



TECHNICAL PROPOSAL TO DESIGN AND CONSTRUCT

The I-85 Widening Phase III
Design-Build Project

P.I. No. 0015245

Jackson and Banks Counties, GA

Submitted to:



Submitted by: E.R. Snell Contractor, Inc.



In association with: WSP USA Inc.



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C.1.1. Construction Staging and Traffic Management Narrative

C.1.1.a Significant and Anticipated Project Challenges to Phasing

Having completed hundreds of road and highway projects collectively, our team has encountered and solved numerous challenges. Our team's approach is to anticipate challenges and proactively address them before they impact any design or construction operations. By mitigating issues before they arise, and aggressively solving challenges that occur in the field, we can ensure schedule and budget certainty. Below are four challenges we have identified and our solutions.

Managing profile grades: Profile grade changes will be managed by leveling the grade to bring it to the existing final cross slope. We will then provide multiple layers of leveling to obtain the final grade, minus the OGFC.

Maintaining adequate bridge deck gutter

spread during staging: Drainage on bridge decks during staged construction will be managed by careful analysis of existing and proposed stage construction conditions to ensure adequate shoulder widths are provided to contain the gutter spread for a 10-year storm event.

Bridge plans, hydro reports and BFI reports review and approval:

Review time for bridge plans, hydro and BFI reports can be difficult to schedule and can take up to nine months under normal situations. The E.R. Snell (ERS) team will take steps to mitigate this potential challenge by beginning the hydro and BFI field work early and scheduling the submittal of the preliminary bridge plans for both mainline bridge locations early in the design process. We are committed to submitting the preliminary bridge plans within 30 days of NTP1.

Staging three 2-mile increments: In order to complete a 12-mile project in approximately two years it is imperative to work on as many areas of the project as possible at once. For this reason, ERS has prepared a staging plan that constructs three 2-mile segments at one time during the project. The following are some highlights from this plan.

Approach to Staging

In accordance with the RFP, shoulder closures will be limited to two-mile segments with the preceding mile open. ERS' proposed phasing plan for constructing Mile Segments 3 – 4, Mile Segments

7 – 8 and Mile Segments 11 – 12 concurrently, followed by the construction of Mile Segments 1 – 2, Mile Segments 5 – 6 and Mile Segments 9 – 10 allows for maximized traffic flow within the allowable lane closure guidelines. The use of temporary concrete barriers for the widening construction provides a visual barrier to the traveling public and minimizes impacts from work areas near travel lanes. In accordance with the RFP and GDOT policies, work hours will be limited to avoid working during peak time congestion.

Throughout the development of our staging approach, we developed a plan that minimizes safety risk to the traveling public, maximizes traffic flow whenever a lane closure is necessary, and allows for the egress and ingress of construction-related traffic. The discussion below presents a description of the traffic management and sequencing approach that will be utilized for our proposed staging.

Stage 1 – Shift Traffic on Entire Project: This stage will begin with the eradication (mill/overlay) of the existing rumble strips on the outside of the existing mainline lanes. The traffic will then be shifted 2 foot to the right and narrowed to 11 foot lanes. This will result in a 4-foot buffer between traffic and the demolition line of the inside shoulder.

Stage 2a – Construct Vertical Grade Adjustments to Existing Mainline and Shoulder:

- » Place all appropriate erosion control measures.
- » Construct all vertical grade adjustments to existing travel lanes and paved shoulders by overlay with appropriate asphalt mix, excluding SMA & OGFC.
- » Prior to beginning this work, extend all outside shoulder drainage structures within this area.
- » Inside and outside non-paved shoulders will be adjusted as the grade is being raised.
- » Striping will be placed prior to opening to traffic after each overlay operation.

Stage 2b – Construct Widening at Mile Segments 3 – 4, Mile Segments 7 – 8 and Mile Segments 11 – 12:

- » Place temporary barrier on the inside shoulder closure in two mile segments with two miles of open shoulder between each.



- » Construct all median work, excluding placement of OGFC.
- » Perform appropriate work beyond outside paved shoulder, such as, ITS, sound walls, drainage, etc.
- » Construct interior median portions of the North Oconee & Ridgeway Church bridges – see staging details.
- » Remove barrier upon completion of median work.

Stage 2c – Construct Widening at Mile Segments 1 – 2, Mile Segments 5 – 6 and Mile Segments 9 – 10 :

Segments 1 – 2 can begin upon completion of Segment 3. Segments 5 – 6 can begin upon completion of Segments 4 and 7. Segments 9 – 10 can begin upon the completion of Segments 8 and 11.

- » Place a temporary barrier on the inside shoulder closure in two mile segments with two miles of open shoulder between each.
- » Construct all median work, excluding placement of OGFC.
- » Perform appropriate work beyond outside paved shoulder, such as, ITS, sound walls, drainage, etc.
- » Remove barrier upon completion of median work.

Stage 3 – Mill & Inlay Existing Mainline Entire Project, NB and SB :

- » This stage will proceed once a large portion of the inside widening is completed.
- » Mill existing mainline 3" depth.
- » Inlay with variable leveling and 12.5 SMA to accomplish appropriate cross slope.
- » No significant vertical alignment adjustments will be made during this stage that would create the need for land disturbing activities.
- » As the SMA is placed flush to the inside widening, striping will be placed to shift traffic to the inside 2 lanes of the project.
- » Adjust signs, if needed.

Stage 4 – Complete Mainline Bridges and Remaining Work, Open to Traffic: Once traffic is moved to the interior lanes 1 and 2, the remainder of the mainline bridges will be constructed.

Concurrent to the bridge construction, all other facets of the work including outside shoulder mill/inlay, guardrail replacement, completion of ITS and overhead signs. Once all bridge work and other work is complete, the traffic will be placed in its final configuration. Once in final configuration, ERS will place all OGFC and final striping.

C.1.1.b Approach to Minimizing Impacts

The ERS team will implement a plan that will optimize driving conditions. This plan will ensure motorists that use this corridor each day are impacted as little as possible while maintaining the safest work zone possible for both the motorists and our workers. As with any major construction project, impacts in the construction zone will be unavoidable. We will ensure that proper pavement markings are in place immediately upon lane shifts. We will also ensure that the temporary markings are very easy to see and placed appropriately per the MUTCD. All traffic control will be installed and maintained in compliance with the MUTCD and the Department's Section 150. All lane shifts will be performed in accordance with design, GDOT, and MUTCD requirements for advance notification, lane locations, and transition taper lengths to provide for smooth and gradual traffic flow through lane shifts.

Public outreach throughout construction will involve properly and accurately informing the public. This is critical to limiting the amount of traffic in the corridor when there is a planned lane closure. Keeping the public informed will be accomplished by ensuring that our team communicates using every option possible from the GDOT TMC to social media.

ERS will minimize and mitigate noise, vibration, light, dust, and erosion and runoff by the diligent implementation and maintenance of the Erosion, Sediment, and Pollution Control Plan, clearing only areas required for construction, the use of water trucks, and the installation of sound barriers. Tony Campbell, Construction Erosion Control Supervisor, will ensure all efforts are taken to minimize impacts to existing roads and properties adjacent to the project. Operations that require lane closures will be completed during nighttime hours with the use of light plants and associated equipment, per the RFP requirements. We will limit the use of vibrating equipment during these hours.



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DESIGN-BUILD SERVICES - I-85 Widening Phase III

C.1 Technical Proposal

The hauling of materials, equipment and supplies will be on state routes and designated truck routes to minimize any damage to local roadways.

Additionally, ERS has identified two laydown areas for the project. Laydown Area 1 is in an area at the local quarry in Jefferson, Georgia. Laydown Area 2 will be on private property near the SR 98 Exit Ramps. Both laydown areas are less than two miles from the project site. By providing additional laydown areas off the project, ERS will minimize the amount of material handling and transfer amongst traffic on the project.

In summary, managing the work zone is critical to the safety and mobility of the road users, as well as the construction workers. Management of the work zone will be of highest priority as the project proceeds through its stages to minimize the impacts on the environment, community, and traveling public. To this end, ERS will communicate directly with GDOT and their representatives to properly communicate all project activity and delays in traffic to the public.

C.1.1.c Project Differences from Reference Information Documentation (RIDs)

ERS has not made any significant changes to the project approach and design of the I-85 Phase III Widening. Additionally, the ERS team plans on employing staging and movement of traffic concepts similar to the concepts used in constructing the previous I-85 Widening projects. In an effort to provide the Department with the most economical solution possible, the ERS Team has made some changes in specific design elements of the project. These design variances are catalogued in Section C.2 Project Differences from Reference Information Documents (RIDs).

C.1.2. Project Management Approach

Adherence to schedule and budget constraints is critical to successful project delivery and we have assigned Walt Zimmerman Senior Vice President of the Construction Division, as the overall Design-Build Project Manager. He will be GDOT's single point of contact with our team to ensure efficient and accurate communications. ERS and WSP have successfully performed work together for years on all types of projects. This level of familiarity with each other's organizations and the unique aspects of design-build contracts, as well as a long history of working with GDOT, contributes to seamless and effective communication.

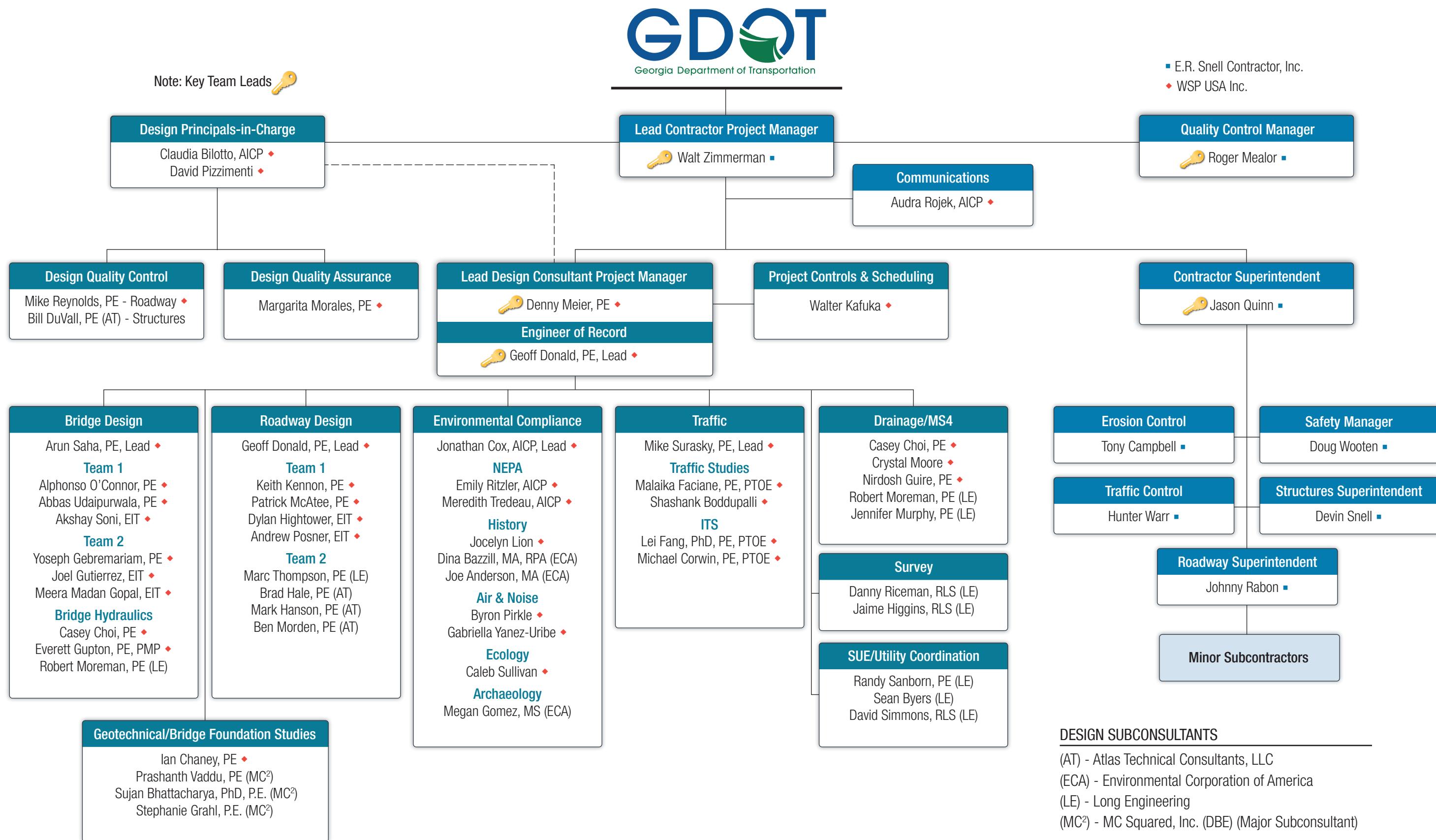
Active management of both design and construction will be critical to the success of the project and the ability to meet the commitments of our team. Having design and construction work together is the goal of any design-build project. ERS and WSP have worked closely on a staging plan that will allow us to meet the compact schedule of the project. We started regular meetings weeks ago between our design teams and ERS staff to create a relationship that has seamless interaction.

Jason Quinn, Contractor Superintendent, will be available 100% of the time and will manage all construction activities, including but not limited to contract compliance, safety, working with designers and coordinating with GDOT as needed. Jason will work with his key staff to make certain the project is being constructed safely, efficiently, and on budget. Partnering with GDOT is a vital part of any successful project, and this project is no different. To meet such an aggressive schedule, ERS understands that true partnering with GDOT and all stakeholders is critical. ERS believes in a strong company commitment to safety, partnering, customer service, and project delivery. These tenets have kept us in business since 1923. The WSP design team lead by Denny Meier, PE as the Lead Design Project Manager, and Geoff Donald, PE, as the Engineer of Record, are well supported by a team of seasoned professionals. Denny and Geoff will coordinate early and often to make certain our commitments are achieved. We also have seasoned GDOT experienced experts, who clearly understand the mission of creating a quality roadway product. Our detailed QC/QA procedures with independent design reviews were clearly spelled out in our SOQ response. These procedures will produce an exceedingly high-quality product in the end.

C.2. Project Differences from Reference Information Documents (RIDs)

The ERS team has optimized the vertical profiles for I-85 NB and SB lanes, following the design criteria in the Technical Provisions.

The ERS team has optimized the bridge layouts to provide the following: I-85 over North Oconee River – 3 spans with AASHTO Bulb Tee 56 in. beams, 2 end bents, 2 interior bents. I-85 over Ridgeway Church Road -1-span with AASHTO Bulb Tee 56 in. beams, 2 end bents with Tie-Back walls. See Conceptual Layouts for additional information.



FORM M:
Substantial Completion and Final Acceptance
Deadlines Commitment

FORM M

SUBSTANTIAL COMPLETION AND FINAL ACCEPTANCE DEADLINES COMMITMENT

The Proposer shall commit to the Substantial Completion Deadline and Final Acceptance Deadline listed below.

Required fields are identified with an asterisk (*).

Table M-1: Milestone Deadlines

Milestone Deadlines	Duration
*NTP2 Conditions Deadline	Not later than 90 days after the date GDOT issues NTP1
*Substantial Completion Deadline	No later than 1095 Days after NTP 1
*Final Acceptance Deadline	No later than 180 Days after Substantial Completion

Date: June 17, 2021

Proposer: E.R.Snell Contractor, Inc.

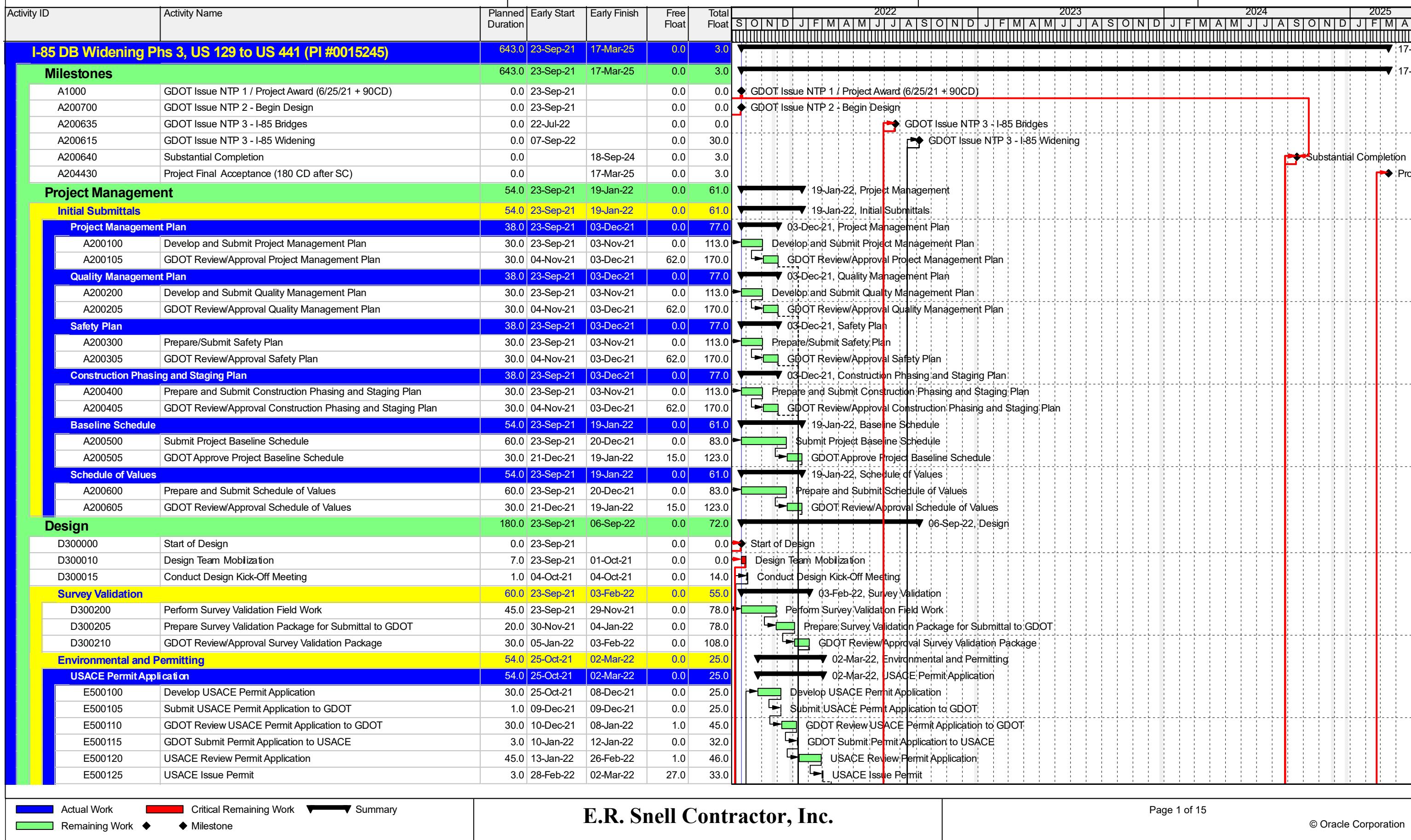
Signature: 

Title: Vice President

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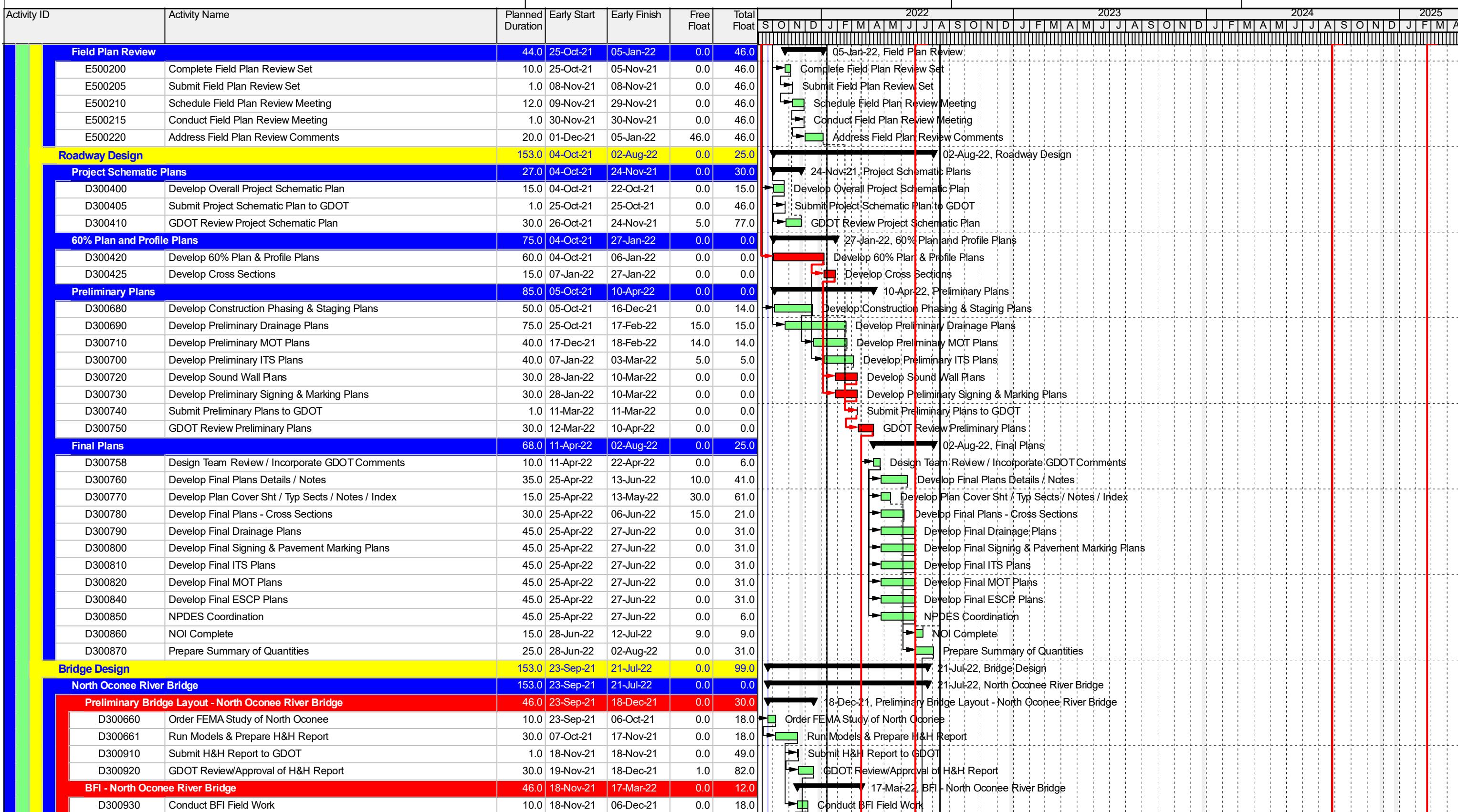
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Actual Work Critical Remaining Work Remaining Work Milestone

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Remaining Work Milestone

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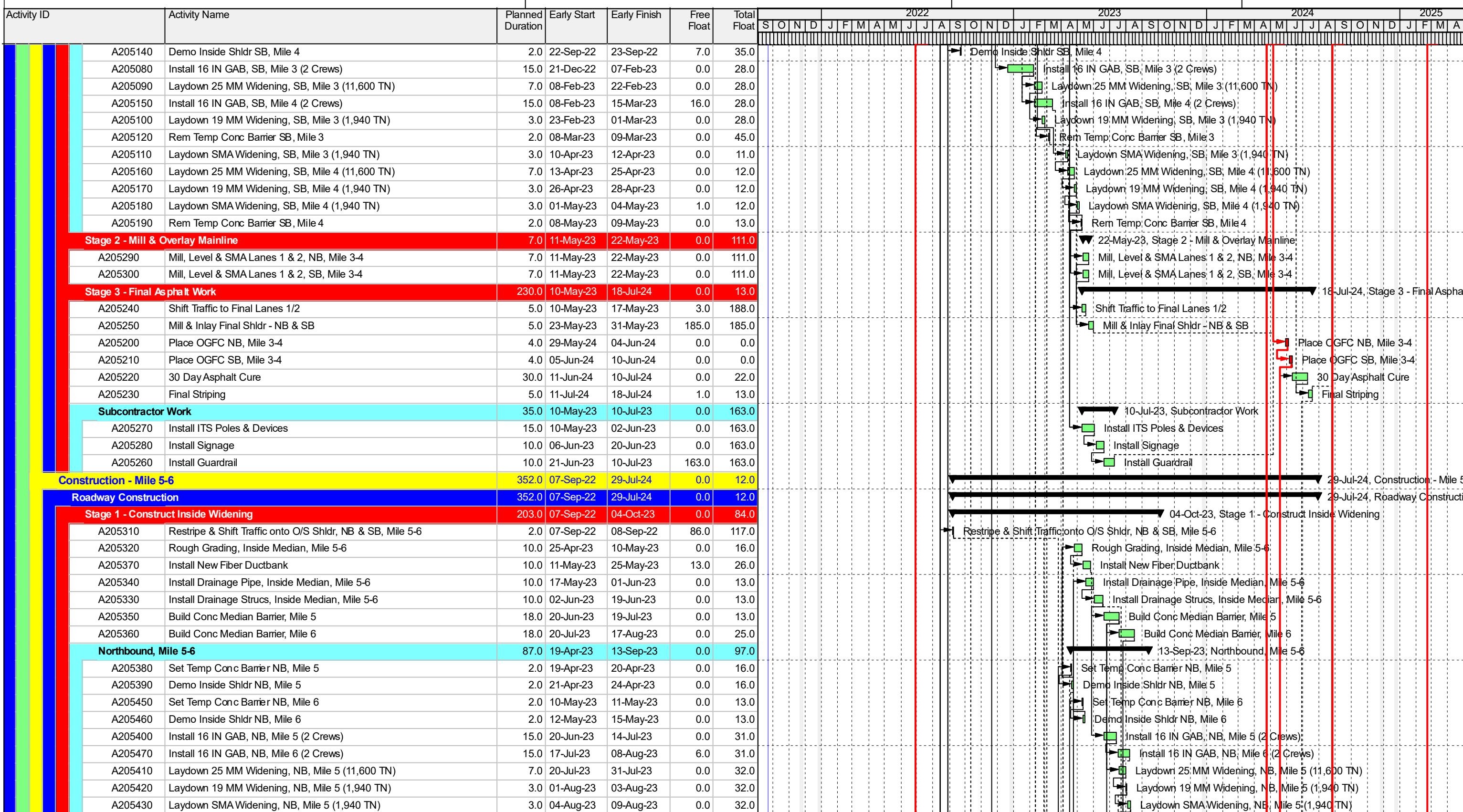
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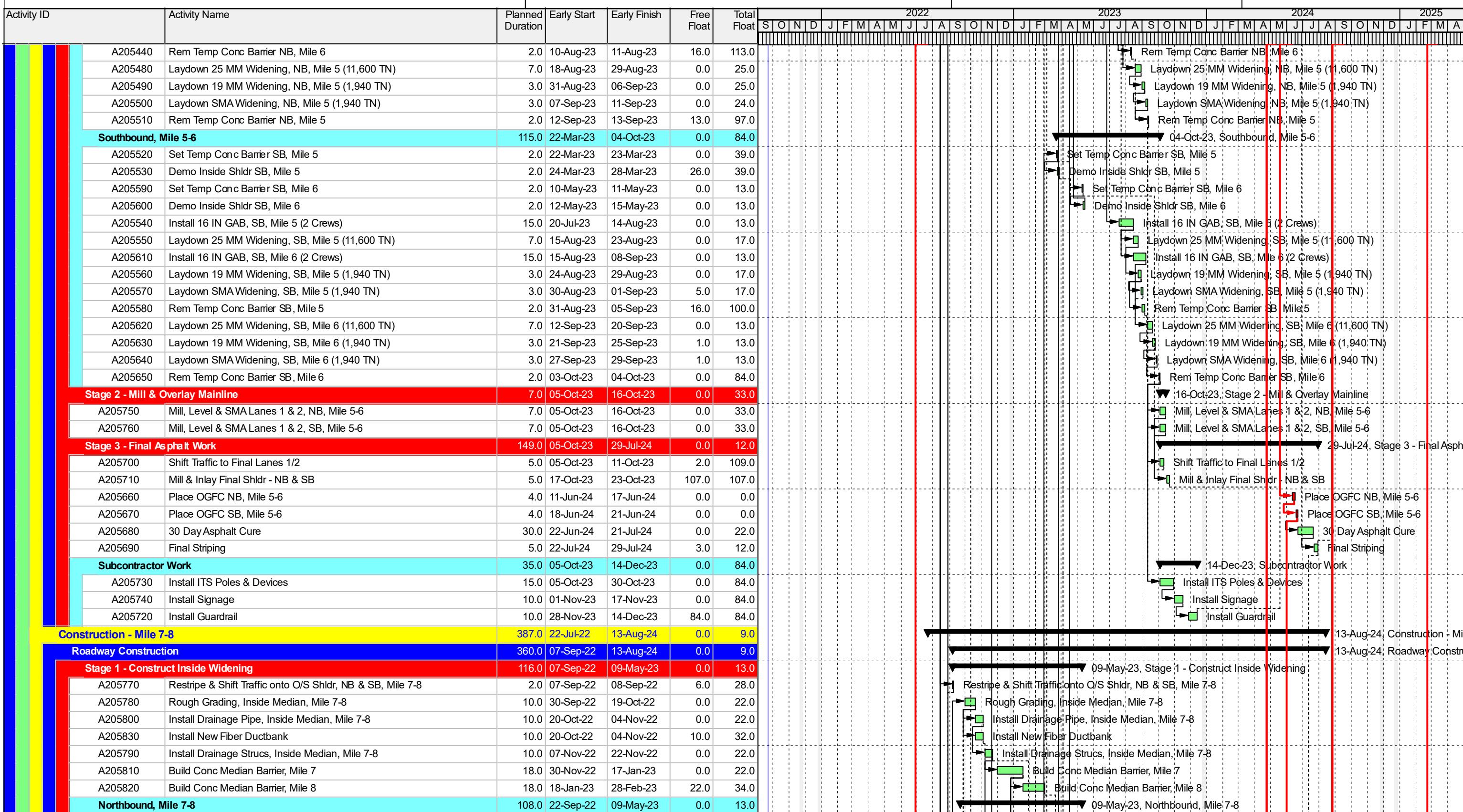
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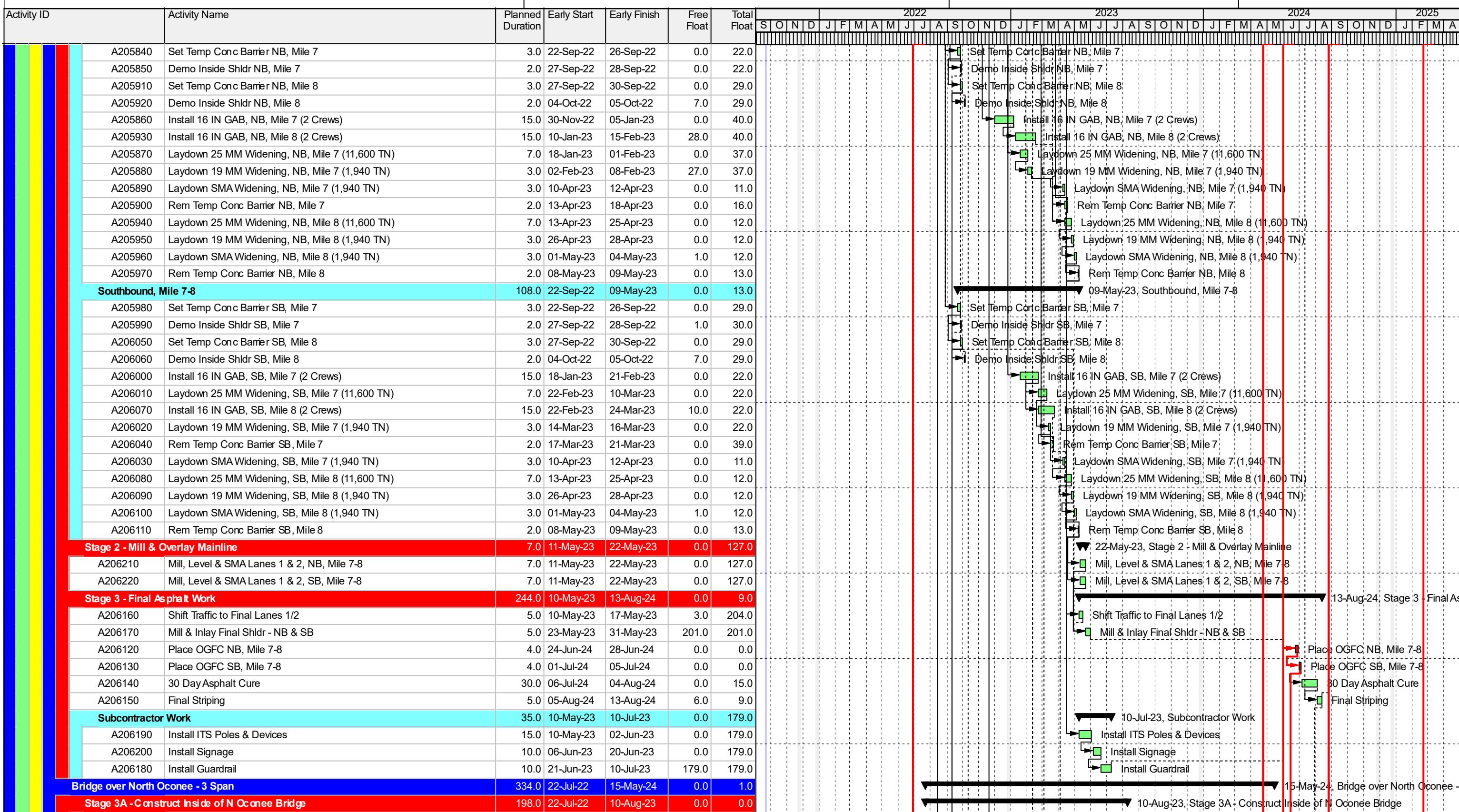
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Remaining Work ◆ ◆ Milestone

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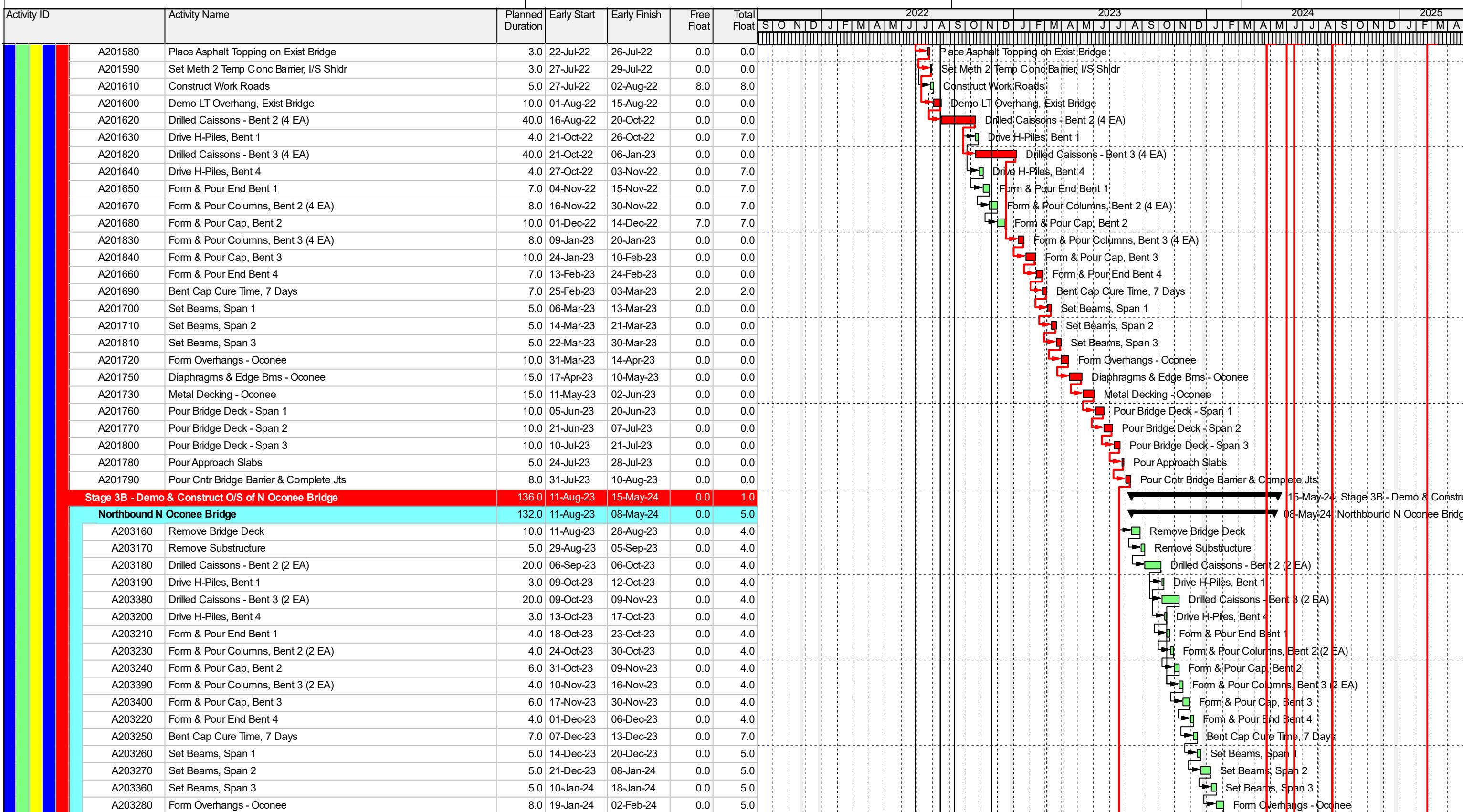
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Activity ID	Activity Name	Planned Duration	Early Start	Early Finish	Free Float	Total Float	2022				2023				2024				2025				
							S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J
A203310	Diaphragms & Edge Bms - Oconee	5.0	05-Feb-24	13-Feb-24	0.0	5.0																	Diaphragms & Edge Bms - Oconee
A203290	Metal Decking - Oconee	5.0	15-Feb-24	22-Feb-24	0.0	5.0																	Metal Decking - Oconee
A203320	Pour Bridge Deck - Span 1	10.0	23-Feb-24	11-Mar-24	0.0	5.0																	Pour Bridge Deck - Span 1
A203330	Pour Bridge Deck - Span 2	10.0	13-Mar-24	26-Mar-24	0.0	5.0																	Pour Bridge Deck - Span 2
A203370	Pour Bridge Deck - Span 3	10.0	28-Mar-24	12-Apr-24	0.0	5.0																	Pour Bridge Deck - Span 3
A203340	Pour Approach Slabs	5.0	15-Apr-24	22-Apr-24	0.0	5.0																	Pour Approach Slabs
A203350	Pour O/S Bridge Barrier & Complete Jts	10.0	24-Apr-24	08-May-24	5.0	5.0																	Pour O/S Bridge Barrier & Complete Jts
Southbound N Oconee Bridge		136.0	11-Aug-23	15-May-24	0.0	1.0																	15-May-24, Southbound N Ocnee Bridge
A203420	Remove Bridge Deck	10.0	11-Aug-23	28-Aug-23	0.0	0.0																	Remove Bridge Deck
A203430	Remove Substructure	7.0	29-Aug-23	07-Sep-23	0.0	0.0																	Remove Substructure
A203440	Drilled Caissons - Bent 2 (2 EA)	12.0	08-Sep-23	27-Sep-23	0.0	0.0																	Drilled Caissons - Bent 2 (2 EA)
A203450	Drive H-Piles, Bent 1	3.0	28-Sep-23	02-Oct-23	0.0	0.0																	Drive H-Piles, Bent 1
A203460	Drilled Caissons - Bent 3 (2 EA)	12.0	28-Sep-23	17-Oct-23	8.0	8.0																	Drilled Caissons - Bent 3 (2 EA)
A203470	Drive H-Piles, Bent 4	3.0	03-Oct-23	06-Oct-23	0.0	0.0																	Drive H-Piles, Bent 4
A203480	Form & Pour End Bent 1	4.0	09-Oct-23	13-Oct-23	0.0	0.0																	Form & Pour End Bent 1
A203490	Form & Pour Columns, Bent 2 (2 EA)	4.0	16-Oct-23	19-Oct-23	0.0	0.0																	Form & Pour Columns, Bent 2 (2 EA)
A203500	Form & Pour Cap, Bent 2	6.0	20-Oct-23	30-Oct-23	0.0	0.0																	Form & Pour Cap, Bent 2
A203520	Form & Pour Columns, Bent 3 (2 EA)	4.0	31-Oct-23	06-Nov-23	0.0	0.0																	Form & Pour Columns, Bent 3 (2 EA)
A203530	Form & Pour Cap, Bent 3	6.0	08-Nov-23	16-Nov-23	0.0	0.0																	Form & Pour Cap, Bent 3
A203510	Form & Pour End Bent 4	4.0	17-Nov-23	27-Nov-23	0.0	0.0																	Form & Pour End Bent 4
A203540	Bent Cap Cure Time, 7 Days	7.0	28-Nov-23	04-Dec-23	0.0	1.0																	Bent Cap Cure Time, 7 Days
A203550	Set Beams, Span 1	3.0	05-Dec-23	07-Dec-23	0.0	1.0																	Set Beams, Span 1
A203560	Set Beams, Span 2	3.0	08-Dec-23	12-Dec-23	0.0	1.0																	Set Beams, Span 2
A203580	Set Beams, Span 3	3.0	14-Dec-23	18-Dec-23	0.0	1.0																	Set Beams, Span 3
A203570	Form Overhangs - Oconee	9.0	19-Dec-23	11-Jan-24	0.0	1.0																	Form Overhangs - Oconee
A203590	Diaphragms & Edge Bms - Oconee	5.0	15-Jan-24	22-Jan-24	0.0	1.0																	Diaphragms & Edge Bms - Oconee
A203600	Metal Decking - Oconee	5.0	25-Jan-24	01-Feb-24	0.0	1.0																	Metal Decking - Oconee
A203620	Pour Bridge Deck - Span 1	10.0	02-Feb-24	21-Feb-24	0.0	1.0																	Pour Bridge Deck - Span 1
A203630	Pour Bridge Deck - Span 2	10.0	22-Feb-24	08-Mar-24	0.0	1.0																	Pour Bridge Deck - Span 2
A203650	Pour Bridge Deck - Span 3	10.0	11-Mar-24	25-Mar-24	0.0	1.0																	Pour Bridge Deck - Span 3
A203640	Pour Approach Slabs	5.0	26-Mar-24	02-Apr-24	0.0	1.0																	Pour Approach Slabs
A203660	Pour O/S Bridge Barrier & Complete Jts	10.0	04-Apr-24	19-Apr-24	0.0	1.0																	Pour O/S Bridge Barrier & Complete Jts
A207600	Complete Traffic and Shift to Final Lanes	15.0	22-Apr-24	15-May-24	1.0	1.0																	Complete Traffic and Shift to Final Lanes
Construction - Mile 9-10		371.0	07-Sep-22	29-Aug-24	0.0	3.0																	29-Aug-24, Construction -
Roadway Construction		371.0	07-Sep-22	29-Aug-24	0.0	3.0																	29-Aug-24, Roadway Con
Stage 1 - Construct Inside Widening		203.0	07-Sep-22	04-Oct-23	0.0	100.0																	04-Oct-23, Stage 1 - Construct Inside Widening
A206230	Restripe & Shift Traffic onto O/S Shldr, NB & SB, Mile 9-10	2.0	07-Sep-22	08-Sep-22	92.0	132.0																	Restripe & Shift Traffic onto O/S Shldr, NB & SB, Mile 9-10
A206240	Rough Grading, Inside Median, Mile 9-10	10.0	25-Apr-23	10-May-23	0.0	31.0																	Rough Grading, Inside Median, Mile 9-10
A206290	Install New Fiber Ductbank	10.0	11-May-23	25-May-23	13.0	41.0																	Install New Fiber Ductbank
A206260	Install Drainage Pipe, Inside Median, Mile 9-10	10.0	17-May-23	01-Jun-23	0.0	28.0																	Install Drainage Pipe, Inside Median, Mile 9-10
A206250	Install Drainage Strucs, Inside Median, Mile 9-10	10.0	02-Jun-23	19-Jun-23	0.0	28.0																	Install Drainage Strucs, Inside Median, Mile 9-10
A206270	Build Conc Median Barrier, Mile 9	18.0	20-Jun-23	19-Jul-23	0.0	28.0																	Build Conc Median Barrier, Mile 9
A206280	Build Conc Median Barrier, Mile 10	18.0	20-Jul-23	17-Aug-23	0.0	113.0																	Build Conc Median Barrier, Mile 10
Northbound, Mile 9-10		87.0	19-Apr-23	13-Sep-23	0.0	113.0																	13-Sep-23, Northbound, Mile 9-10
A206300	Set Temp Conc Barrier NB, Mile 9	2.0	19-Apr-23	20-Apr-23	0.0	31.0																	Set Temp Conc Barrier NB, Mile 9

Actual Work Critical Remaining Work Summary

Remaining Work Milestone

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Remaining Work Milestone

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