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Testimony in Opposition of
HB 1385
House Energy and Natural Resources
January 31, 2025

TESTIMONY OF
Aaron Carranza, Division Director, Regulatory Division

Chairman Porter, and members of the House Energy and Natural Resources Committee, I am Aaron Carranza the Regulatory Division Director of the Department of Water Resources. I'm here today to provide testimony in opposition of HB 1385.

House Bill 1385 seeks to provide deadlines for regulatory actions of the Department of Water Resources (Department) in the regulatory authorities of the review and issuance of construction permits (Section 1 of the bill), construction complaint appeals (Section 2 of the bill), drainage permits (Section 3 of the bill), and drainage complaint appeals (Section 4 of the bill).

The Department is generally supportive of Sections 2, 3 and 4 of the bill.

Regarding drainage permit application reviews (Section 3), the Department's average processing time on making a decision of statewide or interdistrict significant is already meeting the proposed time limitation. The Department fully supports and is committed to continuing to find efficiencies in the review process, as can be seen by the implementation of the Department's guidance on such reviews (REG-2020-3, enclosed).

The Department also recognizes the potential impacts a delayed administrative response on an appeal (Sections 2 and 4) can cause on a water resource board's obligation to soundly manage water resources within their district. To that end, the Department is currently in the final stages of the development of guidelines to aid both water resource boards and the Department in the efficient and consistent review of drainage complaints and appeals. The Department's intent is to develop the same for construction complaints and appeals afterwards.

The Department has a concern and proposed solution for Section 1 of the bill.

The Department appreciates the bill's organization of the construction permit code (Section 1). We feel a more detailed discussion of Section 1, subsection 4 is warranted. The current wording of the bill on page 2, lines 17 through 22, indicates that any denied permit applications (such as those deemed unsafe or improper) would become automatically approved with no conditions on day 121 of the permitting process.

Construction permits are one of the most critical public safety reviews the Regulatory Division undertakes. Improper or incomplete review of the design, modeling, or mitigation of dams or

dikes could lead to consequences from violations of private property rights to placing infrastructure and the public directly in harm's way. The current language inserts the potential for "improper or unsafe" dams or dikes to be "approved with no conditions" merely through the passage of time.

The Department strongly suggests the following changes be made to Section 1, page 2, lines 17 – 22 to remove these potential consequences, as shown below. These changes will enable the Department to continue to hold paramount life and public safety while working with applicants to find workable solutions on any application.

4. The department shall make the final decision on the application ~~and~~within one hundred twenty days after the department receives a completed application. For the purposes of this section, the review period is suspended while technical review question responses are prepared by the applicant. The department shall forward that decision to the applicant and the local water resource board. If the department fails to approve or deny the permit application within that period, the permit is denied~~approved with no conditions~~. The department may issue temporary permits for dikes, dams, or other devices in cases of an emergency.

Like the drainage permit review process, the Department fully supports and is committed to continuing to find efficiencies in the construction permit review process. The Department's guidance on addressing property rights implications for mitigation of proposed works (REG-2020-1, enclosed) as well as the Department's comprehensive update to the Dam Safety Standards (REG_05.2024a, available here) are examples of how the Department is forward-facing processes to aid in consistent and streamlined permit application reviews.

The Department is committed to continuing to work with project sponsors and advocates, like the Water Resource District Association and Legislature, to find areas to improve consistency and shorten the Department review timelines. The Department's mission to responsibly manage North Dakota's water needs and risks for the people's benefit will continue to guide our engagement.

Thank you for the opportunity to testify, and I'm happy to answer any questions.

POLICY/GUIDELINES

REG-2020-3

STATEWIDE OR INTERDISTRICT SIGNIFICANCE DETERMINATIONS

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Garland Erbele, P.E., **State Engineer**

REG-2020-3

STATEWIDE OR INTERDISTRICT SIGNIFICANCE DETERMINATIONS

EFFECTIVE: 03/13/2020 POLICY VERSION 1

POLICY OUTLINE

1. POLICY STATEMENT

N.D. Century Code (N.D.C.C.) section 61-32-03 and N.D. Administrative Code (N.D.A.C.) chapter 89-02-01 require the State Engineer to determine whether an application for drainage meets "drainage of statewide significance," such that a more thorough permitting process, commonly referred to as the "Statewide Process," is followed for the application. While the State Engineer is guided by statewide criteria in N.D.A.C. chapter 89-02-01, there are common projects or scenarios where the application will or will not undoubtedly be determined as proposing drainage of statewide or interdistrict significance.

This policy satisfies the State Engineer's requirement to consider the criteria in N.D.A.C. section 89-02-01-09, as well as provides an initial review of the evaluation factors in N.D.A.C. section 89-02-01-09.2. Specifically, this policy identifies the applications the State Engineer deems to be drainage of statewide or interdistrict significance under N.D.C.C. section 61-32-03 and N.D.A.C. chapter 89-02-01. Additionally, this policy aims to provide an avenue for certain types of drainage applications to be determined "not drainage of statewide or interdistrict significance."

This policy harnesses the State Engineer's mission, which is "managing the water resources of the state for the benefit of its people" by following specific agency goals to "regulate and manage water resources for the future welfare and prosperity of the people of North Dakota."

1.1. POLICY AUTHORITY AND IMPLEMENTATION

This policy garners authority from N.D.C.C. section 61-32-03 and N.D.A.C. chapter 89-02-01 and will be implemented through drainage permit application and permit requirements.

1.2. STATE ENGINEER ACCEPTANCE OR ENFORCEMENT

The State Engineer reserves the right to change this policy as necessary to ensure the State Engineer fulfills its statutory duties. Additionally, the State Engineer reserves the right to return any application submittal as required or allowed under this policy to the applicant for correction if, in the State Engineer's determination, it does not comply with the policy's intent or is insufficient for the State Engineer to make an informed decision. The State Engineer reserves the right to enforce this policy as part of the drainage permit process outlined in N.D.C.C. section 61-32-03 and N.D.A.C. chapter 89-02-01.

1.3. APPEALS

Any decision of the State Engineer may be appealed under N.D.C.C. section 61-03-22.

1.4. POLICY DEVIATIONS

Policy deviations may be considered by the State Engineer if the applicant can justify why requirements of this policy are not necessary. However, such a deviation will not be granted without significant engineering or legal justification. Additionally, a deviation request does not guarantee that a deviation will be granted, and any work

performed to pursue a deviation request will be solely at the applicant's expense. Unforeseen scenarios encountered during policy implementation may require policy changes.

2. PRE-APPLICATION CONSULTATION

The State Engineer strongly encourages pre-application consultation prior to a drainage permit application submittal. Early consultation, whether conference calls, meetings, or correspondence between the applicant, the applicant's representatives, and the State Engineer, will ensure early understanding and compliance with this policy to limit any unexpected project costs, delays, or requirements.

3. GENERAL POLICY REQUIREMENTS

For the purposes of N.D.C.C. section 61-32-03 and N.D.A.C. chapter 89-02-01, the following process applies:

3.1. STATEWIDE OR INTERDISTRICT SIGNIFICANCE DETERMINATIONS. In determining whether the proposed drainage under an application is "drainage of statewide or interdistrict significance," the State Engineer must consider the criteria in N.D.A.C. section 89-02-01-09 (Criteria). Upon an initial, comprehensive review of criteria, the State Engineer must make a determination to classify an application as proposing or not proposing drainage of statewide or interdistrict significance. As a matter of practice, the State Engineer also uses the evaluation factors in N.D.A.C. section 89-02-01-09.2 (Factors) to further inform the State Engineer's statewide or interdistrict significance determination.

3.1.1. APPLICATIONS THAT WILL BE DRAINAGE OF STATEWIDE OR INTERDISTRICT SIGNIFICANCE. Based upon review of Criteria and Factors, the following applications, unless a unique or complex situation exists, WILL be considered drainage of statewide or interdistrict significance:

3.1.1.1. Drainage of a navigable watercourse or waterbody.

3.1.1.2. Drainage from a lake.

3.1.1.3. Drainage that results in an inter-basin transfer (HUC8 or larger).

3.1.1.4. Drainage that may have a substantial effect on a watercourse or lake with known flooding issues.

3.1.1.5. Drainage that will have an unmitigated effect on another district.

3.1.1.6. Drainage that has the potential to negatively affect vital public infrastructure, such as existing dikes; medium or high hazard dams; or other flood control or protection systems.

3.1.1.7. The State Engineer classifies applications for specific types of water management issues or regions of the state as drainage of statewide significance. Currently, those applications include, until further notice:

3.1.1.7.1. Drainage within the Devils Lake Basin.

3.1.2. APPLICATIONS THAT WILL NOT BE DRAINAGE OF STATEWIDE OR INTERDISTRICT SIGNFICANCE. Based upon review of Criteria and Factors and notwithstanding the requirements of section 3.1.1 or 3.1.3, the following

applications, unless a unique or complex situation exists, WILL NOT be considered drainage of statewide or interdistrict significance:

3.1.2.1. Smaller drainage projects that drain sheetwater only, including:

3.1.2.1.1. Deepening or widening of existing drains

3.1.2.1.2. Small drains that are within a square mile and are not part of a phased drainage project

3.1.3. APPLICATIONS THAT MAY BE DRAINAGE OF STATEWIDE OR INTERDISTRICT SIGNFICANCE. Based upon review of Criteria and Factors and notwithstanding the requirements of section 3.1.1 or 3.1.2, the following applications, unless a unique or complex situation exists, MAY be considered drainage of statewide or interdistrict significance:

3.1.3.1. New drainage beyond the scope of section 3.1.2.1, including assessment and private drains, that may have a negative effect on a watercourse, pond, slough, or any series thereof with known flooding issues

3.1.3.2. Drainage of a watercourse.

3.1.3.3. Drainage of a slough, pond, or any series thereof.

3.1.3.4. Drainage that results in an inter-basin transfer (HUC12 or HUC 10).

3.1.3.5. Projects with known, special considerations for other state agencies, such as:

3.1.3.5.1. Drainage with the potential of negatively affecting the water quality of the Sheyenne River.

3.1.3.5.2. Drainage with the potential to spread known aquatic nuisance species populations, as identified by the State Game and Fish Department.

3.1.3.6. Drainage that will have an effect on another district, albeit mitigated in some fashion.

3.1.3.7. Drainage affecting public infrastructure, such as roads, highways, or stream crossings.

3.1.3.8. If it is not readily apparent that an application is drainage of statewide or interdistrict significance, the State Engineer will solicit comments from the following entities to help inform the State Engineer's statewide or interdistrict significance determination:

3.1.3.8.1. Comments must be requested from the following entities unless otherwise noted:

3.1.3.8.1.1. The district(s) of jurisdiction;

3.1.3.8.1.2. The Water Development and Planning Divisions of the State Water Commission;

3.1.3.8.1.3. Any district that may be affected by the project;

3.1.3.8.1.4. The State Game and Fish Department;

3.1.3.8.1.5. The State Department of Environmental Quality;

3.1.3.8.1.6. The Department of Transportation, if applicable;

3.1.3.8.1.7. The State Historical Society, if applicable;

3.1.3.8.1.8. The State Department of Trust Lands, if applicable;

3.1.3.8.1.9. The State Parks and Recreation Department, if applicable; and

3.1.3.8.1.10. Other agencies or political subdivisions as appropriate.

3.1.3.8.2. Each entity must submit all comments in writing to the State Engineer. The State Engineer or district is not bound by any comment submitted. The State Engineer must receive comments within thirty days of the date requests for comments were sent.

3.1.3.9. Upon completion of the comment period, the State Engineer must conduct a review of the application and the comments submitted and determine if the application meets drainage of statewide or interdistrict significance.

3.1.3.10. The State Engineer must send notice and a copy of the State Engineer's statewide or interdistrict significance determination and rationale on the application to the district, the applicant, all entities listed in section 3.1.3.8.1., and anyone who has requested in writing to be notified.

3.1.3.11. As part of the State Engineer’s notice, the State Engineer will attach conditions to a draft permit, as described in N.D.A.C. section 89-02-01-09.11. The State Engineer’s conditions may address any comments received, which in the State Engineer’s judgement, will otherwise mitigate the necessity, benefit, or purpose for classifying the application as drainage of statewide or interdistrict significance. In that scenario, upon the State Engineer’s notice, the district must follow the procedure outlined in N.D.A.C. section 89-02-01-09.1(2). If the district approves the application, the district’s approval must be noted on the draft permit document provided by the State Engineer and must include any draft State Engineer conditions in its approval. By signing the draft permit document, the district agrees to enforce the draft permit conditions therein.

3.1.3.12. If the application is deemed to be drainage of statewide or interdistrict significance, the district and State Engineer must follow the process in N.D.A.C. 89-02-01-09.1(1).

4. DEFINITIONS

4.1. “Drain” is defined in N.D.A.C. section 89-02-01-02(4) and otherwise in State Engineer policy.

4.2. “Lake” is defined in N.D.A.C. section 89-02-01-02(6) and otherwise in State Engineer policy.

4.3. “Pond” is defined in N.D.A.C. section 89-02-01-02(10) and otherwise in State Engineer policy.

4.4. "Slough" is defined in N.D.A.C. section 89-02-01-02(13) and otherwise in State Engineer policy.

4.5. "Watercourse" is defined in N.D.A.C. section 89-02-01-02(15) and otherwise in State Engineer policy.

5. POLICY ADDENDUMS

State Engineer Technical Memo – dated March 13, 2020

No Policy Revisions available

POLICY/GUIDELINES

REG-2020-1

CONSTRUCTION PERMIT WATER MANAGEMENT

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John Paczkowski, P.E., **Interim State Engineer**

REG-2020-1

CONSTRUCTION PERMIT WATER MANAGEMENT

EFFECTIVE: 10/27/2020 POLICY VERSION 1

POLICY OUTLINE

1. POLICY STATEMENT

This policy clarifies the State Engineer's philosophy regarding water management regulation in North Dakota, as specified for the purposes of obtaining a construction permit under N.D. Century Code (N.D.C.C.) section 61-16.1-38 and N.D. Administrative Code (N.D.A.C.) article 89-08. This policy clarifies accepted methodologies for water management considerations in order to successfully obtain a construction permit, while also allowing the applicant and the State Engineer flexibility to work out creative solutions to complex water management issues or considerations. Specifically, this policy addresses effects to land from the construction or modification of a dam, dike, or other device. This policy specifies identification, mitigation, and notification requirements for these effects.

This policy harnesses the State Engineer's mission, which is "managing the water resources of the state for the benefit of its people" by following specific agency goals to "regulate and manage water resources for the future welfare and prosperity of the people of North Dakota."

1.1. POLICY AUTHORITY AND IMPLEMENTATION

This policy garners authority from N.D.C.C. section 61-16.1-38 and N.D.A.C. article 89-08 and will be implemented through construction permit application and permit requirements.

1.2. STATE ENGINEER ACCEPTANCE OR ENFORCEMENT

The State Engineer reserves the right to change this policy as necessary to ensure the State Engineer fulfills its statutory duties. Additionally, the State Engineer reserves the right to return any application submittal under this policy to the applicant for correction if, in the State Engineer's determination, it does not comply with the policy's intent or is insufficient for the State Engineer to make an informed decision. The State Engineer reserves the right to enforce this policy as part of the construction permit process outlined in N.D.C.C. section 61-16.1-38 and N.D.A.C. article 89-08.

1.3. APPEALS

State Engineer decisions may be appealed under N.D.C.C. section 61-03-22.

1.4. POLICY DEVIATIONS

The State Engineer may consider policy deviations if the applicant can justify why this policy's requirements are not necessary. However, such a deviation will not be granted without significant engineering or legal justification. Additionally, a deviation request does not guarantee that a deviation will be granted, and any work performed to pursue a deviation request will be solely at the applicant's expense. Unforeseen scenarios encountered during policy implementation may require policy changes.

2. PRE-APPLICATION CONSULTATION

The State Engineer strongly encourages pre-application consultation prior to a construction permit application submittal. Early consultation, whether conference calls, meetings, or correspondence between the applicant, the applicant's representatives, and the State

Engineer, will ensure early understanding and compliance with this policy to limit any unexpected project costs, delays, or requirements.

3. GENERAL POLICY REQUIREMENTS

For the purposes of N.D.C.C. section 61-16.1-38 and N.D.A.C. article 89-08, the following applies:

3.1. For water control structure projects, such as dikes, levees, floodwalls, or other similar devices, the policy requires the following:

3.1.1. Mandatory notification to affected landowners and public easement holders of effects of 0.1 feet or more up to the 1% annual exceedance probability, and

3.1.2. Mandatory mitigation to affected landowners of effects of 0.5 feet or more up to the 1% annual exceedance probability.

3.1.3. NOTES:

3.1.3.1. Mandatory notification and mitigation are not required for annual exceedance probabilities above the 1% probability when designing to a flood of record greater than the 1% probability.

3.2. For water impoundment structure projects, such as dams or other similar devices, the policy requires the following:

3.2.1. Mandatory notification to affected landowners and public easement holders of effects within the impoundment reservoir below the top of structure elevation.

3.2.2. Mandatory mitigation to affected landowners of effects below the structure's highest auxiliary spillway elevation or below the structure's spillway elevation if no other spillway exists.

3.2.3. NOTES:

3.2.3.1. If no spillway exists for the structure, mitigation for effects is required below the top of structure elevation.

3.2.3.2. Modifications to existing structures will be required to mitigate for any incremental effects caused by the proposed modifications.

3.3. For all projects, the applicant must own or have an easement for the land on which the structure's footprint is located.

4. DETERMINING EFFECTS

Effects, as defined in the Definitions section, are determined in the following manner:

4.1. Water control structure projects

4.1.1. Effects for water control structure projects will typically be determined with a hydraulic model.

4.2. Water impoundment structure projects

4.2.1. Effects for water impoundment structure projects will typically be determined with topographic data, such as survey, LiDAR, or other similar data sources.

4.2.2. The State Engineer will determine effects for water impoundment structure projects, unless supplied by the applicant with application.

4.2.3. Under the authority noted in Section 1.1, the State Engineer will presume easements or fee title are appropriate mitigation for water impoundment structures unless a mitigation plan is offered by the applicant with the application.

4.3. Some projects, at the State Engineer's discretion, may require a combination of a hydraulic model and topographic data to determine effects.

5. MITIGATION PLAN REQUIREMENTS

If submitted or required, a mitigation plan must address the Mitigation Criteria established by the State Engineer and can take many forms as outlined in the Mitigation Forms section.

5.1. Mitigation Criteria

5.1.1. The following criteria are to be reviewed and addressed with respect to the effects:

5.1.1.1. Effects to all lands.

5.1.1.2. Effects to structures, including homes, out-buildings, and businesses.

5.1.1.3. Effects to existing flood protection or control projects.

5.1.1.4. Effects to existing water features, including watercourses, ponds, sloughs, lakes, and permitted drains.

5.2. Mitigation Forms

5.2.1. Mitigation can take many forms, but generally may include the following:

5.2.1.1. Compensating property owners for effects to property or increased flooding risk, including easements or fee title purchases.

5.2.1.2. Raising, elevating, moving, or diking affected properties or structures.

5.2.1.3. Exercising quick take or eminent domain authorities.

5.2.1.4. Project changes or alternatives to mitigate effects.

5.2.1.5. Agreements, Memorandums of Understanding, or other approvals, but only for mitigation to land owned by the federal government, state government, or political subdivisions.

6. NOTIFICATION REQUIREMENTS

If applicable, the applicant is required to notify all landowners and public easement holders identified in the policy's General Policy Requirements section.

6.1. The State Engineer requires assurance that all landowners and public easement holders were notified prior to issuance of a Notice to Proceed for construction. These notifications must include:

6.1.1. A letter mailed to the landowners and public easement holders in a format approved by the State Engineer that describes the nature and extent of effect.

6.1.2. A required landowner and public easement holder address list.

6.1.3. Either certified mail receipts or affidavit of service to the required landowners and public easement holders.

6.2. For phased projects, the State Engineer will require notification as soon as the effects are known, which will typically be in the project's first phase.

6.3. Failure to notify the required parties prior to the issuance of the Notice to Proceed for construction may result in action by the State Engineer, such as permit abeyance, suspension, or revocation.

7. EASEMENT AND TITLE DOCUMENTATION

If the State Engineer requires an easement or title to land as part of a conditional permit approval or the applicant pursues easements or title to land as mitigation, the following applies:

7.1. The applicant may choose to provide easement or title documentation with a construction permit application. The State Engineer will review the provided documentation for policy compliance.

7.2. The applicant may choose to provide easement or title documentation after a construction permit is issued. If required by this policy, the State Engineer will condition the permit requiring land ownership or easement documents to be submitted for State Engineer review and approval prior to issuance of a Notice to Proceed for construction.

8. APPLICATION REQUIREMENTS FOR WATER CONTROL PROJECTS

Given a hydraulic model is necessary to determine effects for a water control structure project, such a project has specific application requirements, which are outlined below:

8.1. With the exception of section 8.2, applications require the following:

8.1.1. Development and submittal of a "mitigation plan," hydraulics model, and model report as part of a complete application.

8.1.1.1. A hydraulics model and report of the proposed water control project must detail hydraulic effects as described in the General Policy Requirements and Modeling and Report Requirements sections.

8.1.1.2. A mitigation plan must detail how effects to properties will be mitigated as described in the General Policy Requirements and Mitigation Plan Requirements sections.

8.1.1.3. The State Engineer will condition an approved permit based upon compliance with the proposed mitigation plan.

8.1.1.4. NOTES:

8.1.1.4.1. If a water control project has effects less than 0.5 feet, a mitigation plan is <u>not</u> required. However, the applicant still must identify effects of 0.1 feet or greater and comply with this policy's notification requirements.

8.1.1.4.2. The applicant may choose to submit a hydraulic model and model report without an accompanying mitigation plan. In this scenario, the State Engineer will require flowage easements or notifications based on the General Policy Requirements section as part of a conditionally approved permit.

8.2. Applications involving low-risk projects with only local water management implications require the following:

8.2.1. The State Engineer will not require a hydraulics model and report or mitigation plan for these applications.

8.2.2. The State Engineer will defer effects decisions for these applications to the water resource district.

8.2.2.1. In this scenario, if the water resource district believes a hydraulics model or report is necessary to adequately review the project's effects, the water resource district may require a hydraulics model or report directly from the applicant and suggest any changes, conditions, or modifications regarding the results of a hydraulics model or report to the State Engineer under N.D.C.C. § 61-16.1-38.

8.2.2.1.1. In this scenario, the application will be deemed incomplete until the water resource district receives the hydraulic model or report from the applicant for review. After hydraulic model or report receipt, the water resource district will have 45 days from receipt of a complete application under N.D.C.C. § 61-16.1-38 to review the application and suggest any changes, conditions, or modifications to the State Engineer.

8.2.2.2. Because the State Engineer is deferring effects decisions to the water resource district, the State Engineer will approve, deny, or condition the permit of any local water management implications at the direction of the water resource district.

8.2.2.3. In the event that the water resource district does not provide any suggested changes, conditions, or modifications to the State Engineer, the State Engineer will assume no local water management implications exist and will approve the application with only the standard permit conditions and without further effects review.

8.3. Application Review

The following provides a general outline of what is expected for each application track:

8.3.1. All projects except "low-risk projects with only local water management implications"

8.3.1.1. Applicant submits materials according to section 8.1 with permit application.

8.3.1.2. State Engineer reviews submittals for compliance with this policy and state of engineering practice.

8.3.1.3. If a mitigation plan is submitted and the State Engineer approves the permit, the State Engineer will condition the permit subject to compliance with the proposed mitigation plan.

8.3.1.4. If no mitigation plan is submitted and the State Engineer approves the permit, the State Engineer will condition the permit subject to compliance with section 8.1.

8.3.1.5. Applicant must submit evidence of compliance with permit conditions before the State Engineer will issue a Notice to Proceed for the proposed water control project's construction.

8.3.2. Low-risk projects with only local water management implications

8.3.2.1. Applicant submits a permit application without a hydraulic model, model report, or mitigation plan.

8.3.2.2. State Engineer defers water management considerations to the water resource district.

8.3.2.3. The State Engineer will approve, deny, or condition the permit subject to direction from the water resource district.

8.3.2.4. Applicant must submit evidence of compliance with permit conditions before the State Engineer will issue a Notice to Proceed for the proposed water control project's construction.

8.4. Modeling And Report Requirements

A hydraulics model and model report require the following information:

8.4.1. Hydrology

8.4.1.1. The hydrology developed or chosen must be the hydrology used to design the water control project.

8.4.1.2. The hydrology, if developed by the applicant, must be summarized in the model report.

8.4.1.3. The hydrology methods chosen and rationale for the choice must be described in model report.

8.4.1.4. Consistent hydrology methods must be used for all discharge frequencies.

8.4.2. Hydraulics

8.4.2.1. An applicant-provided hydraulics model must represent the water control project's function and setting, as well as be commensurate with the state of engineering practice for hydraulic modeling.

8.4.2.2. Any hydraulic modeling must be completed by a professional engineer registered in the state with experience in hydraulic modeling.

8.4.2.3. Any hydraulic modeling provided may be completed with any type of software capable of meeting the policy requirements; however, publicly available software, such as the US Army Corps of Engineer's HEC programs, are preferred. The State Engineer may require more

supporting documentation and justification if proprietary modeling software is used.

8.4.2.4. The hydraulic model must depict the pre-project and post-project scenarios. For a phased water control project, the Phased Projects and Emergency Measures section requirements apply.

8.4.2.5. The model must incorporate the following annual exceedance probabilities:

8.4.2.5.1. 10% (10-year)

8.4.2.5.2. 4% (25-year)

8.4.2.5.3. 1% (100-year)

8.4.2.5.4. The discharge and annual exceedance probability used for the project design, if not the 1, 4, or 10% probability.

8.4.3. Model Report

8.4.3.1. A hydrology and hydraulic report (Model Report) must be provided to accompany and summarize the hydraulic modeling provided and the engineering assumptions made. The Model Report must include:

8.4.3.1.1. A description of the hydrology developed or used, including the software and software version used, data used, hydrology methods used, and general engineering and modeling rationale and assumptions made.

8.4.3.1.2. A description of the hydraulic model developed or used, including its purpose, software and software version used, data used, hydraulic methods used, and general engineering and modeling rationale and assumptions made.

8.4.3.1.3. A brief description of the modeling results, including any notable changes between the pre-project and post-project conditions, such as changes in water depth, duration, or frequency.

8.4.3.1.4. An overview map of the modeled area, including cross-section locations.

8.4.3.1.5. Depth difference information depicting the pre-project and post-project inundation for the required probabilities and water control project phases.

8.4.3.1.6. Professional engineer stamp or signature.

8.4.4. NOTES

8.4.4.1. The State Engineer reserves the right to refuse any hydrology or hydraulics submitted or used if they are not commensurate with the state of engineering practice.

8.4.4.2. The State Engineer will not accept a hydraulic model from an applicant without an accompanying Model Report.

8.5. Phased Projects And Emergency Measures

8.5.1. Phased Water Control Projects

8.5.1.1. For phased water control projects, mitigation will not be required by the State Engineer until the final project is constructed and operational.

8.5.1.2. The mitigation plan, model, and Model Report must be submitted with the first water control project phase unless specified otherwise by the State Engineer.

8.5.1.3. The mitigation plan must detail how the fully planned water control system's effects will be mitigated.

8.5.1.4. Each phase will be conditionally approved under a construction permit. Depending on the circumstances, the State Engineer may require a Notice to Proceed prior to water control project construction or operation to ensure compliance with any permit conditions.

8.5.2. Emergency Measures

8.5.2.1. Temporary emergency dikes will not require mitigation.

8.5.2.2. Planned closures, such as temporary dikes, gates, sandbags, embankments, road blocks, etc., constructed or installed in the event of anticipated project operation and within a permanent water control system require mitigation.

8.5.2.3. Emergency measures that are part of a formal emergency response plan must be identified and accounted for in the hydraulic model, accompanying report, and mitigation plan.

9. DEFINITIONS

9.1. "Dam" is defined in N.D.A.C. section 89-08-01-01 and otherwise in State Engineer policy.

9.2. "Dike" is defined in N.D.A.C. section 89-08-01-01 and otherwise in State Engineer policy.

9.3. "Effects" means the physical constructed footprint of a dam, dike, or other device and increases in water surface elevation or inundation caused to a property or structure by the construction, operation, or modification of a dam, dike, or other device.

9.4. "Other device" is defined in N.D.A.C. section 89-08-01-01 and otherwise in State Engineer policy.

10. POLICY ADDENDUMS

State Engineer Technical Memo – dated October 27, 2020

No Policy Revisions available