

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

Inter-Departmental Memorandum

TO: Design Team Leaders

DATE: August 6, 1999

FROM: Steven W. Reeves *swr*
Quality Control Engineer

SUBJECT OR PROJECT NO: Checklist for Project
Development

INFORMATION COPY TO:

COUNTY:

Roadway Design Division Engineer
Assistant Roadway Design Division Engineer
Roadway Design Section Engineers
Ass't Chief Engineer – Pre-Construction
Files

Please find attached to this memorandum, checklists for the development of project plans. These checklists are being provided so that the squad leaders will be able to plan the work schedule required to complete a project before the proposed letting dates. Include the completed checklists inside your project work files.

Checklists for general urban and rural projects will be available at a later date. Please use the attached checklists, for bridge replacement projects and parallel lane projects, where they apply when working on other projects until the general checklists are available.

If you have any questions, please advise.

Attachments
SWR/swr

BRIDGE REPLACEMENT PROJECTS

Before beginning, read the letter file (especially the committee report) and get familiar with the project. Find out the deadlines (ROW and Small Blues) for the project and develop a work plan that can be followed in your absence by all squad members. Be sure to allow enough time in your project development for the plans to be checked by Quality Control and any changes or corrections to be done prior to printing for Small Blues.

1. Key in cross-sections.
2. Cut a profile along the center-line of the existing highway.
3. Set a proposed profile to meet the minimum finished grade requirements provided by the bridge division.
4. Check preliminary bridge recommendations for spur dikes.
5. Include a sufficient length of new construction on either end of bridge abutments to replace the roadway that may be damaged during removal of bridge. (+/- 100 feet each way)
6. Set a detour alignment, which will allow all new construction to occur within the limits of the detour. (Including installation of new guardrail)
7. Cut a profile from the cross sections along the center-line of the detour alignment.
8. Set detour profile (be sure to meet the detour minimum finished grade requirements, which are based upon a 5 year flood.)
 - a) In most cases, you will want the detour profile to be about 2 ft, below the center-line of the existing highway to reduce the amount of fill required.
 - b) Make the detour profile the same as the existing highway profile until the inside edge of pavement for the detour is off the edge of the existing pavement. (This is so that traffic may be maintained during the project.)
9. Plot the detour templates & mainline templates.
10. Make sure both the main line and the detour can be built using your proposed profiles. If they can not, revise the profiles as necessary. You can use temporary 2:1 slopes if necessary.
11. Make sure the detour can be drained during construction. You may need to provide a temporary pipe under the detour road.
12. Plot the slope stake limits.
13. Make plan/profile sheets.
14. Submit P/P sheets and cross sections to Hydraulics Section.
15. Hydraulics provide any needed drainage structures, silt basins, et., ect.
16. Place drainage on cross-sections and P/P sheets.
17. Check for any required cut ditches and place on cross-sections and P/P sheets.
18. Be sure you have provided access ramps to all property owners. Check for any required side-drains.
19. Have the field review (PS&E) and make any changes from it.

20. If possible, avoid taking very small pieces of ROW. We may be able to eliminate the need to deal with a property owner if the ROW is "fine tuned" before we print.
21. Print "Final Right-of-Way".
22. Re-cap the job while right-of-way is being bought.
23. Make all other sheets (Estimated Quantities, General Notes, Detail Index, Traffic Control, ect., ect.).
24. Provide set of check prints to Quality Control section.
25. Make changes provided by Quality Control.
26. Have the office review.
27. Make changes from office review.
28. Print "Small Blues".

PARALLEL (4-LANE) PROJECTS

Before beginning, read the letter file (especially the committee report) and get familiar with the project. Find out the deadlines (ROW and Small Blues) for the project and develop a work plan that can be followed in your absence by all squad members.

1. Key in cross-sections.
2. Cut a profile along the center-line of the existing highway.
3. Check the 3-R K-values for the vertical curves on the existing highway. If the existing curves do not meet 3-R criteria, then they will need to be regraded to meet 3-R criteria. The regraded sections will be constructed with the New Construction template, not the 3-R template.
4. Identify the controlling locations for median openings. These will be local roads (in their final locations if they are being relocated) for at-grade intersections, or the appropriate access locations for interchanges (see your Section Engineer for further guidance on these limits).
5. Establish the locations for the maximum number of equally spaced cross-overs between the controlling locations (no closer than 880 ft in urban locations and no closer than 1760 ft in rural locations). The work for establishing these locations should be kept and made a part of the project file. Verify that none of these locations will fall on a bridge. If one of these locations is on a bridge, one of several things can be done as follows:
 - a) You can eliminate the cross-over that falls on the bridge and not make any adjustments.
 - b) You can eliminate the cross-over and re-calculate the maximum number of equal spaced cross-overs. (Be sure to also check these new locations.)
 - c) Adjust the cross-over so that it is not on the bridge, but not violate the cross-over spacing requirements.
6. It is a good idea to have the Section Engineer communicate the cross-over locations to the District early in this process. They may be aware of a special situation (which should be documented) that would justify a change in cross-over locations.
7. Once the cross-overs have been set, the profile for regraded sections has been established and bridge recommendations have been furnished, the proposed profile for the new lanes can be set. Set a proposed profile to meet the minimum finished grade requirements provided by the Bridge Division. Additionally, the proposed profile not exceed the "ELEVATION DIFFERENTIAL BETWEEN ADJACENT ROADWAYS" CRITERIA AT THE END OF Chapter 4 of the Design Manual.
8. Plot the Mainline (new lane) templates and 3-R Reconstruction templates.
 - a) Make sure both can be built using your proposed profiles (Check for constructibility and maintenance of traffic). If they can not, revise the profiles, provide detours or run-arounds as needed. (Temporary 2:1 slopes may be used) Provide ROW for any detours or run-arounds if needed.
 - b) Make sure the ditches can be drained during all phases of construction. You may need to provide special designed ditches to maintain adequate drainage.
9. Make plan/profile sheets. Include access to property and frontage/access roads where required.
10. Plot the slope stake limits. (Check preliminary bridge recommendations for spur dikes and include them at the bridge ends as required.)
11. Be sure that wide shoulders have been provided at all guard rail flares.

12. Submit P/P sheets and cross sections to Hydraulics Section.
13. Hydraulics provide any needed drainage structures, silt basins, ect., ect.
14. Place drainage on cross-sections and P/P sheets. If there are existing boxes that have to be removed under the existing highway be sure that new construction limits for these locations have been provided. If the grade is being raised over an existing box, check if box needs to be replaced with a box modified for high cover.
15. Check for any required cut ditches and place on cross-sections and P/P sheets.
16. Be sure you have provided access ramps to all property owners. Check for any required side-drains.
17. If HVC soil is present, get District Testing and Geotechnical to agree on the treatment of cut and fill slopes in the areas with HVC soil.
18. If there are high cuts and fills (over 20 ft) that may require bench sections, get Geotechnical to look at plans before ROW is printed.
19. If channel changes are involved, make sure an easement or ROW is provided.
20. Provide any easements required for tying ramps to existing driveways.
21. Set proposed right-of-way.
22. Have the field review (PS&E) and make any changes from it.
23. If possible, avoid taking very small pieces of ROW. We may be able to eliminate the need to deal with a property owner if the ROW is "fine tuned" before we print.
24. Print "Final Right-of-Way.
25. Re-cap the job while right-of-way is being bought.
26. Make all other sheets (Estimated Quantities, General Notes, Detail Index, Traffic Control, ect., ect.)
27. Provide set of check prints to Quality Control section.
28. Make changes provided by Quality Control.
29. Have the office review.
30. Make changes from office review.
31. Print "Small Blues".