

***LYON TOWNSHIP
WATER DEPARTMENT
OAKLAND COUNTY***

***Cross Connection Control
Program***

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1.0 INTRODUCTION

1.1 History

For many years the problem of “cross connections” has been recognized. Until recently, very little has been done to eliminate them. In 1976, the Department of Public Health, State of Michigan adopted regulations requiring local health authorities and water purveyors to develop an extensive cross connection control program. The Lyon Township Water Department (LTWD) offers this program in compliance.

1.2 Legality

In accordance with the Michigan Department of Environmental Quality (MDEQ), LTWD proclaims this program as a continuing effort to maintain pure, clean and safe potable water. By reference to the State of Michigan Public Act 399, 1976 Rule #325.11401 through Rule #325.11407 of the Administrative Code, we hereby establish the “Lyon Township Water Department’s Cross Connection Control Program”. This amended program shall supersede the existing program upon approval of the MDEQ and be adopted by ordinance of various governing bodies.

2.0 ORDINANCE

Lyon Township, within their ordinances, has approved the existing Cross Connection Control Program (CCCP) by reference and amended as needed. Any new ordinances should be modeled after the following existing approved ordinances or the sample ordinance provided by the MDEQ in the Cross Connection Rules Manual.

3.0 LOCAL AUTHORITY

3.1 Authority

The LTWD shall be the designated authority and administrator of the CCCP. This shall include:

- Inspections
- Recommendations and requirements
- Program enforcement
- Public relations
- Re-inspections
- Filing and records
- Reports to state and local agencies

3.2 Program Approval

The procedures of this program shall take effect upon their approval by the MDEQ and the local governing body.

3.3 Designated Agent/Approved Surveyor

The designated agent/approved surveyor shall be either designated by LTWD or be approved by LTWD. The designated agent/approved surveyor must meet the following qualifications:

- (a) Must meet American Society of Sanitary Engineer Standards (ASSE) 5110 and completed their Cross Connection Surveyor Course (40 hours)
- (b) Must 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 hours)
 - Or other course or certification approved by the LTWD

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- (c) Must have held a similar position (CCC Surveyor) with a previous municipality.

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- (d) Must be employed by a water utility or purveyor, building department or body of jurisdiction.
- (e) Must meet the qualifications and training requirements as dictated by the LTWD.

3.4 Surveyor Retained by Facilities

If a facility (within the jurisdiction of the purveyor) chooses to retain or is required by the LTWD to retain a firm for the purpose of cross connection control inspection/survey and/or management, the firm shall meet the following qualifications:

- (a) Must have a minimum of three (3) consecutive years' experience in cross connection control survey/management.
- (b) Must provide documentation from previous cross connection control survey work and show that they have been employed in cross connection control surveying on a regular basis.

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- (c) Must provide a performance bond in the amount of one million dollars (\$1,000,000.00) or an amount as requested by the LTWD.
 - (d) Must comply with section 3.3, part (e).

**3.5 LYON TOWNSHIP WATER DEPARTMENT CROSS CONNECTION
UNIT
Cross Connection Surveyor Application**

NAME OF FIRM/INDIVIDUAL _____

MAILING ADDRESS _____

CITY _____ STATE _____ ZIP _____

CONTACT PERSON _____

TELEPHONE NUMBER (WORK) _____

TELEPHONE NUMBER (HOME) _____

SURVEYOR/INSPECTOR REQUIREMENTS

Firm/Individual must meet any one of the first four requirements and both of the last two. Check all that apply; put N/A for those that don't:

<input type="checkbox"/>	Meet American Society of Sanitary Engineer Standards (ASSE) 5110
<input type="checkbox"/>	USC Cross Connection Specialist Course *
<input type="checkbox"/>	TREEO Cross Connection Control Program Manager Course *
<input type="checkbox"/>	Presently or previously an approved Plumbing Inspector in Michigan (List where)
<input type="checkbox"/>	Over three (3) years continuous cross connection survey experience **
<input type="checkbox"/>	Performance/Liability Insurance (\$1,000,000 minimum) *** and name Lyon Township as the insured as well as the facility

I, _____, hereby acknowledge or affirm that the above information is true and accurate.

SIGNATURE OF APPLICANT _____

Please note: The LTWD reserves the right to accept/reject any applicant. The LTWD may occasionally inspect work performed by an approved SURVEYOR and reserves the right to accept/reject inspections based upon these performance reviews.

SIGNATURE OF TWP OF _____ APPROVAL AGENT _____

TITLE _____ DATE _____

3.6 Other Applicable Laws

The LTWD/agent shall conduct this CCCP in accordance with state and local plumbing codes and any other applicable laws that affect public health protection through cross connection control.

4.0 INSPECTIONS

4.1 Inspection Notification

The facilities have been notified about pending inspections through mailings and billing inserts. The LTWD/agent reserves the right to enter any facility unannounced for the sole purpose of surveying for cross connections. Refusal of entry by the facility and/or dwelling constitutes a violation of this program and the LTWD/agent can enforce section 5.9 of this program.

4.2 Inspection/Survey Forms

An inspection form, existing device forms and requirement form shall be used in each inspection and will e-filed in a location as identified by the LTWD, along with other pertinent information accumulated.

4.3 Survey Procedures

Cross connection control inspections shall be carried out as follows:

- (a) Identify facility to be inspected.
- (b) Meet on-site with facility contact person when possible.
- (c) Explain the CCCP to the contact person before touring the facility.
- (d) Tour the facility and complete the survey forms with the following information:
 - Verify facility contact date
 - Date of inspection
 - Facility type
 - Inspection frequency
 - Well status/location
 - Testable device information
 - Non-testable device information
 - Requirement information
 - Contact signature, when applicable
- (e) Identify containment hazards utilizing the inspection forms. A diagram of the system may be required.

4.4 Exit Interview

After completing the inspection, talk with facility contact person about cross connections found. If they can be eliminated immediately, request that it be done. Have the facility contact person sign the inspection form at the end of the exit interview (when applicable).

4.5 Non-compliance Notice

After inspection, a facility found to be in non-compliance shall be sent a notice outlining corrective procedures. The notice shall also include the time allocated for compliance (30 days), requirements list and device test forms (if applicable).

4.6 Special Non-compliance Notice/Facility Containment

The cross connection control inspection may cease when the inspector has sufficient evidence to prove a facility would be classified as a categorical industrial user as defined 40CFR403 through 40CFR471 or performs any intrusive or invasive services on a human or animal. The inspector shall notify the contact person verbally and by written notice of the two available options.

Option #1 Install a reduced pressure backflow preventer at the meter and subsequently test devices annually.

Option #2 A surveyor retained by the facility (section 3.4) or licensed master plumber certified in cross connection control shall conduct a survey of the facility and submit a letter of certification of compliance to this office annually.

4.7 Special/Non-compliance/Facility Containment Notice

This letter is in a database maintained by the Cross Connection Unit.

4.8 Request for Pertinent Piping Information

The LTWD/agent has the legal right to request pertinent piping information or information relating to a specific point of use in relation to cross connections. The LTWD/agent can request pertinent piping information or an independent survey if a facility meets any one of the following criteria:

- Facility is large in size and will take a considerable amount of time to survey/inspect.
- Piping configurations are too complex to follow.

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- Inadequate piping identification.
 - Facility is pre-recognized as a high water consumer.
 - Facility is a part of a joint partnership for eliminating cross connections to the end tap.
 - Facility changes their plumbing configurations within a one-year period.

4.9 Request for Independent Survey

The request for independent survey shall contain the reason for the request and contractor requirements (section 3.4). Failure to comply with this request shall be enforced through section 5.9 of this program.

4.10 Request for Independent Survey Notice

This letter is in a database maintained by the Cross Connection Unit.

4.11 Facility Containment

The protection of the water distribution system is the number one priority. When a facility is contained, the LTWD/agent has the option of continuing inspections downstream of the containment devices or notifying the facility that the LTWD has met their responsibility of protecting the water distribution system. However, the facility is still liable for providing potable water to its employees and/or the public. A facility containment notice will be issued if a facility meets one of the following criteria:

- (a) Does not comply with section 4.11 and containment devices are not in place.
- (b) Refusal of entry by the facility.
- (c) Extremely high hazard facility and immediate measures must be taken.
- (d) Refusal to comply with the normal procedures for non-compliance.

4.12 Facility Containment Notice

This letter is in a database maintained by the Cross Connection Unit.

5.0 RE-INSPECTIONS

5.1 Re-inspection Procedure (Periodic)

Residential/Commercial/Industrial re-inspection frequency shall be one every three (3) years, as determined by the LTWD/agent. Untreated

irrigation systems shall be one every five (5) years. Potential or actual plumbing changes, changes in occupancy or the degree of hazard may influence the re-inspection frequency.

Periodic inspections shall be conducted as outlined in Section 4.3.

5.2 Re-inspection Procedure (Compliance)

Repeat inspection procedure, making it as brief as possible. Check to see that required protection has been installed and is in proper working order (visual test only). Conduct the re-inspection the same way as outlined in sections 4.4 – 4.5 and also include the following:

- (a) Maintaining inspection schedule when the elimination of cross connections is felt to be in hand. To maintain vigilance on inspections made, a time table for re-inspection shall be maintained.
- (b) The area of re-inspection will be dealt with by means of examination and evaluation of records (i.e. device test/maintenance reports and previous inspection reports).
- (c) Re-inspections are made at the end of the period given for compliance.

5.3 Non-compliance #2

After re-inspection, a second notice of non-compliance will be sent to each facility not having completed the requirements as outlined by the LTWD/agent. The notice will be accompanied by a requirements list and device test forms (if applicable). The facility will be given an additional thirty (30) days for compliance and follow-up inspection.

5.4 Non-compliance Notice #2

This letter is in a database maintained by the Cross Connection Unit.

5.5 Follow-up Inspection

Repeat procedures outlined in section 5.2.

5.6 Non-compliance #3

If, in the judgment of the LTWD/agent the facility has not met compliance with the requirements as established, a third non-compliance notice will be sent to the facility. The notice will request the facility to contact the LTWD/agent when all requirements have been met. A requirements list and device test forms (if applicable) will accompany this notice. The notice will require the facility to comply within thirty (30) days.

5.7 Non-compliance Notice #3

This letter is in a database maintained by the Cross Connection Unit.

5.8 Water Shut Off Notice

After the thirty (30) day time limit has passed for the non-complying facility to contact the LTWD/agent. The LTWD reserves the right to issue a water shut off notice. The water shut off date will be at the discretion of the LTWD.

5.9 Termination of Water Service

Termination of water service will be for any of the following reasons:

- (a) Immediate health threat.
- (b) Gross non-compliance (i.e. Failure to test devices and submit approved device test forms, refusal to comply with facility containment, etc (sections 4.6 and 5.3 – 5.6)).
- (c) Refusal of entry to inside of facility.

5.10 Water Shut Off Notice

This letter is in a database maintained by the Cross Connection Unit.

6.0 BACKFLOW PREVENTION DEVICES

6.1 Responsibility

The LTWD/agent will require the following:

- (a) All testable devices must be properly installed and maintained and are the responsibility of the facility.
- (b) All testable devices shall be tested upon installation, repair or relocation. These devices must also be tested on an annual basis or at a frequency determined by the LTWD/agent.
- (c) Device test forms shall be generated by the LTWD/agent and sent to the facility of said devices.
- (d) The facility shall be required to have said devices tested by an approved, certified tester. The tester must also fully complete and return the approved device test forms to the LTWD/agent within the time frame previously established by the LTWD/agent.

6.2 CHART I – Device Abbreviation List

Abbreviation	Description
AFHBVB	Anti-Frost Hose Bibb Vacuum Breaker
AG	Air Gap
AGD	Air Gap Device
ASBC	Anti-Siphon Ball Cock
AVB	Atmospheric Vacuum Breaker
CAP	Device and/or piping requires a cap
DC	Dual Check
DCVA	Double Check Valve Assembly
DDCV	Double Detector Check Valve
ET	Expansion Tank
FAUCET	Faucet
FVB	Fixture Vacuum Breaker
HA	Hammer Arrestor
HB	Hose Bib
HBVB	Hose Bib Vacuum Breaker
LABEL	Pipe requires labeling
LFDC	Lab Faucet Dual Check
LFVB	Lab Faucet Vacuum Breaker
PLUG	Device and/or piping requires a plug
PVB	Pressure Vacuum Breaker
REMOVE	Device removal required
REPAIR	Device is in need of repair
REPLACE	Requires replacement
REPLUMB	Requires relocation and/or new piping
RPBP/RPZ	Reduced Pressure Backflow Preventer Assembly
RPDA	Reduced Pressure Detector Assembly
SC	Single Check Valve
SVB	Spill proof Vacuum Breaker
VDCV	Vented Double Check Valve
VMBP	Vending Machine Backflow Preventer
ABBREVIATIONS LEGEND	
ILGBLE	Illegible
INACC	Inaccessible
N/A	Not Available
OTHER	Other (Not a typical manufacturer)

6.3 List of Approved Devices

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- a) See ASSE Standards available on the Web at: <http://www.asse-plumbing.org>
 - b) See CSA Standards as listed in the latest edition of the MPC
 - c) Other devices as approved by the LTWD/agent

6.4 List of Michigan state-certified testers

See Web site at <http://www.mpmca.org> for a complete list

6.5 Testing (Containment/Isolation Devices)

The LTWD/agent shall generate a notice that will inform the facility that their respective backflow prevention devices (whether for isolation at point of use or containment of the facility) need to be tested by an approved, certified tester. The notice will be sent approximately thirty (30) days prior to the required test date for the device and will be accompanied by the respective device test form(s). The telephone number and return address for the LTWD/agent shall be printed on the notice.

High hazard locations will be tested annually. Low hazard locations will be tested once every three (3) years.

6.6 Test Forms

Only the test forms provided by or approved by the LTWD/agent may be utilized.

6.7 Test Notice #1 (Containment/Isolation Devices)

This letter is in a database maintained by the Cross Connection Unit.

6.8 Testing #2

After the initial thirty (30) days has expired and the facility has not returned their respective device test form(s), the LTWD/agent will send a second testing notice. The second testing notice will be accompanied with the device test form(s). The second test notice will require the device test form(s) to be returned to the LTWD/agent within thirty (30) days, or sooner, as ordered by the LTWD/agent.

6.9 Test Notice #2

This letter is in a database maintained by the Cross Connection Unit.

6.10 Failure to Comply

After the prescribed time limits as outlined in Sections 6.5 – 6.9, and if the requirements are not met, the LTWD/agent is required to follow the steps outlined in Sections 5.8 – 5.10.

7.0 NEW SERVICE INSPECTIONS

7.1 Procedures

The LTWD/agent shall review riser diagrams for fire and domestic plumbing plans with the contractor/architect and explain the requirements for backflow prevention.

7.2 Inspections

The LTWD/agent shall inspect all facilities a minimum of once of every three (3) years or more frequently as determined by the LTWD/agent.

7.3 Records

The LTWD/agent shall record the inspection in compliance with sections 4.2 – 4.5 and sections 5.1 – 5.7.

7.4 Non-compliance

The LTWD/agent shall not provide water service or will terminate water service in accordance with sections 5.8 – 5.10 until compliance is achieved.

8.0 PIPING IDENTIFICATION

8.1 Requirements

The LTWD/agent shall require a facility to identify their piping configurations in accordance with the following criteria:

- (a) Michigan Plumbing Code (Section 608)
- (b) If the facility has a “corporate” piping identification program, then that program may take precedence over this section and compliance with that program will be requested by the LTWD/agent. The outline for the piping identification program shall be kept on file by the facility, posted by the water meter and available upon request.

9.0 REPORTS

9.1 Annual Report

The LTWD/agent shall submit a report to the MDEQ on an annual basis (no later than March 31 of the following calendar year). The report shall be in the format provided by the MDEQ and submitted within the time frame established.

9.2 Annual Report

This report is in a file maintained by the Cross Connection Unit.

10.0 CHART II – Acceptable Means of Protection

The following table outlines acceptable backflow protection for certain types of cross connection conditions that may be encountered. The table is to be used as a guideline in determining adequate cross connection control measures, not as an absolute requirement.

Type of Use	Air Gap	RPZ	DCVA	Vacuum Breakers
Air conditioning systems	Yes	Yes	No	Yes
Aspirators	Yes	Yes	No	Yes
Auxiliary water supply (private wells)	Yes	Yes	No	No
Boilers – chemically treated	Yes	Yes	No	No
Boilers – untreated	Yes	Yes	Yes	No
Can and bottle washers	Yes	Yes	No	Yes
Carbonated beverage dispensers	Yes	Yes	Yes	No
Chilled water systems	Yes	Yes	No	No
Cooling towers	Yes	Yes	No	Yes
Compressors (water cooled)	Yes	Yes	No	No
Decorative ponds	Yes	Yes	No	Yes
Degreasing equipment	Yes	Yes	No	No
Dental equipment	Yes	Yes	No	Yes
Drinking fountains	Yes	No	No	No
Evaporative coolers	Yes	Yes	No	Yes
Fountains	Yes	No	No	No
Garbage disposals	Yes	Yes	No	No
Heating and/or cooling coils (submerged)	Yes	Yes	No	No
Hose bibbs	Yes	Yes	No	Yes
Hydrants	Yes	Yes	No	Yes
Lawn irrigation systems	Yes	Yes	No	Yes
Medical equipment	Yes	Yes	No	Yes

11.2 Distribution List

Book	Location	Division / Unit(s)
1	Public Works Building	WRC Document Control Person
2		
3		
4		
5		
6		
7		
8		
9		
10	Administrative Annex II	Cross Connection/IPP Unit