

ORDINANCE
GOVERNING THE LARGE SCALE PUMPING OR EXTRACTION
OF GROUNDWATER, SPRING WATER AND/OR WATER FROM AQUIFERS
WITHIN THE MUNICIPALITY OF DENMARK, MAINE

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GOVERNING THE LARGE-SCALE PUMPING OR EXTRACTION
OF WATER FROM AQUIFERS WITHIN THE
MUNICIPALITY OF DENMARK MAINE

READY FOR PUBLIC HEARING 6/26/2024
DRAFT IS FOR CONTENT PURPOSES
FORMATTING IS NOT COMPLETED AND WILL CHANGE

Amended by Special Town Meeting

October 9, 2006

Amended by Annual Town Meeting

June 2, 2012

Article I. Purpose

~~The purpose of this ordinance is to protect the quality and quantity of groundwater, spring water and/or water in aquifers and their recharge areas located wholly or partially within the Town of Denmark, to insure that any large-scale water extraction is subjected to prior review and approval so as to establish the ongoing sustainability and quality of said water supplies and the avoidance of any interruption or degradation of water quality and quantity to members of the general public within the town, and generally to protect the health, safety and welfare of persons dependent upon such water supplies; additionally to provide for the imposition of an impact fee(s) against any proposed water extraction subject to this ordinance to fund or recoup the cost of new, expanded or replacement infrastructure facilities necessitated by and attributable, in whole or in part, to the extraction or activities incidental to such extraction.~~

Article I. Purpose

The purpose of this ordinance is to protect the short-term and long-term quality and quantity of groundwater and spring water surface water, and its recharge areas, located wholly or partially within the Town of Denmark, and to ensure that any existing or proposed large-scale groundwater extraction is subjected to any required review and approval by the Town of Denmark, the State of Maine, and the Federal Government. In addition, this ordinance will ensure:

1. Sustainable and equitable access to Groundwater (as herein defined) resources and supplies
2. Protection of the general health, safety and welfare of all persons and property

dependent upon aquifers and Groundwater resources located in the Town;

3. The establishment of a regulatory framework for overseeing Groundwater resources and managing existing and proposed Large-Scale Water Extraction activities, and for avoiding the interruption of supply or degradation in the quality of Groundwater resources; and surface water.
4. The assurance that Large-Scale Water Extraction activities do not adversely impact or impair plant or wildlife communities or the viability of wetlands, meadow areas, or forested areas dependent on Groundwater resources;
5. The protection of private and public property (proximate) to and within Large-Scale Water Extraction areas by regulating the structures, facilities, uses, and activities associated with extraction; and, to prevent undue adverse impact to existing and proposed roadways and infrastructure due to extraction, processing, loading or transport of water resources;
6. Acknowledgement of a changing global climate and its attendant impacts on the regional environment and Groundwater resources, including during periods of sustained drought and/or extreme heat, and in consideration of potential seasonal decline in quantity and quality of Groundwater due to discharge in excess of recharge during such periods.
7. Minimization, limitation, and required mitigation of and buffering of noise, vibration, dust, other adverse effects or pollution associated with Large-Scale Water Extraction activities; and, regulation of the equipment and vehicles used in processing, loading or transport of Water resources;
8. Imposition of an impact fee(s) against any proposed Large-Scale Water Extraction subject to this ordinance to fund or recoup the cost of new, expanded, or replacement infrastructure facilities necessitated by and attributable, in whole or in part, to the extraction or activities incidental to such extraction.

Article II. Authority

This ordinance is adopted and enacted pursuant to the Maine Constitution, Article VIII, Part Second, 30 A MRSA 2101 et seq (“Municipal Home Rule”), and 30A MRSA 3001 - 3006 (“Ordinance Power”), and 30 A MRSA 4301 (6A) and 30 A MRSA 4354 (“Impact Fees”).

Article III. Definitions

Words and phrases, unless their context requires otherwise, shall be defined as follows: first as set forth below, second in accordance with their generally accepted technical meaning within the involved scientific disciplines, third as defined by Maine Statutes, and fourth their common dictionary definition.

Action Levels are hydrogeologic conditions set in conjunction with the applicant and Town of Denmark Technical Agent using the applicant's monitoring data, measurements, and observation from monitoring wells, stream gauges and lake and pond gauges which indicate an adverse effect, as previously defined, from extraction of water from the aquifer is imminent, or existing. Action levels are triggers for notifications and corrective measures that are approved by the Select Board.

Adverse Effect is a change in water level, water quality, or biota of an aquifer, surface water, spring, and/or private water supply within the Zone of Contribution of an applicant's/permittee's water extraction wells/boreholes that if continued will pose a significant risk of long term harm to aquatic and semi-aquatic organisms, loss of use of the surface water or groundwater resource by residents of Denmark and/or prevention of long-term sustainability of groundwater extraction at certain levels at certain times of the year.

Alert Levels are hydrogeologic conditions set in conjunction with the applicant and Town of Denmark Technical Agent using the applicant's monitoring data and measurements from monitoring wells, stream gauges, and lake and pond gauges which indicate a developing or impending adverse effect due to groundwater extraction from the aquifer including effects on groundwater and surface water. Alert levels are triggers for notifications and corrective measures, that are approved by the Select Board.

Application pertains to any application of permit for Large-Scale Groundwater Extraction, including in the case of transfer of ownership, as well as renewal and/or amendment of any existing permits.

~~"Aquifer" means a saturated permeable geologic unit that can transmit significant quantities of water under ordinary hydraulic gradients.~~

Aquifer means an underground geological formation of sand, soil, gravel and rock able to store and yield quantities of water.

Artesian Well means a well tapping a confined aquifer. Water in the well rises above the top of the aquifer under artesian pressure but does not necessarily reach the land surface; a flowing artesian well is a well in which the water level is above the land surface.

Borehole means the hole drilled to construct a well.

Cone of Depression (Also called cone of drawdown.) means the zone around a

well in an unconfined aquifer that is normally saturated, but becomes unsaturated as a well is pumped, leaving an area where the water table dips down to form a cone shape. The shape of the cone is influenced by porosity and the water yield or pumping rate of the well. The land surface overlying the cone of depression is referred to as the area of influence.

Confined Aquifer means an aquifer that exists where the Groundwater is bounded between layers of impermeable substances like clay or dense rock. When tapped by a well, water in confined aquifers is forced up, sometimes above the soil surface. This is how a flowing artesian well is formed. Also known as artesian or pressure aquifers.

Consumptive Use means the use of a resource that reduces the supply (removing water from a source like a river, lake, or aquifer, without returning an equal amount.)

Contamination means substances in air, soil, or water, that make them impure and unfit for consumption or an intended use and can cause harm to human health or the environment. Contaminants can be naturally occurring or caused by humans.

Depletion means the loss of water at a rate greater than that of recharge; when water is used faster than it is replaced.

Discharge means an outflow of water from a stream, pipe, Groundwater aquifer, or watershed; the opposite of recharge.

Drawdown means a lowering of the Groundwater level caused by pumping.

Drawdown Level means the level to which Groundwater is lowered in a bore or well due to pumping.

Drilled Well means a well constructed by either cable tool (percussion), rotary-drilling machines, or sonic drilling methods.

Driven Well (also called a tube well) means typically, a shallow well of small diameter installed by driving a series of connected lengths of pipe into unconsolidated material without drilling, boring, or jetting.

Drought means a period of time when an area or region experiences below-normal precipitation and/or above-normal temperatures. The lack of adequate precipitation, either rain or snow, and extreme temperatures can cause reduced soil moisture or Groundwater, and diminished stream flow.

Dug Well means a shallow, usually large-diameter well excavated with hand tools or power machinery instead of by drilling equipment.

~~“Extraction” (or “water extraction” or “extraction of water”) means withdrawal, removal, diversion, taking, or collection by any means of water from ground-water sources, aquifers, springs, wells, pumps or similar.~~

Extraction (or Water Extraction or Extraction of Water) means withdrawal, removal, diversion, taking, or collection by any means of Water that is wholly or partially within the Town of Denmark aquifers.

~~“Extraction point” or “Extraction facility” means the physical location where water is extracted, whether by well, pump, pipeline, catchment, or other similar method.~~

Extraction Point or Extraction Facility means the physical location where water is extracted, whether by well, borehole, pump, pipeline, catchment, or other similar method.

Extraction Well means pumping wells, recovery wells, or production wells used to extract or produce water from an aquifer.

Groundwater means water that soaks into the soil from rain or other precipitation and moves downward to fill cracks and other openings in beds of rocks and sand. Groundwater is a natural resource of water for drinking, irrigation, and industry.

Groundwater Flow means the movement of Groundwater beneath the earth’s surface through pores and fractures in sediment and rock in the zone of saturation.

Groundwater Monitoring means the monitoring of Groundwater levels to observe changes in the Groundwater levels over time to support resource planning and management.

Ground Surface means median predevelopment or natural grade of dry ground developed on mineral soils, including the O Horizon, and Quaternary glacial and alluvial deposits. Ground surface excludes organic sediment and eroded surfaces of alluvial deposits located below the seasonal low elevation of groundwater or surface water.

Infiltration means the flow of water from the land surface into the subsurface; also known as recharge.

~~“Large scale water extraction” means extraction of water from ground water sources, aquifers, springs, wells or similar in a total daily amount on any given day of 5000 gallons or more, as extracted by the same individual or entity, or consortium or association of individuals or entities, regardless of the number of extraction facilities utilized.~~

Large Scale Water Extraction means withdrawal, removal, diversion, taking, or collection of water from an aquifer or aquifers by any means in a total daily amount on any given day of 5000 gallons or more, as extracted by the same individual or entity, or consortium or association of individuals or entities, regardless of the number of extraction facilities utilized, from extraction points or facilities in the Town of Denmark or from extraction points or facilities outside the Town of Denmark extracting from within the Town of Denmark.

Monitoring Well means a non-pumping well, generally of small diameter, that is used to measure the Groundwater elevation or water quality.

Pumping Rate means the quantity of fluid that a pump or well is discharging in units of volume per unit time. Typical units of measurement are gallons per minute, cubic meters per second, liters per minute, and cubic feet per minute.

Pumping Test means a test where water is pumped from a bore or / well over a period of time at a known rate. It can also inform the optimum pumping rates from the bore or well. During operation of the pump the Groundwater levels decline. When the pump is switched off the Groundwater levels recover. The drawdown is measured in the pumping bore and any surrounding monitoring bores, over the duration of the pumping test. The data can be used to determine the aquifer transmissivity and storativity.

Quantitative Analysis is assessing data using statistical or other quantitative mathematical approaches in assessing such data as hydrogeological properties and parameters, including aquifer properties, groundwater potentiometric surfaces, flow directions, horizontal and vertical gradients, zones groundwater contribution, groundwater flux and surface water/groundwater interactions. For the purposes of the ordinance, a quantitative analysis will employ analytical or numerical modeling of data to calculate a result.

Qualitative Analysis uses non-mathematical approach to develop judgement for a solution to a problem. For the purposes of this ordinance, a qualitative analysis is one that involves a comparison of data to a standard (e.g., comparing water level data to an Alert or Action Level).

Recharge means the process whereby Groundwater is replenished by water entering the Groundwater system

Recharge Rate means the quantity of water per unit of time that replenishes an aquifer.

Recharge Zone or Area means an area where permeable soil or rock allows water to seep into the ground to replenish an aquifer.

Recovery Level means the level which the Groundwater will recover or rise in a borehole or well.

~~“Reviewing authority Authority”~~, “reviewing agency”, ~~“Board of SelectmenSelect Board”~~ and “Boards” are used interchangeably in this ordinance and have the same meaning, all referring to the Municipal Officers (~~Board of SelectmenSelect Board~~), of the Town of Denmark, Maine.

Shallow Well means a well which has been dug, bored, driven, or drilled into the ground for the purpose of extracting water from aquifers near the ground surface. A well is considered to be shallow if it is less than 50 feet deep.

Springs means the emergence of Groundwater at the land surface, usually at a clearly defined point that may flow strongly or just seep out.

Spring Water is defined as groundwater that flows in response to potentiometric pressure (i.e., pressure head), that is higher than the ground surface, allowing water to flow freely onto the land surface as naturally occurring seeps or springs.

Surface Water or Water Bodies means Water above the surface of the land, including lakes, rivers, streams, ponds, wetlands, floodwater, runoff, and similar surficial water bodies.

Storativity means the volume of Groundwater an aquifer releases from or takes into storage per unit surface area of the aquifer per unit change in head.

Transmissivity means the ability of the aquifer to transmit Groundwater throughout its entire saturated thickness. Also known as coefficient of transmissivity.

Unconfined Aquifer means an aquifer in which the water table is at or near atmosphere pressure and is the upper boundary of the aquifer. Because the aquifer is not under pressure the water level in a well is the same as the water table outside the well.

~~-~~**Water** means Groundwater, Spring Water and Surface Water located partially or wholly within aquifers of the Town of Denmark, Maine.

~~“water bodies” or “surface water(s)” means lakes, ponds, river, streams, wetlands and similar.~~

Watershed means all of the land area from which stormwater runoff drains to a given surface water.

Water Table means the top of an unconfined aquifer; indicates the level below which soil and rock are saturated with water. The top of the saturation zone.

Well means a bored, drilled, or driven shaft, or a dug hole, whose depth is greater than the largest surface dimension and whose purpose is to reach underground water supplies to inject, extract, or monitor water.

~~“Zone of Contribution” means that area of an aquifer that contributes water to a well or other extraction point under the most severe pumping and recharge conditions that can be realistically anticipated (180 days of pumping at approved yield with no recharge from precipitation). It is bounded by the groundwater divides that result from pumping the well and by the contact of the aquifer with less permeable materials such as till or bedrock. In some cases, streams or lakes may act as recharge boundaries. In all cases the zone of contribution shall extend up gradient to its point of intersection with prevailing hydrogeologic boundaries (a groundwater flow divide, a contact with till or bedrock, or a recharge boundary).~~

Zone of Contribution means the area of an aquifer and accompanying permeable land and other features (e.g., surface water) that contribute water to a well or other extraction point at an applicant’s permitted pumping/discharge rate. The ZOC varies based other hydrologic conditions such as recharge. Applicants shall consider drought equivalent recharge conditions (i.e., 180 days of pumping at approved yield with no recharge from precipitation) when developing a zone of contribution. Zone of Contribution may be bounded by groundwater divides developed by constant head boundaries including ponds, wetlands, lakes, streams and physical flow boundaries such as low permeable soils (e.g., glacial till) and/or under lying bedrock units.

Zone of Influence is the area surrounding a pumping well within which there are or will be physical changes in the water table due to Groundwater relocation, extraction or withdrawals or the interruption of ground water recharge conditions. Its trace (perimeter) on the land surface defines the zone of influence of a well. Impacts to surface water elevation are included in the influence.

Article IV. Large Scale Water Extraction

A. Permit Required

The daily (meaning on any given day) extraction of more than 5000 gallons of ~~ground water, spring water and/or water~~ Water from aquifers or their recharge areas by any one entity or person, or consortium or association of entities or persons acting in concert, regardless of the number of extraction points or facilities utilized, shall require a written permit issued by the ~~Board of Selectmen~~ Select Board under this ordinance, whose jurisdiction and authority shall be exclusive with respect to the issuance or denial of any such permit, including permit conditions pertaining to such extraction and/or transport of water so extracted within the geographic limits of the Town of Denmark, after public

hearing and opportunity for public comment.

B. Inapplicability

The requirement of review and approval shall not apply to extraction of water which is to be used within the Town of Denmark for standard non-commercial agricultural purposes; drinking water and domestic water supply to private residences within the Town of Denmark; water supply for public facilities such as schools within the Town of Denmark; fire suppression; or for ~~on-site~~onsite residential, commercial and industrial purposes within the Town of Denmark to the limit of their historical use of water which exist as of the date of the adoption of this ordinance. At the date of initial adoption of this Ordinance, no commercial or industrial entities were extracting Water for the purposes listed above.

C. Application Requirements

1. The application shall be in writing and be accompanied by site plans prepared by a licensed surveyor, licensed engineer, or similar appropriately licensed professional. Any application shall be accompanied by an application fee payable to “Town of Denmark” for each proposed extraction point, in accordance with the ~~following schedule:~~ Town of Denmark Fee Schedule.

- ~~(a) Initial application — \$500.00~~
- ~~(b) Amended application — \$250.00~~
- ~~(c) Renewal application — \$ 100.00.~~

2. ~~The~~ All application shall include:

- ~~(a) E~~evidence of applicant’s right, title and interest in and to the property(ies) from which the water is to be extracted. If such evidence is other than outright ownership and title as evidenced by a deed duly recorded in the Oxford (WD) Registry of Deeds, the entire document/documentation (other than reference(s) to purchase price and financing terms, which may be redacted) whether by lease, option, contract or otherwise establishing right, title and interest shall be submitted with the application.

- ~~(b) Evidence of applicant’s financial capacity~~

- i) Estimated costs. Specify the estimated total cost of establishing the Large-Scale Water Extraction Operation and itemize the estimated major expenses, including the projected cost of measures taken to minimize or prevent adverse effects on the aquifer, its recharge areas, or ground water. The itemization of major costs shall include, but not be limited to, the cost of the following activities: roads, structures, required domestic wells, pipelines.

- ~~(c) Financing. Provide one of the following unless otherwise approved by the~~

Select Board.

- i) Letter of commitment to fund. A letter of commitment, acceptable to the department, from a financial institution, governmental agency, or other funding agency indicating a commitment to provide a specified amount of funds, and specifying how those funds will be used.
 - ii) Self-financing
 - (1) Annual report. The most recent corporate annual report indicating availability of liquid assets to finance the development, together with explanatory material interpreting the report; or
 - (2) Bank statement. Copies of bank statements or other evidence indicating availability of funds if the applicant will personally finance the development.
 - iii) Other. If funding is required, but a final commitment of all necessary money cannot be made until all approvals are received and other reasonable conditions are met, provide the following.
 - (1) Cash equity commitment. Cash equity commitment to the development sufficient to demonstrate the applicant's ability to go forward. The Board will consider 20 percent equity of the total cost of a development as the normal equity commitment but reserves the right to lower or raise this amount if special circumstances of an individual development warrant it.
 - (2) Financial plan. Financial plan for the remaining financing.
 - (3) Letter. Letter acceptable to the department from an appropriate financial institution indicating an intention to provide financing subject to reasonable conditions of acceptance.
- (d) Certificate of Good Standing. If new applicant is a registered corporation, provide either a Certificate of Good Standing (available from the Secretary of State) or a statement signed by a corporate officer affirming that the corporation is in good standing.
- (e) a statement of the total maximum daily quantity of water to be extracted, from all extraction points operated by the same individual or entity, or consortium or association of individuals or entities.
- (f) the location(s) of the points of extraction.
- (g) the method(s) of extraction.
- (h) the proposed use for which the water is to be extracted, including the identity of any end user of the extracted water whose facilities for use, processing, transporting, storage, bottling, sales or other similar activities are located outside the Town of Denmark.
- (i) a copy of any application and exhibits and reports for such extraction filed or to be filed with any other municipal authority or any agency or

department of the State of Maine, including as required by 22 MRSA 2660 et seq. (transport of water for commercial purposes,) or under applicable Department of Human Services rules and regulations.

(j) a copy of any permit, approval, or denial for such extraction or transport as may have been issued by any agency referred to in (f) above.

(k) a written report, certified to the Denmark ~~Board of Selectmen~~Select Board procured and paid for by the applicant, of a hydrogeologic investigation and study, conducted and prepared by a licensed professional hydrogeologist, ~~geologist~~Maine Licensed Geologist, hydrologist, registered professional engineer or other appropriately licensed professional possessing in the judgment of the ~~Board of Selectmen~~Select Board comparable credentials and qualifications. The report must address at least the following:

i) the rates of draw down and recharge of any aquifer or other ground water source as may have been established by a pumping or “stress test” or other similar testing regime in accordance with accepted standards within the geology and engineering professions.

ii) the characteristics of the aquifer or other ground water source, including rates of draw down and recharge, sustainable extraction rates, aquifer boundaries, recharge areas, impacts on the water table, and impacts on any and all existing water bodies including but not limited to lakes, ponds, rivers, streams and wetland areas and private wells or other existing extraction locations within the zone of contribution.

iii) possible effects on the aquifer or other ground water resources which might result in the disturbance of existing minerals and compounds such as, but not limited to, iron, manganese, arsenic, ~~and~~ uranium, PFAS and any health hazards raised by such disturbance(s) or other impacts including issues such as drinking water turbidity, clarity and aroma.

3. The application shall be accompanied by:

(a) written ~~notification of the application and an explanation of narrative~~explaining the intent, scope and location of the proposed water extraction activity in terms readily understandable to a layman to be addressed and mailed to, via certified mail, return receipt requested, the following:

(1) the owners of record of all parcels of land lying above the aquifer or other water source cited in the application,

- (2) the owners of record of all parcels of land lying within 500 feet of the outside perimeter of the aquifer or other water source cited in the application,
- (3) the owners of record of all parcels of land having frontage on any body of water whether lake, pond, river, stream or wetland within 500 feet of the outside perimeter of the aquifer or other water source cited in the application, even though such individual parcels may themselves lie more than 500 feet from the outside perimeter of said aquifer or other water source.
- (4) for purposes of these notification requirements an applicant is entitled to rely on the information on file at the Denmark Town Office as represented by its most recent assessors' maps and the mailing addresses maintained by the Town as to the owners of the affected parcels shown thereon. Actual posting of the certified mail notices is not required until the application is declared or deemed to be complete.
~~See D(6) below.~~
- (5) for good cause shown the above notice requirements may be modified upon applicants request by the ~~Board of Selectmen~~Select Board where, for example, it can be established that a body of water, a portion of which lies within 500 feet of the outside perimeter of the aquifer or other water source, extends so far from the proposed extraction point(s) that actual notice to the owners of all land having frontage on that body of water is not necessary.
- (6). A list of property owners within 500 feet of the outside perimeter of the aquifer or other water source, extends so far from the proposed extraction point(s) that actual notice to the owners of all land having frontage on that body of water is not necessary. The property owners shall be considered to be those against whom taxes are assessed.
- (7) A statement of the quantity of Water to be extracted, expressed as (i) a maximum annual total, (ii) the maximum monthly rate by month, and (iii) the maximum daily rate for each Extraction site and in the aggregate for the entire proposed Large-Scale Water Extraction.
- (8) A decommissioning plan containing, at a minimum, a proposed decommissioning schedule, (not to exceed six months), statement and plans addressing physical removal or proper abandonment of all facilities and structures, statement and plans for decommissioning of wells and pipelines; stabilization of revegetation of the site to minimize erosion and return the site to substantially its pre-development state; and an estimate of cost for decommissioning (including methodology and data supporting the estimate), prepared by a professional engineer

registered in the State of Maine.

(b) a ~~small-scale~~small-scale site plan prepared by a professional engineer licensed in the State of Maine. The site plan shall identify at least the depicting at least the following:

i. The location and identification of all abutters to the properties associated with the application.

ii. ~~(1)~~ the limits (outside perimeter) of the aquifer or other water source cited in the application~~;~~ .

iii. ~~and the~~ property bounds boundary lines, including number of acres of the land of the applicant.

iv. ~~(2)~~ the location of all water bodies located within 500 feet of the outside perimeter of the aquifer or other water source.

v. ~~(3)~~ the location(s) of the proposed extraction points.

vi. ~~(4)~~ the existing network of public or private roads leading to or by the extraction point(s).

vii. ~~(5)~~ any proposed new roads or driveways to be constructed for access to and egress from the extraction point(s), and the point(s) of intersection of such proposed roads or driveways with existing roads.

viii. ~~(6)~~ any existing or proposed utility lines to be utilized in the extraction operation(s).

ix. ~~(7)~~ the location and type of monitoring and test wells.

x. ~~(8)~~ any existing or proposed pipes, roads, highways, easements or rights of way, pipelines, aqueducts or similar that are intended to facilitate transport of extracted water from the extraction point(s) towards the intended end user, if any part of the extracted water is ultimately to be transported outside the geographic limits of the Town of Denmark. To the extent any proposed transport of extracted water will utilize, cross or merge with state highway, town roads or public easements a detailed disclosure of the traffic routes to be employed, the types of vehicles to be utilized, the loaded weight of the vehicles to be used, and the number of daily vehicle trips (both arrivals and departures at any load out station(s)) shall be included on the plan, or appended to the plan in a narrative or tabular format as appropriate.

xi. ~~(9)~~ any other relevant and material detail(s) bearing on the proposed

extraction process the omission of which would tend to hinder the ability of the reviewing authority, affected land owners or the public from developing a full understanding of the scope and impact of the proposal.

(c) a large scale site plan depicting at least the following: a large-scale site plan prepared by a licensed surveyor, licensed professional engineer or similar appropriately licensed professional. The site plan shall identify at least the following:

- (1) A detailed plan of the extraction point(s) including without limitation well heads, pumping facilities, monitoring or test wells, buildings, sheds, paving, vehicular drives, parking and turn around, utility lines, fencing, access roads or driveways, elevation and contour lines.
- (2) any other relevant and material detail(s) bearing on the proposed extraction process the omission of which would tend to hinder the ability of the reviewing authority, affected landowners or the public from developing a full understanding of the scope and impact of the proposal.

(d) a Hydrogeologic Investigation, conducted by a Maine Licensed Geologist or registered professional engineer registered in the State of Maine, which must include the following information:

- (1) A map of the aquifer or aquifer(s) with the zone of contribution to the wells/springs/excavations from which water is proposed to be extracted,
- (2) -A modeled estimate of sustained Large-Scale Water Extraction Operation yield during a 1 in 10-year drought,
- (3) -A Maine Licensed Geologist interpretation, using collected data, of the potential for applicants proposed withdrawal to cause excessive drawdown in other nearby aquifers within 1,000 feet of the primary extraction point (e.g., underlying bedrock aquifers or overlying phreatic aquifers).
- (4) - Observed aquifer physical characteristics including: Aquifer type, depth at the proposed withdrawal point and cross section depths along two axis' along with a description of the nature of the aquifer (i.e., confined, semi-confined, or phreatic).
- (5) -Calculated aquifer parameters of Transmissivity and Storativity.
- (6) -Presentation of pump test data including a distance-drawdown analysis and a time-drawdown analysis.

- (7) -Applicants estimate of the sustainable daily, monthly, and yearly Large-Scale Water Extraction Operation withdrawal rates supported by pumping test data
- (8) - A diagram, supported by pump test drawdown data, showing the size and shape of the Large-Scale Water Extraction Operation withdrawal point's cone of depression after 180 days of successive pumping in the absence of recharge.
- (9) An assessment of potential impacts of the proposed Large-Scale Water Extraction Operation on the water table in all tributary Aquifers, water bodies (including lakes, ponds, rivers, streams and wetlands), and private or public wells or other drinking water sources located within 1,000 feet of the proposed Extraction source. If, however, the Aquifer from which the applicant proposes to extract water extends more than 1,000 feet in horizontally the impact upon the entire Aquifer must be assessed.
- (10) An inventory of all existing and publicly known Extractions from the water sources proposed to serve Large-Scale Water Extraction Operation, and an assessment of the cumulative impacts of such Extractions combined with the proposed Large-Scale Water Extraction Operation. This cumulative impact assessment must include the information required from all of the above.
- (11) Results of Pumping Tests and the predicted effect on water levels of proposed pumping rates.
- (12) An assessment of potential impacts of the applicant's proposed withdrawals on the Aquifer or other Groundwater resources which might result in the disturbance of existing minerals including without limitation iron, manganese, arsenic, and uranium, and any health hazards raised by such disturbances or other impacts including issues such as drinking water turbidity, clarity and aroma.

(e) a monitoring and testing plan which documents extraction and recharge data and water quality characteristics within the Zone of Contribution and the Zone of Influence. The plan shall include the system in which the monitoring shall be performed and at what interval. The plan shall be reviewed and approved by the Town of Denmark's Technical Agent and Select Board. To the extent possible, the monitoring and testing plan shall locate at least 25 % or two (2), whichever is greater, of monitoring locations at or near private wells located within the Zone of Contribution and at least 10% or two (2), whichever is greater, at or near private wells located within the Zone of Contribution that lies outside the Zone of Influence.

- (1) The plan shall include the following testing element:
- i. Reports of rainfall and snowfall over the preceding five (5) months and the historic data in the same period for the prior

five (5) years and a table showing the calculated limit of pumping and the actual amount pumped for each point of Extraction, as well as the aggregate pumped at all Extraction points.

(2) The plan shall be categorized into the three categories listed below and shall include the following testing elements (performed by a Maine licensed testing laboratory):

i. Category One: Monitoring for extraction wells/boreholes

1. Water level
2. Well depth
3. Flow rate in the Aquifer estimated yield and/or specific capacity (where applicable) Estimated well yield
4. Turbidity
5. Clarity
6. Total phosphorus
7. Chlorophyll-a
8. Dissolved Oxygen / Depth
9. Temperature / Depth (ix)
10. PH
11. Oxidation Reduction Potential (ORP)
12. Total organic carbon (xi)
13. Color
14. Pesticides/herbicides / chemical byproducts (e.g. Atrazine, Dioxin)
15. VOCs (Volatile Organic Compounds) (e.g. MTBE, Toluene...)
16. Total Coliform / E. Coli
17. Phytoplankton / Zooplankton
18. Alkalinity
19. Conductivity
20. Odor
21. Mercury, Arsenic, Lead, Iron, Sulfur, Manganese, Magnesium,
22. Copper
23. Perfluoroalkyl and Polyfluoroalkyl substances (PFAS)
24. Any other water parameters, as required by the Select Board.

ii. Category Two: Monitoring for surface waters

1. Surface water elevation
2. Flow (Streams and other moving bodies of water)
3. Turbidity
4. Clarity
5. Total Phosphorous

6. Chlorophyll-a
7. Temperature
8. pH
9. Color
10. Alkalinity
11. Conductivity

iii. Category Three: Monitoring for non-extraction wells
(residential and others)

1. Water level
2. Estimated yield or specific capacity (where applicable)
3. Turbidity
4. Dissolved Oxygen
5. Oxygen Reduction Potential
6. Temperature
7. pH
8. Conductivity

The monitoring and testing plan shall include a requirement to report to the CEO (Code Enforcement Officer) and the Town of Denmark's Technical Agent (covered by escrow account as described below) on a monthly basis. The Select Board, in consultation with the Town of Denmark's Technical Agent, may reduce the scope and/or frequency of the monitoring of any or all monitoring locations after the first year or any successive years provided that the permittee has provided a technical justification for the request.

(f) The Select Board may require any additional information not listed above, at any time, if determined that such additional information is necessary to determine whether the requirements of this Ordinance have been met.

D. Application Process

1. The entire application, including studies, reports, site plans and all other items referred to in Article IV (C) above shall be submitted to the ~~Board of Selectmen in triplicate.~~ Select Board in form of eight complete hard copies and one complete digital version.
2. The ~~Board of Selectmen~~Select Board shall have thirty (30) days from the date of submission to conduct a preliminary review of the application solely for the purpose of determining whether the application is complete as required by this ordinance. For good cause shown, and upon receipt of confirmatory independent technical advice, the ~~Board of Selectmen~~Select Board may waive one or more of the application details upon a determination that such details are unnecessary, unobtainable as a practical matter or duplicative and that such waiver would not tend to hinder the ability of the Board, affected landowners

or the public from developing a full understanding of the scope and impact of the proposal.

3. If within said thirty (30) day period the ~~Board of Selectmen~~ Select Board deem the application incomplete in any material or relevant respect it shall so inform the applicant by the best practical means, either by writing or verbally at a regularly scheduled meeting of the Board at which the applicant or its duly authorized representative is present after which the applicant shall have a reasonable period of time, not to exceed ~~sixty (60)~~ thirty (30) days to complete its application in accordance with this ordinance, upon failure of which the application shall be deemed withdrawn.
4. If by the end of said thirty (30) day period for review for completeness the ~~Board of Selectmen~~ Select Board have not informed the applicant, in writing, the application is incomplete it shall as a result be deemed complete. ~~in~~ In which case the Board shall schedule the commencement of the a public hearing process on the application at a date not later than ~~sixty (60)~~ forty five (45) days from the date the application was ~~originally submitted~~ deemed complete by the Select Board, or not later than ~~sixty (60)~~ forty five (45) days from the date a supplemented application originally deemed incomplete, was reviewed for completeness and declared (or deemed by the passage of a thirty (30) day period) complete.
5. Any review of the application by the ~~Board of Selectmen~~ Select Board or its agents for completeness is preliminary only and is not to be deemed a substantive review, and confers no vested rights upon the applicant or under the application. Substantive review shall not be deemed to occur until the convening of a public hearing on the application under this ordinance.
6. Applicant's obligations of written notification via certified mail of property owners as set forth in Article IV (C) (3) above shall not accrue until the application is declared or deemed complete under this ordinance.
7. . Renewal applications must be submitted prior to the expiration of the existing permit. If a renewal application is not timely submitted prior to expiration of the existing license, or is timely submitted but not accepted as complete for processing, the permit lapses. If the renewal application is timely submitted prior to the expiration of the permit and accepted as complete for processing, the terms and conditions of the existing permit remain in effect until the final Select Board decision on the renewal application becomes effective. Renewal applications to extend the expiration date for projects that have not commenced construction are subject to the procedural and substantive requirements in effect at the time of acceptance of the renewal application.

E. Review Process; Hearing Process

1. The completed application shall be ~~reviewed by the Board of Selectmen~~
presented by the applicant at a public hearing convened for that purpose, pursuant to 15 days' published notice in a newspaper of general circulation within the Town of Denmark and posting of notice at three conspicuous public places within the Town, and upon confirmation on the hearing date that certified mail notice has been sent to all affected landowners as previously set forth in this ordinance.
2. The ~~Board of Selectmen~~Select Board shall be entitled to adopt whatever procedural rules for the hearing, including the imposition of reasonable time limits for the presentations of the applicants, opponents if any, and the general public, it deems appropriate, fair and reasonably calculated to afford a full consideration of the issues pertaining to the application.
3. In cases when more time, public reaction, and/or information is needed and/or more time for gathering, reviewing, and evaluating new and additional information, materials, and testimony is needed, or due to the lateness of the hour, the application review times shall be appropriately extended and Public Hearings may be suspended or continued, and reconvened at later dates.
4. Prior to the public hearing, the Select Board shall complete a substantive review of the application pursuant to Article VII (Independent Expert Assistance) herein.

F. Extension or Modification of Time Limits

For good cause shown the ~~Board of Selectmen~~Select Board may extend or modify any of the deadlines or timelines above so as to reasonably accommodate the demonstrated needs of the applicant, intervenors, the public or the Board so long as such extension or modification does not materially prejudice the substantial rights or interests of any person

G. Decision; Performance Standards

1. Upon the adjournment of the public hearing the ~~Board of Selectmen~~Select Board shall schedule a public ~~session-meeting~~ of the board, to occur not later than thirty (30) days from the final adjournment of the public hearing, to deliberate and render a decision. At such public hearing, the board shall take a vote to inform the public and the applicant of their intentions prior to issuing their final written decision.
2. The ~~Board of Selectmen~~Select Board's decision may be:
 - (a) to approve the application;

(b) to deny the application; or

(c) to approve the application conditionally, with conditions or stipulations upon the satisfactory completion of which the application will be finally approved. Provided however, any approval (conditional or unconditional) shall require the Board's determination that the applicant has satisfied all of the performance standards set forth below, and shall further be subject to any alert levels and action levels as as outlined in Article (insert Article # here). ~~determined under Section 3 immediately following.~~

(d) any approval shall specify that it is only for a daily extraction total not exceeding the maximum daily quantity set forth in the application, nor exceeding the specified aggregate annual total calculated thereby, and any increase in such daily totals or aggregate annual totals shall require further application and review in accordance with this ordinance.

3. The Board shall issue a written decision with findings of fact and rulings and conclusions not later than thirty (30) days from the date on which it votes at a public session to approve, deny or approve with conditions, and a copy of such written decision shall thereupon promptly be provided to applicant, and otherwise be available publicly.

~~Any approval issued hereunder must contain action level(s), to be based on the best hydrogeologic monitoring analysis and modeling available at the time of approval. The action levels shall where possible define hydrogeologic standards at two levels: "alert" and "action".~~

~~Alert levels shall be those hydrogeologic conditions as indicated by monitoring data and visual observation from monitoring wells, stream gauges and lake and pond gages which indicate a developing or impending adverse effect on the aquifer from which the water is, or is to be, extracted or affected surface water bodies in the vicinity. Upon reaching an alert level the Board, through its designated technical representative, shall require the applicant to provide more frequent and intensive monitoring activities than may be originally contemplated by the application or any original approval thereof.~~

~~Action levels shall be those hydrogeologic conditions as indicated by monitoring data and visual observation from monitoring wells, stream gages and lake and pond gages which indicate that a adverse effect on the aquifer from which the water is, or is to be, extracted or on affected surface water bodies in the vicinity, or which establishes an imminent threat to private water wells in the vicinity. Upon reaching an action level the Board, upon advice of its designated technical representative, shall order all pumping and extraction activities to be reduced or ceased until such time as the Board deems that hydrogeologic conditions creating the descent to action levels have been or will~~

~~be rectified, and that any threat or risk of harm to the aquifer, surface water bodies, and/or private wells has abated.~~

~~The setting of alert levels and action levels with respect to a given water extraction activity will normally be developed and refined through the ongoing monitoring regime specified in this ordinance or any permit issued hereunder. The Board reserves the right, as such monitoring data becomes available for evaluation and correlation, to impose, amend or revise alert and action levels, after notice to any applicant or permit holder, with an opportunity to be heard, as an addendum/addenda to any permit. Notwithstanding the foregoing, in the event existing monitoring data or monitoring data developed during any pre-extraction test phase, or other established hydrogeologic conditions developed or existing prior to the undertaking of sustained extraction activities under any permit issued hereunder, adequately support the establishment of pre-pumping alert levels or action levels the Board may impose them, either as part of any original permit, or as an addendum to any issued permit, and in such case where an action level is reached prior to pumping or the commencement of sustained extraction activities, then in such case no pumping or extraction shall commence in the first place until such time as the Board deems that hydrogeologic conditions safe for extraction have been or will be restored.~~

4. Any extraction authority granted hereunder shall be for an initial period¹ not to exceed three (3) years, but may be renewed subject to the same criteria contained herein.

With respect to an application for a permit renewal if, after notice and hearing as referred to in Article IV (E) above, the reviewing authority finds the following, a renewal permit for a period of five (5) years² shall be issued:

- (a) There is no increase in the permit holder's extraction activities in terms of the quantity of water to be extracted; and
- (b) There is no change in the location or configuration of the extraction facility; and
- (c)There has been no material failure by the permit holder to comply with any conditions of the expiring permit; and
- (d) There has been no material failure by the permit holder to meet the performance standards applicable to the expiring permit; and
- (e) There is no significant, credible evidence that the permit holder's continuing operations would be unable to meet the performance standards of the ordinance during any renewal period.

¹ Amended at June 2, 2012 Annual Town Meeting

² Amended at June 2, 2012 Annual Town Meeting

Any application for a renewal permit must be filed with the reviewing authority not less than ~~90~~one hundred eighty (180) days prior to the expiration of the existing permit. The ~~Board of Selectmen~~Select Board is authorized to amend the term of any renewal permit existing as of June 2, 2012 from three (3) years to five (5) years, from the date of granting said renewal, by endorsement to that effect upon such renewal permit.³

Article V. Performance Standards

No approval shall be granted any application until and unless the reviewing authority shall have affirmatively found that each of the following performance standards has been or will be met, the burden of establishing and demonstrating compliance with which is solely the applicant's. Applicant must also demonstrate to the reviewing authority that it possesses the expertise and financial resources to provide continuing adherence to these standards.

A. Geologic and Hydrologic Standards

1. The quantity of water to be extracted will not cause undesirable changes in ground water flow patterns relating to the aquifer, its recharge areas, or other ground water sources within the Town.
2. The quantity of water to be extracted will not negatively impact, diminish or alter any surface waters within the Town, including during any periods of drought.
3. The quantity of water to be extracted will not cause any ground subsidence beyond the property lines of applicant's property.
4. The quantity of water to be extracted will not adversely affect the ~~long-term~~long-term sustainability of the aquifer, or its recharge areas, or other groundwater source, including during periods of drought.
5. The proposed extraction will not create a health risk or issues such as drinking water turbidity, clarity or aroma resulting from the disturbance of existing minerals, or from any other cause, with ongoing follow up monthly testing for this purpose, results to be provided in writing to the Denmark Code Enforcement Officer on at least a monthly basis.
6. The establishment of an ongoing follow up monitoring system and development of a system of recording and documenting extraction and recharge data, within the zone of contribution, to be reported in writing to the Denmark Code Enforcement Officer and the town's independent expert on at least a monthly basis. At least 25% of monitoring locations shall be at

³ Amended at June 2, 2012 Annual Town Meeting

private wells located within the zone of contribution. As part of this monitoring process the Denmark Code Enforcement Officer shall have periodic access, as specified in any permit issued hereunder, and upon reasonable notice, to any extraction and load out points and facilities to record and confirm pump meter readings.

7. In determining whether these performance standards have been met, consideration shall be given to any existing extraction application or permits, under this ordinance, from the same aquifer or zone of contribution.

B. Impacts on the General Vicinity

1. The applicant assumes any and all liability for the loss, interruption, degradation or interference with the preexisting beneficial domestic use of ~~groundwater~~ Water by a ~~land-owner~~ landowner or lawful land occupant, or other public or private water supply, caused by applicant's withdrawal or extraction of water.

For purposes of this section "beneficial domestic use", "groundwater" and "preexisting use" shall be as defined by 38 MRSA 404 - 1A-C.

For purposes of this section liability of applicant shall be for compensatory damages only, and shall be limited to the following:

- (a) All costs necessary to restore the landowner or lawful land occupant to a status which is reasonably equivalent in terms of quantity and quality of ground water, made available on a similarly accessible and economic basis;
- (b) Compensatory damages for loss or damage to property, including, without limitation, the loss of habitability of residence, caused to the landowner or lawful land occupant by reason of the interference prior to restoration of the status provided for a subparagraph (a); and
- (c) Reasonable costs, including expert witness and attorney fees incurred in initiating and prosecuting an action when necessary to secure a judgment granting the relief provided for under this section.

The reviewing authority shall require the furnishing of a bond or other performance guaranty it deems of equivalent security to secure the applicant's obligations under this section, which shall be submitted and approved by the reviewing authority prior to commencement of any water extraction contemplated by the application. The bond, guaranty or other security requirements, including the amount and form, shall be determined by the ~~Board of Selectmen~~ Select Board after consideration of the circumstances specific to a given application, and after consultation by the

Board with such persons they deem advisable and appropriate which may include, but necessarily be limited to, the Town's designated technical agent, the Town Manager, the Town Attorney, the Town Code Enforcement Officer, insurance underwriters, and banking professionals.

2. Provision shall be made for vehicular access to extraction facility(ies) and for circulation, loading and unloading upon the lot in such a manner as to safeguard against hazards to traffic and pedestrians on adjacent streets or roads, to avoid traffic congestion and traffic safety hazards, or other safety risks, except that under no circumstances shall water of more than 15,000 gallons per day be transported via trucks, but shall be limited to pipes and pipelines.
3. Any driveways or access roads to the extraction facility(ies) shall be designed in profile and grading and located so as to provide sight distances as set out in the Town of Denmark Zoning Ordinance, section 5.16-B(1).
4. Driveways or access roads to the extraction facility(ies) shall conform to the standards set out in the Town of Denmark Zoning Ordinance, section 5.16-B(2) and (C).
5. Additional vehicular demand on existing town roads or public easements occasioned by the operation of the extraction facility(ies) will not exceed the capacity of those roads, or cause the premature failure, aging or diminished utility of those roads, and use of town roads and public easements shall be subject to the provisions of Article VI. (insert Article # here).
6. To the extent the extraction facility(ies) will be served by pipes, pipelines, aqueducts or similar that such installations will be sited and constructed in a manner which will not interrupt the public's use of any existing roadway, interrupt the public's access to any public facility, great pond or similar; interrupt private access to private property; or pose the risk of damage to any property along or through which such installation traverses as a result of any failure or malfunction which might cause ponding, erosion, run off or similar
7. The proposed extraction and activities incident to such extraction such as increased traffic (volume and type), parking, hours of operation, noise, glare from lights, or similar potential for nuisances are unlikely to cause a negative impact on adjacent properties, and the nearby vicinity as a whole.

C. Action and Alert Levels

1. Any approval issued hereunder must contain alert levels and action

levels based on the best hydrogeologic monitoring analysis and modeling available at the time of approval. The Town of Denmark's process when an Alert or Action Levels is reached will include the following:

a. Upon reaching an alert level the Select Board, with the advice of its designated Technical Agent, shall require the applicant to provide more frequent and intensive monitoring activities than may be originally contemplated by the application or any original approval thereof.

b. Upon reaching an action level the Select Board, with the advice of its designated Technical Agent, shall order all pumping and extraction activities to be reduced or ceased until such time as the Select Board deems that hydrogeologic conditions creating the descent to action levels have been or will be rectified, and that any threat or risk of harm to the aquifer, surface water bodies, and/or private wells has abated.

2. The setting of alert levels and action levels with respect to a given water extraction activity will normally be developed and refined through the ongoing monitoring regime specified in this ordinance or any permit issued hereunder. The Select Board reserves the right, as such monitoring data becomes available for evaluation and correlation, to impose, amend or revise alert and action levels, (only to further restrict), after notice to any applicant or permit holder, with an opportunity to be heard, as an addendum/addendum to any permit. Notwithstanding the above, if either the Select Board or the permittee can show evidence of a good faith error in setting the alert and or action levels, the Select Board may consider such evidence and allow a correction of said error as they see fit.

3. Action & Alert Level Requirement: The applicant shall develop all Action and Alert Levels with input from the Town of Denmark and the Town's Technical Agent. Applicants proposing Large-Scale Water Extraction Operations shall develop a diverse series of geographical and hydrogeological Action and Alert levels that will be used as warning levels and comparison points to continually assess the ongoing sustainability of the Water extraction. Specifically, the program shall monitor and evaluate the pumping regime and identify the lowest water levels (e.g., spring points, groundwater levels, surface waters, and private well owner water levels) that can be approached during extraction operations without undue adverse effects to water resources within the zone of contribution of the proposed pumping wells or borehole. For groundwater levels (e.g., monitoring wells, spring points, and private well water levels), Action and Alert levels shall be developed using 180-day extrapolated pumping test data without consideration of recharge based on a pumping test prepared by a Maine Licensed geologist. For surface

waters (e.g., pond, lands, streams, and rivers), applicants shall also use gauging data collected during the pumping test, if appropriate, to develop and propose Action and Alert Levels. Any such levels shall also consider the impacts of Water extraction on groundwater contribution to baseflow characteristics of neighboring streams including estimated or measured lowest 7-day average flow that on average, occurs once every 10 years (7Q10) For ungauged streams, data and estimation methods by the USGS shall be considered (<https://www.usgs.gov/streamstats/maine-streamstats>) for establishing 7Q10 flows. Established Action and Alert levels shall include a subset of monitoring points distributed spatially across the defined zone of contribution of the wells or boreholes and shall include sensitive surface water, groundwater, spring points, and private wells. The Select Board shall approve all developed Action and Alert Levels prior to issuance of a permit.

4.Requirement Comparison of Action and Alert Levels: The permittee shall be responsible for comparing operational water levels to the approved Action and Alert Levels on a monthly basis, at a minimum. The permittee shall provide the Town of Denmark Code Enforcement Officer with a monthly written report indicating this comparison has been completed and the results. The exception to this will be when real-time data are being collected by a permittee. Real-time data shall be continuously evaluated to any Action and Alert levels.

5.Notification Requirement when Alert Level has been Reached: Alert levels shall be established above any Action level (see below). Upon reaching an alert level, the Board, upon consultation with its designated Technical Agent, can require the applicant to provide more frequent and intensive monitoring activities than may be originally contemplated by the application or any original approval thereof. Within 24 hours of knowledge that an Alert level has been reached or exceeded, the permittee shall notify in writing the Code Enforcement Officer and Town Manager of the exceedance. The permittee shall monitor weekly for two consecutive weeks. If after the two-week monitoring period, the average water level in question is below the Alert Level, the permittee will be required to submit an action plan within 24 hours. The plan shall be submitted to the Town's Code Enforcement Officer, Town Manager and Technical Agent and must be approved by the Select Board

6.Notification Requirement when Action Level has been Reached: Action levels are to be established below any Alert level (see above). Upon reaching an action level the Board, upon consultation with its designated Technical Agent, shall order all pumping and extraction activities to be reduced or ceased until such time as the Board deems that hydrogeologic conditions creating conditions that led the action levels have been or will

be rectified, and that any threat or risk of harm to the aquifer, surface water bodies, and/or private wells has abated. Within 24 hours of knowledge that an Action level has been reached or exceeded, the permittee shall notify in writing the Code Enforcement Officer and Town Manager of the exceedance. The permittee shall monitor the monitoring point(s) that reached or exceeded the Action level and any other points requested by the Board upon consultation with its technical agent weekly for four consecutive weeks. If after the four-week monitoring period, the average level in question is below the permitted Action Level the permittee shall provide a written corrective plan to remedy and monitor the issue. The permittee shall cease Large Water Extraction activity until the Select Board has approved the plan. The plan shall be submitted to the Town's Code Enforcement Officer, Town Manager and Town's Technical Agent and must be approved by the Select Board. If after the four-week monitoring period the average levels are above the Alert Levels, the Select Board shall allow pumping and extraction activities with normal monitoring in accordance to permit.

7.Periodic Evaluation of Action and Alert Levels: Every third year of a five-year permit, the permittee shall conduct a quantitative analysis to re-evaluate the efficacy of the developed Action and Alert Levels. Permittee shall use operational data and other available data (e.g., regional drought indices, long-term precipitation data, operational surface gauging data, nearby background well data, and any new geologic or hydrogeologic site specific data) deemed pertinent by the Town of Denmark's Technical Agent on a case-by-case basis to complete this quantitative analysis. The purpose of the 5-three (3) year evaluation is to assess if the existing Action and Alert Levels are effective or require modification. The permittee is responsible for reporting the three (3) -year evaluation effort, including all scientific data used as a part of the work, to the Town of Denmark Technical Agent, by December 31st. Any new proposed Action and Alert levels must be developed with input from the Town of Denmark Technical Agent. Any new Action and Alert Levels shall be approved by the Select Board. Town of Demark. On transfer or sale, the new permittee shall conduct analysis within twelve (12) months and submit to the Select Board.

D. Periodic Assessment of the Aquifer: After each successive 10 years of extracting water, each Large-Scale Water Extraction permittee shall undertake a supplemental assessment of the aquifer. The periodic assessment is not intended to require the completion of a new pumping test. Operation data and recovery monitoring during non-pumping periods during routine maintenance may be sufficient to meet this requirement provided that the recovery duration is long enough to be assessed throughout the zone of contribution. The Town of Denmark shall approve a written plan (in advance of any new work) documenting how the permittee will perform this assessment. The objective of the

supplemental assessment is to assess changes in the aquifer's ability to produce the maximum permitted yield and without any undo adverse effects on the surface water, springs, and private water supplies within or affected by the zone of contribution of the production wells or boreholes. The periodic assessment shall be completed using operational data and new quantitative data collected. A written report shall be prepared by the permittee to document the means, methods, and results of the periodic assessment work. The report shall be prepared by a State of Maine licensed geologist on behalf of the permittee and shall include specific language regarding the effectiveness of the current set of Action and Alert Levels and/or the need to modify any Action and Alert Levels along with a technical justification for doing so. The periodic assessment report shall be reviewed and approved by the Town of Denmark.

E. Data Collection : Upon commencing Large-Scale Water Extraction Operations, permittee shall be responsible for collecting performance-based data for reporting to the Town of Demark on a real-time basis. Types of performance data that a permittee may be required report in real-time includes: observation well water level data, production pumping rate information, pump totalizer readings, and surface water gauging measurements. The Town of Demark Technical Agent will identify from pumping test results monitoring, the points that shall be monitored on a real-time basis by the permittee. In addition, The Select Board shall have discretion to direct the Town's Technical Agent to do unlimited spot checks.

F. Data Reporting: Permittee may be responsible for reporting performance-based data to the Town of Demark on a real-time basis. Real-time reporting will require the use of electronic telemetric devices commonly used in the water monitoring industry. It is the Town of Demark's discretion to request that a permittee begin reporting certain performance-based measurements in real-time that are already collected per (Insert Article # here) . At the time the request is made, the Town of Demark will identify where the real-time data are to be transmitted and in what format. Reported data will become immediately available to the public. The decision to require reporting under this item will be based on the sensitivity of the data and the Town's desire to inform the public on a real-time basis.

G. Requirement to Survey all Monitoring Locations: Upon installation, the permittee shall, at its own expense, survey all observation wells, monitoring points, stream gauges, private water supplies, spring points, and surface water included in a monitoring network using National Geodetic Vertical Datum (NGVD) of 1929 or North American Vertical Datum of 1988 (NAVD 88), and provide a list of same to the Town CEO. All calculated water elevation data collected by the permittee shall be related to one of these vertical datums. The survey shall meet or exceed a vertical sensitivity of 0.01 foot. Additionally, a resurvey of a well or wells may be requested by the Town, if water level data or if physical evidence at the well indicates that its elevation may have changed since it was surveyed. The cost associated with any requested resurvey shall be borne

by the permittee.

H. Requirement to Groundwater Flow Maps and Flow Netting: The permittee shall be responsible for evaluating the effects pumping impacts on sensitive receptors including surface water features (e.g., wetlands, ponds, lakes, river, streams, and springs), private water supplies, and other commercial extraction operations. The permittee shall provide groundwater flow maps twice yearly, during low and high-water table conditions, showing the source of groundwater providing water to each pumping well/borehole. Special attention shall be paid to the interaction between the water table of the production wells/borehole and any surface water bodies within or affected by their zone(s) of contribution.

I. Requirement to Provide Raw Data: The Permittee on an annual basis or more frequently if requested, shall provide the raw data and database/spreadsheets along with calculations to the Town's Technical Agent.

Article VI: Impact Fees

The purpose of this section is to assure that any large scale water extraction activity subject to this ordinance bears a fair share of the costs of actual or anticipated capital expenditures for necessary or vital public facilities, improvements and infrastructure including, but not limited to, town roads, public easements, or public facilities deriving access from the same, and with respect to town roads and public easements to provide a mechanism for assessing and collecting a reasonable impact fee to ameliorate any overburdening of the capacity of such ways, their premature failure, accelerated need for maintenance or re-surfacing, aging or diminished utility to the public, together with associated safety devices, signage and similar

1. Establishment of Impact Fees

Impact fees for Large Scale Water Extraction requiring review and approval under this ordinance shall be imposed if the ~~Board of Selectmen~~Select Board finds the proposed extraction and activities incidental thereto, specially including transport of extracted water from the extraction site, will result in the need for new, improved or expanded public facilities in order to accommodate the proposed withdrawal and activities incidental thereto, or will result in substantial or extraordinary increases in maintenance, repair, upgrading, or rebuilding or relocating of existing public facilities as a result of the proposed withdrawal and activities incidental thereto

The Board shall engage the services of appropriate technical professionals and consultants to assist it in determining the likely impact on public facilities and the portion of such impact(s) that are attributable to the proposed water extraction and activities incidental thereto.

The professional(s) and/or consultant(s) shall provide the Board with a written estimate of the services to be rendered and the anticipated costs thereof, and a copy shall be provided to the applicant. Those costs shall be deposited with the Town, in advance of the scheduling of any public hearing required under this ordinance as set forth in Article VII above.

2. Payment of Impact Fees

The applicant shall pay to the Town the impact fee(s) as determined under (1) above, prior to the issuance of any permit under this ordinance. The payment so made shall be specifically identified by the Board as to which public facilities, improvements or infrastructure it applies, and be promptly deposited into an appropriate impact fee fund, to be held as a separate account and to be disbursed solely for the purposes set forth herein.

3. Use of Impact Fees

Impact fees shall be used for the purpose of capital improvements, expansion, and substantial and extraordinary increases in maintenance, repair, upgrading rebuilding or relocating of existing public facilities and infrastructure, that are related directly to applicant's proposed water extraction activities, including, but not limited to, the following:

- a. any road systems, traffic devices and signage, for which the town bears responsibility in whole or in part, for the cost of repair, maintenance, upgrading, replacing, rebuilding, improvement or expansion.
- b. parks, recreational facilities and open space;
- c. solid waste disposal, recycling and transfer facilities;
- d. schools;
- e. public libraries;
- f. public safety facilities and equipment including fire, police and rescue;
- g. storm and flood control facilities;
- h. water and sewerage distribution or collection facilities and treatment facilities;
- i. or any other facilities or infrastructure the costs of which can be substantially attributed to the proposed water extraction and activities incidental thereto.

No funds shall be used for normal or routine maintenance as planned and

scheduled based on historical use of such facilities or infrastructure as pre-existed the proposal for extraction or activities incidental thereto.

In the event bonds or similar debt instruments are issued for advanced provision of capital facilities for which impact fees may be expended, impact fees may be used to pay debt service on such bonds or similar instruments.

4. Refund of Impact Fees

If a water extraction permit expires without commencement of actual extraction then the applicant shall be entitled to a refund, without interest, of any unexpended portion of the impact fees paid, provided the applicant submits a written request for such refund to the Board within thirty (30) days of the expiration of the permits this shall not apply to any expenditure of all or part of the impact fees made in good faith in reasonable expectation that extraction and activities incidental thereto would occur.

5. Exemptions

The impact fees referred to herein shall not apply to any water extraction activity not subject to the provisions of this ordinance as set out in Article IV (B) above

6. Review

The impact fees imposed under Section 1 above shall be reviewed, and be subject to modification, by the Board at least once every three (3) years

Article VII Transfer of Ownership

- A. The granting of a permit by the Town is based on, among other considerations, its assessment of the qualifications, experience, management personnel, necessary to carry out the terms of the permit, as well as the permittee's alignment with the Purposes of this Ordinance.
- B. Consequently, there shall be no assignment or transfer of the permit, whether in whole or in part, absent the prior written consent of the Town.
- C. Further, the permittee shall notify the Town in writing prior to or within 10 business days following (a) a merger with or a sale to or acquisition by any corporation or partnership, person, or other entity; or (b) the acquisition by or purchase of more than fifty-one percent (51%) of the controlling interest of the permittee by any corporation, partnership, person, or other entity. In such event, the transferee shall be subject to the provisions of this Ordinance and the approval of the Select Board.

D. Failure to notify the Town within 10 business days of the occurrence of any of the events set forth in paragraph 3 above, shall result in the immediate termination of the permit and operations shall cease without liability or penalty to the Town until such time as the granting of a new permit. Any new owner, lessee, assignee, or operator of the property and/or extraction operation shall be required to reapply as a new applicant. If termination of the permit was to occur under this provision, failure to submit a new permit application within 60 days shall result in the new owner to commence restoration activities.

E. Application Process: The transferee shall submit a transfer of permit application for large-scale extraction within 15 days of the transfer/sale or merger using the appropriate Town form. The application process will be abbreviated to the extent of requiring only one public hearing advertised and scheduled for public comment within 30 days of the Select Board's receipt of the completed, as determined by the Select Board, application form.

a. Transferee shall submit the following with application:

i. Company Profile

ii. Technical Capacity

iii. Company financial capacity.

iv. Company Environmental Health and Safety data for previous two years.

v. Company Certificate of Good Standing in any State and or location of operation.

F. Transfer of Ownership application approval criteria:

1. The Select Board, is satisfied that the transferee has the technical expertise and financial capability to provide continuing adherence to meet the requirements of this Ordinance;

2. The transferee shall satisfy the requirements of all performance guarantees; and the transferor's bond remains in effect for six months after date of sale/transfer.

3. The Transferee shall agree to all the requirements and conditions of the original approved application.

4. The transferee shall have obtained all State required permits.

G. If the transferee is approved, the remaining term of the existing transferor's permit shall transfer to the transferee.

H. If the transferee is not approved by the Select Board, the transferor may continue to operate under their existing permit if they remain in financial control of extraction operations and any sale/transfer of such has been terminated.

I. Between the time a completed transfer of permit application has been submitted and the Select Board issues a decision, a permit is considered active. A final decision by the Select Board must occur within 90 days of receipt of completed application.

Article VIII Performance Guarantee

No approval of a Large-Scale Water Extraction permit shall be made without a Performance Guarantee. Requirements under this section is required for all initial, renewal or transfer of approved permits. The following requirements apply:

- A. Review; Delegation. The performance guarantee must be satisfactory to the Select Board as to scope, amount, form, sufficiency, manner of execution and surety. The Select Board may delegate to the Town Manager the review and acceptance of a performance guarantee in accordance with this section and with the consultation of Town Legal.
- B. Form. The performance guarantee must be in the form of a surety bond payable to the Town of Denmark.
 - a. All required bonds will run concurrent with the duration of the approved permit. If a permit is approved for transfer by the Select Board, the transferee must have a surety bond, approved by the Select Board and issued, prior to the expiration of the transferor's bond.
 - b. The value of this bond will be reviewed by the permittee every five (5) years, or sooner, if during a permit transfer event, to ensure the costs involved in the approved plan are covered. A report documenting the results of this review will be provided to the Town within thirty (30) days of the completed review. If during a review an increase in projected costs is greater than 20% of the existing bond, the permittee must provide a new bond to secure the permittee's obligations under this Ordinance.
- C. Scope; Amount. The performance guarantee must be of an amount sufficient to cover the full cost of:
 - a. All required site improvements.
 - b. Restoration, of all concerned properties to as near as possible to the original state or a state compatible with the surrounding environs.
 - c. Replacement of all currently used residential, commercial or retail ground water extraction wells located within the affected aquifer's zone of influence
 - d. Reclamation of disturbed land, and/or decommissioning of any facilities or improvements associated with the plan.
 - i. For reclamation and decommissioning work, the permit holder must arrange for the costs to be recalculated by an engineer every five years, and the amount of the performance guarantee may be adjusted by the Select Board Board if the calculated cost of reclamation or decommissioning materially changes.

D. Schedule. The performance guarantee must contain:

- a. A schedule and cost estimates for each major phase of required site improvements, reclamation work, or decommissioning work, taking into account inflation;
- b. A basis for estimating costs;
- c. Provision for the release of part or all of the performance guarantee to the permit holder; and
- d. A date after which the permit holder will be in default and the Town must have access to the guaranteed funds to complete required site improvements, reclamation work, or decommissioning work.

E. The Town Select Board may, in its sole discretion, accept another form of security which it deems of equivalent security to a bond.

Article ~~VHIX~~: Independent Expert Assistance

If the reviewing authority reasonably determines it requires independent expert assistance to assist it in its preliminary review of the application, or in evaluating the substance of the application at a public hearing, or in developing appropriate conditions of approval, or with respect of any ongoing monitoring regime, or impact on town infrastructure under Article VI it may engage the services of such expert assistance, to serve as the reviewing authority's own expert. To the extent the projected or estimated cost of such assistance exceeds the existing town appropriation for such assistance, if any, the applicant shall be required to pay to the Town, in advance of the scheduling of any public hearing, a sum equal to said projected or estimated cost, the failure of which payment shall excuse the reviewing authority from scheduling any public hearing until such payment is made in full.

With respect to such costs and expenses anticipated to continue beyond any initial approval of extraction, ~~such as services related to any monitoring regime, or assessment of infrastructure impacts~~, requirements for payment of such shall be inserted in any approval as an ongoing condition of that approval. Such services may include but are not limited to cost associated with review of monitoring reports, monitoring procedures, performance guarantees, and review of domestic well complaints. Establishment of an escrow agreement shall be inserted in an approval as an ongoing condition of that approval.

Article ~~VIII:X~~: Concurrent Jurisdiction

As applicable, and subject to the provisions of Article IV(A) above, jurisdiction of the ~~Board of Selectmen~~Select Board under this ordinance is concurrent with such jurisdiction as may be vested in the Denmark Planning Board and/or the Denmark Board of Appeals (under the Denmark Zoning Ordinance) and the Denmark Code

Enforcement Office/Local Plumbing Inspector (under the Denmark Zoning Ordinance/State Plumbing Code) and is not intended to divest them of existing jurisdiction as applicable, but rather establishes and imposes additional requirements and procedures as set forth herein

Article ~~XXI~~: Enforcement and Severability

This ordinance may be enforced by the municipal officers of the Town of Denmark or at their direction the Denmark Code Enforcement Officer under 30 A MRSA 4452, the fines and penalties set forth therein to apply hereto. Should any section or provisions of this ordinance be declared by a court of competent jurisdiction to be invalid such decision shall not invalidate or affect the enforcement of any other section or provision of this ordinance.

As an additional means of enforcement, the ~~Board of Selectmen~~Select Board may suspend or revoke any permit issued hereunder if it determines, after notice and hearing, that it was issued in error or upon incomplete or false information, or that applicant has failed to comply with any conditions of approval, and upon such suspension or revocation all water extraction addressed by said permit shall cease until a new approval or permit is obtained under this ordinance by the applicant.

Any appeal of any suspension or revocation of a permit shall be ~~to the Board of Appeals, as an administrative appeal under Section 7.8 of the Denmark Zoning Ordinance~~made to the Maine Superior Court.

Article ~~XXII~~: Effective Date

This ordinance and any amendments thereto shall become effective immediately ~~upon adoption~~upon adoption and enactment by vote of the legislative body of the town at a town meeting