PLAN REVIEW QUALITY ASSURANCE CHECKLIST

GENERAL

Use the listed references as needed to determine that proper design parameters are followed. Not all references will be required at all times, or may not be available, depends on the project. Smaller projects may not require all plans sets or check list items.

REFERENCES

AASHTO, *A Policy on Geometric Design of Highways and Streets,* AASHTO, *Roadside Design Guide*, WYDOT Design Guides, Road Design Manual, GEOPAK Roadway Design Manual, Project Reconnaissance Report, Engineering Recommendations, Surfacing Recommendations, Geology Recommendations, Soils Profile, "As Constructed" Plans, Land Ownership and Control Map (LOCO) & County maps, Program Study Report, Cooperative Agreements, Enterprise Resource Project (ERP), Authority for Expenditure (AFE), Survey Meeting Report, Project Inspection Reports, Environmental Documents, Other Agency Recommendations

PRELIMINARY PLANS

Overall

- Does design follow Reconnaissance Report Recommendations?
- Check for inclusion of all Defined and Preliminary Data from Design Flowchart.
- Check the electronic design files for proper naming convention and directory structure and that they match the requirements set forth in WYDOT's GEOPAK Roadway Design Manual.
- Does drafting format follow standards?

Title Sheet

- Check for proper title format, including project numbers, project name, location and county.
- Check for Project Location Map including (township and range), (begin and end) project location arrows, station limits, structure locations, station equations, reference markers, roadway length, structure length and total project length (gross and net).

Typical Sections

- Confirm proposed and existing typical sections with station limits cover entire project defining all traveled ways, turning lanes, auxiliary lanes, transition areas and shoulder widths.
- Confirm surfacing cross slopes, tapers, clear zone, barn roof, ditch section widths and fore slopes.
- Confirm preliminary surfacing thicknesses and materials shown with bid item naming convention.
- Confirm profile grade point, construction centerline and survey centerline are shown where necessary.
- Confirm other section features including curbs, sidewalk locations and widths, pavement cross slopes, side slopes, ditches, under-drains, bicycle facilities, etc, are shown with bid item naming convention.
- Confirm detours, haul roads, side roads and approaches are represented with typical sections if necessary.

Plan and Profile Sheets

- Confirm sheet scale is appropriate for type of project.
- Confirm preliminary horizontal alignment, ground profile, grade line with stationing and elevations.
- Confirm horizontal curve data, coordinates and bearings to proper decimal places.
- Confirm vertical curve data, grades, K-values, etc.
- Confirm preliminary existing right of way overall widths are shown.
- Confirm preliminary section lines, township, range, quarter-quarter section designations are represented.
- Confirm mapping represents all major features.
- Confirm the following are represented: north arrows, survey datum notes, elevation labels match profile grid elevations and retaining wall locations if known.

Design Centerlines

- Confirm horizontal alignment, begin and end points are correct.
- Confirm if stationing needs to match other projects or monuments.
- Confirm horizontal alignment bearings are correct.
- Confirm horizontal curves meet selected design speed.
- Confirm super elevation is correct for design speed.
- Confirm proper lengths of super elevation runoff and crown runoff are used.

Design Profiles

- Confirm design profile vertical curves meet or exceed selected design speed.
- Confirm design profile grades don’t exceed maximum allowable.

Cross Sections and Earthwork

- Confirm cross sections match typical sections widths and locations.
- Confirm the following are represented correctly throughout the project in the cross sections: Surfacing thicknesses, assumed moisture density control thickness, assumed shrink factor, topsoil depth, roadway widths, taper widths and slopes, clear zone width, barn roof and ditch sections.
- Check cross sections for any void areas in terrain that are needed.
- Confirm profile grade point is represented correctly throughout project in the cross sections.
- Confirm preliminary earthwork runs properly and project is identified as waste or borrow.
- Confirm preliminary earthwork contains a shrink factor, added quantities, unsuitable materials, moisture density control, topsoil quantities.
- Confirm balance points in the earthwork are appropriate.
- Confirm preliminary retaining walls are represented on cross sections if known.

GRADING PLANS

Overall

- Have any major design elements been changed?
- Check for inclusion of approved changes to project design from Preliminary Plans Report.
- Check for inclusion of all Defined and Preliminary Data from Design Flowchart.
- Confirm preliminary Total Estimated Quantities (TEQ) and Cost Estimate is calculated.

Typical Sections

- Confirm final surfacing thicknesses are represented.

Plan and Profile Sheets

- Confirm horizontal alignment is finalized.
- Confirm existing Right of Way is defined and shown with overall widths.
- Confirm land ownerships are shown.
- Confirm existing wetlands are delineated.
- Confirm land ties are calculated and shown where appropriate.
- Confirm preliminary grade line is shown.
- Confirm preliminary proposed right of way is shown with widths measured from centerline.

- Confirm preliminary approaches are shown (alignment and profile if necessary).
- Confirm preliminary pipe sizes are shown.
- Confirm wetland impact areas are calculated and shown.
- Confirm preliminary construction impact areas are shown with necessary construction permits, easements or proposed right of way. These could include roadway impacts, borrow/waste areas, haul roads, plant sites, staging sites, topsoil storage sites, wetland mitigation sites, detours and approaches.
- Confirm preliminary structure locations and retaining walls are shown.
- Confirm preliminary storm drain layouts are shown.
- Confirm preliminary interchange and intersection layouts (proper radius, double gutter, number of lanes and widths, sidewalks, ADA ramps, necessary right of way, etc.).
- Confirm preliminary detour layouts are shown.

Design Centerlines and Profiles

- Have any major design elements been changed?
- Confirm design profiles tie appropriately at structure locations.
- Confirm intersecting design centerlines and profiles tie appropriately.

Cross Sections and Earthwork

- Have any major design elements been changed?
- Confirm final surfacing thicknesses are represented.
- Confirm intersection centerline and profiles are represented correctly in the cross sections.

RIGHT OF WAY AND ENGINEERING PLANS

Overall

- Have any major design elements been changed?
- Check for inclusion of approved changes to project design from Grading Plans Report.
- Check for inclusion of all Defined and Preliminary Data from Design Flowchart.
- Has all previous Preliminary Data been defined or finalized?
- Confirm Total Estimated Quantities (TEQ) and Cost Estimate are updated.
- Confirm Preliminary Index of Proposed Special Provisions.

Typical Sections

- Have any major design elements been changed?
- Confirm Final Materials and Rates Recommendations.

Plan and Profile Sheets

- Have any major design elements been changed?
- Confirm inclusion of design items from other programs, Bridge, Traffic, etc.
- Confirm final fence types, cattle guards, etc.
- Confirm final Intelligent Transportation System (ITS) and Telecommunication sites are represented if needed.
- Confirm all final right of way and construction permit requirements.
- Confirm storm water control plan is shown if necessary.
- Confirm if cultural sites could affect design.
- Confirm wetland mitigation design if necessary.

RIGHT OF WAY AND UTILITY PLANS

Overall

- Have any major design elements been changed?
- Check for inclusion of approved changes to project design from Right of Way and Engineering Plans Report.
- Check for inclusion of all Defined and Preliminary Data from Design Flowchart.
- Has all previous Preliminary data been defined and finalized?

Typical Sections

- Have any major design elements been changed?

Plan and Profile Sheets

- Have any major design elements been changed?
- Confirm utilities are shown in color on all plan sheets and plan view details.
- Confirm inclusion of draft electrical design plans if necessary.
- Confirm inclusion of Right of Way deficiencies.
- Confirm inclusion of Project Development Design Quality Review deficiencies.

FINAL PLANS

Overall

- Have any major design elements been changed?

- Confirm inclusion of final detail drawings, summary quantities and notes, contract documents, special provisions and cost estimate.
- Confirm Bridge final title sheet and quantities.

CHECK SQUAD PLANS

Overall

- Have any major design elements been changed?
- Confirm title sheet index.
- Confirm sheet numbering.
- Confirm project number funding prefix.
- Confirm proposal, estimate sheet, index of supplementary specifications, and material source agreements.

P.S.&E. PLANS

Overall

- Confirm inclusion of Check Squad deficiencies.