

**UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF LOUISIANA**

HOLY CROSS NEIGHBORHOOD  
ASSOCIATION, et al.,

*Plaintiffs,*

v.

UNITED STATES ARMY CORPS OF  
ENGINEERS,

*Defendant.*

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\* Case No. 03-370 (Consolidated with)  
\* Ref. No. 10-1715  
\* Section: L (1)  
\* Judge: Fallon  
\* Magistrate Judge: Roby (4)  
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112-004.1

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**PLAINTIFFS' SECOND MOTION FOR SUMMARY JUDGMENT**

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Pursuant to Rule 56 of the Federal Rules of Civil Procedure and Rule 56.1 of the Local Rules of the U.S. District Court for the Eastern District of Louisiana, Plaintiffs Holy Cross Neighborhood Association, Gulf Restoration Network, Louisiana Environmental Action Network, Citizens Against Widening the Industrial Canal, and Sierra Club respectfully move this Court for Summary Judgment on their First, Second, and Third Claims. As grounds for their Motion, the Plaintiffs state:

1. There are no genuine issues of material fact relevant to this Motion and the Plaintiffs are entitled to judgment as a matter of law.
2. On November 12, 2010 this Court granted Plaintiffs' First Motion for Partial Summary Judgment on Standing (No. 169).
3. The Plaintiffs have submitted a Memorandum in Support of Plaintiffs' Second Motion for Summary Judgment.

**Wherefore:** This Court should GRANT the Plaintiffs' summary judgment that the U.S. Army Corps of Engineers (the Corps), its May 20, 2009 Record of Decision, and its March 31, 2009 Supplemental Environmental Impact Statement (the Supplement), all violate: 1) NEPA by failing to take a "hard look" at the environmental impacts of the Industrial Canal project and by failing to analyze reasonable alternatives; 2) this Court's 2006 Order by failing to comply with NEPA; and 3) the Clean Water Act's mandatory 404(b)(1) Guidelines by not selecting the least environmentally damaging practicable alternatives, by not providing a non-arbitrary reason for installing a deep-draft lock, and by discharging in violation of an applicable Louisiana Water Quality Standard.

Further this Court should VACATE and REMAND the Corps' Supplemental Environmental Impact Statement and Record of Decision and ENJOIN the Corps and the U.S. Army Chief of Engineers and Commanding General of the U.S. Army Corps of Engineers (as the Corps' officer personally responsible for compliance) from continuing with the Inner Harbor Navigation Canal Lock Replacement Project until the Corps complies with the National Environmental Policy Act and the Clean Water Act.

Respectfully submitted on March 28, 2011,

s/ Thomas Davis

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Thomas Davis, Student Attorney

s/ Roger Yamada

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Roger Yamada, Student Attorney  
Tulane Environmental Law Clinic  
6329 Freret Street  
New Orleans, Louisiana 70118  
Telephone: (504) 865-5789  
Fax (504) 862-8721

s/ Adam Babich

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Adam Babich, SBN: 27177  
Tulane Environmental Law Clinic  
6329 Freret Street  
New Orleans, Louisiana 70118  
Telephone: (504) 865-5789  
Fax (504) 862-8721  
Babich Direct Line (504) 862-8800  
ababich@tulane.edu

*Counsel for Plaintiffs*

**CERTIFICATE OF SERVICE**

I hereby certify that on March 28, 2011March 28, 2011, I caused as copy of the foregoing to be served through the Court's CM/ECF system to all parties.

s/ Adam Babich

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Adam Babich

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**PLAINTIFFS’ REVISED MEMORANDUM IN SUPPORT OF  
SECOND MOTION FOR SUMMARY JUDGMENT**

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Plaintiffs Holy Cross Neighborhood Association, Gulf Restoration Network, Louisiana Environmental Action Network, Citizens Against Widening the Industrial Canal, and Sierra Club respectfully submit this Revised Memorandum in Support of their Second Motion for Summary Judgment that the U.S. Army Corps of Engineers (the Corps), its May 20, 2009 Record of Decision, and its March 31, 2009 Supplemental Environmental Impact Statement (the Supplement) all violate: 1) NEPA by failing to take a “hard look” at the environmental impacts of the Industrial Canal project and by failing to analyze reasonable alternatives; 2) this Court’s 2006 Order by failing to comply with NEPA; and 3) the Clean Water Act’s mandatory 404(b)(1) Guidelines by not selecting the least environmentally damaging practicable alternatives, by not providing a non-arbitrary reason for installing a deep-draft lock, and by discharging in violation of an applicable Louisiana Water Quality Standard.

This Court should VACATE and REMAND the Corps’ Supplemental Environmental Impact Statement and Record of Decision and ENJOIN the Corps and the U.S. Army Chief of

Engineers and Commanding General of the U.S. Army Corps of Engineers (as the Corps' officer personally responsible for compliance) from continuing with the Inner Harbor Navigation Canal Lock Replacement Project until the Corps complies with the National Environmental Policy Act and the Clean Water Act.

### **Introduction**

The Corps built on a rotten foundation when it issued its Supplement that incorporated by reference the defects of its 1997 Environmental Impact Statement. For example, the Supplement incorporated the 1997 document's mistaken conclusion that installing a deep-draft lock or a shallow-draft lock would have "very similar impacts."<sup>1</sup> This could hardly be the case when a deep-draft lock requires dredging and disposing of twice as much contaminated sediment.<sup>2</sup> The Corps' failure in 1997 to grapple with the impacts of the Industrial Canal's contaminated sediments is beyond dispute, since this Court found in 2006 that the Corps had "failed to take a 'hard look' at the environmental impacts and consequences of dredging and disposing of the canal's contaminated sediment ...."<sup>3</sup> Now, five years later, the Corps repeats its failure by incorporating its 1997 analyses—that ignored ramifications of contaminated sediments—into the 2009 Supplement.

The Supplement also added new deficiencies to the list: 1) it did not consider a single shallow-draft alternative in light of the reduced volume of contaminated dredged material that a

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<sup>1</sup> See 1997 Environmental Impact Statement at 30 (attached as Exhibit A, p. 3); see also Supplement at 25 (stating that "these [lock alignments, locations, configurations and construction methods] alternatives were described in the 1997 EIS and are incorporated herein by reference") (attached as Exhibit B, p. 6).

<sup>2</sup> Compare 1997 Environmental Impact Statement at 85 (chart showing that Plan 3a would dredge 1.533 million cubic yards of sediment) (attached as Exhibit A, p. 5) with 2009 Supplement at 57-58 (stating that Recommended Plan 3b, the Float-in-Place plan, would require dredging more than 3 million cubic yards of sediment) (attached as Exhibit B, p. 16-17).

<sup>3</sup> Order and Reasons at 13 (No. 107).

shallow-draft lock would produce, despite the Corps' earlier findings that a shallow-draft lock project would "allow safe and proper functioning of the lock for shallow-draft navigation," would "produce[] the greatest net benefits over costs of any of the plans considered in detail," and would "be a socioeconomically and environmentally acceptable plan;"<sup>4</sup> 2) it rejected bucket dredging, which is "designed to minimize re-suspension of sediment during the dredging operation ..."<sup>5</sup> and which the Corps has used in "maintenance dredging" at the Industrial Canal,<sup>6</sup> in favor of more damaging hydraulic dredging a) "[b]ecause of the large volumes of material that would be dredged" without considering the feasibility of bucket dredging for a shallow-draft lock that would involve less sediment, and b) because of the need to meet an unrealistic project schedule;<sup>7</sup> 3) it rejected, on the basis of cost, disposing of the project's most contaminated sediment in a landfill, which the Corps has done with sediment from maintenance dredging of the Industrial Canal,<sup>8</sup> in favor of placing it in what the Corps has termed a "confined disposal facility," which is essentially a berm located in Louisiana's wetlands, without considering the lesser cost of landfill disposal of a reduced volume of contaminated sediment from a shallow-draft lock; and 4) it failed to analyze the potential for overtopping of the confined disposal facility in the event of widespread flooding.

The Corps doomed its own analysis by pre-judging the project's merits and by allowing the Port of New Orleans to make the key decisions. Rather than keeping an open mind about the

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<sup>4</sup> 1997 Environmental Impact Statement at 30, 34 (attached as Exhibit A, p. 3-4).

<sup>5</sup> U.S. Army Corps, Public Notice: Proposed Maintenance Dredging, May 16, 2006, at 3 (No. 88-1).

<sup>6</sup> *Id.*; see also Order and Reasons at 12 (No. 107).

<sup>7</sup> 2009 Supplement at 57 (attached as Exhibit B, p. 16); see also Def.'s Mem. in Support of its Mot. to Dismiss Pls.' CWA Claim at 14 (No. 146-1) (noting that the project is "contingent upon whether Congress grants additional funding for the project, an eventuality that may or may not come to pass").

<sup>8</sup> U.S. Army Corps, Public Notice: Proposed Maintenance Dredging, May 16, 2006, at 4 (No. 88-1).

project's value until it completed its studies, the Corps adopted the goal of producing a "defensible document" that would "allow the project to move forward to construction."<sup>9</sup> An excerpt from the Corps' meeting minutes demonstrates how the Port, rather than the Corps' studies, shaped the Supplement's Recommended Plan:

"[t]he 'jury is still out' on deep vs shallow draft. Cost sharing will be 50/50 between the Government and the IWTF [Inland Waterways Trust Fund]. However, the IWTF includes the Port of New Orleans, which both wants and is willing to pay for Deep Draft. *Finalized.*"<sup>10</sup>

Thus, approximately one year *before* the Corps completed its soil sampling, and approximately two years *before* it completed its updated economic analysis, the Corps pre-judged the outcome of its NEPA analysis and committed to installing a deep-draft lock based on the Port's desires.<sup>11</sup> The Corps did not even consider a shallow-draft lock in light of its obvious advantage of reducing the amount of contaminated dredged sediment.

Once the Corps completed its soil and economic analyses, it chose to remain willfully blind to their implications on its alternatives analysis, stubbornly clinging to the Port's desire for a deep-draft lock in the face of clear evidence from its own studies that "the benefits of the recommended plan to deep-draft traffic would be *non-existent*"<sup>12</sup> and would require disposing of twice as much contaminated sediment as a shallow-draft lock. Corps personnel themselves were baffled as to how the Corps could justify its deep-draft lock decision, with one project team

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<sup>9</sup> See Letter from the Corps to Senator Landrieu, April 17, 2008, US641169 (attached as Exhibit C).

<sup>10</sup> Corps Meeting Minutes, October 24, 2006, US641594-US641595 (emphasis added) (attached as Exhibit D, p. 2-3).

<sup>11</sup> See Corps Meeting Agenda and Notes, September 7, 2007, US641697 (attached as Exhibit E) (stating "SAP [Sediment Analysis Plan] Schedule: ... [s]ampling to be completed next week ... [n]o lab sample results have been submitted to District"); see also 2009 Supplement, Appendix O: 2008 Updated Economic Analysis.

<sup>12</sup> 2009 Supplement, Appendix S: Public Comments and Response to Comments, at 57 (emphasis added) (attached as Exhibit F, p. 5).

member remarking: “I just don’t know how we got to a 36’ depth based on shallow draft benefits.”<sup>13</sup> Another Corps member’s explanation of this quandary was “[c]ongressional deals were made and legislation was passed saying that the Corps was to pay 65% of the Deep draft increment ....”<sup>14</sup>

As a result of the Corps’ willful blindness, the Corps is in violation of NEPA, this Court’s 2006 Order, and the Clean Water Act. The Corps is in violation of NEPA because 1) the Corps did not consider the potential of a shallow-draft alternative to reduce the volume of contaminated dredged sediment; 2) the range of lock alternatives the Corps did consider was too narrow; 3) the Corps rejected bucket dredging without considering its use for a shallow-draft lock project; 4) the Corps rejected landfill disposal of the project’s most contaminated sediment without considering its use for a shallow-draft project; 5) the Corps failed to quantify the risk of the so-called “confined disposal facility’s” overtopping and releasing the project’s most contaminated sediment into the Lake Pontchartrain Basin; and 6) rather than conducting a fresh alternatives analysis, the Corps “incorporated by reference” many of the 1997 Environmental Impact Statement’s faulty conclusions about the project’s impacts, tainting the entire Supplement.

The Corps also is in violation of this Court’s 2006 Order, which enjoined the project until the Corps complied with NEPA.<sup>15</sup>

Finally, the Corps is in violation of the Clean Water Act’s mandatory 404(b)(1) Guidelines because 1) the Corps has not selected the least environmentally damaging lock size, dredging, and disposal alternatives that still meet the basic project purpose; 2) the Corps has not

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<sup>13</sup> See Email from Greg Ruff to Jim Wojtala, June 24, 2008, US641713-US641714 (attached as Exhibit G, p. 2-3).

<sup>14</sup> *Id.* (attached as Exhibit G, p. 2-3).

<sup>15</sup> Order and Reasons at 13 (No. 107).



offered a non-arbitrary reason for installing a deep-draft lock; and 3) the project's discharge of pollutants will violate an applicable Louisiana water quality standard.

Were the Corps to finally take the required "hard look" at the environmental impacts of this project, and for the first time acknowledge the implications of its own studies, it may well decide that spending \$1 billion to install a deep-draft lock and imposing unquantified risks on the Lake Pontchartrain Basin does not make sense considering how this money could otherwise be spent to protect the Gulf Region from the devastating effects of flooding and hurricanes.

### **Standard of Review**

"Summary judgment is appropriate where the record demonstrates that there is no issue of material fact and the moving party is entitled to judgment as a matter of law." *Bolton v. City of Dallas*, 472 F.3d 261, 263 (5th Cir. 2006); Fed. R. Civ. P. 56(a) ("The court shall grant summary judgment if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law. The court should state on the record the reasons for granting or denying the motion."). This Court should hold unlawful and set aside agency action that it finds to be arbitrary and capricious, not in accordance with law, in excess of statutory limitations, or not supported by substantial evidence. 5 U.S.C. § 706(2).

### **Factual Background**

This Court summarized the basic facts of this case in its Order and Reasons at 1-4 (No. 107).<sup>16</sup> Following this Court's opinion, the Corps issued a Supplemental Environmental Impact Statement (the Supplement) in March 2009 in which it considered three deep-draft (36-foot deep) lock alternatives in addition to a No-build/Deauthorization alternative: 1) the 1997

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<sup>16</sup> For online access to the 1997 Environmental Impact Statement and the 2009 Supplement, see the Corps' Inner Harbor Navigation Canal Lock Replacement Project website at <http://www.mvn.usace.army.mil/pd/projectsList/reports.asp?projectID=107&projectP2=108785>.

Environmental Impact Statement's Recommended Plan; 2) a Cast-in-Place Plan; and 3) a Float-in-Place Plan, which is the Supplement's Recommended Plan.<sup>17</sup> The Supplement considered two alternatives for dredging the volume of sediment necessary for a deep-draft canal: 1) bucket dredging; and 2) hydraulic dredging, and it recommended hydraulic dredging.<sup>18</sup> Finally, the Corps considered three alternatives for disposing of the volume of dredged sediment produced from excavating a deep-draft canal: 1) disposal of all material in a so-called "confined disposal facility;" 2) disposal of some material in the so-called confined disposal facility and the remainder in the Mississippi River; and 3) disposal of some material in a landfill and the remainder in the Mississippi River.<sup>19</sup> The Supplement recommended the second disposal alternative.<sup>20</sup> The Supplement did not consider any alternatives for dredging or disposing of the volume of dredged sediment from a shallow-draft alternative.

The Corps issued a Record of Decision on May 20, 2009 approving "continued construction."<sup>21</sup> The Record of Decision selected the Float-in-Place Plan, hydraulic dredging, disposing of "dredged material unsuitable for open water discharge" in the confined disposal facility, and disposing of "material determined to be suitable for freshwater disposal" in the Mississippi River.<sup>22</sup> The Corps has already used bucket dredging and landfill disposal for sediment from "maintenance dredging" of the Industrial Canal.<sup>23</sup>

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<sup>17</sup> See 2009 Supplement at Abstract (attached as Exhibit B, p. 3).

<sup>18</sup> *Id.* at 57 (attached as Exhibit B, p. 16).

<sup>19</sup> *Id.* at 53, 58 (attached as Exhibit B, p. 13, 17).

<sup>20</sup> *Id.* at 6 (attached as Exhibit B, p. 5).

<sup>21</sup> Record of Decision: Inner Harbor Navigation Canal Lock Replacement Project, Orleans Parish, Louisiana, May 20, 2009, at 1 (attached as Exhibit H, p. 2).

<sup>22</sup> *Id.* at 2-3 (attached as Exhibit H, p. 3-4); see also 2009 Supplement at 5-6 (attached as Exhibit B, p. 4-5).

<sup>23</sup> U.S. Army Corps, Public Notice: Proposed Maintenance Dredging, May 16, 2006, at 3, 4 (No. 88-1).

The Corps uses what it calls confined disposal facilities for “upland disposal of dredged material.”<sup>24</sup> For this project, the “confined” disposal facility is essentially a berm located in Louisiana’s wetlands that will “house” the project’s most contaminated sediment.<sup>25</sup> The Corps has admitted that it did not model “the potential for overtopping [of the confined disposal facility] in the event of widespread flooding” because it considered this modeling effort to be “beyond the scope” of the Supplement,<sup>26</sup> even though it acknowledged that “[t]he project was enjoined [in part] because the potential effects of flooding and subsequent overtopping of the confined disposal facility were not fully assessed.”<sup>27</sup>

### Argument

#### **I. THE CORPS IS VIOLATING NEPA.**

The Corps is violating NEPA because it failed to take a “hard look” at the environmental impacts of the project. NEPA’s procedures are meant to “insure that environmental information is available to public officials and citizens *before* decisions are made and *before* actions are taken.” 40 C.F.R. § 1500.1(b) (emphasis added). An agency must consider in a “detailed statement” the environmental impacts of the proposed action and alternatives to the proposed action. 42 U.S.C. § 4332(C). To comply with NEPA, it is insufficient for an agency to simply “generate paperwork--even excellent paperwork.” 40 C.F.R. § 1500.1(c). Instead, an agency must “make decisions that are based on [an] understanding of environmental consequences, and take actions that protect, restore, and enhance the environment.” 40 C.F.R. § 1500.1(c). The

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<sup>24</sup> See 2009 Supplement, Appendix E: Conceptual CDF Design, at 1 (attached as Exhibit I, p. 3).

<sup>25</sup> See *id.* at 1, 4 (attached as Exhibit I, p. 3, 4).

<sup>26</sup> See 2009 Supplement, Appendix S: Public Comments Received During the Public Review Period, at 29 (attached as Exhibit F, p. 3).

<sup>27</sup> *Id.* at 30. (attached as Exhibit F, p. 4).

ultimate standard of NEPA compliance is whether the agency took a “‘hard look’ at environmental consequences.”<sup>28</sup>

The Corps’ Supplement failed to take a hard look at the project’s environmental consequences in six ways. First, the Supplement failed to consider the alternative of installing a shallow-draft lock to reduce the volume of contaminated dredged sediment. The Corps admitted in its 1997 Environmental Impact Statement that a shallow-draft lock project would “allow safe and proper functioning of the lock for shallow-draft navigation,” would “produce[] the greatest net benefits over costs of any of the plans considered in detail,” and would “be a socioeconomically and environmentally acceptable plan.”<sup>29</sup> A shallow-draft lock would also reduce the quantity of dredged contaminated sediment by half, increasing the feasibility of bucket dredging and landfill disposal of contaminated sediment. Second, the lock size alternatives that the Supplement did consider were virtually indistinguishable. Third, the Supplement improperly rejected bucket dredging, which minimizes resuspension of sediment and which the Corps already uses at the Industrial Canal,<sup>30</sup> on the faulty grounds that 1) too much sediment would be involved, without considering bucket dredging’s feasibility were a shallow-draft lock to be constructed instead, and on the faulty grounds that 2) hydraulic dredging is necessary to meet the project schedule, even though a) the Corps has asserted that there currently is no money to go forward with the project, and b) the Corps has not determined whether hydraulic dredging is necessary to meet the project schedule for a shallow-draft lock that would involve less sediment. Fourth, the Supplement improperly rejected landfill disposal of the project’s most contaminated sediment without considering the feasibility of landfill disposal for a

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<sup>28</sup> *Natural Resources Defense Council, Inc. v. Morton*, 458 F.2d 827, 838 (D.C. Cir. 1972).

<sup>29</sup> 1997 Environmental Impact Statement at 30, 34 (attached as Exhibit A, p. 3-4).

<sup>30</sup> See U.S. Army Corps, Public Notice: Proposed Maintenance Dredging, May 16, 2006, at 3 (No. 88-1); see also Order and Reasons at 12 (No. 107).

shallow-draft lock, which would involve half as much sediment. Also, the Corps already uses landfill disposal for sediment dredged from the Industrial Canal.<sup>31</sup> Fifth, the Supplement did not examine the potential for overtopping of the so-called confined disposal facility in the event of widespread flooding. Sixth, the Corps should have issued a new environmental impact statement rather than its Supplement that “incorporated by reference” the 1997 Environmental Impact Statement’s deficiencies.

Because of these violations, the Corps’ Supplement and Record of Decision are arbitrary and capricious, not in accordance with law, in excess of statutory limitations, and not supported by substantial evidence. *See* 5 U.S.C. § 706(2).

**A. The Corps Did Not Consider a Single Shallow-Draft Lock in Light of Contaminated Sediments.**

The Corps failed to “rigorously explore” and “evaluate all reasonable alternatives” because it omitted consideration of a shallow-draft lock alternative in light of that alternative’s potential to reduce the volume of contaminated dredged sediment.<sup>32</sup> An agency’s environmental impact statement must “rigorously explore and objectively evaluate all reasonable alternatives” and “[d]evote substantial treatment to each alternative ... so that reviewers may evaluate their comparative merits.” 40 C.F.R. § 1502.14(a)-(b). The agency’s environmental impact statement must discuss the reasons for eliminating an alternative. 40 C.F.R. § 1502.14(a)-(b). The Fifth Circuit requires that an environmental impact statement allow for a “reasoned choice” between alternatives.<sup>33</sup> An environmental impact statement is inadequate if viable but unexamined

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<sup>31</sup> U.S. Army Corps, Public Notice: Proposed Maintenance Dredging, May 16, 2006, at 4 (No. 88-1).

<sup>32</sup> A shallow-draft lock, as the Corps uses that term, refers to a lock with a depth of 22 feet. A deep-draft lock has a depth of 36 feet.

<sup>33</sup> *See, e.g., Davis Mountains Trans-Pecos Heritage Ass’n. v. Federal Aviation Admin.*, 116 Fed.Appx. 3, 8 (5th Cir. 2004).

alternatives exist.<sup>34</sup> Also, the discussion of alternatives in an earlier NEPA document cannot rectify the failure to consider alternatives fully in a final environmental impact statement.<sup>35</sup>

The Corps' Supplement only considered deep-draft locks, one of which was the 1997 Environmental Impact Statement's Recommended Plan. The Supplement justified its failure to consider any shallow-draft locks by incorporating the 1997 Environmental Impact Statement's faulty assumption that installing a shallow-draft lock or a deep-draft lock would have "very similar impacts."<sup>36</sup> That assumption is wrong because the Industrial Canal sediment is contaminated and a deep-draft lock requires dredging and disposing of twice as much contaminated sediment, so their relative impacts are not "very similar."<sup>37</sup> This Court has already found that because the Corps failed to come to grips with contaminated sediments in its 1997 Environmental Impact Statement, the Corps "failed to take a 'hard look' at the environmental impacts and consequences of dredging and disposing of the canal's contaminated sediment ...."<sup>38</sup>

In light of the Corps' 2008 Updated Economic Analysis that found that deep-draft vessel traffic would not even benefit from a deep-draft lock, it was especially important for the Supplement to rationally explain why a shallow-draft lock alternative was not even considered. The 1997 Environmental Impact Statement found that a shallow-draft lock project would "allow safe and proper functioning of the lock for shallow-draft navigation," would "produce[] the

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<sup>34</sup> See *NRDC v. U.S. Forest Serv.*, 421 F.3d 797, 813 (9th Cir. 2005).

<sup>35</sup> See *NRDC v. Callaway*, 524 F.2d 79, 94 (2d Cir. 1975).

<sup>36</sup> 1997 Environmental Impact Statement at 30 (attached as Exhibit A, p. 3); see also 2009 Supplement at 25 (stating that "these [lock alignments, locations, configurations and construction methods] alternatives were described in the 1997 EIS and are incorporated herein by reference") (attached as Exhibit B, p. 6).

<sup>37</sup> Compare 1997 Environmental Impact Statement at 85 (chart showing that Plan 3a, one of the shallow-draft alternatives, would dredge 1.533 million cubic yards of sediment) (attached as Exhibit A, p. 5) with 2009 Supplement at 57-58 (stating that Recommended Plan 3b, the Float-in-Place plan, would require dredging more than 3 million cubic yards of sediment) (attached as Exhibit B, p. 16-17).

<sup>38</sup> See Order and Reasons at 13 (No. 107).

greatest net benefits over costs of any of the plans considered in detail,” and was “a socioeconomically and environmentally acceptable plan.”<sup>39</sup> Further, in responding to a public comment questioning the need for a deep-draft lock since the closure of the Mississippi River-Gulf Outlet (MR-GO), the Corps admitted that there was no benefit to installing a deep-draft lock:

[w]ith the closure of the MRGO, there will be no route for deep-draft vessels to service existing and future industries on the IHNC [Inner Harbor Navigation Canal]. Based on trends in deep-draft traffic following hurricane Katrina, the cost benefit analysis assumes that *the benefits of the recommended plan to deep-draft traffic would be non-existent*.<sup>40</sup>

**B. The Lock Size Alternatives that the Corps Did Consider Were Virtually Indistinguishable.**

The Corps’ Supplement considered an unreasonably narrow range of lock size alternatives by only considering deep-draft locks. An agency’s NEPA document is deficient when the agency fails to consider a range of alternatives adequate to allow for informed decision-making.<sup>41</sup> In *Friends of Yosemite Valley*, the Ninth Circuit held that a National Park Service’s supplemental environmental impact statement was inadequate because the three action alternatives it considered 1) presented an unreasonably narrow range of proposed actions, and 2) were “virtually indistinguishable” and “not varied enough to allow for a real, informed choice.”<sup>42</sup>

Here, the Corps’ Supplement considered an unreasonably narrow range of proposed actions because it only considered deep-draft locks. The Supplement’s lock size alternatives were also virtually indistinguishable from each other because they included, in addition to a no-action alternative: 1) the 1997 Environmental Impact Statement’s Recommended Plan (deep-

<sup>39</sup> 1997 Environmental Impact Statement at 30, 34 (attached as Exhibit A, p. 3-4).

<sup>40</sup> 2009 Supplement, Appendix S: Public Comments and Response to Comments, at 57 (emphasis added) (attached as Exhibit F, p. 5).

<sup>41</sup> See *Friends of Yosemite Valley v. Kempthorne*, 520 F.3d 1024, 1039 (9th Cir. 2008).

<sup>42</sup> *Id.* at 1038-39.

draft lock); 2) the Cast-in-Place Plan (deep-draft lock), which the Supplement stated “[was] similar to the 1997 plan;” and 3) the Supplement’s Recommended Plan, the Float-in-Place Plan (deep-draft lock), which the Supplement stated “[was] *very* similar to the 1997 EIS Plan.”<sup>43</sup>

Thus, the Corps considered three deep-draft locks that were nearly identical. In *Klamath-Siskiyou Wildlands Center v. U.S. Forest Service*, the Eastern District of California held that the Forest Service arbitrarily and capriciously failed to consider an adequate range of alternatives in an environmental assessment for a forest harvest project.<sup>44</sup> The environmental assessment considered a no-action alternative and two action alternatives that the court found nearly identical.<sup>45</sup> The action alternatives were identical in “the largest component of the project in terms of impact.”<sup>46</sup> The court held that “[t]he similarity between the two action alternatives raise[d] concern that the Forest Service may not have taken the requisite ‘hard look.’”<sup>47</sup> Here, the Corps’ three action alternatives are nearly identical in the largest component of the project in terms of impact because they are all deep-draft locks that would require dredging and disposing of twice as much contaminated sediment as a shallow-draft lock. The similarity between the alternatives that the Corps considered in its Supplement shows that the Corps still has not taken the requisite “hard look.”

### **C. The Corps Improperly Rejected Bucket Dredging.**

The Corps’ Supplement improperly rejected bucket dredging in favor of more damaging hydraulic dredging on the faulty grounds that 1) too much sediment would be involved, without

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<sup>43</sup> See 2009 Supplement at Abstract (emphasis added) (attached as Exhibit B, p. 3).

<sup>44</sup> 373 F.Supp.2d 1069, 1089 (E.D. Cal. 2004).

<sup>45</sup> *Id.* at 1088.

<sup>46</sup> *Id.*

<sup>47</sup> *Id.*; see also *NRDC v. U.S. Forest Serv.*, 421 F.3d 797, 813-14 (9th Cir. 2005) (finding that the Forest Service’s consideration of ten alternatives failed to comply with NEPA because the alternatives were too similar).



considering whether it was possible to use bucket dredging for a shallow-draft lock that would involve half as much sediment, and on the faulty grounds that 2) hydraulic dredging was necessary to meet the project schedule, even though a) the Corps has asserted that it is currently financially incapable of continuing with the project, and b) the Corps did not determine bucket dredging's feasibility for meeting a shallow-draft lock's project schedule.<sup>48</sup> Bucket dredging is "designed to minimize re-suspension of sediment during the dredging operation,"<sup>49</sup> an important consideration when the sediment being dredged is contaminated. In fact, the Corps already employs bucket dredging at the Industrial Canal.<sup>50</sup> This Court's 2006 Order noted that the Corps' 1997 Environmental Impact Statement "d[id] not consider the reasonable dredging and disposal alternatives that the Corps ha[d] recently adopted for maintenance dredging of the same waters."<sup>51</sup> Those "reasonable dredging and disposal alternatives" were bucket dredging and landfill disposal. Thus, the Corps' Supplement failed to explain why bucket dredging for a shallow-draft lock would not be feasible at the Industrial Canal for this project.

**D. The Corps Improperly Rejected Landfill Disposal of the Project's Most Contaminated Sediment.**

The Corps' Supplement improperly rejected landfill disposal of the project's most contaminated sediment in favor of placing it in a so-called confined disposal facility primarily based on cost. After stating that landfill disposal had numerous limitations, the Supplement listed its higher cost relative to that of the confined disposal facility as the first limitation.<sup>52</sup> The

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<sup>48</sup> See 2009 Supplement at 57 (attached as Exhibit B, p. 16); see also Def.'s Mem. in Support of its Mot. to Dismiss Pls.' CWA Claim at 14 (No. 146-1).

<sup>49</sup> U.S. Army Corps, Public Notice: Proposed Maintenance Dredging, May 16, 2006, at 3 (No. 88-1).

<sup>50</sup> *Id.*; see also Order and Reasons at 12 (No. 107).

<sup>51</sup> Order and Reasons at 13 (No. 107).

<sup>52</sup> 2009 Supplement at 53 (attached as Exhibit B, p. 13).

Supplement also referred to landfill disposal as a “costly” option.<sup>53</sup> The Corps failed to consider the reduced cost of landfill disposal for a shallow-draft lock, which would involve disposing of half as much sediment. In fact, the Corps already disposes of Industrial Canal sediment in a landfill.<sup>54</sup>

**E. The Corps Did Not Examine the Potential for Overtopping of the So-Called Confined Disposal Facility in the Event of Widespread Flooding.**

The Corps’ Supplement did not rigorously analyze the potential for flooding and hurricanes to re-distribute the confined disposal facility’s contaminated dredged sediment throughout the Lake Pontchartrain Basin, including in the Lake itself. The Corps has decided to discharge the project’s most contaminated dredged sediment into a so-called confined disposal facility without informing the residents of southeastern Louisiana about the degree of risk this plan would pose to the ecosystem and Lake Pontchartrain.<sup>55</sup> The Corps’ discharge of dredged contaminated material into a “confined disposal facility” really means dumping it behind a berm in the wetlands of Bayou Bienvenue.<sup>56</sup>

This Court’s 2006 Order found that the Corps’ 1997 Environmental Impact Statement failed to specify how long the disposal facilities would last and failed to specify “plans for the level of a storm event that the facilities [would] be able to withstand.”<sup>57</sup> The Corps’ Supplement did not cure this failure. The Corps’ 2009 Record of Decision called for “[c]onstruction of a confined disposal facility for placement of both stockpiled sediments and contaminated

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<sup>53</sup> *Id.* at 55, 62 (attached as Exhibit B, p. 14, 18).

<sup>54</sup> U.S. Army Corps, Public Notice: Proposed Maintenance Dredging, May 16, 2006, at 4 (No. 88-1).

<sup>55</sup> 2009 Supplement at 53 (attached as Exhibit B, p. 13).

<sup>56</sup> *Id.* at 149 (attached as Exhibit B, p. 29).

<sup>57</sup> Order and Reasons at 11 (No. 107).

sediments.”<sup>58</sup> The Corps acknowledged that “because flooding has occurred in this area [of the confined disposal facility], the conservative approach would be to model the potential for overtopping in the event of widespread flooding.”<sup>59</sup>

The Corps did not follow its own advice, admitting in its Supplement that “this modeling effort has not been completed,” and that “[t]he potential for material loss from the [confined disposal facility] as a result of scouring during a catastrophic flood was not quantified ....”<sup>60</sup> Furthermore, the Corps has deferred “[d]etailed design” of the confined disposal facility, including height and slope of the containment dikes, analysis of the underlying soil’s stability, and methods to construct it until “resumption of the lock replacement project.”<sup>61</sup> But the Corps’ deferral of a rigorous analysis fails to meet the Corps’ duty to “rigorously explore” the so-called confined disposal facility alternative “so that reviewers may evaluate [the alternatives’] comparative merits,” such as the comparative merits of disposing of contaminated sediment in the so-called confined disposal facility and disposing of it in a more protective landfill. *See* 40 C.F.R. § 1502.14(a)-(b).

Thus, the Corps has not quantified the impacts of discharging contaminated dredged sediment into the confined disposal facility located in the wetlands of Bayou Bienvenue. Dr. Barry Kohl, a geology and sedimentology expert, has testified to this Court that until the Corps completes a rigorous analysis, it is impossible to assess the project’s impacts:

[w]ithout knowing how long the disposal facilities will last, what types of storm events they will withstand, and how much contamination they will

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<sup>58</sup> 2009 Record of Decision at 2 (attached as Exhibit H, p. 3).

<sup>59</sup> 2009 Supplement at 50 (attached as Exhibit B, p. 11).

<sup>60</sup> *Id.* (attached as Exhibit B, p. 11).

<sup>61</sup> *Id.* at 50-51 (attached as Exhibit B, p. 11-12).

contain and discharge, there is no way of knowing what environmental impacts these facilities will have on the ecosystem of the Lake Pontchartrain Basin.<sup>62</sup>

The Corps made a final decision to construct a deep-draft lock without fully considering the potential for overtopping of the so-called confined disposal facility. The Corps has thus failed to take a “hard look” at the potential consequences to the Lake Pontchartrain Basin in the event of the confined disposal facility’s overtopping.

**F. The Corps’ Decision to Supplement Rather than Replace the 1997 Environmental Impact Statement Resulted in a Deficient NEPA Document.**

Because the Corps issued a Supplement that “incorporated ... by reference” the fatal flaws of its 1997 Environmental Impact Statement, rather than issuing a new environmental impact statement, the Corps failed to take the requisite “hard look” at the environmental impacts of the project.<sup>63</sup> The Council on Environmental Quality’s NEPA regulations prescribe Supplements in two instances: 1) when “[t]he agency makes substantial changes in the proposed action that are relevant to environmental concerns;” or 2) when “[t]here are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.”<sup>64</sup> The regulations do not suggest that supplements can cure deficient environmental impact statements that, like the Corps’ 1997 document, “failed to take a ‘hard look’ at the environmental impacts” in the first place.<sup>65</sup> The risk of supplementing a bad analysis rather than conducting a new one is that the supplement may incorporate the bad analysis. That is what happened here.

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<sup>62</sup> Declaration of Barry Kohl, Ph.D., February 10, 2006 at 2 (No. 82-2) (attached as Exhibit J, p. 3).

<sup>63</sup> See 2009 Supplement at 25, 30, 35, 40, 41, 72, 73, 77, 84, 89, 93, 107, 111, 126, 136, 153, 154, 156, 167, 173 (attached as Exhibit B, p. 6-10, 19-20, 21-28, 30-34).

<sup>64</sup> 40 C.F.R. § 1502.9(c).

<sup>65</sup> Order and Reasons at 13 (No. 107).

This Court enjoined the Corps' project in 2006 "until it complie[d] with NEPA."<sup>66</sup> The Court's order was appropriate because when an agency has not complied with NEPA, "the proper remedy under [the Fifth Circuit's] precedents is to 'remand the case to the agency to correct the deficiencies in its analysis,'" rather than to order a specific form of NEPA compliance.<sup>67</sup> This Court's notation in Footnote Four of its Order that the Corps "at a minimum, must prepare a supplemental EIS addressing the significant new circumstances relevant to environmental concerns that have arisen since Hurricane Katrina" related to "[t]he Plaintiffs' third claim for relief, which [was] not presently before the Court."<sup>68</sup> Thus, while noting that a supplement would, at minimum, have been necessary to respond to new circumstances, the Court did not hold or suggest that a supplement would cure the Corps' failure in 1997 to take a "hard look" at the Industrial Canal's contaminated sediments.<sup>69</sup> Instead, the Court enjoined the Corps from continuing with the project until it complied with NEPA, and did not specify any particular NEPA document that the Corps had to issue to comply with its Order.<sup>70</sup> Moreover, even if a Supplement *could*, in theory, have corrected the Corps' 1997 failure to grapple with the Industrial Canal's contaminated sediments, the Corps' 2009 Supplement fell into the trap of incorporating 1997 analyses that this Court found invalid.<sup>71</sup>

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<sup>66</sup> *Id.* at 14 (No. 107).

<sup>67</sup> *O'Reilly v. United States Army Corps of Engineers*, 477 F.3d 225, 240 (5th Cir. 2007) (quoting *Fritiofson v. Alexander*, 772 F.2d 1225, 1239 (5th Cir. 1985) (overruled on unrelated grounds by *Sabine River Auth. v. U.S. Dep't of Interior*, 951 F.2d 669, 677 (5th Cir. 1992))).

<sup>68</sup> Order and Reasons at 13 n.4 (No. 107).

<sup>69</sup> *Id.* at 13 (No. 107).

<sup>70</sup> *Id.* at 14 (No. 107).

<sup>71</sup> *Id.*

**II. THE CORPS' DECISION VIOLATES THE CLEAN WATER ACT'S MANDATORY 404(B)(1) GUIDELINES AND IS THUS ARBITRARY AND CAPRICIOUS, NOT IN ACCORDANCE WITH LAW, IN EXCESS OF STATUTORY LIMITATIONS, AND NOT SUPPORTED BY SUBSTANTIAL EVIDENCE.**

The Corps is violating the Clean Water Act because 1) it has not selected the “least environmentally damaging” alternatives of installing a shallow-draft lock, using bucket dredging and disposing of contaminated sediments in a landfill; 2) it failed to provide a non-arbitrary reason for installing a deep-draft lock; and 3) it has decided to discharge pollutants in violation of an applicable Louisiana water quality standard.

Congress passed the Clean Water Act in 1972 “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” 33 U.S.C. § 1251(a). The Industrial Canal, the Mississippi River Gulf Outlet and Bayou Bienvenue and associated wetlands are waters of the United States under the Clean Water Act. To achieve its objective, Section 301(a) of the Clean Water Act provides that “[e]xcept as in compliance with ... [Section 404 of the Clean Water Act] ... the discharge of any pollutant by any person shall be unlawful.” 33 U.S.C. § 1311(a). “[A]ny addition of any pollutant to navigable waters from any point source” is a “discharge of a pollutant.” 33 U.S.C. § 1362(12). “Dredged spoil” is a “pollutant.” 33 U.S.C. § 1362(6). The Corps’ equipment for discharging dredged spoil into the confined disposal facility is a point source. 33 U.S.C. § 1362(14); *see also* Answer at ¶ 77 (No. 141).<sup>72</sup>

It is a violation of Section 301 to discharge dredged material in violation of Section 404. 33 U.S.C. § 1311(a). All Section 404 discharges must comply with EPA’s 404(b)(1) Guidelines. 33 U.S.C. § 1344(b)(1). While the Clean Water Act does not exempt Corps projects from Section 404’s permitting requirements, the Corps has decided not to issue itself 404 permits for its own

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<sup>72</sup> Footnote removed.

discharges of dredged material. 33 C.F.R. § 336.1(a). Instead, the Corps has decided to just comply with “all applicable substantive legal requirements, including ... application of the section 404(b)(1) guidelines.” 33 C.F.R. § 336.1(a). Also, because the Corps has decided not to issue itself permits for its own discharges of dredged material, it does not receive the same “permit shield” against citizen suits that 404-permit holders would receive if they comply with their Corps-issued 404 permit. *See* 33 U.S.C. § 1344(p).

**A. The Corps Unlawfully Failed to Select the Least Environmentally Damaging Alternatives.**

Having admitted that there is no benefit to installing a deep-draft lock,<sup>73</sup> the Corps was legally obligated to select a shallow-draft lock as the least environmentally damaging practicable alternative. EPA’s 404(b)(1) Guidelines prohibit the discharge of dredged material “if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem ...” 40 C.F.R. § 230.10(a). An alternative is “practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.” 40 C.F.R. § 230.10(a)(2). Thus, the Clean Water Act mandates that the least environmentally damaging “alternative be considered *and selected* unless proven impracticable.”<sup>74</sup> Further, “[t]he Corps must adequately explain why there is no less-damaging practicable alternative. If the Corps cannot so explain based on the record before it, it must reconsider its determination based on an adequate analysis of the alternatives.”<sup>75</sup> Also, the Corps

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<sup>73</sup> 2009 Supplement, Appendix S: Public Comments and Response to Comments, at 57 (attached as Exhibit F, p. 5).

<sup>74</sup> *Utahns for Better Transp. v. U.S. Dep’t of Transp.*, 305 F.3d 1152, 1189 (10th Cir. 2002) (emphasis added).

<sup>75</sup> *Alliance to Save the Mattaponi v. U.S. Army Corps of Eng’rs*, 606 F.Supp.2d 121, 130 (D. D.C. 2009).

“must explain fully ... why other alternatives are *either impracticable or more damaging.*”<sup>76</sup> The Corps has not selected the least environmentally damaging alternative of installing a shallow-draft lock, which it has admitted would “allow safe and proper functioning of the lock for shallow-draft navigation,” would “produce[] the greatest net benefits over costs of any of the [1997 Environmental Impact Statement’s] plans considered in detail,” and would “be a socioeconomically and environmentally acceptable plan.”<sup>77</sup> The Corps also has not explained why a shallow-draft lock is either impracticable or more damaging than a deep-draft lock.

EPA’s 404(b)(1) Guidelines recognize that “[t]he effects of a discharge can be minimized by ... [l]imiting the solid, liquid, and gaseous components of material to be discharged at a particular site ....” 40 C.F.R. § 230.71. The Corps has decided to construct a lock that requires dredging over three million cubic yards of sediment and disposing of that sediment, some of which is contaminated, in nearby wetlands and in the Mississippi River.<sup>78</sup> A shallow-draft lock project would allow the Corps to dredge and dispose of approximately half of that material, which would “[l]imit[] the solid, liquid, and gaseous components of material to be discharged ...”<sup>79</sup>

The Corps also has not selected the least environmentally damaging dredging alternative, bucket dredging, which it already uses at the Industrial Canal.<sup>80</sup> Bucket dredging is “designed to minimize re-suspension of sediment during the dredging operation ... ,”<sup>81</sup> so bucket dredging has a decisive advantage over hydraulic dredging when contaminated sediment is involved. The

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<sup>76</sup> *Id.* (emphasis added).

<sup>77</sup> 1997 Environmental Impact Statement at 30, 34 (attached as Exhibit A, p. 3-4).

<sup>78</sup> 2009 Supplement at 56-58 (attached as Exhibit B, p. 15-17).

<sup>79</sup> See 40 C.F.R. § 230.71; see also 1997 Environmental Impact Statement at 85 (attached as Exhibit A, p. 5).

<sup>80</sup> See Order and Reasons at 12 (No. 107).

<sup>81</sup> U.S. Army Corps, Public Notice: Proposed Maintenance Dredging, May 16, 2006, at 3 (No. 88-1).



Corps has attempted to justify its rejection of bucket dredging in favor of hydraulic dredging on the grounds that 1) too much sediment is involved, and 2) the Corps needs to meet a set project schedule.<sup>82</sup> The first ground is faulty because the Corps has not determined whether bucket dredging would be feasible for a shallow-draft lock that would involve half as much sediment. The second ground is faulty because the Corps has asserted that it has no money to continue with the project,<sup>83</sup> so the project schedule is unrealistic anyway. The second ground is also faulty because the Corps has not determined whether it could meet the project schedule by using bucket dredging for a shallow-draft lock, which would involve half as much sediment and therefore presumably take less time to dredge.

Finally, the Corps has not selected the least environmentally damaging disposal alternative of landfill disposal. The Corps already disposes of dredged sediment from the Industrial Canal in a landfill.<sup>84</sup> But for this project, the Corps will discharge the most contaminated sediment into the so-called confined disposal facility, which is really just a berm in Louisiana's wetlands.<sup>85</sup> The Corps has attempted to justify its rejection of landfill disposal of the project's most contaminated sediment in favor of placing it in a confined disposal facility on the basis of cost.<sup>86</sup> However, the Corps has not determined whether the cost of landfill disposal for a shallow-draft lock, which would involve half as much sediment, would also be too high.

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<sup>82</sup> See Supplement at 57 (attached as Exhibit B, p. 16).

<sup>83</sup> See Def.'s Mem. in Support of its Mot. to Dismiss Pls.' CWA Claim at 14 (No. 146-1).

<sup>84</sup> U.S. Army Corps, Public Notice: Proposed Maintenance Dredging, May 16, 2006, at 4 (No. 88-1).

<sup>85</sup> 2009 Supplement at 6 (attached as Exhibit B, p. 5).

<sup>86</sup> *Id.* at 53, 55, 62 (attached as Exhibit B, p. 13-14, 18).

**B. The Corps Failed to Provide a Non-Arbitrary Reason for Installing a Deep-Draft Lock.**

While NEPA is meant to ensure a fully informed and well-considered decision, but not necessarily the best decision, the Clean Water Act has substantive teeth. The Clean Water Act requires that the Corps “explain why there [was] no less-damaging practicable alternative” to installing a deep-draft lock.<sup>87</sup> Installing a shallow-draft lock is a “less-damaging practicable alternative” because it requires dredging and disposing of half as much contaminated sediment. The Corps’s apparent basis for installing a deep-draft lock is that “the Port of New Orleans ... both wants and is willing to pay for Deep Draft.”<sup>88</sup> That rationale is arbitrary considering that the Corps has admitted that 1) a shallow-draft lock project would “allow safe and proper functioning of the lock for shallow-draft navigation,” would “produce[] the greatest net benefits over costs of any of the [1997 Environmental Impact Statement’s] plans considered in detail,” and would “be a socioeconomically and environmentally acceptable plan;”<sup>89</sup> and that 2) “the benefits of the [Supplement’s] recommended plan to deep-draft traffic would be *non-existent*.”<sup>90</sup> Because the Corps has not, and cannot, “explain why there [was] no less-damaging practicable alternative” to installing a deep-draft lock “based on the record before it, it must reconsider its determination based on an adequate analysis of the alternatives.”<sup>91</sup>

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<sup>87</sup> See *Alliance to Save the Mattaponi v. U.S. Army Corps of Eng’rs*, 606 F.Supp.2d 121, 130 (D. D.C. 2009).

<sup>88</sup> Corps Meeting Minutes, October 24, 2006, US641594-95 (emphasis added) (attached as Exhibit D, p. 2-3).

<sup>89</sup> 1997 Environmental Impact Statement at 30, 34 (attached as Exhibit A, p. 3-4).

<sup>90</sup> 2009 Supplement, Appendix S: Public Comments and Response to Comments, at 57 (emphasis added) (attached as Exhibit F, p. 5).

<sup>91</sup> See *Alliance to Save the Mattaponi v. U.S. Army Corps of Eng’rs*, 606 F.Supp.2d 121, 130 (D. D.C. 2009).

**C. The Corps' Decision to Discharge Violates an Applicable Louisiana Water Quality Standard.**

EPA's 404(b)(1) Guidelines prohibit the discharge of dredged material if the discharge will violate an applicable state water quality standard "after consideration of disposal site dilution and dispersion." 40 CFR § 230.10(b)(1). Thus, the Corps' violation of Louisiana water quality standards violates Clean Water Act Sections 404 and 301.<sup>92</sup> The Corps has already admitted that its discharge will violate an applicable Louisiana water quality standard:

The approximate dilution ratio estimated for the effective effluent discharge rate from a hydraulic dredge into the mitigation zone area is insufficient to meet all maximum dilution requirements for acute or chronic criteria, in addition to requiring an area larger than that specified for either a zone of initial dilution or a mixing zone under Louisiana water quality regulations. Available dilution in Bayou Bienvenue is also insufficient to meet water quality criteria during dredged material disposal.<sup>93</sup>

The Corps has also admitted that "a waiver would be required."<sup>94</sup> The Corps, however, has not received such a waiver. Because the Corps' discharge will cause or contribute, after consideration of disposal site dilution and dispersion, to violations of an applicable Louisiana water quality standard, the Corps' decision is arbitrary and capricious, not in accordance with law, in excess of statutory limitations, and not supported by substantial evidence.<sup>95</sup> The Corps' Supplement and Record must therefore be held unlawful and set aside under 5 U.S.C. § 706(2).

**Conclusion**

For the forgoing reasons, this Court should GRANT the Plaintiffs' Motion for Summary Judgment that the Corps, its Record of Decision, and its Supplement all violate: 1) NEPA by failing to take a "hard look" at the environmental impacts of the Industrial Canal project and by

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<sup>92</sup> 33 U.S.C. §§ 1344, 1311.

<sup>93</sup> 2009 Supplement, Appendix Q: 404(b)(1) Analysis at Q-66 and Q-67 (attached as Exhibit K, p. 3-4).

<sup>94</sup> 2009 Supplement at 5 (attached as Exhibit B, p. 4).

<sup>95</sup> 33 U.S.C. §§ 1344, 1311.

failing to analyze reasonable alternatives; 2) this Court's 2006 Order by failing to comply with NEPA; and 3) the Clean Water Act's mandatory 404(b)(1) Guidelines by not selecting the least environmentally damaging practicable alternatives, by not providing a non-arbitrary reason for installing a deep-draft lock, and by discharging in violation of an applicable Louisiana Water Quality Standard.

This Court should VACATE and REMAND the Corps' Supplemental Environmental Impact Statement and Record of Decision and ENJOIN the Corps and the U.S. Army Chief of Engineers and Commanding General of the U.S. Army Corps of Engineers (as the Corps' officer personally responsible for compliance) from continuing with the Inner Harbor Navigation Canal Lock Replacement Project until the Corps complies with the National Environmental Policy Act and the Clean Water Act.

Respectfully submitted on April 1, 2011,

s/ Roger Yamada

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Roger Yamada, Student Attorney

s/ Thomas Davis

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Thomas Davis, Student Attorney  
Tulane Environmental Law Clinic  
6329 Freret Street  
New Orleans, Louisiana 70118  
Telephone: (504) 865-5789; Fax (504) 862-8721

s/ Adam Babich

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Adam Babich, SBN: 27177  
Tulane Environmental Law Clinic  
6329 Freret Street  
New Orleans, Louisiana 70118  
Telephone: (504) 865-5789; Fax (504) 862-8721  
Babich Direct Line (504) 862-8800  
ababich@tulane.edu

*Counsel for Plaintiffs*

**CERTIFICATE OF SERVICE**

I hereby certify that on April 1, 2011, I caused a copy of the foregoing to be served through the Court's CM/ECF system to all parties.

s/ Adam Babich

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Adam Babich

**UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF LOUISIANA**

HOLY CROSS NEIGHBORHOOD  
ASSOCIATION, et al.,

*Plaintiffs,*

v.

UNITED STATES ARMY CORPS OF  
ENGINEERS,

*Defendant.*

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\*  
\* Case No. 03-370 (Consolidated with)  
\* Ref. No. 10-1715  
\* Section: L (1)  
\* Judge: Fallon  
\* Magistrate Judge: Roby (4)  
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112-004.1

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**PLAINTIFFS’ STATEMENT OF INDISPUTABLE MATERIAL FACTS  
IN SUPPORT OF SECOND MOTION FOR SUMMARY JUDGMENT**

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Pursuant to Local Rule 56.1, Plaintiffs respectfully submit this Statement of Indisputable Material Facts in Support of their Second Motion for Summary Judgment. It is beyond dispute that:

1. The U.S. Army Corps of Engineers’ (Corps’) Industrial Canal lock replacement project (“project”) is a major federal action that will significantly affect the quality of the human environment.

2. The U.S. Army Corps of Engineers (Corps) issued a Supplemental Environmental Impact Statement (2009 Supplement) in which it considered three deep-draft lock alternatives in addition to a No-build/Deauthorization alternative for the project.

3. The Corps issued a Record of Decision on May 20, 2009 approving “continued construction” and selecting a deep-draft plan, hydraulic dredging, and disposal of “dredged material unsuitable for open water discharge” in a so-called confined disposal facility.

4. The 2009 Supplement incorporated the 1997 Environmental Impact Statement's assertion that the impacts of installing a shallow-draft and deep-draft lock would be "very similar."

5. Installation of a deep-draft lock would involve dredging and disposal of approximately twice as much contaminated sediment as would a shallow-draft lock.

6. The 2009 Supplement did not consider any shallow-draft alternatives in light of the reduced volume of contaminated dredged material that such alternatives would produce.

7. The Corps found that deep-draft vessel traffic would not benefit from a deep-draft lock.

8. The Corps found that a shallow-draft lock would produce the greatest net benefits over costs of any of the plans considered in detail in the 1997 Environmental Impact Statement and that it would be a socioeconomically and environmentally acceptable plan.

9. A shallow-draft lock would meet the purposes of the project.

10. The Corps did not consider the alternative of bucket dredging in conjunction with a shallow-draft alternative.

11. Because the shallow-draft alternative would involve dredging less sediment, bucket dredging for a shallow-draft alternative would be less expensive than bucket dredging for the amount of sediments contemplated by the Corps' selected plan.

12. Because the shallow-draft alternative would involve dredging less sediment, bucket dredging for a shallow-draft alternative would take less time than bucket dredging for the amount of sediments contemplated by the Corps' selected plan.

13. The Corps has employed bucket dredging for maintenance dredging of the Industrial Canal.

14. Bucket dredging is designed to minimize re-suspension of sediment during the dredging operation.

15. The Corps has employed landfill disposal to dispose of contaminated sediments from maintenance dredging of the Industrial Canal.

16. The Corps has not determined or disclosed how the volume of sediments produced by a shallow-draft alternative would compare with the volume of sediments produced by its prior maintenance dredging of the Industrial Canal.

17. The Corps rejected bucket dredging in favor of hydraulic dredging because of the cost of dredging the large volume of material associated with a deep-draft project and because of the need to meet the Corps' project schedule.

18. The Corps rejected bucket dredging in favor of hydraulic dredging without considering the feasibility of bucket dredging for a shallow-draft lock, which would produce approximately half as much sediment.

19. The Corps rejected bucket dredging without determining whether hydraulic dredging is necessary to meet the project schedule for a shallow-draft lock, which would produce approximately half as much sediment.

20. The Corps rejected landfill disposal of the project's most contaminated sediment, on the basis of cost, without considering the feasibility of landfill disposal for a shallow-draft lock, which would involve approximately half as much sediment.

21. The Corps did not quantify the potential for overtopping of the confined disposal facility in the event of widespread flooding.

22. The Corps did not quantify the risk that flooding and hurricanes could result in contamination of the Lake Pontchartrain Basin, including the Lake itself.

23. The Corps found that its discharge of dredged material will violate an applicable Louisiana water quality standard.

24. A shallow-draft project would be less environmentally damaging than a deep-draft alternative.

25. The Corps has not selected the least environmentally damaging lock size, dredging, and disposal alternatives that meet the project purpose.

26. The Corps' goal in producing its Supplement was to produce a defensible document that would allow the project to move forward to construction.

27. The Corps pre-judged the outcome of its NEPA analysis by deciding to go forward with construction before finalizing the Supplement.

28. The Corps pre-judged the outcome of its NEPA analysis by selecting a deep-draft alternative before finalizing the Supplement.

Respectfully submitted on March 28, 2011,

s/ Thomas Davis

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Thomas Davis, Student Attorney  
Roger Yamada, Student Attorney  
Tulane Environmental Law Clinic  
6329 Freret Street  
New Orleans, Louisiana 70118  
Telephone: (504) 865-5789; Fax (504) 862-8721

s/ Adam Babich

---

Adam Babich, SBN: 27177  
Tulane Environmental Law Clinic  
6329 Freret Street  
New Orleans, Louisiana 70118  
Telephone: (504) 865-5789; Fax (504) 862-8721  
Babich Direct Line (504) 862-8800  
ababich@tulane.edu

*Counsel for Plaintiffs*



**CERTIFICATE OF SERVICE**

I hereby certify that on March 28, 2011, I caused as copy of the foregoing to be served through the Court's CM/ECF system to all parties.

s/ Adam Babich

\_\_\_\_\_  
Adam Babich

**UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF LOUISIANA**

HOLY CROSS NEIGHBORHOOD  
ASSOCIATION, et al.,

*Plaintiffs,*

v.

UNITED STATES ARMY CORPS OF  
ENGINEERS,

*Defendant.*

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\* Case No. 03-370 (Consolidated with)  
\* Ref. No. 10-1715  
\* Section: L (1)  
\* Judge: Fallon  
\* Magistrate Judge: Roby (4)  
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112-004.1

**PLAINTIFFS’ LIST OF EXHIBITS TO MEMORANDUM IN SUPPORT OF THEIR  
SECOND MOTION FOR SUMMARY JUDGMENT**

<b>Exhibit</b>	<b>Document</b>	<b>Footnote</b>
A	1997 Environmental Impact Statement, <i>abridged</i>	1-2, 4, 29, 36-37, 39, 77, 79, 89
B	2009 Supplemental Environmental Impact Statement, <i>abridged</i>	1-2, 7, 17, 18-20, 22, 36-37, 43, 48, 52-53, 55-56, 59-61, 63, 78, 82, 85-86, 94
C	Letter from the Corps to Senator Landrieu	9
D	Corps Meeting Minutes	10, 88
E	Corps Meeting Agenda and Notes	11
F	2009 Supplement, Appx. S: Public Comments Received During the Public Review Period, <i>abridged</i>	12, 26-27, 40, 73, 90
G	Email from Greg Ruff to Jim Wojtala	13-14
H	2009 Record of Decision	21-22, 58
I	2009 Supplement, Appx. E: Conceptual Confined Disposal Facility Design, <i>abridged</i>	24-25
J	Declaration of Dr. Barry Kohl	62
K	2009 Supplement, Appx. Q: 404(b)(1) Analysis, <i>abridged</i>	93

Respectfully submitted on March 28, 2011,

s/ Thomas Davis

---

Thomas Davis, Student Attorney  
Roger Yamada, Student Attorney  
Tulane Environmental Law Clinic  
6329 Freret Street  
New Orleans, Louisiana 70118  
Telephone: (504) 865-5789; Fax (504) 862-8721

s/ Adam Babich

---

Adam Babich, SBN: 27177  
Tulane Environmental Law Clinic  
6329 Freret Street  
New Orleans, Louisiana 70118  
Telephone: (504) 865-5789; Fax (504) 862-8721  
Babich Direct Line (504) 862-8800  
ababich@tulane.edu

*Counsel for Plaintiffs*

**CERTIFICATE OF SERVICE**

I hereby certify that on March 28, 2011, I caused as copy of the foregoing to be served through the Court's CM/ECF system to all parties.

s/ Adam Babich

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Adam Babich

# Exhibit

# A

1997 Environmental Impact Statement  
March 1, 1997, *abridged*  
(Abstract and pages EIS-30, EIS-34, and EIS-85)

Footnotes: 1-2, 4, 29, 36-37, 39, 77, 79, 89

**FINAL ENVIRONMENTAL IMPACT STATEMENT**  
**MISSISSIPPI RIVER-GULF OUTLET, NEW LOCK AND CONNECTING CHANNELS**

Lead Agency: U.S. Army Corps of Engineers, New Orleans District

**ABSTRACT:** In New Orleans, Louisiana, the Mississippi River is connected to the Mississippi River-Gulf Outlet (MRGO) and the eastern portion of the Gulf Intracoastal Waterway (GIWW) by a 640- by 75- by 31.5-foot lock on the Inner Harbor Navigation Canal (IHNC). The IHNC lock, also known as the Industrial Canal lock, has been operating at its maximum capacity for a number of years and vessel delays and congestion at the lock are chronic problems. Although several sites for a new lock have been evaluated, all but one have been eliminated from further consideration because of impracticality, environmental impacts, and socioeconomic impacts. Two action alternatives are presented in this report. The no-action alternative, consisting of continued operation and maintenance of the existing lock, is presented as Plan 1. Plan 2 consists of replacing the St. Claude Avenue bridge over the IHNC with a mid-level, vertical lift-span bridge. The existing low-level bridge causes significant interference with navigation traffic. The bridge constructed for Plan 2 would be of minimal dimensions necessary for safe navigation through the existing lock and would not be compatible with future replacement of the IHNC lock. Plan 3 is divided into six sub-plans based on the size of the lock to be constructed. Plans 3a through 3f would include a new lock in the IHNC, north of the Claiborne Avenue bridge. The smallest lock investigated (Plan 3a) would be 900 feet long by 90 feet wide by 22 feet deep, while the largest lock (Plan 3f) would be 1,200 feet by 110 feet by 36 feet. Replacement of the St. Claude Avenue bridge with a low-level, double-bascule bridge and raising the towers of the Claiborne Avenue bridge are integral components of these plans. The environmental impacts of the lock replacement plans are very similar. Plan 3b, which provides for a 900- by 110- by 22-foot lock, has been determined to be the national economic development plan based on its net excess benefits over costs. Plan 3f, which provides for a 1,200- by 110- by 36-foot lock, is designated as the tentatively selected plan (TSP). The Port of New Orleans, the local project sponsor, would be responsible for its added incremental cost. Plan 3f would provide operational flexibility for deep-draft vessels and is compatible with the controlling depth of the MRGO. Although extensive efforts have been made to avoid and minimize socioeconomic impacts in the urban environment adjacent to the IHNC, many impacts are unavoidable with a lock replacement project. The TSP includes a community impact mitigation plan which would avoid, minimize, and compensate for adverse impacts to local businesses, property values, public and community facilities and services, transportation, noise, air quality, aesthetic values, cultural resources, and recreational resources.

Date: \_\_\_\_\_

Please send your comments to the District Engineer by the date stamped above. For further information, please contact Mr. Richard Boe, U.S. Army Engineer District (PD-RS), P.O. Box 60267, New Orleans, Louisiana 70160-0267. Telephone: (504) 862-1505.

Note: Information, displays, maps, etc., discussed in the Main Report and Appendixes are incorporated by reference in the Environmental Impact Statement.

qualities, and police and fire protection during project construction. The cultural resources mitigation plan would involve testing for the presence of cultural resources encountered during project construction and recordation of any significant items discovered. This plan would require demolition of one property which is eligible for the National Register -- the St. Claude Avenue bridge. Prior to demolition, the property would be recorded to Historic American Building Survey and Historic American Engineering Record standards. This plan would not impact fish and wildlife habitat and no mitigation for the loss of natural habitat is proposed.

#### 4.3.4. Plans 3a through 3f (New Lock - North of Claiborne Avenue)

4.3.4.1. A wide range of lock sizes for the North of Claiborne Avenue site have been investigated during the course of this study. Analyses have focused mainly on locks with lengths of 900 feet and 1,200 feet, widths of 90 feet and 110 feet, and depths of 22 and 36 feet. The 22-foot depth is the minimum necessary to allow safe and proper functioning of the lock for shallow-draft navigation. From the standpoint of impact analysis, locks of various sizes at a given location, and for a given construction scenario, produce very similar impacts. The main differences among the different size locks would be their effects on waterborne commerce. For details on the economic analyses performed, refer to the Main Report and the Economics Appendix. The right-of-way required for all lock sizes investigated at the North of Claiborne Avenue site would be essentially the same.

4.3.4.2. The plans designated 3a through 3f involve replacement of the IHNC lock with a new lock to be constructed within the IHNC, north of Claiborne Avenue. For most significant resources, there would be no differences among the plans. Table 3 shows the dimensions of each lock replacement plan.

**TABLE 3  
LOCK DIMENSIONS FOR PLANS 3a THROUGH 3f**

Plan	Length	Width	Depth
Plan 3a	900'	90'	22'
Plan 3b	900'	110'	22'
Plan 3c	900'	110'	36'
Plan 3d	1,200'	90'	22'
Plan 3e	1,200'	110'	22'
Plan 3f	1,200'	110'	36'

4.3.4.3. Construction of a new lock at the North of Claiborne Avenue location would require a complex sequence of tasks that must occur in chronological order to minimize canal closure times and community impacts. The various components of the North of Claiborne Avenue plan are provided as Plates 7, 9, and 10 through 24. Also, a series of 16

4.3.4.12. A broad-based community impact mitigation plan is an integral part of this plan. The plan in this final report is substantially different from that proposed in the draft, with changes prompted by public comments made during the public review period for the draft report. The mitigation plan now includes temporary bridges that eliminate bridge closure periods, and many items in the draft mitigation plan were transferred into the category of normal construction activities. Funding for most of the items remaining in the mitigation plan were increased. The current mitigation plan calls for specific actions to minimize and compensate for adverse impacts to the local community that are expected from project construction, mainly in areas of community facilities and services, community cohesion, noise, police and fire protection, aesthetics, and pedestrian access.

4.3.4.13. Lock replacement plans would require the demolition of three National Register eligible properties. Prior to project construction, these properties would be recorded to Historic American Building Survey and Historic American Engineering Record standards.

#### **4.3.5. National Economic Development Plan**

Plan 3b, the shallow-draft (22-foot deep) lock with a length of 900 feet and width of 110 feet, is designated as the National Economic Development (NED) plan because it produces the greatest net benefits over costs of any of the plans considered in detail. It is considered to be a socioeconomically and environmentally acceptable plan. The cost of Plan 3b would be allocated equally between the General Fund of the U.S. Treasury and the Inland Waterways Trust Fund. The Federal government (Corps of Engineers) would be responsible for obtaining all lands, easements, and right-of-ways required for project construction, the costs of which would be included in the overall project cost.

#### **4.3.6. Locally Preferred Plan**

The plan preferred by the Port of New Orleans, the local project sponsor, is Plan 3f. Plan 3f is the largest lock size investigated in detail (1200- by 110- by 36 feet). This plan would provide the flexibility and capacity preferred by the Port of New Orleans, and it would produce the greatest net benefits of any deep-draft lock investigated in detail. The 36-foot lock depth is compatible with the controlling depth of the MRGO and would allow deep-draft vessels using the MRGO and docks along its banks, to pass to and from the Mississippi River.

#### **4.3.7. Environmentally Preferred Plan**

From a natural environment perspective, all of the lock replacement alternatives (Plans 3a through 3f) would have similar impacts. A graving site would be required for all lock replacement alternatives, and disposal of contaminated soils and sediments would be necessary. Plan 2 (Bridge-Only) is designated as the environmentally preferred plan because it is less disruptive of the social and cultural aspects of the human environment,

**TABLE 9**  
**ESTIMATED DREDGING QUANTITIES IN CUBIC YARDS FOR PLANS 3a THROUGH 3f**

Area to be Dredged	Plans 3a and 3b (900x90x22) (900x110x22)	Plan 3c (900x110x36)	Plans 3d and 3e (1,200x90x22) (1,200x110x22)	Plan 3f (1,200x110x36)
Utility Corridors				
St. Claude Avenue (Stockpiled for Backfill)	45,000	75,000	45,000	75,000
Claiborne Avenue (Stockpiled for Backfill)	60,000	87,000	60,000	87,000
Florida Avenue (Stockpiled for Backfill)	20,000	38,000	20,000	38,000
North Bypass Channel (Top 5 feet of Soil - Pumped to MRGO Site) (Below 5 feet - Pumped to Mitigation Site)	190,000 500,000	206,000 667,000	190,000 500,000	206,000 667,000
New Lock Excavation (Pumped to MRGO Site)	210,000	883,000	310,000	1,100,000
Main Channel North of New Lock (Pumped to MRGO Site)	0	56,000	0	58,000
South Bypass Channel (Random Backfill)	145,000	145,000	145,000	145,000
Main Channel Between Old Lock and New Lock (Random Backfill) (Pumped into River)	213,000 0	338,000 110,000	213,000 0	440,000
Main Channel from Old Lock to the River (Random Backfill) (Pumped into River)	150,000 0	0 227,000	150,000 0	55,000 172,000
<b>Total Dredged</b>	<u>1,533,000</u>	<u>2,832,000</u>	<u>1,633,000</u>	<u>3,043,000</u>



# Exhibit B

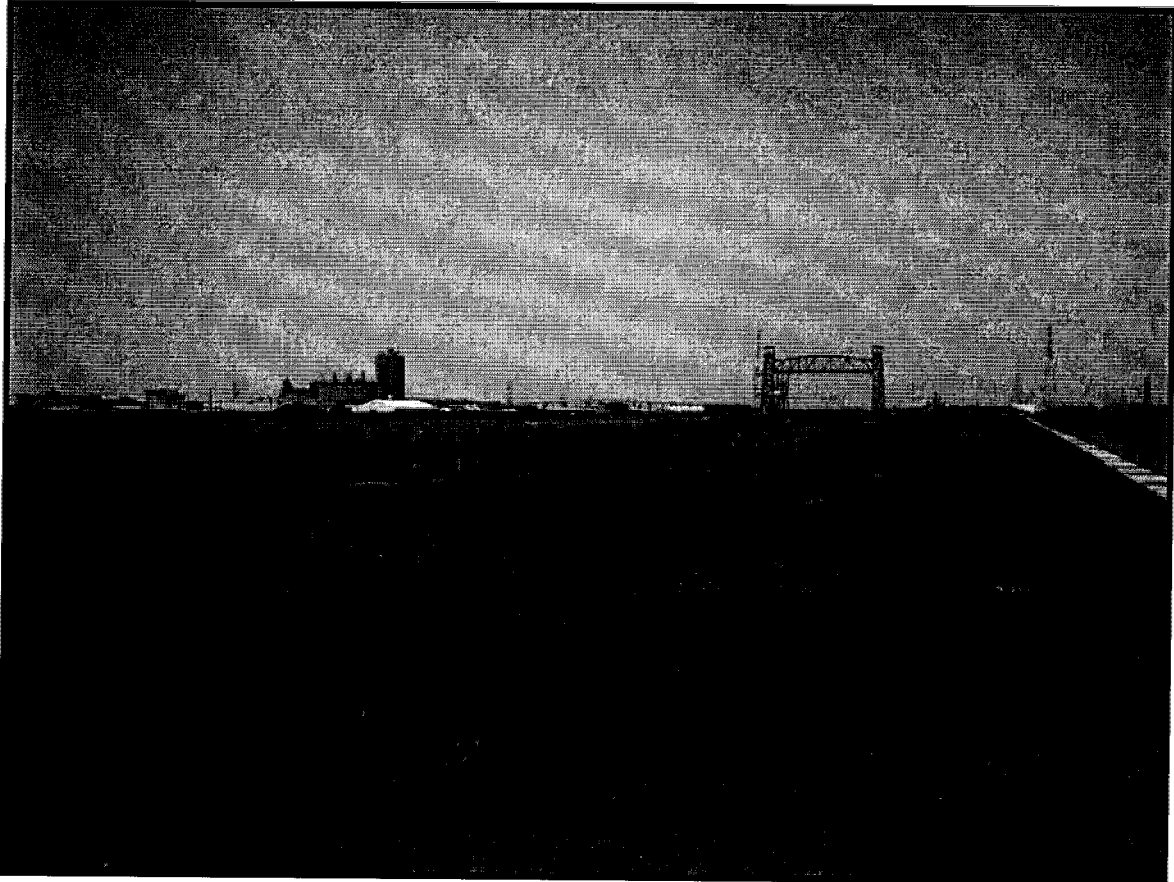
2009 Supplemental Environmental Impact Statement

March 31, 2009, *abridged*

*(Abstract and pages 5-6, 25, 30, 35, 40-41, 50-51, 53, 55-58, 62, 72-73,  
77, 84, 89, 93, 107, 111, 126, 136, 149, 153-54, 156, 167, 173)*

Footnotes: *1-2, 7, 17-20, 22, 36-37, 43, 48, 52-53, 55-56, 59-61, 63, 78, 82, 85-86, 94*

**SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT  
INNER HARBOR NAVIGATION CANAL LOCK REPLACEMENT PROJECT  
ORLEANS PARISH, LOUISIANA**



**US Army Corps  
of Engineers®**

**MARCH 2009**

**FINAL**  
**SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT**  
**INNER HARBOR NAVIGATION CANAL LOCK REPLACEMENT PROJECT**  
**U.S. ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT**

**ABSTRACT.** The existing Inner Harbor Navigation Canal (IHNC) Lock was completed in 1923; is 640 feet long, 75 feet wide, and 31.5 feet deep; and connects the Mississippi River with the IHNC, Gulf Intracoastal Waterway (GIWW) and Mississippi River – Gulf Outlet. Because of maintenance issues and its relatively small size, the IHNC Lock is subject to closures and congestion, leading to long delays for waterborne traffic. A total of eight sites for a new lock have been evaluated through planning efforts and public involvement beginning in 1960. A 1997 Environmental Impact Statement (EIS) was prepared and evaluated two action plans in detail. In 2007, the Federal District Court, Eastern New Orleans District enjoined the project and required the preparation of a Supplemental EIS to describe changes in existing conditions after Hurricane Katrina and to analyze impacts from the recommended plan and alternatives on these existing conditions. The 1997 EIS Plan, and two revised lock replacement plans, the Cast in Place and Float in Place plans as well as a No-build/Deauthorization Plan are evaluated. The 1997 EIS Plan would replace the existing lock with a new 110-foot wide, 1,200-foot long and 36-foot deep lock in the IHNC north of the Claiborne Avenue Bridge and extend Mississippi River floodwalls and levees from the existing lock to the new lock location. The 1997 EIS Plan includes the replacement of the existing St. Claude Avenue Bridge with a low-level double-bascule bridge and modifications to the North Claiborne Avenue Bridge to make it compatible with a new lock. The 1997 EIS Plan would construct lock monoliths at an off-site construction area and dispose of material dredged during lock construction.

The lock design and location, and bridge modifications in the Cast-in-place Plan would be similar to the 1997 Plan, except the Cast-in-place Plan would construct seven lock monoliths founded on piles within a cellular sheet pile cofferdam, instead of floating lock monoliths to the new lock site. The Float-in-place Plan, which is the recommended plan, is very similar to the 1997 EIS Plan. The Float-in-place Plan requires two separate construction locations, the off-site construction area and new lock site. The off-site construction area would allow for lock module construction in dry conditions. Lock modules would be floated to the lock construction site in the IHNC. Additional evaluation has further refined the location and design of the confined disposal facility for contaminated dredged material, the location and size of the off-site construction area, and the methods for disposal of all dredged material, including an option for disposal of contaminated dredged material in a Type I landfill. Although project modifications have been made to minimize socioeconomic and noise impacts and alterations to traffic patterns during the lock and bridge construction, short-term adverse impacts are anticipated to housing, business and industrial activity, community services, tax revenues, and vehicle transportation. Additionally, long-term adverse impacts would occur on aesthetics and recreational resources from the IHNC Lock Replacement project due to the modification of levees and floodwalls. Although the demographics of nearby neighborhoods have changed dramatically due to Hurricane Katrina, a community impact mitigation plan was implemented as part of the 1997 EIS Plan and would continue to provide \$43 million in funding for numerous projects to avoid, minimize and compensate for adverse impacts on socioeconomic resources in the nearby neighborhoods.

Please send your comments to the District Engineer by May 4, 2009. For further information please contact Mr. Richard Boe, U.S. Army Corps of Engineers, P.O. Box 60267, New Orleans, Louisiana 70160-0267. Telephone (504) 862-1505.

EIS Plan, and the Float-in-place Plan requires two separate construction locations, the off-site construction area and new lock site (Appendix D); the off-site construction area located on the south bank of the GIWW at the Paris Road Bridge would allow for lock module construction in a dry environment and lock modules would be floated to the lock construction site.

### **1.1.2. Rationale for the Recommended Plan**

The recommended plan in the 1997 EIS would construct a new lock north of Claiborne Avenue with a usable draft depth of 36 feet, a length of 1,200 feet and a width of 110 feet. This recommended plan was a larger lock than the plan which maximized the National Economic Development benefits. The National Economic Development Plan was a lock with a usable draft depth of 22 feet instead of 36 feet, and a length of 900 feet instead of 1,200 feet. However, it was determined that the deeper lock would accommodate deep-draft vessels which could utilize the Port of New Orleans facilities in the MRGO and IHNC, and a deep-draft lock is authorized by the Congress in the Water Resources Development Act (WRDA) of 1986. This recommended plan was also the locally preferred plan.

The Float-in-place Plan has less construction-related impacts on the community than the Cast-in-place Plan. Because the lock module fabrication would take place at an off-site construction area located along the GIWW, noise, traffic and aesthetic impacts from pile driving and lock module construction would be reduced compared to the Cast-in-place Plan where lock module construction would occur at the lock replacement site. Based upon an analysis of impacts and costs of the alternative plans at the North of Claiborne IHNC Lock Site, the Float-in-place Plan was determined to be the new recommended plan. Although this plan is, for the most part, the same as the plan recommended in the 1997 EIS, additional evaluation has further refined the location and design of the CDF, the location and size of the off-site construction area, and the method for disposal of contaminated sediments. These design refinements and more analysis of impacts on the post-Hurricane Katrina natural and human environment reflect the concerns expressed during a public scoping meeting, which was held on 4 April 2007 (Appendix P).

### **1.1.3. Environmental Impacts**

The recommended plan (Float-in-place Plan) would have adverse impacts on wetlands, bottomland hardwood forest habitat and wildlife habitat. The construction of the off-site construction area and fill cell of the CDF would have temporary impacts on these habitats, while the disposal cell of the CDF would have permanent impacts. It is anticipated that these impacts would be fully mitigated by restoring approximately 85 acres of wetlands near the IHNC Lock project site, in a triangular-shaped area between Florida Avenue and Bayou Bienvenue. Dredged material from the lock replacement project would be used to restore wetlands. However, available dilution in the mitigation site and Bayou Bienvenue is insufficient to meet applicable water quality criteria and a waiver would be required for discharge to Bayou Bienvenue for wetland restoration. The recommended plan would have some temporary, acceptable impacts on aquatic organisms near the dredging operations and during discharge of sediments into the Mississippi River. Suspended sediment concentrations would temporarily increase during dredging operations in the IHNC. Also, only material determined to be suitable for freshwater disposal based upon biological analysis of the dredged material would be discharged into the Mississippi River (Appendix C). The daily sediment load discharge for the Mississippi River ranges from 436,000 tons per day to 219,000 tons per day, with an average of 341,000 tons per day (Louisiana Department of Natural Resources 2008). The total proposed sediment discharge into the Mississippi River for the entire project is 324,000 tons. Assuming the length of dredging would be 300 days, approximately 1,080 tons would be discharged into the Mississippi River per day, which represents 0.33

percent of the of the river's sediment load. If dredging activities take longer than 300 days, the daily volume of sediment discharge would be less than predicted. Given the high ambient suspended sediment concentration in the river and high flow rates, suspended sediments would rapidly be carried downstream and equilibrate to ambient suspended sediment concentrations.

The recommended plan would have adverse temporary socioeconomic impacts, primarily due to traffic detours and congestion and potential lost revenue to businesses from reduced access and construction noise. However, a comprehensive community impact mitigation plan has been implemented to reduce these impacts. Furthermore, since Hurricane Katrina, many of the businesses in the adjacent neighborhoods have not reopened and nearby residences damaged or destroyed have not been rebuilt. Although there would still be adverse impacts on those remaining businesses and residences during construction, the number of affected businesses and residences affected is greatly reduced since Hurricane Katrina.

There would be short-term beneficial socioeconomic impacts from the IHNC Lock construction project. Between \$800 million and \$1 billion would be spent over the 11 to 12 year period on the new lock construction and existing lock demolition; much of this money would be spent locally on labor, materials, equipment and supplies. This would provide an economic benefit for local and regional business and job development during the construction period.

#### **1.1.4. Environmental Features**

Dredged material unsuitable for open water discharge would be placed in a CDF for permanent upland disposal. By placing all unsuitable material in a CDF, impacts from fill activities on aquatic and benthic organisms and on human health would be minimized. Material deemed to be suitable for freshwater disposal would be discharged into the Mississippi River, temporarily stored in a CDF and then used as backfill around the new lock, and used to create wetlands to mitigate for impacts from the use of the off-site construction area and construction of the CDF (Appendices C and E). Additionally, the conceptual design for the CDF would safely fulfill storage and ponding requirements, and the CDF would be protected by the Greater New Orleans Hurricane and Storm Damage Risk Reduction System (HSDRRS).

#### **1.1.5. Threatened and Endangered Species**

No Federally threatened or endangered species, nor any designated critical habitat, would be affected by the recommended plan (Appendix B). Likewise, no species or habitat of local concern, as listed by the Louisiana Natural Heritage Program, would be affected.

#### **1.1.6. Executive Order 11988, Floodplain Management**

The recommended plan involves construction within the base (100-year) floodplain. All alternatives considered, including alternatives eliminated from detailed consideration in this SEIS, and the 1997 EIS, would be located within the base floodplain. No non-floodplain alternatives exist. The floodplain in the area of the recommended plan is completely developed for residential, commercial and industrial purposes. Levee systems and gated structures currently under construction in the area provide risk reduction from hurricane and Mississippi River flooding, and all protected areas are managed through forced drainage by pumping to remove excess rainwater.

The recommended plan would not encourage any additional development in the base floodplain, although waterfront industrial sites along connecting waterways could become more desirable due to the improvement in navigation traffic flows. The

## 4. ALTERNATIVES

### 4.1. PLANS ELIMINATED FROM FURTHER STUDY

Planning efforts for the IHNC Lock replacement started in 1960, and since that time numerous plans have been evaluated and eliminated. These include different sites for the lock replacement, as well as various alternative construction methods.

#### 4.1.1. Lock Sites Eliminated

A total of eight sites have been evaluated during various planning efforts and described by a 1975 Site Selection Report. These eight sites, which were described in the 1997 EIS, are shown in Figure 4-1, and are incorporated herein by reference. A ninth site, the Meraux Site, was described by the original authorizing legislation, but was determined early on to be unsatisfactory due to the combination of proximity of industrial development and adverse river conditions. The Scarsdale, Caernarvon, and Bohemia sites were eliminated because the routes were too circuitous and would cause massive, permanent damage to productive coastal marshes. The Saxonholm Site would have caused more severe disruption to residents of St. Bernard Parish than the two sites (Upper and Lower) evaluated in the vicinity of Violet. Finally, the Upper Site in Violet was also eliminated due to the potential disruption of residents in Violet.

Based on the 1975 Site Selection Report, the remaining sites that were carried forward for further evaluation were the IHNC Site and the Lower Violet Site. In 1977, President Carter directed USACE to conduct further studies of the lock replacement while focusing on minimizing displacement and impacts on residents. WRDA of 1986 directed USACE to evaluate only the existing IHNC Lock Site and the Lower Violet Site for the lock replacement. Further studies at the Lower Violet Site revealed that a lock and connecting channels would have major adverse impacts on the environment, specifically on extensive coastal wetlands located between the Mississippi River and the MRGO. The combination of these adverse environmental impacts and the strong opposition from residents of St. Bernard Parish led CEMVN to request higher authority from the USACE to halt any further consideration of the Lower Violet Site. The USACE, Mississippi River Valley Division, Headquarters and the Assistant Secretary of the Army for Civil Works agreed, and the Plan Formulation Section of the Main Report included as part of the 1997 EIS documents the details of this decision. Following the decision to eliminate further consideration of the Lower Violet Site, the IHNC Lock Site became the only viable alternative, and a number of alternative lock alignments at this site were evaluated.

#### 4.1.2. Lock Alignments at the IHNC Eliminated

Various alignments, locations, configurations and construction methods have been evaluated for the lock replacement at the IHNC Lock Site (Photograph 4-1). These alternatives were described in the 1997 EIS and are incorporated herein by reference. In summary, as part of the alternative evaluation, CEMVN gave maximum consideration to alternatives that minimized the disruption and displacement of nearby residents, as directed by the 1991 Appropriations Bill and WRDA of 1996.



Photograph 4-1. IHNC Lock Site

- New lock located within the IHNC north of Claiborne Avenue, conventional construction, new low-level bridge at St. Claude Avenue, new mid-level bridge at Claiborne Avenue.

Based upon significant adverse unmitigable impacts for the 200-foot east and west locations in combination with the public opposition for all of the plans except the North of the Claiborne Avenue Site, CEMVN concluded that the only suitable site for a new lock to be constructed was within the IHNC north of Claiborne Avenue. All other alternative locations were determined to not be reasonable, and additional details concerning the rationale for this conclusion are available in the Plan Formulation Section of the Main Report in the 1997 EIS, and are incorporated herein by reference.

#### **4.1.3. Phased Construction Plan**

A phased construction plan was considered in the 1997 EIS and is incorporated herein by reference. The phased construction plan was considered in order to reduce the vessel traffic congestion at the existing lock as soon as possible. This plan would have required the construction of a mid-level bridge at St. Claude Avenue to accommodate both vessels using the existing lock and vessels using a bypass channel. The combination of the socioeconomic impacts associated with the height of a mid-level St. Claude Avenue Bridge and the determination that it was an economically inferior plan, caused CEMVN to determine that it was not a viable alternative, and it was eliminated from further consideration.

#### **4.1.4. Steel-shell Lock Design**

A steel-shell lock design that would be constructed in modules off-site and soil-founded, thus requiring only a small number of leveling pilings, was considered in the 1997 EIS and is incorporated herein by reference. Although the steel-shell lock design would greatly reduce noise impacts on local residents due to decreased pile driving, the steel-shell lock design was deemed infeasible due to the maintenance and repair closures required as a result of corrosion and damage from vessels.

#### **4.1.5. Tunnel Alternatives for the St. Claude Avenue and Claiborne Avenue bridges**

Several alternative plans that would construct traffic tunnels beneath the IHNC to replace the St. Claude Avenue Bridge and the North Claiborne Avenue Bridge were evaluated by CEMVN in 2001 (CEMVN 2001). Tunnel alternatives for the replacement of both bridges were determined to be technically feasible. However, due to the high cost of construction, difficulties associated with construction in the dry, which would minimize disruption of IHNC waterborne traffic, and the adverse socioeconomic and traffic impacts, including the required displacement of residential and commercial structures and alterations to pedestrian and bicycle travel, the construction of tunnels to replace these two bridges was dismissed from further evaluation.

#### **4.1.6. Alternative Claiborne Avenue Bridge Designs**

CEMVN evaluated seven alternative bridge designs in 2004 (CEMVN 2004). Although the bridge designs located parallel to and south of the existing Claiborne Avenue Bridge provide the least amount of vehicular and marine outage time, and provide for the greatest percentage of waterborne traffic passage without bridge opening, these designs also had the highest cost, would require additional right-of-way and substantial residential and commercial structure displacement. Because of these adverse socioeconomic impacts, the alternative bridge designs that would construct a new bridge parallel to and south of the existing Claiborne Avenue Bridge were dismissed from further evaluation.

#### 4.3.2. Plan 1 (No-build/Deauthorization)

Under the No-build/Deauthorization Alternative, the IHNC Lock Replacement project would be deauthorized by Congress and would preclude the construction of a new lock. The Federal government would continue to operate and maintain the existing lock. This alternative assumes that the existing lock would neither be replaced nor closed. Delay times would be similar to existing conditions, as lock repairs and maintenance would be a continuous concern.

#### 4.3.3. Plan 2 (1997 EIS Plan)

The New Lock – North of Claiborne Avenue Plan was described in detail in the 1997 EIS and that description is incorporated herein by reference. Also, because this is the authorized project and portions of the project have been implemented, Plan 2 is the No Action Alternative for this SEIS. In summary, that plan included the replacement of the existing lock with a new lock to be constructed in the IHNC, north of Claiborne Avenue. Various dimensions for the new lock were described; however, the recommended plan (Plan 3f in the 1997 EIS), would construct a new lock with dimensions of 110 feet wide by 1,200 feet long by 36 feet deep (Figure 4-3). This was also the locally preferred plan. When Congress authorized the project in Section 844 of WRDA of 1986, it authorized a new lock to replace the existing deep-draft lock. The cost sharing requires the Port of New Orleans to provide 25 percent of the incremental construction costs for the deep-draft portion of the project during construction and an additional 10 percent share in cash over a period not to exceed 30 years after construction.

The construction of the new lock north of Claiborne Avenue would require a complex sequence of tasks, and these were also described in the 1997 EIS. It is anticipated that the entire construction process would take 11 years to complete. The following is a summary of those tasks (and are shown on Figure 1-2 and sequentially summarized on Figure 4-4). Additionally, these tasks assumed that the new high-level Florida Avenue Bridge would be completed before the start of lock construction activities.

- The Galvez Street Wharf and U.S. Coast Guard facility on the west bank of the IHNC, and the remaining businesses on the east bank of the IHNC between the Mississippi River and Florida Avenue, would be demolished and removed.
- A temporary bypass channel would be excavated on the east side of the IHNC where the new lock is proposed (Photograph 4-3).
- The site for the new lock north of Claiborne Avenue would be prepared by hydraulically dredging the canal bottom, placing bedding material and driving pilings.



**Photograph 4-3. Location of temporary bypass channel on the east side of the IHNC.**



- The towers and lift span of the North Claiborne Avenue Bridge would be replaced (Photograph 4-6). The new towers and lift span would be prefabricated off-site and floated into position on barges. The North Claiborne Avenue Bridge closure time is not expected to exceed 4 weeks.
- Levees and floodwalls would be relocated and upgraded to provide Mississippi River flood control. This includes extending the Mississippi River flood control levees north of North Claiborne Avenue to the location of the new IHNC Lock and realigning the existing levees south of St. Claude Avenue to the confluence of the IHNC and Mississippi River. A floodwall cap would be placed on top of the realigned levees.
- Once the new IHNC Lock becomes operational, the north bypass channel would be back-filled mainly with material dredged from the south bypass channel (*i.e.*, demolition bypass channel) to be excavated around the east side of the old lock.
- The existing lock would be demolished and hauled away. Additional dredging would occur in the vicinity of the old lock site following demolition and in the old and new lock fore bays. Some of this dredged material would be used around the new lock site, and any excess, uncontaminated material would be pumped into the Mississippi River.
- New lock guide walls and permanent mooring facilities would be constructed.



**Photograph 4-6. Existing Claiborne Avenue Bridge; view is from the south near the existing IHNC Lock**

A broad-based community impact mitigation plan is also a component of this alternative. The plan to be implemented includes numerous actions to minimize and compensate for adverse impacts on the local community that are expected from project construction, mainly in areas of community facilities and services, community cohesion, noise, police and fire protection, aesthetics and pedestrian access. The community impact mitigation plan was described in detail in the 1997 EIS and is incorporated herein by reference. As part of the community impact mitigation plan, a total of \$43 million would be expended in Lower Ninth Ward, Holy Cross, St. Claude/Florida, and Bywater in order to mitigate impacts on these neighborhoods resulting from the IHNC Lock Replacement Project (Community Based Mitigation Committee [CBMC] 2008).

The off-site construction area was chosen from a list of potentially suitable sites provided to CEMVN by the Port of New Orleans. Those sites were described in Table 4 of the 1997 EIS, and the analysis of those sites is incorporated by reference. Dredged material removed during construction of the new lock, temporary bypass channels, and after demolition of the existing lock is completed would be disposed of in one of three ways. Dredged material determined to be contaminated would be disposed of along the south bank of the GIWW/MRGO in a CDF, and a conceptual design for this CDF was prepared (Appendix E). Dredged material deemed suitable for use in wetland restoration would be disposed of south of Bayou Bienvenue and west of the City of New Orleans' Wastewater Treatment Plant to create wetlands as mitigation for impacts on wetlands from other project components (*e.g.*, off-site construction area and CDF site construction). Finally, material determined to be suitable for disposal in freshwater aquatic environments, but

not needed for future use as fill material or determined to be unsuitable for wetland creation, would be discharged into the Mississippi River.

As part of the project, a Water Quality and Sediment Evaluation Report (Appendix C) for dredged materials in the IHNC was conducted. Based upon the results of the Water Quality and Sediment Evaluation, a CDF would be designed to the appropriate size to contain material unsuitable for open water disposal. Furthermore, a plan was developed for the disposal or reuse of all dredged materials, including those for wetland creation purposes and discharge into the Mississippi River.

#### **4.3.4. Plan 3 (Revised Lock Replacement Plans)**

Since the preparation of the 1997 EIS, portions of the originally proposed project have been completed and additional studies, design, and analyses have been conducted that require a revision to the original lock replacement plan. Most of these changes involve details associated with dredged material reuse and disposal. However, in addition to the original proposed float-in-place construction method evaluated in the 1997 EIS, a second plan that would allow for cast-in-place construction has been evaluated.

Between 2001 and 2005, over \$1 million has been spent on community mitigation projects in the impact area. These mitigation projects included job training programs at Xavier University and Nunez Community College; an Integrated Communications System between IHNC bridge towers and police, fire, and emergency medical services (EMS) units; additional police patrols on the east side of the IHNC; playground improvements, and the Vacant Lot Maintenance Program (CBMC 2008).

Demolition and environmental remediation of the abandoned industrial sites along the east side of the IHNC have been completed. This work included the removal of above- and below-ground structures and canal-side obstructions. This work was completed in June 2005, and now this area, north of Claiborne Avenue is a grassy area with some open water areas where soils were removed below the tidal water level. The U.S. Coast Guard facilities, which were destroyed in Hurricane Katrina, were relocated to the new Integrated Support Command at National Aeronautics and Space Administration's (NASA) Michoud Assembly Facility in Eastern New Orleans. The Galvez Street Wharf has been demolished, with the work being completed in February 2003. Following the demolition of the wharf, nine mooring buoys were placed to protect the exposed bank and aid in navigation. Real estate needed for the lock construction was purchased from the Port of New Orleans for \$16.8 million.

Since the current IHNC lock was constructed in 1923, barge and ship traffic, as well as industrial activities, sanitary sewer facilities, and stream flow through the IHNC from the Mississippi River and the MRGO, have deposited an assortment of chemicals and other contaminants in the sediment accumulated at the bottom of the canal. Because of this, any material dredged from the canal or the lock would require evaluation prior to disposal or beneficial use. Prior testing conducted in 1982 and 1993 was documented in the 1997 EIS and that information, including a list of contaminants of concern (CoC) is incorporated herein by reference. As a result of the testing in support of the 1997 EIS, it was concluded that the proposed dredged material would have moderate impacts on the environment. Those dredged materials that were considered suitable for estuarine open-water disposal were proposed to be used beneficially to create marsh and mitigate for the loss of wetlands at the off-site construction area.

adequate flood protection and a different dike height would result in a more efficient use of resources.

A Water Quality and Sediment Evaluation (Appendix C) was conducted concurrently with development of the conceptual design for the CDF. A comparison of exposure point concentrations to Risk Evaluation/Corrective Action Program (RECAP) soil standards for direct contact exposure and soil-to-groundwater migration pathways was conducted (Appendix R). Results of the human health risk evaluation indicate that even during catastrophic failure of the CDF during filling, which would be a worse-case scenario, human exposure through either direct contact (*e.g.*, ingestion, skin contact, and inhalation) or from recreation activities (*e.g.*, boating and ingestion of fish/crabs caught in Bayou Bienvenue, IHNC, or GIWW) would not be expected to cause adverse human health effects. Conservative assumptions were employed for the health evaluation including the use of residential risk standards and assuming no dilution of the dredged material after release from the CDF during a catastrophic failure (Appendix R).

Results of the groundwater protection evaluation indicate that exposure point concentrations of any contaminants leached from the dredged material to shallow groundwater beneath the CDF (for all scenarios evaluated) would not exceed RECAP standards for non-drinking water sources. This standard also provides an evaluation of any discharge to the adjacent surface water body that might occur by leaching or seepage through the containment berms. Additionally, groundwater is not used for drinking water purposes in the New Orleans area and within a 1-mile radius of the CDF which further supports the lack of potential health risks from groundwater (Appendix R).

The proposed CDF would be comprised of two types of cells: a disposal cell that would permanently contain dredged material unsuitable for open water placement and a fill cell that would temporarily contain dredged material until it would be needed for backfill around the lock construction site (Appendix E). The CDF would be constructed with containment dikes engineered to provide adequate containment for dredged material, according to established USACE guidance and practice (USACE 1987, USACE 2003a). The primary purpose of a CDF is to provide for structural containment of the dredged material; however, necessary hurricane protection measures were considered in the CDF design.

The placement of the CDF behind the HSDRRS would provide it with the 100-year level of risk reduction. However, because flooding has occurred in this area previously as a result of levee failure, the conservative approach would be to model the potential for overtopping in the event of widespread flooding. Although this modeling effort has not been completed, a preliminary analysis suggests that the maximum depth of flooding in the area of the proposed CDF would be 10 feet, and the modeled height of 15 feet would be adequate to prevent overtopping of the CDF dike in the unlikely event of catastrophic flooding. The potential for material loss from the CDF as a result of scouring during a catastrophic flood was not quantified; however, the substantial dike profile and final condition of the contained materials (*i.e.*, relatively high percentage of solids) would limit the area of the CDF that could be potentially lost as a result of scour. Armoring the dikes to prevent scour was also considered, but deemed unnecessary due to the limited volume of material potentially lost to scour. The CDF would be setback an adequate distance from the existing HSDRRS levee to prevent compromising their integrity. Drainage ditches would be constructed in the space created between the CDF dikes and HSDRRS levee to prevent undesirable pooling of runoff. Once the dredged material in the disposal cell consolidates, a clean cover would be placed over the contaminated material and the cover would be stabilized with vegetation. Detailed design of the CDF, including the height and slope of the containment dikes, geotechnical analysis of stability of underlying

soils, adequacy of *in situ* material for dike construction, final containment dike elevation, and side slopes and construction methods, would be prepared with the resumption of the lock replacement project.

Once the dredged material in the disposal cell consolidates, a clean cover would be placed over the contaminated material and the cover would be stabilized with vegetation. Detailed design of the CDF, including the height and slope of the containment dikes, geotechnical analysis of stability of underlying soils, adequacy of *in situ* material for dike construction, final containment dike elevation, and side slopes and construction methods, would be prepared with the resumption of the lock replacement project.

The first handling option assumes that all of the material dredged during the life of the construction project would be placed in the CDF. Some of this material would be placed in a fill cell within the CDF, and would only be temporarily stored and managed before being reused at the construction site for backfill. The remaining material would be placed in a disposal cell for permanent storage within the CDF. Table 4-2 provides the volume of material to be placed in the fill and disposal cells for each DMMU if all material was placed in the CDF. To accommodate this volume of material, the CDF would be 505 acres in size, which includes the disposal cell, fill cell and containment dike (Figure 4-7). The location for the CDF on the south bank of the GIWW/MRGO was chosen because it is proximate to the IHNC Lock site, and a pipeline transporting hydraulically dredged material could reach this site without crossing navigable waterways or heavily traveled roads. Alternative locations for the CDF were evaluated, but all areas in proximity to the IHNC Lock site are developed urban areas, or are undeveloped but located across the GIWW/MRGO, a navigable waterway.

**Table 4-2. Volume of Dredged Material for the Placement of All Material in the CDF for Cast-in-place Design**

DMMU	<i>In situ</i> Volume (cy)	Year Dredged	Initial Storage Volume (cy)
<b>DISPOSAL CELL</b>			
1	48,100	6	101,640
2	155,200	6	316,213
3	389,600	2 and 3	1,193,866
4	257,800	2 and 3	774,400
5	83,500	2 and 3	242,000
7	152,500	1	445,280
8	162,000	7	440,440
9	192,200	7 and 11	524,333
Total	1,440,900		4,038,172
<b>FILL CELL</b>			
3	196,700	2 and 3	672,760
5	161,700	2 and 3	432,373
6	997,700	1	2,537,773
7	468,400	1	1,355,200
10	131,300	7	525,946
Total	1,955,800		5,524,052

Source: CDF Conceptual Design Report, Appendix E

A second handling option would place some material unsuitable for freshwater disposal (DMMUs 1, 2, 5 and 7) in a CDF, while disposing of the remaining material suitable for freshwater disposal in the Mississippi River. Similar to the previous handling option, some of the material would be placed in the CDF fill cell and reused for backfill at the construction site, while the remaining portion would be permanently placed in the CDF disposal cell. Table 4-3 provides the volume of material estimated to be placed in the fill and disposal cells, and discharged to the Mississippi River, for each DMMU. The CDF for this second handling option would be 266 acres in size (which includes the disposal and fill cells and containment dike) to accommodate the remaining volume of dredged material not placed in the Mississippi River (Figure 4-8).

**Table 4-3. Volume of Dredged Material in CDF for Cast-in-place Design with Freshwater Disposal of Suitable Material**

DMMU	<i>In situ</i> Volume (cy)	Year Dredged	Initial Storage Volume (cy)
<b>DISPOSAL CELL</b>			
1	48,100	6	101,640
2	155,200	6	316,213
5	83,500	2 and 3	242,000
7	152,500	1	445,280
Total	439,300		1,105,133
<b>FILL CELL</b>			
6	651,022	1	1,745,627
Total	651,022		1,745,627

Source: CDF Conceptual Design Report, Appendix E

The third handling option would place material determined to be unsuitable for freshwater disposal in a permitted landfill, while disposing of all remaining material not needed for backfill at the lock site in the Mississippi River. Eight landfills were evaluated for the cast-in-place design, and this evaluation also included various facilities and methods for handling the liquid and solid wastes (Appendix F).

Due to the estimated larger size of the CDF (505 acres) and the increased engineering requirements, cost and impacts on wetland and bottomland hardwood forest habitats, the option that would place all dredged material in the CDF (first handling alternative) was eliminated from further consideration.

Use of a CDF for disposal of dredged material meets USACE engineering requirements and is standard practice for dredged material disposal. The construction of a CDF would not compromise the environment because all material would be managed to insure safety of aquatic habitats and human health. Therefore, the CDF is a reasonable and safe disposal method for dredged material and is considered a viable disposal method, and is the preferred option.

The disposal of dredged material at a landfill (third handling option) has a number of limitations, which include:

- The estimated costs for disposal at a landfill ranged from approximately \$75 to \$131 million (Appendix F), while the estimated cost for the CDF construction ranges from \$23 to \$45 million based upon design size and contingencies (Appendix E);

- Although not required for landfill disposal, to minimize costs, the dredged material would likely be dewatered prior to disposal. The material would likely be placed in the CDF and worked over several years to reduce the quantity of water that would be taken to a landfill. This would still require the temporary construction and use of a CDF. Once the material was dried, it would be trucked from the CDF to the landfill;
- Disposal of material at a local landfill would potentially reduce the landfills' life span. Three Type landfills are located in the New Orleans area. According to LDEQ Solid Waste Disposer Annual Reports, the Coast Guard Road Sanitary Landfill has an estimated facility life of 98 months, the Jefferson Parish Sanitary Landfill Phase II A and B has an estimated facility life of 38 months and the River Birch, Inc. Landfill has an estimated facility life of 372 months; and,
- Landfills located in the New Orleans area receive the same level of hurricane and storm damage risk reduction as the proposed CDF and could also be subject to flooding during sever storm events;
- Although disposal of this material at a landfill would be costly, the landfill disposal option has been carried forward as an alternative to permanent placement of material in a CDF.

Hydraulically dredged material pumped into the CDF would contain a large volume of water, called effluent. Both effluent and water collecting from precipitation would be managed at the CDF. Effluent would be pumped from the CDF over the hurricane and storm damage risk reduction levee and into the GIWW and treatment of effluent water prior to discharge (Appendix C). Main discharge weirs would be located at the northeast corner of each of the CDF cells and would be connected to the pumps and pipes that discharge effluent to the GIWW. Active dewatering of the CDF would occur to encourage rapid consolidation and desiccation of dredged material. Active dewatering would include regular surface trenching and weir management. Vegetation management on the CDF during dewatering activities would occur through both active tilling and the application of herbicides approved for aquatic environments. After disposal and dewatering is complete, runoff from precipitation would either be routed to the GIWW or released slowly into Bayou Bienvenue.

The CDF would be accessed by constructing an earthen ramp across the risk reduction levee allowing access for trucks for CDF maintenance and to recover materials from the fill cell for use as backfill at the lock construction site. Earthen ramps would also be constructed for ingress and egress to the CDF cells and for adequate turn-around and staging space for vehicles. Electricity would be brought to the CDF from the Florida Avenue Bridge area to provide power for the pumps used to dewater the CDF.

Backfill material would be delivered by trucks from the CDF fill cell to the lock construction site. Trucks would cross the ramp over the GIWW/MRGO risk reduction levee and traverse the north side of the levee to the Harbor Drive/Florida Avenue intersection, then access the lock construction site from Surekote Road or Jourdan Avenue on the east side of the IHNC, or the former Galvez Street Wharf or Japonica Street from the west side of the IHNC.

Table 4-4 provides a proposed schedule for construction activities for the IHNC Lock Replacement project as described by the cast-in-place design.

**Table 4-4. Estimated Schedule for Construction Activities for Cast-in-place Design**

<b>Task</b>	<b>Start Date</b>	<b>End Date</b>
New lock demolition, clearance, preparation	15 March 2009	19 December 2009
Dredge and install bypass channel	1 October 2009	30 July 2010
Cofferdam installation	11 February 2011	31 May 2012
Construct detour route for Claiborne Avenue Bridge closure	17 August 2012	12 June 2013
Installation of new lock monoliths at new site	9 July 2013	4 March 2018
Detour routes enacted	16 November 2014	15 December 2014
Claiborne Avenue Bridge closure & replacement	16 November 2014	15 December 2014
Re-open Claiborne Avenue Bridge	16 December 2014	16 December 2014
Construct bypass channel around old lock	3 January 2018	15 December 2019
Cofferdam removal	14 August 2018	27 September 2019
Construct temporary St. Claude Avenue Bridge	3 January 2019	15 April 2019
Install new floodwall	18 February 2019	22 February 2021
Demolition of St. Claude Avenue Bridge and old lock	20 April 2019	15 September 2019
Backfill and finish new lock site and building construction	6 May 2019	15 December 2020
Install new St. Claude Avenue Bridge	3 October 2019	15 March 2020
Re-open St. Claude Avenue Bridge	16 March 2020	16 March 2020
Install guide walls for south entrance to new lock	20 April 2020	20 October 2021

Source: Cast-in-place vs Float-in-place Report Letter, Appendix D

#### ***4.3.4.2. Plan 3b (Float-in-place Lock Construction; Recommended Plan)***

Due to improved constructability, substantially less material dredged during construction, reduced noise impacts from less pile driving, and better vessel navigability during lock construction activities, the float-in-place lock construction method has been determined to be the recommended plan for the lock construction replacement. Fundamentally, the float-in-place lock construction is very similar to the 1997 EIS Plan. Two separate construction locations would be needed for the Float-in-place Plan, the off-site area which allows for lock module construction in the dry, and the lock site (Appendix D). The location of the off-site construction area has been moved from the north side of the GIWW/MRGO to the south side and from just west of Paris Road to just east of Paris Road. Construction activities at these two sites would occur concurrently.

#### **Off-site Construction Area**

To prepare the off-site area for lock module construction, all of the vegetation on the site would be removed, the risk reduction levee relocated, and a small drainage canal rerouted. The site would then be excavated to a depth of -31 feet with 1:5 (vertical:horizontal) side slopes and some excavated material used to reinforce the risk reduction levee along the GIWW. It is estimated that a total of 664,000 cy of material would be excavated. Of that total, 112,000 cy of material would be used to reinforce the berm and relocated levee and the remaining 552,000 cy stockpiled east of the off-site construction area within a temporary containment facility. However, if it is determined the material excavated is not suitable for levee construction, then suitable borrow material would be used for the relocated levee and the all of the excess material would be stockpiled east of the off-site construction area. The western end of the excavated area would be no closer than 110 feet from the base of the Paris Road Bridge piers. The off-site construction area would be dewatered and maintained for 4 to 5 years in a dewatered condition during the construction of the lock modules. Electricity would be brought to the site along the Paris Road right-of-way for module construction activities and pumping. Pumps for dewatering activities would discharge into the GIWW. A 30-foot

wide separating berm, which would provide separation for lock module construction efforts, would be constructed and then removed, and reconstructed four additional times, between each of the lock modules as they are completed and floated out of the GIWW. Following the construction of the lock modules, the stockpiled excavated material and any material imported for the realigned levee construction would be used to fill the off-site construction area and return the off-site construction area to the preconstruction elevation. The risk reduction levee would be reconstructed to its current alignment and authorized elevation. If it is determined that the volume of material in the stockpile area is not adequate to restore the off-site construction area to the preconstruction elevation, borrow material would be imported to reach this elevation. The off-site construction area and stockpile area are approximately 34 acres in size.

#### Lock Site

A bypass channel would be constructed east of the new lock site north of Claiborne Avenue. The bypass channel would be constructed by hydraulically dredging approximately 876,000 cy of material to provide for two-way barge traffic and one-way ship traffic during lock construction. Because of the large volumes of material that would be dredged for lock construction, hydraulic dredging, which allows for the pumping of material to a temporary or permanent disposal site, would be necessary to meet the project schedule. As described previously, bucket dredging is a substantially slower method and dredged material must be handled twice in order to temporarily or permanently dispose of the material. Three protection cells would be constructed at the south end of the bypass channel concurrent with channel dredging, and a timber guide wall installed before opening the channel. Tug assistance vessels would be stationed at each end of the bypass channel and be available 24 hours daily to assist tows through the channel.

Following the completion of the bypass channel, the footprint of the lock would be hydraulically dredged to a depth of -54 feet for the gatebay modules and -52 feet for the chamber modules. A total of approximately 1.1 million cy of material would be hydraulically dredged within the lock footprint. Sheetpile would then be driven along the perimeter of the lock footprint to create a containment wall. A 3-foot thick stone base would be placed at the bottom of the lock footprint. A hopper box lowered to the bottom would be used to place the stone base. Eight protection cells, 78 feet in diameter, would be constructed at both ends of the excavated area. Steel lock pipe piles, 120 feet long and 48 inches in diameter, would be driven within the footprint of the lock. A vibratory hammer would be used to drive piles above the water surface and a hydro-hammer used below the water surface.

As each lock module is floated to the lock site from the off-site construction area, two of the protection cells located on the north end of the lock site would be removed to allow for the lock module passage. Following the placement of a lock module, the two protection cells would be rebuilt. This removal and replacement of protection cells would occur for each lock module. A batch plant for concrete production would be constructed on top of a platform placed on three of the protection cells.

The south lock module would need to be constructed and transported to the lock site first. Prior to the transport of each module, the off-site construction area around that module would be flooded by removing the independent closure system. The closure materials would be stockpiled while the module floated out. The site would be dewatered again and the closure rebuilt to allow construction of the next module. Tug boats would pull the lock module from the off-site construction area to the lock site. It is anticipated that transport of a module would take 1 day, and the GIWW/MRGO would be closed to marine traffic during the towing. The module would then be attached to temporary



mooring dolphins and then moved into place and attached directly to another already installed lock module.

Using sand ballast, the lock module would be positioned horizontally and vertically in its correct position. Grouting of lock module sections, placement of mechanical components, and underbase infilling would then be completed. The lock module's structural load would then be transferred from jacks, which were holding the lock module in place while the concrete was setting, to the piles. Flooding and then dewatering of the newly placed lock module and adjacent lock modules would be done to test mechanical equipment and grouted seals.

These same steps would be completed for each of the lock modules until the new lock is completed. Mechanical and electrical components would be installed after all of the lock modules are in place. The lock would be tested, the channel protection cells removed from both ends of the lock, protection riprap placed at both ends of the lock, and the lock opened to traffic. Once the new lock is fully operational, the bypass channel would be closed and new guidewalls put into place. At this time, the water depth in the new lock would still be controlled by the old lock. The bypass channel would be filled with a combination of sand and stockpiled dredged material to an elevation of +5 feet.

Levees and floodwalls would be raised and tied into the Mississippi River flood control system as described in the 1997 EIS. A channel would be constructed around the old lock and the old lock demolished as described in the 1997 EIS. The new lock would then be fully functional.

The estimated cost for float-in-place lock construction is \$879.8 million, but does not include costs such as those required for real estate acquisition, lock demolition and prior expenditures. These additional costs beyond lock construction are estimated at \$383.1 million. As described previously, an updated economic analysis was conducted to determine the remaining annual benefits, annual costs, and remaining benefit-to-cost ratios. The remaining benefit-to-cost ratio is 0.90 at the project discount rate of 7.125 percent and 0.92 at the Office of Management and Budget discount rate of 7.0 percent. However, the remaining benefit-to-cost ratio is 1.57 at the current Federal discount rate of 4.875 percent (Appendix O).

Nearly 2.2 million cy of material would be hydraulically dredged from the 10 DMMUs in the IHNC during the life of the construction project. DMMU 11, as mentioned previously, is currently at sufficient depths. As described in the Cast-in-place Plan alternative, dredged material would be disposed of using one of three handling options: 1) disposed of entirely in a CDF; 2) in a combination of a CDF and in the Mississippi River; or, 3) in a combination of a landfill and in the Mississippi River. The CDF location and construction would be the same as described previously for the Cast-in-place Plan; however, the size of the CDF would be smaller given the smaller volume of material dredged under the float-in-place design (Appendix E). Also, the CDF would be comprised of a disposal cell and a fill cell. Table 4-5 provides the volume of material to be placed in the fill and disposal cells for each DMMU if all material was placed in the CDF. The CDF, including disposal and fill cells and containment dike, would be approximately 372 acres in size (as compared to 505 acres for the Cast-in-place Plan) to accommodate this volume of dredged material (Figure 4-9). Table 4-6 provides the volume of material for each DMMU estimated to be placed in the fill and disposal cells if approximately 1.4 million cy of dredged material which has been determined suitable for freshwater disposal was discharged to the Mississippi River. To accommodate the

The third handling option would place material determined to be unsuitable for freshwater disposal in a permitted landfill, while disposing of all remaining material in the Mississippi River. Eight landfill disposal alternatives were also evaluated for the float-in-place design similar to those described in the cast-in-place design (Appendix F).

As described in the Cast-in-place Plan, disposal of all dredged material in a larger CDF was eliminated from further consideration. Additionally, disposal of dredged material in a landfill was determined to be a more costly option, but was carried forward for further analysis.

Table 4-7 provides a proposed schedule for construction activities for the IHNC Lock Replacement project as described by the Float-in-place Plan.

**Table 4-7. Estimated Schedule for Construction Activities for the Float-in-place Plan**

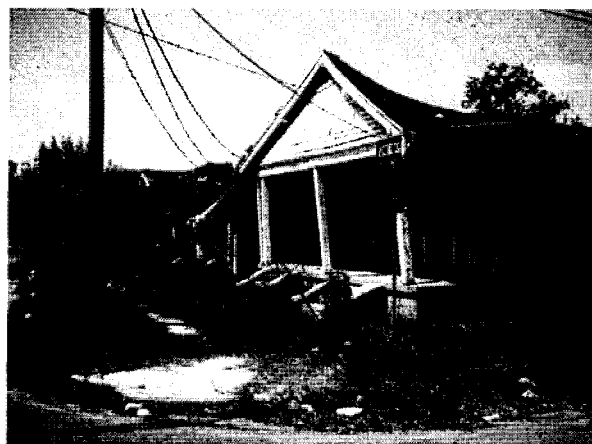
<b>Task</b>	<b>Start Date</b>	<b>End Date</b>
New lock site demolition, clearance, preparation	15 March 2009	14 October 2009
Dredge and install bypass channel	1 October 2009	8 January 2011
Construction of off-site construction area and new lock	30 October 2009	26 June 2018
Cofferdam installation	15 March 2010	2 August 2010
Construct detour route for Claiborne Avenue Bridge closure	17 August 2012	12 June 2013
Installation of new lock modules at new site	1 October 2012	10 November 2017
Detour routes enacted	19 July 2014	15 December 2014
Claiborne Avenue Bridge closure and replacement	20 July 2014	15 December 2014
Re-open Claiborne Bridge	16 December 2014	16 December 2014
Construct bypass channel around old lock	3 January 2018	15 December 2019
Backfill and finish new lock site & buildings	3 February 2018	26 April 2021
Construct temporary St. Claude Avenue Bridge	3 January 2019	15 April 2019
Install new floodwall	18 February 2019	22 February 2021
Cofferdam removal	1 April 2019	16 April 2019
Demolition of St. Claude Avenue Bridge and old lock	20 April 2019	15 September 2019
Install new St. Claude Avenue Bridge	3 October 2019	15 March 2020
Re-open St. Claude Avenue Bridge	16 March 2020	16 March 2020
Install guide walls for south entrance to new lock	20 April 2020	20 October 2020

Source: Cast-in-place vs Float-in-place Report Letter, Appendix D

#### **4.4. COMPARISON OF ALTERNATIVES**

A summary of impacts on significant resources for each alternative analyzed in detail is presented in Table 4-8. The context of impacts for all resources, as described in Table 4-8 and discussed in greater detail in Chapter 5, includes implementation of mitigation plans for impacts on communities, fish and wildlife resources, and traffic.

subsiding Mississippi River delta lobe that has been drained, diked and filled with various types and vintages of dredged material derived from Lake Pontchartrain and adjacent drainage canals. The deepest formations investigated in the area are Pleistocene deposits, consisting of somewhat hardened fluvial sands, silts and muds at a depth of -40 to -60 feet to depths around -180 feet. These sediments were exposed and weathered during low sea level stands as a result of Pleistocene glaciation, resulting in relatively higher cohesive strengths than would normally be expected. Above the Pleistocene, Holocene deposits are the result of gradual deposition of organic peat mixed with fluvial silt and mud deposited as overbank deposits and interdistributary bay deposits of the Mississippi River in cypress swamps around Lake Pontchartrain (Kolb *et al.* 1975).



**Photograph 5-1. Example of damaged residences located in the study area.**

Much of the project area was formerly wetlands (*e.g.*, cypress swamps and marshes). As Metropolitan New Orleans grew and the hurricane and storm damage risk reduction levees were built ever higher, water was drained from swamps and marshes by canals and pumping, and dredged material, including peat and mud, was used to elevate the area for habitation. Resulting surface soils are classified as dredged material or muck (Natural Resources Conservation Service [NRCS] 2007). Land inside the levees is continually subsiding due to dewatering of peat deposits, resulting in surface elevations below sea level. Water content in soils is generally high, and increases with depth. The near-surface groundwater table is connected to the water levels in Lake Pontchartrain and the Mississippi River, hence the need for numerous drainage canals and pumps to remove constant inflow and water from rainfall events.

## **5.2. SIGNIFICANT RESOURCES NOT AFFECTED BY ALTERNATIVES**

This section was fully described in the 1997 EIS and is incorporated herein by reference. In summary, due to the highly developed nature of the project area, no agricultural lands and farms are present. Furthermore, coordination with the U.S. Department of Agriculture, NRCS, confirmed that no prime or unique farmland soils subject to the provisions of the Farmland Protection Policy Act are located in the project area.

No Federally listed streams or streams listed as part of the Louisiana Scenic Rivers System occur in the project area, and those that occur in St. Bernard Parish are far removed from the alternatives under consideration. The Bayou Sauvage National Wildlife Refuge (NWR) is located in New Orleans East, but is well outside the influence of the proposed alternatives and would not be affected.

## **5.3. SIGNIFICANT RESOURCES AND EFFECTS OF ALTERNATIVES**

### **5.3.1. Introduction**

This section contains a list of the significant resources located in the vicinity of the proposed IHNC Lock project area (*i.e.*, the study area), and describes in detail those resources that would be impacted, directly or indirectly, by the alternatives. Direct

impacts are those that are caused by the action taken and occur at the same time and place (40 Code of Federal Regulations [CFR] §1508.8(a)). Indirect impacts are those that are caused by the action and are later in time or further removed in distance, but are still reasonably foreseeable (40 CFR §1508.8(b)). Cumulative impacts are discussed in Section 6. The resources described in this section are those recognized as significant by laws, executive orders, regulations, and other standards of National, state, or regional agencies and organizations; technical or scientific agencies, groups, or individuals; and the general public.

The amount and quality of socioeconomic data (*i.e.*, employment, population, and housing) available are very limited because of the devastation and out-migration caused by Hurricane Katrina in 2005. Numerous possible data sources were analyzed and, for the purpose of this study, it was determined that the most accurate and up-to-date socioeconomic information available for 2008 was for ZIP Codes and was based on mail deliveries as reported by the U.S. Postal Service (USPS). Data from numerous “cutting edge” research firms were analyzed, and it was determined that the ESRI’s *Business Analyst Online* (ESRI 2008) provides the most easily accessible and seemingly accurate information. These data are aggregated by ZIP Code and compared to the monthly “mail deliveries by ZIP Code” from the USPS. Even though the ESRI population estimates were somewhat lower than the estimates based on mail deliveries, they were deemed to be within reasonable bounds and were used in this analysis. Population composition, housing characteristics, employment, and income were also taken from the ESRI reports. Socioeconomic estimates for the study area used in the 1997 EIS were defined as comprising Zip Code 70117-New Orleans (Figure 5-1). This Zip Code includes the neighborhoods of Florida, St. Claude, Bywater, Holy Cross, and Lower Ninth Ward.

### **5.3.2. Waterborne Transportation**

This is a socioeconomic resource that includes navigation needs as regulated by the Rivers and Harbors Act of 1899 and River and Harbor Flood Control Act of 1970. The lower Mississippi River is one of the world’s busiest port complexes, and includes the Port of New Orleans, which has numerous facilities serviced by the IHNC.

#### Affected Environment

This resource was described in the 1997 EIS and is incorporated herein by reference. Louisiana is the top state in waterborne transportation by tonnage in the Nation. Four of the 15 largest ports by tonnage in the U.S. are located on the Mississippi River and account for over 410 million tons of cargo annually, with the Port of New Orleans handling nearly 77 million tons annually (American Association of Port Authorities 2006). In Louisiana, 236 miles of the Mississippi River provide deep-draft navigation to Baton Rouge; 310 miles of shallow-draft navigation on the GIWW (270 miles to the west and 40 miles to the east of the Mississippi River); and numerous connecting navigating channels such as the IHNC. The IHNC and existing lock connects the Mississippi River and Lake Pontchartrain, and provides a connection with the GIWW and MRGO (Figure 5-2).

The lock primarily serves shallow-draft barge traffic; however, a limited number of deep-draft vessels (to a depth of 31.5 feet) are accommodated. Although annual vessel traffic at the IHNC Lock is variable, since Hurricane Katrina, there has been a reduction in barge traffic, total lockages and total vessels utilizing the IHNC Lock for both up and down waterway passage (Table 5-1). However, there has been an increase in the average delay at the IHNC Lock even though the lock traffic has decreased (USACE 2008).

**Table 5-1. Vessel Traffic and Delay Time at the IHNC Lock**

<b>Calendar Year</b>	<b>Total Barges</b>	<b>Total Vessels</b>	<b>Total Lockages</b>	<b>Average Delay (hours)</b>	<b>Percent of Vessels Delayed</b>
2007	16,818	13,059	19,906	8.25	73
2006	16,141	8,095	16,389	8.16	91
2005	15,760	13,252	17,577	8.00	66
2004	18,933	15,934	20,524	8.23	67
2003	17,959	16,280	21,048	4.47	66
2002	19,040	16,039	20,864	5.18	67
2001	18,203	14,964	19,521	4.13	67

Source: USACE 2008

In addition to barge and deep-draft vessel traffic, the IHNC Lock also serves recreational and other commercial vessels (such as fishing vessels), U.S. Government vessels, and local law enforcement vessels.

The IHNC Lock has traditionally provided one of two connections between the western and eastern legs of the GIWW at its crossing of the Mississippi River (see Figure 5-2). Because the water levels of the Mississippi River are higher than sea level in the New Orleans area except during very rare combinations of river stage and tidal stage, any vessels navigating the GIWW and crossing the Mississippi River must use locks on the west and east bank of the river for the crossing. The IHNC Lock is the only lock that provides access to the eastern segment of the GIWW. Prior to Hurricane Katrina, vessels could utilize an alternate but substantially longer route that avoided the IHNC Lock to move from the Mississippi River to the eastern leg of the GIWW. This route required navigating the Mississippi River to near Venice, entering Baptiste Collette Bayou which provides navigable passage into Breton Sound, and then crossing Breton Sound into the MRGO (see Figure 5-2). Vessels could then navigate the MRGO north to the GIWW without negotiating any locks. As well as being a substantially longer route, it required vessels to enter the less protected waters of Breton Sound, which at times, for some vessels, is impassable due to poor weather conditions.

Following Hurricane Katrina, CEMVN no longer dredges the MRGO south of its confluence with the GIWW in response to Congress's deauthorization of the deep-draft channel. Furthermore, CEMVN is closing the MRGO with a rock weir structure placed at the Bayou LaLoutre ridge and construction has started on the closure. Once closure of the MRGO is completed, the IHNC Lock would provide the only method of navigation between the Mississippi River and the eastern leg of the GIWW.

#### Plan 1. No-build/Deauthorization

Under the no-build alternative, it is anticipated that delays would be similar to those experienced in 2004 through 2007, which average approximately 8 hours, and that over 67 percent of all waterborne traffic would experience a delay at the IHNC Lock. Additionally, with the closure of the MRGO, there would be no alternative for ship access between the Mississippi River and the eastern leg of the GIWW during extended lock closures. The existing lock would continue to provide the same level of service to the navigation industry as is currently provided, which would limit expansion of waterborne-related industries along the IHNC and GIWW.

#### Plan 2. 1997 EIS Plan

The long-term impacts on waterborne transportation were described in the 1997 EIS and are incorporated herein by reference. It is anticipated that the future expected transit

labor force would be required to commute to other locations within the Parish or outside of Orleans Parish for employment.

#### Plan 2. 1997 EIS Plan

No adverse long term impact on the levels of employment is expected by this alternative. Bridge closures could have short term impacts on some of the businesses on both sides of the canal. However, these impacts would likely be minor. The construction of the new IHNC Lock would improve access for deep-draft and shallow-draft vessels through the IHNC, and would provide the Port of New Orleans and others the opportunity to improve and construct facilities within the study area to service the maritime industry. This has the potential to increase the number of jobs available within the study area, potentially reducing unemployment and providing employment locally without the need to commute to other areas within or outside the parish.

Mitigation measures proposed in the 1997 EIS are incorporated herein by reference. These mitigation measures would require that contractors give preference to fully-qualified residents to achieve minority and local resident participation goals, and expansion of the skilled labor workforce in the community through vocational training and hiring preferences.

#### Plan 3a. Cast-in-place Plan

Impacts on employment would be the same as described for Plan 2. Mitigation measures would be the same as described for Plan 2.

#### *Landfill Disposal Option*

The choice of dredged material disposal options (*i.e.*, CDF vs. landfill disposal) would have no impact on local or regional employment.

#### Plan 3b. Float-in-place Plan (Recommended Plan)

Impacts on employment would be the same as described for Plan 2. Mitigation measures would be the same as described for Plan 2.

### **5.3.6. Land Use**

Land use is an important socioeconomic resource that is regulated by state and local laws and ordinances. Land use laws and ordinances guide development, preserve existing uses and provide for social development and welfare in urbanized areas.

#### Affected Environment

Land use for each of the neighborhoods (Figure 5-3) in the study area was described in the 1997 EIS and is incorporated herein by reference. Although Hurricane Katrina had tremendous impacts on the population of these neighborhoods, and has either damaged or destroyed most of the businesses and residences, the designated land uses have not changed substantially. It should be noted that, although the designated land uses remain, damage to the Lower Ninth Ward neighborhood from Hurricane Katrina was so extensive, that the majority of the residences in this primarily residential neighborhood were destroyed, demolished and now consist of vacant lots.

The St. Claude neighborhood is primarily residential with a large industrial area along the west side of the IHNC from Claiborne Avenue to Florida Avenue. The Bywater neighborhood is also primarily residential with industrial development and government use (Naval Support Facility) along the Mississippi Riverfront and along Press Street near the intersection of the river and the IHNC. Some warehouse development is located along the western edge of the Bywater neighborhood adjacent to the Faubourg Marigny. The Lower Ninth Ward neighborhood is primarily residential with an industrial area

proposed the reopening of existing parks and creation of new parks throughout the community including parks at Derbigny Street, Bartholomew Street, Florida Avenue, and Florida Avenue Canal.

*District 8 Plan - Holy Cross/Lower Ninth Ward*

Residents of Holy Cross/Lower Ninth Ward communities propose to repair and improve St. Claude and Claiborne avenues as mixed use corridors and traditional avenues. For economic development and business activity redevelopment, the community proposes to attract clean, green industry to the flood-side of the flood wall along the IHNC.

For transportation/transit redevelopment, the creation of a new light rail and streetcar system with multi-modal nodes has been proposed. The community has also suggested the removal of the railroad spur from St. Claude Avenue, Alabo Street, and the riverfront. In regards to public safety, relocation of police headquarters to the town center has been proposed.

The Holy Cross/Lower Ninth Ward communities would like to have all schools and community facilities reopened and improved. Street closures separating schools and parks/playgrounds for one block to develop a campus environment have been proposed. Residents would like to renovate, expand, and operate Holy Cross School as a community college and education center. For community/cultural facilities redevelopment, renovation and expansion of the Sanchez Community Center has been proposed. Several redevelopments for public roads, parks, and open space have been proposed including improvements to all parks and the riverfront. A new linear park adjacent to the levee/flood wall of the IHNC has been suggested. Also, residents would like for the Florida Avenue back levee to be developed into major greenways. Relocation of the riverfront park and playground on Alahambra Street to the parcel bound by Royal, Alabo, Chartres, and Charbonette streets has also been proposed.

Plan 2. 1997 EIS Plan

The impacts on land use as a result of Plan 2 were described in the 1997 EIS and are incorporated herein by reference. Redevelopment of neighborhoods near the IHNC Lock would continue as described in Plan 1. The proposed off-site construction area on the north bank of the GIWW would be utilized for a construction facility during the life of the project. Upon completion, this site would convert to the land use that the Port of New Orleans deemed appropriate, which could include maritime and industrial uses. Some acquisition of private and public lands for the construction of the CDF would be required and all landowners would be compensated at fair market value as described in the 1997 EIS. No long-term impacts on land use would occur from lock-related activities.

Plan 3a. Cast-in-place Plan

In the short-term during lock construction activities, it is anticipated that some residential and commercial redevelopment activities near the IHNC (within approximately 500 feet of the IHNC) would be suppressed due to construction noise and traffic that would be disrupting to nearby areas. Parks proposed along the IHNC and riverfront south of the St. Claude Avenue Bridge would not be implemented until lock construction is completed. Any proposed transit developments across the St. Claude Avenue or North Claiborne Avenue bridges (such as the Desire Streetcar Line) could be temporarily delayed until completion of bridge modifications. However, redevelopment in nearby neighborhoods beyond the influence of noise and construction traffic would occur as described by Plan 1. In the long-term, improved infrastructure along the IHNC, including a new lock and bridges, would contribute to commercial and industrial development in the immediate vicinity of the IHNC, and would bring jobs to the region, contributing to the implementation of the proposed redevelopment as described by the Unified New Orleans

Mobile Disaster Medical Assistance Teams continue operating in some areas. In May 2008, the Lower Ninth Ward Health Clinic, at the corner of St. Claude Avenue and Egania Street, opened for business, dispensing free health care to anyone in need. Besides the Lower Ninth Ward Health Clinic, the Daughters of Charity Health Center – Saint Cecilia at 4201 North Rampart Street is the only other medical facility in the neighborhoods adjacent to the project area.

#### *Recreational Facilities*

Numerous parks and playgrounds, as well as a recreation center, were maintained by the City of New Orleans Recreation Department prior to Hurricane Katrina. All of these recreation facilities received varying damages from Hurricane Katrina and many of the playgrounds are still not open to the public. Several parks and recreational facilities are now being used for residential and commercial trailers, and all of these facilities are in need of substantial maintenance. Both the Sanchez and Stallings Community Centers remain closed and Hurricane Katrina damage remains. A 3-mile long, white-striped bicycle path has recently opened along St. Claude Avenue, extending through the Lower Ninth Ward and ending at the Orleans/St. Bernard Parish line.

#### *Other Facilities*

The USPS's Bywater Station on Poland Avenue was damaged by Hurricane Katrina, but reopened for service in 2006.

#### Plan 1. No-build/Deauthorization

Under the no-build alternative, it is anticipated that community facilities and services would continue to be improved and renovated. As residents return to these storm damaged areas, schools, health care and recreational facilities would be rebuilt. City services would improve through time, and fire and police facilities would be renovated and these services would move from temporary to permanent facilities. Much of the renovation and improvement to community services have been completed by volunteer organizations, and it is likely that volunteers would continue to be an important part of future redevelopment.

#### Plan 2. 1997 EIS Plan

The impacts on community services from Plan 2 were described in the 1997 EIS and are incorporated herein by reference. The temporary closure of the North Claiborne Avenue Bridge and the use of a temporary bridge at St. Claude Avenue would cause short-term disruptions to pedestrian and vehicle traffic, impacting resident's access to the remaining public and community facilities. The temporary disruption in vehicle traffic across the IHNC would also increase response times for emergency vehicles traveling across the canal. This is especially critical for residents of St. Bernard Parish, the Lower Ninth Ward and Holy Cross, who rely upon the IHNC bridges for emergency transportation to emergency medical centers located in New Orleans, west of the IHNC.

In the long-term, the period of time in which the North Claiborne Avenue and St. Claude Avenue bridges would remain open would be greater than that of the no-build plan because of increased marine traffic. This would cause a permanent reduction in accessibility to community services and facilities and response time for emergency vehicles. Community mitigation measures to reduce these impacts were also provided, and include additional community facilities such as playgrounds, gardens, tot-lots and linear parks; and additional police, emergency medical and fire protection provided during the period of construction. Additionally, consideration would be given to converting the proposed off-site construction area to a recreational area once construction of the lock modules is completed.



following Hurricane Katrina, a reflection of social bond, community cohesion, and National support.

The IHNC has had a dividing effect on the adjacent communities, many of which were developed prior to the construction of the IHNC, not only because of its direct physical presence as a barrier between neighborhoods, but also due to the only crossings being movable bridges, which make bicycle and pedestrian movement more difficult and cause vehicle traffic delays, which back-up into residential neighborhoods.

#### Plan 1. No-build/Deauthorization

No change in community cohesion would be expected in the absence of Federal action. It is anticipated that the individuals that made up the fabric of the community prior to Hurricane Katrina would slowly return to redevelop the neighborhoods as flood risk is reduced and community services improve in the future.

#### Plan 2. 1997 EIS Plan

The impacts on community cohesion were described in the 1997 EIS and are incorporated herein by reference. Since Hurricane Katrina, the neighborhoods adjacent to the IHNC have been struggling to rebuild. Recovery efforts within the Bywater Community have been more successful because a smaller portion of the properties were flooded than adjacent neighborhoods. Recovery efforts in the Lower Ninth Ward and Holy Cross neighborhoods have been substantially slower because of the greater damage from flood waters. It is anticipated that implementation of 1997 EIS, with the short-term closure of the North Claiborne Avenue Bridge, the increased noise and construction traffic, and the long-term delays associated with more bridge openings to accommodate a greater level in marine traffic, would cause further deterioration of community cohesion (such as walking in the area, visiting with neighbors, and shopping activities) between the struggling neighborhoods located east of the IHNC and those recovering more quickly on the west side of the IHNC.

#### Plan 3a. Cast-in-place Plan

It is anticipated that impacts on community cohesion for Plan 3a would be similar to those described for Plan 2.

#### *Landfill Disposal Option*

The choice of dredged material disposal options (*i.e.*, CDF vs. landfill disposal) would have no impact on community cohesion.

#### Plan 3b. Float-in-place Plan (Recommended Plan)

It is anticipated that impacts on community cohesion for Plan 3b would be similar to those described for Plan 2.

### **5.3.15. Noise**

This resource is institutionally significant because of the Noise Control Act of 1972. Compliance with surface carrier noise emissions is technically significant. Exposure of persons to or generation of, noise levels in excess of applicable standards is publicly significant due to health reasons and annoyance.

#### Affected Environment

Noise is generally described as unwanted sound, which can be based either on objective effects (*i.e.*, hearing loss, damage to structures, *etc.*) or subjective judgments (*e.g.*, community annoyance). Sound is usually represented on a logarithmic scale with a unit called the decibel (dB). Sound on the decibel scale is referred to as sound level. The threshold of human hearing is approximately 0 dB, and the threshold of discomfort or

Plan 1. No-build/Deauthorization

No substantial change in noise levels would occur under the no-build alternative. The background frequency was described to have the following range: average background readings before 12 pm varied from 50 to 67 dBA with peak readings varying from 70 to 90 dBA; after 12 pm, average background readings varied from 50 to 75 dBA with peak readings varying from 64 to 99 dBA (CEMVN 2000). It is anticipated that residents and business would continue to return to the project area and rebuild infrastructure. Construction noise in neighborhoods would increase during rebuilding activities. The number of sensitive receptors in the project area would increase as more homes become occupied and churches and schools reopened.

Plan 2. 1997 EIS Plan

The impacts on the noise environment were described in the 1997 EIS and are incorporated herein by reference. In summary, noise from pile driving and other construction activities were areas of concern in the 1997 EIS. The project corridor is located in an urban area. CEMVN recommended that a pile driving noise and vibration analysis be performed. Eustis Engineering Company, Inc prepared the *U.S. Army Corps of Engineers, Noise and Vibration Monitoring in the Adjacent Neighborhood of the Inner Harbor Navigation Canal Lock Replacement, Pile and Test and Installation Study, New Orleans, Louisiana, Contract No. DACW29-98-D-0003, Task Order No. 37, Dated 26 July 2000* for CEMVN (Volume 1 and Appendices A, B (2) and C), which is incorporated herein by reference.

The Eustis Noise Monitoring Report (CEMVN 2000) included pile load tests and noise and vibration monitoring in the vicinity of the project site and adjacent neighborhoods. Observations were made during different construction activities. The report indicated 65 dBA and 90 dBA noise contours for the following four categories: non-pile driving activities (general construction), pile driving activities with a vibratory hammer, pile driving activities with an air impact hammer and pile driving activities with a hydraulic hammer (underwater). In summary, the report indicated that neighborhoods immediately adjacent to the project corridor may experience pile driving noise emissions greater than 65 dBA (Normally Unacceptable) but would not be subjected to noise emissions greater than 90 dBA (Unacceptable).

Pile driving activities would not expose adjacent neighborhoods to harmful vibrations (CEMVN 2000). Vibration monitoring recorded low range vibrations with average frequencies varied between 15 and 30 Hertz (Hz). These frequencies are within a range of natural frequency associated with residential construction. With measurements taken at the construction easement and beyond, peak particle velocities experienced during all construction activities, including hydraulic hammer, air hammer, and vibratory hammer operations, were minimal. The average maximum peak particle readings were approximately 0.1 inches per second, with maximum readings of 0.15 inches per second.

Background peak particle velocities were of equal or greater magnitude as peak particle velocities experienced during all pile driving operations. Based on these results, the pile driving activities for the main lock structure should not adversely impact any structure outside the floodwall.

Home occupancy decreased dramatically in the project area after Hurricane Katrina. Population levels in the study area would be expected to continue to recover; however, recovery in some nearby neighborhoods has been slow. Therefore, these neighborhoods are a mix of vacant lots, damaged and gutted houses, recently renovated homes and homes in the process of being constructed or renovated. Consequently, there are fewer

impacts on 170 acres of wooded lands from the creation of a temporary storage fill cell in the CDF. Mitigation requirements for impacts on habitat, as described in Section 5.3.18, would also be substantially reduced.

**Plan 3b. Float-in-place Plan (Recommended Plan)**

For this plan, the off-site construction area is different in location and size compared to Plan 2. The final outcome is planned to be different as well, since the off-site construction area for Plan 2 would be permanently lost. The off-site construction area for this plan is proposed to be restored. The impacts on wooded lands at the CDF would be similar to those described for Plan 2. However, Plan 3b would temporarily impact 209 acres of wooded lands at the CDF and 38 acres of wooded lands at the off-site construction area. Impacts on wildlife would be similar to Plan 2. At the completion of construction, the CDF would be allowed to revegetate, and the off-site construction area would be backfilled and ambient elevations restored, allowing for similar habitat to re-establish in these areas. Mitigation for loss of habitat function is further described in Section 5.3.18.

*Landfill Disposal Option*

The placement of dredged material unsuitable for open water disposal in a landfill would further reduce impacts on wooded lands. If the landfill disposal option was chosen and material was transported to a landfill, there would be short-term impacts on 138 acres of wooded lands from the creation of a temporary storage fill cell in the CDF. Mitigation requirements for impacts on habitat, as described in Section 5.3.18, would also be substantially reduced.

**5.3.18. Coastal Wetlands**

This resource is institutionally significant because of the Clean Water Act of 1977, as amended; Executive Order 11990 of 1977, Protection of Wetlands; Coastal Zone Management Act of 1972, as amended; and the Estuary Protection Act of 1968. Wetlands are technically significant because they serve as ground water recharge areas; they provide storage areas for storm and flood waters; they serve as natural water filtration areas; they provide protection from wave action, erosion, and storm damage; and they provide various consumptive and non-consumptive recreational opportunities. Wetlands are publicly significant because of the high value the public places on the functions and values that wetlands provide.

**Affected Environment**

Coastal wetlands were described in the 1997 EIS and that affected environment description is incorporated herein by reference. Metropolitan New Orleans is located in the Mississippi River deltaic plain, and is surrounded by estuarine and coastal wetland habitats (Figure 5-9). Most of the coastal wetlands in the project area are located outside of the hurricane risk reduction system; however, some coastal wetlands in St. Bernard Parish and New Orleans East are within the flood risk reduction levees and receive tidal exchange through tidal gates, water control structures and pumps.

Bayou Sauvage NWR is one of the last remaining tracts of contiguous marsh located adjacent to Lake Pontchartrain. The NWR encompasses approximately 23,000 acres, consisting of a wide variety of habitat, including bottomland hardwoods, fresh and brackish water marshes, lagoons, canals, borrow pits, cheniers, and natural bayous. Most of the refuge is located within hurricane risk reduction levees built to protect New Orleans East from storm surges and flooding. A network of pumps and flapgated structures regulate water levels seasonally to encourage summer growth of emergent plants that, in turn, provide waterfowl food supplies in winter.

*(Rangia cuneata)*, are tolerant of a range of freshwater and brackish conditions and may be found on both sides of the lock.

#### *Water Quality and Sediment Evaluation*

CoC found in the 1993 sampling efforts were described in the 1997 EIS, and are incorporated herein by reference. In summary, seven locations were sampled (four in the IHNC and three in the proposed disposal area east of the IHNC), and recovered samples were analyzed using Toxic Characteristic Leachate Procedure methods for metals, volatile organics, extractables, herbicides and pesticides in elutriates. CoC identified in the analyses above the 1993 applicable acute toxicity criteria were zinc, lead, chromium and copper.

As part of the soil sampling for the 1997 EIS on the banks of the IHNC, numerous surface, near-surface and deep auger samples (-35 feet) were collected and analyzed at locations identified as sites of past activities generating hazardous material. Depending on the location of the samples and the suspected types of CoC at each site, analysis was performed for a wide range of contaminants, including polynuclear aromatic hydrocarbons (PAH), oil and grease, halogenated hydrocarbons, metals, volatile organics, pesticides and herbicides. The results of the soil analysis were described in the 1997 EIS and are incorporated herein by reference; most of the detectable CoC were found in the surface and near-surface samples, and the deeper (-35 feet) soil samples commonly indicated only background levels of most contaminants. The primary CoC identified included seven metals, 21 volatile organics, 21 base/neutral semivolatile organics and two pesticides. The Toxic Characteristic Leachate Procedure analyses found only lead present at one site above the regulatory limits.

Spot sampling of surface and shallow subsurface soils at suspected or known hot spots for petroleum hydrocarbons contamination yielded higher concentrations of heavy hydrocarbons, with metals and chlorinated hydrocarbons near engine repair sites. Fuel contamination was localized in soil near fuel tanks and transfer stations. Lead contamination was prevalent at sites containing sandblast materials.

#### *Water Quality and Sediment Evaluation Implementation*

Sediment sampling started in 2005, but was interrupted by Hurricane Katrina. In 2007, the project was enjoined and additional analysis of impacts based on post-Katrina conditions was required. Therefore, an expanded sediment sampling was completed by Weston Solutions, Inc. during the period July 9, 2007 to September 10, 2007. The objective of that investigation was to evaluate the physical, chemical and biological characteristics of material (non-native sediment and fill and native subsurface soil) to be dredged or excavated as part of the IHNC lock construction project. The reported information was used to develop an environmentally acceptable management strategy for material generated from the IHNC Lock construction dredging project and provide scientific evidence to support decisions regarding the placement of IHNC excavated and dredged material at one of the proposed disposal options.

Within each of the 10 DMMUs sampled (see Figure 4-5), coring and sample target depths were established based on the proposed depth of dredging or disturbance by the proposed project as interpreted from bathymetric data collected in 2003. Cores and samples were collected from submerged locations using an electric vibrocore apparatus or a box core device, depending on the type and depth of sample required for each location. Samples on land were collected with a motorized auger unit using a split barrel sampler or a thin-walled tube sampling sleeve.

Features of the project have been designed to minimize impacts on aesthetics of adjacent neighborhoods. Exterior surface of the new lock walls, floodwalls, bridge approaches and bridge piers would be finished with textured surfaces and shadow patterns to add visual appeal. All areas surrounding levees, floodwalls and bridge approaches would be landscaped. Lighting along existing roads used for detour routes would be improved and lighting along new detour roads would be provided. Green space at the new lock site would be created by back-filling the area created by tying the lock walls to the Claiborne Avenue and Florida Avenue bridges on the east side and the North Claiborne Avenue Bridge on the west side. The green space would be available for local agencies to develop into recreational areas.

The CDF would have an initial 17-foot high and 15-foot high berm, and at completion, construction would be visible from parts of the Lower Ninth Ward and from bridge crossings. Immediately following construction of the CDF, only herbaceous vegetation would be growing on the CDF and unvegetated areas would be visible detracting from the visual environment. However, given its proximity to a metal scrap yard, which currently piles debris (plastic and metal) at elevations equivalent to the final elevation of the CDF, and that the CDF would be allowed to revegetate with trees and shrubs, there would not be a long-term impact on aesthetic resources from the CDF.

Several mitigation measures would be implemented as part of Plan 2 to reduce the impacts on aesthetics. These include:

- Compensation for the loss of the stand of live oak trees near the existing lock would be provided by either transplanting some of the trees to nearby public lands, or planting of nursery stock of equivalent size to those lost, or/with an equivalent number of trees that in total equal the size of those trees destroyed (e.g., five 2-inch diameter trees to replace one 10-inch diameter tree).
- A recreational path located south of the St. Claude Bridge in the Holy Cross neighborhood would be constructed on the protected side of the 4-foot high T-wall cap to provide recreational opportunities equivalent to the existing levee path. The path would be extended to the Chalmette Unit of the Jean Lafitte National Park in St. Bernard Parish.
- One or more observation decks with interpretive displays and benches would be constructed near the new floodwall to preserve the current recreational viewing opportunities.
- Areas within the public right-of-way along existing streets would be landscaped to add green spaces and visual buffers between the road and houses or lots.

#### Plan 3a. Cast-in-place Plan

Impacts on aesthetics from Plan 3a would be similar to those described under Plan 2.

#### *Landfill Disposal Option*

The placement of dredged material unsuitable for open water disposal in a landfill instead of in a CDF would reduce the size of the CDF. Further, the CDF would only be a temporary feature used to store dredged material until it could be re-used as backfill around the new lock, and potentially for material that needed to be dewatered before being transported to a landfill. Therefore, there would be no long-term visual impacts from dredged material storage.

#### Plan 3b. Float-in-place Plan

Impacts on aesthetics from Plan 3b would be similar to those described under Plan 3a.

Plan 2. 1997 EIS Plan

The greatest impact on recreational opportunities would be the loss of accessibility to the levee area during construction activities. Following construction, a path on the protected side of the 4-foot high T-wall cap would continue to provide access for walking and jogging south of the St. Claude Avenue Bridge. There would also be impacts during construction on pedestrian and bicycle access across the IHNC for residents to reach parks and recreation centers.

Although at this time, most of the parks and recreation centers in these neighborhoods are not functioning, it is anticipated that they will be rebuilt during the project's construction life. The reduced accessibility to parks and recreation areas because of bridge closures and construction activities would be temporary and would return to pre-construction conditions following completion of the new IHNC Lock.

Community facilities, such as playgrounds, gardens, tot lots and linear parks, would be constructed in the four nearby neighborhoods as mitigation for impacts on recreational areas. These facilities would be constructed by the Federal government but operated by non-Federal interests. Also, a walking, jogging and biking path would be constructed near the new lock providing additional recreation opportunities for nearby residents.

Restoration of portions of the 440-acre triangular-shaped area located south of Bayou Bienvenue as mitigation for impacts on wetlands would provide improved habitat quality, thereby increasing bird watching and fishing opportunities for nearby residents.

Plan 3a. Cast-in-place Plan

The impacts on recreational resources from the implementation of Plan 3a would be similar to those described by Plan 2.

Landfill Disposal Option

The choice of dredged material disposal options (*i.e.*, CDF vs. landfill disposal) would have no impact on recreational resources.

Plan 3b. Float-in-place Plan

The impacts on recreational resources from the implementation of Plan 3b would be similar to those described by Plan 2.

**5.3.24. Cultural Resources Including National Register Listings**

This resource is institutionally significant because of the National Historic Preservation Act (NHPA) of 1966, as amended; the Native American Graves Protection and Repatriation Act of 1990; and the Archeological Resources Protection Act of 1979; as well as other statutes. Cultural resources are technically significant because of: their association or linkage to past events, to historically important persons, and to design and/or construction values; and for their ability to yield important information about prehistory and history. Cultural resources are publicly significant because preservation groups and private individuals support their protection, restoration, enhancement, or recovery.

Affected Environment

CEMVN completed studies of the potentially significant historic properties in the area that would be impacted by construction of the new lock. These studies were conducted between 1987 and 1992 and investigated the archaeological and historic property potential for the area of potential effect. A comprehensive summary of these studies is presented in the 1997 EIS and is incorporated herein by reference.

The IHNC Lock, which was completed in 1923, was evaluated and determined to be eligible for listing on the National Register of Historic Places. A detailed history and description of the IHNC Lock is presented in the 1997 EIS and is incorporated herein by reference.

The Galvez Street Wharf, originally known as the Claiborne Wharf, was designed by the Board of Commissioners in 1922 and erected in 1929. It was one of the first improvements to the Industrial Canal Zone. The building was evaluated and determined eligible for the National Register of Historic Places for its locally and regionally significant association with the early period of development of the IHNC (Criterion A). The Galvez Street Wharf was demolished in 2001 as part of the implementation of the IHNC Lock construction.

Sewage Pump Station B was built during the first decade of the 20<sup>th</sup> century and represents one of the original components of the New Orleans sewerage system. A detailed description and history of Sewage Pump Station B is presented in Appendix D of the 1997 EIS and is incorporated herein by reference. Sewage Pump Station B exhibited only minor alterations through the years and, overall, retained good integrity. The Sewerage Pumping Station B was evaluated and determined to be eligible for the National Register of Historic Places. Sewage Pump Station B was considered eligible for its association with events important to the settlement of New Orleans and the establishment of the city's early 20<sup>th</sup> century sewage system (Criterion A). In addition, the station was considered eligible for its Mediterranean architectural style, important to the city's early 20<sup>th</sup> century architectural history (Criterion C). Finally, the structure is also considered eligible for its engineering (Criterion C), and retains two of the original centrifugal pumps, along with two Wood Trash pumps which were installed around 1930, the latter of which are still in use. The 1930 changes made to the station in order to increase its capacity consisted of the installation of new pumps and new motors. The original 1904 plans were drawn with these future installations in mind.

Two historic districts listed on the National Register of Historic Places are located in the project area: the Holy Cross Historic District to the east of the IHNC, and the Bywater Historic District to the west of the IHNC. The Bywater Historic District was determined eligible for the National Register of Historic Places due to its architectural importance on both the local and regional levels for the quality and number of buildings built between 1807 and 1935. The predominant architectural type within the historic district is the shotgun type, which accounts for 61 percent of the structures in the district. The Holy Cross National Register of Historic Places Historic District was determined to be eligible for the National Register of Historic Places under Criterion D and also consists of predominantly single or double shotguns with Italianate and Eastlake details. A detailed discussion of both the Bywater and Holy Cross National Register of Historic Places historic districts is presented in Appendix D of the 1997 EIS and is incorporated herein by reference.

Hurricanes Katrina and Rita damaged many historic buildings in New Orleans, including buildings in both the Bywater and Holy Cross historic districts. As part of the Federal Emergency Management Agency's (FEMA) compliance with Section 106 of the NHPA, FEMA and the SHPO have completed surveys of affected New Orleans neighborhoods in order to evaluate the historic integrity of the districts currently listed on the National Register of Historic Places, confirm the existing boundaries of these National Register of Historic Places districts, and identify other neighborhoods that may also be eligible for National Register of Historic Places consideration. As a result of these surveys, FEMA and SHPO concluded that the historic boundaries of both the Bywater and Holy Cross National Register of Historic Places historic districts have expanded. FEMA is still

### Plan 1. No-build/Deauthorization

Under the no-build alternative the IHNC Lock would continue to be operated and maintained by USACE and no adverse effects on the National Register of Historic Places-eligible IHNC Lock would occur.

The St. Claude Avenue Bridge would eventually need extensive rehabilitation or replacement by the State of Louisiana. Any rehabilitation would need to be in consultation with the Louisiana SHPO and would have to adhere to the Secretary of the Interior's standards for rehabilitation of historic structures. Although documentation to the standards of Historic American Engineering Record have been completed for the St. Claude Avenue Bridge by CEMVN, if it is determined that the rehabilitation would adversely affect the bridge's integrity or if the bridge needed to be replaced, then coordination with the SHPO and the Advisory Council on Historic Preservation by the State of Louisiana would be required. While the Historic Districts Landmark Commission and ordinances in place would protect the integrity of both the Bywater and Holy Cross National Register of Historic Places historic districts, historic structures in these neighborhoods would likely continue to deteriorate or be modernized. Over time this would adversely impact the historic character of the area.

### Plan 2. 1997 EIS Plan

The impacts on cultural resources under Plan 2 would be the same as those described in the 1997 EIS and are incorporated herein by reference. Under this alternative the IHNC Lock and St. Claude Avenue Bridge would be demolished. These structures are eligible for the National Register of Historic Places and would be mitigated through the recordation to Historic American Engineering Record and Historic American Building Survey standards, which has been completed. Consultation with SHPO and Advisory Council on Historic Preservation has been completed and a Memorandum of Agreement prepared that outlines the mitigation efforts. There would be no other impacts on any historic or archaeological properties as a result if the implementation of this alternative. The proposed mitigation measures outlined in the 1997 EIS would be the same and are incorporated herein by reference. Proposed mitigation measures include salvaging of one or more key, historically significant components of the existing lock and/or St. Claude Avenue Bridge, publication of a brochure on the historical significance of the existing lock and St. Claude Avenue Bridge; historical markers and displays of the lock, bridge, and/or surrounding neighborhoods patterned after those located at National Register locations; collection of oral histories from local residents; and the construction of a large display on maritime history.

There is the potential for deeply buried cultural resources at the proposed off-site construction and CDF sites. However, because this area has been used for dredged material disposal in the past, any cultural resources would be either highly disturbed or buried to a depth that could not be reasonably reached during surveys. Therefore, on 1 June 2008, a meeting was held among the Louisiana Division of Archaeology, CEMVN and a CEMVN cultural resources contractor. At that meeting it was decided that investigations for the proposed project would entail periodic monitoring of the CDF and off-site construction area to determine if either of the two previously discovered archaeological sites still exists. If intact cultural deposits are found, all work in that area will stop and a plan to document the remains and to determine National Register of Historic Places eligibility will be made in consultation with the Division of Archaeology and any affected Indian Tribes. If either site is determined to be eligible to the National Register of Historic Places, consultation under Section 106 of the National Historic Preservation Act will be initiated (Appendix A).



## 6. PUBLIC INVOLVEMENT, REVIEW AND CONSULTATION

### 6.1. PUBLIC INVOLVEMENT PROGRAM AND STUDY HISTORY

The public involvement process, including scoping and receipt of comments, was described in the 1997 EIS and is incorporated herein by reference. In summary, the initial public meeting was held on February 1, 1960 in the St. Bernard Parish Courthouse, Chalmette, Louisiana to discuss the MRGO new lock and connecting channels study. The public's opinion was that the new lock site should be adjacent to the existing lock. The public was adamantly opposed to the Upper Site located upstream of Violet and also opposed, but not as strongly, to the Lower Site, located downstream of Violet. The Meraux location, although described in the authorizing legislation, was determined to be unsatisfactory because of industrial development and adverse river conditions at that location. The public's overall opinion was that if they were forced to accept a location in St. Bernard Parish for the construction of a new lock, the Lower Site would be preferred.

Contrary to the public's opinion, navigation interests preferred the Upper Site because it offered better river conditions for accessing the lock. The Port of New Orleans had no preference between the Upper and Lower Sites.

A Lock Study Report produced by CEMVN in March 1961 addressed three alternative sites: a site adjacent to the IHNC Lock, the Upper Site and Lower Site. The report recommended construction of a barge lock at the Upper Site. After thorough review by CEMVN, it was recognized that no authority existed for the construction of a barge lock, and planning was curtailed until 1964, with the Port of New Orleans requesting that CEMVN re-initiate planning for a ship lock. The Port of New Orleans furnished new data for justification of a ship lock in June 1966, and requested the construction of a ship lock be considered near the existing IHNC Lock. In September 1966, CEMVN completed the Mississippi River, Baton Rouge to the Gulf of Mexico, Mississippi River Gulf Outlet, Report on the Need for a New Ship Lock report, which recommended that a general design memorandum be prepared for a new ship lock at the IHNC location. The Chief of Engineers authorized the general design memorandum, and the authorizing memo contained comments to the effect that limitations on vessel size imposed by the present small lock have, in all probability, caused ship traffic to remain at a fairly low level, and that much more detailed study of anticipated traffic, growth of port activity, and growth of industry should be made to support any conclusion as to the most feasible and desirable plan, including adopted lock size.

During 1967, three alignments for a new lock and connecting channels 375 feet, 500 feet and 1,750 feet east of the existing lock were investigated. During a conference concerning the project, the Port of New Orleans indicated that they could not support the development of a new alignment 1,750 feet east of the existing lock because of the disruption to the community. The consensus from the conference was to plan for a lock 500 feet east of the existing lock if the rail traffic over the canal would not impair the canal's utility. Planning for a new lock 500 feet east of the existing lock proceeded with contracts awarded for surveys and a marine and rail interference study. CEMVN compiled data for parts of the general design memorandum and a combined 7-year planning-construction schedule was approved by the Lower Mississippi Valley Division Office. In July 1969, the Port of New Orleans was informed by CEMVN that, due to foundational considerations and using conventional construction methods, the new lock could be constructed no closer than 750 feet from the existing lock. Because of their responsibility to provide real estate, bridge replacements, and other relocations and the tremendous social and economic impacts, the Port of New Orleans withdrew the State of

met on several occasions since December 1991, for productive discussions on a variety of topics. The group's position to date is that, even if the North of Claiborne Avenue Site causes some inconveniences to the navigation users during construction, it is the alternative that has the best potential of being constructed.

In August 1994, the Port of New Orleans and CEMVN opened a project information office in the Sanchez Center, a community center located in the Lower Ninth Ward. The office provided an easily-accessible location for local residents and served as a clearinghouse for information about the lock replacement plan. Community representatives had requested such an office. Office staff provided information about the lock replacement plan and received feedback from residents. In addition, informational brochures and a display were located in the Alvar Street Library.

Many of the meetings at which representatives of CEMVN met in preparation of the 1997 EIS were recorded and the results of the meetings presented in the EIS, and are incorporated herein by reference. Meetings with local interests to discuss the project and associated community impact mitigation plan took place up to the release of the draft EIS and continued during preparation of the final EIS.

A public meeting to present the tentatively selected plan to the public and for the public to voice their comments and concerns was held on 27 January 1997, at the Holy Cross Middle and High School. Approximately 300 people attended the meeting, with 48 people presenting oral comments. The majority of the people providing comments were residents of the neighborhoods adjacent to the IHNC, who voiced their opposition to the tentatively selected plan. Their opposition was mainly due to the disruption of their communities that would occur during project construction. Specific comments voiced were decreased real estate values, increased vacancy rates, loss of customers at local businesses, increased travel times, traffic delays, loss of access across the canal, decreased school enrollment, noise, vibrations, loss of green space, destruction of the historic neighborhoods, and release of contaminated sediments. Traffic detours and delays during the bridge outage periods were the basis for most of the concerns expressed by local residents. Several commenters criticized the mitigation plan for containing items which are not mitigation, but rather are required features of a project in an urban environment. There were some representatives from the shallow-draft navigation industry who spoke in favor of the project. A complete transcript of the public meeting, and responses to the comments presented, and the letters received on the draft EIS, were provided in the 1997 EIS and are incorporated herein by reference.

Based on the comments received on the draft EIS, the final EIS was revised to include a temporary bridge at St. Claude Avenue during the replacement of the existing bridge; a revised plan for modifying the North Claiborne Avenue bridge which reduces the outage time; a fold-down floodwall in the Holy Cross area in lieu of a fixed floodwall; and a revised community impact mitigation plan. The community impact mitigation plan was revised considerably, with some mitigation items contained in the draft mitigation incorporated as part of the construction plan. The funding amounts for some of the items remaining in the mitigation plan were increased, and some new items were added. The total estimated cost of the mitigation plan remained the same, at \$33 million.

A Record of Decision was signed on 18 December 1998 selecting the location and construction method of the replacement lock and several additional project components to improve the surrounding project area. CEMVN's decision was challenged in U.S. District Court and the Court's Order for Motions for Summary Judgment was issued on 3 October 2006 as part of Case No. 2:03-cv-00370-EEF-KWR, District Court Eastern District of Louisiana. The Court's decision enjoined CEMVN from continuing with the

# Exhibit C

Letter from the Corps to Senator Landrieu  
April 17, 2008  
US641169

Footnote: 9



DEPARTMENT OF THE ARMY  
U.S. ARMY CORPS OF ENGINEERS  
WASHINGTON, D.C. 20314-1000

APR 17 2008

Mississippi Valley Division  
Regional Integration Team

Honorable Mary L. Landrieu  
United States Senate  
724 Senate Hart Office Building  
Washington, DC 20510-1804

Dear Senator Landrieu:

Thank you for your letter of April 2, 2008, to Lieutenant General R.L. Van Antwerp, Chief of Engineers, co-signed by Senator David Vitter, concerning the U.S. Army Corps of Engineers schedule for completing the Inner Harbor Navigation Canal, Supplemental Environment Impact Statement (IHNC SEIS) for the IHNC Lock project. I am providing an identical letter to Senator Vitter.

As you indicate in your letter, the IHNC Lock replacement project is currently enjoined from all construction as per the U.S. Federal District Judge's October, 2006 ruling. The U.S. District Judge directed that compliance with the provisions of the National Environmental Policy Act (NEPA) of 1969, as amended (P.L. 91-190), be adhered to before proceeding with construction for this project. In addition, Section 5083 of the Water Resources Development Act (WRDA) of 2007, directs the Secretary to issue the final IHNC SEIS no later than July 1, 2008.

The IHNC SEIS schedule provides a timeline necessary to collect, analyze, and report all the necessary data required to comply with Judge Fallon's ruling that the project conform with the requirements of NEPA. It is our intent to have a draft of the IHNC SEIS completed by July 1, 2008, with the final IHNC SEIS completed and a Record of Decision signed in December, 2008. While this schedule offers little consolation to the concerns of your constituents, completion of the SEIS within the legal limits defined by the Court, that is completing the SEIS with a focus on the particular issues/deficiencies addressed by Judge Fallon in his "Orders and Ruling" document, in our view is the most prudent course of action to produce a defensible document that would result in lifting the current injunction and allow the project to move forward to construction.

General Van Antwerp and I look forward to briefing you on the status of this project in the near future. If you have any questions please feel free to contact me at (202) 761-0100.

Sincerely,

A handwritten signature in black ink, appearing to read "S. L. Stockton".

Steven L. Stockton, P.E.  
Director of Civil Works

# Exhibit D

Corps Meeting Minutes  
October 24, 2006  
US641594-US641596

Footnote: *10, 88*

CEMVN-ED-DP

24 October 2006  
Terry Shilley/2617

## MEMORANDUM FOR RECORD

SUBJECT: Meeting Minutes; IHNC Lock and Sediment Analysis Teams; Briefing by PM Concerning Judge's Ruling

1. On 20 Oct 06, a meeting was held in PM Conference Room, Room 341, to allow PM to brief the MVN PDT on the recent Judge Ruling/Order and corresponding discussion on future Activities and Schedule, relating to the SEIS.
2. Those present were as follows: Larry Poindexter and Raymond Floyd, PPMP-PM-P; Charles Laborde, ED-T, Richard Boe, PM-RP; Linda Mathies, OD-T; Jake Terranova, Christie Nunez and Terry Shilley, ED-DP; Rich Manguno, PM-A, Royce Kemp, PPRMD, Mark Haab, PM-AN, Mark Gonski, ED-T, Danny Wiegand, ED-H, George Bacuta, ED-F and Rodney Mach, ED-HE
3. Larry Poindexter began by briefing the status of the Judge's Ruling and impacts on Activities and Schedule. Discussion centered on a document by Mr. Richard Boe, 20 Oct 06, "Initial List of Changes/Issues/Omissions, Etc To Be Addressed in the IHNC Lock Supplemental EIS (SEIS)". See Attached.
4. The EIS was completed in 1997 (addressing Environmental, Social, Economic and other aspects of the IHNC project. The EIS informs the public of significant environmental impacts to the human environment resulting from implementation of the project. Such impacts include the natural and physical environment and the relationship of people with that environment. The NEPA (National Environmental Protection Agency) Process must be followed; hence, the EIS must evaluate all potential impacts to the human environment and provide a mitigation plan. Volume of material for disposal is unknown at this time; however, a post-Katrina hydrographic survey has been completed and results are expected to be in the District Office any day).
5. A Federal Judge issued a "Cease and Desist" order, dictating that the Corps Cease to work on IHNC, with the exception of efforts to forward the SEIS. The Lawsuit is based (in part) on: A. Insufficient NEPA Documentation; and B. Subpart C of RCRA. The Corps considered "Appealing" the case in order to allow Activities to continue, while legal issues were sorted out. The hope was that this Appeal would "Soften the position" of the plaintiffs. The EIS reports that no (0 C.Y.) hazardous material exists, within the project area, requiring disturbance/removal or disposal. However, the Section 404 B Permit acknowledges existence of contaminated or hazardous material, and furthermore lays out steps for a properly licensed and qualified Contractor to excavate/dredge (depending on dry or wet material) the material, transport it, process it and ultimately dispose of it, in a manner consistent with Section

404(b)(1) of the Clean Water Act, within the designated Disposal Site locations.

6. OD-T and ED-H briefed the PDT on the Sampling and Analysis Plan (SAP). (The dredged material is NOT hazardous. Dredge material is excluded from RCRA. To date, only 2 of the 16 designated Management Units (MUs) have been completed. The SAP was completed in October 2004, and needs to be revised based on post-Katrina conditions. The proposed schedule calls for the revision by 30 Oct.) A key factor driving the schedule is the pending litigation. Approval of the revised SAP will likely rest with the natural resource agencies. The COE has an agreement with LPBF to include them in the development of the SAP. Furthermore, the details of the revised SAP should be presented to the Plaintiffs, prior to implementation. A grid pattern for sampling was NOT developed (for dredge material, the sampling will be random only). The Port of New Orleans is involved with the local sponsor of the project. The Dredged Material Management Units (DMMUs), identifying sampling locations, is based on the proposed dredging as described in the 1997 Feasibility Report/EIS (which may change based on CIP vs. Float-In and Deep Draft Channel vs Shallow Draft Channel, and other potential design modifications). The "Jury is still out" on deep vs shallow draft. Cost sharing will be 50/50 between the Government and the IWTF. However, the IWTF includes the Port of New Orleans, which both wants and is willing to pay for Deep Draft. Finalized. The PDT is awaiting a Report on the post-Katrina hydrographic survey, which is expected next week. Concerning the characterization of the dredged materials within the IHNC, samples were in the process of being procured when Hurricane Katrina struck New Orleans. Samples were lost or contaminated requiring the need for additional sampling. (Larry Poindexter, PM, addressed a Contracting issue in a previous meeting, that CT will allow NO ADDITIONAL sole source contract awards. Future procurements MUST have competition. The Contractor used for sediment sampling was taken from a pre-approved list; hence, did not violate sole source requirements. The PDT agrees that keeping OC involved in this procurement would be prudent, given the District's sensitivity to procurements. One problem with seeking a "new" contractor is schedule. Time required for re-advertising, evaluating and awarding could take months. Use of an existing Contractor under an existing Task Order (if funds available) would be wise. Perhaps the District Modified the Contract to reduce the Scope of Work, hence allowing the existing Contractor to complete the work and receive payment. This would explain why the Task Order does not remain open ).
7. The MVN PDT thinks strongly it would be wise to continue development of the Engineering of the project (CIP vs Float In, quantities, costs), so the overall site Plan can be defined and finalized, so the SAP will assure the Judge, that the entire area earmarked for dredging, will be covered, sampled, and tested. One option, to abide by the Judge's order, to keep the Supplemental EIS moving, is to "maximize the footprint" of the potential areas of dredging (based on varying design plans under consideration), and

base the SAP on that maximum footprint of the potential areas of dredging (based on varying design plans under consideration), and base the SAP on that maximum footprint. . The SAP would break down the footprint into DMMUs (Management Units) which essentially creates a grid.

8. Upland sites need to be designed beyond Feasibility Level, to address all potential migration pathways from the confirmed disposal facility. “In-Stream” Disposal, in the Mississippi River, is a possibility for the DMMUs on the south side of the existing lock. .
9. The issue of “External Peer Review” was discussed. Project clearly exceeds \$50 M. External review is warranted (National Academy of Sciences, etc). The 2004 SAP does and will meet all applicable guidelines of the USEPA and USACE (these guidelines were peer reviewed).
10. Activities related to development of the SEIS are ongoing. PM will discuss related Activities with OC an involve the District Support Team, or DST, to get legal/Management opinion regarding Authority to proceed with related Engineering Activities which are crucial to the project (example; CIP vs Float-In Alternative).

TERRY D. SHILLEY, P.E.  
Civil Engineer  
MVN-ED-SP



# Exhibit E

INHC Lock Meeting Agenda and Notes,  
US641697

Footnote: *11*

**IHNC Lock - Team Telecon**

Friday, 7 September 2007  
10:00 am EST / 9:00 am CST

## Attending:

L. Poindexter  
C. Nunez  
C. Laborde  
R. Boe  
E. Glisch

D. Carlson  
D. White  
R. Rutherford  
D. Whitmore  
M. Bock

**Meeting Agenda and Notes****1. Funding:**

- a. MIPRS: Dates were extended.
- b. Remaining Funds
  - LRP \$38,500 remaining Funding sufficient for next quarter.
  - LRH \$ 7,000 remaining Additional funds will be provided as necessary.
- c. August 2007 EOM Financial Report Sent on 6 Sept 07

**2. Independent Technical Review****Cost and Schedule Analysis -Owners Review**

	Add Comments	Edit	Evaluate	My BackCheck	All BackCheck
		All/Note/Yours	Pend/Concur/Other	Pend/Opn/Clsd	Pend/Opn/Clsd
<b>REPORTS</b>	Owner's Review (13-Feb-07 to 16-Mar-07) (Not assigned)	0 / 0 / 0	0 / 8 / 4	0 / 0 / 0	0 / 4 / 8

4 comments remain open on Cost Engineering Issues. Don Whitmore will respond.

3 of 4 comments are inconsequential and will not affect cost estimate.

4<sup>th</sup> Comment is requesting that productivity rates be adjusted due to overtime. Not typically done in LRD estimates. PT&C is formulating responses to all comments. Christie will set-up telecom for next week with Don, PT&C, and ITR Cost Reviewer to resolve issues.

**Letter Report - 95% ITR**

	Add Comments	Edit	Evaluate	My BackCheck	All BackCheck
		All/Note/Yours	Pend/Concur/Other	Pend/Opn/Clsd	Pend/Opn/Clsd
<b>REPORTS</b>	95% ITR (01-May-07 to 16-Jun-07) Comments overdue	0 / 0 / 0	0 / 67 / 9	0 / 0 / 0	5 / 0 / 11

5 Comment Responses need back checked. These are Royce Kemp's Comments

Suggest MVN use proxy authority to backcheck and close. MVN will do this.

**3. Schedule**

Complete ITR Backchecks (IN-PROGRESS)

SAP Schedule - FYI Overview by MVN

Sampling to be completed next week (2 weeks behind schedule due to drilling and sampling difficulties). No lab sample results have been submitted to District.

SEIS Schedule - FYI Overview by MVN

2 key SEIS team members (Kemp & Waigand) have departed from the district. Planning is shifting resources, and new team members have been assigned to IHNC. A-E Contract to prepare SEIS should be awarded next week.

Evaluation of Matrix and Decision by MVN

In Progress. Awaiting results from ERDC numerical Navigation model

Submit FINAL Report (w/ MVN Decision Memo) and Exec Summary

Not yet scheduled.

**4. Additional Items:**

Input and comments from PORT at Industry Briefing.

PORT and USCG Safety Council has concerns with CIP Nav Alignment. MVN-PM has requested that ERDC perform numerical model testing as preliminary check. Results necessary to determine acceptability of CIP current cofferdam alignment to PORT and USCG. ERDC has estimated a 4-6 week start-up time for the model.

Cofferdam Drawing requirements for ERDC NAV Modeling

LRD Team is compiling drawings and will send via DVD disk. Reference files can be detached when transferring online. Disk will be sent via Fed-Ex ASAP next week. LRH will identify plan and X-section drawings that ERDC can use to build cofferdam model.

Other issues (All)

Planning A-E will need ED support to prepare SEIS Plates. Existing drawings and slides will be used when possible. May need additional text or annotations, etc for public review. LRD will support requests as necessary.

New work: CDF Design. LRD will be asked to prepare CDF design after sediment sampling results are evaluated and the CDF requirements are identified. MVN will also look at other options for the contaminated materials such as using it for lock backfill, or wasting it at commercial disposal facility to avoid legacy costs.

**5. Next Team Teleconference:**

Tentatively schedule for week of 01 October. Meeting invite and agenda will be sent out prior to meeting.

# Exhibit F

2009 Supplement, Appendix S:  
Public Comments Received During the Public Review Period,  
*abridged*  
(pages 29-30, 57)

Footnotes: 12, 26-27, 40, 73, 90

***APPENDIX S***  
***Public Comments Received During the Public Review Period***

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15 - According to the judge's ruling, the project was enjoined until the USACE complied with NEPA. The court's opinion was that the Corps, at a minimum, must prepare a supplemental EIS addressing the significant new circumstances relevant to environmental concerns that have arisen since Hurricane Katrina. Therefore, a Supplemental EIS was prepared because the United States District Court for the Eastern District of Louisiana required USACE to address the significant new circumstances related to post-Hurricane Katrina conditions and to more completely evaluate the environmental concerns associated with disposing of dredged material from the IHNC Lock Replacement project. The 1997 EIS and Record of Decision were prepared by USACE to fully document the decision associated with the IHNC Lock Replacement project; the Court's finding that the document contained insufficiencies associated with dredged material handling and disposal, and that existing conditions had changed due to Hurricane Katrina does not invalidate the decision-making process under NEPA. Further, the 1997 EIS concerns an ongoing program to replace the IHNC Lock, and as such meets the recommendations for preparation of a supplemental document under CEQ's 40-most Frequently Asked Questions.

16 - The Conceptual Confined Disposal Facility Design for the IHNC Lock Replacement Project prepared by the USACE Environmental Research and Development Center and included as Appendix E to the Draft SEIS described the modeling efforts for "the potential for overtopping in the event of widespread flooding" to be "beyond the scope of this effort". However, the Conceptual Confined Disposal Facility Design report also recognizes that there is a potential for overtopping in storm events that would exceed the Greater New Orleans flood protection system design elevation and that armoring of exterior containment dikes located as to be vulnerable to levee failure be considered in future detailed Confined Disposal Facility designs. The conceptual design also notes that the preliminary dike profile is substantial and would serve as a barrier to impacting water currents. Once the facility is capped, the contaminated sediments would be effectively contained within an upland hill.

At this time, detailed plans and specifications have not been prepared for the Confined Disposal Facility or any other component of the Lock Replacement project as this would constitute continuing with project implementation and the expenditure of funds towards its completion without NEPA analysis. Conceptually, the Confined Disposal Facility Design report makes adequate recommendations as to the next steps for modeling and design necessary to protect the Confined Disposal Facility from overtopping.

20 Restoration Network, and Louisiana  
21 Environmental Action Network.

22 And I am here to talk about why  
23 the Supplemental EIS is not the right  
24 procedure to comply with the district court's  
25 order.

0042

1 If you actually look at the  
2 judge's ruling, he ruled that the Corps did  
3 not take a hard look at the environmental  
4 impacts of this project. He did not rule on  
5 our claim about Supplemental EIS.

6 He said you didn't take a hard  
7 look. And Katrina proved that. Katrina  
8 proved that you didn't know on your Confined  
9 Disposal Facility what category of hurricane  
10 this Confined Disposal Facility is supposed to  
11 withstand.

12 And what happens if it's only  
13 to built withstand a three, and we get a  
14 category five? What happens then? What  
15 happens? Will this Confined Disposal Facility  
16 weaken the levees? The levees aren't designed  
17 with this Confined Disposal Facility in mind.  
18 How are they going to work together? What  
19 happens if there is overtopping and these  
20 sediments are spread out?

21 Those questions are not  
22 answered in this Supplemental EIS. In fact,  
23 in your Confined Disposal Facility Conceptual  
24 Design Report, it actually said that these  
25 questions are beyond the scope of this effort.

0043

1 In fact, this is the scope of  
2 this effort to find out, to tell these  
3 community members sitting behind me what risks  
4 they are expected to take, what risks they are  
5 expected to take on behalf of the shipping

6 industry.  
 7 And this Supplemental EIS does  
 8 not answer these questions. And if you take  
 9 this back in front of the judge, I am going to  
 10 stand in front of the judge and say the same  
 11 thing. These questions, Judge, that you saw  
 12 were unanswered, that you ruled in our favor  
 13 to send this back to the Court to take a hard  
 14 look at this, they still haven't answer these  
 15 questions. And we deserve a right to know, to  
 16 take a hard look. And until you take a hard  
 17 look at these environmental impacts, this  
 18 project cannot go forward.  
 19 Thank you.

20 MR. POCHE:  
 21 Next is John Koeferl.  
 22 MR. KOEFERL:

23 I'm John Koeferl. I am the  
 24 president of the Citizens Against Widening the  
 25 Industrial Canal, CAWIC. Well, I didn't  
 0044

1 get -- three minutes won't get me very far.  
 2 But I want to tell you when I  
 3 started reading this, I was so impressed with  
 4 its dishonesty. And what I mean is the Corps  
 5 is constantly building on the record. Okay?  
 6 And the record is not a very clean record.  
 7 For instance, the site  
 8 selection process that you go on for a long  
 9 time about, and it is -- was not a clean  
 10 process. There were ten sites, then eight  
 11 sites. And it didn't happen as you say. It  
 12 was a straw process. Okay? It was a process  
 13 of elimination. All the other sites were  
 14 eliminated, and that left this site. And this  
 15 is the site that was chosen. And it was  
 16 chosen because it was considered a weak  
 17 neighborhood and the Port wanted control here.

17 - The project was enjoined because the potential effects of flooding and subsequent overtopping of the confined disposal facility were not fully assessed. To address these concerns, a full evaluation of contaminants in the IHNC sediments and the potential effect of these contaminants on the human and biological environment was summarized in the Draft SEIS and details of the evaluation were provided in Appendix C. Furthermore, a conceptual design of the Confined Disposal Facility was further developed, summarized in the Draft SEIS, and discussed in detail in Appendix E.

18 - The site selection process was discussed in detail on pages 44 through 53 of the 1997 EIS and is summarized in Section 4.1 of the 2008 Draft SEIS and discussed again in detail in Section 6.1. The selection criteria included feasibility and costs, as well as, impacts to communities and the natural environment. The site selection process was also guided by President Carter in 1977, the Water Resources Development Act of 1986, the 1991 Appropriations Bill, and the Water Resources Development Act of 1996. Alternative alignments within the IHNC have also been considered. The location of the replacement lock within the IHNC and the alignment north of the Claiborne Avenue Bridge were chosen to minimize adverse impacts to communities and the environment.

18 this town of multiple locations, that also  
19 makes us question the logic and the intentions  
20 behind some of the decisions here.

21 Thank you.

22 MR. POCHE:

23 Next is Stratford Goins from  
24 the South Flood Protection -- South Louisiana  
25 Flood Protection Authority.

0083

1 MR. GOINS:

2 Stratford Goins. I am one of  
3 the commissioners on the Flood Protection  
4 Authority.

5 And the question I have --  
6 there's actually three. One is from a flood  
7 protection standpoint. This project is  
8 bringing a bigger flood potential into the  
9 heart of this city. I want to know how has  
10 that been addressed? Has it been included in  
11 risk reduction model? And if not, then how  
12 can you go forward if it hasn't been  
13 addressed?

14 The second one is the  
15 constructability issue. How are you going to  
16 float these in? It's going to be a  
17 deep-draft, float-in model. And the only  
18 deep-draft channel, you are closing. So I am  
19 at loss on how the thing is going to be  
20 constructed.

21 And the third thing is, is  
22 there a necessity for a deep draft? All of  
23 the indications that I am getting is that the  
24 deep-draft vessels are moving from the canal  
25 to the river. So what is the point to spend

0084

1 that money?

2 My agency, we compete for state  
3 dollars. I am told that the Port is putting

63 - The new lock would not affect flood risk. Both the existing lock and  
the proposed replacement lock are or would be within the flood risk  
reduction system and do not affect flooding potential.

64 - The route lock modules would travel from the off site construction  
area, where construction of the lock modules would occur, to the new lock  
site follows a segment of the GIWW shared by the MRGO. The MRGO  
diverges from the GIWW east of the proposed graving site. Only the  
portion of the MRGO south of its confluence with the GIWW has been de-  
authorized. Even with the de-authorization of most of the MRGO and the  
planned closure structures, the path from the off site construction area to  
the IHNC would remain unobstructed.

65 - With the closure of the MRGO, there will be no route for deep-draft  
vessels to service existing and future industries on the IHNC. Based on  
trends in deep-draft traffic following hurricane Katrina, the cost benefit  
analysis assumes that the benefits of the recommended plan to deep-draft  
traffic would be non-existent.

# Exhibit G

Email from Greg Ruff to Jim Wojtala  
US641713-US641714

Footnotes: *13-14*



**From:** Ruff, Greg MVD  
**To:** Duplantier, Bobby MVN; Wojtala, Jim M MVD; Wilbanks, Rayford E MVD  
**Cc:** Kilgo, Larry MVD  
**Subject:** Re: IHNC SEIS Bullets  
**Date:** Tuesday, June 24, 2008 4:31:08 PM

---

Thanks Bobby.

-----  
Sent from my BlackBerry Wireless Device

----- Original Message -----

From: Duplantier, Bobby MVN  
To: Wojtala, Jim M MVD; Wilbanks, Rayford E MVD  
Cc: Kilgo, Larry MVD; Ruff, Greg MVD  
Sent: Tue Jun 24 16:16:39 2008  
Subject: RE: IHNC SEIS Bullets

Just to add a little background info...

At the time of the feasibility study a shallow draft Lock was the NED plan. The local sponsor (Port of New Orleans) preferred a deep draft lock and that became the locally preferred plan with the port planning to pay the incremental cost. Congressional deals were made and legislation was passed saying the Corps was to pay 65% of the Deep draft increment as well.

Bobby

-----Original Message-----

From: Wojtala, Jim M MVD  
Sent: Tuesday, June 24, 2008 4:00 PM  
To: Wilbanks, Rayford E MVD  
Cc: Duplantier, Bobby MVN; Kilgo, Larry MVD; Ruff, Greg MVD  
Subject: RE: IHNC SEIS Bullets

Rayford, as requested, please find attached several bullets describing subject project developments based on our telephone conference with Bobby and the Economics folks assigned to the project.

I thought I answered Greg's question in revising the second bullet and am ccing Bobby in the event further clarification is needed.

Jim W.

-----Original Message-----

From: Ruff, Greg MVD  
Sent: Tuesday, June 24, 2008 3:48 PM  
To: Wojtala, Jim M MVD  
Subject: Re: IHNC SEIS Bullets

Don't want to hold this up Jim and maybe Rayford already knows. I just don't know how we got to a 36' depth based on shallow draft benefits. I'm sure it was some type of legislative direction.

-----  
Sent from my BlackBerry Wireless Device

----- Original Message -----

From: Wojtala, Jim M MVD  
To: Ruff, Greg MVD  
Sent: Tue Jun 24 15:41:24 2008  
Subject: RE: IHNC SEIS Bullets

Greg, I revised the bullet items based on your comment. I may have gotten too long winded on a few of the bullets. Let me know what you think.

Jim

-----Original Message-----

From: Ruff, Greg MVD

Sent: Monday, June 23, 2008 5:28 PM

To: Wojtala, Jim M MVD

Subject: Re: IHNC SEIS Bullets

Jim. The second bullet implies that we justified a 36' depth based on shallow draft benefits. I don't think that was the case was it?

-----

Sent from my BlackBerry Wireless Device

# Exhibit H

2009 Record of Decision

Footnotes: 21-22, 58

## RECORD OF DECISION

### Inner Harbor Navigation Canal Lock Replacement Project Orleans Parish, Louisiana

I have reviewed the final Supplemental Environmental Impact Statement (SEIS) for the Inner Harbor Navigation Canal (IHNC) Lock Replacement in Orleans Parish, Louisiana, project filed with the U. S. Environmental Protection Agency on April 3, 2009, as well as correspondence received in response to coordination of this document. I find the plan recommended by the District Engineer, New Orleans District, to be in accordance with environmental statutes and in the public interest. Thus, I approve the plan for continued construction.

The project was authorized by an Act of March 29, 1956 [Public Law (PL) 84-455]. This was amended by Section 186 of the Water Resources Development Act (WRDA) of 1976 (PL 94-587) making the construction of bridges associated with the construction of the Mississippi River – Gulf Outlet (MRGO) channel a Federal responsibility. A Site Selection Report prepared by the U. S. Army Corps of Engineers, New Orleans District, and the Port of New Orleans, and approved by the Office of Chief of Engineers in 1976, recommended the Lower Site downstream of Violet, Louisiana, as the best location for a new lock. WRDA of 1986 (PL 99-662) modified the project to locate the new lock at either the existing lock site or at the Violet site.

Furthermore, WRDA of 1986 modified the project's cost-sharing agreement. In 1991, the U. S. House of Representatives, Committee on Appropriations enacted the Energy and Water Development Appropriations Bill (Report Number 101-536) which directed the U. S. Army Corps of Engineers, in conjunction with the local sponsor, to develop a community impact mitigation plan to ensure that the communities adjacent to the project remain as complete, livable neighborhoods during and after project construction. WRDA of 1996 (PL 104-303) amended WRDA of 1986 by requiring the implementation of a comprehensive community impact mitigation plan as described in the evaluation report of the New Orleans District Engineer dated August 1995.

The cost sharing for this project was set forth in the WRDA of 1986 and described in the 1997 EIS. However, the project cost-share description in the 1997 EIS was determined to be in error, and the cost-share description was revised in Evaluation Report Supplement Number 1, dated September 20, 2000, as approved by the Deputy Commander for Civil Works. When Congress re-authorized the project in Section 844 of WRDA of 1986, it authorized a new deep-draft lock to replace the existing deep-draft lock and specified that the cost sharing for both the shallow and deep-draft increments shall be consistent with Sections 101 and 102 of WRDA of 1986.

Therefore, the cost sharing was modified to be consistent with WRDA of 1986, and the non-Federal interests must provide 25 percent of the incremental construction costs for the deep-draft portion of the project during construction and an additional 10 percent share in cash over a period not to exceed 30 years after completion of construction, at an interest rate determined pursuant to Section 106 of WRDA of 1986, and amendments thereto.

The 1997 EIS entitled "Mississippi River – Gulf Outlet, New Lock and Connecting Channels, Louisiana" evaluated various alternatives to replace the obsolete IHNC Lock to improve

navigation between the Mississippi River in the vicinity of New Orleans, Louisiana, the Gulf Intracoastal Waterway (GIWW), and the MRGO. Initial construction of components of the lock replacement began following completion of the 1997 EIS. In 2007, the Federal District Court, Eastern District of Louisiana, enjoined the project and required the preparation of an SEIS to describe changes in existing conditions after Hurricane Katrina and analyze impacts from the recommended plan and alternatives on these revised existing conditions. In response to the Court Order, the New Orleans District prepared an SEIS. In addition to the no action alternative, three alternatives were evaluated in the SEIS: the 1997 Recommended Plan, the Cast-in-Place Plan, and the Float-in-Place Plan (the recommended plan). These alternatives are fully discussed in the IHNC Lock Replacement Project SEIS, which is hereby incorporated by reference. The recommended plan in the SEIS consists of the following features:

- Construction of a new 110-foot wide, 1,200-foot long and 36-foot deep lock in the IHNC north of Claiborne Avenue Bridge.
- Replacement of the existing St. Claude Avenue Bridge with a low-level, double-bascule bridge and modifications to the Claiborne Avenue Bridge to make it compatible with a new lock.
- Utilization of two separate construction locations, the off-site construction area and a new lock site. The off-site construction area located on the south bank of the GIWW at the Paris Road Bridge would allow for lock module construction in a dry environment and lock modules would be floated to the lock construction site.
- Extension of Mississippi River floodwalls and levees from the existing lock to the new lock location.
- Disposal of large volumes of material hydraulically dredged during lock construction.
- Construction of a confined disposal facility for placement of both stockpiled sediments and contaminated sediments.
- Implementation a community impact mitigation plan.
- Implementation a wetland mitigation plan.

The Float-in-Place Plan has less construction-related impacts on the community than the Cast-in-Place Plan. Because the lock module fabrication would take place at an off-site construction area located along the GIWW, noise, traffic and aesthetic impacts from pile driving and lock module construction would be reduced compared to the Cast-in-Place Plan where lock module construction would occur at the lock replacement site. Based upon an analysis of impacts and costs of the alternative plans, the Float-in-place Plan was reaffirmed to be the recommended plan. Although this plan is, for the most part, the same as the plan recommended in the 1997 EIS, additional evaluation has further refined the location and design of the dredged material disposal sites and the location and size of the off-site construction area. Also, an expanded water quality and sediment evaluation program was conducted, and the impacts of dredging on aquatic resources were analyzed based on extensive data collection. These design refinements and analysis of impacts on the post-Hurricane Katrina natural and human environment reflect the concerns expressed during a public scoping meeting which was held on April 4, 2007. Further, a detailed human health and risk assessment was conducted to address public comments on the draft SEIS concerning the placement of dredged material into an upland confined disposal facility. The results of the assessment indicate that there is a low risk of human health and environmental impacts from the recommended plan for disposal of dredged material.

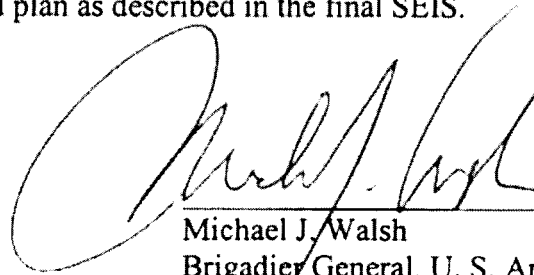
The recommended plan would have adverse impacts on wetlands, bottomland hardwood forest habitat, and wildlife habitat. The construction of an off-site construction area and disposal of some dredged material would impact these habitats. The recommended plan fully mitigates these impacts by restoring approximately 85 acres of wetlands in a triangular-shaped area of open water between Florida Avenue and Bayou Bienvenue. Thus, the environmental functions and environmental values of the habitats impacted by the recommended plan will be replaced by the 85 acres of restored wetlands, resulting in no net loss to the environment. The New Orleans District has developed a wetland mitigation plan and will be responsible for maintenance and monitoring of the wetland restoration project to ensure mitigation success.

The draft SEIS was circulated for public review from October 10, 2008, through January 26, 2009. During the review period, 32 comment letters were received which contained 415 individual comments. Public comments primarily focused on the scope of analysis, dredging operations and dredged material disposal, navigation safety, project design and planning, increased flood risk, vehicular traffic, cost to benefit analysis, and wetland mitigation. The New Orleans District prepared responses to all of the public and agency comments and only made minor changes to the SEIS. Changes made to the SEIS, as a result of public review and comment, included an assessment of a landfill disposal option for the dredged material not suitable for open water disposal and a revised evaluation of human health risk from the confined disposal facility. The final SEIS was circulated for agency and public review from April 3, 2009, through May 4, 2009.

The plan is in compliance with the Endangered Species Act, Sections 401 and 404 of the Clean Water Act, the Coastal Zone Management Act, Executive Order (E.O.) 11988, E.O. 11990, and the National Environmental Policy Act, as well as, other applicable environmental statutes. I have reviewed and evaluated all documents concerning the New Orleans District Engineer's recommendation, the views of interested parties and the general public, prevailing administrative policies and environmental policies, and the various practicable means to avoid or minimize environmental harm from the construction and operation of the project.

All practicable means to avoid or minimize adverse environmental effects have been incorporated into the recommended plan. The public interest will be best served by implementing the recommended plan as described in the final SEIS.

20 May 2009  
Date

  
\_\_\_\_\_  
Michael J. Walsh  
Brigadier General, U. S. Army  
Division Commander

# Exhibit I

2009 Supplement, Appendix E:  
Conceptual Confined Disposal Facility Design  
*abridged*  
*(pages 1, 4)*

Footnote: 24-25

**APPENDIX E**  
***Confined Disposal Facility Conceptual Design Report***

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# 1 Executive Summary

The Industrial Harbor Navigation Canal (IHNC) and lock is located in the southeastern portion of Louisiana, within the city limits of New Orleans. The lock is a key component of the navigation system in this region, connecting the Mississippi River, the Gulf Intracoastal Waterway (GIWW), the Mississippi River-Gulf Outlet (MRGO) and Lake Pontchartrain. The existing lock was constructed in 1923 and is functionally obsolete, impeding efficient movement of traffic through the lock and limiting the vessel draft that can be accommodated.

Planning efforts for a new lock are presently underway. Under the National Environmental Policy Act (NEPA), the Army Corps of Engineers is required to prepare an Environmental Impact Statement (EIS) documenting activities and environmental impacts associated with the lock construction project. Two construction alternatives are being considered, cast-in-place (CIP) and float-in-place (FIP). A different volume of sediment will be dredged in conjunction with each of these alternatives, and will require either temporary or permanent disposal, depending upon the character of the sediment and the disposal or beneficial use alternatives available. Six disposal alternatives are being considered for the material dredged from the IHNC:

- Open water disposal in the designated Mississippi River disposal site.
- Beneficial use to restore degraded wetland areas in the proposed mitigation site.
- Backfill for the lock construction.
- Upland disposal.
- Landfill disposal.
- Some combination of the above alternatives

Confined disposal facilities (CDFs) are customarily used by the Corps for upland disposal of dredged material. A conceptual level design was prepared for each construction alternative under consideration and, in each case, two scenarios were considered:

- All dredged material will be placed in the CDF (Alternative 1).
- Only material needed for construction fill and material unsuitable for open water disposal will be placed in the CDF (Alternative 2).

The design was developed based on available information. Some follow on studies will be required to resolve areas of uncertainty. Based upon the preliminary analysis, however, we determined the following:

## 2 Introduction

The IHNC is located in the southeastern portion of Louisiana, within the city limits of New Orleans. This channel connects the Mississippi River, the Gulf Intracoastal Waterway (GIWW), the Mississippi River-Gulf Outlet (MRGO) and Lake Pontchartrain, and serves the Port of New Orleans (Figure 1). A lock is required to navigate between the Mississippi River and Lake Pontchartrain. However, the existing lock was constructed in 1923 and is functionally obsolete. Vessels navigating the lock sometimes encounter long delays due to competing traffic. Vessel draft that can be accommodated is limited.

A new lock was proposed to improve traffic handling capability and accommodate deep draft vessels. A study was authorized in 1956, with construction authorized in 1998 (<http://www.mvn.usace.army.mil/pd/projectsList/home.asp?projectID=107&directoryFilePath=ProjectData\>). Two construction alternatives are being considered: float-in-place and cast-in-place. These alternatives differ with respect to dredging volumes required and the sequence and timing of the construction. In both cases, the bulk of the dredging will occur prior to lock construction and the remainder after. Some of the dredged material must be stockpiled for use as backfill once lock construction is completed. This material will require temporary upland disposal.

With some limitations, the remainder of the material could be disposed of in the Mississippi River open water disposal site or used beneficially at the mitigation site. However, materials demonstrating benthic toxicity to freshwater organisms cannot be disposed in the Mississippi River disposal site. Similarly, materials demonstrating benthic toxicity to marine organisms cannot be placed in an aquatic marine location without suitable containment. Materials being placed in the CDF that are unsuitable for either freshwater or marine open water placement will be stored in a cell separate from materials demonstrating no benthic toxicity in either environment. This will permit more comprehensive evaluation of suitability and containment required for beneficial use of materials with placement restrictions.

The purpose of this effort is to develop a conceptual level design for the CDF for inclusion in the EIS. The design must consider construction staging and differing dredging and disposal volumes for the two construction alternatives. The effort encompasses the following tasks:

1. Development of a dredging and disposal/placement plan.
2. Suitability evaluation of the proposed disposal site (MRGO disposal site).

# Exhibit J

Declaration of Dr. Barry Kohl  
February 10, 2006

Footnote: 62

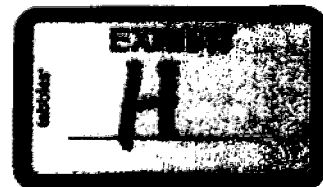
**Declaration of Barry Kohl, Ph.D.**

1. My name is Barry Kohl. I am an expert in the fields of geology and sedimentology and have studied contaminated sediment issues. An accurate copy of my curriculum vitae, as Exhibit A, is attached to my 2005 report to the court and incorporated by reference.

2. This Declaration contains my expert opinions, which I hold to a reasonable degree of scientific certainty. My opinions are based upon sufficient facts or data, consisting specifically of a review of the references listed at the bottom of the Declaration. These are facts and data typically and reasonably relied upon by experts in the fields of geology and civil engineering. Also, I have developed my opinions using reliable principles and methods which I have applied in a scientific and reliable manner to the facts of this case.

3. I will not receive compensation for preparing this Declaration.

4. As part of its project to dredge the Industrial Canal, the U.S. Army Corps of Engineers (Corps) plans to place contaminated sediments in "confined disposal facilities" located in or near wetlands south of the Mississippi River Gulf Outlet (MRGO) Hurricane Levee and adjacent to Bayou Bienvenue (see Kohl Fig. 1). These disposal areas would consist of contaminated sediments behind engineered berms and would provide for discharge of water and fine particles. The Corps has not specified how long it plans for these facilities to last, nor has it specified its plans for the level of a storm event that the facilities will be able to withstand. The



Corps has also not specified the level of contamination that it will deem acceptable for sediments it disposes of in these facilities or what concentrations of contaminants it plans to accept in discharges of water from the facilities.

5. Without knowing how long the disposal facilities will last, what types of storm events they will withstand, and how much contamination they will contain and discharge, there is no way of knowing what environmental impacts these facilities will have on the ecosystem of the Lake Pontchartrain Basin.

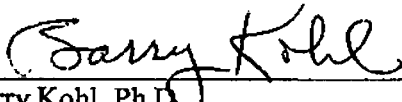
6. Hurricane Katrina destroyed the Lake Pontchartrain and Vicinity Hurricane Protection Levee along the MRGO. Indeed, according to the independent study by the NSF sponsored Levee Investigation Team (Seed et al. (2005), there were 17 post-Katrina breaches along the levee which borders the MRGO (see Kohl Fig. 2). Many of these breaches were catastrophic. This levee was the main protection for the area that includes the proposed disposal sites. High velocity erosional waters from the levee failure inundated the interior wetlands causing overtopping and breaching of the secondary St. Bernard protection levee. These waters also inundated proposed disposal sites and Highway 47 which passes through the area. Thus, if the Corps had disposed of contaminated sediments in the facilities prior to Hurricane Katrina, those sediments could have been resuspended by flood waters and redistributed in wetlands causing widespread environmental contamination.

7. Figure 1 shows the location of the Corps disposal sites. The MRGO disposal site varies in elevation from +3 to +10 ft. The mitigation site is in the Bayou Bienvenue wetlands and near sea level.

8. Figure 2 shows the breaches in the MRGO levee and other protection levees as a result of Hurricane Katrina.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on February 10, 2006

  
\_\_\_\_\_  
Barry Kohl, Ph.D.  
Geologist

**References:**

Nicholson, P. 2005. Hurricane Katrina: Why Did the Levees Fail? Testimony of Peter Nicholson, Ph.D., P.E. Associate Professor of Civil and Environmental Engineering and Graduate Program Chair University of Hawaii. On behalf of the AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) before the Committee on Homeland Security and Governmental Affairs, U.S. Senate, November 2, 2005. See <http://www.asce.org>

Seed, R.B., P.G. Nicholson, R.A. Dalrymple, J. Battjes, R.G. Bea, G. Boutwell, J.D. Bray, B. D. Collins, L.F. Harder, J.R. Headland, M. Inamine, R.E. Kayen, R. Kuhr, J. M. Pestana, R. Sanders, F. Silva-Tulla, R. Storesund, S. Tanaka, J. Wartman, T. F. Wolff, L. Wooten and T. Zimmie. (2005). Preliminary Report on the Performance of the New Orleans Levee Systems in Hurricane Katrina on August 29, 2005. Report No. UCB/CITRIS – 05/01., 129 pp.

Seed, R.B. (2005) Hurricane Katrina: Performance of the Flood Control System. Testimony of Raymond B. Seed, Ph.D., Professor of Civil and Environmental Engineering University of California at Berkeley; on behalf of the NSF-Sponsored Levee Investigation Team. Presented before the Committee on Homeland Security and Government Affairs, U.S. Senate November 2, 2005.

USACE, 1997. Mississippi River Gulf Outlet New Lock and Connecting Channels. Appendix D Evaluation Report, Environmental *in* Final Environmental Impact Statement, Inner Harbor Navigation Canal, Lock Replacement Project, New Orleans, LA. New Orleans District, USACE (March 1997), vol. 6 of 9.

# Exhibit K

2009 Supplement, Appendix Q:  
404(b)(1) Analysis, *abridged*  
*(pages Q-66, Q-67)*

Footnote: 93

***APPENDIX Q***  
***404(b)(1) Analysis***





### **3.0 FINDINGS OF COMPLIANCE OR NON-COMPLIANCE WITH THE RESTRICTIONS ON DISCHARGE**

#### **3.1 Adaption of the Section 404(b)(1) Guidelines to this Evaluation**

No significant adaptations of the guidelines were made relative to this evaluation.

#### **3.2 Evaluation of Availability of Practicable Alternatives to the Proposed Discharge that Would Have Less Adverse Impact on the Aquatic Ecosystem**

Alternatives to the proposed project were discussed and analyzed in SEIS, *Alternatives*. The proposed project represents the least environmentally damaging practicable alternative. No practicable alternative exists that meets the study objectives and does not involve discharge of fill into waters of the United States.

#### **3.3 Determination of Compliance with Applicable Water Quality Standards**

##### **River Site**

The available mixing at the Mississippi River disposal site will meet the most stringent dilution requirements based on comparison of elutriate concentrations to water quality criteria, and will also satisfy the maximum dilution requirements based on the elutriate toxicity testing.

##### **Confined Disposal Facilities**

Maximum attainable dilution ratio for discharge of CDF effluent to the GIWW is 120. Assuming maximum effluent concentrations, adequate dilution will be attainable within a mixing zone complying with State of Louisiana requirements for all except four constituents. However, the mixing that is inherent in hydraulic dredging will likely reduce peak maximum predicted effluent concentrations. For the predicted mean effluent concentrations, all dilution requirements can be met within the prescribed mixing zone in the GIWW. Based on limited information available regarding bathymetry and flow in Bayou Bienvenue, attainable dilution at that site is inadequate to meet water quality criteria for the effluent pathway.

##### **Beneficial Use**

###### *Mitigation Site*

The approximate dilution ratio estimated for the effective effluent discharge rate from a hydraulic dredge into the mitigation zone area is insufficient to meet all maximum dilution requirements for acute or chronic criteria, in addition to requiring an area larger than that specified for either a zone of initial dilution or a mixing zone under Louisiana water quality regulations. Available dilution in Bayou Bienvenue is also insufficient to meet water quality criteria during dredged material disposal. However, no dilution of effluent is considered

necessary for discharge in the estuarine environment based on the toxicity evaluation of dredged material elutriates. Therefore, based on the site-specific toxicity evaluation, no acute toxicity effects on water column organism are expected from dredged material effluent discharge into the mitigation site. Given the potentially significant environmental and community benefit associated with restoration of the wetland, justification for a waiver from water quality criteria for IHNC dredged material placement in the Mitigation Site may be warranted

### **3.4 Compliance with Applicable Toxic Effluent Standard of Prohibition Under Section 307 of the Clean Water Act**

This project would be in full compliance of Section 307 of the Clean Water Act and would not violate the Toxic Effluent Standards. Appropriate evaluations of analytical and ecotoxicological testing of sediment, water column, and elutriate revealed that no adverse impacts would result from the proposed project.

### **3.5 Compliance with the Endangered Species Act of 1973**

### **3.6 Compliance with the Specified Protection Measures for Marine Sanctuaries Designated by the Marine Protection, Research, and Sanctuaries Act of 1972**

Not Applicable.

### **3.7 Evaluation of Extent of Degradation of the Waters of the United States**

The proposed placement of dredged material would not contribute to significant degradation of waters of the United States. Nor would it result in significant adverse effects on human health and welfare, including municipal and private water supplies; recreation and commercial fishing; life stages of organisms dependent on the aquatic ecosystem; ecosystem diversity, productivity, and stability; or recreational, aesthetic or economic values.

### **3.8 Appropriate and Practicable Steps Taken to Minimize Potential Adverse Impacts of the Discharge on the Aquatic Ecosystem**

Confinement dikes or temporary structures would be used to prevent the flow of dredged material from the Mitigation site. Confinement dikes would prevent the flow of dredged material from the CDF sites and material excavated from the Graving Stockpile site.

Management of dredged material during placement, including the use of a baffle plate at the end of the discharge pipeline, would introduce oxygen to the dredged material slurry and dissipate ammonia. Additional management strategies would be employed within the disposal areas, as needed, to further dissipate ammonia.

**UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF LOUISIANA**

HOLY CROSS NEIGHBORHOOD  
ASSOCIATION, et al.,

*Plaintiffs,*

v.

UNITED STATES ARMY CORPS OF  
ENGINEERS,

*Defendant.*

\*  
\*  
\*  
\* Case No. 03-370 (Consolidated with)  
\* Ref. No. 10-1715  
\* Section: L (1)  
\* Judge: Fallon  
\* Magistrate Judge: Roby (4)  
\*  
\*  
\*  
\*

112-004.1

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**NOTICE OF SUBMISSION OF PLAINTIFFS'  
SECOND MOTION FOR SUMMARY JUDGMENT**

---

Pursuant to Local Rule 7.2, Plaintiffs respectfully provide notice of an April 13, 2011 assigned submission date for their Second Motion for Summary Judgment.

Respectfully submitted on March 28, 2011,

s/ Thomas Davis

s/ Adam Babich

---

Thomas Davis, Student Attorney  
Roger Yamada, Student Attorney  
Tulane Environmental Law Clinic  
6329 Freret Street  
New Orleans, Louisiana 70118  
Telephone: (504) 865-5789; Fax (504) 862-8721

---

Adam Babich, SBN: 27177  
Tulane Environmental Law Clinic  
6329 Freret Street  
New Orleans, Louisiana 70118  
Telephone: (504) 865-5789; Fax (504) 862-8721  
Babich Direct Line (504) 862-8800  
ababich@tulane.edu

*Counsel for Plaintiffs*

**CERTIFICATE OF SERVICE**

I hereby certify that on March 28, 2011, I caused as copy of the foregoing to be served through the Court's CM/ECF system to all parties.

s/ Adam Babich

---

Adam Babich

**UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF LOUISIANA**

HOLY CROSS NEIGHBORHOOD  
ASSOCIATION, et al.,

*Plaintiffs,*

v.

UNITED STATES ARMY CORPS OF  
ENGINEERS,

*Defendant.*

\*  
\*  
\*  
\* Case No. 03-370 (Consolidated with)  
\* Ref. No. 10-1715  
\* Section: L (1)  
\* Judge: Fallon  
\* Magistrate Judge: Roby (4)  
\*  
\*  
\*  
\*  
\*

112-004.1

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**ORDER GRANTING PLAINTIFFS’  
SECOND MOTION FOR SUMMARY JUDGMENT**

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Having considered the Plaintiffs’ Second Motion for Summary Judgment and all related briefs and arguments and being fully advised, the Court hereby finds that there are no genuine issues of material fact relevant to the Motion and the Plaintiffs are entitled to judgment as a matter of law. Accordingly, **IT IS ORDERED** that Plaintiffs’ Motion is hereby **GRANTED**.

This Court hereby enters summary judgment that the U.S. Army Corps of Engineers (the Corps), its May 20, 2009 Record of Decision, and its March 31, 2009 Supplemental Environmental Impact Statement (the Supplement), all violate 1) NEPA by failing to take a “hard look” at the environmental impacts of the Industrial Canal project and by failing to analyze reasonable alternatives; 2) this Court’s 2006 Order by failing to comply with NEPA; and 3) the Clean Water Act’s mandatory 404(b)(1) Guidelines by not selecting the least environmentally damaging practicable alternatives, by not providing a non-arbitrary reason for installing a deep-draft lock, and by discharging in violation of an applicable Louisiana Water Quality Standard.

Further this Court VACATES and REMANDS the Corps' Supplemental Environmental Impact Statement and Record of Decision and ENJOINS the Corps and the U.S. Army Chief of Engineers and Commanding General of the U.S. Army Corps of Engineers (as the Corps' officer personally responsible for compliance) from continuing with the Inner Harbor Navigation Canal Lock Replacement Project until the Corps complies with the National Environmental Policy Act and the Clean Water Act.

DONE this \_\_\_\_\_ day of \_\_\_\_\_, 2011

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**ELDON E. FALLON**  
**UNITED STATES DISTRICT JUDGE**

**UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF LOUISIANA**

HOLY CROSS NEIGHBORHOOD  
ASSOCIATION, et al.,

*Plaintiffs,*

v.

UNITED STATES ARMY CORPS OF  
ENGINEERS,

*Defendant.*

\*  
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\*  
\* Case No. 03-370 (Consolidated with)  
\* Ref. No. 10-1715  
\* Section: L (1)  
\* Judge: Fallon  
\* Magistrate Judge: Roby (4)  
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112-004.1

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**PLAINTIFFS' REQUEST FOR ORAL ARGUMENT  
ON THEIR SECOND MOTION FOR SUMMARY JUDGMENT**

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Pursuant to Local Rule 78.1E, Plaintiffs Holy Cross Neighborhood Association, Gulf Restoration Network, and Louisiana Environmental Action Network respectfully request oral argument on their Motion for Summary Judgment on their Second Claim. The Plaintiffs believe that oral argument would facilitate the Court's consideration of these issues.

Respectfully submitted on March 28, 2011,

s/ Thomas Davis

s/ Adam Babich

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Thomas Davis, Student Attorney  
Roger Yamada, Student Attorney  
Tulane Environmental Law Clinic  
6329 Freret Street  
New Orleans, Louisiana 70118  
Telephone: (504) 865-5789; Fax (504) 862-8721

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Adam Babich, SBN: 27177  
Tulane Environmental Law Clinic  
6329 Freret Street  
New Orleans, Louisiana 70118  
Telephone: (504) 865-5789; Fax (504)  
862-8721  
Babich Direct Line (504) 862-8800  
ababich@tulane.edu

*Counsel for Plaintiffs*

**CERTIFICATE OF SERVICE**

I hereby certify that on March 28, 2011, I caused as copy of the foregoing to be served through the Court's CM/ECF system to all parties.

s/ Adam Babich

\_\_\_\_\_  
Adam Babich



**UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF LOUISIANA**

HOLY CROSS NEIGHBORHOOD  
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UNITED STATES ARMY CORPS OF  
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\* Judge: Fallon  
\* Magistrate Judge: Roby (4)  
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112-004.1

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**ORDER REGARDING REQUEST FOR ORAL ARGUMENT**

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**IT IS ORDERED** that the Plaintiffs' Request for Oral Argument on their Second Motion for Summary Judgment is hereby **GRANTED**.

Oral argument is set for \_\_\_\_\_, 2011 at \_\_\_\_\_.

This \_\_\_\_ day of \_\_\_\_\_, 2011

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**ELDON E. FALLON  
UNITED STATES DISTRICT JUDGE**