STATE OF WISCONSIN
DIVISION OF HEARINGS AND APPEALS

In Re: Permit # IP-NO-2020-2-N00471, Water Quality Certification, and Coverage under WPDES General Permit No. WI-S067831-06 issued to Enbridge Energy, LP, and the Department of Natural Resources Environmental Impact Statement for Enbridge Energy's Line 5 Segment Relocation Project in Ashland, Bayfield, and Iron Counties.

DHA Case No. DNR-25-0002
(DNR Case Nos. 24-048 and 24-049)

ENVIRONMENTAL PETITIONERS' POST-HEARING OPENING BRIEF

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INTRODUCTION

Wisconsin's waters are protected by strong legal standards that exist to protect our waters from harm and to preserve them for future generations. The standards reflect over 150 years of hard lessons and costly mistakes, made by prioritizing speculative short-term profit-seeking over long-term conservation of our shared natural resources.

Our law is a response to the disastrous effects on flood control, water quality, and habitat preservation from taking approximately half of Wisconsin's historic wetlands off the landscape. That is why today anyone seeking to discharge to or fill wetlands must meet stringent legal standards designed to avoid continued loss of the precious functions wetlands provide.

Our law is also informed by the past alteration and pollution of Wisconsin's waterways, undermining their use by the public, for whose benefit the state is constitutionally required to hold and manage them in trust. That is why today anyone seeking to conduct activities in waterways affecting public uses must meet an exacting public interest standard and comply with specific statutory requirements the legislature set in furtherance of its public trust obligations.

Wisconsin's Clean Water Act (CWA) program requires permit coverage for discharges of stormwater from construction activities, because we have learned those activities have the capacity to significantly impair water quality. And the Department of Natural Resources (DNR) can only issue a water quality certification (WQC) when it has reasonable assurance that discharges to wetlands and waterways will comply with state water quality standards (WQS). Finally, the Wisconsin Environmental Policy Act (WEPA) requires, among other considerations, an evaluation of the environmental impacts of, and alternatives to, any major agency action that would significantly affect the environment.

To satisfy these standards, a corporation like Enbridge must do more than follow "best management practices" and hire glossy consultants to draft reports. Enbridge is not entitled to a permit. Rather, it must provide DNR the right kind and amount of information to demonstrate its proposed project would be completed without causing the kinds of impacts Wisconsin law prohibits. Applying these standards as written means DNR must deny applications for projects that would cause these prohibited environmental impacts.

Enbridge proposes to build a 41-mile oil pipeline through hundreds of pristine wetlands and across hundreds of waterways in northern Wisconsin that requires miles of forest clearing, sheet piling, blasting, and trenching (hereinafter, "the Reroute"). The Reroute would cause significant adverse impacts to wetland functional values (WFV), degrade water quality, and impair access and use of public trust waters. It does not meet Wisconsin's legal standards protecting our water resources. DNR therefore should not have granted Enbridge's permit applications, should have denied the requested WQC, and should have required Enbridge to obtain an individual stormwater discharge permit. The Division of Hearings and Appeals (DHA) must reverse DNR's erroneous decisions authorizing the Reroute. This is the only way to give the hard-won wisdom embodied in Wisconsin's law its intended effect.

BURDEN OF PROOF

The burden of proof in this matter generally lies with Petitioners. Wis. Admin. Code NR § 2.13(3); Apr. 25, 2025 Scheduling Order, 3. However, once Petitioners prove a claim by a preponderance of the evidence, the burden of proof then shifts to Enbridge to prove by a preponderance of the evidence that any proposed modification addresses that claim. Apr. 15, 2025 Modification Order, 5.

ARGUMENT

The argument section is organized according to the nine issues granted for review with a footnote indicating which of Environmental Petitioners' 16 objections correspond to each issue. Given the number of issues, the material facts are stated as relevant under each issue heading. Proposed conclusions of law based on the arguments below have been filed contemporaneously with this brief.

I. ACTIVITIES AUTHORIZED BY PERMIT #IP-NO-2020-2-N00471 DO NOT MEET STATE REQUIREMENTS AND WETLAND PERMITTING STANDARDS UNDER WIS. STAT. § 281.36(3n)(C) AND WIS. ADMIN. CODE NR CH. 103.[1]

A. Legal Framework

No person may discharge dredge or fill material into a wetland unless DNR has issued a permit an exemption applies. Wis. Stat. § 281.36(3b)(b). DNR shall find that the proposed project causing the discharge complies with WQS and that a wetland individual permit may be issued if *all* the following apply:

> 1. The proposed project represents the least environmentally damaging practicable alternative taking into consideration practicable alternatives that avoid wetland impacts.
> 2. All practicable measures to minimize the adverse impacts to wetland functional values will be taken.
> 3. The proposed project will not result in significant adverse impact to wetland functional values, in significant adverse impact to water quality, or in other significant adverse environmental consequences.

Wis. Stat. § 281.36(3n)(c). In assessing impacts to WFV, DNR must consider the following factors:

> 1. The direct impacts of the proposed project to wetland functional values.
> 2. The cumulative impacts attributable to the proposed project that may occur to wetland functional values based on past impacts or reasonably anticipated impacts caused by similar projects in the area affected by the project.
> 3. Potential secondary impacts of the proposed project to wetland functional values.
> 4. The impact on functional values resulting from the mitigation that is required under sub. (3r).
> 5. The net positive or negative environmental impact of the proposed project.

Wis. Stat. § 281.36(3n)(b).

[1] DNR's January 2, 2025 grant letter subsumed Environmental Petitioners' Objections 1, 2, 3, and 5 into Issue 1.

WQS for wetlands are provided in Wis. Admin. Code NR ch. 103. These standards provide the WFV to be assessed per Wis. Stat. § 281.36(3n)(b)-(c), as well as criteria to be used to ensure their maintenance or enhancement. Wis. Admin. Code NR § 103.03(1)-(2). *See also* Wis. Admin. Code § 350.003(17).

DNR must have sufficient information to consider the standards in sub. (3n)(b)-(c) *at the time of permit issuanc*e. *Meteor Timber v. DHA*, 2022 WI App 5, ¶¶63-64, 400 Wis. 2d 451, 969 N.W.2d 746. Further, DNR must assess impacts of the "proposed project" as a whole and not just the physical footprint of wetlands within a proposed project. *Kohler v. DNR*, 2024 WI App 2, ¶3, 410 Wis. 2d 433, 3 N.W.3d 172.

Except for circumstances not relevant here, mitigation is required for individual permits issued by the DNR; however, a permit applicant is not entitled to a wetland individual permit in exchange for conducting mitigation. Wis. Stat. § 281.36(3n)(d)1. The amount of mitigation required is based on "the quality and type of wetlands impacted, the duration of the impacts, the measure of lost wetland function, the temporal loss of wetland function, and the location of the proposed mitigation." Wis. Admin. Code NR § 350.005(2). Mitigation may be accomplished, in relevant part, by purchasing credits from a mitigation bank. Wis. Stat. § 281.36(3r)(a). Mitigation may be required for "temporary" impacts to WFV. Wis. Admin. Code NR § 350.005(4). Impacts are only "temporary" if they are not permanent *and* meet at least one of the following requirements: "only occur during the non-growing season…result in negligible impacts to wetland function or area…[or] restore preexisting wetland function at or soon after the conclusion of the permitted or exempt activity." *Id.* § 350.003(39).

B. DNR Relies on Inadequate Information about the Location and Acreage of Wetlands to be Impacted and Therefore Lacks Information Necessary to Determine Whether Permitting Standards Have Been Met.

To determine whether permitting standards are met, DNR must know the location and

acreage of wetlands that would be impacted. DNR cannot assess the extent of impacts to WFV without this information. That is also why permits identify wetlands to be impacted and include a standard condition limiting discharge to those wetlands. *See e.g.*, Ex. 631, 20, Cond. 205; Tr. 5295:12-23.[2] DNR cannot issue a wetland permit and then later figure out the location of impacted wetlands. *Meteor Timber*, 2021 WI App 5, ¶¶63-64.

Here, Enbridge failed to comprehensively identify wetlands along the proposed right of way, and thus DNR lacked information about the location and acreage of wetlands necessary to reach a permit decision. Ex. 200, 7-8, 172-89, 197-99. *See also*, Tr. 2351:8-2352:22 (areas with wetland vegetation and hydrology "look like missed wetlands" and Enbridge's delineators did not record data showing they were not). DNR relied on Enbridge's wetland delineation reports and did not confirm wetland boundaries or investigate areas described by Band witness Ms. Alice Thompson as missed wetlands. DNR witnesses acknowledged Ms. Thompson is an "exceptional wetland ecologist" who "was correct in her determinations ultimately that there is probably additional wetlands out there." Tr. 4170:6-10, 4353:15-22.

DNR then asked Enbridge to update its wetland and waterbody impact table to include wetlands identified by Ms. Thompson. Ex. 450, 1 (Question 1); Ex. 807, 499; Tr. 5026:7-5028:18. Enbridge declined, citing a lack of GPS data. Ex. 807, 499. That request was then turned into an unusual permit condition, directing Enbridge to update the wetland and waterbody impact table after construction to include the "actual" acreage and location of impacted wetlands. Ex. 631, 23, Cond. 234; Tr. 5029:4-5031:5. The purpose of this condition was to "get an accurate assessment

[2] Citations to specific exhibit numbers are always proceeded by "Ex.". Pincites to page numbers are separated from exhibit numbers by commas, and non-sequential pincites are also separated from each other by commas. When multiple exhibits are cited, each exhibit is generally separated by a semi-colon. As an example, consider Ex. 631, 12-15, 18; Ex. 633, 15-18, 23. This citation is to pages 12 through 15 and page 18 of Exhibit 631 and to pages 15 through 18 and page 23 of Exhibit 633.

of impacted wetlands associated with the project." Tr. 5299:18-23.[3]

Allowing Enbridge to inform DNR only after construction of the location and acreage of wetland is both unauthorized and impractical. Enbridge has no concrete, DNR-approved plans to conduct supplemental delineations during construction or to have assured delineators in the field at the leading edge of construction to identify missed wetlands prior to impact. Tr. 5296:4-22 (discussing Ex. 631, 21, Cond. 212); *see* also, Tr. 533:9-11 (IEMs will not be near where vegetative clearing is happening for safety reasons). Further, it is unclear what Enbridge would do if it encountered missed wetlands. It could stop construction and seek a permit amendment. Enbridge might attempt to alter construction plans to avoid the newly identified wetland. Tr. 5296:23-5297:22. Either approach would entail precisely the project planning and assessment process that DNR and the applicant are supposed to conduct *prior* to permit issuance, to ensure legal standards are met. *Meteor Timber,* 2022 WI App 5, ¶¶63-64.

C. DNR Relies on Inadequate Information about the Quality of Wetlands to be Impacted and Therefore Lacks Information Necessary to Determine Whether Permitting Standards Have Been Met.

To determine whether wetland permitting standards are met, DNR needs to know the WFV to be impacted. Because Enbridge failed to accurately assess WFV, DNR's permit decision is premised on inaccurate and incomplete information.

The inadequacy of the information Enbridge provided to DNR is evident from DNR's own assessment of Enbridge's evaluations and is corroborated by Ms. Thompson. Enbridge's consultants conducted WRAMs during wetland delineations to assess WFV.[4] Ex. 807, 489. DNR

[3] Enbridge witness Mr. Storlid's position that these are merely "potential" missed wetlands because Ms. Thompson did not conduct full delineations—and thus no further action in needed to ensure all impacted wetlands are identified—is thus belied by DNR's actions and witness testimony. Tr. 2738:7-19.

[4] WRAM stands for "wetland rapid assessment methodology." WRAMs are used to provide a uniform approach to assessing wetland quality. Ex. 807, 489.

did not confirm WRAMs in the field or review each WRAM; instead, it reviewed a random subset of just 15 WRAMs. Tr. 4163:23-4165:9. That review revealed significant "inconsistencies" between the observed condition of the wetlands and the functional ratings assigned to those wetlands. Ex. 807, 490-91; Tr. 4164:8-16 (Ms. Willman noting "differences in [ ] opinion" with the functional values assigned by Enbridge). For 8 of the 15 WRAMs reviewed, DNR found a functional value was rated too low. Ex. 807, 490-91. In other words, DNR found over half the WRAMs reviewed understated WFV, yet nonetheless relied on Enbridge's WRAM assessments to assess impacts, establish restoration goals, and determine mitigation requirements. That Enbridge was missing and undervaluing wetland functions was corroborated by the work of Ms. Thompson, who conducted numerous field surveys as well as reviews of Enbridge's assessments, in which she found that WFV were undervalued due to a failure to identify or properly classify indicators of higher functioning, as well as methodological errors. Ex. 200, 9-12; Ex. 244, 20:7-21:9 (use of single overall WRAM score undervalues wetlands), Tr. 2181:13-20 (WRAM ratings not adjusted to reflect timed meander survey results), 2185:4-14.

Enbridge witnesses did not directly defend the accuracy of the WRAMs; instead, they contended WRAMs are "subjective," and because the people who conducted them appear qualified, the WRAMs are insulated from any criticisms as to whether they correctly identified WFV. Ex. 307, 41-42; Tr. 2742:3-2743:13.[5] This defense misses the mark entirely. If WRAMs are subjective in this sense and must be taken at face value, then it would make no sense for DNR to conduct a review of Enbridge's WRAMs, document disagreements with how Enbridge applied the

[5] Enbridge did not offer testimony from anyone who conducted the wetland delineations, WRAMs, timed meanders, or any other wetland assessment, and thus could directly testify as to their accuracy or the process by which they were conducted. Instead, they offered testimony from a witness (Mr. Drake) who merely subcontracted for those services, but is not himself a wetland expert and a witness (Mr. Storlid) who is a wetland expert, but had no role in conducting those services or supervising those that did. Tr. 2614:10-2617:8, 2787:8-2788:25.

WRAMs, and state those disagreements in the Environmental Impact Statement (EIS). Not only *can* WRAMs understate WFV, they *did* understate WFV in this case. Given that Enbridge's proposed performance standards define restoration success based on these WRAM ratings, the performance standards are necessarily inadequate as well, because they will erroneously consider wetland restoration a success without actual restoration of pre-construction functioning. Tr. 2243:18-2246:2.

DNR also did not have sufficient information about the location of seepage wetlands in the project area. Ex. 129, 21:14-23. This gap is critical because seepage wetlands provide high groundwater and habitat WFV. Ex. 807, 519 ("wetlands that receive or support groundwater seepage [are]…areas meriting high levels of protection due to the ecological value they provide"); Tr. 513:25-514:7, 4194:8-20. DNR impermissibly turned this informational gap into a permit condition requesting baseline information after construction. Ex. 631, 4, Cond. 28.

DNR and Enbridge may contend springs were adequately identified prior to permit issuance, citing the Wisconsin Geological and Natural History Survey (WGNHS) spring survey and Enbridge's delineations. Ex. 807, 412-13. Neither effort is sufficient, however. The WGNHS survey only purports to identify springs above a certain flow rate. *Id.*; Tr. 514:24-515:20. The delineations were done to identify the boundaries of wetlands; they did not look comprehensively for springs and seeps throughout wetland interiors. Tr. 2164:19-2165:24. Indeed, DNR acknowledged that Enbridge's assessments missed seepage wetlands. Ex. 807, 413.

Enbridge further contends that clearing the ROW is necessary to identify springs and seeps, but this is not accurate; there are ways to identify springs, particularly in the winter, using aerial techniques, which Enbridge has already used to characterize the proposed route in other ways. Tr. 518:9-20, 2945:21-2946:7. Further, failing to look for springs until the ROW has been cleared runs

the risk of impacting the very resources a spring inventory would protect. Tr. 518:21-520:2 (construction crews unlikely to be able to visually identify springs to avoid impacts during clearing), 530:13-16, 533:3-11 (IEMs unlikely to be able to identify springs during active clearing). The Permit requires springs to be restored, but nothing in the Permit or supporting plans describes what spring restoration would look like, how success would be judged, how pre-construction spring conditions would be characterized, etc. Ex. 631, 4, Cond. 28.

D. The Reroute will Result in Significant Adverse Impacts to Wetland Functional Values in Violation of Wis. Stat. § 281.36(3n)(c)3.

The proposed project would result in significant direct, cumulative, and secondary impacts. Mitigation would not compensate for those impacts, and the net environmental impact of the project would be negative. Consequently, DNR's conclusion that the project would not result in significant adverse impacts to WFV is erroneous and must reversed Ex. 631, 38, Finding of Fact (FoF) 59.

i. The Reroute will cause direct impacts to wetland functional values that are significant and permanent.

a. Vegetative Clearing

Pipeline construction would require clearing vegetation to ground level throughout the ROW. Ex. 630, 9; Ex. 807, 105-06. Clearing would impact WFV by fundamentally impairing a wetland's ability to function as habitat, altering surface and groundwater functions, and weakening floral diversity and quality. Ex. 807, 532 (floral diversity), 533-534 (habitat), 534-35 (local hydrology).

Tree clearing will result in direct impacts lasting decades. Ex. 631, 31-32, FoF 39; Ex. 807, 500; Tr. 2388:20-2389:14, 2799:1-11. In areas that are not being permanently converted to non-forested wetlands, DNR and Enbridge treat these impacts as "temporary," but they do not meet the regulatory definition for temporary impacts. Clearing trees from wetlands is not an adverse impact

that would "only occur during the non-growing season" or "result in negligible impacts to wetland function or area[.]" Enbridge would also not "restore preexisting wetland function *at or soon after* the conclusion the permitted or exempt activity" when decades would pass, at a minimum, before the functions of a forested wetland community would return. Wis. Admin. Code NR § 350.003(39) (emphasis added). The plain meaning of "soon after" unambiguously excludes loss of wetland function lasting decades.[6]

b. Construction Mats and Soil Compaction

Immediately following clearing, construction mats will be placed in wetlands crossed by the project. Ex. 630, 13-14. These mats are intended to create a stable surface for heavy equipment to traverse the construction site. Ex. 807, 121. The mats are also intended to reduce soil compaction caused by heavy equipment. *Id.*; Ex. 116X, 532-33, 538 ("construction led to soil compaction."). Soil compaction impairs wetland functioning by reducing the ability of water to flow through the compacted soil, and by frustrating wetland plant revegetation. Tr. 827:11-828:3; Ex. 807, 324. Approximately 80% of soils along the route are "medium or high" compaction prone. Ex. 807, 323; Tr. 826:18-827:5. Wetland soils experience greater compaction than dry, upland soils. Ex. 303, 55. The volume of heavy vehicular traffic would be especially large for this project due to the use of horizontal directional drilling (HDD). Tr. 3959:14-3960:4. Compaction concerns are further heightened here because trench dewatering would occur at the same time as heavy equipment sits on top of wetland soils, which would reduce pore pressure, thereby weakening resistance to

[6] The inquiry should end there. Enbridge has pointed to rule notes it contends support the idea that decades-long impacts can be "temporary". Wis. Admin. Code NR §§ 350.003(39), NOTE, .005(4) NOTE. The notes are not the rule text and thus not the law. The rule notes are at best an extrinsic source of meaning that cannot override the unambiguous language of the rule. *Orion Flight Servs. v. Basler Flight Serv.*, 2006 WI 51, ¶18, 290 Wis. 2d 421, 714 N.W.2d 130 (agency interpretations of their own regulations merit no deference when they are "inconsistent with the language of the regulation.").

compaction even further. Tr. 828:4-829:1, 3129:20-3130:3. Conditions are therefore ripe for significant soil compaction and thus significant impacts on wetland functioning.

The only empirical evidence Enbridge or DNR introduced purporting to establish mat efficacy in avoiding compaction was a study in dry upland soils that are unlike the conditions in which mats would be used for this project. Ex. 315, 3; Tr. 829:16-831:1. Even setting aside the apples to oranges comparison, that study found that mats do not prevent compaction. The authors ultimately recommended avoiding construction activities on moist, compaction prone soils, during the growing season, or beyond six weeks, because of the increased risk of soil compaction and impairments to vegetation. Ex. 315, 8 (conclusion). Here, mats would be used in moist, compaction prone wetland soils, for durations greater than 60 days in all locations, and during portions of the growing season, if not the entirety of the growing season. Ex. 446, 14; Tr. 5287:9-5290:18. There is no evidence to support the notion that mats will avoid significant, persistent soil compaction caused by heavy equipment, which will frustrate revegetation and have knock on effects for site restoration generally.

Active compaction alleviation techniques can include deep tillage and the addition of compost, but Enbridge would not be doing either in wetland soils. Ex. 42, 4-9; Ex. 807, 525 ("Enbridge is not pro-posing to decompact wetlands and states compaction would be alleviated by natural freeze-thaw cycles."); Tr. 3120:6-9. Passive alleviation processes like freeze-thaw cycles have limited efficacy. Tr. 831:23-832:4; Ex. 42, 4. Given this, compaction and its effects would be persistent, if not permanent. Tr. 832:5-8.

DNR included permit conditions purporting to limit impacts from compaction, but these conditions will not avoid compaction or its effects. As DNR witness Ben Callan acknowledged, conditions directing Enbridge to rightsize vehicles and limit vehicle traffic are essentially

unenforceable suggestions to Enbridge, which will select vehicle size and use based on construction preferences without DNR preapproval. Tr. 5284:18-5286:14; Ex. 631, 4, 21, Cond. 22, 218. Mr. Callan testified that limits on duration of use are intended to capture situations where a contractor fails to make plans for mat removal once they are not needed for construction anymore, not to actually reduce the duration of their use *during* construction. Tr. 5287:9-5288:22 (discussing Ex. 631, 23, Cond. 237). Permit conditions ask Enbridge to limit use during the growing season, but Mr. Callan agreed mats could be in place during much if not all of the growing season. Tr. 5290:9-18. Indeed, this condition confirms that mats would be in place through "final cleanup." Ex. 631, 23, Cond. 237. Lastly, Enbridge is not monitoring pre- and post-construction soil density, meaning there is no way to identify the extent of compaction caused by construction. Despite all of this, DNR concluded soil compaction and its effects will be merely temporary. Ex. 807, 324. This conclusion is simply not supported the record.

c. Trenching

Enbridge would dig a trench through wetlands crossed by the project and then fill it with native or nonnative material, depending on the circumstances. Ex. 631, 15-16. Trenching will directly impact WFV by creating a new, preferential flow path for water. Tr. 398:24-399:8, 400:21-402:12. Acknowledging this "French drain" effect can occur, DNR relies on trench breakers to maintain wetland hydrology. Ex. 807, 301-03, 524. Trench breakers will have limited efficacy in avoiding these impacts, however, because: they merely slow the flow of water, not stop it; there are locations where trench breakers will be used alongside bleeder drains that are designed to *increase* flow; and they only stop water flow in one direction, while trenching would facilitate flow in multiple directions Tr. 402:13-405:12, 1676:18-1678:24. DNR's wholesale reliance on

trench breakers to avoid this impact across roughly 30 miles of trenching is overly optimistic and not supported by the record. Ex. 807, 88.

d. Blasting

In places where trenching cannot be accomplished with excavators due to shallow bedrock, blasting would be used. Blasting bedrock will cause impacts to wetlands by altering wetland hydrology. First, blasting will create fractures in the non-excavated bedrock that will extend beyond the trench line, potentially connected with and expanding existing fracture networks. Tr. 835:2-12, 1679:4-1682:25, 1685:7-1686:8; *see infra* 48-51. This is particularly dangerous for perched wetlands, which are susceptible to having the underlying confining layer compromised by blasting in lower elevations. Tr. 1686:9-1689:8, 1795:13-1796:22. Second, when blasted trenches are backfilled with the blasted material, it will not approximate pre-construction conditions, causing a French drain effect to occur whereby water preferentially flows along the trench. *See supra* 12. In either circumstance, wetland hydrology is altered. This impacts wetland functioning because wetlands would either be too dry or too wet to sustain the existing plant communities and could even turn wetlands into uplands. Wetlands are sensitive to even slight changes in hydrology; a wetland does not need to be entirely flooded or drained to be degraded. Tr. 807:8-12. DNR acknowledged that blasting may impact wetland hydrology, perhaps even permanently. Ex. 807, 536. Despite this acknowledgement, as with blasting in waterways, DNR defers to Department of Safety and Professional Services (DSPS) regulations and otherwise relies on trench breakers performing perfectly. DSPS regulations are not designed to limit impacts to water resources, however. *See infra* 48. The record also does not support the conclusion that trench breakers have absolute efficacy.

e. Sheet Piling and Aquifer Breaches

Sheet pile are interlocking metal sheets that are driven deep into the ground to prevent trench walls from collapsing. If sheet piling intersects an artesian aquifer, it can cause an aquifer breach, or hole in the confining layer overlying an aquifer. Tr. 817-18; Ex. 807, 312-16. When constructing Line 3 in Minnesota, Enbridge caused multiple aquifer breaches through the use of sheet piling "no more than 30 feet deep," resulting in years of remedial work. Ex. 807, 314. Aquifer breaches can cause extensive environmental damage to wetlands by permanently altering the location and flow of the groundwater feeding them. Tr. 414:18-25, 816:25-817:18.

Mr. Wuolo stated that Enbridge's use of sheet piling would be "limited" to 17 locations, but this statement is inaccurate; Enbridge identified 47 probable and possible sheet piling locations. Tr. 3042:10-3045:9; Ex. 451, 1-3. The linear feet of sheet piling at these 47 locations is over 4 miles, or about 10% of the entire project length. Ex. 451, 2-3; Tr. 3047:17-3049:3. This is underinclusive because Enbridge does not know all the locations where sheet piling will be used, which is decided in the field during construction. Tr. 3040:4-12, 3204:11-20. Framing sheet pile use as "limited" is thus misleading.

While acknowledging that sheet pile are typically driven to depths of 30 feet or more, Mr. Wuolo stated that Enbridge "plans to drive piling to depths less than typically used" and that Enbridge has "methods" that allow for reduced sheet pile depth. Ex. 302, 28; Ex. 375, 27:22-28:2. On cross-examination, Mr. Wuolo conceded sheet pile depth is based on field conditions and he really does not know how deep the sheet piling would go. Tr. 3049:9-3051:8, 3052:3-9; *see also* Ex. 303, 50. Enbridge has made no commitments in its plans to limit the depth of sheet piling for this project to any actual numeric depth. *See* Ex. 630.

While Enbridge seeks to ameliorate concerns about breaches by suggesting sealing them is straightforward, aquifer breaches are difficult to seal once created. Tr. 501:24-25 ("It's extremely

difficult"); Ex. 375, 18:15-16 (Mr. Wuolo acknowledging "sealing artesian breaches can be challenging"). It is therefore critical to avoid causing them in the first place, which starts with identifying locations where artesian conditions are potentially present and avoiding deeper construction activities in those locations. Here, the background hydrogeological conditions in the proposed route are indicative of the presence of artesian conditions. Upwelling groundwater, elevated topography near low-lying areas (which generates the upward pressure), and conditions consistent with a confining layer are all present. Tr. 819:18-821:1, 1656:18-1657:19. This calls for comprehensive assessments of artesian conditions in locations where deep construction activities like sheet piling will be used.

Despite this, Enbridge's consultants did not investigate the presence or absence of artesian conditions in the relevant locations. Instead, Enbridge focused its investigations in HDD sites, and took 88 borings where rig access was convenient. Ex. 816, 11, 91; Tr. 2938:7-2939:6, 3021:13-17. Looking in HDD locations is not a bad idea, but this does not change the fact that geotechnical borings were simply not taken in all the needed locations. In particular, wetlands subject to sheet piling are areas where there is risk of encountering artesian conditions, yet those locations were not prioritized for evaluation. Tr. 822:10-823:2. Petitioners' witness Dr. James Almendinger testified that borings *near* wetlands are not sufficient to evaluate artesian conditions *in* wetlands. Tr. 906:2-12, 1011:12-1012:8; 1013:7-17. Band witness Dr. John Bratton reached the same conclusions. Tr. 1653:10-25, 1662:25-1664:8.

Further, the proposed route traverses glacial geology that is inherently unpredictable, changing dramatically over even short distances. Tr. 410:22-414:1, 3029:24-3030:17; Ex. 816, 91. A limited number of borings in HDD locations therefore cannot be used to characterize conditions in other locations. Braun Intertec, the company that did the borings, itself stated that borings should

not be used to characterize subsurface conditions in other locations. Ex. 824, 1090; Tr. 3030:18-3031:6. Instead, local hydrogeological conditions could and should have been evaluated in locations where deep construction methods might be used. That can be done with technologies that do not require clearing the site and do not present a risk of causing an aquifer breach. Tr. 823:12-824:19, 1014:14-1015:11, 1672:6-1675:15.

When asked whether sheet piling would cause an aquifer breach, Mr. Wuolo's telling answer was "not necessarily." Tr. 2989:3-10. Indeed, Mr. Wuolo once agreed that additional investigation was needed. Where the information Enbridge *did* collect demonstrated a "moderate" risk of encountering artesian conditions, Mr. Wuolo's recommendation in 2022 was that additional, deep geotechnical borings with continuous sampling be done in those moderate risk areas. Ex. 816, 96; Tr. 3031:7-3032:21. But that was never done. Instead, shallow hand auger samples in some of the potential sheet pile areas were collected, which were not at depths sufficient to identify whether artesian conditions are present at probable sheet piling depths. Tr. 1773:20-1774:18, 2979:12-24. Mr. Wuolo's position is now that these additional borings are no longer needed prior to beginning construction activities, because additional information "would not alter Enbridge's construction plan." Ex. 375, 30:18-19. Yet, Mr. Wuolo conceded that he has no idea whether and how Enbridge would use additional information about artesian conditions to inform its construction plans. Tr. 3058:10-3062:7.

DNR considered aquifer breaches as having a "relatively high risk or high degree of uncertainty." Ex. 807, 668. Despite this, Permit conditions do not in any way reduce the risk of an aquifer breach. One condition states sheet piling shall only be used "where necessary for personnel safety." Ex. 631, 20, Cond. 196. But that is simply where Enbridge would use it anyway. Sheet piling would only be used to keep water and collapsing soils out of a trench, and both are necessary

for worker safety, meaning the permit condition confers no actual limitation on its use. Tr. 3040:13-3041:17; *see also* Tr. 524:3-21.

Another condition prohibits driving sheet pile to depths that would intersect "known" artesian conditions. Ex. 631, 18, Cond. 181. However, the very problem is that neither DNR nor Enbridge know where artesian conditions are present. Tr. 1777:2-1778:20. DNR acknowledged that it is not concerned Enbridge will knowingly cause an aquifer breach. Tr. 5284:14-17; *see also* 501:12-16, 825:12-826:4, 3049:4-8. This condition creates the illusion of protection.

Enbridge suggests it will do now what it should have done in the first place: conduct subsurface investigations at depth in areas where construction methods could cause an aquifer breach. Tr. 5309:17-5310:13. However, this too-late proposal only creates new questions and new problems. Enbridge says it will conduct borings to look for artesian conditions *after* clearing the ROW. But clearing the ROW would cause significant adverse impacts to WFV and other significant environmental impacts. *See supra* 9-10. It is also environmental damage that could serve no purpose if conditions are found that prevent the use of sheet piling in those cleared areas and thus the route must be adjusted anyway.

Enbridge witness Mr. Simonson testified Enbridge could try to adjust construction methods to avoid artesian conditions without altering the route. Tr. 3204:21-3205:3. However, the three construction modifications that Mr. Simonson discussed in his testimony are either not authorized by the Permit, create new environmental impacts and risks, or both.[7] Tr. 3058:17-25 (Mr. Wuolo testifying alternatives to sheet piling are "suboptimal, because they have their own downsides"). First, Mr. Simonson mentioned using trench boxes, an alternative structure that can keep a trench open for construction. Tr. 3205:4-10. However, trench boxes are not mentioned anywhere in

[7] Mr. Simonson did not mention any of these alternatives to using sheet piling in his written testimony. Ex. 379. No other Enbridge witness meaningfully discussed these alternatives.

Enbridge's environmental construction plan; presumably, because it understands they will not be available for use in many locations. Tr. 486:13-487:5, 524:22-525:22. This means there is no explanation of how or when trench boxes would be used. Second, Mr. Simonson suggested that the trenchline could be widened to allow for less steep trench walls. Tr. 3205:11-15. There is no mention of this technique in any of Enbridge's approved construction plans. Accordingly, there is no explanation of how much the trenchline would need to be widened—and thus how much the ROW and workspace in these areas would need to be widened. There is thus no way to understand how much additional wetland impacts this would cause by expanding the construction footprint of the project. It also means that this construction technique is not even authorized for use by the Permit, which confines construction to what is provided for in the Environmental Construction Plan (ECP) and other application materials. Ex. 631, 2, Cond. 9. Third, Mr. Simonson says they could request a variance from the Pipeline and Hazardous Materials Safety Agency (PHMSA) for reduced depth of cover, a technique that could potentially obviate the need for deeper trenches requiring sheet piling at the expense of increased risk of pipeline failure due to exposure. Tr. 3205:16-22; *see infra* 24-27. Further, no explanation of how much less depth would be used in these areas or why Enbridge would be eligible for a variance was provided. These are just speculative ideas, not plans containing the level of detail needed for approval. This is precisely why this is information DNR is required to have prior to permit issuance, and a permit modification does not fix the underlying problem. *Meteor Timber*, 2022 WI App 5, ¶¶63-64.

f. Inadvertent Releases

In locations where waterbodies would be crossed using HDD, inadvertent releases (IR) of drilling mud are likely and foreseeable. Ex. 631, 39, FoF 60j. DNR acknowledged it cannot predict

IR location, magnitude, or whether they would reach wetlands and waterways. Tr. 5235:13-5236:8; *see also*, Ex. 52, 11:37-12:27.

Where drilling mud reaches wetlands it will impair water quality and alter water flow. Ex. 202, 13-16. DNR nonetheless concludes that, even if IRs occur, there would not be significant impacts to WFV, apparently on the hope that Enbridge's response plans would limit the impacts of IRs. Given that neither DNR nor Enbridge know where or when IRs will happen, the record does not support DNR's conclusion that the IRs that will foreseeably occur will be benign or short-lived.

g. DNR erroneously relies on Enbridge's insufficient restoration plans to limit and avoid impacts to wetland functional values.

DNR acknowledges that restoring high quality wetlands to pre-construction conditions is difficult, if not impossible. Ex. 807, 500; Tr. 4314:8-4315:16. DNR also acknowledges that if restoration is not successful, the Reroute would result in long-term impacts. Ex. 631, 34-35, FoF 46(a)-(g). DNR nonetheless relies on Enbridge's proposed restoration plans to conclude impacts to WFV will be temporary and not significant. Ex. 631, 38-41, FoF 59, 62(d). This reliance is misplaced.

Enbridge's proposed hydrological monitoring is insufficient. Enbridge proposes to conduct two kinds of monitoring for impacts to wetland hydrology: visual assessments of hydrological indicators and the limited use of groundwater monitoring wells. Groundwater monitoring wells will be used in just 13 wetlands, with no wells in the first 22 miles or last 7 miles of the 41-mile route. Ex. 630, 1747; Tr. 836:22-838:7. The purpose of these wells is ostensibly to monitor for impacts to shallow wetland water levels caused by blasting. Ex. 807, 551. Monitoring wells are not being used in all blasting locations, however, and blasting is far from the only source of adverse impacts to wetland hydrology. Tr. 1006:13-16; *see supra* 9-18. There are over 800 discrete

wetlands along the proposed route, so monitoring just 13 is a small fraction of the total. Ex. 807, 485. The number and placement of wells is thus underinclusive in multiple respects. Tr. 836:5-13, 1004:24-1006:24.

Enbridge also proposes to monitor wetland hydrology using hydrologic indicators. Ex. 630, 1737. Hydrologic indicators are direct or indirect evidence that water is, or has recently been, present. *Id*.; Tr. 4277:12-4279:2. Hydrologic indicators vary seasonally and with precipitation events. Tr. 2163:8-21, 4279:10-4280:11. They are used to delineate wetlands, not establish whether ideal wetland hydrology has been restored. Tr. 2163:8-2164:1. Enbridge included observation of hydrologic indicators in the 2019-2020 WRAMs and proposes to look for hydrologic indicators during the first growing season after construction. Ex. 630, 1730.

There are several problems with this approach. First, because hydrologic indicators change seasonally and due to precipitation, they produce both false negatives and positives as to the presence of wetland hydrology; thus, their use as pre- and post-construction comparative assessment tools is limited. Tr. 4281:12-4283:17. Second, the hydrologic indicators recorded by Enbridge's consultants were assessed at wetland boundaries, not comprehensively throughout a wetland. Tr. 2164:19-2165:24. They were also not always conducted during the time of year that is best for observing hydrologic indicators. Tr. 4279:14-4280:7; Ex. 807, 484. Third, the hydrologic indicators were not consistently recorded, and Enbridge's consultants relied on indicators inappropriate for northern forested wetlands. Tr. 2222:22-2225:4, 2241:3-2243:6. Fourth, since hydrologic indicators were only observed in 2019-2020, Enbridge's post-construction comparison would be with hydrologic indicator observations seven or eight years old. Post construction observations of hydrologic indicators will therefore provide little meaningful comparison to pre-construction conditions and, accordingly, no actionable information about whether corrective

actions are needed due to an "adverse change" to hydrology. Ex. 631, 22, Cond. 225; Tr. 5280:7-5282:20.

The Permit includes a condition requiring that wetland hydrology be "immediately" restored in those areas. Ex. 631, 14, Cond. 125. Given that hydrologic indicators will not even be looked for until the growing season following construction (meaning it could be many months), and monitoring wells would only be present in 11 wetlands proposed for blasting, it is impossible for Enbridge to assess whether wetland hydrology has been immediately restored to preconstruction conditions. Tr. 2875:12-15; Ex. 630, 1737. DNR witness Ben Callan suggested that it would simply be obvious if wetland hydrology were affected. Tr. 5279:9-5280:6. This statement finds no support in the record. Lastly, DNR also fails to require Enbridge to conduct monitoring in wetlands outside the corridor, even though hydrological impacts would extend outside the corridor.

Even for impacts that are caught by this monitoring, Enbridge's corrective action plan is too vague to ensure restoration. Ex. 630, 1743-44. Enbridge and DNR's attempt to defend the paucity of any actual details in these plans by relying on the concept of "adaptive ongoing management" is unavailing. Tr. 2760:14-2762:9, 4352:1-4. Regrading and recontouring, the only adaptive management technique for hydrological impacts mentioned in the corrective action plan, is simply an attempt to do what was not done initially, i.e., restoring the pre-construction elevations and contours. Tr. 4379:17-4380:11. These activities also create fresh wetland impacts by re-disturbing the soils. Tr. 4380:12-20. Given the extent of impacts, the range of activities causing those impacts, and the insufficiency of Enbridge's monitoring plans, this vague corrective plan is simply inadequate.

Combined with DNR's understatement of project impacts to wetland hydrology and deficits in wetland hydrologic monitoring, Enbridge's insufficient corrective action plan would result in impacts that either go unidentified or are identified but not corrected. Either way, the outcome is a net loss of WFV, in violation of Wis. Stat. § 281.36(3n)(c).

ii. Cumulative impacts to wetland functional values would also be significant.

DNR's cumulative impacts finding in the Permit focuses on a single impact: co-location of future linear utility projects. Ex. 807, 32, FoF 42(b). This is a significant cumulative impact. There are also other cumulative impacts of this project on WFV together with existing and projected downward pressures on wetland functioning, including climate change and land development for purposes beyond utility construction projects.

iii. Potential secondary impacts to WFV would also be significant.

The Reroute's potential secondary impacts to WFV would also be significant and non-temporary. Secondary impacts are "impacts to wetlands that are causally linked to the proposed project." Wis. Admin. Code NR § 350.003(38). DNR acknowledges the existence of some secondary impacts but misstates either their likelihood or severity. Ex. 631, 32, FoF 44(c). Others it misses altogether, like increased methylmercury production.

a. Methylmercury

Impacts to wetland hydrology would create conditions conducive to the increased production and transport of methylmercury, a potent neurotoxin. Tr. 843:1-11. Methylmercury is produced when, in relevant part, water level changes in wetlands facilitate chemical reactions that cause organisms to convert mercury already in the environment to its toxic methylmercury form. Tr. 840:5-842:15, 879:2-15. While water level changes in wetlands are natural and expected, the additional water level changes caused by construction would lead to increased water level fluctuations and thus to increased methylmercury production. Tr. 881:10-885:1, 999:9-1000:6.

This is concerning given that levels of mercury in the project area are already too high, and even small increases in methylmercury will have significant additive effects. Tr. 1002:21-1003:4. DNR's EIS does not discuss this issue, and the Permit does not contain any conditions or findings of fact relating to methylmercury as a potential secondary impact.

In response to these concerns, Enbridge's expert witnesses expressed several opinions, none availing. Mr. Wuolo misstated the chemical process by which methylation even occurs, demonstrating limited expertise on this subject, particularly when compared with Dr. Almendinger, who has directly studied it. Ex. 127, 28:5-10 (discussing Ex. 302, 28-29) Mr. Wuolo also opined that the chemical processes would be too slow to have an effect, which is not consistent with Dr. Almendinger's experience with the relevant chemical reactions. Tr. 843:12-844:4. Enbridge witness Dr. Horn criticized the reliability of a source he claimed Petitioners "almost entirely" based their conclusion on, yet Dr. Almendinger neither cited nor relied upon the source at all.[8] Ex. 376, 65:6-12; Tr. 1003:5-9. Dr. Horn stated that Petitioners ignored the process of demethylation—or chemical processes decreasing methylmercury concentrations—which can occur when sulfate levels are high. Ex. 376, 66:1 This is inaccurate: the natural experiments Dr. Almendinger cited necessarily included all chemical processes, including demethylation. Tr. 846:22-847:8. Further, that sulfates would be high enough to produce this effect here is speculative and improbable. Tr. 847:9-848:17; Ex. 376, 66:1-4.

DNR's position appears to be that the amount of increased methylation will be hard to measure and any increased loading observed would be hard to distinguish from background processes, thus relieving it of any responsibility to address increased loading of this potent neurotoxin caused by the Reroute. Tr. 3644:24-3647:12. Dr. Almendinger acknowledged

[8] The undergraduate thesis was apparently cited in a presentation (as one of many sources) by a respected scientist, Dr. Branfireun, in a separate proceeding, who did not appear as a witness in this case.

background methylmercury presents an observational challenge, but not a novel one; scientists routinely employ tools to control for the causal impact of a single factor when conducting experiments in the natural world, and have done so in experiments measuring methylation in wetlands. Tr. 999:17-1002:20. DNR's failure to address this potential impact is a significant error.

b. Impacts to Hydrologically Connected Wetlands

DNR also fails to adequately consider how hydrologic impacts would manifest outside of the ROW. Ex. 631, 32, FoF 44(c) (not listing hydrological impacts from trenching or blasting on wetland outside the ROW as a potential secondary impact).[9] Given that the project would bisect wetlands and wetland complexes, and these wetlands are hydrologically connected, there is every reason to believe that impacts in the ROW will have secondary impacts to wetland hydrology that is unaccounted for by the Permit. Tr. 432:6-434:6, 1004:14-1006:3. Enbridge is not monitoring for hydrological impacts in these wetlands, much less proposing to restore them.

c. Oil Spills

Another critical secondary impact is the potential for an oil spill. Wisconsin's wetland and surface WQS prohibit oil from being present in wetlands "in amounts which may interfere with public rights or interests, or which may cause significant adverse impacts to wetlands." Wis. Admin. Code NR § 103.03(2)(b).

To assess the potential secondary impacts of an oil spill, both likelihood and impacts must be considered. DNR acknowledges that if a spill does occur, the effects would be extensive and long-lasting. *See, e.g.*, Ex. 807, 764 (oil compounds continue to be found in soils and groundwater 45 years later), 772 (impacts to wild rice from even modest amounts of oil would be "devastating

[9] DNR does list aquifer breaches as a potential secondary impact to wetland functional values. Ex. 631, 32, FoF 44(c). Petitioners' criticisms of DNR's assessment of the risk of aquifer breaches causing direct impacts apply here with equal force.

and lasting"), 780-81 (impacts to plant and animal species would last "many years to decades"). Enbridge's oil spill modeling attempted to show that an oil spill in this water-rich environment would nonetheless cause only manageable impacts. Ex. 843. Even setting aside limitations with the modeling, it shows that a great amount of oil would be stranded in wetlands. Ex. 807, 761, 769.

The impact of an oil spill would also turn on the response. Difficult terrain and minimal road access along the proposed route could make spill areas functionally inaccessible. Ex. 807, 701, 734, 754. Oil cleanup in wetlands faces discrete challenges, due to the need to avoid additional impacts from heavy equipment, soil compaction or removal, vegetation clearing, introduction of invasives, etc., which can result in the only available option being "natural attenuation," i.e., do nothing and monitor the situation. Ex. 807, 701, 764-65.

In terms of risk of pipeline failure, the proposed route is a terrible place to put a pipeline. Slopes along the Reroute are steeper than the existing pipeline, which has already experienced slope-related threats to pipeline integrity. Ex. 807, 718. Area soils are prone to runoff, creating flash flood potential. Ex. 807, 322-23. The risk of fluvial erosion is high. Ex. 807, 370-75 (123 acres of soils vulnerable to fluvial erosion within construction ROW). "[T]he project area is especially prone to landslides[.]" Ex. 807, 373. Pipeline exposure and failure are both more likely and harder to respond to with climate change driving increased extreme precipitation events and flooding. Ex. 807, 807-09, 811, 815-16, 819, 821; *see also* Ex. 807, 468-69.

Purporting to ameliorate concerns about the risk of a spill occurring, Enbridge hired Mr. Godfrey of Det Norske Veritas (DNV) to develop a spill risk analysis. Ex. 843, 186 (February 3, 2023 version); Ex. 301 (June 6, 2025 version). The DNV model is not reliable and must be given no weight. First, it is a "black box": there is no way for anyone to confirm DNV's findings or understand the model's input data or methodology. Tr. 3668:15-3669:10, 3692:7-16 (Mr.

Watermolen testifying that he cannot "verify what's in [the probability of failure analysis] or not"). This opacity extended to how the model assumed away the presence of geohazards. Tr. 3672:2-3674:24, 3693:10-16 (Mr. Watermolen testifying that DNR "did not get details on how" DNV assumed geohazards to be entirely mitigated). Mr. Godfrey's proprietary model was based on either unspecified public data sets, confidential industry data, or public data of dubious value. Tr. 3370:13-16 (model is proprietary), 3371:25-3372:24 (model uses unspecified and unprovided PHMSA data and merely links to PHMSA data search landing page, not actual filtered data sets), 3373:19-3374:4 (model uses unspecified, unprovided public data), 3374:5-3375:5 (model relies on unspecified, unprovided industry data). This is ironic given that Mr. Godfrey himself criticized risk assessments done by others on the precise ground that failure to disclose model input data and model methodology rendered it opaque to outsiders, frustrating replicability, and making it unreliable. Ex. 374, 9:8-15; Tr. 3366:20-3370:12. On this ground alone, Mr. Godfrey's work should be given no weight.

Mr. Godfrey also did not correctly apply his own modeling methodology. The risk mitigation factor reducing the risk of a spill by 10x does not match the sources he relied on. The proposed pipeline will have a depth of cover of 48 inches in many locations, with shallower depths in others, namely rock excavation areas. Ex. 807, 110. Mr. Godfrey applied a mitigation factor of .5 for the pipeline depth of cover, i.e., a 50% reduced likelihood of an incident. Ex. 301, 8. The British Standards Institution (BSI) document he cited as the source of the mitigation factor showed that number was not appropriate; instead, a much smaller mitigation factor, if any, was appropriate for depth of cover. Ex. 131, 130; Tr. 3407:14-3410:11 (Mr. Godfrey agreeing the reduction factor for the depth of cover should be .9, or a 10% reduction). Enbridge may attempt to argue Mr. Godfrey did not really rely on the BSI charts, that they are mere illustrations of an idea. That

justification, developed after cross-examination, is inconsistent with Mr. Godfrey's prior statements and is simply not credible. Mr. Godfrey referred to the BSI charts and document repeatedly in his expert report, written testimony, and response to questions by DNR about the methodology for calculating mitigation reduction factors, where one such chart was reproduced. Tr. 3396:10-3401:18; Ex. 374, 6:20-7:2; Ex. 301, 8; Ex. 1001, 29 (information request 31). The BSI document is what he used to assign the risk mitigation factors cited in his analysis, not mere illustrations of an idea. Tr. 3400:20-3401:18 ("That's the document we used"), 3406:2-3 ("it is the document that is referenced in our report"). Moreover, Mr. Godfrey failed to either identify the "right" charts he now claims he used or explain why he repeatedly referred to a document he now claims he did not use. Mr. Godfrey's testimony and model should be given no weight in this proceeding.

Moreover, DNR should have given no weight to DNV's analysis when drafting the EIS or reaching a permitting decision. Despite the significant risks along the route and the apparent problems with the DNV risk assessment, DNR nonetheless relied on DNV's numbers instead of its own internal risk assessments, which yielded a risk of pipeline failure some 22 times larger. *Compare* Ex. 631, 40, FoF 62(b) (".00317 spills of any size over 20 years") *with* Ex. 807, 680 (.071 spills of any size over 20 years). Because the Permit's finding of fact understates the risk of a spill, it understates the possible secondary impacts to WFV.

iv. The impact on functional values from the proposed mitigation is insufficient to avoid net loss of wetland functional values.

Enbridge is proposing to conduct mitigation by purchasing credits from mitigation banks. Ex. 631, 37-38, FoF 58. This fails to compensate for impacts to WFV because the quantity of credits purchased is insufficient and thus Enbridge's credit purchase does not fully compensate for the impacts to WFV caused by this project. *See infra* 30.

v. Net environmental impacts of the Reroute are negative.

DNR acknowledges that the environmental impact of the project is "a net negative." Ex. 631, 33-34, FoF 44(e). DNR then goes on to state that "[a]lmost any other land disturbing activities could be considered net negative." *Id*. This passing comment creates the misimpression that this project would cause net environmental impacts in the same way and to the same extent as any other "land disturbing activit[y]" and thus inappropriately minimizes the importance of this factor for review in determining whether wetland permitting standards have been met. The legislature put this factor here for a reason. *State ex rel. Kalal v. Cir. Ct. for Dane Cnty*, 2004 WI 58, ¶46, 271 Wis. 2d 633, 681 N.W.2d 110; *see also Kohler,* 2024 WI App 2, ¶¶3, 36-40. It also is inconsistent with the reality that this project will create significant environmental impacts that other land disturbing projects simply would not, e.g., risk of an oil spill, locking in increased greenhouse gas emissions, aquifer breaches, etc.

E. Measures to minimize impacts to WFV were not taken.

Enbridge had numerous opportunities to minimize impacts to WFV but failed to do so. Some of these measures have been mentioned already. Enbridge could have conducted more thorough investigation for artesian conditions to avoid aquifer breaches. Enbridge could have avoided springs along the proposed route—or at least been prepared to manage their presence—by better identifying spring locations. Enbridge could have committed to monitoring soil compaction levels pre- and post-construction to be able to respond to compacted soils. It also could have committed to the temporary suspension of construction on vulnerable soil during wet conditions to avoid harm to site soils but declined to do so. Ex. 807, 324. Enbridge could have sourced timber mats from the construction corridor to limit invasive spread but declined to do so. Ex. 450, 4 (information request 8). Nothing in the record establishes that these measures are not

"practicable," and it was an error for DNR to find Enbridge had taken all practicable measures to avoid wetland impacts.

F. The Reroute Will Result in Other Significant Adverse Environmental Impacts.

Climate change is a looming environmental catastrophe, which is causing myriad negative impacts for wetlands and the plants and animals that depend on them. Ex. 807, 812. "Enbridge's proposed Line 5 pipeline relocation would contribute to GHG emissions through the production, transport, and consumption of crude oil and NGLs." Ex. 807, 822. The proposed project will result in increased emissions of greenhouse gases relative to a "No Action" alternative, i.e., potential Line 5 shutdown. *Id*. ("the No Action alternative is the only alternative examined by DNR that has the potential for a reasonably foreseeable decrease in GHG emissions"). The proposed project would thus exacerbate harms that are occurring and will continue to occur to environmental resources throughout Wisconsin.

The risk of an oil spill is not as low as Enbridge suggests, and the ability to quickly respond to and clean up an oil spill is uncertain. An oil spill would cause other environmental impacts because it would extend beyond the footprint of wetlands and waterways directly impacted by the project to downstream waters, uplands, wildlife, and groundwater. Ex. 807, 757-92.

G. Dr. Brannon's Reports and Testimony Are Irrelevant to Petitioners' Claims.

At hearing, Enbridge introduced evidence concerning the purported economic impact of the Reroute, including local tax revenues, jobs created, etc. Tr. 3428:12-16. That testimony is irrelevant to Environmental Petitioners' claims arising under Wis. Stat. § 281.36.[10]

Wisconsin wetland law provides one narrow avenue for DNR to consider economic impacts. DNR is directed to limit its practicable alternatives analysis (PAA) to alternatives that are

[10] Environmental Petitioners' arguments were expressed in detail in the Motion in Limine was filed July 8, 2025.

located at or adjacent to the site of the discharge if the applicant has demonstrated that the proposed project would result in a "demonstrable economic public benefit." Wis. Stat. § 281.36(3n)(a)1.a. Environmental Petitioners did not and are not raising a challenge under Wis. Stat. § 281.36(3n)(c)1., the provision concerning PAA. Accordingly, the proper breadth of DNR's PAA simply has no bearing on this case and must be excluded.

II. WETLAND COMPENSATORY MITIGATION REQUIRED BY PERMIT #IP-NO-2020-2-N00471 DOES NOT MEET STATE WETLAND MITIGATION REQUIREMENTS UNDER WIS. STAT. § 281.36(3r) AND WIS. ADMIN. CODE NR CH. 350.[11]

Mitigation is deficient for two reasons. First, because the amount of mitigation required is premised on inaccurate assessments of the extent and duration of wetland impacts, the proposed mitigation strategy will not avoid the net loss of WFV and thus does not meet permitting standards. DNR understates direct impacts, unjustifiably concludes restoration will avoid most impacts, and incorrectly finds impacts not avoided will be merely temporary. *See supra* § I. Second, the mitigation banks from which credits will be purchased will not generate WFV commensurate with those lost from the reroute, even taking the amount of compensation needed at face value. Tr. 2255:11-2256:21, 2258:21-2260:5; Ex. 200, 37-40; Ex. 244, 63:9-67:2. Enbridge's mitigation proposal thus fails to meet the requirements in Wis. Admin. Code NR § 350.005.

III. STRUCTURES AND DEPOSITS IN NAVIGABLE WATERS AUTHORIZED BY PERMIT #IP-NO-2020-2-N00471 DO NOT MEET STATE REQUIREMENTS AND WATERWAY PERMITTING STANDARDS UNDER WIS. STAT. § 30.12.[12]

A. Legal Framework

Chapter 30, through its public interest standards, "embodies a system of regulation of Wisconsin's navigable waters pursuant to the public trust doctrine." *ABKA Ltd. P'ship v. DNR,*

[11] DNR's January 2, 2025 grant letter subsumed Environmental Petitioners' Objection 4 into Issue 2.
[12] DNR's January 2, 2025 grant letter subsumed Environmental Petitioners' Objections 6 and 9 into Issue 3.

2002 WI 106, ¶11, 225 Wis. 2d 486, 648 N.W.2d 854. Under the public trust, "the State holds the navigable waters and the beds underlying those waters in trust for the public." *Lake Beulah Mgmt. Dist. v. DNR*, 2011 WI 54, ¶32, 335 Wis. 2d 47, 799 N.W.2d 73; Wis. Const., art. IX, §1. Protected uses include, among other things, navigation, hunting, fishing, recreation, and scenic beauty. *See, e.g.*, *Lake Beulah*, 2011 WI 54, ¶32. Conditions necessary to support those uses, like water quality, quantity, and habitat, are protected too. *See, e.g.*, *Sterlingworth Condo. Assoc. v. DNR*, 205 Wis. 2d 710, 732, 556 N.W.2d 791 (Ct. App. 1996). DNR's delegated responsibilities under the Public Trust Doctrine are affirmative—DNR "cannot ignore 'concrete, scientific evidence of potential harm to waters of the state.'" *Clean Wis. v. DNR*, 2021 WI 72, ¶13, 398 Wis. 2d 386, 961 N.W.2d 346 (quoting *Lake Beulah*, 2011 WI 54, ¶¶39, n. 28, 46).

The structure of chapter 30 is straightforward and important to understanding the several permitting schemes therein. *See Kalal*, 2004 WI 58, ¶46. The sections of chapter 30 are complementary: § 30.12 regulates the placement of structures and deposition of materials into navigable waters; § 30.20, *see infra* § IV, regulates the removal of materials from navigable waters, and; § 30.123, *see infra* § V, regulates activities that facilitate travel over navigable waters like bridges and culverts. Sections 30.12, 30.123, and 30.20 all contain the same restrictive language: "Unless an individual or a general permit has been issued … or *authorization has been granted by the legislature*, no person may…" Wis. Stat. §§ 30.12(1), 30.123(2), 30.20(1)(b) (emphasis added). However, a person need not be riparian owner to qualify for an individual permit under §§ 30.123 and 30.20. *Id.* §§ 30.123(8)(a), 30.20(2)(bn).

Under § 30.12, an applicant must be a "riparian owner"[13] to be eligible for an individual permit. *Id.* § 30.12(3m)(a). Structures and deposits must also be for the riparian owner's use. *Id.*

[13] A riparian property is land abutting a navigable waterway. *See, e.g.*, Wis. Stat. § 30.132; Wis. Admin. Code NR § 329.03(13); *Berkos v. Shipwreck Bay Condo. Ass'n*, 2008 WI App 122, ¶10, 313 Wis. 2d 608, 758 N.W.2d 215.

Interpretive case law, discussed at length in Environmental Petitioners' July 8, 2025 summary judgment brief, 9-12, makes clear that, to be a riparian owner, a person must have title to the property and own it in fee simple. *See, e.g.*, *Cassidy v. DNR*, 132 Wis. 2d 153, 160, 390 N.W.2d 81 (Ct. App. 1986); *de Nava v. DNR*, 140 Wis. 2d 213, 215, 409 N.W.2d 151 (Ct. App. 1987).

Before issuing an individual permit, DNR must find that all of the following requirements are met: (1) the applicant is the riparian owner; (2) the structure or deposit will be for the riparian owner's use; (3) the structure or deposit will not materially obstruct navigation; (3) the structure or deposit will not be detrimental to the public interest, and; (4) the structure or deposit will not materially reduce the flood flow capacity of a stream. Wis. Stat. §§ 30.12(3m)(a), 30.12(3m)(c).

Other provisions in chapter 30 also provide important context for understanding § 30.12. *Kalal*, 2004 WI 58, ¶46. Section 30.133 also provides relevant context because it limits the riparian rights that may be conveyed to another party, including the right to engage in § 30.12 activities. Enacted in 1994 through 1993 Wis. Act 167, § 30.133 provides:

> Beginning on April 9, 1994…no owner of riparian land that abuts a navigable water may grant by an easement or by a similar conveyance[14] any riparian right in the land to another person, except for the right to cross the land in order to have access to the navigable water. This right to cross the land may not include the right to place any structure or material…in the navigable water.

Reviewing courts have upheld this restriction. *See, e.g.*, *ABKA,* 2002 WI 106, ¶¶1-2, 5, 64; *Berkos*, 2008 WI App 122.

B. Enbridge is ineligible for individual permits under § 30.12 because Enbridge is not the riparian owner at locations where it proposes to cross navigable waters.

DNR's grant of an individual permit to deposit materials and place structures in navigable waters violates § 30.12 because Enbridge is not a riparian owner at numerous locations where regulated activities are proposed. That Enbridge largely has easements and does not own many

[14] DNR defines a "similar conveyance" to mean "any transfer in excess of 2 years." Wis. Admin. Code NR § 326.03(11).

properties along the Reroute in fee simple cannot reasonably be disputed. Enbridge admits as much. *See, e.g.*, Ex. 519, 50; Ex. 568; Ex. 636, 23; Ex. 638; Tr. 2509:24-2510:4. This brief nevertheless explains with specificity Enbridge's easements at exact crossing locations where regulated activities are proposed. *See infra* § III.B.ii.

There is also no reasonable dispute that Enbridge proposes activities in navigable waters. *See infra* § III.B.i. That the waters where those activities are proposed are navigable is also not in dispute. Ex. 631, 41-42, FoF 63, 64, 67, 69; Ex. 508. What is in dispute is whether those proposed activities trigger § 30.12's riparian owner requirement. For the reasons explained below, they do.

i. Enbridge's proposed activities in navigable waters trigger § 30.12's riparian owner requirement.

Enbridge proposes to conduct several activities that will require placing structures and depositing materials into navigable waters below the ordinary high water mark. Such activities include: placing work-zone isolation and flow bypass systems like dams, pumps, and flumes within the trench (Tr. 2606:11-2607:13; Ex. 631, 42-43, FoF 71); placing trench boxes, trench breakers, and sheet piling within the trench (Ex. 631, 20, Cond. 196; Tr. 460:17-25, 462:6-463:8; Ex. 631, 14, Cond. 127; Tr. 818:16-24, 921:9-12); placing the pipeline in the trench (Ex. 631, 25, FoF 5); surrounding the pipe with non-native "pipe bedding" materials (Tr. 401:4-16, 458:10-460:3); backfilling the trench with native material (Ex. 631, 20, Cond. 200); replacing native sandy silt material with non-native gravel (*id*.); replacing bedrock and boulders with rubblized material post-blasting (Tr. 3153:15- 3154:6); and placing erosion and sediment control materials like rip rap, biologs, and rootwads to stabilize waterway banks (Ex. 312; Ex. 631, 43, FoF 72). Because these activities require the placement of structures and deposits in navigable waters, they are necessarily regulated under § 30.12. *See supra* § III.A.

a. Section 30.12 applies to both temporary and permanent structures.

The plain text of § 30.12 applies broadly to the placement of "any" structure and deposition of "any" material on the beds of navigable waters, without regard to duration. The broad application of this language is only limited by express exemptions for structures placed on a temporary or seasonal basis. *See, e.g.*, Wis. Stat. §§ 30.12(1g)(b), 30.12(1g)(e), 30.12(1j)(a)2, 30.12(3)(a)6, 30.12(3)(b)2. By viewing these exemptions in context, it is clear that the prohibition on the placement of structures is intended to broadly encompass structures used for any duration. *See Wis. Mfrs. & Com., Inc. v. NRB*, 2025 WI 26, ¶¶23-25, 416 Wis. 2d 566, 21 N.W.3d 718 (finding the use of the word "any" was broad and only limited based on statutory criteria). Otherwise, the legislature's use of limiting terms like "permanent," "placed on a seasonal basis," "less than 24 hours," etc., would be superfluous. *Id.* Therefore, § 30.12(1) applies to all temporary and permanent structures and deposits on the beds of navigable waters. *See supra* § III.B.i.

DNR specifically found in its grant of a permit to Enbridge that § 30.12 applied to some of the temporary structures at issue here. Ex. 631, 42, FoF 71. DNR's issuance of § 30.12 permits for temporary structures in this instance shuts down any argument that the agency thought temporary structures could be permitted under § 30.20 as incidental to dredging.

1. Enbridge needs a § 30.12 permit at any location where it *could* place structures in navigable waters.

Unless the waterway is completely dry for the duration of the construction activity taking place below the ordinary high water mark, DNR requires Enbridge to use work zone isolation or flow bypass systems to isolate the work zone from the remainder of the waterway. Ex. 631, 19, Cond. 193. Enbridge does not know which waterways will have water present at the time of construction. Tr. 2612:4-25. Therefore, even in instances where the waterway is completely dry, DNR requires Enbridge to have isolation and bypass systems available on site if weather conditions change during construction. Ex. 631, 15, Cond. 132, 19, Cond. 194. However, § 30.12

prohibits Enbridge from placing structures such as isolation and bypass systems on the beds of navigable waters without a validly issued permit. *See supra* § III.B.i.a. To adhere to the conditions that DNR placed on the permit, Enbridge must be eligible for § 30.12 permits at each location where it proposes to cross a navigable water, regardless of whether discernible flow is present.

b. DNR cannot permit Enbridge to place structures or materials in navigable waters under § 30.20.

Section 30.20 does not provide legislative authorization exempting Enbridge from § 30.12's riparian ownership requirement. *See* Wis. Stat. § 30.12(1). The plain language of § 30.20 only references removal of materials; not the placement of structures or materials. The legislature's failure to explicitly mention § 30.12 anywhere in § 30.20 as it has elsewhere is clear textual evidence that the legislature did not intend an exemption in this circumstance.

Enbridge is not exempt from § 30.12's permitting requirements because placing structures and materials is necessary to conduct dredging under § 30.20. The legislature knows how to grant exemptions for permitted activities that are "necessary" to conduct other regulated activities, and it has granted such exemptions in various statutes. *See, e.g.*, Wis. Stat. §§ 30.05, 30.056, 30.06; 90.21(6); 295.605(4)(c). For example, a deposit of materials "that is necessary to perform an activity authorized under s. 30.125(2)(a)" is exempt from § 30.12's permitting requirements. Wis. Stat. §§ 30.12(1g)(am). Had the legislature intended to exempt structures or deposits that were "necessary to perform an activity" under § 30.20 from the requirements of § 30.12, it would have done so explicitly. If such an implicit exemption existed, DNR could simply choose the statute with less stringent eligibility requirements (i.e., § 30.20) and subsume the activities of statutes with more stringent requirements (i.e., § 30.12) within. Thus, an implicit exemption would render the separate permitting requirements authorized by the legislature superfluous.

Finally, DNR's past practice of permitting the placement of structures and deposits without regard to the riparian ownership requirement in § 30.12[15] does not in any way justify a continued departure from statutory requirements in this case. *State ex rel. Zignego v. WEC*, 2021 WI 32, ¶32, 396 Wis. 2d 391, 957 N.W. 2d 208.

ii. Record evidence demonstrates Enbridge does not own riparian properties at 53 locations where structures and materials will be placed in navigable waters.

Enbridge's interests in 49 riparian parcels along the Reroute where structures will be placed can be determined based on four exhibits admitted into the record. Those exhibits include 830, 568, 110, and 622, each of which is explained in detail below. An additional four riparian parcels involve permanent shore stabilization structures. *See* Ex. 312. DNR has determined that all 53 of these waters are navigable. Ex. 508; Ex. 631, 41-42, FoF 63, 64, 67, 69.

a. Relevant Exhibits

1. Exhibit 830

Exhibit 830 contains Appendix U to the EIS. Appendix U contains its own list of appendices, one of which is Appendix C: Map of Sampling Sites. Ex. 830, 49-172. This map is intended to provide the exact locations where Enbridge plans to sample waterbodies before, during, and after construction. To achieve its intended purpose, this map provides several kinds of data and explains that data in the legend at the bottom of every page.

In red, the map marks the path of the pipeline centerline. Placed along this centerline are yellow dots at 0.1-mile intervals, which represent mileposts along the Reroute. The first yellow dot is at 0, the final yellow dot is at 41, and the red line extends slightly beyond the final yellow dot, representing the 41.1-mile span of the Reroute. There are no missing milepost markers.

[15] When asked if DNR has always required the permittee to be the riparian owner, DNR admitted there have been "inconsistencies regarding the level of detail required when the project proponent is not the riparian." Tr. 5305:2-10.

There are three other dot colors that can be seen along the map. The green dot is used to represent where Enbridge plans to take samples upstream of the pipeline crossing. *See, e.g.*, *id*., 55. To label the waterbody where the sample will be taken, the map provides the waterbody's Feature ID. To label the upstream monitoring location, the map uses "Feature ID_u" in green text. The red dot is used to represent where Enbridge plans to take samples downstream of the pipeline crossing. *See, e.g.*, *id*. To label the downstream monitoring locations, the map uses "Feature ID_d" in red text. The purple dot represents the location where Enbridge plans to cross a waterbody. The waterbody crossing location is labelled only with the Feature ID in purple text. A series of orange lines cross various points of the map. These lines represent tract boundaries, and they are labelled with Enbridge tract names in brown text. These tract numbers are an internal numbering system that Enbridge uses to keep track of properties along the Reroute. Finally, the dark blue lines at various points on the maps represent delineated waterbodies.

Using the data listed above, the viewer of these maps can visually "walk" the Reroute from its start point in Bayfield County to its end point in Iron County, and observe all of the waterbodies, the proposed waterbody crossings, and the parcels of property along the way.

2. Exhibit 568

Exhibit 568 is Attachment K to the Permit application that Enbridge submitted with its original permit application and then revised in August 2020. This attachment contains a list of affected and abutter landowners along the proposed Reroute's mainline right-of-way. The list is formatted as a table, and the columns of that table include Enbridge tract name, landowner name, the landowner's address, and whether the landowner is affected/abutter.

3. Exhibit 110

Exhibit 110 is a compilation of property records for properties along the Reroute. The majority of these records are either easements, memorandums of options for right-of-way and

easement grants, or some type of deed. Each easement in Exhibit 110 contains: (1) the name of the landowner and grantor, (2) Enbridge's name and its position as an easement holder and grantee, (3) an Enbridge tract number,[16] (4) a statement that the purpose of the easement is for the construction, operation, and maintenance of a pipeline, among other purposes, and (5) a covenant between the Grantor and Grantee stating that "Grantor covenants with Grantee that they are the lawful fee simple owner of the aforesaid lands."

4. Exhibit 622

Exhibit 622 is the Wetland and Waterbody Impact Table, which was updated on September 11, 2024. This table contains field-delineated and desktop mapped waterbodies that will be crossed or affected by the proposed pipeline Reroute. Relevant columns in this table include waterbody Feature ID, General Feature Category, Anticipated Blasting Areas, Milepost, Project Component Name/Location, Proposed Pipeline Crossing Method and Flow Regime. This table also contains a column labelled "Permanent Fill (acres)." This column refers only to the "acreage of wetlands that will be permanently filled," not to the placement of backfill in trenches along the beds of waterbodies proposed to be crossed by the Reroute.

5. Exhibit 312

Exhibit 312 contains what Enbridge calls "Shoreline Protection Agreements." All three of the shoreline protection agreements in this exhibit were executed between Enbridge and the landowner(s) in May 2025, six months after permit issuance and five years after initial easement agreements were signed with those landowners. Ex. 312, 1, 4, 7; Ex. 110A, 4, 110J, 56. In these agreements, landowners authorize "the placement of miscellaneous structures, which may include rip-rap, biologs, rootwads, or other specified technology, below the ordinary high water mark."

[16] Enbridge uses the terms "tract number" and "tract name" interchangeably in various documents.

Ex. 312, 1, 4, 7. The landowners agreed to be treated as co-applicants "for a Wis. Stat. § 30.12 permit to install miscellaneous structures at the crossing" and authorized Enbridge to "make any filings with the [DNR] required to obtain a permit." *Id*.

b. Enbridge's easements in riparian properties

Environmental Petitioners understand that it will be laborious to determine Enbridge's interest in each of the many properties this issue involves. Rather than go through Enbridge's interests in all 53 properties, this brief provides narrative examples of the two categories of crossings (those where permanent shoreline stabilization will and will not be installed), followed by a footnote with corresponding citations for each crossing so the process identified in the narrative examples can be repeated as necessary.

1. Easements where permanent shoreline stabilization will not be installed.

There are 49 waterbody crossings where Enbridge has obtained an easement and proposes to place structures or deposits other than permanent shoreline stabilization on the beds of navigable waters. For example, Exhibit 830 indicates that the Reroute will cross a waterbody with the Feature ID WDH-04 at a property with the tract number WI-AS-021.000. Ex. 830, 56. The lawful fee simple owner of that property is the Gregor Trust, and John and Mary Gregor. Ex. 110D, 18-19 (identified as tract number WI-AS-021.000). On July 30, 2020, the Gregors and their trust conveyed an easement to Enbridge for the purpose of constructing, operating, and maintaining an oil pipeline across the property. *Id.*, 18, 20. WDH-04 is an intermittent waterway that may be crossed with either the open cut or dry crossing methods. Ex. 622, 1-2:41. Thus, Enbridge applied for and received a permit to place structures in a navigable water without being the fee simple owner of the riparian property. *See contra* Wis. Stat. § 30.12(3m) ("a *riparian owner* may apply")

(emphasis added). That same process can be followed for an additional 40 crossings.[17]

There are eight properties where Enbridge proposes to place structures or deposits other than permanent shoreline stabilization on the beds of navigable waters, but determining where the waterbody crossings are located requires a nuanced look at the maps in Exhibit 830. For instance, Exhibit 830 demonstrates that the Reroute will cross a waterbody with the Feature ID sase1015i at a property with the tract number WI-AS-120.002. Ex. 830, 87. While there is no purple dot demarcating a pipeline crossing location, there is a red dot marking a downstream sampling location and a green dot marking an upstream sampling location at Feature ID sase1015i. *Id*. The dark blue line that marks Feature ID sase1015i as a delineated waterbody clearly crosses the red line representing the pipeline somewhere between milepost 12.7 and milepost 12.8. *Id*. Feature ID sase1015i can be found in the Wetland and Waterbody Impact Table, which labels the crossing point at milepost 12.75. Ex. 622, 9-10:277. The property at this tract number is owned by Robert

[17] **WDH-100** (Ex. 830, 59; Ex. 110H, 41-42, 44; Ex. 622, 3-4:80); **Sasd013i** (Ex. 830, 65; Ex. 110O, 85-86, 88; Ex. 622, 3-4:125); **Sasd013i_x** (Ex. 830, 65; Ex. 110U, 122-23, 125; Ex. 110V, 130; Ex. 622, 5-6:134); **Sasa1020e** (Ex. 830, 65; Ex. 110U, 122-23, 125; Ex. 110V, 130; Ex. 622, 3-4:125); **Sasc041p** (Ex. 830, 65, 68; Ex. 110U, 122-23, 125; Ex. 110V, 130; Ex. 622, 5-6:136); **Sasa016e** (Ex. 830, 68; Ex. 110X, 141-42, 144; Ex. 622, 5-6:140); **Sasa067e** (Ex. 830, 72; Ex. 110AB, 169-70, 172; Ex. 622, 5-6:161); **Sasa066i** (Ex. 830, 73; Ex. 110AD, 181-82, 184; Ex. 622, 5-6:169); **Sasa068e** (Ex. 830, 74; Ex. 110AF, 193-94, 196; Ex. 622, 5-6:170); **Sasc012e_x1** (Ex. 830, 76-77; Ex. 110AI, 207-08, 210; Ex. 622, 7-8:204); **Sasc013e** (Ex. 830, 78; Ex. 110AJ, 215-16, 218; Ex. 622, 7-8:212); **Sasa021e** (Ex. 830, 78; Ex. 110AK, 224-25, 227; Ex. 622, 7-8:213); Sase1001e (Ex. 830, 79; Ex. 110AL, 232-33, 235; Ex. 622, 7-8:218); **Sase1003e** (Ex. 830, 82; Ex. 110AO, 259-60, 262; Ex. 622, 7-8:241); **Sase1008e** (Ex. 830, 85; Ex. 110AT, 296-97, 299; Ex. 622, 7-8:266); **Sase1011i** (Ex. 830, 86; Ex. 110AU, 304-05, 307; Ex. 622, 7-8:267); WDH-15 (Ex. 830, 88; Ex. 110AW, 320-21, 323; Ex. 622, 9-10:279); **Sasc1006p** (Ex. 830, 92; Ex. 110BE, 368-69, 371; Ex. 622, 9-10:317); **Sasc1009e_x2** (Ex. 830, 93; Ex. 110BE, 368-69, 371; Ex. 622, 9-10:322); **Sasa1028i** (Ex. 830, 93; Ex. 110BG, 380-81, 383; Ex. 622, 9-10:324); **WDH-20** (Ex. 830, 94; Ex. 110BI, 392-93, 395; Ex. 622, 9-10:338); **Sasc1003p_x1** (Ex. 830, 95; Ex. 110BK, 404-05, 406; Ex. 622, 11-12:345); **Sasd1015p** (Ex. 830, 104; Ex. 110BV, 467-68, 470; Ex. 622, 13-14:456); **Sase005p_x2** (Ex. 830, 107; Ex. 110BZ, 486-87, 489; Ex. 622, 13-14:473); **Sasv002e** (Ex. 830, 108; Ex. 110CB, 494-95; Ex. 622, 15-16:493); **Sasv004p** (Ex. 830, 108-109; Ex. 110CD, 512-13, 515; Ex. 622, 15-16:507); **Sasv007i** (Ex. 830, 110; Ex. 110CF, 526-27, 529; Ex. 622, 15-16:516); **Sasv020p** (Ex. 830, 111; Ex. 110CI, 546-47, 549; Ex. 622, 15-16:525); **Sasd1006e** (Ex. 830, 117; Ex. 110CN, 576-77, 579; Ex. 622, 17-18:587); **Sasd1005e** (Ex. 830, 118-19; Ex. 110CQ, 596-04, 612; Ex. 110CR, 616-18; Ex. 622, 17-18:594); **Sasv008i** (Ex. 830, 122; Ex. 110CU, 629-30, 632; Ex. 622, 19-20:623); **Sasa005e** (Ex. 830, 125; Ex. 110DA, 661-62, 664; Ex. 622, 19-20:671); **Sasw005** (Ex. 830, 128; Ex. 110DE, 682-83, 685; Ex. 622, 21-22:715); **Sasw006** (Ex. 830, 128; Ex. 110DE at 682-83, 685; Ex. 622, 21-22:717); **Sird1005i** (Ex. 830, 131; Ex. 110DG, 704-07, 709; Ex. 622, 23-24:756); **WDH-103** (Ex. 830, 133; Ex. 110DG, 704-07, 709; Ex. 622, 23-24:784); **Sira001i** (Ex. 830, 153; Ex. 110DG, 704-07, 723; Ex. 622, 27-28:938); **Sird004e** (Ex. 830, 165; Ex. 110DH, 733-34, 736; Ex. 622, 31-32:1036); **Sird009p** (Ex. 830, 166; Ex. 110DJ, 744-45, 747; Ex. 622, 31-32:1046); **Sirc1001e** (Ex. 830, 170; Ex. 622, 31:1066).

W. Riemer and Joanne Riemer Ex. 110AV, 313; *See also* Ex. 568, 9, 19. On February 14, 2020, Mr. and Mrs. Riemer conveyed an easement to Enbridge for the purpose of constructing, operating, and maintaining an oil pipeline across the property. Ex. 110AV, 312, 315. Sase1015i is an intermittent waterbody that could be crossed using either the open cut or dry crossing methods. Ex. 622, 9-10:277. That same process can be followed for seven other crossings.[18]

2. Easements where permanent shoreline stabilization will be installed.

Finally, there are four properties where Enbridge proposes to place structures or deposits including permanent shoreline stabilization, but has chosen to sign Shoreline Protection Agreements with the landowner, rather than obtaining the property in fee simple. For instance, record evidence demonstrates that the mainline of the Reroute will cross a waterbody with the Feature ID sase006p at a property with the tract number WI-AS-009.000. Ex. 830, 53. The property at this tract number was owned by Kelsey Elizabeth Larson and Elliot J. Larson. Ex. 110A, 2; *See also* Ex. 568, 7, 17. On March 18, 2020, Mr. and Mrs. Larson conveyed an easement to Enbridge for the purpose of constructing, operating, and maintaining an oil pipeline across the property. Ex. 110A, 1. After the easement was conveyed, ownership of parcel WI-AS-009.000 transferred to Randy and Lisa Larson. Randy and Lisa Larson entered into a Shoreline Protection Agreement with Enbridge on May 7, 2025. Ex. 312, 1. The Shoreline Protection Agreement acknowledges that Enbridge had previously executed an easement for the property located at WI-AS-009.000.

[18] **Sasc1005e** (Ex. 830, 91-92; Ex. 622, 9-10:306; Ex. 110AY, 332-33, 335; Ex. 568, 20); **Sasc026e** (Ex. 830, 97; Ex. 622, 11-12:394; Ex. 110BN, 423-24, 426; Ex. 568, 10, 17); **Sasc025i** (Ex. 830, 97; Ex. 622, 11-12:399; Ex. 110BN, 423-24, 426; Ex. 568, 10, 17); **Sasv006i** (Ex. 830, 108-09; Ex. 622, 15-16:510; Ex. 110CD, 512-13, 515; Ex. 568, 12, 16, 17); **Sasv012e** (Ex. 830, 122; Ex. 622, 19-20:628; Ex. 110CV, 637-38, 640; Ex. 568, 10); **Sasa004p** (Ex. 830, 125; Ex. 622, 19-20:673; Ex. 110DA, 661-65); **Sirb010p** (Ex. 830, 130; Ex. 622, 21-22:742; Ex. 110DG, 705, 711; Ex. 568, 4, 5).

Id., 1, ¶ 6. Sase006p is a perennial waterbody and will be crossed using the dry crossing method. Ex. 622, 1-2:8. That same process can be followed for an additional three crossings.[19]

iii. The Shoreline Protection Agreements do not make Enbridge eligible for a § 30.12 permit at those locations.

The Shoreline Protection Agreements contained in Exhibit 312 cannot be used as a substitute for riparian ownership. While Environmental Petitioners are not asking DHA to hold those agreements invalid under § 30.133, that provision is nevertheless important context for understanding why these agreements would be an inappropriate basis for finding that Enbridge is eligible for § 30.12 permits. *See supra* § III.A.

The landowners are also ineligible to place the structures or materials on the bed of the navigable waterway *for Enbridge's proposed project* because any structure or material must be placed "for the owner's use." Wis. Stat. § 30.12(3m)(a). First, Enbridge entered into Shoreline Protection Agreements with landowners five years after initial easement agreements were signed, and six months after it was made aware of Petitioners' § 30.12 claims. Enbridge admits that it approached landowners with the Agreements as a way to "mitigate" Petitioners' § 30.12 claims. Tr. 2511:1-16. Additionally, Enbridge is an oil pipeline company, not a company that independently installs erosion and sediment control measures. As such, Enbridge would not take on erosion and sediment control projects unless it was serving its own self-interest, and landowners would not reach out to Enbridge to have such measures installed on their behalf. Furthermore, Enbridge is installing and maintaining the proposed erosion and sediment control structures at its "sole cost," which it would have no reason to do if the structures were for the benefit of the riparian landowner. Ex. 312. Finally, Enbridge plans to completely indemnify landowners from, and take

[19] **Sasa047i** (Ex. 830, 57; Ex. 312, 7; Ex. 568, 9, 19-20; Ex. 622, 1-2:55); **Sasa046e** (Ex. 830, 57; Ex. 312, 7; Ex. 568 at 9, 19-20; Ex. 622, 1-2:57); **Sasb007i** (Ex. 830, 59; Ex. 110J, 53-54, 55; Ex. 568, 7, 17-18; Ex. 312, 4; Ex. 622, 3-4:86).

on all liability for, incidents arising from the project construction. *Id.* Enbridge should not be permitted to use post-hoc agreements with riparian landowners and rights-holders to obfuscate and evade its statutory obligations. Thus, Petitioners ask the ALJ to find that Enbridge is ineligible to place permanent bank stabilization measures at locations where it is only in possession of easements and Shoreline Protection Agreements.[20]

Finally, the Shoreline Protection Agreements propose to make landowners co-applicants for erosion and sediment control measures, as well as for "miscellaneous structures" or "other specified technology." Structures and materials such as the pipeline, backfill, dams and flumes, etc. cannot conceivably be for the use of the riparian landowners. Therefore, to the extent Enbridge claims to include such structures and materials within the Shoreline Protection Agreements, those arguments should be disregarded. For the same reason, Enbridge cannot use landowner agreements to circumvent the riparian owner requirement at the 49 crossings where permanent erosion and sediment control measures will not be necessary.

a. The modifications proposed to address the property interest issue should be rejected.

Enbridge proposes to modify Permit Condition 182 and WQC Condition 209 to read:

> Bank stabilization structures shall be installed following the design plans in the Wetland and Waterway Restoration and Post-Construction Monitoring Plan in the ECP, as conditioned in this permit, and as approved by [DNR]. With respect to the crossings of Bay City Creek at FeatureID sase006p, Beartrap Creek at FeatureID sasb007i, Little Beartrap Creek at FeatureID sasa0471i, the unnamed tributary to the Brunsweiler River at FeatureID sasc1006p; and the unnamed tributary to the Marengo River at FeatureID sase1015i, riprap or other permanent structures shall only be installed below the OHWM after a separate permit has been issued under Wis. Stat. s. 30.12 that includes the riparian owner(s) as co-permittees for those specified crossings.

[20] At the contested case hearing, Enbridge claimed to be in talks with a fourth landowner to have another Shoreline Protection Agreement signed. Tr. 2513:14-25. As of the submission of this brief, Enbridge has not provided proof of that agreement. For that reason, and for the reasons stated above, the ALJ should find that Enbridge is ineligible to place shoreline stabilization measures at this fourth location.

Enbridge's Not. of Proposed Modifications, 2 (Oct. 1, 2025) (emphasis in the original). This proposed modification does not resolve Enbridge's deficient permit application because, unless Enbridge obtains the properties in fee simple, whether by obtaining them through voluntary negotiations or through condemnation authority from the Public Service Commission (PSC),[21] DNR cannot issue that "separate permit." *See supra* § III.A. Even with the riparian owners as applicants, the proposed structures would not be for their use, but for Enbridge's. *See* Wis. Stat. § 30.12(3m)(a). Since there is a riparian owner requirement, the inquiry should end there, and the Permit should be revoked.

The proposed modification also does not address temporary structures at those locations or structures and materials placed in navigable waters at any of the other properties along the Reroute where Enbridge only has easements. Finally, because DNR's grant of WQC and the stormwater general permit both rely, at least in part, on the placement of work zone isolation systems to prevent increases to turbidity, the revocation of chapter 30 permits for those structures necessarily deprives Enbridge of its WQC and stormwater general permit. Ex. 631, 39-40, FoF 60i, 61a-b; Ex. 633, 3. The proposed modification should be rejected.

IV. THE REMOVAL OF MATERIAL FROM THE BEDS OF NAVIGABLE WATERS AUTHORIZED BY PERMIT #IP-NO-2020-2-N00471 DOES NOT MEET STATE REQUIREMENTS AND WATERWAY PERMITTING STANDARDS UNDER WIS. STAT. § 30.20.[22]

A. Legal Framework

i. Section 30.20

Wis. Stat. § 30.20 regulates the removal of material from the beds of navigable waters,

[21] Enbridge can seek condemnation authority pursuant to Wis. Stat. § 32.03(13). Enbridge did submit an application to the PSC, but only to obtain easements, and ultimately withdrew than application. *See* Ex. 638. Enbridge painting itself into a corner by failing to negotiate with the landowners or apply to the PSC to obtain properties in fee simple is not an adequate reason to dispense with section 30.12's riparian owner requirement.

[22] DNR's January 2, 2025 grant letter subsumed Environmental Petitioners' Objections 7, 8, and 9 into Issue 4.

generally referred to as "dredging." *See* Wis. Admin. Code NR § 345.03(5). Under § 30.20, "[u]nless an individual or general permit has been issued by [DNR] under this section or authorization has been granted by the legislature, no person may remove any material from the bed of any lake or navigable stream[.]" Wis. Stat. § 30.20(1)(b). To remove material from the beds of navigable waters, "a person may apply to [DNR] for an individual permit …" *Id.* § 30.20(2)(bn). DNR must issue that permit if it "finds that the issuance … will be consistent with the public interest …" *Id.* § 30.20(2)(c). This standard, like all public interest standards throughout chapter 30, invokes the Public Trust Doctrine and DNR's affirmative duty thereunder.

ii. Blasting regulations

Blasting in the beds of navigable waters is part of the removal or disturbance of material from those beds. *See* Wis. Admin. Code NR § 345.03(5). DSPS regulates the impacts of blasting outside controlled blasting site areas. Wis. Stat. § 101.15(2). DSPS' blasting regulations are codified in Wis. Admin. Code SPS ch. 307. The purpose of SPS 307, *inter alia*, is to "provide for the establishment of uniform limits on permissible levels of blasting resultants to reasonably assure that blasting resultants cause no injury, damage or unreasonable annoyance to persons or property outside any controlled blasting site area." Wis. Admin. Code SPS § 307.40.[23] "Controlled blasting site area" is the area from which the blasting operator can exclude people and property, either because it owns the property or has an agreement with the landowner. *Id.* § 307.20(10).[24, 25]

[23] "'Blasting resultants' means the physical manifestation of forces released by blasting, including but not limited to project matter, vibration and concussion, which might cause injury, damage or unreasonable annoyance to persons or property located outside the controlled blasting area." Wis. Admin. Code SPS § 307.20(9).

[24] "'Blast site' means the area where the explosive material is handled during loading of blastholes, including 50 feet in all directions from the perimeter formed by the loaded holes. A minimum of 30 feet may replace the 50-foot requirement if the perimeter of loaded holes is marked and separated from non-blast site areas by a barrier. The 50-foot or 30-foot distance requirements, as applicable, apply in all directions along the full depth of the blasthole…." *Id.* § 307.20(4).

[25] "'Operator' means the person who is responsible for the operation at a mine, pit, quarry, or construction site where blasting activity occurs." *Id.* § 307.20(18).

Blasting must "be conducted so as to prevent injury and unreasonable annoyance to persons and damage to public or private property outside the controlled blasting site area." *Id.* § 307.44(1).[26] The regulations address three adverse effects from blasting, including (1) flyrock; (2) noise; and (3) ground vibration. *Id.* § 307.44(2)-(4). Regarding impacts from ground vibration, SPS 307 lists buildings and other infrastructure like water towers, pipelines, and other utilities, tunnels, dams, impoundments, and underground mines in the vicinity of the controlled blasting site areas as protected property, but not land or water resources within controlled blasting site areas. *See id.* § 307.44(4).

SPS 307 requires blasters to prepare a blasting log "for each blast fired." *Id.* § 307.31(4)(a). These logs must be retained for at least three years and made available to DSPS upon request. *Id.* § 307.31(4)(b). The minimum amount of information required for each log is listed in SPS § 307.31(4)(c). SPS 307 also incorporates National Fire Prevention Association (NFPA) 495, Explosive Materials Code (2013) by reference. Wis. Admin. Code SPS § 307.21.[27] Like SPS 307, NFPA 495 contains a post-blasting record keeping requirement under the heading and likewise lists the minimum information required. NPFA 495, ch. 10 § 10.4.4.

B. Blasting the Beds of Navigable Waters Risks Significant Impacts to the Public Interest that DSPS Does Not Regulate, that DNR Has Not Adequately Assessed, and that Permit Conditions Will Not Avoid.

[26] "'Unreasonable annoyance' means excessive, repeated noise, action, or other disturbance caused by use of explosive materials that is not in compliance with the standards of this chapter." *Id.* § 307.20(21).
[27] "A copy of NFPA 495, Explosive Materials Code is on file in the offices of the department [of safety and professional services] and the legislative reference bureau." Wis. Admin. Code. SPS § 307.21, note.

The crux of the dispute over blasting bedrock in water resources is the extent of damage that blasting will cause to that bedrock, how that impacts water resources, and whether risks of impacts to water resources will be sufficiently avoided or minimized through permit conditions. If significant impacts will not be sufficiently avoided or minimized, then blasting is inconsistent with the public interest and cannot be permitted under § 30.20 even if in compliance with SPS 307. For the reasons below, a clear preponderance of the credible evidence shows that blasting bedrock in navigable water will cause new and extended fractures, which risk significant impacts to those waterways. Further, DNR did not have enough information to sufficiently evaluate potential impacts to public trust resources or whether permit conditions will adequately avoid or minimize those risks. Accordingly, DNR could not determine that the proposed removal of materials from navigable waters is consistent with the public interest. *See* Wis. Stat. § 30.20(2)(bn).

i. Blasting will adversely impact public trust resources.

a. Blasting will create and extend fractures in bedrock beyond the trenchline.

Neither the physics nor the purpose of blasting are in dispute. The purpose of blasting is to generate sufficient force to rubblize bedrock when other means of excavation are unavailing. Ex. 807, 302. *See also* Ex. 126, 8:18-22; Ex. 306, 9. Rubblizing bedrock to excavate it from the trench will necessarily result in "a local increase in the number of fractures in bedrock adjacent to blasting zones." Ex. 807, 302. *See also id.*, 311 .

Dr. Jesse Hampton used available information to model the extent to which the proposed blasting will create and extend fractures in bedrock using a physics-based, finite discrete element model. Ex. 100, 22-28; Ex. 126, 21:9-23:6; Tr. 653:10-655:15. This model demonstrates why obtaining site-specific information is crucial—"[s]mall changes in rock and fracture properties can contribute to a vastly different induced fracture 'footprint.'" Ex. 126, 23:1-2. "The most notable [variable] was the impact of natural fractures, which are ubiquitous in the proposed formations and

region of the proposed blasting sites." *Id.* 23:2-3. *See also* Tr. 654:6-13.

Enbridge expert Travis Davidsavor countered these findings by reference to the Silva, Worsey, and Lusk article (Ex. 381, 8:11-27, 29:21-27) which Dr. Hampton explained was based on a study of microcracks, not larger fractures included in his model. Tr. 642:20-647:18; Ex. 130. Mr. Davidsavor also conducted a test blast, but Dr. Hampton explained how the photos of the blasted bedrock did not undermine his opinion that damage extends beyond the trench to be excavated. Tr. 640:23-641:18.

b. New and extended fractures in bedrock create new hydrological connections that risk significant impacts to public trust resources.

Once blasted, bedrock has an "increased capacity for movement of water...." Ex. 807, 302. *See also id.*, 311. B.J. Bonin, a licensed geologist with extensive experience in hydrogeology, testified that "[a]ltering the fracture network by adding, enhancing, and clogging fractures may fundamentally and permanently change how water flows through the aquifer. Altering flow in one key fracture may change the flow in an entire section of the aquifer." Ex. 129, 7:2-5. *See also id.*, 11:1-13, 23:1-4.

Both Mr. Bonin and Dr. Hampton agree that increased capacity to move water can have lasting impacts:

> Newly developed and extended fractures permanently alter the hydrological behavior of the surface and groundwater systems. This can have minimal to no impact or can be significantly detrimental, which depends on subsurface hydrogeological properties and structure, as well as whether the environmental conditions are particularly water sensitive.

Ex. 126, 10:18-23. *See also* Ex. 129, 7:5-6 ("The impacts depend on which fracture or fractures are affected, and the effects can be cumulative, permanent, and wide-ranging."). These impacts include, but are not limited to, increased susceptibility to contamination, Ex. 129, 22:22-23, erosion, and changing "the course and current of [the] feature," *id.*, 24:3-6. *See also id.*, 16:18-17:18. Impacts can also emerge outside the immediate project area. *See, e.g.*, *id.*, 17:19-23.

These impacts implicate the public interest because they involve environmental conditions like water quality, quantity, and habitat that are necessary to support public trust uses. *See, e.g.*, *Sterlingworth*, 205 Wis. 2d at 710. This is especially problematic where blasting will be conducted in perennial and intermittent waters that can support the full range of public trust uses. *See, e.g.*, Ex. 622, 13-14:456, 473, 15-16:525, 17-18:565 (perennial tributaries to trout streams). *See also, e.g.*, *id.*, 21-22:715, 23-24:784 (Class II trout streams and areas of special natural resource interest).

The potential for impacts to public trust resources from blasting is supported by substantial, scientific evidence in the record, triggering DNR's affirmative duty to protect those resources. *Lake Beulah*, 2011 WI 54, ¶¶39, n. 28, 46. As demonstrated below, DNR ignored these potential impacts, deferring instead to DSPS regulations and treating trench breakers as a panacea without evaluating their efficacy to restore preconstruction hydrology of waterways.

ii. DSPS regulations neither protect water resources nor relieve DNR's affirmative duty to protect public trust resources.

DNR has the authority and duty to protect public trust resources, and SPS 307 does not address environmental impacts, to public trust resources or otherwise, within the "controlled blasting site area." DNR's environmental review staff and permitting staff appear to have inconsistent understandings of whose job it is to protect public trust resources from blasting. On one hand, the EIS states that "DSPS would require a blasting contractor to employ practices to protect the waterway." Ex. 807, 94. On the other hand, Mr. Ben Callan, the DNR Bureau Director who signed the wetland and waterway permit, stated the exact opposite. Tr. 5277:18-21 (indicating it is not his understanding "that DSPS would require Enbridge's blasters to employ [practices][28] to protect waterways."). DNR is "concerned that … blasting … does not result in impacts to those

[28] The transcript indicates that Attorney Feinauer used the word "mattresses" in his question instead of "practices," which is a clear transcription error.

trust responsibilities." Tr. 5174:20-24. Mr. Callan is correct that it is DNR's responsibility to protect public trust resources. Yet the Permit does not contain conditions to avoid or minimize impacts to public trust resources from blasting and inappropriately defers to DSPS regulations.

DSPS only regulates blasting outside the "controlled blasting site area." Wis. Stat. § 101.15.(2). *See also* Wis. Admin. Code SPS § 307.20(10). The controlled blasting site area is the area the operator either owns or "can take reasonably adequate measures to exclude or to assure the safety or persons of property." *Id.* § 307.40. The "uniform limits" established in SPS 307 therefore do not protect persons or property *inside* the controlled blasting site area. *Id.* § 307.40. Blasting causes impacts inside the controlled blasting site area, which includes damage to bedrock under navigable waters. DNR regulates those impacts.

Even if SPS 307 did regulate impacts inside a controlled blasting area, those regulations do not protect water resources. Instead, those regulations address flyrock, noise, and ground vibration, the latter of which is of most concern here. But SPS 307 only protects buildings and above- and below-ground infrastructure from ground vibration, not the ground itself, nor waters flowing upon that ground. *See* Wis. Admin. Code SPS § 307.44(4). Accordingly, DNR's analysis is paramount to limiting impacts to navigable waters. If that analysis indicates impacts that are inconsistent with the public interest even after conditions are imposed, the permit cannot issue.

iii. DNR did not possess sufficient geotechnical information to analyze the impacts of blasting on public trust resources.

DNR did not have meaningful, quantitative geotechnical data at blast sites sufficient to analyze site-specific blasting impacts on public trust resources and determine that blasting will be consistent with the public interest. Dr. Hampton explained during his live testimony that some of this information was obtained for non-blasting locations but not for any locations identified as candidate blasting sites. Tr. 634:12-635:5. *See also* Ex. 825. Importantly, information from one site

cannot be extrapolated to another. As the experts, including Mr. Davidsavor, agree, the geology along the proposed route can and does change rapidly. Ex. 381, 15:12-13. Dr. Hampton's key observation from his model is that even "[s]mall changes in rock and fracture properties can contribute to a vastly different induced fracture 'footprint.'" Ex. 126, 23:1-2. Thus, geotechnical data from one site cannot be used to evaluate potential impacts to another site. Ex. 126, 13:18-14:10. In any event, no such evaluation has been nor will be performed. Instead, Mr. Davidsavor testified that blasters will engage in a qualitative analysis of site-specific conditions as the blast site is exposed.

Site specific geotechnical data is necessary for DNR to make an informed determination as to whether blasting is consistent with the public interest in waterways. *See, e.g.*, Tr. 628:21-629:1. For example, Dr. Hampton notes that geotechnical data such "as the geometry of pre-existing, or natural, fractures is fundamental to understanding how the geologic 'system' behaves." Ex. 126, 10:3-9; *see also* Ex. 129, 25:12-18. That data is fundamental because, as Dr. Hampton observed, "[t]he most notable was the impact of natural fractures, which are ubiquitous…." *Id.* 23:2-3;*see also* Tr. 654:6-13. If DNR has insufficient information to make a public interest determination, a § 30.20 permit cannot issue. *See* Wis. Stat. § 30.20(2)(c).

a. Neither Enbridge nor DNR know all locations blasting could occur.

Record evidence and testimony demonstrate that neither Enbridge nor DNR know all the locations where blasting will be required. For example, the General Blasting Plan (GBP) indicates that "[i]n-stream blasting locations are subject to change based on on-site geotechnical investigation." Ex. 630, 488. Mr. Davidsavor also indicated that "additional blasting could be needed based on conditions encountered in the field." Ex. 381, 13:8-9. Mr. Callan also testified that he understands "[s]ome blasting sites won't be known until during construction." Tr. 5272:23-5273:3. This is extremely problematic. DNR cannot evaluate potential impacts to public trust

resources from blasting or determine that such blasting is consistent with the public interest in a specific waterway if it does not know whether blasting will occur in that waterway. If blasting is proposed in a waterway not previously identified, the GBP provides Enbridge with approval authority. Ex. 815, 482. DNR alone possesses authority to approve activities that remove material from navigable waters and cannot delegate that authority. *See* Wis. Stat. § 30.20(2)(c).

b. Enbridge's experts overstate the impacts from obtaining meaningful geotechnical data where public trust resources will be blasted.

Mr. Davidsavor indicated that obtaining geotechnical data for candidate blasting sites is prohibitive because doing so would result in negative impacts on the scale of constructing the pipeline. *See* Ex. 381, 14:14-18; Ex. 306, 34. This excuse is illogical. A significant portion of blasting along the Reroute will take place in uplands, however, and DNR only needs geotechnical data related to blasting in water resources. *See, e.g.*, Tr. 4533:5. Identified sites where blasting will or is likely to occur include 26 navigable waterways. *See* Ex. 622 (*compare* "General Feature Category" column, *and* "Anticipated Blasting Areas" column). As Dr. Hampton pointed out, Enbridge had no issue obtaining geotechnical data for HDD crossings. Ex. 126, 26:1-4. Enbridge could have obtained data at shallower depths for proposed blasting in navigable waters. Nevertheless, Enbridge did not gather that data, depriving DNR of information necessary to evaluate impacts to, and determine whether blasting will be consistent with, the public interest in navigable waters.

iv. Permit conditions do not sufficiently protect the public interest.

a. Blasters already limit blasting to the greatest extent practicable.

Permit Condition 123 requires Enbridge to "limit the extent of blasting in wetlands, waterways, and sensitive resources to the greatest extent practicable." Ex. 631, 14. Whether blasting is required is a binary question based on the ability to efficiently excavate bedrock using

non-explosive means like excavators or hydraulic rams. If those means are unavailing, blasting is required. Tr. 4526:23-4527:23, 4534:4-4535:4. Thus, blasting is already limited to the greatest extent practicable, and limiting blasting to only where it is required does not avoid or minimize impacts to public trust resources.

b. The GBP contains no substantive limitations on blasting and merely restates requirements from SPS 307 that are not designed to limit public trust impacts within controlled blasting site areas.

Condition 124 requires Enbridge to follow the GBP. Ex. 631, 14. The GBP states that it "is intended to address environmental impacts of blasting activities and to identify areas of concern along the proposed Project route." Ex. 630, 482. Instead, the GBP simply incorporates SPS 307 and otherwise defers to construction crews and blasting contractors in the field without requiring them to do anything to address environmental impacts. As a result, Condition 124 provides no additional protection of navigable waters within the controlled blasting site area.

The GBP requires site-specific blasting plans, but that requirement essentially outlines the process blasters must already follow to create a blasting log under SPS 307. *See, e.g.*, Tr. 3640:21-3641:2. Indeed, all the information required to be in a site-specific blasting plan is required to be compiled into the corresponding blasting log. *Compare* Ex. 630, 483-84, *with* Wis. Admin. Code SPS § 307.31(4). *See also* Tr. 4549:11-22 (acknowledging "overlap of this information"). The only real difference between the information required is the additional requirement in the blasting plan that Enbridge develop a "schedule identifying when blasting would occur within each waterbody greater than ten feet wide or within any designated cold-water fishery." Ex. 815, 483. Except Enbridge does not currently propose blasting in any waterbody greater than ten feet wide. *See, e.g.*, Ex. 381, 13:4-5. In any event, a schedule does not in dictate the blasting process but rather indicates when that process will occur.

Beyond that, the GBP requires that site-specific plans consider "environmental/site-

specific conditions that exist" but does not indicate how such conditions should be considered or require any action based on those considerations. Ex. 815, 483. Instead, the GBP states that "[b]lasting in or near environmentally sensitive areas…may include additional restrictions." *Id.*, 486. The GBP also states that "[s]pecial attention and focus shall be directed by the Contractor during all blasting activities to ensure complete implementation and enforcement of environmental requirements as stated in the [Environmental Protection Plan (EPP)]." *Id.*, 488. Neither the EPP nor its appendices, however, contain any environmental requirements for blasting. *See generally* Ex. 630, 57-246.

The site-specific blasting plan does not require a quantitative analysis of geotechnical site-specific data and potential impacts to public trust resources, much less provide for consideration of whether, based on such an analysis, blasting can be completed at a given location in a manner consistent with the public interest. *See generally* Ex. 630, 477-91. Dr. Hampton testified that the information necessary to analyze those impacts cannot be obtained in the field during construction. Ex. 126, 15:7-11. Mr. Davidsavor confirmed that observation when he testified that blasters can only perform a qualitative analysis of geotechnical properties as bedrock is exposed and drilled in the field. Ex. 381, 15:15-17. *See also* Tr. 4550:19-4551:16.

The GBP's site-specific blasting plan requirement, like SPS 307's blasting log requirement, is designed to verify compliance with SPS 307 on the back end, not to ensure DNR fulfills its affirmative duty to protect public trust resources on the front end. No information is required to be submitted to DNR before or after blasting. *See generally* Ex. 630, 477-91. Blasting contractors, the licensed blasters on site, do not have to submit site-specific blasting plans to DNR or even DSPS,[29] but to Enbridge. Ex. 630, 483. And there are no standards articulated under which

[29] DSPS does not issue a permit for specific blasts but simply licenses blasters to engage in blasting generally. *See* Wis. Admin. Code SPS chs. 305, 307.

Enbridge would review site-specific blasting plans except for compliance with regulations cited in the GBP. *See id.*, 6 (string citing federal and SPS regulations). The blasting logs required under SPS 307 do not have to be submitted to DSPS either, but merely available upon request for three years. Wis. Admin. Code SPS § 307.41(4)(b). NFPA 495 Chapter 10 also contains a postmortem blasting record keeping requirement for virtually the same minimum information. *Compare* Ex. 630, 483-84, *and* Wis. Admin. Code SPS § 307.31(4), *with* NFPA 495 Chapter 10 § 10.4.4.

In short, as relevant to public trust impacts, the GBP is nothing more than SPS 307 supplemented with information from the EIS and then compiled into a single document. *See e.g.*, Ex. 126, 18-23. Since SPS 307 does not protect public trust resources within the controlled blasting area, Condition 124 does not ensure that Enbridge's proposed blasting of the beds of navigable waterways will be consistent with the public interest.

c. There is no mechanism to ensure that preconstruction hydrology of public trust resources is restored because there is no requirement for hydrological monitoring of public trust resources where blasting will occur.

Condition 125 requires "areas of blasting in … waterways" to be restored to "preconstruction hydrology …immediately after installation of the pipe." Ex. 631, 14. However, there is no corresponding requirement for hydrological monitoring to ensure that this condition is met. *See* Ex. 631, 14 (Cond. 126 requiring wetland but not waterway hydrological monitoring). Further, the only blasting-specific hydrological control the permit requires is trench breakers, and those are inadequate as established above. *See supra* XX.

V. TEMPORARY CLEAR SPAN BRIDGES AUTHORIZED BY PERMIT #IP-NO-2020-2-N00471 DO NOT MEET STATE REQUIREMENTS AND WATERWAY PERMITTING STANDARDS UNDER WIS. STAT. § 30.123.[30]

Construction of the Reroute would include the installation of approximately 187 temporary

[30] DNR's January 2, 2025 grant letter subsumed the Bad River Band's Issues 9 and 10 into Issue 5.

clear span bridges (TCSBs) over navigable waterways. Ex. 631, 42, FoF 68; Ex. 633, 46, FoF 68,. Wis. Stat. § 30.123 governs the construction and maintenance of these bridges. To issue permits under that section, DNR must find that the bridges, among other requirements, will not be detrimental to the public interest. Wis. Stat. § 30.123(8)(c). The record does not support DNR's finding that these statutory criteria were met.

TCSBs can impact surface waters through soil compaction and redistribution, pollutants from vehicles, and blocking high water flow. Ex. 202, 55; Ex. 243, 49:11-14, 50:22-51:6. Without site specific evaluations, bridges may have inadequate clearance during high water levels, causing water to flow around the bridges, leading to erosion. Ex. 243, 51:8-16. If earthen approach ramps are deemed necessary due to safety concerns, Enbridge will evaluate their use, but DNR has not evaluated associated impacts, such as floodplain modification and sedimentation. *See* Ex. 243, 50:22-28; Tr. 3196:19-3197:10. DNR does not have the information necessary to determine the TCSBs for the Reroute will not be detrimental to the public interest, and therefore, erred in authorizing TCSBs for the Reroute under Wis. Stat. § 30.123.

VI. ACTIVITIES AUTHORIZED BY PERMIT #IP-NO-2020-2-N00471 DO NOT MEET STATE WQC STANDARDS UNDER WIS. ADMIN. CODE § 299.04.[31]

A. Legal Framework

i. Water Quality Certification

CWA § 401 requires applicants for a federal permit for activity resulting in a discharge to navigable waters to obtain certification from the state in which the discharge will originate that the discharge will comply with applicable WQS. 33 U.S.C. § 1341(a)(1). In Wisconsin, DNR is the certifying authority. Wis. Admin. Code NR § 299.01(1). When a WQC is requested, DNR must determine whether to deny, grant, conditionally grant, or waive certification. *Id.* §§ 299.01(2),

[31] DNR's January 2, 2025 grant letter subsumed Environmental Petitioners' Objections 10, 11, and 12 into Issue 6.

299.05. Without certification or waiver, "no person may conduct any activity which may result in any discharge into the waters of the state…." *Id.* § 299.03(1).

DNR may not grant WQC for an activity unless it has "reasonable assurance" that the associated discharge(s) will comply with enumerated WQS. *Id.* §§ 299.01(2)(b), 299.04, 299.05(3)(d). Otherwise, DNR shall deny WQC. *Id.* §§ 299.01(2)(a), 299.05(3)(e). Applicable WQS include those DNR promulgated for wetlands and surface waters. *Id.* § 299.04(1)(b)3.

ii. Water Quality Standards

DNR adopted wetland WQS to "protect, preserve, restore and enhance the quality of waters in wetlands and other waters of the state influenced by wetlands…." Wis. Admin. Code NR § 103.03(1). Wisconsin's wetland WQS contain criteria for protecting WFV. *Id.* § 103.(1)-(2); *see supra* 4.

DNR also established surface WQS to "preserve and enhance the quality of waters" with criteria that prohibit the following in such amounts that would interfere with public rights in waters of the state: (a) "Substances that will cause objectionable deposits on the shore or in the bed" of a waterbody; (b) "Floating or submerged debris, oil, scum or other material"; and (c) "Materials producing color, odor, taste or unsightliness." Wis. Admin. Code NR § 102.04(1)(a)-(c). Substances in such amounts that would cause acute harm to animal, plant, or aquatic life are likewise unlawful. *Id.* § 102.04(1)(d). For all waters with designated fish and other aquatic life uses, criteria for dissolved oxygen, pH, temperature, among others, apply. *Id.* § 102.04(4). Water quality criteria for bacteria apply to surface waters, all of which shall be suitable for recreational uses. *Id.* § 102.04(5)-(6). Similarly, all surface waters shall be suitable for supporting wildlife, to which criteria for toxic substances like mercury apply. *Id.* § 102.04(9).

B. DNR Lacks Reasonable Assurance that the Reroute Will Comply with WQS.

DNR does not have reasonable assurance that the Reroute will comply with WQS because it failed to establish an adequate water quality baseline from which to assess and compare post-construction impacts. Pre-construction water quality information is incomplete and inadequate, and DNR failed to review the entirety of the available water quality data before granting Enbridge the WQC. Environmental Petitioners have proven by a preponderance of the evidence that these deficiencies, described in turn below, are fatal to DNR's reasonable assurance determination that the Reroute will comply with applicable WQS. The WQC should therefore be invalidated.

iii. An adequate water quality baseline is necessary to assess compliance with WQS.

Witness Tracey Ledder defines a water quality baseline as water quality data collected over time and under various conditions to determine the overall characteristics of water resources before conducting an activity that may impact those waters. Ex. 128, 10:16-18. Water quality data is collected by measuring parameters in the field, such as dissolved oxygen, pH, temperature, or turbidity, which are useful indicators of the quality of the water resource. Tr. 1060:10-1061:2. A sufficient water quality baseline requires several years of data collected across many seasons to capture the range of natural variability for each water quality parameter sampled. Ex. 128, 10:20-21; Tr. 1062:2-10. DNR agrees that ideal baseline water quality data is collected over a period of five or even 10 years. Ex. 443, 1.

Accurate data interpretation is just as important as data collection for establishing an adequate water quality baseline. Histograms are a common graphing tool used to interpret a dataset, such as a collection of measurements of water quality parameters. Tr. 1066:22-24, 1067:5-6, 1068:1-4. Histograms are useful for determining how variable the dataset is. Tr. 1071:9-21. In a histogram, data can be normally distributed (which would appear as a bell-shaped curve with data symmetrically distributed) or may present more of a skewed distribution (a lopsided curve with

data points skewed to one side or the other).[32] For data that is normally distributed, the central tendency (the highest peak of the graph, i.e., where the majority of data points tend to fall on the graph, normally the average) and the standard deviation (measure of how broadly the data is distributed, i.e., how much the data points vary from the average) are suitable indications of the data's variability. Tr. 1071:9-21. The same is not true for water quality data, however, which are not usually normally distributed. Tr. 1071:22-24. Instead, when water quality parameters are measured and the results collected in a dataset, the data typically presents a skewed distribution. Ex. 118E, 173; Tr. 1071:22-1072:5. This means most water quality data points on a histogram will be skewed to one side along the lower values (the central tendency) and tail off to the higher values (outliers), or vice versa. Ex. 118E, 173; Tr. 1072:6-8.[33] Outlier data significantly affects the average values by either increasing or decreasing the average in a way that is not representative of the majority of data. Ex. 118E, 173; Tr. 1073:24-1074:2. Accordingly, the average value is an inaccurate measure of the central tendency of data in a skewed distribution. Ex. 118E 173; Tr. 1072:16-19. The median (middle) value is better used as a measure of the central tendency of a skewed dataset. Ex. 118E, 173; Tr. 1074:3-13. Reliance on the average and standard deviation for a skewed dataset distorts and inflates the variability of the data. Ex. 118E, 173; Tr. 1074:14-19.[34]

Enbridge witness Dr. Horn and DNR witness Mr. Callan testified in agreement with Ms. Ledder that a water quality baseline is necessary to assess project impacts to water quality. *See* Tr. 1062:24-1063:2; Tr. 4751:2-7; Tr. 5169:4-6; *see also* Ex. 443, 1. Underscoring the centrality of monitoring data to the WQC, DNR informed Enbridge that the "development and implementation

[32] *See* Ex. 118E, 173 for a visual representation of the difference between histograms with a normal versus skewed distribution. In a normal distribution, the mean (average of a data set), median (middle value) and mode (value that appears most often in a dataset), are all the same value. Ex. 118E, 172; Tr. 1070:2-5.
[33] *See* Ex. 118E, 174 for an example histogram of water quality data for suspended solids.
[34] *See also* Ex. 118E, 174 (a description of skewed water quality data for suspended solids that "includes only the mean and the standard deviation can erroneously be interpreted as a highly variable, widely spread data set").

of a robust water quality monitoring plan" could help support the DNR's determination "whether it has reasonable assurance that the [Reroute] would comply with [WQS]." Ex. 443, 1. The water quality monitoring plan (WQMP) Enbridge produced detailed, among other things, Enbridge's *plan* for collecting pre-construction water quality data for both surface water and wetlands. Ex. 829, 7-9, 13-14. The WQMP itself does not contain baseline water quality data. Results from water quality sampling are instead summarized in reports and submitted to agencies. Ex. 829, 19-20.

Prior to the completion of a final WQMP in June 2024, Enbridge completed its first round of pre-construction water quality sampling between September 18 and October 6, 2023, and compiled the data (hereinafter "2023 report"). Ex. 830, 8. Enbridge completed another sampling event and produced a second report the following year, between May 13 and June 5, 2024 (hereinafter "2024 report"). Ex. 119, 8. In addition to their own sampling, Enbridge also relied on historical water quality data accessed from publicly available databases. Ex. 830, 15-16; Ex. 119, 26. The stated purpose of the two reports is to document baseline water quality data from streams and wetlands along the Reroute to assist in comparing water quality pre- and post-construction. Ex. 830, 6; Ex. 119, 6. The 2023 report specifically asserts that baseline water quality data would "assist in…confirming that the Project will not result in a significant adverse impact to applicable [WQS]." Ex. 830, 6.

DNR and Enbridge went through several iterations of WQMP drafts before DNR was satisfied with the final June 2024 version. Ex. 829. For instance, in March 2023, DNR responded to Enbridge's initial WQMP draft: "As currently proposed, the Plan does not provide, establish, or assess baseline water quality conditions for surface waters that would be crossed or impacted by the proposed Project." Ex. 443, 1. DNR similarly found the initial WQMP failed to "establish how statistically valid water quality data would be collected and analyzed" and lacked a description on

how "Enbridge would evaluate and interpret the acquired data to assess the extent and impact of the proposed Project on the state's water resources." Ex. 443, 2. As late as January 2024, DNR was directing Enbridge to clarify and provide the "methodologies, guidances, [and] protocols" for collecting physical water quality parameters and to incorporate testing methodology for several chemical parameters. Ex. 424, 1. DNR's criticisms of Enbridge's earlier WQMP drafts show that the collection and analysis of baseline water quality data is crucial to DNR's WQC determination. However, as will be discussed below, serious deficiencies in the baseline data collection and analysis were never addressed, and, therefore, DNR did not have reasonable assurance that the Reroute will comply with applicable WQS.

iv. The baseline water quality data and analyses for this project are insufficient.

Enbridge's baseline water quality data and analyses for the Reroute are inadequate for a number of reasons: (a) the pre-construction water quality data collected by Enbridge is insufficient to establish an adequate water quality baseline; (b) the historical data Enbridge relies on is not representative of water quality along the Reroute; (c) Enbridge's analysis of the water quality data inflates its natural variability and understates localized project impacts; and (d) Enbridge's WQMP fails to define how pre- and post-construction water quality data will be compared to evaluate compliance with WQS.

a. Enbridge's pre-construction water quality sampling is deficient.

First, the pre-construction water quality data Enbridge collected in 2023 and 2024 do not meet DNR's stated requirements for what constitutes water quality baseline. Enbridge's select sampling falls short of the defensible five-year sampling period, fails to meaningfully capture seasonal variation over time and under various conditions, lacks an accurate analysis of the location and acreage of impacted wetlands and their functional values, and represents only a small fraction of waterbody crossings, thereby robbing DNR of an adequate water quality baseline for

the wetlands and waterways along the Reroute.

When it comes to baseline water quality for the Reroute, DNR witness Macaulay Haller testified that DNR was looking for the most recent five or even 10 years of water quality data taken at different times of year to account for seasonal variations. Tr. 4930:23-49313. However, Enbridge conducted only the two 2023 and 2024 sampling events. Ex. 830; Ex. 119. Indeed, the EIS describes the short-term nature of Enbridge's water quality sampling efforts as "providing a *snapshot* of [all proposed wetland and waterway crossings'] physical characteristics at the time of the surveys."[35] Ex. 807, 414-15 (emphasis added). DNR further criticized Enbridge's characterization of its water quality data as a "baseline sample" because "the sample does not characterize any stream's daily, seasonal, annual, or interannual variability in water quality." Ex. 807, 415. Compounding the inadequacy, Enbridge's 2023 water quality sampling is also flawed because it was conducted during the lowest flow period of the year (September and October). *See id*. Consequently, DNR determined that Enbridge failed to "fully characterize the water quality conditions for streams which run dry even for short periods during dry months." *Id*. For these reasons, DNR did not deem Enbridge's water quality sampling data "sufficient to statistically determine whether effects occur [in the sampled waterbodies]." *Id.*

Further, Enbridge's attempt to establish a wetland-specific water quality baseline failed because Enbridge has not determined the location and acreage of potentially impacted wetlands. Enbridge has failed to do so here. *See supra* § I.B. Without this foundational knowledge, DNR cannot possibly assess project impacts to wetland water quality. In addition, for the wetlands Enbridge did identify, DNR is unable to evaluate project impacts to WFV because Enbridge failed to correctly document pre-construction functional values of wetlands it did identify along the

[35] For streams with water at the time of the 2023 survey, which was conducted "during the period of lowest baseflows," Enbridge recorded chemical as well as physical conditions of the streams. *See* Ex. 807, 415.

Reroute. *See supra* § I.C. Since DNR promulgated water quality criteria to protect WFV, the determination whether a project complies with wetland WQS necessarily turns on the project's impacts to WFV. In this case, DNR lacks sufficient baseline information to determine project impacts to wetland functional values along the Reroute, let alone whether Enbridge will comply with wetland WQS.

The water quality baseline Enbridge attempted to establish is especially problematic given the nonexistent historical water quality data for a majority of smaller streams and wetlands along the Reroute that have never been sampled. Ex. 807, 414; Tr. 1059:9-14. Smaller streams in particular are among the most affected water resources by the Reroute, with ephemeral and intermittent streams accounting for a majority of stream miles and habitat areas in the Bad River watershed. Ex. 807, 414-15. Despite this, in its 2023 sampling event, Enbridge only sampled water quality at 12% (174 out of 1,458) of the total identified waterbody crossings, including wetlands and streams. *Id.*, 415. Broken down by waterbody type, Enbridge collected pre-construction water quality data for less than half (42%) of intermittent streams and just 6% of ephemeral streams. *Id.* Worse still is Enbridge's sampling of a mere 2% of known wetland crossings (17 out of 978 locations). *Id.*

b. The historical water quality data Enbridge relies on is insufficient.

Second, Enbridge and DNR's reliance on historical water quality data does not cure the deficiencies in Enbridge's pre-construction water quality sampling. For one, a significant majority of the historical data falls outside of the project area and is therefore not descriptive of the particular water resources along the Reroute. *See* Tr. 1059:8-9, 1065:1-5; *see also* Ex. 830, 18-28; Ex. 119, 29-38 (sampling locations of "historic" data). It is essential to capture pre-construction water quality data *at the sites of impact*, i.e., the wetlands and waterbodies along the Reroute, not locations elsewhere within the watershed. As a result, the historical water quality data is not

germane to the assessment of water quality impacts from the Reroute. Moreover, DNR acknowledged in the EIS that the historical water quality data Enbridge relied on was often collected for purposes other than characterizing baseline water quality conditions. Ex. 807,414. DNR concluded the historical water quality data "were incomplete in the sense of a traditional baseline survey." *Id*. Thus, Enbridge's attempt to establish a water quality baseline by supplementing its deficient sampling events with incomplete and unrepresentative historical water quality data failed.

c. Enbridge's analysis of the water quality data inflates natural variability and understates localized project impacts.

Third, Enbridge's analysis of the deficient water quality data is problematic because it inflates findings of natural variability and at the same time understates localized project impacts. Enbridge witness Dr. Horn analyzed potential project impacts to water quality (Ex. 376, 10:8-10; Tr. 4616:7-10) and found "a large amount of natural variability" in each water quality parameter assessed (Ex. 376, 12:9-10; Tr. 4751:21-25, 4752:1-7). Importantly, Dr. Horn relies on his findings of considerable natural variability to conclude minimal project impacts to water quality: "the Project's anticipated water quality impacts are expected to be exceedingly minimal in the context of natural variability (to the point they would be difficult or even impossible to identify and/or measure)." Ex. 376, 12:13-15.

A flaw in Dr. Horn's analysis is his improper reliance on the minimum, maximum, average, and standard deviation of values to indicate high natural variability of each water quality parameter assessed.[36] For example, Dr. Horn found a "large amount of variability" in total suspended solids (TSS). Ex. 304, 23; *see also* Ex. 376, 34:13-15. His finding is based on the minimum, maximum, average, and standard deviation of values for TSS from the historical and Enbridge-sampled

[36] *See, e.g.*, Ex. 304, 10, 20-21, 39, 43, 48-49.

datasets. Ex. 376, 34:6-13; Ex. 304, 23, 25. However, like most water quality data, TSS data is strongly skewed, with high outlier values likely resulting from sediment runoff during storm events. *See, e.g.*, Ex. 118E, 173-74. By relying on the average, minimum, maximum, and standard deviation to analyze this and other skewed water quality datasets, Dr. Horn inflates the variability of the data, thus distorting the results. The same pattern is true for each water quality parameter he analyzed.[37] His assessment of potential project impacts to each water quality parameter as compared to false notions of natural variability is therefore unreliable and, on this basis alone, should be given no weight in the review of DNR's WQC decision.

Another flaw in Dr. Horn's analysis is that he evaluates variability and impacts on the watershed scale for each water quality parameter. Ex. 376, 17:5-6, 25:22-26:2, 27:12-14, 34:6, 13-15, 55:5-7; *see also* Tr. 1076:22-1077:6. As Ms. Ledder testified, a watershed scale is inappropriate to establish natural variability for each water quality parameter and thus an adequate water quality baseline for the Reroute. Tr. 1077:22-1078:1. Larger, smaller, intermittent, and ephemeral streams and wetlands that make up a watershed can have drastically different characteristics. *See* Tr. 1077:12-15. The natural variation of one water quality parameter (e.g., TSS) in an entire watershed is, therefore, understandably high. An analysis and baseline for comparison of water quality on the watershed scale is unhelpful at best, and intentionally misleading at worst. *See* Tr. 1106:7-12. The final WQMP Enbridge submitted and DNR accepted requires Enbridge to sample water quality pre-construction, during active construction, and post-construction at locations upstream and downstream of each waterbody crossing or on either side of the construction workspace in a wetland. Ex. 829, 6-15. However, in his analysis, Dr. Horn admitted he did not assess natural variability and project impacts at each specific wetland and waterbody

[37] *See supra,* fn 35.

along the Reroute. Tr. 4754:20-24. Comparing pre- and post-construction results of water quality samples taken at wetlands and waterbodies along the Reroute to water quality data analyzed on the watershed scale, with an inflated interpretation of natural variability, provides an inaccurate assessment of project impacts to water quality. *See, e.g.*, Tr. 1080:10-22. Therefore, DHA should give no weight to Dr. Horn's assessment of water quality impacts.

d. Enbridge's WQMP fails to define how pre- and post-construction water quality data will be compared to evaluate compliance with WQS.

Finally, Enbridge failed to define how it will compare pre- and post-construction water quality data when evaluating compliance with WQS. According to the final WQMP, during its post-construction water quality sampling, Enbridge must develop a "corrective action plan" if it observes "notable physical parameter differences" in water quality (e.g., temperature). Ex. 829, 11. Similarly, Enbridge will compare chemical water quality parameters (e.g., TSS) sampled up- and downstream to identify "notable" or "substantial" differences and attempt to pinpoint the contributing source of the "difference." *Id.*, 12. A glaring omission in the WQMP is Enbridge's failure to define what is considered a "notable" or "substantial" difference in pre- versus post-construction water quality. *See* Tr. 1065:20-1066:9. Comparing the two without a preestablished criteria for defining "difference" is meaningless and fails to accurately determine water quality impacts, let alone exceedances of WQS. *See, e.g.*, Tr. 1078:8-12, 1092:22- 1093:9 (discussing pH), 1097:25-1098:11 (discussing TSS), 1106:13-18.

v. DNR failed to review the most recent baseline water quality data before granting the WQC.

In addition to the inadequacy of the data and analyses, DNR's review of the water quality data for this Reroute is problematic for at least two reasons: (1) DNR reviewed and incorporated Enbridge's 2023 report into the EIS, even though that report was not completed in accordance with the final WQMP; and (2) DNR failed to review the 2024 report before making its decision to

conditionally grant the WQC, despite possessing advance knowledge of Enbridge's 2024 water quality sampling plans.

First, the 2023 report provides baseline water quality data collected in late 2023. However, Enbridge, in cooperation with DNR, did not finalize its WQMP until June 2024. Therefore, Enbridge did not and could not follow the final WQMP when collecting pre-construction water quality data in 2023. Despite this knowledge, DNR incorporated the 2023 report into the EIS and relied upon it for assessing project impacts to water quality. Tr. 5023:13-21. *See also* Ex. 807, 414-15. Accordingly, DNR knowingly relied on an incomplete and insufficient water quality baseline when determining compliance with WQS.

Second, the final WQMP put DNR on notice of Enbridge's plan to conduct a second round of pre-construction water quality sampling in 2024. *See* Ex. 829, 9. Despite that, DNR decided to grant the WQC in November 2024 without waiting to review the pre-construction water quality sampling results in the 2024 report, which was finalized in December 2024. DNR's failure to review the more recent of just two reports containing pre-construction water quality data for the Reroute means DNR again knowingly made determinations about project impacts to water quality based on incomplete and insufficient data.

The two (in)actions described above are inconsistent with DNR's own statements regarding the significance of water quality baseline in assessing project impacts and compliance with WQS. DNR witness Ben Callan affirmed the importance of DNR's review of the most recent baseline or "preconstruction" water quality data presented in the 2023 and 2024 reports. Tr. 5257:4-5258:16. The failure to do so, along with the above-described deficiencies with the baseline water quality data and analyses, means DNR could not have determined project impacts to water quality, much

less had reasonable assurance that the Reroute complied with WQS. Nothing DNR nor Enbridge has done or provided to date cures the fatal flaws. As such, the WQC should be invalidated.

VII. THE EIS DID NOT CONTAIN A COMPLETE ENVIRONMENTAL ANALYSIS IN ACCORDANCE WITH WIS. STAT. § 1.11(2)(C) AND WIS. ADMIN. CODE NR §§ 150.30(2)(F), (G), AND (H).[38]

The Permit is invalid because DNR failed to consider reasonable alternatives to the Reroute, in violation of WEPA and Wis. Admin. Code NR ch. 150. First, DNR adopted an impermissibly narrow project purpose in the EIS, using Enbridge's stated purpose of continuing to transport crude oil and natural gas liquids (NGLs) through its Line 5 pipeline, while decommissioning the segment that crosses the Bad River Reservation. *See* Ex. 807, 31. DNR's alternatives analysis stemmed from this purpose and considered only alternative means *for Enbridge* to transport *all current Line 5 product*, via other existing pipelines, truck, rail, or barge *individually*. DNR did not consider alternatives to the Reroute that would accomplish an "altered purpose" of the project, despite having evidence that a *hybrid combination* of these alternative modes of transport is the most reasonable, economical, and likely market reaction to a shutdown of Line 5. DNR's failure to consider reasonable alternatives to the Reroute runs afoul of its mandate under WEPA. *See* Wis. Stat. § 1.11(2)(c)3; Wis. Admin. Code NR § 150.30(2)(e).

A. Legal Framework

Before an agency undertakes any "major action[ ] significantly affecting the quality of the human environment," WEPA requires preparation of an EIS that evaluates, among other considerations, the environmental impacts of, and alternatives to, the proposal. Wis. Stat. § 1.11(2)(c). In preparing an EIS, DNR must include "[a] description of the purpose of the proposed project[,]" "[a] list of reasonable alternatives to the proposed project, particularly those that might

[38] DNR's January 2, 2025 grant letter subsumed Environmental Petitioners' Objections 5, 9, 15, and 16 into Issue 7.

avoid all or some of the adverse environmental effects of the project[,]" and "an explanation of the criteria used to discard certain alternatives from additional study." Wis. Admin. Code NR § 150.30(2)(b) and (e). *See also* Wis. Stat. § 1.11(2)(e) (requiring the agency to "[s]tudy, develop, and describe appropriate alternatives to recommended courses of action…."). "Alternatives" are defined as "other actions or activities which may be reasonably available to achieve the same or *altered purpose* of the proposed action or project, including the alternative of no action." Wis. Admin. Code NR § 150.03(2) (emphasis added). If information relevant to any content required to be included in an EIS, is "incomplete or unavailable," DNR must identify that information and describe its relevance. Wis. Admin. Code NR § 150.30(2)(h).

An EIS that does not "describe alternatives within the meaning of" § 1.11(2)(e) is inadequate. *Wis.'s Envtl. Decade, Inc. v. PSC,* 79 Wis. 2d 161, 178, 255 N.W.2d 917 (1977) [hereafter, "*WED I*"]. "The obligation imposed by [Wis. Stat. §1.11(2) (c)]…is not inherently discretionary…. It contemplates judgment…reasonably exercised within the limits imposed by the Act." *Wis.'s Envtl. Decade, Inc. v. PSC,* 79 Wis. 2d 409, 423-24, 256 N.W.2d 149 (1977) [hereafter, "*WED II*"]. DNR has the burden to produce a reviewable record to demonstrate its decisions were reached upon a sufficient preliminary factual inquiry premised upon proper construction of WEPA. *See id.*, 418.

B. DNR Failed to Describe the Purpose of and Reasonable Alternatives to the Reroute in its WEPA Analysis.

After receiving Enbridge's application, DNR issued a Draft EIS (DEIS) and opened a public comment period. Ex. 631, 26, FoF 19. The DEIS adopted Enbridge's stated purpose for the project. Ex. 904, 4. The comment period on the DEIS closed on April 15, 2022. Ex. 807, 132. In October 2023, PLG Consulting published a report containing an overview of the North American hydrocarbon supply chain, an analysis of the markets currently supplied by Line 5, and a discussion

of alternative supply chain and market options for Line 5 product (hereafter, "PLG Report"). *See* Ex. 123. The PLG Report identifies "solutions…that can be implemented almost immediately" (Phase I solutions) and "solutions likely requiring 12-18 months for implementation and/or nominal capital investment" (Phase II solutions) which "together are able to satisfactorily provide commercially reasonable and operationally feasible alternative supplies of Line 5 products to affected facilities and areas with 100% of the required replacement volume."[39] Ex. 123, 42. The alternatives to the Reroute discussed in the PLG Report include a combination of modes of transport, which the authors explain is the most cost-effective, and likely market response to a shutdown of Line 5. *See* Ex. 123, 8-17.

A subset of Environmental Petitioners submitted the PLG Report to DNR on December 11, 2023, explaining that the PLG Report "concludes that meeting market demands in the event of a Line 5 shutdown through alternatives would be both commercially viable and operationally feasible, and that existing infrastructure would enable the bulk of Line 5's crude oil and natural gas liquid supply to be quickly replaced." Ex. 122, 2. *See also* Ex. 121. Environmental Petitioners met with DNR staff on January 31, 2024 to discuss the implications of the PLG Report for DNR's WEPA review for the Reroute. Tr. 3594:9-20.

DNR released the final EIS in September 2024. Ex. 807. The EIS continued to adopt a purpose statement for the project as articulated by Enbridge: "to continue transporting crude oil and NGLs through its Line 5 pipeline, while decommissioning that portion of line that crosses the Bad River Reservation." Ex. 807, 31. Despite having the information presented in the PLG Report, DNR's EIS discussed existing pipelines, rail, and waterborne alternatives independent from each

[39] The PLG Report also identifies "Phase III solutions" which "are ones that the industry may choose to pursue to enhance throughput, efficiency, and/or additional optionality over a longer period of time." Ex. 123, 42.

other, but again did not discuss hybrid alternatives to transporting Line 5's product. Ex. 807, 149-52.

In its permitting documents, DNR confirmed that it "considers the basic purpose of the Project to be continuing the transport of crude oil and NGLs through Line 5 to Enbridge's existing delivery locations in approximately the same capacity as the existing line." Ex. 631, 25 (FoF 6); Ex. 633, 27 (FoF 6). DNR dismissed using other, existing pipelines to transport Line 5 product and individual alternative modes of transporting Line 5 product, such as rail, truck, or barge, as not "consistent with the scope of the Project or its purpose of continuing to transport crude oil and NGLs through Enbridge's Line 5 pipeline." Ex. 631, 29; Ex. 633, 29. DNR explained at hearing that it "has been [DNR's] standard practice" to state the applicant's project purpose in an EIS. Tr. 3564:19.

By using Enbridge's purpose, DNR effectively predetermined the outcome of its alternatives analysis in the EIS by defining an impermissibly narrow purpose for the project. *See Simmons v. U.S. Army Corps of Eng'rs,* 120 F.3d 664, 666-67 (7th Cir. 1997).[40] After erroneously constraining its alternatives analysis by adopting a narrow purpose, DNR did not "consider and evaluate the environmental consequences of alternatives available to them" within the framework of Wis. Stat. § 1.11(c), such as the hybrid transport alternative explained in the PLG Report. *See WED II*, 79 Wis. 2d at 416.

DNR defended its decision to adopt Enbridge's stated purpose of the project at the hearing, but provided no explanation for why it did not consider hybrid modes of transport as alternatives to the Reroute, despite the PLG Report's explanation that a hybrid combination of product

[40] While WEPA governs Wisconsin agencies, the interpretation of the federal National Environmental Policy Act (NEPA) provides persuasive authority in interpreting WEPA. *See Applegate-Bader Farm, LLC v. DOR,* 2021 WI 26, ¶20, 396 Wis. 2d 69, 955 N.W.2d 793.

transport is the most cost-effective, and likely market response to a shutdown of Line 5. Indeed, the PLG Report confirms that market actors were already making contingency plans for a Line 5 shutdown when the report was issued in late 2023. Ex. 123, 8. DNR has the burden of producing a reviewable record to demonstrate its decisions were reached upon a sufficient preliminary factual inquiry premised upon proper construction of WEPA. *See WED II,* 79 Wis. 2d at 418. The EIS is inadequate because it does not describe reasonable alternatives to the project as required by Wis. Stat. § 1.11(2). *WED I*, 79 Wis. 2d at 178. DNR's refusal to consider hybrid modes of transporting Line 5's product as alternatives to the proposed project constitutes an impermissibly narrow purpose and alternatives analysis, in violation of DNR's mandate under WEPA. The EIS and permits based on the analysis therein are void.[41]

VIII. THE EIS DID NOT CONTAIN A COMPLETE ENVIRONMENTAL ANALYSIS IN ACCORDANCE WITH WIS. STAT. § 1.11(2)(C) AND WIS. ADMIN. CODE NR §§ 150.30(2)(F), (G), AND (H).[42]

The Permit is invalid because DNR failed to include the complete environmental analysis required by WEPA and its implementing regulations. Among other requirements for an EIS, DNR must describe "the human environment that will likely be affected," evaluate the "direct, secondary and cumulative effects," and identify and describe the relevance of "information that is incomplete or unavailable…." Wis. Admin. Code NR § 150.30(2)(f),(g), and (e).

The record, and this brief, are replete with descriptions of how the FEIS fails to adequately describe the existing environmental conditions of the Reroute and surrounding area. *See, e.g.*, *supra* 4-6 (DNR relied on Enbridge's incomplete wetland inventory and definition); 7-8 (DNR

[41] Environmental Petitioners' WEPA claim does not in any way concern the purported economic impacts of the project testified to by Dr. Brannon, i.e., jobs created, local property tax revenues, etc. His testimony is therefore not relevant to this claim either.

[42] DNR's January 2, 2025 grant letter subsumed the Bad River Band's Issues 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, and 13 into Issue 8.

audit of Enbridge's WRAMs revealed inconsistencies with observed conditions); 8 (springs and seeps were not adequately identified); 12 (no soil density data for matting areas); 14-17 (inadequate investigation to identify artesian conditions); 52-54 (all blasting locations are not known). Direct impacts of the project were mischaracterized or ignored. *See, e.g.*, *supra* 9-10 (describing wetland impacts as temporary that will persist for decades or indefinitely); 10-11 (matting impacts based on dissimilar conditions); 67 (the EIS relies on the 2023 report, which does not comply with final WQMP). As were secondary and cumulative impacts. *See, e.g.*, *supra* 22 (DNR failed to weigh cumulative impacts on WFV); 22-24 (no discussion of impacts of methylmercury); 24-27 (oil spill modeling ignores flood conditions). The EIS does not account for this or other missing information. DNR failed to adequately describe the environment the Reroute will impact or what those impacts will be and fails to describe missing information. It does not comply with the requirements of WEPA.

IX. THE CONSTRUCTION ACTIVITIES PROPOSED IN THE NOTICE OF INTENT DOES NOT MEET THE TERMS AND CONDITIONS FOR COVERAGE UNDER THE WPDES CONSTRUCTION SITE STORMWATER GENERAL PERMIT NO. WI-S067831-6.[43]

DNR unlawfully granted Enbridge coverage under Wisconsin Pollutant Discharge Elimination System (WPDES) General Permit No. WI-S067831-06 (GP) for stormwater discharges associated land disturbing construction activities because the Reroute does not meet the eligibility requirements under the GP. The Reroute falls under three exclusions provided in the GP: § 1.2.2 (wetland impacts); § 1.2.3 (impacts to endangered and threatened resources); and § 1.2.5 (WQS). Ex. 770, 5. Therefore, DNR should have denied GP coverage and instead required Enbridge to obtain an individual WPDES permit for construction site stormwater discharges.

First, under § 1.2.2, land disturbing construction activities and associated stormwater

[43] DNR's January 2, 2025 grant letter subsumed Environmental Petitioners' Objection 13 and 14 into Issue 9.

discharges that affect wetlands are not eligible for coverage under the GP *unless* DNR determines compliance with wetland WQS. For reasons stated above, DNR lacked requisite information to determine compliance with wetland WQS. This exclusion alone disqualifies Enbridge from coverage under the GP.

Second, GP § 1.2.3 excludes activities and associated stormwater discharges that affect endangered and threatened species unless DNR determines compliance with applicable state law. Species along the Reroute that fall into this category include Braun's holly-fern and sweet colts-foot. *See* Tr. 5149:1-23; Ex. 244, 68:25-69:27; Ex. 235. When DNR granted Enbridge coverage under the GP, Enbridge had not obtained an ITP for Braun's holly-fern, and has to date not obtained an ITP for risks associated with sweet colts-foot. For these additional reasons, the Reroute is ineligible for coverage under the GP, thus DNR should have denied coverage, and DHA should now withdraw it.

Third, GP § 1.2.5 excludes activities and associated stormwater discharges that DNR determines will "cause or have reasonable potential to cause or contribute to an excursion above any applicable water quality standard." Ex. 770, 5. All waters of the state must meet general WQS, including preventing "color, odor, taste or unsightliness…in such amounts as to interfere with public rights in waters of the state" and "substances…in amounts which are acutely harmful to animal, plant or aquatic life." Wis. Admin. Code NR § 102.04(1)(c)-(d). These narrative WQS can be exceeded by varying amounts of sediment discharged depending on the conditions of the water resource (such as size and flow rate). Similarly, different amounts of sediment discharged would impact wetlands differently based on the unique functional values.

DNR assessed, among other things, impacts to water quality from releases of drilling fluid during HDD, which DNR determined are "likely." Ex. 807, 349-50; Ex. 631, 633, FoF 60(j). DNR

witness Mr. Callan testified that such a release could acutely harm aquatic life, especially if released into a smaller, inherently more sensitive, stream. Tr. 5254:18-5255:7. At the very least, DNR had knowledge that HDD releases have a reasonable potential to contribute to an excursion above narrative WQS for TSS. In addition to this contemplated WQS violation, DNR otherwise lacked sufficient information to determine other project activities and associated stormwater discharges comply with WQS, as was required to grant coverage under the GP. DNR errored in doing so, thus the grant of coverage under the GP should be revoked.

CONCLUSION

Based on the facts and law discussed above, DHA should adopt Environmental Petitioners' Proposed Conclusions of Law filed contemporaneously herewith and accordingly enter an order invalidating DNR's decision to issue the Permit, stormwater GP coverage, and water quality certification for the Reroute.

Respectfully submitted this 10th day of November 2025.

Electronically signed by Robert D. Lee
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