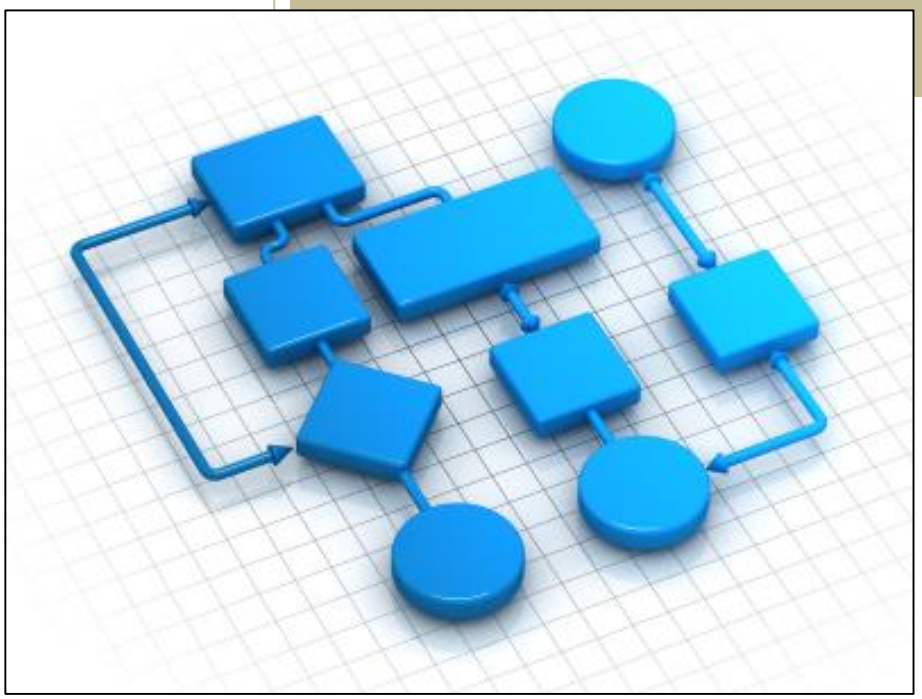
State of Georgia

Department of Transportation

Plan Development Process



Plan Development Process

4/21/2017

Revision 2.13

Atlanta, Georgia 30308

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

Georgia Department of Transportation

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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

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List of Effective Chapters

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List of Effective Chapters	2.12	4/21/17
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Chapter 1. General	2.1	3/30/15
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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.

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's balancing 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 National Environmental Policy Act (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 Full Oversight/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 – 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 environmental 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) – The Federal Transit Administration is the federal agency that 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.

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).

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.

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.

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 that provides information about multi-modal options, estimated costs, potential impacts, and potential benefits. This study is a collaborative effort of the Metropolitan Planning Organization, governmental agencies, and public interest to develop a design concept and scope of investment for a Metropolitan Planning Organization'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 Primavera. Also see Let Date.

Management Directed Right-of-Way Date – The proposed right of way authorization date.

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 January 1999, the NHS contained 161,653 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 – Functional office that provides a specialized task.

Plans, Specifications, and Estimates (PS&E) – A plan, specification and estimate review performed on all Full Oversight Projects by the FHWA. 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.

Practical Alternatives Report (PAR) – 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 document. 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 Preliminary Field Plan Review (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 – 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 Project Manager 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 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 Federal Highway Administration (FHWA) 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 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 the project plans and cost estimates 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.

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 FHWA which discusses the qualities and characteristics of a historic property or site and is used to determine whether a site not already listed in the National Register of Historic Places 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 – 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 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.

Georgia Department of Transportation

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 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 or 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 http://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:

- 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.

The National Environmental Policy Act (NEPA) requires the public disclosure of environmental impacts before project decisions are made. 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://www.fhwa.dot.gov/federalaid/stewardship/agreements/pdf/ga.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.

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.

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.

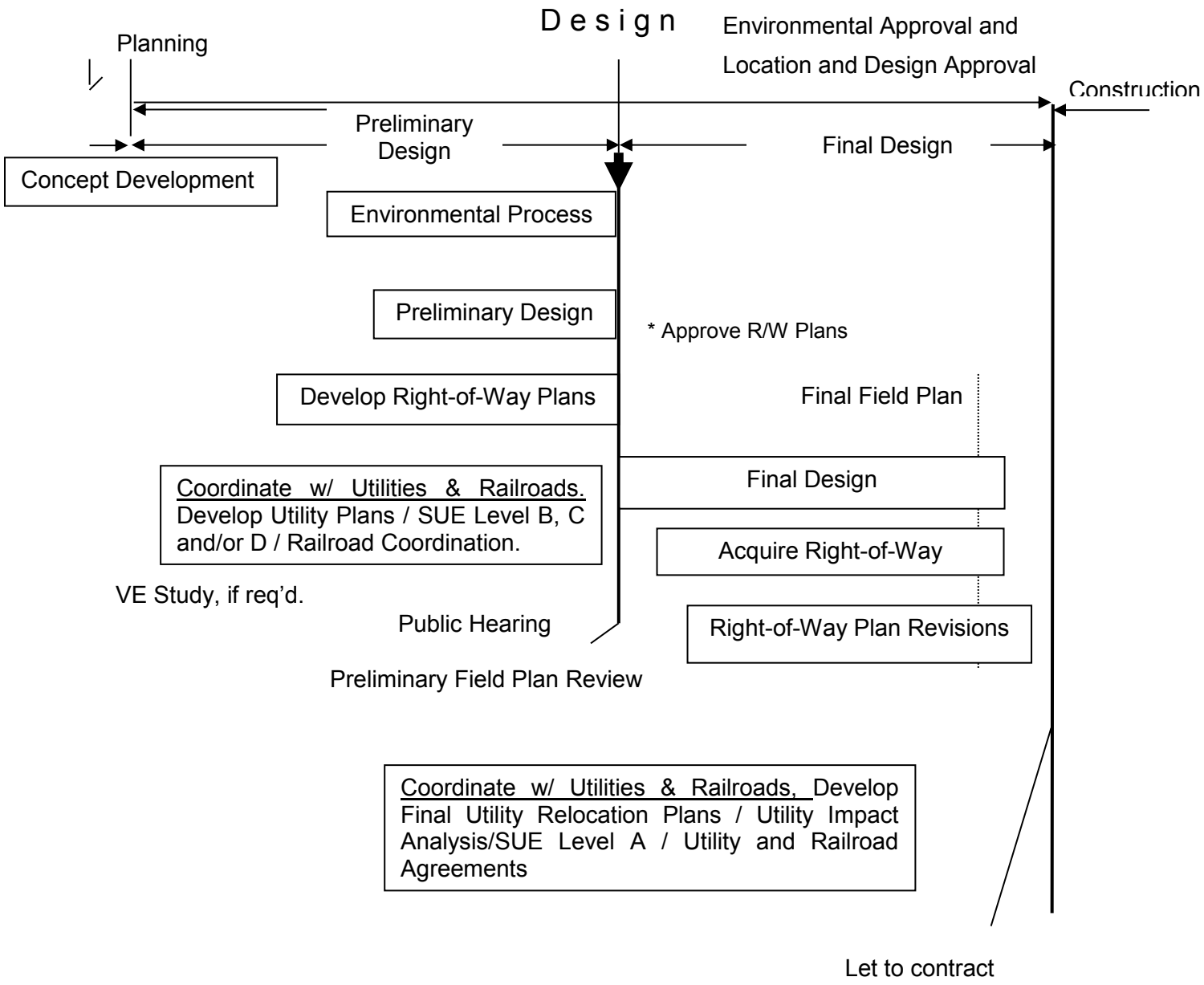
3.2 Design Build

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. 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

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



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, once a proposed project is approved by the Director of Planning it is added to the Construction Work Program/STIP or the Long-Range Program. 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 Engineer.
- Bridge replacement and rehabilitation projects where the bridge condition meets the criteria to be submitted for programming by the State Bridge Maintenance Engineer 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 to be submitted for programming by the State Utilities Engineer.
- 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.

4.3 Project Framework Agreement (PFA)

The Project Framework agreement provides guidelines in establishing project management procedures between the Department and Local Governments. Each project added to the Program will receive a letter of notification as the initial contact with the Local Government. Second, if the PE funding is reimbursable, a more detailed Project Framework Agreement will be submitted to the Local Government for execution prior to the start of major plan development activities. Finally, if applicable, additional Specific Activity Agreements addressing issues such as right-of-way, utility, construction or maintenance/operations may be required to define more specific commitments. (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. For projects where environmental approval by FHWA is included in the Scoping Phase, 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 and 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.

Within twenty (20) calendar days of the assignment of a Project Manager, the Project Manager will request an initial schedule template from the Office of Program Control to be used for schedule development. The Project Manager will edit the initial schedule template based on information received from Subject Matter Experts and submit the schedule to the Program Control Administrator. The State Scheduling Administrator will review the schedule for accuracy and prepare the schedule for inclusion in the next available Schedule Review Committee meeting.

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 schedule, approval of a 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

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 Planning and Programming Engineer and 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 Preconstruction Review Meeting

- The Program Control Administrator will schedule with each District Office, at the convenience of the Chief Engineer and the District Engineer, a project review meeting to review the status of all projects in the CWP in that District. The District Preconstruction Review Meeting will be held twice a year.
- Three weeks prior to the district project review meeting, the Project Managers will update any comments regarding all project activities that are incomplete, late, or that may delay or prohibit a project being delivered as currently scheduled. These comments will state succinctly the status of the work activity, the actions underway to complete the activity, any help or resources needed to complete the activity, and the expected completion date of the activity.

4.7.2 Revision of Project Schedules

- If a project 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 procedure for developing and submitting a PCRF can be found on the Office of Program Control's website at the link below:

http://mygdot.dot.ga.gov/offices/programcontrol/Pages/ProjectChange.aspx

- A revision to the project baseline schedule may be necessary if any of the following conditions are met:

1. **Project schedule will not make approved fiscal year for Right-of-Way (ROW) funds authorization.**
   a. The following must be completed prior to authorizing ROW funds:
      i. Environmental Document approval (Environmental certification for authorization of ROW funds)
      ii. Location & Design (L&D) approval
      iii. ROW Plan approval.

b. The minimum duration needed for authorizing ROW funds after Environmental Document is approved is 7 weeks. This allows time for L&D approval and funding request approval. Additional time (8 weeks) will be needed if ROW Plans have not been submitted for review, comments addressed, and resubmitted.

2. **Project schedule will not make approved fiscal year for construction (CST) funds authorization.**

   a. The following must be completed prior to authorizing CST funds:

      i. Environmental certification for authorization of CST funds

      ii. ROW certification

      iii. Utility certification

   b. The above certifications must be obtained a minimum of 4 weeks prior to the date that CST funds are to be authorized.

3. **Project schedule is twelve months behind baseline schedule and project recovery is not viable.**

   a. This threshold may be lessened or increased on a project specific basis by the Chief Engineer.

- The fiscal year in the State of Georgia begins on July 1st and ends on June 30th. For example, fiscal year 2015 (FY15) begins on July 1, 2014 and ends on June 30, 2015.
- Please contact the State Scheduling Administrator with any questions concerning if a revision to a baseline schedule is needed.

- 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 approximately six times per year to discuss the status of projects with MGMT ROW Dates in the current month and the subsequent twelve (12) 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 P3/Program Delivery
  - Director of Engineering
  - Office of Roadway Design Administrator or representative
  - Office of Bridge Design Administrator or representative
  - Office of Program Control Administrator (Leads Meeting)

- State Scheduling Administrator
- Office of Environmental Services Administrator or representative
- Office of Right-of-Way Administrator or representative
- Office of Utilities Administrator or representative
- Office of Engineering Services Administrator or representative
- Office of Planning Administrator or representative
- Office of Traffic Operations Administrator or representative
- Office of 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 thoroughly 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 thoroughly 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 for a cost estimate update. 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.

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Chapter 5. Concept Stage - Contents

Chapter 5. Concept Stage

5.1 General

On all federally funded projects, the preliminary engineering funds shall be authorized prior to the scheduled date for beginning concept studies. The Chief Engineer may authorize the use of State funds for an early start. The Project Manager, through the Office Head, will request in writing, to the Chief Engineer, authority to use State funds for early studies or preliminary design. Unless approved by the Chief Engineer, no work shall be done 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, 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) 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 and can serve as a continuity resource book/abbreviated historical record if for some reason the project gets delayed or there is a change in Design Phase Leader or staff. 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. The Project Concept Report will form the basis of the project data book.

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

At a minimum, the data book should contain the following.

- For each roadway:
  - Name
  - Classification (Functional and Design)
  - Typical section
  - Maximum horizontal curve radius and length
  - Maximum Grade
  - Maximum Superelevation (SE)
  - Access Control
  - Design Speed
  - Minimum width of right-of-way
  - Clear zone requirements
  - Horizontal and vertical clearances
  - Preliminary sketch of each roadway intersection showing basic laneage, auxiliary and turn lanes, and lengths of turn lanes and tapers
  - Interchange and median openings showing distance between signals
  - Traffic capacity analysis for the "Build Alternative" and "No-Build Alternatives," only required if a standalone traffic study is not completed
  - For each bridge, existing and proposed: Preliminary sketch or description of bridges
  - Bridge typical section
  - Horizontal and vertical clearances
  - Approximate span requirements
- Preliminary identified wall locations, lengths and heights
- Drainage criteria for the major types of systems, rivers and streams, cross drains, longitudinal drains, and low point and normal catch basins
- Storm frequency
- MS4:
  - Project Level Exclusion (PLE)
  - MS4 Concept Level Design Spreadsheet(s)
    - BMP Locations
    - Required ROW for each BMP
    - Cost of BMP
- Environmental issues, mitigation of adverse impacts, and public involvement
- Anticipated level of NEPA document
- Location of jurisdictional waters of the US
- Wetlands
- Streams and their buffers
- Open waters & their buffers

- Location of Section 4(f) resources
- National Register eligible historic properties
- Publicly owned parks and recreation areas
- Publicly owned wildlife and waterfowl refuges
- Location of cemeteries
- Location of environmental justice communities
- Proposed public involvement strategy
- Driveway design parameters such as general widths and maximum and minimum widths for residential and commercial driveways, and maximum driveway grades for residential and commercial driveways
- List of team members providing key information and data to date
- List of known utility, ITS, and railroad owners
- For ITS projects, reference to the Concept of Operations
- Anticipated and completed design exceptions and variances, along with supporting documentation
- Cost Estimates (each time changed)
- Risk Assessment
- Project Schedule (Original and Baseline)

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

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 Full

Oversight/PoDI 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 (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 on off-system routes
- Striping, signing, marking, rumble strips, etc.
- Streetscape, sidewalk, multi-use trail, historic preservation, building rehabilitation, etc.
- Auxiliary lane, turn lane, etc.
- Intersection Improvement
- ATMS/ITS, Noise walls, etc.
- Drainage Improvement
- Rest Area, Welcome Center, Weigh Station, etc.

Guidance for Transportation Enhancement (TE) projects is not provided in the PDP manual, but can be found in the *Sponsor Guidebook for Transportation Enhancement (TE) Projects*.

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, 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, 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
- 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 Alternatives")
- Accident data for the most recent three years for which complete data is available
- Location of potential roundabouts or traffic signals. (See Chief Engineer's Policy 4A-2)
- 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 (< 200' of existing crossing) and impacts to railroads and railroad right-of-ways
- 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

  - Potential for Archaeology
  - Neighborhoods
  - Special interest groups
  - Context Sensitive Design
  - Cemeteries
  - Parks and recreation
  - Need for a Practical Alternatives Report (PAR)
  - Wetlands and streams, open waters, buffers, floodplains
  - Endangered species
  - Erosion and Sedimentation Control
  - Designated MS4 Area(s)
  - Air Quality
  - Potential for noise impacts
- Possible permits required:
  - U. S. Army Corps of Engineers Section 404 Permit
  - U. S. Army Corps of Engineers Section 408 Permit
  - Tennessee Valley Authority (TVA)
  - U. S. Coast Guard (USCG)
  - 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, 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 Policy and Procedure should be used for the Project
- 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 subject matter experts 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. 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 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 NEPA 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 Corps of Engineers, Environmental Protection Agency, 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 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 provide assistance to 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

An initial Pavement Evaluation Summary (PES) report 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 initial PES report provides a preliminary assessment of whether or not an existing pavement is suitable for overlay, and includes visual field reconnaissance and the 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 overlay the anticipated sequence of staged construction should be changed to allow for full-depth reconstruction of the pavement.

At the request of the Project Manager an initial PES report will be prepared by the Office of Materials and Testing (OMAT). The Design Phase leader will 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. The Office of Materials and Testing will return a completed initial PES report to the Project Manager within 45 days of receiving a complete request. A complete request is defined as a request letter with all items listed above provided as attachments.

5.10 Initial Pavement Type Selection (PTS) Report

Early identification of feasible pavement types is essential for providing accurate cost estimates and for developing an appropriate sequence(s) of construction staging. An initial PTS report is prepared during concept development to identify feasible pavement alternates.

An initial PTS report should be requested for the following roadway types and project conditions:

- interstate roadways (including maintenance resurfacing);
- alignments on new location; and
- alignments requiring full-depth pavement reconstruction.
- widening projects where the new lanes are physically separated from existing pavement being retained

An initial PTS report is not required for the following roadway types and project conditions:

- non-interstate maintenance resurfacing;
- intersection improvements (except as noted above);
- bridge replacements;
- when a portion of an existing pavement is being replaced in kind; and
- when the new construction will add lane(s) tying directly into an existing lane that does not require reconstruction.

At the request of the Project Manager an initial PTS report will be prepared by OMAT. This report should be completed prior to submission of the concept report for review and approval, and if a Value Engineering (VE) study is required, prior to the VE study being performed. The Design Phase leader will provide a location map, a draft concept layout, typical sections, traffic diagrams, as-built typical sections, the minimum vertical clearance for existing overpass bridges, and expected profile

changes. OMAT will return a completed initial PTS report to the Project Manager within 30 days of receiving a complete request.

5.11 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.

5.12 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 the Sufficiency Rating and 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.

5.13 MS4

Stormwater discharges from infrastructure owned and operated by GDOT within Georgia's MS4 areas are regulated by the 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 and include completion of concept worksheets for each major outfall. 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 Stream Buffers

The Georgia Erosion and Sedimentation Act require that vegetative buffers be maintained on all streams and open waters meeting the definitions of state waters. 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.

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, cemeteries, wetlands, open waters, streams and their 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)
- Utility and 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.

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. 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. Attendees are expected to be familiar with the project and to contribute meaningful information to the Concept Team 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. 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 buffers
    - Park lands
    - Historic properties, potential archaeological sites
    - Streams and their buffers and open waters
    - 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 the

environmental document

- 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 additions or modifications that require permitting. (Note: Approval of the concept report does not indicate approval of signal permits)
- Practical Alternative Report (PAR)
- Type of environmental document anticipated
- Environmental permits/studies required (Section 404, TVA, 4(f), biological assessments etc.)
- MS4 PLE and concept level Post-Construction BMP development
- 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 Relocatees
    - 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
- 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”
- Potential improvements recommended for intersections along project
- Constructability of proposed project
- Workzone 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
- 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

Specific assignments may be made at the concept team meeting requesting information to be provided for the final Concept Report. The Project Manager will set a deadline for information due in order that the Concept Report can be completed and submitted in a timely manner. The Project Manager will ensure that the Project Team members update the baseline schedule.

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 District Utilities Office Railroad Liaison Engineer and Railroad Crossing Manager will assist the Project Manager by furnishing preliminary utilities/railroad cost estimates for the proposed project. These cost estimates should include the names of all the utility companies, and railroad owners both public and private, having facilities/railways along or crossing the project and the type of facility present. The District Utilities Office Railroad Liaison Engineer and Railroad Crossing Manager will also update this cost estimate into the required field in TPRO. It would be desirable to know at this time if any of the utilities or railroad owners plans to install any new or upgrades to their facilities/railways within the life of the project.

The Project Manager will coordinate with the District Utilities Engineer to ensure the Public Interest Determination 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. It is also recommended that a determination be made on whether the implementation/further use of an SUE investigation will be warranted on this project. The Project Manager will need to coordinate with the District Utilities Office to initiate the request for SUE through the State Subsurface Utilities Engineer in the Office of Utilities.

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.

5.18 Concept Report

Based on the results of the concept meeting, the Project Manager will revise the draft Concept Report and drawings as required and upon receipt of the information from the other team members, 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. For design exceptions identified during the concept phase on Projects of Division Interest (PoDI), FHWA typically requires the review and approval of the design exception prior to approval of the project concept. Chapter 8 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, forward all request for approval of Concept Reports, Revised Concept Reports, Location and Design Reports, and Detour Reports to ConceptReports@dot.state.ga.us. The Office of Design Policy and Support will distribute the report to the appropriate offices for review and comment.

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 perform a cursory review for completeness and accuracy before distributing electronically to the appropriate offices for review and comment. Reports that are found to be substantially incomplete or contain many inaccuracies during the cursory review will be returned the PM prior to distribution. Within 10 working days of receipt, the review offices shall send their comments to the Office of Design Policy and Support for further handling. In addition, the Office of Planning will certify that the concept meets the project definition as contained in the approved STIP/TIP.

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 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 (example: 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.
- 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 buffers
    - Streams and 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.).
- 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 been started, 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 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, 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), 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, and construction costs of the project once each year and at any time there is a significant 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 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.

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 when that activity begins.

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 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 layouts needed to identify and evaluate the 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 survey team in writing prior to the surveyors entering onto the private property. The Survey Phase Leader (GDOT or consultant) will notify the GDOT Project Manager when surveys are to begin and will carry copies of the previously sent notification letter for distribution if necessary.

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 study will depend upon the impacts to the environment. 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:

http://www.dot.ga.gov/PS/DesignManuals/EnvironmentalProcedures

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 team members. 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)
- Vegetative buffers on streams and their waters
- Cemeteries
- Threatened and Endangered (T&E) species and their habitat
- Environmental justice populations
- Community facilities

The environmental team will meet periodically with the Design Phase Leader and other project SME's to determine a best fit design to avoid, minimize or mitigate impacts to the identified resources. All environmental resources identified should be submitted to the Design Phase Leader as soon as possible for inclusion onto the plans so that the design team (roadway, bridge, utilities, etc.) can consider alternatives. When the project cannot avoid an identified resource, the designer will coordinate with the NEPA team member to develop the most desirable alternative meeting all design criteria. An alternative design solution or a design exception or variance may be applicable in some situations to minimize the impacts. This decision making process is documented in the NEPA document and in the Design Data book. Assessment of Effects reports that are low risk may be submitted for approval at any time prior to or following Preliminary Field Plan Review (PFPR). Preliminary consultation with the appropriate agency on any impacted resources that have a high risk assessment may also occur so that prior to PFPR input is obtained by the approving resource agency. Once a best fit alternative has been developed and high risk assessments have been evaluated, 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 green sheet confirming that the plan sets correctly show all commitments made. The environmental team members will also provide to 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 the comments, the Design Phase leader will submit corrected PFPR plans to the office of environmental services for its team members to assess the latest proposed the project impacts and conduct any remaining agency consultations. Design changes will not be made after the corrected PFPR plans are submitted until final design begins so that the Office of Environmental Services can certify that the plans match the NEPA document. The NEPA SME will then complete (or accept if submitted by a consultant) the environmental document and submit to FHWA for their approval. 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 environmental document is approved. The approved document and appropriate attachments will be submitted to the Project Manager by the Office of Environmental Services to be incorporated into the project document site. All re-evaluations will be handled in the same manner.

Any project changes considered must be coordinated with the NEPA team member to evaluate the need for and timely completion of environmental re-evaluations. 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 the project have occurred, the NEPA team member 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

For those projects not involving Federal funds or a project not requiring a USDOT action, a NEPA document still following the Federal guidelines may be used as described above or the Georgia Environmental Policy Act (GEPA) may be used. GEPA requires that the agency official consider the effect of state actions on the environment. There are three levels of GEPA documents:

- Type A letters are applicable for a predetermined defined type of project 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 http://www.dot.ga.gov/PS/DesignManuals/EnvironmentalProcedures

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.

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 insure that the project plans accurately reflect the environmental findings.

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 Program Delivery [IPD], 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 Project Manager 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 project manager will request, through the DPS Location Bureau, a field check of the survey data base. 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 (traditional method). 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. A "SUE Utility Impact Rating and Request Form" and other information found on the Office of Utilities web page can be used to assist in making this determination. A project with an approved Public Interest Determination (PID) recommendation requires the use of SUE. If SUE is recommended, the form is submitted to the State Subsurface Utilities Engineer for approval or denial.

UTLE.dgn Database Traditional method

After the project mapping database is completed and concurrent with the field surveys, the Design Phase Leader will prepare utility plan sheets of the database, the concept alignment and an outline of the agreed upon proposed limit(s) of survey. The utility sheets will include all mapping features provided to date including (but not required) existing 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 specified number of utility plan sets along with the proper 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 to "mark up" the location of existing utilities within the appropriate response deadline. In

addition, the District Utilities Office will request information about the condition (type, age, recent maintenance issues, etc.) of the facility, prior rights to R/W or easements and whether the utility company has any plans for replacement or upgrade. 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) along with the information on the condition of the facility and any future plans for improvement or replacement.

Overhead/Subsurface Utility Engineering (SUE) Investigation

Once it has been 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 (Quality Level C/B in field utility survey) for the SUE investigation. The assigned SUE Consultant's schedule will be set based upon the approved project schedule and the current status of the project.

A SUE Kickoff meeting is typically held before the SUE Consultant begins their SUE investigation. This is to ensure that the Limits of the SUE investigation (LOS) are clearly defined, and, that all parties involved understand the project scope and schedule. The Designer in coordination with the PM will provide the Utility Plan sheet files, the electronic mapping database files 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 6.2.2. 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 all parties where to find the accepted SUE deliverables. The SUE Consultant will coordinate with the District Utilities Office as to what they need to provide to the Utility Owners.

The SUE deliverables are forwarded by the District Utilities Office to the specific utility owner for verification and comment within the appropriate response deadline. In addition, the District Utilities Office will request information about the condition (type, age, recent maintenance issues, etc.) of the facility, whether the Utility Owner has prior rights to R/W or easements and has any plans for replacement or upgrade. This will be considered the first submission of utilities. If the utility owner has any comments about their facilities on the SUE deliverables, the comments are sent back to the SUE Consultant via the SSUE for verification and/or correction prior to the files being submitted to the Designer for inclusion into the Utility Plans.

Property Access Notification - SUE Investigation

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 SUE Consultant will notify the GDOT Project Manager when surveys are to begin and will carry copies of the previously sent notification letter for distribution if necessary.

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 utility installations or adjustments that need to be incorporated into the survey database. This can be accomplished by field visit, communication with District and State Traffic Operations to identify encroachment permits, periodic review of tax maps on county GIS websites (if available), and communicating with 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 (i.e. business-commercial, urban, sub-urban, rural, etc.). 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*. 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 Project Manager 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 after surveys are completed, an assessment of the existing survey databases is required. Some examples are: 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 SLB 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 Project Manager 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 Project Manager. 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 Project Manager 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 Project Manager 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 previously sent notification letter for distribution if necessary.

Soil Survey Report – Not Required

A Soil Survey Report is normally not required for minor projects. A Soil Survey Report is not required on minor projects where construction occurs on the existing alignment.

Soil Survey Report – Required

A Soil Survey Report is required for major projects. A Soil Survey Report is required for minor projects where construction is not on the existing alignment. A soil survey should be requested by the Project Manager with plans provided by the Design Phase Leader that include preliminary alignments (H & V) and general construction limits. The Project Manager should consider the project schedule with the requirements in 6.3.2 when requesting the soil investigation.

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 Soils Report

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 PLE and will consider BMPs that rely on infiltration of existing soils. This testing can be requested at the same time as the Soil

Survey Report. Acceptable testing methods are shown on the MS4 PDP Process Chart 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 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 Project Manager. This request will be made in response to a decision by the Design Phase Leader that a PES report is required. The GDOT Pavement Design Manual describes the existing pavement evaluation purpose and process. A sample letter is available at the OMAT website. The PES report documents the condition of the existing pavement and proposes an overlay pavement section to provide acceptable performance over the design life of the project. Appendix C of the GDOT Pavement Design Manual provides a detailed presentation of the process required to prepare a PES report.

Considerations are project specific and need to be evaluated on a case by case basis.

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 which can be used to decide whether or not a PES report should be requested for a specific project.

- For non-linear projects (e.g. intersections improvements, bridge replacements etc…) a PES report should be requested where a length of continuous overlay exceeds 2,500 ft. A PES report should also be requested where pavement distress within an intersection is significantly greater than on the approaches to the intersection. The local GDOT Area Office can be consulted to evaluate for this condition. Overlay may be proposed without requesting a PES report for a length of continuous overlay of 2,500 ft. or less.
- For linear projects in rural environments, a PES report should be requested where a length of continuous overlay exceeds 2,500 ft. If a PES report is not requested, full-depth reconstruction of the pavement is required (regardless of the length of overlay), unless the function of the overlay is solely to tie into the existing pavement at the end of an alignment.
- For linear projects in urban environments, a PES report should be requested where a length of continuous overlay exceeds 1,000 ft. If a PES report is not requested, full-depth reconstruction of the pavement is required (regardless of the length of overlay), unless the function of the overlay is solely to tie into the existing pavement at the end of an alignment.

For tie-ins to side roads, the same criteria stated above apply. For additional guidance call OMAT.

The Design Phase Leader will provide a project cover sheet, typical section sheets, traffic diagram sheets, plan and profile sheets, cross section sheets, and a staging layout sheets for the planned extent of existing pavement to be retained.

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. This expiry date will normally correspond to

between two and five years after the date of the report. Report recommendations for rural roadways will typically be valid for a longer period of time than for urban roadways.

When the results of a PES report indicate that the existing pavement is not suitable for overlay, 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) further discussion with the State Pavement Engineer will be necessary to develop the pavement design and acceptance

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 Project Manager 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 completion of the preliminary wall layout the Office of Bridge Design or appropriate Consultant will request a wall foundation investigation to be completed for each wall on the project. If completed by a consultant, the investigation report and recommendations shall be submitted to OMAT for their comments or acceptance.

6.3.6 Underground Storage Tank/ Hazardous Waste (UST/HW) Investigation

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 Project Manager 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.

UST/HW Site Investigation Package

The Underground Storage Tank/Hazardous Waste (UST/HW) 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
- ERIT
- Pavement Design
- 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 and sediment control
- Wall layouts and preliminary envelopes
- Establish preliminary ROW and easement required for the project
- Calculate preliminary quantities
- Hydraulic Study
- Prepare preliminary signing, marking and signals to establish strain pole locations
- Conduct constructability review (if applicable)
- Request PFPR
- 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)
- Coast Guard for project on the Ga. coast
- 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 existing utility locations (conventional or SUE)
- Request preliminary utility relocations
- Request VE study (if applicable)
- FAA if within limits of an airport

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 submission with the request for PFPR.

Roundabout Considerations

A roundabout must be considered in lieu of a traffic signal in accordance with Chapter 8 of the Department's Design Policy Manual. 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 Design Policy 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 Design Policy and

Support (DPS). 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 DPS.

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. Initially, all easements will be designated as permanent (except for driveway easement). In rural areas or when the roadway construction requires high cut or fill, ROW and easement are generally set 10 feet outside of construction limits. In urban or other developed areas, ROW and easements will be set so that the project can be constructed while keeping impacts to properties (infrastructure) and environmental resources to a minimum. ROW and easement will also accommodate construction limits, driveway locations, access control (Begin and End Limited access), roadway drainage structures and outfalls to be maintained by GDOT, erosion control devices, sign and signal strain poles, environmental mitigation sites, and the location of bridges, retaining and noise walls. ROW plan data such as property owner's name, stations and offsets to property and ROW lines, required areas of need, and remainder for ROW and easements are not required at PFPR.

After PFPR comments have been addressed and corrected on the preliminary design, ROW plans can be created using the criteria listed in the PPG for ROW plans. No design changes should be made at that point in lieu of the completion of the environmental document. ROW Plans should be submitted to the ROW office for review and approval and to the office of Environmental Services for NEPA certification.

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 at the request of 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 a draft PTS. OMAT will present the draft PTS to the Project Manager 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 submission to the PDC. If an option will not work, the specific reasoning should be brought forth to the PDC with submission of the PTS.

The Project Manager for consultant projects or the State Roadway Design Engineer (SRDE) for GDOT in-house design will present the PTS to the Pavement Design committee to either concur or make recommendations and changes. Upon concurrence from the committee, the SRDE will notify the PM for in-house design. For consultant design, the PM will notify the DPL. If the PTS is not agreed upon by the PDC, OMAT will revise and return a complete PTS report to the Project Manager for consultant projects or SRDE for in-house design.

Guidelines for the preparation of PTS reports are provided in Chapter 10 of the GDOT Pavement Design Manual

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

Guidelines for the application of standard pavement sections on non-interstate roadways are provided on the ROADS web page at the following http://www.dot.ga.gov/PartnerSmart/DesignManuals/Pavement/Standard_Pavement_Sections_for_Minor_Projects.pdf. Alternately for designs that could use the Guidelines for Pavement Sections for Minor 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 State Pavement Engineer. These pavement designs do not require approval by the Pavement Design Committee (PDC).

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

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.

GDOT in-house pavement design packages should be submitted to the State Roadway Design Engineer for a Quality Assurance review at least four weeks prior to the next scheduled PDC meeting. The Roadway Design committee member shall submit the package to the PDC at least two weeks prior to the scheduled meeting and the Roadway Design committee member will present the pavement designs to the committee at the meeting.

Consultant pavement design packages should be submitted to the State Roadway Design Engineer for a Quality Assurance review at least 6 weeks prior to the next scheduled PDC meeting. The Project Manager shall submit the package to the PDC at least two weeks prior to the scheduled meeting and the PM or design consultant will present the pavement designs to the committee at the meeting.

The PDC convenes on the fourth Wednesday of January, March, May, July, September, and November. The PDC will approve or reject each design based on the pavement structure, constructability, and construction cost and maintenance issues common for the type of facility or to the project location. Comments not specific to the issues above from the PDC that may conflict with other documents approved in the PDP process shall be addressed separately and shall not be the reasoning for rejection. Rejected designs must be redesigned and resubmitted as directed by the PDC.

All pavement designs should be approved prior to 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.

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 and Preliminary Design

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 team leader to ensure the environmental analysis included in the NEPA document, 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
- 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.

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.

Utility Relocations

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. The preliminary utility relocation design should provide enough information to make fundamental determinations of how the proposed utilities will impact environmental resources, bridges, stage construction and ROW acquisition. 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, and , all identified environmental resources. The interim submission will also include a request for updated relocation cost or a preliminary request to retain facilities in place. Upon receipt of the markups, the District Utilities Office will review to ensure the preliminary relocation design is consistent with the GDOT Utility Accommodation Manual, and forward to the Project Manager for incorporation into the project plan set. This request is intended to provide preliminary relocation plans prior to PFPR.

On a complicated staged project, the utility relocations may be major enough to impact project staging. The Design Phase Leader should request the District Utility Office to request staging plans from the appropriate utilities. Complete utility staging plans may be added as a part of the project's staging plan.

Utility Impact Analysis with SUE

As the preliminary design moves forward, utility conflicts with the proposed design will become evident. On the majority of projects where SUE has been employed, a Utility Impact Analysis (Utility Conflict Matrix) will be implemented as soon as preliminary drainage (plan view), and any other applicable proposed design information is available. This analysis is generated by a SUE Consultant through the GDOT's SUE program 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 after utility owners have provided their preliminary relocation plans before the PFPR. The Project Manager, Design Phase leader, District Utilities Office (may include affected utility owners), and State Subsurface Utilities Engineer will coordinate to identify locations of test holes (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 plans have been corrected addressing the PFPR comments to ensure that all remaining conflict areas are verified prior to the final design beginning.

6.4.4 Railroad Coordination

The railroad coordination and the processing of railroad agreements can take several years. It is imperative that the crossing of any railroad or railroad ROW, including parallel encroachments, be identified early and coordination begun. The Office of Utilities must be notified immediately upon the recognition of any such railroad involvement.

The first plan submission to be used for railroad coordination should be submitted by the Project Manager to the Office of Utilities State Railroad Liaison, as soon as preliminary bridge plans and/or complete roadway, grading, drainage (including calculations) are available. Generally this would be following the corrected PFPR plans. The Project Manager and Design Phase Leader should refer to the State Utilities Office website for the required Railroad Submittal checklist that needs to be completed and included with all railroad coordination submittals:

http://www.dot.ga.gov/PartnerSmart/utilities#tab-3

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 all lighting requirements for existing or proposed systems with the DPS, 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 should not be started until after the PFPR comments have been incorporated into the roadway plans.

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, or 3) 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 design analysis shows that a new signal would be needed to provide an acceptable level of service 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 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 right-of-way; 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 Project Manager to be included in the preliminary plans.

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 Project Manager 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 Project manager 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 Project Manager 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 MS4 and Maintenance Office Coordination

Each MS4 BMP requires unique maintenance in order to keep them functioning properly, see Maintenance Considerations listed for each BMP in Ch. 10.4 of GDOT's Manual on Drainage Design for Highways and the Stormwater System Inspection and Maintenance Manual. The Design Phase Leader should discuss the maintenance plan, accessibility, and schedule with GDOT Maintenance/District Maintenance for a selected BMP. The consideration and use of local municipal maintenance forces and required agreements should also be discussed. Documentation of the results of this discussion should be included in the Post-Construction Stormwater Report.

6.4.11 Environmental Mitigation Plans

Landscaping may be one of many options of mitigation for an impacted environmental resource. When landscaping is proposed as mitigation, the project team must consider future maintenance of the installed landscaping. Since generally GDOT does not have the resources to properly maintain landscaping above the normal roadway vegetation, the local government, local authority, CID or individual property owner must agree to maintain it. If maintenance is agreed upon, the design and plans will be completed by the OMLA or by a consultant.

A self-sustaining landscape design should be considered if no party agrees to maintain the landscaping. Self-Sustaining design options may be applicable for multitrophic vegetative landscaping for encroachment of buffers of state waters or other environmental resources such as historical impacts. OMLA may be consulted for additional information on self-sustaining design options.

If no party is willing to maintain landscaping or a self-sustaining design is not applicable, landscaping as an environmental mitigation option should not be considered further.

The remaining preliminary design process is as in 6.4.9.

6.4.12 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 done utilizing the WSPRO or HECRAS program unless a FEMA regulated stream is involved. FEMA requires the use of the HEC-2 and HECRAS programs. Therefore, hydraulic studies involving FEMA regulated streams will be done utilizing both WSPRO or HECRAS and HEC2. 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 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 of utilities as it relates to the proposed wall.
- Underground: Retain existing or relocation
- Overhead: Constructability should be considered.

Once determined that a wall is the best solution, the wall layouts will be completed by the Design Phase Leader and submitted to the Office of Bridge Design for concurrence of the proposed type of wall to be used (standard wall or design wall). The type of wall proposed will determine the construction method and how much temporary or permanent easement will be required. The Office of Bridge Design will request foundation investigations from the OMAT for retaining wall foundations as needed.

6.4.13 Noise Barriers

A noise analysis is completed during the environmental process. The analysis determines if the project will create noise levels above the standards as identified in 23 CFR 772, Table 1 and GDOT policy 4415-11.

The Design Phase Leader will provide the Noise Specialist 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.

If the preliminary analysis determines that noise levels will be higher than the acceptable standard and receptors are identified, the Noise Specialist, the Design Phase Leader and other SMEs will meet to determine the 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 feasible compared to other receptor criteria, the second and third phase of public input is initiated including contacting individual property owners and subdivision associations and also at a public meeting (if required).

If a noise barrier is approved through the entire process, the Noise Specialist 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.

6.4.14 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 with finalizing conduit routing and devices 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.

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, 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.

6.4.15 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.

6.4.16 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 Cost Estimate

The PM should request from the District Utility Engineer an updated utility cost estimate. When preliminary utility relocations are included in the design, updated plans should be submitted with the yearly requests.

6.4.17 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) 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 Major Reviews

6.5.1 Value Engineering (VE) Study in Preliminary Design

If a total project cost is $50 million or more 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.

6.5.2 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.

- 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.

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 SUE survey data has been received (for SUE projects). In some cases, the Project Manager may choose to hold the meeting after more information is available (bridge layout, utility relocations, etc.) if project conditions warrant. If the project includes pavement type selection, the constructability review should be held before submitting the PTS Report to the Pavement Design Committee.

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 Full Oversight [FOS]), 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 Engineer, 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 the NEPA SME 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 Engineer. 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.

The Project Manager shall be responsible for keeping the Constructability Review Reports as well as disposition of items contained in the reports.

6.5.3 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.

For projects with PCE documents within existing ROW, the PFPR may be requested at any time at the discretion of the project team. For projects with required ROW, it is recommended that draft technical studies (FKA special studies) including completed surveys and initial assessments of effect for ecology, history and archaeology are completed prior to the PFPR request.

For projects with CE documents, draft technical studies including completed surveys and initial 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.

The Project Manager will request a PFPR when the preliminary plans have been completed. The PFPR request 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 unless already submitted), and all draft special provisions that have a potential to affect the proposed required ROW, utility plans, or environmental issues. Any special provisions that address any unique or unusual features such as any experimental items or approved proprietary 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.

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 documents 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.

The Office of Engineering Services will distribute the report to the current list and attendees and will obtain the approval of the FHWA on all FOS projects 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.

Corrected PFPR 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 Phase Leader can complete the Assessment of Effects reports and the NEPA document. 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. Design changes necessary to complete the project shall not be made until final plans are begun.

6.5.4 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, preliminary field plan review, & final field plan review. 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.

6.6 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.

The Project Manager will submit an L&D 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.

6.7 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 6.5.3, 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).

Chapter 7. Final Design - Contents

Chapter 7. Final Design

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 (FOS 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.

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 a Notice is still required by State Law for all projects that require the acquisition of ROW or easement.

7.1.1 Location and Design: Approval

Upon notification of the 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 Engineer (DPPE). 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 projects with ROW to be acquired by GDOT, the DPPE will advertise the Notice.
- For projects with ROW to be acquired 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 DPPE
- 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 DPPE 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 Archive Store.

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). Additionally, FHWA must approve ROW plans on Full Oversight (FOS) Projects prior to GDOT's approval.

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 begun before the environmental document is approved. The Project Manager will coordinate with the Office of Environmental Services to verify the type of environmental document and impacts anticipated before moving to ROW acquisition.

After the ROW plans are approved, the Right-of-Way Office will send a copy of the transmittal letter indicating approval of the plans to the Project Manager, Design Phase Leader (if applicable), Local Government Coordinator (if applicable), Relocation, Appraisal & Review, and Funding & Certification Offices. The Right-of-Way Office will publish the approved ROW plans in accordance with the EPP.

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 EPP. 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 direct link to PDF files, "Acquisition Guide for Local Public Agencies and Sponsors" is located at: [ROW Website URL]

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 and any railroad parcels. Review of appraisals involving relocations and 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, NEPA 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 EPP.

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, 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 and permits. After coordination with the NEPA 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.

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 Pavement Design Committee (PDC). 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 PDC 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, design should begin after 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 an agreement is in place with the local government for operations and maintenance of new lighting facilities.

The lighting designer will work directly with the utility to determine the appropriate type of 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.

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

7.3.4 MS4 Design

The Post-Construction Stormwater Report (PCSR) will be submitted by the Office of Design Policy Support to EPD for review. If the PCSR is not disapproved by EPD within 90 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 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 or Construction Details 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 may 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 sign, pole, wall or noise wall or conduit 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 and utility adjustment schedules, second submission for utility plans, must go to the respective utility owners for the utilities' use in verifying the location of their existing facilities 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 as soon as the existing utility information has been plotted and the project's footprint is verified. 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 and 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 cleared environmentally, or impacts additional wetlands or streams. 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.

7.4.2 Public Interest Determination

If the Project has a Commissioner 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 pay items as well as 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 and signed before a project can be certified for letting.

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 Office of Utilities, State Railroad Liaison, as soon as final bridge plans and/or complete roadway, grading, drainage (including calculations) are available. In no case will the second plan submission be performed before addressing the first railroad submittal comments. The direct link to PDF files, "GDOT Railroad Plan Submittal Checklist" is located at:

http://www.dot.ga.gov/InvestSmart/Rail/Documents/CrossingSafety/RailroadPlanSubmittalChecklist.pdf

7.5 Final Field Plan Review (FFPR)

7.5.1 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 a complete FFPR Package (See POLICIES AND PROCEDURES 2440-1 for requirements) to the Office of Engineering Services. Also submit electronic plans per the EPP.

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.

7.5.2 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.

7.5.3 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.

7.5.4 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. The Office of Engineering Services will obtain the approval of the FHWA on all FOS projects 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.

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

7.5.5 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.

7.5.6 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.

7.6 Completion of Final Plans for GDOT Let Projects

7.6.1 Special Provision Review

The Design Phase Leader or Project Manager for consultant designed projects will submit Special Provisions Section 108.8 & 150.11 to the Office of Construction for their review after the FFPR, but prior to assembly of the final plan documents.

7.6.2 Submission of Corrected FFPR Plans

For GDOT Let projects, 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 Final Plan Cost Estimate 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) project specific special provisions, (4) soil survey summary reports, (5) BFIs, and (6) 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 EPP, available on the R.O.A.D.S. Website.

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 Final Plan Cost 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.

7.6.3 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), 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).

http://www.dot.ga.gov/PS/Business

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 Engineer
- Office of Roadway Design
- Bureau of Environmental Compliance
- Office of Program Delivery

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 FOS projects (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.

7.7 Certifications and Construction Authorization

7.7.1 Right-of-Way Certification

For Exempt projects, the District will certify that all ROW has been obtained at least twelve (12) weeks prior to a project's letting. Minimum eleven (11) weeks prior to the letting, the 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 FOS projects, 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 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 Right-of-Way Office will certify to the Office of Engineering Services or FHWA for full oversight projects that the ROW is clear. The Project Manager will be copied on the Letter of Certification.

7.7.2 Utility Certification

For Exempt and State funded projects, 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 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 FOS Projects, 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 Certification package to the GDOT District Utilities Engineer upon completion of utility coordination, at least thirteen (13) weeks prior to the letting. The District Utilities Engineer will submit the Local Government Certification package to the State Utilities Office for review and GDOT Certification. The Project Manager will be copied on this correspondence.

7.7.3 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 letting. For FOS projects, 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 Federal-aid projects, as well as State funded projects that have been developed in accordance with the PDP.

7.7.4 Construction Authorization for GDOT Let Projects

For FOS GDOT Let projects, 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.
- 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.
    - Environmental Certification as noted in Section 7.7.3 above furnished by Office of Environmental Services.

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.

7.7.5 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, 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.

7.8 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 State Utilities Railroad Liaison, 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 FOS 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 GDOT EPP document.

7.8.1 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 FOS projects and no later than seven and one-half (7½)weeks for FOS 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.

7.8.2 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.

7.8.3 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 (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 Engineer 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 Engineer, 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 Engineer, 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.

The right-of-way representative will provide two (2) copies of the signed options and a summary of the special conditions negotiated with the property owners for review and discussion. Any commitments to property owners will be addressed. If a Transition Conference is not held, the right-of-way representative will provide two (2) copies of the signed options and a summary of the special conditions to the Area Engineer 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
- 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 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 actions may be taken with a set of plans dependent upon the acceptance of the bid:

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 Engineer in accordance with the same distribution as final plans. The contractor will receive two (2) sets of full-size approved 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.

Copies of the revised plan sheets will be submitted to the District Utilities Engineer to assess impacts, if any, to utility facilities. The District Utilities Engineer and the District Construction Engineer 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 or the environmental document.

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. 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 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 Full Oversight (FOS)/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.

8.3 Local Let Projects

The low bid will be reviewed by GDOT Project Manager and the GDOT District Construction Engineer. 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 Engineer 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 Project Engineer, 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 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 & 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 and obtain actual construction phase feedback.
- Create a safe climate for open and candid dialogue ensuring that all attendees participate. No personalization, fault-finding, or blaming.
- That the final project as specified in the plans and specifications can be efficiently maintained over the life of the project.
- 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 Guidance Tool" 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 Engineer, State Construction Engineer, District Construction Engineer, State Construction Office Liaison Engineer, the project Area Construction Engineer, FHWA Transportation Engineer, Engineering Services Design Review Manager, District Utility Engineer, District Maintenance Engineer, 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 Engineer, but 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 (98%) 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 Engineer, or the District Construction Engineer.

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 in a centralized location that is accessible to both internal and external customers and will be stored by P.I. Number.

8.6 Final Acceptance

The Project Engineer should notify the District/Project Engineer when all of the engineer's punch list items are complete. Then, the Project Engineer will inspect the project for approval. If there are any outstanding minor work items, then the inspector provides these items on a punch list to the contractor. The contractor must complete the punch list and all necessary documentation before receiving the inspector's final approval. The inspector'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://gdotteams.dot.ga.gov/info/primavera/default.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 Engineer 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 Engineer 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 the project environmental document is prepared to comply with the *Georgia Environmental Policy Act of 1991* (GEPA). Other state laws may also apply, such as the *Georgia Erosion & Sedimentation Act of 1975* and the *Georgia Abandoned Cemeteries & Burial Grounds Act of 1991*. 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 GEPA approval 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**.

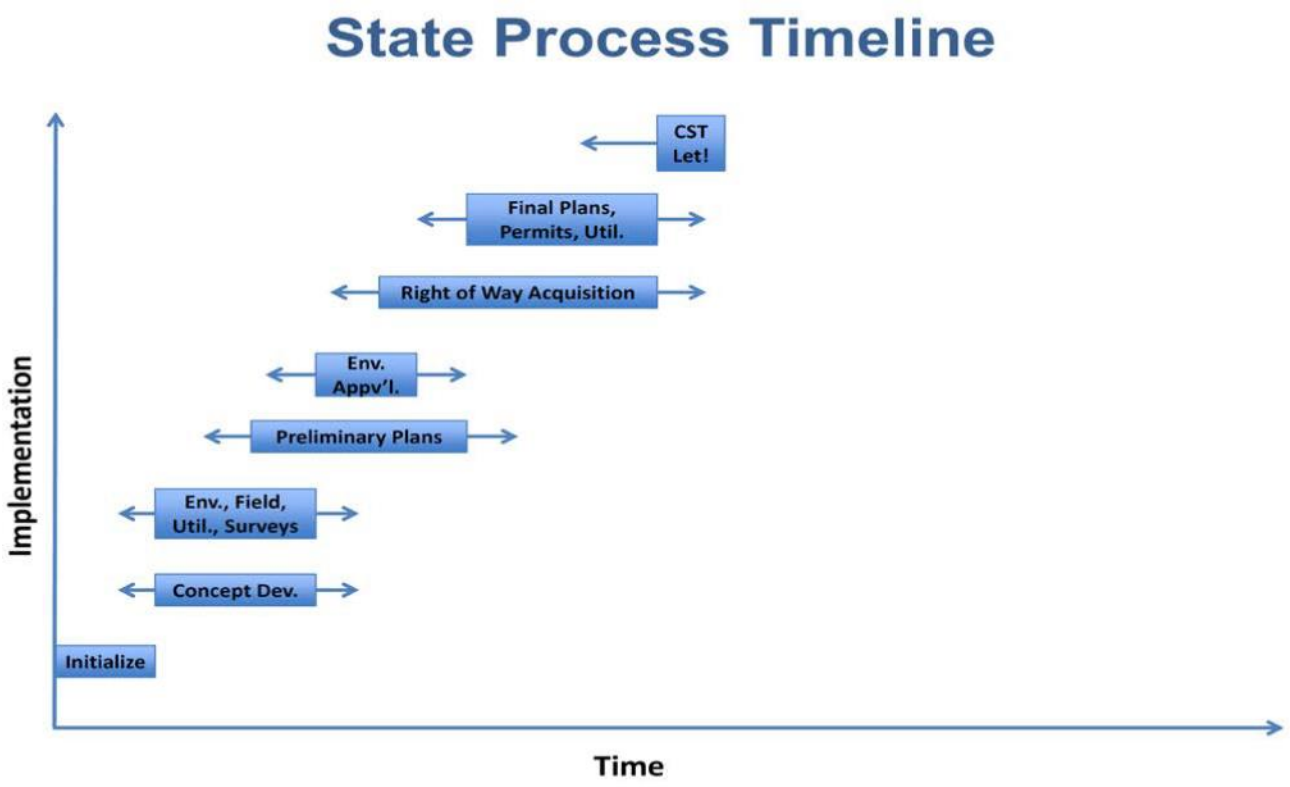

Figure 10.1 Illustrative Timeline Showing Major Steps of the State Process.

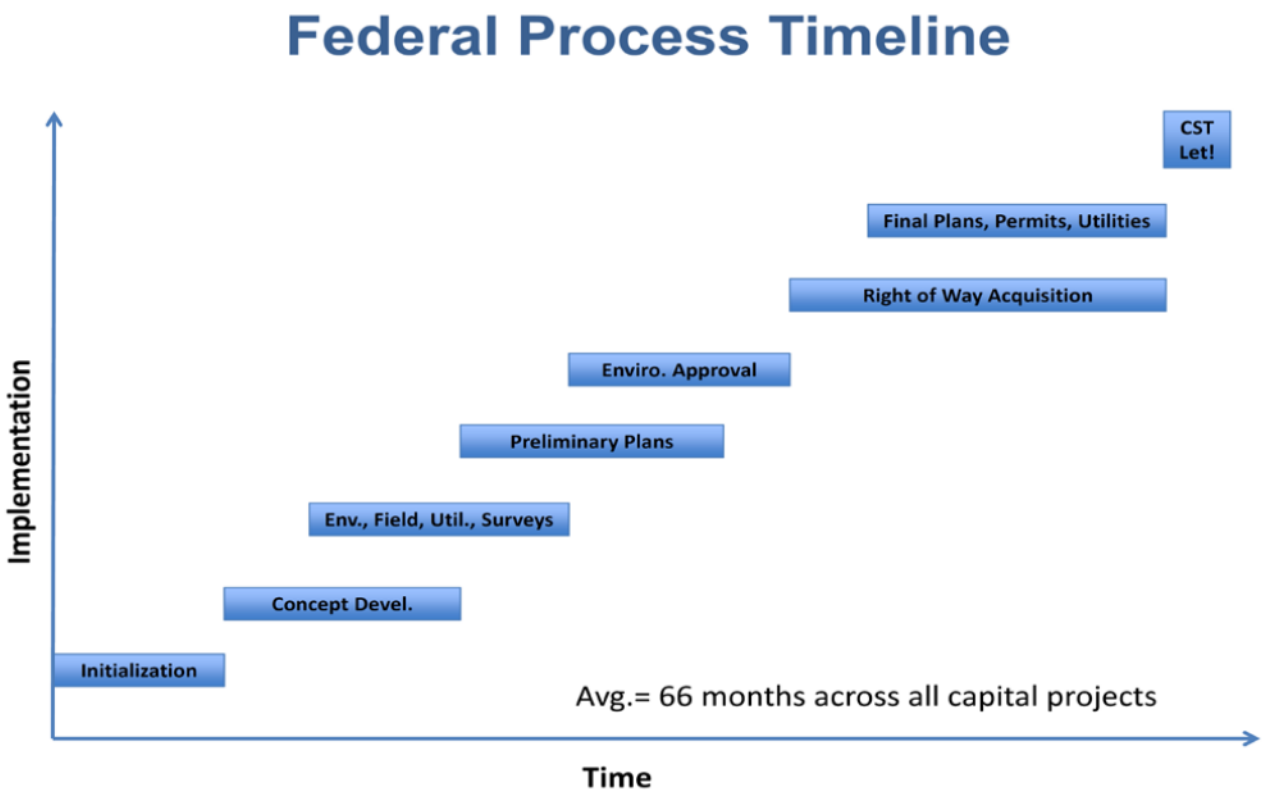

Figure 10.2 Illustrative Timeline Showing Major Steps of the Federal Process.

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.

10.2.3 Environmental

For the State Process, projects must comply with GEPA. 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. 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 http://www.dot.ga.gov/PS/DesignManuals/EnvironmentalProcedures. and *GDOT Policy: 4415-10 Ga Environmental Protection Act - GEPA*.

10.2.4 Right-of-Way

For the State Process, the ROW plans may be approved and acquisition may begin before the GEPA environmental document is approved. 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.

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 if required, the GEPA documentation, 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.

10.3 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, initial pavement type selection (PTS), and initial pavement evaluation summary (PES) reports.
- For projects that are expected to require an Individual 404 Permit, the PAR process should be completed prior to Concept Report approval in accordance with Section 5.8 of this manual unless a risk assessment decision has been made.
- 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 twelve (12) weeks prior to a project's letting. Minimum eleven (11) weeks prior to the letting, the 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 for any projects using a GEPA Document.

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.1 Federal Oversight – Concept Reports

Projects of Division Interest (PoDI) – The designation for PoDI is provided in the Department's Project Management System under the "Indicators" section. If the project is indicated to be a PoDI, FHWA exercises oversight over the Concept Phase prior to submitting the Concept Report for approval. If FHWA oversight of the Concept is noted in the project Stewardship and Oversight Plan, FHWA approval of the Concept Report will be required. Note that the Federal Highway Administration determines which projects utilizing federal funding will be designated as PoDI and the designation is independent of project type.

Exempt - The reference to "Exempt" projects under this definition does not refer to Air Quality exempt projects; these designations relate to FHWA oversight only.

State Funded (SF) - The SF designation is to be selected for projects for which state funds are programmed.

A.2 Federal Agencies to Invite to Concept Meetings

The Project Manager will extend an invitation to the following Federal Agencies, as appropriate:

Division Administrator
Federal Highway Administration
61 Forsyth Street, SW
Suite 17T100
Atlanta, GA 30303

Regional Administrator
Federal Transit Administration
61 Forsyth Street, SW
Suite 17T50
Atlanta, GA 30303

The Office of Environmental Services will extend an invitation, as appropriate, to the following Federal Agencies to attend Concept Meetings:

Chief of Wetlands Regulatory Section
Environmental Protection Agency
345 Courtland Street, NE
Atlanta, GA 30365

Chief of Regulatory Functions Branch
U.S. Army Corps of Engineers
P.O. Box 889
Savannah, GA 31402

U.S. Department of the Interior
Fish and Wildlife Service
Room 334, Federal Building
801 Gloucester Street
Brunswick, GA 31520

National Marine Fisheries Service
Habitat Conservation Division
P.O. Box 12607
Charleston, SC 29422

Environmental Protection Agency
Region IV
345 Courtland Street, NE
Atlanta, GA 30365

A.3 General Instruction and Information

- Please use the most current version of the Concept Report when submitting your report. An up-to-date MS-Word version of the blank report is available for download on the R.O.A.D.S. Manuals & Guides web page and/or may be provided by the Office of Design Policy and Support's Conceptual Design Group for your use upon request. There are a number of pull-down menus and check boxes available in MS-Word version of the Concept and Revised Concept reports.
- Instructions and information to assist in completing the report are shown in *italics* for easy identification, and should be removed prior to report submission.
- Remember that the example report is a template and is intended to be flexible. If changes to the report are needed for a specific project, the engineer of record and Project Manager should exercise their judgment when making changes from the approved format.
- Documentation of QC/QA tasks being performed on the report should be provided when the Concept Report is submitted.
- Reports should be submitted in .pdf format via email to: ConceptReports@dot.state.ga.us
- Design Variances and Design Exceptions - Please note that FHWA typically requires that Design Variances and Design Exceptions be approved prior to approval of the Concept Report for PoDI projects; for Exempt projects, Design Variances and Design Exceptions are normally requested during either the Concept or Preliminary Design Phases.
- Make sure all attachments, maps, layouts, etc. are clear and legible.
- Keep in mind that reports are printed for approval and filing. Standard page sizes should be utilized – e.g. 8 ½ x 11" (letter); 8 ½ x 14" (legal); and 11 x 17" (ledger). Please avoid plan size and half size pages.
- Please provide any feedback or questions regarding the Concept Report format to the State Conceptual Design Engineer.

A.4 Concept Report Template

See following pages.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
PROJECT CONCEPT REPORT

Project Type: _____ P.I. Number: _____
GDOT District: _____ County: _____
Federal Route Number: _____ State Route Number: _____
Project Number: _____

Project Description (provide a very brief description of the project; Description should be no more than 2-3 lines long)

Submitted for approval: *(email to "Concept Reports"; **remove ALL guidance in blue italics** & delete any inapplicable signature lines)*

Consultant Designer & Firm *or* GDOT Concept/Design Phase Office Head & Office — Date

(if applicable)
Local Government Sponsor — Date

State Program Delivery Engineer — Date

GDOT Project Manager — Date

Recommendation for approval: *(**remove ALL guidance in blue italics** & delete any inapplicable signature lines)*

State Environmental Administrator — Date

State Traffic Engineer — Date

Project Review Engineer — Date

State Utilities Engineer — Date

District Engineer — Date

(if applicable)
State Bridge Engineer — Date

☐ MPO Area: This project is consistent with the MPO adopted Regional Transportation Plan (RTP)/Long Range Transportation Plan (LRTP).

☐ Rural Area: This project is consistent with the goals outlined in the Statewide Transportation Plan (SWTP) and/or is included in the State Transportation Improvement Program (STIP).

State Transportation Planning Administrator — Date

PROJECT LOCATION MAP

Include a project location map sufficient to clearly locate the project, including the project beginning and ending point.

PLANNING AND BACKGROUND

Project Justification Statement: *A brief statement provided by the Office of Planning, the 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:*

- *Name of the office that prepared or approved the Project Justification Statement.*
- *Any designated programs that the project is included in (e.g. GRIP, SRTS, STRAHNET, Oversized Truck Route, designated bike route, APD, 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/LOS/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 project termini, 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.

Existing conditions: *A brief general description of the project location as it currently is, including lanes, medians, sidewalks/multi-use paths, bicycle lanes, major intersections, structures, and major utilities in project area.*

Other projects in the area: *List other projects in the area; include PI numbers and brief description. Note whether or not coordination with a specific project is necessary.*

MPO: *if applicable* **TIP #:** *if applicable*

Congressional District(s):

Federal Oversight: ☐ PoDI ☐ Exempt ☐ State Funded ☐ Other

Projected Traffic: *ADT or AADT* 24 HR T:_____%
Current Year (20WW): _____ Open Year (20XX)): _____ Design Year (20YY): _____
Traffic Projections Performed by: *GDOT Office or Consulting Firm name*
Date approved by the GDOT Office of Planning:

Functional Classification (Mainline):
Roadway classifications are maintained by Office of Transportation Data

Complete Streets - Bicycle, Pedestrian, and/or Transit Standard Warrants:

Warrants met: ☐ None ☐ Bicycle ☐ Pedestrian ☐ Transit

Check all that apply. Attach summary of any Bicycle, Pedestrian, and Transit Warrant Studies completed or summarize results here. See Chapter 9 of the GDOT Design Policy Manual for further guidance. Note: If it is not practical to provide appropriate accommodations for GDOT Standard Criteria, Design Variance(s) will be required.

Is this a 3R (Resurfacing, Restoration, & Rehabilitation) Project? ☐ No ☐ Yes

Pavement Evaluation and Recommendations

Initial Pavement Evaluation Summary Report Required? ☐ No ☐ Yes
Initial Pavement Type Selection Report Required? ☐ No ☐ Yes
Feasible Pavement Alternatives: ☐ HMA ☐ PCC ☐ HMA & PCC

[HMA = Hot Mix Asphalt; PCC = Portland Cement Concrete] Initial Pavement Evaluation Summary and/or Initial Pavement Type Selection Reports, if required, should be completed prior to submission of the Concept Report for approval. The Office of Materials and Testing would prepare either or both of these reports upon request. The pavement report(s) should be attached to the Concept Report. See Chapter 5 of the PDP and the Pavement Design Process Flowchart for further information. Final Pavement Type Selection and pavement design approval occur during the Preliminary Design Phase.

DESIGN AND STRUCTURAL

Description of the proposed project: *A general description of the project, including the proposed length, and general location of the project, any city and county limits or proximity thereto. Specific design data (e.g. typical section, design speed, etc.) should be kept to a minimum, since it will be described in a later section. If an ITS Project, summarize the Concept of Operations briefly. Information on structures should be included in table below.*

Major Structures: *(If no major structures on project, N/A and delete table below)*

Structure	Existing	Proposed
ID # and/or Location	*Describe length, typical section, including lane and shoulder widths, etc. of existing structure, and sufficiency rating*	*Describe proposed length, typical section including lane and shoulder widths, etc. of proposed structure.*
Retaining walls (not including gravity walls)	*Describe current structure*	*Describe proposed structures*
Other	*Describe current structure*	*Describe proposed structures*

Mainline Design Features: ***Roadway name/identification***

*NOTE: Features where FHWA/GDOT Standards apply are described in **bold text**. The corresponding data should also be listed in **bold text**. Features where GDOT Guidelines apply are described in standard text. The corresponding data should also be listed in standard text. Use additional copies of table below as needed for other major roads, significant side roads, etc. Multiple roads with similar characteristics may be combined into a single table as warranted.*

Feature (*Standard criteria indicated in **bold***)	Existing	Policy	Proposed
Typical Section:			
- Number of Lanes			
- **Lane Width(s)**			
- **Median Width & Type**			
- **Outside Shoulder Width** (*rural shoulder*) **Border Area Width** (*urban shoulder*) *choose one/remove the other*			

- **Outside Shoulder Slope**			
- **Inside Shoulder Width**			
- **Sidewalks** *(for standard pedestrian warrants)*			
- Auxiliary Lanes			
- **Bike Accommodation** *(for standard bike warrants)*			
Posted Speed			
Design Speed			
Min Horizontal Curve Radius			
Maximum Superelevation Rate			
Maximum Grade			
Access Control			
Design Vehicle			
Pavement Type			
Additional Items as warranted			

*According to current GDOT design policy if applicable

Major Interchanges/Intersections: *List and briefly describe any major interchanges or intersections along project*

Lighting required: ☐ No ☐ Yes
Attach lighting commitment letter if lighting is for a roundabout, or otherwise required by policy (e.g., as mitigation for a design exception).

Off-site Detours Anticipated: ☐ No ☐ Undetermined ☐ Yes
If detour is needed, provide a brief justification for detour type selected. Provide date of Detour Meeting and/or approval date of Detour Report, if available.

Transportation Management Plan [TMP] Required: ☐ No ☐ Yes
If Yes: Project classified as: ☐ Non-Significant ☐ Significant
TMP Components Anticipated: ☐ TTC ☐ TO ☐ PI
*As part of the federal Work Zone Safety and Mobility Rule, **all** Federal-aid highway projects require a TMP. Projects classified as "Non-Significant" may only require a Temporary Traffic Control (TTC) plan, often covered under Special Provision 150. Projects classified as "Significant" require a complete TMP and formal TMP report which includes a TTC plan and addresses Transportation Operations (TO) and Public Information (PI) components. If needed, the formal TMP report would typically be developed during the preliminary plans phase. For more information, see GDOT Policy 5240-1.*

Is the project located on a NHS roadway? ☐ No ☐ Yes

Design Exceptions/Design Variances to FHWA or GDOT Controlling Criteria anticipated:

FHWA or GDOT Controlling Criteria	No	Undeter-mined	Yes	DE or DV	Approval Date (if applicable)
1. Design Speed	☐	☐	☐		
2. Design Loading Structural Capacity	☐	☐	☐		
3. Stopping Sight Distance	☐	☐	☐		
4. Horizontal Curve Radius	☐	☐	☐		
5. Maximum Grade	☐	☐	☐		
6. Vertical Clearance	☐	☐	☐		
7. Superelevation Rate	☐	☐	☐		

8. Lane Width	☐	☐	☐		
9. Cross Slope	☐	☐	☐		
10. Shoulder Width	☐	☐	☐		

Remove any of the FHWA or GDOT Controlling Criteria that do not apply (see Chapter 2 of GDOT's Design Policy Manual). If any of the above is checked "Yes" or "Undetermined", please briefly describe the anticipated Design Exception or Design Variance here. A Design Exception (DE) or Design Variance (DV) must be granted for not meeting the Controlling Criteria. Please note that for projects that have Projects of Division Interest (PoDI) oversight, FHWA generally requires Design Exceptions and Variances to be approved prior to Concept Report approval. Attach any approved DE's or DV's to the Concept Report.

Design Variances to GDOT Standard Criteria anticipated:

GDOT Standard Criteria	Reviewing Office	No	Undeter--mined	Yes	Approval Date (if applicable)
1. Access Control	DP&S	☐	☐	☐	
2. Shoulder Width	DP&S	☐	☐	☐	
3. Intersection Sight Distance	DP&S	☐	☐	☐	
4. Intersection Skew Angle	DP&S	☐	☐	☐	
5. Tangent Lengths on Reverse Curves	DP&S	☐	☐	☐	
6. Lateral Offset to Obstruction	DP&S	☐	☐	☐	
7. Rumble Strips	DP&S	☐	☐	☐	
8. Safety Edge	DP&S	☐	☐	☐	
9. Median Usage	DP&S	☐	☐	☐	
10. Roundabout Illumination Levels	DP&S	☐	☐	☐	
11. Complete Streets Warrants	DP&S	☐	☐	☐	
12. ADA Requirements in PROWAG	DP&S	☐	☐	☐	
13. GDOT Construction Standards	DP&S	☐	☐	☐	
14. GDOT Drainage Manual	DP&S	☐	☐	☐	
15. GDOT Bridge & Structural Manual	Bridges	☐	☐	☐	

Remove any of the GDOT Standard Criteria that do not apply (see Chapter 2 of GDOT's Design Policy Manual). If any of the above is checked "Yes" or "Undetermined", please briefly describe the anticipated Design Variance here. A Design Variance must be granted for not meeting GDOT's Standard Criteria. Attach any approved DV's to the Concept Report. (NOTE: If both a Design Exception and Design Variance are indicated for the same item, only the Design Exception is required).

VE Study anticipated: ☐ No ☐ Yes ☐ Completed – Date:

A VE study is required where a project's total cost meets or exceeds $50 million, or 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. If a VE Study has been completed, attach the VE Implementation Letter.

UTILITY AND PROPERTY

Railroad Involvement: *If there are any railroads in the project vicinity which may be affected directly or indirectly by the project, list them here. Discuss ownership and future use of the railroad (e.g. proposed new rail lines, freight or passenger rail, number of trains per day, etc.). Also list whether any railroad coordination is needed. A cost estimate for RR coordination should be attached, if applicable. Consult State Railroad Coordinator in Office of Utilities for RR coordination requirements.*

Utility Involvements: *List any identified utilities which may be impacted by project, including type and owner. SRTA/GRTA should be listed here, where appropriate.*

SUE Required: ☐ No ☐ Yes ☐ Undetermined
Note: By policy, SUE is required for all projects with a Commissioner approved Public Interest Determination Recommendation.

Public Interest Determination Policy and Procedure recommended? ☐No ☐Yes
See Policy and Procedures Subject Nos. 6863-12 and 3E-1 for guidance. If yes, describe the Concept Team's findings and recommendations. Attach Utility Risk Management Plan with Risk Acceptance or Risk Avoidance recommendations if applicable.

Right-of-Way (ROW): Existing width: _____ft. Proposed width: _____ft.
Refer to Chapter 3 of GDOT's Design Policy Manual for guidance.
Required Right-of-Way anticipated: ☐None ☐Yes ☐Undetermined
Easements anticipated: ☐None ☐Temporary ☐Permanent ☐Utility ☐Other
Check all easement types that apply.
Anticipated total number of impacted parcels: _____
Displacements anticipated: Businesses: _____
Residences: _____
Other: _____
Total Displacements: _____

Location and Design approval: ☐ Not Required ☐ Required
Note: Location and Design approval is needed for all projects where ROW or easements are to be acquired.

Impacts to USACE property anticipated? ☐ No ☐ Yes ☐ Undetermined
Under 33 USC 408, if additional property rights from USACE property are anticipated, a 408 Decision may be required. The Project Manager should contact the State Design Policy Engineer when a potential impact to USACE property is identified. The State Design Policy Engineer will assess the potential impact(s) and determine if further coordination is needed. Obtaining a 408 Decision may require considerable coordination and effort.

Is Federal Aviation Administration (FAA) coordination anticipated? ☐No ☐ Yes
Some construction activities may require FAA coordination if the project is within 5 miles of an airport. This should be discussed at the project Concept Team Meeting, at a minimum. See GDOT's Plan Development Process for further guidance.

ROUNDABOUTS *See GDOT Design Policy Manual - Chapter 8 for further guidance. Delete this section if project does not include a roundabout.*

Roundabout Lighting Commitment Letter received: ☐ No ☐ Yes
Commitment letter should be attached

Roundabout Planning Level Assessment: *Briefly explain the findings of the Planning Level Assessment and attach Planning Level Assessment to Concept Report. Required for all projects containing roundabouts where a Roundabout Feasibility Study has not been prepared. This includes linear projects where a roundabout is proposed.*

Roundabout Feasibility Study: *Summarize the findings of the Roundabout Feasibility Study and attach Roundabout Feasibility Study to Concept Report. In most cases, the components of a feasibility study can be directly incorporated into the body of the Concept Report and no separate feasibility study prepared. Not required during concept for linear projects where roundabout(s) are proposed.*

Roundabout Peer Review Required: ☐ No ☐ Yes ☐ Completed – Date:
Attach Peer Review Report and responses to all report comments not incorporated into the design.

CONTEXT SENSITIVE SOLUTIONS

Issues of Concern: *Briefly list potential project impacts that have been identified which may require Context Sensitive Solutions. Refer to GDOT's Context Sensitive Design Online Manual and AASHTO's Guide for Achieving Flexibility in Highway Design.*

Context Sensitive Solutions Proposed: *Describe how the Issues of Concern listed above are to be addressed by the project.*

ENVIRONMENTAL & PERMITS

Anticipated Environmental Document:

NEPA: ☐ PCE ☐ CE ☐ EA-FONSI ☐ EIS
GEPA*: ☐ Type A ☐ Type B ☐ EER ☐ NONE

*(None should be marked **only** for state-funded projects where total project cost is expected to be less than $100 million.)*

Level of Environmental Analysis: *(check one)*

☐ The environmental considerations noted below are based on preliminary desktop or screening level environmental analysis and are subject to revision after the completion of resource identification, delineation, and agency concurrence.

☐ The environmental considerations noted below are based on the completion of resource identification, delineation, and agency concurrence.

Water Quality Requirements:

MS4 Permit Compliance – Is the project located in a MS4 area? ☐ No ☐ Yes

For projects within a designated MS4 (Municipal Separate Storm Sewer Systems) area, at a minimum, the conceptual project cost estimate (PE, ROW, UTIL, CST, ENV MIT, etc.) shall include preliminary, estimated costs related to the impacts that MS4 post construction structures may have. In addition, the following items should be attached to the report:

**A GEPA document must be prepared only for state funded projects where the Project cost meets or exceeds $100 million. Environmental surveys are required for all state funded projects regardless of Project cost.*

- *MS4 Concept Report Summary*
- *MS4 Concept Level Design Spreadsheet*
- *MS4 Drainage Area Layout*

These items can be found on the GDOT External Webpage under Partner Smart – Design Manuals – Manuals and Guides – Roadway – Category: Stormwater Permit (MS4). For more information regarding GDOT's MS4 permit, please contact the Hydraulic Studies Group in the Office of Design Policy & Support.

Is Protected Species water quality mitigation anticipated? ☐ No ☐ Yes

Coordination with the Office of Environmental Services should be done to determine if the project location and scope may require water quality design considerations to mitigate Protected Species (e.g. Indiana Bat)

Environmental Permits/Variances/Commitments/Coordination anticipated: *List all anticipated permits, variances, commitments, and coordination needed –Section 404, TVA, Water Quality, etc.*

Permit/Variance/Commitment/ Coordination Anticipated	No	Yes	Remarks
1. U.S. Coast Guard Permit	☐	☐	
2. Forest Service/NPS	☐	☐	
3. CWA Section 404 Permit	☐	☐	
4. Tennessee Valley Authority Permit	☐	☐	
5. 33 USC 408 Decision	☐	☐	
6. Buffer Variance	☐	☐	
7. Coastal Zone Management Coordination	☐	☐	
8. NPDES	☐	☐	
9. FEMA	☐	☐	
10. Cemetery Permit	☐	☐	
11. Other Permits	☐	☐	
12. Other Commitments	☐	☐	
13. Other Coordination	☐	☐	

Use this area below the table for more details on Permits/Variances/Commitments/Coordination Anticipated as needed.

Is a PAR required? ☐ No ☐ Yes ☐ Completed – Date:

Environmental Comments and Information:
NEPA/GEPA: *List status of environmental document and comment on any significant NEPA/GEPA issues and/or risks present including 4f resources.*

Ecology: *List level of study performed, if any protected species or habitats may be present, seasonal survey requirements, and any other significant issues that should be considered throughout project development.*

History: *List possible effects to potential or known historic resources, if additional surveys are required, if SHPO concurrence is required or has been received, and any other significant issues that should be considered throughout project development.*

Archeology: *List any cemeteries or other publicly documented archeological resources present, possible effects to archeological resources, if additional surveys be required, if SHPO concurrence is required or has been received, and any other significant issues that should be considered throughout project development.*

Air Quality:
Is the project located in an Ozone Non-attainment area? ☐ No ☐ Yes
Is a Carbon Monoxide hotspot analysis required? ☐ No ☐ Yes
If yes to Ozone Non-attainment, provide a comparison between the proposed project concept and the conforming plan's model description. Include such features as project limits, number of through lanes, proposed open to traffic year, etc. If project is exempt from conforming plan, explain why. If the project corridor contains a traffic signal, the design year traffic volumes exceed 10,000 vpd ***and*** *the level of service is D, E or F, a CO hotspot analysis is required.*

Noise Effects: *List level of noise studies required, modeling requirements, mitigation measures needed, etc.*

Public Involvement: *List level of Public Outreach expected including citizen committees, Public Information meetings, Public Hearings, Detour Meetings, etc.; also include any additional public outreach needed. For significant meetings previously completed, list dates, types of meetings, and attach meeting summaries or minutes.*

Major stakeholders: *Identify major stakeholders in project (e.g. traveling public, business associations, etc.).*

CONSTRUCTION

Issues potentially affecting constructability/construction schedule: *Summarize any known issues which may affect the construction of the project (e.g. staging/detour issues, seasonal construction requirements, very high traffic volumes requiring off-hour construction, etc.*

Early Completion Incentives recommended for consideration: ☐ No ☐ Yes

Early Completion Incentives is a method of providing the contractor with an incentive to expedite the completion of construction. Appropriate projects are those which address severe congestion – to provide an early benefit - or where construction must be completed by a fixed date. Incentives should only be considered where recommended by the Office of Construction. If incentives for early completion are recommended for consideration, include brief explanation of major reasons why and include estimate of RUC (Road User Costs). A benefit-to-cost ratio calculation may be required.

COORDINATION, ACTIVITIES, RESPONSIBILITIES, AND COSTS

Initial Concept Meeting: *(if applicable) - Provide date of ICM and brief summary. Attach minutes if available.*

Concept Meeting: *Provide date of CM and brief summary. Attach minutes.*

Other coordination to date: *Attach any pertinent documentation of other meetings/coordination.*

Project Activity	Party Responsible for Performing Task(s)
Concept Development	*GDOT Office, Consulting firm, local government, etc.*
Design	
Right-of-Way Acquisition	
Utility Coordination (Preconstruction)	
Utility Relocation (Construction)	
Letting to Contract	
Construction Supervision	
Providing Material Pits	
Providing Detours	
Environmental Studies, Documents, & Permits	
Environmental Mitigation	
Construction Inspection & Materials Testing	

Project Cost Estimate Summary and Funding Responsibilities: *Add additional rows as necessary; Attach current cost estimates to report. See Revisions to Programmed Costs Template on ROADS website.*

	PE Activities					
	PE Funding	Section 404 Mitigation	ROW	Reimbursable Utilities	CST*	Total Cost
Funded By						
$ Amount						
Date of Estimate						

*CST Cost includes: Construction, Engineering and Inspection, Contingencies and Liquid AC Cost Adjustment.

ALTERNATIVES DISCUSSION

Alternative selection: *Compare and contrast the various alternatives studied in summary and reason(s) why each alternative was or was not selected. Discussion should include no-build and preferred alternatives, and should compare various factors such as total cost, environmental and social impacts, time requirements, PE requirements, etc. as appropriate to the decision process. Please use the following format:*

Preferred Alternative: *description*			
Estimated Property Impacts:		**Estimated Total Cost:**	
Estimated ROW Cost:		**Estimated CST Time:**	
Rationale: *Reason(s) why this alternative was or was not selected (cost, property impacts, environmental impacts, etc.). Preferred build alternative should meet goals outlined in Project Justification.*			

No-Build Alternative: *description*			
Estimated Property Impacts:		**Estimated Total Cost:**	
Estimated ROW Cost:		**Estimated CST Time:**	
Rationale: *Reason(s) why this alternative was or was not selected (cost, property impacts, environmental impacts, etc.).*			

Alternative 1: *description*			
Estimated Property Impacts:		**Estimated Total Cost:**	
Estimated ROW Cost:		**Estimated CST Time:**	
Rationale: *Reason(s) why this alternative was or was not selected (cost, property impacts, environmental impacts, etc.).*			

Continue with Alternative 2, 3, etc. as appropriate.

Comments: *Add further comments as appropriate.*

LIST OF ATTACHMENTS/SUPPORTING DATA *(List supporting data in attached order)*

1. Concept Layout
2. Typical sections
3. Detailed Cost Estimates:
    a. Construction including Engineering and Inspection and Contingencies
    b. Completed Liquid AC Cost Adjustment forms
    c. Right-of-Way
    d. Utilities
4. Crash summaries
5. Traffic diagrams
6. Capacity analysis summary *(tabular format)*
7. Summary of TE Study and/or Signal Warrant Analysis
8. Roundabout Data *(if applicable – see GDOT Design Policy Manual)*
    a. Planning level assessment
    b. Roundabout feasibility study
    c. Lighting commitment letter
    d. Peer Review and responses
9. S I & A Report(s) *(Bridge/Structural Inventory Report(s) - If applicable)*
10. Concept Level Hydrology Study for MS4 Permit *(if applicable)*
    a. MS4 Concept Report Summary
    b. MS4 Concept Level Design Spreadsheet
    c. MS4 Drainage Area layout
    d. Cost estimate(s) (*Note: these costs can be incorporated into one or more of the Detailed Cost Estimates items, attachment #3 above*)
11. Pavement studies *(e.g. Initial Pavement Type Selection Report, etc.)*
12. Utility Risk Management Plan *(If available - Derived from the Public Interest Determination Policy and Procedure)*
13. Conforming plan's network schematics showing thru lanes. *(Note: This attachment is required for non-attainment areas only)*
14. Minutes of Concept meetings
15. Minutes of any meetings that shows support or objection to the concept *(e.g. PIOH, PHOH, Detour Meeting, Town Hall Meeting, etc.)*
16. PFA's and/or SAA's
17. *Other items referred to in the body of the report as applicable*

APPROVALS

Concur: _____
Director of Engineering

Approve: *Include this signature line for PoDI Projects Only* _____ _____
Division Administrator, FHWA — Date

Approve: _____ _____
Chief Engineer — Date

Appendix A - 1. Revised Concept Report Template

A-1.1 Revised Concept Reports

A Revised Concept Report is required whenever:

- The basic typical section is proposed to be 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.
- 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 buffers
    - Streams and 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).
- 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's Conceptual Design Group.
- Recommend including sections from the Concept Report template (Appendix A) where those sections contain data relevant to any changes in or to the continued development of the project concept. Contact the Office of Design Policy & Support's Conceptual Design Group for additional guidance.
- If fundamental changes have been made to the scope of the project, consideration should be given to preparing a new Concept Report. Contact the Office of Design Policy & Support's Conceptual Design Group for additional guidance.

A-1.2 Revised Concept Report Template

See following pages.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
REVISED PROJECT CONCEPT REPORT

Project Type: _____ P.I. Number: _____
GDOT District: _____ County: _____
Federal Route Number: _____ State Route Number: _____
Project Number: _____ *(if available)*

Project a brief description of the significant changes in the concept and the reasons for the proposed changes.

Submitted for approval: *(email to "Concept Reports"; **remove guidance in blue italics** & delete any inapplicable signature lines)*

_____ _____
Consultant Designer & Firm *or* GDOT Concept/Design Phase Office Head & Office — Date

(if applicable)
_____ _____
Local Government Sponsor — Date

_____ _____
State Program Delivery Engineer — Date

_____ _____
GDOT Project Manager — Date

Recommendation for approval:

_____ _____
State Environmental Administrator — Date

_____ _____
State Traffic Engineer — Date

(if applicable)
_____ _____
State Bridge Engineer — Date

☐ MPO Area: This project is consistent with the MPO adopted Regional Transportation Plan (RTP)/Long Range Transportation Plan (LRTP).

☐ Rural Area: This project is consistent with the goals outlined in the Statewide Transportation Plan (SWTP) and/or is included in the State Transportation Improvement Program (STIP).

_____ _____
State Transportation Planning Administrator — Date

(if any items from the approved Concept Report have changed, please add those sections into the report)

PLANNING, APPROVED CONCEPT, AND BACKGROUND

Project Justification Statement: *A brief statement provided by 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:*

- *Name of the office that prepared or approved the Project Justification Statement.*
- *Any designated programs that the project is included in (e.g. GRIP, SRTS, STRAHNET, Oversized Truck Route, designated bike route, APD, 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/LOS/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 project termini, 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 <u>not</u> include any information that is not relevant to the issue(s) to be addressed, including demographics/census information, description of possible solutions, etc.

Existing conditions: *A brief general description of the project location as it currently is, including lanes, sidewalks, major intersections, structures, and major utilities in project area.*

Description of the <u>approved</u> concept: *Describe the project as it is currently approved, including any previously approved revisions. Include the proposed length and general location of the project, including any city and county limits or proximity thereto. If an ITS Project, summarize the Concept of Operations briefly.*

Federal Oversight: ☐ PoDI ☐ Exempt ☐ State Funded ☐ Other

Projected Traffic as shown in the approved Concept Report: *ADT or AADT*
Open Year (20XX): Design Year (20YY):

Updated Traffic: *ADT or AADT* 24 HR T: %
Open Year (20XX): Design Year (20YY):

Functional Classification (Mainline):
Roadway classifications are maintained by Office of Transportation Data

VE Study anticipated: ☐ No ☐ Yes ☐ Completed – Date:
If VE Study has been completed, attach VE Implementation letter.

PROPOSED REVISIONS

Approved Features:	**Proposed Features:**
Describe the feature(s) of the approved project concept to be revised and the reasons for the revision. Use the description contained in the most recent Concept Report or Revised Concept Report. This paragraph will describe one or more of the following items: • *Typical section* • *Project termini* • *Changes in right-of-way limits which may affect the analysis of:* ○ *Historic resources* ○ *Endangered species* ○ *Archeological resources* ○ *Wetlands or open waters* ○ *Streams or their buffers* ○ *Air quality* ○ *Noise studies* • *Revised alignment (from a widening project to new location project or vice-versa; at-grade intersection to grade separation, etc.)* • *Access control (Design Variance may be required)* • *FHWA Controlling Criteria* • *Revised alignment (from a widening project to new location project or vice-versa, at-grade intersection to grade separation, etc)*	*List the feature(s) to be revised. Revised Concept Reports should only be submitted for the six items listed to the left. If the project termini are to be revised, new beginning and ending points shall be provided.*
Reason(s) for change: *Briefly describe why the above mentioned changes are being proposed. Note: If project is being split into multiple units, a description including termini as well as separate cost estimates need to be provided for each proposed unit.*	

Design Variances and/or Exceptions needed: *If any Design Exceptions and/or Variances are needed to implement the changes above, briefly describe them here. Include approval dates, if available.*

ENVIRONMENTAL AND PERMITS

Potential environmental impacts of proposed revision: *Provide a short description of the anticipated effects of the revision (e.g. environmental impacts reduced by avoiding historic boundary/reduced project footprint/etc.; No anticipated environmental effects; Additional stream impacts; etc). Also, a statement should be included concerning anticipated effects to the environmental/project schedule.*

Have proposed revisions been reviewed by environmental staff? ☐ No ☐ Yes

Environmental responsibilities (Studies/Documents/Permits): *State who is responsible for performing the additional work - e.g. Consultant, GDOT, etc.*

Air Quality:

Is the project located in an Ozone Non-attainment area?	☐ No	☐ Yes
Is a Carbon Monoxide hotspot analysis required?	☐ No	☐ Yes

*If yes to Ozone Non-attainment, provide a comparison between the proposed revisions and the conforming plan's model description. Include such features as project limits, number of through lanes, proposed open to traffic year, etc. If project is exempt from conforming plan, explain why. If the project corridor contains a traffic signal, the design year traffic volumes exceed 10,000 vpd **and** the level of service is D, E or F, a CO hotspot analysis is required.*

Environmental Comments and Information: *If environmental impacts are expected to change as a result of the proposed revision, please list by section below; if not, please remove this portion. Include any changes to current permit(s) or mitigation required in the appropriate section(s) below.*

NEPA: *Will the environmental document need to be reevaluated due to the proposed concept changes?*

Ecology: *List possible effects to: protected species and their habitats, streams, wetlands, etc. Are additional surveys required? If so, are there seasonal survey requirements that may affect the project schedule?*

Archeology: *List possible effects to archeological resources. Are additional surveys required?*

History: *List possible effects to historic resources. Are additional surveys required?*

Air Quality: *List possible effects to air quality and air quality analysis. Will additional modeling be required?*

Noise Effects: *Do the proposed changes affect the noise impacts of the project? If so, explain.*

Public Involvement: *Will additional public outreach be required as a result of the revision?*

PROJECT COST AND ADDITIONAL INFORMATION

Item	Estimated Cost	Date of Estimate	Funded By
Preliminary Engineering (PE):			
Environmental Mitigation:			
Base Construction Cost:			
Engineering and Inspection:			
Contingencies:			
Liquid AC Adjustment:			
Total Construction Cost:			
Right-of-Way:			
Utilities (reimbursable costs):			
TOTAL PROJECT COST:			

Recommendation: Recommend that the proposed revision to the concept be approved for implementation.

Comments: *Add comments/notes as appropriate.*

Attachments:

1. Sketch map
2. Cost Estimate(s)
3. Conforming plan's network schematics showing thru lanes *(required for projects in non-attainment areas only)*
4. Other supporting documents as needed

APPROVALS

Concur: _____

Director of Engineering

Approve: *Include this signature line for PoDI Projects Only*

_____ _____

Division Administrator, FHWA Date

Approve:

_____ _____

Chief Engineer Date

Appendix A - 2. Limited Scope Concept Report Template

A-2.1 Concept Reports for "Limited Scope" Reports

Projects having a limited scope may use an abbreviated Concept Report format. Projects that qualify to use the abbreviated format should have:

- Exempt federal oversight status (if federally funded) or locally/state funded. Some PoDI projects *may* be eligible if prior consent is obtained from FHWA.
- Limited environmental impacts
- 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 (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, shared use path, multi-use trail, historic preservation, building rehabilitation, etc.
- Auxiliary lane, turn lane, etc.
- Intersection Improvement
- ATMS/ITS, Noise walls, etc.
- Drainage Improvement
- Rest Area, Welcome Center, Weigh Station, etc.

The Limited Scope Concept Report template is intended to provide basic guidance for a wide variety of project types. The project team is encouraged to use their best judgment and modify the Limited Scope Concept Report template as appropriate for specific projects.

A-2.2 Limited Scope Concept Report Template

See following pages.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
LIMITED SCOPE PROJECT CONCEPT REPORT

Project Type: _____ P.I. Number: _____
GDOT District: _____ County: _____
Federal Route Number: _____ State Route Number: _____
Project Number: _____

Project Description (provide a very brief description of the project; Description should be no more than 2-3 lines long)

Submitted for approval: *(email to "Concept Reports"; **remove ALL guidance in blue italics** & delete any inapplicable signature lines)*

Consultant Designer & Firm *or* GDOT Concept/Design Phase Office Head & Office _____ Date _____

(if applicable)
Local Government Sponsor _____ Date _____

State Program Delivery Engineer _____ Date _____

GDOT Project Manager _____ Date _____

Recommendation for approval: *(**remove ALL guidance in blue italics** & delete any inapplicable signature lines)*

State Environmental Administrator _____ Date _____

State Traffic Engineer _____ Date _____

(if applicable)
State Bridge Engineer _____ Date _____

☐ MPO Area: This project is consistent with the MPO adopted Regional Transportation Plan (RTP)/Long Range Transportation Plan (LRTP).

☐ Rural Area: This project is consistent with the goals outlined in the Statewide Transportation Plan (SWTP) and/or is included in the State Transportation Improvement Program (STIP).

State Transportation Planning Administrator _____ Date _____

Approval:

Concur:

GDOT Director of Engineering _____ Date _____

Approve:

GDOT Chief Engineer _____ Date _____

PROJECT LOCATION MAP

Include a project location map sufficient to clearly locate the project including its beginning and ending point.

PLANNING & BACKGROUND DATA

Project Justification Statement: *Include the name of the GDOT office that prepared or approve the Project Justification Statement.*

Existing conditions: *A brief general description of the project location as it currently is, including lanes, medians, sidewalks/multi-use paths, bicycle lanes, major intersections, structures, and major utilities in project area.*

Other projects in the area:

MPO: *if applicable* TIP # *if applicable*

Congressional District(s):

Federal Oversight: ☐ PoDI ☐ Exempt ☐ State Funded ☐ Other

Projected Traffic: *ADT or AADT* 24 HR T: %
Current Year (20WW): Open Year (20XX): Design Year (20YY):
Traffic Projections Performed by: *GDOT Office or Consulting Firm name*
Date approved by the GDOT Office of Planning:

Functional Classification (Mainline):

Complete Streets - Bicycle, Pedestrian, and/or Transit Standards Warrants:
Warrants met: ☐ None ☐ Bicycle ☐ Pedestrian ☐ Transit

Pavement Evaluation and Recommendations
Initial Pavement Evaluation Summary Report Required? ☐ No ☐ Yes
Initial Pavement Type Selection Report Required? ☐ No ☐ Yes
Feasible Pavement Alternatives: ☐ HMA ☐ PCC ☐ HMA & PCC

DESIGN AND STRUCTURAL

Description of Proposed Project:

Major Structures: *(If no major structures on project, N/A and delete table below)*

Structure ID	Existing	Proposed

Mainline Design Features: ***Roadway name/identification***

*NOTE: Features where GDOT Standards apply are described in **bold text**. The corresponding data should also be listed in **bold text**. Features where GDOT Guidelines apply are described in standard text. The corresponding data should also be listed in standard text. Use additional copies of table below as needed for other major roads, significant side roads, etc. Multiple roads with similar characteristics may be combined into a single table as warranted.*

Feature *(Standard criteria indicated in **bold**)*	Existing	Policy	Proposed
Typical Section			
- Number of Lanes			
- **Lane Width(s)**			
- **Median Width & Type**			
- **Outside Shoulder Width** *(rural shoulder)*			

Border Area Width *(urban shoulder) choose one/remove the other*			
- **Outside Shoulder Slope**			
- **Inside Shoulder Width**			
- **Sidewalks** *(for standard pedestrian warrants)*			
- Auxiliary Lanes			
- **Bike Accommodations** *(for standard bike warrants)*			
Posted Speed			
Design Speed			
Min Horizontal Curve Radius			
Maximum Superelevation Rate			
Maximum Grade			
Access Control			
Design Vehicle			
Pavement Type			
Additional Items as warranted			

*According to current GDOT design policy if applicable

Major Interchanges/Intersections:

Lighting required: ☐ No ☐ Yes

Off-site Detours Anticipated: ☐ No ☐ Undetermined ☐ Yes

Transportation Management Plan [TMP] Required: ☐ No ☐ Yes
If Yes: Project classified as: ☐ Non-Significant
TMP Components Anticipated: ☐ TTC

Is the project located on a NHS roadway? ☐ No ☐ Yes

Design Exceptions/Design Variances to FHWA or GDOT Controlling Criteria anticipated:
See Chapter 2 of GDOT's Design Policy Manual and the current Concept Report Template (Appendix A) on GDOT's ROADS webpage for additional guidance.

Design Variances to GDOT Standard Criteria anticipated:
See Chapter 2 of GDOT's Design Policy Manual and the current Concept Report Template (Appendix A) on GDOT's ROADS webpage for additional guidance.

UTILITY AND PROPERTY

Railroad Involvement:

Utility Involvements:

SUE Required: ☐ No ☐ Yes

Public Interest Determination Policy and Procedure recommended? ☐ No ☐ Yes

Right-of-Way: Existing width: _____ft. Proposed width: _____ft.
Required Right-of-Way anticipated: ☐ None ☐ Yes ☐ Undetermined

Easements anticipated: ☐ None ☐ Temporary ☐ Permanent ☐ Utility ☐ Other

Anticipated total number of impacted parcels: _____
Displacements anticipated: Businesses: _____
Residences: _____
Other: _____
Total Displacements: _____

Impacts to USACE property anticipated? ☐ No ☐ Yes ☐ Undetermined

Is Federal Aviation Administration (FAA) coordination anticipated? ☐ No ☐ Yes

ROUNDABOUTS

Roundabout Lighting Commitment Letter received: ☐ No ☐ Yes

Roundabout Planning Level Assessment:

Roundabout Feasibility Study:

Roundabout Peer Review Required: ☐ No ☐ Yes ☐ Completed – Date:

CONTEXT SENSITIVE SOLUTIONS

Issues of Concern:

Context Sensitive Solutions Proposed:

ENVIRONMENTAL AND PERMITS

Anticipated Environmental Document:
NEPA: ☐ PCE ☐ CE ☐ EA-FONSI
GEPA*: ☐ Type A ☐ Type B ☐ NONE
(None should be marked only for state-funded projects where total project cost is expected to be less than $100 million)

Level of Environmental Analysis: *(check one)*
☐ The environmental considerations noted below are based on preliminary desktop or screening level environmental analysis and are subject to revision after the completion of resource identification, delineation, and agency concurrence.

☐ The environmental considerations noted below are based on the completion of resource identification, delineation, and agency concurrence.

MS4 Compliance – Is the project located in an MS4 area? ☐ No ☐ Yes
For projects within a designated MS4 (Municipal Separate Storm Sewer Systems) area, at a minimum the conceptual project cost estimate (PE, ROW, UTIL, CST, ENV MIT, etc.) shall include preliminary, estimated costs related to the impacts that MS4 post construction structures may have. In addition, the following items should be attached to the report:

- *MS4 Concept Report Checklist*
- *MS4 BMP Calculation Spreadsheet*
- *MS4 Drainage Area Map*

These items can be found on the GDOT External Webpage under Partner Smart – Design Manuals – Manuals and Guides – Roadway – Category: Stormwater Permit (MS4). For more information regarding GDOT's MS4 permit, please contact the Hydraulic Studies Group in the Office of Design Policy & Support.

Is Protected Species water quality mitigation anticipated? ☐ No ☐ Yes

Coordination with the Office of Environmental Services should be done to determine if the project location and scope may require water quality design considerations to mitigate Protected Species (e.g. Indiana Bat

Environmental Permits, Variances, Commitments, and Coordination anticipated: *List all anticipated permits, variances, commitments, and coordination needed –Section 404, TVA, Water Quality, etc.*

Air Quality:

Is the project located in an Ozone Non-attainment area? ☐ No ☐ Yes

Carbon Monoxide hotspot analysis: ☐ Required ☐ Not Required ☐ TBD

(If any of the above are answered "Yes", additional analysis may be required; see section in Appendix A for further information)

NEPA/GEPA Comments & Information: *(Describe anticipated effects to ecology, history, archeology, air quality, noise effects, public involvement, etc. & the potential effect on the environmental document)*

COORDINATION, ACTIVITIES, RESPONSIBILITIES, AND COSTS

Project Meetings: *Provide dates of any Concept or other significant project meetings that have been held. Meeting minutes should be attached if available.*

Project Activity	Party Responsible for Performing Task(s)
Concept Development	*GDOT Office, Consulting firm, local government, etc.*
Design	
Right-of-Way Acquisition	
Utility Coordination (Preconstruction)	
Utility Relocation (Construction)	
Letting to Contract	
Construction Supervision	
Providing Material Pits	
Providing Detours	
Environmental Studies, Documents, & Permits	
Environmental Mitigation	
Construction Inspection & Materials Testing	

Other coordination to date:

Project Cost Estimate and Funding Responsibilities: *Add additional rows as necessary; Attach current cost estimates to report. See Revisions to Programmed Costs template on ROADS website.*

	PE Activities		ROW	Reimbursable Utilities	CST*	Total Cost
	PE Funding	Section 404 Mitigation				
Funded By						
$ Amount						
Date of Estimate						

*CST Cost includes: Construction, Engineering and Inspection, Contingencies and Liquid AC Cost Adjustment.

ALTERNATIVES DISCUSSION

Preferred Alternative: *description*			
Estimated Property Impacts:		**Estimated Total Cost:**	
Estimated ROW Cost:		**Estimated CST Time:**	
Rationale: *(Why was this alternative selected?)*			

No-Build Alternative: *description*			
Estimated Property Impacts:		**Estimated Total Cost:**	
Estimated ROW Cost:		**Estimated CST Time:**	
Rationale: *(Why was this alternative not selected?)*			

Alternative 1: *description*			
Estimated Property Impacts:		**Estimated Total Cost:**	
Estimated ROW Cost:		**Estimated CST Time:**	
Rationale: *(Why was this alternative not selected?)*			

Additional Comments/Information:

LIST OF ATTACHMENTS/SUPPORTING DATA

List and attach as appropriate to project. Please see PDP Appendix A for a more complete list of potential attachment.

1. Concept Layout
2. Typical sections
3. Cost Estimates
4. Crash summaries
5. Traffic diagrams or projections
6. Capacity analysis summary
7. Summary of TE Study and/or Signal Warrant Analysis
8. Meeting Minutes
9. Signed Agreements
10. Other items referred to in the body of the report

Appendix B. Location and Design Report Template

B.1 Location and Design Reports

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 require additional right-of-way or easement.

State Code requires that the Notice of Location and Design Approval shall be advertised:

- Within 30 days of Location and Design approval.
- Once a week for four consecutive weeks.
- In each county involved.
- In the newspaper in which the Sheriff's advertisements are carried.

State Code requires that the Notice:

- Include the **Land Lot(s)** or **Land District(s)** within which the project is located,
- State that a map is available for Review at the Office of the Department of Transportation (GDOT), and
- State that a copy may be obtained from the Project Manager's office at a nominal fee.

The Date of Location and Design (L&D) Approval will be shown on the right-of-way plan cover sheet.

The Date of Location and Design (L&D) Approval shall be shown in any petition for condemnation.

For Local Let Projects the local government is responsible for advertising the Notice of Location and Design Approval in accordance with O.C.G.A. 22-2-109(b) and 32-3-5.

The District Planning and Programming Engineer shall be responsible for sending an electronic copy of the proof of advertisement to the Project Manager, the Concept Reports Inbox in Outlook, and to the State Design Policy Engineer for posting to the Archive Store.

B.2 Location and Design Report/Notice of Location and Design Template

See following pages.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

LOCATION AND DESIGN REPORT

FILE *P.I. Number*
Project Number
County
Project Description

OFFICE

DATE

FROM *Office Head (Submitting Office)*

TO *State Design Policy Engineer/Attn: State Conceptual Design Group Manager*

SUBJECT **Request for Location and Design Approval**

Description and Project Proposal: *Provide a brief general description of the project including the length of the project, beginning and ending points, and a general location of the project including any city and county limits or proximity there to and describe the proposed typical sections and other major improvements to be constructed.*

Concept Approval Date: *For this date, refer to project files or the Project Management System. Include date of approval of original concept and any revision dates.*

Concept Update: *The Location and Design Report can be utilized to update the approved Concept for minor revisions determined just prior to ROW Authorization. PM's and Engineers should make concept revisions as soon as they are determined, using the Revised Concept Report template (Appendix A-1) where appropriate. Describe briefly any project changes made after the approval of the latest Concept Report or Revised Concept Report. Be specific and attach appropriate up-to-date cost estimates. The L&D approval will also serve as approval of the Revised Concept.*

Environmental Document: *Projects that are state-funded and have a total project cost of less than $100 million do not require a GEPA document. This should be briefly mentioned in this section of the report if applicable. However, larger scope projects that do not require a GEPA document may still require a NEPA document for some portion of the project. Refer to a Project Management System or contact the Office of Environmental Services for this information. Include date of most recent reevaluation, if applicable.*

Document Type: Approval Date:

Public Involvement: *(Refer to the project files or the Office of Environmental Services documentation for this information)*

- *Public Hearing Open House Results summary:*
  - *Report the date and location of the public hearing and briefly summarize the significant comments offered by persons attending the hearing*

  - *The total number of comments received*
  - *Report the number of comments opposing or supporting the project*
  - *The total number of attendees including any public officials in attendance, and*
  - *Briefly describe any significant project changes made as a result of the comments received at the public hearings.*
- *Public Information Open House summary:*
  - *If any public information open house meetings were held for the project, provide a synopsis of the results of those meetings similar to the comments made for public hearings.*

Consistency with Approved Planning: The design description as presented herein and submitted for approval is consistent with the approved Concept Report.

Recommendations: Recommend that the location and design for the project be approved and that the attached Notice be approved for advertising.

Concur: _____
GDOT Director of Engineering

Approve: _____ _____
GDOT Chief Engineer Date

DATE OF LOCATION AND DESIGN APPROVAL: _____
(To be entered by State Conceptual Design Group Manager)

Attachments:
- Sketch Map
- Construction Cost Estimate *(Note: See Policies and Procedures 3A-9 for information on updating project cost estimates.)*
- Notice of Location and Design Approval *(Note: When submitting the Location and Design Report, please include a Microsoft Word compatible version of the Notice of Location and Design Approval with the report for use in creating the required advertisement.)*
- Other attachments as needed *(e.g. updated utility or mitigation costs, typical sections, or other additional information)*

NOTICE OF LOCATION AND DESIGN APPROVAL

PROJECT NUMBER AND COUNTY
P. I. NUMBER

Notice is hereby given in compliance with Georgia Code 22-2-109 and 32-3-5 that the Georgia Department of Transportation has approved the Location and Design of this project.

The date of location and design approval is: _____ *(Date to be inserted by the State Design Policy Engineer or his designee after approval by the Chief Engineer.)*

Use this paragraph to give a basic overall description of the project and the county or counties and the Land Lots or the Land Districts wherein it is located. All numerical units shall be in English units.

Use this paragraph to describe the proposed construction, be brief but be specific. Please remember this ad is to inform the general public about an upcoming project – overly technical language and lengthy descriptions should be avoided.

Drawings or maps or plats of the proposed project, as approved, are on file and are available for public inspection at the Georgia Department of Transportation:

Area Engineer's Name (For Local Let projects, a county or city office may be used)
E-mail Address
Street Address
Telephone number

Any interested party may obtain a copy of the drawings or maps or plats or portions thereof by paying a nominal fee and requesting in writing to:

Office Head's Name
Office Name
Attn: *Project Manager's name (optional)*
E-mail Address
Mailing Address
Telephone number

Any written request or communication in reference to this project or notice SHOULD include the Project and P. I. Numbers as noted at the top of this notice.

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
- 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
- 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 Aviations 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

- State Right of Way Administrator (send invitation to: RW-ConceptMtgs_Est@dot.ga.gov)
- State Construction Engineer
- District Preconstruction Engineer
- District Utilities Engineer
- District Traffic Engineer

C.2 Concept Reports

Project Manager will email electronic copy (pdf) of original Concept Report to the **Concept Reports** inbox in Outlook (ConceptReports@dot.state.ga.us). The Office of Design Policy and Support *Conceptual Design Group Manager* will monitor Outlook 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 Administrator* (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 in Outlook.

The Office of Design Policy and Support *Conceptual Design Group Manager* will monitor Outlook 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 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.*

Georgia Department of Transportation

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)*

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. Use the Highway Safety Manual (HSM) and HSM spreadsheets to predict the impact of proposed alternatives on safety, if applicable. 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.

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.*

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 projects NOT classified as Project of Division Interest (PoDI):***

Concur: _____ _____
GDOT Director of Engineering Date

Approve: _____ _____
GDOT Chief Engineer Date

OR

- ***For projects classified as Project of Division Interest (PoDI):***

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
Any other documentation pertinent to request. (i.e. for lateral offset to obstruction requests provide the offset for each individual object not meeting GDOT standards).

Georgia Department of Transportation

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)*

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*.

Georgia Department of Transportation

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. Use the Highway Safety Manual (HSM) and HSM spreadsheets to predict the impact of proposed alternatives on safety, if applicable. 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

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.*

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 projects NOT classified as Project of Division Interest (PoDI):***

Recommend: *(must be a registered GA P.E.)* _____ _____
Engineer of Record Date

Concur: _____ _____
GDOT Director of Engineering Date

Approve: _____ _____
GDOT Chief Engineer Date

OR

- ***For projects classified as Project of Division Interest (PoDI):***

Recommend: *(must be a registered GA 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
Any other documentation pertinent to request (i.e. 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

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

Appendix G. Procedure for Securing Consultant Services

G.1 Securing Consultant Services

Georgia Department of Transportation (GDOT) uses Professional Engineering Consultants (Consultants) for three primary reasons:

Accommodate peaks in design workload.
Accelerate project development on high priority projects.
Obtain special expertise not available or limited within the Department.

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 Procurement Requisition Form (available on "MyGDOT" website under *Forms and Templates*) and submit the completed form to 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.

G.2 Request for Consultant Authority or Work/Task Order Request

See following pages.

Georgia Department of Transportation

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTEROFFICE CORRESPONDENCE

FILE *P.I. Number* **OFFICE**
Project Number
County **DATE**
Project Description

FROM *Office Head (Submitting Office)*

TO *For Consultant Authority:*

Name

State Transportation Engineering Administrator

Office of Financial Management

-Or-

For Work/Task Order Authority:

Name

State Program Delivery Engineer

SUBJECT **Request for Consultant Authority *or* Work/Task Order Request**

Project description:

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 estimated construction cost for this project is $*xx,xxx,xxx* and the consultant cost or Work/Task Order is estimated between $*x,xxx,xxx* and $*y,yyy,yyy*.

The proposed consultant or Work/Task Order agreement would be a cost plus fixed fee contract obtained by negotiation.

Cc: Office of Transportation Services Procurement

Budget Office

- ***For Consultant Authority Request:***

Recommended: _____

Name, P.E.
GDOT State Program Delivery Engineer

Approved: _____ _____

Name, P.E. Date
GDOT Chief Engineer

- ***For Work/Task Order Request:***

Approved: _____ _____

Name, P.E. Date
GDOT State Program Delivery Engineer

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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 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 shall 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 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:

- Revisions to construction plans after submission to the Office of Construction Bidding Administration for letting and prior to Advertisement (Revision Prior to Advertisement).
- Revisions to construction plans to incorporate amendments to the proposal which have been processed by the Office of Construction Bidding Administration (Amendment Revision).
- 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 GDOT Electronic Plans Process document.

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 General Office Reproduction Center 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 Construction Bidding Administration with copies only to the District Engineer in accordance with the same distribution as final plans. Letters only will be sent to the remainder of the final plans distribution list containing information on how to access the revisions electronically.

H.2.2 Revisions by Amendment

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 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 Construction Bidding Administration and shall be submitted only to the contractor, State Design Policy Engineer Attention: Design Services Supervisor, and the District Engineer in accordance with the same distribution as final plans. The contractor will receive two sets of full-size approved 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 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 and also list the amendment number and date of amendment.

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 with copies provided to the applicable offices (See “Example Letter” USE ON CONSTRUCTION REVISION). The District Utilities Office shall forward copies of the revisions to all affected utility companies and ensure utility work plans are revised accordingly. An additional copy of the revisions should be submitted to the Office of Design Policy and Support, Attention Design Services Supervisor. A letter containing a concise description of the changes, along with information on how to access the revisions electronically should be sent to the remainder of the Final Plan distribution list minus the Office of Construction Bidding Administration and the Project Review Engineer. The Project Manager will contact the Area Engineer to notify that a revision is being processed and/or has been sent.

H.2.7b 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. Please contact the Office of Design Policy and Support if there are any further questions.

Quantities Required By Amendment				**Project No. & County:**			
				P.I. Number:			
Date	**Item Number**	**Amendment Date**	**Amendment Number**	**Description**	**Units**	**Original Quantity**	**Revised Quantity**

Quantities Required On Construction			**Project No. & County:**		
			P.I. Number:		
Date	**Item Number**	**Description**	**Units**	**Original Quantity**	**Revised Quantity**

NOTE: COPY AND REFORMAT THESE TABLES AS NEEDED

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.

Appendix I. Detour Report Template

I.1 Detour Report and Notice of Detour Approval

A Detour Report and a Notice of Detour Approval will be required for all projects that require the temporary detouring of a roadway for construction.

The Notice of Detour Approval shall be advertised:

- Within 30 days of detour approval.
- Once a week for four consecutive weeks.
- In each county involved.
- In the newspaper in which the Sheriff's advertisements are carried.

The Notice of Detour Approval shall state:

- The project number and brief project description of the project.
- Statement that the roadway will be closed for construction and the length of time the roadway is expected to be closed.
- A description of the detour route to be used.
- Statement informing the public that a map is available for review at the appropriate Office of the Department of Transportation (GDOT).
- Statement giving the public a point of contact to discuss the detour.

For Local Let Projects, the local government shall be responsible for advertising the Detour Notice.

I.2 Detour Report/Notice of Detour Approval

The following pages are examples of:

- Letter of request for Detour approval (Detour Report).
- Example of a Notice of Detour Approval.

Georgia Department of Transportation

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

DETOUR REPORT

FILE *P.I. Number*
Project Number
County
Project Description

OFFICE

DATE

FROM *Office Head (Submitting Office)*

TO *State Design Policy Engineer/Attn: State Conceptual Design Group Manager*

SUBJECT **Request for Detour Approval**

Description and Project Proposal: *Provide a brief general description of the project including the length of the project, beginning and ending points, and a general location of the project including any city and county limits or proximity there to and describe the proposed typical sections and other major improvements to be constructed.*

Concept Approval Date: *For this date, refer to project files or the Project Management System. Include date of approval of original concept and any revision dates.*

Reason a Detour is required: *Provide a brief description of why the roadway is proposed to be closed. Describe the alternatives considered, including an on-site detour, the pros and cons of each alternative, and the costs for each alternative.*

Environmental Assessment of the Proposed Detour Route: *Statement from the Office of Environmental Services verifying that the proposed detour route has been evaluated and cleared and/or appropriate approvals have been obtained.*

Public Detour Meeting Results:
For every Detour Meeting held for the project, provide a synopsis of the results of those meetings.

- *Report the date and location of the Detour Meeting and briefly summarize the significant comments offered by persons attending the hearing*
- *The total number of comments received*
- *Report the number of comments opposing or supporting the project*
- *The total number of attendees including any public officials in attendance, and*
- *Briefly describe any significant project changes made as a result of the comments received at the Detour Meeting(s).*

Recommendations: Recommend that the detour route for the project be approved and that the attached Notice be approved for advertising.

Concur: _____
GDOT Director of Engineering

Approve: _____ _____
GDOT Chief Engineer Date

Attachments:

- Sketch Map of each Detour Route Studied including length of detour(s)
- *Other attachments as needed (e.g. updated utility or mitigation costs, typical sections, or other additional information)*
- Detour Meeting Comment Cards and Transcript
- Notice of Detour Approval *(Note: When submitting the Detour Report, please include a Microsoft Word compatible version of the Notice of Detour Approval with the report for use in creating the required advertisement.)*
- Other attachments as needed *(e.g. updated utility or mitigation costs, typical sections, or other additional information)*

Georgia Department of Transportation

NOTICE OF DETOUR APPROVAL

PROJECT NUMBER AND COUNTY
P. I. NUMBER

Notice is hereby given that the Georgia Department of Transportation has approved the use of and the routing of a detour for this project.

The date of detour approval is: _____ *(Date to be inserted by the State Design Policy Engineer or his designee after approval by the Chief Engineer.)*

Use this paragraph to give a basic overall description of the project and the county or counties it is located. All numerical units shall be in English units.

Use this paragraph to describe the proposed detour; be brief but be specific. Please remember this ad is to inform the general public about an upcoming project, therefore overly technical language and lengthy descriptions should be avoided.

Drawings or maps or plats of the proposed project, as approved, are on file and are available for public inspection at the Georgia Department of Transportation:

Contact name (Project Manager, Area Engineer, or other contact)
E-mail Address
Street Address
Telephone number

Appendix J. Final Plans Transmittal Letter

J.1 Final Plans Transmittal Letter Template

See the following pages for the Final Plans Transmittal Letter Template.

Georgia Department of Transportation

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTEROFFICE CORRESPONDENCE

FILE *P.I. Number* **OFFICE**
Project Number
County **DATE**
Project Description

FROM *Office Head (Submitting Office)*

TO *State Transportation Office Engineer – Office of Bidding Administration*

SUBJECT **Final Plans Submission**

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 including project limits, project length and proposed typical section.

The final plan package includes:

1. Final Construction Plans
2. Designer's Checklist for Plans Submittal to the Office of Construction Bidding Administration
3. Computer diskettes with earthwork end area files
4. Summary of earthwork quantities
5. Notice of Intent (Storm Water Discharge from Construction Activity)
6. Special Provisions:
   List of special provisions
7. Soil Survey Report
8. Bridge Foundation Investigation Report

If there are any questions please contact *Project Manager* at *phone number.*

XXX.xxx

Attachments

Cc*:* Refer to 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.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTEROFFICE CORRESPONDENCE

FILE *P.I. Number*
Project Number
County
Project Description

OFFICE *District Office*

DATE

FROM *District Traffic Engineer*

TO *State Traffic Engineer*

SUBJECT **Traffic Signal Permit Request**
State Route Number
Intersection of _____ and _____
MP _____, _____ County

Attached is a traffic signal engineering report as requested by the City of _____, _____ County, for the placement of a traffic signal at the subject intersection.

Based on the attached information, it is recommended that the Department issue a signal permit to _____ County for the installation of a traffic signal at the subject intersection.

Also attached are a signed permit application, signal design and a location map. If you have any questions, please call me at (___) ___-____.

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:

Year	Accidents								
	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.

Roundabout:
As per GDOT Policy 4A-2, the intersection of SR___ at City Street _ has been analyzed to determine if a roundabout will perform acceptably. The analysis indicated….

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

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Appendix L. Constructability Review Guidance Tool

L.1 Constructability Review Guidance Tool

See following pages.

CONSTRUCTABILITY REVIEW GUIDANCE TOOL		
Project No.		
P.I. No.		
Route / Termini:		
County:		
A	SITE INVESTIGATION	COMMENT
1	Perform field investigation to ensure actual site conditions reflected in the plans and design.	
2	Perform utility investigation – overhead & underground conflicts, notify all utilities.	
3	Ensure proper lay down, stockpile, and staging areas are available.	
4	Ensure input from local government departments regarding development approvals and signed permits are	
5	Permit concerns such as SPDES, CORP, DNR, etc. are known.	
6	Consider project access requirements for contractor equipment and operations.	
B	EARTHWORK	COMMENT
1	Ensure earthwork volumes are economically balanced in each stage of construction whenever possible.	
2	Any visual evidence, or prior indication by past local area projects, that rock will be encountered within project.	
3	Temporary stream crossings considered when earthwork balances dictate hauling across a river or stream.	
C	BASES & PAVEMENT	COMMENT
1	Ensure profile grades have been established.	
2	Provide allowances for contractor equipment and operations in staged construction or when constructions	
3	Concrete base widening considered in lieu of asphalt base in urban areas where entrances and irregular areas	
4	Allowances have been made for equipment widths, track lines, string lines, etc. when lanes are paved in stages or	
5	For new construction there should be no staging concerns; hence construction staging should not be the basis for pavement type selection on such projects. Construction staging may be a factor for other projects.	
6	Ensure asphalt leveling quantities will be sufficiently calculated for staging phases.	
D	DRAINAGE	COMMENT
1	Consider temporary / permanent drainage systems and facilities during each stage of construction.	
2	Ensure erosion control has been provided for each stage or work.	
3	Impacts of future urban development has been considered in stormwater design.	
4	Temporary ditches and pipes are incorporated in each stage to allow runoff to occur.	
E	STRUCTURES – Bridges, Culverts and Retaining Walls	COMMENT
1	Ensure there is sufficient room between existing and new alignments for bridge construction.	
2	Make provisions for contractor access to the site (long beams, large cranes, etc…)	
3	Ensure bridge staging is coordinated with roadway staging.	
4	Vertical clearances have been considered.	
5	Final retaining wall elevations and staging plans are compatible.	
D	TRAFFIC CONTROL PLAN	COMMENT
1	All city and county road closures have been identified and approved.	
2	Ensure traffic control requirements are realistic for site conditions.	
3	Check all temporary lanes widths for adequacy.	
4	All lane closures are reasonable for traffic volumes and penalty for closure is provided for when required.	
5	Power source and overhead clearances are available for temporary/permanent lighting, flashing, barricades and	
6	Detours have been considered to avert delays.	

CONSTRUCTABILITY REVIEW GUIDANCE TOOL		
7	Traffic control study completed and compatible with staging plans. Incident plan developed and realistic.	
H	MAINTENANCE CONSIDERATIONS	COMMENT
1	Project specific concerns are addressed by GDOT District Maintenance Engineer.	
I	JOB SPECIAL PROVISIONS/PLANS	COMMENT
1	Typical sections are provided for all pavement/shoulder transition areas.	
2	Any conflicts between the special provisions, standard specs., and plans.	
3	Railroad involvement?	
4	Details as shown on the plans can be constructed using standard equipment and operating procedures.	
5	Temporary median crossovers have been considered on dual lane roadways to shorten haul times.	
6	All utility lines that cross the alignment have the vertical clearances required for earthmoving equipment to pass	
7	Existing billboards and signage conflicts considered.	
J	CONSTRUCTION STAGING	COMMENT
1	Construction staging will not require material to be hauled across/over the new pavement or provisions for x-over	
2	Existing pavement to be removed can be incorporated into staged in slopes or disposal sites available within the	
3	Work has been phased to minimize the number of stages.	
4	Coordinate structure and roadway staging.	
5	Private and commercial entrances accessible at all times on all stages.	
K	RIGHT OF WAY	COMMENT
1	Sufficient Right-of-Way available for all operations.	
2	Sufficient easements available for all operations.	
3	All buried UST's and environmental contamination sites have been investigated and disposal plans developed.	
4	Removal of all structures (houses, businesses, wells, etc.) in R/W Agreement are removed BEFORE construction	
L	SCHEDULE	COMMENT
1	Working days and productions rates for work items are reasonable.	
2	Construction staging sequences checked for accuracy.	
3	Consideration has been given for seasonal / weather constraints.	
4	All regulatory permit restrictions such as working in a river or cutting trees have been clearly identified.	
5	Any local restrictions on working hours have been identified.	
6	Material submittal lead times are compatible with recommended project schedule.	
7	Is there need for detailed scheduling implementation?	
M	UTILITIES	
1	Commissioner Approved Public Interest Determination from Concept Team Meeting? Yes or No	
2	Should the Utility Relocation Plans match the staging for the Construction Plans?	
3	Potential utility impacts to staging, drainage, structures, and wall footprints and envelopes?	
4	Identify all utilities and note any discrepancies with provided plans.	

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Appendix M. Post Construction Evaluation Guidance Tool

M.1 Post Construction Evaluation Guidance Tool

See following pages.

Georgia Department of Transportation

POST CONSTRUCTION EVALUATION GUIDANCE TOOL		
Project No.		
P.I. No.		
Route / Termini:		
County:		
#	**Question**	**YES / NO and Explanation:**
1	Were there any Supplemental Agreements on this project that will likely recur on future projects?	
2	Discuss any Supplemental Agreements filed. Identify root causes plus corrective recommendations issued.	
	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 Indian Issues, Wetlands, Hazardous Materials, etc.) that could have been	
8	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.)?	
9	If yes to question # 9, did partnering facilitate the completion and quality of construction?	
10	Did the Contractor initiate any value engineering change proposals?	
11	Describe any errors or omissions in the plans, specifications, and detailed estimate.	
12	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 and Control plans:	
	Material specifications:	
	Bridge Plans:	
	Right-of-Way plans:	
13	Provide summary of any traffic accidents which occurred within the project work zones:	
14	Provide details of any public input or comments obtained during the construction phase:	
15	Provide details of construction staff time required for constructability problems:	
	Plan details:	
	Specifications:	
	Contract language:	
16	Was the utility relocation work included in the construction project as pay items?	
17	If yes to question #16, identify the utilities.	