ENGINEERING SERVICES GUIDELINES AND PLAN DEVELOPMENT

MILESTONE CHECKLISTS

The following guidelines have been established to aid the Engineer/Designer/Manager in understanding the design process as it relates to Engineering Services work. These guidelines are meant to be used as the minimum criteria by which design activities occur while realizing that each project is unique and may require special considerations.

Design Plan Milestone Checklists

Projects are recommended to the following Plan Development Milestones:

I. 25% Plans Review (Client Department Review for “Large” Projects)
II. 50% Plans Review (Preliminary Plans – Core & Support Team Review)
III. 75% Plans Review (Preliminary Plans – Core & Support Team Review)
IV. 90% Plans Review (Preliminary Plans – Core & Support Team Review)
V. Final Plans (Core & Support Team Review)

Following are Outlines of each Milestone with:
A. General Overview
B. Required Submittals
C. Plan Checklist
I. **25% Plans Review**

Submittal Date: __________ Designer: ________________

Review Date: __________ Reviewer: ________________

**Note:** Survey should be field verified prior to beginning 25% plans to assure it is correct and no improvements have been installed since survey was received. All review plans submitted must be 24” X 36” Black-Line (Originals or PDFs). Each sheet should have a “Plans Prepared By:” block and have the stamping “Preliminary Plans – Do Not Use for Construction,” until the final plan set is issued.

___ Field visit to verify survey

A. **General Overview**

This milestone has been set to ensure the Project Design is proceeding according to IPDS Project Plan, preset design criteria, and sound engineering judgment. At this milestone, conceptual designs should have evaluated multiple alternatives (if applicable) to determine the most cost-effective Preliminary Horizontal and Vertical Alignments based on the client’s initial scope of work, design criteria and approved design exceptions. If not, the design should not proceed with plan production with cutting sheets. With the conceptual design approved, proceed with preparing plans. The 25% Plans Review should include the following:

B. **Required Submittals** (Place a Check Mark, or N/A)

___ Design Assumptions or Design Criteria

___ Listing of Required Permits or Special Reviews

(i.e. Phase I Environmental Site Assessment, Historical Agency Review, NCDOT Encroachment Agreement, Water Quality Permit, Erosion Control Permit, etc.

___ Verification of Correspondence with Pertinent Utility Companies

___ Control Point Calculations for Projects with a Resurfacing Grade

___ Vertical Clearance Calculations

___ Preliminary Pavement Design

___ Engineer’s Estimate

___ Project Construction Plans (Approx. 25% Completion)
C. **25% Plans Checklist** (Place a Check Mark, or N/A)

Note: All plans submitted must be 24” X 36” Black-Line (Originals or PDFs). Each sheet should have a “Plans Prepared By:” block and have the stamping “Preliminary Plans – Do Not Use for Construction”.

1. **Title Sheet** (Use City of Charlotte Standard Cover Sheet)

   ___ Vicinity Map is “complete” and “accurate”  
   (Includes at least two major streets and an intersection)  
   (Show North Arrow inside vicinity map)

   ___ Legend of Conventional Symbols Used  
   (Make sure Lines and Symbols are “accurately” shown)

   ___ Index of Sheets (Varies per Project)  
   **Suggested Layout:**

   -- Sheet 1  
   Title Sheet

   -- Sheet 2, 2A, 2B, etc (2 Series)  
   General Notes,  
   Standard Abbreviations & Various Details  
   (including ramp details)

   -- Sheet 3, 3A, 3B, etc (3 Series)  
   Typical Sections, Drainage Summary

   -- Sheets 4 thru XX  
   Plan & Profile Sheets

   -- Sheets TCP1 thru TCPxx  
   Traffic Control Plans

   -- Sheets PM1 Thru PMxx  
   Pavement Marking & Signing Plans

   -- Sheets EC1 thru ECxx  
   Erosion Control Plans

   -- Sheets SP1 thru SPxx  
   Construction Staking Plans

   -- Sheets SIG1 thru SIGxx  
   Signal Plans

   -- Sheets UC1 thru UCxx  
   Utility Construction Plans

   -- Sheets UBO1 thru UOxx  
   Utilities By Others Plans

   -- Sheets X1 thru Xxx  
   Cross-Sections Sheets

   ___ Project Name & Project Number (Place in two locations)

   _____ As a heading under the City logo (centered at the top of the sheet)  
   _____ Vertically along the Right-Hand Border

   ___ Project Features  
   (Type of work such as: Grading, Storm Drainage, Concrete Curb & Gutter, Paving, etc. Place under Project Name & Number in heading.)

   ___ Standard Specification Date (Most current publication) (NCDOT Standard Specifications for Roads & Structures)

   ___ Signature Block entitled “Recommended for Construction” with signature space for project stakeholders (unsigned at this point)

   ___ Signature Block containing City Engineer’s approval signature & date (unsigned at this point)
Location Map
Shows Project Layout on numbered superimposed sheets to include the following:
- Project Alignment for all Proposed Construction (include Stations for -L- lines, -Y- lines, detours, etc.)
- Existing Roads and Streets affected by construction (both those that are part of the project and those not part of project)
- Show Major Proposed Work with Shading (do not show any associated text or other details)
- Street Names, Route Numbers, Survey Line Names & Numbers
- Alignment Equality Stations
- Streams and Rivers
- Railroads
- City Limits
- Beginning and Ending Stations for the Project
- North Arrow

List of Graphical Scales used for the Project
Design designation is shown

2. Typical Sections (to be shown in the “2 Series” of sheets)

- Provide Typical Roadway Section(s). Include road name, construction alignment reference identification and stations. Label pavement types, curb & gutter, sidewalk, etc…. to match items listed in the Preliminary Material Schedule.

3. Plan Sheets
In general, show Existing Features with dashed and/or “screened” lines and proposed features with heavier solid lines and/or shading. Use City of Charlotte layering standards.

- Sheets are ½ Plan (at the bottom of sheet) and ½ Profile (at the top of the sheet) unless project lends itself to separate plan and profile sheets. The Horizontal Scale should be 1” = 20’ and the Vertical Scale should be 1” = 4’. Any variance from these scales should be approved by the Program Manager.

- Existing Planimetric Features relative to project (field verified by designer)
  - Streets, roads, driveways, sidewalks (names, labels, etc.)
  - Houses, buildings, garages, sheds (names, labels, etc.)
  - Fences, walls (labels)
  - Trees, shrubs, woods lines, etc. (type and size if pertinent)
  - Utilities (above and below ground) (type, size & mat’l if known)
  - Storm Drainage Facilities (size, type, and invert elevations)
  - Property Lines, Exist. R/W Lines, Exist. Permanent Easement Lines (Show Monumentation found with label – ex. ½” EIP)
  - Property Owner Information (use City of Charlotte standard parcel block info.)
  - Railroads (show tracks to scale)(label ownership)
  - Bodies of water (rivers, creeks, streams, lakes, ponds, etc.) (give name, width, direction of flow, etc.)
  - Any other existing features relative to project
Survey Information (shown at the correct location on the plansheet)

Survey Control Points (symbol, point name, material, N, E, Elev.)
(ex. TP-2 (60d Nail) with N, E, and Elev.)

Survey Benchmarks (symbol, name, alignment reference, and Elev.) (ex. BM-2 (-L- Sta 10+53 34’ Rt.) (Elev. = 750.56’)

North Arrow (related to specific survey datum – i.e. NAD83 etc.)

Datum Description (Place Block on Plansheet #4)

Proposed Features

Horizontal Alignment(s)
Proposed Design/Construction Alignment(s) to include:

Heavy solid line(s) showing Proposed Alignment
(Designate with -L-, -Y- or multiple with –L1-, -Y1-, etc.)

Beginning and Ending Stations (with Coordinates) (ex. -L- POT Sta. 10+00.00)
(N = , E = )

Equality Stations (with Coordinates)
(ex. -L- POC Sta. 13+26.54 = -Y- POT Sta. 10+85.63)
(N = , E = )

Event Point Stations (i.e. PC, PT, PCC, PRC, PINC, etc.)

Bearings and Distances on Tangents

Horizontal Curve Data (Show in Curve Info. Box)
(Number each curve and provide delta angle, radius, length of curve, and tangent length)(Optional: chord distance, chord bearing)

Proposed Improvements such as curb and gutter, sidewalk, driveways, etc. (show with appropriate line weight and shading). Labeling is not necessary at this milestone. Drainage improvements should not be shown – these are not detailed enough at this milestone)

Match Lines (reference station number and sheet number)

4. Profile Sheets
In general, show Existing Features with dashed and/or “screened” lines and Proposed Features with heavier solid lines and/or shading. Use City of Charlotte layering standards.

Sheets are ½ Plan (at the bottom of sheet) and ½ Profile (at the top of the sheet) unless project lends itself to separate plan and profile sheets. The Horizontal Scale should be 1” = 20’ and the Vertical Scale should be 1” = 4’. Any variance from these scales should be approved by the Program Manager.

Existing Features
Dashed Line(s) labeled Existing Grade along -L-, -Y-, etc.
(show existing centerline elevations every 25’)
Existing Drainage or Utility Structures and Pipes (show to scale)
(label size, type, material, and top/rim and invert elevations)
Survey Information (shown at the correct location on the sheet) (show benchmarks with name, setting, alignment reference, and elevation) (ex. BM-2 (Railroad Spike set in the base of 32” Oak)
-L- Sta. 10+53 34’ Rt.
Elev. = 750.56’ (NAVD88)

Proposed Features

Vertical Alignment(s) (Show on a project by project basis)
Proposed Design/Construction Alignments to include:

Heavy solid line(s) labeled “Proposed Grade”
(designate with -L-, -Y- or multiple with –L1-, -Y1-, etc.)

Label proposed grades along grade line, PVC, PVT, and PVI Stations and Elevations

Vertical Curves – label PVI station/elevation, K value, algebraic difference in grade, length of curve, low/high point station/elevation

Proposed Elevations every 25’

Cross-Sections Sheets

In general, show Existing Features with dashed and/or “screened” lines and Proposed Features with heavier solid lines and/or shading. Use City of Charlotte layering standards.

Scale should be 1” = 5’ (Horizontal and Vertical) (Any variance from this scale should be approved by the Program Manager)

Show Existing Ground Line (give existing elevation at construction alignment location(s))

Show critical cross sections as identified by the Project Manager (locations with large obstacles such as trees, signs, retaining walls, or locations with high cut/fill lines)

General

“Preliminary Plans- Do Not Use for Construction” is noted on all sheets.

Same project number is shown on all sheets.

Date plans printed shown in the title block.
II. 50% Plans Review  

Submittal Date:  
Designer:  

Review Date:  
Reviewer:  

A. General Overview

Note: A cursory review of previous milestone reviews should be completed prior to proceeding with the next milestone review to ensure changes and additions have been updated or corrected.

At this point, the design should be checked for constructability, utility conflicts and compliance with Storm Water Services design requirements. To meet this milestone requirement, a concept drainage (plan view only) should be completed with preliminary spread calculations and inlet locations with pipe layout and slopes. In addition, a written phasing for traffic control should be reviewed by CDOT to ensure the project can be constructed without temporary widening or overnight lane closures. Utility conflicts, above ground and underground, should be highlighted and discussed with the Utility Coordinator. Throughout the project limits, cut and fill lines should be imported to identify tree and environmental impacts as well as potential retaining wall or guardrail locations.

B. Required Submittals (Place a Check Mark, or N/A)

_____ Geotechnical Report (if applicable)

_____ Summary of concerns noted in the Phase I ESA document (if applicable)

_____ Storm Drainage Topo Map for proposed inlet locations and inlet calculation spreadsheet

_____ 50% Engineer’s estimate

_____ Project Construction Plans (approximately 50% complete)

C. 50% Plans Checklist (Place a Check Mark, or N/A)

1. Title Sheet. (Use City of Charlotte Standard Cover Sheet) (complete per 25% Plans)
   
   _____ Design designation data is shown.

2. Details (to be shown in the “2 Series” of sheets)
   
   _____ Update General Notes for Erosion Control Sheets and Traffic Control Sheets.
   _____ Delete Pavement Degradation Fee notes that do not apply.
   _____ Provide Details for retaining walls and non-standard catch basins or culvert improvements.
   _____ Provide Details for other non-standard items not covered under NCDOT Specifications.
   _____ Label Detail sheets with description of details included on sheet within title block.
3. **Plan Sheets**

   _____ Label proposed Improvements such as curb and gutter, sidewalk, driveways, etc. (show with appropriate line weight and shading)
Label pavement widths and taper/transitions.
Label utility poles to be relocated “by others.”
Highlight above ground and underground utilities that are in conflict with the proposed improvements.
Label proposed concept drainage system with material, length, slope and class of pipe.
Import cut/fill lines and show retaining wall limits if determined necessary.
Label tree removal and required tree protection.
Show pavement removal with appropriate hatching
Show accessible ramp locations with crossings
Show superelevation at correct plan location(s) (if applicable)
Show guard rail and retaining wall location(s) (if applicable)

4. Profile Sheets (No Change from the 25% review.)

5. Traffic Control (Written Phasing Scheme only)
   List by phase the proposed approach to accommodating the traffic control during the life of the project. Phases should be consistent with general construction guidelines and practices.
   Show proposed detours if required.

6. Cross-Sections Sheets
   Show Proposed Ground Line (templates with no labeling at this point).
   Add daylight lines for Cut/Fill slopes.
   Provide proposed elevation at construction alignment location(s).
   Show proposed retaining wall or guardrail locations.
   Sections should be shown at min. 50’ increments (25’ increment are required for projects < 1 mile and all sidewalk projects along the construction alignment(s) (i.e. 10+00, 10+50, 11+00, etc.). Label alignment designation and station.
   Check to ensure sight distance requirements have been met per the design criteria at intersections and major entrances with large traffic volumes.
A. General Overview

Note: Survey should be field verified again prior to beginning 75% plans to assure no improvements have been installed since survey was received and last field visit occurred. A cursory review of previous milestone reviews should be completed prior to proceeding with the next milestone review to ensure changes and additions have been updated or corrected.

For this review, mark-ups/comments from utility companies as well as Storm Water Services should be incorporated into the project design. The project design at this milestone should include storm drainage (horizontal and vertical) with identified pipe sizes and minimum slopes. In addition, a traffic control plan (both written phasing and associated diagrams), and a pavement marking plan. In addition to the detailed plans, an updated engineer’s estimate should be prepared. Any required permits should be identified at this milestone and plans should be prepared for appropriate submittals (NCDEQ, NCDOT, Water Quality, Etc.). Project grading limits should be checked for area disturbed. If the area exceeds one acre, an erosion control permit is required. If there are changes in the approved budget or schedule, a Change Control Document should be prepared to inform the Client and Project Team.

____ Field visit to verify survey

B. Required Submittals (Place a Check Mark, or N/A)

____ Updated 75% engineer’s estimate
____ Storm Drainage Topo Map for proposed pipe system and pipe calculation spreadsheet
____ ROW/easement quantities (spreadsheet)
____ Project Construction Plans (approximately 75% complete)

C. 75% Plans Checklist (Place a Check Mark, or N/A)

1. Title Sheet
   ____ Design designation data is shown.

2. Typical Sections & Details (to be shown in the “2 and 3 Series” of sheets)
   ____ All necessary dimensions shown on pavement, subgrade, shoulders, slopes, centerline, medians, sidewalks, utility strips, curb & gutter, etc.
   ____ Milling limits shown (if applicable)
   ____ All slopes shown on pavement, shoulders, subgrade, hinge point grading, ditches, cut & fills.

Rev Date: 5/8/19
All grade points shown.

All variable limits shown.

Provide Details for retaining walls, non-standard catch basins, and culvert improvements. (update from previous milestone reviews).

Provide Details for special ditches (lateral and berm ditches). Provide alignment, station, offset, and quantities such as drainage ditch excavation, rip rap, and filter fabric. (Note: Project Manager may choose to show this information on the plan sheets.)

Provide Details for other non-standard items not covered under NCDOT Specifications. Some that may be considered are sidewalk taper, pipe trench detail for storm drainage pipe, and pavement overlay or wedging.

3. **Plan Sheets**

Show the limits of construction by placing slope-stake lines on the plans. (lines should be designated as cut or fill by linetype)

Show berm and lateral ditches if required. Insert corresponding ditch details.

Proposed drainage. (cross-pipes, storm sewer systems, and driveway pipes) Label all pipes with size and material. Show and label pipe inlet and outlet devices such as headwalls, endwalls, flared-end sections, false sumps, rip rap and filter fabric requirements and quantities. Label drainage structure numbers.

Label radii measured to face of curb.

Label proposed utility poles to be relocated “by others” at the specified locations indicated by utility companies.

Guardrail shown & labeled

Show and label signal items to be installed by roadway contractor (ped bases, pull boxes, conduit, etc.)

Retaining walls shown & labeled

Ramps shown accurately on plan sheet with station labels (details not yet created)

4. **Profile Sheets**

Show curb line grades if different from proposed design-line grade line.

Label proposed edge of pavement elevations for left and right lip lines.

Show proposed lateral ditches with beginning, ending, and PVI stations and elevations. Label proposed lateral ditch grades.

Update proposed drainage. Make sure drainage structure number corresponds with that shown in plan view.
5. **Erosion Control Plans**

   ____ Preferred scale 1”=40’.

   ____ Erosion Control Notes & Legend Key.
   

   ____ Erosion Control measures shown on plan view. Erosion control plan must be sufficient to obtain plan approval and required erosion permits from NCDEQ.

   ____ Erosion Control Details - if standard, refer to standard number.

   ______ Temporary Wattle Check Dam/Inlet Protection
   ______ Temporary Silt Fence
   ______ Temporary and Permanent Seeding Specifications
   ______ Other

6. **Traffic Control/ Pavement Marking Plan**

   ____ Standard Traffic Control General Notes & Project Notes modified per project.

   ____ Traffic control phasing is consistent with general construction practices.

   ____ Traffic control custom phase drawings and/or CDOT WATCH diagrams correctly referenced per written phasing.

   ____ If on an NCDOT street, be sure notes and work hours are updated for NCDOT requirements. (Note T: change 2’ to 5’, Revise works hours restricted 6:00 am - 9:00 am and 4:00 pm – 8:00 pm or as directed by NCDOT.)

   ____ Pavement Marking Plan preferred scale 1”=40’.

   ____ Legend matches NCDOT pavement marking schedule.

   ____ Legend matches plan view symbology.

7. **Cross-Sections Sheets**

   ____ Label cut & fill slopes and varying pavement cross slopes.

   ____ Label pertinent proposed elevations such as lip elevations and grade break point elevations.

   ____ Show berm and lateral ditches.

   ____ Show additional critical cross-sections at driveways and other critical areas such as drainage inlets.

   ____ Label any non-typical existing or proposed features such as retaining walls, buildings, headwalls, channel changes, etc.

   ____ If NCDOT street, follow NCDOT Cross Section Guidelines.
8. **Utility Construction Plans**

_____ Include in the construction set as separate plans if needed due to plan sheet clutter
**90% Plans Review**

Submittal Date: __________ Designer: ____________________

Review Date: __________ Reviewer: ____________________

A. General Overview

Note: A cursory review of previous milestone reviews should be completed prior to proceeding with the next milestone review to ensure changes and additions have been updated or corrected.

This review milestone precedes preparing plats and easement exhibits for real estate acquisition. For this review, final mark-ups/comments from utility companies as well as Storm Water Services should be incorporated into the project design. The project design at this milestone should include updated drainage (horizontal and vertical), traffic control, and pavement marking plans. In addition to the detailed plans, an updated engineer’s estimate should be prepared with an updated real estate cost. All required permit applications should be prepared at this point along with any required fees with check requests submitted.

B. Required Submittals (Place a Check Mark, or N/A)

- Final Pavement Design Calculation and typical sections modified.
- Final drainage map with spreadsheets and calculations for pipe system and inlet design
- Updated 90% engineer’s estimate
- Permit Applications along with check requests (May include NCDEQ Erosion Control, NCDOT encroachment, Municipal Agreement, Water Quality Permit)
- Ramp Calculations
- Project Construction Plans (approximately 90% complete).

C. 90% Plans Checklist (Place a Check Mark, or N/A)

1. Title Sheet

   - Design designation data is shown.

2. Typical Sections & Details (to be shown in the “2 and 3 Series” of sheets)

   - Update the pavement/material schedule to incorporate the final pavement design.
   - Ramp & curb return details
   - Drainage structure table
3. **Quantities Summary Sheet(s) (if applicable)**

   ____ Drainage Summary (Standard NCDOT or City formats)

4. **Plan Sheets**

   ____ Show curb return elevations (if necessary). Label elevation on plan at 10’ increments along lip of curb or shown on a curb return profile on a separate sheet.

   ____ Check to ensure all proposed work is clearly indicated. Such items overlooked to this point might include: fence relocations/additions, tree removal/protection & trimming needs, sign relocations/removal/additions, pipes to be removed/plugged/extended/, sealing abandoned wells, driveway reconnections, driveway pipes, etc.

   ____ Show final storm drainage and labeled.

   ____ Right-of-way & Easement lines, and Parcel numbers shown with standard parcel block information (check to make sure this matches plats/exhibits)

   ____ Check to ensure no property has been landlocked with proposed improvements

   ____ Areas to remain undisturbed with the right-of-way clearly marked

5. **Profile Sheets**

   ____ Finalize proposed drainage. Label all pipes (parallel and cross-pipes) with size, material, length, slope, and class of pipe. Provide top/rim and invert elevations for all drainage structures. Label NCDOT or LDSM standards required (i.e. NCDOT Std. 840.01).

   ____ Curb return profiles (if necessary)

6. **Erosion Control Plans**

   ____ Narrative (if necessary)

   ____ Construction Sequence (if necessary)

   ____ Check to ensure all erosion control measures are contained within existing or proposed right-of-way and easements

7. **Traffic Control/ Pavement Marking Plan**

   ____ Update plan sheets per comments from 75% review

8. **Cross-Sections Sheets**

   ____ Show volumes for embankments, unclassified excavation, and known undercut excavation on each cross-section.
Provide dimensions as needed (required on NCDOT streets).

9. **Utility Construction Plans**

   ____ Check to ensure only work to be performed by the contractor is indicated with heavy lines and text
   ____ Show other pertinent plan information with background or gray-scale symbology

10. **Utilities By Others Plans**

    ____ Include in the construction set as separate plans if needed due to plan sheet clutter
    ____ Check to ensure only work to be performed by others (not the contractor) is indicated with heavy lines and text
    ____ Show other pertinent plan information with background or gray-scale symbology
A. **General Overview**

This milestone review has as its purpose to finalize construction plans, engineer’s estimate, project special provisions, and any other items necessary to submit to Bid Phase. It incorporates review comments from the 90% plans review and external reviews such as NCDOT Encroachment Agreement. Prior to this review, right-of-way and easement needs have been determined and incorporated into the plans, plats and exhibits have been prepared, and Real Estate Phase is well underway. Coordination has occurred for landscaping needs, traffic signal work, and utility relocations. The project budget and schedule have been updated to reflect any IPDS Change Controls. This review should present a clear picture of the project design with all necessary details for successful construction.

B. **Required Submittals (Place a Check Mark, or N/A)**

- ____ Submit Permit Applications (May include Erosion Control, NCDOT encroachment, Municipal Agreement, Water Quality Permit).
- ____ Final Engineer’s Estimate (all computations included)
- ____ Written Project Special Provisions
- ____ Listing of Right-of-Way and Easement Areas (via Spreadsheet)
- ____ Final Project Construction Plans with signed/sealed mylar cover sheet and final review stamp on remaining sheets

C. **Final Plans Checklist (Place a Check Mark, or N/A)**

1. **Title Sheet**
   - ____ Updated Index of Sheets
   - ____ Project Stakeholder signatures under the “Recommended for Construction” block
   - ____ City Engineer’s approval signature

2. **Details (to be shown in the “2 and 3 Series” of sheets)**
   - ____ Standard General Notes shown on Sheet 2 & updated to show project specific Sheet references
   - ____ List of Standard Drawings pertinent to project (NCDOT or CMLD)
3. **Plan Sheets**
   - _____ All cross-reference notes are correct
   - _____ All utility relocations/adjustments labeled and clearly identified as work the contractor is to perform or as work to be done by others

4. **Profile Sheets**
   - _____ All cross-reference notes are correct if separate plan & profile sheets

5. **Traffic Control Plans**
   - _____ Update to reflect any changes from 90% review or to address any access issues

6. **Pavement Marking Plans**
   - _____ Clearly denote markings to be removed (include line item(s) & quantities in engineer’s estimate)
   - _____ Check for any temporary markings needed (include line item(s) & quantities in engineer’s estimate)
   - _____ Check for the need of permanent pavement markers (raised or snowplowable)
   - _____ Reference Standard Drawings (if applicable)
   - _____ Clearly identify signs to be installed by the contractor & signs to be installed by others

7. **Construction Staking Plans**
   - _____ Provide all necessary information for staking not contained elsewhere in the construction plans (Note: This information may be provided at a later date if required and not be included at this milestone.)

8. **Signal Plans**
   - _____ Include in the construction plans if the contractor is to perform any of this work