Testimony of

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North Lafourche Conservation, Levee and Drainage District

Before the

Senate Committee on Banking, Housing, and Urban Affairs
Subcommittee on Economic Policy
United States Senate

The National Flood Insurance Program: The Need for Long-Term reauthorization and Reform

May 9, 2012

I would like to thank you Mr. Chairman and members of the Committee, for this opportunity to testify today. I am the Executive Director of the North Lafourche Levee District, a political subdivision of the State of Louisiana. However, I am here today representing a broader coalition of agencies, citizens and businesses in the State of Louisiana who rely heavily on the National Flood Insurance Program.

We commend the Committee for addressing long-term reauthorization and reform of the National Flood Insurance Program. Further, we appreciate the opportunity to provide to you today details of our current circumstances which are typical for many areas in South Louisiana and across our nation. We firmly believe that our issues are being complicated and made worse by the lack of a long-term reauthorization of the National Flood Insurance Program. We also believe that our issues clearly demonstrate a need for reform, a reform that we are right in the middle of at this time.

Our issues began in mid-2009 with FEMA's issuance of Preliminary Digital Flood Insurance Rate Maps (DFIRMS) for our area. It was immediately obvious to us that the maps could not possibly represent the true risk of flooding in our area because the maps had no correlation to any real world features. The North Lafourche Levee District, along with the South Lafourche Levee District and the Lafourche Parish Government immediately began to prepare our appeals to FEMA. (A full copy of the Appeal launched by the North and South Lafourche Levee Districts is included as Attachment A.)

The conclusion in our appeal was that FEMA's policy of removing non-certified levees before running the wave analysis part of their Flood Insurance Study was a scientifically unsound policy. This approach to mapping produces DFIRMS that indicate base flood elevation zones with boundaries that have no correlation to real world features. Such maps are not understood or acceptable to local residents and businesses. Further, and most importantly, we noted that intentionally ignoring the impact of non-certified levees on the propagation of floodwater necessarily yields results that overstate the risk of flooding in some areas and understates the risk of flooding in other area. We also noted that FEMA's Mapping Partners had insufficient information, familiarity and experience to realize the results of their mapping efforts were not a reasonable result of their study. Finally, we pointed out that the modeling and mapping results were not in even basic agreement with past flooding patterns and historical data.

Particularly in our appeal, we questioned how the preliminary DFIRMs could indicate that a small polder, with a ring levee system of only 8.2 miles in circumference, would possibly have a requirement for 7 different base flood elevations. (VE8, AE7, AE6, AE5, AE4, AE3 and X) This entire polder is surrounded by a single levee of the same elevation and the ground elevations inside this sub-drainage district were virtually at the same elevation throughout. The results were nonsensical. In the South Lafourche Levee System, the Preliminary DFIRMS had similar unbelievable results. In some areas these maps indicated there were 5 different base flood elevation requirements within 800 feet all over perfectly flat ground. Literally, if the DFIRMS were to be believed in expressing the risk of flooding, two people standing on level ground, a mere 800 feet apart could be in two different flood zones and there would be three additional base flood elevations between them. This simply could not be.

We began working through the appeals process with FEMA and were able to quickly identify the elements of the Flood Insurance Study that were causing the erroneous mapping as well as the limitation of the process that would allow the maps to more accurately reflect the threat of flooding in our area. In short, two items primarily caused the mapping problems. First, was the FEMA policy to NOT consider the impacts of non-accredited levee in their Flood Insurance Study. This would become known as the "without levees" policy. The second problem was in the application of the wave model FEMA was using as part of the Flood Insurance Study for coastal levees. This model, known as the Wave Height Analysis for Flood Insurance Studies (or WHAFIS) had serious limitations when applied to long transects such as would be required in south Louisiana.

We found that the appeals process was also limited in its ability to produce accurate DFIRMS. We learned these limitations as we took our appeals on these issues to FEMA including FEMA's Region 6 office in Denton, TX. All along this process, we encountered cooperative and sympathetic FEMA employees who were powerless to make any changes that were not part of the official FEMA policy. Realizing that complete resolution of these issues would have to come from a change in FEMA's policy, and that this change would have to come from Washington, we began to inform our Legislative Delegation of our quandary. In early February of 2011, twenty-seven (27) US Senators signed a letter to FEMA Administrator Fugate asking FEMA to discontinue the "Without Levees" policy.

In March of 2011, Administrator Fugate announced that FEMA would begin developing a series of targeted modeling approaches to replace the "without levees" approach to identifying the risk of flooding behind uncertified levees. In one of the first publications that FEMA released to answer questions as to how they were going to go about making and implementing such a change, FEMA stated that it was "engaged in a systematic effort to reform the national Flood Insurance Program (NFIP), and we view a change in the manner in which we map levees that do not meet the criteria for accreditation as a step toward a long term solution". (See Attachment B for a full copy of that document.)

FEMA began working on the change to their policy. By the end of July 2011, FEMA had put together enough of their revised policy to host a Community Roundtable Forum here in Washington. Approximately 20 people from various stakeholder agencies across the country were invited to participate in this forum. This was a very welcomed step and I can truly say that FEMA was working earnestly on the issues at hand. The main points that I was able to take away from attending the Forum was first and foremost, the "without levees" approach was history. Next, FEMA made it clear that the substitute process was going to be collaborative with the local stakeholders, flexible yet technically sound, and feasible in that the approach must be cost effective and not overly burdensome on a community. (A full copy of our press release after this event is included as Attachment C). But, the forum focused most of its efforts on the process and the basic revisions to the policy. We started to see that FEMA was still working on the technical side of the approach and we remained concerned for FEMA's ability to develop a suitable approach for both Riverine and Coastal flood protection levees.

We continued to follow-up with our friends at FEMA who were working on the technical side of the policy changes. (Please see Attachment D) We were hoping to get a better understanding on how FEMA was going to handle the differences in coastal versus riverine flooding; but, we were hampered by FEMA's desire to release the Proposed Approach for Public Review, which eventually came in December of 2012. After the proposed policy change was opened for a 45 day public comment period, FEMA did reveal that they were still working on how to address coastal levee analysis. Further, they realized that some of the riverine methods developed would not be appropriate for coastal levees. Finally, they also acknowledged the limitations of their use of the one dimensional WHAFIS model used for V zone determination was not appropriate in parts of coastal Louisiana. However, they stated that making changes to the the use of WHAFIS was beyond their current study (the revised approach) and they were looking for ways to improve coastal analysis. They also agree to meet with us on these specific issues.

In order to answer the call for public comment on the revised approach, we broadened our coalition to include questions and comments agreed upon by the State's Coastal Protection and Restoration Authority, the Association of Levee Boards of Louisiana, the North Lafourche Levee District, the South Lafourche Levee District, the Lafourche Parish Government, the Terrebonne Parish Government, the St. Mary Parish Government and Coastal Oceanographer Dr. Joseph Suhayda. (Please see Attachment E) Again, most of these comments centered on the difference between coastal levees and riverine levees. The draft, revised policy included pages of

technical details on how riverine-based flood protection systems would be analyzed; but, it certainly lacked detail in how reasonable maps would be developed for coastal levees. As you can imagine, the flood source for coastal levees, typically a short duration tropical event, is broadly different than the flood source for riverine levees which is primarily driven by the timing of rainfall and snowmelt. Further, the arrangement of riverine levees, basically along the river, is different than coastal levees which intend to provide protection from backwater flooding. The two types of systems are so different that there is little opportunity to create one methodology that can be used for both.

Following up on FEMA's offer to meet with us further on coastal levee issues, FEMA helped facilitate a meeting with a small group from our local coalition in February of this year, the topic of which was centered on coastal levee issues. I must state that each time we have met with FEMA we have encountered a group of individuals that were cooperative in trying to produce the best product that they could, given the confines of their operational policies. I could sense that the recent proposed changes were giving them a better opportunity to produce a better product and they were enthusiastic about the new possibilities to produce a more accurate DFIRM. The most import points that our group took away from the meeting are as follows.

1) When it comes to producing more accurate DFIRMS, no methods of analysis are "off the table" as far as FEMA is concerned.

2) The process is not going to be black or white any longer. The process is now "intentionally gray" in order to allow the utmost flexibility in producing accurate results.

3) Where in the past, when trying to work with FEMA, we encountered a series of well intending people whose hands were "tied" by existing regulations; we will now be able to meet with FEMA personnel who are no longer encumbered.

4) We can hope to see released coastal levee guidance independent of riverine guidance to draw a clean distinction in the differences to better assist FEMA mapping partners in handling Coastal Levees.

(A full copy of the press release for this meeting is included as Attachment F) Overall, it was believed by all to be a very productive meeting. Yet we have a long way to go and as of yet, FEMA has not released the results of the analysis of all the Public Comments received.

So, today, we find ourselves working hand in hand with FEMA on meaningful reforms to their policy only to be met by another looming expiration of a short term extension of the National Flood Insurance Program. These are reforms that from our point of view began in mid-2009, were enhanced by Legislative intervention and a commitment by

FEMA to improve the process in 2011 and are still being worked on today. Obviously, changes to a process such at this takes time. And yet, the details I have provided today are the efforts to resolve but a single issue within the National Flood Insurance Program. There are so many more issues that can be corrected trough cooperative reform and a long-term reauthorization of this vital program.

In conclusion, I would like to point out that ours is a working delta, the fruits of which are enjoyed by and enrich our entire nation. From freight transportation on the Mississippi River to our oil and gas and petrochemical industry to our abundant fisheries, not to mention tourism, jazz and Mardi Gras, we simply must work and live within this delta. As such, the availability of federally-backed, affordable and financially stable flood insurance is of vital importance to our region and the entire nation.

We thank you for this opportunity to share both our situation and our views on this important issue. We look forward to working with all of you to continue to make these changes to the National Flood Insurance Program.

Appeal of Proposed Flood Elevation Determinations
(Preliminary DFIRMS)

In accordance with:

44CFR, Chapter I, Part 67
and
Section 110 of the Flood Disaster Protection Act of 1973

By:

North Lafourche Conservation, Levee and Drainage District
PO Box 230
Raceland, LA 70394

and

South Lafourche Levee District
PO Box 426
Galliano, LA 70354

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I Introduction

General:

The North Lafourche Conservation, Levee and Drainage District (NLLD) and the South Lafourche Levee District (SLLD) are both political subdivisions of the State of Louisiana formed by Louisiana RS 38:291. Both the NLLD and the SLLD were organized "for the purpose and charged with the duty of constructing and maintaining levees, (also drainage f/ NLLD) and all other things incidental thereto within its territorial limits" as defined by Louisiana RS 38:281.

Territorially, the NLLD's district includes all of Lafourche Parish north of the Gulf Intracoastal Waterway (GIWW), which bisects Lafourche Parish. The SLLD's district includes all of Lafourche Parish south of the GIWW. As such, and jointly, the NLLD's and the SLLD's districts make up 100% of Lafourche Parish and this appeal is on behalf of the residents and businesses within the entire Parish as may be affected positively or negatively by the proposed DFIRMS. Further, the NLLD and the SLLD are each making this appeal as owners of real property which has been adversely affected by the proposed determinations.

It is important to note that it is not the intent of this appeal to necessarily reduce or increase the final Base Flood Elevation at any specific location in the Parish. The intent of this appeal is to have the maps corrected so that the actual risk of flooding is accurately indicated on these maps without overstating the risk of flooding in some areas while simultaneously understating the risk of flooding in other areas.

Approach and Methodology:

According to 44CFR, which addresses the Appeal of Preliminary revised DFIRMS the Parish (or an individual) can only make an appeal based on FEMA's DFIRMS being either technically or scientifically incorrect.

44CFR
§ 67.6 Basis of appeal.
(a) The sole basis of appeal under this part shall be the possession of knowledge or information indicating that the elevations proposed by FEMA are scientifically or technically incorrect. Because scientific and technical correctness is often a matter of degree rather than absolute (except where mathematical or measurement error or changed physical conditions can be demonstrated), appellants are required to demonstrate that alternative methods or applications result in more correct estimates of base flood elevations, thus demonstrating that FEMA's estimates are incorrect.

An appeal based on either of these two directions (Technical or Scientific Error) has different burdens of proof and each requires different documentation. For a Technically Incorrect Appeal, the detail and burden of proof is substantial and must be quantified. The Lafourche Parish Government has hired independent consultants and engineering firms to appeal the proposed DRIRMS based on technical errors independent of, but obviously related to this appeal.

This appeal, filed by the NLLD and the SLLD is based on Scientific Error. The NLLD and SLLD appeal is made on a much broader basis identifying a problem in methodology resulting in incorrect maps and suggesting an alternative approach. This appeal will address all of the following.

44CFR
§ 67.6 Basis of appeal.
(3) If any appellant believes the proposed base flood elevations are scientifically incorrect, the appeal must demonstrate scientific incorrectness by:
(i) Identifying the methods, or assumptions purported to be scientifically incorrect.
(ii) Supporting why the methods, or assumptions are scientifically incorrect.
(iii) Providing an alternative analysis utilizing methods, or assumptions purported to be correct.
(iv) Providing technical support indicating why the appellant's methods should be accepted as more correct and
(v) Providing documentation of all locations where the appellant's base flood elevations are different from FEMA's.
[48 FR 31644, July 1, 1983]

The basis of our appeal is as follows:

This scientific appeal is based on the obvious problems in mapping caused by FEMA's decision to allow **FEMA POLICY** to override **FEMA SCIENCE** in the production of the preliminary DFIRMS.

Typical of most CFR regulations, the requirements found in 44CFR pertaining to the development of Flood Insurance Rate Maps, Flood Insurance Studies, Mapping of Special Hazard Areas, Mapping of Areas protected by Levee Systems, etc. tend to be more descriptive than prescriptive. In order to provide a more prescribed approach to implementing these regulations for its mapping partners, FEMA, as part of its Flood Hazard Mapping Program, published *Guidelines and Specifications for Flood Hazard Mapping Partners.* These documents are collectively referred to as the "Guidelines" and they reflect FEMA POLICY as intended in the basis of our appeal as found in the previous paragraph.

In addition, these same published FEMA policy Guidelines provide great technical guidance on the FEMA SCIENCE, also as intended in the prior paragraph as part of the basis of our appeal. That is, these Guidelines provide detail on how to apply the various models and other analytical tools used in the production of revised DFIRMS. This appeal does not take issue with the FEMA SCIENCE, not that it is necessarily correct; but, simply, beyond the scope of this appeal.

More specifically, it can be seen time and time again on the preliminary DFIRMS in Lafourche Parish that the POLICY decision found in the Guidance not to incorporate existing, noncertified levee systems into all parts of the Flood Insurance Study (SCIENCE) have resulted in erroneous boundaries between various flood zones on the preliminary DFIRMS. These erroneous boundaries between flood zones cannot possibly reflect the real risk of flooding in the indicated areas. Further, the POLICY decision to treat a non-certified levee system "as if the levee did not exist" will certainly result in the overstating of flood risk in some areas and the understating of flood risk in other areas. This is an unacceptable result.

Ironically, the same Guidance that allows an existing non-certified levee to be included in one analytical model (ADCIRC) producing Still Water Elevations precludes it from being used in another following analytical model (WHAFIS) considering the effects of waves. Further, the Guidance goes on to say that the mapping partner should use "judgment and experience", "historical data", and review the results "from a common-sense viewpoint" in producing the DFIRMS. We submit that these Guidance tidbits are diametrically opposed and, in our case have produced unacceptable results.

The following section provides more specific details on this appeal as well as real world examples of the problems caused by FEMA's POLICY decisions.

II Basis of Scientific Appeal:

The individual items in blue below are the issues that must be addressed if an appeal is going to be made on a scientific basis. These items are taken directly form part 67.6 of 44CFR which regulates the FEMA DFIRM appeals process. Following each of these items are details of our appeal.

44CFR
§ 67.6 Basis of appeal.
(3) If any appellant believes the proposed base flood elevations are scientifically incorrect, the appeal must demonstrate scientific incorrectness by:

(i) Identifying the methods, or assumptions purported to be scientifically incorrect.

Among other things, the process for producing a DFIRM includes using a model 100 year (1%) storm to produce 1% annual chance Still Water Elevations (SWEL) in a given area. In coastal areas, it is reasonably presumed that in addition to flooding caused by the SWEL, the same area may experience additional wave hazards at the same time. Thus, the Guidance includes *Appendix D: Guidance for Coastal Flooding Analyses and Mapping* to provide some prescribed policy towards assessing the risk caused by storm wave characteristics. Overall, these two steps seem to be a reasonable scientific process of determining compounded flood risk.

However, there exists a FEMA "policy" that interferes with this modeling process in producing DFIRMS. This policy requires the modelers to remove all noncertified levees from the wave analysis before proceeding.

From the Guidance:
Appendix D: Guidance for Coastal Flooding Analyses and Mapping
D.2.3 Evaluation of Coastal Structures [February 2002]
The purpose of the evaluation is to determine whether each individual coastal structure appears properly designed and maintained in order to provide protection from the 1-percent-annual-chance flood. If a particular structure can be expected to be stable through the 1-percent-annual-chance flood, the structure geometry may figure in all ensuing analyses of wave effects accompanying the flood: coastal erosion, runup and overtopping, and wave crest elevations. Otherwise, the coastal structure is considered to be destroyed during the 1-percent-annual-chance flood and removed from the transect representation before proceeding with analyses of wave effects.

This removal of non-certified levee systems prior to the analyses of wave effects is supported by other sections of the Guidance as well.

It is our contention that complete removal of existing noncertified levees, just because they are noncertified, corrupts the scientific process described above and this equates to a scientific error.

44CFR
§ 67.6 Basis of appeal.
(3) If any appellant believes the proposed base flood elevations are scientifically incorrect, the appeal must demonstrate scientific incorrectness by:

(ii) Supporting why the methods, or assumptions are scientifically incorrect.

Pretending, for the purpose of "policy" that a levee system does not exist, when it is in fact a substantial geographic feature is akin to loading the models with erroneous data. As in all such models, the old adage, "garbage in = garbage out" applies. All other forms of substantial geographic feature that impact the hydraulics in their vicinity are included in the FIS. Such features include certified levees; but, they also include natural ridges, highway and railroad embankments, sand dunes. etc. It is clear by looking at the DFIRMS that the lines which divide the various zone boundaries are not being influenced by these substantial geographic features (levees). As such, the required zones within a levee system are likely overstated in some areas and it is just as likely that the zones outside and adjacent to these features might be understated in some areas. This concern is expressed in the Guidance itself.

From the Guidance:

Appendix D: Guidance for Coastal Flooding Analyses and Mapping
D.2.3 Evaluation of Coastal Structures [February 2002]
Flood protection structures can have a significant effect on the flood hazard information shown on a FIRM, perhaps directly justifying the removal of sizable areas from the coastal high hazard area. The focus on flood protection structures in the FEMA memorandum cited above should not divert a recognition that similar considerations are appropriate in crediting the protection provided by structures in categories other than those named in the memorandum, and that such credit can be important. In contrast to flood protection, a breakwater primarily may act to limit wave action and a revetment primarily may control shore erosion, but any stable coastal structure can notably affect results of various hazard analyses for the 1-percent-annual-chance flood, and the Mapping Partner shall take these effects into account. The FEMA memorandum places the responsibility on local interests to certify new structures, but the primary consideration in a Flood Map Project must be that the structure evaluation yields a correct judgment based on available evidence. This is necessary for accurate hazard assessments, because a structure might decrease flood effects in one area while increasing erosion and wave hazards at adjacent sites. Of course, the greater the potential effects of a coastal structure, the more detailed should be the evaluation process.

As a result, the elevation zone boundaries shown on the maps in many areas of the Parish have no correlation whatsoever to real world features as you would expect a true scientific study to indicate.

One example of this obviously inaccurate DFIRM is found in Attachment A. This attachment is a collage of three DFIRM Panels (Map Numbers 22057C0350E, 22057C0355E and 22057C0365E) so that a real world example of erroneous mapping can be demonstrated. This attachment has been highlighted to include some real world features that appear to have been missed in the mapping process. Highlighted in red is the location of an 8.2 mile ring levee system originally constructed by the USDA and currently maintained by the Lafourche Parish

Government and the NLLD. Presently, the elevation at the centerline of this levee system is approximately 5.5 feet or greater throughout its length. This sub drainage district has a series of major internal drainage channels highlighted in blue leading all areas of the basin to its two pump stations as indicated. LIDAR mapping (See Attachment B) for the same area shows that the ground elevation in the area is nearly at the same elevation throughout the district.

Given these real world conditions, the wave run-up which centers and peaks on transect 5 just outside of the highlighted ring levee system indicates that the ring levee system was not at all considered in the wave analysis. Consequently, this small drainage sub district includes 7 different base flood elevation requirements. They include a VE8, AE7, AE6, AE5, AE4, AE3 and an X zone.

The lines separating these 7 base flood elevation zones have no correlation to any features in the real world. Pretty much anywhere in this area you could have two people, standing 500 yards or less apart from each other, looking at each other eye to eye, and there will be 2-3 different base flood elevation requirements between them. And the land between them is flat from one person to the other. This simply can't be.

Further, this obviously erroneous mapping process must have an effect on the adjacent ring levee systems, similar in makeup to the highlighted one, to the east and southwest of the highlighted system. But what effect might that be if the noncertified levees of all of these systems were simply ignored in the wave analysis? As a final demonstration of the nonsensical along this same transect, just southeast of the highlighted system is Lake Fields. Lake Fields is a significant, completely open body of water. However, the result of this mapping process is to reflect an AE7 Zone in the northern and southern parts of the lake with an AE6 zone in the center of the lake. No VE zones in the lake, just on the shore.

Attachment C shows a similar situation inside of the SLLD ring levee system. Here, the DFIRMS indicate a circular shaped VE16 Zone encircled entirely by an AE15, which is circled by an AE14 which is then circled by an AE13 centered along transect 13 as shown on the maps. At one point, there are 5 different base flood elevations within 800 feet of each other, again over perfectly flat land.

Common sense tells the mapping partner that if the levee is topped (or even breached) these flat basins, with large internal drainage features will fill up fairly evenly. As such, these maps should reflect far fewer required base flood elevations.

All of these obvious errors will be a pretty hard sell to the residents and businesses of these areas. Such errors will greatly reduce overall confidence in the DFIRM products throughout the Parish. Worst still is that this process almost certainly understates the risk of flooding in some areas. These obvious errors themselves are evidence that the policy of removing the non certified levees from the wave analysis is a scientifically incorrect process, dictated by a policy decision.

It would appear that FEMA's premise to have a policy decision corrupt a scientific study is to indicate concern on behalf of FEMA that they lack confidence in a noncertified levee to protect lives and improved property. That may be so and a valid concern at some level. However, the

complete removal of the levee system would only occur in the real world if the entire levee system were topped and breached throughout its entire length. There are countless examples of these earthen levees being overtopped for miles without any or very limited breaching. Finally, it is a corruption of the scientific process to remove a levee from the wave analysis before it is topped just because it is not certified.

44CFR
§ 67.6 Basis of appeal.
(3) If any appellant believes the proposed base flood elevations are scientifically incorrect, the appeal must demonstrate scientific incorrectness by:

(iii) Providing an alternative analysis utilizing methods, or assumptions purported to be correct.

What we propose as an alternative is not really an alternative process. For the most part, we can agree with the process described in the CFR with the additional Guidance except for indiscriminately removing noncertified levees from the wave analysis. We propose that FEMA should complete the modeling portion of their FIS with all certified and uncertified man made levees included in all phases of the modeling and mapping process so that these features can be fully accounted for within the FIS at all locations. (i.e. Let the SCIENCE run its course.)

After the output of this modeling and mapping is complete, FEMA could then consider how to address the risk to property within those levee systems that are not certified. As such, a compromised elevation might be required even where the modeling shows no overtopping or limited overtopping and filling of the basin. The zones within such a basin could then be drawn along logical geographic features within the basin proportionate to the perceived threat. This will result in maps that the local residents and businesses can believe in.

It is easy to forget that the publication of these maps is not in and of itself about safety of the residents. They are published for insurance reasons and to establish building elevations that reduce the risk of flooding. Hopefully, if and when it occurs, this flooding is the flooding of an unoccupied building. It is only when the citizens have no confidence in the maps that they are likely to ignore the potential flooding indicated and remain in the buildings during a storm event.

However, this process of applying a policy decision (an adjustment in elevation) after the best science is allowed to run its course should not be arbitrarily made either. Historical data and common sense should factor in as well. This approach, along with local input is fully supported in the Guidance as described in the next section.

44CFR
§ 67.6 Basis of appeal.
(3) If any appellant believes the proposed base flood elevations are scientifically incorrect, the appeal must demonstrate scientific incorrectness by:

(iv) Providing technical support indicating why the appellant's methods should be accepted as more correct and

With the risk of being too curt, the appellant's approach is more correct because it does not ignore reality. Some of the non-certified levee systems which have been removed completely prior to the wave analysis have a foot print of 100 to 300 feet in width and an elevation of 5 to 15 feet above sea level. Many are massive structures by any measure representing 13 to 145 tons of material per linear foot. Most can be seen from space. Any such objects, be they man made, natural, certified or not certified should not be ignored at any part of the mapping process.

The Guidance document tends to indicate in many sections that after all the best efforts, historical data and common sense of what is a reasonable mapping result should prevail.

From the Guidance:

Appendix D: Guidance for Coastal Flooding Analyses and Mapping

D.2.3 Evaluation of Coastal Structures [February 2002]

….. Where complete information is not available for an existing structure, the Mapping Partner performing the analysis shall make an engineering judgment about its likely stability based on a visual inspection of physical conditions and any historical evidence of storm damage and maintenance.

….. The FEMA memorandum places the responsibility on local interests to certify new structures, but the primary consideration in a Flood Map Project must be that the structure evaluation yields a correct judgment based on available evidence. This is necessary for accurate hazard assessments, because a structure might decrease flood effects in one area while increasing erosion and wave hazards at adjacent sites. Of course, the greater the potential effects of a coastal structure, the more detailed should be the evaluation process.

D.2.7.1 Review and Evaluation of Basic Results [February 2002]

Prior to mapping the flood elevations and zones, the Mapping Partner shall review results from the models and assessments from a common-sense viewpoint and compare them to available historical data. When using these models, there is the potential to forget that the transects represent real shorelines of sandy beaches, rocky or cohesive bluffs, wetlands being subjected to extremely high water, waves, and winds. Familiarity and experience with the coastal area being modeled or similar areas should provide an idea of what is a "reasonable" result.

Use of the historical data is also very important in evaluating whether the results are reasonable…

… The main point to be emphasized here is that the results should not be blindly accepted. There are many uncertainties and variables in coastal processes during an extreme flood and many possible adjustments to methodologies for treating such an event. The validity of any model is demonstrated by its success in reproducing recorded events. Therefore, the model results must be in basic agreement with past flooding patterns, and historical data must be used to evaluate these results.

44CFR
§ 67.6 Basis of appeal.
(3) If any appellant believes the proposed base flood elevations are scientifically incorrect, the appeal must demonstrate scientific incorrectness by:

(v) Providing documentation of all locations where the appellant's base flood elevations are different from FEMA's.

As mentioned previously, besides the examples cited in this appeal, the problems of not including non certified levee systems in wave analysis appears on the DFIRMS wherever FEMA chose to utilize wave analysis in its mapping process.

III Conclusion

General:

FEMA's policy approach of removing noncertified levees before running wave analysis and producing DFIRM maps is scientifically unsound. This approach to mapping produces DFIRMS that indicate base flood elevation zones, the boundaries of which, have no correlation to real world features. Such maps will not be accepted by local residents and businesses.

Ignoring the impact of noncertified levees necessarily yields results that overstate the risk of flooding in some areas and understates the risk of flooding in other area.

FEMA's Mapping Partners had insufficient information, familiarity and experience to realize the results of their mapping efforts were not a reasonable result.

The modeling and mapping results are not in basic agreement with past flooding patterns and historical data.

Suggested Course of Action

In areas where FEMA Guidance suggests the need to run wave analysis to augment the SWEL risk of flooding, noncertified levee systems should be fully considered in the wave analysis and all parts of the DFIRM mapping process.

Areas affected by these noncertified levee systems (inside and adjacent) should be singled out for special consideration and potential adjustment to the results of the mapping process to compensate for the fact that the levees are in fact not certified.

The preliminary results of this analysis should be shared with local officials to impart additional information, familiarity and historical experience into the final mapping product.

Attachment A

Ring Levee, 8.2 miles

Pump Station

Pump Station

Major Internal Drainage Channels

Drainage District 12-3

Attachment A

ZONE X

ZONE AE
(EL 4)

ZONE AE
(EL 5)

ZONE AE
(EL 6)

ZONE AE
(EL 7)

ZONE VE
(EL 8)

LAFOURCHE PARISH
UNINCORPORATED AREAS
225202

Bayou Cut Off

Mahon Canal

Mc

Du Mar

Bayou Du Mar

Bayou Folse

Forty Arpent Canal

BAYOU FOLSE ROAD

SAINT ELMO ROAD

PILLSBURY LANE

PEPS LANE

CREST ROAD

HODSON LANE

LANGFORD LANE

N SERVICE ROAD

PRAIRIE LAKE BOULEVARD

COLVAN STREET

MAGNOLIA STREET

AZALEA STREET

PERTUIT ROAD

ROSE ST

MITCHELL

BENSON DRIVE

EAGLE ISLAND ROAD

VIOLET STR

BUTCH HILL BOULEVARD

TATE ST LAKE DRIVE

DADHILL ROAD

HOSPITAL DRIVE

SPARROW LANE

ORIOLE LANE

RODIN LANE

EAGLE LANE

PELICAN DRIVE

AU2101

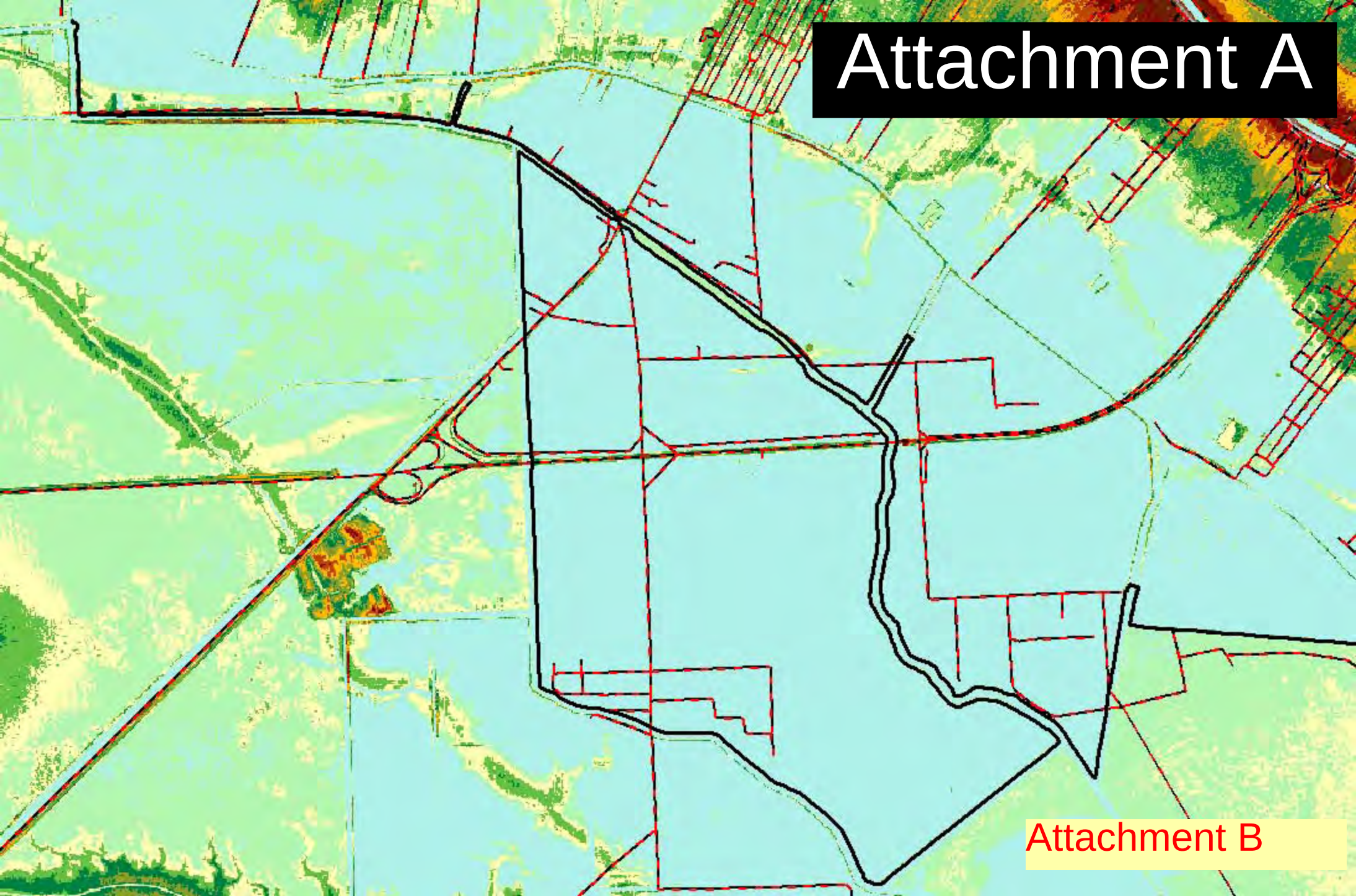
AU0460

AU0458

AU0451

AU3138

AU2096


Attachment A
Attachment B

Attachment A

3615000 FT
JOINS PANEL 0635
3620000 FT
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ZONE AE
(EL 12)
ZONE AE
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ZONE AE
(EL 15)
ZONE AE
(EL 13)
ZONE VE
(EL 16)

LAFOURCHE PARISH
UNINCORPORATED AREAS
225202

TOWN OF GOLDEN MEADOW
225196

East Bank Borrow Canal
West Bank Borrow Canal
Bayou Lafourche
Yankee Canal
Golden Meadow Levee
Levee

AIRPORT ROAD
CESSNA DR
APACHE RD
COBRA ROAD
BLACKHAWK ROAD
RAPHEAL PROJECT ROAD
LAFOURCHE PARISH
TOWN OF GOLDEN MEADOW
BOULEVARD
PUMP STATION 4 ROAD

AU1208
AU1209
AU1210
AU1212
AU1890
AU1223
AU2030
AU2031
AU1213
AU1218
AU1221
AU1214
AU3005
AU1216
AU3006
AU1225
AU3007

Attachment C

FEMA

FEMA's Approach to Levees

Answers to Frequently Asked Questions

Q: Why is FEMA changing the way it maps levees?
A: The "without levee" approach is an effective tool to identify flood risk behind uncertified levees. FEMA recognizes, however, that advances can enable FEMA to use improved models and tools to provide more precise flood risk information, and we are committed to updating our mapping methodology. FEMA also is engaged in a systematic effort to reform the National Flood Insurance Program (NFIP), and we view a change in the manner in which we map levees that do not meet the criteria for accreditation as a step toward a long-term solution.

Q: What is FEMA doing to improve its analysis of levees?
A: FEMA is developing a series of targeted modeling approaches to replace the current "without levee" approach.

Q: Are FEMA and the U.S. Army Corps of Engineers (USACE) aligned in this effort?
A: FEMA and USACE have been and will continue to work as a team to develop the new approach.

Q: Will the public be involved?
A: Yes. FEMA will invite the public to review and comment on the new approach and subsequent guidance.

Q: What about maps already in effect?
A: The new approach will be applied to ongoing and future mapping projects. If a community has questions about existing Flood Insurance Rate Maps (FIRMs), it should coordinate with the appropriate FEMA Regional representative to discuss future map updates.

Levee Systems
Need more information on levee systems?Please visit the levee dedicated pages on the FEMA website at: www.fema.gov/plan/prevent/fhm/lv_intro.shtm.

Here you will find an array of guidance and information resources to better answer any questions you might have on levee systems.

The NFIP
Looking for more information on the National Flood Insurance Program? Visit: www.fema.gov/nfip.

You can also find information about your flood risk and how to find a flood insurance agent at: www.FloodSmart.gov.

FEMA Library
The FEMA Library is a database of publicly available FEMA resources. Many are available for download, including:

"NFIP and Levees: An Overview Fact Sheet" http://www.fema.gov/library/viewRecord.do?id=2609

"Living with Levee Systems: Information for Property Owners" http://www.fema.gov/library/viewRecord.do?id=2741

Requirements of 44 CFR Section 65.10: Mapping of Areas Protected by Levee Systems http://www.fema.gov/library/viewRecord.do?id=2741

RiskMAP
Increasing Resilience Together

Q: Will the new approach result in smaller Special Flood Hazard Areas (SFHAs)?
A: Not always. SFHAs may decrease, increase or stay the same size as a result of the new approach. The current approach may have overestimated or underestimated flood hazards to some extent. In some scenarios, the anticipated flood risk may be greater than previously identified using our current approach.

Q: Will this new approach impact insurance rates?
A: The rate will be based on the flood hazard identified through the new approach and other factors involved with the particular structure being rated, but the method for rating is not changing.

Q: Will FEMA consider levees with less than a 100-year level of protection?
A: Yes. FEMA is analyzing more precise ways to model flood risk behind levees that are not currently accredited to provide protection against a 1-percent-annual-chance flood (100-year flood). As FEMA continues work on NFIP reform, we will investigate ways to more accurately rate policies in areas behind levees with less than 1-percent-annual-chance flood protection.

Q: Why can't FEMA rate these types of insurance policies today?
A: Rating policies in areas behind levees with less than 1-percent-annual-chance flood protection may require new or modified flood risk zones that do not exist today. This and other considerations may require regulatory and legislative changes.

Q: How soon will the new approaches be developed and in place?
A: A date is not yet set for implementation, but FEMA is working to implement a new approach as soon as possible.

Q: Is the new approach going to be applied to every new mapping activity with unaccredited levees, or do communities need to request it?
A: It will be applied to all new and ongoing mapping activities.

Q: Will my community and/or levee owner still be required to provide FEMA data?
A: Yes. The data requirements for levee accreditation in 44 C.F.R. Section 65.10 will not change, and more precise modeling likely will require more levee data. Communities and/or levee owners still will need to provide data on their levees to enable FEMA to accurately assess the flood risk.

Q: If a community does not agree with the FEMA analysis used in its flood risk study, can it provide FEMA with additional or more detailed information?
A: Yes. As with any study performed by FEMA, local communities can provide additional information for consideration.

Q: Can a community still appeal the findings on the FIRM?
A: Yes. The administrative process currently in effect for flood hazard maps will remain unchanged. There will be an administrative appeal period following issuance of the preliminary FIRM during which a community can provide additional scientific and technical data.

Q: How will the new approach impact the cost of FEMA's flood studies?
A: We are anticipating additional costs for a deeper level of analysis. FEMA will evaluate the cost of applying additional analyses against the value added for a particular study or community based on the risk present in that area. Where there are high levels of risk, additional analysis may be appropriate.

Q: Will FEMA help pay for certification of levees?
A: No. FEMA's authority and mission are in the identification of risk and not in the assessment of the design, construction and maintenance of levees.

Q: Will FEMA finalize maps for communities using the "without levee" analysis?
A: No. FEMA will delay finalizing maps for communities where a levee cannot be accredited until the new approach is finalized.

RiskMAP
Increasing Resilience Together

North Lafourche
CONSERVATION LEVEE & DRAINAGE DISTRICT

The North Lafourche Conservation,
Levee & Drainage District

PRESS RELEASE

For Immediate release:
3:00 PM 8/1/2011

Levee Analysis Mapping Project (LAMP) Community Roundtable Forum, July 26th 2011, Washington DC

Lafourche Parish President Charlotte Randolph and I were among 20 or so people from communities across the nation invited to attend the LAMP Community Roundtable Forum last week. LAMP is an initiative by FEMA, at the request of Congress and communities such as ours throughout the United States, to develop alternatives to FEMA's current policy of not considering non-accredited levees during a Flood Insurance Study (FIS) as used by FEMA to produce Flood Insurance Rate Maps (DFIRMS). DFIRMS set the elevations to which a structure must be built in order to receive the most favored Flood Insurance rates.

FEMA began the effort to revise their policy several months ago. In this meeting, FEMA revealed the basics of their revised policy process for giving some consideration to non-accredited levees during a FIS for a community. This change in process is vitally important to all parts of Lafourche Parish because none of our levees are currently Federally accredited.

To ignore the impact that our levees have on the movement of storm water by pretending they do not exist because they are non-accredited was simply bad science. Such was the old practice of FEMA in performing a FIS on non-accredited levees referred to as the "without levees" practice. FEMA now assures us that the "without levees" approach to mapping is going away. They also stated that key points of the new policy and process is that it will be:

Collaborative with the local community,
Flexible yet technically sound such that the mapping effort produces credible maps for the community behind levees, and
Feasible in that the approach must be cost effective and not overly burdensome on a community.

This in itself is a major step in the right direction. Additionally, they proposed the creation of a "Local Levee Advisory Committee" for each community to collaborate

directly with FEMA during the mapping effort. This Local Levee Advisory Committee will be able to help FEMA understand the particular circumstances that pertain to each community and produce credible maps based on a technically sound approach.

Most of this meeting was focused on FEMA's planned revisions to the FEMA policy and the process itself, as compared to changes in the technical evaluations side of a FIS. They were mainly looking to get feedback from this group as to the suitability of the change in process. However, they did suggest a few broad categories and circumstances by which a levee system might be analyzed for consideration. Unfortunately for us, the examples given were all for riverine type flooding and they, as of yet, did not reveal anything concerning their approach to coastal flooding. They did state clearly that a technically sound approach was being and must be developed for both riverine and coastal levee systems. But, the FEMA folks on hand could not provide additional details on how coastal levees would be handled when I asked them.

They have also introduced the word "reach" into their FIS vernacular indicating that they will consider levees not just in their entirety; but, over a defined reach or piece of a levee. This indicates a willingness to consider mapping in finer detail.

The meeting was set up to solicit and record the views of the participants through exercises of the revised FIS and DFIRM mapping process on mock communities. One such mock community was the South Lafourche Levee System. They used the SLLD system because they have such detail on this system. But, the drill did not reveal any true insight into potential mapping outcome. Instead, it was an example of just how the process will be different in the future.

In the end, the process should allow more discussion and oversight by the local community in the mapping process and is obviously better that the process currently in place. But, it leaves us in a position of still working with FEMA to decide just what is and is not technically sound. As such, we will still be in a position of "negotiation" and I'm not sure what dispute resolution would be worked out.

In addition to the huge pile of comments and suggestions we gave FEMA ourselves at this meeting, the entire group offered some very constructive suggestions in how they can improve their proposed process and policy. FEMA's next step is to take all of this information into consideration and put their updated policy out for public comment sometime within the next month. Overall, I think the suggestions by the group were very good. If FEMA incorporates at least the major points made at this meeting into their revised policy, I am cautiously optimistic that the revised policy will provided for reasonable and due consideration of our non-accredited levees in the future revised DFIRMS. We will continue to follow this process and the revised FEMA policy very closely.

Dwayne Bourgeois
NLLD Executive Director

Visit us online at:

WWW.NLCLDD.com

Dwayne

Sorry, I just realized that I hadn't gotten back with you yet now that we have in fact had the opportunity to issue our draft report for public comment.

I am enclosing a file that our coastal engineers developed to help specifically answer questions you may have relative to how this draft approach may be applied to coastal areas once finalized. In addition, our engineers also developed the below write-up based on their assumption that you would be interested in how the approach as currently drafted might be applied to the Larose to Golden Meadow Hurricane Levee System. I have included that discussion; however, this is still a draft approach and is subject to significant modification as the result of the public review process.

(Possible application based on current version of draft approach)

Because the interior of the Larose to Golden Meadow Hurricane Levee System exceeds 60 square miles, the Natural Valley Procedure may not yield a reasonable result under the draft approach. As a result, a detailed study of the entire levee system would probably have to be undertaken, where one or more specific failure locations could be explicitly analyzed, as described in the attached document. The floodplain resulting from the Structural-Based Inundation Procedure would be some composite of each of the scenarios analyzed.

In addition to the pending revisions to the levee analysis guidelines, we understand that there is wide interest in additional details of the coastal flooding analysis procedures. Unfortunately all other aspects of the coastal analysis process fall outside the scope of the current levee-related effort. One particular area of interest we would like to acknowledge relates to concerns about the application of the 1-dimensional Wave Height Analysis for Flood Insurance Studies (WHAFIS) model, the results of which yield the locations of coastal V zones. FEMA guidelines require that a steady, uni-directional wind be applied for analysis of wave growth along each WHAFIS transect. Both the cyclonic nature of hurricane winds, and the speed of most hurricanes, suggest that a single wind speed blowing in one direction along a transect that is tens of miles long does not accurately represent the nature of what occurs during a hurricane.

While this particular concern will not be addressed within the current study, please be assured that FEMA is presently looking for ways to improve our coastal analysis procedures, including this issue specifically.

Hopefully this dialog is helpful in envisioning how the new approach may be applied in coastal areas and your area specifically. If you would like to have more dialog on this issue, I will gladly pull together the right folks to talk with you directly that can answer your specific questions.

Thanks

Bill Blanton

From: Blanton, Bill
Sent: Friday, December 02, 2011 12:42 PM

To: 'Dwayne Bourgeois'
Subject: RE: Follow-up

Dwayne

Sorry for the delay, I want to get you a meaningful response to your question; however, as you can imagine we are struggling with how much detail we can get into without getting ahead of the official public release date. At this point, we are probably only days from issuing the draft document for public review. Once that is done, we can be much less sensitive about disseminating some of the proposed details. I hope it isn't too much of a problem if I ask for a few more days before responding. That way I can sequence things more properly and not have to worry about the level of detail the guys were hoping to share with you.

Thanks for your understanding, and have a great weekend.

Bill Blanton

From: Dwayne Bourgeois [mailto:DwayneB@nlcldd.com]
Sent: Tuesday, November 29, 2011 11:10 AM
To: Blanton, Bill
Subject: RE: Follow-up

Hello Bill,

I hope that you had a great Thanksgiving.

I was wondering if you had gotten anything back from the "Coastal Guys" as mentioned?

Please let me know.

Thanks,

Dwayne Bourgeois

From: Blanton, Bill [mailto:Bill.Blanton@fema.dhs.gov]
Sent: Thursday, November 10, 2011 5:59 AM
To: Dwayne Bourgeois
Cc: Wright, Roy (Roy.E.Wright@dhs.gov)
Subject: RE: Follow-up

Dwayne

I have asked the coastal guys to write me up a quick paragraph to answer your question on the coastal levees. I am waiting to hear back from them.

From a local level, what we really need folks to do is to consider the draft approach once it is released and give us your comments. I am sure you are prepared to assist in that way, and that is what is going to be extremely valuable to us in meeting the needs of the nation in hazard identification.

Thanks

Bill

From: Dwayne Bourgeois [mailto:DwayneB@nlcldd.com]
Sent: Thursday, November 03, 2011 8:41 AM
To: Blanton, Bill
Cc: Wright, Roy (Roy.E.Wright@dhs.gov)
Subject: Re: Follow-up

Thanks for the update guys.

Are there any particulars on your approach to Coastal Levees that you can tell me?

Also, please let me know if I can help locally in any way. We want to be sure we have a good buy in to this.

North Lafourche Levee District
Dwayne Bourgeois

Sent from my iPhone

On Nov 3, 2011, at 6:27 AM, "Blanton, Bill" <Bill.Blanton@fema.dhs.gov> wrote:

Dwayne

Things are going well. As you can imagine, we got lots of good input during the Community Roundtable event. Since that time, we have been making some refinements to the draft proposal, routing it for concurrence with FEMA leadership, and getting it ready for public review.

Once these steps are complete, we will be scheduling briefings at the congressional level. After incorporating any additional necessary changes we will then be able to release the draft proposal for public review.

Something you may be interested in knowing, we were originally talking about providing a 30-day public review period. As the result of some initial congressional feedback, we are now leaning toward a 45-day public review period.

That is all I know at the moment. We are hopeful that we will be able to release the proposal for public review soon; however, there are still a couple very important steps we are continuing to work through as I mentioned above.

Thanks

Bill Blanton

Attachment D

From: Dwayne Bourgeois [mailto:DwayneB@nlcldd.com]
Sent: Wednesday, November 02, 2011 5:12 PM
To: Wright, Roy (Roy.E.Wright@dhs.gov); Blanton, Bill (bill.blanton@dhs.gov)
Subject: FW: Follow-up

Hello Again,

Is there anything you guys can tell me? Could you point me in the right direction to get some status information?

Anything would be appreciated.

Best Regards,
North Lafourche Levee District

Dwayne Bourgeois
Executive Director

North Lafourche Conservation, Levee and Drainage District
627 Jackson St.
Suite A
Thibodaux, La 70301
Phone: 985-537-2244
Fax: 877-272-4021

From: Dwayne Bourgeois
Sent: Thursday, October 27, 2011 10:48 AM
To: Wright, Roy (Roy.E.Wright@dhs.gov); Blanton, Bill (bill.blanton@dhs.gov)
Subject: Follow-up

Hello Guys,

I hope this email find you well.

Several folks have asked me if we have heard anything further since our Roundtable meeting back during the end of July. We had the initial distribution of the comments collected, which was fine; but, I haven't seen anything in quite some time.

Can you give me an update on this? What is the status and when do you expect it will be out for Public Comment, which I understand as the next step?

Also, during the Roundtable, there was considerable information available hinting at the approach towards riverine flooding of levees; but, no information on the approach for coastal levees. Although, it was made very clear that this was going to be developed as well.

Thanks again for your effort on this and I realize what a task it is. I try to explain that to folks; but, everyone is still looking for answers.

Best Regards,
North Lafourche Levee District

Dwayne Bourgeois
Executive Director

North Lafourche Conservation, Levee and Drainage District
627 Jackson St.
Suite A
Thibodaux, La 70301
Phone: 985-537-2244
Fax: 877-272-4021

Attachment E

CPRA
Coastal Protection and Restoration Authority of Louisiana

State of Louisiana

BOBBY JINDAL
GOVERNOR

January 30, 2012

Mary Jo Mullen
Federal Emergency Management Agency
U.S. Department of Homeland Security
500 C Street SW
Washington, D.C. 20472

RE: FEMA Analysis and Mapping Procedures for Non-Accredited Levees
Proposed Approach for Public Review 12/9/2011

Dear Ms. Mullen:

As stakeholders, governing agencies, as well as residents of south Louisiana, please accept this letter as our official request to be involved in the further development of the revised policy for coastal levees. We strongly feel that the revised policy, while an improvement upon the former "without levees" policy with marked improvements for riverine issues, is neither fully developed nor fully applicable to our dynamic coastline and delta. We hereby request to be involved with the multi-disciplinary project team to incorporate our comments, existing research, as well as historical data to ensure the new policy is reflective of current and future conditions as we acknowledge that our landscape is unique and should be represented and modeled accordingly. The members of Association of Levee Boards of Louisiana feel very strongly that while riverine levee issues offer guidance there exists no proper and concise mechanism to guide coastal levee districts and stakeholders. This lack of completeness may cause undue expenses and wasted effort in data collection required to properly evaluate and clarify a policy beneficial to all involved.

In response to the Federal Emergency Management Agency's (FEMA's) "Analysis and Mapping Procedures for Non-Accredited Levees issued on December 9, 2011, the following comments are hereby submitted in writing as well as online:

1. **Context:** Sections 1.4 and 1.6 of the proposed approach reference various teams including the multidisciplinary project team, Independent Scientific Body (ISB), Community Roundtable, and the National Institute of Building Sciences (NIBS).
   Question: How do local stakeholders obtain the results of the work of the various teams referred to in Sections 1.4 and 1.6 of the proposed approach?

2. **Context:** Figures 4-2, 4-4, 4-6, and 4-8 depict a horizontal dashed line.
   Question: What is the meaning of the horizontal dashed line shown in the various figures in section 4 and how will its elevation be determined?

3. **Context:** The proposed approach references data collection, engineering documentation, as well as other cost-incurring efforts that seem to be the responsibility of the local governments to provide to FEMA in support of the proposed policy revisions.
   Question: Will there be any financial assistance to the communities in providing the required data to FEMA?
   Question: Will an opportunity exist for actual participation from local stakeholders to explain or review data collection?

4. **Context:** Proposed approach references changes to insurance rates, modeling procedures, interaction between FEMA and local stakeholders, among other cost-changing affects.
   Question 1: Has FEMA completed an Economic Impact Study of the proposed change in policy?
   Question 2: If not, will one be completed and if so, what is the expected timeframe?

5. **Context:** Much emphasis is placed in the establishment of D-Zones located behind non-accredited levees throughout the proposed approach.
   Question 1: How do the insurance rates compare in a D zone versus a structure built one (1) foot above the required BFE in an A/AE zone?
   Question 2: Could an actual example be provided?
   Question 3: Are FDIC lending institutions required under separate Federal mandates to have their mortgages in D zones carry flood insurance?
   Question 4: What is the basis or procedure for setting the insurance rates in the D Zones?
   Question 5: What determines the inshore limit of the D Zone, i.e., as depicted in Figure 4-2?

6. **Context:** Section 3.2 beginning on page 3-3 states, "If FEMA determines that a structure is not a levee designed for flood control based on the regulatory definitions…then the analysis proceeds to Figure 3-1…"
   Question 1: Why wouldn't the local stakeholders and government agencies be involved before the structures were designated by FEMA?
   Question 2: Would it be possible to perform preliminary modeling **after** meeting with stakeholders and local officials?

7. **Context:** The proposed approach details the meeting process in section 3.7.4 and section 3.8 on page 3-7 and 3-8, respectively.
   Question 1: How will the FEMA established Local Levee Working Group (LLWG) function - as a body or as individual members?
   Question 2: Will FEMA provide any funding for the LLWG to function?

8. **Context:** Section 3.9 on pages 3-9 and 3-10 details mapping procedures and determining reaches.
   Question 1: How much will the communities be involved in the decisions regarding which method(s) will be most appropriate for the particular levee reaches in question?
   Question 2: Will FEMA solely select the procedures to be used and conduct the analysis, as implied in Section 3.9?
   Question 3: Will it be decided with stakeholder or with stakeholders concurrence which type of mapping procedure will be used with each segment?
   Question 4: Would it be possible to see more criteria of what constitutes a segment and why? Specifically for coastal levees.

9. **Context:** The Notice in the Federal Register, FEMA's website and the FEMA New Levee Approach in Development Pamphlet (12/19/2011) indicate the availability of three public on-line forums to address the proposed changes. The FEMA website and Pamphlet goes on to indicate that the webinars will be used to "present the approach and answer any clarifying questions".
   Question 1: When will these questions be answered?
   Question 2: How will the answers be published?

10. **Context:** Section 4.2.3.2 (page 4-9) references Factor of Safety.
    Question 1: To which physical parameters should the Factor of Safety referred be applied?
    Question 2: Do the parameters include still water level, wave height and run-up, and overtopping rates?

11. **Context:** Each of the 5 suggested approaches are delineated fairly clearly in section 3 and 4, however mostly for riverine flooding. Coastal levees are given small paragraphs of explanation
    Question: Will more detail on how coastal flooding is modeled/layered be available for review prior to finalizing the suggested approach and guidance?

12. **Context:** Former DFIRM generation involved a substantial amount of "engineering judgment" as depicted in Appendix D of FEMA's *Guidelines and Specifications for Flood Hazard Mapping Partners*.
Question: What level of engineering judgment on behalf of FEMA's mapping partners will be used?

13. **Context:** Proposed Approach repeatedly mentions engineering documents that will need to be submitted by local officials prior to commencement of revised modeling efforts.
Question: Where can a template of information required be located?

14. **Context:** "FEMA must determine whether the identified structure is a levee and if it is designed for flood control (Section 3.2, page 3-1)."
Question: Why wouldn't this be discussed and decided with the stakeholders (and/or LLWG) and be based on historical evidence, structural stability, etc?

15. **Context:** "The initial levee stakeholder coordination and data collection steps will be required for all non-accredited levee systems. In some instances, the results of these steps...do not necessitate further discussion... (Section 3.7, page 3-5)"
Question 1: At what point is this decided?
Question 2: Who makes the final determination?

16. **Context:** On page vii of the Public Review Documents it states: "Once all comments are considered and the proposed analysis and mapping approach summarized in this public review document is refined based on the comments, FEMA will issue guidance for the FEMA Regional Offices and State and local mapping partners to implement the proposed levee analysis and mapping approach and procedures."
Question 1: Is there an estimated time frame for FEMA to "issue the guidance"?
Question 2: Given the current unknowns in the amount of and complexity of making changes associated with comments received, will FEMA issue an estimated date that guidance will be issued at some reasonable time after the close of the comment period?

17. **Context:** In the Public Review Document....
Comment: It appears that in every instance, consideration of the treatment of Coastal Levees is subordinate to the process or methods to be used for riverine levees. In each case, broad and explicit details are given for Riverine Levees / Systems and Coastal Levees are addressed in a couple of paragraphs following. It looks as if FEMA has addressed Coastal Levees in the format "and by the way, for Coastal Levees you can do this..." This format yields little confidence that FEMA truly understands and has considered the unique flooding parameters of Coastal Levees as compared to Riverine Levees. This is especially true when the Coastal Levees are located within a larger delta region.
Question 1: Can FEMA further demonstrate how these approaches will apply to Coastal Levees?
Question 2: Can the guidance ultimately issued for Coastal Levees be independent and not reflected as a sub-set of riverine levees techniques?

18. **Context:** Much of this new process hinges upon a very good understanding of the implications on receiving a Zone D designation. In the Public Review Document section 4.3.4.3, second paragraph, second sentence....
Question 1: It states: "*For post-FIRM structures, the rates for Zone D are similar* **(similar how? Structure? Rate?)** *to those for Zone AE if the structure's lowest floor* **(which structure? The Zone AE one or the Zone D one?)** *is at the BFE, but significantly more expensive than a Zone AE rate for structures* **(again, which structure? The Zone AE one or the Zone D one?)** *elevated 1 foot or more above the BFE.*"
Question 2: Is it possible to give a clear set of examples that compare the cost of flood insurance for the various SFHA Zones and Zone D for given circumstances.

19. **Context:** In the Structural-Based Inundation Procedure in section 4.2.4 (pg 4-13), there are no special considerations listed for Coastal Levees as compared to details provided for Riverine Levees. There are obvious and profound differences in how and when breaches might develop and in how long the breach might flood the landward side in Coastal Levees as compared to Riverine Levees.
Question 1: Does FEMA not intend to use this method for Coastal Levees?
Question 2: In the Sensitivity Analysis section on pg 4-16, what is the point of varying the breach width and initiation time if the "final parameters chosen will maximize the flood hazard area." as stated? Intent is unclear.

We would like to set up a stakeholder meeting to provide additional input at your earliest convenience per the reasons stated above. Please contact Nicole Cutforth, Shaw Environmental & Infrastructure, Inc., at (225) 302-3283 or Nicole.cutforth@shawgrp.com.

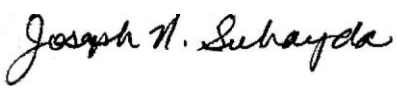
Sincerely,

John Monzon
Chief, Flood Protection Division
CPRA

Steve Wilson
President
Association of Levee Boards of Louisiana
And President, Pontchartrain Levee District

Charlotte Randolph
Parish President
Lafourche Parish

Dwayne Bourgeois
Executive Director
North Lafourche Conservation, Levee,
and Drainage District



Dr. Joseph Suhayda
Coastal Oceanographer

Michel Claudet
Parish President
Terrebonne Parish

Paul P. Naquin, Jr.
Parish President
St. Mary Parish

Windell Curole
Executive Director
South Lafourche Levee District

Cc: Bill Blanton, FEMA
Roy Wright, FEMA

Attachment F

INFO RELEASE

For Immediate release:
6:00 PM 2/16/2012

Coastal Levee Issues with FEMA Proposed Revised Policy

To: US Senator David Vitter and US Senator Mary Landrieu
US Congressman Steve Scalise, US Congressman Bill Cassidy, US Congressman Jeff Landry &
US Congressman Charles Boustany, Jr. and
Whomever it may interest,

As many of you are aware, our local FEMA "without levees" Policy Revision Work Group has been tracking the development and eventual release of FEMA's "Analysis and Mapping Procedures for Non-Accredited Levees . The resulting FEMA Proposed Approach document was released for Public Comment on December 9th 2011. Locally, the Louisiana Coastal Protection and Restoration Authority, the Association of Levee Boards of Louisiana, The Parishes of Lafourche, Terrebonne and St. Mary, the North and South Lafourche Levee Districts and Dr. Joseph Suhayda, Neil Angelette, and Nicole Cutforth working with the Shaw Environmental and Infrastructure Group submitted joint comments concerning the draft document released by FEMA.

Many of our comments centered on the lack of detail in the consideration of non-accredited coastal levees. The document was reasonably detailed when it came to riverine levees; but it was very light on specifics for the processes that could be used for analyzing our coastal levees. Specifically, the document was lacking due consideration to the considerable differences in flooding sources for coastal as compared to riverine levees.

Just as the document comment period was closing, we received some long anticipated information that we had requested from FEMA. This information was concerning how their proposed techniques might give due consideration to the impact of non-accredited levees in coastal areas. In it, they concluded two basic points:

1) Some of these techniques they had developed would not be appropriate for large coastal levee systems especially, ring type levees. Other methods of analysis would have to be used for such systems.

2) Although outside of the current guidance revision process, they did realize the inadequacy of their current 1-dimensional Wave Height Analysis for Flood Insurance Studies (WHAFIS) model in accurately representing wind during a hurricane, especially for transects tens of miles long as we have in our deltaic region.

This information was confirmation of the problems we saw in both their current and proposed process regarding coastal levees. However, we did not see how FEMA would be able to treat our coastal levees under their current policy revision. In order to better understand all of this FEMA offered to host a technical meeting.

On the 9th of February, Bill Blanton, Stuart Rooney and Siaumak Esfanchary of FEMA, along with Mark Osler (Michael Baker, Inc) and Jim Murphy (URS, Corp) representing FEMA, met with John Monzon

(CPRA), Dr. Joseph Suhayda, Windell Curole, Julie Pellegrini Curole and Dwayne Bourgeois in Washington, D.C.

In this meeting, FEMA's expressed recognition that there is no "one size fits all solution" when it comes to evaluating the level of risk reduction that non-accredited levees provide to communities gave us confidence that, in the end, and working together, we can and will produce DFIRMS that most accurately represent the risk of flooding in our coastal area. We offered to work with them on this change in their process without reservation.

The most import points that our group took away from the meeting are as follows.

1) When it comes to producing more accurate DFIRMS, no methods of analysis are "off the table" as far as FEMA is concerned.

2) The process is not going to be black or white any longer. The process is now "intentionally gray" in order to allow the utmost flexibility in producing accurate results.

3) Where in the past, when trying to work with FEMA, we encountered a series of well intending people whose hands were "tied" by existing regulations; we will now be able to meet with FEMA personnel who are no longer encumbered.

4) We can hope to see released coastal levee guidance independent of riverine guidance to draw a clean distinction in the differences to better assist FEMA mapping partners in handling Coastal Levees.

5) We will all get a better understanding of the use and impact of D zones.

Overall, it was believed by all to be a very productive meeting. Yet we have a long way to go.

Currently, FEMA could not offer any time frame within which they would release the final version of the change in policy. FEMA stated that the time frame was dependent on their reaction to the comments received and their actions taken as a result of the comments. Further, it was unclear how the important issue of the coastal flooding sources (eg, WHAFIS), not currently part of the revision process would be ultimately resolved.

Our Local FEMA "without levees" Policy Revision Work Group asks our Legislative Delegation to continue to follow this issue closely and assure that FEMA uses our unique coastal expertise in further development of their revised policy as it impacts coastal levee systems.

We thank you for your interest in this matter.

Prepared by Dwayne Bourgeois, North Lafourche Levee District Executive Director