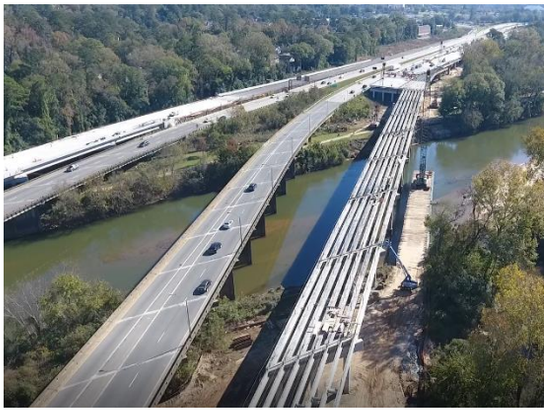
Plan Development Process



9/13/2022
Revision 3.6
Atlanta, GA 30308

GDOT
Georgia Department of Transportation

This document was developed as part of the continuing effort to provide guidance within the Georgia Department of Transportation in fulfilling its mission to provide a safe, efficient, and sustainable transportation system through dedicated teamwork and responsible leadership supporting economic development, environmental sensitivity and improved quality of life. This document is not intended to establish policy within the Department, but to provide guidance in adhering to the policies of the Department.

Your comments, suggestions, and ideas for improvements are welcomed.

Please send comments to:

State Design Policy Engineer

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DISCLAIMER

The Georgia Department of Transportation maintains this printable document and is solely responsible for ensuring that it is equivalent to the approved Department guidelines.

Revision History

Revision Number	Revision Date	Revision Summary
1.0	3/14	Revised and updated content; Reformatted entire manual
1.1	3/18/14	Removed Appendix N (a waiver is no longer needed to hold PFPR before environmental document is approved)
2.0	8/20/14	Reformatted format to new standard template Section 5.7 – Added information on project risk assessment & mitigation; formatting cleanup; added reference to temporary access for bridge removal/construction Section 5.16 – Added bullet on high risk project items; temp access for bridge removal/construction Section 5.17 – Changed Full Oversight to PoDI Section 6.4.6 – Inserted information on reusing sign structures Section 6.4.15 – made some minor corrections and updated to include contingency percentage Section 6.5.4 – Added section on Project Risk Assessment Meetings Appendix A -1 - Formatting fixes; Removed signature lines from cover page; updated MPO/Regional Commission section; removed references to Full Oversight and Highway Safety Manual; added Contingencies to cost estimate section Appendix A-2 - Formatting fixes; updated MPO/Regional Commission section; removed references to Full Oversight; added Contingencies to cost estimate section Appendix C - Minor corrections; added Organization Performance Management Office to Concept Meeting Invitation list; added District Preconstruction and District Traffic Engineer to section C.2 (Concept Report review team)
2.1	11/7/14	Chapter 4, Section 4.4 - Updates are clarification and updates to the Two Phase Preliminary Engineering policy. Chapter 6, Section 6.4.1, Hydraulic and Hydrologic Studies for Culverts – clarified some of the section

		& corrected a reference to section 6.4.11 (currently says 5.4.11) Section 6.4.15 - Added references to unit costs and additional information on estimating costs for items not priced Appendix A – Formatting and other minor corrections Appendix A-1 – Formatting and other minor corrections Appendix A-2 – Formatting and other minor corrections
2.2	12/15/14	Chapter 5 – Added a reference to the email address in the Office of Right of Way where Initial Concept Meeting and Concept Meeting invitations and concept level right-of-way cost estimates are to be sent. Appendix C - Added a reference to the email address in the Office of Right of Way where Initial Concept Meeting and Concept Meeting invitations and concept level right-of-way cost estimates are to be sent. Appendix D was updated to include the new email address for project managers and designers to electronically submit all design exceptions and design variances.
2.3	3/30/15	Definitions – Updated hyperlinks Chapters 1, 3, 6 and 7 – Updated hyperlinks Chapter 4 - Added a description of the PTIP process, added some information to various section for clarification and some minor corrections Chapter 5 – Changed Preliminary reports to Initial reports and updated hyperlinks Appendix A - Clarified activities related to Utility Coordination during preconstruction and Utility Relocation during construction; Added 408 decision to template and other minor changes Appendix A-1 – Minor formatting fixes Appendix A-2 - Clarified activities related to Utility Coordination during preconstruction and Utility Relocation during construction; Added section about USC 408 to permits section and other minor changes Appendix D – Updated hyperlinks
2.4	9/1/15	Chapter 5 -

		Section 5.7 - SRTA was added as a possible coordination agency. Section 5.16 - Potential conflicts with SRTA facilities/infrastructure (mostly utilities) was added. Section 5.18 –Language was added pertaining to Concept Report submittals and reviews. Section 5.19 – Language added to ensure Project Managers provide a written response to review comments. Chapter 6 – Section 6.3.2 - Clarification was made when a soil survey is and is not required for minor projects. Section 6.4.2 - PTS reports is now made available to industry representatives. Changed pavement design for minor projects to projects meeting the "Guidelines for Pavement Sections for Minor Projects." (Currently not clear as written.) Inserted a hyperlink for pavement design. The pavement package must be submitted two weeks prior to the PDC instead of one week. Inserted text that for projects containing bid alternates, the bid alternate pavement provisions should be incorporated into the plans prior to PFPR. Section 6.5.2 - Inserted text that if a project includes a PTS, the constructability review should be held before submitting the PTS to the Pavement Design Committee. Chapter 7 – Section 7.3.2 - Changed let date to base year in the following sentence, “Recommendations in the Pavement Evaluation Summary (PES) report must be reevaluated if the project base year is expected to be later than the expiration date stated in the report. Section 7.3.6 - Added soil survey is required for minor projects where construction is not on the existing alignment. (Currently not clear as written.) Chapter 8 – Section 8.1 - Language was revised. Section 8.5.2 – Who Should Attend the Meeting was revised. Section 8.5.5 – Documentation was revised.
2.5	10/2/15	Section 6.3.2 - revised to correct a typo.

		Section 6.4.16, State Highway System Coordination, was rewritten to update information on Revisions to State Highway System, and to include information on Projected State Routes and Improvements to Local Government Roads.
2.6	11/4/15	Added Chapter 10
2.7	5/27/16	Chapter 5 – Updated requirements for data book and Concept Report Chapter 6 – Updated property access notification and site investigation package procedures. Updated project risk assessment meeting procedures Chapter 7 – Revised utility relocation plans Chapter 9 – Updated minor info Chapter 10 – Updated minor info Appendix A - Report Cover Page was revised to include additional info under the State Environmental Admin signature line, Temporary State Route language was removed due to recent changes in state law, Info was added to the Environmental section, MS4 guidance was added, The Mainline Design Features table was revised, The Cost Estimate table was revised, The Attachments list was revised Appendix B - the Temporary State Route language was removed due to recent changes in state law. Appendix I - the Temporary State Route language was removed due to recent changes in state law.
2.8	7/18/16	Appendix A – Updated Concept Report process Appendix A-2 - Updated Limited Scope process
2.9	8/24/16	Appendix A-1 – Updated concept reports requirements and other minor formatting Appendix B - Updated minor formatting Appendix D - Updated minor formatting Appendix I - Updated minor formatting
2.10	9/15/16	Definitions – Added definitions and updated hyperlinks Chapter 4 – Updated process, changed State Scheduling Administrator to State Scheduling Engineer. Updated ROW Status Review Meeting and Let Status Review process. Updated manual hyperlinks. Chapter 5 – Added information regarding MS4. Added information regarding VE study. Updated manual hyperlinks. Chapter 6 - Updated information regarding MS4. Updated manuals hyperlinks

		Chapter 7 – Updated FFPR Team process. Updated manual hyperlinks. Chapter 8 – Updated manual hyperlink.
2.11	10/20/16	Appendix A – Updated Concept Report process Appendix A-2 – Updated Limited Scope process Appendix C – Updated minor info
2.12	2/6/17	Chapter 6 – Added septic tanks, drain fields and pipe condition survey to list of items to be discussed during field survey meeting. Added new section 6.2.3 Assessment of Aging Survey Databases
2.13	4/21/17	Appendix A – Removed Environmental Survey info from State Environmental Administrator. Removed PM 2.5 language. Updated minor formatting. Appendix A-1 - Removed PM 2.5 language. Appendix A-2 – Removed Environmental Survey info from State Environmental Administrator. Removed PM 2.5 language. Updated minor formatting Appendix D – Updated process throughout
2.14	5/23/17	Definitions – Removed reference to Full Oversight. Chapter 5 – Removed reference to Full Oversight. Updated Concept reports email Chapter 7 – Adds text for obtaining permission to utilize conditional certifications for letting. Removed all the references to Full Oversight Appendix N – New appendix template for obtaining permission to utilize conditional certifications for letting
2.15	5/30/17	Chapter 6 – Added information regarding Evaluation for Breaks in Access Control
2.16	9/1/17	Appendix A - Updated Concept Report process Appendix A-1 – Added Water Quality Requirements Appendix A-2 – Deleted Roundabout info. Updated MS4 Compliance info. Deleted Protected Species water quality mitigation info.
3.0	2/28/19	This is a PDP Committee Review and Update(or Revision) of the entire PDP Manual to bring it up to date with current GDOT polices, practices, and processes
3.1	9/20/19	Chapter 8 – Section 8.2.5 added design plan changes
3.2	12/16/19	Chapter 5 – IPES revisions Chapter 6 – IPES Revisions Appendix D – Updated minor info
3.3	3/10/21	Updated template to comply with corporate branding guidelines Definitions – Updated National Register of Historic Places reference

		Chapter 5 - Updated Guidelines for Pavement Sections for Minor Projects hyperlink . Revised section numbers 5.10 through 5.28 5.16 - Move various paragraphs from 5.17 to 5.16 to align with activities occurring before CTM therefore the CTM final report is comprehensive 5.17 - Clarification on attendees expectations and requirements Clarification on meeting minutes and responses 5.18 & 5.19 - General wording updates Chapter 6 Updated inlay/overlay references Added project pavement designs reference to PES Updated hyperlinks Chapter 7 DPPL updated from DPPE/DPPC Appendix A Updated RTOPs section with new contact info and wording regarding signalized intersections Minor edits to Design Features Table for Through Lanes and Auxiliary Lane Updated blue guidance Appendix A-1 Added email inbox to instructions. Updated blue guidance Appendix A-2 Added email inbox to instructions Added 3R Section to report Updated RTOPs section with new contact info and wording regarding signalized intersections Minor edits to Design Features Table for Through Lanes and Auxiliary Lane Updated blue guidance Appendix B Added email inbox to instructions and other submittal requirements. DPPL updated from DPPE/DPPC Updated blue guidance Appendix C DPPL updated from DPPE/DPPC Appendix I Added email inbox to instructions and other submittal requirements Updated blue guidance

3.4	6/25/21	Appendices A, A-1, A-2, B and I – Updated to match ROADs templates (dated 11.20.20) Appendix D – Replaced Project of Division Interest (PoDI) references with Design Variances/Exceptions and other minor corrections
3.5	4/19/22	Definitions: GDOT Funding Allocation Tool and Let Ready “LRY” TPro code added Chapter 4.2 Programming, New section 4.2.1 New Appendix P for GDOT Funding Allocation Tool added
3.6	9/13/22	Chapter 1 – Updated GDOT hyperlinks Chapter 3 -– Updated GDOT hyperlinks Chapter 6 – Update to Wall Foundation Investigation (WFI) and Retaining Wall info. Updated GDOT hyperlinks Chapter 7 – Update to Mechanically Stabilized Earth (MSE) wall info. Updated GDOT hyperlinks. Chapter 9 – Updated GDOT hyperlinks Chapter 10 – Updated GDOT hyperlinks Appendix A – Updated template to reference ROADs Appendix A-1 – Updated template to reference ROADs Appendix A-2 – Updated template to reference ROADs Appendix B – Updated template to reference ROADs Appendix H – Updated GDOT hyperlinks Appendix I – Updated template to reference ROADs

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List of Effective Chapters

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Chapter 4. Project Programming and Scheduling	3.1	4/19/22
Chapter 5. Concept Stage	3.0	3/10/21
Chapter 6. Preliminary Design	3.1	9/13/22
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Definitions

Authorization of a Project - The process by which funds are approved for various stages of a project's development, such as design, right-of-way purchase, or construction.

American Association of State Highway and Transportation Officials (AASHTO) – An organization made up of State's Department of Transportation including Puerto Rico and the District of Columbia.

Avoidance and Minimization Measures Meeting (A3M) – Meeting between Design and environmental specialists to discuss avoidance & minimization of impacts to environmental resources identified within the project area. The Project Manager schedules once all environmental resource delineations are sent to Design and after the first run of preliminary cross sections.

Baseline Schedule – The Baseline Schedule is a fixed schedule established at the conclusion of the Schedule Review Committee meeting used to track project status, review project history, learn reasons for delay, and to evaluate how well proposed schedules are met.

Bicycle and Pedestrian Accommodation Policy – See Complete Streets definition below.

CCTV – Closed Circuit Television is a technology used to detect and monitor traffic or any other facility through the use of cameras placed in key locations. Advanced systems use the cameras to detect traffic patterns and simultaneously adjust traffic signal timing plans to optimize an intersections' capacity.

Complete Streets – A policy of the Georgia Department of Transportation (GDOT) to routinely incorporate bicycle, pedestrian, and transit (user and transit vehicle) accommodations into transportation infrastructure projects as a means for improving mobility, access and safety for the traveling public. See Chapter 9 of the GDOT Design Policy Manual for more information.

Concept – A consensus beginning recommendation, idea, or starting point of a transportation solution to an identified transportation need. The objective of the concept stage is to develop a concept report that will describe and recommend project footprint, including logical termini.

Construction Work Program - A listing of State and Federally funded projects approved by the Transportation Board with one or more elements, Scoping, Preliminary Engineering, Right-of-Way Acquisition, or Construction, scheduled in the current and next nine (9) years fiscal years.

Consultant Acquisition Plan (CAP) – List of potential projects for outsourcing to consultants per fiscal year.

Consultant Pre-qualification – The Department has policies for the qualification of consultants prior to consideration for providing engineering services. A copy of the policies, definitions and application forms for consultant qualification are available in the Department's Consultant Prequalification Manual, located on the Office of Transportation Services Procurement website.

Contract Authorization Form (CAF) – A Procurement form used to authorize funds for a contract.

Controlling Criteria – Those controlling design guidelines, as defined by AASHTO and accepted by the FHWA, that a project should be designed to meet good engineering judgment. A design exception will need to be obtained when one or more of these controlling criteria cannot be met. See Chapter 2 of the GDOT Design Policy Manual for more information.

Context Sensitive Design - Context Sensitive Design is a collaborative approach to design that weaves together design principles, environmental concerns and community quality of life into one complete package. It balances the concerns and desires of the community for their environment and way of life with the sound engineering practices endorsed by AASHTO. It also firmly involves the public in the decision-making process to encourage ownership and responsibility for the final product.

Cooperating Agency - As defined in the Council on Environmental Quality's (CEQ) Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (NEPA), "any organization other than a lead agency which has jurisdiction by law or special expertise with respect to any environmental impact involved in ...[a] major Federal action significantly affecting the quality of the human environment." The CEQ emphasizes that agency cooperation should begin early in the NEPA process.

Design-Build – Combining of design engineering and other preconstruction services with construction services into a single contract. It is regulated at GDOT by state statute, FHWA regulations, and by State Transportation Board rules.

Design Exception – If design features of a new construction or reconstruction project do not meet controlling criteria in the current edition of the AASHTO *Green Book* and the AASHTO publication, *A Policy on Design Standards – Interstate System,* as adopted by the Federal Highway Administration (FHWA), approval to build or retain the feature is required. For Projects of Division Interest (PoDI) projects, the FHWA is the agency which grants design exceptions. For all other projects, both Federal and State funded, the Chief Engineer grants exception.

Design Manager – The individual appointed by the Project Manager and charged with the coordination and timely delivery of a particular design phase.

Design Phase Leader – The individual charged with the responsibility to design the Roadway portion of the project and compile the various activities from other phase leaders.

Design Variance – Whenever a new construction or reconstruction project contains design features that are not controlling criteria and do not meet GDOT standard criteria, a design variance shall be requested from the Chief Engineer.

Electronic Data Guidelines (EDG) – Guidelines that set forth criteria, procedures and standards for computer and/or other electronic data used in the preparation of plans and other documents.

Environmental Justice (EJ) – The fair treatment and meaningful involvement of all people regardless of race, color, or economic status with respect to the development, implementation and enforcement of environmental laws, regulations and policies. Fair treatment means that no group of people shall bear a disproportionate share of the negative environmental impacts that result from a particular project or program and shall share in the benefits derived from such projects and programs.

Exempt Projects – A Federal-aid project that is not subject to FHWA design oversight. Exempt projects as used in this document, unless otherwise noted, do not refer to Air Quality Exempt. However, the FHWA retains approval authority for the NEPA document. For further information concerning Exempt Projects see POLICIES AND PROCEDURES 2410-1.

Federal Emergency Management Agency (FEMA) – The Federal agency in charge of the enforcement of Executive Order (EO) 11988. The primary function of the agency is to avoid long and short-term adverse impacts associated with the occupancy and modification of floodplains and to restore and preserve the natural and beneficial values served by floodplains. The agency assesses floodplain hazards in all construction of Federal and Federally Aided buildings, structures, roads, or facilities, which encroach upon or affect the base floodplain.

Federal Highway Administration (FHWA) - An agency of the U.S. Department of Transportation and is headquartered in Washington, D.C., with field offices across the United States. The FHWA administers the Federal-Aid Highway Program. The FHWA Georgia Division webpage is available at: FHWAGA

Federal Transit Administration (FTA) – An agency of the U.S. Department of Transportation, the FTA helps cities and communities nationwide provide mobility to their citizens. Through its grant programs, FTA provides financial & planning assistance to help plan, build, and operate rail, bus & para-transit systems.

FTA ITS Regulation – The FTA companion regulation to FHWA's ITS Rule 940, which is functionally the same as the FHWA rule, but it applies to Federally funded transit projects.

Final Field Plan Review (FFPR) – A review of final plans and specifications, special provisions, permits, right-of-way agreements and utility conflict resolutions. The Final Field Plan Review (FFPR) shall be held a minimum of 24 weeks prior to letting.

Fiscal Year – The State of Georgia fiscal year is July 1 to June 30. All budgets and state programs, including transportation plans, adhere to this fiscal year. The Federal fiscal year is October 1 to September 30.

FleetAnywhere Traffic Interruptions Reports (TIR), Roadway Characteristics (RCFILE), Geographic Information System (GIS), and Archive Store - These databases contain maps, reports, photos, and plans all accessible through TREX. All of the information shown in TREX is directly from queries to the databases in real-time.

Force Account – The direct performance of highway construction work by a State transportation department, a local government, a railroad, or a public utility by the use of labor, equipment, materials, and supplies furnished by them and used under their direct control.

Functional Classification - A grouping of roads, streets and highways into an integrated system, within which, each roadway facility is ranked by its relative importance and function in providing access and mobility within the integrated system. Based on guidelines issued by the FHWA, the Department ranks roadways as local roads, major or minor collectors, and minor or principal arterials. Functional Classification Systems are developed, in cooperation with local officials, for each county and city and submitted to the FHWA for approval.

GDOT Funding Allocation Tool - The GDOT Funding Allocation Tool was developed to provide improved guidance on the strategic decision-making process related to funding sources while considering risks and constraints of the capital program.

GDOT set out to design an approach to better inform the initial funding allocation decision and to revisit the decision at four (4) strategic milestones throughout the Plan Development Process (PDP). This enhance communication effort ensures that the Planning and Delivery offices are aligned while reassessing funding decisions as part of an annual, STIP and 10-year plan.

Georgia Environmental Policy Act of 1991 (GEPA) – This act (Senate Bill 97) passed during the 1991 session of the Georgia Legislature, requires the evaluation and disclosure of environmental effects of proposed state (funded) actions. In general, a proposed action by a government agency must be assessed by the responsible official (the Commissioner is the responsible GDOT official) of that agency to determine and document whether or not the proposed action may significantly affect the quality of the environment. In the event of a determination of a significant adverse effect, the act requires an evaluation of the pros and cons of alternatives that would avoid the adverse impact as well as measures to minimize harm.

Georgia Erosion and Sedimentation Act [Amended 2003] – Establishes the plan for the control of soil erosion and sedimentation resulting from a land-disturbing activity. Reference – the Official Code of Georgia Annotated Volume 10, Title 12.

GeoTRAQS – A web application that connects to the following GDOT databases: Transportation Projects (TPro), Bridge Inventory Maintenance and Management Systems (BIMMS).

Hardship Acquisition – To purchase right of way in advance to alleviate a hardship to the owner due to health, safety, or financial reasons.

Intelligent Transportation Systems (ITS) – Improves transportation safety and mobility and enhances American productivity through integration of advanced communications technologies into the transportation infrastructure and in vehicles. Intelligent Transportation Systems encompass a broad range of wireless and wire line communications-based information and electronics technologies.

Intersection Control – Any vehicular or pedestrian traffic control device at two or more intersecting roadways, such as a signal, flashing beacons, or a roundabout.

ITS Architecture – A framework within which a system can be built. Requirements dictate what functionality the architecture must satisfy. Architecture functionally defines what the pieces of the system are and the information that is exchanged between them. Architecture is functionally oriented and not technology-specific, which allows the architecture to remain effective over time. It defines "what must be done," not "how it will be done." It may be statewide (not required), regional or project (one of the latter two required).

ITS Rule 940 – Project receiving Federal funds to follow a systems engineering analysis, commensurate with the project scope, for any project that moves into design. If the project moves into design prior to the completion of a regional architecture, a project architecture is required to support the system engineering analysis.

Interchange Justification Report (IJR) - An analysis prepared in accordance with FHWA guidelines, for any proposed new interchange on the Interstate System. The IJR is typically an Office of Planning activity prepared with the assistance of the Division of Engineering. Due to its nature, the IJR provides planning level information for a tentative location with the concept displayed on aerial photography. The Office of Planning submits the IJR to FHWA for consideration.

Interchange Modification Report (IMR) - An operational analysis prepared in accordance with FHWA guidelines, for the addition or modification of access points to an existing interstate interchange. The IMR addresses interstate access point changes that are needed to improve operations and safety of an existing interchange. The IMR is a project specific activity, prepared with the assistance of the Office of Planning. Due to its nature, the IMR is engineering oriented, providing detailed analyses and preliminary design plans. The Office of Planning submits the IMR to FHWA for consideration.

Local Administered Project Manual (LAP) – This Manual sets forth the current procedures and steps necessary for local Governments to administer Federal-aid projects in accordance with the policies and objectives of Federal and State laws.

Let Date - The advertised date that construction bid proposals will be opened for GDOT projects. Also see Management Directed Let Date.

Let Ready "LRY" TPro code - For Capital Program Projects only with no outstanding action items such as STIP Amendments/Modifications where certifications have been received along with permits, if applicable. Where fiscal year funding is in a future Let Date year and where the next step is merely to submit final plans to engineering services and CBA. Projects that meet the above criteria shall be acceptable as "Let Ready" and coded as such in TPro.

Local Government Project Agreement (LGPA) – The LGPA delineates the local government's role in advancing a project through design to construction. The local's role may include such items as responsibility for design, public and private utility relocations, purchasing of right-of-way, letting, construction supervision, or construction. The LGPA also serves to indicate the local government's support and financial commitment to the proposed project. (The Office of Financial Management normally prepares the LGPA). As of 2006, see Project Framework Agreement (PFA).

Location and Design Approval (L&D): For Federal-aid projects, Location and Design Approval is granted by the FHWA with their approval of the project's environmental document acknowledging that the Department has selected an appropriate location and has committed to a specific design of the proposed project.

For State funded projects, Location and Design Approval is granted by the Chief Engineer with the certification that the Department has completed the required public involvement process, the GEPA documentation, has selected an appropriate location, and has committed to a specific design of the proposed project.

Local Maintenance and Improvement Grant Program (LMIG) - This program provides funding for improvements on Georgia's county and city roads.

Logical Termini - A term used to describe the beginning and ending points of a proposed transportation improvement and whether the selection of these points has a rational basis when viewed in light of the project's need and purpose. Federal regulations [23 CFR 771.111(f)] require that projects connect logical termini and be of sufficient length to address environmental matters on a broad scope; have independent utility, that is, be usable and be a reasonable expenditure even if no additional improvements are made in the area.

Low Impact Bridge Program (LIBP) – A streamlined bridge replacement program focusing predominantly on local bridges with minimal impacts. Such projects require, have minor environmental pacts, require virtually no approach roadway work, and can be closed to traffic during construction. Specific procedures and policies regarding the LIBP usage at GDOT are contained within the LIBP Manual.

Major Investment Study (MIS) – A broad transportation alternatives study performed as a part of the NEPA process for a major Federal-aid investment within a Metropolitan Planning Organization (MPO) that provides information about multi-modal options, estimated costs, potential impacts, and potential benefits. This study is a collaborative effort of the MPO, governmental agencies, and public interest to develop a design concept and scope of investment for a MPO's transportation plan. The MIS is not usually a separate stand-alone document.

Major ITS Project – Any ITS project that implements part of a regional ITS initiative that is multi-jurisdictional, multi-modal, or otherwise affects regional integration of ITS systems.

Major Project – A project that significantly changes the function of the facility being improved requires the acquisition of significant amounts of right-of-way, has a significant impact on abutting property, has significant changes in travel patterns, or has significant social, economic, or environmental effects. A Major Project will not follow "Time Saving Procedures." A Major Project will require a public hearing or the opportunity for a public hearing and Location and Design Approval.

Management Directed Let Date – The proposed let date assigned based on when the project will be ready to Let. The Management Directed Let Date is maintained in TPro and should match the baseline Let date in P6. Also see Let Date.

Management Directed Right-of-Way Date – The proposed right of way authorization date. The Management Directed Right-of-Way Date is maintained in TPro and should match the baseline ROW date in P6

Metropolitan Planning Organization (MPO) – A local government agency that is in charge of the proper transportation planning of a metropolitan area. The MPO performs its mission through a series of committees composed of local professional planning staffs, GDOT planning and design staffs (in cases where the MPO crosses state lines, the DOT staffs of the affected states), local elected officials (both city and county), and public input.

Minor Project – A project that does not require a significant amount of right-of-way and whose environmental analysis can be accomplished with a "Categorical Exclusion." Examples of projects that are generally considered minor are Bike/Pedestrian projects, TEA and Ride Sharing projects, Transit enhancements, Transportation studies using capital funds, Turn lane, Intersection improvements, Signal projects, Bridge rehabilitation, Bridge replacements, Signage, Lighting, Landscaping, Traffic barriers, Guardrail projects, Greenway projects, Recreational trail projects, and Maintenance resurfacing projects less than $1million.

Municipal Separate Storm Sewer System (MS4) - An EPD permit, GAR041000, that regulates the discharges of stormwater runoff from infrastructure owned and operated by GDOT within Georgia's MS4 areas. For more information see Chapter 10 of the GDOT Manual on Drainage Design for Highways.

National Environmental Policy Act of 1969 (NEPA) – A Federal law requiring compliance with a variety of Federal environmental laws to insure that information on environmental impacts of any Federally funded action is available to public officials and citizens before decisions are made and before actions are taken.

National Highway System (NHS) –The NHS is an interconnected system of principal arterial routes which serve major population centers, international border crossings, ports, airports, public transportation facilities, intermodal transportation facilities, major travel destinations, national defense requirements and interstate/interregional travel. As of August 2019, the NHS contained 219,391 miles of highways, including all Interstate routes, a large percentage of urban and rural principal arterials, the defense strategic highway network, and major highway connectors.

Overhead/Subsurface Utility Engineering (SUE) Investigations – Employ an established engineering technology that can provide precise horizontal and vertical locations of underground and overhead utilities to produce an accurate depiction of the underground and overhead utility infrastructure. The techniques of SUE may be appropriate for certain Department projects where enhanced Quality Levels are determined to be essential for the design analysis of road improvement and widening projects. Please refer to the State Utilities Office website for additional information regarding SUE and how it is applied to Department projects.

Pavement Type Selection – a process where the most effective pavement type, or alternates, are selected for a specific project or corridor based on a combination of pavement design analyses, life cycle cost analyses, and the consideration of project-specific details. This decision is documented in a pavement type selection (PTS) report which is prepared based on guidelines presented in Chapter 10 of the GDOT Pavement Design Manual.

Phase I Preliminary Engineering – This phase is to include all activities through concept approval and environmental review and approval from FHWA; this phase will be shown in TPro as 'SCP'.

Phase II Preliminary Engineering – This phase is to include all activities after environmental approval, to include the development and approval of right of way plans and final design; this phase will be shown in TPro as 'PE'.

Phase Leader – Individual in charge of providing a specialized task.

Plans, Specifications, and Estimates (PS&E) – A plan, specification and estimate review performed on selected projects by the FHWA, including all Projects of Division Interest (PoDI). For PoDI, the Office of Construction Bidding Administration will prepare the PS&E package with input from the Project Manager.

Plan Presentation Guide (PPG) – A guide that sets forth the criteria for the electronic appearance and format of plans. These criteria establish, define, and clarify procedures and standards for plans to be used by the Department. These criteria are not intended to establish design processes; rather, they are guidelines to assure that all drawings have a uniform appearance and include all pertinent information, avoid unnecessary information, and reflect high quality workmanship.

Practicable Alternatives Review (PAR) report – A report prepared for those projects that require an individual U. S. Army Corps of Engineers permit providing an analysis of alternatives to avoid and to minimize harm to jurisdictional waters of the US.

Preliminary Field Plan Review (PFPR) – A field review of the preliminary plans and draft special provisions conducted by or for the Office of Engineering Services prior to the development and approval of right-of-way plans. This review occurs after the approval of the environmental technical studies. The emphasis of this review should be the coordination of right-of-way, utilities, bridges and walls, constructability, signs and signals, drainage, and appropriate environmental (including erosion control). For Major Projects, the approval of the PFPR Report defines the beginning of Final Design and the completion of the right-of-way plans. The PFPR shall be held a minimum of 16 weeks prior to Right of Way authorization.

Prepare Plans for Shelf – Projects may be designated as Prepare Plans for Shelf if funds are not available in the same fiscal year as the approved baseline schedule and the Chief Engineer has decided to move forward with the project.

Project Framework Agreement (PFA) - A binding legal agreement between the Department and the Local Government which contains straightforward project phase participation commitments. See POLICIES AND PROCEDURES 7120-3.

Project Justification Statement –
A brief statement provided by either the Office of Planning, Office of Bridge Design, or the Office of Traffic Operations, identifying and explaining the major issue(s) that the project is intended to address. The Project Justification should include any designated Program(s) that the project is included, how the project originated, brief summary of the major issue(s) to be addressed by the project, explanation of the proposed project limits, and performance goal(s).

Project Management System – Currently, TPro, a project database used by the Department as a data management tool for storing, updating, and reporting data in the Department's computer system. Department managers use reports from this database for reviewing and evaluating plan development progress and in making program decisions.

Project Manager (PM) – The person in responsible charge of a project who makes the day-to-day scope, schedule and budget decisions and is responsible for steering, coordinating, and managing a project through the Plan Development Process and through the construction phase. The PM must possess and maintain excellent communications and strong organizational skills to ensure projects are ready-to-let on time and constructed on time.

Project Nomination Review Committee (PNRC) – The committee, chaired by the State Transportation Planning Administrator, appointed to review projects nominated for inclusion into the Department's Construction Work Program. The committee consists of the Director of Construction, Director of Engineering, Director of Operations, State Transportation Planning Administrator, Director of Local Grants and Field Services, and as a non-voting member, the Chief Engineer. See POLICIES AND PROCEDURES 7120-4.

Projects of Division Interest (PoDI) - Projects identified by the FHWA GA Division that represent an elevated risk (threat or opportunity) to the Federal-aid highway program. These projects have an individual project Stewardship and Oversight Plan (i.e., PoDI plan), that outlines the level and type of involvement (reviews, approvals, or authorizations) that FHWA will have on a project.

Project Schedule – The project schedule includes the planned start and finish dates, based on confirmed assignments and required resources, for each detail activity necessary for the completion of the Plan Development Process. The approved project schedule, called the schedule baseline, provides the basis for measuring and reporting schedule performance.

Project Team – Is composed of individuals assigned to the Project Manager that possess the various skills necessary to complete the development of a project from concept through final acceptance.

Property Information Form (PIF) – A document submitted to the Historic Preservation Division (HPD) and the lead Federal agency (generally Federal Highway Administration [FHWA] or the U.S. Army Corps of Engineers [USACE]) which discusses the qualities and characteristics of a historic property

and is used to determine whether a property not already listed in the National Register of Historic Places would qualify for listing. This document serves as the "Request for Determination of Eligibility" for historic properties.

Protective Buy – To purchase right of way in advance to protect the proposed roadway corridor of a programmed project against new development, thereby reducing future right of way and project costs.

Public Interest Determination Policy and Procedure – The Public Interest Determination Policy and Procedure is the Department's formal procedure to comply with O.C.G.A. 32-6-170 and 32-6-171. Under these Code Sections, the Department has the authority to pay or participate in the costs of utility relocation work provided it is in the public interest, expedites staging, and the utility relocation work is put into the construction project for the contractor to perform. The Procedure is used at the Concept Team Meeting and the Preliminary Field Plan Review to determine the Utility Risk Management Plan for the project in question. The Policy and Procedure are based on the identification, assessment, and allocation of risks to the Project's scope, schedule, budget, and staging if the third party (utility company) is allowed to perform the utility relocation work. The Policy and Procedure defines for which projects this process should be utilized.

Quality Control (QC) - Refers to the daily processes/practices/checks in place to control the quality of the engineering, design, plans and cost estimates, and any additional work products needed for delivery as they are being developed. This includes such activities as providing constant training and supervision of subordinate design engineers by the Design Phase Leader and Project Manager, providing clear decisions and directions to subordinate design engineers, the immediate review of completed activities for accuracy, completeness, and attention to detail, and immediate and accurate documentation of all decisions, assumptions, and recommendations.

Quality Assurance (QA) - Refers to the formal high-level review of all work products by an experienced engineering manager at strategic points in the plan development process to ensure and certify that the plans and cost estimates meet established quality standards and provide for appropriate flexibility and cost savings. Essentially, quality assurance is the process of enforcing quality control standards at strategic points in project development. Quality Assurance is the responsibility of the Office Head and the Assistant Office Head. A series of QA Reviews are conducted by the Assistant Office Head during project development with the support of the Project Manager, consultant (if applicable), the Design Phase Leader, and appropriate members of the Project Team.

Real Estate Outgrant – A legal document issued by the US Army Corps of Engineers (USACE) that allows for the alteration of USACE owned property.

Record Plan Set – Project plans or layouts that serve as a snapshot of the design at a particular project milestone. Record plan sets will be stored in the project's electronic file in a specific location in ProjectWise for project team members to easily locate and use. A record plan set submission will include PDF files (plan sheets or layouts) along with design files (CAD, etc.) used to create the PDFs. Record plan sets should set the context for coordination among the project team, particularly between the design and environmental practitioners. See Appendix O for additional information.

Regional Transportation Plan (RTP) – A long range, multi-modal plan for defined geographic regions in the state. The RTP addresses the region's transportation needs over a twenty (20) year period and is developed in cooperation with local, state and Federal planning partners and the general public. Federal regulations require regional transportation plans to ensure a transportation system that serves economic, mobility and accessibility needs, and in non-attainment areas to conform to federal air standards. A RTP must include a financial plan demonstrating the consistency of proposed transportation investments with existing and projected sources of revenue. The RTP must be updated at least every three years.

Request for Determination of Eligibility (DOE) – Refers to a document submitted to the Historic Preservation Division (HPD) of the Georgia Department of Natural Resources and the lead federal agency (typically FHWA or the USACE) which discusses the qualities and characteristics of a historic property or archaeological site and is used to determine whether a site not already listed in the National Register of Historic Places (HR) would qualify for listing and thus require protection under Section 4(f) and consideration under Section 106. For historic properties, a Property Information Form (PIF) satisfies the requirement for a DOE.

R.O.A.D.S. (Repository for Online Access to Documentation and Standards) – Refers to the centrally located, online access to GDOT design-related documents, standards, and applications. Included on the new web page: GDOT Design Policy and Procedure Manuals, Electronic Data Guidelines, Plan Presentation Guide, Environmental Procedures Manual, Software specific files and documentation, etc.

Schedule Review Committee (SRC) – A committee chaired by the State Scheduling Engineer that reviews and approves all submitted project schedules. Other members of the committee consist of the Director of Engineering, the Program Control Office Head, and the Program Delivery Office Head.

Scoping Phase – Also referred to as Phase I PE. Is part of a process in which 'major' projects, as defined in the PDP manual, will have their Preliminary Engineering phase split into two steps: Phase I Preliminary Engineering and Phase II Preliminary Engineering.

Section 404 Permit – Authorization required by provisions of the Clean Water Act of 1977 before fill can be placed or dredging can take place in waters of the United States (includes wetlands, streams and open waters).

Section 404 (b)(1) Guidelines – Guidelines used to evaluate proposed discharges of dredged or fill material in waters of the United States as required by provisions of Section 404 of the Clean Water Act of 1977.

Section 408 - Section 14 of the Rivers and Harbors Act of 1899 and codified in 33 USC 408 (commonly referred to as "Section 408") authorizes the Secretary of the Army, on the recommendation of the Chief of Engineers of the US Army Corps of Engineers (USACE), to grant permission for the alteration or occupation or use of a USACE civil works project if the Secretary determines that the activity will not be injurious to the public interest and will not impair the usefulness of the project.

Section 4(f) – A provision of the USDOT Act of 1966 which requires that before land from a significant publicly owned park, recreation area, national wildlife refuge or any NR eligible historic site can be converted to a transportation use it must be demonstrated that there is no feasible and prudent alternative to this use and that the project includes all possible planning to minimize harm.

Section 6(f) – A provision of the Land and Water Conservation Fund Act which requires that before land from a site which was purchased or improved with funds administered under this act can be converted to another use, the Secretary of the Interior must approve the conversion and replacement land must be provided.

Section 7 – A provision of the Endangered Species Act that requires the consideration of project impacts on Federally threatened and endangered species and their designated critical habitat.

Section 106 – Refers to that section of the National Historic Preservation Act of 1966 which requires that with all Federal undertakings, consideration be given to the effects and the minimization of harm to historic resources (architectural and archaeological) that are listed in or eligible for listing in the National Register of Historic Places.

Social, Economic, and Environmental Effects (SEE) – Direct and indirect impacts to the community, highway users, and the environment.

Specific Activity Agreement (SAA) - A binding legal agreement between the Department and the Local Government that contains current phase cost estimates and project activity deliverable schedules and may have superseded PFA commitments due to real site condition changes or STIP commitment/schedule changes. See POLICIES AND PROCEDURES 7120-3.

State Highway Improvement Plan (SHIP) Committee – See Project Nomination Review Committee (PNRC). The SHIP Committee no longer exists.

State Implementation Plan (SIP) – The SIP is prepared by the state designated agency (Environmental Protection Division [EPD] of the Department of Natural Resources) containing procedures to monitor, control, maintain and enforce compliance with National Ambient Air Quality Standards (NAAQS). Transportation plans must be in conformity with air quality goals established in the SIP. Conformity with the SIP is a condition of Federal funding of transportation capacity projects in non-attainment areas.

State Transportation Improvement Program (STIP) – The State Transportation Improvement Program includes a list of Federally and State funded priority transportation project elements (Scoping, Preliminary Engineering, Right-of-Way, or Construction) proposed to be carried out in the current and next three years (a 4 year program). It is financially constrained (dollar value of projects programmed is equal to the anticipated revenues per program year) and includes projects consistent with the Statewide Transportation Plan. The STIP is approved by the FHWA and Federal Transit Administration (FTA) and includes all TIP projects as adopted by the Metropolitan Planning Organizations (MPO) and approved by the Governor.

Subject Matter Expert (SME) - The individual who exhibits the highest level of expertise in performing a specialized job, task, or skill within the organization; anyone with in-depth knowledge of the subject.

Systems Engineer – A person having responsibility for overseeing the Systems Engineering process required by ITS Rule 940.

Systems Engineering – An approach to building systems that enhances the quality of the end result.

Team Leader – The individual appointed by the Project Manager and charged with the responsibility to coordinate the various activities of the Plan Development Process such as a concept meeting.

Time Saving Procedures – Procedures by which a project is advanced to the right-of-way authorization stage, eliminating the public hearing requirements. Time Saving Procedures are appropriate for those projects for which the right-of-way requirements are not significant and a "Categorical Exclusion" is the appropriate level of environmental analysis. A statement of the appropriateness of time saving procedures will be addressed in the project Concept Report.

TOPPS - Transportation Online Policy and Procedure System. Now GDOT Policy and Procedures.

TPro – The current project management, reporting, and scheduling system portion of the Transportation Information System (TIS) used by GDOT to effectively utilize personnel, fiscal and material resources. TPro is sometimes referred to as the "Project Management System."

Traffic Engineering Report - A document based on a detailed evaluation and study of an 'at-grade' intersection based on current traffic volumes, existing lane configurations, identification of problems associated with traffic control, road geometry (turn lanes), sight distance issues, and crash data evaluation. The report will include a signal warrants analysis and concept signal design (if warranted). Existing condition sketches and figures for any proposed modifications will also be included.

Transportation Improvement Program (TIP) – A short term document covering at least 4 years, the current year plus the next 3 years in the urbanized areas of the State. It is financially constrained, conforming to the State Implementation Plan (SIP) in air quality non-attainment areas and updated at least every 2 years. The TIP includes the list of priority project elements (Scoping (SCP), Preliminary Engineering [PE], Right-of-Way [R/W], and Construction) to be carried out in each program year. Projects included in the TIP must be consistent with the Transportation Plan adopted by the Metropolitan Planning Organization (MPO). The Governor approves each TIP.

Transportation Management Plan (TMP) – Section 630.1012 of the Work Zone Safety and Mobility Rule states that for significant projects the State shall develop a TMP that consists of a Temporary Traffic Control (TCC) plan and addresses both Transportation Operations (TO) and Public Information (PI) components. For individual projects or classes of projects that the State determines to have less than significant work zone impacts, the TMP may consist only of a TTC plan. However, states are encouraged to also consider TO and PI issues for these projects.

Transportation Reporting, Analysis and Querying Systems (TRAQS) – A reporting and performance management system that allows you to view and analyze active system reports and performance measure data.

Turnkey Project – A term which describes the timely prosecution of preliminary engineering activities by a professional design/engineering company, to produce a set of final construction plans and contract documents for letting by the Department.

Two Phase Preliminary Engineering (Scoping Phase) – Is a process in which 'major' projects, as defined in the PDP manual, will have their Preliminary Engineering phase split into two steps: Phase I Preliminary Engineering and Phase II Preliminary Engineering.

Utility - All privately, publicly, or cooperatively owned water distribution and sanitary sewer facilities, railroad and systems for producing, transmitting or distributing communication, cable television, power, electricity, light, heat, gas, oil, crude products, steam, waste and storm water not connected with highway drainage, including river gauges, fire and police signals, traffic control devices (including Intelligent Transportation Systems), and street lighting systems, which directly or indirectly serve the public or any part thereof. The term "utility" may also be used to refer to the owner of any above described utility or utility facility. Please note that a utility owner may include an individual owning property on both sides of a particular roadway with a water service, irrigation line or communication cable crossing the road. They may not be known to the Utilities Protection Center or utility office. Therefore, the District Utilities Engineer, right-of way appraiser and others attending the field reviews should look for this situation because the individual lines are often overlooked leading to delays on construction. Information should be forwarded to the District Utilities Engineer for coordination.

Value Engineering (VE) – The systematic application of recognized techniques by an independent multi-disciplined team to identify the function of a product or service, establish a worth for that function, generate alternatives through the use of creative thinking, and provide the needed functions to accomplish the original purpose of the project, reliably, and at the lowest life-cycle cost without sacrificing safety, necessary quality, and environmental attributes of the project." See POLICIES AND PROCEDURES 2450-1.

Video Detection System (VDS) – Video Detection Systems are cameras used by the NaviGAtor system for automated traffic detection. Types of traffic detection include measurement of speed of vehicles, counting of vehicles, and measurement of other significant traffic parameters.

Chapter 1. General - Contents

Chapter 1. General

This document sets forth the current procedures and steps necessary for the Georgia Department of Transportation (GDOT) to administer both Federal-Aid and Non-Federal-Aid projects in accordance with the policies and objectives of Titles 23, 40, and 42 United States Code, and to administer Local Maintenance & Improvement Grant (LMIG) projects to fulfill the policies and objectives of Title 32, Official Code of Georgia Annotated. The document outlines the current process of project development from project identification through construction award and final acceptance.

A number of additional resources are available to the Project Manager in the carrying out of their responsibilities for project development. You are directed to the Repository for Online Access to Documentation and Standards (R.O.A.D.S), and Transportation Online Policy and Procedures System (POLICIES AND PROCEDURES) for this guidance. GDOT Management, each Division, and a number of offices have developed their own procedures for accomplishing the mission of the Department.

The Department has adopted the Plan Presentation Guide (PPG) found at https://www.dot.ga.gov/PartnerSmart/DesignManuals/Plan/Plan_Presentation_Guide.pdf to give the Project Manager guidance in the way information is to be presented and included in the plan packages. This document should be consulted in order to standardize the appearance of GDOT plans and ensure the appropriate information is included for construction.

It is a goal of the Department of Transportation to develop a quality set of right-of-way plans, construction plans, and bid documents through a cooperative effort with its stakeholders that result in a project design and implementation that is the best transportation value for the taxpayers of Georgia.

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Chapter 2. Reserved - Contents

Chapter 2. Reserved

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Chapter 3. Overview of the Plan Development Process - Contents

Chapter 3. Overview of the Plan Development Process

The goal of the Project Management team will be to produce plans and specifications that are of high quality and contain "ZERO DEFECTS." Properly following the Plan Development Process (PDP), using “The Plan Presentation Guide,” checklists and frequent checking of work product will improve coordination and minimize production costs while reducing technical problems, utility delays, construction supplemental agreements, and the occurrence of liability claims. The maximum efficiency is achieved when errors are prevented during production instead of being caught during review, in other words - Eliminate REWORK!

Project quality is built-in, not added on. Quality is the direct result of careful, properly sequenced production, and continuous production checking of each work element by the Phase Leader.

The Plan Development Process is for the most part a “Linear Process.” Care must be exercised throughout the process to ensure the proper level of public participation is maintained, and in the case of Federally funded projects or projects that may be converted to Federal funds, the future use of Federal funds are not jeopardized.

All concept reports, preliminary and final right-of-way plans, preliminary and final construction plans, and construction documents prepared by or for the Department will be in “English” Units.

The PDP will be followed for both Federal-Aid and Non-Federal-Aid projects:

- All construction and right-of-way projects prepared by or for GDOT where GDOT is proposed to let the project to construction.
- All construction projects that require the purchase of right-of-way.
- All construction or right-of-way projects proposed to use Federal funds for construction.
- All construction projects prepared by the Office of Maintenance requiring full size plans.
- All ITS projects.
- All major construction projects prepared by or for the Office of Local Grants as set forth in Project Management Agreements.
- All projects as required by Project Framework Agreements. (See POLICIES AND PROCEDURES 7120-3)

The Project Manager will ensure that accurate information and status is entered into the scheduling software (Primavera) and the project management system (TPro) on a bi-weekly basis if not more often. Numerous GDOT personnel throughout the State rely on this information in scheduling their work activities and delivering project information on a timely basis. The Department’s management also relies on this information in making decisions on program delivery, discussing the project status with the public and elected officials, and in making schedule commitments.

Federal and state laws and regulations require environmental resource identification, avoidance and impact assessment. Thus, the environmental process is an integral part of the decision-making. Environmental resources must be identified early and given consideration throughout project development. According to 23CFR paragraph 771.113, final design activities, property acquisition (with the exception of hardship and protective buying), purchase of construction materials or rolling stock, or project construction will not proceed until the following have been completed:

- The action has been classified as a Categorical Exclusion (CE), or
- A Finding of No Significant Impact (FONSI) for an Environmental Assessment document has been approved, or
- A Final Environmental Impact Statement (FEIS) has been approved and available for the prescribed period of time and a Record of Decision (ROD) has been signed.

Note:

(1) No final design decisions are to be made or are any final construction plans or right-of-way plans to be completed or approved prior to completion of the appropriate public involvement process including approval of the environmental document.

(2) No contact initiated by the Department or a Department representative to a property owner for the purpose of purchasing their property will be made until right-of-way plans are approved and the environmental document has been approved or reevaluated as appropriate.

In rare and unusual circumstances, there is an exception to these rules called “Protective Buying or Advanced Acquisition.” This request is reviewed and approved as appropriate on a case-by-case basis following all Federal and State guidelines.

3.1 Oversight by Other Agencies

The Georgia Federal-aid Stewardship and Oversight Agreement outlines the roles and responsibilities of both Federal Highway Administration (FHWA) and Georgia Department of Transportation (GDOT) in the accomplishment of oversight and administration of Federal-aid Highway Projects and Programs.

The Federal Highway Administration (FHWA) will have oversight for projects as described in the Georgia Federal-Aid Stewardship and Oversight Agreement located at:

http://mygdot.dot.ga.gov/applications/gdotpubs/Publications/2410-1.pdf In addition to the above, the FHWA has retained oversight on the National Highway System (NHS) for design standards. The FHWA also has approval authority of the environmental documents for all federally funded projects. In addition, FHWA has the authority to develop individual PoDI plans for projects.

Intelligent Transportation System (ITS) projects must meet the requirements of 23 CFR Part 940 (ITS Rule 940), or the FTA ITS Regulation, as defined in the Definitions section, to identify Systems Engineering practices. The purpose of this mandate is to reduce project risk, control costs and schedules, satisfy users’ needs, improve system quality, and obtain FHWA/FTA approval for all federally funded ITS projects.

The FHWA will be consulted to determine oversight responsibility on NHS and Non-NHS projects that include unusual hydraulic structures, unusual geo-technical features, vehicular and drainage tunnels, moveable bridges, or bridges with a total deck area over 125,000 square feet.

The Federal Transit Administration (FTA), will have Full Oversight for all Commuter Rail Projects (similar to the oversight responsibilities the FHWA has retained on the Interstate System) including approval of environmental documents.

Other federal agencies may also play a role in project determinations (e.g., US Army Corps of Engineers, National Park Service, US Forest Service, etc.) depending on project location and scope.

In those Non-attainment areas for air quality where the Georgia Regional Transportation Authority (GRTA) has been given authority over transportation plan development, the Project Manager will ensure that GRTA is involved in the Concept Stage of project development.

3.2 Design Build

Design Build (DB) is an alternative contracting method that allows the preconstruction and construction processes to be performed in a way that offers risk transfer, schedule efficiency and cost savings, while still complying with all the federal and state project requirements. Because DB is regulated by Georgia Statute and specialized FHWA Rules, and is processed in a different progression of events that the traditional "linear process" as described in the Plan Development Process, all GDOT DB projects are administered and managed in the Office of Innovative Program Delivery. The activities leading up to a DB contract procurement can vary greatly, depending on the specific goals of the project. Generally, environmental issues are evaluated prior to DB procurement. It is the responsibility of the Office of Innovative Program Delivery to prepare or direct DB costing plans and specifications packages and ensure appropriate reviews take place that will ensure the DB project plan development is compliant with the federal-aid program, and coordinated within GDOT. Costing plans are normally developed to no more than approximately 30 percent level, depending on risk factors such as ROW, scope complexity, and schedule considerations, but this may vary depending on project specific goals. Not all projects are suitable for DB due to schedule logic, scope ambiguity, risk profile, or other issues. Therefore, the Office of Innovative Program Delivery is also charged with researching the Department's construction work program for DB candidate projects, performing DB risk analyses, administering DB contracts and reporting to State government officials on the annual usage of DB as required by law. Specific procedures and policies regarding DB usage at GDOT are contained within GDOT DB Manual located at http://www.dot.ga.gov/PartnerSmart/DesignManuals/DesignBuild/001-GDOT_Design-Build_Manual.pdf

3.3 Low Impact Bridge Program

The Low Impact Bridge Program (LIBP) was developed as a way to replace structurally deficient bridges using a streamlined delivery process, minimized impacts to the environment, reduced construction time and costs while still complying with all the federal and state project requirements. ROW acquisition is not permitted within the LIBP, however temporary or permanent easements when needed for construction are allowed. In addition, LIBP projects will not have complicated utility adjustments, major environmental impacts, major roadway design changes, and significant hydraulic adjustments for clearance or FEMA coordination. The LIBP is another program processed differently from the traditional Plan Development Process (PDP) and will not follow the normal progression through the PDP. All GDOT LIBP projects are administered and managed through the Office of Bridges and Structures and undergo several evaluations prior to becoming a programmed project. Several tasks included in the PDP are handled during the pre-programming stage of the project. Therefore, the following PDP phases will be altered or not included in the LIBP design process: no Concept Report, no pavement design (when ADT < 10,000), minimal Traffic

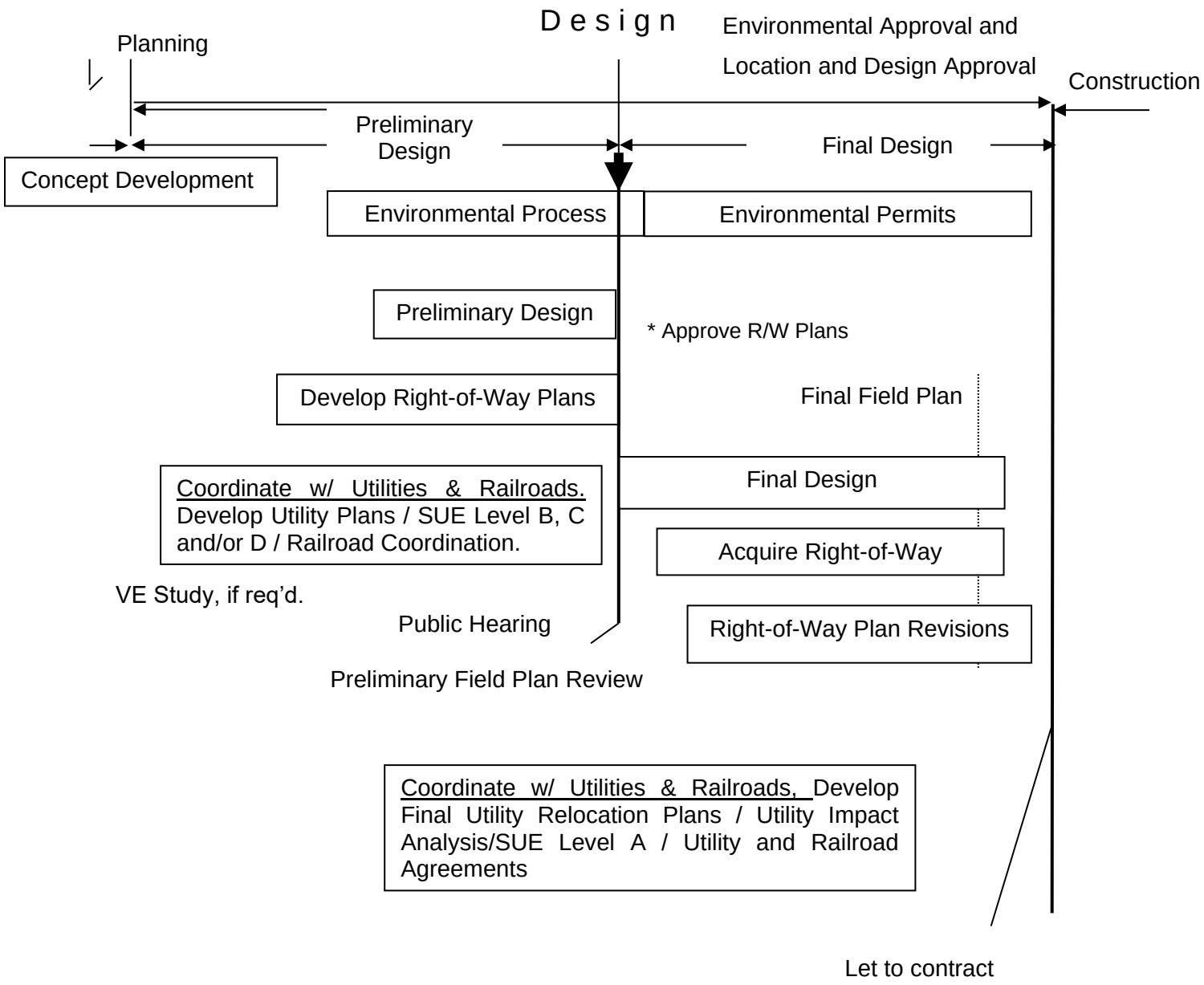
Analysis. PFPR coordination will only be required when easements are necessary, Utility coordination will be handled with one combined submission rather than two, off-site detour coordination is handled with local governments prior to programming and no PIOH will be required. Specific procedures and policies regarding the LIBP usage at GDOT are contained within the LIBP Manual located at:

https://www.dot.ga.gov/PartnerSmart/DesignManuals/BridgeandStructure/LIBP%20Manual.pdf

As an introduction to the PDP, the following chart is intended to show a very basic, conceptualized Plan Development Process for major projects.

Figure 3.1 Generalized Plan Development Process Flow

For Major Projects



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Chapter 4. Project Programming and Scheduling - Contents

Chapter 4. Project Programming and Scheduling

4.1 Project Identification

Anyone can propose a transportation improvement project and can submit the request to GDOT, GRTA, MARTA, or MPOs. Projects are identified by Director of Planning, GDOT Districts, and local governments in the rural programming process and by MPOs in the urban planning process. In the rural planning process, the Director of Planning it is added to the Construction Work Program/STIP or the Long-Range Program approves once a proposed project. In the urban planning process, a project is approved by the MPO and added to their Long Range Transportation Plan and/or TIP. The project is then added to the GDOT Construct ion Work Program/STIP and assigned to an office. The following is a list of Special Program Projects that are added to the Construction Work Program via the Program Manager/Committee:

- Routine maintenance projects that are funded through lump sum maintenance funds, Highway safety projects where the conditions meet the criteria to be submitted for programming by the State Maintenance Office.
- Bridge replacement and rehabilitation projects where the bridge condition meets the criteria to be submitted for programming by the State Bridge Maintenance Office or the Office of Local Grants.
- Projects identified through the Metropolitan Planning Organization (MPO) planning process.
- Transit projects funded under Title III of 23 CFR.
- Force Account projects
- Lighting projects
- Railroad Crossing Safety Projects where the conditions meet the criteria for programming by the State Utilities Office.
- Traffic Signal Upgrade projects, Regional Traffic Operations Projects, and Safe Routes to School projects.
- Projects approved by the Operational Improvement Committee

4.2 Programming

All projects, except maintenance, operational improvements and safety, are approved by the Director of Planning before inclusion in the Department's Construction Work Program (CWP). The information gathered by the Offices/Sponsors should be submitted with the project when it is added to the CWP and included in the project file maintained by the Office of Financial Management (OFM). The OFM is responsible for establishing the new project record in the Department's Project Management System.

Projects may be cancelled from the CWP by submitting a letter to the Program Control Administrator outlining reasons why the project is no longer needed. If the project sponsor is not GDOT, the Project

Manager will submit a written concurrence from the sponsor. The Program Control Administrator will verify with the Office of Planning and submit a formal request to the OFM to cancel the project.

4.2.1 Funding Allocation Process (Tool)

GDOT has developed a funding allocation tool to assist the decision makers of feasible funding options when initially programming projects and throughout the PDP process. The decision whether or not to following the Federal delivery process allows GDOT to maximize federal funds in a dynamic environment. This funding tool ensures that projects are evaluated, communicated, and documented in a formal approach and to track these decisions.

The funding allocation assessment shall be limited to capital projects assigned to the office of Program Delivery. Assessments should be made or revisited at four points during the PDP and information should be compiled and turned over to the relevant owner at each handoff point.

When a project is initially programmed, the office of Planning will make a decision (consulting with the Chief, OFM, Budget, EOS and OPD) whether or not to keep a project federally eligible.

After OPD is assigned the project, the PM will evaluate the project through the PTIP process and subsequently validate details and the decision then make a recommendation whether or not to keep a project federally eligible.

After the Concept Report is updated, the PM will validate details and the decision then make a recommendation at the Concept Update meeting whether or not to keep a project federally eligible.

Finally, at any time during preliminary or final design, the PM will validate details and the decision

based upon "Portfolio Trigger Points" listed below and in Appendix P. The PM will highlight issues quickly to the Director of Program Delivery where a subsequent information session can be conducted with a formal recommendation.

Portfolio Trigger Points:

- Cost increase of $2M or 20%
- Change in funding year
- Schedule increase of 3+ months
- Change in environmental document type
- Change in whether full 4(f) process is required

In summary, the Funding allocation assessments will rely on information sharing across different GDOT Offices throughout the process along the timeliness of communication. See Appendix P for detailed steps and guidance.

4.3 Project Framework Agreement (PFA)

A PFA is an agreement between the Department and the Local Public Agency (LPA) that outlines the responsibilities, commitments, terms and conditions on how the specific project will comply with Federal and State regulations in administering and delivering the project with a funding participation distribution for all phases by each agency. It provides guidance to applicable standards and policies. A Local Agency that has not been certified to administer federal-aid projects is ineligible to enter into

a Project Framework Agreement with GDOT for administration of federal aid projects. (Please see POLICIES AND PROCEDURES 7120-3)

4.4 Two-Phase Preliminary Engineering Process

NOTE: ***The information contained below is not intended to be an all-encompassing description of the PDP process. This information is merely to serve as an overview of how the Two-Phase Preliminary Engineering process interweaves with the Department's existing PDP. Please refer to the rest of this manual for specifics on the necessary and required policies and procedures to be followed throughout the PDP.***

Two-phase preliminary engineering is a process in which projects can have their Preliminary Engineering phase split into two steps: Phase I Preliminary Engineering (referenced as Scoping Phase) and Phase II Preliminary Engineering (referenced as PE). Scoping phases will be identified for projects that are more complex in nature and therefore benefit from an initial analysis.

The Scoping Phase will consist of all activities through concept approval. Environmental Resource identification will be completed under the Scoping Phase. Occasionally, for projects with unique circumstances such as high public controversy or extensive environmental impacts, the Scoping Phase may also include environmental review and approval from FHWA if the project is federally funded. Design activities through Preliminary Plans Phase, including PFPR, will be needed to support the environmental analysis and documentation. The Phase I Preliminary Engineering/Scoping Phase will be designated in TPro by the abbreviation 'SCP'.

The Office of Planning, The Division of P3/Program Delivery and the Division of Engineering will work together at project inception to determine which projects are suitable for a Phase I Preliminary Engineering/Scoping Phase. Determination of suitability for Phase I Preliminary/Scoping Phase will be accomplished during the Project Team Initiation Process (PTIP). During the PTIP, the project team will discuss the project scope, associated risks, and determine if it is suitable to have a Scoping Phase.

Phase II Preliminary Engineering will consist of all activities after concept approval or environmental approval as applicable, to include the development and approval of right-of-way plans and final design. Environmental permits and variances also are included in Phase II PE. Phase II Preliminary Engineering will be designated in TPro by the abbreviation 'PE'.

Process Flow & Programming Steps:

(1) If it is determined that a Scoping Phase is warranted, The Office of Planning will program a project's Scoping Phase in the STIP.

(2) Once a project's Scoping Phase is authorized, concept development and associated activities may commence. Only a portion of the funds from the preliminary engineering's total cost estimate will be authorized to complete Phase I PE activities.

(3) After a project's Concept Report is approved, the Schedule Review Committee will make a determination, with guidance from the Project Manager, on which of the following three steps to pursue next:

   (a) Program Phase II PE. Scoping Phase activities can continue through environmental document approval, if planning and funding allows. Develop schedule for remaining activities needed to complete the project as described in the approved Concept Report.

   (b) Discontinue Phase I PE, and remove the project from the Department's program. Detailed documentation stating the reason(s) the project needs to be removed must be submitted to and approved by the Office of Planning and the Office of Program Control.

   (c) If project funding allows, change project from a Two-Phase PE to a single phase PE. NOTE: This will be done for projects where the Schedule Review Committee and Project Manager determine that the remaining activities needed for project completion can be accomplished within the remaining budget of the Scoping Phase.

(4) Phase II PE will be authorized during its programmed fiscal year, and right-of-way acquisition and construction phases will be programmed in the next available fiscal years based on need and available funding. NOTE: The ROW acquisition and CST phases could be outside the current STIP while the design advances; however, the environmental document cannot be approved and funds cannot be authorized by FHWA unless and until the next phase is identified in the current approved STIP.

4.5 Schedule Development

The timely development of a schedule for a programmed project is highly important. The Department is a complex organization and many project related tasks are performed by persons not directly responsible or accountable to the Project Manager or even within the employment of the Department. The complexity of project development and the number of people involved in the process make coordination and anticipation essential for each project task, especially critical tasks.

A project schedule will comply with the Plan Development Process (PDP) and will comply with the programmed fiscal years for the authorization of funds for SCP, PE, ROW, and CST. The Director of Planning and the Chief Engineer will approve all exceptions to programmed fiscal years. The Program Control Administrator will then request the Office of Financial Management to amend the fiscal years in the CWP and State Transportation Improvement Program (STIP). No schedule will be prepared for projects with all elements programmed in LR unless directed by the Director of Planning.

Within five (5) working days after GDOT Board approval, the OFM will provide the Program Control Administrator with the proposed project additions to the CWP. Within 10 working days of receiving this list, the Program Control Administrator will assign the project to an Office. Within 10 working days after an office is assigned, the office will assign a Project Manager for said project.

Once each calendar month, the Schedule Review Committee will convene to review the schedules submitted to the Office of Program Control. The Schedule Review Committee may recommend approval of a baseline schedule, approval of a baseline schedule with modifications, or the rejection of a schedule.

The Schedule Review Committee will consist of:

- State Scheduling Administrator, Chairperson
- Program Control Administrator, Vice-Chairperson
- Director of Engineering
- State Program Delivery Administrator
- Director of Program Delivery

The State Scheduling Administrator will immediately review the Committee's recommendations and forward them to the Chief Engineer and Director of Planning for approval, disapproval, or modification.

Immediately after the approval of the Committee's actions, the approved schedules will be entered into the current and baseline versions in Primavera. A Management Directed Let Date and a Management Directed ROW Date (if project has ROW) will be entered in TPro. Those schedules not approved will be returned to the assigned Project Manager with comments from the State Scheduling Administrator and a corrected schedule will be developed and resubmitted in accordance with the instructions of the Schedule Review Committee.

4.6 Project Team Initiation Process (PTIP)

The Project Team Initiation Process (PTIP) has been established to standardize the roles of Project Managers, TMC Program Managers, and GDOT Subject Matter Experts during the initiation of all GDOT sponsored projects either managed by the Office of Program Delivery or programmed by the Office of Traffic Operations. The PTIP process should begin no later than 12 months prior to the fiscal year that funding is available. The goal of this process is to reduce the time it takes from Preliminary Engineering (PE) funding authorization to beginning project development activities either through in-house or through consultant services. The PTIP uses the input of the assigned Project Manager or TMC Program Manager; and various GDOT Subject Matter Experts (SMEs) to understand and develop the project scope, begin schedule development, and estimate the project preliminary engineering budget as soon as practical. This process should also be utilized when preconstruction activities are being reinitiated where PE was previously authorized.

Please reference the PTIP Guidance located on the Office of Program Delivery's website for details regarding PTIP roles & responsibilities and PTIP procedures.

4.7 Monitoring Schedules

Every Project Manager or their designated representative of a scheduled task or event will constantly review the project schedule and report the progress of task completion in the Department's scheduling software, Primavera. The Project Manager will ensure the updating of progress on project activities is entered into Primavera. If the Project Manager determines the actual performance of activities is falling behind the project baseline schedule, the Project Manager should analyze the problems causing the delay and document a specific course of action to get the project back on schedule. For more information on Project Manager responsibilities, see Chapter 9.

4.7.1 District Project Status Meeting

The meeting is discontinued beyond calendar year 2017. As a result of our continuing efforts to improve project delivery and coordination, it has been observed and determined that District Project Status Meetings no longer provide the necessary benefits as they once did. Previously, these meetings served as an opportunity for the Department to review all active and future projects in the STIP plus 2 years out by district with representatives from all SME offices, agencies and local governments.

With the implementation of the Office of Program Delivery and the project managers' reduction in the number of projects assigned, efficiencies in the delivery program and processes have been successful. The team concept is in full-effect and communication is ongoing on a regular basis by the project teams, districts and sponsors through office manuals, procedures and processes along with Let Status and ROW Status meetings.

If the Planning Offices chooses to conduct any future STIP balancing meetings, a Special District Project Status meeting prior to STIP development can be considered. A 6 month advanced notification would be needed to the Office of Program Control. This meeting outcome would be a report to the Planning Office on the delivery timing of each project.

4.7.2 Revision of Project Schedules

If a project schedule must be delayed because of inadequate resources or other problems, the State Scheduling Administrator will request the Project Manager to submit a Project Change Request Form (PCRF). The form can be found on the Office of Program Control's Team Site at http://teams.dot.ga.gov/offices/opc/Forms/Forms/AllItems.aspx.

The conditions of revising the project baseline schedule are as follow;

Projects in the **Concept Development Phase** will be revised under the following conditions;

- The baseline schedule may be revised via a Schedule Modification Request Form for late Notice to Proceed of the project's initial task order only that does not change the funding fiscal year; any subsequent task order delays will not trigger a revision of the baseline schedule.
- The baseline schedule may be revised at concept report submission with a Project Change Request Form (PCRF) for projects that fall behind baseline schedule less than 12 months and cannot be recovered.
- The baseline schedule may be revised via a PCRF, at any point, when it is known the project has fallen more than 12 months behind the baseline schedule.

Projects in the **Preliminary Plans Phase** will be revised under the following conditions;

- The baseline schedule may be revised at ROW Authorization *without the need of a PCRF*. A revision will be initiated from the monthly ROW Status meeting, if right-of-way acquisition is the critical path to letting.
- The baseline schedule may be revised via a PCRF, at any point, when it is known the project has fallen more than 12 months behind the baseline schedule.

Projects in the **Final Plans Phase** will be revised under the following conditions;

- For projects more than 12 months from the Management Let Date, the baseline schedule may be revised only if the project is behind the baseline schedule more than 3 months.
- For projects less than 12 months from the Management Let Date, the Management Let Date may be shifted during the Let Status meeting only; however, the baseline schedule will not be adjusted.

It is important that P6 is updated consistently with both actual dates and remaining durations in order to utilize the “current” schedule (Start/Finish Dates) to determine actual progress of the project. The “current” schedule is a key component of scheduling which the Department with only a focus on baseline often overlooks.

If schedule revisions require changes to be made in the CWP or the STIP, the Director of Planning and the Chief Engineer will approve all exceptions to programmed fiscal years. The Program Control Administrator will then request the Office of Financial Management to amend the fiscal years in the CWP and STIP.

4.7.3 Right-of-Way (ROW) Status Review Meeting

- The Right-of-Way (ROW) Status Review Meeting is held to discuss the status of projects with MGMT ROW Dates in the current month and the subsequent eighteen (18) months or with an approved funding year for ROW within the current plus one (1) fiscal year. The participants required in the ROW Status Meeting are:
    - Chief Engineer
    - Director of Program Delivery
    - Director of Engineering
    - Roadway Design Administrator or representative
    - Bridge Design Administrator or representative
    - Program Control Administrator (Leads Meeting)
    - State Scheduling Administrator
    - Environmental Services Administrator or representative
    - Right-of-Way Administrator or representative
    - Utilities Administrator or representative
    - Engineering Services Administrator or representative
    - Planning Administrator or representative

- Traffic Operations Administrator or representative
- Materials and Testing Administrator or representative
- Project Manager for each project being reviewed or PM Office representative

- The project status will be reviewed to determine if the project is on schedule to have ROW funds authorized and acquisition starting per the approved baseline schedule.
- The Office of Program Control will generate the reports for the meeting and place them on the office SharePoint site one week prior to the meeting date.
- Each participant will be prepared to discuss clearly and precisely the status of each critical activity, the actions underway by the task manager to complete the activity, and the expected completion date.

4.7.4 Let Status Review Meeting

- The Let Status Review Meeting is held each month to discuss the status of projects with MGMT LET Dates in the current month and the subsequent six (6) months. The Let Status Review Meeting requires the same participants that attend the ROW Status Meeting with one additional participant:
  - Office of Bidding Administration Administrator or representative
- The project status will be reviewed to determine if the project is on schedule to obtain the three (3) certifications required for authorizing construction funds.
- By the tenth day preceding the Let Status Review Meeting the State Scheduling Administrator and the Project Manager will enter into the project(s) management system any comments regarding any project activity that is incomplete, late, or that may delay or prohibit a project being let to construction as currently scheduled.
- The Office of Program Control will generate the reports for the meeting and place them on the office SharePoint site one week prior to the meeting date.
- Each participant will be prepared to discuss clearly and precisely the status of each critical activity, the actions underway by the task manager to complete the activity, and the expected completion date.

4.7.5 On HOLD Status

- A project may be placed ON HOLD status by the Commissioner, Deputy Commissioner, or the Chief Engineer.
- A project will be removed from ON HOLD status in like manner.
- When a project is designated with ON HOLD status, all work activity on the project is suspended. When the project is removed from ON HOLD status, the CWP and the STIP will be amended. The State Scheduling Administrator will request the Project Manager to submit a Project Change Request Form with a revised project schedule that considers any required updates of previous work and/or the current status of the project.

- On HOLD status is temporary and will only be used in extreme cases and for short durations of time. Projects designated as ON HOLD will be reviewed by the Chief Engineer annually to determine if they should be restored to active status or recommended for removal from the program.
- The State Scheduling Administrator will be notified immediately of any project being placed On HOLD and will be responsible for suspending the remaining scheduled activities. If a project is restored to active status after being ON HOLD, the State Scheduling Administrator will have the project rescheduled.

In TPro, a field called "Letting Responsibility" is used to indicate if a project is GDOT Let, Local Let, Force Account, or Not a Let Project. This field will also be used to note if a project is designated as On HOLD status.

4.7.6 Prepare Plans for Shelf

- Chief Engineer may designate a project status as Prepare Plans for Shelf.
- The Prepare Plans for Shelf is an indicator that construction funds are approved in a fiscal year beyond the fiscal year for Construction Authorization in the baseline schedule.

4.7.7 Plans on Shelf Status

A Project will be placed on the Shelf once it meets the criteria described below.

Plans on Shelf:

- If construction funds are approved in a fiscal year within 24 months of baseline Let Date the project will be designated as Plans on Shelf once all Certifications, including Environmental Permits, are obtained.
- If construction funds are approved in a fiscal year beyond 24 months of MGMT Let Date the project will be designated as Plans on Shelf once ROW is certified and Corrected FFPR Plans are complete and have been submitted to Engineering Services to begin the Initial Engineers Estimate. The Project Manager will also need to submit an updated programed cost estimate for approval. Environmental may or may not be certified depending on the need for environmental document re-evaluation and/or obtaining any needed permits. PM should coordinate with the Chief Engineer’s office and the Office of Environmental Services to determine if any needed document re-evaluation and/or permits should be obtained prior to assigning Plans on Shelf status. Utilities may or may not be certified depending on needed Utility contracts. PM should coordinate with State Utilities Office to determine if Utility certification should be obtained prior to placing on Shelf.

ROW Plans on Shelf:

- If ROW funds are approved in a fiscal year beyond the fiscal year for ROW Authorization in the baseline project schedule the project will be designated as ROW Plans on Shelf once ROW Plans are approved.
    - These projects will not have the designation of Prepare Plans for Shelf.

- The Chief Engineer may revise the above criteria on a project-by-project basis to determine when a project will be placed on the Shelf.
    - PM should complete the Shelf Approval Form found on the Office of Program Control's website at http://mygdot.dot.ga.gov/gdotoffices/programcontrol/Pages/default.aspx and submit to the Office of Program Control for processing.
- Once the Chief Engineer has signed the Shelf Approval Form, the status of the Project will be revised to Plans on Shelf or ROW Plans on Shelf.

In TPro, a field called Letting Responsibility is used to indicate if a project status is Prepare Plans for Shelf, Plans on Shelf, or ROW Plans on Shelf. This field in maintained by the State Scheduling Administrator.

4.7.8 Removing a Project from Shelf Status

- The PM should submit a PCRF with a proposed schedule showing that ROW or CST funds will be authorized within the first quarter of the fiscal year the funds are approved.
- If a project is on the Shelf and the funding is being considered for advancing the PM will be notified by the Office of Program Control. The PM will coordinate with the Project Team to develop a schedule indicating a date that ROW and/or CST funds can be authorized.
    - The PM will be notified if the funding will be advanced and request a PCRF be submitted for processing.
- Once a PCRF is approved, the State Scheduling Engineer will revise the project status from Plans on Shelf or ROW Plans on Shelf to GDOT Let, add MGMT Date(s) in TPro, and place the approved baseline schedule on the project.

Chapter 5. Concept Stage - Contents

Chapter 5. Concept Stage

5.1 General

The preliminary engineering funds shall be authorized prior to the scheduled date for beginning concept studies. The Project Manager, through the Office Head, may request in writing, to the Chief Engineer, authority to use State funds for early studies or preliminary design on federally funded projects. Unless approved by the Chief Engineer, no work shall be done on federal-aid projects without federal funds preliminary engineering authorization.

The concept stage should not be scheduled or started too far in advance of the preliminary design. The benefits of this action are to balance the number of concepts prepared each year, reduce the time between concept and the beginning of preliminary design, allow for more continuous work on a project, and reduce the chances the concept will become outdated.

The Federal Highway Administration (FHWA) will be invited to attend and participate in all significant meetings held on federal-aid projects, including the Initial Concept Meeting, the Concept Meeting, and any follow-up Concept Meetings on all projects for which the designation of Project of Division Interest (PoDI), see individual project PoDI plan, for the Concept has been identified. Additionally FHWA should be consulted when questions about logical termini exist.

The Georgia Regional Transportation Authority (GRTA) will be invited to attend and participate in all Initial Concept Meetings, the Concept Meetings, and any follow-up Concept Meetings on all projects for which they have oversight responsibilities in non-attainment areas for air quality. All construction and right-of-way projects prepared by or for GDOT where GDOT is proposed to let the project to construction.

5.2 Objectives

The objective of the Concept Stage is to develop a Concept Report that will describe a recommended project “footprint” including project termini. A project recommendation will be made for a “Build Alternative” that addresses the “Project Justification Statement” or a “No-Build Alternative” of the programmed project after appropriate analyses has been investigated. Analyses may include, but are not limited to: traffic and operational studies, accident analysis, determination of project deficiencies, planning requirements, environmental studies, study of alternatives, consideration of MS4, permit requirements, social and economic considerations, utility considerations, right-of-way impacts, etc.

On all federally funded Major Intelligent Transportation System (ITS) Projects, a Concept of Operations shall be developed. If a Concept of Operations already exists, it shall be explicitly referenced in the Concept Report. The Concept of Operations will verify that the project is consistent with any governing ITS architecture, and that all intended users of the ITS system are identified, along with how each intended user will interact with the system. If the project is an extension or expansion of an existing system, the Concept of Operations will identify any differences from the current system and its operations. Finally, the Concept of Operations should document that all intended users of the system within GDOT, as well as other state and local agencies that might be affected by the system,

understand and accept their role in system operation and management. The Concept of Operations for an ITS project will implicitly address the Project Justification Statement.

5.3 Project Justification Statement

Prior to developing the project schedule, the Project Manager will request that the Office of Planning develop a Project Justification Statement for the proposed project. For bridge replacement and major rehabilitation projects, the Project Justification will be prepared by the Office of Bridges and Structures. For safety and operational projects, the Project Justification Statement will be prepared by the Office of Traffic Operations. The Project Justification Statement is a brief statement identifying and explaining the major issue(s) that the project is intended to address. The Project Justification should include:

- Any designated programs that the project is included in [e.g., GRIP (Governor's Road Improvement Program); STRAHNET (Strategic Highway Network); APD (Appalachian Developmental Highway); Oversize Truck Network, State Bike Routes, etc.]
- How the project originated - for example: Transportation Board, Senior Management, PNRC, Planning Office, planning study, local government, MPO, Operations, Bridge Maintenance, etc. and reference or attach any documentation supporting the initiation of the project, where available.
- A brief summary of the major issue(s) to be addressed by the project – for example: congestion/Level of Service/capacity issues, high crash rates, operational issues, geometric or structural deficiencies, legislative program requirements (e.g., GRIP), infrastructure improvements, streetscapes, etc.
- Explanation of the proposed project limits – what conditions exist at the termini of the proposed project, why should the project terminate at these limits, etc. Note that Logical Termini are determined as part of the NEPA process.
- Other relevant information regarding the issue(s) the project is intended to address.
- Performance goals – in general, what is the major performance goal of the project (e.g., reduce congestion, improve mobility, reduce crashes, correct geometric and/or structural deficiencies, etc.). Also, list any expected secondary benefits the project is expected to provide.

The Project Justification Statement in the Concept Report should not include any information that is not relevant to the issue(s) to be addressed, including demographics/census information, description of possible solutions, etc.

5.4 Project Design Data Book

At the onset of the Concept Development, the Design Phase Leader shall begin preparation of a Project Design Data Book. The Project Design Data Book shall be updated and maintained throughout the PE process and shall define the proposed project design parameters for each roadway or transportation element. It should serve as a mechanism to document and advance the design intent of a project. The design parameters shall be based on GDOT adopted Design Policies. The Project Design Data Book is not intended to be the project's correspondence file. A high quality design data book, along with the project plans, should clearly demonstrate substantial compliance with

generally accepted engineering or design standards, or the appropriate documentation of non-compliance (design exceptions and variances).

The Project Manager should ensure that this Project Design Data Book is created and updated periodically.

At a minimum, the design data book should contain the following information for each roadway (or group of similar roadways):

- Design Controls:
  - Functional Classification
  - Design Vehicle
  - Design Speed
  - Terrain
  - Traffic Volumes
  - Access Control
- Geometric Design Criteria / Calculations:
  - Sight Distance (Stopping, Passing, Decision, Intersection)
  - Superelevation (maximum and design rates, and transitions)
  - Minimum Curve Radius and length
  - Intersection Skew Angle
  - Lane shifts, lane drops, lane additions
  - Maximum and Minimum Grade
  - Vertical Clearance (over water, roadways, railroads)
  - Cross Section element widths and cross slopes (lane, median, shoulder, etc.)
  - Clear zone requirements / Guardrail Warrant Calculations
  - Driveway geometric design criteria
  - Fastest Path checks (for roundabout projects)
- Capacity Analysis Criteria / Calculations:
  - Capacity Analysis Output files (build and no-build)
  - Turn bay storage and deceleration
  - Intersection sketches
  - Autoturn Layouts
  - Median opening spacing layout
- Drainage Design and Permitting Criteria / Calculations
  - Hydrology Methodologies and Calculations
  - Hydraulic Calculations
  - Outlet protection calculations
  - Ditch Lining calculations
  - MS4 Concept Report Summary
  - Sediment Storage Calculations (including sediment basins)
- Approved design exceptions and variances, along with supporting documentation

5.5 Projects Not Requiring Concept Meetings or Concept Reports

Concept meetings or reports are not required for the following projects, except as necessary to document complexity:

- Traffic signal installations or upgrades when work can be accomplished within existing right of way
- Safety and Hazardous Location (Concept Meeting not required, Concept Report is required)
- Railroad-highway crossing safety projects
- Pavement marking
- Sign projects related to construction projects
- Resurfacing
- Guardrail
- Fencing
- Landscaping
- Street lighting
- Interstate Maintenance/Rehabilitation projects that do not involve capacity improvements, interchange additions, or reconstruction
- LIBP (Low Impact Bridge Program) projects

5.6 Concept Reports for "Limited Scope" Projects

Projects having a limited scope may use an abbreviated Concept Report format (See Appendix A-2). Projects that qualify to use the abbreviated format should have:

- Exempt federal oversight status (if federally funded) or locally/state funded. Some PoDI, see individual project PoDI plan, projects *may* be eligible if prior consent is obtained from FHWA.
- Limited environmental impacts (GEPA or NEPA Categorical Exclusion anticipated)
- No or only minor ROW requirements (e.g., few parcels impacted, no major impacts to individual parcels, no displacements anticipated)
- No VE study requirement (total project cost estimated to be less than $50 million)
- No PAR required (Regional or Nationwide 404 Permit)
- Traffic Management Plan requires only TTC, if applicable
- No or only limited Design Exceptions or Variances anticipated
- No or only limited utility impacts

If any of the above requirements/qualifications are not met, the full Project Concept Report format (Appendix A) should be utilized. Exceptions may be granted by the State Design Policy Engineer on a case-by-case basis.

Projects that typically qualify for utilizing the abbreviated Concept Report format include, but are not limited to:

- Operational improvement projects
- Bridge replacement projects

- Striping, signing, marking, rumble strips, etc.
- Streetscape, sidewalk, multi-use trail, historic preservation, building rehabilitation, etc.
- Auxiliary lane, turn lane, etc.
- Passing lanes
- Intersection Improvement
- ATMS/ITS, Noise walls, signals, etc.
- Drainage Improvement
- Rest Area, Welcome Center, Weigh Station, etc.

During concept development for Limited Scope projects, the project team should keep the limited project scope in mind when considering the level of study required. For example, passing lane and bridge replacement projects do not normally require the preparation of completed capacity or safety studies for inclusion in the concept report. However, an appropriate level of evaluation is required to identify safety and operational needs.

5.7 Initial Concept Development and Initial Concept Meeting

The purpose of the Initial Concept Meeting is to produce a higher quality and more detailed concept for all Major Projects and many Minor Projects by better organizing the Department's resources, identifying the core team and specialty team members, establishing lines of communications and responsibilities between team members, validate the Project Justification before working on the concept. In addition, identify project risks along with reduction or mitigation strategies for each Subject Matter Expert's area, gain a better understanding of the project corridor, understand the environmental scope, determine the anticipated public involvement approach, review the intersection control alternatives to be evaluated (as determined, when appropriate, by Stage 1 of an Intersection Control Evaluation). Finally, to identify information that is available, define information that is needed to develop the concept, review the project schedule, and provide a transition between planning and design. For ITS Projects, the Initial Concept Meeting should include identification of key stakeholders involved with (or impacted by) the ultimate operation of the system. The Project Manager is encouraged to review the project location with the Design Phase Leader and Area Engineer prior to the Initial Concept Meeting.

Routine or Minor Projects, may not require an Initial Concept Meeting. The Project Manager will make the determination of need.

Appropriate items to be reviewed, requested, or discussed, as applicable, at the Initial Concept Meeting may include:

- The Project Justification
- The Project Budget (PE, Right of Way, Construction and Utility budgets)
- Planning concept/modeling data (conforming plan's project description and network schematic showing through lanes)/STIP project definition
- Need for an Interchange Justification Report (IJR) or Interchange Modification Report (IMR). (See POLICIES AND PROCEDURES 3140-1)
- Safety concerns
- Need for a formal or informal location inspection

- Alternatives considered to date (ensure alternatives considered and rejected are accurately and thoroughly documented)
- Preliminary design traffic ("Build Alternative" and "No-Build Alternative")
- Accident data for the most recent three years for which complete data is available
- Intersection Control Evaluation (ICE) Stage 1
- Intersection Control Evaluation (ICE) Stage 2 (non-longitudinal, intersection improvement only projects)
- Concept level peer review (required for all proposed roundabouts. See Design Policy Manual Chapter 8.2.4)
- Traffic Engineering Study (including warrant analysis, if applicable)
- ITS opportunities
- ITS architecture (if available)
- Ultimate operating agency or other users of the ITS system
- Maintenance issues with the ITS system
- Other GDOT offices, other state or local agencies that will be affected by the ITS system
- Staging and traffic control, including Traffic Management Plan (if applicable)
- Work zone safety and mobility requirements
- Traffic calming techniques to be implemented
- Maintenance problems, including drainage and pavement problems
- Proposed design criteria including design speed
- Proposed type of access control
- District information on public contacts and concerns to date
- Evaluate the extent of public outreach efforts and coordination needed
- Coordination with FHWA, FTA, GRTA, State Road and Tollway Authority (SRTA), and other non-environmental Federal, state and local agencies and/or governments
- Requirements for:
  - Mapping
  - Aerial photography
  - Tax plats with property owners names
- Photographs or Video logs
- Proximity to (< 500' of existing crossing) and impacts to railroads and railroad right-of-ways, including but not limited to pre-emption, queue lengths, and crossing safety enhancements
- Proximity to and impacts to airports
- Existing structures and their condition
- Temporary access requirements for the removal of existing bridges and/or the construction of new bridges
- Environmental concerns:
  - History
  - Archaeology
  - Neighborhoods
  - Special interest groups
  - Context Sensitive Design

    - Cemeteries
    - Parks and recreation
    - Need for a Practical Alternatives Report (PAR)
    - Wetlands and streams, open waters, state protected buffers, floodplains
    - Endangered species
    - Erosion and Sedimentation Control
    - Designated MS4 Area(s)
    - Air Quality
    - Potential for noise impacts
- Possible coordination required:
    - U. S. Army Corps of Engineers Section 404 Permit
    - U. S. Army Corps of Engineers Real Estate Outgrant
    - Tennessee Valley Authority (TVA)
    - U. S. Coast Guard (USCG)
    - State Stream Buffer Variance
- Opportunities to accommodate other modes of transportation
- Coordination with other GDOT and local projects
- Existing right-of-way
- General location, size of utilities, mitigation plan to avoid utilities, budget and schedule impacts, potential environmental impacts, right of way impacts, railroad requirements and concerns, and the need to employ an Overhead/Subsurface Utility Engineering (SUE) investigation (Quality Level D-records research only) to be used for further concept development
- Determine if the Public Interest Determination (PID) Policy and Procedure should be used for the Project. Refer to Policy 6863-13.
- Risk Assessment
- Concurrence to proposed project schedule

The Project Manager will determine the participants to attend the Initial Concept Meeting. Refer to Appendix C for suggested list.

Each Subject Matter Expert (SME) will come to the meeting with an identified list of risks specific to the project, their likelihood of occurring and the mitigation strategies (a plan) to Eliminate, Reduce, Accept or Transfer (ERAT) that risk. The PM will ensure that each risk has an owner and that owner has documented strategies for ERAT as the project moves forward. The PM will gather the lists and ERAT's as documentation of activities ongoing. This "list" is considered a Risk Register and will be maintained throughout the project. This effort is to make the project team more proactive in resolving or eliminating project risks along with the ability for other SMEs to help the owner with that risk. The SME should choose 3-5 high priority project risks that will be tracked throughout the project or until it is eliminated. As the project progresses through concept and design, the SME's will provide information to the PM to show that the priority risks are being addressed with the appropriate ERAT method.

The outcome of the Initial Concept Meeting should be a better understanding of the project scope, identification of information that is available and what is needed, and the next steps to be

accomplished in the concept development. The participants should agree on assignments and schedules for detailed concept development.

The Project Manager will update the baseline schedule and provide meeting notes to the participants within 15 working days of the Initial Concept Meeting.

5.8 Concept Development Considerations

It is essential that a high quality, comprehensive Concept Report be prepared as early in the process as possible. The benefits to be derived from a detailed concept include critical coordination with the planning process, better environmental analysis, and better right-of-way, utility, and construction cost estimates. In addition, earlier and better decisions on local government participation can be made.

Concept decisions shall be sensitive to environmental resources. To initiate the identification of environmental resources, the Design Phase Leader will develop an environmental survey boundary (study area) based on concept-level assumptions about the future footprint of the project (see Appendix O for additional information). Wherever possible, environmental resources are to be avoided, but where avoidance is not prudent, the impacts are to be minimized and mitigated. For those projects that are on new alignment or involve major new location sections, avoidance and minimization alternatives shall be coordinated with FHWA (for federally funded projects) and consulting agencies prior to the finalization of the Concept Report. Concept decisions shall also consider compatibility with adjacent land use (context - rural vs. urban section, historic area, etc. for example), address community issues if present, satisfy the Project Justification Statement for the project, be consistent with the STIP, and provide for logical termini.

In keeping with Section 404(b)(1) guidelines, for those projects with potential to impact wetlands, streams, and open waters (Jurisdictional Waters of the US) early coordination and a review of the proposed alignment(s) shall be made with the Environmental Phase leader and an ecologist from the Office of Environmental Services. Special consideration shall be given to avoiding any impacts to Waters of the US, especially longitudinal stream encroachments. If avoidance is not possible, efforts shall be made to minimize impacts. The need for impacts to Waters of the US shall be documented in the Practical Alternatives Report (PAR); the report shall include an explanation as to why avoidance was not possible. The US Army Corps of Engineers, US Environmental Protection Agency, Georgia Environmental Protection Division and US Fish and Wildlife Service shall be invited to attend a field review to investigate the project alignment for potential impacts to Waters of the US and federally protected species. All reasonable alternatives to minimize these impacts shall be considered.

A PAR shall be prepared for those projects that require an individual or Regional 35 Section 404 Permit from the Corps of Engineers. The report shall justify the alignment preferred by the Department and shall include construction cost estimates for the various alternatives considered. The PAR shall address the cultural, social, and economic impacts in addition to the wetland and stream impacts for each alignment studied. There shall be at least two alternatives studied. (The “No Build Alternate” is not an alternate to be considered for a PAR.) The Office of Environmental Services shall contact and coordinate with federal and state resource agencies and assist the Design Phase Leader as to what alternatives are to be considered and shall provide the cultural, social, and economic studies portion of the report.

5.9 Initial Pavement Evaluation Summary (PES) Report

Initial Pavement Evaluation Summary (IPES) reports should be prepared where existing pavement must be retained as part of the permanent pavement structure due to a planned sequence of staged construction. An IPES report provides a preliminary assessment of whether an existing pavement is suitable for inlay/overlay, includes visual field reconnaissance and a review of readily available information. Sources of readily available information include: as-built construction plans, records of subsequent maintenance activities, and pavement condition data from the GDOT COPACES and C-PACES databases. If the existing pavement is not considered suitable for inlay/overlay, the anticipated sequence of staged construction should be changed to allow for full-depth reconstruction of the pavement. Include alternative pavements in the project scope and budget if full-depth pavement is required until the Pavement Type Selection, if necessary, has been completed.

Projects with full-depth pavement of less than a continuous mile should match the existing pavement at the begin and end of the project. These projects also do not require a PTS and are not subject to alternate bid.

Submission for an IPES to be prepared or reviewed by the Office of Materials and Testing (OMAT) should follow the Pavement Management Submission Process. The Design Phase leader should provide a location map, typical sections, traffic data, a layout of the project with the approximate extent of planned overlay indicated, and any available as-built plans in all submissions.

An IPES is not required when a Pavement Evaluation Summary is not required as detailed in Chapter 6.3.4.

5.10 Initial Pavement Design

The typical section(s) presented in the concept report should reflect initial pavement design(s) prepared using the GDOT Pavement Design Tool v2.0 and consistent with recommendations from initial PES and PTS reports, if applicable. If projects meet the criteria, designers can use the Guidelines for Pavement Sections for Minor Projects to establish the initial pavement design.

5.11 Evaluation of Existing Structures

An early decision on the scope of work for major structures including bridges, retaining walls, and noise walls is essential. During Concept Development on all projects that include bridges, the Project Manager will request a Bridge Condition Survey from the Office of Bridges and Structures, Bridge Maintenance Section. The Office of Bridges and Structures, Bridge Maintenance Section will provide a recommendation for removal and replacement, widening or rehabilitation on all bridge projects. If a bridge is recommended for widening or rehabilitation, the Project Manager shall request a deck condition survey from OMAT.

5.12 Accelerating Bridge Construction

For every bridge replacement project the engineer needs to evaluate the feasibility of utilizing accelerated bridge construction techniques (ABC). This use of ABC will reduce impacts to traveling public, ease concerns regarding off-site detour length and duration and limit the amount of ROW

required to reconstruct the bridge. Not all sites are conducive to utilizing ABC techniques and a brief explanation can be sufficient. If ABC is feasible then describe the possible ABC techniques, provide estimated construction duration and estimated road closure duration and appropriate tier of ABC. For additional guidance, see Bridge Office webpage.

5.13 MS4

Stormwater discharges from infrastructure owned and operated by GDOT within Georgia's MS4 areas are regulated by the Georgia Environmental Protection Division through GDOT's MS4 National Pollutant Discharge Elimination System permit (permit number GAR041000). Early determination of whether a Project Level Exclusion (PLE) applies to the project is important. Initial steps in post-construction stormwater management analysis and design play a significant role in the concept phase by providing an initial assessment of impacts to the project footprint, project costs, and impacts to environmental resources. Required steps for MS4 analysis and design can be found in the MS4 PDP Process Chart. Additional information can be found in Ch. 10 of the GDOT Manual on Drainage Design for Highways.

5.14 ITS Rule 940

23CFR Part 940 governs any ITS project receiving Federal funds to follow a systems engineering analysis, commensurate with the project scope, for any project that moves into design. If the project moves into design prior to the completion of a regional architecture, project architecture is required to support the system engineering analysis. The required system engineering approach is detailed in the GDOT Systems Engineering Guidelines. For the purpose of Concept Development for ITS projects, the following considerations should be included:

- Identification of portions of the regional architecture being implemented.
- Identification of participating agencies roles and responsibilities.
- Requirements definition.
- Analysis of alternate system configurations and technology options to meet requirements.
- Procurement options.
- Identification of applicable standards and testing procedures.
- Procedures and resources necessary for operations and management of the system.

5.15 Intersection Control Evaluation

For each intersection on a project to be designed/constructed using State or Federal funding or that includes at least one roadway designated as a State or NHS Route, an Intersection Control Evaluation (ICE) must be performed. See Chief Engineer's Policy 4A-5. An ICE provides a traceable and transparent record of the determination of intersection controls and results in more thoroughly vetted control choices yielding more confident project programming decisions made earlier in the process with defensible benefits for safety. An ICE involves two stages; Stage 1 and Stage 2. Stage 1 Screening informs which alternatives are worthy of more detailed evaluation, and Stage 2 Alternative Selection involves detailed evaluation of the alternatives brought forward from Stage 1. Decision records (see GDOT ICE Spreadsheet Tool) and supporting documentation for stage 1 should be included in the Concept Report for all projects. Stage 2 decision records and supporting

documentation should be included in the concept report for standalone intersection projects and for longitudinal projects where possible. If an intersection control evaluation will not be performed for an intersection within a project, a waiver request must be submitted and approved. See the GDOT ICE Spreadsheet Tool for the standard waiver form.

5.16 Concept Preparation

In order to develop a meaningful concept, and reduce the need for later concept rework, some elements of Preliminary plans may be incorporated into the concept layout and Concept Report. A valid concept addressing horizontal and vertical alignments is required and will contain such information as:

- Discussion and analysis of information identified at the Initial Concept Meeting.
- Design guidelines proposed.
- Context and setting design requirements.
- Landscaping requirements.
- Environmental survey results, specifically the results of the field surveys and agency coordination for historic properties, other Section 4(f) resources (if the project is federally funded), cemeteries, wetlands, open waters, streams and their state protected buffers.
- Design exceptions and design variances expected.
- Coordinated preliminary horizontal and vertical alignments.
- Typical sections.
- Edge of pavements.
- Post-Construction Stormwater BMP Locations.
- Some preliminary cross section work, including estimated construction limits.
- Preliminary capacity analysis including locations of proposed signalized intersections.
- Interface with adjacent projects.
- Intersection profiles with touch down points.
- Structural concepts (bridges and retaining walls).
- Constructability.
- Right-of-way requirements.
- Utility requirements, including Public Interest Determination findings (if applicable to Project).
- Preliminary driveway tie-ins.
- Preliminary construction cost. (See POLICIES AND PROCEDURES 3A-9)
- Preliminary right-of-way cost. (See POLICIES AND PROCEDURES 3A-9; Requests for preliminary ROW costs should be sent to RW-ConceptMtgs_Est@dot.ga.gov)
- Estimated Utility and Railroad cost. (See POLICIES AND PROCEDURES 3A-9)
- General location, size of utilities, mitigation plan to avoid utilities, budget and schedule impacts, potential environmental impacts, right-of-way impacts, need for Utility Phasing and the need to employ an Overhead/Subsurface Utility Engineering (SUE) investigation (Quality Level D-records research only) to be used for further concept development.
- Railroad requirements, determination if any at-grade crossings will be eliminated or upgraded

- Determine railroad/traffic signal preemption study requirements.
- Need for Transportation Management Plan (TMP) – See Workzone Safety and Mobility Policy.

Specific assignments may be made prior to the concept team meeting requesting information to be provided for the draft Concept Report. The Project Manager will set a deadline for information due in order that the Concept Report can be completed in a timely manner.

Cost Estimates

The Office of Bridges and Structures will assist the Project Manager by furnishing cost estimates for structural work needed for the project and alternatives. The Office of Bridge Design will pay particular attention to the constructability of structural elements needed for a project during concept review. In some cases, transportation of beams to the project site, erection of structural elements, and protection of the environment may be significant factors that must be considered early in the concept phase.

The Office of Right-of-Way will assist the Project Manager by furnishing a preliminary right-of-way estimate for the proposed project. This estimate should include an approximation of the number of parcels and the number and type of relocations. Requests for concept level right-of-way cost estimates and invitations to Concept Meetings should be sent to: RW-ConceptMtgs_Est@dot.ga.gov.

The Utilities Railroad Liaison Manager and Utilities Railroad Crossing Engineer will assist the Project Manager by furnishing preliminary railroad cost estimates for the proposed project. These cost estimates will include the names of all the railroad owners having facilities/rail along or crossing the project and the type of encroachment on the rail property. The Utilities Railroad Liaison Manager and Utilities Railroad Crossing Engineer will also update this cost estimate in the required field in TPRO. Additionally, the cost estimate will include information regarding Railroad Owner plans to install any new facilities or upgrades to existing facilities within the life of the project and whether there is a need for preemption equipment or upgrades to existing preemption equipment as part of the project.

The District Utilities Office will assist the Project Manager by furnishing preliminary utilities cost estimates for the proposed project. These cost estimates will include the names of all the utility companies, both public and private, having facilities along or crossing the project and the type of facilities present. The District Utilities Office will also update this cost estimate in the required field in TPRO. Additionally, the cost estimate will include information regarding Utility Owner plans to install any new facilities or upgrades to existing facilities within the life of the project.

The Project Manager will coordinate with the District Utilities Engineer to ensure the Public Interest Determination (PID) Policy and Procedure is reviewed and, if required, performed for the project in question. If required, the District Utilities Engineer will coordinate with the Project Manager to perform preparatory work, lead the Concept Team through the procedure, and finalize and document Concept Team recommendations.

For ITS Projects, the Office of Traffic Operations will assist the Project Manager by providing System Engineering support as may be required and detailed in the GDOT Systems Engineering Guidelines. This support should include assistance in documenting the project Concept of Operations for inclusion in or reference from the Concept Report. The Office of Traffic Operations will be responsible for

assuring that all System Engineering analysis and procedures required by FHWA's ITS Rule 940 and the GDOT Systems Engineering Guidelines are followed.

5.17 Concept Team Meeting

The Project Manager shall cause a Concept Team Meeting to be held to present the proposed concept and alternatives and to allow discussion by the attendees. To maximize local participation, the Concept Team Meeting (CTM) should be held in the GDOT District where the project is proposed. The notice of a Concept Team Meeting will be sent out at least three (3) weeks prior to the date of the meeting. In order for the representatives to be fully prepared to discuss the project, copies of a draft Concept Report will be included with the notice for the Concept Team Meeting. All offices are expected to review the materials and provide written comments to the Project Manager three (3) business days prior to the meeting.

The Project Manager will determine the participants to attend the Concept Team Meeting. Refer to Appendix C for list of participants.

The Project Manager shall cause minutes of the meeting to be taken, which shall be attached to the final Concept Report. The minutes will include responses to all comments received prior to and during the Concept Team Meeting. The minutes will also document the participating offices. Among the items to be discussed at the concept meeting and included in the final Concept Report are:

- Project Justification
- Project Termini
- Planning Concept/Conforming plan's project description and network schematic showing through lanes /STIP project definition
- Project background
- Location of environmental resources such as:
    - Wetlands, open waters, streams and their state protected buffers
    - Park lands
    - Historic properties, archaeological sites
    - Cemeteries
    - Location of potential hazardous waste sites
    - Underground storage tank sites
    - Threatened and Endangered Species
- Public Involvement Plan
- Alternatives considered and rejected to date sufficient for inclusion into environmental documents and reports
- Design criteria proposed
- Horizontal and vertical alignments criteria
- Typical sections
- VE Study results or recommendations
- Interchange Modification Report or Interchange Justification Report requirements
- Access control
- Intersection Control Evaluation (ICE) for each intersection
    - Intersection Control additions or modifications that require permitting. (Note:

Approval of the concept report does not indicate approval of signal permits)
    - Preliminary capacity analysis for the “Build Alternative” and “No-Build Alternatives”
    - Potential improvements recommended for intersections along project
- Peer review for each roundabout proposed
- Practical Alternative Report (PAR)
- Type of environmental document anticipated
- Environmental permits/studies required (e.g., Section 404, TVA, 4(f), biological assessments etc.)
- MS4 Concept Report Summary
- Project Framework Agreement
- Right-of-Way requirements/estimate including easements:
    - Potential number of parcels
    - Special parcels (condominiums, federal land, etc. that could cause delays)
    - Number of Relocations
    - Estimated right-of-way cost (Requests for preliminary ROW costs should be sent to RW-ConceptMtgs_Est@dot.ga.gov)
    - Who will be responsible for purchasing the right-of-way
    - Special considerations for utility accommodations
- Preliminary bridge assessments and structural needs including retaining and noise walls
- Temporary access requirements for the removal of existing bridges and/or the construction of new bridges
- Accident history
- Potential soil conditions along project
- Construction limits
- Maintenance of traffic (detour, closed, or constructed under traffic)
- Maintenance problems existing along the project
- Preliminary capacity analysis for the “Build Alternative” and “No-Build Alternatives” for arterials and other longer longitudinal projects Constructability of proposed project
- Work Zone Safety and Mobility requirements (Transportation Management Plan)
- Preliminary construction cost estimates
- Project assignments
- Project schedule
- ITS Concept of Operations
- Maintenance issues with the ITS system
- Name, size, and location of utilities along the project (including utility cost estimates)
- Potential conflicts with SRTA facilities/infrastructure
- Public Interest Determination findings, if applicable and the recommended Utility Risk Management Plan
- It is also desirable to know as early as possible if the Office of Utilities is planning to use Overhead/Subsurface Utility Engineering (SUE) on the project
- If SUE is not employed, provide the name, size and location of utilities along the project
- (including utility cost estimates) from the information provided by the District Utilities Office
- A copy of the Utility Concept Report provided by the District Utility Office

- Proximity and probable impacts to railroad and railroad right-of-ways (including railroad cost estimates provided by the State Utilities Office)
- Proximity and probable impacts to airports and/or flight paths
- Risk Management Plan to include risks identified at the Initial Concept Team Meeting or have been identified since their status

5.18 Concept Report

Based on the results of the concept meeting, the Project Manager will revise the draft Concept Report and drawings as required and prepare the Final Concept Report for the project. The report shall follow the format indicated in Appendix A.

All Concept Reports require the approval of the Chief Engineer and additionally the FHWA will review and approve Concept Reports on all PoDI projects, see individual project PoDI plan. For design exceptions identified during the concept phase on PoDI projects, see individual project PoDI plan, FHWA typically requires the review and approval of the design exception prior to approval of the project concept. Appendix D describes the process for obtaining approval of design exceptions.

The Office of Design Policy and Support will be responsible for obtaining and consolidating comments concerning the proposed concept and coordinating with the Project Manager to address comments in the Concept Report. The Office of Design Policy and Support will process the Concept Report by forwarding to the Director of Engineering for concurrence and the Chief Engineer for approval.

5.19 Concept Report Processing

In accordance with the electronic processing of Concept Reports guidelines, the PM shall forward all request for approval of Concept Reports, Revised Concept Reports, Location and Design Reports, and Detour Reports to ConceptReports@dot.ga.gov. The Office of Design Policy and Support will distribute the report to the appropriate offices to verify previously submitted comments have been satisfactorily addressed.

For those reports prepared in the Office of Roadway Design, Office of Bridges and Structures, the Office of Innovative Program Delivery, District Offices, Office of Traffic Operations, or Office of Program Delivery the original report shall be sent to the Office of Design Policy and Support. The Office of Design Policy and Support will compile all review comments and forward them to the Project Manager to be addressed. In addition, the Office of Planning will certify that the concept meets the project definition as contained in the approved STIP/TIP. All concept reports will require the recommendation of the following offices before the report is submitted to executive management for recommendation/approval:

- The Office of Environmental Services
- The Office of Planning
- District Engineer Office
- Office of Bridge Design (only for those projects containing bridges/major structures)
- Office of Traffic Operations (only for those projects containing innovative intersections)

For ITS Projects, the Office of Traffic Operations will verify that the Concept of Operations referenced by or included in the Concept Report meets the requirements of ITS Rule 940 and the Systems Engineering process.

5.20 Concept Report Updating

The Project Manager will review with the Office of Design Policy and Support all comments received and accepted during the Concept Report processing. The Project Manager will ensure those comments are incorporated into an updated Concept Report and provide to the Office of Design Policy and Support a written response to all review comments. Since this update is incorporating the comments received during the Concept Report processing, it is not considered a concept revision.

5.21 Concept Report Approval

The Design Policy Engineer will forward the updated Concept Report to the Director of Engineering for concurrence and approval as follows:

GDOT Approval of Concept Reports

(1) The Director of Engineering will forward all Concept Reports to the Chief Engineer for approval. See below for approval by the FHWA.

FHWA Approval of Concept Reports

(1) The FHWA will review Concept Reports for all projects that have PoDI, see individual project PoDI plan, designation. The Concept Report is routed to the Director of Engineering for concurrence and to the Chief Engineer for review. The Chief Engineer's Office will forward the Concept Report to FHWA for review and approval. The FHWA will return the approved and signed Concept Report to the Department for the Chief Engineer's final review and approval.

Two Phase Engineering

(1) For 'major' projects with Two Phase Engineering, the concept report approval requires a decision by the Schedule Review Committee. Please see Chapter 4 for the three choices that the Schedule Review Committee can make after Concept Report Approval.

5.22 Approved Concept Report Distribution

See GDOT Standard Distribution List for Concept Report distribution.

A copy of the approved Concept Report will be placed in Archive Store by the Design Policy Engineer and made available for viewing. The Design Phase Leader will place a copy of the concept report in the Project Design Data Book.

5.23 Revised Concept Reports

A Revised Concept Report is required whenever:

- The basic typical section is proposed to be changed (e.g., median width, number of thru

lanes is changed).

- Project termini are shortened or lengthened, including locations for passing lanes, except minor adjustments that do not impact right-of-way.
- Project access control is changed.
- Project intersection control is changed. Updated ICE or ICE waiver will need to be submitted as part of the concept revision.
- Changes in right-of-way limits, as determined by the Office of Environmental Services, which may affect the analyses of:
    - Historic resources
    - Threatened & Endangered species or habitat
    - Archaeology sites
    - Cemeteries
    - Wetlands
    - Open waters and their state protected buffers
    - Streams and their state protected buffers
    - Air quality
    - Noise studies
- Alignments revised (from a widening project to new location project or vice versa, at-grade intersection to grade separation, etc.). Updated ICE or ICE waiver will need to be submitted as part of the concept revision.
- Meeting the requirements of the Controlling Criteria.
- There are changes to the ITS Project Concept of Operations involving operational practices and procedures, involvement of major operational stakeholders, or there are changes to any supporting system operational dependencies, interfaces or assumptions.
- If there are any questions about the need for a Revised Concept, please contact the Office of Design Policy and Support.

If the project concept is changed during or just prior to preparation of the Location and Design Report, these changes will be noted in and approved as a part of the Location and Design Report.

Prior to submission of the Revised Concept Report to the Design Policy Engineer, the Project Manager will consult with the Office of Environmental Services to determine if and how the changes will impact the environmental studies and with the Office of Planning to determine if and how the changes will impact adopted transportation plans and TIPs.

Who prepares the Revised Concept Report?

- If preliminary design has not started, then the office preparing the original Concept Report shall revise the concept.
- If preliminary design of the project is underway, the Design Phase Leader for design of the project will be responsible for preparing the Revised Concept Report.

The Revised Concept Report will use the form outlined in Appendix A-1.

The processing of Revised Concept Reports will follow the same steps that were followed in the processing of the original Concept Report. In addition, a revised cost estimate reflecting the requested changes will be furnished to the Office of Engineering Services via the cost estimate e-mailbox (CostEstimatesandUpdates@dot.ga.gov) for review and approval for updating in TPRO.

5.24 Concept Development by the Office of Traffic Operations (OTO) for ITS Projects

The Office of Traffic Operations shall develop concepts for Interstate or Limited Access Roadway ITS projects on existing right-of-way. Projects are Federal-Aid ITS with FHWA PoDI, see individual project PoDI plan, designations and will be developed in accordance with the policies and objectives of Titles 23, 40, and 42 United States Code.

The Project Manager will coordinate with the Office of Design Policy and Support and request aerial photography and mapping, as required, of the proposed project area no less than 15 months before scheduled let date. Mapping the proposed design area can be essential to the development of a clear and understandable concept and final plans. If requested, the mapping should have sufficient detail for use as presentation material during a concept team meeting and serve as the plan base for final plans.

If mapping of the project area does not already exist and is required, the Project Manager in coordination with the Office of Design Policy and Support should request mapping no less than 15 weeks prior to the concept team meeting. This request should include the necessary items such as aerial photography, base maps, traffic projections, and all of the detail required for plan preparation in the preliminary design phase. As-built drawings of the project area may be available from the plans file room in the Office of Design Policy and Support and existing right-of-way plans may be available from the Office of Right-of-Way.

Upon receipt of aerial photography, the OTO Design Team Leader will prepare a plot, in plan sheet format, of the project database. This plot will include the location of proposed devices requiring electrical power. This plot will be provided to the District Utilities Engineer for locating service points to all proposed devices. The District Utilities Engineer will also provide the plot to the utility owners for “marking up” the location of existing utilities if the utilities are not furnished by a SUE investigation. The existing power service information will be needed prior to the concept team meeting. This existing utility information will also be needed in the preliminary design phase.

The Project Manager will assemble a project team and assign an OTO Subject Matter Expert who will be responsible for directing the Systems Engineering process outlined in the GDOT Systems Engineering Guidelines. Using these Guidelines, the OTO Team Leader will also coordinate the various activities and information needed for the Concept Team Meeting, Concept Report, and Concept Report Processing and Approval also outlined above. Members of the project team may vary from project to project; however, OTO Design staff will be represented.

For ITS Projects, the Concept Report shall include, either directly or by reference to another document, a Concept of Operations. The GDOT Systems Engineering Guidelines includes the recommended content of a Concept of Operations.

In developing a clear and comprehensible concept pertinent to ITS projects, the Project Manager will accomplish specific objectives. These objectives will include, but are not limited to, determining preliminary field device locations, estimating fiber optic cable sizing and routing, coordinating with other design offices, including Maintenance, on projects they may have under design in the same area, preparing cost estimates, and developing a Concept Report, including a Concept of Operations, and presentation materials for a concept team meeting. The Concept Report should identify the

project area and limits, an overview of all ITS devices and infrastructure in the project. The Concept of Operations, which is a part of the Concept Report, will detail the operational requirements and significance of each device type and sub-system in the project. If functional requirements have been developed, they shall be mapped to the Concept of Operations. Once the draft concept has been fully developed, the Project Manager will schedule a concept team meeting. Representatives of the project team will be invited, including the following: FHWA (for federally funded projects), Office of Bridges and Structures, Office of Construction, OTO, District Engineer, Office of Planning, Metropolitan Planning Organization (MPO) (to be invited by the Office of Planning), local government engineers (Traffic, etc.), Office of Utilities (contact District and Utility Railroad Crossing Engineer), Office of Engineering Services, Office of Roadway Design, Office of Environmental Services, Office of Information Technology, and consultants. The District Engineer will notify and invite the appropriate Transportation Board members and local elected officials (state, county, and city).

The process for reviewing Concept Reports for ITS Projects, addressing comments and development of final, updated and revised Concept Reports shall be the same as normal concept reports. Upon concept approval, an environmental analysis will be requested from the Office of Environmental Services. Upon approval of the Concept Report, the Project Manager, working with the OTO Team Leader, will develop the ITS Project plans and specifications using the process outlined in the GDOT Systems Engineering Guidelines and consistent with FHWA's ITS Rule 940. The ITS Project Concept of Operations and related System Functional Requirements document should be completed prior to starting Preliminary Design. In no case shall design for an ITS Project commence prior to approval of the Concept of Operations and System Functional Requirements. The traceability (or mapping) of system functional requirements to project plan and specification elements must be completed prior to holding the Preliminary Field Plan Review (PFPR).

5.25 Preliminary Concept for Hardship and Protective Buying

In rare instances when a project is programmed and before preliminary design is scheduled to start or a project Concept is approved, a property owner or business owner may come forward and indicate to GDOT that waiting on a transportation project to be implemented will cause an undue hardship on them. Similarly, a private project or development may threaten a programmed project or potentially cause a significant increase in the cost of implementing the programmed transportation project.

In these instances, the Project Manager may request from the Office of Right of Way the "Hardship Acquisition" or the "Protective Buying" of the affected property. In these cases, if there is not already an approved Project Concept Report, a Preliminary Concept must be developed. The level of detail required in such a preliminary concept is between that required in a planning concept and a final Concept Report and in addition, the preliminary concept only addresses the areas affecting the "Hardship" or "Protective Buying" parcels. The Concept Preparer should address all those items required in the initial concept and final Concept but to a very limited degree. An environmental analysis for advanced right-of-way acquisition will be required along with meeting all State and Federal guidelines. (Refer to POLICIES AND PROCEDURES 4605-3 for additional guidance.)

5.26 Updated Cost Estimates

The Project Manager will submit the right-of-way, utility/railroad, and construction costs of the project once each year and at any time there is a 10% or greater cost increase or decrease to be updated. The revised cost estimate will be furnished to the Office of Engineering Services via the cost estimate e-mailbox (CostEstimatesandUpdates@dot.ga.gov). After a review, the Office of Engineering Services will forward to the Office of Program Control for review and to the Chief Engineer for approval. The OFM will update the project cost estimate annually with the update of the CWP, upon approval of the Chief Engineer. Documentation of the course of action taken will include a written recommendation by the Division Director and approval by the Chief Engineer. See POLICIES AND PROCEDURES 3A-9 for additional guidelines.

5.27 Consultant Cost Estimates

For Projects developed by consultant engineering and architectural firms and under the oversight of GDOT, the consultant shall be responsible for updating ~~of~~ their project cost estimates (Right-of-Way, Utilities and Construction). Contractually, consultants are required to update project cost estimates consistent with POLICIES AND PROCEDURES 3A-9 and submit them to the GDOT PM for processing.

5.28 Value Engineering Study at Concept Stage

A Value Engineering (VE) Study shall be made for all projects having an anticipated concept estimated cost of $50 million or more, including the total costs and adjustments for all project phases. This applies to projects that are twinned and/or listed in the same concept report that cumulatively cost $50 million or greater.

Value Engineering Studies are anticipated to be accomplished during the latter part of concept development but no later than the early stages of preliminary plan development in order that any significant cost savings identified by the VE study will be included early in the project design.

The Project Manager shall identify whether or not a project meets the criteria for a VE Study during the Concept Development Stage and will be responsible for ensuring that the Value Engineering Studies are requested and performed by the Office of Engineering Services.

The Project Manager shall also initiate a VE Study for projects that do not meet the project cost threshold of $50 million if the project has been selected to have a VE Study performed by: the State Program Delivery Administrator Division Director of Engineering, Division Director of P3/Program Delivery, Chief Engineer, or Commissioner.

The Office of Engineering Services is responsible for conducting the VE study. For more detailed information on Value Engineering requirements, see POLICIES AND PROCEDURES 2450-1.

Chapter 6. Preliminary Design - Contents

Chapter 6. Preliminary Design

Preliminary design begins with the approval of the project's Concept Report; and many activities are automatically set into motion in accordance with the project's schedule. The office responsible for the specific activity will be responsible for determining the resources to be used for that activity and beginning that activity per the baseline schedule.

After approval of the Concept Report and concurrent with the environmental studies, the preparation of preliminary design and construction plans will begin. Some preliminary design and environmental activities may have been required during the concept stage. This information will be incorporated in the Preliminary plans.

If there has been two years or more since the approval of the Concept Report and the beginning of preliminary design, the Project Manager (PM) will validate the project's concept including the design year traffic forecast, proposed typical section, design criteria, and the applicability of MS4 (permit updates may add previously exempt areas) with the appropriate Subject Matter Expert (SME) to ensure the project design team will be working on the correct scope of work to satisfy the concept Justification Statement and project Need and Purpose developed for the environmental document. It is imperative that the Project Manager keep all SMEs informed of changes they propose to make or have made in their area of responsibility that will affect the others, such as; planning, environmental (including permits), right-of-way, utilities, geotechnical, bridge and wall design, roadway design, construction, and the District Office.

6.1 Environmental Studies and Documentation

6.1.1 Introduction

In keeping with the project schedule, the Office of Environmental Services will continue their process for gathering information and studying the impacts to the environmental resources along the proposed project alignment. The Design Phase Leader will provide the Office of Environmental Services with supporting information such as project plans needed to assess impacts to environmental resources within the project limits.

6.1.2 Property Access Notification – Environmental

It is imperative when field surveys are to be performed on private property either by GDOT forces or consultants, the property owners will be notified by the PM in writing prior to the environmental SME entering onto the private property. The environmental SME (GDOT or consultant) will notify the GDOT PM when surveys are to begin and will carry copies of the previously sent notification letter for distribution if necessary. Note that environmental field surveys are completed during the concept phase.

6.1.3 Environmental Process – Federal Aid

For those projects involving federal funds or project requiring a USDOT action, the process outlined in the National Environmental Policy Act (NEPA) must be followed. There are three levels of environmental documentation:

- Categorical Exclusion (CE)
- Environmental Assessment (EA)/Finding of No Significant Impact (FONSI)

- Environmental Impact Statement (EIS)/Record of Decision (ROD)

The actual level of document will depend upon the impacts to the environment and the project type. The level of study must have the concurrence of the Federal Highway Administration (FHWA). All environmental studies and documents will be prepared in accordance with GDOT's Environmental Procedures Manual found at:

https://www.dot.ga.gov/GDOT/pages/EnvironmentalProcedures.aspx

The overarching law is NEPA, which requires the public disclosure of environmental impacts before project decisions are made. Environmental concerns are factored into decisions made as a project is developed and advanced. The NEPA document also publicly discloses the decision-making process.

NEPA requires compliance with a variety of environmental laws, regulations and executive orders. Thus, environmental compliance is multi-disciplinary and requires the involvement of a number of environmental SMEs. Consultations with a variety of environmental agencies are also required. The project schedule must reflect these requirements.

Environmental resources identified during the concept development and any time thereafter must be considered when developing/designing a project. Various environmental laws require that every effort be made to avoid and/or minimize harm to environmental resources such as:

- Historic resources
- Non-historic Section 4(f) resources (publicly owned parks, recreation areas, wildlife and waterfowl refuges)
- Waters of the US (wetlands, streams and open waters)
- State protected vegetative buffers on streams and open waters
- Cemeteries
- Threatened and Endangered (T&E) species and their habitat
- Environmental Justice (EJ) populations
- Community facilities

Once the environmental team completes survey work/reports (generally during the concept phase), ESA boundaries will be sent to the Design Phase Leader and other project SME's to begin the standard Avoidance and Minimization Measures process. (See 6.5.2 for further information) Once the least damaging alternative is determined, plans should be submitted to the environmental team to begin Assessment of Effects (AOE) Reports. Agency review and concurrence of AOE Reports occurs prior to PFPR. Thus, once a best-fit alternative has been developed and environmental technical studies have been completed, a request for PFPR can be submitted.

All commitments made during the environmental process are catalogued on an Environmental Commitments Table (aka the Green Sheet). The Project Manager and the appropriate SME must review and confirm the feasibility of these commitments. The Design Phase Leader also must review and approve the environmental commitments table confirming that the plan sets correctly show all commitments made. The environmental team members will provide the Design Phase Leader the appropriate information shown in the Environmental Resources Impacts Table (ERIT). The ERIT is included in the General Notes Section of the project plans.

Please note if there is a Commissioner Approved Public Interest Determination for utility relocations the Environmental Document description will include the installation of utilities in the construction project.

Once the PFPR has been held and the preliminary design has been changed to address comments, the Design Phase leader will submit Post-**PFPR** Environmental **Plans** to the Office of Environmental Services for its team members to ensure that additional agency coordination is not needed. Additional environmental field surveys and/or agency coordination after PFPR can jeopardize the project schedule. On federally funded projects, the Environmental Analyst will submit the CE, draft EA or draft EIS to FHWA for their approval (PCEs are approved by the OES). The Office of Environmental Services will notify the PM, Office of Design Policy and Support, the Right of Way Office and the Office of Engineering Services when the NEPA document is approved. The approved document, approved technical studies and appropriate attachments will be placed in Project Wise. All re-evaluations and addendums will be handled in the same manner.

Any project changes considered must be coordinated with the Environmental Analyst to evaluate the need for and timely completion of environmental re-evaluations. All changes must be coordinated with the environmental team; however, “Hot Button” changes should be coordinated immediately to assess schedule implications. “Hot Button” changes include:

- Changes within an ESA (e.g., ROW, easement , cut/fill lines;
- Addition of a drainage structure within an ESA;
- Alignment or edge of pavement shift (horizontal or vertical);
- Project encompassing areas outside of the Environmental Survey boundary;
- Updated traffic volumes;
- Addition of a thru lane;
- New displacement;
- Removal of access;
- Addition of an off-site detour.

The project team will consider all issues including schedule and budget implications before making a change to the project. Changes to the affected environment and environmental regulations also may need to be considered during re-evaluations.

When a funding authorization (right-of-way or construction) is required, the environmental document must be current. If no changes to a federally funded project have occurred, the Environmental Analyst may need to process a “no-change re-evaluation” depending on the time passed since the prior approval. If changes to the footprint or other construction limits have been made, regardless of when the last approval occurred, the document must be re-evaluated and approved so that it matches the project plans prior to FHWA granting the authorization.

6.1.4 Environmental Process – State Funded

State funded projects must follow all applicable federal and state laws, including the Georgia Environmental Policy Act (GEPA). State funded projects under $100 million do not require a GEPA document. The GEPA document exemption for projects under $100 million applies to only the GEPA document; all other law and regulatory requirements must be followed. In addition, any agency receiving federal funds must comply with Environmental Justice executive order and Title VI. Since

the GDOT receives federal funds, Environmental Justice must be considered for all state funded projects.

For minor scoped projects (Type A letters under GEPA, GDOT policy 4415-10), where fieldwork is not required, a State Funded Checklist/Certification for LET shall be submitted to the State Environmental Administrator for approval.

> For state funded projects over $100 million that do not involve Federal funds or require a USDOT action, documentation requirements can be met with either a NEPA document that follows the Federal guidelines or a Georgia Environmental Policy Act (GEPA) document. There are three levels of GEPA documents: (1) Type A letter, (2) Type B letter and (3) Environmental Effects Report. Type A projects are a predetermined defined type as per GDOT policy 4415-10.

A Significance Determination Study shall be completed for non-type A projects GEPA documents.

- Type B letters are applicable when the study demonstrates that the project will not adversely affect the environment.
- Environmental Effects Report (EER) is applicable when the study demonstrates that the project may adversely affect the quality of the environment. The EER is followed by a Notice of Decision (NOD).

All GEPA documents will be prepared in accordance with GDOT's Environmental Procedures Manual found at https://www.dot.ga.gov/GDOT/pages/EnvironmentalProcedures.aspx

Reevaluations for GEPA documents will be prepared if changes have occurred in the project design that contradicts what was indicated in the approved environmental document, is significant to require additional environmental study, or if changes occur in the affected environment.

If the project originally required a Type B letter, project changes will be evaluated to determine if the impacts continue to be of a type that do not "significantly affect the quality of the environment." The Type B letter will be amended to document this finding. Should the changes result in "significant effects to the quality of the environment," an EER and NOD will be prepared and circulated.

If the project originally required an EER, project changes will be evaluated to determine if impacts discussed in the document continue to be accurate. If the evaluation continues to be valid, a memo will be prepared to document this finding. If the project changes result in a new environmentally sensitive resource sustaining a significant adverse effect, the EER will be modified and re-circulated. The NOD also will be modified to reflect the new findings.

Environmental resources are identified and documented on state funded projects, in compliance with state and federal laws and regulations. The Clean Water Act requires identification, avoidance (or minimization and mitigation), impact assessment and documentation of Waters of the US, in addition to compliance with the Endangered Species Act and National Historic Preservation Act.

Please note that an A3M is also required for state funded projects (see 6.5.2).6.1.5 Environmental Database

The Design Phase Leader will incorporate data provided by the environmental team into an ENVE.dgn file and will submit plans back to the environmental team to ensure that the project plans accurately reflect the environmental findings.

6.1.5 Environmental Permitting

Projects are assessed during the Preliminary Design Phase for the need of a permit under Section 404 of the Clean Water Act or a variance from the state water buffer requirements under the National Pollutants Discharge Elimination System.

The US Army Corps of Engineers regulates impacts to waters of the US (e.g., streams, wetlands, and open waters) under Section 404 of the Clean Water Act. Impacts to waters are assessed following the receipt of Preliminary Plans. Once impacts are identified and calculated, a permit application is submitted to the US Army Corps of Engineers for consideration. This application shall discuss all efforts made to avoid the impact as well as efforts made to minimize the impacts.

The Georgia Department of Natural Resources Environmental Protection Division regulates impacts to the vegetative buffer of state waters, under the National Pollutants Discharge Elimination System. A 25-foot vegetative buffer shall be maintained on warm water streams and waters; a 50-foot vegetative buffer shall be maintained on cold-water trout streams and waters. Applications for a variance to this vegetative buffer requirement shall be made to the Georgia Department of Natural Resource's EPD by the Office of Environmental Services, in consultation with the design team once the preliminary erosion and sedimentation plans are available. This application shall discuss all efforts made to avoid the encroachment as well as efforts made to minimize the impacts. All applicable mitigation measures and post construction water quality best management practices (Post-Construction Stormwater BMPs) shall be documented for each required variance and shall be included in the Vegetative Buffer Variance application. In consultation with EPD, exceptions may be made for roadway drainage structures.

The 404 Permit and Buffer Variance, when needed, shall be received and all required mitigation completed prior to Environmental Certification (referenced in 7.8.3).

6.2 Databases

6.2.1 Topographic and Property Databases

Survey, Mapping, topography, right-of-way (ROW), property lines will be in accordance with GDOT's Survey Manual.

The Project Managers' office will create a list of the following year's projects to determine the need for mapping photography. This includes in-house designed projects, proposed consultant designed projects and Design Build projects (if the consultant is unable to complete during the upcoming flying season) that are too large for a full field survey. The Project Manager's office (e.g., Office of Program Delivery [OPD], Office of Innovative Delivery [OID], Office of Transportation Investment Act [TIA]) will request photography and mapping through the Design Policy and Support (DPS) Location Bureau by November of each year so that flights can be scheduled for the upcoming flying season. The Project Manager may request a design SME to provide a county map or other layout to the DPS Location Bureau Chief to establish the limits of the photography and mapping. All additional survey and

enhancements needed to design the project will be requested in a timely manner through DPS Location Bureau.

Survey Control

A Project Survey Control Packet is defined as one illustrating the primary horizontal and vertical control traverses established for the project. The traverse closure, state plane projection zone, grid factor, plus the horizontal and vertical datums will be noted in this packet. Evidence (closure precision, adjustment data, field notes, data files, etc.) must be provided to document the accuracy of both the primary horizontal and vertical traverses. The Project Manager will request a review, through the DPS Location Bureau, of the consultant's survey control package upon completion of the control survey.

Mapping

The DPS Location Bureau Chief will schedule the project photography flight(s) followed by the digital mapping. All mapping done for GDOT projects will follow the latest electronic guidelines.

Property Database (PROP.dgn)

Upon submittal of the digitized mapping to the District Preconstruction Engineer from the DPS Location Bureau, property investigations will begin. The results of this investigation will be entered onto a spreadsheet and provided to the PM for their use in initiating property owner notifications and to the Survey Party Chief for field verification of the required property corners.

Property Access Notification - Survey

It is imperative when field surveys are to be performed on private property, either by GDOT forces or consultants, the property owners will be notified by the Project Manager in writing prior to the surveyors entering onto the private property. The Survey Party Chief (GDOT or consultant) will notify the GDOT PM when surveys are to begin and will carry copies of the previously sent notification letter for distribution if necessary.

Field Survey and Topographic Database Enhancement (TOPO.dgn)

When the mapping is ready for transmittal to the District Office for enhancement by field survey, the request for enhancement will include the available mapping with the preliminary roadway alignment. Field survey activities may begin at any time. However, on potentially controversial projects as determined by the District Office or the Project Managers' Office, the field survey effort is not to begin until a Public Information Open House (PIOH) has been held. Prior to the beginning of the field survey effort, the District Location Engineer may initiate a meeting on the project site with the Project Manager, the Design Phase Leader, and the Survey Party Chief to review the project in the field and discuss what survey data is to be obtained. (Other participants in this meeting may be the District Utilities Engineer and the Area Engineer.) Items to be discussed include cross road surveys, bridge surveys, driveway profiles, property lines, septic tanks and drain fields, stream surveys needed for hydraulic engineering reports, railroad surveys and cross sections, drainage surveys, pipe inspections/pipe condition survey for cross drain pipes, utilities, and any special features. A second meeting between the Designer, Survey Party Chief, and the Bridge Designer may be necessary to complete the bridge and stream surveys as the development of the preliminary bridge layout progresses. The survey and/or mapping of the

project will include the information needed to accommodate the necessary project transitions, including lane tapers, at the beginning and end of the project.

All field survey data will be collected in accordance with requirements of "GDOT's Survey Manual," and the data processed utilizing the "Survey Processing Guidelines," as maintained by the Location Bureau.

Review of Survey Data Base

Upon completion of the consultant survey and before any design work has begun, the PM will request, through the DPS Location Bureau, a field check of the survey database. The deliverables from the consultant in support of these checks will consist of a copy of the accepted survey control packet as well as the following InRoads and Microstation files:

- the **.asc file** that is generated by the field survey (that contains the north and east coordinate along with the elevation and the field feature code)
- the **.dtm file** that contains the existing DTM data and associated points
- the **.alg file** that contains the property and existing alignment data
- the **PSR.xls or .psr or.mdb file** that contains the property statistics report
- also TOPO.dgn, PROP.dgn, and UTLE.dgn

The random analysis of the survey performed by DPS Location Bureau provides the Project Manager with information to decide whether the consultant's survey is within acceptable tolerances. This analysis does not, however, relieve the surveyor of their responsibility of accuracy on the project. If the analysis provided by DPS Location Bureau shows the survey out of tolerance, the Project Manager's Office will decide whether to accept the survey or have the consultant correct the survey.

6.2.2 Utility Database (UTLE.dgn)

Existing utility information provided on the utility plans is obtained from either an Overhead/Subsurface Utility Engineering (SUE) investigation and/or directly from the affected utility owner markups. During the initial preliminary design phase, the PM along with the Design Phase Leader and the District Utilities Engineer shall determine which method to use if a decision was not already made during concept or PTIP. A project with an approved Public Interest Determination (PID) recommendation requires the use of SUE. For additional information, refer to Chapter 4.0 of the GDOT Utility Accommodation Policy and Standards manual, current edition.

Existing Utility Identification UTLE.dgn by Utility Mark Ups

After the project mapping database is completed and concurrent with the field surveys, the Design Phase Leader will prepare preliminary roadway plan sheets of the database, the concept alignment and an outline of the agreed upon proposed limit(s) of survey. The plan sheets will include all mapping features provided to date including (but not required) proposed right of way and any identified environmental resources. The designer should note the approximate project limits for both the mainline and the side roads. The project limits should, in general, be the same limits provided to the environmental resource team for their surveys. A PDF and electronic files will be provided to the District Utilities Office for their use in submitting to the appropriate utility companies as the first (1st) submission

of utility plans. The "mark up" will include the location of existing utilities, size and material type within the appropriate response deadline. Upon return from the utility companies, the District Utilities Office will verify the information provided for completeness and accuracy. The District Utilities Office will provide the marked-up files or plan sheets to the Project Manager to distribute for use in building the utility database file (UTLE.dgn). It will be the responsibility of the PM to ensure the utility information is included in the most updated plans and provided to the District Utility Office to start the Preliminary Utility Relocation process.

Existing Utility Identification UTLE.DGN-Overhead/Subsurface Utility Engineering (SUE)

Once the Office of Utilities has determined that SUE is to be performed on the project, the State Subsurface Utilities Engineer (SSUE) will coordinate with the Project Manager (PM) to determine the scope of work the SUE investigation. SUE is performed using a specified, predetermined quality level of service (refer to Chapter 4.0 of GDOT Utility Accommodation Policy and Standards Manual for quality levels). The SUE Consultant must be pre-qualified in Area Class 5.08.The assigned SUE Consultant's schedule will be set based upon the approved project schedule and the current status of the project.

Before the SUE consultant begins the SUE investigation, the Limits of the SUE (LOS) investigation must be clearly defined and approved by the designer and submitted to the State Subsurface Utilities Engineer (SSUE). ‑The Designer in coordination with the PM will provide the Utility Plan sheet files with all applicable reference files (if available) according to the EDG, and the survey control package for the SUE Consultant to use.

Prior to any SUE field investigation, the SUE Consultant will be responsible for coordinating traffic control (as needed) with the Area Engineer and notifying the PM for property access per 6.2.1. The SUE Consultant's deliverables will conform to the latest Plan Presentation, Electronic Data Guidelines and SUE Deliverables Checklist.

The SUE consultant will submit all files associated with their deliverables to the State Subsurface Utilities Engineer for review and acceptance. Upon acceptance, the SSUE will notify the PM and District Utility Office where to find the accepted SUE deliverables. It will be the responsibility of the PM to ensure the SUE information is included in the most updated plans and provided to the District Utility Office to start the Preliminary Utility Relocation process, which will include SUE verification.

6.2.3 Assessment of Aging Survey Databases

Normal Project Development - between the *Database Complete* date and the scheduled finish date for *ROW Plans Preparation*, the Project Manager and the Design Phase Leader will reassess a project for possible property divisions, real-estate developments, and possible railroad track elevation changes due to track maintenance, utility installations or adjustments that need to be incorporated into the survey database. This can be accomplished by periodic field visits, review of tax maps on county GIS websites (if available), and communication with District Utilities, Utility Railroad Liaison Manager, District and State Traffic Operations to identify encroachment permits, and the District ROW Team Manager assigned to a project. The frequency of assessing an aging survey database will depend on the type of existing development along the roadway. For example, more frequent assessments may need to occur in rapidly developing commercial, urban, and sub-urban areas than

in rural areas. At a minimum, these assessments should occur six months before the scheduled finish date for *ROW Plans Preparation*.

Projects That Cross Railroad – due to potential rail elevation changes when rail maintenance is performed, rail elevations shall be updated for the following conditions:

- Roadway Bridge over Railroad
- Railroad Bridge over Roadway

The Design Phase Leader should ensure that the top of rail elevations be updated every three years after the project's Database Complete date. If the Final Field Plan Review (FFPR) is less than three years after this date, the top of rail elevations should be updated three months prior to FFPR. For additional guidance, see the GDOT Survey Manual, and/or contact the Statewide Location Bureau Chief.

For consultant projects, the prime consultant is responsible for making these assessments as needed and coordinating with their surveyor (firm) to make the appropriate updates. For projects that are designed in-house, the GDOT PM and Design Phase Leader are responsible for making these assessments and coordinating with the State Location Bureau Chief to make the Additional Survey Request, if needed.

Delayed Project Development - when project development is delayed, an assessment of the existing survey database is required before project activities are resumed. For example, a project is placed on HOLD status during database collection, or a project does not advance after *Database Complete*. This could also occur if a consultant contract is prematurely terminated for any reason. In these cases, the GDOT Project Manager should request an assessment of the database from the State Location Bureau Chief to determine the age and quality of the database and the extent of additional survey data needed, if any. This assessment by the DPS Location Bureau should be done before a consultant scope is negotiated or before in-house Preliminary Engineering resources are resumed or kicked-off.

6.3 Investigations

6.3.1 Bridge Condition Survey

For projects including a bridge widening or rehabilitation, a Bridge Condition Survey should be completed by the Office of Bridge Design, Bridge Maintenance Section during Concept Development. If the Bridge Condition Survey is more than three years old and it recommended retaining the existing bridge, the PM will request through the Office of Bridge Design verification of this recommendation. The Office of Bridge Design will coordinate with the Office of Materials and Testing (OMAT) Concrete Branch to verify the bridge deck condition. The Office of Bridge Design will consider OMAT Concrete Branch's recommendation and determine whether the bridge should continue to be rehabilitated and widened or replaced.

6.3.2 Soil Survey

The OMAT will prepare a Soil Survey Report at the request of the PM. The Design Phase Leader will provide the appropriate plan data according to the GDOT Geotechnical Manual. If the soil investigation is done by a consultant, the consultant will prepare the soil survey report according to

GDOT's Geotechnical manual and submit the report to the Project Manager for their submittal to the OMAT for acceptance. The PM and consultant will be notified of any comments or of its acceptance.

Property Access Notification – Geotechnical

It is imperative when field surveys are to be performed on private property, either by GDOT forces or consultants, the property owners will be notified by the PM in writing prior to the surveyors entering onto the private property. The Geotechnical Survey Party Chief (GDOT or consultant) will notify the GDOT PM when surveys are to begin and will carry copies of the previously sent notification letter for distribution if necessary.

Soil Survey Report – Not Required

A Soil Survey Report is normally not required for minor projects. The following non-exhaustive list constitutes types of minor projects. Note that significant change in grade is defined as raising or lowering the existing profile grade line by more than five (5) feet.

- Projects with no subgrade disturbance (including pure milling and inlay and overlay projects)
- Signage and Lighting projects
- Intersection Improvement projects
    - Traffic Signal Operational Improvement Projects
    - Traffic Signal Upgrade Projects
    - Roundabout projects at an existing intersection with no significant change in grade
    - Projects adding turn lanes only
- Projects with less than 1500 feet of new alignment with no significant change in grade
- Bridge replacement projects with less than 1500 feet of roadway on each side of the bridge, provided there is no significant change in grade.

Soil Survey Report – Required

A Soil Survey Report is required for major projects. In general, any project with significant change in grade, which is not precluded in the "Soil Survey Report – Not Required" list of project types, requires a soil survey. Note that *significant change in grade* is defined as raising or lowering the existing profile grade line by more than five (5) feet. The following non-exhaustive list of project types require a soil survey:

- Widening projects
- New alignment projects
    - Less than 1500 feet with significant change in grade
    - 1500 feet or greater regardless of change in grade
- Bridge replacement projects with 1500 feet of roadway or greater on one side of the bridge at a minimum, regardless of change in grade
- Intersection Improvement projects

- Roundabouts at an existing intersection with significant change in grade.

Soil Survey Report – Required at Preliminary Field Plan Review (PFPR)

A Soil Survey Report is required prior to the (PFPR) for major projects within the following 35 counties:

Baldwin	Fannin	Liberty	Walker
Banks	Floyd	Lumpkin	Washington
Bryan	Franklin	McIntosh	White
Burke	Gilmer	Murray	Whitfield
Camden	Glascock	Pickens	Wilkinson
Catoosa	Glynn	Rabun	
Chatham	Gordon	Stephens	
Chattooga	Habersham	Towns	
Dade	Jefferson	Twiggs	
Dawson	Jones	Union	

6.3.3 MS4 Stormwater BMP Infiltration Report

An MS4 Soils Report is required for projects with proposed infiltration Post-Construction Stormwater BMPs. An MS4 Soils Report is required for projects in MS4 areas that do not have a Project Level Exclusion (PLE) and propose the use of an infiltration BMP. This testing can be requested at the same time as the Soil Survey Report. Acceptable testing methods are shown in Appendix J of the Drainage Design for Highways manual and the preferred method is selected by the Geotechnical Engineer.

6.3.4 Pavement Evaluation Summary (PES)

When the project design proposes to retain and overlay the existing pavement, the condition of this pavement is evaluated to ensure that it is suitable for inlay/overlay and retention as part of the permanent pavement structure. The OMAT or project consultant will prepare a Pavement Evaluation Summary (PES) report at the request of the PM. The PES report documents the condition of the existing pavement and proposes an overlay or full depth pavement section to provide acceptable performance over the design life of the project. The PES report shall include all full depth, inlay/overlay, and temporary pavement designs in the report. When the PES is approved, the State Pavement Engineer (SPE) will sign the approved designs provided in the PES report. If all project pavement designs are included in the PES report a separate pavement design package will not be needed. Pavement designs with base alternates should be included where applicable.

The decision to request a PES report is largely based on the, type of project, extent of the planned overlay, and the importance of the overlay to the planned sequence of construction staging. Below are guidelines to decide if a PES report should be requested for a specific project.

- For non-linear projects (e.g., intersections improvements, bridge replacements, passing lanes, streetscapes, roundabouts, bike/ped, LCI, etc. a PES report should be requested

where a length of continuous inlay/overlay exceeds 0.50 miles. However, a PES report should be requested where pavement distress within the project limits differs significantly from the pavement distresses outside of the project limits. The local GDOT Area Office can be consulted to evaluate for this condition. Inlay/overlay may be proposed without requesting a PES report for a length of continuous overlay less than 0.50 miles for non-linear projects and does not require approval.

- For linear projects, a PES report should be requested for a length of continuous inlay/overlay greater than 0.25 miles. If a PES report is not requested, full-depth reconstruction of the pavement is recommended (regardless of the length of inlay/overlay), unless the function of the inlay/overlay is solely to tie into the existing pavement at the end of an alignment.
- For off-system projects that are not part of the National Highway System, and do not have Federal Funds a PES report is not required unless significant pavement distresses are found within the project limits.
- Side roads should be investigated when a PES is requested to determine if the existing pavement can be retained. Inlays/overlays shorter than 500 feet in length on side roads, where the PES has not recommended reconstruction, are considered tie-ins which do not require an inlay/overlay design. For additional guidance contact OMAT.

For tie-ins to at-grade railroad crossings, contact Utility Railroad Liaison Manager and/or Utility Railroad Crossing Engineer.

The Design Phase Leader will provide all items listed in the Pavement Management Submittal Checklist for the planned extent of existing pavement to be retained and should be submitted by the PM following the Pavement Management Submission Process.

Since the PES report documents the condition of the existing pavement at the time the report is issued the report recommendations must be revalidated by OMAT if the project is to be let to construction after the expiry date stated in the report.

When the PES report recommends the existing pavement not be retained, a full-depth reconstruction of the pavement should be incorporated into the project design. If full depth reconstruction is not feasible due to stage construction constraints (generally only in tight urban environments) coordination with the State Pavement Engineer (SPE) will be necessary.

6.3.5 Foundation Investigations

Property Access Notification - Geotechnical

It is imperative when field surveys are to be performed on private property, either by GDOT forces or consultants, the property owners will be notified by the PM in writing prior to the surveyors entering onto the private property. The Geotechnical Survey Party Chief (GDOT or consultant) will notify the GDOT project manager when surveys are to begin and will carry copies of the sent notification letter for distribution if necessary.

Bridge Foundation Investigation (BFI)

Upon completion (and acceptance) of the preliminary bridge layout the Office of Bridge Design or appropriate Consultant will request a bridge foundation investigation to be completed for each

bridge on the project. If completed by a consultant, the investigation report and recommendations shall be submitted to OMAT for their comments or acceptance.

Wall Foundation Investigation (WFI)

Upon approval of the preliminary wall layout, by the Office of Bridge Design, the Project Manager will request a wall foundation investigation be prepared by the Geotechnical Bureau for each wall or notify the consultant that wall foundation investigation work may advance. If completed by a consultant, the wall foundation investigation report and recommendations shall be submitted to Geotechnical Bureau at the Office of Materials and Testing for their comments or acceptance. Note that wall foundation investigations are not required for GDOT Standard Walls.

6.3.6 Environmental Site Assessment Phase I and Phase II

Property Access Notification - UST/HW

It is imperative when field surveys are to be performed on private property, either by GDOT forces or consultants, the property owners will be notified by the PM in writing prior to the surveyors entering onto the private property. The Drill Crew Chief (GDOT or consultant) will notify the GDOT Project Manager when surveys are to begin and will carry copies of the sent notification letter for distribution if necessary.

The Environmental Site Assessment Phase I and Phase II investigation procedure is initiated by the Project Manager and should follow both GDOT policy 5525-1 and Chapter 10 of the Geotechnical QA/QC Manual, located on the GDOT ROADS website.

6.4 Preliminary Design, Plan Preparation and Coordination

Once the database enhancements are obtained, including SUE information where applicable, the design team should continue with the preliminary design up to the point of beginning the ROW plans.

6.4.1 Roadway Design

Guidance

The design team shall adhere to the GDOT Design Policy Manual and references contained within along with all other guidance listed on the GDOT R.O.A.D.S. website.

Roadway Design Activities

Preliminary design activities include, but are not limited to:

- Database verification
- Typical sections
- Pavement Design
- Intersection Control Evaluation (ICE) Stage 2 (when unable to be completed prior to concept approval – for longitudinal projects only)
- Traffic analysis using HCS, SYNCHRO, VISSIM, CORSIM, SIDRA or other approved tool to design intersection configuration (length and number of turn lanes, etc.) and intersection control
- Geometric design such as horizontal and vertical alignments, intersection configuration (through lanes, number and length of turn lanes), and super-elevation (SE).

Checking/documenting design criteria such as sight distance (intersection, stopping, passing), and SE transition
- Cross-sections to establish construction limits
- Driveway Profiles
- Drainage design (cross drains and roadway drainage systems, including possible detention)
- Ditch design
- MS4 coordination and design (if applicable)
- Design Exceptions and Variances. See Appendix D
- Construction staging including cross sections and utilities if applicable
- Erosion control design which affects the project footprint
- Wall layouts and preliminary envelopes
- Establish preliminary ROW and easement required for the project
- Evaluate breaks in access control (if applicable)
- Calculate preliminary quantities
- Hydraulic Studies
- Prepare preliminary signing, marking and signals to establish strain pole locations
- Respond to and make design/plan changes from PFPR

The Design Phase Leader is directed to the GDOT document titled Plan Presentation Guide (PPG) to assist in the preparation of a uniform set of plans.

Coordination Activities

Coordination activities include, but are not limited to:

- Request Bridge Layout
- Federal Emergency Management Agency (FEMA) coordination (checking 100 year flood elevations) (if applicable)
- Coast Guard for project on the Georgia coast
- US Army Corps of Engineers for projects near lakes and navigable rivers
- Request Bridge Condition Survey
- Request soil survey
- Request Underground Storage Tank survey
- Request existing pavement evaluation
- Request Avoidance & Minimization Measures Meeting (A3M)(if applicable)
- Request constructability review (if applicable)
- Request existing utility locations (conventional or SUE)
- Request preliminary utility relocations
- Request pavement type selection (PTS)
- Request evaluation for breaks in access control (if applicable)
- Request VE study (if applicable)
- FAA if within 5 miles of an airport
- Request PFPR

Hydraulic and Hydrologic Studies for Culverts

Any project that will include a culvert or replaces an existing culvert requires a hydraulic and hydrologic study and subsequent design. The Design Phase Leader should follow the procedures described in the Department's Drainage Manual for the studies, design and coordination activities. If a stream is considered a FEMA floodway, coordination will be required with the local jurisdiction, County or City. If the Design Phase Leader determined that a culvert is not applicable, then refer to section 6.4.11 to request a bridge hydraulic and hydrologic study.

Municipal Separate Storm Sewer System (MS4)

The Design Phase Leader should follow the Department's Post Construction Stormwater Design Guidelines as outlined in Ch. 10 of GDOT's Manual on Drainage Design for Highways and as shown in the MS4 PDP Process Chart. The Design Phase Leader will evaluate the project outfalls, determine any Outfall Level Exclusions (OLEs), analyze the feasibility of BMPs, sizing the BMPs, and prepare a Post-Construction Stormwater Report for submission to the Office of Design Policy and Support for review as soon as possible after completing the preliminary drainage design and no later than 8 weeks prior to PFPR.

Intersection Control Evaluation (ICE)

For longitudinal projects, if ICE Stage 2 was not submitted as part of the concept approval process, the evaluation should be performed for each intersection in the project and submitted for approval. See Chief Engineer's Policy 4A-5. ICE Stage 2 should be submitted no later than one-third of the way through the time allotted for the preliminary design phase. For any project, if issues arise post concept approval that will change the outcome of the existing ICE, such as a change in the roadway alignment, determination of new median opening location, or identification of a previously unknown environmental impact, the ICE documentation should be revised and resubmitted for approval or a waiver should be requested.

Roundabout Considerations

A Peer review of roundabout design plans must be performed for all roundabout projects, unless approval to omit this review is received from the State Traffic Engineer. This review may be performed prior to or along with Preliminary Field Plan Review. Peer reviewer comments will be added to the field plan review (FPR) report and any plan mark-ups will be provided to the Design Phase Leader. Any peer review recommendations not implemented should be coordinated with the Office of Traffic Operations (OTO). Specifically, if the Design Phase Leader proposes not to implement a peer review recommendation, a written response will be submitted along with the peer review report to OTO.

Topographic, Property & Utility Database Reviews by Designers

The Design Phase Leader should briefly verify, within reason, that the database provided by the surveyor and data engineer provided enough survey coverage and matches what is existing on the project. This is not expected to be an exhaustive review. Any discrepancies found should be reported to DPS, Location Bureau or the appropriate consultant surveyor for correction.

Establishment of Required Right of Way (ROW) and Easements

Prior to requesting PFPR, preliminary ROW and easements shall be set for the footprint of the project so that the project can be built and maintained, to provide for a safe roadside such as clear zone or intersection sight distance and as applicable for utility relocation.

Following the PFPR and after PFPR responses are accepted, the Project Manager shall schedule the ROW/Utility team meeting (see ROW/Utility Team Meeting Memo on ROADS).

After PFPR comments have been addressed and corrected on the preliminary design, ROW plans will be created using the criteria listed in the PPG for ROW plans. The Project Manager shall submit the ROW Plans to the ROW office for review and approval.

Evaluation for Breaks in Access Control (if applicable)

Projects that will have partial control of access may need to be evaluated for breaks in the partial control. Access control is discussed in more detail in Chapter 3 of GDOT's Design Policy Manual:

http://www.dot.ga.gov/PartnerSmart/DesignManuals/DesignPolicy/GDOT-DPM.pdf

For projects that need to be evaluated for breaks in access control:

- After concept approval, and at least 90 days prior to the Preliminary Field Plan Review, the project Design Phase Leader will notify the Project Manager to request an evaluation for breaks in access control from the District Office corresponding to the project's location. The evaluation request will include project plans/layouts, along with a summary list of parcels that should be evaluated for breaks in access control.
- The District Office will assemble an evaluation team which should include, at a minimum: The District Preconstruction Engineer, project Design Phase Leader, District Right-of-Way Acquisition Manager, and District Traffic Operations personnel.
- The District Right-of-Way Office will determine a preliminary cost to acquire each parcel or parcel remnant that is a candidate for providing direct access. The evaluation of each parcel should include but is not limited to the following criteria: acquisition cost, potential mobility/operational conflicts, and potential safety issues. A draft evaluation report will be prepared that will recommend which parcels should be considered for access control breaks.
- The draft report should be included in the PFPR request package and any potential issues discussed at the PFPR meeting.
- The draft evaluation report will be finalized by the project Design Phase Leader and submitted to the Project Manager. The Project Manager will submit a Design Variance request for breaks in access to the Office of Design Policy and Support (ODPS) that includes the evaluation report as an attachment. ODPS will process the Design Variance request and submit to the Director of Engineering for concurrence and the Chief Engineer for approval.
- The Design Variance request should be submitted at such time that the request be approved prior to the submission of Right-of-Way plans to the Office of Right-of-Way.
- The Office of Design Policy and Support will place the approved Design Variance in ProjectWise and notify the Project Manager, who will in turn provide a copy to the State Right-of-Way Program Manager and the District Preconstruction Engineer.

Design Data Book

The project Design Data book is an ongoing book of design calculations, design decisions and other design data kept by the Design Phase Leader. This book, started in the concept phase, is updated when design tasks are completed and design decisions are made. The Design Data book is updated with calculations and data such as: alignment geometry, SE calculations, sight distance calculations, capacity and intersection analysis, turning radius diagrams, etc. Drainage design calculations and quantity calculations may be incorporated into the design data book or could be separate depending on the size of the project.

Design File Check for Electronic Data Guideline (EDG) Compliance

Similar to the survey checks for consultant projects, the Project Manager should submit the consultant preliminary design files (InRoads & Microstation) to the DPS prior to PFPR to determine that the electronic files are following GDOT's EDG. The random analysis of the files performed by DPS provides the Project Manager with information to decide whether the consultant's files are within acceptable tolerances or whether the Project Manager should instruct the consultant to correct them. The Project Management Office will decide on a project by project basis whether GDOT wants to accept the risk if the files do not meet tolerance or have the consultant correct the issues.

6.4.2 Pavement Design

Pavement Designs will be prepared for each pavement section proposed for the project, using the GDOT Pavement Design Manual. Chapter 11 of the GDOT Pavement Design Manual provides guidelines for the design of pavement sections.

Pavement Type Selection (PTS) Report

The OMAT will prepare a Pavement Type Selection (PTS) report when requested by the Project Manager. This request will be made in response to a decision by the Design Phase Leader that a PTS report is required. The Design Phase Leader will provide preliminary cover sheet, typical section sheets, traffic diagram sheets, mainline plan sheets, mainline profile sheets, cross section sheets, and staging plans. OMAT will prepare and submit a PTS to the PM and Design Phase Leader.

When projects require complex staging due to high traffic volumes or constricted construction area, the pavement type should be discussed at the constructability review or other meetings to provide concurrence with the Design Phase Leader and the District Construction personnel. If required, the constructability review should be complete before requesting a PTS. If an option will not work, the specific reasoning should be brought forth when requesting a PTS.

Guidelines for the preparation of PTS reports are provided in the Pavement Type Selection Manual.

PTS reports should be completed using pavement designs that have been approved by SPE.

A PTS is not required for projects with less than a continuous mile of full-depth pavement.

Full-depth pavement for projects that do not require a PTS should match the existing pavement at the beginning and/or ending of the project.

For off-system projects that are not part of the National Highway System, and do not have Federal Funds a PTS report is not required unless a PES Report recommending Full Depth Reconstruction has been performed.

Pavement Design: Projects meeting the "Guidelines for Minor Pavement Projects"

Projects that meet the Guidelines for Minor Pavement Projects do not require approval by the SPE. However, for designs that could use the Guidelines for Minor Pavement Projects, the Design Phase Leader may prepare a pavement design using the current GDOT Pavement Design Tool, for submission by the Project Manager to the OMAT for review and approval by the SPE.

Pavement Design: Projects not meeting the "Guidelines for Pavement Sections for Minor Projects"

For full depth pavement designs on projects without a PES the Design Phase Leader will prepare a pavement design for all applicable roads on a project and submit the package for review as noted below. A pavement design submittal checklist, listing the supporting items and documents required as part of the submittal package, is available on the GDOT ROADS web page. All pavement designs should be submitted using the Pavement Design Submission and Approval Process.

GDOT in-house pavement design packages should be submitted to the State Roadway Design Engineer (SRDE) for a Quality Assurance review. The SRDE should then submit the packet to the SPE for final review and approval.

Consultant pavement design packages should have an internal QA/QC review performed and included in the package, before submitting to the SPE for review and approval.

Inlay/overlay designs for projects that do not require a PES do not require approval of the SPE.

Pavement design packages should be submitted for review and approval a minimum of 4 months before PFPR and should be approved before PFPR.

For projects containing bid alternates, the bid alternate pavement provisions should be incorporated into the plans prior to PFPR.

6.4.3 Utility Plans and Coordination

By Georgia statutes, utilities whether public or privately owned, aerial or underground, are permitted by GDOT and local governments to be accommodated within the public ROW. To this end, the Design Phase Leader should make every effort to design a project that will accommodate (and minimize impacts to) all existing utilities and new utilities to be constructed concurrently with the project. Refer to section 4.1.C.1 Utility Accommodation Policy and Standards manual, current edition.

The utility plans are used as the primary tool to identify and resolve utility related conflicts/issues prior to beginning the construction of projects.

Utility Coordination

As the preliminary design moves forward, utility locations/relocations should be coordinated with the Design Phase Leader, the District Utility office, the specific utility owner and project team such as:

- The environmental phase leader to ensure the environmental analysis included in environmental documents and reports, permits and variances take into account utility requirements within existing and proposed ROW or when the utility relocation is included in the GDOT construction contract
- The Office of Right of Way when Utility Owners show documented prior rights ROW or easements; the acquisition of ROW or easements for the utility, and need for additional ROW and/or permanent easements for construction and maintenance of slope, and the right to place utilities. Considerations are to be given for future utility accommodations
- Traffic Operations to consider joint use poles at signalized intersections
- Design Policy and Support to consider lighting
- Bridge Design to consider existing or proposed utilities attached to the bridge in addition to overhead/underground facilities that could affect construction

The coordination is intended to ensure that the project design accommodates utility retention and/or utility relocations.

A new policy titled “Policy Request for Utility Coordination Responsibilities for GDOT LET, Local PE” dated May 23, 2018 was implemented that places the responsibility of utility coordination for Local PE, GDOT Let projects on the GDOT Utilities Offices.

Public Interest Determination (PID)

State law allows the Department to pay or participate in the costs associated with the removal, relocation, or adjustment of utility facilities necessary to accommodate the construction or maintenance of a public road by the Department. This applies to any utility facility that is publicly, privately, or cooperatively owned without regard to whether such facilities were originally installed upon rights of way of the State Highway system, a county road system, or a municipal street system. However, payment is limited to those instances where the Department has made the determination that “such payments are in the best interest of the public and necessary in order to expedite the staging of the project” and “the costs of the removal, relocation, or adjustment of such facilities are included as part of the contract between the Department and the Department’s Contractor for the project.” This policy and its associated procedures are intended for Department sponsored projects. On other sponsored projects, such as Local Government sponsor, the implementation of this policy and procedures as well as any associated utility relocation costs shall be at the discretion of the project sponsor.

For the applicable project, the Project Manager will need to refer to policies 3E-1 and 6863-12 to note if the Public Interest Determination Procedure is to be utilized and, if so used, what Utility Risk Management Plan was recommended. This will document the decision of whether the Department should accept or avoid the risk associated with third party utility relocations.

In addition to the PID, several other decisions affecting utilities must be made in the plan development process, ideally at the concept stage, but no later than the early stages of preliminary design:

- Who will perform the relocation design for water and sewer; GDOT consultant or the local government?
- Who will perform the relocation design for privately owned utilities; GDOT consultant or the Utility Owner?
- Will any utility relocation be included in the construction contract?

If a PID is not recommended, utility relocations may still be included in the construction plans in accordance with the Utilities Accommodations Manual.

Preliminary Utility Relocation Design

As preliminary design plans are developed, an interim submission for preliminary utility relocations should be requested from the utility companies in the same manner as the 1st submission. Once existing utility locations have been determined and confirmed within the project limits, the preliminary relocation design should provide enough information to make fundamental determinations of how the proposed utilities will impact design, environmental resources, bridges, stage construction and ROW acquisition early in the design phase of the project. Thus, this submission should be performed well in advance of the Department's PFPR, the preliminary relocation plan request shall include preliminary design elements including but not limited to: preliminary roadway and cross street plans, profiles, cross sections, preliminary staging plans, existing utilities and , all identified environmental resources. Upon receipt of the markups, the District Utilities Office will review to ensure the preliminary relocation design is consistent with the GDOT Utility Accommodation Standards and Policy, current edition Manual, and forward to the Project Manager. This request is intended to provide preliminary utility relocation plans prior to PFPR.

This practice will allow discussion of the impacts to design, right-of-way and environmental document at the PFPR, position the District Right-of-Way and Utilities office to conduct a productive ROW/Utility team meeting that will occur after the PFPR, aid utility companies to provide prior right claims early when applicable, and allow utility owners to identify and verify their relocation plan at 2nd submission which could benefit the project schedule. (For guidance related to the Preliminary Utility Relocation Process and Team meeting, refer to the Preliminary Utility Relocation Memo and Chapter 4 of the GDOT Utility Accommodation and Standards manual, current edition).

Utility Impact Analysis with SUE

As the preliminary design moves forward, utility conflicts with the proposed design will become evident. On projects where SUE has been employed, a Utility Impact Analysis (UIA) can be implemented as soon as preliminary drainage (plan view), and any other applicable proposed design information is available. The UIA can consist of a utility conflict matrix or marked plans with conflicts. The conflict matrix is generated by a SUE Consultant pre-qualified in Area Class 5.08 to identify all potential utility conflicts and recommend resolutions on the project. This analysis is provided to the Design Phase Leader and the District Utilities Office around the time

of the PFPR. The Design Phase Leader should make any necessary design changes to avoid utility conflicts identified in the conflict matrix. The Project Manager, Design Phase leader, District Utilities Office (may include affected utility owners), and State Subsurface Utilities Engineer and SUE consultant will coordinate to identify locations of test holes if required (Quality Level A SUE) to obtain the vertical location of the utility for further conflict resolution. This request for test holes is recommended to occur after the PFPR, but prior to the final design beginning and before 2nd submission occurs.

6.4.4 Railroad Coordination

The railroad coordination and the processing of railroad agreements can take several years. A permit or an agreement will be required with the Railroad if there is an encroachment of any kind on Railroad property. It is imperative that the crossing of any railroad or railroad ROW, and/or parallel encroachments be identified early to ensure adequate coordination. Railroad coordination may also be required for at grade crossings within 500 feet of the project limits. As early as the Concept Development Phase, the PM will notify the Utility Railroad Liaison Manager upon the recognition of any such railroad involvement.

The Project Manager will submit to the Office of Utilities Railroad Liaison Manager and Utilities Railroad Crossing Engineer the first plan submission for railroad coordination, as soon as preliminary bridge plans and/or complete roadway, grading, drainage (including calculations), traffic signal/ITS plans (if warranted), signing and marking, etc. are available. Generally, this occurs after the corrected PFPR plans. The Project Manager and Design Phase Leader will refer to the State Utilities Office webpage for the required Railroad Submittal checklist that needs to be completed and included with all railroad coordination submittals.

6.4.5 Lighting Plans

Highway lighting may be proposed on any roadway project, as a stand-alone project, and/or as a Utility permit. The Project Manager shall coordinate, as soon as possible, all lighting requirements for existing or proposed systems with the Design Policy and Support, Lighting Group and with the appropriate District Utilities Office. The lighting requirements, funding methods, and agreements are specified in Chapter 14 of the GDOT Design Policy Manual, the Lighting Design Process chart, and Chapter 5.10 of the Utility Accommodation Policy and Standards Manual (UAM).

In the Plan Development Process, it is best that lighting requirements be initially coordinated at the concept stage. Lighting design usually begins after preliminary roadway plans are developed. The preparation of lighting plans that are to be included in a parent set of roadway or maintenance plans may begin prior to PFPR; however, photometric calculations will not be approved until after the PFPR comments have been incorporated into the roadway plans. Preliminary pole locations may be provided on PFPR plans to aid determining right-of-way requirements.

6.4.6 Signing and Marking Plans

Signing and Marking plans will be developed using GDOT's Signing and Marking manual and the MUTCD. The Design Phase Leader should complete enough signing design during the preliminary design phase to determine strain pole locations and the need for ROW beyond the normal footprint of the project.

For projects that it is determined that an existing overhead sign structure (Type 1, 2, 3, etc.) can be reused, a sign structure condition survey must be requested through the Office of Bridge Design. Preliminary sign panels must be designed and accompany the request to verify whether the structure can handle the future panel loads if the condition of the structure is acceptable.

The Design Phase Leader shall assign a specific number as per Department guidelines to each sign structure. That number, along with other sign information, will be entered into the Department's asset management database by the Office of Traffic Operations upon project letting

The State and District Traffic Operations Offices will provide review of the preliminary plans for PFPR.

6.4.7 Signal Plans

Any traffic signal proposed for a state route requires a permit approved by the State Traffic Engineer. Approval of a concept report that includes installation of a signal does not imply approval of the signal permit. If a Traffic Engineering Study and Warrant Analysis were not completed during the concept phase, but the ICE analysis (Warrant analysis included) shows that a new signal would be the preferred alternative at a proposed intersection, the Project Manager will request a Warrant Analysis, Traffic Engineering Study and traffic signal permit from the District Traffic Operations Engineer. The Design Phase Leader will provide plans, a preliminary signal layout and preliminary signal phasing to the PM for their use in this request. Upon completion of the study, a recommendation package is submitted to the State Traffic Operations Engineer, the Director of Operations and the Chief Engineer for concurrence or denial at any level.

Detailed signal design should not occur until the permit is approved.

Modifications to an existing traffic signal require a permit revision. Justification for any proposed phase changes must be provided in writing. Signal permits and permit revisions must be coordinated through the District Traffic Engineer.

Signal plans will be developed according to the GDOT's Signal Design Manual. The Design Phase Leader should complete enough signal design to determine if ROW will be needed beyond the proposed footprint for signal poles, controller cabinets and pedestrian accommodations. In some instances, it will be necessary for the conduit/fiber routing to cross Railroad property. Refer to section 6.4.4. for Railroad Coordination requirements. In addition to the preliminary signal layout, consideration should be given to joint use poles (GDOT or utility owned) with the assistance of District Utility Engineer.

6.4.8 ATMS/ITS Plans

Upon Concept Report approval, the preparation of preliminary ITS plans will begin. ITS plans shall be developed in accordance to GDOT ITS Design Manual. Preliminary plans shall include:

- Conduit/fiber routing
- Fiber allocation plan
- Conduit/fiber bridge attachment details
- Network electronics
- Changeable Message Sign clearance diagrams
- Device pole locations

Conduit/fiber routing is a critical part of developing ITS plans. The initial base sheets must show existing ROW; the location of retaining walls, bridges, culverts, ditches, and channels; horizontal alignment of the mainline; location of existing railroad tracks, railroad warning devices and railroad ROW; ROW encroachment situations; and beginning and ending project limits. Conduit/fiber routing will run along the mainline, potentially on side roads, and to field device sites.

In some instances, it will be necessary for the conduit/fiber routing to be mounted to existing bridge structures. In these cases, the Project Manager will provide all necessary information such as the horizontal geometry to the Office of Bridge Design for review. The Office of Bridge Design will develop plans for conduit attachment to bridge structures and will provide all attachment details and bridge plans to the PM to be included in the preliminary plans.

In some instances, it will be necessary for the conduit/fiber routing to cross Railroad property. Refer to section 6.4.4. for Railroad Coordination requirements.

Arterial routes that require aerial fiber routing shall require utility coordination for fiber points of attachment. Aerial fiber routing plans shall be submitted to the District Utilities Office for their use in coordinating point of attachments as soon as the aerial fiber routing is determined. Submittal shall include cover sheet, base sheets with aerial fiber routing, and existing/proposed pole locations.

The preliminary plans will include a fiber allocation plan coordinated with Office of Traffic Operations. The fiber allocation plan will be complete and clear and will include all devices that require fiber optic cable hook-up. The fiber allocation plan will show comprehensive fiber routing from the field device to the fiber end point, either at a trunk cable, cabinet, hub, or the Traffic Management Center.

Network electronics will be included in the preliminary plans. Design of all network electronics is required in order to operate and communicate with field devices for a project. The PM will coordinate with Office of Traffic Operations in developing all network electronics necessary for the proper operation of all devices in a project. The Project Manager will also identify all equipment necessary and their interaction with other devices so that the system will operate as described in the Concept Report.

Some ITS projects will require installation of changeable message signs (CMS). In projects where CMSs are determined to be needed and are called for in the Concept Report the PM will have clearance diagrams developed for each CMS. The clearance diagrams will show all pertinent information pertaining to the overhead signs such as the sign dimensions, location, and distance above roadway surface.

The above defined ITS coordination shall also apply to roadway projects requiring ITS devices.

6.4.9 Landscaping Plans

When landscaping has been requested by a local government, a local authority such as a housing authority or community improvement district (CID) and accepted by the Department within the scope of the project, preliminary plans will be developed by the requesting entity using GDOT guidelines. Once preliminary roadway plans are developed, the PM should coordinate a meeting with the Office of Maintenance, Landscape Architect section (OMLA) and the local landscape consultant for an initial consultation to ensure design criteria of the roadway is not compromised and that landscape materials to be proposed are applicable for the area and roadway facility. Preliminary landscape plans should

begin development after this consultation. Preliminary landscape plans will be submitted to the OMLA for review prior to or at PFPR for their comments to be included in the PFPR report.

6.4.10 Structural Design

Hydraulic and Hydrologic Studies for Bridges

The following information is required for hydraulic and hydrological studies:

- Three sets of roadway plans, which include the cover sheet, typical section, plan, and profile sheets. Data needed on these plans include the traffic data, roadway alignment data, and the accurate location of the existing bridges and culverts and, if applicable, benchmark information. Benchmarks should be located with project stations and offsets, along with descriptions and elevations. The stream traverse, showing the top of the stream banks and edge of water, should be plotted on the plan sheet.
- A completed hydraulic engineering field report is required for each site with a hard copy of all applicable survey data. The required survey data is specified in this field report. All survey data should be referenced in project stations and offsets. Required information and survey data is available in the Department's survey manual.
- As specified in the field report, projects on new location require the project alignment to be accurately located on a USGS Quadrangle Map.

Hydraulic studies will be conducted using the appropriate hydraulic model software as specified in the Drainage Design Manual. Two-dimensional hydraulic computer models can be used where appropriate. All stream involvements, temporary and permanent, will be coordinated with the Office of Environmental Services. Any impacts will be discussed in the appropriate environmental document and where required, mitigated.

Preliminary Bridge Layouts

When preliminary alignments are set, the Project Manager will send to the Office of Bridge Design a set of preliminary construction plans to begin preliminary bridge layouts and wall designs. At a minimum, the plans will contain the horizontal and vertical geometry, roadway typical sections (including potential future improvements that affect the span and clearances), intersection stations, intersection angles, environmental resource locations, and any known constraints at the proposed bridge site. If at any time these design elements change, it is the Project Manager's responsibility to inform the Office of Bridge Design of such changes.

As a first step in preliminary bridge design, the Office of Bridge Design will confirm the Concept Report recommendations about each bridge site to determine the appropriate type of design (e.g., widening, replacement, new, etc.).

A general description of the procedures for determining a bridge size for a given site is described in the Bridge Design Manual or the Drainage Design Manual for stream crossings.

Projects involving any bridging a railroad or a railroad bridge shall be given priority attention in providing preliminary roadway plans to the Office of Bridge Design. This is due to the fact that the process of obtaining railroad information and approval of preliminary layouts impacting their facilities requires a long lead-time.

The Office of Bridge Design will request Bridge Foundation Investigations (BFI) upon acceptance of the preliminary bridge layout.

Retaining Walls

Retaining walls may be used to reduce construction limits that lead to reduced right-of-way impacts, environmental impacts, etc. The Project Manager will coordinate this decision process with the appropriate SMEs to determine whether a wall is the applicable solution for specific locations on a project. Other considerations should be given to the following:

- Costs: Construction of the wall, ROW acquisition (including displacements, cost-to-cure and condemnation), environmental mitigation, utility relocation, etc. should all be considered together to determine the least cost to the project.
- Schedule: Design, geotechnical, environmental approvals, permits approval and acquisition of mitigation and ROW acquisition (including condemnation) should all be considered together to determine the least impact to the schedule.
- Utilities: Location and constructability of existing and proposed aerial and underground utilities as they relate to the proposed wall. Location and constructability of the proposed wall in relation to the existing aerial and underground utilities.

Once determined that a wall is the best solution, retaining wall envelopes should be prepared and evaluated by the Design Phase Leader. When the GDOT Standards are not applicable for a given wall location, the design phase leader will request a special design retaining wall.

If the roadway plans are being prepared by GDOT staff, the roadway designer will submit a request to the Bridge Office for a special designed retaining wall. During preliminary design, the bridge designer will prepare a Preliminary Wall Layout including the plan view, elevation view, a typical section, and design specification and provide it to the Project Manager for inclusion in the request for a WFI. The same preliminary wall layout will be provided back to the road design team for inclusion in the PFPR plan set in section 32.

If the wall is to be designed by a consultant, a Preliminary Wall Layout will be prepared in the same manner as above and submitted to the Bridge Office for approval prior to PFPR. See subsection 1.4.3.1 of the Bridge Design and Structures Manual for an outline of the preliminary plan submittal requirements.

After the Preliminary Wall Layout has been approved by the Bridge Office, a letter of approval will be issued to the Project Manager informing them that the Preliminary Wall Layout is acceptable for inclusion in Section 32 of the PFPR plan set. When the project is being developed by the Bridge Office, this letter will include instructions on requesting a wall foundation investigation from the Geotechnical Bureau at the Office of Materials and Testing. If the layout was developed by a consultant, the approval letter will relay to the team that foundation exploration work can begin.

Construction method and required temporary or permanent easement will be established based on the type of wall selected.

6.4.11 Noise Barriers

The Design Phase Leader will provide the Noise Analyst with .DGN files to run the noise model analysis. DGN files may include mapping, digital aerial imagery, cross-sections, and existing and

proposed traffic. The Noise Specialist will run a preliminary noise model to determine if any locations are impacted.

For federal aid projects, if the preliminary analysis determines that noise levels will be higher than the acceptable standard or there is a substantial increase at identified receptors, the Noise Analyst, the Design Phase Leader and other SMEs will meet to determine the Noise Barrier Wall (wall) location based on proposed elevations along with other constraints such as ROW, utilities and maintenance. With the walls located, the Noise Specialist will run the model again with the walls included to determine the wall size (length and height) for cost comparison. If the wall cost is reasonable per the policy (4415-11), a noise barrier is considered likely

The Noise Analyst will provide a station range and specific wall heights to the Design Phase Leader to complete the wall envelope and other design features such as drainage and roadside safety features to be incorporated into the construction plans.

In final design, after the noise barrier is confirmed feasible to construct, outreach with affected citizens will be initiated.

6.4.12 Stand-alone ITS Projects

Upon Concept Report approval, the preparation of preliminary plans will begin. The Office of Traffic Operations (OTO) will assemble a team consisting of at least a Project Manager and Design Phase Leader.

If additional mapping is needed, the Design Phase Leader should meet with the cartographer prior to beginning the mapping to discuss the project concept and the limits of required mapping. After all mapping has been received; the preparation of initial base sheets will be first priority. The initial base sheets must show existing ROW; the location of retaining walls, bridges, culverts, ditches, and channels; horizontal alignment of the mainline; location of existing railroad tracks, railroad warning devices and railroad ROW; ROW encroachment situations; and beginning and ending project limits. The Design Phase Leader will proceed to follow the most recent ITS Design Manual when finalizing conduit routing, devices, and systems to be used. Conduit routing will run along the mainline, potentially on side roads, and to field device sites. Devices – such as Closed Circuit TV and Video Detection System – will be located within the project limits.

In some instances, it will be necessary for the conduit routing to be mounted to existing bridge structures. In these cases, the Design Phase Leader will provide all necessary information such as the horizontal geometry to the Office of Bridge Design for review. The Office of Bridge Design will develop plans for conduit attachment to bridge structures and will provide all attachment details and bridge plans to the Design Phase Leader to be included in the preliminary plans.

In some instances, it will be necessary for the conduit/fiber routing to cross Railroad property. Refer to section 6.4.4. for Railroad Coordination requirements.

The preliminary plans will include a fiber allocation plan coordinated with the OTO Information Systems, OTO Maintenance. The fiber allocation plan will be complete and clear and will include all devices that require fiber optic cable hook-up. The fiber allocation plan will show comprehensive fiber routing from the field device to the fiber end point, either at a trunk cable, cabinet, hub, or the Traffic Management Center.

Network electronics will be included in the preliminary plans. Design of all network electronics is required in order to operate and communicate with field devices for a project. The Design Phase Leader will coordinate with OTO Information Systems, OTO Maintenance in developing all network electronics necessary for the proper operation of all devices in a project. The Design Phase Leader will also identify all equipment necessary and their interaction with other devices so that the system will operate as described in the Concept Report.

Special provisions are required as part of the preliminary plans. Certain special provisions, such as for fiber optic cable and appurtenances, CCTV and VDS; have already been prepared by others and are available to the Design Phase Leader.

However, there are likely to be projects that have special situations that need further clarification and are not defined in currently available specifications. The Project Manager will be responsible for the development of all special provisions and stipulations that require further detailed instructions that are not suitably shown or identified on the plan sheets.

Some ITS projects will require installation of changeable message signs (CMS). In projects where CMSs are determined to be needed and are called for in the Concept Report the Design Phase Leader will have clearance diagrams developed for each CMS.

The clearance diagrams will show all pertinent information pertaining to the overhead signs such as the sign dimensions, location, and distance above roadway surface. Efforts will be made to locate such devices at or near other structures to take advantage of the existing shielding.

When the preliminary plans have been sufficiently completed, an in-house preliminary plan review will be held. The preliminary design review package should be distributed three weeks prior to the in-house review meeting and include: pole locations, camera positions, existing utilities, existing ROW, bridge attachments, sign structure locations, fiber allocation, network electronics, conduit routing, hub building placement, service points, and major quantities such as fiber, conduit, and devices. The in-house review will be made by the following team members: FHWA (for federally funded projects), Project Manager, OTO planners, OTO design staff, and consultants. Each team member will provide a thorough review of the preliminary design package suggesting ways for improvement, clarity and completeness. All comments made by team members will be addressed in writing by the Project Manager clarifying that the item noted has been updated or whether the item noted will not be updated because of a specific reason. Any changes to the approved concept will require a revised Concept Report. The Project Manager will prepare the revised Concept Report for review and approval.

The Project Manager must request a PFPR at least four weeks prior to the need to hold a PFPR. The request for the PFPR will be made through the Office of Engineering Services a minimum of 32 weeks before contract letting. See below for the requirements for requesting and holding a PFPR.

The Office of Engineering Service will establish the required attendance for the PFPR. It is recommended that the following representatives attend the PFPR: OTO, OTO design staff, local government ITS representatives, Utilities, and project consultants.

6.4.13 Stand-alone Maintenance Projects

Construction plans prepared by the Office of Maintenance requiring the detail necessary to be shown on full size plans will follow the same procedures as a Minor Project if Time Saving Procedures have

been approved and will follow the same procedures as a Major Project if Time Saving Procedures have not been approved.

All other maintenance projects such as resurfacing projects will require a field plan review with a report prepared. The field plan review report will be submitted to the Office of Engineering Services with the final plans for letting.

If a maintenance project contains changes to an intersection that are subject to ICE (see Chief Engineer's Policy 4A-5 for criteria) an ICE must be performed or a waiver requested.

In some instances, it will be necessary for the maintenance project to encroach on Railroad property. A Special Provision for Protection of Railway Interest and/or an agreement may be required with the Railroad if there is an encroachment of any kind on Railroad property. Contact the Office of Utilities, Utilities Railroad Liaison Manager, once the impact is determined.

6.4.14 Cost Estimates

Cost estimates for ROW acquisition, utility relocations, and construction are required yearly for active projects. All projects in the Department's Construction Work Program will use the current cost-estimating tool adopted by GDOT. Currently the tool for construction cost estimates is Transport CES.

Construction Cost Estimates

If an estimate file was not previously created by the Office of Planning during the initial programming of the project or during concept development, the Project Manager will create the project estimate file and notify the appropriate SME (roadway, bridge or consultant) that pay items, quantities and unit costs need to be added or updated. The SME will enter the appropriate pay items, quantities and unit costs into the tool and return ownership to the Project Manager for submission to the Office of Engineering Services. Should the SME need assistance to price any item, they are encouraged to request from the Office of Engineering Services Estimating Section to estimate the unit costs for any items not priced. The Design Phase Leader may be asked to provide earthwork or stage construction information to the Office of Engineering Services so that the Lump Sum item costs such as Grading Complete or Traffic Control can be estimated properly. In addition, if applicable, the Design Phase Leader will provide the fuel index worksheet and the contingency percentage to be added to the estimate as per GDOT Policy 3A-9.

ROW Cost Estimate

The PM should request from the Office of Right of Way, ROW Cost Estimator a preliminary ROW estimate update. The request should include number of parcels (commercial and residential), displacements, and acreage to be acquired.

Utility/Railroad Cost Estimate

The PM will request an annual updated Utility cost estimate from the District Utilities Office. The annual update will include reimbursable and non-reimbursable utility costs based on current plans. When Utility relocations are part of the construction contract, updated plans will be required with the yearly request. The PM will request an annual updated Railroad cost estimate from the Utilities Railroad Liaison Manager.

6.4.15 State Highway System Coordination

Revisions to State Highway System

Per POLICIES AND PROCEDURES 3625-1, the Office of Transportation Data will coordinate with the appropriate entities and submit to the GDOT Commissioner, a plan to revise the State Highway System and, as appropriate, the U.S. Route System.

Initially, the Office of Transportation Data receives notification from the Office of Financial Management of upcoming projects that require a revision to the State Highway System. After notice is received, the Office of Transportation Data reviews existing information (i.e., the Concept Report, the ROW Report, and the Preconstruction Report, etc.) and prepares a State Highway System Revision document (previously referred to as the Order of the Commissioner). If additional information is needed, the Office of Transportation Data will contact the Project Manager for details. The State Highway System Revision document is signed by the Commissioner, the Treasurer, and the local government(s), as appropriate. The State Highway System Revision document is issued for the following road changes: 1) removing a State Route in common, 2) re-designation of a State Route, 3) State Route addition, 4) State Route obliteration, 5) adding a State Route in common, 6) intersection improvements (less than ¼ of a mile), and 7) State Route removal or abandonment.

Projected State Routes

Projected State Route designations will be assigned to proposed major realignments or new construction. The Projected State Route designation, usually beginning and ending at an intersection will remain in effect until construction is completed and the roadway is 'open to traffic'. 'Open to traffic' is defined as unimpeded traffic flow in all lanes; all construction barriers and barrels have been removed from the entire roadway project. Projected State Routes will be identified using the last two-digits of the six-digit route number. 'PR' will indicate a Projected State Route (e.g., SR-0011PR).

Please contact the system Highway Coordinator in the Office of Transportation Data (email: HighwaySystemsAdministrator@dot.ga.gov), if more information is needed.

Improvements to Local Government Roads

For reference, GDOT projects that include improvements to City Streets or County Roads, other than necessary intersection improvements, need a Memorandum of Understanding. The Office of Program Delivery is responsible for the execution of the Memorandum of Understanding with the appropriate local government(s).

6.5 Conceptual Stage Studies

In accordance with the Uniform relocation Assistance and Real Property Act of 1970, if there are one or more displacements on a project, a Conceptual Stage Study (CSS) is required. After the A3M meeting, final displacements should be assessed. The CSS should be produced and provided to the Office of Environmental Services as part of the NEPA document.

For in-house designed projects, the Project Manager will request the CSS from the Office of Right of Way and directly coordinate activities and information with the Office of Environmental Services, and where necessary FHWA.

For consultant-designed projects, the contraction consultant is responsible for submitting the CSS from a qualified preparer or subcontractor. This preparer must be pre-qualified on the Pre-Right of Way Plans Consultant List. The consultant will deliver two copies of the CSS to the GDOT NEPA analyst who will forward the request (for review) of the Office of Right of Way.

For Local Government project, the Local Government will prepare the CSS as directed and coordinated by the GDOT NEPA analyst. The preparer/consultant must be prequalified on the Pre-Right of Way Plans Consultant List. The CSS will be submitted to the Office of Right of Way for review and approval prior to its inclusion within the NEPA document. The completed study is to be sent to the Right-of-Way Administrator, attention: Relocation Manager.

6.6 Major Reviews

6.6.1 Value Engineering (VE) Study in Preliminary Design

If a total project cost is $50 million or more, including projects that are twinned (let together) and/or listed in the same concept report that cumulatively meet this requirement, a VE study must be completed. If the VE Study is performed after a Project Concept Report has been approved and implementation of the VE Study or parts thereof significantly revises the scope of the project as per Chapter 5, the Project Manager will submit a Revised Project Concept Report and cost estimate for approval.

6.6.2 Avoidance & Minimization Measures Meeting (A3M)

Coordination and collaboration between design and environmental practitioners is a critical component to successful delivery throughout the life of a project, and especially critical during the preliminary design phase. The A3M kicks off this formal coordination and collaboration.

A3M Goals & Objectives

The following goals have been developed in order to promote effective project delivery. A successful and well-documented A3M should result in:

- Environmental resources accurately delineated and noted in construction plans
- Impacts to Environmentally Sensitive Areas (ESA) are avoided and minimized to the greatest extent possible
- Project level discussions regarding impacting environmental resources occur early in the preliminary plans phase of the project, with the entire design and environmental teams represented and contributing in a collaborative manner.
- Setting the project in the right direction with respect to the type of environmental documentation and level of permitting required
- Designers gain a broad understanding of each resource including the implications of impacting the resource.
- Environmental specialist and analysts gain an understanding of the design constraints and considerations.

- Environmental Resource information is housed in one location, easily accessible by all project team members
- Efficient production of the ERIT and ECT

See “Design & Environmental Coordination” (APPENDIX O) for additional information regarding the A3M.

Which Projects Need an A3M

An A3M should be held on all projects that have Environmental Resources identified.

When to Hold the A3M

Two activities must be complete in order to schedule and hold the A3M: Environmental Resource Identification and preliminary cross section development. Completing Environmental Resource Identification is a relatively straightforward item, which is tied directly to a corresponding project schedule activity. For the purposes of the A3M, environmental resource boundaries should be based on actual field surveys and delineations (not based on desktop/windshield surveys). Preliminary cross section development is a less straightforward item, which will require some amount judgment from the Design Phase Leader. The construction limits presented at the A3M should represent a practical and desirable “first run” of cross sections with the mindset of “what would the design be if no environmental resources were present?”. This first run of cross section will serve as the baseline condition for discussions of avoidance and minimization.

It is recommended that any Quality Assurance reviews for the project’s geometric footprint occur after (and be informed by) the A3M. The A3M must be completed prior to the schedule activity of Submit Preliminary Plans to GDOT Offices/OES (See Appendix O for additional information).

Who Should Attend the A3M

The Project Manager (who schedules the meeting), the Design Phase Leader, Lead Engineer, Environmental Analyst, and all Environmental Specialists who have identified resources in the project area should attend the A3M. Others may be invited at the discretion of the Design Phase Leader and Environmental Analyst, but both should keep in mind that the A3M is best conducted by a small working group of design and environmental practitioners.

A3M Documentation

Documentation of the A3M process has two components: Project Tracking and Environmental Documents.

The project tracking process includes the A3M tracking sheet (housed on the Office of Environmental Services SharePoint site) and the A3M meeting minutes. The A3M tracking sheet effort begins prior to the meeting itself, with environmental specialists and designers populating certain information fields into the tracking sheet (organized by ESA). The tracking sheet continues to be updated based on discussions at the A3M. All notes, discussions, or decisions regarding specific resources should be housed in the tracking sheet. Any notes, discussions, or decisions which cannot be tied to a specific resource (scope/schedule/budget implications of decisions, higher-level discussions, etc.) should be documented in the meeting minutes, prepared by the Project Manager.

Environmental documents and reports (e.g., Assessment of Effects Reports, NEPA Documents, Buffer Variance Applications, Permit Applications, Memoranda of Agreement, etc.) will include the information contained in the A3M tracking sheet and meeting notes. The environmental documents and reports will utilize this information to complete the environmental coordination/consultation needed to clear the project.

6.6.3 Constructability Review

Stage construction is a major consideration in the preliminary design phase. Earthwork, pavement, bridges, walls and utilities can introduce engineering issues on any project's construction. In August 2000 the AASHTO Subcommittee on Construction published a document entitled "Constructability Review Best Practice Guide" and defined "Constructability Review" as "a process that utilizes construction personnel with extensive construction knowledge early in the design stages of projects to ensure that the projects are buildable, while also being cost-effective, biddable, and maintainable."

Constructability Review Goals & Objectives

The following goals have been developed in order to promote an effective and successful constructability review process that improves the quality of the Department's construction bid package.

- That the project, as detailed to date with both plans and specifications, can be constructed using standard construction methods, materials, and techniques associated with location.
- Proposed plans and specifications provide a clear and concise picture that all contractors can come to the same final conclusions in preparing a competitive, cost-effective bid.
- Identify and discuss temporary construction impacts to environmentally sensitive areas, which could affect project permitting (404 permit). This discussion should inform the creation of Permitted Construction Details plan sheets, which are developed through coordination among bridge engineers, roadway engineers, construction engineers, and Environmental Specialists
- That the final project as specified in the plans and specifications can be effectively maintained over the life of the project.
- Foster a level of involvement by experienced construction personnel during the planning and development phase by opening the lines of communication and distributing ownership of the project.
- Reduce construction phase costs with reduced change orders, claims, and scope inconsistencies.
- Improve contractor's productivity and reduce construction phase schedules.
- Minimize the traveling public's inconvenience.
- Increase compatibility associated with environmental requirements and construction means and methods.
- Promote construction phase safety.

See "Constructability Review Guidance Tool" (APPENDIX L)

Which Projects Need a Constructability Review

A constructability review should be held on major projects that have construction issues (questions) with staging due to significant horizontal or vertical grade changes, major utility relocations, staged bridge or culvert construction or any other complicated construction issue. Constructability issues can also be compounded by high daily traffic to be maintained during construction.

A constructability meeting shall be conducted during Preliminary Design Phase for bridge projects that could require temporary access impacts to waters of the U.S. After the BFI is completed, during Final Design Phase, an additional constructability meeting shall be held prior to FFPR, if necessary, to validate the previous constructability meeting. The necessity of the additional meeting will be determined by the design team and Project Manager.

When to Hold Constructability Review Meeting

The Constructability Review Meeting should be conducted after Concept Report approval during the preliminary design phase, near 30% plan completion. The Constructability Review Meeting should be scheduled once the horizontal and vertical geometry has been established, the initial cross sections are available, initial staging plans and existing utility information. In some cases, the Project Manager may choose to hold the meeting after more information is available (bridge layout, preliminary utility relocations, etc.) if project conditions warrant. A Constructability Review Meeting should be held as a standalone meeting with enough time to implement any changes prior to the PFPR. It is recommended to hold it at least two (2) months prior to the PFPR request to implement all required plan changes.

Who Should Attend Constructability Review

The meeting invitation, initiated and led by the Project Manager, should include the following key personnel: District Construction Engineer, FHWA Area Transportation Engineer (if project is designated as a Project of Division Interest [PoDI]), District Utility Engineer, Area Engineer, Design Phase Leader, and the Lead Design Engineer. Others may be invited at the discretion of the Project Manager or the District Construction Manager, but both should keep in mind that the constructability review is best conducted by a small working group, yet include the necessary expertise required to address the major issues related to the project. Environmental requirements should be considered during the constructability review and an environmental SME (typically the project ecologist) may participate if necessary.

Constructability Review Meeting Location

The constructability review meeting should be held at a local GDOT Area Office and culminate with the project being driven and walked in a logical order.

Constructability Review Documentation

The Project Manager is responsible for keeping minutes of the discussion and getting concurrence (via email or signature) on the minutes from the Design Phase Leader and District Construction Manager. The minutes should note any action items from the meeting and be sent to all the SME offices and be documented in the project file.

Following the constructability review meeting (if applicable) and before PFPR, the District Construction Manager, with coordination with the Design Phase Leader concerning any planned detours, shall develop draft Special Provisions 108.08 & 150.6 and submit them to the Project Manager and Design Phase Leader. These Special Provisions, along with the Permitted Construction Details plan sheets mentioned above should be consistent with discussions and action items resulting from the constructability review meeting

6.6.4 Preliminary Field Plan Review (PFPR)

The PFPR is a major milestone on every project administered by the Department through this process. The main focus of this review is to ensure that the design (what is proposed to be built) has continued in a direction that satisfies the purpose and need of the programmed project, that the project can be built and maintained and the preliminary ROW identified provides area to do so.

PFPR Request

The Project Manager will request a PFPR for every construction project unless otherwise determined by the Office of Engineering Services. The Office of Local Grants will coordinate with the Office of Engineering Services to determine the need for a PFPR on their Major Projects. If it is determined that a PFPR is required, those projects will follow the requirements outlined below.

Technical studies including completed surveys and assessments of effect for ecology, history and archaeology must be completed prior to the PFPR request.

For projects with an EA or EIS, the draft environmental assessment (DEA or DEIS) must be approved prior to the PFPR request.

A letter from the Office of Environmental Services shall be included in the PFPR request package stating that the above conditions have been satisfied.

A written certification from the Office of Planning stating that the current design for the proposed project is in conformance with the adopted Regional Transportation Plan (RTP) or State Transportation Improvement Program (STIP) when the project is located in a non-attainment area for air quality shall be included in the request for a PFPR. The Project Manager should request this letter from the Office of Planning 2-4 weeks prior to requesting the PFPR by submitting a cover sheet, mainline typical section(s) and the project description. Projects such as sidewalks, ATMS or any project that does not change the existing roadway laneage (number of through lanes) are exempt from needing this certification.

Prior to requesting a PFPR, the Project Manager needs to contact the ROW Certification and Funding Supervisor to request the name of the District Right of Way Team Manager that will be assigned to the project. The Project Manager will request a PFPR when the preliminary plans have been completed. At the time of the PFPR, a District Right of Way Team Manager will be assigned and will be accompanied by the complete set of preliminary plans as per the PFPR checklist (2440-1c), a Post-Construction Stormwater Report (for projects in an MS4 area), and all draft project specific special provisions that have a potential to affect the proposed required ROW, utility plans, or environmental issues. Specifically, draft versions of the 108.08 and 150.6 shall be included in request package. Any project specific special provisions that address any unique or unusual features such as any experimental items will also be included.

Failure to provide adequate plans and all of the required information with the PFPR Inspection request will delay the scheduling of the inspection. See POLICIES AND PROCEDURES 2440-1 for more information on the requirements of the PFPR.

Project Manager will place electronic documents following the protocol outlined in the appropriate ProjectWise workflow located on R.O.A.D.S.

Scheduling PFPR

The Office of Engineering Services will only schedule the PFPR when a complete PFPR request is received. The Office of Engineering Services will respond to the PFPR request within five working days after receiving the request, either scheduling the event, or if the PFPR request is incomplete, requesting the additional required information. In their PFPR scheduling letter, the Office of Engineering Services will identify the PFPR Team and the participating offices and request the DPS, Location Bureau to have the centerline staked if the project is on new location and all bridges staked (bents, end rolls, etc.) for review and discussion at the PFPR. For Minor Projects, the Office of Engineering Services may ask the District Construction Engineer to schedule, conduct and prepare the PFPR Report. The Design Phase Leader will provide and ensure the appropriate sets of plans and special provisions are received by the PFPR team at least four weeks prior to the anticipated PFPR date.

Participating in PFPR

The PFPR team members are expected to be familiar with the project, having reviewed the preliminary plans and specifications and environmental reports including the draft environmental commitments prior to the inspection, and are expected to contribute meaningful comments during the review. It is critical that as many problems as possible be anticipated and resolved at this time to avoid costly rework at a later date. The PFPR is not a formality. It is an intense working and problem-solving session bringing to bear the expertise of the participants to resolve issues early in the design process and eliminate later rework because the issues were not settled earlier.

The PFPR team will review the design, plans and special provisions to determine the constructability of the proposed roadway.

If applicable for the project, the PFPR team will apply the PID process (GDOT policy 3E-1 and 6863-13) to identify, assess, and allocate risks to the project related to utility relocation work. Because the PFPR occurs prior to the development of the final ROW plans, any part of the project design that determines the extent of the required ROW will be thoroughly reviewed.

PFPR Report

The Office of Engineering Services will conduct the review and prepare a written report including minutes of discussion and resolution to comments made. The report should also include confirmation from the district that the bridge layout as recently surveyed fits the proposed location whether it was done at the PFPR or prior to the meeting. If applicable, the District Utilities Engineer and Project Manager will ensure the PFPR team recommends a Utility Risk Management Plan and such plan is documented and made part of the final PFPR report and, in a separate document, is sent to the State Utilities Engineer for review and/or further action. If applicable, the assigned District ROW of Team Manager will provide blue-lined comments of the 13 series of the PFPR

plans at or within 1 week of the scheduled PFPR meeting and such plans are documented and made part of the final PFPR report.

The Office of Engineering Services will distribute the report to the current list and attendees. For projects that include the PFPR in the PoDI plan, Engineering Services will obtain the approval of the FHWA before it distributes the report.

Response to PFPR Comments

The Project Manager along with the appropriate Subject Matter Expert will evaluate each unresolved comment from the PFPR report. Upon completed PFPR responses and revised plans as noted below, the Project Manager will submit the report to the Office of Engineering Services for approval. Once the comments are approved, the PM should send the responses to everyone listed in the PFPR Report. Responses to all PFPR comments will be written in full sentences and will clearly state the action taken or proposed to address the comment. If a comment requests a specific action and the Project Manager determines that no action or different action will be taken, the response should clearly explain the Project Manager's decision.

Post-PFPR Environmental Plans

The preliminary plans and other appropriate documents will be modified, where necessary, to address issues discussed at the PFPR. At this time, modifications to the plans that affect ROW and easements, construction limits and environmental resources should be completed immediately so that the Environmental SMEs can revise the Assessment of Effects reports and reopen agency consultations. The NEPA document for federally funded projects is completed following PFPR. Please note that changes requiring addition environmental field surveys or the reopening of agency consultations will affect the project schedule. Any other changes to the plans should be completed in the final plans phase. Timely feedback to the PFPR team and the timely resolution of all field plan review issues is critical for continued coordination and smooth plan development among the various responsible parties.

In addition, the corrected plans are submitted to the Environmental Phase Leader for their completion of the environmental document.

Corrected PFPR Plans

The corrected preliminary field review plans (Corrected PFPR Plans) shall incorporate all of the responses to the unresolved comments documented in the "Response to the PFPR Comments" impacting the plans. Plan changes shall demonstrate that all comments were finalized with documentation. A maximum time duration of 3 months shall be allotted in the project schedule to complete these plan changes commencing immediately upon the submittal of the "Response to the PFPR Comments". In addition, the Corrected PFPR Plans shall be placed in ProjectWise with a notification sent to the SME offices and the Office of Engineering Services copied. If a plan item is not corrected, then all SME offices must be notified prior to the submission of Corrected PFPR Plans with an explanation of why they were not addressed and furthermore if they will be addressed as a part of Final Plans.

6.6.5 Project Risk Assessment Meetings

During the course of preliminary project development, as information about risks are identified and the strategies being used are assessed, it will become more apparent as to whether a high priority

risk can be eliminated or reduced. In addition, new risks may be identified and raised in priority as the project continues to move forward. With this in mind, project risk assessment meetings should be held on a regular basis as needed with appropriate SME's to determine status and/or strategies for high priority risks previously or recently identified. The meetings should also provide for documented decisions about the risks and for other possible SME's to assist in the risk strategy to eliminate or reduce the risk to the project.

Risk assessment at a minimum should be discussed at the following project milestones: PTIP, initial concept meeting, concept team meeting, constructability reviews, PFPR & FFPR. A project risk assessment meeting should be scheduled at least once a year to update status, determine if previous risks identified have been eliminated, identify new high priority risks, and develop new risk strategies to eliminate, reduce, accept or transfer (ERAT) the outstanding risks. The PM will continue to update the Risk Register from these meetings as information is provided by the SME's. This is considered Risk Monitoring and should continue throughout the life of the project or as needed until FFPR.

6.7 Location and Design

In accordance with GA code Title 22 and Title 32 more specifically 22-2-109 and 32-3-5, a Location and Design (L&D) report shall be approved and a legal notice advertised for all projects requiring the acquisition of right of way or easement.

After the completion of the L&D Report by the Design Phase Leader, the Project Manager will submit the report and a Notice for advertisement. See Appendix B (link) for examples of these documents. The report will state: the Land Lots or Land Districts within which the project is located, that a map, layout, or plans are available for Review at the Office of the Georgia Department of Transportation (GDOT), and that a copy may be obtained from the Project Manager's office at a nominal fee.

6.8 Right of Way Plans

After preliminary plans have been updated to address any changes to right of way or easements from the PFPR as noted in 6.6.4, the ROW plans should be completed in accordance with current Right-of-Way Office guidelines and the PPG. The Right-of-Way Office maintains a checklist for the preparation of ROW plans and this checklist is available in the Plan Presentation Guide (PPG).

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Chapter 7. Final Design - Contents

Chapter 7. Final Design

For federal aid projects, once the FHWA (or GDOT staff for PCE's) approves the final environmental document, the State Environmental Administrator will submit a letter to Engineering Services, Right of way, Roadway Design, Design Policy and Support, Project Manager, and FHWA (PoDI only) certifying that the document is approved. At this point, the ROW authorization process can occur (if required), and the final design activities can begin. Advancing a project to final design or the approval of Right-of-Way (ROW) Plans prior to environmental approval may result in the forfeiture of Federal funds.

7.1 Location and Design Report

A Location and Design (L&D) Report and a Notice of L&D (Notice) approval will be required for all projects that require the acquisition of ROW or easement.

Procedures for L&D approval for state funded projects are covered in Chapter 10 – State Funded Projects.

For federally funded projects, the final environmental document must be approved before the L&D Report is approved. The Office of Environmental Services will notify the appropriate offices when the environmental document is approved and provide a copy of the approved document to the Project Manager. Approval of the final environmental document for Federal-Aid projects is considered Federal L&D approval. However, the processing and approval of an L&D Report and advertisement of the Notice is still required by State Code for all projects that require the acquisition of ROW or easement.

7.1.1 Location and Design: Approval

Upon notification of the NEPA environmental document approval, the Design Policy Engineer will route the report to the Director of Engineering and Chief Engineer for review and concurrence. The Design Policy Engineer will date and distribute the approved report and transmit the Notice to the District Planning and Programming Liaison (DPPL). The date of the L&D approval will be added to the ROW plan coversheet by the ROW Plans Office and will be shown in any petition for condemnation. The Design Policy Engineer will be responsible for entries into GDOT's Project Management System that show the approval of the L&D Report.

7.1.2 Location and Design Advertisement

- For GDOT Let projects, the DPPL will advertise the Notice.
- For projects to be LET by a Local Government, the Local Government/Sponsor is responsible for advertising the Notice of L&D approval. Copies of the advertisement will be sent to the DPPL
- In accordance with Ga. Code Annotated 22-2-109(b) and 32-3-5, the Notice will be published:
  - Within thirty (30) days of date of L&D approval.
  - Once each week for four (4) consecutive weeks.
  - In the local newspapers in each county in which the project is located.

- In the local newspaper in which the Sheriff's announcements are carried (Legal Organ).

The DPPL will be responsible for sending an electronic copy of the advertisement to the Project Manager, the Concept Reports Inbox in Outlook, and the State Design Policy Engineer, attention: Design Services Manager, for posting to ProjectWise.

7.2 Right-of-Way

7.2.1 Right of Way Plan Development

For Federally funded projects, the ROW plans will not be approved until the final environmental document has been approved by the Federal Highway Administration (FHWA). Within two days of ROW plan submittal and if the ROW phase will be managed in-house, the project will be assigned to an acquisition team to begin pre-acquisition activities and to prepare a detailed cost estimate.

Upon receipt of the approved L&D report, the ROW Plans Office will add the L&D approval date to the ROW plan coversheet and complete approval of the ROW plans.

For state funded projects the ROW plans may be approved and acquisition may begin before environmental documents and reports are approved, at risk. The Project Manager will coordinate with the Office of Environmental Services to ensure any permits required can be obtained, as designed if ROW acquisition is to begin prior to environmental approval. The state funds are authorized prior to the onset of acquisition.

After the ROW plans are approved, the Right-of-Way Office will send the link to the signed coversheet indicating approval of the plans to the Project Manager, Local Government Coordinator (if applicable), Relocation, Appraisal & Review, Funding & Certification Offices and the ROW Program Manager. The Right-of-Way Office will publish the approved ROW plans in accordance with the appropriate ProjectWise Workflow on ROADS, or for those projects not in ProjectWise, the Electronic Plans Process (EPP) on ROADS. Once all the funding requirements have been met, the ROW office will submit a request for ROW funding authorization according to programmed funding.

7.2.2 Right-of-Way Revisions

The Project Manager will ensure that all plan revisions are distributed to the Right-of-Way Office and the District Office per the appropriate ProjectWise Workflow on ROADS, or for those projects not in ProjectWise, the Electronic Plans Process (EPP) on ROADS. The Project Manager will ensure that proper coordination takes place with all GDOT subject matter experts (SMEs) (environmental, utilities, bridge, etc.) regarding ROW revisions. This coordination will include a discussion on schedule implications resulting from plan revisions.

7.2.3 Local Government Right of Way Agreement

For projects where the Local Government is responsible for purchasing the ROW, per the Project Framework Agreement (PFA), a ROW Agreement is required. Upon first submission of ROW plans, the detailed cost estimate should be generated by the Local Government. Once the plans and estimate are approved, the ROW Agreement will be sent by the GDOT Local Government Right-of-Way Coordinator to the Local Government for signature. The agreement cannot be executed by GDOT until Federal and State ROW funds are authorized. The *Acquisition Guide for Local Public Agencies and Sponsors* is located at:

https://www.dot.ga.gov/PartnerSmart/Public/Documents/AcquisitionGuide_2008_10-23-08.pdf#search=Acquisition%20Guide%20for%20Local%20Public%20Agencies%20and%20Sponsors

7.2.4 Right-of-Way Acquisition

The Right-of-Way Office will request Federal and State ROW funds authorization. Appraisal contracts will be prepared with particular attention given to those parcels involving relocations, any railroad parcels and federal owned parcels. Review of appraisals involving relocations and the above parcels along with demolition contracts will also be given priority.

A property owners' meeting will be held in accordance with the ROW Manual. The Project Manager will be invited to attend this meeting. As outlined in GDOT's ROW Manual, ROW acquisition procedures will follow Federal guidelines for acquisition regardless of whether Federal or State funds are used for acquisition.

ROW acquisition will continue during the time of final design and will be completed in accordance with the ROW certification schedule.

7.2.5 Right-of-Way Commitments

The Acquisition Manager will not make any commitments until collaborating with the Project Manager and all lead team members such as the Design Phase Leader, Environmental Analyst, Office of Environmental Services, District Utility Office, and the Office of Traffic Operations (OTO) to determine if the changes can be made. If a change is needed, the appropriate team member and Design Phase Leader will make the change and submit the revised plans as described in the appropriate ProjectWise Workflow on ROADS, or for those projects not in ProjectWise, the Electronic Plans Process (EPP) on ROADS.

Should there be a request made to the Acquisition Manager during negotiations for a commitment by GDOT to perform additional work or restrict the Contractor in any way, the Acquisition Manager will coordinate with the Project Manager to ensure the commitment is reasonable, feasible and is added to the plans or special provisions.

7.3 Final Design

7.3.1 Final Design Coordination

During the final design phase of a project, once the ROW plans for the project are completed and approved, several activities can occur concurrently, including the acquisition of required ROW and easements, the acquisition of required permits, and the completion of final construction plans. Any changes to the construction plans that increase or decrease the required ROW or easement should be avoided, if possible. The Design Phase leader must coordinate with the Project Manager prior to making significant changes to the plans. The Project Manager must keep all interested parties abreast of any significant changes to the plans that may affect their area of responsibility including environment, ROW, structures, utilities, railroads, and the District as they are developed. Any changes that may affect the environmental analysis or any changes to the approved ROW plans that increase or decrease the required ROW must be submitted to the Office of Environmental Services for possible reevaluation of the environmental document, studies and permits. After coordination with

the Environmental Analyst, the Project Manager and Design Phase Leader may be required to submit a Project Change Form describing the changes for the Environmental Reevaluation. A Project Change Request Form (PCRF) also may be required due to resulting changes in the project schedule. “Hot button” changes made after the scheduled “lockdown” of plans must be discussed with the Director of Engineering.

7.3.2 Pavement

Recommendations in the Pavement Evaluation Summary (PES) report must be reevaluated if the project let date is expected to be later than the expiration date stated in the report. In this case, the Project Manager will send a request to Office of Materials and Testing to reevaluate the validity of the recommendations in the PES report. The Office of Materials and Testing will return a response to the Project Manager within thirty (30) days of receiving the request. This response will either confirm the recommendations of the PES or provide an extension to the time limit for which recommendations are considered valid or provide updated recommendations. If additional field work is required, the Office of Materials and Testing will return a revised report to the Project Manager within four (4) months of the original reevaluation request.

The Design Phase Leader will review approved pavement designs to verify that they remain consistent with current project information (e.g., for updated traffic projections, recently received soil surveys, updated PES reports, value engineering recommended changes etc.) for possible resubmission to the State Pavement Engineer(SPE). This review should occur at least six (6) months prior to the anticipated Final Field Plan Review (FFPR) for the project. If one or more approved pavement designs have been revised or additional pavement designs prepared, a corresponding pavement design submittal package should be submitted to the SPE for review. This submission should be made no later than four (4) months prior to the anticipated FFPR.

7.3.3 Lighting Design

For all projects that require roadway lighting, final design should begin after lighting photometric calculations and ROW plans have been approved. Coordination with the Office of Design Policy and Support, Lighting Group, should take place as soon as possible. Project Manager should ensure a formal lighting agreement is in place with the local government for energizing, operations and maintenance of new lighting facilities.

The lighting designer will work directly with the utility owner to determine the appropriate type of electric service, service points, and if there needs to be any pre work done by the utility to bring electrical service to the lights. There are typically two or three submittals that need to be approved for a set of lighting plans. The photometric submittal shows the location and type of light fixtures and the amount of light that is reaching the ground. Accompanying the photometric configuration is an alternate analysis showing the alternates considered, associated costs, and demonstration of why the chosen configuration is the preferred alternate. Preferably, photometric calculations should be approved, by the DPS Lighting Group, after PFPR but prior to the Second Utility Submission Request.

Once the photometric submittal is approved and the pole locations are established, the Office of Materials and Testing and/or the Office of Bridge Design may need to provide their review and approval of the light pole foundation designs. After the photometrics and foundation designs have been approved, the final lighting plans will be reviewed and approved by the lighting group.

7.3.4 MS4 Design

The Post-Construction Stormwater Report (PCSR) will be submitted by the Office of Design Policy and Support to EPD for review. If the PCSR is not disapproved by EPD within 60 days, it is considered final. If a change occurs during Final Plans that affects the PCSR, an addendum shall be processed as outlined in the MS4 PDP Process Chart.

Following approval of the PCSR, the final details of the BMPs can be designed and will be submitted as part of the FFPR Request package for review prior to the FFPR. Comments on the BMP design details will be made as part of the FFPR review comments and addressed with the other FFPR comments.

7.3.5 Landscape Design

Landscape plans (plans may include irrigation) must be submitted to the Maintenance Office, Landscape Design Section prior to PFPR for review. Multiple reviews may be required. If the plans are acceptable, a Work Plan will be developed by the Office of Maintenance, Landscape Design Section and submitted to the Project Manager. The Work Plan will be included in the Maintenance Agreement with the Local Government or other approved entity that will be responsible for maintaining the landscaping post-construction.

The execution of this agreement is required prior to submission of final plans for letting. If the agreement is not executed, the Project Manager will notify the Design Phase Leader to remove the landscape plans from the plan set along with all landscaping quantities. The Project Manager will distribute executed agreements as follows: original GDOT copy to the Office of Maintenance, Landscape Design Section at the General Office; a copy to District Maintenance Engineer; a copy to District Area Engineer.

7.3.6 Structural Design

For projects with a bridge to be widened or altered, prior to final design beginning and if the bridge condition survey is more than three (3) years old, the Project Manager should request an updated bridge condition survey from the Office of Bridge Design which may include final recommendations about sealing joints, painting the superstructure, repairing spalls, and other routine maintenance. If the project is a bridge replacement, then the Project Manager should contact the Office of Bridge Design to verify whether or not any material should be salvaged from the existing bridge.

The Office of Bridge Design and the Design Phase Leader will coordinate their project schedules such that approved final bridge plans will be received by the Project Manager or Design Phase Leader at least two (2) weeks before the scheduled date of request for the FFPR.

When submitting bridge plans for review, include the roadway cover sheet, typical section, and sufficient roadway plans to verify the horizontal and vertical alignments. Also include the results of requests relating to bridge salvage (if an existing bridge is being replaced or altered), bridge and deck condition surveys (for widening only), transport of oversized beams (for beams greater than 90 feet), and the bridge site inspections and stakeout results letter. If cofferdams are used in the design, the plans and Bridge Foundation Investigation (BFI) should be sent to the State Construction Engineer for comment prior to submission to the Office of Bridge Design.

Upon review of the plans, the Project Manager will receive a list of bridge-related special provisions that must be included in the final plans package. After the corrected plans have been accepted, an email will be sent by the Office of Bridge Design liaison stating the plans are acceptable for use on construction.

Mechanically Stabilized Earth (MSE) walls and any special design wall must be reviewed by the Office of Bridge Design. These walls appear in Section 32 of the plans. Wall envelopes for gravity walls and walls that use GDOT Standards do not require separate review (Section 31 of the plans). Overhead sign structures, signal mast arms, and light poles do not require review prior to the Letting, but the Contractor submittals will be reviewed by the Office of Bridge Design after the letting. Box culverts that use Standards or Construction Details also do not require separate review. Coordination with the Office of Bridge Design is required if attaching a conduit, sign, pole, barrier, or noise wall to an existing bridge.

7.3.7 Geotechnical Reports

A Soil Survey Report that has been accepted by the Office of Materials and Testing, Geotechnical Bureau, is required at FFPR for all major projects and for minor projects where construction is not on the existing alignment. Bridge Foundation Investigations and Wall Foundation Investigations, if required, must also be accepted by the Geotechnical Bureau prior to FFPR.

7.4 Utility Plans and Coordination

7.4.1 Utility Relocation Plans

The request for utility relocation plans, permits, and utility adjustment schedules, second submission for utility plans must go to the respective utility owners for the of any changes since the 1st utility submission and incorporation of the final utility relocation information. The Design Phase Leader will send updated base plan sheets and/or electronic files to the District Utility Engineer. This updated information will contain current construction plans with the plotted existing utility information, drainage plans (including longitudinal drainage and drainage profiles) ~~and~~ , erosion control plans, stage construction plans, approved bridge layouts, wall locations with footing locations, ROW and easement lines, strain poles, overhead signs, and signal pole locations, cross sections, roadway profiles, lighting pole locations, ATMS/ITS plans, landscape plans, and construction limits as set following the PFPR.

Please note, it is necessary that the utility relocation plans and respective utility adjustment schedules provided by the respective utility owner be developed to account for the proposed project's staged construction. The District Utilities Office and the Design Phase Leader will review the second submission relocation plans and the utility adjustment schedules accordingly to ensure that provisions are made to account for utility relocations that may affect the required ROW and project construction. All utility staging issues that need to be addressed will be documented in the project's FFPR report.

The final utility plans and respective utility adjustment schedules will be furnished to the Project Manager no later than three (3) months before the FFPR.

Upon receipt of the utility relocation plans, the Design Phase Leader will send a copy of the utility relocation plans to the Office of Environmental Services if they cause any additional ROW, easements, or land disturbance outside of the construction limits already evaluated environmentally,

or results in additional impacts to ESAs. . These utility relocation plans will also be provided to the Office of Bridge Design for their review and resolving any remaining conflicts.

A supplemental second submission of utility plans may be required if there is a change in design that affects the utilities, as determined by the District Utilities Office. Refer to Chapter 4 of the GDOT Utility Accommodations Policy and Standards Manual.

7.4.2 Public Interest Determination

If the Project has an approved Public Interest Determination Recommendation in accordance with Commissioner Policy 3E-1, the Project Manager will ensure all necessary utility relocation work is included in the project ~~as~~ with applicable pay items, 44 series plans, and any special provisions necessary to cover the utility relocation work.

7.4.3 Utility Agreements

Utility Agreements are required on projects that involve a utility easement, utility ROW, or conflict with a utility that is claiming reimbursement via “Prior Rights.” The need for a utility agreement must be anticipated to avoid delaying the project. The District Utilities Office should have enough preliminary information to determine if a Utility Agreement will be required on a project after receipt of the first submission of roadway plans. Once there is an indication that such agreements will be required, the District Utilities Engineer will coordinate with the Project Manager and the State Utilities Office early in the preliminary design stage to ascertain the required information needed to furnish the utility owner in order that utility agreements can be negotiated. All utility agreements must be approved by the utility owner before a project can be certified for letting. Refer to Chapter 4 in the GDOT Utility Accommodations Policy and Standards Manual, current edition

7.4.4 Railroads

The Project Manager will refer to the State Utilities Office website for the required submittal checklist that needs to be completed and included with all railroad coordination submittals. The second plan submission to be used for railroad coordination should be submitted by the Project Manager, to the Utilities Railroad Liaison Manager and Utilities Railroad Crossing Engineer, as soon as final bridge plans and/or complete roadway, grading, drainage (including calculations), traffic signal, ITS, signing and marking are available. In no case will the second plan submission be performed before addressing the first railroad submittal comments.

Any plan changes that may affect the Railroad property will be submitted to the Utilities Railroad Liaison Manager and Utilities Railroad Crossing Engineer for possible resubmission of the plans to the Railroad for approval. Final Lockdown plans for the Railroad property will be submitted in the “Final Railroad Plan Submission Package” to the Office of Utilities ~~no~~ later than 28 weeks prior to the Let Date.

For projects that have railroad crossing under or over roadway, rail survey elevations should be updated at least 3 months prior to FFPR or every 3 years after initial survey, whichever occurs 1st. For additional guidance, see the GDOT Survey Manual, and/or contact the Statewide Location Bureau Chief.

7.5 Interim Field Plan Review (IFPR)

The IFPR is a review that is required on all projects that have ≥ 30 months between the Management ROW Date and the Management LET Date. The main focus is to confirm that the design has continued in an efficient manner and continues to satisfy the purpose and need of the project. The IFPR is an opportunity to review a project that otherwise would go over 2 years without the project team getting a chance to review. It will help ensure that a quality project is delivered on schedule.

The IFPR plan set is a snapshot of the plans at the time of the request and should follow the IFPR checklist (Policy 2440-1) as practical. This includes draft versions of items such as summary of quantities, signing and marking plans, project specific special provisions, etc.

The Project Manager will place electronic documents online following the protocol outlined in the appropriate ProjectWise Workflow on ROADS.

The Office of Engineering Services will conduct the review, prepare a written report, including further comments or resolutions discussed during the meeting. The report will be distributed within two (2) weeks of the review.

The appropriate SME will address all unresolved comments for their area contained in the IFPR Report and the action taken or not taken will be reported in writing to the Project Manager who will submit to the Office of Engineering Services no later than four (4) weeks after receipt of the approved IFPR Report. Responses to all comments will be written in complete sentences and will clearly state the action taken to address the comment.

7.6 Environmental Lockdown Plans

For projects requiring a 404 Permit or Buffer Variance, the applications for these permits shall be based on Environmental Lockdown Plans. Environmental Lockdown Plans shall be completed 38 weeks prior to the Baseline Let Date for projects requiring an Individual 404 Permit (see the Environmental Procedures Manual for details). For projects requiring a General 404 Permit and/or Buffer Variance, Lockdown Plans shall be completed 31 weeks prior to the Baseline Let Date. “Hot button” changes made after Lockdown must be reviewed by the Director of Engineering.

All required permits shall be acquired and necessary mitigation completed prior to Environmental Certification (see section 7.9.3).

7.7 Final Field Plan Review (FFPR)

7.7.1 FFPR Request

The FFPR should not be requested until the final construction plans, including checked quantities, and special provisions are completed. The FFPR should not be held later than twenty-four (24) weeks prior to the project's management directed let date; therefore, the Project Manager will request the FFPR no later than twenty-eight (28) weeks before the management directed let date.

The Project Manager will submit a letter of request for a FFPR with a complete FFPR Package (See POLICIES AND PROCEDURES 2440-1 for requirements) to the Office of Engineering Services.

Also, submit electronic plans per the appropriate ProjectWise Workflow on ROADS, or for those projects not in ProjectWise, the Electronic Plans Process (EPP) on ROADS.

The Office of Engineering Services will only schedule the FFPR when a complete FFPR request is received. Failure to provide adequate plans and all of the required information with the request will delay the scheduling of the inspection. The Office of Engineering Services will respond to the FFPR request within five (5) working days after receiving the request, either scheduling the event, or if the FFPR request is incomplete, requesting the additional required information. In their Field Plan Review scheduling letter, the Office of Engineering Services will identify the FFPR Team and the participating offices. Prior to the field plan review, the Project Manager will ensure that the centerline is staked on new location projects and the proposed bridge endrolls are staked on projects proposing a new bridge.

For projects with lighting, landscaping or other items requiring operations and maintenance or irrigation agreements, the Project Manager should verify that the agreements have been executed prior to attending FFPR. If the agreements have not been executed, coordination should occur to determine of those items should be removed from the plans prior to letting.

7.7.2 Scope of the FFPR

The Office of Engineering Services will determine the scope of the FFPR (e.g., full office and field review, office review only, email conference only, no FFPR required, or any combination thereof) and schedule, coordinate, and conduct the appropriate review. The Project Manager, in the FFPR letter to the Office of Engineering Services, may request expedited review, email conference only, etc. In some cases, the Office of Engineering Services may request the appropriate District Construction Office conduct the FFPR for those projects designed in the District or for Minor Projects.

7.7.3 FFPR Team

The Project Manager will provide and ensure the appropriate sets of plans and special provisions are received by the FFPR Team at least four (4) weeks prior to the anticipated FFPR date.

FFPR Team members are expected to be familiar with the project, having reviewed the plans and specifications prior to the meeting, and are expected to provide meaningful written comments to the Office of Engineering Services no later than three (3) business days prior to the review. It is critical that all remaining problems be identified and resolved at this time to avoid costly amendments during advertisement and supplemental agreements on construction.

It is important that a representative of the ROW acquisition team (local government or GDOT) participate in the FFPR. The ROW representative will discuss signed options, special conditions negotiated with the property owners, and commitments made to date. Commitments made to property owners and contained in the options will be addressed: including the disposition of privately owned utility facilities, septic tanks, drain fields, and well and water systems. The ROW representative will also address the status of the acquisition, the projected date of completion of ROW acquisition, problems encountered during ROW acquisition, review the plans for inclusion of temporary easement expiration dates, and review the status of requested plan modifications and any condemnations.

It is important that a representative from the District Utilities Office participate in the FFPR. The District Utilities Office representative will ensure utility issues are addressed and documented in the FFPR

report and will ensure, if applicable, Public Interest Determination approvals by the Commissioner have resulted in the proper utility scope of work in the plans, including proper utility special provisions, pay items and quantities.

It is important that a representative of the Office of Environmental Services participate in the FFPR. The Environmental Resources Impact Table (ERIT) will be closely reviewed by the FFPR Team to ensure that any commitments made by permit or environmental document to protect or enhance the environment will be discussed at the FFPR and are adequately addressed in the plans or specifications. After the FFPR, any subsequent commitments made to protect the environment not addressed at the FFPR will be provided to the Project Manager immediately.

It is important that a representative from the Office of Maintenance participate in the FFPR. Office of Maintenance will review all maintenance required for the Post-Construction Stormwater BMPs. All comments from the Office of Maintenance will be included in the FFPR Report.

7.7.4 FFPR Report and Responses

The Office of Engineering Services will conduct the review, prepare a written report, including further comments or resolutions discussed during the meeting. The report will be distributed within two (2) weeks of the review. For projects that include the FFPR in the PoDI plan, the Office of Engineering Services will obtain the approval of the FHWA before it distributes the report.

Timely feedback to the FFPR Team and the timely resolution of all field plan review issues is critical for continued coordination, smooth final plan development, and a successful letting as scheduled.

The appropriate Phase Leader will address all unresolved comments for their area contained in the FFPR Report and the action taken or not taken will be reported in writing to the Project Manager who will submit to the Office of Engineering Services no later than two (2) weeks after receipt of the approved FFPR Report and at least 20 weeks prior to the letting date. Responses to all comments will be written in complete sentences and will clearly state the action taken to address the comment. If a comment requests a specific action and the Project Manager, through coordination with the appropriate SME, determines that no action or a different action will be taken, the response should clearly explain the Project Manager's decision. Upon approval of the FFPR responses from the Office of Engineering Services, the Project Manager will distribute the responses to everyone listed in the FFPR Report by email. The Project Manager will discuss the schedule implications of plan changes made as a result of FFPR with the Office of Environmental Services. Any "Hot Button" changes must be reviewed by the Division Director before being implemented.

A project will not be considered ready to let until all FFPR comments are addressed to the satisfaction of the State Project Review Engineer.

7.7.5 Interstate or Limited Access Roadway Intelligent Transportation System (ITS) projects

The Concept of Operations must be completed prior to holding the FFPR. The final plans will include all changes to the preliminary plans as discussed during the PFPR, completed special provisions, and summarizing all quantities for the pay items needed for the project. Before a FFPR is requested, a thorough in-house review will be performed to assure all items for a project are completely covered in the plans.

The final design in-house review package will be distributed three (3) weeks prior to the in-house review meeting. The in-house review team members are: FHWA, Project Manager, Office of Traffic Operations Fiber Technicians, Design Phase Leader, OTO planners, OTO design staff, and consultants. Each team member will provide a thorough inspection of the final design review package suggesting ways for improvement, clarity, and completeness. All comments made by team members will be addressed in writing by the Project Manager clarifying that the item noted has been updated or whether the item noted will not be updated because of a specific reason.

When the construction plans have reached 90 percent completion, the Design Phase Leader will request a FFPR for ITS projects. The final design review package will accompany the letter of request to the Office of Engineering Services.

The Project Manager will respond to FFPR comments by letter to the Office of Engineering Services and to FHWA, within two (2) weeks of receiving the report with copies distributed to those attending the review.

7.7.6 Supplemental FFPR

Before letting a project in which the FFPR was conducted more than two (2) years prior to the current Management Let Date, the Project Manager will request a Supplemental FFPR to the Office of Engineering Services. This request should be received so that the Supplemental FFPR can be held at least twenty-four (24) weeks prior to the Management Directed Let Date. All requirements shown in the FFPR Section of the PDP (Sections 7.5.1-7.5.4, above) will be followed. The Office of Engineering Services, based on concurrence from the District Construction Office and the Project Manager, may determine that a Supplemental FFPR will not be required but instead may initiate a thorough review of the final plans and contract documents.

7.7.7 Project Specific Special Provision Review

The District Construction Engineer will submit SP 108.08 & SP 150.6 to the Project Manager; the Project Manager will submit these Project Specific Special Provisions to the State Construction Office for approval when requesting FFPR on all projects other than resurfacing, guardrail, and traffic signal installation.

7.8 Completion of Final Plans for GDOT Let Projects

7.8.1 Submission of Corrected FFPR Plans

The Design Phase Leader will implement all FFPR comments as well as any other necessary changes and will submit corrected FFPR plans to the Project Manager at least eighteen (18) weeks prior to the scheduled let date. The Project Manager will provide this submittal to the Office of Engineering Services for preparation of GDOT's Initial Engineers Estimate, for GDOT Let only and for verification that all FFPR comments have been implemented.

If comments are not implemented or Corrected FFPR Plans are not submitted by eighteen (18) weeks prior to letting, Engineering Services will send an e-mail notification to the GDOT Chief Engineer. The GDOT Chief Engineer will then send a letter to the Design Phase Leader and may request that an audit of Design Phase Leader's QC/QA documentation be performed by the Office of Design Policy and Support.

The Design Phase Leader will submit the following to the Project Manager: (1) 3 half-size construction plans, (2) pdfs of all construction plans, (3) CES printout from GDOT 411, (4) project specific special provisions, (5) soil survey summary reports, (6) BFIs, and (7) earthwork summary calculations. For each FFPR comment not implemented in accordance with previously submitted responses, the Design Phase Leader will add a detailed explanation below the applicable comment. This explanation will include a timeframe by which the comment will be implemented. If an FFPR response requires changing, revised FFPR responses will be sent to everyone listed in the FFPR Report.

The Project Manager will send the above submittal to the Office of Engineering Services in accordance with the GDOT Standard Distribution List. The Project Manager will place electronic documents online following the protocol outlined in the appropriate ProjectWise Workflow on ROADS, or for those projects not in ProjectWise, the Electronic Plans Process (EPP) on ROADS.

The Corrected FFPR Plans will be reviewed to ensure that all changes agreed to in the FFPR Report have been implemented. District and Area reviewers and the Design Review Engineer will return comments to the Project Manager within two (2) weeks of the e-mail notification. The Initial Engineers Estimate will be prepared by the Office of Engineering Services utilizing the Designer's corrected FFPR plan quantities. This estimate is utilized by the Office of Financial Management for requesting authorization to let the project and must be as accurate as possible.

7.8.2 Submission of Completed Final Plans for GDOT Letting

When all comments have been addressed and resolved from the review of the final corrected construction plans and the project cover sheet signed by the Design Office Head and Chief Engineer and the Erosion Control cover sheet signed by the Chief Engineer, the Project Manager will submit to the Office of Construction Bidding Administration at least ten (10) weeks prior to the proposed letting the completed final plans, special provisions, electronic earthwork files, soil reports, BFI's, required information for the Notice of Intent (NOI), Section 404 permit (if required) and the Designer's Checklist. See Appendix J for a sample transmittal letter.

Bid proposals are available online at the Office of Construction Bidding Administration's website (after advertisement, four [4] weeks prior to the Letting).

https://www.dot.ga.gov/GDOT/pages/business.aspx

The following offices will review bid proposals:

- Office of Engineering Services
- Office of Traffic Operations
- Office of Bridge Design (for projects that include a bridge)
- Office of Materials
- Office of Construction
- Office of Environmental Services
- District Office
- Office of Roadway Design
- Bureau of Environmental Compliance
- Office of Program Delivery

- Office of Utilities (if facilities are in the contract)

Each office will review the proposal for errors and omissions and will immediately report any discrepancies to the Office of Construction Bidding Administration and the Project Manager.

For all PoDI (Major and Minor), the Office of Construction Bidding Administration will send the Plans, Specifications, & Estimates (PS&E) package to the FHWA no later than six and a half (6½) weeks before the proposed let date (nine [9] calendar days before construction authorization). This PS&E package will contain half-sized final plans, proposal, engineer's estimate, Construction Work Authorization (prepared by the Office of Financial Management), and certification that all railroad and utility agreements, ROW and environmental certifications have been obtained.

7.9 Certifications and Construction Authorization

7.9.1 Right-of-Way Certification

For Exempt projects, the District will certify that all ROW has been obtained at least thirteen (13) weeks prior to a project's letting. Minimum eleven (11) weeks prior to the letting, the G.O. Right-of-Way Office will certify to the Office of Engineering Services that the ROW is clear and provide the Project Manager with a copy of the Letter of Certification.

For PoDI, the Right-of-Way Office will send the original letter of certification that the ROW is clear to the FHWA and provide a copy to the Office of Construction Bidding Administration a minimum of eleven (11) weeks prior to letting. The Office of Construction Bidding Administration will include a copy of the letter of certification in the PS&E package submitted to the FHWA for authorization.

The District ROW representative will provide two (2) copies of the signed options and a summary of the special conditions negotiated with the property owners to the Project Manager for review and discussion. Any commitments to property owners will be addressed by the Project Team, as needed.

If the Local Government is acquiring the ROW, they will submit certification package to the GDOT Local Government Right-of-Way Coordinator at least thirteen (13) weeks prior to the project's letting. The District will certify that the ROW package is complete and the G.O. Right-of-Way Office will certify to the Office of Engineering Services or FHWA for Projects of Division Interest (PoDI) that the ROW is clear. The Project Manager will be copied on the Letter of Certification.

7.9.2 Utility Certification

For Exempt and State funded projects, the Office of Utilities will certify to the Office of Engineering Services with a copy to the Office of Construction Bidding Administration and the Project Manager that the utilities and railroads are clear and required agreements are in-hand a minimum of eleven (11) weeks prior to the letting.

For PoDI, the Office of Utilities will provide the Office of Construction Bidding Administration with a copy of a letter of certification that the utilities and railroads are clear and required agreements are in-hand a minimum of eleven (11) weeks prior to letting. The original letter of certification will be sent to the Office of Engineering Services. The Office of Construction Bidding Administration will include the letter of certification in the PS&E package submitted to the FHWA for authorization.

For local administered projects, the Project Manager will ensure that the local government provides the Utility/Railroad Certification package to the GDOT District Utilities Office upon completion of utility coordination, at least nineteen (19) weeks prior to the letting. The District Utilities Office will review the Local Government Certification package for approval, and upon approval, make recommendation for utility/railroad certification to the State Utilities Office at least thirteen (13) weeks prior to the letting. Project is required to be certified no later than eleven (11) weeks prior to letting. The Project Manager will be copied on this correspondence.

7.9.3 Environmental Certification

The Office of Environmental Services will provide the Office of Engineering Services and the Project Manager with a copy of the letter of certification that the environmental approvals are current and that all environmental commitments have been fulfilled no later than eleven (11) weeks prior to the management directed let date. Please note that every effort should be made to certify by the environmental certification date shown in the Baseline Schedule. For PoDI, a copy of the letter of certification will be sent to the Office of Construction Bidding Administration. The Office of Construction Bidding Administration will include the letter of certification in the PS&E package submitted to the FHWA for authorization. Environmental certifications are required for all projects, regardless of funding source.

7.9.4 Construction Authorization for GDOT Let Projects

For PoDI Let by GDOT the Office of Construction Bidding Administration will be responsible for submitting the PS&E package to the FHWA for project authorization. The PS&E package will consist of the following information:

- Work Authorization Request furnished by the Office of Financial Management.
- Final set of signed plans (approved by the Chief Engineer) furnished by the Project Manager.
- Bid proposal, which includes special provisions, contract provisions, and bid items furnished by the Office of Construction Bidding Administration.
- ROW Certification furnished by the Right-of-Way Office.
- Environmental Certification furnished by the Office of Environmental Services
- Utility Certification furnished by the Office of Utilities
- Construction Cost Estimate furnished by the Office of Engineering Services.
- A statement indicating all necessary permits that are needed have been obtained or the status thereof:
    - U. S. Coast Guard – Office of Bridge Design.
    - Federal Emergency Management Agency – Office of Bridge Design.
    - Approved agreements with railroads, utilities, and municipalities, or status thereof furnished by the Office of Utilities and/or the Office of Financial Management.

The information needed for the PS&E package is to be furnished by the various offices to the Office of Construction Bidding Administration no later than eleven (11) weeks prior to the letting date.

The Office of Engineering Services processes the construction authorization for all Exempt projects. For GDOT Let projects, all necessary information needed for authorization by the Office of Engineering Services must be submitted no later than three (3) weeks prior to advertising. This information will include environmental certification, utility certification, and ROW certification.

7.9.5 Construction Authorization for Local Let Projects

For Local Let projects, the Local Government/Sponsor will submit a letter requesting construction funding authorization and a letter verifying the projects meets the State Transportation Improvement Program (STIP) or Transportation Improvement Program (TIP) requirements. All certifications, including utilities/railroad, ROW, environmental and competitive bidding certifications, should be provided to the Project Manager along with an Americans with Disabilities Act (ADA) compliance letter, materials testing certification, and a PS&E package for the Project Manager to review. A complete certification package will be submitted by the Project Manager to the Office of Engineering Services eleven (11) weeks prior to the management Let date.

After review of the package, the Project Manager will request construction fund authorization. Once funds are available, the Project Manager will submit a letter to the Local Government/Sponsor giving Notice to Proceed (NTP) to advertise for bids. That letter will outline the requirements for advertising. Additional information about this process can be found in the Local Administered Project (LAP) Manual.

7.9.6 Conditional Certifications for Environmental, ROW and Utilities

In order to achieve our Performance Goals and avoid transfer of the risks to the construction phase, project certifications are due eleven (11) weeks prior to the management let date. In some circumstances, it may be in the Department's best interest to issue Conditional Certifications for right-of-way, utilities, and/or environmental to advance projects to construction prior to completion of final certifications. Conditional Certifications for projects may be issued for their respective areas by the Office of Right of Way, the Office of Utilities, and/or the Office of Environmental Services, allowing projects to be let to construction prior to final certification.

Before Conditional Certifications are utilized, the Project Manager shall obtain approval from the Chief Engineer. Approval must be granted before any conditional certifications are submitted to Construction Bidding Administration, FHWA, or the Office of Engineering Services. A Request to Utilize Conditional Certification (see Appendix N) is to be completed by the Project Manager with input from the appropriate offices, and routed for approval. The Chief Engineer's approval should be completed in advance of the eleven (11) weeks prior to the management let date required for certifications.

Obtaining Conditional Certification does not remove the requirement for final certifications to be obtained. In order to avoid construction delays, the Project Manager will continue to work with the project sponsors as well as the office(s) issuing the Conditional Certifications to ensure that any outstanding tasks or permits are completed and final certifications are completed and fully documented and accessible in the project files in ProjectWise.

7.10 Plan Revision Procedures

Any changes to the plans and special provisions after plans have been signed by the Chief Engineer or his designee will be considered a revision and will be posted as such in the plans.

It is the goal of the Engineering Division and The Office of Program Delivery to minimize, if not eliminate, all plan revisions and amendments to the proposal. However, circumstances sometime necessitate plan changes that result in revisions and/or amendments. This includes the revision of construction plans after final plans have been submitted to the Office of Construction Bidding Administration for the Letting and after the project has been Let to contract and awarded.

The Project Manager is responsible for making plan revisions. In making plan revisions the Project Manager must ensure the revision does not change the conditions of any permits or the environmental impacts addressed in the approved environmental document. The Project Manager will review any proposed plan revisions with the Office of Environmental Services when a changed condition to the approved permits or environmental document is suspected. The Project Manager will also review any proposed plan revision with the Office of Traffic Operations Systems Engineer when a change condition to any ITS project is suspected. The Project Manager will review any proposed plan revisions with the District utilities office and the Utilities Railroad Liaison Manager, when needed, to verify any potential impacts to affected utilities.

Office of Construction Bidding Administration will be contacted and concur before any revision or amendment is made after final plans are submitted to the Office of Construction Bidding Administration and before the project is Let to contract. The Office of Construction will be contacted and concur before any revision is made after the project is Let to contract and awarded.

The FHWA will be contacted and their concurrence received before any plan revision is made on any PoDI project.

Plan revisions can be classified into three categories:

- Revisions to construction plans after submission to the Office of Construction Bidding Administration for letting and prior to Advertisement (Revision).
- Revisions to construction plans to incorporate amendments to the proposal, which have been processed by the Office of Construction Bidding Administration (Revision by Amendment).
- Revisions to construction plans that occur directly as a result in changes required on construction after the project is awarded (Use on Construction Revision).

For information on the process of storing revisions electronically after the project has been let to contract and awarded, refer to the appropriate ProjectWise Workflow on ROADS, or for those projects not in ProjectWise, the Electronic Plans Process (EPP) on ROADS.

7.10.1 Revision

The Project Manager will submit final plans eleven (11) weeks prior to letting to the Office of Construction Bidding Administration and the original plans to the General Office Reproduction Center five (5) weeks prior to the Letting. Plans may be revised, with concurrence of the Office of Construction Bidding Administration, no later than six and one-half (6½) weeks prior to the Letting for

projects other than PoDI projects and no later than seven and one-half (7½) weeks for PoDI projects. This allows time for the Office of Construction Bidding Administration to process the revision and print the proposal before project advertisement to contractors. Revision dates will be added to all revised sheets and each revision listed and described on the Revision Summary Sheet.

Approved revisions will be submitted to the Office of Construction Bidding Administration with copies per the Standard Distribution List.

The Design Phase Leader or Project Manager will send the complete, original, final construction plans, as submitted to the Office of Construction Bidding Administration and officially revised, to the plan reproduction section of the Office of Design Policy and Support no later than five (5) weeks before the scheduled letting for printing for the letting.

7.10.2 Revisions by Amendment

From the six and one half (6½) week period to the Letting, no plan changes will occur without the prior concurrence of the Office of Construction Bidding Administration and approval of the Chief Engineer. All approved changes will require an amendment to the proposal and may occur from the six and one half (6½) week/seven and one half (7½) week period to ten (10) calendar days prior to the Letting. Revision dates will be added to all revised sheets and each revision listed and described on the Revision Summary Sheet.

7.10.3 Revisions to Local Let Advertisements

If the Local Government/Sponsor makes revisions or amendments during the letting process, the GDOT Project Manager will be informed.

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Chapter 8. Construction - Contents

Chapter 8. Construction

Construction can be defined as the execution and administration of the contract documents. At the construction stage, the contractor performs the tasks detailed in the contract. The contractor is responsible for constructing the work as detailed in the contract documents while the Georgia Department of Transportation (GDOT) team, led by the project manager, is responsible for ensuring that the terms of this construction contract, including changes, are fulfilled. To verify that those conditions are met, certain documentation is essential. The following highlights some of the activities, incidents, or requirements of the construction phase that become part of the project documentation.

Construction Phase Includes:

- Material acceptance
- Construction Management System
- Assessment of liquidation damages
- Postponement of contract completion date
- Critical Path Method scheduling Work Breakdown Structure (WBS)
- Disputes and claims
- Change orders
- Project estimates
- Inspections
- Fulfillment of environmental commitments

8.1 Transition Conference

To better ensure proper transition of projects from the design phase to the construction phase, emphasis on conducting transition conferences shall be made.

After a Project has been advertised for construction and before bids are taken, the District Construction Manager responsible for constructing the project will confer with the Project Manager to determine if a Transition Conference is required.

A Transition Conference should be held if the project required the acquisition of right-of-way, affects threatened & endangered species, historic or archaeological resources, unusual design features, special environmental permits, or there are unique issues the design team must share with the construction personnel that are not readily apparent from the plans and specifications.

The Project Manager will schedule a Transition Conference with the Area Manager, Design Phase Leader or District Design Engineer, Right-of-Way Acquisition Manager, as well as representatives from the Office of Maintenance, Office of Environmental Services, District Utilities Manager, and District Traffic Engineer. Include the District Preconstruction Engineer for projects that are designed in the District. The purpose of the meeting is to provide for a clear understanding of the plan details and requirements in order to facilitate construction of the project. A Transition Conference activity will be added to the P6 schedule One (1) month before Letting for both GDOT Let and Local Let projects.

The right-of-way representative shall place a copy of the signed options and a summary of the special conditions negotiated with the property owners in ProjectWise for review and discussion. Any commitments to property owners will be addressed. If a Transition Conference is not held, the right-of-way representative shall place a copy of the signed options and a summary of the special conditions in ProjectWise and made available to the Area Manager prior to the Preconstruction Conference.

The following list includes items that may be provided at the transition conference depending on project types:

- Copy of the 404 permit
- Copy of Buffer Variance
- Pavement design
- Value Engineering Study
- Design Variances
- Design Exceptions
- Green Sheets
- Color Copies of Endangered Species
- Copy of BFI's
- Copies of ROW options
- Copies of design files and Survey Control Package
- Early Authorizations and/or Notice to Proceeds for major utility conflicts.

8.2 GDOT Letting

After the letting, the apparent low bid may be awarded, rejected, or deferred. Prior to bid opening, a project may also be withdrawn from the Letting. The disposition of each contract in the Letting will be listed in the award announcement that is posted the second Friday following the Letting on the Office of Construction Bidding Administration's Web Page.

8.2.1 Awarded

Construction plans will be revised to incorporate any amendments processed by the Office of Construction Bidding Administration and will be submitted only to the contractor, State Design Policy Engineer Attention: Design Services Supervisor, and the District Manager in accordance with the same distribution as final plans. The contractor will receive plans and contract assemblies including special provisions in accordance with GDOT specification 105.05- Cooperation by Contractor. Letters containing information on how to access the revisions electronically will be sent as described in the Standard Distribution List. Any quantity changes as a result of the processed amendment are to be listed on the "Quantities Required by Amendment" sheet, which will be added to the plans.

8.2.2 Rejected

Construction plans will be revised to incorporate any amendments processed by the Office of Construction Bidding Administration and resubmitted to the Office of Construction Bidding Administration in accordance with the processing schedule for the new Let date using the same

distribution as final plans. Quantities in the plans will be changed to agree with the processed amendment.

8.2.3 Deferred:

A project may be let to contract and an acceptable bid received. However, the award may be deferred until such time that any utility, ROW, permit, or any other problem is resolved. The revision will be made the same as for an "Awarded" project after notification has been distributed, by a supplemental award announcement, verifying the low bid proposal has been awarded. If the supplemental award announcement shows the project rejected, then process the revision the same as a "Rejected" project above.

8.2.4 Withdrawn:

Construction plans will be revised to incorporate any amendments processed by the Office of Construction Bidding Administration and resubmitted to the Office of Construction Bidding Administration in accordance with the processing schedule for the new Let date using the same distribution as final plans. Quantities in the plans will be changed to agree with any processed amendments.

On all amendment revisions, the revision summary sheet will list the date and a detailed description of the revision and also list the amendment number and date of amendment.

8.2.5 Use on Construction Revisions

Use on construction revisions may occur any time during the life of the construction contract. GDOT personnel will charge any time spent working on engineering for a project that is under construction to the Construction project number, not the Preliminary Engineering project number. Once under construction, all additional engineering work is defined as “construction engineering.”

At no time will the integrity of the "As Bid" plan information, shown on the original construction plans, be altered by deleting or erasing as a result of any "Use on Construction" revision. Changes to the information shown on the original plan sheets may be accomplished by copying the original sheet, and labeling the copy of the original plan sheet as "Use on Construction" as directed in the Plan Presentation Guide (PPG) and revising the information thereon as required. Any quantities or additional pay items required on construction are to be listed on the “Quantities Required on Construction” sheet, which will be added to the plans. If the revision required significant changes to the original plans, the original plan sheet may be voided on construction and a "Use on Construction" sheet, with the revision included, added to the plans.

Whenever design plan changes are proposed during construction that would require a Use-On-Construction revision, then it may be necessary to get advice from a subject-matter-expert (SME) Office within the Department. For example SMEs typically consulted are Administrators in the Office of Bridge Design, Road Design, Design Policy & Support, Environmental Services, State Right-of-Way, State Traffic Operations, State Utilities, State Maintenance, State Construction, and the Office of Materials and Testing. The advice may come in the form of an opinion, a recommendation, or a decision based on the complexity of the proposal and potential risks involved. Inquiries submitted to SMEs are typically made by the State Construction Office but may also be made by the Construction Project Manager, Area Engineer, District Construction Engr., and/or the OPD Project Manager. SME

advice given directly from an Office Administrator or Assistant Office Administrator in the Divisions of Engineering, Operations, or Construction, should not be overruled by anyone under the rank of an Assistant Office Administrator. A decision to overrule advice given from a SME should be negotiated between Office Administrators and/or Division Directors.

Copies of the revised plan sheets will be submitted to the District Utilities Manager to assess impacts, if any, to utility facilities. The District Utilities Manager and the District Construction Manager will coordinate with the utility companies and contractor to ensure the utility relocation work, including a revised work plan (utility adjustment schedule, permits, relocation plans, and any additional utility cost) is addressed and accounted for during the negotiations in accordance with the Utility Accommodation Policy and Standards Manual. The Project Manager will also coordinate with the Office of Environmental Services to ensure that Use on Construction Revisions do not affect any permits, variances or environmental studies (see Appendix H: Environmental Coordination Procedures during Construction).

However, any additional pay items required on construction that will result in a supplemental agreement with significant increase in cost must be negotiated with the contractor before an official revision can be processed. Copies of the revised plan sheets are to be submitted to the District Construction Manager for negotiations with the contractor. When an acceptable price has been negotiated, the District Construction Manager will notify the Project Manager that the official revision should be submitted. The Project Manager and the Construction Manager will give the highest priority to preparing and issuing “Use on Construction” revisions as they may affect the overall cost of the project or the completion date of the project or both.

On Project of Division Interest (PoDI) Projects, FHWA must approve the change before the revision can be processed.

The Project Manager will send the completed plan revisions to the contractor with copies provided to the applicable offices (See “Example Letter” USE ON CONSTRUCTION REVISION in Appendix H). The District Utilities Office will forward copies of the revisions to all affected utility companies and ensure utility work plans are revised accordingly. The revision and cover letter with information on how to access the revisions electronically will be sent per the Standard Distribution List.

8.2.6 Bridge Shop Drawings

Shop drawings are submitted by the contractor to the Office of Bridge Design. If the project was designed by a consultant, the Project Manager will work with the Office of Bridge Design to ensure that the consultant is under contract for shop drawing review.

8.2.7 As-Built Plans

All As-Built Plans are to be submitted directly to the State Design Policy Engineer, Office of Design Policy and Support, ATTN: Design Services Supervisor. The plans are to be clearly marked and labeled as “As-Built Plans.” The Office of Design Policy and Support will be responsible for transferring the hard-copy plans into electronic format and placing them into the electronic plans repository.

Starting with the December 2017 Letting, all As-Built Plans will be marked up using Bluebeam Revu and uploaded to ProjectWise. Projects that are let before December 2017 may use Bluebeam Revu at the discretion of the Area Manager and District Construction Manager.

8.3 Local Let Projects

The low bid package will be reviewed by GDOT Project Manager and the GDOT District Construction Manager. If approved, the Project Manager will prepare a Local Let Construction Agreement. Once executed, the GDOT Project Manager will request that the District Engineer issue Notice to Proceed (NTP) for construction to the Local Government/Sponsor.

Local Government/Sponsor will invite the District, Area Office, and Project Manager to the Preconstruction Conference. Invoices for construction phase reimbursement are sent to the Area Manager for approval. Additional Information can be found in the Local Administered Projects (LAP) Manual.

8.4 Contractor Coordination

8.4.1 Pre-construction Conference

The contractor awarded the contract has the responsibility to perform the work as detailed in the contract documents. Although it is the contractor's responsibility to perform within the scheduled milestones and for the agreed-upon cost, it is GDOT's responsibility to administer the contract. GDOT monitors, manages, and documents the contractor's activities to ensure compliance with the plans, proposal, and specifications. Conferences, meetings, and general coordination are tools of contract administration.

The primary goal of the pre-construction conference is to introduce all of the project participants and to discuss actions necessary for a successful start, execution, and completion of the contract work. The Pre-construction Conference provides a forum to convey details of mutual interest and concern about the execution of the contract documents. It allows the opportunity to clarify and respond to any questions or potential misunderstandings regarding the upcoming work to be performed. The Construction Manager, with contractor input, coordinates the meeting details including the list of attendees and agenda topics. Additional information can be found in the Construction Manual.

8.4.2 Civil Design Software and CADD DGN Files to Contractors

At the Pre-construction Conference for an awarded project, the Project Manager will provide the Civil Design files and the DGN files associated with the project to the awarded low bid contractor after all amendments have been included. The electronic files will be provided with the following disclaimer:

CAiCE/INROADS AND CADD DGN FILES

PI#

PROJECT ACCOUNTING NUMBER

COUNTY(IES)

Included are the CAiCE/INROADS and CADD DGN files on the above referenced project.

The Georgia Department of Transportation ("GDOT"), is making the CAiCE/INROADS and CADD DGN files available to contractors in electronic format as requested by the contractor. GDOT assumes no responsibility for the contractor's use of these electronic files and does not assert any claim as to the accuracy of the files as provided. No claim will be considered if the contractor relies on this information in its bidding or in its construction operations and finds that the data is inaccurate. The CAiCE/INROADS and CADD DGN files are furnished FOR INFORMATION ONLY and furnishing these files does not constitute a change to the plans, specifications, or contract for this project. The contractor's attention is directed to Subsection 102.05 of the Standard Specifications, Examination of Plans, Specifications, Special Provisions, and Site of the Work, which requires the Bidder to examine the conditions to be encountered and to make their own interpretation of all data and information.

8.5 Post Construction Evaluation

The purpose of these reviews is to improve the GDOT design and construction processes by providing designer personnel the opportunity to review completed projects or projects under construction and to discuss aspects of the project with construction inspection/management personnel and the contractors building the project. These reviews should provide many benefits to GDOT, including reducing recurring field changes and quantity overruns, improving constructability, evaluating traffic staging for future project implementation, utility impacts, and providing cross-functional training to all participants.

Post construction evaluations involve field observation during the construction phase regarding the functional and operational features of a project. These features would include anything that could either be duplicated because of superior performance or improved because of less than optimal performance on future project designs.

The basic process would address the following areas:

- The constructability issues of a completed project should be examined for effectiveness and efficiency. These issues primarily concern factors, which may have affected the completion time, additional design and construction costs, environmental concerns, and work zone safety.
- The project should be examined on how successfully it met the original need and purpose.
- The meeting should serve as a tool for the sharing of information between the construction phase and the design phase.

8.5.1 Goals and Objectives

The following goals have been developed in order to promote an effective and successful Post Construction Evaluation (PCE) process that would ultimately improve the quality of GDOTs future construction bid packages.

- Improve GDOT's design and construction processes by providing the design staff the opportunity to review completed projects or projects under construction and obtain actual construction phase feedback.

- Create a safe climate for open and candid dialogue ensuring that all attendees participate with no personalization, fault-finding, or blaming.
- Ensure the final project as specified in the plans and specifications can be efficiently maintained.
- Foster a level of involvement by design personnel into the construction phase.
- Reduce construction phase costs by reducing recurring field change orders, plan revisions, extra work orders, claims, and constructability inconsistencies.
- Reduce environmental permit violations and/or non-compliance occurrences.
- Improve contractor's productivity and streamline and or reduce construction phase schedules.
- Minimize the traveling public's inconvenience and intrusion.
- Provide valuable as-built information in preparation for future corridor improvements.

*See Appendix-M "PCE Report Template" for use.

8.5.2 Who Should Attend

Anyone involved with the project can submit a Post Construction Evaluation to the Assistant State Design Review Engineer. Upon receiving a PCE request, the Assistant State Design Review Engineer will transmit the meeting invitation, which will include the following key personnel; GDOT Project Manager; Prime Contractor, District Manager, State Construction Engineer, District Construction Manager, State Construction Office Liaison, , the project Area Construction Manager, FHWA Transportation Engineer, Engineering Services Design Review Manager, District Utility Manager, District Maintenance Manager, Design Phase Leader, State Utilities Construction Engineer, and the District Preconstruction Engineer. Others may be invited at the discretion of the Project Manager or the District Construction Manager. Both should keep in mind that the post construction evaluation is best conducted by a small working group, yet include the personnel most familiar with the project.

8.5.3 When to Hold Post Construction Evaluation Meeting

The PCE meeting should be conducted within sixty (60) days after construction is substantially complete. Construction personnel frequently are reassigned to projects relatively quickly and geographically constraining, therefore, it is beneficial to coordinate such a meeting as close to completion as possible. The PCE meeting should be held at a local GDOT Area Office and culminate with the project being driven and walked in a logical order.

8.5.4 Which Projects need a PCE

Project review requests or recommendation should be allowed to come from more than one source; however will most likely come from the Project Manager, Design Phase Leader, District Manager, or the District Construction Manager.

Projects that will benefit from a PCE contain complex staging components, significant earthwork, conditions near live traffic, intense utility relocations, extraordinary environmental circumstances, involved drainage systems, on-site maintenance of traffic conditions, and exceptional daily traffic volumes. Typical project types that will benefit the most from a post construction review include PDP classified "Major" projects, bridge replacements, drainage improvements, and widening and

reconstruction type projects. Another metric that should be utilized to determine whether or not to conduct an evaluation is the number of supplemental agreements processed and/or the total dollar amount approved during the life of a project.

8.5.5 Documentation

The Assistant State Design Review Engineer is responsible for keeping minutes of the discussion and getting concurrence on the minutes from all attendees.

The GDOT Office of Engineering Services will be responsible for keeping the minutes as well as disposition of items contained in the reports and uploading them to ProjectWise by P.I. Number.

8.6 Final Acceptance

Closing conference to discuss all outstanding items of work, final reports needed and provide corrections list will be conducted 60 days before project completion date. This will be 14 days for resurfacing. Corrective list shall be furnished within 5 business days after Closing Conference. The corrective list is an explicit list of instructions and/or items to correct, an explicit list of information needed for Materials Certificate, and an explicit list of final reports or other paperwork required in order to stop time.

When the project is complete, Contractor notifies GDOT in writing indicating that the project is eligible for final inspection. The Construction Manager and Area Manager shall verify that the project is complete and in satisfactory condition. The Area Manager shall schedule the Final Inspection within 7 business days of notice from the Contractor.

Reference 21-1, 2, 3, 4, and 5 of Construction Manual

8.6.1 Who Should Attend

Generally, the Final Inspection will be attend by Contractor Representative, Construction Manager, Area Manager, District Construction Manager, Construction Liaison(s), District Maintenance Manager, Environmental Compliance Officer (if MS4 project, or if the project has a post-construction BMP installed), and FHWA Engineer on PoDI projects.8.6.2 Documentation

The Construction Manager’s approval and all necessary documentation from the contractor are necessary for final acceptance and payment. The Project Engineer will sign the green sheet, certifying that all commitments required on construction have been fulfilled and return to the State Environmental Administrator.

Chapter 9. TPro and Scheduling Software - Contents

Chapter 9. Project Management System (TPro) and Scheduling Software (Primavera)

The Department's Preconstruction Project Management System, TPro, and the Scheduling Software, Primavera, incorporates project management, funds management, resource management, and preconstruction activity planning. TPro and Primavera are sophisticated systems for establishing, maintaining, analyzing and improving project scheduling, schedule adherence, and project delivery to maximize the utilization of GDOT resources and revenues.

9.1 TPro and Primavera Benefits to Project Managers

The Department's Construction Work Program includes thousands of active transportation projects with ongoing preconstruction activities. Project Managers are responsible for directing many projects simultaneously through the plan development process and the resources and employees needed to complete the work are often managed and located in other offices. TPro and Primavera will provide the Project Manager with accurate, up-to-date, and detailed information in all phases of the plan development process. Primavera will also provide a resource balanced work plan for all scheduled project activities. TPro and Primavera are designed to provide GDOT project schedulers, Project Managers and preconstruction personnel with tools that would help them:

- Effectively and actively communicate a large volume of critical project information with a reasonable amount of effort.
- Coordinate with each other about project status and resources utilization.
- Analyze project scheduling and resource utilization to improve these business functions.

The challenge of managing a large number of projects is compounded by the reality that the Department's Construction Work Program is constantly modified due to changing priorities, funding considerations, political considerations, project developments, and new work practices. With TPro and Primavera, the Department will be better equipped to analyze, respond, and adapt in the fluid arena in which projects are developed. Using detailed, resource-balanced schedules for all project activities allows the Department's management to set project priorities and attainable funding goals.

9.2 Project Manager's Responsibilities in TPro and Primavera

The accuracy of project schedules is imperative to the effectiveness of the project management system. This management tool is only as good as the information it contains. Project Managers are referred to the Help folder in TPro and Primavera Information Site (http://teams.dot.ga.gov/info/primavera/SitePages/Home.aspx) for specific guidance.

Project Managers must verify the baseline schedules of their projects are reasonable and correct. This includes checking the resources assigned to the project as well as checking the scheduled activities. Even if the baseline schedule is correct, changes may be needed during the preliminary engineering phase as more detail is generated about a project. For example, activities such as a VE study may need to be added to the schedule because they were not anticipated when the baseline

schedule was developed. Likewise, activities may need to be deleted from the schedule because more detailed information gathered at a later date indicated they were not needed.

Project Managers should contact the State Scheduling Administrator with any proposed changes to critical schedule activities, activity duration, or activity resources as soon as the information is available. Depending upon the significance of the impact the proposed change will have on the project schedule, as well as the entire Construction Work Program, the State Scheduling Administrator will either incorporate the changes into the project schedule or inform the PM a revision to the project schedule is required as outlined in Chapter 4.7.2.

Project Managers must ensure the progress of the scheduled project activities are reported, maintained, and updated regularly, at a minimum every two (2) weeks (desirably once a week). Reporting activity progress benefits more than just the project in question. Many of the project's activities are related to, or are affected by, the progress of other projects because all of the Department's projects rely on many of the same resources. Up-to-date and accurate progress reporting is necessary to prevent inaccuracies in scheduled start and finish times for activities throughout the Construction Work Program.

9.3 TPro and Primavera Benefits to the Construction Work Program

The same type of communication, coordination, and prioritization needed at the Project Manager level is also required at the statewide level for the entire Construction Work Program. Primavera allows for multiple project scheduling that identifies planned start and planned finish dates for each activity in the Construction Work Program. Completing each activity by its baseline finish date will ensure that the project remains on schedule, and will ensure that other projects in the Construction Work Program that utilize the same resources will also remain on schedule.

New projects cannot be initiated unless current projects are progressing or are completed, releasing resources. This may be because the employees needed are still working on other projects, or it may be because a project is really one part of a larger project. For example, a bridge may be needed before a road can be completed.

Primavera's multiple projects scheduling system along with the Primavera Analytics tool has simulation capabilities to model different scheduling alternatives in response to changes in the Construction Work Program. Using simulation allows management to quantify the probable result of a change without impacting current schedules. The Department can then evaluate potential actions and choose the best approach. The system also allows for monitoring of the actual amount of time and resources expended on a project. This data can be used to monitor the actual performance of project development and to improve the accuracy of future project schedules.

Chapter 10. State-Funded Projects - Contents

Chapter 10. State-Funded Projects

This chapter outlines project development procedures, which apply to fully state funded projects (State Process), where they differ from the "Federal Process" defined in Chapters 5 through 9 of this Manual. The State Process can also be applied to projects, which include local funds. Projects needing a future federal authorization shall follow the Federal Process.

This chapter applies, specifically, to projects where project environmental documents and reports are prepared to comply with the *Georgia Environmental Policy Act of 1991* (GEPA). All other applicable state and federal laws must be followed. All requirements for federal (e.g., Section 404 permit) and state (Stream Buffer Variance approval) permits and approvals will continue to apply. In addition, federal actions requiring compliance with federal environmental laws may require that additional federal documents be prepared such as Interstate Encroachment Permits, Air Rights (over an interstate), right of way/easements needed from federal properties, etc.

A decision to move forward with a project in accordance with the State Process and subsequent advancement will require that the project continue with state funding until completion. Therefore, these projects will not be, thereafter, eligible to use federal funds.

The remaining sections of this Chapter are intended to provide high-level guidance necessary to efficiently and effectively deliver State Process projects.

10.1 Overview

The Georgia Department of Transportation (GDOT) is prepared to deliver these projects using a streamlined delivery process, that will ensure a shorter project delivery time than is normally achieved using the Federal Process. Accordingly, these projects should utilize all applicable time-saving procedures that are determined by the Project Manager (PM) to have an acceptable level of risk.

Examples of time-saving procedures include, but are not limited to, the following:

- overlapping major process steps, which means that subsequent steps may begin before a preceding step has been completed; and
- beginning right-of-way (ROW) acquisition early, which can be much earlier in plan development depending on risk and before or after environmental technical studies are complete as noted in **Section 10.2.4 Right-of-Way**.

An illustrative timeline of major State Process elements is provided in **Figure 10.1, Illustrative Timeline Showing Major Steps of the State Process**. The state process includes the same major steps as the Federal Process, but with significant flexibility in timing for the start and ending of individual steps (or subtasks), with the overall objective of shortening project delivery time. For the purposes of comparison, an illustrative chart for the Federal Process is also provided, in **Figure 10.2, Illustrative Timeline Showing Major Steps of the Federal Process**.

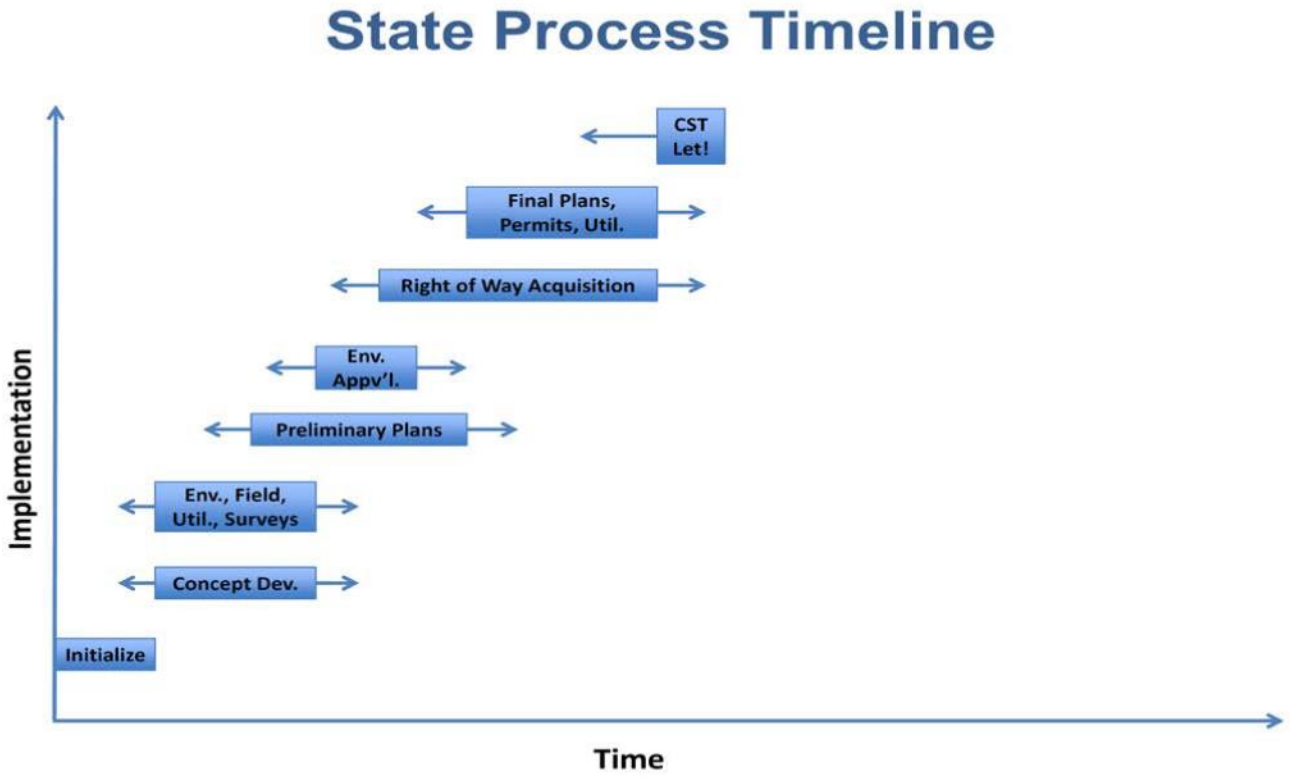

Figure 10.1 Illustrative Timeline Showing Major Steps of the State Process.

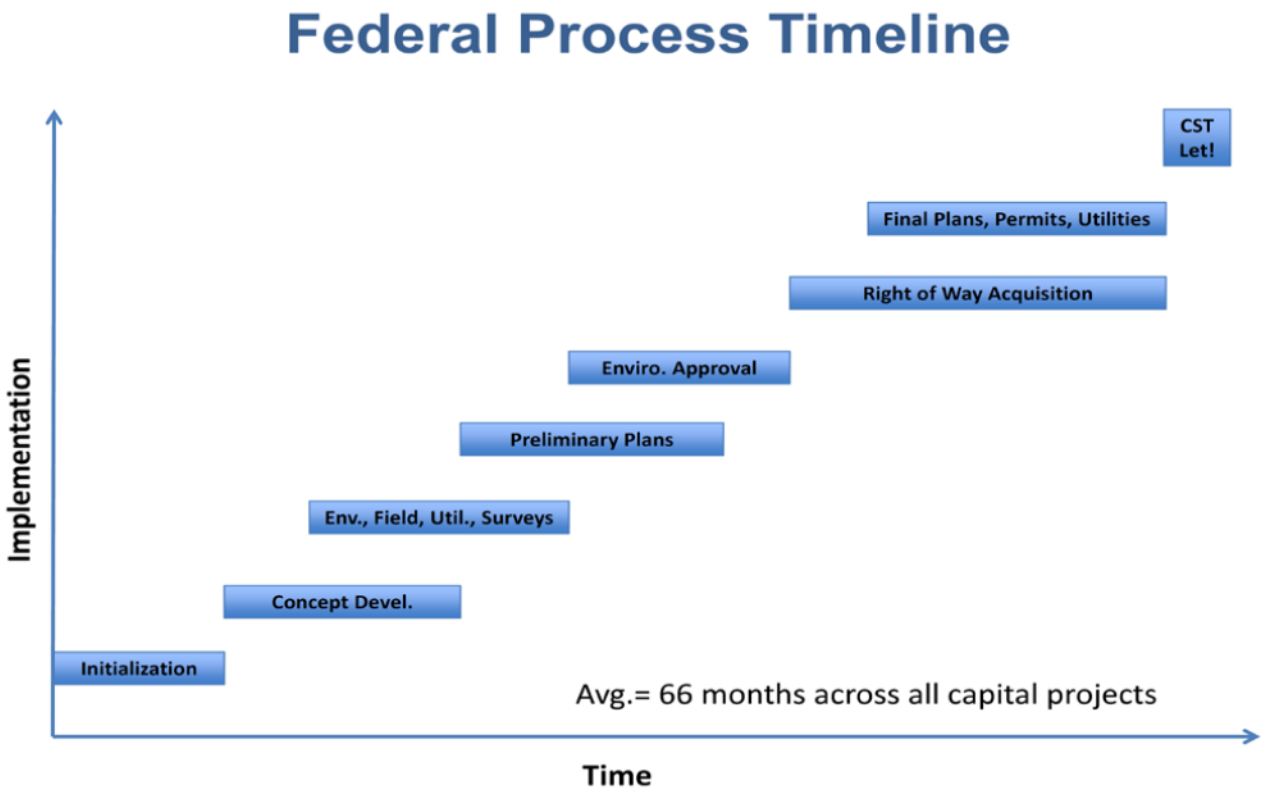

Figure 10.2 Illustrative Timeline Showing Major Steps of the Federal Process.

10.2 General Differences

10.2.1 Risk Assessment

Generally, most major project activities should begin very early in concept development and progress concurrently. As the course of project development progresses, risks will be identified and the strategies which allow for a streamlined process evaluated. It will then become more apparent whether or not individual steps (or activities) can overlap and by how much.

With the above in mind, project risk assessment meetings should be held on a regular basis, with appropriate Subject Matter Experts (SME) present, to obtain information necessary for determining whether or not a step in the process can begin early. These discussions should be part of the normal risk assessment meetings held for the project (refer to **Section 6.5.4 Project Risk Assessment Meetings** of this Manual). The PM will add decisions to the project Risk Management Plan.

Risk assessment should continue throughout the life of the project, and decisions made as often as needed, until the final field plan review (FFPR). Decisions should be validated to account for project changes, and updated as needed. The decisions shall be appropriately documented in the project file and the Project Management Plan.

10.2.2 Design Exceptions and Variances

All design exceptions and variances will be submitted to the Office of Design Policy and Support (DPS) for review and will require approval from the Chief Engineer as per the procedures shown in Appendix D. For information regarding the preparation of DE/DV's, refer to Section 2.2 of the **GDOT Design Policy Manual.**

10.2.3 Environmental

For the state process, projects must comply with GEPA and all other applicable state and federal laws and regulations. If the proposed action has received federal approval of an environmental document prepared in accordance with the National Environmental Policy Act (NEPA), the Department shall be deemed to have complied with the requirements of GEPA. However, if coordination with the US Army Corps of Engineers is required, previously completed coordination will need to be revisited. If funding changes from federal to state or state to federal, the State Environmental Administrator should be consulted.

GEPA includes any proposed action by the Department that is not specifically excluded on Page 2 of the *Guidelines for Implementation of GEPA* prepared by the Environmental Protection Division of the Department of Natural Resources and dated July 1, 1991.

There are three levels of GEPA documentation, as follows:

- **GEPA Type A Letters** - applicable for projects with no or minor land-disturbing activities that would not significantly adversely affect the quality of the environment. For example, resurfacing, lighting, signing, and turn lane projects within the existing ROW are commonly handled using a GEPA Type A Letter.
- **GEPA Type B Letters** – A Significance Determination Study shall be completed for non-Type A GEPA documents. GEPA Type B Letters are applicable for projects which will cause land

disturbance beyond the existing right of way and when the Significance Determination Study demonstrates that the project will not adversely affect the environment.

- **Environmental Effects Report (EER)** - applicable when the Significance Determination Study demonstrates that the project results in a significant adverse effect to the quality of the environment. The EER is followed by a Notice of Decision (NOD).

It is important to note that the significance determination rests fully with the "responsible government official" as per GEPA guidelines. Opportunities to mitigate significant impacts to non-significant impacts should also be evaluated when significant impacts are first identified as it could result in a reduced level of documentation.

It is GDOT's policy to fully engage the public and appropriately address citizen concerns during project development. A project's Public Involvement Plan should be the same regardless of the environmental process is followed.

All GEPA documents and reevaluations will be prepared in accordance with GDOT's Environmental Procedures Manual found at https://www.dot.ga.gov/GDOT/pages/EnvironmentalProcedures.aspx and *GDOT Policy: 4415-10 Ga Environmental Protection Act - GEPA*.

Environmental resources are identified and documented on state funded projects, in compliance with state and federal laws and regulations. The Clean Water Act requires identification, avoidance (or minimization and mitigation), impact assessment and documentation of Waters of the US, in addition to compliance with the Endangered Species Act and National Historic Preservation Act. Note that while environmental studies are required on all state funded projects, a GEPA document is only required for projects costing $100 million or more (total of PE, ROW, utilities and construction).

10.2.4 Right-of-Way

Per project baseline schedules, environmental technical studies should be complete prior to the authorization of ROW funds. However, for the State Process, the ROW plans may be approved and acquisition may begin at risk before the environmental documents and reports are approved. Careful consideration to advance to ROW prior to completion of environmental studies and utility coordination as a schedule recovery effort should be given to avoid the acquisition of unnecessary ROW or additional ROW after the start of negotiations. Further, the PM will coordinate with the Office of Environmental Services to ensure that any permits required can be obtained, as designed, if ROW acquisition is to begin prior to environmental document approval. The PM will coordinate with District Utility Office for potential impacts to ROW.

ROW plan approval and acquisition will normally occur after the PFPR is held, but where risks are acceptable, acquisitions may occur earlier, such as early acquisitions approved by the Office of Right-of-Way. Condemnation petitions shall not be filed prior to Location and Design (L&D) approval as described in **Section 10.2.5 Location and Design (L&D) Approval**. ROW will be acquired in accordance with GDOT's ROW Manual, regardless of whether Federal or State funds are used for acquisition.

10.2.5 Location and Design (L&D) Approval

In compliance with Georgia State Codes 22-2-109(b) and 32-3-5, a L&D Report is required for all projects that require acquisition of ROW or easement. Location and Design approval is granted by

the Chief Engineer with certification that GDOT has completed the public involvement process, and the GEPA documentation, if required has selected an appropriate location, and has committed to a specific design for the proposed project.

The L&D Report will be incorporated into and be approved at the same time as the concept report, where either a GEPA Type A or a GEPA Type B environmental document is indicated. For projects where an EER is required, the L&D will be incorporated into and be approved with publication of the NOD.

10.2.6 Pavement

For off-system projects that are not part of the National Highway System (NHS), and do not have Federal Funds an IPES or PES report is not required unless significant pavement distresses are found within the project limits. For on-system, NHS, and projects with Federal Funds follow sections 5.9 and 6.3.4.

For off-system projects that are not part of the National Highway System, and do not have Federal Funds a PTS report is not required unless a PES Report recommending Full Depth Reconstruction has been performed. For on-system, NHS, and projects with Federal Funds follow sections 5.9 and 6.4.2

For off system roadways that are not part of the National Highway System (NHS), and do not have Federal Funds approval of Pavement Designs are not required. However, Pavement Designs should be prepared for each pavement section proposed for the project in general accordance with the GDOT Pavement Design Manual.

For on-system, NHS, and projects with Federal Funds approval of Pavement designs is required in accordance with sections 6.4.2.

10.3 Phase-Specific Differences

Specific differences (from the Federal process) which apply to the State Process, are listed in the remaining sections of this chapter.

10.3.1 Concept Development

- The Project Team will consider time-saving procedures based on project type/risk assessment to determine what work must be completed prior to concept report approval. For example, some projects may not require completed traffic projections, completed environmental surveys, initial concept team meeting, etc… prior to the completion of concept development.
- Coordination and requests for information should be made as early as practical. This includes request for environmental studies, traffic projections, topographic survey, concept utility report, and initial pavement evaluation summary (PES) reports.
- State-funded projects may qualify for use of a Limited Scope Concept Report format. Refer to **Appendix A-2 Limited Scope Concept Report Template** of this Manual for further guidance.
- In the concept report, indicate that a project will use a GEPA document by checking the GEPA box under the heading "**ENVIRONMENTAL AND PERMITS**" and subheading "Anticipated Environmental Document."

10.3.2 Preliminary Design

- Preliminary design activities may, and in most cases should, begin prior to approval of the concept report.
- ROW plans may be completed and submitted for approval prior to completion of preliminary plans if a risk assessment decision has been made.
- Projects that require an Individual 404 Permit should not proceed to PFPR or ROW acquisition until a PAR is complete unless a risk assessment decision has been made.

10.3.3 Final Design

- The FFPR may be waived or handled electronically based on the recommendation of the Office of Engineering Services Administrator. This decision may be based in part on a favorable PFPR report.
- **Utility Certification** - the Office of Utilities and Railroads will certify to the Office of Engineering Services with a copy to the Office of Construction Bidding Administration and the PM that the utilities and railroads are clear and required agreements are in-hand a minimum of eleven (11) weeks prior to the letting.
- **Environmental Certification** - the Office of Environmental Services will provide the Office of Engineering Services and the PM with a certification that the environmental approvals are current no later than eleven (11) weeks prior to letting.
- **ROW Certification** - the District will certify that all ROW has been obtained at least thirteen (13) weeks prior to a project's letting. Minimum eleven (11) weeks prior to the letting, the State Right-of-Way Office will certify to the Office of Engineering Services that the ROW is clear and provide the PM with a copy of the Letter of Certification.
- Submission of PS&E packages to FHWA will not be required.

10.3.4 Construction

- For design-bid-build projects with an EER GEPA Document, the construction contract cannot be advertised for Letting until after the NOD/L&D is published.
- For design-build projects with an EER GEPA Document, the Notice to Proceed (NTP) cannot be given for construction activities until after the NOD/L&D is published.

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Appendix A. Concept Report Template

A Concept Report is required for most projects under the PDP. This is the basic template for roadway widening, reconstruction, and other complex projects. Appendix A includes more detailed information and instructions than other concept report templates and may be a useful resource during concept development. See Chapter 5 of the PDP manual for more information.

The Concept Report template can be downloaded on R.O.A.D.S (Repository for Online Access and Data Storage) Manual and Guides website. The R.O.A.D.S page contains Plan Development Process (PDP) manual, templates, flowcharts, design manuals, guides, and other information.

The most current version of the Concept Report template can be found in the Plan Development Process section under Report Template and Examples.

https://www.dot.ga.gov/GDOT/pages/DesignManualsGuides.aspx

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Appendix A - 1. Revised Concept Report Template

A Revised Concept Report is required when changes are made to basic project elements after a Concept Report has been approved. By completing a Revised Concept Report, project changes affecting the scope, schedule, and budget are documented and approved. For a list of changes requiring a Revised Concept Report see section 5.23 of the PDP manual.

The Revised Concept Report template can be downloaded on R.O.A.D.S (Repository for Online Access and Data Storage) Manual and Guides website. The R.O.A.D.S page contains Plan Development Process (PDP) manual, templates, flowcharts, design manuals, guides, and other information.

The most current version of the Revised Concept Report template can be found in the Plan Development Process section under Report Template and Examples.

https://www.dot.ga.gov/GDOT/pages/DesignManualsGuides.aspx

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Appendix A - 2. Limited Scope Concept Report Template

A Limited Scope Concept Report is intended for smaller scale projects such as bridge replacements, passing lanes, intersection improvements, bike/ped facilities, etc. A short list of project types that typically qualify for the Limited Scope Concept Report Template are included at the beginning of this Template.

The Limited Scope Concept Report template can be downloaded on R.O.A.D.S (Repository for Online Access and Data Storage) Manual and Guides website. The R.O.A.D.S page contains Plan Development Process (PDP) manual, templates, flowcharts, design manuals, guides, and other information.

The most current version of the Limited Scope Concept Report template can be found in the Plan Development Process section under Report Template and Examples.

https://www.dot.ga.gov/GDOT/pages/DesignManualsGuides.aspx

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Appendix B. Location and Design Report Template

In compliance with Georgia State Codes 22-2-109(b) and 32-3-5, a Location and Design Report with Notice of Location and Design Approval will be required for all projects that need additional right-of-way or easement. The Notice of Location and Design Approval is to be advertised for four consecutive weeks in the newspaper(s) that carry the sheriff's advertisements, beginning within 30 days of approval of the Location and Design Report. The Location and Design Report may also be utilized to document minor project changes or project changes that occur late in the design process.

The Location and Design Report template can be downloaded on R.O.A.D.S (Repository for Online Access and Data Storage) Manual and Guides website. The R.O.A.D.S page contains Plan Development Process (PDP) manual, templates, flowcharts, design manuals, guides, and other information.

The most current version of the Location and Design Report template can be found in the Plan Development Process section under Report Template and Examples.

https://www.dot.ga.gov/GDOT/pages/DesignManualsGuides.aspx

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Appendix C. PDP Distribution Lists

C.1 Concept Meetings

C.1.1 Initial Concept Meeting Participants

The Project Manager will determine the participants to attend the Initial Concept Meeting (ICM). The suggested participants will be knowledgeable representatives from:

- Office of Design Policy and Support, Attn: Conceptual Design Group Manager
- Organizational Performance Management Office, attn.: State Risk Manager
- Office of Roadway Design
- Office of Innovative Program Delivery (as appropriate)
- Office of Environmental Services, attn.: Environmental Program Manager [for the appropriate district]
- Office of Right-of-Way (send invitation to: RW-ConceptMtgs_Est@dot.ga.gov)
- Office of Traffic Operations
- Office of Bridges and Structures
- Office of Program Control
- *FHWA (required on all PoDI)*
- *FTA* (required on all Commuter Rail projects)
- GRTA (as appropriate)
- Office of Construction
- Office of Maintenance
- Office of Materials and Research
- Office of Engineering Services
- Office of Planning (to invite appropriate Metropolitan Planning Organization (MPO) or Regional Development Commission (RDC) representative)
- District Engineer
- District Planning and Programming Liaison
- local government technical representatives (District Engineer to invite)
- Office of Utilities (they may decide to invite utility company and railroad representatives)
- Office of Intermodal Programs and Aviation Program Manager (if there is an airport within 5 miles of the project).

C.1.2 Concept Meeting Participants

The Project Manager will determine the participants to attend the Concept Meeting (CM). The suggested participants will be knowledgeable representatives from:

- Director of Engineering (Letter only)
- Program Control Administrator (Letter only)
- Office of Design Policy and Support, Attn: Conceptual Designs Group Manager
- Organizational Performance Management Office, attn.: State Risk Manager
- State Transportation Planning Administrator
- State Utilities Engineer
- Financial Management Administrator

- Project Review Engineer
- State Environmental Administrator, attn.: Environmental Program Manager [for the appropriate district]
- State Right of Way Administrator (send invitation to: RW-ConceptMtgs_Est@dot.ga.gov)
- State Construction Engineer
- District Preconstruction Engineer
- District Planning and Programming Liaison
- District Utilities Engineer
- District Traffic Engineer
- FHWA Reviewer (Note: for EA or EIS projects only)

C.2 Concept Reports

Project Manager will email an electronic copy (pdf) of original Concept Report to the Concept Reports inbox. The Office of Design Policy and Support *Conceptual Design Group Manager* will monitor the inbox and receive the original Concept Report and review for completeness and follow-up with *Project Manager* if necessary for revisions. If Concept Report is satisfactory, then the *Conceptual Design Group Manager* will distribute the report by email to the project team listed below for recommendation. The project team will have 10 business days to review the Concept Report and reply back to the *Conceptual Design Group Manager* by email, with the option to utilize an automated toggle below.

- ☐ Recommend/with comment
- ☐ Reject/with comment

A summary of the project team recommendations will be gathered by the *Conceptual Design Group Manager,* who will coordinate resolution of any changes with the Project Manager. The *Conceptual Design Group Manager* will print and route the final concept report to the Director of Engineering for recommendation, and Chief Engineer for approval. Once approved, the *Conceptual Design Group Manager* will distribute the final Concept Report in accordance with the GDOT Standard Distribution List, available on the R.O.A.D.S webpage.

Project Team receiving original Concept Report for review:

- *State Roadway Design Engineer* (only for those projects designed by the Office of Roadway Design)
- Program Control Administrator
- State Transportation Planning Administrator
- Project Review Engineer
- State Environmental Administrator
- *State Bridge Engineer* (only for those projects that involve structures)
- State Traffic Operations Engineer
- State Utilities Engineer
- State Materials and Research Administrator
- District Engineer
- District Preconstruction Engineer
- District Utilities Engineer
- District Traffic Engineer

C.3 Revised Concept Reports

Project Team receiving Revised Concept Report for recommendation and/or approved Revised Concept Report for the record is the same as Concept Reports.

C.4 Location and Design Approval

Project Manager will email electronic copy (pdf) of "Request for Location and Design Approval", and "Notice of Location and Design Approval" to the Concept Reports inbox.

The Office of Design Policy and Support *Conceptual Design Group Manager* will monitor the inbox and receive the Request for Location and Design Approval, and review for completeness and follow-up with *Project Manager* if necessary for revisions. If the Request for Location and Design Approval is satisfactory, then the *Conceptual Design Group Manager* will distribute the original hard-copy Request for Location and Design Approval to the Director of Engineering for recommendation, and the Chief Engineer for approval. The "Date of Location and Design Approval" will be entered by the *Conceptual Design Group Manager.* The Location *Conceptual Design Group Manager* will then distribute the Approval Notice in accordance with the GDOT Standard Distribution List, available on the R.O.A.D.S webpage.

C.5 Field Plan Review Requests

Field Plan Review Requests will be distributed in accordance with the GDOT Standard Distribution List, available on the R.O.A.D.S webpage.

C.6 Final Plans

Final Construction Plans are submitted to Construction Bidding Administration 10 weeks prior to Letting. The minimum distribution of the Final Construction Plans by the Project Manager will be in accordance with the GDOT Standard Distribution List, available on the R.O.A.D.S webpage.

For Interstate ATMS or Limited Access Roadway ITS projects, additional distribution will be made as follows:

- State Signal Engineer – Letter/1-half-size set.
- State Bridge & Structural Design Engineer – Letter/1-half-size set.
- State Maintenance Engineer – Letter/1-half-size set.
- District Utilities Engineer – Letter/1-half-size set.
    - The District Utilities Engineer will provide the Project Manager/Design Phase Leader with a print list for any additional printing requirements for the Utility owners.

The District Design Engineer shall fulfill the printing requirements for projects plans prepared in the District offices.

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Appendix D. Design Exception or Variance Request Example

D.1 Design Exception or Variance Request Example

Requests for Design Exceptions or Variances should utilize the template on the following pages. Ensure all information requested within the example template is included in the package submitted for Design Exception / Variance approval. Failure to submit all required information will result in the package being considered incomplete, in which case, the package will be returned to the Project Manager (PM).

Notes:

- *The Engineer/Designer of Record shall prepare and submit any Design Exceptions and/or Design Variances (DE/DV) to the GDOT Project Manager (PM) as soon as they are found to be necessary and the information and studies needed to justify the DE/DV have been completed. DE/DV's should be submitted prior to the completion of the right-of-way plans. On Project of Division Interest (PoDI) projects, DE/DV's identified during the Concept phase require FHWA review and approval of the DE/DV before they will approve the concept. If a DE/DV is identified on a PoDI project after FHWA has approved the concept, the DE/DV should be promptly submitted and communicated to FHWA.*
- *For policy information regarding DE/DV's, refer to Chapter 2 of the* ***GDOT Design Policy Manual****.*
- *A separate, brief, and signed cover letter from the GDOT PM Office Head to the State Design Policy Engineer should accompany the request letter.*
- *Requests from GDOT Designers (i.e. Roadway Design Phase Leaders (DPL) and Bridge DPL) should use Template A. Requests from Consultant DPL, when utilized by the Office of Program Delivery, the Office of Innovative Delivery or the Office of Maintenance should use Template B.*
- *Requests from Consultant Designers should be submitted on the engineering firm's letterhead (See Template B).*
- *For projects with separate, multiple DE/DV's, approval is required for each. Use multiple signature lines within the same request letter.*
- *The Office of Design Policy and Support will receive, review and submit the DE/DV request to the Director of Engineering, Chief Engineer and, if applicable to FHWA for approval or disapproval. All design exceptions and design variances should be submitted to the following email address: DesignException@dot.ga.gov*
- *After approval or disapproval, the request will be returned to the Office of Design Policy and Support for distribution to the PM. The Office of Design Policy and Support will send a notification that the approved DE/DV has been placed in ProjectWise. The Office of Design Policy and Support will enter into the Department's Project Management System, a record of the DE/DV. The Office of Design Policy and Support will notify the PM by email all DE/DV's that are not approved.*

DEPARTMENT OF TRANSPORTATION (Template A)
STATE OF GEORGIA

INTEROFFICE CORRESPONDENCE
REQUEST FOR DESIGN EXCEPTION *(or VARIANCE)*

FILE *P.I. Number*
Project Number
County
Project Description
NHS or State Route Number

OFFICE *Design Office*

DATE *Date*

FROM *Office Head (GDOT Submitting Office with signature)*

TO *State Design Policy Engineer*

SUBJECT **Request for Design Exception *(or Variance) for (list criteria here) ex. Shoulder Width***

Approval of a Design Exception *(or Variance)* is requested for this project.

PROJECT DESCRIPTION *Provide a general description of the project including the length of the project, the general location of the project including any city and county limits or proximity thereto, speed design, posted speed limit, and describe the proposed typical sections and other major improvements to be constructed.*

FEATURE(S) REQUIRING A DESIGN EXCEPTION/VARIANCE *Describe the feature(s) requiring a design exception or a design variance and describe the existing conditions compared to the proposed conditions. Give the values of the current standard criteria and the values that are proposed to be used. Include the value of the beginning and the ending mile point stationing for the design feature.*

CURRENT AND FUTURE TRAFFIC DATA *Describe current and future traffic volumes with any other pertinent traffic data (i.e. Truck percentage, Transit / Bus route, etc.).*

CRASH DATA *Provide the crash history within the project limits for the most recent three years available. In particular, address and summarize the crash history related to the feature requiring a design exception or variance request. This should include the types of crashes (i.e. head-on, angle, side swipe, rear end, run-off-road, cross median, cross centerline, etc.) and crash severity (i.e. number of fatalities & injuries). Access the GEARS - Georgia Electronic Accident Reporting System site or the Crash, Road & Traffic Data site for this information. Include the Statewide Mileage, Travel & Accident Data for the same years as those provided in the crash history for comparison (Contact the Office of Traffic Safety and Design Personnel for this information). All crash data information should be provided in a tabular format and summarized accordingly.*

ALTERNATIVES CONSIDERED / RISK ASSESSMENT *Summarize and compare the alternatives considered, including the alternative that meets full criteria and evaluate the risk associated with the design exception or variance. The discussion around alternatives and risk should use the alternative meeting full criteria as a basis for comparison. Use the Highway Safety Manual (HSM) and HSM spreadsheets to predict the impact of proposed alternatives on safety, if applicable. If using an*

appropriate CMF, please list the CMF ID# and include the CMF details from the clearinghouse website as an attachment. Special attention should be given to the applicability of the CMF as it relates to the proposed condition and project characteristics. When utilizing multiple CMFs, a discussion of the method of application should be included. Please see the CMF Clearinghouse page on "Using CMFs" for more information. For existing substandard conditions to be retained and where adequate crash data is provided (for years where that condition existed), no HSM analysis is required. Explain why the HSM cannot be applied if it is determined that no analysis is available.

In some cases, where the HSM is not applicable, the Office of Design Policy and Support may request three to five examples of facilities with comparable characteristics to demonstrate that safety is not a risk. These examples would be for nearby facilities with similar roadway characteristics such as classification, roadway volumes, lane width, number of lanes, median, etc.

Please list additional design exceptions or variances that overlap in the proposed area, and please properly address their corresponding risk. These include any exceptions or variances that have not been submitted, are under review, or have already been approved.

COST TO MEET STANDARD CRITERIA *Summarize the cost estimate for construction and right-of-way and other associated costs for constructing or reconstructing the design feature to meet current standards. Additionally, please also list the cost as a percentage of the overall project if the standard criteria were to be met.*

WHY THE CURRENT STANDARD CRITERIA CANNOT BE MET *Summarize why the current AASHTO Standard Controlling Criteria(Design Exception)/GDOT Standard Criteria(Design Variance) cannot be met.*

MITIGATION PROPOSED *Describe any mitigation proposed to lessen the impact of not meeting current standard criteria. (FHWA publication Mitigation Strategies for Design Exceptions is a good reference) If mitigation or other additional enhancement costs are significant, summarize these costs at this point. Other resources providing mitigation ideas or traffic safety-related accident countermeasure / accident pattern countermeasure ideas include the American Association of State Highway and Transportation Officials (AASHTO) May 2004 "A Guide for Achieving Flexibility in Highway Design" and the Institute of Transportation Engineers (ITE) "Traffic Engineering Handbook".*

RECOMMENDATION *The Engineer/Designer of Record must make a recommendation to the approving authority for action. Any conditions to the approval of this exception should be clearly stated. Include name and contact number.*

The signature block for approval will take one or the other of the following forms:

- ***For submissions classified as Design Variances:***

Concur: _____ _____
GDOT Director of Engineering — Date

Approve: _____ _____
GDOT Chief Engineer — Date

OR

- ***For submissions classified as Design Exceptions:***

Concur:	_____	_____
	GDOT Director of Engineering	Date
Approve:	_____	_____
	GDOT Chief Engineer	Date
Approve:	_____	_____
	FHWA Division Administrator	Date

Attachments: Location sketch
Typical sections
Photo image of location
Plan sheets denoting DE/DV location including latitude and longitude coordinates
Profile sheets denoting location of DE/DV
Preconstruction Status Report
Bridge ID and Inventory Data Sheet for bridge projects
CMF Detail sheet (if applicable)
Any other documentation pertinent to request. (e.g. for lateral offset to obstruction requests provide the offset for each individual object not meeting GDOT standards).

DEPARTMENT OF TRANSPORTATION (Template B)
STATE OF GEORGIA

INTEROFFICE CORRESPONDENCE
REQUEST FOR DESIGN EXCEPTION *(or VARIANCE)*

FILE *P.I. Number*
Project Number(if available)
County
Project Description
NHS or State Route Number

OFFICE *Design Office*

DATE *Date*

FROM *Office Head (GDOT Submitting Office with signature)*

TO *State Design Policy Engineer*

SUBJECT **Request for Design Exception *(or Variance) for (list criteria here) ex. Shoulder Width***

Approval of a Design Exception *(or Variance)* is requested for this project.

If there are any questions, please contact *Project Manager name* at *Project Manager phone number*.

ENGINEERING FIRM LETTERHEAD

FILE *P.I. Number*
Project Number(if available)
County
Project Description
NHS or State Route Number

DATE *Date*

FROM *Engineering Firm*

TO *State Contact*

SUBJECT **Request for Design Exception *(or Variance) for (list criteria here) ex. Shoulder Width***

Approval of a Design Exception *(or Variance)* is requested for this project.

PROJECT DESCRIPTION *Provide a general description of the project including the length of the project, the general location of the project including any city and county limits or proximity thereto, speed design, posted speed limit, and describe the proposed typical sections and other major improvements to be constructed.*

FEATURE(S) REQUIRING A DESIGN EXCEPTION/VARIANCE *Describe the feature(s) requiring a design exception or a design variance and describe the existing conditions compared to the proposed conditions. Give the values of the current standard criteria and the values that are proposed to be used. Include the value of the beginning and the ending mile point stationing for the design feature.*

CURRENT AND FUTURE TRAFFIC DATA *Describe current and future traffic volumes with any other pertinent traffic data. (i.e. Truck percentage, Transit / Bus route, etc.).*

CRASH DATA *Provide the crash history within the project limits for the last most recent three years available. In particular, address and summarize the crash history related to the feature requiring a design exception or variance request. This should include the types of crashes (i.e. head-on, angle, side swipe, rear end, run-off-road, cross median, cross centerline, etc.) and crash severity (i.e. number of fatalities & injuries). Access the GEARS - Georgia Electronic Accident Reporting System site or the Crash, Road & Traffic Data for this information. Include the Statewide Mileage, Travel & Accident Data for the same years as those provided in the crash history for comparison (Contact the Office of Traffic Safety and Design Personnel for this information). All crash data information should be provided in a tabular format and summarized accordingly.*

ALTERNATIVES CONSIDERED / RISK ASSESSMENT *Summarize and compare the alternatives considered, including the alternative that meets full criteria and evaluate the risk associated with the design exception or variance. The discussion around alternatives and risk should use the alternative meeting full criteria as a basis for comparison. Use the Highway Safety Manual (HSM) and HSM spreadsheets to predict the impact of proposed alternatives on safety, if applicable. If using an appropriate CMF, please list the CMF ID# and include the CMF details from the clearinghouse website as an attachment. Special attention should be given to the applicability of the CMF as it relates to the proposed condition and project characteristics. When utilizing multiple CMFs, a discussion of the method of application should be included. Please see the CMF Clearinghouse page on "Using CMFs" for more information. For existing substandard conditions to be retained and where*

adequate crash data is provided (for years where that condition existed), no HSM analysis is required. Explain why the HSM cannot be applied if it is determined that no analysis is available.

In some cases, where the HSM is not applicable, the Office of Design Policy and Support may request three to five examples of facilities with comparable characteristics to demonstrate that safety is not a risk. These examples would be for nearby facilities with similar roadway characteristics such as classification, roadway volumes, lane width, number of lanes, median, etc. Include the Statewide Mileage, Travel & Accident Data for the same years as shown in the crash history.

Please list additional design exceptions or variances that overlap in the proposed area, and please properly address their corresponding risk. These include any exceptions or variances that have not been submitted, are under review, or have already been approved.

COST TO MEET STANDARD CRITERIA *Summarize the cost estimate for construction and right-of-way and other associated costs for constructing or reconstructing the design feature to meet current standards. Additionally, please also list the cost as a percentage of the overall project if the standard criteria were to be met.*

WHY THE CURRENT STANDARD CRITERIA CANNOT BE MET *Summarize why the current AASHTO Standard Controlling Criteria(Design Exception)/GDOT Standard Criteria (Design Variance) cannot be met.*

MITIGATION PROPOSED *Describe any mitigation proposed to lessen the impact of not meeting current standard criteria. (FHWA publication Mitigation Strategies for Design Exceptions is a good reference) If mitigation or other additional enhancement costs are significant, summarize these costs at this point. Other resources providing mitigation ideas or traffic safety-related accident countermeasure / accident pattern countermeasure ideas include the American Association of State Highway and Transportation Officials (AASHTO) May 2004 "A Guide for Achieving Flexibility in Highway Design" and the Institute of Transportation Engineers (ITE) "Traffic Engineering Handbook".*

RECOMMENDATION *The Engineer/Designer of Record must make a recommendation to the approving authority for action. Any conditions to the approval of this exception should be clearly stated. Include name, email address, and contact number.*

The signature block for approval will take one or the other of the following forms:

- ***For submissions classified as Design Variances:***

Recommend:	*(Sign and add Georgia P.E #.)*	
	Engineer of Record	Date
Concur:		
	GDOT Director of Engineering	Date
Approve:		
	GDOT Chief Engineer	Date

OR

- ***For submissions classified as Design Exceptions:***

Recommend:	*(Sign and add Georgia P.E. #)*	
	Engineer of Record	Date
Concur:		
	GDOT Director of Engineering	Date
Approve:		
	GDOT Chief Engineer	Date
Approve:		
	FHWA Division Administrator	Date

Attachments:
Location sketch
Typical sections
Photo image of location
Plan sheets denoting DE/DV location including latitude and longitude coordinates
Profile sheets denoting location of DE/DV
Preconstruction Status Report
Bridge ID and Inventory Data Sheet for bridge projects
CMF Detail sheet (if applicable)
Any other documentation pertinent to request (e.g. for lateral offset to obstruction requests provide the offset for each individual object not meeting GDOT standards.)

Appendix E. Procedures for Determining Bridge Size at Stream Crossings

E.1 Procedures for Determining Bridge Size at Stream Crossings

[RECOMMEND DELETING THIS APPENDIX] Information is obtained from field surveys that include a stream traverse, flood of record elevations, and a cross- section of the floodplain at the bridge site.

A hydraulic site inspection is then made at the job site in order to determine "n" values and direction of flood flow. Also, observations are made for any natural constrictions in the flood plain other than directly at the bridge site. The stream is observed for stability and type of bed material and the floodplain is observed for any structures that have been flooded before or might be flooded in the future. Also, the immediate bridge sites both upstream and downstream of the project are observed for adequacy of opening and scour problems. Local residents in the area are contacted concerning any local flood problems that they have encountered.

Drainage area for the site is then determined from USGS Quadrangle Sheets. The design flood (50 year) discharge and basic flood (100 year) discharge is determined from USGS Gaging Station Information, if available. If no Gaging Station is available, then the discharges are determined from appropriate methods contained in the Georgia Manual on Drainage Design for Highways.

A bridge length is then chosen that will permit conveyance of the design flood and basic flood without increasing flood heights or velocities to an extent that would cause significant upstream or downstream damage to existing reasonably anticipated future development.

Reports and information from other sources such as Corps of Engineers, U.S. Geological Survey and Flood Insurance Studies are incorporated into our study.

If our study disagrees with reports on the area by other agencies, an attempt is made to resolve these discrepancies.

All of the above mentioned information is then incorporated into a written "Hydraulic and Hydrological Study" for the site, which is kept on record in the General Files and the Office of Bridges and Structures files for future reference.

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Appendix F. FHWA Exemptions from U.S. Coast Guard Permit Requirements

F.1 Eligibility for FHWA Exemption from U.S. Coast Guard Permit

The Federal Highway Administration was given the authority to exempt certain bridge projects in tidal waters from requiring a U. S. Coast Guard permit by Section 144(h) of Title 23 USC as amended by the Highway Act of 1987. This authority was in addition to the existing authority given to the Federal Highway Administration for exempting certain bridge projects in non-tidal waters as per 23 CFR, Subpart H, Section 650.805. This additional authority applies to any bridge constructed, reconstructed, rehabilitated, or replaced in tidal waters, which are:

Not used and are not susceptible to use, in their natural condition or by reasonable improvement, as a means to transport Interstate or foreign commerce.

Used only by recreational boating, fishing, and other small vessels less than 21 foot (6.4 m) in length.

A bridge replacement is defined to mean any project, which will involve a new bridge or the total removal of the superstructure or more of an existing bridge. Anything less than this in scope, as well as any new bridge built parallel to an existing bridge that is not being replaced, will be considered to be bridge rehabilitation.

The following table is to be used as a guide in determining when a U.S. Coast Guard permit should be obtained:

TIDAL WATER	REPLACE	REHABILIATE
Water depth at site < 5 ft (1.5m) at low tide	**X**	**X**
Vertical clearance at < 15 ft (4.5m) at high tide	**X**	**X**
Water depth > 5 ft (1.5m) at low tide and vertical clearance > 15 ft. (4.5m) at high tide	**E**	**E**
Susceptible to Interstate or foreign commerce navigation by Federal Authorization only. Interstate or foreign commerce navigation in fact.	**P**	**E**
Interstate or foreign commerce navigation in fact	**P**	**P**
NON-TIDAL WATER	**REPLACE**	**REHABILIATE**
Susceptible to Interstate or foreign commerce navigation by Federal Authorization only. Interstate or foreign commerce navigation in fact.	**E**	**X**
Interstate or foreign commerce navigation in fact	**P**	**P**

Legend:

X = Site exempt from USCG permit.

P = Site requires application for USCG permit.

E = Site requires evaluation to determine status.

The Coast Guard permit limits for navigable rivers in Georgia, interstate or foreign commerce navigation in fact, are as follows:

- **Chattahoochee River** - From the dam at the West Point Reservoir, downstream to the Georgia-Florida border.
- **Flint River** - From the dam at the Georgia Power Company Reservoir at Albany, Georgia, downstream to its junction at the Chattahoochee River.
- **Coosa River** - From the junction of the confluence of the Etowah River and the Oostanaula River, downstream to the Georgia-Alabama border.
- **Etowah River** - From the Norfolk-Southern Railway Bridge immediately east of the US-27 (State Route 1) bridge near Rome, Georgia, downstream to the junction with the Coosa River.
- **St. Mary's River** - From the US-301 Bridge near Folkston, Georgia, downstream to the Coastal Boundary Area.
- **Altamaha River** - From the confluence of the Oconee River and the Ocmulgee River, downstream to the Coastal Boundary Area.
- **Savannah River** - From the dam at Clarks Hill Reservoir, downstream to the Coastal Boundary Area: USCG Contact for questions: Randall Overton 304-415-6736.

Appendix G. Procedure for Securing Consultant Services

G.1 Securing Consultant Services

Georgia Department of Transportation (GDOT) uses Professional Engineering Consultants (Consultants) for many reasons:

Securing Consultants requires adherence to State and Federal guidelines for the procurement of Architectural and Engineering (A&E) services. The Procurement Office, more specifically, Transportation Services Procurement (TSP) is responsible for procuring A&E services.

To initiate the process for securing a Consultant, the requestor must complete a Request to Advertise for Consultant Services, if advertisement is needed. Once permission has been granted for advertisement, if needed, a Procurement Requisition Form (available on "MyGDOT" website under *Forms and Templates*) can be submitted to the TSP_mailbox@dot.ga.gov.

As part of the selection process, TSP will assist the requesting party in selecting the most expeditious and beneficial contracting method to meet their needs. In-depth details for the procurement process of consulting services may be found in the GDOT Procurement Manual http://www.dot.ga.gov/PartnerSmart/Business/Documents/ConsultantResources/TSPManual.pdf.

G.2 Request to Advertise for Consultant Services

See following pages.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTEROFFICE CORRESPONDENCE

FILE *P.I. Number*
Project Number
County
Project Description

OFFICE

DATE

FROM *Office Head (Submitting Office)*

TO *Chief Engineer*

SUBJECT **Request to Advertise for Consultant Services**

Project description (if available):

Provide a clear and concise project description to include:

- *Beginning and ending point and describe the general alignment between these two points*
- *Length of the project,*
- *Proposed typical section,*
- *Major structures,*
- *Major intersections and or interchanges,*
- *Right-of-Way requirements including access control,*
- *Speed design, and*
- *Proposed let date or date of completion of the Work/Task Order.*

Reason for the request and brief proposed scope of work:

Describe why the work cannot be performed in-house:

- *Shortage of personnel,*
- *Accelerated schedule,*
- *Requirements for special expertise, etc.*

State the general scope of work requested such as:

- *Concept Development*
- *Preliminary plans*
- *Right-of-Way plans*
- *Final construction plans*
- *Special studies, etc.*

Estimated Cost: The contract cost is estimated between $*x,xxx,xxx* and $*y,yyy,yyy*.

Timeframe for Contract: The proposed contract timeframe is X months after Notice to Proceed (NTP).

Cc: Office of Transportation Services Procurement
Budget Office

Recommended: _____

Name
Director of Submitting Office

_____
Date

Approved: _____ _____

Name, P.E.
GDOT Chief Engineer

Date

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Appendix H. Plan Revision Procedures

H.1 General

It is the goal of the Engineering Division and the Office of Program Delivery to minimize, if not eliminate, all plan revisions and amendments to the proposal. However, circumstances sometime necessitate plan changes that result in revisions and/or amendments. This includes the revision of construction plans after final plans have been submitted to the Office of Construction Bidding Administration for the Letting and after the project has been let to contract and awarded.

The Project Manager is responsible for facilitating plan revisions. In facilitating plan revisions the Project Manager must ensure the revision does not change the conditions of any permits or the environmental impacts addressed in the approved environmental document. The Project Manager shall review any proposed plan revisions with the Office of Construction prior to coordinating with the appropriate GDOT Offices when a changed condition to the approved permits or environmental document is suspected. The Office of Construction will determine if the change is necessary prior to action being taken to re-engage other agencies on the revised resource impacts. The Project Manager shall also review any proposed plan revision with the Office of Traffic Operations Systems Engineer when a change condition to any ITS project is suspected.

Office of Construction Bidding Administration shall be contacted and concur before any revision or amendment is made after Final plans are submitted to the Office of Construction Bidding Administration and before the project is Let to contract. The Office of Construction shall be contacted and concur before any revision is made after the project is Let to contract and awarded.

The FHWA shall be contacted and their concurrence received before any plan revision is made on any Full Oversight/PoDI project.

Plan revisions can be classified into three categories:

1. Revisions to construction plans after submission to the Office of Construction Bidding Administration for letting and prior to Advertisement (Revision Prior to Advertisement).
2. Revisions to construction plans to incorporate amendments to the proposal which have been processed by the Office of Construction Bidding Administration during the advertisements (Amendment Revision/Use on Construction Revision #1).
3. Revisions to construction plans that occur directly as a result in changes required on construction after the project is awarded (Use on Construction Revisions).

For information on the process of storing revisions electronically after the project has been let to contract and awarded, refer to the GDOT Electronic Plans Process document or the workflows on the GDOT ProjectWise web page (https://www.dot.ga.gov/GDOT/pages/projectwise.aspx) as applicable.

H.2 Procedures

In order for the revision process to be consistent, the following procedure for revising construction plans will be followed:

H.2.1 Revision Prior to Advertisement

Final plans are to be submitted ten weeks prior to letting to the Office of Construction Bidding Administration and the original plans to the Engineering Management Document Section five weeks prior to the Letting. Plans may be revised, with concurrence of the Office of Construction Bidding Administration, no later than six and one-half weeks prior to the Letting for projects other than PoDI /FOS projects and no later than seven and one-half weeks for FOS/PoDI projects. This allows time for the Office of Construction Bidding Administration to process the revision and print the proposal before project advertisement to contractors. Revision dates shall be added to all revised sheets and each revision listed and described on the Revision Summary Sheet.

Approved revisions will be submitted to the Office of Bidding Administration and those listed on the final plans distribution list.

H.2.2 Revisions by Amendment/Use on Construction Revision #1

From the six and one half week period to the Letting, no plan changes shall occur without the prior concurrence of the Office of Construction Bidding Administration and approval of the Chief Engineer. All approved changes will require an amendment to the proposal and may occur from the six and one half week/seven and one half week period to 10 calendar days prior to the Letting. Revision dates shall be added to all revised sheets and each revision listed and described on the Revision Summary Sheet.

After the letting, the apparent low bid may be awarded, rejected, or deferred. Prior to bid opening, a project may also be withdrawn from the Letting. The disposition of each contract in the Letting will be listed in the award announcement that is published the Friday following the Letting. This report is also available in electronic format on the Office of Construction Bidding Administration's Web Page. Based on the bid status, the following plan Revision by Amendment/Use on Construction Revision #1 actions may be taken with a set of plans dependent upon the acceptance of the bid.

H.2.3 Awarded:

Construction plans should be revised to incorporate any amendments processed by the Office of Bidding Administration and shall be submitted to the contractor and those listed on the current GDOT standard distribution list as Use on Construction #1. The contractor will receive sets of approved plans and contract assemblies including special provisions in accordance with GDOT specification 105.05- Cooperation by Contractor per the GDOT Standard Distribution list. Engineering Management Document Section will send letters containing information on how to access the revisions electronically shall be sent to the remainder of the Final Plans distribution list except the Office of Construction Bidding Administration and the Project Review Engineer will not receive copies**.** Any quantity changes as a result of the processed amendment are to be listed on the "Quantities Required by Amendment" sheet, which will be added to the plans (see table at the end of this appendix).

H.2.4 Rejected:

Construction plans should be revised to incorporate any amendments processed by the Office of Construction Bidding Administration and resubmitted to the Office of Construction Bidding Administration in accordance with the processing schedule for the new Let date using the same distribution as final plans. Quantities in the plans should be changed to agree with the processed amendment.

H.2.5 Deferred:

A project may be let to contract and an acceptable bid received. However, the award may be deferred until such time that any utility, right-of-way, permit, or any other problem is resolved. The revision should be made the same as for an "Awarded" project after notification has been distributed, by a supplemental award announcement, verifying the low bid proposal has been awarded. If the supplemental award announcement shows the project rejected, then process the revision the same as a "Rejected" project above.

H.2.6 Withdrawn:

Construction plans should be revised to incorporate any amendments processed by the Office of Construction Bidding Administration and resubmitted to the Office of Construction Bidding Administration in accordance with the processing schedule for the new Let date using the same distribution as final plans. Quantities in the plans should be changed to agree with any processed amendments.

On all amendment revisions, the revision summary sheet shall list the date and a detailed description of the revision.

H.2.7 Use on Construction Revisions

Use on construction revisions may occur any time during the life of the construction contract. At no time shall the integrity of the "As Bid" plan information, shown on the original construction plans, be altered by deleting or erasing as a result of any "Use on Construction" revision. Changes to the information shown on the original plan sheets may be accomplished by copying the original sheet, and labeling the copy of the original plan sheet as "Use on Construction" as directed in the Plan Presentation Guide and revising the information thereon as required. Any quantities or additional pay items required on construction are to be listed on the “Quantities Required on Construction” sheet, which will be added to the plans (see table at the end of this appendix). If the revision required significant changes to the original plans, the original plan sheet may be voided on construction and a "Use on Construction" sheet, with the revision included, added to the plans.

However, any additional pay items required on construction that will result in a supplemental agreement with significant increase in cost must be negotiated with the contractor before an official revision can be processed. Copies of the revised plan sheets are to be submitted to the District Construction Engineer for negotiations with the contractor. Copies of the revised plan sheets are to be submitted to the District Utilities Engineer to assess impacts, if any, to utility facilities. The District Utilities Engineer and the District Construction Engineer shall coordinate with the utility companies and contractor to ensure the utility relocation work, including a revised work plan (utility adjustment schedule, permits, relocation plans, and any additional utility cost) is addressed and accounted for during the negotiations in accordance with the Utility Accommodation Policy and Standards Manual. When an acceptable price has been negotiated, the District Construction Engineer will notify the Project Manager that the official revision should be submitted. The Project Manager and the Project Engineer shall give the highest priority to preparing and issuing “Use on Construction” revisions as they may affect the overall cost of the project or the completion date of the project or both.

On PoDI/FOS Projects, FHWA must approve the change before the revision can be processed.

The Project Manager shall send the completed plan revisions to the contractor and the Standard Distribution List. The District Utilities Office shall forward copies of the revisions to all affected utility companies and ensure utility work plans are revised accordingly.

An electronic copy will be submitted to the Office of Design Policy and Support per the ProjectWise workflow.

H.2.8 Environmental Coordination Procedures for Projects during Construction

When there are environmental concerns on a project that is under construction, the Environmental Compliance Bureau (ECB), the Office of Program Delivery (OPD), the Construction Office and the Office of Environmental Services (OES) will work together to address the concerns as expeditiously as possible. The procedures outlined below detail this process.

Plan Errors or Omissions

1. When a contractor requests a project change due to plan errors or omissions that will impact environmental resources and/or permitting, the Construction Project Manager will coordinate the requested change with the Construction Liaison.
2. The Construction Liaison will coordinate with the State Construction Engineer to confirm that the requested change does in fact result from an error or omission in the plans. The Construction Liaison will facilitate the request and keep ECB informed on project decisions/actions.
3. The State Construction Engineer will evaluate whether or not the project can be built per the plans on which the contractor based his bid or approve the contractor's recommended design change.
4. If the State Construction Engineer approves the contractor's recommended design change, the Construction Project Manager will request that the Construction Liaison coordinate the changes with the District Program Manager (OPD) and the Environmental Program Manager (OES) to determine if the change can be cleared environmentally.
5. The Construction Project Manager and District Program Manager (OPD) will provide the Environmental Program Manager (OES) with a request to address the proposed project change.
6. The District Program Manager (OPD) and the Environmental Program Manager (OES) will determine a schedule for completing the needed actions and disseminate the request as needed; highlighting the need for expeditious resolution to all engaged personnel.
7. The District Program Manager (OPD) and the Environmental Program Manager (OES) will provide the Construction Liaison with an estimated schedule for completion of environmental clearance.
8. The District Program Manager (OPD) and the Environmental Program Manager (OES) will each track these requests and actions to ensure expeditious resolution.
9. Any delays in response or action should be escalated to the OES or OPD Assistant Office Head, as appropriate.

Preferential Change Request by Contractor

1. When a contractor requests a project change not due to plan errors or omissions that will impact environmental resources and/or permitting, the Construction Project Manager will coordinate with the Construction Liaison and ECB.
2. The Construction Liaison will coordinate with the State Construction Engineer to assess if the change is acceptable, keeping the Construction Project Manager aware of all decisions.

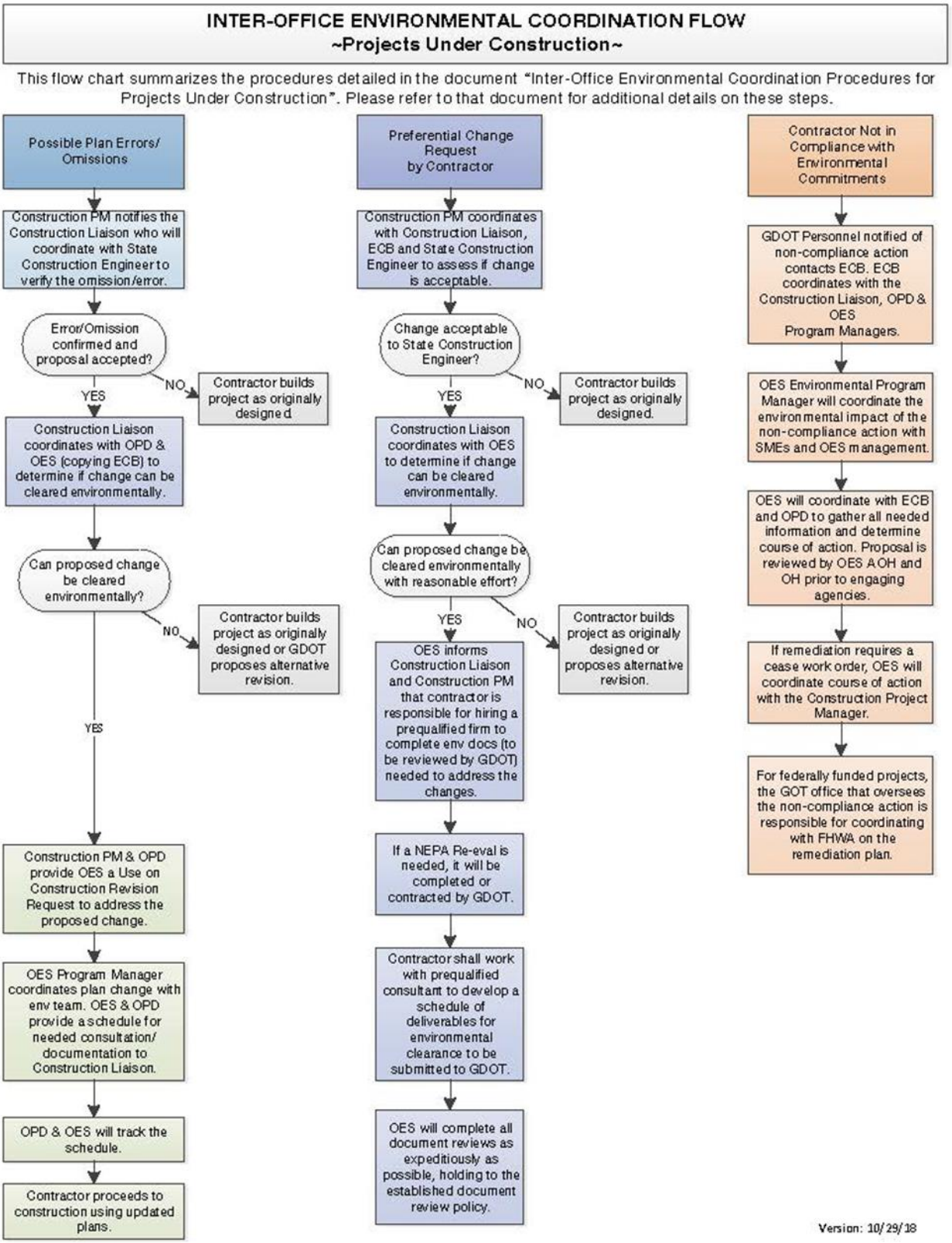
3. If the State Construction Engineer agrees that the change is acceptable, the Construction Liaison will coordinate with OES to determine if the proposed change would be able to be cleared environmentally with reasonable effort.
4. The OES Program Manager will coordinate with the environmental team to determine the cost and time needed to accommodate change and communicate this to the State Construction Engineer and Construction Liaison to determine if accommodating the request is reasonable.
5. The Construction Liaison will provide the Construction Project Manager with the decisions made. The Construction Project Manager will inform the contractor that the time and funding required to address the change is the sole responsibility of the contractor.
6. If the State Construction Engineer approves the project change and the contractor agrees to hold the responsibility for the time and funds needed to complete the needed environmental coordination, the Construction Project Manager and District Program Manager (OPD) will work to provide the Environmental Program Manager (OES) a project change form.
7. The Environmental Program Manager (OES) will work with the environmental team to complete the needed environmental coordination as expeditiously as possible so that the contractor may continue/begin work.

Contractor Not in Compliance with the Environmental Resource Impact Table and/or Special/Standard Provisions

1. Once Department personnel become aware of a violation (regardless of the reporting source), staff will notify the Environmental Compliance Bureau (ECB).
2. ECB will investigate to determine the facts of the violation and determine which offices to coordinate the violation to develop a plan of action (in addition to OPD, OES and Construction), which may include Roadway Design and/or Traffic Ops.
3. ECB will email the Environmental Program Manager (OES) and copy the State Environmental Administrator, Construction Liaison and District Program Manager (OPD), as well as any other selected offices, to alert them of the issue.
4. The Environmental Program Manager (OES) will lead and manage OES's response to ECB and other applicable offices.
5. The Environmental Program Manager (OES) will assess the situation and contact the appropriate OES Section Manager(s), copying the associated Assistant Office Head.
6. The Environmental Program Manager and OES Section Manager(s) will work with ECB and the District Program Manager (OPD) to compile all needed information and to determine a course of action; including contacting the needed agencies with the result of their investigation and remediation steps, as warranted.
7. The Environmental Program Manager (OES) and OES Section Manager(s) will provide the associated OES Assistant Office Head and State Environmental Administrator with a proposed course of action for review.
8. Department personnel will coordinate internally prior to contacting other agencies to ensure that the proposed remediation has been agreed upon by all associated offices.
9. If remediation requires that all construction work cease, OES shall coordinate with ECB on the course of action with the contractor.
10. The Environmental Program Manager (OES), District Program Manager (OPD) and ECB will work together to reconcile the situation as expeditiously as possible.

11. For federally funded projects, the associated office is responsible for developing an interagency course of action and remediation steps with the FHWA counterpart.

Environmental Coordination Flow Chart (next page)


INTER-OFFICE ENVIRONMENTAL COORDINATION FLOW
~Projects Under Construction~
This flow chart summarizes the procedures detailed in the document "Inter-Office Environmental Coordination Procedures for Projects Under Construction". Please refer to that document for additional details on these steps.
Possible Plan Errors/ Omissions
Construction PM notifies the Construction Liaison who will coordinate with State Construction Engineer to verify the omission/error.
Error/Omission confirmed and proposal accepted?
NO
Contractor builds project as originally designed.
YES
Construction Liaison coordinates with OPD & OES (copying ECB) to determine if change can be cleared environmentally.
Can proposed change be cleared environmentally?
NO
Contractor builds project as originally designed or GDOT proposes alternative revision.
YES
Construction PM & OPD provide OES a Use on Construction Revision Request to address the proposed change.
OES Program Manager coordinates plan change with env team. OES & OPD provide a schedule for needed consultation/ documentation to Construction Liaison.
OPD & OES will track the schedule.
Contractor proceeds to construction using updated plans.
Preferential Change Request by Contractor
Construction PM coordinates with Construction Liaison, ECB and State Construction Engineer to assess if change is acceptable.
Change acceptable to State Construction Engineer?
NO
Contractor builds project as originally designed.
YES
Construction Liaison coordinates with OES to determine if change can be cleared environmentally.
Can proposed change be cleared environmentally with reasonable effort?
YES
NO
Contractor builds project as originally designed or proposes alternative revision.
OES informs Construction Liaison and Construction PM that contractor is responsible for hiring a prequalified firm to complete env docs (to be reviewed by GDOT) needed to address the changes.
If a NEPA Re-eval is needed, it will be completed or contracted by GDOT.
Contractor shall work with prequalified consultant to develop a schedule of deliverables for environmental clearance to be submitted to GDOT.
OES will complete all document reviews as expeditiously as possible, holding to the established document review policy.
Contractor Not in Compliance with Environmental Commitments
GDOT Personnel notified of non-compliance action contacts ECB. ECB coordinates with the Construction Liaison, OPD & OES Program Managers.
OES Environmental Program Manager will coordinate the environmental impact of the non-compliance action with SMEs and OES management.
OES will coordinate with ECB and OPD to gather all needed information and determine course of action. Proposal is reviewed by OES AOH and OH prior to engaging agencies.
If remediation requires a cease work order, OES will coordinate course of action with the Construction Project Manager.
For federally funded projects, the GOT office that oversees the non-compliance action is responsible for coordinating with FHWA on the remediation plan.
Version: 10/29/18

H.2.8b Use on Construction Revisions – Example Letter

DATE

Project Number & County

P.I. Number

Project Description as identified in TPRO

Contractor

Address of Contractor's Corporate Headquarters

SUBJECT: USE ON CONSTRUCTION REVISION

Dear *Contractor's Name*,

Attached for your use in updating plans for the above listed project are two (2) full-size and two (2) half-size copies of the revised construction plans. *Identify plan sheets that were revised. Identify when revisions were made and that the revision date is indicated on each revised plan sheet. Note that the revisions are summarized on the revision summary sheet.* **These are "Use on Construction" revisions to the contract and should supersede any older plan sheets.** *Provide a short but descriptive explanation of the revision and the purpose for the revision:*

- *Explanation and Purpose of revision.*

Revisions can be accessed electronically through the Transportation Project Information (TransPI) internal or external search utility available at www.dot.ga.gov.

If additional information is required, please contact project manager at (xxx)-yyy-zzzz.

Sincerely,

Office Head

(Project Manager's Office)

AAA:BBB:ccc

Attachments

cc: [See GDOT Standard Distribution List]

H.3 Revision Summary Sheet

On all revisions, the revision summary sheet shall list the date and a description of the revision.

A "Quantities Required on Construction" sheet and a "Quantities Required by Amendment" sheet will be available in a cell library. Refer to PPG for guidance.

H.4 As-Built Plans

H.4.1 As-Built Plans

All As-Built Plans are to be submitted directly to the State Design Policy Engineer, Office of Design Policy and Support, ATTN: Design Services Supervisor. The plans are to be clearly marked and labeled as *"As-Built Plans".* The Office of Design Policy and Support will be responsible for transferring the hard-copy plans into electronic format and placing them into the electronic plans repository ProjectWise.

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Appendix I. Detour Report Template

A Detour Report and a Notice of Detour Approval will be required for projects that require the temporary closure and detour of a roadway for construction. The Notice of Detour Approval is to be advertised for four consecutive weeks in the newspaper(s) that carry the sheriff's advertisements, beginning within 30 days of approval of the Location and Design Report.

The Detour Report template can be downloaded on R.O.A.D.S (Repository for Online Access and Data Storage) Manual and Guides website. The R.O.A.D.S page contains Plan Development Process (PDP) manual, templates, flowcharts, design manuals, guides, and other information.

The most current version of the Detour Report template can be found in the Plan Development Process section under Report Template and Examples.

https://www.dot.ga.gov/GDOT/pages/DesignManualsGuides.aspx

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Appendix J. Final Plans Transmittal Letter

J.1 Final Plans Transmittal Letter Template

See the following pages for the Final Plans Transmittal Letter Template.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTEROFFICE CORRESPONDENCE

FILE *P.I. Number, County Project Number*

Project Description

OFFICE

DATE

FROM *Office Head (Submitting Office)*

TO *State Transportation Office Administrator – Office of Bidding Administration*

SUBJECT **Final Plans Submission**
Final Plan Submittal Baseline Date:

Attached is the final plan package for the above listed project. This project is scheduled for the *date* letting. Plans have been prepared in *English/Metric* units and in accordance with the Final Field Plan Review Report dated *date*.

Provide a brief description of the project as stated in the final Approved Concept Report or Revised Concept Report.

Control of the CES estimate has been turned over to the Office of Engineering Services.

The final plan package includes:

1. Final Construction Plans (half size)
2. Designer's Checklist for Plans Submittal to the Office of Construction Bidding Administration
    a. Notice of Intent
    b. Special Provisions
    c. Utility Adjustment Schedule
3. Designer's Final Construction Cost Estimate
4. Electronic Alignment File Descriptions, Alignment Report Files and End Area Report files *(Place in a separate folder on ProjectWise or PCCommon for non-PW projects)*
5. Three (3) half-size sets of Erosion Control and CMP Plans
6. Conditional Certification form (as needed)

Please note that all of the above files are available on ProjectWise at PI#\CST(Construction)\Construction Plans\PSE to CBA or PCCommon at*PI#\PSE to CBA date (for non-PW projects)*.

If there are any questions, please contact *PM Name* at PM *Phone Number*.

XXX:xxx

Attachments

Cc*:* {See ROADS website for latest GDOT Standard Distribution List}

Appendix K. Traffic Engineering Report

K.1 Traffic Engineering Report - General

The Manual on Uniform Traffic Control Devices (MUTCD) requires a traffic engineering study to determine if a traffic control signal is justified. The factors to be considered in the study are not specified. However, the MUTCD indicates that the study should include the factors contained in the warrants and those related to the operation and safety of the location in question and it suggests several items that may be included.

The number of vehicles entering the intersection in each hour from each approach during the 12 consecutive hours of an average day that contain the greatest percentage of the 24-hour traffic:

- Vehicular volumes for each traffic movement from each approach, classified by type of vehicle (heavy trucks, passenger cars and light trucks, public-transit vehicles, and, in some locations, bicycles), during each 15-min period of the 2 hours in the morning, 2 hours at midday, and 2 hours in the afternoon during which total traffic entering the intersection is greatest.
- Pedestrian volume counts on each crosswalk during the same periods as the vehicular counts just described, and also during hours of highest pedestrian volume (where young or elderly persons need special consideration, the pedestrians may be age-classified by general observation).
- Existing conditions diagram.
- Location map.
- The posted or statutory speed limit or the 85th-percentile speed on the uncontrolled approaches to the location.
- An existing condition diagram based on field observations showing details of the physical layout, including such features as adjacent intersections, highway geometrics, traffic control, grades, channelization, sight-distance restrictions, bus stops and routings, parking conditions, pavement markings, street lighting, driveways (curb cuts), nearby railroad crossings, distance to nearest signals, utility poles and fixtures, delays, and adjacent land use.
- A collision diagram showing accident experience by type, location, direction of movement, severity, time of day, and day of week for at least one year.
- Traffic signal warrant analysis.
- Capacity Analysis and evaluation of turn lane necessity.
- Proposed Improvements diagram.
- Intersections at nearby railroad crossings should be analyzed for railroad signal preemption requirements and pre-signal needs.
- Conceptual signal design (if warranted).
- Recommendations and Conclusions.

Additional data may be useful in evaluating the potential improvements in the overall operation and safety of the intersection. These include vehicle-seconds of delay by approach, the number and

distribution of gaps on the major street, and pedestrian delay time. Analysis of these data may show that, although warranted by vehicular volumes alone, a traffic signal may not be justified.

If the study data shows little or no delay, relatively few correctable collisions, and adequate gaps for side-street traffic to enter, and do not indicate any potential improvement with a traffic control signal, the signal should not be considered for installation.

K.2 Traffic Engineering Templates

Traffic Engineering Report and cover letter templates can be found on the following pages. Traffic Signal Permit Requests should be submitted through Georgia Permitting Application System (GPAS) website.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

TRAFFIC ENGINEERING REPORT

For the intersection *(or intersections)* of: *(describe all)*
STATE ROUTE _____ AND _____ *(Street, Avenue, Blvd., etc.)*
In the City of _____, *(if applicable)*
County of _____
At Mile Post _____.

Provide a simple location sketch for the intersection.

Report prepared by:
Name
Title
Address

Telephone Number: *(Area Code) Telephone Number*
E-mail Address: *[Name]* @dot.ga.gov
FAX Number: *(Area Code) FAX Number*

Date report prepared: _____

Location: *Describe in the location detail using the cover sheet (page 1) description as the basis of the narrative.*

Reason for the investigation:
_____ County has officially requested GDOT consider the placement of a stop-and-go traffic signal at this location. This corridor has experienced tremendous growth over the last 20 years with many commercial and residential establishments.

Description of the intersection: *Include the proper name and route designations of all intersection legs, describe the typical section of all legs, give the major origin and destination of each leg, describe street lighting, note any history or architecture (context) that should be considered, describe any controlling criteria not meeting present guidelines, note the presence or proximity of railroads, railroad grade crossing, and describe the terrain.*

- *State Route000 is a five lane section including a center turn lane. There are three thru lanes westbound and eastbound at the intersection with City Street X, the intersecting street. City Street X intersects SR000 at the bottom of a sag vertical curve. SR000 is a heavily traveled major arterial that connects City A and Town B.*
- *Intersecting Street is a two lane roadway that serves a relatively small townhouse complex.*

Traffic volumes in vehicles per day (vpd): *(Use a minimum of three years)*
Latest year percent trucks:
Latest year 24 hour percent trucks:

Year	***SR __ @ MP ____. Count Station?????*** **(vpd)**	***Intersecting Street Name*** **(vpd)**
Latest year	*(Volume)*	*(Volume)*
Latest year -1	*(Volume)*	*(Volume)*
Latest year -2	*(Volume)*	*(Volume)*
Latest year -3	*(Volume)*	*(Volume)*
Latest year -4	*(Volume)*	*(Volume)*

Morning and evening peak hour turning movement counts are attached.

EXISTING TRAFFIC CONTROL: *(Fully describe the existing traffic control for each leg of the intersection)*

- State Route
- Intersecting street

Vehicular speeds: (Give the posted speed limit on each approach leg. *The posted speed limit on SR000 is 45 MPH. However, this stretch of SR000 experiences observed speeds well over 50 MPH)*

- State Route.
- Intersecting street.

Pedestrian movements: *(Describe all pedestrian movements including the presence or absence of sidewalks)*

- *The north side of SR000 is undeveloped at this time and there are no sidewalks along SR000.*
- *Although City Street A services a townhouse complex, no pedestrians were observed and none are anticipated. There are no sidewalks present.*

Other modes of transportation present: (bicycle facilities, transit, bus stops, etc.)

Delay:
Observation during peak traffic periods revealed motorists on the side street experienced a minimal delay. However, adequate gaps were created by adjacent signals on SR000.

Parking:
There was no parking observed or expected at the intersection.

Accident History:

	Accidents								
Year	Rear-end	Side-swipe	Angle	Head-on	Struck Object	Run off Road	Total	Injury	Fatal

Accident printouts are attached. Also included are collision diagrams. *It appears that only two of the accidents from xxxx to xxxx were preventable by signalization.*

Adjacent Signalized Intersections:
There is a signal located at the intersection of SR ____ @ _____ Road ____ feet west of the subject intersection. There is a signal located at the intersection of SR _____ @ _____ Road ____ feet east of the subject intersection.

Warrant Analysis:
XXX County performed a warrant analysis on this intersection. The intersection meets signal warrants ____ and ____ including right turns and meets warrants ____ and ____ without right turns on ____ side street.

Intersection Control Evaluation (ICE): As per GDOT Policy 4A-5, an ICE has been performed for the intersection of SR___ at SR/City Street _. The evaluation indicated….

Conclusions

Recommendations:

It is recommended that a signal permit be issued to XXX County for the installation of a traffic signal at the intersection of SR000 @ City Street A. It is recommended that the County purchase all needed equipment for the installation. XXX County will install and maintain the signal. (if applicable).

Recommend:	_____	_____
	District Traffic Engineer	Date
Recommend:	_____	_____
	State Traffic Engineer	Date
Approve:	_____	_____
	Director of Operations	Date

Traffic Engineering Report Appendix

- Sketch of the present intersection.
- Sketch of the proposed intersection.
- Traffic Signal Warrants Analysis - PC Warrants.
- Traffic Count Summary Sheets.
- Accident Diagram.
- Collision Diagram
- Intersection Control Evaluation (ICE) Document

Appendix L. Constructability Review Guidance Tool

L.1 Constructability Review Guidance Tool

Stage construction is a major consideration in the preliminary design phase. Earthwork, pavement, bridges, walls and utilities can introduce engineering issues on any project's construction. In August 2000 the AASHTO Subcommittee on Construction published a document entitled "Constructability Review Best Practice Guide" and defined "Constructability Review" as "a process that utilizes construction personnel with extensive construction knowledge early in the design stages of projects to ensure that the projects are buildable, while also being cost-effective, biddable, and maintainable."

A constructability review should be held on major projects that have construction issues (questions) with staging due to significant horizontal or vertical grade changes, major utility relocations, staged bridge or culvert construction or any other complicated construction issue. Constructability issues can also be compounded by high daily traffic to be maintained during construction.

A constructability meeting shall be conducted during Preliminary Design Phase for bridge projects that could require temporary access impacts to waters of the U.S. After the BFI is completed, during Final Design Phase, an additional constructability meeting shall be held prior to FFPR, if necessary, to validate the previous constructability meeting. The necessity of the additional meeting will be determined by the design team and project manager.

See following pages.

CONSTRUCTABILITY REVIEW GUIDANCE TOOL

Project Number:	Date of Review:
P.I. Number:	County:
Project Description:	
GDOT Let [ ] or Local Let [ ] (check box)	Project Sponsor:
GDOT Project Manager:	Consultant Project Manager:
GDOT Design Office:	Design Firm:
Design Group Manager:	Consultant Design Manager:

Level of project development:

Concept [ ] 30% Design Complete [ ] 60% Design Complete [ ]

	Site Investigation	Comments
	Has a site investigation been performed to ensure actual site conditions are illustrated on the project layout/plan sheets?	
	Are existing overhead utilities present; has the need for SUE been determined?	
	Are there adequate areas for materials stockpiling and parking of construction equipment and ancillary construction operations during stage construction?	
	Is the project in a remote area; can access be constructed to remote locations?	
	Are there any unusual site conditions; should the project be closed to traffic and utilize off-site detours?	
	Are there possible impacts to school bus routes or emergency vehicles?	
	Is there evidence of existing slope stability issues/erosion at existing drainage outlet structures?	
	Are there possible impacts to environmental sensitive areas (e.g.,,. wetlands, streams, historic properties, archaeological sites, parks/recreational areas, churches, schools)?	
	Will existing structures be utilized during construction or will an on-site detour be required?	
	Are there possible impacts to commercial and/or residential access by stage construction or off-site detours?	

	Could timing of project affect local/seasonal events?	
	Are partnering agreements needed with city/county governmental agencies?	
	Earthwork and Grading	Comments
	Are there available areas for materials stockpiling?	
	Can available construction equipment meet project requirements (e.g., crane heights, vertical clearances, etc.); areas that would eliminate/restrict normal equipment use?	
	Is earthwork phasing compatible with construction requirements?	
	Are roadway grading/cut/fill widths compatible with equipment size?	
	Any visible evidence or prior indication by completed projects in area that rock will be encountered?	
	Is there presence of groundwater or active streams within project limits; water table v/s excavation depths?	
	Does earthwork summary need to be presented by stage?	
	Is the project located within an area of the state where a Soil Survey Investigation Report will be required prior to PFPR?	
	Are there any slope stability concerns?	
	Base and Pavement	Comments
	Have low-production or hand-work areas been eliminated or minimized?	
	Has an Existing Pavement Evaluation been performed to support use of existing pavement during stage construction and/or into the proposed pavement structure?	
	Are material sources readily available and/or within reasonable haul distances?	
	If PCC is the approved pavement material, will quantities require Specification Section 430 in lieu of Section 439?	
	In areas of full-depth pavement repair or partial reconstruction (identified by GPR or FWD), has the subgrade directly below the pavement box been tested to adequately address actual subsurface conditions (i.e. shallow/perched groundwater or highly plastic soils)?	
	Drainage	Comments
	Has a pipe inspection/investigation been requested to determine the integrity of the existing storm water drainage system(s) when they are to be incorporated into the proposed design system(s)?	
	Will existing storm water drainage system(s) not included in proposed drainage system(s) be plugged and grouted or removed as part of clearing and grubbing?	

	Are there any reports of roadway flooding at cross drain/low point structures?	
	Will temporary drainage structures and/or ditches be required for effective and efficient storm water management during stage construction?	
	Are there any catch basins located in intersection curb radii?	
	Are safety inlet grates proposed for side drain culverts within the clear zone?	
	Have Erosion Control BMPs been considered/designed for each construction stage?	
	Structures - Bridges, Culverts, Retaining Walls	Comments
	Will existing cross-drain structures remain in place and be extended; will the existing structure withstand the additional dead loads?	
	If existing bridge structures are to be widened, do the As-built plans reflect the actual conditions?	
	Is there adequate access to bridge(s) over railroads?	
	Is there adequate access to bridge(s) over waterways?	
	Is there adequate room between existing and new alignments for bridge construction?	
	Is there adequate access to the site for long beams, cranes, aerial utility clearances, etc.?	
	Is there adequate easement for construction of fill retaining walls?	
	Will caisson drilling require Special Provisions; will dewatering be required?	
	Has pedestrian traffic been considered during bridge construction?	
	Are there any limits on load-carrying capacity of existing structures?	
	Will vibrational effect of the work (i.e., pile driving) affect adjacent building/structures?	
	Are there any drainage conflicts that may affect bridge construction?	
	Staging and Traffic Control Plans	Comments
	Have street closures been coordinated with local governments, emergency-response facilities; can emergency vehicles travel through work zones without delay?	
	Are traffic control requirements realistic for actual conditions?	
	Has adequate width been provided on temporary travel lanes?	

	Are lane closures reasonable for traffic volumes and penalties provided for when required?	
	Have power source(s) been identified for temporary signals/roadway lighting?	
	Have bicycles/pedestrians been considered during each construction stage; ADA requirements during each construction stage?	
	Are emergency pull-offs needed when shoulders are eliminated during construction staging?	
	Have conflicts been considered between through traffic and construction equipment; are temporary haul roads needed?	
	Do staging plans address elevation differences between travel lanes?	
	Has access to adjacent residential and commercial properties been considered for each phase of stage construction?	
	Will non-salvageable materials be disposed on project site?	
	Right of Way	Comments
	Is there adequate right of way and/or easement to construct the project (i.e., temporary easements required for stage construction)?	
	Has all required rights of way been cleared and free of above/underground obstructions?	
	Are all drainage outfall structures and permanent BMP's located on right of way?	
	Has sufficient right of way been acquired at intersections to allow for placement of traffic control equipment and sight distance triangles?	
	Will aerial/underground easements be required for structures (i.e., bridges and retaining walls)?	
	Does proposed right of way requirements consider all revisions to the state highway system?	
	Schedule	Comments
	Are proposed working days and production rates reasonable?	
	Have construction staging sequences been verified and consideration been given to seasonal/weather constraints?	
	Have regulatory permit restrictions been considered?	
	Are there any local ordinances restricting work hours/construction noise (e.g.,. neighborhoods, schools, churches, hospitals, etc.)?	
	Have material submittal lead times been addressed?	

	Is there need for development of a detailed schedule due to seasonal/public gathering events?	
	Are there any work-hour limitations/special provisions required due to railroad operations?	
	Will any utility relocations be included in the construction contract?	
	Utilities	Comments
	Can utility relocations begin prior to construction contract?	
	Will utility relocations be included in construction contract?	
	Is the project in proximity to railroad property - active or inactive?	
	Will existing roadway lighting be replaced by project?	
	Will roadway lighting/high-mast light structures impact airport glide paths?	
	Is there a need to relocate utility facilities underground?	
	Will relocated utility facilities be in the right of way or on separate utility easement?	
	Are there any areas that require pre-design underground utility locations verified?	
	Do relocated utility facilities conflict with access to adjacent commercial/residential properties?	
	Will traffic signal strain poles be jointly used by aerial utility facilities or vice-versa?	
	Has the location of shut-off valves been identified?	
	Is there evidence of underground fiber optic lines or ITS facilities?	
	Will service need to be provided to temporary traffic signals or roadway lighting during stage construction?	
	Is there a need for Public Interest Determination approval by the Commissioner?	
	Has the need for SUE been determined?	
	Have permit concerns been addressed, applied for, and executed?	
	Have utility owners been notified of plans changes due to Value Engineering Study(s)?	
	Which agency is responsible for utility coordination?	
	General	Comments
	If plans are illegible or difficult to read, they should be revised to clarify existing feature or elements versus proposed construction.	

	If plans are incomplete, a set including typical sections, construction plans, profiles, cross sections, stage construction plans, stage cross sections, and existing utilities should be requested.	

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Appendix M. Post Construction Evaluation Report Template

M.1 Post Construction Evaluation Report Template

See following pages.

POST CONSTRUCTION EVALUATION REPORT

PI No.:
Project Description:
Let Date:
Notice to Proceed Date:
Original Completion Date:
Current Completion Date:
Evaluation Date:

The plans were prepared by:
The project manager:
The prime contractor for this project:
Award Amount:

General GDOT Comments

Contractor Comments

Change Orders (number from Sitemanager)
CO#
Supplemental Agreement / Allotment request (choose one)
Description:
Explanation:
Special Conditions/Comments:
Cost:
Meeting comments:

Questions: *(Yes or No and Explanation)*

1. **Were there any Supplemental Agreements on this project that will likely recur on future projects?**
2. **Were there any significant quantity overruns or underruns on this project that will likely recur on future projects?**
3. **Were there any delays on this project that will likely recur on future projects?**
4. **Were any problems encountered in the use of the recommended sequence of construction or with traffic control?**

5. **Did the intent of any plan notes or special provisions become points of contention with the contractor or field personnel?**
6. **Will any of the project features create maintenance problems?**
7. **Were there any distinguishing or unique features (such as Native American Issues, Wetlands, Hazardous Materials, etc.) that could have been handled differently by design?**
8. **Did environmental studies need to be reopened during construction?**
9. **Did the 404 permit or buffer variance need to be revised during construction?**
10. **Was anything handled differently on this project (such as a different method of payment for a particular item, or a new special provision, special details, etc.)?**
11. **If yes to question # 8, did collaborating facilitate the completion and quality of construction?**
12. **Did the Contractor initiate any value engineering change proposals?**
13. **Describe any problems, errors or omissions in the plans, specifications, and detailed estimate.**
14. **Describe the reasonableness or accuracy of the following items. (rank each one as very good, good, fair, or poor)**

    Utility location plan:
    Soils and Foundation information:
    Estimate of quantities:
    Contract Time:
    Contract Schedule:
    Horizontal and Vertical Alignment:
    Earthwork:
    Staging plans:
    Erosion Control plans:
    Material specifications:
    Bridge Plans:
    Right-of-Way plans:
15. **Provide summary of major traffic accidents that occurred within the project work zones:**
16. **Provide details of any public input or comments obtained during the construction phase:**
17. **Was the utility relocation work included in the construction project as pay items?**
18. **If yes to question #15, identify the utilities.**

PERSONNEL PRESENT

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Appendix N. Request to Utilize Conditional Certification Example

N.1 Request to Utilize Conditional Certification

In order to advance projects to the construction phase, conditional certifications are sometimes issued by Environmental Services, the Office of Utilities, and/or the Office of Right of Way. Due to the risks associated with letting projects to construction prior to obtaining complete certifications, permission from the Chief Engineer will be required prior to utilizing conditional certification(s) for letting.

Requests to utilize Conditional Certifications should use the following template, which is to be routed for approval prior to submitting the project for letting, 11 weeks prior to the management let date.

The completed letter approving conditional certification is to be stored in the ProjectWise folder “PSE to CBA”, located at: [Project]\CST (Construction)\Construction Plans\PSE to CBA\

The offices issuing certifications would notify the GDOT Project Manager, who would create a document set within the “PSE to CBA” folder containing links to the certifications, adding links to any new or updated certifications as they arrive. The original certifications would remain in the folders selected by the issuing offices.

Instructions for creating ProjectWise document sets can be found at the following link: http://www.dot.ga.gov/PartnerSmart/DesignManuals/ProjectWise/PWDocSets.pdf.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTER-DEPARTMENT CORRESPONDENCE

DATE: **OFFICE**: Program Delivery

FROM: xxxxx, State Program Delivery Administrator

TO: Meg B. Pirkle, P.E., Chief Engineer

SUBJECT: Request to Utilize Conditional Certification

In order to achieve our Performance Goals and avoid transfer of the risks to the construction phase of the project, project certifications are due 11 weeks prior to the management let date. Conditional certification is one of a number of tools available for advancing projects to construction in a timelier manner. As with any tool, the conditional certification comes with certain risks. Before choosing to use this tool, we have to carefully evaluate those risks and document below.

The Project Manager will ensure that the contract documents reflect all project changes that arise from conditional certifications.

Project Information		
PI:	County:	CST funding: ☐state ☐federal
Short Description:		
GDOT Project Manager:	Scheduled let date:	
Conditional certification request (note date of affected office email concurrence)		
☐ Environmental	☐ Right-of-way	☐ Utility
Email concurrence date of affected office head		
Date	*Date*	*Date*
Number of deferral days to be added to the award of the contract:		
Root cause for schedule delay & conditional certification		
Outstanding tasks and anticipated time needed		
Task	*Responsible office*	*Anticipated completion date*
Risk(s) due to conditional certification(s)		

Engineering Division Director's review: _____ Date: _____

Chief Engineer's approval: _____ Date: _____

Cc: Rich Williams, State Transportation Office Administrator (via email)
Kim Nesbitt, OPD District Program Manager (via email)
Bobby Hilliard, PE, State Program Control Administrator (via email)
Erik Rohde, State Project Review Engineer (via email)
John D. Hancock, PE, State Construction Engineer ATTN: Beau J. Quarles (via email)
File for ProjectWise {File in: [Project]\CST (Construction)\Construction Plans\PSE to CBA\}

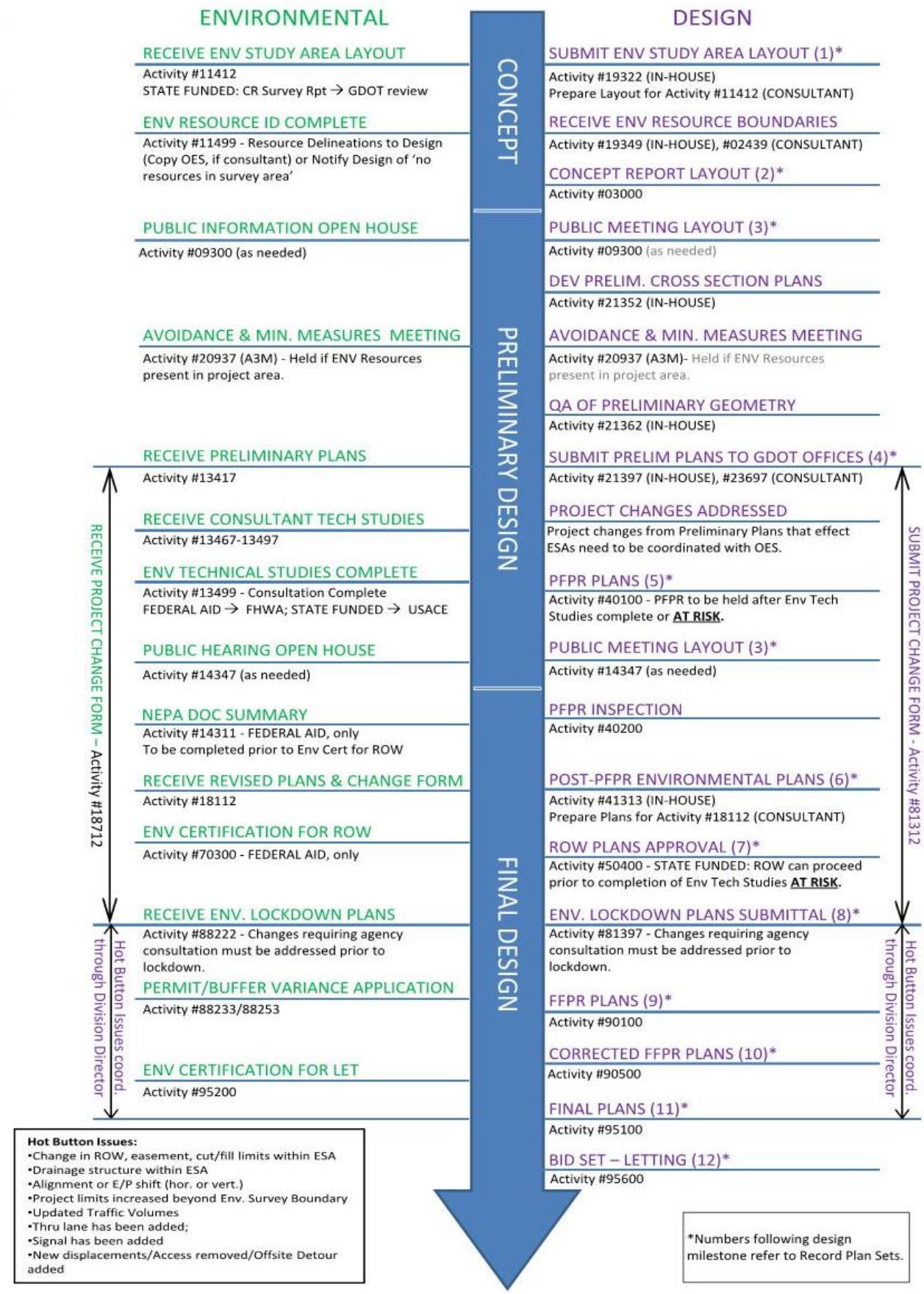
APPENDIX O. Design & Environmental Coordination

O.1 Design & Environmental PDP Overview

See following pages.

O.2 Record Plan Set Guidance

See following pages.



Appendix O.1 - Design & Environmental PDP Overview

Georgia Department of Transportation

Appendix O.2 - Record Plan Set Guidance

	Record Plan Set	**Project Schedule Activity ID**	**ProjectWise Workflow**	**PDFs to Post**	**Design Files to Post**
CONCEPT					
1	Environmental Study Area (Environmental Survey Boundary)	**19322** (Create and Submit ESB) - IN HOUSE ONLY & **11412** (Rec. Env. Study Area Layout)	Record Plan Sets Process	Environmental Survey Boundary (typically roll plot)	All DGNs used to create the Layout (including PDF of aerial photos)
2	Concept Report Layout	**03000** (Concept Approval)	Concept Report Approval Process	Concept Report Layout (typically roll plot)	All DGNs used to create the Layout (including PDF of aerial photos)
3	Public Meeting Layout	**09300** (PIOH Held) / **14347** (PHOH Held) / Detour Meeting	Record Plan Sets Process	Public Meeting Layout (typically roll plot)	All DGNs used to create the Layout (including PDF of aerial photos)
PRELIMINARY DESIGN					
4	Preliminary Plans to GDOT Offices	**21397** (Submit Prelim. Plans to GDOT Offices) - IN HOUSE **23697** (Submit Prelim. Plans to GDOT Offices) - CONSULTANT	Record Plan Sets Process	See Environmental Plan Lockdown Schedule for required plan sheets	Reference DGNs only (see list below). Database files: .ALG, .ITL, .IRD, & EXIST.DTM
5	PFPR Plans	**40100** (PFPR Request)	PFPR Packages	Complete PFPR Plan Set	Reference DGNs plus sections 15 and 23 DGNs. Database files: .ALG, .ITL, .IRD, & EXIST.DTM
6	Post-PFPR Environmental Plans	**41313** (Imp. of ROW footprint comments) - IN HOUSE ONLY & **18112** (Rec Revised Plans & Change Form)	PFPR Packages	See Environmental Plan Lockdown Schedule for required plan sheets	Reference DGNs plus sections 15 and 23 DGNs. Database files: .ALG, .ITL, .IRD, & EXIST.DTM
FINAL DESIGN					
7	ROW Plans Approval	**50400** (ROW Plans Final Approval)	ROW Plans Approval and Revision Process	Complete ROW Plans	All DGNs used in plan set including sheet files. Database files: .ALG, .ITL, .IRD, & EXIST.DTM
8	Environmental Lockdown Plans	**81397** (Plans to OES for Permit Application)	Record Plan Sets Process	See Environmental Plan Lockdown Schedule for required plan sheets	Reference DGNs plus sections 15 and 23 DGNs. Database files: .ALG, .ITL, .IRD, & EXIST.DTM
9	FFPR Plans	**90100** (FFPR Request)	FFPR Packages	Complete FFPR Plan Set	Reference DGNs plus sections 15 and 23 DGNs. Database files: .ALG, .ITL, .IRD, & EXIST.DTM
10	Corrected FFPR Plans	**90500** (Submit corrected FFPR Plans)	FFPR Packages	Complete Corrected FFPR Plan Set	Reference DGNs plus sections 15 and 23 DGNs. Database files: .ALG, .ITL, .IRD, & EXIST.DTM
11	Final Plans	**95100** (Submit final plans)	Final Plans Submission Process	Complete Final Plan Set	All DGNs used in plan set including sheet files. Database files: .ALG, .ITL, .IRD, & EXIST.DTM
12	Bid Set - Letting	**95600** (Project Advertisement)	Advertisement / Letting / Award Process	Complete Final Plan Set with revisions	All DGNs used in plan set including sheet files. Database files: .ALG, .ITL, .IRD, & EXIST.DTM

NOTE: Reference .DGNs should include the following files (if applicable): DRNG, ENVE, ENVP, ITS, LGHT, LIMT, MAIN, PROP, REQD, SGNL, SIGN, STE#, TOPO, UTLE, & UTLP

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APPENDIX P. Funding Allocation Launch Guide

Transforming our funding allocation process

GDOT is working to streamline its project delivery and has created an improved process.

Overall context

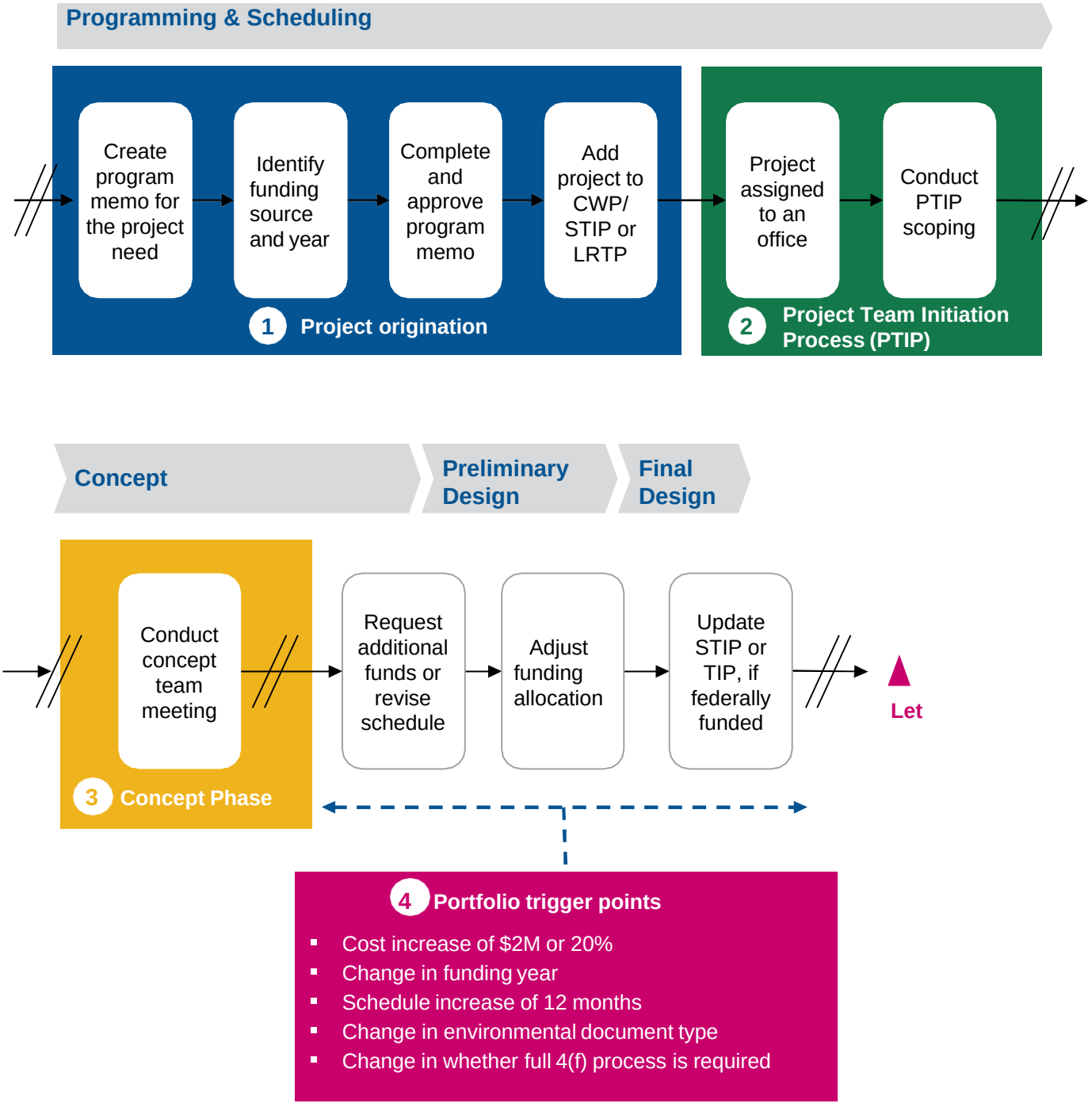
- For the first time, HB170 gives GDOT the opportunity to manage delivery of some projects entirely within Georgia, only engaging with the federal process when required
- To take advantage of this opportunity for efficiency, GDOT set out to design an approach to better inform the initial funding allocation decision and to revisit the decision at points through the Plan Development Process (PDP)

Changing the way we work can yield real benefits

- A better-informed initial allocation decision
- Consistency of decision making across the PDP
- Fewer instances of rework due to switches in funding
- Ability to avoid bottlenecks by better informing junior staff of decision inputs and involving them in the decision process
- Ability to move projects into a funding window without rework

Plan Development Process

The funding allocation assessment should be made or revisited at four points during the PDP and information should be compiled and turned over to the relevant owner at each handoff point



Overall guidance on making and revisiting an allocation decision

This Launch Guide will support us in transforming the funding allocation process across the PDP handoff points

Instructions for Launch Guide

This launch guide applies to projects in the capital portfolio only. There are four places in the Plan Development Process where a funding allocation assessment should be made

1. Project Origination
2. PTIP
3. Concept Phase
4. Trigger Points

Each section in this Launch Guide is meant to instruct and guide participants through this process. All pages include detailed instructions on how to use and complete the necessary documents.

Funding allocation assessments will rely on information sharing across different GDOT Offices throughout the process.

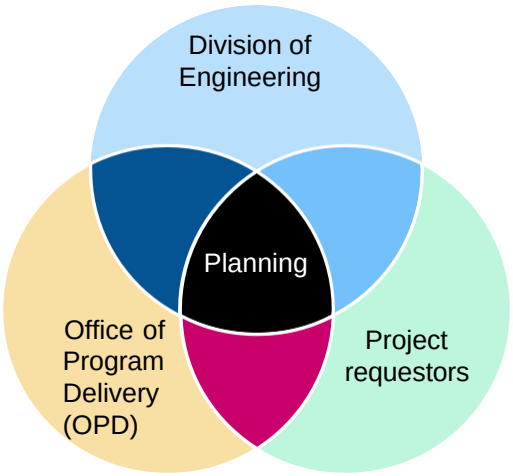
Throughout the process, be sure to provide explanations where appropriate and, when not sure, use a best guess to move the process forward.

P.1 Project Origination

Instructions for making the initial allocation decision.

Timing

Project origination occurs when the Office of Planning determines that there is a needfor a project and then decides to program a project.



Planning should play an aggregatorrole at this stage

Planning is responsible for aggregating the key project information at project origination –through the **Programming Request Form** and **Project Information Checklist**

This information will be used to answer a setof questions as a part of the **Flow Chart Decision Tool** and inform the initial processand funding recommendation

Documents to use and complete

- ☐ **Programming Request Form**
- ☐ **Project Information Checklist**
- ☐ **Flow Chart Decision Tool**
- ☐ **Programming Memo**
- ☐ **Completed Handoff Packet**

Steps to completion

1. Planning should source project originationdetails and complete a **Programming Request Form**
2. Planning should fill out the **ProjectInformation Checklist**, compiling information from the Division of Engineering
3. Planning should use the **Programming Request Form** and **Project InformationChecklist** to guide project through the **Flow Chart Decision Tool**
4. Planning should complete the **Programming Memo** and record the**Flow Chart** process and funding recommendation
5. Finally, all of these completed materialsshould be compiled into a **Handoff Packet** and turned over to the Office ofFinancial Management

P.1.1 Programming Request Form

Planning is responsible for gathering input from other organizations. This includes completing a **Programming Request Form**. See an example of the required information, below.

Step 1: Fill out project origination details below. Inputs may be sourced from withinPlanning or from project requestors

Project context	Description	Unknown
Please provide description of requested project		
Please explain how project need was identified		
Please detail what coordination has occurred with local community to date. Has any other stakeholder or public involvement occurred or is any planned?		
Please detail any issues or concerns that have been identified (ex. dissenting voice, environmental risks, etc.)		
If not the Office of Planning, who is the local project sponsor?		

Required project details	Yes	No	Explanation
Does project propose new access to existing interstate facilities, revise access to existing interstate facilitates, or impact interstate air rights?			
Has this project been started by a local government and anticipated to use federal aid?			
Is this project a widening?			
Is this project a new location/new construction?			
If project is a widening, is additional ROW expected?			

Additional project details	Yes	No	Unknown	Explanation
Can project scope be disaggregated into discrete parts (ex. opening quick response, operational, etc.)?				
Can locals contribute funding towards the requested project (e.g., ROW or PE contributions)? Please detail why or why not. If yes – how much and in what timeframe?				

Requested attachments to **Programming Request Form,** as applicable and/or available:

- Project need statement
- Meeting minutes
- Project location map
- Traffic and safety analysis or additional project support documentation if available
- Cost estimates assumptions
- Planning study (if completed)

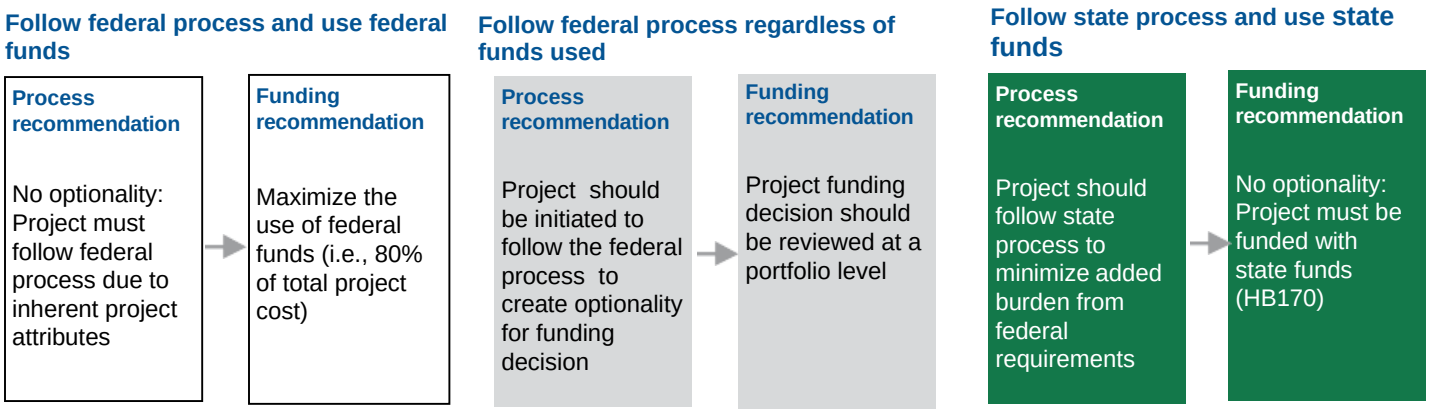
P.1.2 Project Information Checklist

Planning is responsible for gathering input from other organizations. This includes completing the **Project Information Checklist** to inform the initial allocation decision. Planning should include a short explanation for why they selected "Yes" or "No" and to explain any project complications that are relevant to the questions at hand.

Step 1: Ask the Division of Engineering or other GDOT SMEs to answer the following questions, based on project limits defined in the Programming Request Form

Questions	Yes	No	Explanation
Does this project touch or impact federal land?			
If yes, Does the agency involved with the federal land require an additional NEPA document to be completed?			
Does project propose new access to existing interstate facilities, revise access to existing interstate facilitates, or impact interstate air rights?		**n**	

Step 3: Record the initial process and funding recommendation here (circle below)

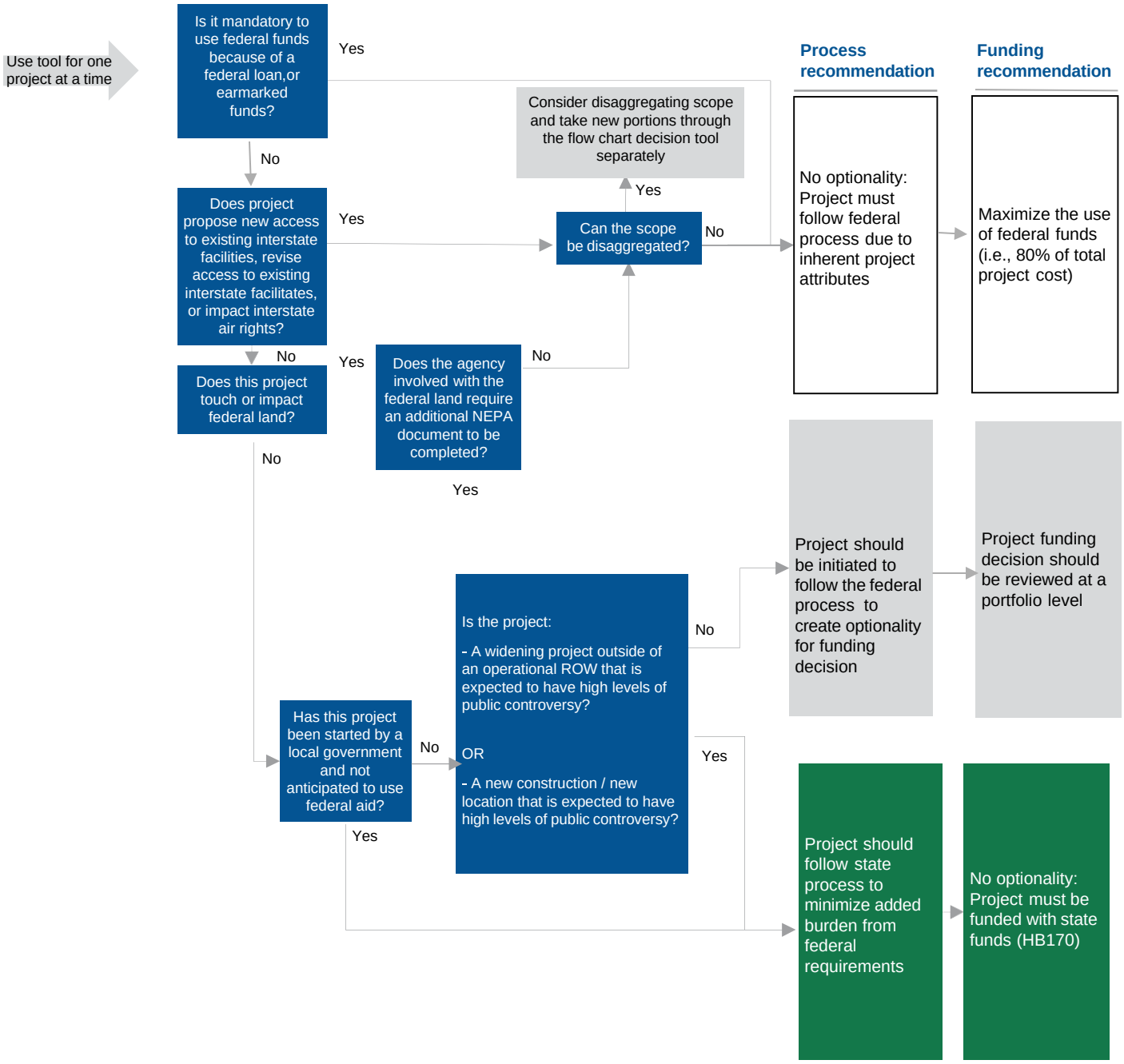


P.1.3 Flow Chart Decision Tool

Planning should answer the questions in the **Flow Chart Decision Tool**.

Based on the answers, the **Flow Chart Decision Tool** will make a process and funding recommendation. The recommendation can be considered within the broader portfolio to reach an optimal funding allocation across GDOT's portfolio and should be coupled with the judgement of the individual decision-makers.

Planning should record the recommendation in the **Project Information Checklist** and **Programming Memo**.



P.1.4 Programming Memo

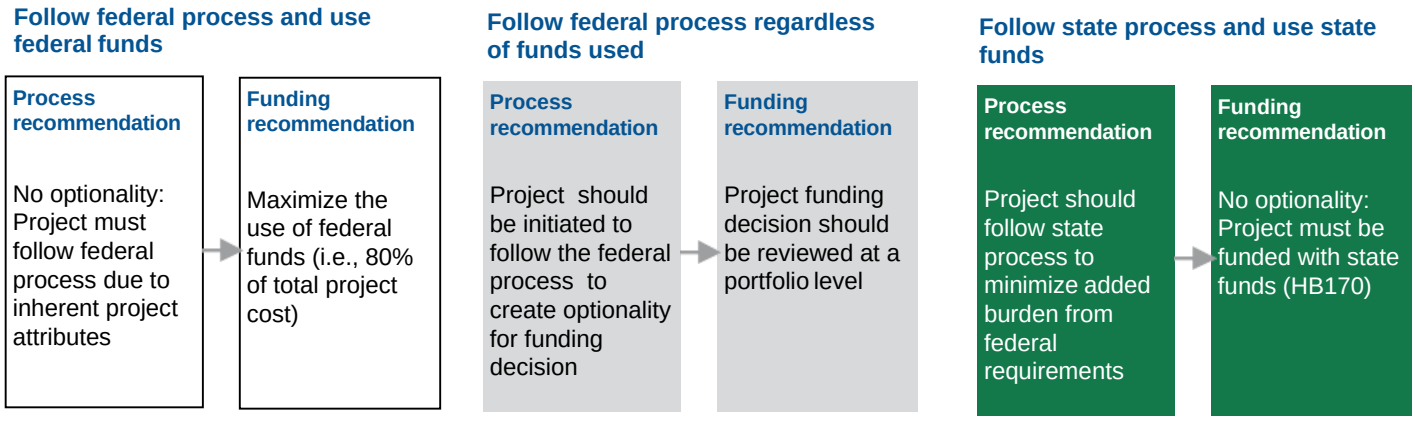
Planning is responsible for gathering input from other organizations. This includes completing a Programming Memo, detailing Project Origination history, and initial funding and process recommendations from the Flow Chart Decision Tool. See an example of the information of what could be included.

The Office of Planning requests programming a new [project type] project at [location] in [ ] County, based upon information provided in the table below.

Project Justification Statement: The proposed project is intended to [_____] (e.g., *improve traffic operations, mobility, and access to the interstate system, as well as enhance economic development).* This project *has the ability/does not have the ability to take advantage of earmarked funds*. This project *has the ability/does not have the ability to be awarded a federalloan or grant*. The project is proposed to be a [*local Let, GDOT Let, or is not a Let project].*

PI Number	Project Description	Project Type	Length	Phase	FY	Fund type (federal, state, or local)	Phase Cost Estimate ($)
TBD	Description	[Match TPro category]	[_] miles	SCP	[ ]		TBD
				PE	[ ]		TBD
				ROW	[ ]		TBD
				CST	[ ]		TBD
				UTL	[ ]		TBD

Process and funding recommendations (circle recommendations):



If you have any questions, please contact_____(Phone number:_____ Email:_____)

APPROVED:_____Date: _____
Director of Planning

APPROVED:_____Date: _____
Chief Engineer

P.1.5 Handoff Packet

Handoff Packet details

The Handoff Packet is intended to ensure a smooth turnover between the owners of each stage of the funding allocation process, to reduce re-work, and to create an information trail for individuals who might be unfamiliar with the project to quickly get up-to-speed.

What documents should be included?

- ❑ Completed **Programming Request Form**, including any attachments and updates to original form
- ❑ Completed **Project Information Checklist**, with **Flow Chart Decision Tool** output
- ❑ Completed **Programming Memo**, with project need statements and notice of allocation decision

Who should sign off on the **Programming Memo**?

- Director of Planning, Chief Engineer

Where should the **Handoff Packet** live and when should the handoff occur?

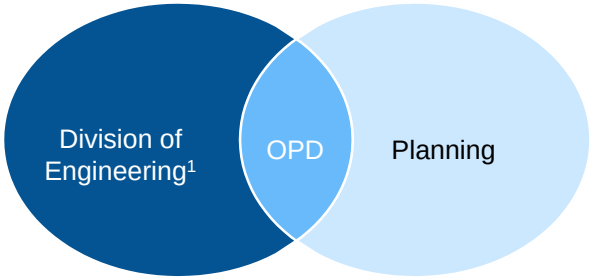
- When Planning has compiled the necessary information, the **Handoff Packet** should be placed in a temporary holding folder onProjectWise and sent to OFM
- When OFM creates a PI#, Planning should move the **Handoff Packet** to the PI# folder on ProjectWise for all to access
- The next phase begins when Program Control assigns the projectto an office (OPD in this case)

P.2 PTIP

Instructions for revising allocation decision at PTIP

Timing and participants

The PTIP phase begins when Program Control assigns an office to move the project forward. ThePTIP meeting should be used to facilitate a conversation on funding choices, as well as surfacingother important project details. This phase includes input from Planning (through the Handoff Packet), the Division of Engineering, OPD, the District, Utility offices, and any other office that willbe involved in the project.



OPD should play an aggregator role

OPD is responsible for moving the project throughthe PDP and should fill out the **Project Information Checklist** and run the project through the **Flow Chart Decision Tool** in advance of the PTIP meeting (facilitated by government estimator)

The PTIP meeting discussion will be used to confirm **Flow Chart Decision Tool** output and determine whether a change is needed from theprocess and funding recommendation, since Project Origination.

Documents to use and complete

- ☐ **Project Information Checklist**
- ☐ **Flow Chart Decision Tool**
- ☐ **Compiled Handoff Packet**

Steps to completion

1. OPD should understand Project Originationdetails in advance of PTIP meeting.
2. OPD should fill out the **Project InformationChecklist**, compiling information from the OPD leadership and OES in advance of thePTIP meeting
3. OPD should use the **Project Information Checklist** to guide the project through the **Flow Chart Decision Tool** and determine whether a revision to the process and funding recommendation is needed
4. OPD should verify this decision at the PTIP meeting and record the final decision as a partof the **Project Information Checklist**
5. All associated forms should be compiled into a **Handoff Packet** to ensure continuity

P.2.1 Project Information Checklist (1 of 2)

OPD owns this phase of work and is responsible for gathering input from other organizations. This includes completing the **Project Information Checklist** to inform the allocation decision. When completing the **Project Information Checklist**, when the answer to a question is "No," OPD should include a short explanation for why this is the case.

Additionally, OPD should use the explanation column to explain any project complications that are relevant to the questions at hand.

Step 1: Review Programming Request Form and Project Information Checklist from Project Origination. Have project details changed? If so, revise both forms.

Step 2: In advance of PTIP meeting, ask OES answer the following questions: If federalized, what environmental document type will be likely (circle below)?
PCE CE EA EIS

Is there the likelihood for a full 4(f) process to be required (circle below)?
Yes No

Additionally, ask the Division of Engineering to answer the following questions to the best of their ability – these questions can help facilitate the PTIP discussion:

Questions	**Description**			
Additional 4(f) details: Please provide more details onthe likelihood of a full 4(f) process being required				
	Yes	**No**	**Confidence in your answer (1-low, 5-high)**	**Explanation**
Does the project require workin a regulatory floodway?				
Is this project in a developed area that would limit the number of required alternatives?				
Are there specific advantages from having either FHWA or the Corp as the lead agency?What is the general level of coordination expected?				

P.2.2 Project Information Checklist (2of 2)

OPD owns this phase of work and is responsible for gathering input from other organizations. This includes completing the Project Information Checklist to inform the allocation decision. When completing the Project Information Checklist, when the answer to a question is "No," OPD should include a short explanation for why this is the case.

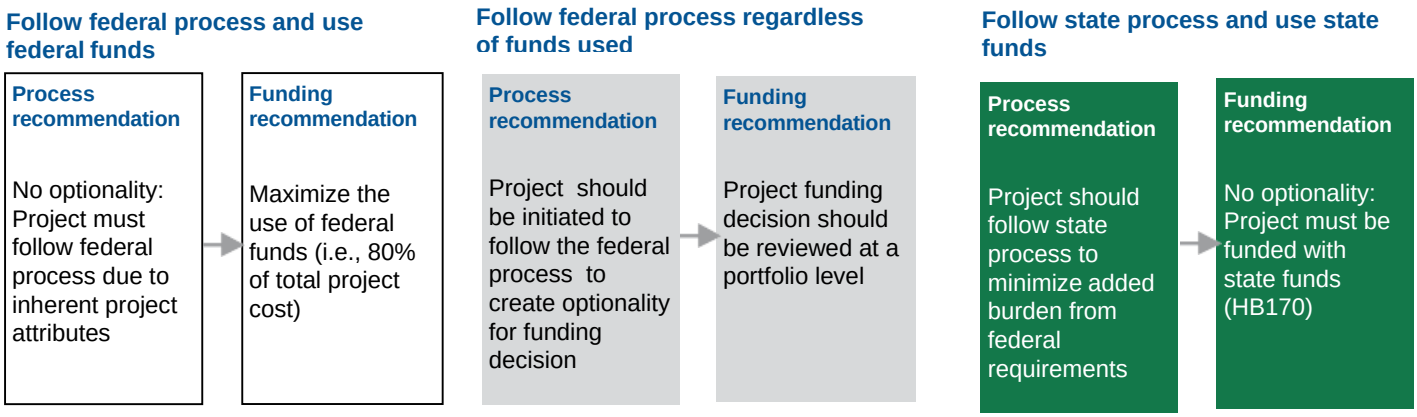
Additionally, OPD should use the explanation column to explain any project complications that are relevant to the questions at hand.

Step 3: In advance of the PTIP meeting, ask OPD leadership to answer the following questions to the best of their ability – these questions can help facilitate the PTIP discussion:

Questions	Yes	No	Confidence in your answer (1-low, 5-high)	Explanation
Is this project being coordinated with a project thatalready has funding allocated against it? If yes, highlight during PTIP meeting				
Can project scope be disaggregated into discrete parts (ex. opening quick response, operational, etc.)?				

Step 4: Based on the answers from Step 1, 2, and 3, complete the Flow Chart DecisionTool and confirm with the broader group at PTIP meeting.

Step 5: Record the initial process and funding recommendation here (circle recommendations, below).



Is this a change in decision from the initial process and funding recommendations?

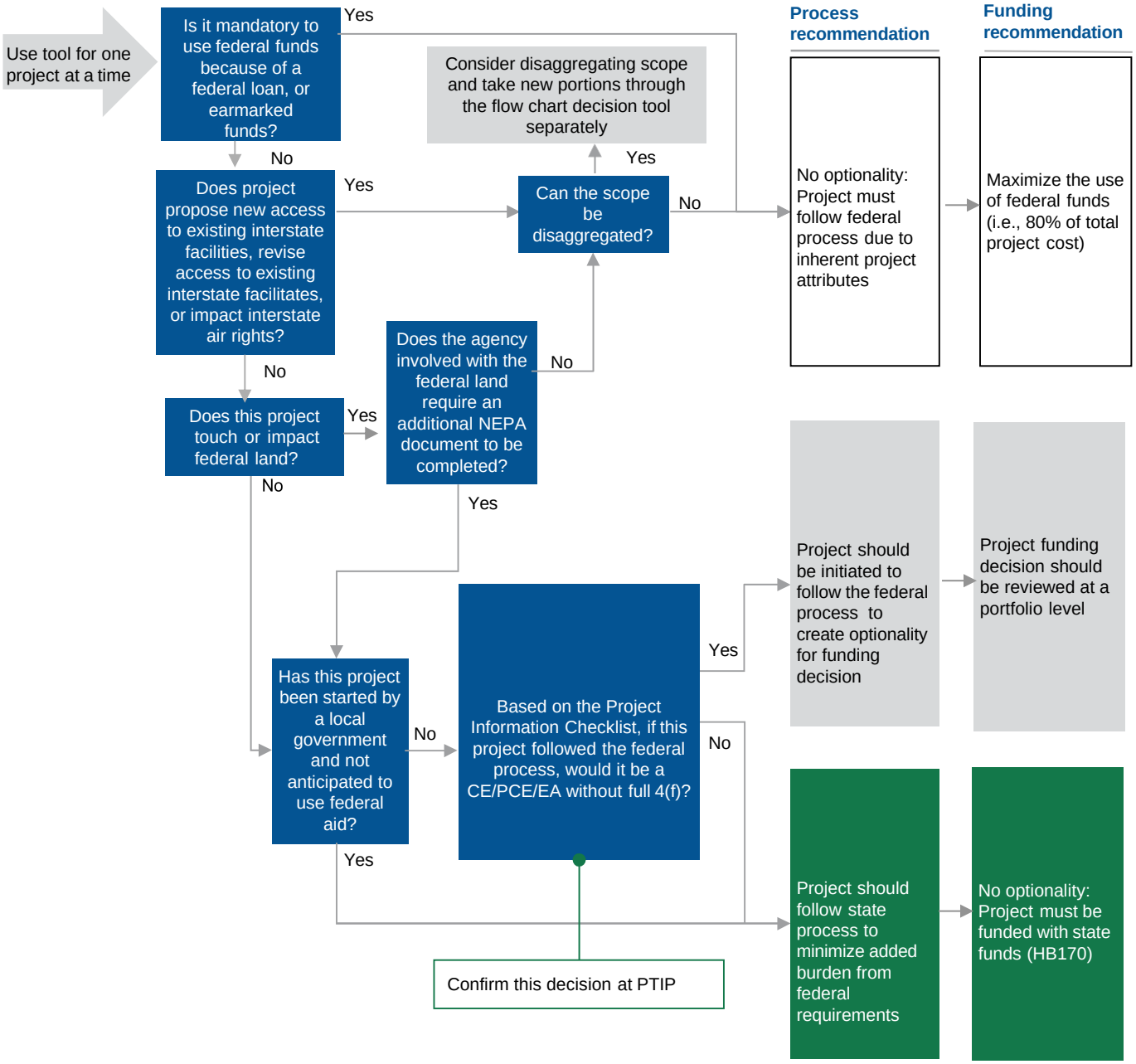
Yes No

P.2.3 Flow Chart Decision Tool

OPD owns this phase of work and should answer the questions in the **Flow Chart DecisionTool** to determine if there is a "default" process recommendation.

Based on the answers, the **Flow Chart Decision Tool** will make a process and funding recommendation. The recommendation can be considered within the broader portfolio to reach an optimal funding allocation across GDOT's portfolio and should be coupled with the judgement of the individual decision-makers.

OPD should record the recommendation in the **Project Information Checklist** and **Programming Memo.**



P.2.4 Handoff Packet

Handoff Packet Details

The **Handoff Packet** is intended to ensure a smooth turnover between the owners of each stage of the funding allocation process, to reduce re-work, and to create an information trail for individuals who might be unfamiliar withthe project to quickly get up-to-speed.

What documents should be included?

☐ Completed **Project Information Checklist**, with **Flow Chart Decision Tool** output

Who should sign off on documents?

- Government Estimator or personnel charged with conducting PTIPshould obtain a final sign off from the Director of Program Delivery (The OPD OH, AOH and DPM can be a part of this review/approvalprocess)

Who should the handoff packet go to?

- The handoff packet should be saved in Project Wise for handoff toPM

When should the handoff occur?

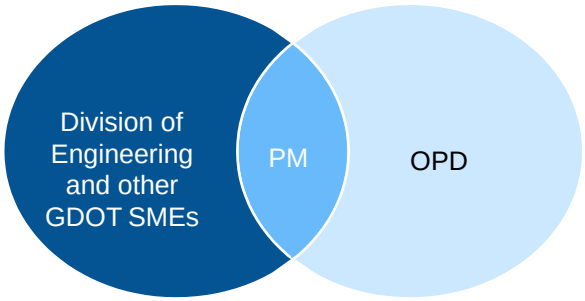
- Prior to the Concept Phase or when a PM is assigned

P.3 Concept Phase

Instructions for revising allocation decision at Concept Phase

Timing and Participants

Concept Phase occurs as part of the PDP. By Concept Phase, a PM has been assigned. The Concept Team Meeting is used to discuss project details and confirm the previously determined funding choices - and should include Planning, Engineering (including OES), OPD, and any otherinvolved office. This stage is the last place to make a funding allocation change without considerable rework.



The PM should play an aggregator role

The PM is responsible for moving the project through the PDP and should fill out the **Project Information Checklist** and run the project through the **Flow Chart Decision Tool** in advance of the Concept meeting.

The Concept Team Meeting discussion will beused to confirm **Flow Chart Decision Tool** output and determine whether a change is needed from the process and funding recommendation, since revaluation at PTIP.

Documents to use and complete

- ☐ **Project Information Checklist**
- ☐ **Flow Chart Decision Tool**
- ☐ **Compiled Handoff Packet**

Steps to completion

1. The PM should fill out the **Project Information Checklist**, compiling informationfrom OPD leadership and the Division of Engineering in advance of the Concept Team Meeting
2. The PM should use the **Project Information Checklist** to guide the project through the **Flow Chart Decision Tool** and determine whether there is an update to the process and funding recommendations; the PM should be ready to discuss at the Concept Team Meeting
3. The PM should then attend the Concept Team Meeting, verify the information they have is complete and correct, and take theConcept Team Meeting notes
4. In the case of a change in PM, all of these materials should be compiled into a **Handoff Packet** and turned over to the new owner

P.3.1 Project Information Checklist (1 of 2)

The PM owns this phase of work and is responsible for gathering input from other organizations. This includes completing the **Project Information Checklist** to inform the allocation decision. When completing the **Project Information Checklist**, when the answer to a question is "No," the PM should include a short explanation for why this is the case.

Additionally, the PM should use the explanation column to explain any project complications that are relevant to the questions at hand.

Step 1: Review Project Information Checklist from PTIP. If documents are missing information, reach out to Planning and OPD to understand project details. Have project details changed? If so, revise both forms.

Have project details changed? If so, revise the checklist.

Step 2: In advance of Concept Team Meeting, ask OES to complete the following questions:

If federalized, what environmental document type will be likely (circle below)?
PCE CE EA EIS

Is there the likelihood for a full 4(f) process to be required (circle below)?
Yes No

Additionally, ask OES to answer the following questions to the best of their ability – these questions can help facilitate the Concept Team Meeting discussion.

Questions	**Description**			
Additional 4(f) details: Please provide more details onfull 4(f) process likelihood				
	Yes	**No**	**Confidence in your answer (1-low, 5-high)**	**Explanation**
Does the project require an individual 404 permit?				
Are adverse effects expectedto endangered species and what are the risks?				

P.3.2 Project Information Checklist (2 of 2)

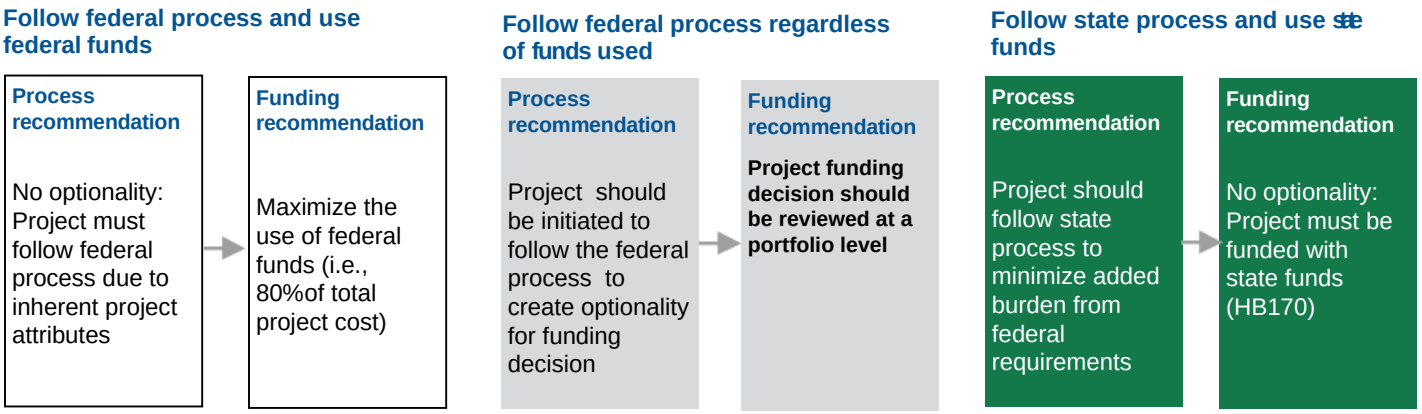
The PM owns this phase of work and is responsible for gathering input from other organizations. This includes completing the Project Information Checklist to inform the allocation decision by aggregating inputs. When completing the Project Information Checklist, when the answer to a question is "No," the PM should include a short explanation for why this is the case. Additionally, the PM should use the explanation column to explain any project complications that are relevant to the questions.

Step 3: In advance of Concept Team Meeting, ask the Office of Environmental Services, Traffic Ops, District Traffic Engineer/Preconstruction Engineer, and/or other GDOT SMEs to answer the following questions to the best of their ability – these questions can help facilitate the Concept Team Meeting discussion:

Questions	Yes	No	Confidence in your answer (1-low, 5-high)	Explanation
Are future noise levels expected to exceed abatementcriteria?				
Is there the possibility of establishing precedent for future actions with significanteffects?				
Can project scope be disaggregated into discrete parts (ex. opening quick response, operational, etc.)?				

Step 4: Based on the answers from Step 1, 2, and 3, complete the Flow Chart Decision Tool and confirm with the broader group at Concept Team Meeting.

Step 5: Record the initial process and funding recommendation here (circle recommendations, below).



Is this a change in decision from the initial process and funding recommendation?

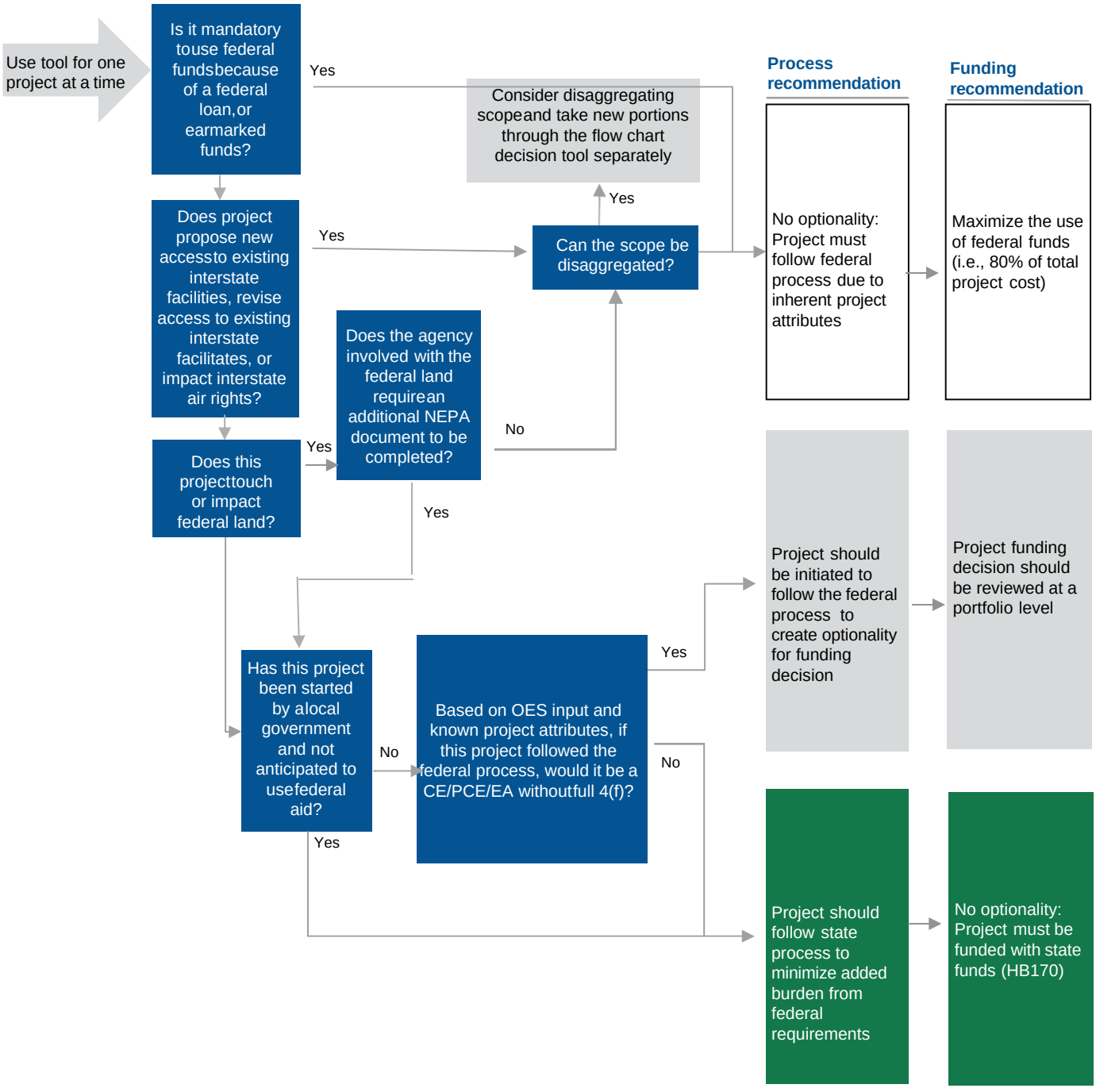
Yes No

P.3.3 Flow Chart Decision Tool

The PM owns this phase of work and should answer the questions in the **Flow Chart Decision Tool** to determine if there is a "default" process recommendation.

Based on the answers, the **Flow Chart Decision Tool** will make a process and funding recommendation. The recommendation can be considered within the broader portfolio to reach an optimal funding allocation across GDOT's portfolio and should be coupled with the judgement of the individual decision-makers.

The PM should record the recommendation in the **Project Information Checklist** and **Programming Memo**.



P.3.4 Handoff Packet

Handoff Packet Details

The **Handoff Packet** is intended to ensure a smooth turnover between the owners of each stage of the funding allocation process, to reduce re-work, and to create an information trail for individuals who might be unfamiliar withthe project to quickly get up-to-speed.

What documents should be included?

- Completed **Project Information Checklist**, with **Flow Chart Decision Tool** output

Who should sign off on documents?

- District Program Manager and OPD Management (including Director, OH and DPM)

Who should the handoff packet go to?

- New PM

When should the handoff occur?

- If a PM switch happens

P.4 Other Trigger Points

Instructions for revising allocation decision at Trigger Points

Timing

Trigger Points happen if any of the following events occur:

- Cost increase of $2M or 20%
- Change in funding year
- Schedule increase of 12 months
- Change in Environmental Document Type
- Change in whether full 4(f) process is required

Documents to use and complete

☐ **Change in Project Understanding Form**

The PM should play a 'watchman role'

It is the PM's responsibility to track this information and alert their District PM in the caseof a Trigger Point. Together, District PM and PMshould evaluate the **Project Information Checklists** and see how the Trigger would change the project details.

The PM is then responsible for filling out a **Change in Project Understanding Form** and submitting it to the Director of Program Deliveryand the Planning Office.

Steps to Complete

1. The PM should alert a District PM in case of Trigger Point
2. Next, the PM should follow up with all involved offices to understand any change tomost recent version of Project Information Checklist
3. The PM and District PM should assess whether there is a material difference in project details
4. The PM should fill out a **Change in Project Understanding Form** and submit to Directorof Program Delivery for Approval
5. Once approved, the PM is responsible for communicating any requested changes to the Planning Office

P.4.1 Change in Project Understanding Form

The PM owns this phase of work and is responsible for gathering input from other organizations. This includes completing the Change in Project Understanding Form, detailing the Trigger Point and changes to project details. The PM should also explain their recommendation for project funding.

Trigger Event (circle below):

- Cost increase of $2M or 20%
- Change in funding year
- Schedule increase of 12 months
- Change in Environmental Document Type
- Change in whether full 4(f) process is required
- Other: _____

Trigger Explanation:

Changes to project details:

Recommendation for project funding:

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