Engineering Agreement Checklist

Projects funded under the New Jersey Water Bank (NJWB) must be reviewed for the Engineering Services during construction. The Sponsor's Engineering Services agreement shall include the following tasks under the scope of work:

Bid Phase

- ❑ Prepare Bid Package for advertising
- ❑ Advertise for Bids
- ❑ Prepare and administer pre-bid meeting and site walk-through
- ❑ Address any pre-bid phase request for information by bidders
- ❑ Issue contract clarifications and/or addenda
- ❑ Attend bid opening
- ❑ Tabulation & analysis of bid results
- ❑ Furnishing recommendations on the award of construction contracts
- ❑ Assistance in the preparation of formal contract documents for the award of contracts

Construction Phase

Construction Administration

- ❑ Provide general communication with owner and Contractor throughout the duration of construction regarding such issues as progress, submittal status, construction
- ❑ issues and their resolution.
- ❑ Provide communication and correspondence with the NJDEP
- ❑ Maintain project files as required for periodic inspection by the NJDEP
- ❑ Conduct pre-construction meeting, establish agenda, issue notice to proceed
- ❑ Review and approve Progress Schedule, Schedule of Submittals, Schedule of Values required to be submitted by the contractor
- ❑ Review shop drawings and other submittals as required to evaluate that the proposed materials and equipment conform to the contract documents.
- ❑ Establish baselines and benchmarks for locating work
- ❑ Review laboratory, shop and mill test reports of materials and equipment
- ❑ Prepare monthly progress reports
- ❑ Prepare record drawings at the completion of the project

- ❑ During the first year of operation, directing the operation of the treatment works, revising the O&M Manual to reflect actual operating problems and experience, advising the owner as to whether the treatment works is meeting the project performance standards, certifying project performance standards after one year of operation of the treatment works and undertake corrective actions, if the applicant fails to achieve compliance with the project performance standards

Construction Inspection/Observation Services

- ❑ Provide full time construction inspection/observation services during
- ❑ periods when the contractor is on site to monitor the contractor's progress and compliance with the contract drawings and specifications, including the contractor's environmental protection and restoration measures.
- ❑ Conduct a weekly construction meeting with the Contractor and owner to discuss scheduled activities
- ❑ Prepare daily inspection reports.
- ❑ Review monthly and payment requests including the final payment requests.
- ❑ Participate in the review and evaluation of potential change orders, including detailed review of cost proposals.
- ❑ Participate in the resolution of issues involving unforeseen field conditions.
- ❑ Witness testing and startup of equipment and systems.
- ❑ Coordinate vendor training.
- ❑ Prepare punchlist of remaining work items.
- ❑ Evaluate substantial and final completion and issue certificates of substantial or final completion as appropriate.
- ❑ For Lead Service Line Replacement Projects:
  - Full-time inspection of each service line replacement. This includes test pits to determine the materials of the service lines.
  - Site inspection reports are required for each service line replacement and test pit and must include the minimum key fields as detailed in the Table below:

Minimum Fields for Site Inspection Reports Submitted to DEP		
Field Name	***Data Type***	***Purpose***
Site Address	Free Text	Address of the location where work was performed.
Site Coordinates	Number	X and Y coordinates of the address in question.
Date Work Performed	Date	Day, month, year when a replacement or test pit was performed at the address in question.
RPR Name	Input Controlled Text	The name of the resident project engineer, i.e. the staff representative of the engineering oversight manager, that oversees the work and completes the report.
Contract ID	Input Controlled Text	Identification number or alpha-numeric code denoting the contract under which the work has been performed.

Minimum Fields for Site Inspection Reports Submitted to DEP		
Field Name	***Data Type***	***Purpose***
Prime Contractor	Input Controlled Text	Name of the prime contractor that was issued the contract for all test pits and/or replacements.
Actual Replacement Contractor	Input Controlled Text	Name of the company that physically performed the replacement or test pit for the address in question. This could be the Prime Contractor, or a sub-contractor they employed.
Replacement Contractor Foreman	Free Text	Full name (first and last) of the foreman/forewoman responsible for the replacement contractor crew that performed the work at the address in question.
Licensed Plumber	Free text	Name of the company that provided the licensed plumber for the service line connections (if it was contracted out and not done by the replacement contractor staff)
Work Performed at Address	Input Controlled Text	Type of work that was performed at the address. Options must include at a minimum: 1. Full service line replacement (meter to main) 2. Partial service line replacement (curb to meter) 3. Partial service line replacement (main to curb) 4. Test pit 5. Restoration
Distance from the Curb Box to Main	Number	Distance (denoted in feet and inches) between the curb box and the water main.
Distance from Curb Box to House Foundation	Number	Distance (denoted in feet and inches) between the curb box and the foundation of the address in question.
Line Material Found at Corp Connection	Input Controlled Text	Service line material entering the corporate connection (at the water main), as found by the replacement contractor when they excavate the main. Options must include at a minimum: 1. Lead 2. Galvanized Steel 3. Brass 4. Copper 5. Plastic
Line Material Found at Curb Towards Main	Input Controlled Text	Service line material entering the curb stop valve on the street-side of the curb (towards the main), as found by the replacement contractor when they excavate the curb. Options must include at a minimum: 1. Lead 2. Galvanized Steel 3. Brass 4. Copper 5. Plastic
Line Material Found at Curb Towards Home	Input Controlled Text	Service line material entering the curb stop valve on the homeowner-side of the curb (towards the meter), as found by the replacement contractor when they excavate the curb. Options must include at a minimum: 1. Lead

Minimum Fields for Site Inspection Reports Submitted to DEP		
Field Name	***Data Type***	***Purpose***
		2. Galvanized Steel 3. Brass 4. Copper 5. Plastic
Line Material Found at the Meter	Input Controlled Text	Service line material entering the meter inside the home, as found by the replacement contractor when they inspect the home. Options must include at a minimum: 1. Lead 2. Galvanized Steel 3. Brass 4. Copper 5. Plastic
Replaced Line Material at Corp Connection	Input Controlled Text	Material of the replaced service line entering the corporate connection (at the water main), if this segment of the service line was replaced. Options must include at a minimum: 1. Copper 2. Plastic
Replaced Line Material at Curb Towards Main	Input Controlled Text	Material of the replaced service line entering curb stop valve on the street-side of the curb (towards the main), if this segment of the service line was replaced. Options must include at a minimum: 1. Copper 2. Plastic
Replaced Line Material at Curb Towards Home	Input Controlled Text	Material of the replaced service line entering the curb stop valve on the homeowner-side of the curb (towards the meter), if this segment of the service line was replaced. Options must include at a minimum: 1. Copper 2. Plastic
Replaced Line Material at the Meter	Input Controlled Text	Material of the replaced service line entering the meter inside the home, if this segment of the service line was replaced. Options must include at a minimum: 1. Copper 2. Plastic
Pre-Construction Image of Home	Image	Image of the address in question before construction starts.
Pre-Replacement Image of Exposed Line at Curb	Image	Image of the service line found at the curb stop valve by the replacement contractor before a replacement, if any, is performed.
Pre-Replacement image of Exposed Line at Corp Connection	Image	Image of the service line found entering the corp connection at the main by the replacement contractor before a replacement, if any, is performed.

Minimum Fields for Site Inspection Reports Submitted to DEP		
Field Name	***Data Type***	***Purpose***
Pre-Replacement Image of Exposed Line at Meter	Image	Image of the service line found entering the meter, as found by the contractor before a replacement, if any, is performed.
Post-Replacement Image of New Line at Curb	Image	Image of the replaced service line at the curb stop valve, if a replacement happened for this service line. It is recommended that a minimum of 18 inches of line be visible after each connection or valve.
Post-Replacement Image of New Line at Corp Connection	Image	Image of the replaced service line at the corp connection at the main, if a replacement happened for this segment of the service line. It is recommended that a minimum of 18 inches of line be visible after each connection or valve.
Post-Replacement Image of New Line at Meter	Image	Image of the replaced service line at the meter, if a replacement happened for this segment of the service line. It is recommended that a minimum of 18 inches of line be visible after each connection or valve.
Post-Construction Image of Home	Image	Post-construction image of the address in question after the restoration of the road and/or road pavement has been completed.

- ❑ Site inspection reports required for each service line replacement and test pit must be submitted to the NJDEP monthly during the life of the project.
- ❑ Photographs of each replacement including:
    - Preconstruction condition of the worksite
    - Excavated curb stop to document the materials and condition of the existing utility-side and customer side service lines.
    - Clear documentation of the completed service replacement
    - Photograph(s) must include geographic coordinates.
    - Photographs must conform to the NJDEP-established standards, including the presence of a white board or poster board with hand-written notes documenting (1) site address, (2) date of work, (3) contract under which the work is being performed, and (4) the type of service line material shown. (See picture below).
    - For photographs of both pre-construction and post-construction service line replacements, it is recommended that a minimum of 18 inches of line be visible after each connection or valve. This requirement is for both homeowner side and utility (main) side replacements.

- ❑ In addition, monthly payment applications must include a table containing a summary of the work performed and being billed for. This table will list all addresses worked on in said pay period. The table should include the dates of all test pits, lead service line replacements, and final restoration for each address. For test pits and any replacements, the materials of the lead service lines found/replaced must also be listed. At the completion of construction, a comprehensive table with all addresses and all work listed must also be submitted. To ensure that NJDEP inspectors can easily search these payment application tables, the NJDEP will mandate the delivery of these tables in .xlsx or .csv file format, readable through a commonly available spreadsheet interface such as Excel or Access.

Special Note: In general, all Engineering Agreements must include the Scope of Work, Hours/Hours per Task, and Personnel identified as qualified to perform the tasks (by title and rate of pay) for Services during Bidding, Construction, Inspection and Project Performance. The Hours should match the Number of Contracts in the Project and Contract Duration(s).