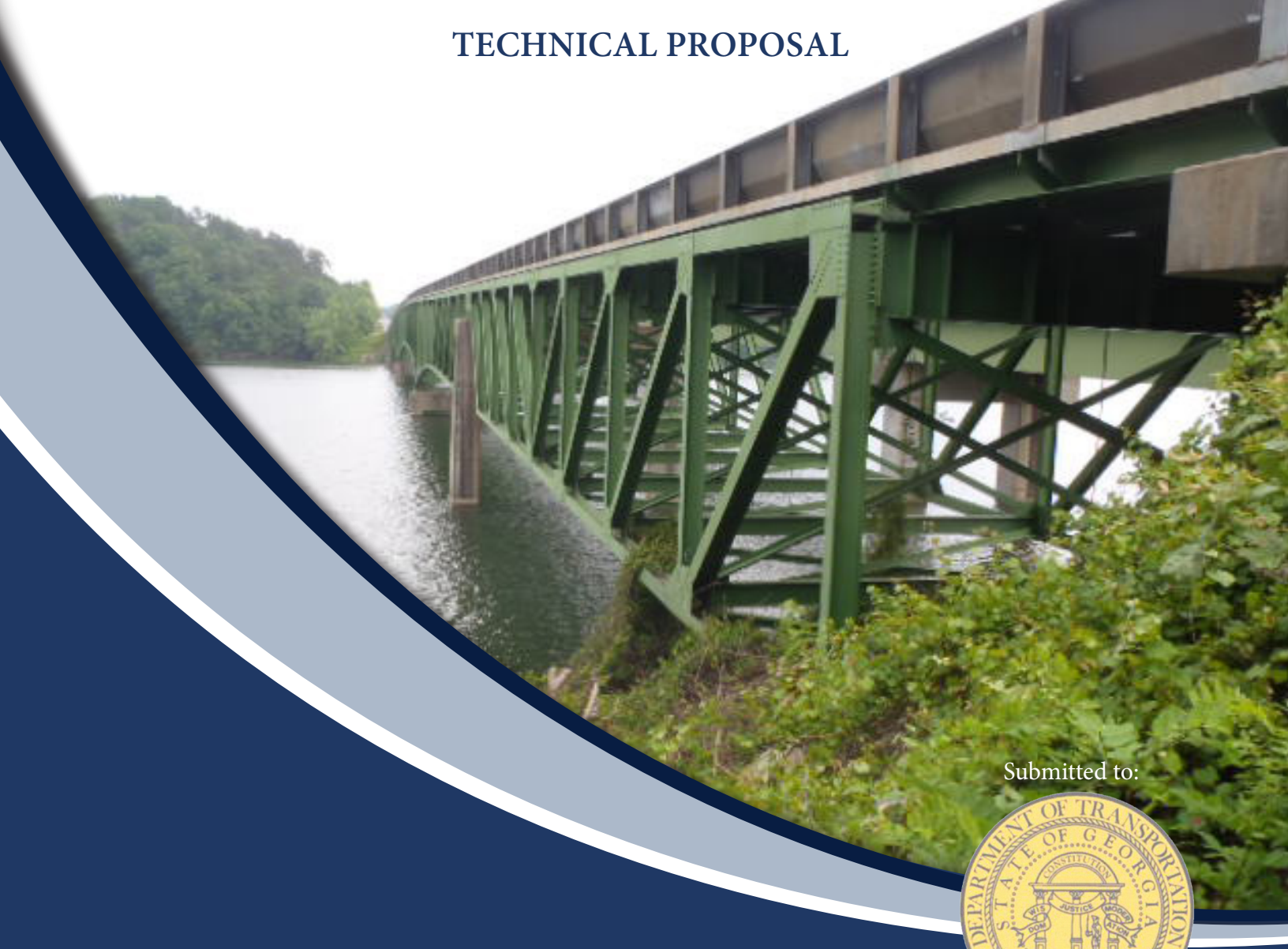
TECHNICAL PROPOSAL



Submitted to:

Design-Build Services for the

SR 53 Westbound at Chattahoochee River Bridge Replacement Project

P.I. No. 0010212

Hall County, GA

Submitted by:

UNITED INFRASTRUCTURE GROUP

In Association with:

INFRASTRUCTURE CONSULTING & ENGINEERING

June 14, 2019

C.1 TECHNICAL PROPOSAL

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C.1.1. Construction Staging and Traffic Management Narrative

C.1.1. CONSTRUCTION STAGING AND TRAFFIC MANAGEMENT NARRATIVE

A successful traffic management plan requires the experience and expertise of the design team and construction professionals to develop strategies that maximize construction operations while efficiently moving vehicles through the work zone and accommodating emergency response vehicles. The traffic management program developed for this Project is simplified since the new bridge will be constructed on an offset alignment while maintaining traffic on the existing alignment. During construction, limited lane closures and traffic crossovers will be utilized to facilitate some critical material deliveries. Once the new bridge and roadway approaches are constructed, the traffic will be shifted to its final location and the old bridge demolished. A critical element in the management of traffic around and through the work zone will be the dissemination of information to the public. **Team Chattahoochee** is committed to partnering with the Department in the development of a Public Information and Communication Plan to ensure all parties concur regarding traffic interruptions and messaging the public.

There are numerous controlling factors to be addressed to properly construct this Project. Minimizing environmental impacts, managing the environmental approvals by the Army Corps of Engineers, and advancing the design and permitting for work in the Chattahoochee River (Lake Lanier) are just a few examples of challenges that must be overcome to provide GDOT with the quality Project it deserves.

C.1.1. (a) How Construction Phasing Will Be Accomplished and Overall Traffic Management and Control and Sequencing Approach

PROJECT CHALLENGES		
#	Significant Known and Anticipated Project Challenges	Addressing the Challenge
1	**Design/Permitting to Allow Commencement of Work**	**Team Chattahoochee** has evaluated the work restriction requirements as specified in the Technical Provisions. It is critical for our Team be able to begin work to clear trees on the project approaches outside of the moratorium for the bat restriction. The Design Team will work to achieve final plans for the entire project such that full NTP3 can be given prior to the restrictive clearing for the potential bat habitat in 2020. If necessary, we will submit a clearing plan along with an NOI that will allow our Team to begin clearing and grubbing operations while the remainder of the plans are being finalized and approved.
2	**Substructure Construction within the Chattahoochee River**	**Team Chattahoochee** evaluated various substructure alternates for this site, including drilled shafts, pile footings, and spread footings. Drilled shafts were selected due to the difficulty of installing deep water cofferdams and the prohibition of a pedestal type bent in the Technical Provisions. The use of a three shaft/column design allows our Team to construct the drilled shafts without the need for mass concrete.
3	**Existing Bridge Demolition**	**Team Chattahoochee** has evaluated the work necessary to demolish the existing bridge. The existing bents, which are in excess of 100 feet tall, must be removed to the bottom of the channel. The potential of utilizing the existing steel truss bridge as an artificial reef within the lake will be explored with the appropriate resource agencies post-award, which has been successfully done on previous GDOT projects.

C.1.1. (b) Approach to Minimizing Impacts and User Distraction, Sequencing of Work, and Location of Lay Down Areas

Team Chattahoochee has evaluated our proposed staging to ensure minimal impacts to the travelling public. The work to be completed will be performed behind temporary barrier (where required), and traffic shifts will be minimal due to the offset bridge alignments. Our Team plans to use floating barges for work within the lake which greatly reduces the environmental impacts of the offset bridge construction. To minimize user distraction, storage and staging areas will primarily be located at the USACOE lake access site, a nearby project office location, and on floating barges. Some on-site storage/staging will be necessary near the bridge ends, especially for the retaining walls, and will be away from traffic to the maximum extent practical behind proper barrier and/or proper MOT devices. As much as possible, we will deliver materials directly to the work zone when needed to avoid double handling and additional hauling.

Team Chattahoochee will work integrally with GDOT public information officers assigned to this Project to facilitate all communications to the public through GDOT. At a minimum, we will provide information on events affecting the traveling public as early as possible including lane closures, crossovers, traffic shifts, and blasting. The Team will also provide information on alternate routes that will avoid the construction zones which can be disseminated to the public prior to the start of construction. Additionally, **Team Chattahoochee** will place changeable message boards along the highway to provide real-time work zone traffic data to the traveling public prior to reaching the construction zone. Our Team understands that SR 53 is a heavily traveled route and that any traffic disruptions will have a major impact on the surrounding property owners as well as the travelling public. Our Team will endeavor to provide updates and notices as early as possible to allow for appropriate reaction times to take alternate routes.

C.1.1. (c) How Proposer's Approach to Design and Construction Differs from Reference Information Documents (RIDS)

Through a series of weekly design meetings and value engineering sessions, our Team identified many elements of this Project as candidates for innovative design and construction processes. Although numerous innovative ideas were vetted by our Team during the development of our proposal and conceptual design, our design optimizations included in our proposal are not significantly or materially different than the design in the Reference Informational Documents provided by GDOT.

C.1.2. Project Management Approach

C.1.2. PROJECT MANAGEMENT APPROACH

In addition to the projects currently underway, United and ICE have successfully designed and constructed over 14 Design-Build projects including emergency bridge replacement packages, major river crossings, major corridor widenings, new alignment roadways/highways, and various bridge replacement projects/packages with hundreds of bridges. This success is a reflection of our ability to work together as a unified team, facilitate seamless and quick project-start up, and follow a proven management style/approach used on previous projects. Key components of our Team's approach to provide unified design, construction, maintenance during construction, and quality reviews of all elements of the work is outlined below:

- **Weekly Meetings** – During our weekly technical meetings, the key members of the design and construction team discuss the progress of the design work, including upcoming submittals, technical issues, constructability concerns, and schedule progress. Each of the major disciplines is represented at the meeting to ensure cross-discipline coordination occurs continuously, rather than just at the time of the quality reviews just prior to submittals. Once the design is significantly complete and construction begins, the focus of these meetings changes to construction submittals (shop drawings) as well as requests for information (RFIs) or discussion of engineering solutions to construction issues.
- **Constructability Reviews** – Prior to submittal of all design packages and as a part of our QA/QC plan, United personnel assigned to construct each of the major scopes of work will review the design package for constructability. These issues are resolved proactively during the design development process rather than while construction is ongoing in the field through the RFI process, thus avoiding schedule delays.
- **Preconstruction Discipline Meetings** – Prior to the start of major construction activities, United will conduct preconstruction meetings with craft and subcontractors to discuss the upcoming construction operation and solve potential issues prior to beginning the operation. These meetings will also involve environmental compliance personnel when activities are near ESAs.

Team Chattahoochee's partnering environment encourages resolution of potential issues at the lowest level possible and at the earliest possible time. If the issue cannot be resolved at this level, the issue will be referred to the next level of management and will be monitored by the Project Manager who will focus the Management Team on a timely resolution to avoid schedule or cost impacts. Issues affecting the Critical Path will be given the highest priority. In the event there is a dispute, contract agreements mandate that work will continue through the dispute resolution process while not affecting the schedule. Perry McCoy, the Project Manager, is authorized to make the necessary final decisions to keep the project moving forward. The Project Manager will provide a protocol for documentation and communication to team members on the status of issues that may be in dispute or require escalation to higher management levels. In the event an issue is not resolved at the lowest level and requires escalation to higher levels, contract provisions already accepted by the lead designer and major subcontractors will provide for unimpeded continuation of all work while negotiating a resolution of the issue. The foundation of the Project Communication Plan is our meeting integration strategy which will give all stakeholders the opportunity to meet face-to-face on a regularly scheduled basis to communicate the status of Project goals, expectations, construction, environmental and quality issues, safety, public outreach, and schedule. Each meeting will be documented by minutes that will be available for review by all participants, and action item lists will be developed to identify critical issues and establish milestones for resolution. **Team Chattahoochee** will utilize the GDOT web-based management website daily for all file storage, communication, and correspondence. This system will provide automated tracking of time critical submittals and will be the official record of all Project communication.

Team Chattahoochee's Project Management Plan (PMP) will incorporate a management approach to ensure the Project is constructed in a safe, environmentally sensitive, and timely manner while maintaining GDOT's high standards for quality. After award of the Contract, the Design-Build phase is focused on the design, permitting, and construction of the Project. The proposal pursuit team responsible for the Technical and Price Proposal development, is augmented with additional production design staff and construction resources. It is critical to the successful execution of the Project that there is staff continuity from the proposal development to the delivery of the Project to avoid the loss of critical institutional knowledge gained by the key personnel and task managers during the Project pursuit. Therefore, our Team's philosophy is to supplement the key staff with additional design staff; construction managers; and safety, quality, and environmental managers who can benefit from the experience of the development staff to fast-track the design, permitting, and construction planning. Upon receipt of a NTP3 and issuance of necessary agency approvals, RFC drawings, and approval of all Contract management plans, **Team Chattahoochee** will transition into the Project's construction phase. The CPM Schedule will guide the allocation of construction resources and subcontractors to the Project, and it will determine the levels of staff and equipment required to keep up with the critical path needs. Given that United will be self-performing the bridge work, this will provide maximum opportunity for flexibility and control of the resources required for the Critical Path work. Augmenting United's self-performed work with subcontractors to perform the grading, drainage, and paving work will focus the United resources on the bridge construction and provide additional resources to the overall Team.

Organization Chart

Team Organizational Chart
SR 53 Westbound at Chattahoochee River Bridge Replacement Project

Georgia Department of Transportation

Executive Committee
Jim Triplett, PE UIG
Elham Farzam, PE ICE

Safety Director
Jeff Hanson UIG

Lead Contractor Project Manager
Perry McCoy UIG

Public / Community Outreach
Elaine Ceccacci R2T *
Susie Bender ICE

Design QA/QC
Peter Graf, PE, SE ICE (Lead / Structures)
Larry Cook, PE ICE (Roadway)
Jonathan Scarce, PE ICE (Hydraulics)

PRECONSTRUCTION

Design Build Coordinator
Jim Triplett, PE UIG

CONSTRUCTION

QC/QA SERVICES

Lead Consultant Project Manager
Tyler McIntosh, PE ICE

Contractor Engineer
Joe Jones UIG

Contractor Superintendent
Brannon Underwood UIG

Construction Quality Assurance Manager
David Wertz, PE ICE

Roadway Superintendent
Cole Martin UIG

Traffic Control Supervisor
Mike Bergeson UIG

Worksite Erosion Control Supervisor
Mike Bergeson UIG

Survey Verification
QC Inspection
QA Inspection

Design Services

EOR
Sam Wade, PE ICE

Roadway
Elizabeth Scales, PE ICE
Chris Thompson, PE ICE
Daylen Stone, EIT ICE

Structures
Dan Wilkins, PE ICE
Paul Holshouser, PE ICE
Matt Nifong, PE ICE

Roadway Drainage/MS4
Ricardo Navarro, PE ICE
Elizabeth Scales, PE ICE

Hydrology/Hydraulics
Ricardo Navarro, PE ICE
Stuart Timmons, PE ICE
Jon Drysdale, PE LOWE

Erosion Control
Ricardo Navarro, PE ICE
Elizabeth Scales, PE ICE

Geotechnical
Michael Valiquette, PE ICE
Joe Bailey, PE ICE
Michael Simpson, PE ICE
Warren Bailey, PE RCI (HAZMAT) *
Peggy McGee RCI (HAZMAT) *

Traffic Analysis
Sameer Patharkar, PE LOWE
Blake Bredbrenner, PE LOWE
Josh Pruitt, EIT LOWE

Rainfall/Runoff Reporting
Zach Handac, PE ACC *

Environmental Services

NEPA
Barrett Stone ICE
Elaine Ceccacci R2T *

History
Julie Coco NSA *

Air Quality and Noise
Amanda Lester, PE R2T *

Ecology/Permitting
Neil Blackman, CWB COR
Barrett Stone ICE

Archaeology
Scot Keith NSA *

Freshwater Aquatics
Neil Blackman, CWB COR

Bat Surveys
Ryan Malloy ES

Utility Coordination and Survey

Utility Coordination
Frank Quattlebaum ICE
Gus Kretschmer ICE

SUE
Aidan Deegan, RLS ACC *

Survey
Matt Jennings, PLS LOWE
Ben Deslauriers, PLS LOWE
Tamar Moon, LSIT LOWE
{10 Field Crews}

LEGEND
UIG – United Infrastructure Group, Inc.
ICE – Infrastructure Consulting & Engineering, PLLC
LOWE – Lowe Engineers, LLC
NSA – New South Associates, Inc. *
R2T – R2T, Inc. *
COR – Corblu Ecology Group, LLC
ACC – Accura Engineering and Consulting Services, Inc. *
ES – Ecological Solutions, Inc.
RCI – Ranger Consulting, Inc. *

Key Individual DBE *

C.1.3. Proposal Schedule

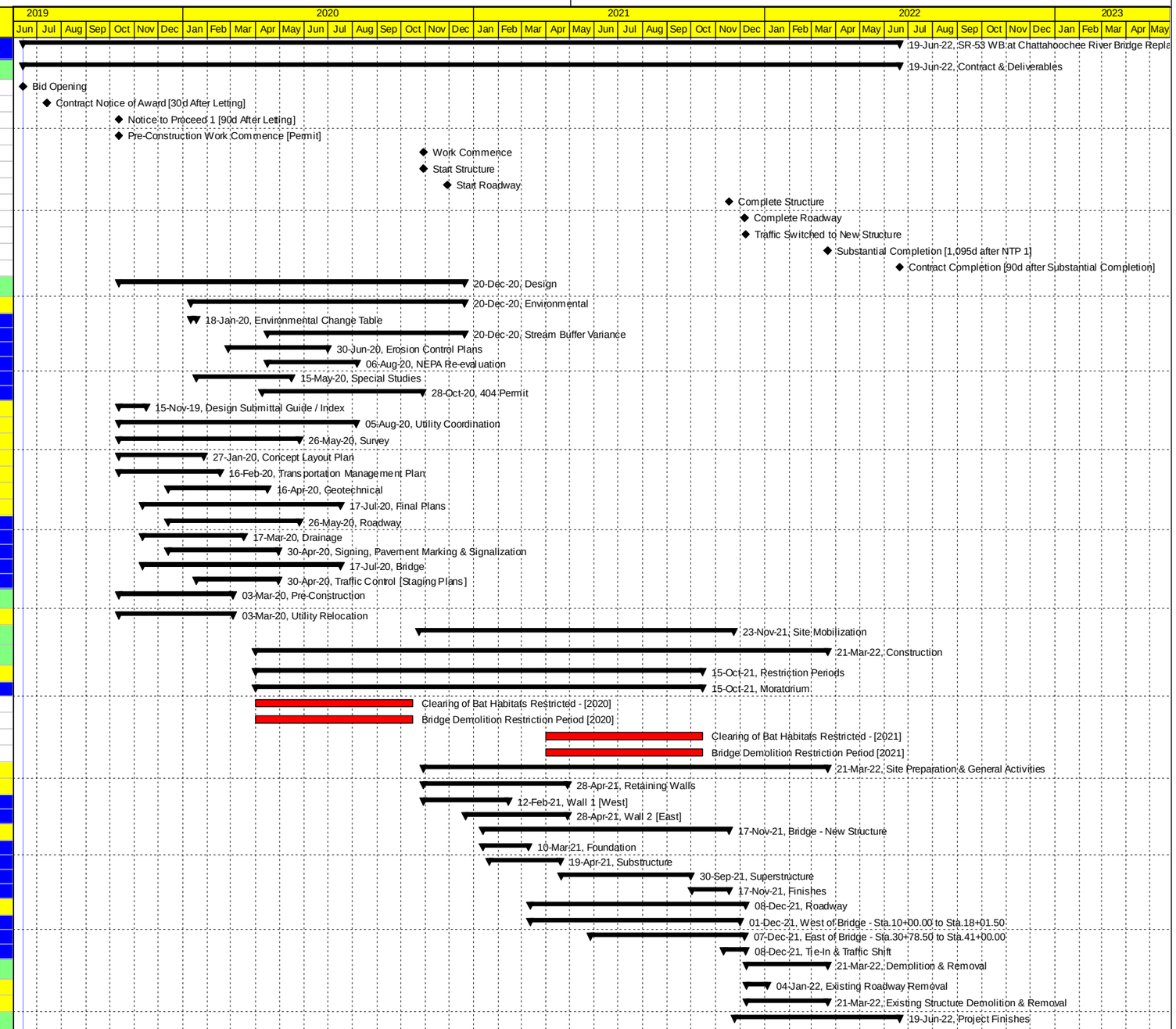
Project Name: SR-53 WB at Chattahoochee River Bridge Replacement [Proposal CPM] ver.1.0
Project ID: GDOT- PIN 0010212

GDOT - SR 53 Westbound at Chattahoochee River Bridge Replacement Project

Proposal CPM Schedule Summary

Print Date: 12-Jun-19

Activity ID	Activity Name	Original Duration	Start	Finish
SR-53 WB at Chattahoochee River Bridge Replacement [Proposal CPM		743d	14-Jun-19	19-Jun-22
Contract & Deliverables		1102d	14-Jun-19	19-Jun-22
A1010	Bid Opening	0d	14-Jun-19	
A1020	Contract Notice of Award [30d After Letting]	0d	14-Jul-19	
A1030	Notice to Proceed 1 [90d After Letting]	0d	12-Oct-19	
A5530	Pre-Construction Work Commence [Permit]	0d	12-Oct-19	
A1040	Work Commence	0d	29-Oct-20	
A4960	Start Structure	0d	29-Oct-20	
A4970	Start Roadway	0d	28-Nov-20	
A5450	Complete Structure	0d		17-Nov-21
A5460	Complete Roadway	0d		07-Dec-21
A5590	Traffic Switched to New Structure	0d		08-Dec-21
A1050	Substantial Completion [1,095d after NTP 1]	0d		21-Mar-22*
A1060	Contract Completion [90d after Substantial Completion]	0d		19-Jun-22
Design		424d	12-Oct-19	20-Dec-20
Environmental		341d	11-Jan-20	20-Dec-20
Environmental Change Table		7d	11-Jan-20	18-Jan-20
Stream Buffer Variance		245d	16-Apr-20	20-Dec-20
Erosion Control Plans		125d	27-Feb-20	30-Jun-20
NEPA Re-evaluation		111d	16-Apr-20	06-Aug-20
Special Studies		119d	18-Jan-20	15-May-20
404 Permit		201d	09-Apr-20	28-Oct-20
Design Submittal Guide / Index		35d	12-Oct-19	15-Nov-19
Utility Coordination		289d	12-Oct-19	05-Aug-20
Survey		220d	12-Oct-19	26-May-20
Concept Layout Plan		100d	12-Oct-19	27-Jan-20
Transportation Management Plan		120d	12-Oct-19	16-Feb-20
Geotechnical		120d	13-Dec-19	16-Apr-20
Final Plans		240d	11-Nov-19	17-Jul-20
Roadway		160d	13-Dec-19	26-May-20
Drainage		120d	11-Nov-19	17-Mar-20
Signing, Pavement Marking & Signalization		134d	13-Dec-19	30-Apr-20
Bridge		240d	11-Nov-19	17-Jul-20
Traffic Control [Staging Plans]		104d	18-Jan-20	30-Apr-20
Pre-Construction		90d	12-Oct-19	03-Mar-20
Utility Relocation		90d	12-Oct-19	03-Mar-20
Site Mobilization		268d	24-Oct-20	23-Nov-21
Construction		487d	01-Apr-20	21-Mar-22
Restriction Periods		563d	01-Apr-20	15-Oct-21
Moratorium		563d	01-Apr-20	15-Oct-21
A4820	Clearing of Bat Habitats Restricted - [2020]	198d	01-Apr-20*	15-Oct-20
A4830	Bridge Demolition Restriction Period [2020]	198d	01-Apr-20*	15-Oct-20
A5620	Clearing of Bat Habitats Restricted - [2021]	198d	01-Apr-21*	15-Oct-21
A5560	Bridge Demolition Restriction Period [2021]	198d	01-Apr-21*	15-Oct-21
Site Preparation & General Activities		339d	29-Oct-20	21-Mar-22
Retaining Walls		121d	29-Oct-20	28-Apr-21
Wall 1 [West]		68d	29-Oct-20	12-Feb-21
Wall 2 [East]		86d	21-Dec-20	28-Apr-21
Bridge - New Structure		217d	12-Jan-21	17-Nov-21
Foundation		42d	12-Jan-21	10-Mar-21
Substructure		64d	20-Jan-21	19-Apr-21
Superstructure		114d	20-Apr-21	30-Sep-21
Finishes		33d	01-Oct-21	17-Nov-21
Roadway		187d	12-Mar-21	08-Dec-21
West of Bridge - Sta.10+00.00 to Sta.18+01.50		182d	12-Mar-21	01-Dec-21
East of Bridge - Sta.30+78.50 to Sta.41+00.00		133d	27-May-21	07-Dec-21
Tie-In & Traffic Shift		18d	11-Nov-21	08-Dec-21
Demolition & Removal		65d	09-Dec-21	21-Mar-22
Existing Roadway Removal		12d	09-Dec-21	04-Jan-22
Existing Structure Demolition & Removal		65d	09-Dec-21	21-Mar-22
Project Finishes		137d	24-Nov-21	19-Jun-22



Remaining Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

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Project No: 0010212 | United Infrastructure Group with Infrastructure Consulting & Engineering | Design-Build Project

Georgia Department of Transportation | Hall County, Georgia

Contract Completion Date - 06/19/2022 | Substantial Completion Date - 03/21/2022 | Data Date - 14-Jun-19

UNITED INFRASTRUCTURE GROUP
INFRASTRUCTURE CONSULTING & ENGINEERING

C.2 Closure Durations, Interim Completion, Substantial Completion, and Final Acceptance Proposal - Form M

FORM M

Closure Durations, Interim Completion, Substantial Completion, and Final Acceptance Proposal

Proposer's Name: United Infrastructure Group, Inc. (the "Proposer")

The Proposer shall complete the fields below for each portion (segment) of the Work for which the Proposer will commit to an Interim Completion Deadline, Substantial Completion Deadline, and Final Acceptance Deadline.

Required fields are identified with an asterisk (*).

Table M-1: Milestone Deadlines

Milestone Deadlines	Duration
*Substantial Completion Deadline (must match the number of days shown on Form F)	No later than 1,095 Days after NTP 1
Final Acceptance Deadline	No later than 90 Days after Substantial Completion

Date: June 10, 2019

Proposer: United Infrastructure Group, Inc.

Signature: Thomas E. Rizzetta

Title: President