) Sludge Surveys/Lagoon Closure Plans (Eng. Send to DSWC Env Specialist/District Staff first)	Projects that do not have a water quality benefit Projects that do not have an agriculture water quantity benefit
General Technical Assistance	Preliminary Site Investigations Review Private Designs per SWCC Policy Consultation for Animal Waste Management Plans, Wettable Acres, Sludge Survey, Lagoon Closure and General Permit Guidance Support to SWCC Committee (TRC, AGWRAP, CCAP) Assistance with potential regulation violations	SWCC/DSWC Cost Share Program Review Support to NCASWCD Committees NRCS Wetland/HEL Determinations (Soils) Consultation to DENR on compliance issues	Consultation on the maintenance of sediment control devices in non-ag setting	
Emergency Response/Preparedness	Animal Waste Storage Structure - Integrity Compromised/Overflow Logjam affecting agriculture land *Depending upon severity, these projects have the tendency to be main focus until emergency passes. Streambank Stabilization Landslide/Slope Stabilization Provide Assistance to NRCS-EWP	Logjam affecting non-ag land - non-life threatening PL-566 Projects Assessment Stream Debris Removal (thus far DSWC Env. Specialist completing)	Water point certifications for fire departments	
Building District Capacity	Conservation Employees Workshop Division Sponsored/Partner Training Review SWCC Job Approval Applications Develop/Administer SWCC JAA Tests One-on-one Training with District while working jointly on projects	one-on-one district training Outside partnership training (Rosgen etc.)		
Education	State Envirothon State Land Judging	Regional Envirothons Regional Land Judging Contests	District Field Day Events	Individual Classroom Workshops

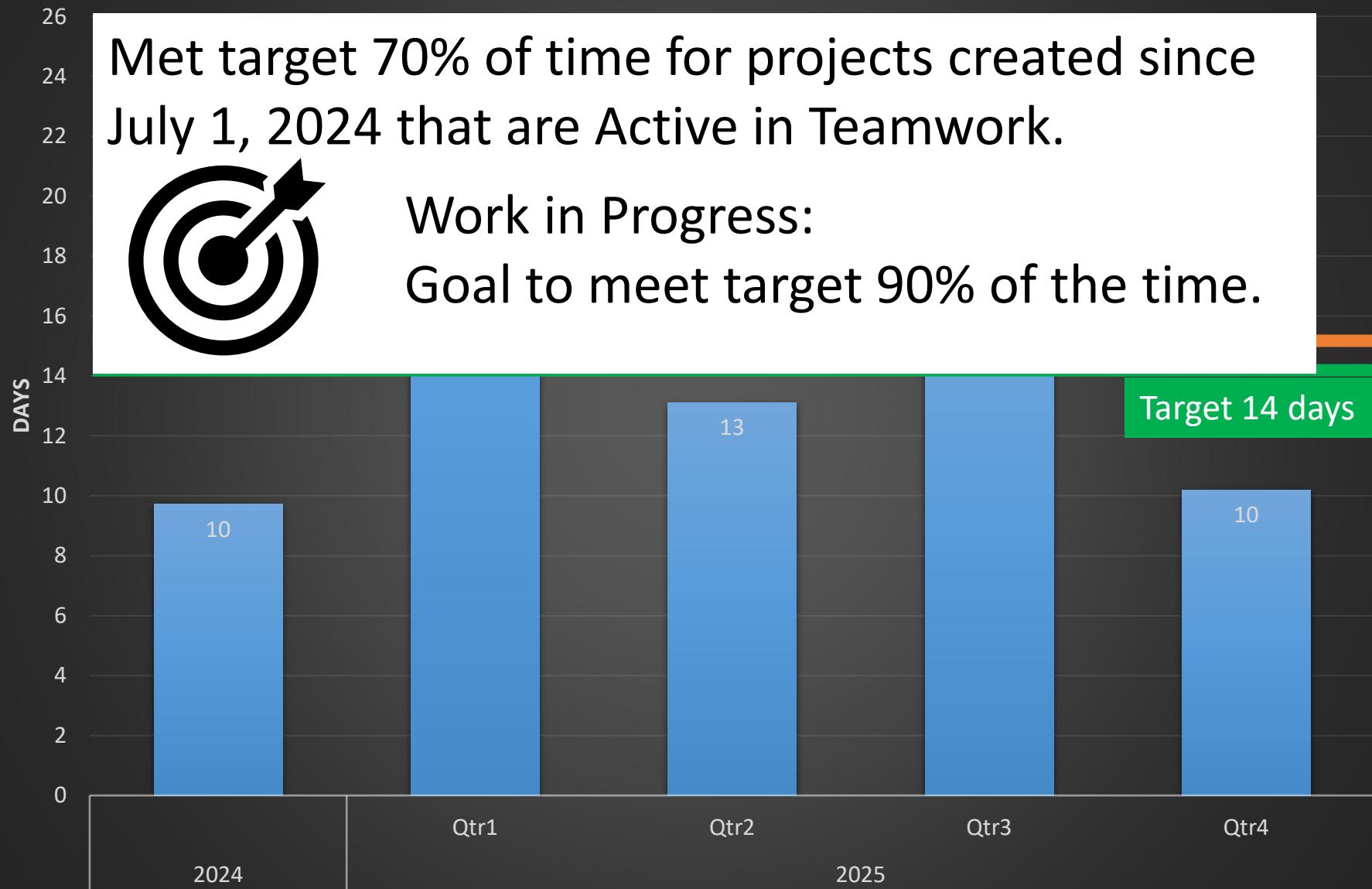
AVERAGE DAYS TO ENTER TA REQUEST



Addressing Feedback from districts:
Time between TA Requests and assignment to an Engineer

- ✓ Assign more than one person to enter projects
- ✓ Set a target of 14-days from
- Include TA Request Date as a field in Teamwork for tracking

AVERAGE DAYS TO ENTER TA REQUEST

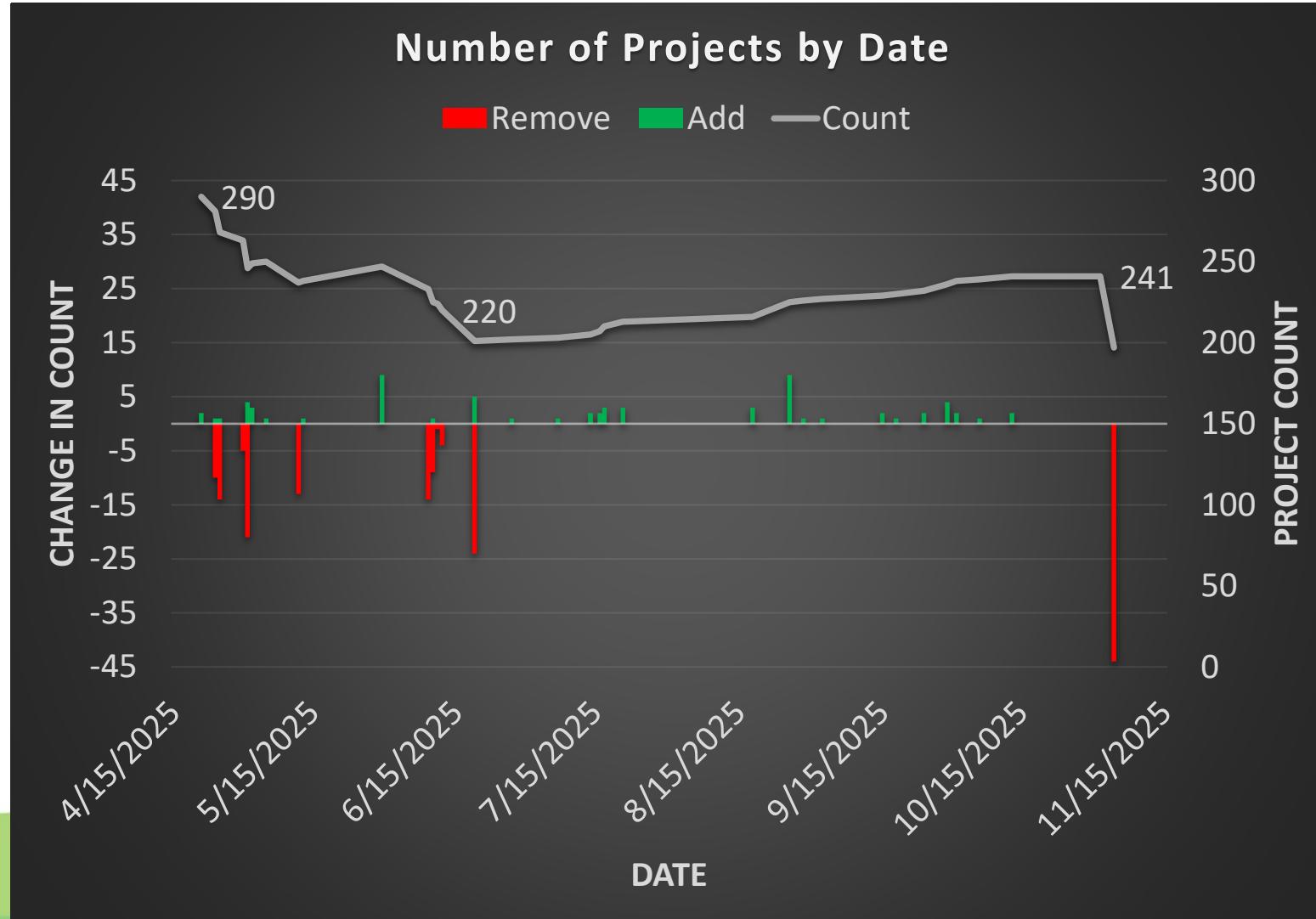


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ADDRESSING ACCOUNTABILITY THROUGH PROJECT TRACKING

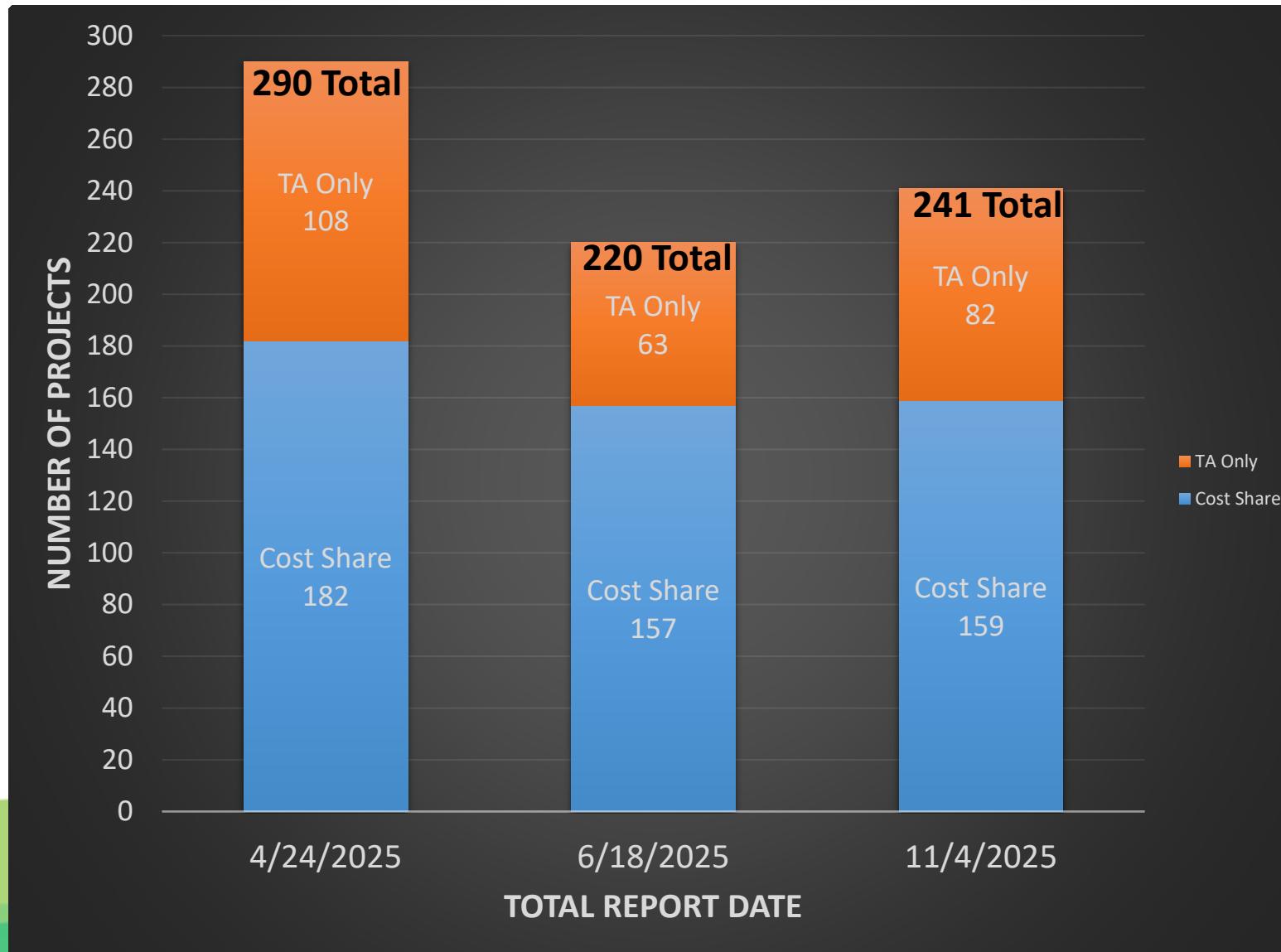


Project Tracking in Teamwork

- Number varies as projects are added
- Archives occur after reporting is completed
- TA Requests vary by time of year

Assistance Requests AVG	14 per month
High Avg in January	19 per month
Low Avg in December	6 per month

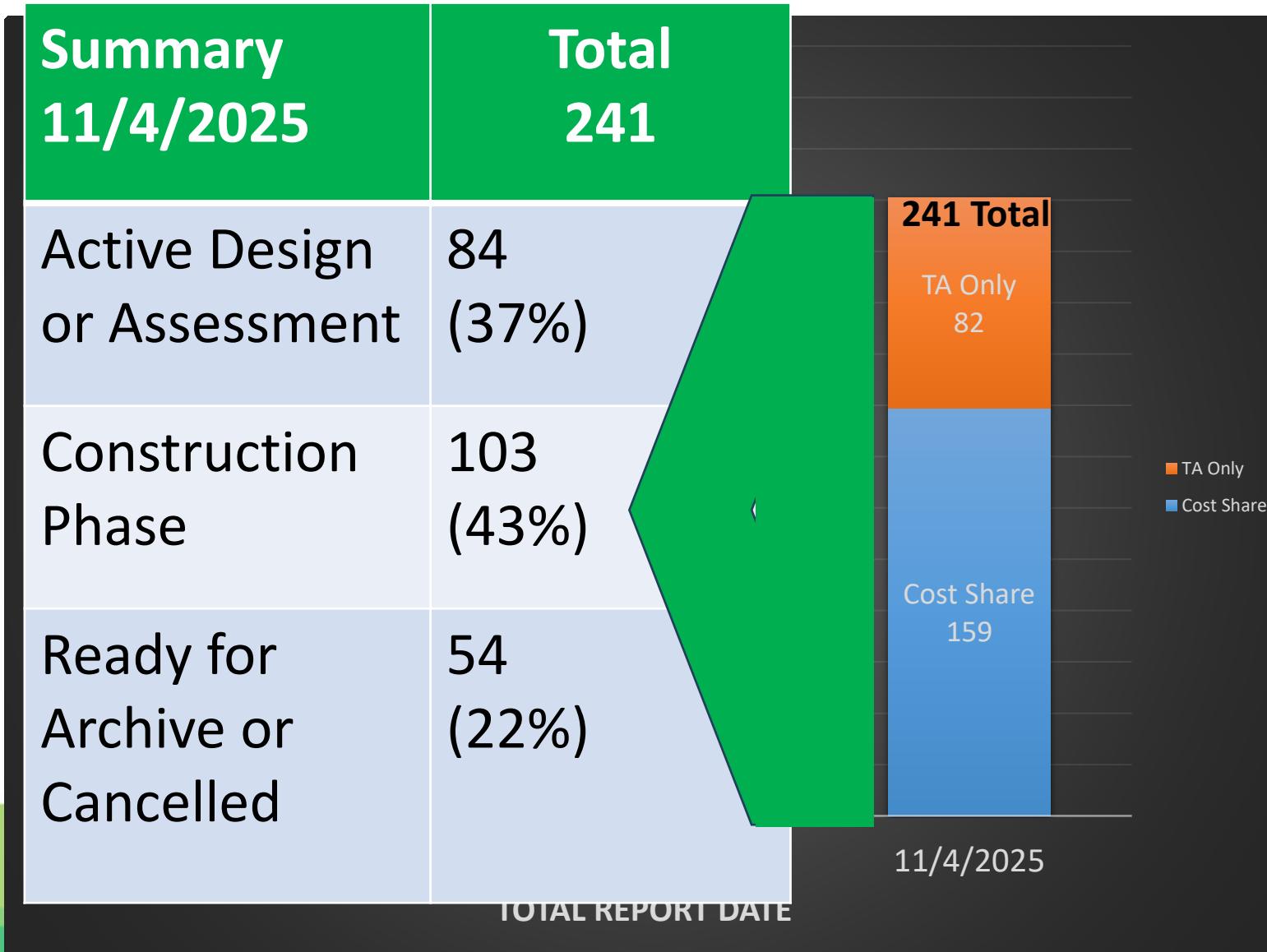
NUMBER OF PROJECTS IN TEAMWORK



Priority 1 Cost Share: Projects funded through Division Cost Share Funds

TA Only: All other projects and site assessments

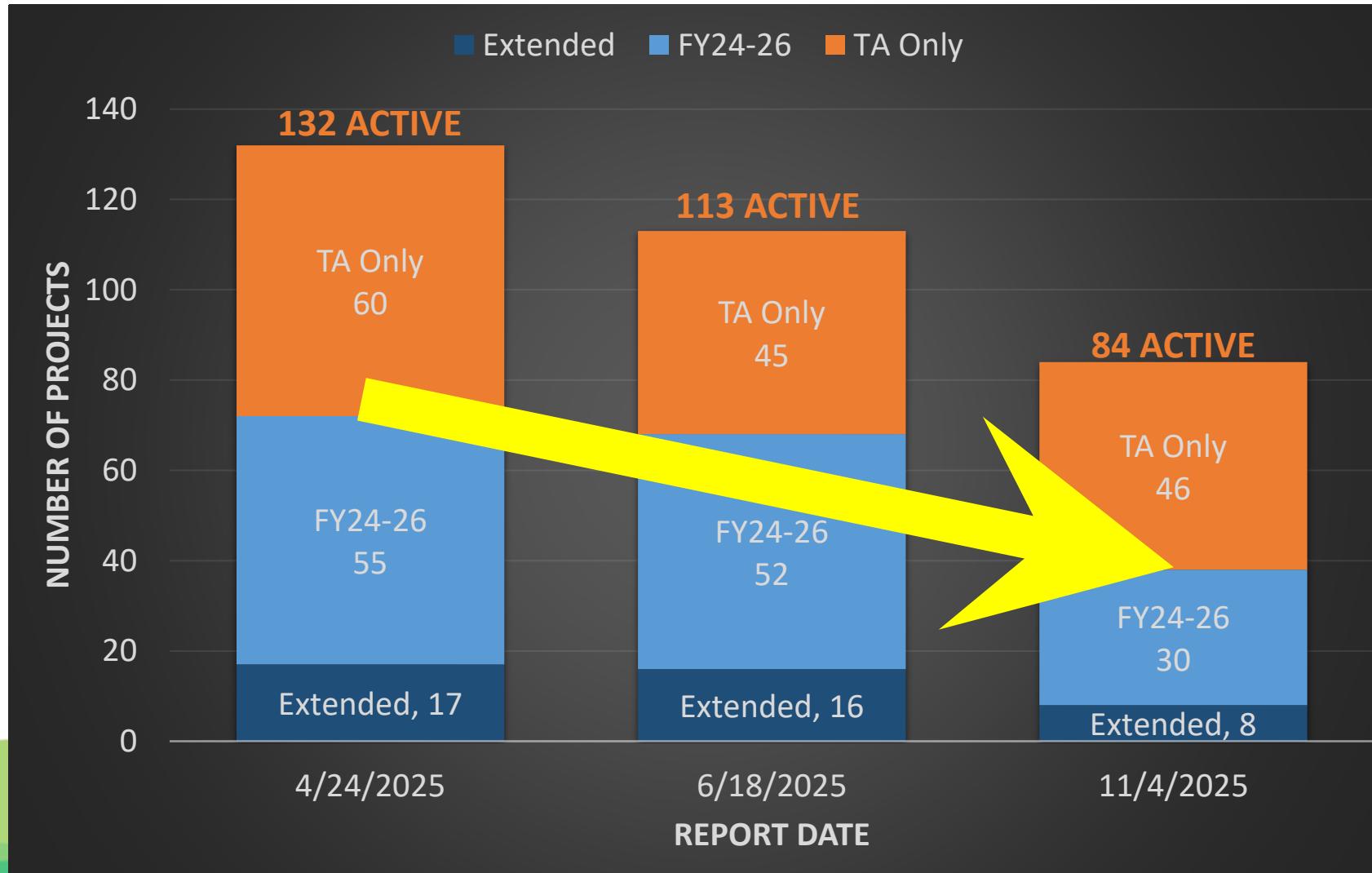
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REDUCING BACKLOG - ACTIVE PROJECTS IN DESIGN/ASSESSMENT PHASE

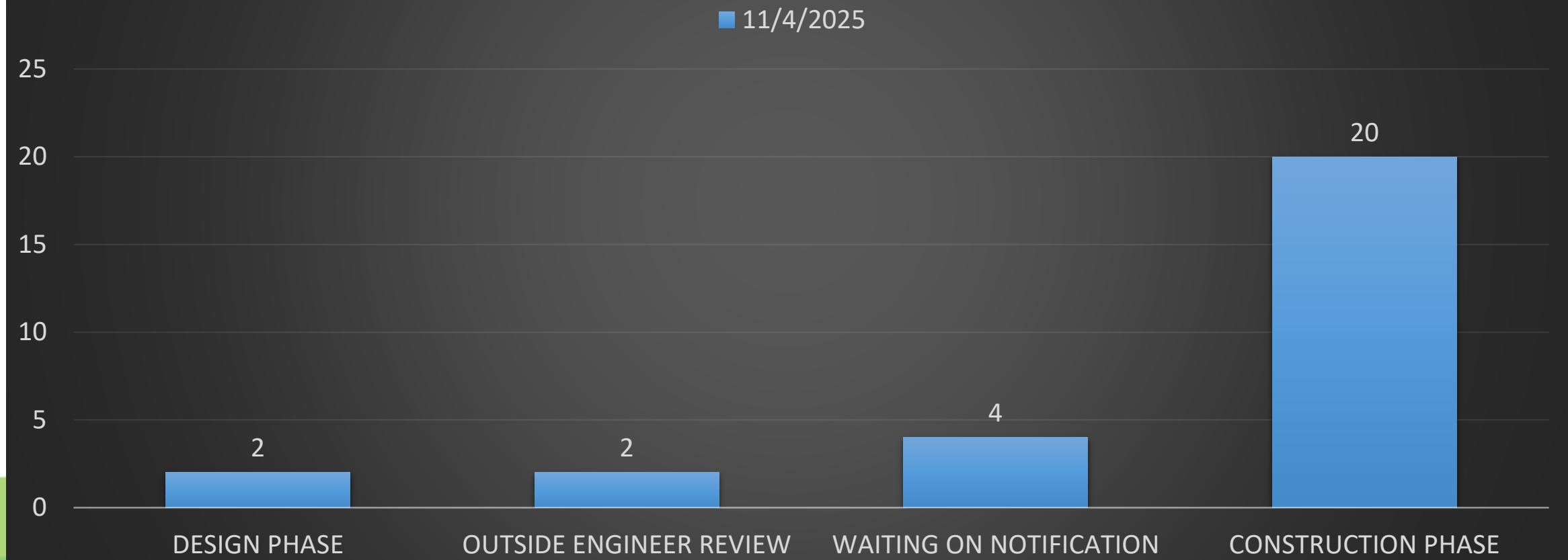


Current Status

- Reduced back log of active design projects
- Projects in this graph are in Active Design or Assessment Phase

Extended Contracts FY23 and earlier

EXTENDED CONTRACT STATUS PENDED AND APPROVED AS OF 11/4/2025



Extended Contracts FY23 and earlier

Commonly Extended BMPs =

More Complex Engineering

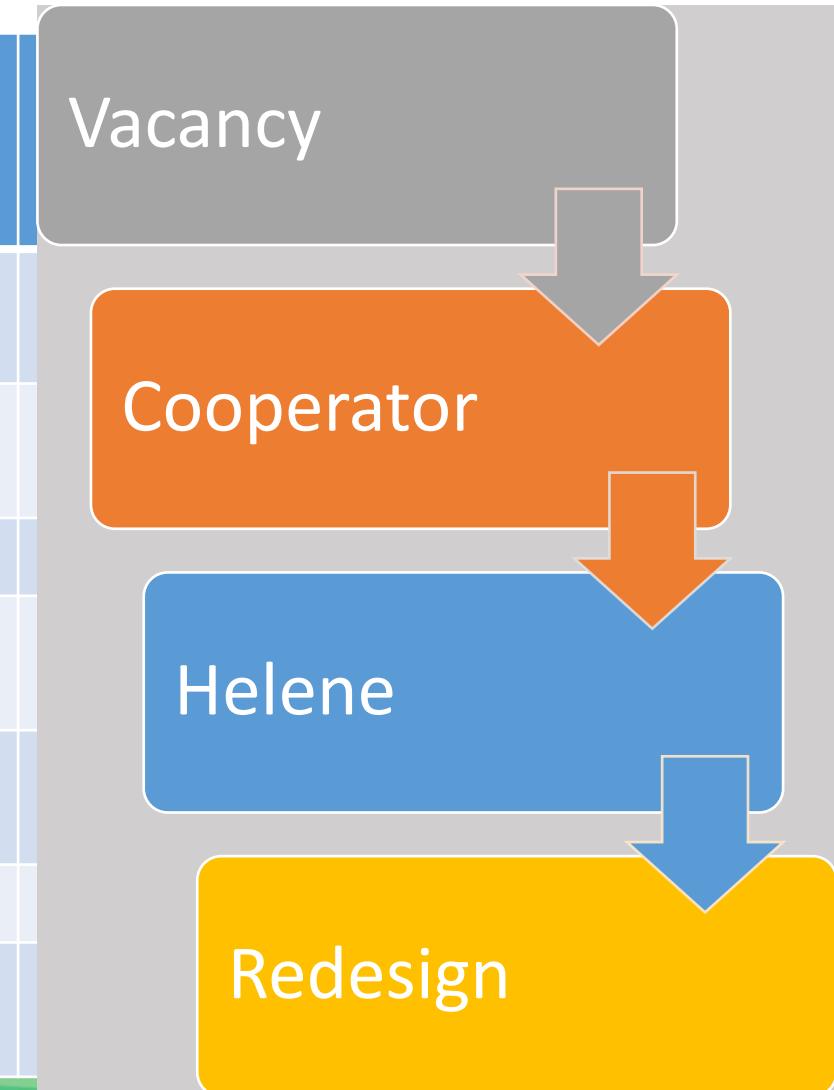
- Stream Restoration
- Streambank Stabilization
- Grade Stabilization
- Structures
- Ponds
- Ag Road Stabilization

Factors Contributing:

- Cooperator
- Vacancies (District & Division)
- Waiting on Design
- Delayed TA Request/Upload of JAA
- Disaster Impacts
- Redesign
- Complexity/Permitting

Extended Contracts Contributing Factors

Reason	Description
Start of Delay	
Cooperator	Delay in implementing or responding
Vacancy	Change in Division Engineer or District Staff
Waiting on Design	Outside Engineer/Supplier Delays
Delayed TA Request/Upload of JAA	District Staff delays
Helene Impacts	Impacts to project site or general cooperator operations
Redesign	Cooperator requests or due to storm
Complexity/Permitting	Longer general design time



Extended Contracts Contributing Factors

Reason	Description	Percent of Projects	Contributing Factor
		Start of Delay	
Cooperator	Delay in implementing or responding	37%	53%
Vacancy	Change in Division Engineer or District Staff	29%	34%
Waiting on Design	Outside Engineer/Supplier Delays	18%	21%
Delayed TA Request/Upload of JAA	District Staff delays	11%	16%
Helene Impacts	Impacts to project site or general cooperator operations	5%	11%
Redesign	Cooperator requests or due to storm	Contributing	18%
Complexity/Permitting	Longer general design time	Contributing	42%

Potential Actions to Address Delays

Cooperator delays & Reduce Redesign

- ✓ Meet in person to answer questions
- Written design approval
- ❑ Set clear response dates
- ❑ “We Owe You & You Owe Us” list
- ❑ Ask the district to follow up on defined intervals with Cooperators

Vacancies, Complexities of Design, & TA Request/JAA Contract Delays

- ✓ Hire/Retain Amazing Engineering Staff
- ✓ Training for Engineers to improve efficiency – example CAD Training
- On-Boarding/SOPs for Division Engineers
- New District Staff On-Boarding for TA Process and Contracting
- ❑ New District Staff Project Meeting

Outside Engineer Delays

- ❑ When we know a plan is expected, follow up on status
- ❑ Once initial plan comments are made, set deadline/follow-up dates
- ❑ Ask the district to follow up on defined intervals

Natural Disasters

- ✓ Prioritize redesign
- ❑ Follow up with Districts
- ❑ Be prepared for disruption by developing a plan based upon Helene

Potential Actions to Address Delays

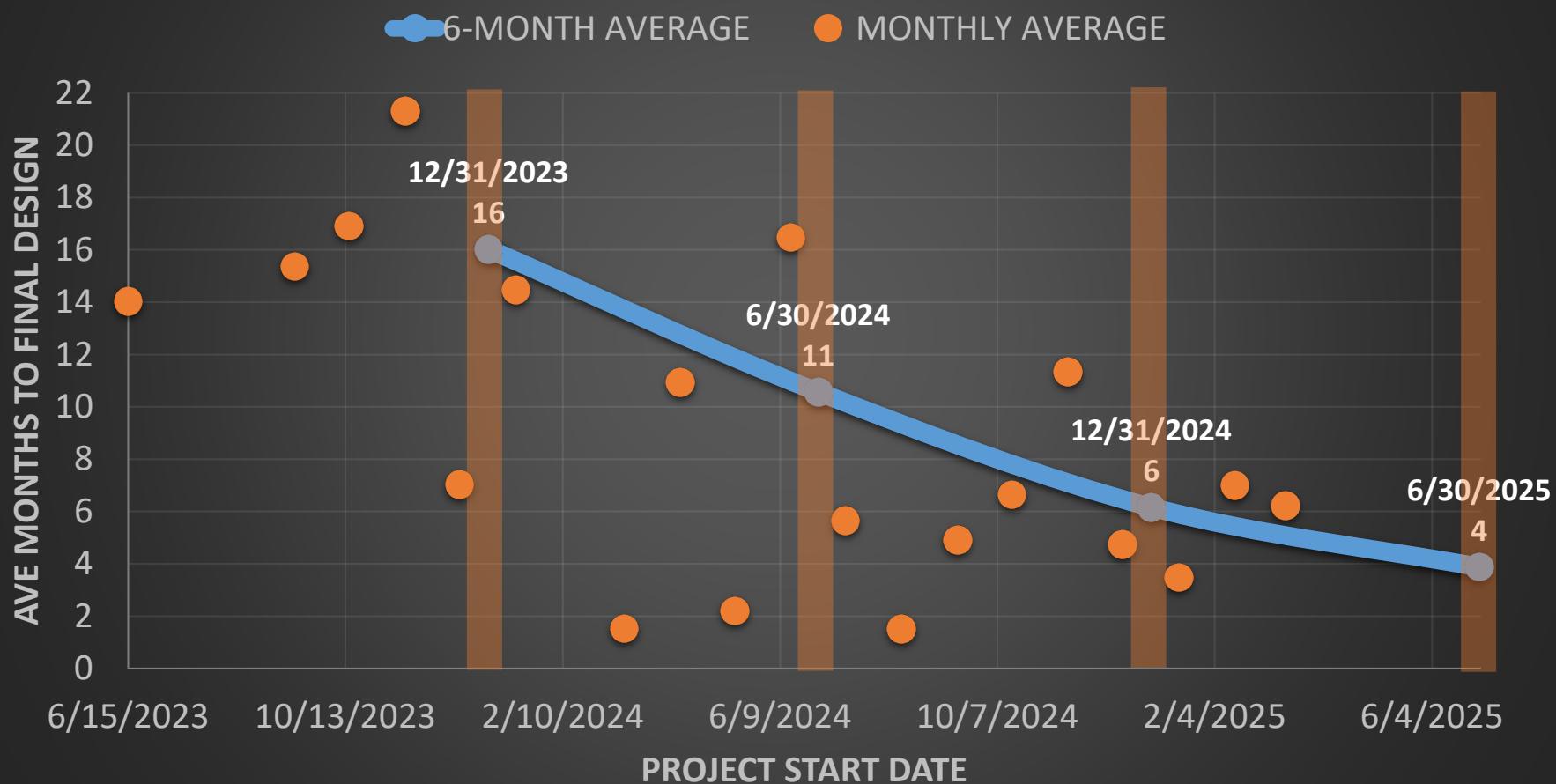
District Training and Job Approval Authority

- Roughly one-third of projects have potential for District to have JAA
- Some projects may still require engineering due to slope/culvert size/multiple components to a system

Examples include:

- Critical Area Planting
- Grade Stabilization Structures
- Ag Road Stabilization (Culverts!)
- Stock Trail
- Grassed Waterway
- Land Smoothing
- Heavy Use Area

Months to Final Design



Addressing Feedback from districts:

Time to receive Final Design for Contract Approval

Steps Taken:

- ✓ Fill Vacant Positions
- Rebalance Workload (considering complexity)
- Continued improvement in task completion tracking

Result: Reduced Time to Final Design

*IMPORTANT: Engineering Services is just beginning the analysis of design time. Time estimates are preliminary as there is no long-term data and it is skewed due to changes made in project tracking in Spring of 2025. In addition, BMP type is a key factor not taken into account here.

Continued Growth

- Measures of Success
 - **Staff Retention – Division and District**
 - Continued Improvement in Timelines
 - Support District Training
 - District Satisfaction
 - Are we meeting needs?
 - Are we adequately responsive?
 - Areas we can improve engagement

Questions?