Prepared for:

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CROSS CONNECTION CONTROL PLAN

For

**Cadgewith Farms**

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## INTRODUCTION

In accordance to the requirements set forth by the Michigan Department of Environmental Quality (MDEQ), the Cadgewith Farms has officially adopted the state of Michigan cross connection rules to protect the public water supply system. A cross connection is defined as a connection or arrangement of piping or appurtenances through which a backflow could occur. Backflow is defined as the undesirable reversal of flow of water of questionable quality, wastes or other contaminants into a public water supply. The purpose of this program is to avoid contamination of the public water supply by preventing and eliminating cross connections. It is the Cadgewith Farm’s intent to carry out a comprehensive and effective cross connection control program (CCCP) to ensure public health is protected and the requirements of the Michigan Safe Drinking Water Act are complied with.

## AUTHORITY

The authority to carry out and enforce the local CCCP is provided from local water rules (see Appendix A), the Michigan Safe Drinking Water Act (Act 399), the Best Practices Manual for Cross Connection Control prepared by the department, office of Drinking Water and Municipal Assistance, Michigan Plumbing Code, and Michigan Residential Code.

* 1. Inspector/Designated Agent

Cadgewith Farms or Designated Agent (Authority/Agent) conducting inspections on behalf of Cadgewith Farms must be designated/approved by the Cadgewith Farms. The Authority/Agent should meet both 1) an experience component and 2) a certification/training component. Acceptable components are as follows:

Experience

* + - Be employed by a Utility, Water Purveyor, Building Department, or body of jurisdiction and must meet the qualifications and training requirements as dictated by the Authority conducting inspections/surveys on behalf of Cadgewith Farms
    - Have held a similar position (CCC Inspector) with a previous municipality
    - One year full time experience in conducting cross connection control inspections in commercial, institutional and industrial facilities

Certification/Training

* + - Meet American Society of Sanitary Engineer Standards (ASSE) 5020 and completed their Cross Connection Inspector Course (40 hours)
    - Possess a certificate of completion from one of the following:
      * USC *Cross Connection Control Specialist Course* (40 hours)
      * TREEO *Cross Connection Control Program Manager Course* (40 hour)
      * Michigan Plumbing and Mechanical Contractors Association, *Backflow Preventer Training Program* (24 hour)
    - Other approved cross connection courses for surveying, as approved by the Authority for conducting inspections/surveys on behalf of the “city name”. Submission requirements for approvals must include the following:
* Course outline
* Date of attendance
* Outline of test questions
* Categories and grading criteria
* Certificate of satisfactory completion

# PROGRAM APPROACH

The objectives of this program will be met primarily by:

* Routinely inspecting water customers for cross connections or potential cross connections.
* Requiring water customers to test backflow prevention assemblies.
* Maintaining cross connection control records.
* Actively enforcing violations of the program.
* Providing public education.
* Reporting the status of the program to the MDEQ.

Cadgewith Farms shall ensure that there are adequate personnel and resources to carry out the necessary field and administrative requirements for this program. Cadgewith Farms adopts the MDEQ, Water Bureau Cross Connection Rules Manual as a guide to prevent and eliminate cross connections.

# INSPECTIONS

The water connections and plumbing systems of all water customers or accounts shall be initially inspected for the presence of cross connections. As a result of the initial inspection, a detailed record of each account shall be established (see Section 6). A representative of the water utility or their designated agent shall be responsible for inspections. Individuals responsible for conducting inspections shall have obtained sufficient training on cross connection rules, identification, and corrective actions.

Inspections shall consist of entering a residence from the point where water service enters the facility (usually the meter) and inspecting the laundry area, water softener (as applicable) and the exterior of the property. In lieu of inspecting individual restrooms and kitchens an educational brochure will be left with the occupant detailing areas that might be of concern. Using the inspection forms in Appendix B, the inspector shall identify and note the location and nature of any direct and potential cross connections, location and details of backflow prevention devices, and other pertinent information. Inspectors having proper identification, shall be permitted to enter the residence at reasonable times for the purpose of cross connection inspections. If the inspector is refused proper access to the residence Cadgewith Farms will assume a cross connection is present and take the necessary action to ensure the public water supply is protected.

Once initial inspections have been completed, a re-inspection frequency shall be determined for each account based on the degree of hazard and potential for backflow. The MDEQ Cross Connection Rules Manual will be a guide in classifying the degree of hazard of each account. In general, private residences will fall into the low hazard category. All residences deemed low hazard shall be re-inspected a minimum of once every ten (10) years. Re-inspections may also be conducted at time of occupancy, prior to providing water service to new homes, in response to a water quality complaint, or after a backflow event has been reported.

Section 4 continued

Following an inspection, Cadgewith Farms shall inform the customer of their compliance status with the cross connection rules. Template notices in Appendix C may be used to inform customers of upcoming inspections, required corrective actions, compliance status, etc.

* 1. Initial Inspection Schedule

Upon approval of this plan Cadgewith Farms staff will conduct initial inspections in accordance with the following schedule:

* + - Year 1 – All properties owned and operated by Cadgewith Farms and all residents with known lawn irrigation systems.
    - Year 2 – One half of the remaining residences
    - Year 3 – All remaining residences that have yet to be inspected

# TESTING BACKFLOW PREVENTION ASSEMBLIES

When inspections have been completed, a comprehensive list of backflow preventers installed on customer plumbing systems will be on record. The backflow preventers that are testable assemblies shall be placed on a routine testing schedule. All testable assemblies will be tested upon installation, upon repair and periodically thereafter in accordance with the MDEQ Cross Connection Control Rules Manual. Residential lawn irrigation system backflow preventers shall be tested no less than once every five (5) years. Any irrigation systems found to be chemically treated shall be tested annually. All other assemblies shall be tested a minimum of once every three (3) years.

Upon notice from Cadgewith Farms, it shall be the responsibility of the water customer to arrange for the assembly to be tested and submit the completed test form.

Following the initial cross connection inspections and subsequent classification of accounts (e.g. assigning a degree of hazard), assembly testing notices shall be sent to customers in accordance with the testing frequency that was assigned to the specific assembly. The notices shall be sent out in a timely manner in order to provide adequate time for customers to comply, and the timing will consider seasonal assemblies. Template notices in Appendix C may be used to inform customers of testing requirements. These notices will:

* Clearly identify the assembly requiring testing (size, make, model, location, etc.)
* Stipulate the date by which the assembly must be tested.
* Indicate that tests must be completed by an ASSE certified tester. A list of approved testers may be provided.
* Enclose a standard test form (see Appendix D).

When assembly testing reports are received by the utility, they will be checked for the following:

* All the necessary information was provided
* Name and certification number of the tester is provided
* The test results appear valid
* The assembly tested matches the assembly requiring testing (Make, Model, etc.)
* The assembly is approved

Section 5 continued

Cross connection control program staff will follow up with owner or tester on questionable test forms. A customer may be asked to have an assembly retested if the original test results do not appear valid. Test forms must be received and kept on record for each required test.

# RECORD KEEPING

A system of cross connection record keeping shall be maintained.

All cross connections account information must be in the records including:

* Address and location
* Owner name and contact information
* List of testable assemblies
* Description of other cross connections within the facility
  + Air gaps
  + Non-testable assemblies
* Degree of hazard classification and basis
* Required re-inspection frequency

All testable assemblies must be in the records including:

* Location of the assembly
* Name and contact information of assembly owner
* Make, model, and size of assembly
* Degree of hazard classification
* Required testing frequency and basis

Tracking changes in water use or tracking new customers is a critical part of the cross connection program. Cadgewith Farms shall make every attempt to prevent/eliminate cross connections at installation to ensure future compliance.

Standard letter, form, and report templates may be used to simplify the program requirements including:

* Inspection forms
* Assembly testing forms
* Inspection and/or assembly testing notification letters
* Noncompliance letters
* Water service termination notices

Copies of the written cross connection control program, rules, and DEQ approval letter should be kept on file. Copies of the MDEQ annual reports shall be kept for a minimum of 10 years.

# ENFORCEMENT

To protect public health, water customers found to be in violation of the cross connection rules will be brought into compliance in a timely manner or lose their privilege to be connected to the public water system. To properly enforce these requirements, Cadgewith Farms has implemented a water use policy and rules which provides authority to inspect facilities, terminate water service, and assess fines.

Following an inspection the customer will be sent either a compliance notice or a non- compliance notice. The timeframe to complete the necessary corrective actions is at the discretion of the utility and will be based primarily on the degree of risk posed by the violation but should also consider the complexity/cost of the necessary corrective actions. Cross connections that pose an imminent and extreme hazard shall be disconnected immediately and so maintained until proper protection is in place. Cross connections that do not pose an extreme hazard are generally expected to be eliminated within 30-60 days. The necessary corrective action and deadline shall be described in the non-compliance notice to the customer.

That the representative of Cadgewith Farms shall have the right to enter at any reasonable time any property served by a connection to the public water supply system for the purpose of inspecting the piping system or systems thereof for cross connections. On request, the owner, lessees, or occupants of any property so served shall furnish to the inspection agency any pertinent information regarding the piping system or systems on such property. The refusal of such information or refusal of access, when requested, shall be deemed evidence of the presence of cross connection.

That all testable backflow prevention assemblies shall be tested initially upon installation to be sure that the assembly is working properly. Subsequent testing of assemblies shall be completed upon repair and periodically thereafter in accordance with the MDEQ Cross Connection Control Rules Manual. Residential lawn irrigation system backflow preventers shall be tested no less than once every three (3) years. Any irrigation systems found to be chemically treated shall be tested annually. All other assemblies shall be tested a minimum of once every three (3) years. Only individuals that are recognized by the State of Michigan as a certified shall be qualified to perform such testing. That individual(s) shall certify the results of his/her testing.

Failure to submit a test form for a backflow prevention assembly that has successfully passed testing requirements constitutes a cross connection and must be corrected and may result in the termination of water service and/or the assessment of a fine(s).

* 1. Termination of Water Service

That Cadgewith Farms is hereby authorized and directed to discontinue water service after reasonable notice to any property wherein any connection in violation of these rules exists and to take such other precautionary measures deemed necessary to eliminate any danger of contamination of the public water supply system. Water service to such property shall not be restored until the cross connection(s) has been eliminated in compliance with the provisions of these rules.

# PUBLIC EDUCATION

The cross connection control program staff must have a good understanding of the program. Cadgewith Farms shall ensure their cross connection control staff receives proper in-the-field training as well as classroom education focusing on terminology, backflow prevention devices/assemblies, regulations, and hydraulic concepts. In addition, cross connection control staff will be encouraged to receive continuing education to be made aware of new backflow prevention devices/assemblies, regulation changes (i.e. plumbing code updates), new water use devices that pose cross connection concerns, etc.

Furthermore, attempts to educate the public about cross connections will be made by distributing pamphlets on common residential cross connections, providing onsite education of residences during routine inspections, speaking at meetings, or posting community announcements.

Cross connection staff shall also be available upon request to provide backflow prevention education to residents and Cadgewith Farms employees.

# ANNUAL REPORT

Part 14 of the Michigan Safe Drinking Water Act requires that each community report the status of their program to the MDEQ annually. The report summarizes testing, inspection, and corrective action efforts. Cross connection records shall be on file to document each number on the report. The annual report form shall be filled out completely and submitted by the deadline. A narrative description shall be included explaining any unusual numbers or significant events such as:

* The addition or loss of a cross connection staff person
* Greatly expanded/contracted number of cross connection accounts
* Status of accounts not currently in compliance.