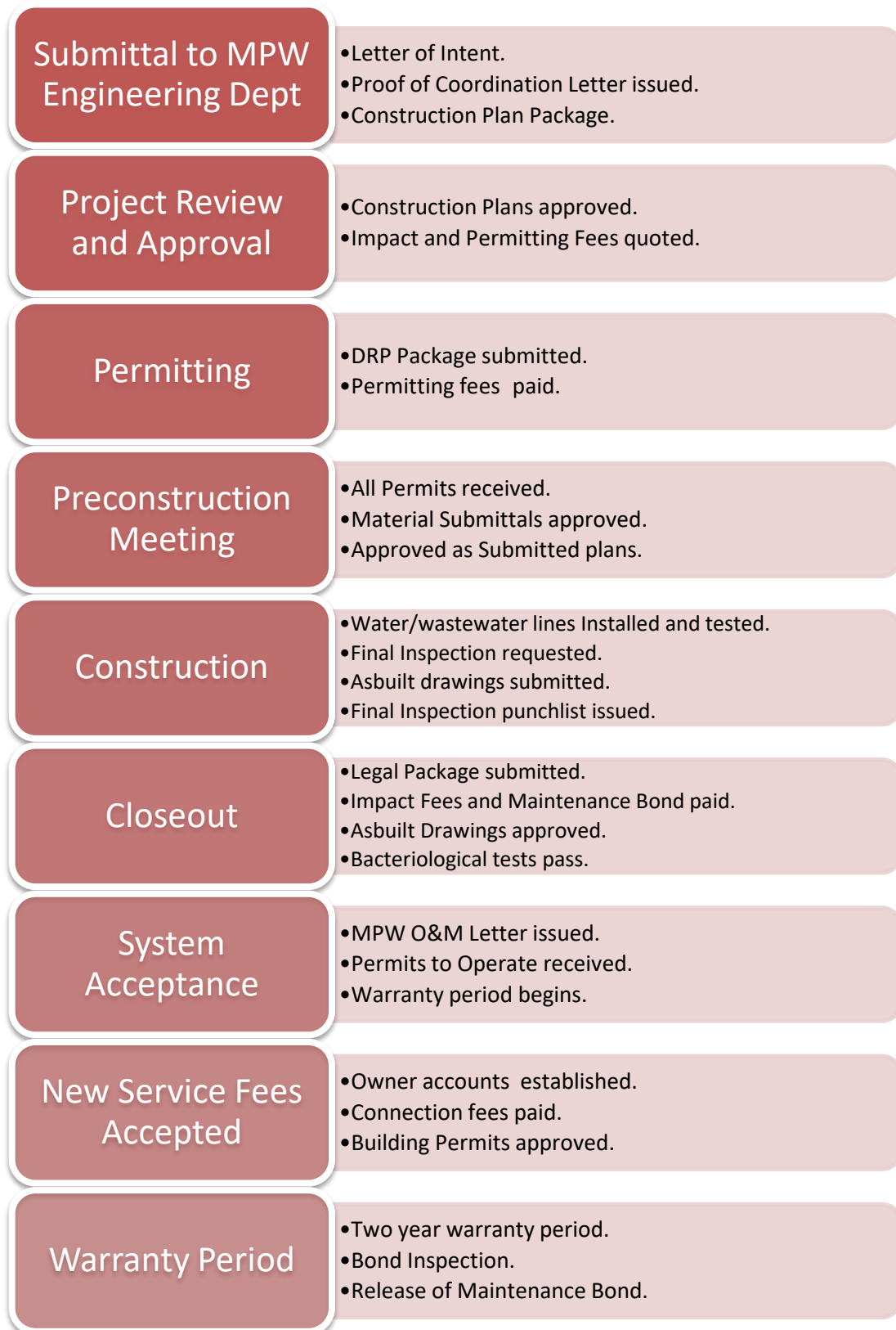


System Extension Project Process Chart



Section 4.0 System Extension Projects

A new system extension project is when new water and/or wastewater main lines are required. This section explains the requirements for a developer to design, construct and have accepted for service any water and/or wastewater extension to serve a commercial and/or residential development. A system extension project requires SCDHEC Construction and Operating Permits and is reviewed in accordance to MPW's Delegated Review Program (DRP) and system extension closeout procedure.

The following information outlines the process and sequence of events for a system extension project.

Section 4.0.1: Town of Mount Pleasant Annexation Requirements

Any property that has wastewater service available and is not within the Town limits of Mount Pleasant, will be referred to the Town of Mount Pleasant Planning Department to ensure compliance with the Town's Sewer Use Ordinance, Annexation for Sewer Service requirements. MPW cannot provide service until notification is received from the Town Planning Department that annexation requirements have been met.

4.1: Preliminary Plan Review and Approval

The developer has the option of submitting a preliminary plan review package for review. MPW conducts a courtesy review of the Letter of Intent (LOI) and preliminary plan and provides a Proof of Coordination letter. Approval of the preliminary plan is a conditional and conceptual approval and does not constitute final approval of the plan. The following outlines the procedure for MPW's preliminary plan review and approval for a system extension project.

1. Submit a completed LOI (Commercial or Residential) to the MPW Engineering Department.
2. Submit a Preliminary Plan of the project including parcel boundaries.
3. MPW provides a Proof of Coordination letter.

Preliminary Plan Requirements:

1. Preliminary plans for water and/or wastewater extensions must be prepared by licensed engineer in South Carolina.
2. All documents should be submitted in Adobe PDF format. Paper plans will not be accepted. Please refer to Digital Document Submittal Specifications in Section 5.
3. All preliminary plans shall contain the following information:
 - Proposed name of project, lot, and block numbers;
 - North arrow, graphic scale, written scale, and date, including the month, day, and year that the original drawing was completed, and the month, day, and year for each revision of the original drawing;
 - A vicinity or location map showing the relation of the property to the adjoining property and to all streets, roads, municipal boundaries, and recorded subdivision plats existing within one thousand (1,000') feet of any part of the property;
 - All existing streets, including streets of record (recorded but not constructed), on or abutting the tract, including the names and right-of-way widths. Lot and block numbers should be included if available;
 - Location and names of streams, lakes, swamps, and other water bodies. Areas subject to flood must be designated;
 - Specify whether utility lines are in easements or public rights-of-way. Water and wastewater lines shall not be approved on back property lines or side property lines, unless it is determined by MPW staff to be in the best interest of MPW to have the lines located there. Easements are only accepted for utility lines in or adjacent to road rights-of-way. When lines

are extended along back property lines or side property lines and MPW determines that ingress and egress is required, MPW may require that the property be deeded to MPW. MPW determines the width required. Recorded plats shall show this as being property owned by MPW. Water and wastewater facilities shall not be located in freshwater or saltwater wetlands, unless approved by SCDHEC Office of Ocean and Coastal Resource Management (OCRM), US Army Corps of Engineers, and MPW;

- Size, location, and type of materials of existing wastewater collection, water distribution, stormwater, or other underground facilities within the street or within the right-of-way of streets or roads adjoining the tract (only those that relate to interconnection of proposed facilities). Grade and invert elevations of existing gravity lines shall be shown. Location and elevation of existing water and wastewater lines shall be field verified. MPW is not be responsible for errors in any asbuilt Drawing or information;
- All other proposed utility easements and rights-of-way, including power, gas, telephone, TV cable, and storm drainage systems outside of road rights-of-way;
- Layout of streets, roads, alleys, and public walkways, including widths. Road names should be included if available;
- Designation of any land to be conveyed to MPW;
- Total number of lots and the use designation of each lot. A minimum of one REU per lot is assessed for permitting purposes. Additional capacity may need to be purchased when the lot is developed.
- Phased projects, and/or projects that are closely associated, shall be considered one project for determining the impact on MPW's system; and
- Layout of any fire protection system.

4.2: Construction Plans Submittal:

An LOI and construction plan submittal is required before applying for SCDHEC Water and Wastewater Construction Permits. The construction plan submittal includes the items listed below. When all of MPW's requirements have been met, MPW issues an approval letter for the construction plans. MPW's approval letter includes the Permitting and System Acceptance Fees for the project and any additional off-site improvements that the developer may be required to construct at their expense (See MPW Policy 5.5). Incomplete submittals are returned without review.

Construction Plan Submittal Requirements:

1. Completed LOI (Commercial or Residential) to the MPW Engineering Department.
2. Engineer's estimated cost of construction of water and wastewater.
3. Detailed design calculations for water and wastewater hydraulic loadings:
 - a. Design calculations for water system extensions must be based on a recent fire flow (no older than 12-months). Fire flow data used in preparing water system design calculations must be obtained from MPW. The design engineer shall submit a fire flow test request via email to the MPW Engineering Department (requests are submitted via email to engineering@mpwonline.com)
 - b. The fire flow test must be performed under "normal" system conditions (no "special" conditions such as manually energizing an extra booster pump at a nearby booster station is done during testing).
 - c. Design water demands under fire flow conditions must include fire flow requirements (as specified in the Fire Department with jurisdiction's letter) plus 1/5 of the Maximum Instantaneous Demand (using Ameen's Tables);

- d. MPW Engineering Department checks the impact of the proposed new extension on the existing system;
 - e. During the design review process MPW may help the Developer's engineer achieve a better design as it affects the existing systems – by adding another tie-in to existing mains, alternate pipe routing or size changes.
 - f. A schematic nodal map showing all junctions and pipes should be provided. Model results should be reported in a tabular format that clearly shows the following:
 - o Node identification;
 - o Nodal demands (both maximum instantaneous and fire flow);
 - o Pipe length, size, and friction coefficient;
 - o Node elevations;
 - o Head conditions and pump curves where applicable; and
 - o Connection point(s) to the MPW system with fixed node calculations.
4. Detailed construction plans for the water and wastewater systems. All comments and design modifications identified by MPW during the review of the preliminary plans shall be incorporated into the construction plan.

Construction Plan Requirements:

1. All documents should be submitted in digital format. Paper plans are not accepted. Please refer to Digital Document Submittal Specifications in Section 5.
2. Engineering plans shall use MPW's standard water and wastewater specifications as approved by SCDHEC.
3. All construction plans shall contain the following information:
 - Name of subdivision, date, north arrow, and graphic scale;
 - Name, registration number, seal of registered surveyor and engineer, and any referenced to information provided by others;
 - Names of owners of record for all adjoining land and all property boundaries, water bodies, streets, easements, utilities, and other such improvements which cross or form any boundary line of the tract being developed;
 - Exact boundaries of the tract of land being developed shown with bearing and distances;
 - Sufficient data to determine readily and reproduce accurately on the ground, the location, bearing, and length of every street and alley line, Lot line, easement, and boundary line, whether curved or straight;
 - Streets and alleys, rights-of-way, street names, and profiles of proposed streets showing materials for finished grades.
 - Rights-of-way or easement locations, widths, and purposes;
 - All dimensions shall be to the nearest one hundredth of a foot, and angles to the nearest minute;
 - Accurate description of the location of all monuments and markers;
 - Utility easements showing the accurate dimension to the nearest hundredth of a foot including notation of any limitations on such easements. All water and wastewater easements must be approved by MPW prior to final plan approval. Utility easements for gas, electric lines, telephone, and TV cable which cross or share proposed water and wastewater easements shall be designated where they will occur, and meet approval of MPW;
 - Water and Wastewater profile sheets shall indicate elevations, finished grading, inlet and outlet inverts of each manhole, manhole rim elevation, grade, length, and type of pipe. Plan view of wastewater collection system shall include service locations, grade for

service laterals, invert elevations of service taps, manholes, and station numbers at a minimum interval of 500-feet.

- The location and elevation of the benchmark to which contour elevations refer shall be shown when established benchmarks are within one (1) mile. All elevations shall be referenced to a USGS benchmark or a TBM established from a USGS monument. Elevations shall be stated relative to Mean Sea Level (MSL);
- Water line designs shall denote sizes and all special appurtenances, valves, tees, and bends, and, where necessary, detailed blowups of interconnections shall be shown with elevations designated. Location of fire hydrants and/or any special appurtenances provided in the water system design shall be shown. MPW may require that each individual dwelling or commercial unit have a separate water meter;
- Detailed pump station site layout on a separate sheet including proposed dimensions and delineation of boundaries;
- Designation of the owner of property of the pump station site;
- Proposed layout of force main including profiles, types of pipe, detailed discharge design, and, where necessary, air release valve design;
- Any other information considered by either the Developer or MPW to be pertinent to the plan review.

4.3: Permitting

A. South Carolina Department of Health and Environmental Control (SCDHEC) Delegated Review Program (DRP):

MPW is approved by SCDHEC for participation in its Water and Wastewater “Delegated Construction Permit Review Program.” This service is offered to Developers and Engineers as a means of expediting the current submittal process required to obtain a SCDHEC Permit to Construct. When all of MPW’s requirements are met, the engineer may submit the DRP package(s). SCDHEC accepts one submittal for water and wastewater projects under one application form where there is one project owner, using one engineer. SCDHEC issues separate construction permits once the projects are approved.

1. General Permitting Requirements:

SCDHEC Construction Permits:

1. MPW does not approve DRP submittals for system extensions connecting to a system being installed by a different developer until that system is permitted for operation by the SCDHEC. The developer must connect to a system owned and operated by MPW.
2. MPW does not approve requests for building permits for commercial projects requiring system extensions until the system extension fees are paid and a completed SCDHEC DRP Construction Permit package is submitted and approved by MPW.
3. For mixed use projects, MPW may approve a request for building permit(s) only if there is a single owner and the requirements outlined above are met.

2. MPW Conditional Permit to Construct:

A MPW “Conditional Permit to Construct” is required with the DRP submittal package and is issued once the DRP package is approved. Prior to MPW issuing a “Conditional Permit to Construct”:

1. MPW Permitting Fees must be paid.
2. MPW’s Water and Wastewater contracts must be completed and returned.
3. All plan review requirements and special conditions identified by MPW must be satisfied.

The following items must be submitted as part of the Water/Wastewater DRP packages for review and forwarding to SCDHEC (Refer to SCDHEC website www.scdhec.net/water for additional information pertaining to the DRP Program):

1. Current SCDHEC application fee.
2. One digital copy of the approved construction plans should be submitted for MPW's records.
3. The original SCDHEC Construction Permit Application properly completed with one (1) copy (MPW Water System Number – SC1010002, MPW NPDES Number – SC0040771).
4. Two (2) copies of the signed and sealed construction plans to include with the DRP package.
5. One (1) copy of the appropriate design calculations. Wastewater: Design flow (based on R.61-67, Appendix A) and pump station calculations, pump curve, etc. Water: Recent flow test from a location near the tie-on site along with a copy of design calculations indicating the pressure maintained in the distribution system during instantaneous demand, during fire flow and flushing velocities achieved. Also, if applicable, the number and types of service connections.
6. One (1) copy of a detailed 8-1/2" x 11" location map, separate from the plans.
7. One (1) copy of recorded easements, unless the project owner has the right of eminent domain.
8. Documentation that SCDHEC's Coastal Zone Consistency requirements have been met
9. SCDHEC's Water Quality Division permit for placement in navigable water, and other Agency approvals.
10. The 208 Plan Certification from the BCD Council of Governments (wastewater systems only).

B. Residential Building Permits

MPW does not sign off on TOMP or Charleston County building permits or provide service for residential subdivisions until the project has been completely closed out per Section 4.4 of MPW Guidelines for Development.

At MPW's discretion, if the following conditions are met, MPW will release a TOMP or Charleston County building permit.

1. Request must be made by the developer of record and not the homebuilder.
2. Impact fees paid in full for the total number of lots in the proposed subdivision.
3. MPW may only allow building permits for up to 10% of the total number of lots (rounded down) in the proposed subdivision.
4. Verification of approval received by the Fire Department.
5. Project must have SCDHEC permit to construct and/or construction must be substantially complete as determined by MPW.
6. MPW does not accept connection fees and service is not provided until the project receives the SCDHEC permit to operate for water and/or wastewater.

C. South Carolina Department of Transportation (SCDOT) Encroachment Permits

SCDOT utility encroachment permit submittal packages shall be prepared by the project engineer and submitted to MPW. MPW submits the permit package to SCDOT through the agency's online submittal process. It is the engineer's responsibility to address any comments from the SCDOT on behalf of MPW. The SCDOT issues the encroachment permit to MPW.

Submittal Requirements for the SCDOT encroachment permit:

1. Provide type and location of encroachment.
2. Civil plans in accordance to SCDOT guidelines.
3. Traffic control plans in accordance to SCDOT guidelines.

4. All documents shall be submitted in Adobe PDF format in accordance with SCDOT's requirements.

Once MPW receives the SCDOT encroachment permit, the Developer and Contractor is required to complete MPW's Standard Encroachment Agreement. The preconstruction meeting cannot be scheduled until this agreement is completed and returned to MPW.

4.4: Construction Procedures

Prior to scheduling a preconstruction meeting of water and/or wastewater system extensions the following is required:

1. SCDHEC Construction Permits.
2. SCDOT Encroachment Permit and MPW Encroachment Agreement.
3. Town Encroachment Permit (if applicable).
4. Any additional applicable regulatory agency permits.
5. MPW approved materials submittals.

A. Preconstruction Meeting:

No construction will begin until the preconstruction meeting is held and MPW gives authorization to proceed. Prior to scheduling the preconstruction meeting, MPW must be provided with the name and address of the utility contractor for verification of necessary licenses.

The purpose of the preconstruction meeting shall be to outline construction inspection and project closeout procedures. A preconstruction meeting shall be scheduled by the design engineer once the SCDHEC Construction Permit(s) have been issued. The engineer shall make arrangements with MPW and those public agencies charged with the enforcement of the provisions of this document to conduct the preconstruction meeting. Reasonable advance notification to MPW to schedule the meeting should be allowed. In most cases, a minimum of two (2) days is necessary to verify that all requirements necessary to go to construction have been met. At a minimum, attendance shall include representatives of the following: utility contractor and engineer.

B. Contractor Responsibilities:

Contractor must be licensed by the State of South Carolina, and may not perform work outside of their licensed capacity. General contractors or subcontractors who have not previously performed work for MPW may be required to submit references and past project history in order for MPW to determine the competency of the contractor.

Refer to MPW's latest Water and Wastewater Specifications for all construction procedures.

C. Engineer Responsibilities:

Engineer shall be responsible for ensuring that the water/wastewater system extensions are constructed in accordance with MPW Standard Specifications and SCDHEC Construction Permits and regulations.

At the MPW Inspector's discretion, MPW may require the engineer to submit a weekly field observation report.

Refer to MPW's latest Water and Wastewater Design Standards and Water and Wastewater Specifications for all construction procedures.

4.5: Project Closeout

The developer is required to close out the system extension project in accordance to the following procedure prior to MPW issuing the Operation and Maintenance (O&M) Acceptance letter for the water and wastewater systems. The O&M letter is included in the engineer's submittal package to SCDHEC when applying for SCDHEC Operating Permits.

MPW offers a closeout meeting to the developer, engineer, and contractor when the project is approaching completion. Contact MPW to schedule this meeting.

A. Upon completion of construction:

1. The engineer shall request a final inspection in writing with a copy of the final asbuilt and easement plats to MPW Inspector. Refer to Section 5.0 of this document for asbuilt and plat requirements.
2. The MPW Inspector conducts final inspection and generates a final inspection punch list listing all field and drafting discrepancies.

B. Acceptance of System for Operation and Maintenance:

In order for MPW to accept the system for operation and maintenance the following items must be completed:

1. Punch list items addressed and approved by MPW Inspector.
2. Project engineer's certification that the system has been constructed in accordance with plans and specifications, and that the air test and mandrel pull for gravity wastewater collection lines, the hydrostatic pressure tests for force mains, and pressure tests for water mains have been satisfactorily performed. Copies of these tests shall be furnished to MPW.
3. Executed Contractor's Affidavit and Final Waiver of Lien.
4. Contractor Guaranty for not less than 24-months after receiving operating approval.
5. Final asbuilt drawings and easement plat and/or subdivision plat in accordance with Section 5.0 of MPW Guidelines for Development
6. Required paper copies of easement plat for recording at the Charleston County RMC Office.
7. Twenty-four month Maintenance and Repair Bond paid to MPW.
8. Pump Station Elevation Certification and Standby Emergency Generator fee if applicable.
9. Pump Station Landscape Maintenance Agreement and/or Pump Station Fencing Maintenance Agreement if applicable.
10. Release by other agencies, such as State or County, applicable to encroachment permits or other liabilities.
11. Project Completion Questionnaires for water and/or wastewater extensions.
12. Legal Requirements:
 - a. Execution of easements, titles and miscellaneous legal documents necessary for the conveyance of the water and/or wastewater facilities to be maintained and operated by MPW. The Developer must use MPW's standard legal documents. These original legal documents must be obtained from MPW. Copies and retyped documents are not accepted. Standard legal documents are not accepted if they have been retyped or altered without prior approval of MPW's Engineering Department Manager and Attorney.
 - b. A minimum fee of \$600.00 or actual legal cost, whichever is greater, is due for legal expenses resulting from involvement of MPW's attorney (if applicable).

- c. For projects where the Developer is leasing the property, the property owner must execute all legal documents.
 - d. Attorney's Letter of Opinion
 - e. Title to Water and Wastewater Systems and Grants of Easement must be recorded at the Charleston County RMC Office. The original document must be submitted to MPW after being recorded and prior to acceptance of meter connection fees. MPW records utility easement plats, Grants of Easement and Title to Real Estate documents on the Developer's behalf.
13. MPW does not schedule bacteriological test until the closeout submittal has been received and approved, and all punch list items are completed to the satisfaction of the MPW Inspector.
14. MPW approved bacteriological tests.
15. Once the bacteriological tests pass, payment of construction water bill and/or any fees levied for illegal use of the systems (if applicable).

C. Issuance of MPW Water and Wastewater System Acceptance Letter

Once all closeout requirements have been met, MPW issues the Water and/or Wastewater System Acceptance Letter. The letter is to be included in the engineer's submittal package to SCDHEC Lowcountry EQC Charleston for SCDHEC operating permits.

D. System Operation:

MPW cannot accept connection fees (new account, security deposits, water meter connection, wastewater maintenance, wastewater tap inspection) or provide service until SCDHEC has permitted the system for operation. MPW may conduct a "courtesy" wastewater tap inspection prior to MPW's receipt of a SCDHEC Wastewater System Operating Permit in order to facilitate construction.

E. Partial Water and/or Wastewater System Extensions:

MPW does not accept partial water and/or wastewater system extensions. However, if the Developer receives written approval from SCDHEC, MPW does accept water and wastewater systems separately under the following conditions:

- a. An additional project administrative fee is due for the remaining system at the time of closeout.
- b. The original warranty period and maintenance bond for the first system turned over must be extended to coincide with the warranty/bond expiration date for the remaining system.

Section 4.6: Maintenance Bond Inspection:

The Developer is liable for any/all repairs of system deficiencies including repair of all facilities damaged during phases of construction, paving, drainage, and installation activities for a period of 24-months from the date the SCDHEC Operating Permits are issued or until site construction is complete. MPW notifies the Developer listing any deficiencies noted during the final bond inspection. Upon correction of the system deficiencies by the Developer and approval of the repairs by MPW, MPW refunds the total bond amount to the Developer with interest earned during the escrow period. In the event the Developer fails to correct the deficiencies within 30-days of notification from MPW, the bond is forfeited by the Developer. MPW will use the bond to make the necessary repairs to correct system deficiencies, including an administrative fee. Any remaining funds shall be returned to the developer.

Section 4.7: Alternative Wastewater Collection Systems and Extensions:

Whenever possible, wastewater collection systems shall be conventional gravity and shall be built in accordance with the latest revision of the Wastewater Collection System Specifications developed by

MPW. Any grinder pump connection to a force main is considered an alternative wastewater collection system. Alternative wastewater collection systems are not eligible to be reviewed in the MPW DRP program. The developer is required to obtain a SCDHEC construction permit through SCDHEC's Standard Submittal Process. In addition, the all conditions in MPW's Policy 7.2 – Grinder Pumps (Alternative Collection System) must be met.

The following information outlines the process and sequence of events for a system extension project for an alternative wastewater collection system.

- A. The developer engineer complies with Section 4.1 and 4.2 of this section.
- B. Upon Construction Plan Approval, MPW issues the Permitting and System Acceptance Fees, grinder pump maintenance agreement for signature, and any additional off-site improvements that the developer may be required to construct at their expense.
- C. Permitting Fees are paid and the signed grinder pump maintenance agreement is submitted.
- D. MPW provides the approval letter agreeing to be responsible for the operation and maintenance (O&M) of the systems. The engineer includes this letter in the Standard Submittal package for construction permits to SCDHEC.
- E. Upon receipt of SCDHEC construction permits, the developer engineer complies with Section 4.4, 4.5, and 4.6 of this document.

<End Section>