



**COBB COUNTY
DEPARTMENT OF TRANSPORTATION**

**ENGINEERING DESIGN PROCEDURES
(Locally Funded Projects)**

Approved: _____

James G. [Signature]

Revision Date: _____

5/27/16

**ENGINEERING DESIGN PROCEDURES (Locally Funded Projects)
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This manual defines preferred engineering procedures for Cobb County Department of Transportation (Cobb DOT). Each project shall have its own separate needs and requirements that may require more or less effort than defined in this document. It is the role of the Consultant's Project Manager (referred to as the Consultant) and Cobb DOT's Project Manager (referred to as the County) to clearly define the deliverables and special project needs in the scoping, negotiations, and contracting phases of the project and to specifically detail alterations to the deliverables identified in this document.

Although some procedures are the same as Georgia Department of Transportation's (GDOT), this manual is intended for use on locally funded projects only. Projects in which GDOT has oversight shall be completed following GDOT Plan Presentation Guide (PPG) and Plan Development Process (PDP) manuals. Unless otherwise directed, the Consultant shall apply GDOT Electronic Data Guidelines (EDG), current edition, to all projects.

1.0 OVERALL PROJECT REQUIREMENTS

The Consultant shall be familiar with American Association of State Highway and Transportation Officials' (AASHTO) "A Policy on Geometric Design of Highways and Streets", current edition as determined by the County, and standards adopted by AASHTO and approved by the Secretary of Commerce, as provided by Title 23, United States Code, Section 109(b). The Consultant shall also be familiar with Cobb DOT and GDOT standards, procedures, specifications, and design manuals and Federal Highway Administration procedures relating to plan review and approval, and shall produce plans in accordance therewith.

1.1 Economical Design

The Consultant shall make every effort to provide a safe, economical design. The Consultant shall consider constructability and construction sequencing during design development. The Consultant shall meet and discuss economic considerations and construction staging with the County prior to completing final design.

1.2 Schedule

Preparing and maintaining the project schedule is critical to the success of each project. Although every project is encumbered by unexpected events, the project schedule should be developed to account for such occurrences and to provide opportunities to accelerate different phases of the project, if necessary, to achieve Right-of-Way (R/W) Plan and Construction Plan delivery dates committed to in the contracted project schedule.

If the Consultant determines that a project schedule needs to be modified due to unforeseen circumstances, an electronic copy of the revised schedule shall be submitted to the County with a letter justifying requested schedule modification(s) and requesting acceptance of the revised schedule by the County. The new schedule shall not be adopted until approved by the County. Schedule revisions that shift the Let date must also be approved by the Pre-Construction Engineer or the Chief Engineer.

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1.3 Meeting Minutes

The Consultant is responsible for preparing all meeting minutes throughout the course of their contract. The meeting minutes should be submitted to the County within one (1) week of the meeting. Meeting minute submittals may be transmitted in Microsoft Word or Adobe Acrobat (.pdf) format as attachments to an e-mail.

1.4 Project Files

The Consultant shall be responsible for maintenance of project files throughout the project. The project files shall include all correspondence, meeting minutes, significant e-mails, plans, utility mark-ups, quality control (QC) sets, permit applications, geotechnical reports, hydrologic/hydraulic reports, etc.

At project milestones, reproducible and electronic drawings and all other documents, as appropriate, prepared per the project contract shall be submitted to Cobb DOT, whose property they shall remain without limitations as to their future use. Applicable supplemental specifications, special provisions, and computations shall also be furnished by the Consultant as part of each milestone submittal.

The Consultant shall submit to the County, in appropriate electronic media, one copy of all final sheet files and design files, depicting proposed graphics and project database created as a result of the design process. Sheet, design and database files shall be provided in MicroStation (.dgn) format. The Consultant shall provide appropriate level schedules, documentation, and assistance to the County to read, interpret, and effectively utilize the computer files. The Consultant may be required to provide project drawings and files at any time prior to project close-out at the request of the County. The County shall only request drawings and files that are within the Consultant's Scope of Work.

1.5 Design Documentation

The Consultant shall maintain a design documentation notebook for each contract project. The notebook shall document all design decisions made during the contract life of the project. Submittal of an electronic copy of the design notebook shall be required as part of the final plan submittal package.

1.6 Quality Control/Quality Assurance

All consultants are expected to implement Cobb County Quality Assurance procedures during all phases of the project's development. Quality is built into every component of the design process, not just prior to each submittal. Completed and signed Cobb County QA checklists (See Appendix A and Cobb County's Consultant Resources web page) are required to be included with each submittal, as appropriate.

The County shall perform a cursory level review of each plan submittal, but it is ultimately the Consultant's responsibility to make sure that project plans meet current design standards, take the safety of pedestrians and the traveling public into account, and produce minimal impact to property owners, while maintaining project objectives, and are clear, concise, and biddable.

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1.7 Plans Submittal

The Consultant is to take special note of the plans submittal requirements included in this document and include associated costs in engineering design cost estimates submitted to the County.

The Consultant shall submit for each Plan Review: One (1) Full-Size (24" x 36") reproducible (bond) plan set and a .pdf full size (scalable 24" x 36") set of plans. Utilizing current GDOT guidelines and appropriate cell library, the border for all sheets shall be set up for 24-inch by 36-inch plots. PDF files shall follow GDOT print guidelines except that submittals may be contained in one multi-page file, rather than individual sheet files. All submittals **must** include a unique date on the plan set cover sheet to accommodate discernment from other submittals.

Final R/W and construction plans must be stamped, signed and dated by the Consultant. Final R/W plans must be signed/accepted by the R/W Coordinator and/or the Pre-Construction Engineer. Final construction plans must be signed/accepted by the Pre-Construction Engineer. The County shall provide a scanned copy of the cover sheet, with signatures, to the Consultant. All plan revision submittals shall have the original signatures (consultant and County) and appropriate revision dates.

2.0 SCOPING

After Cobb County Board of Commissioners' (BOC) approval of the selected firm for project award (if required), a meeting shall be held to discuss the scope of the project and the associated fee (if proposal method did not include a cost proposal). Roles and responsibilities of the Consultant and Cobb DOT staff shall be discussed and documented in the meeting minutes.

At this meeting, the scope of the project and existing concepts shall be discussed in detail and the project objectives clearly defined. Unless otherwise agreed to at the scoping meeting, the Consultant shall submit a scope, fee proposal, and schedule to the County within two (2) weeks following the Scoping Meeting. Cobb DOT's Project Manager and Preconstruction Engineer shall review and approve a project's scope, fee and schedule before submitting these documents to BOC for contract approval. Following approval of the contract by the BOC, the County has authority to issue the Consultant Notice to Proceed (NTP) in writing, by phase.

After issuance of NTP for the initial project phase(s), the County will schedule a project Kick-off Meeting. The Consultant and the County determine who should attend this meeting. The Kick-off Meeting, which may follow the format of a GDOT Initial Concept Meeting, is used to disseminate data about the project and the project area in order to facilitate concept work.

2.1 Kick-off Meeting: County Responsibilities (as appropriate)

1. Provide a letter on Cobb DOT letterhead authorizing NTP for the initial project phase(s) to the Consultant. For minor projects, NTP for the entire project may be given. However, a separate NTP for Miscellaneous Services must always be issued by the County prior to Consultant's billing for that category of work.

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2. Present the Consultant with a sample invoice. The Consultant's invoice does not have to be in the same format, but it must provide all of the information shown on the sample invoice.
3. Invite staff from Water/Sewer, Utility, Planning, PEACH Roads, Maintenance, Traffic Operations and Right-of-Way departments, along with Cobb DOT Management, and the District Engineer, to attend the project Kick-Off Meeting.
4. Provide location of the latest design manuals, County standards, etc.
5. Provide the Consultant with available materials that may assist with project development. This includes items such as accident data, traffic counts, project concepts, etc.
6. Review County GIS and other sites during the meeting to note flood plains, nearby projects in the County Transportation Plan (CTP), and the Transportation Improvement Plan (TIP), existing and proposed trail locations, bike and pedestrian improvement plans, etc.
7. Provide a PEACH Roads checklist to the Consultant for use and reference during project development. (if required)
8. Invite the Cobb DOT Utility Coordinator to distribute a list of current utility owners and contacts.
9. Supply the Consultant with a copy of a sample Survey Notification letter.

2.2 Kick-off Meeting: Consultant Deliverables/Responsibilities (as appropriate)

1. Provide a copy of the project schedule. This should be the same schedule represented in the executed contract, possibly modified with a revised NTP date.
2. Provide at, or within one (1) week of, this meeting the project Survey Notification letter on Cobb County letterhead. This letter shall be approved and signed by the County before it is distributed to property owners and before field work begins.
3. Develop and submit a project Design Data Notebook. The requirements and expectations of the Design Data Notebook shall be discussed and provided by the County.
4. Obtain GIS data for their project(s). Data may be obtained by contacting the Cobb County GIS Core Group at the web address noted below. Consultant is required to have a contract being processed or approved by BOC prior to this data being made available to them. When using this web site, select the "pay later" option and input the project number in the special notes field.

<http://www.cobbgis.org:81/CobbDataSales/?Viewer=CobbCountyDataSales>

3.0 DATABASE COLLECTION

A complete and accurate survey of existing features is critical for the sound design and construction of a project. All databases shall be based on field run survey supplemented by mapping where applicable. No database shall be based on GIS mapping alone. The Consultant is expected to follow the GDOT "Automated Survey Manual", current edition, during performance of all survey related tasks. All Survey data shall be checked and accepted by Cobb DOT's Survey Department prior to the Preliminary Field Plan Review (PFPR) submittal.

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When appropriate, the County shall request an 811 utility locate for the project area prior to survey commencing. When this occurs, the surveyors should pick up all utility markings for inclusion in the database files. For all projects, the surveyor should note information posted on utility transmission poles, including tower numbers, utility mile post numbers, easements owned by the utility company, utility owner name and contact information. Tops and inverts, when accessible, of sanitary sewer and drainage lines shall be located by surveyors and included in database file(s).

All structures (houses, barns, sheds, buildings, etc) within 100' of the anticipated R/W shall be located and included in project's database file(s). All major drainage features should likewise be located and included in project's database file(s).

3.1 Database: Consultant Deliverables

1. Compile and maintain a project specific property information database, in Excel, that includes property tax map identification numbers and property owner names, addresses, and phone numbers (if readily available). The database shall be maintained through all phases of the project. The Survey Notification letter shall be delivered, at a minimum, to these property owners. During the course of the project, the Consultant may be asked to supply this list to Cobb DOT for its use.
2. Compile an ASCII points file of data collected that includes point number, Northing, Easting, elevation, and descriptor or code in a comma-delimited format. At project closeout, the file(s) should be submitted to the County and include proposed R/W and easement points along with the design centerline control points, such as begin and end project, intersection points, PCs, PIs and PTs.
3. Submit a survey control package, in reproducible 8.5"x 11" bond and .pdf formats, that includes location sketches and coordinates, descriptions, and elevations of all benchmarks and control points for the project.
4. Provide a CD that contains base mapping .dgn files of the project that depict planimetrics, labeled utilities and features, contours, and other pertinent information included in the survey.

4.0 UTILITY SUBMITTALS (1st and 2nd)

The Cobb DOT Utility Coordinator shall be responsible for providing utility coordination, Utility Relocation Agreements and Utility Encroachment Agreements for all projects, unless these tasks are included in Consultant's scope per the County's direction.

In accordance with the project schedule, the Consultant shall provide one (1) half size printed set of plans and electronic copy of the plans in both .dgn and .pdf formats to the County for the initial gathering of existing utility information (1st Utility Submittal). All .dgn files submitted to the County should follow the GDOT Electronic Data Guidelines design file naming conventions. The files and plans provided should be submitted after the database phase is complete and the planimetrics for the project have been established. Submittal of base sheets and a cover sheet showing project name, site location, and project limits are required for the 1st Utility Submittal.

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After plans are returned to the Utility Coordinator by a utility owner, the utility mark-ups shall be forwarded to the Consultant for inclusion on the utility plan sheets.

The Utility Coordinator shall facilitate a Utility Coordination Meeting with the County, the Consultant and affected utility owners. The purpose of this meeting is to obtain existing information from each utility owner (if not received by the PFPR) and to identify utility conflicts, thus beginning discussions to resolve those conflicts. Special attention should be paid to major utilities: petroleum pipelines, electrical transmission lines, large diameter water lines, natural gas pipelines, and equipment at “hub” locations of cable TV & telecommunications companies. Submitted designs should avoid these major utility features where possible. The Utility Coordinator should request utility companies provide documentation of easements and the nature of facilities located thereon. **The Utility Coordinator and Consultant shall identify, resolve, to the extent possible, and list all utility conflicts and provide this information to the County.** An example of conflict resolution is redesigning storm drain lines to avoid major utility lines where practical. Any remaining utility conflicts shall be identified in writing, and the Consultant should be prepared to discuss the remaining conflicts at the Final Field Plan Review (FFPR).

The Consultant shall provide the County with electronic plans in .dgn and .pdf formats and one (1) half size bond plan set for the 2nd Utility submittal. These files and plans should be submitted following the PFPR and after any major revisions have been incorporated into the plans. The purpose of this submittal is for utility companies to validate the location of their facilities provided in the 1st Utility Submittal mark-ups and to mark-up any required utility relocations as a result of project impacts. Unless otherwise specified, 2nd Utility Submittals should include cover sheet, typical sections, construction plan sheets, profile sheets, cross sections, drainage profile sheets, utility plan sheets, and signal, lighting and wall / bridge plans, if applicable. Where anticipated, additional plan sheets should be included in the utility submittal where drainage conflicts and culvert crossings occur. The County will provide the Consultant with utility markups, prepared by utility companies, for inclusion in final utility plans.

If approved by the County at the project Kick-Off Meeting, smaller projects may only require a single utility submittal for marking of existing facilities and proposed relocations by utility owners. If this is the case, the utility submittal to the County should occur after PFPR and include the requirements of a 2nd Utility Submittal.

For a number of utilities, it is desirable for coordination to occur using electronic file delivery. Throughout the project, it may be necessary for the Consultant to provide to the County with current electronic project files for posting on the Cobb Utility Project Identification Distribution System (CUPID) site for access by utility companies. Electronic files showing existing or relocated utilities may then be delivered to the Consultant for incorporation in project utility plans.

Additional Utility Coordination Meetings may be required prior to project advertisement for construction. The necessity of such meetings may be determined by the County, the Consultant or the Utility Coordinator and could include discussions related to constructability issues arising from utility conflicts and relocation schedules.

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4.1 Consultant Utility Deliverables/Responsibilities:

1. The Consultant shall be responsible for providing one (1) half-size bond plan set and electronic plans in .dgn and .pdf formats to the County for each the 1st and the 2nd Utility Submittals.
2. The Consultant shall include 1st and 2nd Utility Submittal mark-ups, provided by the County, in the project Utility Plans.
3. During the contract life of the project, at the request of the County the Consultant shall provide the County with current electronic files (in .dgn and .pdf formats) for posting to CUPID.
4. If the Consultant experiences difficulty transferring utility mark-up data into their electronic files, the Consultant should request assistance from the utility owner. If unable to resolve the issue, the Consultant should request assistance from the Utility Coordinator.
5. The Consultant shall be responsible for monitoring changes to project plans that occur after the 2nd Utility Submittal that may impact any utility. If the plan change is required, the Consultant shall notify the County at once and submit one (1) half size bond plan set and current electronic files (in .dgn and .pdf formats) for upload to CUPID and notification to affected utility owner(s).
6. The Consultant shall include in the final plans submittal package a CD containing an electronic set of the final plans (in scalable .pdf format) and an electronic copy of design files (in .dgn format) for distribution through CUPID.
7. The Consultant shall participate in project utility coordination meetings as required by the County.

5.0 CONCEPT PHASE

The objective of the Concept Phase is to develop a Concept Summary, comprised of Concept Report and Layout, which describes/depicts recommended project footprint, termini, and engineering features. During the development of concept alternatives and layouts, the project need and purpose, traffic studies, design manuals, PEACH Roads program, and “Cobb County Complete Streets Policy” should play a role.

The Concept Report (see Appendix B for template) and associated studies should focus on setting the foundation for the final design product and for concept layout development prior to beginning preliminary design. The report should summarize existing conditions and traffic data and define the design criteria for the project. It is the County’s responsibility to circulate the cover sheet of the approved Concept Report to obtain required signatures. For projects requiring BOC approval (See Appendix C), the County will coordinate development of the appropriate agenda item for Concept Summary approval.

Some of the deliverables listed below may be excluded if agreed to by the County or specifically excluded from the project’s scope.

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For minor projects, a Concept Layout may be the only deliverable in the Concept Phase as a concept summary report would likely not be required, and the concept meeting waived, at the County's discretion. The Concept Layout should clearly depict the scope of work, project limits, existing and proposed R/W, easement and construction limits, required displacements, stationed horizontal alignment(s) and all major utilities, and should be presented on the latest Cobb County GIS aerial photography. Horizontal curve data and parcel owner name should also be included on the scalable layout. Associated profile(s) should be developed for major and new location projects, and for minor projects as directed by the County.

For widening, intersection, and major sidewalk projects, the Concept Layout should include engineering details such as alignments, profiles, and cross sections. Construction limits, proposed R/W and easements, and all major utility features should also be shown on the Concept Layout and described in the Concept Report.

For major projects on new alignment, the Concept Summary shall focus on alternatives analyses. Alternatives studies are reserved primarily for new location projects. Multiple alignment alternatives should be developed to enable the Consultant to make a recommendation to the County of a preferred alignment: a cost-effective solution with the least impact to the community and environment.

Traffic engineering shall be performed in accordance with procedures outlined in the current edition of the "Highway Capacity Manual" published by the Transportation Research Board, the current edition of the "Manual on Uniform Traffic Control Devices" (MUTCD) published by Federal Highway Administration, and other appropriate guidelines.

A Concept Meeting may be held after the County concurs that the Concept Summary has been developed to a satisfactory level. The purpose of the Concept Meeting is to thoroughly review the Concept Layout and draft Concept Report. The Consultant shall be responsible for preparing and presenting the draft Concept Summary, which should include concept data, layouts, and studies and their findings. Representatives from the following areas may be invited to participate in the Concept Meeting:

- Engineering
- Right-of-Way
- Traffic Operations
- District Engineer
- Planning
- Project Designer
- Transportation Division Manager
- Deputy Director
- Construction (complex design and major projects)
- Environmental, if applicable
- School District Liaison, if applicable
- Others (including external stakeholders) as determined necessary by the County

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5.1 Consultant Concept Phase Deliverables (as appropriate):

1. A traffic study, if included in the project's scope, shall be submitted to the County. This study should include the traffic data (existing, opening and future years traffic, LOS, etc) and conclusion(s) that justify the design criteria and laneage. If a new traffic signal is recommended as part of the project, a Signal Warrant Study should be included as part of this submittal. Each study, upon approval by the County, should be included as an appendix to the Concept Report.
2. Each Concept Report and/or Concept Layout submittal shall be provided to the County in scalable .pdf format. The County will distribute each submittal for internal review per Cobb DOT's standard distribution list.
3. Minutes of project Concept Meeting and other scoping or stakeholder meetings shall be prepared and submitted to the County electronically.
4. Concept construction cost estimate(s), with appropriate contingency percentage (See Appendix D), shall be prepared for each Concept Layout and included in appropriate Concept Report submittals to the County.
5. A document summarizing the findings of an environmental screening, if included in project's scope, shall be submitted to the County for review. This task should be performed during the Concept Phase to identify potential environmental issues that may impact the project. This document should be included in the appendix of the Concept Report.

6.0 PUBLIC INVOLVEMENT

Projects require varying levels of public involvement, depending on the scope and potential impacts of the project. Public involvement may include a variety of outreach methods including web site postings, social media outreach, flyers distributed at community centers, schools or public libraries, Public Information Open House (PIOH), or other stakeholder or community meetings. Determination of Public Involvement requirements occurs during the scoping phase of the project, but complications with the project or unexpected project opposition may require subsequent addition of Public Involvement tasks to the project's scope. An example of such a modification would be the subsequent identification of the need for a detour for staging, which means the scope should include a Public Involvement task for the development of a plan for communicating the detour to the public.

Significant projects in the Cobb County program may require a PIOH to communicate to and obtain input from the public. The PIOH includes presentation of color layouts of the project on aerial backgrounds, an information sheet presenting pertinent project information, and comment forms for the public to fill out and return that evening or mail back to Cobb DOT at a later date.

Approximately two (2) weeks prior to a scheduled PIOH, a dry-run may be held at Cobb DOT to coordinate the open house, discuss personnel to attend, and review materials to be presented. Following the dry-run meeting, the Consultant shall provide .pdf files of the Concept Layout and information sheets to the County for posting on Cobb County's web site.

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6.1 County Responsibilities:

1. The County shall provide the necessary sign information to the Cobb County Sign Shop at least one (1) month prior to the PIOH and have the signs placed at least two (2) weeks prior to the open house.
2. The County shall be responsible for determination of location and handling negotiations, if required, for the PIOH location. The County shall also visit the location prior to the PIOH dry-run to determine available wall space, meeting logistics, and display mounting requirements.
3. The County shall prepare and post directional signs inside the PIOH facility to assist the public with locating the meeting room. The County shall be responsible for sign-in of meeting attendees and maintaining a count of attendees.
4. The County shall provide a PIOH comment box to house citizens' comments. At the conclusion of the meeting, the County shall take all comments to Cobb DOT. At the end of the PIOH open comment period, the County shall provide the Consultant with a copy of each comment submitted at the PIOH, along with a copy of all PIOH comments mailed to Cobb DOT.

6.2 Consultant Deliverables (as appropriate):

1. Consultant shall provide copies of the Concept Layout and PIOH handout and Project Fact Sheet for review and comment at the dry run.
2. The Consultant shall provide PIOH related files and documents in .pdf format for posting to Cobb County's web site.
3. The number of mounted displays, handouts, and comment forms should be determined at the dry-run. If the facility does not provide the ability to mount displays on the walls, the Consultant shall be responsible for providing easels and foam board to support the presentation displays.
4. Within five (5) business days following the conclusion of the comment period (which is typically 10 days), the Consultant shall prepare and submit a .pdf file comprised of all comment forms and a brief synopsis of the meeting, which includes number in attendance, main issues that were emphasized, a preliminary count of for/against/not committed, and any other pertinent issues. The County shall deliver the synopsis to the District Commissioner.
5. The Consultant shall be responsible for preparing a letter that responds to all PIOH comments within two (2) weeks after the comment period has closed and shall submit the responses to the County in Microsoft Word format. The County may revise the responses as deemed appropriate prior to mailing copies of the letter.
6. Following review of the comment/response letter, determination of which comment responses to incorporate in the project shall be made by the County with input from the Consultant. The Consultant shall revise the Concept Layout accordingly prior to final submittal of the Concept Summary to the County.

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7.0 PRELIMINARY PLANS PRODUCTION/PLAN REVIEW

The Preliminary Plans Production Phase begins near the end of the Concept and Public Involvement phases of the project. **No work shall be done or invoiced for this phase until the County issues a written NTP for this phase.**

All full size (24"x36") construction plans for Cobb County locally funded projects shall be developed using a plan sheet scale of 1"=20', unless otherwise directed by the County (Exceptions include cross sections, typical sections and detail sheets, etc.). *MicroStation*, latest version utilized by GDOT at the time of the contract, is the only acceptable deliverable format for project CADD files. In conjunction with *MicroStation*, the design shall be developed utilizing *InRoads* software. Plans production shall be in accordance with the scope determined at the beginning of the project and conform to current GDOT EDG and PPG manuals, with the following exceptions:

1. A Detailed Estimate is required;
2. Contractors are required to supply the standards and details listed in the index;
3. Cobb DOT standard general notes may be found on CobbDOT.org web site; and
4. Sheet numbers and total sheets are required to be noted on final plans.

Plans production for locally funded projects should emphasize simplicity and constructability. The Consultant is encouraged to be proactive in simplifying the plans and reducing the overall sheet count while maintaining clarity of plan construction information. Departures from some GDOT requirements may be approved by the County if the deviation does not compromise plan clarity. Standard General Notes sheets for Cobb County projects may be provided by the County. Consultant may make modifications to the General Notes, if necessary.

In accordance with current state law, Sediment and Erosion Control Plans for projects with disturbed areas greater than one (1) acre are required to include Erosion Control Plans for each stage of construction. The Consultant shall be knowledgeable of current sediment and erosion control requirements and shall adhere to those requirements, including, but not limited to, plan preparation, certification and seven (7) day field inspections after construction begins (See Appendix E for Erosion Control Plan Review Procedure flow chart).

Project design shall adhere to all pertinent AASHTO design policies, American with Disabilities Act (ADA) requirements, AASHTO "Roadside Design" criteria, GDOT and Cobb DOT drainage criteria, GDOT Standard Specifications and Cobb DOT standards and details. Emphasis should be placed on providing a safe design, while minimizing impacts to R/W and maximizing project cost savings. During concept and design phases, the Consultant shall look for innovative cost saving measures and present these suggestions to the County. The Consultant shall be familiar with and use innovative means to conform to the project budget, when possible.

Design for bridges and other structures shall be in accordance with the current edition of the following publications: AASHTO "Standard Specification for Highway Bridges"; AASHTO "Guide Specifications for Horizontally Curved Steel Girders – Highway Bridges"; AASHTO "Standard Specifications for Structural Supports for Highway Signs, and Luminaires and Traffic

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Signals”; AASHTO “Guide Specifications for Design and Construction of Segmental Concrete Bridges”; and all other applicable GDOT standards, details and specifications.

All lighting design shall be in accordance with current editions of AASHTO publications “Roadway Lighting Design Guide” and “Construction Manual for Highway Construction”.

Design decisions shall be documented in the project design notebook. This would include existing and proposed geometry, record of QA, variations from Cobb DOT and GDOT standards, and decisions made in consult with the County or other stakeholders. Additionally, design calculations for alignments, curves, drainage, etc., shall be documented in the design notebook. This notebook shall be provided to the County upon request, and made part of the final deliverables.

The Consultant is expected to incorporate an adequate QA/QC Plan into all of its design processes in addition to using the County’s checklists. Although the County performs a broad-level review of submitted plans, it is the Consultant’s ultimate responsibility to provide details, quantities, and designs that are correct and accurate and do not compromise the safety of pedestrians and motorists traveling within the project corridor.

A critical component of the preliminary plans submittal is the clear establishment of R/W requirements for the project so that R/W plans may be completed and the acquisition processes begin. At the conclusion of the preliminary plans phase, the County schedules a Preliminary Field Plan Review (PFPR). The County distributes the plans and invites Cobb DOT team members per Cobb DOT’s plan distribution list. Team members come to the review prepared with constructive comments on the plans.

7.1 Consultant PFPR Deliverables:

1. For this submittal, the Preliminary Plans shall include all elements of the final plans with the exception of final quantities and detailed estimate. Summary of Quantity sheets shall have the anticipated items in them, but no quantities are required. The detailed estimate shall include the anticipated Pay Item numbers, but no quantities are required. Erosion control, signing and marking, and signal plans should be completed to the point where anticipated R/W may be established.
2. The Consultant shall deliver one (1) full size (24” x 36”) set of reproducible (bond) preliminary plans, a .pdf of full size (scalable 24”x36”) plan set, and a copy of the Project Design Notebook.
3. Project cost estimate based on current construction plans with appropriate contingencies added per Appendix D. Submit one .pdf and (1) printed copy.
4. A draft version of all project specific special provisions such as 150.11 for lane closures and detours, 108.08 for liquidated damages, soils report special provisions, etc.
5. Completed and signed PFPR checklist (See Appendix A)
6. QA letter certifying the Consultant’s QA/QC process.

The Consultant shall attend the PFPR with County staff to discuss construction plans and project status. The Consultant shall invite members of its team as deemed necessary. Team members

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may include Structural, Signal, and other specialty disciplines as related to the project. The field plan review team may walk the entire project with plans following the plan review.

8.0 R/W PLANS

The primary focus of Preliminary Plans production is to provide a quality set of drawings that accurately account for proposed R/W and easements for the project. R/W shown in the plans should provide adequate property to construct and maintain the proposed transportation facility while minimizing impacts to property owners.

See Appendix F for additional information regarding R/W plans.

Even though best efforts may be made in project planning, R/W revisions are inevitable. R/W revisions shall be considered part of the Consultant's R/W SOW, and the revisions shall be delivered to the County in a timely manner. InRoads output files that comprise the R/W data tables, including driveway easements, shall be provided to the County in cases of condemnations. These requests shall also be considered a part of the R/W scope.

8.1 Consultant R/W Plan Deliverables:

1. Preliminary R/W plans shall be submitted to the County for review by Cobb DOT's R/W Coordinator and others per the Cobb DOT plan distribution list. Preliminary R/W plans submittal includes:
 - a. One (1) full size (24"x36") set of reproducible (bond) preliminary R/W plans
 - b. A .pdf of full size (scalable 24"x36") preliminary R/W plans
2. After all R/W related revisions have been made, if required, the Consultant shall submit a .pdf of full size (24"x36") scalable plans to the County electronically for printing and distribution according to Cobb DOT plans distribution list. The County shall send a scanned copy of the signed cover sheet to the Consultant for use in future revision submittals.
3. R/W revisions shall include a signed cover sheet with the appropriate revision dates, completed detailed revision summary sheet and all modified sheets in the plan set. Each revised sheet shall be noted as such in the revision block on each sheet and the revision detailed on the revision summary sheet. If these changes modify more than half of the plan sheets, a full set of new prints shall be provided to the County as outlined in Item 2.
4. After R/W plans are approved, the Consultant shall submit project MicroStation files and a .pdf file of full size (scalable 24"x36") plans.

9.0 FINAL PLANS PRODUCTION/PLAN REVIEW

Final plans shall incorporate all applicable comments from the PFPR and shall be a biddable set of plans. Unlike Preliminary Plans, which focus on R/W impacts, Final Plans focus on refinement of all elements in preparation for construction. Final Plans shall contain Summary of Quantities and a Detailed Estimate completed with all elements anticipated as necessary for

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construction. Construction cost estimates should be provided in Excel format for easy upload into BidX.

9.1 Final Field Plan Review

The FFPR should be scheduled at least 90 days prior to advertisement for construction bids. The County shall invite team members, per the Cobb DOT plan distribution list, and appropriate members of the Consultant team to the meeting. The FFPR team shall review the final plans package for: constructability, biddability, adherence to R/W commitments and stipulations, special provisions, potential discrepancies between the plans and specifications, accurate and complete pay items and quantities, staging, etc.

9.2 Consultant FFPR Deliverables:

1. Preliminary Plan redline mark-ups from Cobb DOT.
2. Final Plans submittal package including:
 - One (1) Full Size Set (24" x 36") of reproducible (bond) plans
 - A .pdf of full size Plan Set (24" x 36" scalable)
 - Final copy of Project Design Notebook
 - All proposed project specific Special Provisions that apply to construction
 - Project cost estimate – one printed copy and a .pdf and an Excel file
3. Completed and signed FFPR Checklist (Appendix A)
4. QA letter certifying the Consultant's QA/QC process

9.3 Erosion Control

For projects requiring a NOI, the County shall submit Erosion Control plans (2 half size sets) provided by the Consultant to the Cobb County Erosion Compliance Manager for review. This submittal shall occur within 2 weeks following the FFPR. After these plans are deemed acceptable, the Environmental Compliance Manager shall forward these plans to the Georgia Environmental Protection Division (EPD).

Changes to the final erosion control plans requested by the EPD shall not be considered a change in scope or considered for additional payment.

9.4 Constructability Review

Upon completion of FFPR revisions, the consultant shall submit final construction plans, project specific special provisions, and the final construction cost estimate to the County for the Constructability Review meeting. This review may take place internally at Cobb DOT and occur at least 30 days prior to advertisement for construction bids. Constructability review comments focus on quantities, pay items, bid ability, R/W commitments and stipulations, special provisions, and potential discrepancies between the plans and specifications. The County relays all constructability review comments back to the Consultant for final plan revisions.

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10.0 CONSTRUCTION PLAN FINAL SUBMITTAL / LETTING

Two weeks prior to the project advertisement, the County provides a pre-bid checklist (See Appendix G), completed as fully as possible, to the Cobb DOT Contract Administrator. If applicable, the PEACH Roads score sheet (see PEACH Roads Manual and Scorecard) would also be completed at this time and routed for signatures.

10.1 Consultant Final Plans Deliverables:

1. In accordance with the project's design schedule and after the Consultant has completed addressing all comments, all marked-up plans provided by the County and the Consultant's responses to written comments shall be submitted to the County.
2. Final Plans shall include a cover sheet that is stamped, signed, and dated by a registered Georgia Professional Engineer. Project Erosion and Sediment Control Plans and Comprehensive Monitoring Plans shall be signed by a Level II Certified Design Professional, or as required by current state law. Final plans submittal package includes:
 - a. One (1) full size set (24" x 36") of reproducible (bond) plans
 - b. A .pdf of full size (24"x36" scalable) final construction plansIf plans are satisfactory, the final bid set shall be signed by the Preconstruction Engineer, and the coversheet scanned and returned to the Consultant for use in case of revisions.
3. A CD containing final plans MicroStation files for submission to utility companies and Cobb DOT archival record.

11.0 CONSTRUCTION ASSISTANCE

Consultant shall be responsible for design re-calculations, plan modifications, and distribution of final plans revised as a result of its own errors and omissions. Under the project Construction Assistance Phase, the Consultant shall make minor changes to the plans during the construction process, as requested and approved by the County. Each revision submittal to the County shall be in accordance with "Final Plans Deliverables" requirements and distributed within Cobb DOT by the County per applicable Cobb DOT plans distribution list.

Should significant addendums occur during the Bid Phase of the project, the Consultant may be required to conform the plans to the addendums and include a reference to all addendums on applicable plan sheets. There shall be no additional payment for this work. Performance of this work shall be at the direction of the County.

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, labeling the copy as "Use on Construction" and revising the information as required. Any quantities or additional pay items required are to be listed on the Quantities Required on Construction sheet. The County shall coordinate all revisions with Cobb DOT's Utility Coordinator and the Consultant shall verify that revisions do not affect any environmental permits.

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All contracts should have a Construction Assistance Phase that would include time for the Consultant to review shop drawings, prepare plan revisions arising from changed field conditions, attend meetings and provide design consultations. Pre-authorization from the County for all charges to this phase is required. Shop drawing review shall be completed within two weeks from receipt of plans from the Contractor. Consultant's attendance at the project Construction Document Review meeting with Cobb DOT Engineering and Construction staff to facilitate preparation of the contract documents, including preparation of any additional plan changes and Special Provision modifications resulting from this meeting, is required. Consultant's attendance at project Pre-Bid and Pre-Construction meetings is also required.

12.0 PROJECT CLOSEOUT

After project award for construction, or at an earlier point if approved by the County, the Consultant shall submit a project closeout package to the County. This closeout submittal is necessary to document the final plans and all correspondence regarding the project.

The Consultant's Final Closeout Submittal shall include:

1. A copy of all project correspondence, including pertinent e-mails, faxes, and transmittals. This can be provided on a CD in .pdf format.
2. A CD or DVD containing all calculation files/spreadsheets, CADD files, design files, and other items pertinent to the project.
3. A CD containing .pdf files of scanned documents and reports pertaining to the project.
4. All PIOH information, including original comments and letters from citizens.
5. A copy of any material in the Design Notebook that was modified after the Final Plans submittal.

13.0 Appendixes:

Appendix A: Cobb County Field Plan Review Checklists

Appendix B: Concept Report Template

Appendix C: Board of Commissioners Concept Approval Policy

Appendix D: Cost Estimate Contingencies

Appendix E: Erosion Control Plan Review Procedure

Appendix F: Right-Of-Way Plan Requirements

Appendix G: Preconstruction Pre-Bid Checklist

APPENDIX A: Cobb County Field Plan Review Checklists

Preliminary Field Plan Review Checklist

Project No and Name: _____

The following checklist shall be completed by the Design Lead and submitted with Preliminary Field Plan Review Plans. The Cobb County PM shall review the checklist for completion.

- Construction Cost Estimate (.pdf and a hard print copy)
- Plans (1 Full Size Set (24” x 36”) and 1 PDF Full Size Set printable (24” x 36”)

Include the following information:

- Cover Sheet
- Cobb Standard General Notes, revision date: _____
- Typical Sections
- Summary of Quantity boxes
- Detailed Estimate pay items
- Plan and Profile Sheets
- Cross sections (including R/W, prop. R/W, and easements)
- Preliminary Right of Way and Easements
- Existing utilities
 - or n/a Drainage Profiles
 - or n/a Staging Plans
 - or n/a Preliminary Bridge Layouts
 - or n/a Wall locations and wall envelopes
 - or n/a Preliminary Signing and Marking Plans
 - or n/a Preliminary Traffic Signal Plans (incl. strain poles, ramps, islands)
 - or n/a Driveway locations and Driveway profiles
 - or n/a Preliminary Erosion Control (incl. sediment and detention basins)
- or n/a Draft Project Special Provisions (108.08, 150.11, SP’s from Soil Survey, etc)
- or n/a Environmental Commitments for GEPA or NEPA
- QA Certification letter from Design Lead, on Consultant Letterhead

XX, Consultant Design Lead Date

XX, Consultant Project Manger Date

APPENDIX B: Concept Report Template



**COBB COUNTY
DEPARTMENT OF TRANSPORTATION**

PROJECT CONCEPT REPORT

Project #: _____
Project Name: _____
Federal Route Number: _____ State Route Number: _____

Recommend for Approval: _____
XX, Design Lead/Project Manager, Consultant Firm Date

Recommend for Approval: _____
XX, Cobb Project Manger Date

Recommend for Approval: _____
XX – Traffic Operations Division Manager Date

Recommend for Approval: _____
XX – Preconstruction Engineer Date

Approve: _____
XX – Transportation Division Manager Date

Approve: _____
XX – Deputy Director or Director (as required) Date

PROJECT LOCATION

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

BACKGROUND DATA

Project Need and Purpose:

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 proposed project: *A brief description of the proposed improvements including project limits, lanes, sidewalks, etc.*

ARC TIP #: *(if applicable)*

CID Project #: *(if applicable)*

Commission District(s): #

Congressional District(s): ##

Other projects in the area:

Projected Traffic: *ADT or AADT* 24 HR T: _____ %
Current Year (20WW): _____ Open Year (20XX): _____ Design Year (20YY): _____
Traffic Projections Performed by:

Functional Classification (Mainline): *Cobb County Functional Classification*

Complete Streets - Bicycle, Pedestrian, and/or Transit Standards:

None Bicycle Pedestrian Transit

DESIGN AND STRUCTURAL

Roadway Name:

Design Speed:

Description of Proposed Typical Section:

Insert sketch or reference attachment

Major Interchanges/Intersections:

Lighting required: No Yes

Shall Context Sensitive Solutions procedures be utilized? No Yes

PEACH Roads goals for project:

Design Exceptions to FHWA/AASHTO controlling criteria anticipated:

Design Variances to Cobb DOT Standard Criteria anticipated:

UTILITY AND PROPERTY

Railroad Involvement:

Utility Involvements: *Listing of all utility companies and discussion of potential major utility conflicts*

Right-of-Way: Existing width: _____ft. Proposed width: _____ft.
 Required Right-of-Way anticipated: No Yes Undetermined
 Easements anticipated: None Temporary Permanent

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

PERMITS

Environmental Permits, Variances, Commitments, and Coordination anticipated:

GDOT Encroachment Permit Required?

Corps Permit Required?

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	Consulting firm, Cobb DOT, etc.
Design	
Right-of-Way Acquisition	
Public Outreach	
Utility Coordination (Preconstruction)	
Utility Relocation (Construction)	
Letting to Contract	
Construction Supervision	
Providing Material Pits	
Providing Detours	
Environmental Studies & Permits	
Environmental Mitigation	
Construction Inspection & Materials Testing	

Other coordination to date:

Project Cost Estimate and Funding Responsibilities: Attach current cost estimates to report.

	PE	R/W	Reimbursable Utility	CST*	Environmental Mitigation	Total Cost
Funded By						
\$ Amount						
Date of Estimate						

* With appropriate level of contingency (see Appendix D)

ALTERNATIVES DISCUSSION

Preferred Alternative: <i>description</i>			
Estimated Property Impacts:		Estimated Total Cost:	
Estimated R/W Cost:		Estimated CST Time:	
Rationale: <i>(Why was this alternative selected?)</i>			

No-Build Alternative: <i>description</i>			
Estimated Property Impacts:		Estimated Total Cost:	
Estimated R/W Cost:		Estimated CST Time:	
Rationale: <i>(Why was this alternative not selected?)</i>			

Alternative 1: <i>description</i>			
Estimated Property Impacts:		Estimated Total Cost:	
Estimated R/W Cost:		Estimated CST Time:	
Rationale: <i>(Why was this alternative not selected?)</i>			

Comments/Additional Information:

LIST OF ATTACHMENTS/SUPPORTING DATA

List and attach as appropriate to project.

1. Concept Layout
2. Typical sections
3. Cost Estimates
4. Crash summaries for last three years
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 C: Board of Commissioners Concept Approval Policy

TO: Engineering/Design Staff

FROM: Faye DiMassimo, Director

SUBJECT: DOT Procedure – Concept Approvals by BOC

DATE: 11/15/12

At times DOT has brought Concepts to the Board for approval. There has been no defined policy on which project should be brought before the Board. Examples from the 2005 SPLOST program for projects brought to and approved by the BOC:

- Stilesboro Road
- Maxham Road
- County Line Road
- Lower Roswell Road East

Moving forward, it was necessary to define a policy for making this determination. Policy guidelines are indicated below.

Project Concepts should go to the Board for the following projects:

- Projects that exceed a Concept Estimate Cost of \$5M for Right-of-Way, Utilities and Construction. This would not include resurfacing projects.
- Projects that may be highly complex or have great community interest. This shall require a recommendation by the Director and County Manager with approval of the District Commissioner whose district the project is in.
- Projects that are specifically requested by the District Commissioner whose district the project is in.
- Projects that are specifically requested by the Chairman.

Projects can be exempted from this requirement if:

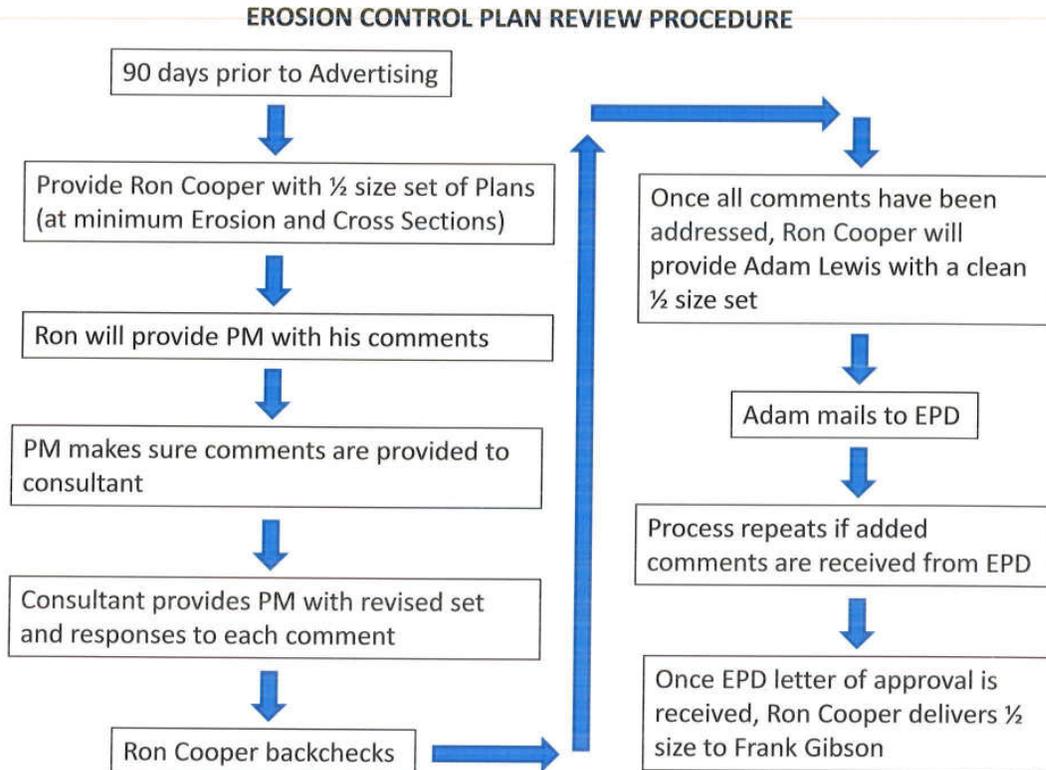
- Recommended by the Director or County Manager and approval of the District Commissioner whose district the project is in.
- It is a GDOT managed project that would be let by GDOT.

APPENDIX D: Cost Estimate Contingencies

Cobb DOT prepares cost estimates that are more refined as the project moves from concept to Final Plans. To account for the varying risks, the contingencies below should be added to the construction cost estimate for each project type listed.

Project	Risk	Concept	PFPR	FFPR
Enhancement/Bike/Ped/Safety	Low	5%	3%	0%
Reconstruction/Rehabilitation/No Added Capacity	Low	5%	3%	0%
Maintenance-Restoration and Rehabilitation	Medium	10%	5%	0%
Bridge New/Replacement	Medium/High	10%	5%	3%
New Construction	High	15%	10%	5%
Reconstruction/Rehabilitation Added Capacity	High	15%	10%	5%

APPENDIX E: Erosion Control Plan Review Procedure



APPENDIX F: Right-Of-Way Plan Requirements

The following requirements are considered as a minimum for the preparation of right-of-way plans. Additional information may be required depending on the individual project needs and shall be included at no additional compensation. Strict adherence to the minimum requirements by the Consultant is required.

DELINEATION

Important features of the right-of-way plans must be clearly shown. These include:

1. Existing and proposed right-of-way lines
2. Existing and proposed easements
3. Property lines and dimensions
4. Taxpayer parcel identification numbers
5. All improvements within 100 ft. of the property lines abutting public right-of-way.

This information shall be placed on the plans so that they are readily distinguishable and easily read and identified.

SIZE OF PLANS

The plans and cover sheets shall be prepared using the same size requirements as for the construction plans. The scale of right-of-way plans shall be a minimum of 1 inch = 20 feet so that the original drawing can be reduced to 8½ inches by 11 inches for use as deed and condemnation plats and exhibits and still retain legibility. A different scale may be approved by the County Project Manager on a case-by-case basis.

PROPERTY LINES

Property lines shall be accurately located and concisely depicted on the plans with adequate ties to the centerline and required right-of-way so that a legal description can be prepared as needed. The name of the owner or owners and the tax parcel identification information shall be clearly shown for each parcel. Bearings and distances on property lines outside the right-of-way are not required. Bearings and distances on property lines within the right-of-way shall be clearly and accurately shown. If the property line is a horizontal curve, the arc length and radius are to be shown. The back property lines on all parcels shall be shown on the cover sheet.

Property corners inside the required right-of-way and points of intersection between property lines and the required right-of-way lines are to be located by a full station and distance to the centerline. The property corner identification number is to be clearly indicated on the plat sheet along with the station and offset for the corner. Property corner identification numbers are to run consecutively.

EXISTING CONDITIONS AND IMPROVEMENTS

All pertinent existing information that may affect the cost of right-of-way and easement should be indicated on the plans.

Some examples of features that may affect property valuation may include:

1. Structures
2. Roads
3. Easements
4. Streams and/or Ponds
5. Jurisdictional limits
6. Landscaping and trees
7. Fences
8. Walls

9. Historical appurtenances

Please note that this is not an all-inclusive list and the each parcel needs an individual assessment of what items may be pertinent. Any improvements located outside the right-of-way that may have an influence on the appraised value shall be shown to scale on the plan sheet.

RIGHT-OF-WAY

In general, sufficient right-of-way shall be acquired to accommodate full roadway shoulders and normal utility needs. Every effort should be made to make the right-of-way as uniform as possible while being cost-effective. Drainage facilities, including most ditches, located outside of the required right-of-way shall be located on permanent drainage easements.

EASEMENTS

Required easements shall be accurately shown on the plans. Usually it is not necessary to prepare a legal description for an easement, but the easement shall be adequately dimensioned on the right-of-way plan so that it can be precisely located on the ground. The areas of easements, except driveway easements, shall be accurately computed and shown in square feet. Large easements in rural areas may be shown in acres.

The easement shall be clearly labeled as to use, such as construction, slope, drainage, driveway, utility, sanitary sewer, water line, or detour, as appropriate. If the easement is for a type of construction that does not require maintenance by the County, it shall be labeled: "**Easement for the construction of**" with the actual purpose of the easement being specified on the plans. Examples of this type of construction are channel changes, driveways, yard drains, tree wells, steps and sidewalks leading into residences or places of business, and providing a working area outside of the right-of-way where construction activities require it. This type of easement shall expire upon completion and final acceptance of the project.

If the easement is for a type of construction that shall require future maintenance by the County, it shall be labeled: "**Easement for the construction and maintenance of**" An example of this type of construction is a retaining wall tieback system. If the project includes CCWS work, the additional easements for water/sewer construction shall be incorporated into the final right-of-way plans. If a temporary water/sewer easement overlaps a roadway construction easement, the easement shall be labeled as a combination easement for both needs. If a water/sewer easement extends outside a temporary roadway easement more than 10 feet, a separate easement shall be defined and labeled.

SUBDIVISIONS

In subdivisions, the remaining property shall be shown to scale. In cases where the back of the lots cannot be shown to scale, a break may be shown on the property lines with the distance to the back of the lot shown approximately in feet. It may be necessary, in some instances, to include inserts on the right-of-way detail plan to adequately show information pertinent to the individual lots. Lot and block numbers shall be shown. The subdivision may be shown on the cover sheet as an outline of the entire subdivision with a notation as to the parcels included. All roads or streets, including names, should be shown either on the detail plan or cover sheet. Comments under "Property Lines" cover additional data required for subdivisions.

RAILROAD CROSSINGS

Intersections with the centerline of railroads shall be tied into the right-of-way centerline by station and angle, showing width of the right-of-way, name of railroad, each track by symbol and distance, and direction along the railroad right-of-way to the nearest milepost number.

INTERSECTING ROADS AND EXISTING STREETS

The intersections of all paved and maintained public roads are to be tied by station and angle and equated to the station of the survey of the intersected road. The name of the road, state and federal routes, if any, and the right-of-way width of the road shall be shown. Details of private roads and access roads to parking lots and commercial centers shall be shown on the right-of-way plans. A thorough investigation shall be made to establish accurately the existing right-of-way of all intersecting roads and the existing right-of-way of roads parallel to the proposed project.

LIMITED ACCESS

On limited access projects, including partial limited access, the access control lines shall be shown by the conventional limited access symbols. In areas where the limited access line and the right-of-way lines are in the same location, both shall be indicated. At the beginning and ending of limited access at interchanges or crossroads, an arR/W indicating the exact ending or beginning point with the symbols E L/A or B L/A shall be shown as appropriate. If there are any intermediate breaks in the limited access, these must be clearly shown. Where the right-of-way and limited access lines coincide, they shall be labeled "**Required R/W & Limited Access.**" Where drives break the limit of access, show a distance between the E L/A and B L/A, but do not show a distance through the B L/A and E L/A.

PARCEL NUMBERS

Each parcel of right-of-way or easement associated with one contiguous body of land shall be given the same parcel number. Numbers shall be assigned to parcels starting with parcel one at the beginning of the project and numbering consecutively through the end of the project. Cobb County tax map parcel numbers shall be cross-referenced and indicated for each parcel. If it is necessary later to split a parcel or another ownership is found, additional parcels may be shown by adding a suffix of A, B, etc. to the number of an adjacent parcel. Where additional right-of-way is to be acquired in the name of the utility company for relocating its facilities, the right-of-way parcel number with a suffix designating the utility company shall be used (39 GP for Georgia Power or 18 SB for BellSouth). If an additional landowner is involved, solely for relocating the utility facility, an individual parcel with the proper suffix shall be used. On urban projects involving city blocks, the number of parcels for some projects may be facilitated by giving each block an alphabetical designation and then numbering each parcel in the block numerically.

The use of this alphabetical designation procedure shall be determined on an individual project basis. Advertising signs that are to be purchased, relocated, or damaged require identification and shall be determined on an individual project basis. Advertising signs to be purchased, relocated, or damaged shall be given the same parcel number as the tract upon which they are located followed by the letter "S." If more than one sign is located on a parcel, the identification shall be as follows: 17-S-1, 17-S-2, etc.

AREAS

The areas of required right-of-way, the remainder on the left, and the remainder on the right shall be shown on the right-of-way detail plan for each parcel. The symbols to be used shall be: **RR = Area Remaining on the Right of the Right-of-Way Line** and **RL = Area Remaining on the Left of the Right-of-Way Line**. In preparing right-of-way plans, all references to area taken **shall not be referred to as "take" or the letter "T" but shall be referred to as "Required Right-of-Way" or "Req'd R/W."** These areas shall ordinarily be shown in square feet and acres. The needed area shall be computed to the third decimal with the remaining areas to be shown to the nearest one hundredth (0.01) for areas less than 1 acre, to the nearest tenth (0.1) for areas between 1 acre and 10 acres, and to the nearest acre for areas in excess of 10 acres. The areas of required right-of-way for subdivision lots, residential lots, and small commercial lots are to be indicated in square feet and acres. Such takings should be shown to the nearest foot and to the third decimal in acres. The areas of large commercial lots shall be shown in square feet and acres.

During the review process, if a determination is made by the County that a parcel remainder is an uneconomic remnant, the plans shall be revised by the Consultant as follows: required right-of-way shall remain the same, the property lines of the remnant shall be labeled "**Limit of Property Acquisition**", the remnant area shall be identified using the subject parcel number with an "**R**" suffix. For more than one remnant, the suffix shall be **R-1, R-2, etc.**

The area breakdown of such a parcel could be shown as follows:

Area Required	Rem
35 _____s.f. (15.375 Ac.) (R/W)	29 Ac. (RL)
35-R _____s.f. (0.962 Ac.)	-----

16.337 Ac. (Total)	

COVER SHEET

A right-of-way cover sheet or cover sheets shall be prepared to a scale that shall adequately reflect property lines, roads, streets, and other appropriate culture after the sheet is reduced to 8½-inch x 11-inch letter size. The cover sheet shall show the full property lines of large property holdings, and if the property lines to scale would extend beyond the map, broken property lines may be shown. It is usually necessary to indicate the entire property so that all access roads to the property can be shown for the benefit of the appraiser and reviewing appraiser. The right-of-way project number should be shown at the top of the sheet along with the County's project identification number. A "Length of Project" box shall also be included on the sheet. The length of the right-of-way project is not necessarily the same as the construction project length, but is to be the actual length of the right-of-way project. When the beginning or ending stations are different, left or right, then the greater length shall always be used; and in every case it is the beginning and ending of the required right-of-way and/or easements. This applies also to cover sheets for secondary projects, except that the designation "R/W" shall not follow the project number. The cover sheet shall include an insert to show the general location of the project. This insert showing the project location is required only on the first sheet where more than one cover sheet is used. Provisions shall be made on the cover sheet for a revision block so all revisions on the detail sheets can be listed on the cover sheet. The cover sheet revision block is to indicate revision date and the sheet numbers only. It is required only on the first sheet when more than one cover sheet is used. The cover sheet shall include beginning and ending stations of the right-of-way project, project termini of construction contracts, a north arR/W, graphic scale of cover sheet, date of plan completion, and, if available, land lot lines and numbers, land districts or Georgia Militia Districts.

GENERAL INFORMATION FOR PLAN SHEETS

General information that shall be shown on each plan sheet, in addition to that previously mentioned, includes:

1. The survey centerline and any other related centerline, clearly labeled
2. The construction limits, based upon approved preliminary plan, profile, and cross sections, properly identified
3. The project number and date in each title block
4. Paving lines indicated through all intersections, crossovers, interchanges, and driveways
5. North arR/W
6. Revision blocks with space for dates and brief description of revision
7. Right-of-way legends
8. Existing and proposed drainage

9. Each sheet shall be initialed and shall bear the date of plan completion

SOURCES OF INFORMATION

Informational sources necessary in compiling data for the preparation of right-of-way plans are numerous and extend beyond field data gathering. Some of these additional sources include:

1. Tax Assessor's Office – Tax maps. Much of the information is available online.
2. Clerk of Courts
3. County's online mapping
4. Health Department – Septic field information (if needed)

Right-of-way plans are a legal document and sometimes end up in court, so the information must be as accurate as possible. The Consultant is responsible for utilizing any data necessary to prepare an accurate set of right-of-way plans. If the project includes CCWS work, the Consultant is responsible for researching all CCWS records in order to accomplish.

OTHER GENERAL REQUIREMENTS

The following are additional items the Consultant shall follow in the preparation of right-of-way plans:

1. Make sure that plans are dark enough to show on a reduced 8½-inch x 11-inch print. Property lines and construction lines should clearly stand out and must be drawn to the satisfaction of the County.
2. Full stations and offsets shall be used on all right-of-way, easement, and property lines.
3. Do not begin or end (if possible) projects in the middle of a parcel.
4. Do not show the linear feet of access rights on parcels where there is required right-of-way. ?
5. All easements shall be presented according to the legend.
6. Make sure that the North ArR/W, Remainders, Construction Limits, and Stations and Offsets are included on all sheets.
7. The Consultant shall become familiar with the County's regulations concerning driveway locations and median openings. Corrections to the right-of-way plans as a result of the County's review to conform to these regulations shall be made by the Consultant at no additional cost to the County.
8. When plan sheet is revised, revision block shall include date, initials of responsible engineer, and brief description of the revision.

APPENDIX G: Preconstruction Pre-Bid Checklist

Date: _____

This form is to be submitted to the Pre-Construction Engineer 4 weeks prior to scheduled advertise date.

Advertise Date: _____ **Bid Date:** _____
Project Name: _____ **Project No.:** _____
Project Manager: _____ **Consulting Firm:** _____
Email: _____

	<input type="checkbox"/>	Pay Item Review (Match Plans to Bid Schedule) Type II Backfill, Patching, Leveling, 20% Erosion Control Markup, SOD
	_____	Number of Plan Sheets (including water if applicable)
	<input type="checkbox"/>	Geotech Reports <input type="checkbox"/> BFI <input type="checkbox"/> WFI
	<input type="checkbox"/>	Pond Surveys Needed
	<input type="checkbox"/>	Water Work in Plans
	<input type="checkbox"/>	Water Pay Items and Water Documents
205-0100	<input type="checkbox"/>	Construction Allowance \$ _____ THIS IS FIXED PRICE
	<input type="checkbox"/>	Final Operations Comments <input type="checkbox"/> Yes <input type="checkbox"/> No
	<input type="checkbox"/>	Traffic Signal Poles Needed (Projects less than 6 months – Op’s orders)
	<input type="checkbox"/>	Bridge Comments/Review <input type="checkbox"/> Yes <input type="checkbox"/> No
	_____	Construction Duration (days or completion date)
	_____	<i>If School Project - specify closure dates and detour route (if applicable)</i> Closure Start Date _____ Closure End Date _____ Liquidated Damages? Amount \$ _____
	<input type="checkbox"/>	Detour/Road Closure Permit Needed (Liquidated Damages for Road Closure)
	\$ _____	Liquidated Damages Amount
	_____	Constructability Review Meeting Date
	<input type="checkbox"/>	ROW (All ROW stipulations are on Plans/In Contract. PM to verify through MIS)
	_____	Number of Parcels Remaining
	<input type="checkbox"/>	Utilities Utility Adjustment Schedule <input type="checkbox"/> Yes <input type="checkbox"/> No Earliest Start Date <input type="checkbox"/> Yes <input type="checkbox"/> No Force Account Agreement <input type="checkbox"/> Yes <input type="checkbox"/> No Easements <input type="checkbox"/> Yes <input type="checkbox"/> No

**PRECONSTRUCTION DIVISION
PRE-BID CHECKLIST
PAGE 2**

		<p>Are Utility Agreements Required</p> <p>Cobb Marietta Water Authority <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Colonial Pipeline <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Plantation Pipeline <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>ATT Switching Cubicles with Separate Easements <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Atlanta Gas Light <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Georgia Power <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Electrical Transmission Lines <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Norfolk Southern Railroad <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>CSX Railroad <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Georgian Northeast Railroad <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If the answer to any of the above is yes, are agreements executed and included in the bid documents? <input type="checkbox"/> No</p> <p>List the special requirements contained in the agreements</p>
	Additional Utility Notes	
	<input type="checkbox"/>	Special Provisions Needed (Need to specify – Consultant to provide)
999-3015	<input type="checkbox"/>	SPLOST Signs (FIXED PRICE) _____ at \$100.00 each = \$ _____
999-3025	<input type="checkbox"/>	PEACH Signs (FIXED PRICE) _____ at \$100.00 each = \$ _____
632-0003	<input type="checkbox"/>	Variable Message Signs (Type III) Quantity _____ <input type="checkbox"/> Large <input type="checkbox"/> Small
	<input type="checkbox"/>	Asphalt Cement Index (To be filled out for projects >12 months) \$ _____ (FIXED)

Required	Specification Number	Description
<input type="checkbox"/>	108.08	Prosecution and Progress
<input type="checkbox"/>	150	Traffic Control
<input type="checkbox"/>	150.11	Traffic Control – Special Conditions
<input type="checkbox"/>	161	Control of Erosion and Sedimentation
<input type="checkbox"/>	163	Miscellaneous Erosion Control
<input type="checkbox"/>	167	Water Quality Monitoring (Projects that require an NOI)
<input type="checkbox"/>	171	Silt Fence
<input type="checkbox"/>	201	Clearing and Grubbing Right of Way
<input type="checkbox"/>		

Project Manager	Pre-Construction Engineer
Date	Date