A BILL FOR AN ACT

RELATING TO DAMS AND RESERVOIRS.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

SECTION 1. Article XI of the Constitution of the State of Hawaii declares that all natural resources are held in trust by the State for the benefit of the people, and that the State shall promote the development and utilization of those natural resources in a manner consistent with their conservation and in furtherance of the self-sufficiency of the State.

Section 3 of article XI mandates the conservation and protection of agricultural lands, promotion of diversified agriculture, and increased agricultural self-sufficiency. The productivity of agricultural lands, however, depends upon the availability of irrigation or sufficient rainfall or moisture for the production of crops. Irrigated lands can be well adapted to a wide range of diversified crops.

Key to agricultural production in Hawaii and agricultural self-sufficiency is the maintenance and enhancement of the dams and reservoirs that were constructed by former sugarcane and pineapple plantation companies. With the closing of
plantations, the maintenance and operation of these irrigation systems become even more important for the survival and expansion of agriculture in Hawaii.

The purpose of this Act is to establish standards for the permitting, inspection, and maintenance of dams, reservoirs, and their appurtenant structures in a manner that avoids emergencies that create a hazard to life and property. This Act enacts many of the recommendations of the Model Law for State Supervision of Safety of Dams and Reservoirs, and the criteria for legislation required by the national Dam Safety Program Act. Further, this Act, establishes a dam rehabilitation loan program proposed by the Model Law, primarily funded by revenue bonds authorized by the legislature, for the repair and maintenance of dams and reservoirs.

SECTION 2. Chapter 179D, Hawaii Revised Statutes, is amended by adding a new part to be appropriately designated and to read as follows:

"PART . DAM REHABILITATION LOAN PROGRAM

§179D-A Dam rehabilitation loan revolving fund; program establishment and funding. (a) There is established in the
state treasury the dam rehabilitation loan revolving fund, into
which shall be deposited:

(1) Appropriations by the legislature;
(2) Funds from federal sources;
(3) Funds from revenue bonds authorized by acts of the
   legislature or bond anticipation notes issued pursuant
to section 39-70; and
(4) Moneys received as repayment of loans and interest
   payments.

(b) The dam rehabilitation loan program may obtain funds
through partnerships with any private or public, bonding or
loaning agency or organization.

(c) State funding to the dam rehabilitation loan program
shall not be reduced because of federal funds provided for a
rehabilitation loan program.

(d) Moneys collected for the dam rehabilitation loan
program and deposited into the dam rehabilitation loan revolving
fund shall remain in the fund and shall not lapse to the credit
of the general fund.

§179D-B Allowable loans. (a) The board may grant loans
from the dam rehabilitation loan revolving fund to dam owners:
(1) To defray the costs of repairing dams or removal of a dam that the board determines to be dangerous to the safety of persons and property but that are not in an emergency condition; and

(2) To reimburse the board for emergency actions taken by the department under section 179D-24.

(b) Loans shall be granted on the terms and conditions as may be imposed by the board. The following provisions shall apply:

(1) The board may take any administrative or legal action necessary for the administration of the dam rehabilitation loan program;

(2) If the balance of the dam safety special fund exceeds $1,000,000, no single loan shall be made for more than twenty per cent of the moneys available in the fund. No loan shall be made to any dam owner that, at the time of the loan application, has more than twenty per cent of the outstanding loans of the fund;

(3) The loans granted by the board shall be for a term of not more than twenty years; and the loans shall bear
interest at rates established by the board by rule;

and

(4) Each loan shall be evidenced by a contract between the
dam owner and the board, acting on behalf of the
State. The contract shall provide for the loan of a
stated amount to defray partial or total costs of
repairing the dam. The contract shall provide for
equal annual payments of principal and interest for
the term of the loan.

§179D-C Eligibility. (a) Rehabilitation projects that
are in compliance with applicable laws and rules and are
permitted, accepted, and approved by the board shall be eligible
for funding through the dam rehabilitation loan program.

(b) Any costs directly related to rehabilitating safety
deficiencies of a dam shall be eligible for funding through the
dam rehabilitation loan program.

(c) Fees for analysis, feasibility work, alternative
evaluation, and engineering design shall only be eligible for
funding retroactively, after construction has been initiated or
at the point that analysis has shown a dam to be in compliance.
(d) Up to one hundred per cent of rehabilitation costs for a dam may be loaned.

(e) Dam owners may use multiple programs or sources to fund the rehabilitation costs for a dam, up to one hundred per cent of rehabilitation costs.

§179D-D Security interests. (a) The board may take a security interest, if necessary, in any property owned by the dam owner in exchange for the loan. If the board chooses to take a security interest, the board shall take the necessary actions to perfect the security interest.

(b) The attorney general or the board's legal counsel, with the consent of the board, may commence any actions necessary to enforce the contract and achieve repayment of loans provided by the board.

§179D-E Participation in loans by the department. (a) The board may provide funds for a share, not to exceed ninety per cent, of the principal amount of a loan made to a qualified owner by a private lender who is otherwise unable to lend the applicant sufficient funds at reasonable rates.

(b) Interest charged on the private lender's share of the loan shall be not more than the sum of two per cent above the
lowest rate of interest charged by all state or national banks
authorized to accept or hold deposits in the State on unsecured
short-term loans made to borrowers who have the highest credit
rating with those banks.

(c) When a participating loan has been approved by the
board, its share may be paid to the participating private lender
for disbursement to the borrower.

(d) Out of interest collected, the private lender may be
paid a service fee to be determined by the board, which fee
shall not exceed one per cent of the unpaid principal balance of
the loan; provided that this fee shall not be added to any
amount that the borrower is obligated to pay; and provided
further that the private lender services the loan.

(e) The participating private lender may take over a
larger percentage or the full principal balance of the loan at
any time that it has determined, to the satisfaction of the
board, that the borrower is able to pay any increased interest
charges that result.

(f) The private lender may take a security interest in any
property owned by the dam owner in exchange for the loan. All
collateral documents shall be held by the private lender.
Division of interest in collateral received shall be in proportion to participation by the board and the private lender."

SECTION 3. Chapter 179D, Hawaii Revised Statutes, is amended by adding six new sections to part II to be appropriately designated and to read as follows:

"§179D-F Emergency action plan. (a) The owners of dams and reservoirs shall have the primary responsibility for determining when an emergency involving the dam or reservoir exists and implementing an emergency action plan for the dam or reservoir. The owners of high hazard potential and significant hazard potential dams shall develop, update, and periodically test an emergency action plan that can be implemented in the event of an emergency involving the owner's dam.

(b) The emergency action plan shall include:

(1) A notification list of persons who may be endangered if the dam should fail, emergency management organizations, and proper state or county agencies;

(2) Inundation maps or other acceptable description of the inundated areas, as determined by the department; and
(3) Responsibilities of the owner, emergency management organizations, and state or county agencies to safeguard life, health, and property.

(c) The department shall review and approve the emergency action plans developed by the owners.

§179D-G Permits required. (a) No person shall:

(1) Construct a new dam; or

(2) Reconstruct, enlarge, modify or alter, repair, remove, or abandon an existing dam; without first obtaining a permit from the board. The application for a permit shall be filed upon forms provided by the board.

(b) The application for a permit to construct a new dam or enlarge an existing dam shall include:

(1) The plans and specifications for the dam, reservoir, and appurtenant works signed by the design engineer including:

(A) The type and size of the proposed dam and reservoir;

(B) The purpose of the proposed dam and reservoir;
(C) The reservoir storage capacity and surface area for normal pool and maximum storage elevation;

and

(D) The area of the drainage basin, rainfall and streamflow records, flood-flow records, and estimates;

(2) The name and address of the owner;

(3) The location of the proposed dam;

(4) The hazard potential identification;

(5) A maintenance plan;

(6) An emergency action plan; and

(7) Evidence of financial responsibility.

c) The application for a permit to reconstruct, enlarge, modify or alter, or repair an existing dam, shall include:

(1) The construction plans and specifications for the dam, reservoir, and appurtenant works signed by the design engineer, including any changes to:

(A) The type and size of the proposed dam and reservoir;

(B) The purpose of the proposed dam and reservoir;
(C) The reservoir storage capacity and surface area for normal pool and maximum storage elevation; and

(D) The area of the drainage basin, rainfall and streamflow records, flood-flow records, and estimates;

(2) The name and address of the owner of the dam;

(3) The location of the proposed dam;

(4) The current hazard potential classification of the dam and any change in classification that may change as a result of the proposed construction;

(5) Any changes in the maintenance plan as a result of the proposed construction;

(6) Any changes in the emergency action plan as a result of the proposed construction; and

(7) Evidence of financial responsibility.

(d) The application for a permit to remove or abandon an existing dam shall include plans and specifications prepared by an engineer for:

(1) Dewatering;

(2) Method of breaching;
(3) Means of controlling erosion at the site during and after the breach;

(4) Means to control sediment transport from the reservoir;

(5) Time schedule and sequence of construction; and

(6) Evaluating and remapping of downstream flood areas, if necessary.

(e) Minor repairs or maintenance work included in a maintenance plan approved by the board shall not require a permit.

§179D-H Permits; approval. (a) Upon receipt of an application for a permit, the board shall cause a notice thereof to be published in a newspaper having general circulation within the affected area. The notice shall be published at least once per week for two consecutive weeks. The notice shall state that written objections to the proposed permit may be filed with the board by a specified date. The board shall establish by rules the time limits within which objections must be filed.

(b) The board, after a hearing and the resolution of objections, shall issue a permit for the construction of a new dam or the reconstruction, enlargement, modification or
alteration, repair, removal, or abandonment of an existing dam.  

If the application for a permit is not consistent with the requirements of section 179D-G, the board shall deny the application and notify the owner of the reasons for the denial.  

§179D-I  Inspection of construction and repair.  (a) The department's engineer or a consulting engineer selected by the department shall periodically inspect the construction of a new dam or the reconstruction, enlargement, modification or alteration, or repair of an existing dam and obtain certification in writing by the design engineer that the construction or repair is in conformity with the approved plans and specifications.  

(b) If the department finds that modifications or changes are necessary to ensure the safety of the dam, the department shall order the owner to revise the plans and specifications.  

If the department finds that the work is not being done according to the approved plans and specifications, it shall deliver written notice of noncompliance to the owner:  

(1) Stating the parts of the approved plans and specifications with which the owner has not complied;  

and
(2) Ordering that no further work be done until compliance with the plans and specifications have been carried out and approved by the department.

§179D-J Inspection of dams. (a) Periodic inspections of dams shall be conducted by a consulting engineer approved by the department, and hired and paid for by the owner, who shall:

(1) Review all documents and records relating to the dam and its appurtenances, including the emergency action plan;

(2) Perform the necessary assessments of the condition of the dam, including the need for hydrologic, hydraulic, stability, and structural calculations to provide an accurate assessment of the condition of the dam;

(3) Determine if additional development has occurred within the downstream reach of the dam that may change the hazard classification of the dam or require amendment of the emergency action plan;

(4) Visually inspect the embankment, spillway, outlet, conduits, appurtenant structures, and reservoir conditions at the time of the inspection; and
(5) Prepare a report of findings, recommendations, and proposed actions to be filed with the department and provided to the dam owners. The report shall be submitted on a standard inspection report provided by the department.

(b) Inspections of dams shall be carried out at the following intervals:

(1) For dams classified as high hazard potential, annually;

(2) For dams classified as significant hazard potential, every two years; and

(3) For dams classified as low hazard potential, every five years.

(c) The department shall perform inspections during the construction or repair of a dam to verify that the construction or repair is proceeding according to the approved plans and specifications. The department shall require that the design engineer certify in writing that the construction or repair of the dam had been performed according to the approved plans and specifications as of the date of inspection.
§179D-J Owner responsibilities. (a) The owner shall be responsible for the inspection required by section 179D-J and shall:

(1) Provide for on-going surveillance of the dam;

(2) Train personnel in the basics of visual dam inspection techniques;

(3) Measure and record data based on requirements established by the board;

(4) Promptly notify the department of any unusual observations;

(5) Inspect the dam after any unusual event, including but not limited to a significant storm or runoff or earthquake, to determine if structural or operational problems exist;

(6) Maintain records for the dam required by the board, including but not limited to construction plans and documents, engineering studies, inspection reports, monitoring records, and the emergency action plan; and

(7) Submit an annual statement indicating that the dam is being maintained according to the approved maintenance
plan and that the emergency action plan has been
updated as necessary.

(b) The owner shall report information required by
subsection (a) to the department on forms developed by the
board."

SECTION 4. Section 179D-3, Hawaii Revised Statutes, is
amended to read as follows:

"§179D-3 Definitions. The following terms, whenever used
and referred to in this chapter, shall have the following
meanings, unless a different meaning clearly appears in the
context:

"Abandonment" means to render a dam non-impounding by
dewatering and filling the reservoir created by that dam with
solid materials and by diverting the natural drainway around the
site.

"Adverse consequences" means negative impacts that may
occur upstream, downstream, or at locations remote from the dam.
The primary concerns are loss of human life, economic loss,
including property damage, disruption of public utilities, and
environmental impact.
"Alterations" or "repairs" means only alterations or repairs to existing dams and appurtenant works that affect the safety of the dam or reservoir, as determined by the board.

"Application approval" means authorization in writing issued by the board to an owner who has applied to the board for permission to construct, reconstruct, enlarge, repair, alter, remove, maintain, operate, or abandon a dam or reservoir and that specifies the conditions or limitations under which work is to be performed by the owner or under which approval is granted.

"Appurtenant works" or "appurtenance" means any structure, including but not limited to spillways in the dam or separate therefrom, the reservoir and its rim, low level outlet works, and water conduits, including but not limited to tunnels, pipelines, or penstocks, through the dam or its abutment.

"Board" means the board of land and natural resources.

"Breach" means partial removal of a dam, creating a channel through the dam to the original stream bottom elevation.

"Certificate of approval to impound" means authorization in writing issued by the board to an owner of an existing dam or
reservoir, or an owner who has completed construction, reconstruction, enlargement, repair, or alteration of a dam or reservoir, that specifies the conditions or limitations under which the dam or reservoir is to be maintained and operated.

"Dam" means any artificial barrier, including appurtenant works that impounds or diverts water and that:

1. Is twenty-five feet or more in height from the natural bed of the stream or watercourse measured at the downstream toe of the barrier, or from the lowest elevation of the outside limit of the barrier if it is not across a stream channel or watercourse to a maximum water storage elevation;

2. Has an impounding capacity at maximum water storage elevation of fifty acre-feet or more. This chapter shall not apply to any artificial barrier that is less than six feet in height regardless of storage capacity or that has a storage capacity at maximum water storage elevation less than fifteen acre-feet regardless of height; or

3. Meets additional criteria or is specifically exempt as determined pursuant to rules adopted by the board.
"Department" means the department of land and natural resources.

"Emergency" includes but is not limited to breaches and all conditions leading to or causing a breach, overtopping, or any other condition in a dam or reservoir and its appurtenant works that may be construed as unsafe or threatening to life and property.

"Emergency action plan" means a plan that:

1. Identifies the area that would likely be inundated by the failure of a dam;
2. Identifies the actions that should be taken in the event of a failure or threatening condition at the dam; and
3. Is implemented in conjunction with the proper state or county agencies.

"Engineer" means a licensed professional engineer who:

1. Has a background in civil engineering;
2. Is competent in areas related to dam investigation, design, construction, and operation for the type of dam being investigated, designed, constructed,
reconstructed, enlarged, repaired, altered, breached, removed, or abandoned; and

(3) Understands adverse dam incidents, failures, and the potential causes and consequences of failures.

"Enlargement" means any change in or addition to an existing dam or reservoir that raises or may raise the water storage elevation of the water impounded by the dam or reservoir.

"Hazard potential" means the possible adverse incremental consequences that result from the release of water or stored contents due to the failure of the dam or reservoir or the misoperation of the dam, reservoir, or appurtenances. The hazard potential classification of a dam or reservoir shall not reflect in any way on the current condition of the dam or reservoir and its appurtenant works, including the dam's or reservoir's safety, structural integrity, or flood routing capacity.

"High hazard potential" means a dam's or reservoir's downstream hazard classification assigned to a dam in which the dam's failure or misoperation will likely cause loss of human life.
"Low hazard" means a dam's or reservoir's downstream hazard classification assigned to a dam in which the dam's failure or misoperation will result in no probable loss of human life and low economic loss or environmental loss, or both. Economic losses are principally limited to the owner's property.

"Operator" means any person who controls, manages, maintains, or supervises the condition and functions of a dam or reservoir.

"Owner" means any person who has a right, title, or interest in or to the dam or reservoir or to the property upon which the dam, reservoir, or appurtenant works is located or proposed to be located.

"Person" means any natural person, partnership, firm, association, organization, corporation, county, county authority, trust, receiver or trustee, limited liability company, limited liability partnership, or company, or any state department, agency, or political subdivision, or any other commercial or legal entity. Whenever used in a section prescribing and imposing a penalty or sanction, the term "person" includes the members of an association or organization,
and the officers of a corporation, company, county, or county
authority.

"Physical clear access" means a roadway or path that allows
timely access for inspection to a dam, reservoir, and its
appurtenant works. If by a roadway, the roadway shall be
maintained in an accessible condition by a four-wheel drive
vehicle even during inclement weather conditions.

"Probable" means more likely than not to occur; reasonably
expected; realistic.

"Reconstruction" means the removal and replacement of an
existing dam, or a portion thereof.

"Removal" means complete or partial elimination of the dam
or reservoir embankment or structure to restore the approximate
original topographic contours of the valley.

"Reservoir" means any basin that contains or will contain
water impounded by a dam, including appurtenant works.

"Significant hazard potential" means a dam's or reservoir's
downstream hazard classification assigned to a dam in which the
dam's failure or misoperation will result in no probable loss of
human life but can cause major economic loss, environmental
damage, disruption of lifeline facilities, or impact other
concerns. Significant hazard potential classification dams or reservoirs are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

"Water storage elevation" means the maximum elevation of water surface that can be obtained by the dam or reservoir."

SECTION 5. Section 179D-8, Hawaii Revised Statutes, is amended by amending subsections (a) and (b) to read as follows:

"(a) Except as otherwise provided by law, the board may set, charge, and collect administrative penalties and recover administrative fees and costs, including attorney's fees and costs, or bring legal action to recover administrative penalties, fees, and costs, including attorney's fees and costs, or payment for damages or for the cost to correct damages resulting from a violation of this chapter or any rule, order, or condition adopted, issued, or required under this chapter. The administrative penalty shall not exceed [$25,000 per day of a] $10,000 per violation, and each day during which the violation continues shall constitute an additional, separate, and distinct violation. The board shall effectuate rules,
procedures, and fee schedules to carry out the purposes of this
section.

(b) Any person who negligently or after written notice to
comply, violates this chapter or any rule, order, or condition
adopted, issued, or required under this chapter, or knowingly
obstructs, hinders, or prevents the department's agents or
employees from performing duties under this chapter, shall be
guilty of a class C felony, and upon conviction thereof, shall
be punished as follows:

(1) For a first conviction, by a mandatory fine of not
less than $2,500 but not more than [$25,000 per day of
violation, $10,000 upon conviction, imprisonment, or
both; and

(2) For a second or subsequent conviction, by a mandatory
fine of not less than $5,000 but not more than
[$50,000 per day of violation, $10,000 upon
conviction, imprisonment, or both."

SECTION 6. Section 179D-21, Hawaii Revised Statutes, is
amended to read as follows:

"[§]§179D-21[§] Certificate of approval to impound. (a)

No owner of a dam or reservoir shall impound water without a
valid certificate of approval to impound water at the dam or reservoir.

(b) An owner shall submit an application to the board for a certificate of approval to impound water upon completion of the construction of a new dam or reconstruction, enlargement, modification, or alteration of an existing dam. The application shall include:

(1) A request for the final construction inspection;

(2) The design engineer's certification of compliance with the approved plans and specifications;

(3) The as-built plans; and

(4) A filling and monitoring schedule prepared by the design engineer.

(c) Upon review of the application material and a finding by the board, after final inspection, that the dam and reservoir area is safe to impound water, a certificate of approval to impound and authorization to fill shall be issued by the board.

(d) The department may revoke or amend a certificate of approval to impound when it determines that the dam or reservoir constitutes a danger to life and property, and shall recommend
actions that must be taken by the owner to alleviate the hazard
associated with the dam."

SECTION 7. Section 179D-24, Hawaii Revised Statutes, is
amended by amending subsections (a) and (b) to read as follows:
"(a) If, in the opinion of the department, the owner is
not taking the necessary actions and the conditions of any dam
or reservoir are so dangerous to the health and safety of life
or property as to not permit time for issuance and enforcement
of an order relative to construction, modification, maintenance,
or repair of the dam or reservoir, or the dam or reservoir is
threatened by any large flood or other natural disaster, the
department may immediately employ remedial measures necessary to
protect life and property.

(b) The department shall [provide coordination and
assistance to] coordinate and assist the proper state or county
agency or agencies to maintain control of any dam or reservoir
that, pursuant to subsection (a), has been determined to be
dangerous to life or property until the dam or reservoir is
deemed safe, or until any emergency conditions that precipitated
taking control of the dam or reservoir, pursuant to subsection
(a), have been abated. [The department may determine the proper
The department may use any of the resources at its disposal to:

(1) Take full charge and control of any dam or reservoir;

(2) Lower the water level by releasing water from the reservoir;

(3) Completely drain the reservoir;

(4) Perform any necessary remedial or protective work at the site; or

(5) Take any other steps as may be necessary to safeguard life and property.

The department shall be in charge and full control of the dam and reservoir until they are rendered safe or until the emergency conditions have ceased and the owner is able to take control of operations. The department's assumption of control over the dam shall not constitute a taking and the department shall not be liable for any diminution in value that may be caused by the department's work."

SECTION 8. Pursuant to part III, chapter 39, Hawaii Revised Statutes, the department of budget and finance is authorized to issue revenue bonds in the total amount not to exceed $ , in one or more series, which shall be deposited
into the dam rehabilitation loan revolving fund for the
establishment and administration of the dam rehabilitation loan
program pursuant to section 2 of this Act.

SECTION 9. If any provision of this Act, or the
application thereof to any person or circumstance, is held
invalid, the invalidity does not affect other provisions or
applications of the Act that can be given effect without the
invalid provision or application, and to this end the provisions
of this Act are severable.

SECTION 10. In codifying the new sections added by
sections 2 and 3 of this Act, the revisor of statutes shall
substitute appropriate section numbers for the letters used in
designating the new sections in this Act.

SECTION 11. Statutory material to be repealed is bracketed
and stricken. New statutory material is underscored.

SECTION 12. This Act shall take effect on July 1, 2019.

INTRODUCED BY:  

JAN 2 4 2019
**Report Title:**
Dams; Reservoirs; Permits; Inspections; Dam Rehabilitation Loan Revolving Fund; Dam Rehabilitation Loan Program; Revenue Bonds

**Description:**
Establishes standards for the permitting, inspection, and maintenance of dams, reservoirs, and their appurtenant structures. Establishes the dam rehabilitation loan revolving fund and loan program. Authorizes the issuance of revenue bonds to fund the dam rehabilitation loan program.

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