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Policy for Flood Plain Management

POLICY DIRECTIVE

Division:	Water Resources Management	P.D.	W.R. 96-1
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Subject:

Flood Plain Management

1.0 INTRODUCTION

Land use within flood plains involves trade offs between flood risk and development. Flood risk takes the form of danger to health and safety, financial costs associated with property damage and degradation of water resources and the environment. Some factors associated with flood risk such as flow velocity, upstream inundation, erosion potential or environmental impacts may be severe. Consequently, new land development should therefore be restricted or prohibited. However, where conditions are not as severe, some types of development and land use may occur safely provided certain terms and conditions apply.

2.0 OBJECTIVES

- to prevent loss of human life and avoid personal hardships,
- to minimize flood damage to properties, infrastructure and the environment,
- to restrict activities which would degrade water resources,
- to maintain the natural capability of waterways to convey flood flows,
- to minimize disruption of transportation, social and business activity, and,
- to minimize costs to the taxpayers of Newfoundland and Labrador.

The unwise development of land in flood plains has historically taken place in many areas of the province probably due to a natural tendency for settlers to utilize land that is near bodies of water. Unfortunately, the potential for flooding is often recognized only after it is too late. The basic operating premise of this policy is that these problems will not materialize if development takes place in a manner that does not place it at any risk of flooding.

The policy will address Crown land, developed land and undeveloped land. Where lands that are subject to periodic flooding are still directly owned by the Crown, those lands will not be transferred to private developers or municipalities. However, where land is already alienated, it is necessary to determine the risk of flooding and to discourage potential development by planning, zoning regulations and by removing any economic advantages or subsidies that would otherwise encourage such development. Finally,

where development has already taken place or cannot be avoided, policy is intended to minimize potential flood damage by ensuring that flood proofing measures are implemented and that the development does not further exacerbate the flooding problem by impeding flows or by unduly constricting the flow channel. The policy also takes climate change into consideration.

3.0 BACKGROUND

Canada – Newfoundland Flood Damage Reduction Program

Under the Canada – Newfoundland Flood Damage Reduction Program, both governments agreed that public funds would not be used or provided for development projects in flood risk areas. To identify these areas, hydro technical studies were carried out for 37 communities in the province. Without exception, the main recommendation in each study was that the implementation of proper flood plain management policies would minimize flood risk.

4.0 LEGISLATION

Water Resources Act, SNL 2002 cW-4.01, (“the Act”) sections 30, 32, 33, 34, 35, 48, 64 and 90, the *Lands Act* SNL 1991 CHAPTER 36 Section 7.

5.0 DEFINITIONS

Body of Water	(Statutory definition from the Act) “body of water” means a surface or subterranean source of fresh or salt water within the jurisdiction of the province, whether that source usually contains liquid or frozen water or not, and includes water above the bed of the sea that is within the jurisdiction of the province, a river, stream, brook, creek, watercourse, lake, pond, spring, lagoon, ravine, gully, canal, wetland and other flowing or standing water and the land usually or at any time occupied by that body of water;
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Flood Plain	An area adjacent to a lake, river, seashore etc. which is inundated or covered with water on average at least
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once in 100 years. Note that a flood plain is considered to be an integral part of a body of water as defined above because it includes “the land usually or at a time occupied by that body of water” and “whether that source usually contains water or not”.

Designated Area	A specific flood plain in a community for which a hydro technical study has determined the extent of flooding and for which flood risk maps are available. The designation is in accordance with the Canada – Newfoundland Flood Damage Reduction Program Agreements.
Floodway	The portion of a flood plain where the most frequent flooding occurs and where the flow of water is fastest. This area is determined on the basis of the 1 in 20 year (1:20) return period flood.
Floodway Fringe	The portion of a flood plain where less frequent flooding occurs and where the flow of water is considered to be tranquil. This area is where flooding occurs up to 1 in 100 years (1:100) on average.
Climate Change Flood Zone	Based on extension of the floodway fringe, this is the area which is likely to be impacted due to the latest forecasted affects of climate change.
Other Flood Risk Area	An area where flooding is known or has some probability to occur due to unique or unusual circumstances such as areas subject to shoreline recession, areas downstream of dams or areas adjacent to watercourses potentially prone to ice jams.
Flood Control Area	An area that is subject to periodic flooding which has been designated (by the Department) a control area in order to reduce the risks to public health and safety and property damages. This area shall normally be treated as a floodway zone (1:20), unless otherwise determined by the Department.

Buffer Zone	A zone of land that is in its natural state and that is intended to separate developed areas from bodies of water to provide basic protection of water resources. This zone may coincide with a Crown land reservation of a shoreline as prescribed by Section 7(1) of the <i>Lands Act</i> . In the absence of specific setback requirements (depending on the activity) the buffer is taken to be 15 metres measured from the high water mark which in turn is understood to be the 1 in 100 year (1:100) high water mark or the Climate Change Flood Zone, where they have been identified.
Coastal Area	The interface or transition area where the land meets the sea/ocean or large inland lakes. The coastal area can be flooded due to storm surges, high tides or waves, erosion, rising sea level, or reclaimed land.

6.0 POLICIES

6.01 Development Requires Written Approval

Development in a designated flood risk area, development in a flood plain and development in a climate change flood zone shall be subject to the prior written approval of the Minister of Environment and Conservation (the “Minister”) in accordance with the *Act*.

6.02 Project Categories

In general it is the policy of the Department of Municipal Affairs and Environment (“the Department”) that flood plains and the buffer zone be preserved and left in their natural state. Recognizing that this is an ideal that would hinder significant benefits that could be derived from certain development in a flood plain and outweigh all risk of loss, damage or peril, this policy for flood plain management views any application to avail of land in flood risk areas in decreasing order of preference. These preferences are referred to hereafter as project categories.

1. **Temporary alterations** in a buffer zone, a climate change flood zone, a designated flood way fringe, a flood plain, a designated floodway, and lastly, the body of water itself.
2. **Non-structural uses** such as open space recreation, pasture, and wildlife habitat enhancement.
3. **Structures related to use of water resources** such as wharves, slipways, boathouses, pumping stations, storm or sewerage discharges.
4. **Minor structural or other projects** where only soil disturbance is involved such as constructed trails, pipelines, transmissions lines, roads, etc., assuming there will be no change in the grade of the land.
5. **Other structures not used primarily for residential**, commercial, industrial or institutional purposes where there will be a change in grade but not a building.
6. **Industrial uses related to the marine shipping** or fishing industries.
7. **Other industrial and commercial** development.
8. **Institutional** developments such as hospitals, senior citizens homes, homes for special care or schools where flooding could pose a significant threat should evacuation become necessary.
9. **Residential and other institutional** development.

6.03 Hydraulic Structures

A special class of structures which includes most hydraulic structures such as dams, bridges, causeways, dykes, canals etc., are by their own needs and characteristics constructed in buffer zones and flood plains and consequently, no preference can be assigned. However, such structures are the subject of the Act and every effort must be made to ensure that such structures do not adversely affect the capability of the body of water to convey flow. In the case of dams, new areas of flooding and the impact of that flooding must be fully assessed by the proponent.

6.04 Project Classifications

Table 1 below indicates whether not project categories are permitted in each of the defined flood plains.

Where Flood Plains are Designated

Category	All Flood Plains	Floodway (1:20 year Zone)	Floodway Fringe (1:100 year Zone)	Climate Change Flood Zone
Temporary alterations	Permitted	Permitted	Permitted	Permitted
Non-structural uses	Permitted	Permitted	Permitted	Permitted
Structures related to use of water resources	Permitted	Permitted	Permitted	Permitted
Minor structural or other projects	Permitted	Permitted with conditions*	Permitted with conditions*	Permitted with conditions*
Other structures not used primarily for residential	Permitted with conditions*	Permitted with conditions*	Permitted with conditions*	Permitted with conditions*
Industrial Uses related to shipping (marine only)	Permitted with conditions*	Permitted with conditions*	Permitted with conditions*	Permitted with conditions*
Other industrial and commercial	Not Permitted	Permitted with conditions**	Permitted with conditions*	Permitted with conditions*

Where Flood Plains are Designated

Category	All Flood Plains	Floodway (1:20 year Zone)	Floodway Fringe (1:100 year Zone)	Climate Change Flood Zone
Institutional	Not Permitted	Not Permitted	Not Permitted	Not Permitted
Residential and other institutional	Not Permitted	Not Permitted	Permitted with conditions*	Permitted with conditions*
Hydraulic Structures	Permitted	Permitted	Permitted	Permitted

* – See Section 6.05 for special terms and conditions related to necessary flood proofing measures.

** – See Section 6.06 for special terms and conditions related to necessary flood proofing measures.

Note: All permits contain standard terms and conditions.

6.05 Projects Permitted Where Flood Plains Are Designated

In Table 1 where projects may be permitted with conditions, the following conditions will apply:

- i. the ground floor elevation of the structure is higher than the 1:100 year flood level and the climate change flood zone (where designated), and,
- ii. the structure will not interfere with the flow of water or displace water such that it creates a worse flooding situation for other properties, and,
- iii. the structure and the associated utilities must be designed and constructed in accordance with the approved flood proofing guidelines

- of the Department and entrances and exits from the building can be safely used without hindrance in the event of a flood, and,
- iv. the proposed use of the facility and site will not involve any storage of pollutants such as fuels, chemicals, pesticides etc., and,
- v. additional conditions which may be appropriate for specific projects and included in a permit issued under Section 48 of the Act.

6.06 Projects Permitted in Coastal Floodway Where Flood Plains Are Designated

In order to accommodate tourism activities in coastal areas, such as eateries, attractions, tourist information booths, tour headquarters etc., in Table 1 if the floodway (1:20 year zone) flooding in a coastal community is primarily due to backwater effects of the ocean and extreme high tides and consequently the flow velocities in the floodway are low, the following conditions will apply:

- i. only a tourism related structure and the associated utilities are permitted. The tourism related structures and the associated utilities does not include accommodations such as motels or hotels, and,
- ii. the tourism related structure and the associated utilities would not be eligible for flood disaster compensation, and,
- iii. the ground floor elevation of the structure is higher than the 1:100 year flood level and the climate change flood zone (where designated), and,
- iv. the structure will not interfere with the flow of water or displace water such that it creates a worse flooding situation for other properties, and,
- v. the structure and the associated utilities must be designed and constructed in accordance with the approved flood proofing guidelines of the Department and entrances and exits from the building can be safely used without hindrance in the event of a flood, and,
- vi. the proposed use of the facility and site will not involve any storage of pollutants such as fuels, chemicals, pesticides etc., and,
- vii. additional conditions which may be appropriate for specific projects and included in a permit issued under Section 48 of the Act.

6.07 Additions and Modifications to Existing Development

Additions, modifications, enhancements and improvements to existing structures where there is an increase in the floor area within the flood plain, will be assessed for suitability in the same way as the project category as a whole.

6.08 Use of Flood Risk Mapping in Municipal Plans

Where flood risk mapping has been prepared for a community (or any city, town or area) the information in the flood risk maps must be incorporated in the Municipal Plan (if one exists) and the flood risk areas must be zoned so as to permit only those project categories specified by this policy. In the absence of official flood risk mapping, communities will be encouraged to determine flood risk areas in accordance with this Department's standard hydro technical methods for delineating flood risk zones and to zone those lands in accordance with this policy. Failing this, communities will be encouraged to at least make provisions in planning documents for minimum setbacks from watercourses to provide some margin of safety and to recognize potential flood susceptibility.

6.09 Eligibility for Flood Disaster Assistance

Any vulnerable development placed in a flood plain or designated flood risk area after the designation and not in conformance with this policy or without approval as required by this policy, would not be eligible for flood disaster compensation if such a program of compensation were to become available through government. This policy provision does not apply to any development lawfully established in a flood plain prior to designation.

6.10 Use of Flood Disaster Compensation

In the event that compensation by government is awarded to flood victims, it will be the policy of this Department to encourage victims to apply the compensation towards relocating rather than replacing or repairing damaged property in situ. If it is deemed acceptable by this Department to repair or replace damaged property in flood risk areas, then it will be required that the compensation be used firstly for appropriate flood proofing measures.

6.11 Flood Insurance

Persons living or carrying out business in flood risk areas may not be able to purchase flood insurance and if available it may be very expensive. It is therefore recommended that those who are located in flood risk areas carry out flood proofing measures and have an emergency plan available.

6.12 Flood Control Projects

Proposals for flood control measures such as construction of dykes, river diversions, retaining walls or flood control dams will only be considered where the alternative with the highest benefit/cost ratio is recommended. Alternatives considered may also include possible compensation for flood victims or the cost of relocating the inhabitants of the flood risk areas or maintaining the status quo.

After flood controls have been implemented, flood risk designations shall remain in effect until such time as new hydro technical studies have been undertaken and new flood risk areas delineated (in accordance with the Departments standards).

6.13 Role of Water Resources Management Division

The Water Resources Management Division of this Department will continue as the lead agency with respect to flood plain management. This role will include but is not limited to:

- i. Evaluating all applications for approval under section 48 of the Act and making the appropriate recommendations in accordance with this policy.
- ii. Carrying out hydro technical studies, flood risk analyses and mapping to the extent possible with limited funds provided.
- iii. Continuing to monitor areas of flood risk such as Badger, Deer Lake and Steady Brook to provide flood warning and flood status reports.
- iv. Providing to the public information, data, maps, guidelines for flood proofing and other materials that will be useful in reducing flood damage.

- v. Providing technical expertise and assisting Fire and Emergency Services – Newfoundland and Labrador in the event of a flood emergency.
- vi. Continue with the ability to forecast flooding using computer models and real time data.

6.14 Offences

A municipal authority or person that unlawfully alters a body of water by carrying out any development in a designated flood risk area or a flood plain without written approval from the Minister, thereby violates section 48 of the Act and commits an offence contrary to section 90 of the Act.



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Honourable Bernard Davis

Mandate Letter 

Minister's Office

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