



RFP for CO135 and Red Lady Avenue Roundabout Design and ROW

RFP Q&A

Q: What was discussed regarding pedestrian crossings in the roundabout design?

A: The Town wants to maintain the crossing on the north side but needs to evaluate the interaction between the roundabout and Bellevue intersection before finalizing pedestrian access. The Transportation Mobility Plan calls for increasing safe pedestrian crossings at this intersection and the Town hopes to evaluate additional crossings through the design phase. There is no consideration of a pedestrian underpass.

Q: What was clarified about the project's payment structure?

A: The project will follow a lump sum payment structure.

Q: Is the Town open to modifying the roundabout's geometry?

A: Yes, while the town prefers keeping the five legs, different geometries may be considered based on environmental clearances, particularly regarding park space and connecting to Seventh Street.

Q: What type of surfacing is preferred within the roundabout?

A: Concrete surfacing may be considered for durability, though cost constraints are a factor.

Q: What utility information is available?

A: Information is available for the Red Lady main, but no stormwater data is available.

Q: Will traffic control recommendations for construction be included in this phase?

A: No, traffic control will be addressed in the next phase of the project.

Q: What is the tentative schedule the Whetstone Utility Extension connecting to this area?

A: Currently, the schedule is to perform the water and sewer tie ins in late June.



Q: What information will the town provide to support the project?

A: Civil drawings, GIS data, and other relevant project details—except stormwater information—will be provided.

Q: What CDOT review processes are expected during the design phase?

A: Coming soon, will send follow up after 5/14/25.

Scoping Meeting
FIR Meeting - 30%
DOR Meeting - 60%

See Checklist Below

FIR (30%) CHECKLIST

SUBACCOUNT

This checklist is intended for review of plans and specs that have already been QC'd by a consultant for external design projects or by CDOT staff for internal design projects. It is expected that a detailed QC review is performed by the design staff prior to submitting deliverables for review.

This checklist is a starting point and will be refined as more plan reviews are completed. It's important to not only consider the items included in this checklist. There are likely things not included that should also be checked using engineering judgement.

It is very beneficial to use an example project to compare against when reviewing a project.

There should be a heavy emphasis on design at the FIR level. The design should be progressed to a sufficient level to determine the footprint of the project for the Top 128 environmental clearance and to determine necessary ROW acquisitions. There should be less emphasis on specifications and details.

PLAN SHEETS

It is recommended to review the high priority items first and save lower priority items for the end as time allows. The CDOT PM of the project should review all of the high priority items. It is best not to delegate these. The PM has the most knowledge of the scope of the project and work done by the various disciplines. They are in the best position to verify the various disciplines are properly coordinating and there isn't anything contradictory in the plans - for example typical sections not matching cross sections.

ALL SHEETS

High Priority

- ☐ PDF plans are searchable - verify OCR has been run
- ☐ Line work for each discipline is the same throughout - model files for all disciplines updated prior to printing, especially ROW
- ☐ Sheet stationing limits match across discipline sheets when possible

Low Priority

- ☐ Sheet numbers. No pages missing; pages in order and oriented the same
- ☐ Project number on spec and plans agree with Form 463
- ☐ Construction Code (Subaccount) on plans and specifications agree
- ☐ No blank sheets (missing figures) in plans or specs
- ☐ "AS CONSTRUCTED" block
- ☐ Check reference symbols on each sheet for no duplicate use of each symbol
- ☐ Check for a note or detail corresponding to each Symbol on each sheet
- ☐ No referencing by sheet number from one plan sheet to another.

ALL SHEETS WITH DETAILS

Low Priority

- ☐ Scale and North Arrow present with each detail
- ☐ Stations present with details
- ☐ Location of existing features and structures (survey)

TITLE SHEET

High Priority

- ☐ MP limits consistent with CDOT Form 463 and PDP
- ☐ Design Data is consistent with design criteria selected for project
- ☐ Project description matches intended SOW of project

Low Priority

Title to include:

- ☐ "DEPARTMENT OF TRANSPORTATION"
- ☐ "STATE OF COLORADO"
- ☐ "HIGHWAY CONSTRUCTION BID PLANS OF PROPOSED"
- ☐ Federal Aid **OR** Colorado Construction (CN) Project No.

- ☐ “STATE HIGHWAY NO. _____”
- ☐ All Counties Listed
- ☐ “CONSTRUCTION PROJECT CODE NO. _____”
- ☐ Project Name/Description

Sheet Border

- ☐ FHWA PoDI and NHS “yes” or “no” blocks checked as appropriate
- ☐ Related Projects No.’s & Codes (e.g., ROW, Util, PE, etc.)
- ☐ Unit information/Unit leader initials block

Tabulation of Length

- ☐ Stationing and MP limits agree with location map
- ☐ Roadway (net length)
- ☐ Major Structure Length
- ☐ Project Gross Length consistent with Location Map & within limits of CDOT Form 463
- ☐ Equations (if any) are included
- ☐ “No Work” sections are included
- ☐ Check Design Traffic Data (ADT, DHV, and % Trucks on title or applicable sheet except for “write-ups” or overlays where data is not used)
- ☐ Net and Gross Length

Project Location Map

- ☐ North arrow, Range, and Township
- ☐ Begin and end project callouts
- ☐ Detours are shown
- ☐ “No Work” sections are shown
- ☐ Major Structure No.’s (Both existing and proposed)
- ☐ Arrows to cities
- ☐ Drawing Bar Scale

- ☐ Beginning and Ending stationing agrees with Length & Design Data, plan sheets, and typical sections

Other

- ☐ INDEX - Verify that titles and page numbers agree with actual sheet numbers

STANDARD PLANS LIST

Low Priority

- ☐ Verify updated standard plan list is being used
- ☐ Checked boxes agree with project scope/description

GENERAL NOTES

Low Priority

- ☐ Verify the notes are formatted into sections - General, Earthwork, etc.
- ☐ Check against general note library to verify there are none missing or some included that are unnecessary (it's best to share general note library with consultants at the beginning of the project). General notes library location:
G:\Shared drives\Program Engineer West - Design Team\Templates_General Notes
- ☐ Read through every note and verify it's appropriate for the project. Look for any carryovers from other projects that are not applicable or that need to be tailored to this project

SURVEY CONTROL DIAGRAM

Low Priority

- ☐ Review by Program Survey Lead

TYPICAL SECTIONS

High Priority

- ☐ Verify they are properly representing the intended scope of the project - don't show a variable depth mill/overlay if the intent is to match existing
- ☐ Verify that the typical sections satisfy standards and design criteria
- ☐ Pavement structure matches materials recommendation

- ☐ Verify there are no inconsistencies between the typicals and cross sections

Low Priority

- ☐ Profile grade, pivot point and correct dimensioning
- ☐ Point of Slope Selection
- ☐ Prime, tack & seal coat locations
- ☐ Widths: Lanes, shoulders, median, “z” slope, etc.
- ☐ Slopes
- ☐ Thickness and Symbols
- ☐ Other Typical Section Notes (as required)
- ☐ Cut and Fill Slope Table (satisfies standards)
- ☐ Station Limits of each typical section (per plans)
- ☐ Typical sections agree with CDOT Form 463

SUMMARY OF APPROXIMATE QUANTITIES

It is preferred for the SAQ to be generated by CDOT in AASHTOWare Preconstruction construction with dxf files passed on to the consultant. There is more room for error with a consultant generated SAQ.

High Priority

- ☐ Verify totals in tabs, if any tabs are included, match the quantities in the SAQ
- ☐ Review bid items and verify they are appropriate for the scope of work. It is a best practice to have an example SAQ from a similar project to review against and help identify any items that may be missing or that should be excluded
- ☐ Verify that CDOT Form 859 quantities are correct in SAQ

Low Priority

- ☐ Quantity rounding per Construction Manual, Figure 100-25
- ☐ If project has Storm Drain Inlet Protection, verify if RE wants to use EACH or LF.

SURVEY TABULATION

Low Priority

- ☐ Review by Program Survey Lead
- ☐ Checked boxes agree with project scope/description
- ☐ Compare against an example survey tabulation from a similar project

ROADWAY GEOMETRIC CONTROL PLAN

High Priority

- ☐ Verify alignments meet design criteria

Low Priority

- ☐ Horizontal curve data included

ROADWAY REMOVAL PLANS

High Priority

- ☐ Verify footprint of removals is consistent with the proposed improvements from all disciplines. Proposed line work should be displayed on these sheets to help verify.
- ☐ Verify removal limits have been carefully considered for areas with concrete jointing. It is typically preferred to remove back to the nearest joint but sawcutting is allowable in some situations like against a building face.
- ☐ For retrofit projects, it is often best to fully remove smaller items like pork chop islands rather than trying to partially salvage them.

ROADWAY PLANS

High Priority

- ☐ Verify proposed improvements tie into existing features at the beginning/end of the project as well as any side street tie ins. Need survey verification at tie ins for the following: flat profile locations, ROW tight, tie in to weird cross section (parabolic), sidewalk against building
- ☐ Verify end conditions along each side of the roadway and that they appropriately tie into existing - this includes toes of slope, sidewalks, driveways, etc. Verify tying into hard shots for projects with tight constraints such as a sidewalk with a 2 foot offset from a building face.

- ☐ Verify sidewalks, shared-use paths, bike lanes, ADA ramps, etc. meet applicable requirements including maximum allowable slope and minimum width
- ☐ Directional ADA ramps used for reconstruction projects
- ☐ Verify there are no abrupt transitions along sidewalks. Smooth transitions using a radius where applicable are preferred.
- ☐ Auxiliary lanes and raised median geometry meet design criteria
- ☐ ROW and Easement dimensions are called out only on ROW exhibits (applies to other plans also)
- ☐ Verify turning templates and shy distance for any islands or raised median openings

Low Priority

- ☐ Centerline and stationing
- ☐ North Arrows
- ☐ Alignment equations at intersections
- ☐ On first and last roadway plan sheets, Beginning and Ending station and/or MP. Verify they match title sheet
- ☐ Location of Existing Structures
- ☐ New Structures
- ☐ Detours
- ☐ Topography
- ☐ Catch Points/Toe of Slope coincides with structure location
- ☐ Lane/shoulder widths at transitions
- ☐ Road/field approach description (type of approach), widths and radii
- ☐ Accel/Decel lanes
- ☐ Guardrail offset, coverage, gaps, end treatment, height above pavement for overlays
- ☐ Forest, County, and Urban limits
- ☐ Names of streets, rivers, landmarks
- ☐ Travel lanes, auxiliary lanes, and shoulders match those on CDOT Form 463
- ☐ Sheet layout key/map for complex alignment layouts

ROADWAY PROFILES

High Priority

- ☐ Verify vertical alignments meet design criteria and tie into existing at the beginning/end of the project as well as any side street tie ins
- ☐ It is often desirable to avoid cutting into existing significantly to avoid potential soft soils and to avoid utility conflicts. Excessive cutting can also make tie ins more difficult especially in urban contexts.
- ☐ Verify superelevation and runout rates meet design criteria (may be in other subset - roadway plans or typicals)
- ☐ Verify cover for any drainage or utility structures

Low Priority

- ☐ Beginning and Ending stations on first and last sheets
- ☐ Elevation and Station reference numbers are on the abscissa and ordinate of the grid
- ☐ Equations and Original Ground Line
- ☐ % Grade with + or -; PI, PC, and PT Elevations
- ☐ Vertical curve points
- ☐ Vertical Curve Length with MDS (and SSD if on Crest Curve)
- ☐ Elevation and Clearance at Bridges
- ☐ Control Line (CL) Elevations and clearances
- ☐ Crest of Grade Widening
- ☐ Curb and Gutter profiles
- ☐ Muck or Subexcavation limits
- ☐ Water surface profile for projects parallel to river.

DRAINAGE PLANS

High Priority

- ☐ Verify items in separate drainage design checklist
- ☐ Need to verify private drainage has been considered and has been properly addressed. For example, we do not want to send any additional drainage to

private properties or pond water at the back of a sidewalk with a 6 inch pedestrian curb

- ☐ Avoid placing manholes within a proposed wheel path
- ☐ Generally speaking, inlets are preferred over manholes to reduce structures within the roadway
- ☐ Verify storm sewer layout has been optimized to remove unnecessary pipe and structures
- ☐ Verify hydroplaning analysis has been performed in areas with a flat profile and flat cross slope and in areas with cross slope transitions

Low Priority

All pipes (CDOT Drainage Manual 4.3.6)

- ☐ Label length, size and material. (matches profile)
 - ☐ May label ID only if corresponding ID is in profile and tabulations.
- ☐ Flow arrows agree with profile slope.

Culverts

- ☐ Hydraulic Data labeled (or on profile) - for culverts 30 inches and larger, or if the conventional design frequency peak flow is 20 cfs or larger. (CDOT Drainage Manual 4.3.4)
- ☐ Water-right flow, stage (DHW), and freeboard labeled (or on profile) - Irrigation culverts (CDOT Drainage Manual 4.3.4)

All standard structures (CDOT Drainage Manual 4.3.6)

- ☐ Label ID, invert and rim elevations.
- ☐ Top of structure matches grade. (If not then why?)

Detention and Water Quality Ponds (CDOT Drainage Manual 4.3.8)

- ☐ Verify plans match report, including water surface elevations
- ☐ Verify initial meeting with maintenance has occurred with comments incorporated
- ☐ Verify access for maintenance
- ☐ Grading plan includes design control points

DRAINAGE PROFILES

High Priority

- ☐ Verify proposed grades meet design criteria and tie into existing at the beginning/end of the project and at existing outfalls
- ☐ Existing utilities shown on profiles
- ☐ Utility conflicts avoided where possible
- ☐ Laterals have been at least modeled in ORD to verify no utility conflicts that may impact ROW
- ☐ HGL included and below proposed surface
- ☐ Verify sufficient cover for shallow pipes and manhole/inlet structures.
 - ☐ For manhole structures, verify the top slab is not within the pavement section
 - ☐ For inlets, verify there is sufficient vertical space within the inlet structure to accommodate the proposed pipe and proposed invert
- ☐ Need to consider constructability and cost for pipes deeper than 5 feet
- ☐ 6% max slope for concrete pipe without headwall, 9% max with standard headwall

Low Priority

General

- ☐ Label existing ground.
- ☐ Label proposed grade.
- ☐ Label crossing utilities.
- ☐ Matchlines if required.

All pipes (CDOT Drainage Manual 4.3.6)

- ☐ Label length, size, material, and percent slope. (matches plans)
 - ☐ May label ID only if corresponding ID is in plan and tabulations.
- ☐ Label design flow and frequency for each reach of pipe.
- ☐ Label design flow hydraulic grade line for each reach of pipe.

All standard structures (CDOT Drainage Manual 4.3.6)

- ☐ Label Inverts (elevation and direction)
- ☐ Label rim elevations
- ☐ Label station and offset
 - ☐ Label reference alignment if not the mainline.

TRAFFIC SIGNAL PLANS

High Priority

- ☐ Verify proposed signal can be installed while existing signal remains. If not, likely need a temporary signal
- ☐ Verify no utility conflicts (unless there is a planned relocation) or conflicts with other disciplines
- ☐ Proposed locations included for signal cabinet, pull boxes, conduit, and push buttons.
 - ☐ Verify there is sufficient space for a boring machine if bored conduit is proposed
- ☐ Push button locations meet MUTCD guidance where practical.
 - ☐ Need to carefully consider push button locations within the pedestrian traveled way. It is preferred for them to be located outside of the traveled way but that often contradicts with MUTCD guidance. A design decision memo may be warranted for locations that do not meet MUTCD guidance but are more practical.
 - ☐ 2.5'x4' clear space adjacent to push button with 2% max slope
- ☐ Verify conduit boring machine limitations have been considered: Rule of thumb for a standard size bore machine, really a pipe limitation, is a maximum turn radius of 1 foot for 10 feet. (per David Oldham)

LIGHTING PLANS

High Priority

- ☐ Verify no utility conflicts (unless there is a planned relocation) or conflicts with other disciplines
- ☐ Location of service identified
- ☐ Lights are outside of the pedestrian traveled way where practical

- ☐ Proposed locations included for pull boxes and conduit
 - ☐ Verify there is sufficient space for a boring machine if bored conduit is proposed
- ☐ Verify conduit boring machine limitations have been considered: Rule of thumb for a standard size bore machine, really a pipe limitation, is a maximum turn radius of 1 foot for 10 feet. (per David Oldham)

LANDSCAPING/IRRIGATION PLANS

High Priority

- ☐ Plans limited to a concept level at FIR
- ☐ Service point for irrigation identified
- ☐ Improvements needed beyond existing ROW identified

EXISTING UTILITY PLANS AND CONFLICT MATRIX

High Priority

- ☐ Identify all utility conflicts within the project. Check for conflicts with each discipline. A thorough review is necessary.
- ☐ Proposed relocations identified that may be outside of ROW

WATERLINE PLAN AND PROFILE

High Priority

- ☐ Locations identified for any water meters or fire hydrants that need relocated. These are often located at back of walk and require additional ROW.
- ☐ Utility conflicts avoided (unless there is a planned relocation)
- ☐ Minimum cover as required by local municipality met

ROW EXHIBITS

High Priority

- ☐ Included in FIR plan set
- ☐ Verify no proposed improvements beyond existing and proposed ROW

- ☐ Proposed ROW/easements limits are conservative, providing a high level of confidence that further design refinements will not exceed the limits
- ☐ Typical offsets
 - ☐ Proposed ROW: 1-ft
 - ☐ Proposed TE: 5-ft to 10-ft; 5-ft along sidewalks, 10-ft at driveways

ROADWAY CROSS SECTIONS

High Priority

- ☐ Verify there are no inconsistencies between the typicals and cross sections
- ☐ Verify proposed improvements tie into existing features at the beginning/end of the project as well as any side street tie ins.
- ☐ Verify end conditions along each side of the roadway and that they appropriately tie into existing - this includes toes of slope, sidewalks, driveways, etc.
- ☐ Verify proposed slopes and widths meet design criteria
- ☐ Verify superelevation rates meet design criteria (this can be checked easier on a superelevation diagram on the roadway profiles but it is good to check for any sudden cross slope transitions between adjacent cross sections)
- ☐ Existing and proposed ROW lines shown to verify no work beyond
- ☐ Existing and proposed utilities shown to help identify any conflicts
- ☐ Verify pavement section is properly represented with cross section components
- ☐ Verify positive drainage and in areas where there isn't verify it is addressed on drainage plans

Low Priority

- ☐ Beginning and Ending stations on First and Last sheet agree with Plan sheets and Typical Section sheets.
- ☐ Bridge Beginning and End Stations agree with those in the Roadway/Bridge plans
- ☐ Equations agree with those in the roadway plans
- ☐ Station and Ground Elevation at CL are shown for each section
- ☐ Auxiliary Lanes and are shown
- ☐ Earthwork (EW) quantities and Template Slopes are shown (not required when earthwork reports are available).

DRAINAGE STRUCTURE CROSS SECTIONS

High Priority

- ☐ Structure designed per standards including length, cover, and height
- ☐ Hydraulic Data is included with Structure note for culverts >24" (600 mm) Diameter
- ☐ Structure elevations, flowline of drainage, and clearances

Low Priority

- ☐ Station, Template, and Groundline (Adjusted for skew)
- ☐ Check quantity for each item in Structure Note: Pipe or CBC, end sections, headwall and wingwall with aprons, structure excavation, structure backfill, unclassified excavation (ditch), riprap, geotextile, concrete, reinforcing steel, embankment for ditch backfill above structure
- ☐ Structure Notes transferred to Plan Sheets
- ☐ Include wingwall data and skew of pipes
- ☐ Include flowline elevations

SIGNING AND STRIPING PLANS

Signing and striping plans are not necessary at FIR

High Priority

- ☐ Sign locations that may require ROW have been identified

STORMWATER MANAGEMENT PLAN

High Priority

- ☐ SWMP narrative completed (SWMP plans are not necessary at FIR)
- ☐ Include Jen K. in Bluebeam session to review

BRIDGE PLANS

High Priority

- ☐ Bridge grade provides required clearance

- ☐ Bridge superelevation consistent with Roadway superelevation

Low Priority

- ☐ Bridge Control Line consistent with Roadway Alignment

MASS DIAGRAM (FOR LARGE EARTHWORK PROJECTS ONLY)

High Priority

- ☐ Earthwork balanced when possible
- ☐ Cuts and fills minimized where possible
- ☐ Verify reasonable haul distances

Low Priority

- ☐ Borrow and Haul quantities
-

3D MODEL

ORD MODEL REVIEW

- ☐ Review curb flowlines using analyze point tool and verify there are no low points with no inlet

Terrain Model Review

- ☐ Verify 3D features match alignment and plan linework
- ☐ Display triangles (with 10x vertical exaggeration if possible) and spin model to review - look for jumps in grade or inconsistencies, look for uneven areas
- ☐ Drainage Checks
 - ☐ Use trickle function to check drainage flow directions
 - ☐ Use analyze pond tool to verify there are no low points in areas without inlets
 - ☐ Triangle display can be set to show triangles with 0-0.5% slope as red
- ☐ Check for inconsistent or odd spacing of triangles

- ☐ Check for long triangles bridging features or incorrectly bridging gaps
 - ☐ Display contours at close intervals (0.1' - 0.5')
 - ☐ Run report on surface to review min/max elevations, breaklines, triangles, etc.
 - ☐ Verify curb ramp grades - Survey 123 DGN (can have consultant perform)
-

SPECIFICATIONS

- ☐ Project special provisions index included. Review specs included in index and verify they are appropriate for the scope of work. It is a best practice to have an example index from a similar project to review against and help identify any specs that may be missing or that should be excluded
-

ESTIMATE

- ☐ It is preferred to have a detailed breakout of quantities at the FIR level and to avoid using LS percentages for items like erosion control and traffic control
 - ☐ Verify quantities and unit prices, especially for items more than around \$25,000 total
 - ☐ Check overall quantity amounts using design dgn(s). Ex. 24" drainage pipe - Isolate the 24" drainage pipe level in the dgn, select all the pipes on that level, and use the length measurement tool to verify the length matches the quantity in the SAQ. Need to be cautious with duplicate lines and verify no double counting.
-

CONSTRUCTION SCHEDULE

- ☐ Need a first draft of an estimated construction schedule and phasing exhibits
 - ☐ Account for extra time for new stringent smoothness specification. Expect to see more corrective work.
-

REPORTS

DRAINAGE

- ☐ Pipe selection memo complete.
 - ☐ Preliminary hydraulic report complete. Make sure report follows the outline as described in appendix A. ([CDOT Drainage Manual, appendix A](#))
 - ☐ Preliminary hydraulic information sheet.
-

PMWEB

- ☐ Update schedule and baseline.
 - ☐ Create estimate and forecast record.
-

DOR (60%) CHECKLIST

SUBACCOUNT

This checklist is intended for review of plans and specs that have already been QC'd by a consultant for external design projects or by CDOT staff for internal design projects. It is expected that a detailed QC review is performed by the design staff prior to submitting deliverables for review.

This checklist is a starting point and will be refined as more plan reviews are completed. It's important to not only consider the items included in this checklist. There are likely things not included that should also be checked using engineering judgement.

It is very beneficial to use an example project to compare against when reviewing a project.

DOR deliverables are typically only included for more complex projects that require ROW acquisition. DOR provides one last opportunity to review the design and PS&E prior to authorizing ROW plans. Similar to FIR, there should be a heavy emphasis on design at the DOR level with design mostly complete if not entirely complete. It is common for additional plans sheets to be included such as tabulations, intersection plans/profiles and detail sheets. A full specification package is also typically provided.

It is critical for there to be no change in the project footprint established at FIR. If there is a change in the footprint, environmental will likely need to start the Top 128 process over.

ALL DELIVERABLES

- ☐ FIR Markups - Verify all comments have been addressed or that reasonable justification is provided for those not addressed
 - ☐ FIR Meeting Minute's comments resolved
-

PLAN SHEETS

The plan sheets checklist below includes several “Verify FIR checklist” items. The intent is to verify these plan sheets at least at a high level in case there are any changes since the FIR submittal. For any significant design changes post FIR, it is necessary to thoroughly re-check the high priority items from the FIR checklist

Complete review of any of the lower priority checklist items not completed at FIR and those included below. It is not critical that all of these are completed at DOR since the emphasis on the review is still the design and all of the lower priority items will be reviewed at FOR.

Similar to FIR, it is recommended to review the high priority items first and save lower priority items for the end as time allows. The CDOT PM of the project should review all of the high priority items. It is best not to delegate these. The PM has the most knowledge of the scope of the project and work done by the various disciplines. They are in the best position to verify the various disciplines are properly coordinating and there isn’t anything contradictory in the plans - for example typical sections not matching cross sections.

ALL SHEETS

High Priority

- ☐ PDF plans are searchable - verify OCR has been run
- ☐ Line work for each discipline is the same throughout - model files for all disciplines updated prior to printing, especially ROW
- ☐ Sheet stationing limits match across discipline sheets when possible

Low Priority

- ☐ Sheet numbers. No pages missing; pages in order and oriented the same
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- ☐ Construction Code (Subaccount) on plans and specifications agree
- ☐ No blank sheets (missing figures) in plans or specs
- ☐ “AS CONSTRUCTED” block
- ☐ Check reference symbols on each sheet for no duplicate use of each symbol
- ☐ Check for a note or detail corresponding to each Symbol on each sheet
- ☐ No referencing by sheet number from one plan sheet to another.

ALL SHEETS WITH DETAILS

Low Priority

- ☐ Scale and North Arrow present with each detail
- ☐ Stations present with details
- ☐ Location of existing features and structures (survey)
- ☐ Pay Items and quantities noted not more than once in detail, and transferred to SAQ or Tabulation

TITLE SHEET

- ☐ Verify FIR checklist items

Low Priority

- ☐ Pre-Bid Conference included when required and matches Notice to Bidders project special

STANDARD PLANS LIST

- ☐ Verify FIR checklist items

GENERAL NOTES

- ☐ Verify FIR checklist items
- ☐ Quantities transferred to a tabulation or Summary of Approximate Quantities

SURVEY CONTROL DIAGRAM

- ☐ Verify FIR checklist items

TYPICAL SECTIONS

- ☐ Verify FIR checklist items

SUMMARY OF APPROXIMATE QUANTITIES

It is preferred for the SAQ to be generated by CDOT in AASHTOWare Preconstruction construction with dxf files passed on to the consultant. There is more room for error with a consultant generated SAQ.

- ☐ Verify FIR checklist items

High Priority

- ☐ Review bid items and verify they are appropriate for the scope of work. It is a best practice to have an example SAQ from a similar project to review against and help identify any items that may be missing or that should be excluded

Low Priority

- ☐ All pay items must be defined in either the Standard Specifications, Project Special Provisions, Standard Special Provisions, Standard Plans, or a note in the Plan Sheets, in order of preference. All pay items have a project detail or M&S detail as appropriate.

SURVEY TABULATION

- ☐ Verify FIR checklist items

TABULATION SHEETS

High Priority

- ☐ Check that combined totals from the Tabulations agree with Pay Item totals in the SAQ
- ☐ Check Totals in TABULATIONS / Summaries

Low Priority

- ☐ Each Pay Item (Description, Unit, & Quantity) is noted only once in plan sheet details
- ☐ Each Pay Item is carried to a TABULATION from plan sheet details and the station/offset match between the tab and plan sheet
- ☐ TABULATION Columns should include Location, Pay Item Description, Unit, and Quantity for each Pay Item

☐ Check that it is Noted when a Pay Item is carried to another TABULATION or is included FOR INFO ONLY

☐ Quantity rounding per Construction Manual, Figure 100-25

Check on each of the following applicable Tabulations/Summaries

- ☐ Structure / Storm Sewer (Wingwall data - Show k, l, m, and angle)
- ☐ Summary of Earthwork
- ☐ Topsoil and Seeding (Check calculated slope areas for seeding and mulching)
- ☐ Surfacing, source (if not Contractor source list available source), thickness and Class or Grading, Irregularities for bottom layer ABC and/or HMA. Spot check widths in field if aeriels are poor
- ☐ ABC Class 7 shouldering quantity: Verify site specific evaluation of quantity approach - triangle vs rectangle. Typically preferred to have excess quantity
- ☐ Removals, Resets, and Adjustments (Show limits of removal, power source, and any additional work or materials required)
- ☐ Fencing, Posts (notes for livestock control, added strands of wire, etc.)
- ☐ Delineators (note for number & color of reflectors)
- ☐ Guardrail (note galvanized vs. other, timber vs. steel, 7' posts where necessary. Also note composite blocks shall be used on all Guardrail Type 3 and end section installations.)
- ☐ Modify Inlet or Modify Manhole
- ☐ Curb & Gutter, Sidewalk, Curb Ramps
- ☐ Survey Monuments
- ☐ Landscaping
- ☐ Erosion Control Measures
- ☐ Permanent signs and pavement markings (Break out yellow and white paint quantity)
 - ☐ Chip seal process: Remove existing stripe, apply high build, chip seal, don't apply high build after use tabs instead. Add temporary "No Centerline Striping" signs
- ☐ Traffic Construction Signs and Items
 - ☐ For 24 hour period, need to make it clear if TCM will be paid only 1 day or not

- ☐ Discuss including the following with the RE/Project Engineer:
mobile attenuator, flashing beacons
- ☐ Bituminous Curb and Embankment Protectors
- ☐ Survey Tabulation Sheet
- ☐ Sound Barrier Fence (Include detail)
- ☐ Bikeways (with type of curb ramp required)

DRAINAGE STRUCTURE TABULATION SHEET

Low Priority

- ☐ All line items require a structure note on plan/profile sheet
- ☐ Symbol items/quantities that are on another tabulation or summary
- ☐ Separate quantities that are left and right of station
- ☐ Structure excavation/backfill should be checked with structure cross section sheet
- ☐ Provide Str. Ex. Quantity for Embankment Protector Type 5.
- ☐ Show riprap stone size and Str. Ex.
- ☐ Show all information for suppliers (degree of elbow, dimensions of tapers, collars, etc.)
- ☐ Structure notes should match structure cross section note **exactly**
- ☐ Structure notes which reference Special Details

ROADWAY GEOMETRIC CONTROL PLAN

- ☐ Verify FIR checklist items

ROADWAY REMOVAL PLANS

- ☐ Verify FIR checklist items

ROADWAY PLANS

- ☐ Verify FIR checklist items

ROADWAY PROFILES

- ☐ Verify FIR checklist items

INTERSECTION PLANS

High Priority

- ☐ Verify proposed improvements tie into existing features. Need survey verification at tie ins for the following: flat profile locations, ROW tight, tie in to weird cross section (parabolic), sidewalk against building
- ☐ Verify end conditions along each side of the roadway and that they appropriately tie into existing - this includes toes of slope, sidewalks, driveways, etc. Verify tying into hard shots for projects with tight constraints such as a sidewalk with a 2 foot offset from a building face.
- ☐ Verify sidewalks, shared-use paths, bike lanes, ADA ramps, etc. meet applicable requirements including maximum allowable slope and minimum width
- ☐ Directional ADA ramps used for reconstruction projects
- ☐ Verify there are no abrupt transitions along sidewalks. Smooth transitions using a radius where applicable are preferred.
- ☐ Verify turning templates and shy distance for any islands or raised median openings

Low Priority

- ☐ Turning movements, Traffic Data, Spot elevations/slopes as appropriate
- ☐ Centerline and stationing
- ☐ North Arrows
- ☐ Alignment equations at intersections
- ☐ Location of Existing Structures
- ☐ New Structures
- ☐ Topography
- ☐ Catch Points/Toe of Slope coincides with structure location
- ☐ Names of streets, rivers, landmarks
- ☐ Sheet layout key/map for complex alignment layouts

INTERSECTION PROFILES

High Priority

- ☐ Verify vertical alignments meet design criteria and tie into existing or proposed as applicable
- ☐ It is often desirable to avoid cutting into existing significantly to avoid potential soft soils and to avoid utility conflicts. Excessive cutting can also make tie ins more difficult especially in urban contexts.
- ☐ Verify superelevation and runout rates meet design criteria (may be in other subset - roadway plans or typicals)
- ☐ Verify cover for any drainage or utility structures

Low Priority

- ☐ Elevation and Station reference numbers are on the abscissa and ordinate of the grid
- ☐ Equations and Original Ground Line
- ☐ % Grade with + or -; PI, PC, and PT Elevations
- ☐ Vertical curve points
- ☐ Vertical Curve Length with MDS (and SSD if on Crest Curve)
- ☐ Elevation and Clearance at Bridges
- ☐ Control Line (CL) Elevations and clearances
- ☐ Crest of Grade Widening
- ☐ Curb and Gutter profiles
- ☐ Muck or Subexcavation limits
- ☐ Water surface profile for projects parallel to river.

OTHER DETAIL SHEETS

Low Priority

- ☐ Detail for "SPECIAL" pay items (if not described in SPECIAL PROVISIONS)
- ☐ Check to make sure specs and details are included as needed for every pay item.

- ☐ ADA Curb Ramps: Provisions are included when required, callouts & dimensions on details for Survey123 fields, referenced standards for laying out ramp (PROWAG, MUTCD, etc.)
- ☐ Special Structures: e.g. Retaining Walls, Special CBC's, etc.
- ☐ Minor Structures with CBC Headwall and Wingwall Data
- ☐ Geology Sheets with Soil Test No. and Soil Profile
- ☐ Detour Plan and Profile
- ☐ Wetlands
- ☐ Water Table and Data

DRAINAGE PLANS

- ☐ Verify FIR checklist items

High Priority

- ☐ Design adjusted as necessary with test hole information

DRAINAGE PROFILES

- ☐ Verify FIR checklist items

High Priority

- ☐ Design adjusted as necessary with test hole information
- ☐ Lateral profiles provided and reviewed per FIR checklist

TRAFFIC SIGNAL PLANS

- ☐ Verify FIR checklist items

LIGHTING PLANS

- ☐ Verify FIR checklist items

LANDSCAPING/IRRIGATION PLANS

- ☐ Verify FIR checklist items

EXISTING UTILITY PLANS AND CONFLICT MATRIX

- ☐ Verify FIR checklist items

High Priority

- ☐ Verify coordination has started with utility owners on conflicts and relocations

Low Priority

- ☐ Testhole information added

WATERLINE PLAN AND PROFILE

- ☐ Verify FIR checklist items

ROADWAY CROSS SECTIONS

- ☐ Verify FIR checklist items

Low Priority

- ☐ Check that the EW quantities have been transferred to the SUMMARY OF EARTHWORK

DRAINAGE STRUCTURE CROSS SECTIONS

- ☐ Verify FIR checklist items

SIGNING AND STRIPING PLANS

- ☐ Verify FIR checklist items

Low Priority

- ☐ Review by RTR
- ☐ Proposed striping and striping widths meet standards

- ☐ Existing signs to be removed or reset are shown grayed back
- ☐ ID assigned to each sign which corresponds to tabulation
- ☐ Callouts for striping lines, crosswalks markings, and stop bars

STORMWATER MANAGEMENT PLAN

High Priority

- ☐ Verify LDA lines correspond with anticipated work limits including access to the job site, easements, etc.
- ☐ Include Jen K. in Bluebeam session to review

BRIDGE PLANS

- ☐ Verify FIR checklist items

MASS DIAGRAM

- ☐ Verify FIR checklist items
-

3D MODEL

ORD MODEL REVIEW

- ☐ Review curb flowlines using analyze point tool and verify there are no low points with no inlet

Terrain Model Review

- ☐ Verify 3D features match alignment and plan linework
- ☐ Display triangles (with 10x vertical exaggeration if possible) and spin model to review - look for jumps in grade or inconsistencies, look for uneven areas
- ☐ Drainage Checks
 - ☐ Use trickle function to check drainage flow directions
 - ☐ Use analyze pond tool to verify there are no low points in areas without inlets
 - ☐ Triangle display can be set to show triangles with 0-0.5% slope as red

- ☐ Check for inconsistent or odd spacing of triangles
 - ☐ Check for long triangles bridging features or incorrectly bridging gaps
 - ☐ Display contours at close intervals (0.1' - 0.5')
 - ☐ Run report on surface to review min/max elevations, breaklines, triangles, etc.
 - ☐ Verify curb ramp grades - Survey 123 DGN (can have consultant perform)
-

SPECIFICATIONS

Low Priority

PROJECT SPECIAL PROVISIONS INDEX:

- ☐ Index agrees with actual contents, page numbers, titles, etc.

STANDARD SPECIAL PROVISIONS INDEX:

- ☐ Check SSP Index Inclusions on Intranet

NOTICE TO BIDDERS:

- ☐ RE correct, Program and Project Engineer listed.
- ☐ Pre-Bid Conference information included when required

COMMENCEMENT AND COMPLETION OF WORK:

- ☐ Working, Calendar Days, or Completion Date agrees with CDOT Form 859
- ☐ If floating start date spec used, verify selected dates with RE and 859

REVISION OF SECTION 102-PROJECT PLANS AND OTHER DATA:

- ☐ List Cross Sections and Earthwork Tabulations when applicable

REVISION OF SECTION 401 - ROLLER PASS STUDY

- ☐ Be sure this spec is provided from the Materials group if the project has a 1.5" overlay, with or without an underlying layer. (e.g. on frontage roads). This does not apply to 1" leveling courses.

- ☐ If Rev. of Section 401 - Roller Pass Study is to be included for frontage roads on your project, add the following header to the top of the Spec:
- ☐ *The following revision shall apply to the frontage roads only. All other hot mix asphalt shall be subject to all the requirements of Section 401.17 of the Standard Specifications.*

OTHER PROJECT SPECIAL PROVISIONS:

- ☐ Define pay items with “(SPECIAL)” in the description
- ☐ Verify that pay items defined in the Special Provisions are listed in the SAQ
- ☐ TRAFFIC CONTROL PLAN - GENERAL
 - ☐ Description with correct Case for S-630-1
 - ☐ Updated template from shared drive used
- ☐ Other modifications to Special Provisions as specified by the Form 859 are included
- ☐ PIM Spec: Required in person attendance at preconstruction meeting and one weekly progress meeting per month. Verify with Project Engineer and CDOT R3 PIM. Use LS PIM item for 2025 season projects and beyond
- ☐ 250 Spec: Latest template used. Location as of 3/13/23: G:\Shared drives\Program Engineer West - Design Team\Templates_Specification
- ☐ Revision of Section 105 - Smoothness: New optional smoothness and tack spec. Discuss if it should be included with RE/materials. Spec is in shared drive.

FORCE ACCOUNT ITEMS:

- ☐ Order, Title, and Cost agrees with the SAQ and Engineer’s Estimate
 - ☐ F/A description provided for all F/A listed following F/A list
 - ☐ Include the asterisk(s) on the Force Account items as appropriate
-

ESTIMATE

- ☐ Verify quantities and unit prices, especially for items more than around \$25,000 total
 - ☐ Check overall quantity amounts using design dgn(s). Ex. 24" drainage pipe - Isolate the 24" drainage pipe level in the dgn, select all the pipes on that level, and use the length measurement tool to verify the length matches the quantity in the SAQ. Need to be cautious with duplicate lines and verify no double counting.
-

CONSTRUCTION SCHEDULE

- ☐ FIR comments addressed
-

REPORTS

DRAINAGE

- ☐ Revised hydraulic report incorporating FIR comments
 - ☐ Revised hydraulic information sheet incorporating FIR comments
-

PMWEB

- ☐ Update schedule and baseline.
 - ☐ Create estimate and forecast record.
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