
TO: CITY MANAGER **DATE:** 2018 February 21

FROM: DIRECTOR ENGINEERING **FILE:** 39500-00

SUBJECT: DRINKING WATER CONSERVATION PLAN

PURPOSE: To inform Council of the amendments approved by Metro Vancouver to the Drinking Water Conservation Plan and request that Council direct the City Solicitor to amend the City's Waterworks Regulation Bylaw and Bylaw Notice Enforcement Bylaw.

RECOMMENDATIONS:

1. **THAT** Council direct the City Solicitor to amend:
 - a. the Waterworks Regulation Bylaw, Schedule B, to implement the changes to the Drinking Water Conservation Plan, as outlined in Section 2.0 of this report; and
 - b. the Bylaw Notice Enforcement Bylaw to implement penalties for the restrictions in the updated Drinking Water Conservation Plan, add penalties for certain provisions in the Waterworks Regulation Bylaw and update the list of Screening Officers and Bylaw Enforcement Officers, as outlined in Section 3.0 of this report.
2. **THAT** a copy of this report be forwarded to the Sustainable City Advisory Committee.

REPORT

1.0 INTRODUCTION

The Water Shortage Response Plan (WSRP) was originally developed in 1993 as a key action to conserve water, and was updated in 2004, 2011 and 2016. The WSRP is implemented by each of the Greater Vancouver Water District (GVWD) member municipalities through individual municipal bylaws. Burnaby incorporated the WSRP into its Waterworks Regulation Bylaw.

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As part of the most recent update, the WSRP has been renamed the Drinking Water Conservation Plan (DWCP). The purpose of this report is to inform Council of the amendments approved by Metro Vancouver and to request that Council direct the City Solicitor to amend the City's Waterworks Regulation Bylaw and Bylaw Notice Enforcement Bylaw in order to incorporate those amendments and additional updates.

2.0 AMENDMENTS TO THE DRINKING WATER CONSERVATION PLAN AND WATERWORKS REGULATION BYLAW

The GVWD Board approved the updated Drinking Water Conservation Plan in June 2017. Recent updates include seven key changes to the water use restrictions relating to the watering of lawns and landscapes, playing fields, and golf courses, and the operation of commercial car washes and pools. The changes reflect feedback received through consultation with local governments, the private sector, and the public, as well as the results of a technical analysis.

The key amendments approved by Metro Vancouver Board to the DWCP are:

- Stage 1 activation period

Former Plan: May 15 to October 15

Amendment: May 1 to October 15

- Lawn Watering

Former Plan: Three mornings per week in Stage 1

Amendment: Stage 1: Lawn watering two mornings per week

- Watering flowers, vegetables, planters, shrubs and trees

Former Plan: No restrictions in Stages 1 and 2

Amendment: Stages 1 and 2: Watering flowers, shrubs, and trees, excluding edible plants:

- *On any day from 4 am to 9 am for residential users and 1 am to 9 am for non-residential and governments/schools/parks users, if using a sprinkler*
- *On any day, at any time, if using a handheld hose, soaker hose, water container, or drip irrigation*

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- Watering soil-based and sand-based playing fields

Former Plan: No restrictions in Stages 1, 2 and 3

Amendment: *Watering of soil-based playing fields:*

- Stage 1: *On any day between 7 pm to 9 am, except if:*
 - *Watering newly over-seeded fields if in compliance with a local government permit*
 - *Operating under an approved local government water management plan*
- Stage 2: *No more than 4 days in a 7-day period between 7 pm to 9 am with the same exceptions as in Stage 1*
- Stage 3: *No more than 3 days in a 7-day period between 7 pm to 9 am with the same exceptions as in Stage 1*

Watering of sand-based playing fields:

- Stages 1 and 2: *On any day between 7 pm to 9 am, except if:*
 - *Watering newly over-seeded fields if in compliance with a local government permit*
 - *Operating under an approved local government water management plan*
- Stage 3: *No more than 5 days in a 7-day period between 7 pm to 9 am with the same exceptions as in Stage 1*

- Watering golf courses

Former Plan: Stage 2: Golf courses may water greens and tee areas normally; fairways may only be watered once weekly

Stage 3: Golf courses may water greens and tee areas at minimum levels required to maintain areas in usable condition; fairways may not be watered

Amendment: *Stage 2: Fairway watering 1 day in a 7-day period except if operating under an approved local government water management plan*

Stage 3: Fairway watering prohibited except if operating under an approved local government water management plan

- Commercial car washing

Former Plan: No restrictions in Stage 3

Amendment: *Stage 3: Commercial vehicle washing prohibited except for:*

- *A facility that installed an automatic vehicle wash system before November 1, 2017, is operating on a basic wash and rinse cycle only*

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- A facility that installed an automatic vehicle wash system after November 1, 2017, is operating using a water recycling system that achieves a minimum 60% water recovery rate over the full wash cycle
 - A hand wash and self-service facility, is operating using high-pressure wands or brushes that achieve a maximum flow rate of 11.4 litres per minute
- Topping up or filling pools and hot tubs

Former Plan: Prohibited in Stage 3

Amendment: Stage 3: Topping-up or filling of pools and hot tubs is prohibited except for pools and hot tubs with a permit to operate in accordance with health authorities having jurisdiction over pool and hot tub regulation.

Following the previous practice of adopting the DWCP in municipal bylaws, staff support the revised changes and recommend that Council direct the City Solicitor to amend of the Waterworks Regulation Bylaw to implement the changes to the Drinking Water Conservation Plan. Schedule B of the Waterworks Regulation Bylaw is proposed to be replaced and additional procedures put in place to address permitting requirements for watering of over-seeded fields and water management plan requirements for golf courses, soil-based fields and sand-based fields.

The permitting requirements for over-seeded fields are proposed to be the same as the current permitting process for new lawn watering permits. An operator or owner of a golf course, soil-based playing field or sand-based playing field will continue to apply to the Director Engineering for approval of a Water Management Plan.

3.0 AMENDMENTS TO THE BYLAW NOTICE ENFORCEMENT BYLAW

As a result of the proposed changes to Schedule B of the Waterworks Regulation Bylaw to implement the updated DWCP, section references under the Bylaw Notice Enforcement Bylaw in respect to contraventions of water restrictions also need to be updated. The penalties will remain at \$150 for Stage 1 contraventions, \$250 for Stage 2 contraventions, \$350 for Stage 3 contraventions and \$500 for Stage 4 contraventions. Failing to post a Watering Permit in visible location or to comply with a Water Management Plan will have a \$100 penalty. Penalties for contravention of general prohibitions under the DWCP will be \$200.

Further to these changes, staff propose to add penalties for contraventions of certain other sections of the Waterworks Regulation Bylaw. Staff recommend that the following contraventions be included in the Bylaw Notice Enforcement Bylaw:

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Bylaw Section	Description The following fines apply to the contraventions below:	A1 Penalty Amount	A2 Discounted Penalty (within 15 days)	A3 Compliance Agreement Available (50% reduction)
Burnaby Waterworks Regulation Bylaw 1953				
5	Unauthorized work on City distribution system	500	400	NO
7	Unusual or unnecessary waste of water	100	80	YES
9	Failure to fix water leak in specified time	100	80	YES
12(1)	Operation or use of fire hydrant without approval	400	320	NO
13	Destroying, injuring or interfering with fire hydrant or other fixture	500	400	NO
14	Obstructing fire hydrant valve, stop cock or other fixture	500	400	NO
30	Unauthorized water use	400	300	YES
33(2)(b)	Failure to correct fault	300	240	YES
33(2)(c)	Failure to install a backflow preventer	300	240	YES
33(4)	Failure to maintain or test a backflow preventer	100	80	NO
34(4)	Breaking a seal on a meter bypass or bypassing a meter	500	400	NO

Staff further recommend that section 8 and 10 of the Bylaw Notice Enforcement Bylaw be amended to add and remove the following positions as screening officers and bylaw enforcement officers, respectively:

Section 8: Screening Officers

- Add:
 - Director, Public Safety and Community Services;
 - Manager, Engineering Development;
 - Traffic Technician I;
 - Traffic Assistant;
 - Environmental Technician;
 - Manager, Environmental Services;
 - Lead Water Conservation Officer;
 - Water Conservation Officer;
 - City Surveyor;

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- Assistant City Surveyor;
 - Senior Survey Technologist;
 - Legal Survey Technologist;
 - Engineering Survey Technologist and
 - Survey Assistant 2
- Remove Manager Contracts and Inspections (as position no longer exists)

Section 10: Bylaw Enforcement Officers

- Add:
 - Director, Public Safety and Community Services;
 - Animal Control Officer;
 - Manager, Engineering Development; Senior Transportation Engineer; Anti-Graffiti Coordinator; Traffic Technician I;
 - Traffic Assistant;
 - Environmental Technician;
 - Manager, Environmental Services;
 - Lead Water Conservation Officer;
 - Water Conservation Officer;
 - City Surveyor;
 - Assistant City Surveyor;
 - Senior Survey Technologist;
 - Legal Survey Technologist;
 - Engineering Survey Technologist and
 - Survey Assistant 2
- Remove Manager Contracts & Inspections and Animal Welfare Officers (as these positions no longer exist)

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4.0 CONCLUSION

The recently revised Drinking Water Conservation Plan will continue to support demand side management of drinking water during the summer months. The changes reflect feedback received through consultation with local governments, the private sector, and the public, as well as the results of a technical analysis. Staff support the amendments and request that Council direct the City Solicitor to bring forward bylaw amendments for the City's Waterworks Regulation Bylaw to implement the updated DWCP as well as make further amendments to the Bylaw Notice Enforcement Bylaw, as outlined in Sections 2.0 and 3.0 of this report.



Leon A. Goss, P.Eng., MBA
DIRECTOR ENGINEERING

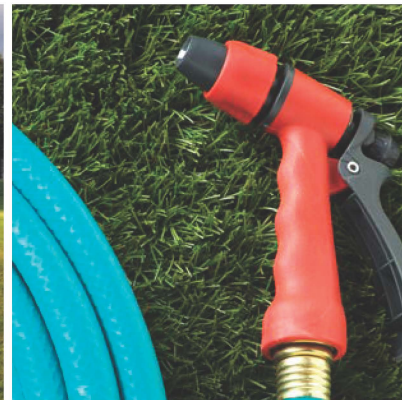
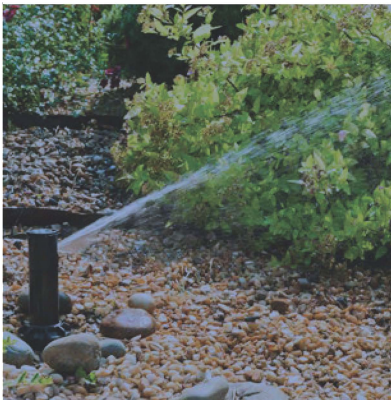
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Attachment

Copied to: Director Parks, Recreation & Cultural Services
Director Corporate Services
City Solicitor



Metro Vancouver Drinking Water Conservation Plan



Published date: This Plan is to come into force and take effect on November 1, 2017

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1 Overview of the Drinking Water Conservation Plan

The Greater Vancouver Water District (GVWD) was created and constituted under the provincial statute the *Greater Vancouver Water District Act*, to supply drinking water to the Metro Vancouver region. The GVWD is governed by an Administration Board (the Board) consisting of representatives from the local government members of the GVWD. The Board appoints a Commissioner (the GVWD Commissioner) who provides management and oversight of the activities of the GVWD. The GVWD operates under the name “Metro Vancouver”.

Metro Vancouver, working together with the local government members of the GVWD, provides clean, safe drinking water to the region’s population of 2.5 million. Metro Vancouver’s *Drinking Water Conservation Plan* (DWCP) is a regional policy developed with local governments and other stakeholders to manage the use of drinking water during periods of high demand, mostly during late spring to early fall, and during periods of water shortages and emergencies. The DWCP helps ensure our collective needs for drinking water are met affordably and sustainably now, and in the future.

There are two complementary documents to the DWCP. One is the Board’s *Drinking Water Conservation Policy* which describes: 1) the GVWD Commissioner’s decision-making process for activating and deactivating Stages of the DWCP; and 2) the implementation process for local governments.

The second complementary document is Metro Vancouver’s *Drinking Water Management Plan*, which sets out the following three goals:

1. Provide clean, safe drinking water.
2. Ensure the sustainable use of water resources.
3. Ensure the efficient supply of water.

The water restrictions, as outlined in the DWCP, provide regional direction for meeting Goal 2 – Ensuring the sustainable use of water resources.

The DWCP applies only to local government members of the GVWD and the use of drinking water from the GVWD’s water system. Jurisdictions that are not local government members of the GVWD are encouraged to follow the restrictions in the plan to help conserve drinking water and demonstrate leadership and consistency to water users across the region. The DWCP restrictions do not apply to the use of rain water, grey water, any forms of recycled water, or water from sources outside the GVWD water system. If water is supplied from an alternative source other than the GVWD water system, such users are encouraged to display signs indicating the alternative water source.

Underlying the development and implementation of the DWCP are the following four principles:

1. Recognize drinking water as a precious resource that must be conserved.
2. Maintain the environmental, economic vitality and health and safety of the region to the extent possible in the face of a water shortage.
3. Optimize available water supplies and reduce water use.
4. Minimize adverse impacts to public activity and quality of life for the region’s residents.

2 Metro Vancouver’s role in ensuring the sustainable use of water resources

2.1 Managing the region’s drinking water responsibly

Metro Vancouver is responsible for storing, treating and delivering clean, safe drinking water through its local governments to over 2.5 million people in the Metro Vancouver region of British Columbia.

Metro Vancouver’s water system includes three watersheds and associated dams and reservoirs, treatment facilities, an extensive transmission system, plus the performance of related operational and maintenance tasks to manage this infrastructure.

Metro Vancouver distributes water to local government members on a cost recovery basis.

Local governments then deliver drinking water, through their infrastructure, directly to individual properties. All individual billing and enforcement of water use restrictions is undertaken by each respective local government.

Metro Vancouver manages the region’s water system in accordance with Provincial regulations and Federal guidelines. In addition to meeting those regulations and guidelines, Metro Vancouver is responsible for developing long-range plans for managing the region’s drinking water and operating the water system. The system is operated in alignment with priorities identified in Metro Vancouver’s *Board Strategic Plan*, under the region’s *Drinking Water Management Plan* and in consideration of the principles of sustainability through decision making that considers social, economic, and environmental values.



2.2 Water conservation in Metro Vancouver

Water conservation is a major component of Metro Vancouver’s planning to ensure the sustainable use of water resources. Helping water users such as residents, businesses, schools, and local governments to use only what they need helps ensure an efficient and relatively cost effective water system.

Most precipitation in Metro Vancouver occurs between November and April. Dry summer months lead to an increase in water use, particularly for the outdoor uses described in the DWCP. Assisting water users to develop sustainable water use habits year round makes a significant difference in lowering daily demand and sustaining reservoir levels during dry months. Lowering demand through water conservation practices also defers the need to invest in expanding the infrastructure, even as the region’s population grows by approximately 35,000 residents annually.

The DWCP describes the staged restrictions related to outdoor water use that water users should follow to:

- Prevent water from being wasted;

- Prepare for and respond to drought and emergency conditions;
- Ensure drinking water can be delivered to all users during the summer when rainfall levels are lowest and the demand for water is highest;
- Adapt to a changing climate;
- Support fish habitat and ecosystems;
- Minimize the costly expansion of the water system infrastructure; and
- Maintain adequate water pressure to keep the system operating safely and effectively.

More information on Metro Vancouver's water conservation initiatives, improvements and expansion to the delivery system, and planning for future water supply can be found at metrovancover.org.

3 Drinking Water Conservation Plan – Stages 1 through 4

Each stage of the DWCP is designed to reduce demand for drinking water through specific water restrictions which become more restrictive with higher stages. The following general restrictions apply to all stages of the plan in addition to the specific water restrictions contained in each stage:

- All hoses must have an automatic shut-off device
- Water must not unnecessarily run off on impermeable surfaces such as driveways, curbs, pathways, or gutters when watering lawns and plants
- Artificial playing turf and outdoor tracks must not be watered except for a health or safety reason
- Hoses and taps must not run unnecessarily
- Irrigation systems must not be faulty, leaking, or misdirected

In most cases, the stages of the plan will be activated in successive order, but they can also be activated immediately in any order.

Stage 1 reduces demand in summer months, and is automatically in effect on May 1 until October 15.

Stages 2 and 3, activated and deactivated by the GVWD Commissioner, are likely to be activated during unusually hot and dry conditions to maximize conservation.

Stage 4, activated and deactivated by the GVWD Commissioner during an emergency to immediately limit water use to essential needs only.

The decision to activate more restrictive stages of the DWCP is based on measured facts, reasoned predictions, and historical patterns, with a goal of ensuring the sufficient supply of water until the concerns that caused the more restrictive stages are over, typically in the early fall with the return of seasonal rainfall.

3.1 Stage 1 Water Restrictions

Stage 1 comes into effect automatically each year – on May 1 until October 15 – to prevent drinking water wastage and ensure water users employ efficient and effective watering practices.

User	Water Use	Restriction
RESIDENTIAL	Watering lawns	Even-numbered civic addresses: on Wednesdays and Saturdays from 4 am to 9 am Odd-numbered civic addresses: on Thursdays and Sundays from 4 am to 9 am
	Watering new lawns or lawns being treated for the European Chafer Beetle	Outside restricted lawn watering times if in compliance with a local government permit
	Watering trees, shrubs, and flowers excluding edible plants	On any day from 4 am to 9 am if using a sprinkler On any day at any time if using a handheld hose, soaker hose, water container, or drip irrigation
NON-RESIDENTIAL	Watering lawns (mixed-use buildings e.g. residential and commercial should follow Non-residential watering times)	Even-numbered civic addresses: on Mondays from 1 am to 6 am and on Fridays from 4 am to 9 am Odd-numbered civic addresses: on Tuesdays from 1 am to 6 am and on Fridays from 4 am to 9 am
	Watering new lawns or lawns being treated for European Chafer Beetle	Outside restricted lawn watering times if in compliance with a local government permit
	Watering trees, shrubs, and flowers excluding edible plants	On any day from 1 am to 9 am if using a sprinkler On any day at any time if using a handheld hose, soaker hose, water container, or drip irrigation
GOVERNMENTS/ SCHOOLS/PARKS	Watering lawns and grass boulevards	Even-numbered civic addresses: on Mondays from 1 am to 6 am and on Fridays from 4 am to 9 am Odd-numbered civic addresses: on Tuesdays from 1 am to 6 am and on Fridays from 4 am to 9 am
	Watering new lawns or lawns being treated for the European Chafer Beetle	Outside restricted lawn watering times if in compliance with a local government permit
	Watering trees, shrubs, and flowers excluding edible plants	On any day from 1 am to 9 am if using a sprinkler On any day at any time if using a handheld hose, soaker hose, water container, or drip irrigation

User	Water Use	Restriction
GOVERNMENTS/ SCHOOLS/PARKS	Watering soil-based playing fields	On any day from 7 pm to 9 am, except if: <ul style="list-style-type: none"> - Watering newly over-seeded fields if in compliance with a local government permit - Operating under an approved local government water management plan
	Watering sand-based playing fields	On any day from 7 pm to 9 am, except if: <ul style="list-style-type: none"> - Watering newly over-seeded fields if in compliance with a local government permit - Operating under an approved local government water management plan
	Flushing water mains	Prohibited

3.2 Stage 2 Water Restrictions

Stage 2 restrictions conserve drinking water to ensure the existing supply will last until the return of seasonal rainfall or until the water shortage situation is over. These restrictions are designed to conserve enough drinking water to avoid or delay moving to Stage 3 as long as possible.

User	Water Use	Restriction
RESIDENTIAL	Watering lawns	Even-numbered civic addresses: on Wednesdays from 4 am to 9 am Odd-numbered civic addresses: on Thursdays from 4 am to 9 am
	Watering new lawns or lawns being treated for the European Chafer Beetle	Outside restricted lawn watering times if in compliance with a local government permit
	Watering trees, shrubs, and flowers excluding edible plants	On any day from 4 am to 9 am if using a sprinkler On any day at any time if using a handheld hose, soaker hose, water container, or drip irrigation
	Washing impermeable surfaces	Prohibited except if: <ul style="list-style-type: none"> - For a health or safety reason - Preparing a surface for painting or similar treatment - Aesthetic cleaning by a commercial cleaning operation
	Topping up or filling aesthetic water features	Prohibited
NON-RESIDENTIAL	Watering lawns (mixed-use buildings e.g. residential and commercial should follow Non-residential watering times)	Even-numbered civic addresses: on Mondays from 1 am to 6 am Odd-numbered civic addresses: on Tuesdays from 1 am to 6 am
	Watering new lawns or lawns being treated for the European Chafer Beetle	Outside restricted lawn watering times if in compliance with a local government permit
	Watering trees, shrubs, and flowers excluding edible plants	On any day from 1 am to 9 am if using a sprinkler On any day at any time if using a handheld hose, soaker hose, water container, or drip irrigation
	Watering golf courses	Fairways watering anytime on any one day in a 7-day period, except if operating under an approved local government water management plan

User	Water Use	Restriction
NON-RESIDENTIAL	Washing impermeable surfaces	Prohibited except if: <ul style="list-style-type: none"> - For a health or safety reason - Preparing a surface for painting or similar treatment - Aesthetic cleaning by a commercial cleaning operation
	Topping up or filling aesthetic water features	Prohibited
GOVERNMENTS/SCHOOLS/PARKS	Watering lawns and grass boulevards	Even-numbered civic addresses: on Mondays from 1 am to 6 am Odd-numbered civic addresses: on Tuesdays from 1 am to 6 am
	Watering new lawns or lawns being treated for the European Chafer Beetle	Outside restricted lawn watering times if in compliance with a local government permit
	Watering trees, shrubs, and flowers excluding edible plants	On any day from 1 am to 9 am if using a sprinkler On any day at any time if using a handheld hose, soaker hose, water container, or drip irrigation
	Watering soil-based playing fields	No more than 4 days in a 7-day period from 7 pm to 9 am, except if: <ul style="list-style-type: none"> - Watering newly over-seeded fields if in compliance with a local government permit - Operating under an approved local government water management plan
	Watering sand-based playing fields	On any day from 7 pm to 9 am, except if: <ul style="list-style-type: none"> - Watering newly over-seeded fields if in compliance with a local government permit - Operating under an approved local government water management plan
	Flushing water mains	Prohibited
	Operating water play parks and pools	Prohibited except water play parks with user-activated switches
	Topping up or filling aesthetic water features	Prohibited

3.3 Stage 3 Water Restrictions

Stage 3 restrictions respond to serious drought conditions, or other water shortage, and achieve further reductions in drinking water use by implementing a lawn watering ban and additional stricter measures.

User	Water Use	Restriction
RESIDENTIAL	Watering lawns	Prohibited
	Watering new lawns or lawns being treated for the European Chafer Beetle	Local government permits issued in Stages 1 or 2 remain in effect until permit expires No new permits issued or renewed
	Watering trees, shrubs, and flowers excluding edible plants	Prohibited if using a sprinkler or soaker hose On any day at any time if using a handheld hose, water container, or drip irrigation
	Washing impermeable surfaces	Prohibited except if: <ul style="list-style-type: none"> - For a health or safety reason - Preparing a surface for painting or similar treatment by a commercial cleaning operation
	Topping up or filling aesthetic water features	Prohibited
	Topping up or filling pools and hot tubs	Prohibited
	Washing vehicles and boats	Prohibited except to clean windows, lights, mirrors, licence plates, and boat engines for safety
NON-RESIDENTIAL	Watering lawns (mixed-use buildings e.g. residential and commercial should follow Non-residential watering times)	Prohibited
	Watering new lawns or lawns being treated for the European Chafer Beetle	Local government permits issued in Stages 1 or 2 remain in effect until permit expires No new permits issued or renewed
	Watering trees, shrubs, and flowers excluding edible plants	Prohibited if using a sprinkler or soaker hose On any day at any time if using a handheld hose, water container, or drip irrigation
	Watering golf courses	Fairways watering prohibited except if operating under an approved local government water management plan
	Washing impermeable surfaces	Prohibited except if: <ul style="list-style-type: none"> - For a health or safety reason

User	Water Use	Restriction
NON-RESIDENTIAL		<ul style="list-style-type: none"> - Preparing a surface for painting or similar treatment by a commercial cleaning operation
	Topping up or filling aesthetic water features	Prohibited
	Topping up or filling pools and hot tubs	Prohibited except for pools and hot tubs with a permit to operate in accordance with health authorities having jurisdiction over pool and hot tub regulation
	Washing vehicles and boats	Prohibited except to clean windows, lights, mirrors, licence plates, and boat engines for safety
	Commercial vehicle washing	Prohibited except if: <ul style="list-style-type: none"> - A facility that installed an automatic vehicle wash system before November 1, 2017, is operating on a basic wash and rinse cycle only - A facility that installed an automatic vehicle wash system after November 1, 2017, is operating using a water recycling system that achieves a minimum 60% water recovery rate over the full wash cycle - A hand wash and self-service facility, is operating using high-pressure wands or brushes that achieve a maximum flow rate of 11.4 litres per minute
GOVERNMENTS/SCHOOLS/PARKS	Watering lawns and grass boulevards	Prohibited
	Watering new lawns or lawns being treated for the European Chafer Beetle	Local government permits issued in Stages 1 or 2 remain in effect until permit expires No new permits issued or renewed
	Watering trees, shrubs, and flowers	Prohibited if using a sprinkler or soaker hose On any day at any time if using a handheld hose, water container, or drip irrigation
	Watering soil-based playing fields	No more than 3 days in a 7-day period from 7 pm to 9 am except if: <ul style="list-style-type: none"> - Watering newly over-seeded fields if in compliance with a local government permit - Operating under an approved local government water management plan
	Watering sand-based playing fields	No more than 5 days in a 7-day period from 7 pm to 9 am, except if:

User	Water Use	Restriction
GOVERNMENTS/SCHOOLS/PARKS		<ul style="list-style-type: none"> - Watering newly over-seeded fields if in compliance with a local government permit - Operating under an approved local government water management plan
	Flushing water mains	Prohibited
	Operating water play parks	Prohibited except water play parks with user-activated switches
	Topping up or filling aesthetic water features	Prohibited
	Topping up or filling pools and hot tubs	Prohibited except for pools and hot tubs with a permit to operate in accordance with health authorities having jurisdiction over pool and hot tub regulation
	Washing vehicles and boats	Prohibited except to clean windows, lights, mirrors, licence plates, and boat engines for safety

3.4 Stage 4 Water Restrictions

Stage 4 is an emergency stage that limits both indoor and outdoor water uses as much as possible to ensure an adequate supply of drinking water for human consumption, use in firefighting and to protect the quality of drinking water within the water system for public health.

Stage 4 is activated based on the rare occurrence of a significant emergency, such as an earthquake, flood, wild land and interface fire, severe weather, or a prolonged regional power outage that causes significant impacts to the water system infrastructure (e.g. damage to major water transmission lines, pump stations, or treatment plants).

In addition to the following outdoor water restrictions, Metro Vancouver could request that industrial water users implement voluntary reductions or reschedule production processes that consume large amounts of water until Stage 4 is deactivated.

User	Water Use	Restriction
RESIDENTIAL	Watering lawns	Prohibited
	Watering new lawns or lawns being treated for the European Chafer Beetle	All local government permits issued for lawn watering are invalidated
	Watering trees, shrubs, flowers and edible plants	Prohibited
	Topping up or filling aesthetic water features	Prohibited
	Topping up or filling pools and hot tubs	Prohibited
	Washing impermeable surfaces	Prohibited except if ordered by a regulatory authority having jurisdiction for a health or safety reason
	Washing vehicles and boats	Prohibited except to clean windows, lights, mirrors, licence plates, and boat engines for safety
NON-RESIDENTIAL	Watering lawns (mixed-use buildings e.g. residential and commercial should follow Non-residential watering times)	Prohibited
	Watering new lawns or lawns being treated for the European Chafer Beetle	All local government permits issued for lawn watering are invalidated
	Watering trees, shrubs, flowers and edible plants	Prohibited

NON-RESIDENTIAL	Watering golf courses	Prohibited
	Washing impermeable surfaces	Prohibited except if ordered by a regulatory authority having jurisdiction for health or safety reason
	Topping up or filling aesthetic water features	Prohibited
	Topping up or filling pools and hot tubs	Prohibited
	Washing vehicles and boats	Prohibited except to clean windows, lights, mirrors, licence plates, and boat engines for safety
	Commercial vehicle washing	Prohibited
GOVERNMENTS/SCHOOLS/PARKS	Watering lawns and grass boulevards	Prohibited
	Watering new lawns or lawns being treated for European Chafer Beetle	All local government permits issued for lawn watering are invalidated
	Watering trees, shrubs, flowers and edible plants	Prohibited
	Watering soil-based playing fields	Prohibited
	Watering sand-based playing fields	Prohibited
	Flushing water mains	Prohibited
	Operating water play parks	Prohibited
	Topping up or filling aesthetic water features	Prohibited
	Topping up or filling pools and hot tubs	Prohibited
	Washing vehicles and boats	Prohibited except to clean windows, lights, mirrors, licence plates, and boat engines for safety

3.5 Stage activation

Stage 1 comes into effect automatically on May 1 until October 15 each year.

Stages 2, 3 and 4 are activated and deactivated by the GVWD Commissioner.

The following factors guide the GVWD Commissioner's decision to activate or deactivate stages of the DWCP:

- Available storage capacity of the Capilano and Seymour Reservoirs and alpine lakes;

- Water allocated to Metro Vancouver by BC Hydro from the Coquitlam Reservoir;
- Hydrologic forecasting parameters including temperature, rainfall, snowpack, and snowmelt;
- Seasonal water demand trends (measured and charted daily);
- User compliance with the restrictions; and
- Water transmission system performance and ability to deliver water during periods of high demand.

Once the GVWD Commissioner makes the decision to activate or deactivate a stage, all local governments are alerted within 24 hours, which triggers public notification and enforcement.

The GVWD Commissioner has the authority to activate, extend or deactivate stages at any time.

3.6 Public notification

Metro Vancouver and local governments are responsible for communicating information to water users about the restrictions in clear and plain language including:

- Providing public access to the restrictions in both a full and abbreviated version;
- Distributing communications materials;
- Promoting the annual start date of the restrictions;
- Notification of activation or deactivation of stages;
- Responding to queries; and
- Recording feedback for consideration in future reviews.

3.7 Monitoring and enforcement

Local governments incorporate the DWCP restrictions into local government bylaws, where each local government is responsible for monitoring and enforcing the restrictions in their communities. Local governments will ensure that their respective enforcement and penalties for violations of the water restrictions increase with each successive stage of the DWCP to reflect the severity of the situation requiring the activation of an advanced stage.

Local governments may use a variety of tools to promote and ensure bylaw compliance including educational materials, using verbal and written warnings, issuing tickets and imposing fines.

3.8 Updating the Drinking Water Conservation Plan

The DWCP is reviewed periodically to reflect population growth, climate change, new technologies and changes in water system infrastructure. Proposed changes are discussed with local governments responsible for plan implementation and enforcement, and with stakeholders. All updates are reviewed and approved by the Board.

4 Exemption for local governments for health and safety reasons

Metro Vancouver encourages all local governments to follow the watering restrictions in the DWCP to conserve water and demonstrate leadership. However, Metro Vancouver recognizes that local governments have important decisions to make regarding protecting public health and safety, and that certain circumstances may require the use of drinking water in a manner that is not consistent with the DWCP restrictions. Therefore, local governments have the authority to use water during any stage and are exempt from the restrictions in the DWCP for activities that are necessary for the purpose of protecting public health and safety. Examples include:

- Flushing water mains where a significant health or safety concern is identified;
- Washing down public spaces where significant health concerns are raised, or on the recommendation of the local health authority;
- Wetting forest and park perimeters or boulevards as part of a fire prevention strategy during extreme hot and dry weather, or on the recommendation of the local fire authority; and
- Protection of publicly funded infrastructure such as community playing fields or swimming facilities, on the recommendation of the city manager of the local government having jurisdiction.

5 Members of the Greater Vancouver Water District

The following are the members of the GVWD:

Village of Anmore	City of Maple Ridge	City of Port Moody
Village of Belcarra	City of New Westminster	City of Richmond
City of Burnaby	City of North Vancouver	City of Surrey
City of Coquitlam	District of North Vancouver	Tsawwassen First Nation
Corporation of Delta	City of Pitt Meadows	City of Vancouver
City of Langley	City of Port Coquitlam	District of West Vancouver
Township of Langley		

The Director representing Electoral Area A on the Metro Vancouver Regional District is a member of the GVWD Administration Board.

6 Glossary and terms

In the DWCP:

Aesthetic cleaning – means the use of water for cleaning when it is not for a health or safety reason.

Aesthetic water feature – means a fountain, pond, or other water feature that primarily serves an aesthetic purpose. It does not include ponds that contain fish.

Automatic shut-off device – means a device attached to a water hose that shuts off the supply of water automatically unless hand pressure is applied to operate the device.

Automatic vehicle wash system – includes:

- **Conveyor vehicle wash** – a commercial vehicle washing facility where the customer's vehicle moves through an enclosed conveyance mechanism during the wash.
- **In-bay vehicle wash** – a commercial vehicle washing facility where the customer parks the vehicle inside a bay, and the vehicle remains stationary while a spray mechanism moves over the vehicle to clean it.

Basic wash and rinse cycle – means a process sequence in an automatic vehicle wash system that consists of a single wash stage followed by a single rinse stage and no additional processes or optional stages; typically this is the minimum level of service that a customer can select, where total water usage is less than 200 litres per vehicle.

Board – means the Administration Board of the GVWD.

Commercial cleaning operation – means a company, partnership, or person that offers commercial cleaning services, including pressure washing, window cleaning, and other similar building cleaning services, to the public for a fee.

Commercial vehicle washing – means commercial vehicle washing services offered to the public for a fee, but excludes car dealerships, fleet vehicle washing facilities, and charity car washes.

Drip Irrigation – means an irrigation system that delivers water directly to the root zone of the plant at a low flow rate through individual emission points (emitters) using droplets of water and excludes sprinkler irrigation systems, micro-spray systems, misting systems, and soaker hoses.

Edible plant – means a plant grown for the purpose of human consumption.

European Chafer Beetle – means an invasive insect pest whose larvae feed on the roots of grasses, causing serious damage to lawns. The Chafer Beetle larvae can be treated naturally using nematodes, which typically requires a moist lawn for a period of 2 to 3 weeks from the day of application.

Flushing water main – discharging water from a water main for routine maintenance such as water quality management and measurement of firefighting flow capacity.

Golf course – means the greens, tee areas, and fairways that are designed and maintained as playing surfaces for golf, but does not include rough areas or lawns that are not maintained as playing surfaces.

Governments/Schools/Parks – includes property zoned for local government, provincial, or federal uses including road rights of way, and school, college, and university uses.

GVWD – means the Greater Vancouver Water District.

GVWD Commissioner – the person that the Administration Board of the GVWD appoints as its Commissioner.

Hand wash and self-service facility – a commercial vehicle washing facility where the facility's staff wash the customer's vehicle, or the customer wash their own vehicles with spray wands and brushes.

Health and safety reason – means a precaution necessary to protect health and safety, including the removal of contaminants, bodily fluids, slip and fall hazards, controlling pests, and suppressing and controlling dust.

Impermeable surface – means a material added to the surface of the ground, or on the exterior of a building or structure that is impermeable to water, including but not limited to glass, wood, concrete, asphalt, paving stones, and other similar materials.

Lawn – means a cultivated area surrounding or adjacent to a building that is covered by grass, turf, or a ground cover plant such as clover, including areas such as boulevards, parks, school yards and cemeteries, but excluding golf courses, soil-based playing fields, and sand-based playing fields.

Local government – means the local government members of the GVWD.

New lawn – means a lawn that is newly established either by seeding or the laying of new sod or turf.

Non-residential – includes properties zoned for a permitted use other than a residential use, including commercial, industrial, and institutional uses, and including a property zoned for mixed residential and non-residential uses, but excluding governments/schools/parks.

Non-residential pool and hot tub – means a pool or hot tub permitted to be operated in accordance with health authorities having jurisdiction over pool and hot tub regulation, including pools and hot tubs operated by government agencies, hotels, multi-family strata corporations, and private clubs.

Odd-numbered civic address or Even-numbered civic address – means the numerical portion of the street address of a property, and in the case of multi-unit commercial or residential complex such as townhouses, condominiums or other strata-titled properties, means the numerical portion of the street address that is assigned to the entire complex, and not the individual unit number.

Over-seeded – means the application of grass seed on existing turf, typically in early fall or spring and may also include associated processes such as aeration, weeding, dethatching and fertilization, for the purpose of mitigating against grass thinning.

Residential – means a property zoned for single-family or multi-family residential use.

Residential pool and hot tub – means a residential pool or hot tub installed for the use of the occupants and guests of one single family dwelling or duplex and does not require a permit in accordance with health authorities having jurisdiction over pool and hot tub regulation.

Sand-based playing field – means a playing field that is constructed with a highly permeable sand-based root zone typically 30 to 40 centimetres deep over a drainage system with drain pipes bedded in gravel, and is designed and maintained to be playable year-round.

Soaker hose – means a garden hose or pipe with small holes that allow water to seep into the ground, to the roots of plants, discharging water through the entire length of its porous surface.

Soil-based playing field – means a playing field that is covered with grass, sod or turf that is designed and maintained to be played upon, or that is used for sporting or other community events and activities, but does not include lawns, golf courses, or sand-based playing fields.

Vehicle – a device in, on or by which a person or item is or may be transported or drawn on a highway or other roadway.

Water management plan – a plan proposed by the owner or operator of a golf course, soil-based playing field, and sand-based playing field operators and approved by the local government having jurisdiction. The plan sets out terms such as water use targets during the different stages of the DWCP, restrictions to reduce water use, and reporting requirements for the owner or operator.

Water play park – a recreational facility that is primarily outdoors, including spray pools and wading pools, spray parks, splash pads, and water slides.

Watering lawn – means applying water to a lawn with any device or tool including but not limited to a sprinkler, hose, mister, or drip irrigation.