Project Name: _____

CCUA As-built CAD/GIS Standards Checklist

Name of CAD Technician: ***Date of review:***

Document Sheet Number: ***Review Number:***

As-built Number to be applied:

A check box has been provided for all As-built CAD Approval Checks called upon by the CCUA As-built Specifications Standards. Put a line through any checks that do not apply to this As-built.

Drawing Preliminaries:

- ☐ The As-built is referenced to the State Plane Coordinate System, GEOID12A or GEOID12B, Florida East Zone, NAD 83 (horizontal) and NAVD 88 (vertical)
- ☐ Check sheet size of 22”x34”
- ☐ Check for separate layout tabs.
- ☐ Check that all utilities are combined into a single drawing.
- ☐ Check for missing Xrefs.
- ☐ Check for duplicate or overlapping objects (OVERKILL).
- ☐ Check for extra or unnecessary/unapproved layers or blocks (PURGE).
- ☐ All maps and reports of surveys with digital coordinate files contain a statement to the effect of: ***Map is intended to be displayed at a scale of 1” =XX’***.
- ☐ As-built certification blocks for engineer and contractor
- ☐ Scales range between 1” =10’ to 1” = 60’ (unless a different scale has been approved by CCUA)
- ☐ Lot numbers and/or ownership data (not adjoining lots—only subject property)
- ☐ Street numbers/Road names
- ☐ Scale and North arrow
- ☐ Location, elevation, datum and benchmark used
- ☐ All related As-builts contain continuations/match lines (as needed).

Drawing proper:

- ☐ Check that the tie-down dimension styles and measurement format are correct.
- ☐ Check for text call-outs for all fittings.
- ☐ Check for all poly lines to be flattened (0 elevation in properties dialog).
- ☐ Changes in pipe materials, sizes and pipe rating (i.e., 8” DR21 PVC, etc.)) are identified with callouts.
- ☐ Check that the polyline mains are continuous through all bend, sleeves and meter block fittings.
- ☐ Check for dangling and/or overshooting services where they connect to the mains.
    - Water
    - Sewer
    - Reclaim
- ☐ Polylines are broken at each of the following:
    - Valves (not including Air Release Valves)
    - Reducers
    - Tees, Taps and Crosses (including Fire Hydrant Tees)

- Caps (Tapped Caps)
- Manholes
- Clean-outs
- R.P.Z., B.F.P. (Back-flow Preventer)
- In-line Ball Valve
- Point of service
- Check Valves (including Double Detector Check Valves)
- Adapter Couplings (including HDPE-to-PVC, HYMAX and Type of Material Transition Points, etc.)
- All other service polylines are connected with no broken segments.

All Gravity main lines:

- ☐ Are entered as a single line (not broken)
- ☐ Are digitized in the direction of the design flow (the beginning point of every line is the upstream end, and the ending point of every line is the downstream end)
- ☐ Identify length and scope information of the mains
- ☐ Block elevations in call-outs match both Asset Table elevations and survey elevations
- ☐ Main are broken at manholes and ends snapped to center nodes as required.
- ☐ On all manholes that have radial service lateral penetrations (i.e., in cul-de-sacs or end-of-pipe runs), check for the service lateral inverts in the call outs, and if added to the asset table manhole data.

All Force main lines:

- ☐ Are entered as a single line (not broken)
- ☐ Are broken at required fittings as shown above

All text and dimensions:

- ☐ Is masked or uses wipeout, and properly aligned. Uses CCUA standard dimension style (Arial font) located within the CCUA template.
- ☐ Is visible on the drawing with the base set to the upper left-hand corner of the text which is clear of linear or block features.
- ☐ Labels are placed onto a separate layer, not on the feature layer.
- ☐ Labels are properly rotated for easy legibility (horizontal alignment).
- ☐ Check that the text call-outs for the fittings are in the correct CCUA Annotative Style formats.
- ☐ Check that the dimensions tie-down styles shown are in the correct CCUA style and font formats.
- ☐ Check that the lot numbers and road name text fonts are the approved CCUA Annotative Text styles.
- ☐ Check that the primary units of the annotative dimensions in "feet and inches" format, not survey tenths of a foot.

Features and blocks:

- ☐ Are placed on their appropriate layers/colors.
- ☐ Check that all of the fitting blocks are a consistent scale size across the drawing.
- ☐ Check that all fitting blocks are rotated in the direction of the pipe flows.
- ☐ All AutoCAD drawing text annotation, details, and dimensions are shown in model space, and any block entities shown in separate, isolated (non-spatial) details must be exploded.

☐ Blocks comply with the available CCUA tool palette.

Asset Table:

☐ Asset Table Worksheet contains an inventory of items installed, is complete via a Block Count, and corresponds to the sequential Feature ID that has been added to said blocks.
☐ Check that all of the blocks shown in the drawing are actually present in the asset table.
☐ Check that the fittings sizes in the asset table match the actual mains connected to them and the text call-outs also match the asset table listings.
☐ Insure all of the Feature IDs in either the asset table or the block properties letter cases match between them, i.e., *wm_valve_xx* (lower case) should be the same in the asset table and in the block properties, or conversely *WM_VALVE_XX* (upper case) should be the same between both data sources; it does not matter which case is used, as long as they match in both places.
☐ Check that all of the 90 and 45 bend fitting blocks that are in the turned, vertical, or stacked orientation (i.e., not lying flat or horizontal) are replaced by the correct CCUA turned bend block as shown in the CCUA block palettes; the Feature IDs for these bends also need to be updated to the correct "turned" designation as shown in the Appendix A of the CCUA Specifications Manual.
☐ Show only the privately-owned RPZ fittings, check valve fittings and connecting manholes and/or cleanout fittings in the asset table; although CCUA does not require privately-owned fittings to be listed in the asset table, adding these items to the table helps CCUA in maintaining the most up-to-date information in its GIS and asset management systems at these points of connections.

***Polylines**:*

☐ Does not contain cut/broken lines behind text.
☐ Are continuous from structure to structure (except for items listed above).
☐ All end points of polylines are snapped to the end points of connecting polylines, with a structure/fitting block center node being snapped to the end point as required.
☐ All drawings contain no exploded blocks (except in details/ 'blow-ups').

Layers:

☐ The Layer Name Format: Uses the proper layering format that follows the National CAD Standards guidelines.
☐ Check that any existing mains used for connections are shown in the correct layer; these lines need to be placed in the layer(s) corresponding with their sizing that has the suffix of "EX" (for Existing); these layers can be copied from the existing pipe size layers, and the suffix changed to "EX" so that the CCUA GIS integration does not confuse old (existing) pipes already in the system with new (as-built) pipes being added to the system.

Directional drills include:

- ☐ Profiles on the drawing for the engineer.
- ☐ Drill logs provided in PDF format as a separate item or attachment.

Pump Stations:

- ☐ Pump Station plans include boundary data (platted bearings and distances, unless privately owned).
- ☐ Check that the pump station site plan detail matches the actual existing plan.

- ☐ Ownership transferred Pump Stations (private-to-CCUA), new Treatment Plants, and well sites include separate boundary survey, or partial boundary surveys, as the case demands (unless private).

Coordinates:

Coordinate points on utility mains are included (at all pipe dead ends, size changes, points of connection to existing system, fittings (bends, valves, tees, plugs, etc.), at intersections of pipe)):

- ☐ Water mains – every 100 Feet
- ☐ Reclaimed and force mains – every 500 Feet
- ☐ Nearest fitting or structure (whichever is less than above)

Dimensions:

- ☐ Dimension measurements (two (2) per structure, or stations and offsets (if approved by CCUA); no diagonal ties or ties to drainage structures or power poles are accepted (unless approved by CCUA).