



4-03.1 PLAN DETAILS. This section is for general reference. The details required on plans are further discussed throughout this manual. The designer should refer to the standard specifications for more information on individual items.

4-03.1 (1) PLAN PREPARATION. A set of detail plans normally consists of the following sheets: (1) title sheet; (2) typical section sheet(s); (3) summary of quantities 2A sheet(s); (4) summary of quantities 2B sheet(s); (5) plan-profile sheets; (6) referenced point sheet; (7) coordinate points sheet; (8) special sheets, including traffic control, temporary erosion and sediment control, lighting, signals, or signing plans; (9) culvert section sheets; (10) bridge plan sheets; (11) standard plans; and (12) computer sheets or cross section sheets. An example of a set of plans is shown in [Section 4-10](#). These examples are intended to illustrate certain features and are not intended to show complete details.

All sheets for plans are submitted on nominal size, 22" x 34" [560 mm x 865 mm] sheets. Drawings need to be centered on the page, so that no part of the drawing is cut off during reproduction. Shading, dense hatching, aerial photographs, pictures, and line weights less than 1 are not allowed because those areas will not copy adequately. The district identifies all sheets by the job number.

Plans are prepared to the neatness and accuracy requirements outlined in [Section 4-01](#). Plans shall be developed in accordance with [Specifications of Computer Deliverable Contract Plans](#). The CADD Standards Manual should be adhered to when preparing plans. This manual is a visual reference to the settings managers used by the department, showing lettering styles and sizes and common symbols used in plan production.

A consultant's logo shall be placed on all plan sheets produced for MoDOT improvement projects. The logo will not be larger than 2" [50 mm] in height or width (as measured on a standard size sheet as specified above) and will be located immediately above, below, or adjacent to the title block.

No attempt is made on the plans to repeat data covered in the standard specifications. References to the standard specifications are discouraged. References on the plans to standard plans are also discouraged, except as required to identify the proper drawing where more than one standard may be used for a construction item such as box culverts and drop inlets. In these cases, the reference to the standard plans is made on the 2B sheet, rather than in the notes on the plans.

4-03.1 (2) PROJECT LIMITS. Project limits are set to define major work limits which are usually the limits of surfacing for the main roadway, excluding connections. Project limits usually begin at the first full typical section and minimum right of way; incidental work such as the construction of bypasses and temporary connections, and sometimes grading, may extend beyond project limits. If separate contracts are awarded within the limits of any one project, the design plans should delineate the area of interfacing with any other contracts.

Federal requirements specify that stub-end routes on the supplementary system must end at a local traffic generating point. A local traffic generating point is defined as a town or village, school, church, cemetery, cluster of farm buildings, state parks, or a county road intersection. All projects must have logical termini, as described in [Subsection 2-01.8](#) and [Subsection 2-02.2\(1\)](#), including level course, pavement marking, etc.

4-03.2 TITLE SHEET. The title sheet is prepared to identify the set of plans, convey the general type of improvement planned, and locate the improvement. Title sheet blanks are available on CADD for district use. The title sheet includes, at least, the following information:

4-03.2 (1) DESIGN DESIGNATION. The major criteria under which the improvement is designed are included on the title sheet. These criteria are determined in the appropriate conceptual study report (See [Section 2-01](#)), in the location study/environmental report (See [Section 2-02](#)), or during design of the project. The design designation

consists of (1) functional classification, (2) present daily traffic volume, ADT, (3) a projected traffic volume, ADT, (4) design hourly volume percentage, DHV, (5) directional distribution of traffic percentage, D, (6) percentage of trucks, T, and (7) design speed, V. The design hourly traffic volume, directional distribution of traffic, and percentage of trucks may not be required; however, all information available should be included. The designer should give careful consideration to the importance of this information being archived with the plans before arbitrarily removing from the title sheet.

- 4-03.2 (2) RIGHT OF WAY ACCESS NOTE.** A note referring to the type of access control is required on all projects where right of way acquisition is involved. Four types of right of way access notes are available: (1) normal right of way, (2) controlled access, (3) fully controlled access and (4) partial controlled access. The three controlled access notes are available on CADD. If no right of way is required, a note to that effect is shown.
- 4-03.2 (3) CONVENTIONAL SYMBOLS.** The blank as furnished to the district contains a basic list of conventional symbols. If additional symbols are used on the plans, all such symbols are added to the tracing by the district.
- 4-03.2 (4) LOCATION SKETCH.** The sketch showing the location and limits of the improvement is added to the title sheet by the district. The location sketch shows physical features that will aid in the identification of the proposed road location, including intersecting and adjacent roads, prominent landmarks, towns, section lines, section numbers, and a north arrow. The delineation of the proposed roadway should be adequate to allow visual identification of its features, such as whether it's dual or single lane, location of outer-roadways, bridges, interchanges, ramps, etc. The major items of work are noted. The project's beginning and ending point are identified by station and log mile, along with any stationing equations, exceptions, or reverse points. The USGS 7.5 minute series topographic maps may be used as a base from which to develop the location sketch. A graphic scale is drawn on the tracing for the location sketch so that the scale will be applicable on reduced size prints.
- 4-03.2 (5) TITLE BLOCK.** The title block is filled out by the district, with the exception of the project number. This number is added by GHQ Design when necessary.
- 4-03.2 (6) INDEX OF SHEETS.** A complete index of the sheets included in the set of plans is shown on the title sheet. The number of sheets for bridge plans and the standard plans index are added by GHQ Design. This index is completed either in CADD or in pencil to allow for corrections or additions.
- 4-03.2 (7) LENGTH OF PROJECT.** The length of project is the total length of the improvement less equations and exceptions as noted in the plans. Examples of common exceptions are existing surfaces to be left in place, existing bridges to be used in place, existing intersections, and railroad grade crossings where the exception is the distance between the ends of railroad crossties.
- 4-03.3 TYPICAL SECTION SHEETS.** Typical section sheets are included in plans to show details and complete dimensions for proposed surfaces, bases, shoulders, ditches, and cut and fill slopes. The existing typical section information may be shown or summarized in a list on the typical section sheet when necessary. The typical section sheets include items such as pavement and shoulder dimensions, type, etc., to be constructed for highways, ramps, outer roadways, crossroads, and bypasses. Typical section sheets are numbered as sheet 2, regardless of the number of typical section sheets required. If more than one sheet is required the sheets are numbered "Sheet 1 of _____", "Sheet 2 of _____", etc.

Typical roadway sections should be developed as reproducible line drawings based on the typical roadway sections shown on Forms D-50 through D-71. These drawings are available to the district on CADD and are used where applicable or where they can be adapted with a reasonable amount of revision.

If a reproducible line drawing cannot be used, typical section sheets must be developed. The arrangement and details on such sheets follow the arrangement and details on Forms D-50 through D-71. Typical section sheets are developed to scale. A distorted vertical scale is usually used to show surface and base thicknesses. The distorted scale is not applied to slopes so that a proper perspective is maintained.

Typical sections are based on the data in [Figure 4-04.1](#) and the standard typical sections. For six lane divided

pavements (3 lanes each direction either initial or proposed), the inner four lanes slope toward the median and the outer two lanes slope away from the median, at 2.0 percent. For four-lane undivided pavements (2 lanes each direction) the lanes are sloped away from the profile grade point at 2.0 percent with no rounding at the centerline. When three or more lanes are inclined in the same direction on multi-lane pavements, the slope for each successive pair of lanes or portion thereof outward from the first two lanes from the crown line may be increased by a rate of 0.5 percent. A maximum of two lanes on each side of the crown line may be pitched at 1.5 percent. The cross slopes selected should be based upon pavement drainage and constructability. Other data for surfaces, bases, subgrade and shoulders are given in Chapter VI.

4-03.4 SUMMARY AND TABULATION OF QUANTITIES. Quantities for a project are summarized and tabulated by the use of (1) summary of quantities 2A sheet, (2) summary of quantities 2B sheet, and (3) tabulation of quantities sheets. Arbitrary quantities primarily used to establish a unit bid price should not be included. The use of arbitrary quantities can cause unbalanced bidding and can result in excessive costs and potential litigation.

4-03.4 (1) 2A SHEET. The 2A sheet is a listing of the quantities for all bid items necessary to construct a project in accordance with the plan details. The 2A sheet is prepared by GHQ Design from the output data of the Estimate Program. The Estimate Program data is prepared by the district and is further explained later in this section. Every project with full size plans requires a 2A sheet.

4-03.4 (2) 2B SHEET. The 2B sheet is a summary of all quantities from the plan-profile sheets of a project. In addition to summarizing, the 2B sheet also supplements details shown on the plan-profile sheets by providing additional detail information.

The 2B sheet is prepared by the district on Form D-2B. Care is exercised to place items on the D-2B sheet(s) in a systematic manner, usually by pay item, to simplify locating construction items on the sheets. If more than one sheet is required, the sheets are numbered "Sheet 1 of _____", "Sheet 2 of _____", etc. Reference is made on the sheets to the plan-profile sheet to which the data applies.

Form D-2BS is used to summarize signs and other items used on the traffic control plans. This form is available in two formats, one sheet for full size plans (22" x 34") and three sheets for sketches (8 1/2" x 11"). Both Form D-2B and Form D-2BS are available on CADD.

Continuous job-length quantities, such as paving, should be broken down into quantities by plan sheet or other convenient breaking point. Each item for "Removal of Improvements" is listed, along with a brief description, quantity, and the station, offset, and plan sheet number of that item. Culvert clean-out is shown with the station, plan sheet number, type, size, and length of culvert. The limits of cut compaction and the quantity of excavation, borrow, or embankment needed for any approved crashworthy end terminals are also shown.

4-03.4 (3) SUMMARY AND TABULATION OF QUANTITIES. Quantities for a project are summarized and tabulated by the use of (1) summary of quantities 2A sheet, (2) summary of quantities 2B sheet, and (3) tabulation of quantities sheets. Arbitrary quantities used primarily to establish a unit bid price should not be included. The use of arbitrary quantities can cause unbalanced bidding and can result in excessive costs and potential litigation.

4-03.5 PLAN-PROFILE SHEETS. Plan-profile sheets are prepared to such a scale and in such detail required to accurately represent existing features and to convey details and quantities for the proposed work.

4-03.5 (1) PREPARATION. CADD generated plan-profile sheets are developed when feasible. The procedures set forth in the CADD Standards Manual should be followed when preparing plan-profile sheets. Profiles of ground lines may be drawn freehand through accurately plotted profile points. Duplication of sheets covering the same area is avoided where practicable.

The plan-profile sheets include details for profiles and grades for all intersected roads, crossroads, interchange ramps, outer roadways, bypasses, and all other items which are to be constructed. If such items cannot be shown on the main roadway plan-profile sheets without crowding, supplemental plan-profile sheets or full profile sheets are used. The delineation of pavements is shown, but the pavements are not shaded or colored.

The delineation of other surface types is not usually shown. Profiles of ditch lines that vary from a standard ditch depth may be delineated on the roadway profiles or shown on cross sections or computer sheets.

- 4-03.5 (2) SCALE.** The plan portion of plan-profile sheets is usually developed to a scale of 1" = 100' [1:1000]. Urban plans in highly developed areas sometimes require the use of a scale of 1" = 20' [1:500] to avoid crowding. The profile is plotted on the profile portion of the plan-profile sheet to the same horizontal scale used on the plan portion of the sheet. The profile is always plotted to a vertical scale of 1" = 10' [1:100], regardless of the horizontal scale used.
- 4-03.5 (3) SHEET NUMBERS.** The first plan-profile sheet for a project is sheet no. 3. Full profile sheets are numbered subsequent to the main roadway plan-profile sheet on which the features appear. Supplemental plan-profile sheets, such as those for a crossroad, are also numbered subsequent to the main roadway plan-profile sheet on which those features appear.
- 4-03.5 (4) BENCH MARKS.** A description of bench mark locations and bench mark elevations is included in the profile portion of the plan-profile sheet.
- 4-03.5 (5) CURVE DATA.** Curve data for all horizontal curves is shown in accordance with the curve data illustrated on the examples in [Section 4-10](#). The radius (arc) definition of curvature is used for new alignment. The chord definition is used only when an existing chord defined curve is utilized in the alignment. Chord definition curves are identified by placing "(chord)" after the radius listed in the curve data on the plans. Spiral data is shown as indicated on [Figure 4-02.3](#). For complex interchanges or other projects, special curve data sheets may be developed to avoid clutter.
- 4-03.5 (6) GENERAL NOTES.** Most general notes are shown on the first plan-profile sheet. Some examples of these notes are as follows:
- "Any items of work beyond the project limits are incidental to, and a part of the construction of this project."
 - "Bearings shown are state plane bearings, central zone."
 - "Federal improvement begins at a point approximately 1040 ft. east and 105 ft. north of SW COR SEC 1, T57N, R21W."
- 4-03.5 (7) INTERCHANGES.** Plan-profile sheets covering interchange areas are developed to the same scale used for the main roadway. Details in interchange areas include all grading quantities, paving limits, and adequate provision for handling temporary and permanent drainage. Duplication of information on duplicate plan-profile sheets in interchange areas is not necessary or desirable.
- 4-03.5 (7) (a) DIAMOND-TYPE INTERCHANGES.** Details for diamond-type interchanges are developed on plan-profile sheets by using the sheet along the main roadway through the interchange and a supplemental plan-profile sheet for the crossroad. Ramp profiles and grades are shown on the profile section of the crossroad plan-profile sheet, if there is sufficient room without crowding. If not, a separate full profile sheet is used for the ramp profiles and grades.
- 4-03.5 (7) (b) OTHER INTERCHANGE TYPES.** A full plan sheet, supplementing the plan-profile sheets for the main roadways through the interchange area, is used to develop geometric data and details for interchange types other than the diamond-type. Full profile sheets are used to develop profiles and grades for the interchange ramps and for outer roadways and service roads adjacent to the interchange area.
- 4-03.6 REFERENCED POINTS SHEET.** The referenced points for the surveyed alignment are indicated on a separate sheet for use by Construction in re-establishing the location. Referenced points sheets are available on CADD. The referenced points are shown on a single sheet, if possible.

It is common for MoDOT Modified Coordinates to be placed on the Referenced Points Sheet but it should be indicated on the sheet if they are MoDOT Modified Coordinates or Missouri State Plane Coordinates along with the projection factor for the project.

4-03.7 COORDINATE POINTS SHEET. In order to aid in the re-establishment of the alignment for a project, a listing of significant alignment and control points with their 1983 Missouri State Plane Coordinates are included in the plans on the Missouri Coordinate Sheet. A blank form is available as a MicroStation seed file. This listing includes the sheet number, station, location, offset, point ID, northing coordinate, easting coordinate, and description of the significant points. The coordinates for the points are shown in feet to two decimal places [three decimal places for metric projects], but may be shown with up to five decimal places.

The points listed include the following:

- Beginning and ending station coordinates of project.
- Alignment points (POT's, PI's, Curves (PC, CC, PT), and Spiral Curves (TS, SC, Overall PI, CS, ST)).
- Major centerline intersections (e.g. state routes, major side road approaches, ramp intersections, outer roads, etc.).
- Survey Control Points used by Survey Crews.
- Other significant points unique to the project.

This sheet is used on all projects which have state plane coordinates. This sheet is not used on projects which have independent grid coordinates.

The coordinates listed are state plane coordinates. The average projection factor used for the computation of the coordinates for the project is included on the sheet. This factor is furnished by Photogrammetry. It is shown in the form of a multiplier of the state plane distances to obtain ground distances. The station and offset distances shown on this sheet are ground distances. The point ID is the point number or name used in the computations.

The coordinate point sheet contains the historical data for the alignment information for the project and is a permanent part of the plans.

4-03.8 SPECIAL SHEETS. Special sheets supplement the plan-profile sheets. Information is preferably shown on plan-profile sheets where practicable. Special sheets are used in plans to enlarge details and to show details which cannot be shown on the plan-profile sheets. Duplication of information is not desirable. The special sheets are cross referenced to and from the plan-profile sheets.

Special sheets are prepared in the same manner as plan-profile sheets. The scale selected for use on special drawings depends on the detail to be shown. Where applicable, a graphic scale is included on special sheets. If room allows, one special sheet may show several different details.

Special sheets are numbered consecutively after the plan-profile sheets, beginning with Special Sheet No. 1, preferably in the order that the special drawings are required, proceeding from the beginning of the project in the direction of the survey. Where box culverts are designed for excess fills requiring the use of Form D-8 (see [Section 9-10](#)), a standard special sheet is included in the plans. This sheet is always numbered Special Sheet No. 1, and is completed with the required data.

Standard plans which are modified and used in plans are considered special sheets. Special sheets are used to show details and pavement joint layouts at ramp intersections and other intersections which are to be paved, where the details are not covered on standard plans. The scale used for the pavement layout sheet is from 1" = 30' to 1" = 50' [1:200 to 1:500], depending upon the amount of detail to be indicated. The temporary erosion and sediment control, lighting, signals, signing, and traffic control plans for a project may also be shown on special sheets. [Section 4-09](#) contains more information on temporary erosion and sediment control plans. Chapter VIII is referred to for information on lighting, signals, signing, and traffic control plans.

4-03.9 CULVERT SECTION SHEETS. Culvert section sheets are used to detail drainage structures, including storm and sanitary sewers. The culvert section is a longitudinal section along the structure, and details are drawn accordingly. The existing ground line, station location, skew, survey centerline ground elevation and survey centerline profile elevation are shown. A horizontal and vertical scale of either 1" = 5' or 1" = 10' [1:50 or 1:100] is used. Culvert details are shown only to the extent necessary to indicate flow line elevations and the limits of Class 3 or 4

Excavation. Normal roadway excavation is excluded from Class 3 or 4 Excavation to avoid double payment. The Standard Drawings pertaining to the culverts or drop inlets included in the project must be referenced on the culvert section sheets and should also be listed on the 2B sheet of the project plans. The fill heights for the culvert sections and the type of end sections for both the upstream and downstream ends of the culverts must also be included (see [Figure 9-10.2](#), Sheets 7 and 8) although precise details of end sections or headwalls are not necessary or desirable. Each culvert section includes a note indicating the station location of the structure, the skew, the size of structure, the length of structure and the volume of Class 3 or 4 Excavation.

4-03.10 BRIDGE DRAWINGS. Bridge drawings are prepared by GHQ Bridge and are assembled into the completed plans by GHQ Design.

4-03.11 STANDARD PLANS. Standard plans are used to eliminate the need for preparing detail drawings covering repetitious items for detail plans. Standard plans are used with plans in all cases where such drawings are adaptable, or where such drawings can be made adaptable by minor revisions, thereby eliminating the need for developing detail drawings. Reproducibles of standard plans can be furnished to the districts for use in plans with modifications. Standard plans which are modified become special sheets. During the preparation of plans the designer maintains a list of standard plans used to avoid overlooking items covered by standard plans upon completion of the plans.

4-03.12 CROSS SECTIONS. Cross sections are used to indicate and compute grading quantities necessary to construct the improvement to the required typical section and grade. Since cross section sheets are not microfilmed, caution should be taken by the designer not to include permanent record information on them.

The existing ground line, station location, and survey centerline elevation are shown. A scale of either 1" = 5' or 1" = 10' [1:50 or 1:100] is used. The grading limits are drawn on cross sections by using a template. Rounding and overbreak are not shown. End areas and quantities are shown. End areas and quantities for excavation are total quantities. End areas and excavation quantities for classified excavation are not shown. Cross section sheets are numbered consecutively, beginning with sheet no. 1 for the first cross section sheet for the project.

4-03.13 SPECIAL PROVISIONS. Special provisions are included in contracts as required to define work or procedures not covered in the standard specifications, and as necessary to supplement or modify items in the standard specifications. Each contract includes a table of contents for job special provisions.

4-03.13 (1) JOB SPECIAL PROVISIONS. Job special provisions are usually prepared by the district to cover items of work unique to a specific project and not adequately explained on the plans or in the standard specifications. A simple plan note is preferred to a written job special provision. Job special provisions are used to specify types of materials rather than using notes on plans. They are not written for the sole purpose of establishing an item number. Special "99" item numbers always require a job special provision.

Considerable care should be exercised in writing job special provisions. Clarity of intent is most important and must be achieved without wordy, lengthy, or overly detailed statements. Terms or phrases which do not have a well understood and definite meaning must be avoided. When a condition is mandatory, the word "shall" is used. If a condition is permissive or optional, the word "may" is used. Generally, the provisions state the contractor "shall" perform an action, and the commission "will" perform an action.

A job special provision contains five basic parts similar in style to the standard specifications. These five parts are: (1) Description, (2) Material, (3) Construction Requirements, (4) Method of Measurement, and (5) Basis of Payment. Job special provisions may also supplement or modify the standard specifications, in which case a complete specification need not be prepared but will require only a reference to the standard specification with the necessary information to supplement or modify the standard specification. Any portion of the standard specifications to be modified is clearly identified.

The use of trade names in job special provisions is discouraged. However, in special circumstances, the use of a proprietary item may be necessary. When it is necessary to use a proprietary or experimental item, a Public Interest Finding (See [Subsection 4-09.24](#)) and/or an Experimental Work Plan as shown in [Figure 4-03.4](#) should accompany the letter of transmittal when the contract plans are submitted.

4-03.13 (1) (a) STANDARDIZED JOB SPECIAL PROVISIONS. Job special provisions which are frequently used have been standardized and are available for district use. These job special provisions are designated as DSP (Design Special Provision) or MSP (Materials Special Provision). GHQ Construction and Materials should be consulted prior to using any MSP denoted with an asterik in the database. When using a standardized job special provision for a particular project, the special provision shall be designated by the title only on the job special provisions table of contents. The DSP or MSP number is used in the heading of the text of the job special provision.

If a standardized job special provision is revised by the district for a particular project, the special provision shall be designated by name only on the job special provisions table of contents and in the heading of the text of the job special provision. The DSP or MSP number must be removed from the title of the job special provision in the heading of the text. Any revisions made by district personnel to standardized job special provisions must be carefully undertaken. GHQ personnel will review these revised job special provisions for content and conformance to MoDOT standards. To assist the review process, the PS&E submittal cover letter indicates what changes were made to the standardized job special provisions.

GHQ will insert standardized job special provisions into the proposal. Any job special provision that includes the DSP or MSP number in either the index or the title in the body is assumed to be the standardized job special provision. GHQ personnel will replace those job special provisions with the most current standard, regardless of whether the district included the body of the standardized job special provision in the proposal. Any revision made at GHQ to a district job special provision will be provided to the district for approval. Do not put "(To Be Inserted by GHQ)" next to a job special provision on the index. GHQ personnel will have to remove this wording and return the index to the transportation project manager to be re-signed and sealed. It is acceptable to put "(To Be Inserted by GHQ)" next to the job special provision title in the body.

4-03.13 (1) (b) REQUIRED JOB SPECIAL PROVISIONS. Some job special provisions are required in most projects. The standard specifications also can require, with certain specific items, that the contract specify material, methods or equipment. A job special provision will be required for these items. Examples of these items are as follows:

- General. The first job special provision in every contract tells the contractor whether the project is to be constructed under federal or state requirements. This is a standardized provision included in all projects.
- Traffic Control Plan. See [Section 104.7](#) of the standard specifications. This job special provision covers situations not covered in the standard specifications. Construction phases or stages are not included in this job special provision. All time restrictions when the contractor will not be permitted to perform construction on the roadway (i.e. A.M. and P.M. peak vehicular hours) are stated. The standardized job special provision provides an outline. This provision is included in all projects even if special situations not covered in the standard specifications do not exist.
- Utilities. A special provision telling the contractor the status of any known utility adjustments is included in each contract. The standardized job special provision provides an outline.
- Project Contact. A special provision is required telling the bidder who to contact at MoDOT regarding the project. Only one project contact is to be designated for the project to provide bidders with a consistent source of answers to their questions. See [Section 4-03.20](#) "Communication with the Public".
- Fertilizing and Seeding Mixtures. See [Subsection 4-09.4](#) and [Section 800](#) of the standard specifications. All disturbed areas are fertilized, limed, and either seeded or sodded, except for surfaced areas, solid rock and slopes consisting primarily of broken rock.
- Supplemental Revisions. This special provision contains revisions to the standard specifications that have not been implemented into the Supplemental Specification Revisions ("blue pack"). This provision is included in all projects when it contains specification revisions.
- Project Schedule Complexity. There are three different levels of progress schedules that are warranted based on differing levels of complexity in projects. For the majority of projects, Standard Specification Sec 108 provides the appropriate project scheduling method, indicating all

interdependencies between activities. For non-complex projects, such as leveling course, surface treatment, pavement marking, mowing and the like, the job special provision DSP-97-06 "Division 100 Revisions for Non-complex projects" should be used which allows a non-complex type of project scheduling. Non-complex schedules are not intended for projects:

- Involving the interstate system.
- When utilities are not clear.
- With any item that could become an issue of delay or cause time concerns.
- That are a precedent for a following project (grading/paving in separate contracts).
- That contain A+B bidding, incentive/disincentive, or similar innovative contracting methods.
- On multiple routes in congested areas.
- When working at night is necessary.
- Where there is a significant difference in peak and non-peak traffic.
- That the project core team determines require the normal scheduling.

The list above should not be used as the inclusive list for using the scheduling methods in the standard specifications; rather it is a list for when the non-complex job special provision is not appropriate.

The highest level of project complexity is also not adequately covered by the standard specifications. For major river bridge projects, significant interstate interchange reconfiguration, highly staged new construction, and other projects as recommended by the project core team, a job special provision should be used which enhances the scheduling requirements. These schedules should be critical path method or precedence diagram type schedules and should be "resource loaded." Adaptable examples may be found in the AASHTO Guide Specifications for Highway Construction, other government and industry standard contract documents (Corps of Engineers, Associated General Contractors, American Institute of Architects, or Engineers Joint Contract Documents Committee). Examples are available by contacting GHQ Construction-Materials. MoDOT has used consultant drafted and administered schedule provisions, under separate contracts, for large highly complex projects. This option is available for consideration by core teams.

- Contractor Furnished Surveying and Staking. The core team may determine when it is advantageous to include this provision. The desire to use this special provision on a project should be established as early as possible in the core team process through discussions between project development and operations personnel. The JSP database includes a letter with additional guidance on using this provision.

The following Job Special Provisions were removed from the Standard Specifications and will need to be used on projects whenever necessary:

- Masonry Construction (Section 610)
- Office for Engineer (Section 615)
- Placing State Owned Pipe (Section 729)
- Overhead Lighting of Signs (Section 903)

4-03.13 (2) GENERAL PROVISIONS. General provisions are prepared and included in contracts by GHQ Design.

4-03.14 ESTIMATES. An estimate is prepared by the district for each project using the microcomputer and instructions given in the "Estimate Program Manual". The estimate is a valuable tool. It is used to program and schedule improvements and evaluate bids received to determine if an award of contract should be made. Since many things depend on this data, it should be checked very carefully by the district to assure its accuracy. The estimate will be reviewed by GHQ Design. Unit prices may be adjusted when it is felt that the complexity of a job merits further consideration, or it is necessary to reflect state-wide trends in bidding practices or adjustments in labor rates. The final estimate is confidential information and must not be discussed with anyone outside of the department.

4-03.14 (1) UNIT PRICES. Unit prices for the estimate are developed by the district. Basic unit price information can be obtained from the annual calendar year "Unit Bid Prices" book prepared and distributed by GHQ Design. For

each specific project to be estimated this basic unit price must be further analyzed to reflect the project's individual characteristics, such as size of project, rural or urban location, terrain, size of the major items of work, method of handling traffic, required delays to the sequence of construction operations, etc. This fully evaluated unit price is then used to complete the estimate.

Data for analyzing unit prices can be obtained from recent bid openings where comparable or nearly comparable work was performed. The district is furnished with a summary of bids awarded during the previous three years for each bid item. These listings are valuable to note trends in average bid prices.

- 4-03.14 (1) (a) SURFACING FOR TEMPORARY USE.** When it is determined that surfacing for temporary use is necessary to satisfactorily provide traffic ingress and egress to private property, across the project or along the roadway, the district estimates the quantity of temporary surfacing.
- 4-03.14 (1) (b) SEDIMENT REMOVAL.** When sediment removal is specified for a temporary erosion and sediment control plan, the district estimates the quantity as described in [Section 4-09](#).
- 4-03.14 (1) (c) MOBILIZATION.** Mobilization costs are included on every project. These costs may be estimated at 4% of the total construction cost of the project. This figure will be more carefully analyzed and adjusted by GHQ Design.
- 4-03.14 (1) (d) FIELD LABORATORIES.** Field laboratories are required on jobs as stated in the standard specifications. Type 1 and Type 3 field laboratories are specified at no direct pay. For grading projects which require a Type 2 field laboratory, the designer should consult with the district construction and materials personnel on the core team to determine whether it is necessary to include a pay item for the laboratory. There may be cases where the project is located in close proximity to a Resident Engineer's office and the Type 2 field laboratory can be eliminated from the project. Also, a project might be located in close proximity to another project in progress where the laboratory can be shared between the projects.
- 4-03.14 (2) SPECIAL ESTIMATES.** Because of auditing procedures, it is necessary to prepare separate special estimates for work for which special funding is provided. An example of work requiring special estimates would include work done for a city which is included in the contract, with costs reimbursed by the city. All guardrail items and attenuator items must have separate estimates as they may use special safety funding. These items are distinguished with footnotes on the estimate.
- 4-03.14 (3) ALTERNATE BID ITEMS.** For proprietary work items, or in other special circumstances, alternate bid items are used. Pay items, descriptions, and quantities are included in the itemized proposal for each of the two alternates; the bidder can select only one. The designer's estimate indicates a unit price for only the most likely of the two alternates. A job special provision describing the alternates and the bidding procedure is included in the proposal.
- 4-03.14 (4) NON-CONTRACTUAL COSTS.** Non-contractual costs are those costs incurred on a construction project utilizing MoDOT's own labor, equipment or materials. Non-contractual costs are part of the estimated project cost as shown in the Statewide Transportation Improvement Program (STIP) and are approved by the Commission at the time of the STIP approval. Costs for some of these non-contractual items are shown in [Figure 4-03.5](#).

All non-contractual items will be charged to the district's operating budget and coded to the appropriate project number to ensure the total expenses for the project are accurately tracked. Exceptions to this policy include right of way monumentation, specially fabricated steel, signal equipment, lighting equipment and intelligent transportation system equipment. The district is authorized to charge the exception items, including utility relocations, directly to the right-of-way and construction program and appropriate project number.

All MoDOT labor incurred on non-contractual items shall be charged to the district's operating budget and coded to the appropriate project number. If the district encounters a non-contractual item not listed as an exception totaling more than \$3,000, the district may request approval from GHQ Planning to charge the cost of the item directly to the right-of-way and construction program. In order to receive approval, the district must

ensure the item was included in the final program estimate of the project.

Non-contractual costs are included in the district's program estimate. Non-contractual costs are also included in the tabulation of final project costs for completed projects, regardless of whether the costs were paid for with right-of-way and construction funds or district operating funds.

4-03.15 EQUIPMENT AND MATERIALS LIST. All projects that contain permanent highway lighting or traffic signal items, or temporary lighting and signal items that will be retained by the Commission, require an Equipment and Materials List (Form D-15). Form D-15 can be found in the Design Forms category of the Design Forms on the computer system. Form D-15 should be condensed by the district. When condensed, only the pertinent lighting and signal items on the project will remain on Form D-15. This form should be accompanied with a cover letter (see [Figure 4-03.6](#)) and be submitted to GHQ Design with final design plans. The contractor will be responsible for completing the form by listing the products to be used on the project.

Form D-15 is used for permanent lighting and signal equipment. This form should not be used for temporary lighting, signals or other work zone related items that will be removed before the project is completed, unless the items will be retained by the Commission. Instructions for completing this form can be found attached to the end of Form D-15.

4-03.16 CONTRACT TIME. Contract time should be set such that it encourages contractors to continuously and diligently prosecute the work in a reasonable fashion, while causing the least disruption to traffic. Contract time is calculated using the typical working days available during a construction season, along with anticipated production rates for the items of work. [Figure 4-03.8](#) details average working days per month for six major items type of work. Great care should be taken in preparing a working day study for a project. Incorrect contract time can be the most significant factor in the bid prices on a project, as well as a primary cause of claims, particularly where other constraints such as tight working conditions, heavy traffic, multiple traffic shifts, complex staging, or weather dependent items are included. When preparing the working day study, review the standard specifications for construction restrictions and approval requirements, and consult with GHQ Bridge and district construction and materials personnel to determine probable order of work and time involved to receive material and mix design approvals. Consideration should be given, but not limited to, the following:

- When working days are charged
- Restrictions on construction of individual items of work (e.g. thickness of lifts allowed)
- Time allowed for asphalt mix design approval process (particularly on Superpave projects)
- Concrete curing time
- 104 calendar days should be added to the working days in computation of the project completion date for fabrication and delivery of signal posts and lighting poles, when signals or lighting are a significant portion of the project
- Other materials fabrication or delivery time (including aggregate, steel, and other specialty items such as signal controllers)

Since asphalt paving is a temperature sensitive project activity, when this is included as part of the project, the designer should try and coordinate working days such that paving activities can be completed during favorable weather conditions. If paving activities are to extend beyond one construction season, working days should reflect a milestone around October 1 such that plan thickness is constructed for all pavements that will be opened to traffic over the winter season.

GHQ Design will assign the Notice to Proceed date based on the final estimate cost. Generally, the construction contract will include provisions which provide for the contractor to receive a Notice to Proceed for the contract 30 days from the award of the contract for projects of \$2 million or less and 60 days from the award of the contract for projects greater than \$2 million. The district should coordinate with GHQ Design when determining an early or delayed Notice to Proceed. For early or delayed Notice's to Proceed, a JSP stating the date of the Notice to Proceed should be included in the final plans submittal.

A "[Contract Time Determination](#)" report is available for further information on developing working day studies. This report contains the most current data available for production rates. Core team members and GHQ personnel

are good resources to use for assisting in establishing contract time.

4-03.16 (1) WORKING DAYS VS. COMPLETION DATES. Contract time is typically governed by working days. Completion by calendar days or calendar date may be used where a specific date has been established as necessary for the completion of the project. When completion by calendar days or calendar date is specified, a working day study must still be prepared that shows the completion date is reasonable, and based on the production rates and construction staging used for that project. A standard special provision “[Contract Time for Completion of Work](#)” is available which applies both methods of setting contract time. In this provision, the contractor is provided a window of time in which to work working day count begins when the contractor starts work, but the contractor also has an ultimate completion date. This provision should not usually be used for work requiring more than one construction season to finish, and should usually only be considered when the anticipated duration of the work is less than the construction season available.

4-03.16 (2) LIQUIDATED DAMAGES. Liquidated damages are inserted in the bidding documents by GHQ Design. If conditions warrant, the district may recommend a different amount of liquidated damages than might ordinarily be determined. Liquidated damages should bear a direct relationship to the actual administrative and construction engineering costs expected to be incurred. Road user and other costs may be considered in establishing liquidated damages. Typical costs resulting from the specific nature of the project may also be included and their nature and their calculation identified in the project file. Liquidated damages are not penalties and should never be identified as penalties. Liquidated damages are used to recognize that delay in completion of a project or milestone have real costs, which are difficult to estimate at the time a project contract is let. Liquidated damages are a conscious recognition of the difficulty and effort to fix the costs. It should be noted that possible overlap of liquidated damage provisions may occur. If this is the case care should be taken so as to not structure the contract in a manner that may apply a double assessment of damages.

4-03.16 (3) LIQUIDATED DAMAGES SPECIFIED. Job Special Provisions are available for use when it is determined that liquidated damages specified is appropriate for the completion of a specific stage, part or feature of the construction. The time or completion date provided must be justified by an accurate workday study. The amount of liquidated damages specified should bear a direct relationship to the actual costs incurred by not having the specified portion of the work complete. Road user costs should be used and other costs may be considered in establishing liquidated damages specified. The actual costs of administrative and construction and engineering costs that are expected to be incurred may also be considered but care should be taken that these costs are not included in damages listed elsewhere in the contract that may be assessed at the same time. Typical costs to the Department, road users and other third parties may be considered and included and their nature and calculation identified in the project files. Similar to liquidated damages; liquidated damages specified are not penalties and should never be identified as penalties. It should be noted that possible overlap of liquidated damage provisions may occur. If this is the case care should be taken so as to not structure the contract in a manner that may apply a double assessment of damages.

Suggested criteria for use:

- Time of completion of milestones or specific features is critical to future work
- Minimize detours
- Public or worker safety
- Time of completion of specific feature of work is critical to minimize extraordinary impacts to the traveling public
- Generally periods of short duration
- Units of time may be number of calendar days, completion by a calendar date, hours or portions of hours

4-03.16 (4) ACCELERATION OF WORK CLAUSES. An acceleration of work clause, also referred to as an Incentive/Disincentive clause or A+B bidding, is defined by a job special provision which allows the bidder to bid the time in which the bidder believes the work may be completed. Under the A+B method, each submitted bid consists of two components: The “A” component is the traditional bid for the contract items, and the “B” component is the total number of calendar days, or other units of time, the bidder stipulates will be required to complete the project or phase of a project, multiplied by the road user cost per unit of time. The lowest bid is determined by adding the sum of the amount bid for the contract items to the cost associated with the time bid to complete the project or phase of the project. This total value is used only to determine the winning bidder

and is not included in the contract cost (the incentive to be earned or disincentive to be deducted may only be determined when the work is completed). An additional J number is needed for the “B” portion of an A+B project and may be obtained from GHQ Transportation Planning. The pay item number used for the “B” portion of an A+B project is 618-99.16 (Misc. Average Road User Cost).

For projects with high road user impacts, the A+B method can prove to be an effective technique. By giving the contractor the flexibility to establish its own completion time, operational efficiency is rewarded and significant reductions in project impacts may result. Projects selected for acceleration of work clauses are generally high profile, high traffic areas, and typically involve road or bridge closures, however this provision can become too complicated to administer on extremely complicated multi-year projects. Road user costs are required and an accurate workday study is critical. Routine projects should not incorporate A+B bidding. The potential incentive amount should be factored into the project budget as soon as possible.

Suggested criteria for use:

- Traffic restrictions, lane closures, or detours resulting in high road user impacts
- Traffic control phasing may be structured to maximize a contractor’s ability to reduce the duration of construction
- The project is substantially free of third party conflicts, e.g. right of way, utilities, etc.
- Significant impacts to the local community or business economies
- Safety concerns
- Usually the contract time is one season or less (bidding days for more than one season adds potential risk to the bidder although it may be suitable in unique circumstances)
- Usually used on projects where more than one or two bidders are expected

The use of A+B bidding may motivate the contractor to gain incentives by using innovative methods of construction and phasing thus reducing contract time and impacts on the traveling public.

4-03.16 (5) LIQUIDATED SAVINGS SPECIFIED. Liquidated savings, or straight incentive, is defined by job special provision, which allows for an incentive payment if the contractor finishes a phase or the project by a certain time. Again, a road user cost and accurate workday study is necessary. The potential incentive amount should be factored into the project budget as soon as possible.

Suggested criteria for use:

- Completion of milestones are critical to future work
- Long detours
- Contract time is lengthy

4-03.16 (6) LIQUIDATED SAVINGS SPECIFIED/LIQUIDATED DAMAGES SPECIFIED. A job special provision, which encourages early completion of a project or phase of a project by offering an incentive while limiting construction time by assessing a liquidated damage specified. This provision is similar to A+B bidding except MoDOT sets the time. If the contractor finishes the described work ahead of time, the contractor receives an incentive. If the contractor finishes the described work after the time set, contractor is assessed a liquidated damage specified. It should be noted that if the time set is for project completion the liquidated damage specified should not be applied in addition to regular liquidated damages for the same costs (double assessment). The potential incentive amount should be factored into the project budget as soon as possible.

Suggested criteria for use:

- Completion of milestones are critical to future work
- There is a critical completion date
- Long detours
- Public or worker safety
- Contract time is lengthy or short

4-03.17 SUBMISSION OF PLANS AND SUPPORTING DOCUMENTS.

4-03.17 (1) FINAL DESIGN PLANS SUBMITTAL. In preparation for the bid opening of a project, the district submits

the following information to GHQ Design: a letter of transmittal, a full size signed and sealed set of plans, a half size unsigned and unsealed set of plans, job special provisions, estimate, and other miscellaneous data necessary to process the job. The district should retain a copy of all data submitted. Plans may not have mixed English and metric pay items in the contract. For projects that are to be let in combination, coordination should be made between project managers to ensure that all the projects are designed in the same units (i.e., all English or all metric).

- 4-03.17 (1) (a) LETTER OF TRANSMITTAL.** The letter of transmittal enumerates any changes made in design since preliminary plan approval, unless the changes have received prior approval. It provides a current review of the status of the project (right of way clearance, utilities, recommended bid opening date, etc.). All variations from standard practice and design standard are mentioned.
- 4-03.17 (1) (b) PLANS.** Detail plans submitted to GHQ Design include all original tracings required for a complete set of construction plans, except standard plans and bridge drawings.
- 4-03.17 (1) (c) JOB SPECIAL PROVISIONS.** A printed copy of the job special provisions is attached to the transmittal letter. The computer file of the job special provisions is transferred electronically to GHQ Design, by the use of the PES Copy function of the Estimate program. The job special provisions must be submitted in Word format.
- 4-03.17 (1) (d) ESTIMATE.** A printed copy of the project estimate is attached to the transmittal letter. The computer file containing the estimate data is transferred electronically to GHQ Design using the PES Copy function of the Estimate program. The district or consultant estimate submitted to GHQ Design should not contain any bridge estimates. All bridge estimates will be submitted by GHQ Bridge.
- 4-03.17 (1) (e) EQUIPMENT AND MATERIALS LIST.** All projects that contain permanent highway lighting or traffic signal items, or temporary lighting and signal items that will be retained by the Commission, require an Equipment and Materials List (Form D-15). See [Subsection 4-03.15](#) for additional information regarding this form. A printed copy of the form should accompany a cover letter (see [Figure 4-03.6](#)), and both the form and cover letter included with the transmittal letter. The computer file containing the Form D-15 is transferred electronically to GHQ Design. The transmittal letter should give the name of the file.
- 4-03.17 (1) (f) CONFLICT OF INTEREST.** The district should ensure the conflict of interest status previously reported to program management is current. The district should complete the MHTC Agenda Checklist, which can be found electronically at P:\Contract. This form should be completed whether there has been a change in the status as previously submitted or not. For more information regarding conflict of interest, see [Subsections 2-03.11](#) and [4-02.13](#).
- 4-03.17 (1) (g) MISCELLANEOUS.** The working days study and recommendation, Project Core Team Certification (Form D-13), utilities clearance certification letter, the Conflict of Interest form, and tabulation of quantities are submitted with every job. These items are usually attached to the transmittal letter. A District Final Plans Checklist (Form D-12), enumerating all data being submitted, is also attached to the transmittal letter. It is essential for the designer to check with the District Operations Engineer on possible sources of materials for the job and to note these sources on the D-12 form. This information is critical when preparing the final project estimate.
- 4-03.17 (2) ELECTRONIC INFORMATION.** Before submitting plans and project documents, verify that key project data is accurately entered in the department's project estimating software. Consult the "PROJECT INFORMATION" screen to verify the accuracy of the project data shown. This includes, but is not limited to, the route number(s), log and/or station miles, job description, location description, longitude and latitude. Identify specific routes when giving the route information. If the project involves multiple routes, list each of their numbers or abbreviations. Give as much detail as possible within the two project description spaces. Enter the longitude and latitude of the project mid-point. Longitudes and latitudes are used to analyze the distribution of funds, projects and construction types and accurate completion of this information is vital. Longitude and latitude coordinates may be obtained from the department's county maps, USGS maps, GPS devices, or other means. Enter these numbers as degrees, minutes and seconds. If seconds cannot be

determined, these may be entered as '00'.

4-03.17 (3) TIMING. All plans, specifications, and estimates (PS&E) except for projects within interstate right of way (regardless of the funding type) and forest highway projects, must be received in GHQ Design no later than 10 weeks prior to the bid opening date. All projects within interstate R/W, major bridge projects, forest highway projects, and other projects with full FHWA oversight authority must be received in GHQ Design no later than 14 weeks prior to the bid opening date. This will provide the minimum amount of time required for processing and printing plans and proposals, obtaining FHWA approval of the Traffic Control Plan, obtaining other required approvals, and advertising projects for bidding. The deadline for submitting extremely complex projects, or those projects requiring a pre-bid conference, must be coordinated with GHQ Design. All right of way clearances, utility adjustments, permits, agreements, bridge design, archaeological and environmental matters, etc., are to be completed prior to submission of the plans for the bid opening.

4-03.17 (4) PRE-BID CONFERENCES. Pre-bid conferences are held to further the understanding of the plans and specifications by the potential bidders. A pre-bid conference is not a substitute for a constructability review by the project team during project development. Pre-bid conferences are required for all unique or complex projects, or projects with particularly difficult or unusual staging or construction methods. As a general rule, a pre-bid conference should be held for any project with a programmed cost in excess of \$20 million, although the cost of the project is not the only factor to be considered. Requests to waive the pre-bid conference requirement are submitted to GHQ Design, along with justification supporting the recommendation.

Pre-bid conferences are typically held the month prior to the month of the bid opening. The time and location of the pre-bid conference is set by the project manager in coordination with GHQ Design. Bidding documents are provided to potential bidders in sufficient time to provide an opportunity for review. In order to have the bidding documents prepared, all plans, specifications, and estimates must be submitted at the PS&E due date for the prior month's bid opening. These bidding documents will be the final version, and will be advertised accordingly. Minutes of the pre-bid conference should be completed by the project manager, and sent to all attendees and GHQ Design. Changes to the bidding documents as a result of the pre-bid conference will be handled as an addendum.

The MoDOT project manager is responsible for preparing an agenda for the pre-bid conference, and insuring that the proper topics are discussed. The following is a list of possible topics which may be discussed at the pre-bid conference:

- Project overview
- General discussion of the design philosophy used for this project.
- Status of right of way acquisition (if not clear).
- Status of utility adjustments (if not clear).
- Any non-standard pay items or special bid items including "No Direct Pay" items.
- Any bid items which include work that may not be readily apparent to the contractor.
- Any item or condition that is out of the ordinary.
- All special provisions, especially any unusual conditions.
- Any constructability concerns or anticipated difficulties during the construction.
- General clarification of major bid items.
- Discuss the available sub-surface information, the amount and type of excavation included in the project, and the availability of any necessary borrow material.
- Traffic Control Plan included in the plans and how it relates to any staged construction.
- Options for staging of construction.
- Critical schedules that need to be met, working days, completion date, and any critical sequences of construction.
- Phasing of construction contracts and how this project relates to other projects in the vicinity (future bid opening schedules, potential conflicts, coordination of other contracts, etc.)
- Special environmental concerns or practices which must be observed during construction including any permits and the special conditions which may be imposed by them.
- Other agencies which may be involved with this project.

- Identify any controversial items.
- Public concerns which have been expressed during the design of the project.
- Unique design concerns, including any special agreements made during R/W negotiations.
- Any contractor questions which have been answered prior to the meeting.
- Define the lines of communication between the contractor and MoDOT regarding questions the contractor may have about the plans (clarifications of plans, errors, omissions, etc.) Identify the proper contacts for questions.
- What the DBE goal will be for this project.
- Shop drawing procedures.
- Answer any questions regarding the payment process or change order process.
- An example of a pre-bid meeting agenda is shown in [Figure 4-03.7](#).

4-03.17 (5) CHECKING PLANS. All plans, drawings, computations, tabulations and all other data submitted to GHQ Design are thoroughly and completely checked by the district prior to submission. This data is not checked further in GHQ Design. The district is completely responsible for the accuracy and completeness of plans. GHQ Design personnel are available to assist the district with advice by sending personnel into the district at any time during the preparation of plans upon request by the district.

Changes to plans which have been processed for the bid opening must be kept to a minimum. Changes to full federal oversight projects should be approved by FHWA before they are issued. No substitutions, additions, or deletions will be made to any project within five (5) weeks of the bid opening, unless failure to make the corrections will substantially affect the bidding or cost of the project. All other necessary proposal changes or plan revisions will be forwarded to GHQ Construction upon completion of the bid opening for incorporation into the contract by change order or notification to the contractor at the pre-construction conference.

4-03.18 DISTRIBUTION OF PLANS. Plans and proposals are distributed to the districts in the following manner.

4-03.18 (1) PRE-BID OPENING. Three copies of proposals without covers are furnished as soon as prepared and assembled. These are furnished for final review purposes prior to advertising of the project. Suggested distribution is one each to District Project Operations and Design. When corrections are necessary corrected sheets are furnished for both plans and proposals. It is very desirable to avoid or hold such corrections to an absolute minimum. This can best be accomplished by a complete and thorough review prior to submission of plans.

When the project is placed in a bid opening and advertised, 10 copies of "orange back" bidding proposals and 10 sets of plans when applicable are furnished to the district. Copies of changes are also furnished for these plans and proposals as required.

4-03.18 (2) POST-BID OPENING. Two copies of the unexecuted contract are sent to the district at the same time copies are sent to the contractor for execution. One copy of the executed contract is furnished to the district. All remaining plans are sent to the district after the bid opening and award of the contract.

4-03.19 SIGNING AND SEALING. The responsible Registered Professional Engineer of the State of Missouri must sign, seal and date all submitted contract plans and job special provisions. The following is a summary of responsibilities.

- Transportation Project Manager – All MoDOT generated roadway contract plans (title sheet, all roadway related 2-B sheets, plan-profile sheets and cross section sheets, and roadway related special sheets generated in the district) and the roadway job special provisions index only.
- State Design Engineer - Roadway standard plans and any revised roadway standard plans.
- Chief Engineer – Standard specifications, General Special Provisions, and Supplemental Specifications.
- Structural Project Manager - All bridge related contract plan sheets and special sheets; the bridge special provisions index only.
- State Bridge Engineer - Bridge standard plans and any revised bridge standard plans.
- Consultants - All consultant generated roadway or bridge contract plans and the job special provisions index only. Consultant generated contract plans and JSPs do not require dual signing and sealing by MoDOT's Transportation Project Manager.

- Area Engineer – All final (as-built) plans.

Should an error occur in any signed and sealed material after submittal, GHQ Design personnel will communicate with the project manager(s) to determine what corrective action is needed.

Facsimile copies are not considered legal documents, and therefore will not be permitted to use as originals for insertion into the proposal or plans. All signed and sealed documents must be hand-delivered or mailed to GHQ. The seal must be an ink seal, rather than an embossing seal. The signature must go through the seal, and must be dated.

4-03.20 COMMUNICATION WITH THE PUBLIC. It is imperative that all information communicated to the public (especially the contractors) concerning the Engineer's estimate and the bids received during a bid opening be strictly limited. Certain information disclosed to the public, during the bid opening process, could compromise the department's actions.

During the period of time from the date a project is included in the notice of bid opening to the date of the Commission action concerning award or rejection of bids, questions of any kind concerning a project must be directed to the contact person specially named in the bidding proposal for the project. . Questions which can be answered by directing the person to the appropriate part of the plans or specifications may be answered by the district contact person. Questions which require clarification or interpretation of the plans or specifications shall not be answered directly, but must be referred to GHQ Design to decide whether an addenda should be sent to all bidders. It is paramount that all bidders have the same information from which to prepare a bid.

During the period of time between the opening of bids and the Commission meeting, the only statement a MoDOT employee can give to anyone is the following:

"The award or rejection of bids cannot be discussed until after the Commission takes action."

This direction also applies to employees of a consultant for the project which they have prepared for the department.