

**Kristyn Abhold:**

Welcome, everyone. Good afternoon. Welcome to today's webinar titled: "Disaster Recovery Financing for Water and Wastewater Utilities." I am Kristyn Abhold, a Financial Analyst with EPA's Water Infrastructure and Resiliency Finance Center and I will be moderating today's webinar. Thank you all for joining us.

First I'm going to briefly summarize some of the features of today's webinar. If you have any questions or comments for presenters type your question into the Q&A window located on the right-hand side of your console and click "Send." We have reserved a good amount of time for Q&A at the end of the webinar. After all of our speakers have presented we will go through all of your questions. But make sure that you submit them as soon as you have them so we have a chance to browse through them as people are speaking.

Audio is being broadcasted through your computer speakers and should you have any technical difficulties with today's event please let us know through the Q&A window and we will get back to you as soon as possible, hopefully with a solution.

This webinar will be archived and posted on the Water Finance Center's webpage by the end of the month and we will send out an email to all participants so that they can access that archived webinar when they're ready.

Lastly, the materials in this webinar have been reviewed by US EPA staff for technical accuracy, however the views of the speakers are their own and do not necessarily reflect those of EPA. Mention of commercial enterprises, products or publications does not mean that EPA endorses them.

Now that we have completed the discussion of housekeeping items let's answer a few quick polls. These short poll questions will help us better understand who is our audience today.

The first poll asks: how many people are participating at your location today? The choices given are just me, 2 to 5, 6 to 10, 11 to 20 or more than 20. I will give you all another -- a few seconds to answer the question.

Okay. It looks like we have a lot of single viewers and a few people gathered around computers. So awesome, thanks for joining us.

The second poll asks pick the option below that best describes you. Please select one of the following: Local Government or Utility, State Government, Federal Government, Environmental Organization, Consultant, or Other. I'll give you all another couple seconds.

Great. It looks like we have a really diverse audience. Can you mark that more answers coming in? Okay.

The third poll question: How familiar are you with financial assistance using State Revolving Fund, SRF, or Federal Emergency Management, FEMA, program. Please click either very familiar, a little familiar or not familiar. I'll give you another few seconds to submit this poll.

Great. And our final poll question. Does your State or community know what your Disaster Recovery Financing options are? Please select either; yes, we are ready. No, but we're looking into it. Or no, we need to learn more.

Okay. Now, to kick off today's event I'd like to introduce Jim Gebhardt who is the Director of EPA's Water Infrastructure and Resiliency Finance Center. He'll provide us with a brief introduction to kick today's meeting off. Jim?

**Jim Gebhardt:**

Hey, Kristyn. Thanks. Hi, everybody. This is Jim Gebhardt. I'm the Director of the EPA's Water Infrastructure and Resiliency Finance Center. Just wanted to highlight what our role is with respect to water finance, if I might do that, just to kind of headline today's webinar.

So the Water Finance Center, for those of you who are not familiar, was created in January of 2015. It is really structured as a bit of a think and do tank for the water finance sector.

The objective – basically the objective is to really try to assist communities, basically State and local levels, and also working with private entities to basically drive better decision making in the marketplace, and in the context of better decision making; we are talking about really getting the best use out of the financing tools that are available at the Federal, State, local level and also looking to extract the value we can from the private sector.

So in trying to drive that forward we're operating in four strategic goal areas. We have a research function. We are looking to provide advisory services. We also have a keen eye out for innovations that are emerging in the marketplace that we can help to translate for the water market and basically help to accelerate those best management practices so people can pick up on them more quickly.

And also, we are also looking to build networking relationships with people across the marketplace, not just vis-a-vis the Finance Center, but also amongst one another.

So as part of that we are looking to host a series of webinars. We had one recently on the compendium for community assistance practices, you know, that are undertaken by utilities. Today we are looking at focusing on disaster recovery financing that communities can look to in response to disaster events that they are struggling with.

And so today we're looking at the State Revolving Fund in terms of how that can assist in response to disaster situations and also the role that FEMA can make and obviously the role that the SRF and FEMA can play in unison.

So that is the impetus for the call today. And I just want to just bring your attention quickly to the bottom of the page where we have the URL where you can find the Water Finance Center on the World Wide Web. So with that I'm just going to pass it back to Kristyn and let's get rolling with the [indiscernible] presentation.

**Kristyn Abhold:**

Great. Thank you, Jim. Our first speaker is Brandon Sweeza of FEMA. Brandon has been with FEMA for five years and is currently a Hazard Mitigation Assistance Specialist. He works in the Policy and Implementation Branch of Mitigation. His specialization is in project management and policy development. In 2013 Brandon was awarded with a FEMA Silver Award for efforts during Superstorm Sandy deployment. I will now turn it over to Brandon. Brandon, the floor is yours.

**Brandon Sweeza:**

Hi. Good morning. Good afternoon. I wanted to talk today about the Hazard Mitigation Assistance Program as it particularly relates to critical facilities. This presentation is going to briefly go over the program very lightly, but then also kind of give some lessons learned, some observations that I've had in working with our critical facility partners in funding mitigation.

So, to get right in it – whoops – apologies. My slide advancement is not working. Here it is.

All right, so first I want to start off in defining what Hazard Mitigation is. And so Hazard Mitigation is defined as a sustained action taken to reduce or eliminate long-term risk to human life and property from a hazard event. So it's not really about preparedness or other activities you can take to prepare for a disaster, but it's about improving our communities' resiliency to disaster so that in the future when the disaster does strike again our critical facilities, as well as our homes and communities, aren't impacted as much, and so that we have less potential for loss of life and also loss of property.

We have three programs in Hazard Mitigation Assistance. The one I'll be talking about today is the Hazard Mitigation Grant Program, and that is a post-disaster program. So after a Presidential Declaration funding is allocated for disaster operations as well as in this case for mitigation. And the Hazard Mitigation Grant Program covers those parts of facilities that are undamaged by the disaster.

The other two programs we have are nationally competitive grants based on annual appropriations. So the Pre-Disaster Mitigation Program as well as the Flood Mitigation Assistance Program.

So this slide gets at to show the relationship between us, the State, and the sub-applicants. So, as you can see here, the sub-applicants are the ones who prepare the applications, the projects, and submit them to the State. The State then has priorities from those disasters and then they will rank and file, based on their priorities and the funding available, to FEMA. And they also have additional State requirements sometimes. So if the disaster, say is a flood event, then they're much more likely to prioritize flood mitigation activities than they are for seismic. If it's a wildfire disaster then they're going to be doing wildfire mitigation as well as flood from post erosion activity. So understanding what the nature of the disaster is will also help you in submitting these applications. After that then they come to the Regional Office, in FEMA, we review them for all of our programmatic requirements as well as Federal requirements.

The award funding also follows this same stream; FEMA acting as a grantee will release the funding, allocate and obligate it to the State, who acts as a recipient, who then awards it to the sub-recipient. The important thing to note here is that for utility service providers who will come in as a sub-applicant that their relationship really needs to come in with the State, because the State will have priorities set for that disaster as well as additional requirements. So getting a strong relationship with your State Hazard Mitigation Officer in your State is crucial to having success in these, with this grant program.

So this is just a really brief, just scratches the surface, of the Hazard Mitigation Grant Program, also referred to as 404 Mitigation. The grant program is initiated by a Presidential Disaster Declaration and it's to mitigate the undamaged areas. So if you have damage that's done to a facility, and you're doing repair, replacement, or even mitigation on that damaged portion, this is not the program. And I'll get into the integration with those programs later in this presentation.

The Application Deadline to FEMA is one year from the Declaration Date. So the State submits the applications that is prioritized and chosen to FEMA one year from the Presidential Declaration Date. The Cost Share is 75% Federal FEMA share to 25% Local Cost Share. You'll want to consult with your State to see what they will cover. It differs across the board. In Region 10, we have States such as Alaska who will pick up that entire 25% Cost Share whereas in Washington State they'll pick up 12.5% of it, so half of it. And in Oregon, the State of Oregon, they don't pick up any of the Cost Share, so you'll have to come, the local facility, critical facilities will have to come up with the entire 25%.

The Period of Performance for these grants is 36 months from the close of the Application Deadline. So keeping this in mind when you're developing your timeline that you have three years for the project from award all the way through closeout. There are some other details in there involving Benefit Cost Ratio, so every dollar that is spent on the project there should be one dollar of conceived benefit from it. We also have a host of Environmental and Historic Preservation requirements. And things as Feasibility Review insuring that, you know, you have proper engineer—stamped engineering

drawings, those sorts of things, and we also do an Alternatives Analysis to ensure that this is the best solution to mitigate the risk that's presented.

And so this is a key thing that we've run into in Washington and in Oregon with the Hazard Mitigation Grant Program for Critical Facility Providers is that some define themselves as private nonprofits, and but some have been actually, should be defined as local jurisdictions. And so the key thing is with private nonprofits they do not have to have a Hazard Mitigation Plan. So we have awarded funding to private nonprofits and they don't have to have mitigation plans. But if they are a local jurisdiction then they must have a Hazard Mitigation Plan, and it has to be current with FEMA at time of award. So the best thing to do, especially anywhere in the country, if you are a Critical Facility Provider, is to verify with your State Hazard Mitigation Officer as to whether or not you're a private nonprofit or if you're considered a local jurisdiction because after funding, funding could potentially be recouped if you don't have an updated Hazard Mitigation Plan and you're found to be a local jurisdiction, but you thought you were a private nonprofit.

And so some variables that can impact this classification that define you into the local jurisdiction is do you have taxing authority on customers within set boundaries? Do you have the ability to use eminent domain to acquire property? And also is the board election by the customers or is it by the board? And so even though you may not practice this in your organization, if there are such things as where the State Constitution does give you the right to do that, even though you may not be exercising it. So it could change your classification unknowing to you from being a private nonprofit to a local jurisdiction. So the key is here with the local mitigation planning requirement is to contact your State Hazard Mitigation Officer to verify exactly what status you will be if you are unsure about it.

So some sample utility projects that we've done is for water utility providers, we've done Intertie systems, and I'll have an example after this slide. We've done seismic retrofits to facilities and lines to ensure that they are not susceptible to seismic risk in the event of a disaster. Emergency generators. For waste water treatment we've done seismic retrofits to facilities and lines as well, also elevating lift station electrical panels so that they aren't susceptible to flooding. Emergency generators for them as well as, as well as for our electric utility providers is also one of the common projects we get is undergrounding or relocation of transmission lines when they're in high wind, high tree fall areas. Hazard resistant transmission lines, so having lines that twist when there is ice forming so that it breaks off and doesn't break the line. And then also hazard resistant retrofit at facilities. And when I say hazard resistant, that really depends on what is the hazard in the area. So looking at fire, flood, seismic, tsunami, all of those types of hazards is what you're trying to look at at mitigating your facility from those risks.

So one example project that we have that was very successful is the Seal Rock Water Intertie System in the State of Oregon. The Seal Rock Water System, their water is provided by the City of Toledo who had multiple interruptions and things like that. So

what we did is we funded an Intertie with the neighboring Newport Water System to provide a secondary source that they could switch in between in the event there is an interruption. And that proved very successful under this last winter storm and in multiple even small events where the water is cut off.

And so FEMA funding for that was just over half a million dollars Federal share and then the total project cost was around \$800,000. And just to give you a flavor of what we did fund in that; insulation of buried PVC pipe connecting the two systems and control valves, the pump-station building with monitoring and controlling equipment, as well as emergency generator for backup power to this pump-station. And so this project was funded as 75% FEMA funding to the local Seal Rock Water System's 25% share.

And now I want to get into -- I was talking about damaged and undamaged. So during a Presidential Declaration, what we call 406 mitigation, it's Public Assistance, typically comes in and they'll do repairs and replacement. So those facilities that are damaged during a disaster, they will repair them.

In some cases they'll also do mitigation, and they apply that to, again, with this 406 PA funding they only apply it to the damaged portion of those facilities. It's got to directly reduce the potential for future similar damages. They do a cost effectiveness review and it's also subject to environmental review.

Now the key thing is with this is that's very successful with our infrastructure projects is that the 404, 406 integration. So, again, 406 being the Public Assistance, the funding addresses the damage component. Whereas the 404, my program, Hazard Mitigation Grant Program, will address the undamaged component.

So in the example of a windstorm event, here we have the 406 which is undergrounding the power lines that were damaged from the declared storm. And then our program, the Hazard Mitigation Grant Program with underground adjacent lines that would be susceptible to wind damage.

A recent example and a huge success we just had was the landslide damage to a community waterline. And it also threatened an electric line, but that electric line was not damaged. So the 406 mitigation funded relocation of the damaged waterline. And within that trench we relocated the electric line in the undamaged, that was undamaged from the disaster.

So some key takeaways in that last case we were able to do it in under 45 days which was just incredible for getting Hazard Mitigation Grant funding out on the streets, but the State really has to take a strong lead in identifying potential projects and as well the critical facility, whoever the contact is, has to really take a strong look and engage with their State on getting these projects through.

And so I just wanted to provide the program guide and since this is sort of the HMA, this is the primary guidance that we go to, so I provided a link here for the HMA guidance.

You can get lots more information about our program here. And then as well some other resources, so we have a Hazard Mitigation Grant Program Homepage, which gives a lot of details, has a FAQ and some questions and answers to some frequently asked questions.

And we also have a course that's much more comprehensive than the overview I gave. Again, ten minutes is not a lot of time, but this Hazard Mitigation IS-212 class, about an hour and a half and you'll get a full understanding of the Hazard Mitigation Grant Program.

And then finding more about planning, Mitigation Planning, it's really important to get, even if you're not required to have a Hazard Mitigation Plan, to actually develop one, because then you're going to understand all of your risks associated and really have that thought, that critical thought, that needs to go into before you develop a project and get successful mitigation through.

So with that, that ends my presentation.

**Kristyn Abhold:**

Thank you, Brandon. That was an excellent presentation. We see that there are a few questions for Brandon, but we're going to hold off on questions until the end of all of the presentations. Again, as we move forward, if you have any questions, please feel free to type them in the Q&A section, we will address them at the end.

Next I'd like to introduce David Zimmer of the New Jersey Environmental Infrastructure Trust. Since November 2010 David Zimmer, [indiscernible] of the New Jersey Infrastructure Trust, its water infrastructure lending partners with the New Jersey Department of Environmental Protection to provide low interest loans for local municipalities, utility authorities and water companies to fund environmental infrastructure projects.

During his tenure Mr. Zimmer has focused on improving the efficiency and effectiveness of the New Jersey Infrastructure Trust including developing a modern web-based loan management system, overhauling their credit policy, and successfully introducing several new loan programs. David, take it away.

**David Zimmer:**

Thank you, Kristyn. Just for some perspective, when Hurricane Sandy hit roughly four years ago it destroyed well over \$2.6 billion dollars of water infrastructure in our State. So we got together with our partners over at the New Jersey Department of Environmental Protection. We worked very closely with Governor Christie's administration and our State legislature and we developed what we call the Statewide Assistance Infrastructure Loan Program, or SAIL, which is technically a short term disaster relief program. You want to forward that to the next page?

**Speaker:**

We actually got this [indiscernible].

**David Zimmer:**

Hey, Kristyn? Oh, there we go. Can you see the first slide up?

**Kristyn Abhold:**

Yes.

**David Zimmer:**

Okay. So, like I was saying, and it's a short term disaster relief loan program. It functions as an advance on FEMA payments. So where FEMA is a reimbursement, one of the Federal Relief Reimbursement Grant programs, the way that the SRS function is that they're cost incurred. So you don't have to come out of pocket in order to pay for your construction and your project cost. And for folks that are facing disaster related sizeable project costs a program like this can be quite advantageous. It does provide short term Bridge loans for up to three full fiscal years. And the reason we use the fiscal year is so that we could aggregate all of our long-term take outs together. We didn't want a lot of our projects, some of them maturing in February, some in June, some in April, et cetera.

So theoretically you could take out a 47 month loan from us. One of the big keys in setting this program up is it uses SRF "Repayment" funds. So for people that aren't familiar with the State Revolving Fund Program, every year every single State gets a certain amount of cash from the Federal government that the EPA administers for drinking water and clean water projects. Those grants, until they are lent out and repaid, are in grant form. And Federal relief programs, such as FEMA, require that when you have to put up 10% or 25% match you can't do that with other Federal grant program funds.

So one of the key things that we did in setting this program up is we actually took \$100 million dollars' worth of State "Repayment" funds and opened up a bank account and put the cash in there so that there was no question whatsoever where those funds would come from once we started lending them out.

**Speaker:**

Next slide?

**David Zimmer:**

Next slide? Oh, so we have to tell him? Okay.

**Speaker:**

Yeah, we have this [indiscernible]

**David Zimmer:**

Hey, Kristyn? Yeah, thank you. So it took us 16 months to get all the legislation, the appropriations and also, importantly, our board resolutions to create this program and

really put in place our critical policies and procedures. And you have to appreciate that the type of projects that we're doing, when we're literally rebuilding waste treatment facilities, we're putting up floodwalls and replacing all of the electrical in a particular large pump-station or treatment facility, long time to put together the environmental plans and get the engineering specs approved.

So we've done \$194 million in 13 projects to date. We've got another \$185 million that will close within the next six to seven months, so we'll be at almost \$400 million by the end of this fiscal year in June. And then in the next two years we've got another \$321 million, we'll do \$700 million in this disaster financing program, which if you think that's impressive, you have to appreciate that in the 16 months it took us to get this disaster program funded, there was well over a billion dollars' worth of projects that we couldn't fund because the SRF is not, you cannot refinance or pay for projects, project costs that have already been incurred. So you really have to grab the program from the start. There was well over a billion dollars just in repair work that got done in that first 16 months. We will now be set up, God forbid, the next time a disaster comes in, to actually grab that billion dollars. Next slide, please.

So just a couple of things. Before you set up your Disaster Relief Infrastructure Program, or what I would call a DRIP program, a couple of things that you really need to keep in mind. First of all and upfront, it takes a lot of cooperation. You're going to get a lot of money from either FEMA, or HUD, CDBG, and there are a lot of constraints. You're going to have a lot of questions. There are going to be parts of your programs that will not mesh. You need to have a very tight and very close relationship with your State Office of Emergency Management that is typically run through your State Police. And you're going to have to really work closely with, if you're an SRF, with the EPA and with FEMA, or with the EPA and with HUD.

There's a lot of compliance that is required any time people give up money, whether it's on the State's side, or the Federal side. And what you really want to do is make sure that you understand what those requirements are and that you work with everybody in advance to mitigate any possibility that your costs get rejected, or you, they don't get rejected, you give the funds out and the Office of Inspector General comes back a couple of years later and wants to claw those funds back or de-obligate those funds.

And then obviously, very key, from a credit perspective, you're going to be lending out a lot of money to some of these places. We've got loans that we're going to be making that are north of \$100 million dollars. FEMA, given the way the program set up, will end up paying a very, very large chunk of that.

What happens, for some reason, if those funds get de-obligated and your borrower is on the hook for the entirety of that project? You know, will they be able to actually manage the prepayments -- the repayment? So, again, a lot of questions that you need to go through before you actually start lending out money. Thank you.

How do you set up a successful DRIP program? I think the easiest way to remember this I just kind of think of how do you cure anything? You know, you use doctors. So think of the American Medical Association, the AMA, you need the authority, you need the money, and you have to have the ability.

So the authority, on the next page, the authority really addresses your legislation, your resolutions. You want to make sure that you're Enabling Act is set up so that you can provide funds over a multiple year, short term funds, as opposed to you can lend it out but you have to term it out before the end of that fiscal year.

You want to make sure that you define who's eligible for it and under what terms? So you have to define a disaster. You have to define borrower eligibility. You have to define project eligibility. Again, all small things, but without them, you can't set up your DRIP program.

The next thing that I would say is you really want to try to simplify your program. The more complicated you make, the harder it is for people to come in to qualify for it. And also the less interest that they'll have in it. So you're looking at, quite simply, if it was an ideal world, you'd get your reviews and your certifications of the project, you'd lend out short term loans to advance your construction. FEMA would come in and reimburse those costs, and you would term out the difference to pay for either the match amount of FEMA or any ineligible cost.

The money? You have to have the cash set up for it. So you need to think in advance. If you're going to use SRF funds you're going to have to change your IUP. If you're not going to use SRF funds, you better have access to short term private funds, like the Commercial Paper Program. Again, you want to dedicate repayment SRF funds upfront. You also want to have an MOA, a Memorandum of Agreement, with your borrowers in advance that sets up all the responsibilities and the roles.

Some of the key ones; we required that every single borrower set us up on FEMA's EM Grant System as an agent so that we could, we actually had read and write capability for each of their accounts. We had access to all the information. We actually submitted all the requisitions, Requests For Repayment, the RFRs, so that we could ensure that they were done thoroughly and completely. Again, we wanted to mitigate any potential delay, rejection, et cetera, so that our borrowers would get paid in full.

And the last thing that I would say here is -- and this is just one of the compliance things, you know? Stafford says the funds have to go to the sub-grantee. If you're a bank, and you've lent funds to a sub-grantee, you want those funds to come back directly to you. Well, the law says it's got to go to your borrower. So not only do they get the loan, they also get the repayment for those costs. We just very simply we set it up in their loan agreement that they had 72 hours to pass through those funds back to us to pay down that portion of their loan.

And then lastly, and this is really where the rubber meets the road, you have to have the ability. We spent months sitting down, learning the Stafford Act, figuring out what was required of us, and as importantly, what we couldn't do; multiple meetings with our counterparts over at both FEMA and the EPA.

You also have to educate your borrower. You have to let them know what's required of them, "Pre-Con" meetings, et cetera. And we walk through, not just what's required in the MOA, but how are we going to jointly put together the paperwork for the RFRs, et cetera?

Another big, well, I guess this is an assistance point. We didn't have after the disaster -- we didn't have the resources to combine an SRF program and a FEMA program. We went out and we actually contracted engineering services to replicate the review services of our SRF program, the environmental, the cultural and natural resources, the review of the specs and the designs. And then we had it reviewed by the State, by the department, to make sure that everything was compliant and eligible for SRF funds before we actually certified it for a loan. That gave us quite a bit of flexibility.

I talked about the MOA. What's really important there is that you ensure that your borrowers pick up all of the expenses, third party expenses, particularly because you're not going to lend them money until the project's certified. The project doesn't get certified until it's gotten reviewed. We've spent, on average, 2% of a project to pay engineers to do all the reviews. So it's simple things like that that actually add up.

Technology. You're going to need to aggregate and store and share all of your data. We actually built our own proprietary program here, but whether you build it, or you go out and buy it, you absolutely need to know that PDFs and spreadsheets aren't going to get you through a disaster. Electronic aggregation, without a doubt, is a key to the success. And this really bleeds, segues right into data management, document everything! You are going to get people that come back five years from now when it's out of everybody's mind, when people have retired, have moved on. Make sure if you store everything, again, which is why electronic submissions really make sense. And ORGANIZE.

And if you'll turn to the next page, not that this will work for everybody, but you can see this is the standard file format that we use. Every single one of those files, say four, has something in it on every single project. So, again, not this, not that this needs to be your format, but it just really gets to you need to be organized to keep track of all of the information that you're both giving and getting from people.

All right, very quickly; lessons learned. First of all, we work with a dedicated team over at the Office of Emergency Management and the State. We work very closely with their counterparts at FEMA. It's been a great team. And it's been hugely beneficial. We have put in 29 RFRs to date. We've gotten 28 of them back, 100% of the funding, so we've not gotten rejected on anything.

I guess more impressively our average payment period has been 25 business days, essentially one month. We've gotten paid everything we've asked for from FEMA because we followed their rules, we give them what they've asked for, and they respond relatively quickly for us.

Understand the very first loan that you make, it's going to have issues. You don't know what you don't know. Expect that you'll make mistakes, so make it small. You'll get to construction faster. You'll figure out where your mistakes are. You'll be able to make adjustments to the program quicker and make your next loan that much better.

And then very lastly, these are really kind of constructive suggestions, or criticisms, for the folks that are on the call with FEMA, and for the people that are going to be setting this program up. There is a reluctance, at least in our experience, to have determinations put in writing. When you're lending out \$700 million dollars, you're making \$700 million in loan commitments, on that kind of scale, we need commitments from people that are giving us the funds. So whether it's HUD or FEMA, we need that in writing. And so whether there is a central legal office that might get set up, a pretty important thing.

Rotation of staff. I'm not really sure how you get around this, but it certainly adds disconnect. Maybe there is a long-term point person for each large project that might be created.

Thirdly, project work sheet rewrites during construction. We only had one of these. But I hope that the folks from FEMA understand, and that was to correct an error. We cannot have loan agreements and contracts where we've got terms that are set and then one of the parties wants to reset the terms after all the signatures are dried. We were able to work with FEMA and OEM to get around that, but again, that was a huge red flag for us.

Reluctance on PW adjustments and versions, totally understand why the Federal government would not want to do these. Maybe there's a way for very large projects, you know, pick a floor, like \$5 million, and again, it's just change orders and change orders that are large on large projects. You don't want to carry them for three years not knowing whether you're going to get paid.

And then very lastly, the length of time that it takes for closeout. We're trying to get short term loans, short term loans, termed out in the long-term financing. The quicker that we can get the closeout done, the quicker we can take the short term loan. And I've got a statute that I can only lend those short term loans for so much time. So whether there is the opportunity to bring contractors in that FEMA might oversee, again, just a couple of quick suggestions to our partners over at FEMA.

I will say it has been a great partnership. This program has worked phenomenally to date. And it's only because the folks at FEMA, our partners at Region 2, and at Headquarters at EPA and the New Jersey Office of Emergency Management staff have

been nothing but professional. For anybody out there that's looking to get something set up like this, I highly recommend communicate, communicate, communicate. You will find that everybody wins when you do. Thanks, Kristyn.

**Kristyn Abhold:**

Thank you so much, David. That was awesome. Again, thank you everyone who submitted their questions. We will be addressing those after everyone has finished speaking.

Next I'd like to introduce Bob Fischer of Bayshore Regional Sewerage Authority in New Jersey.

So Bob was named the Executive Director of the Bayshore Regional Sewerage Authority in 2003. And he currently oversees a \$50 million disaster recovery effort in response to Hurricane Sandy. He's been working with David and the New Jersey Environmental Infrastructure Trust. Bob, let's hear your story.

**Bob Fischer:**

Okay. Good afternoon, or good morning, everybody, wherever you are. My name is Bob Fischer. I'm the Director of the Bayshore Regional Sewerage Authority. That's us in that first picture right there. We're in the middle of the wetlands area, and that is the Raritan Bay in the foreground.

Let's take a little closer look at where we are from a Google Maps standpoint. There's Northeast New Jersey -- Northeast United States with New Jersey right in the center. So let's zoom in a little bit closer and you can see the definitive Sandy Hook peninsula jutting out into the Raritan Bay. Across from that is Staten Island, Manhattan, and also Brooklyn. And as we get in a little bit closer you'll see that there are two points that jut into the Raritan Bay. The western most point, or the one on the left is known as Conaskonk Point, and that is Delaware Indian for Place of Tall Grass. And when you zoom in a little closer there we are right in the middle of the Place of Tall Grass. This is the Bayshore Regional Sewerage Authority.

We're a 16 million gallon per day wastewater treatment plant. We service eight communities in Monmouth County. We have about 90,000 residents that we take care of. We incinerate our sludge onsite with two fluidized bed incinerators that we discharge to the Atlantic Ocean through a 14 mile outfall pipe.

On October 29<sup>th</sup>, 2012 Hurricane Sandy came up the Eastern Seaboard and made a very uncharacteristic left hand turn and punched New Jersey right in the nose somewhere around Atlantic City. Atlantic City is about 70 to 80 miles south of where we are located, but which means that although we didn't get hit with the eye of the storm, we did get those northern winds that come off of the ocean and push the water up on to the coast and prevent the water from the rivers and the bays from draining back out again.

**Kristyn Abhold:**

Hey, Bob. This is Kristyn. Can you try speaking up a little bit? Some folks are having a hard time hearing you.

**Bob Fischer:**

Sure. Sorry about that. So the impact to the community was total devastation, in some cases entire streets were wiped away. And in locations where houses once stood there was no trace of the house even being there. And that's that top center photo right there with just the front steps still visible.

In other cases when the house that did make, or did survive the flooding when the power did eventually come back on again, because of damaged wires, there were fires that burned the houses down. All in all about 250 homes were demolished. Many people left not to return.

That picture in the center, in the very bottom over there, that's the iconic photo that was -- that graced the pages of *Time Magazine* for a couple of weeks. That house was located about a half a mile from the treatment plant.

At the treatment plant itself, about 90% of our process equipment was completely demolished, destroyed. We sit on a 24 acre site and all 24 acres were submerged in salt water about three feet deep and stayed that way for a good six to eight hours. And so process equipment destroyed, 80% of our electrical systems were destroyed. Our two sewage sludge incinerators were both destroyed. One was running at about 1400 degrees when the cold salt water came in. You can imagine the impact of that.

The administration offices with our records, our computer systems and our files, not completely destroyed, but substantial damage. We lost communication. We did not have communication with the outside world for 14 days, no fax, no Internet, no phone. Those of us who had cellphones, if you had any other service besides Verizon or AT&T it was useless. So it was really cutoff from the outside world.

But what I want to talk about is the funding requirements that it left us with. Not only did we have the requirement of responding to that disaster, but we also had the requirement of funding the long-term restoration, funding long-term mitigation, and funding some resiliency work.

Because of the way our treatment plant is built a couple of the buildings were built at a higher elevation, and we did have undamaged elements inside of those buildings. And so our plan going forward is to protect those buildings from future storms also.

And we also were moving forward on a five year capital improvement plan that we had no plans on setting aside for the next five to six years while we respond to the Superstorm Sandy damage.

And so we had requirement of all of these different elements that were all major funding elements, that was quite concerning in the very beginning. And so we had two major funding gaps that we had to bridge.

So the emerg—and I would say that FEMA was very responsive and filled both of those funding gaps. And I'll say what David said earlier, that for the Bayshore Regional Sewerage Authority, the State of New Jersey Office of Emergency Management and FEMA worked very closely with us and literally met 90% of our needs. It was a fantastic program and we consider Bayshore Regional Sewerage Authority one of the success stories in the FEMA response and funding.

But if you look at the second bridge there, the Permanent Restoration, Mitigation and Upgrades, FEMA will not pay for plant upgrades that we wanted to continue moving forward. And in a lot of cases would not pay for the resiliency efforts of some of the undamaged elements.

And that's where the New Jersey Environmental Infrastructure Trust came in. They packaged all off these funding needs together in one very unique program called the SAIL program and provided us with upwards of about \$45 million to move forward.

So at the Sewerage Authority we have five major contracts that we're moving forward with all at the same time. I shouldn't say all at the same time. We have a Phase I which entails three major projects and a Phase II which entails two major projects. And at this point four of those five projects are moving forward. But what I want to do for the sake of this webinar is discuss some of the funding nuances of the SAIL program with respect to our Phase I loan which amounted to \$28 million.

What you see here are the three major categories of funding that we needed that the SAIL program put together for us. Dave Zimmer and the folks over at the NJEIT put together a really unique program here in that of the \$28 million, \$5.3 of that, which is FEMA reimbursable; this is your damaged sewage pump that was under water that needs to be replaced or repaired. This is your building that needs to have mitigation later on, so it does not get flooded again. \$15.3 out of the \$28 million is FEMA reimbursable.

And then the Sandy SRF, the Sandy State Revolving Funds, another really good program for us, because we did have a couple of buildings and some elements, like I spoke about earlier, that were undamaged, that we do want to mitigate against future damage. And the Sandy SAIL program provides \$2.8 million dollars for that program, for those undamaged elements, with 19% principal forgiveness, which to us translates to a 19% grant.

And then \$9.9 million of that \$28 million dollars is traditional SRF. So we had -- that is the capital improvement plans that I was talking about earlier. Mainly most of that is upgrading our incinerators to meet the new air emissions regulations.

And so if we take a look at what does that mean for an actual contractor when he submits his claim, and what does it mean to Bayshore as far as cash flow is concerned? So let's look at an example of a contractor's invoice that comes in at \$1.5 million. With that invoice, \$819,000 of it comes from the FEMA reimbursable bucket, \$150,000 of it comes from the Sandy SRF bucket. And \$531,000 of it comes from the traditional SRF bucket. And so you could see the way this thing is broken up, and it's a very good program. It covers all three of our funding needs.

But I want to take a closer look at the \$819,000 FEMA reimbursable portion because it's quite a cash flow that we go through, a cash flow movement that we go through, that needs, I guess, a graphic description to illustrate it best. So I put this little graphic together here. I want to introduce the players. In the bottom right-hand corner there are your contractors. The bottom left hand corner, there's the Bayshore Regional Sewerage Authority. The upper left-hand corner, that's the NJEIT and the DEP. In the upper right-hand corner, that's the Office of Emergency Management and FEMA.

So to start off with the contractor submits an invoice to the Bayshore Regional Sewerage Authority for \$1.5 million; \$819,000 of that is FEMA reimbursable. The Sewerage Authority pays the contractor the \$1.5 million and submits a reimbursement request to the NJEIT for \$1.5 million. But also submits the FEMA RFR, or the Request For Funding, as Dave mentioned earlier, the EIT handles that for the Authority.

So that gets submitted over to the NJEIT also and that's \$819,000. EIT reimburses the Authority the \$1.5 million and sends over the RFR to the State of New Jersey for the \$819,000. Is everybody with me? The State of New Jersey then wire transfers the FEMA funding over to the Bayshore Regional Sewerage Authority \$819,000. We then wire transfer that \$819,000 back over to the NJEIT and the bottom line is, out of that \$1.5 million disbursement from our \$28 million loan, we've already paid back \$819,000 of that, leaving us with a loan of \$681,000. And within a three year period that converts over to a long-term loan.

And the conversion of that loan is at 75% zero interest and 25% Triple A rated interest. It has allowed the Authority to recover from Superstorm Sandy through the mitigation -- I mean restoration of our processes, there's the electrical, the incinerators and our office. It has also allowed the Authority to move forward with its mitigation plans. Here's an example of raising up the floor of a building so it meets the new flood level.

Here's an example of raising up some of the motor control centers that were at a low elevation that we raised up to a higher elevation to get up above the flood elevation. But in all cases each one of the buildings has been retrofitted with a concrete reinforced floodwall that's attached to the building. And that's the tan stucco look that you see there with the white capstone on top of it. And the doors and openings have been fitted with flood logs and flood gates. And that's the mitigation plan at Bayshore.

So the bottom line is when we take a look at the flow of cash as of May 31<sup>st</sup>, 2016, the NJEIT has dispersed to the Authority \$14.8 million; \$8.8 of that has been FEMA reimbursable. They have also dispersed \$708,000 in Sandy SRF resiliency type work, and \$5.2 million in our traditional capital improvement plan work.

Of the \$8.8 in FEMA funds we've already repaid \$7.9 leaving us a balance of \$885,000. The Sandy SRF comes with 19% principal forgiveness, so the \$134,000 does not have to be repaid, so our long-term due there is \$573,000. And the traditional is just a straight pass-through. The \$5.2 that we borrowed will eventually become a long-term loan at \$5.2 million.

It's been a great program for us. It's been a quick bridge between contractor payments and FEMA reimbursements. FEMA reimbursements, for the most part, are all handled now through the EIT. A great short term loan with 75% no interest and 25% low interest. Of course the ability to pay back the loan as we go along reduces the interest that accrues. And the long-term conversion will be at 75% no interest and 25% low interest, and an 18% principal forgiveness for resiliency work. It's just like the icing on a cake. And brighter days are ahead. And that's my presentation.

**Kristyn Abhold:**

Thank you so much, Bob. I love the rainbow picture. [Chuckling]

Now I'd like to introduce our last speaker, Joy Eldredge of the City of Napa, California. Joy served as the Water General Manager of the City of Napa's Water Division since 2009. Prior to joining Napa ten years ago she worked at the Contra Costa Water District and prior to that worked as a consultant for Levine Fricke managing remediation sites in the Bay Area until 2004. In the early to mid-1990s she worked in Aberdeen providing ground -- Proving Ground in Maryland as an Environmental Engineer designing small water treatment systems for remediation of soils and groundwater at hazardous waste sites. Joy, take it away.

**Joy Eldredge:**

Good morning, everyone. Can you hear me okay? I'll take that as a yes.

**Speaker:**

Yes, yes.

**Joy Eldredge:**

Okay, great. Thanks. Yeah, so great presentations preceding me, and what I want to tell you about is our experience here in Napa, which happened in 2014, we experienced an earthquake.

In Napa, we are a valley, if you've ever tasted any of our wines, or visited our, you know, a very popular place. We're accustomed to floods. When an earthquake happens it's a bit of a different ordeal. It happens without warning. You can't prepare. You don't know the storm is or is not coming. And for us, we were a bit fortunate, it

happened at 3:20 in the morning. Earlier that afternoon there were thousands of people downtown for a Blues, Brews and Barbeque festival. So in the end we were fortunate it was dark out. Not many people were around when the event took place.

I have responsibility for our drinking water system. So my efforts or my presentation will focus on that aspect of our work. And I'll really talk about how we coordinated our response and then how we have gone through our reimbursement process. I wish we had an NJEIT program, but we do not, but I'll tell you about what we've experienced here.

And so it was a 6.0 magnitude, not as big as the one Japan recently had, but it really did shake our system. If you could see on the map it actually was about five miles south of our town, but you could see the way the energy radiated it truly affected the City of Napa more than any other location.

And by 6 o'clock that morning it was still dark out and city people had responded, opened up our Emergency Operation Centers. And the key to this is that we had those systems in place and we knew how to coordinate that response. It was still dark outside, as I mentioned, it's already happened, and so preplanning for these events really goes a long way.

We, in our water system, in the end had about 240 weeks total. Just to give you scale, thinking about the wastewater system and the damages it occurred. In a typical year, over an entire year period, we will experience between 70 and 110 if we have, you know, freeze thaw events, but typically about 70 to 100 leaks in a year. And we experience 240, 120 of them almost immediately within our system. Long story short, we knew we were in for it. And this was going to be a, you know, major event for us.

That photo on the left is not an OSHA sanctioned photo, but there were a lot of USGS people here excited about the new faults that were being mapped in our system. And on the right shows what it looks like when a waterline exists under that fault and where it snaps and what we're going to be dealing with.

We had one tank of the 12 in our system that the roof was completely, basically a sloshing wave occurred in the tank and blew the roof right off the, off the storage tank.

This is just a snapshot of the City of Napa. Oh, I'm just using my own – and if you'll look at the green arrow, so the City of Napa proper is, you know, kind of this concentric area. The red area shows the intensity of the shaking as it occurred. And each of these little red dots is a water main break. So we had water flowing in the streets and compromising our system throughout the entire area. And we knew it.

Within four hours of the event we had 60 breaks already identified and the phone was continuing to ring off the hook. And this is as people are waking up and, you know, removing shattered glass from their homes and trying to understand what was going on within their homes.

So we realized very quickly we needed assistance. We continued to run our operation. The main thing we wanted to do is keep the system under positive pressure so you don't potentially compromise the quality of the water that is in the pressurized system. All our staff started to report and we knew that this was not going to be a quick response, so we switched to 12 hour shifts and started organizing how we're going to call for help.

This is a beautiful thing. As much as you can do in your response to pre-establish contracts it will serve you well. It will help you on the reimbursement process and it will help you in ensuring that you have a fast and immediate response to what your needs are. And every situation is different. So the more you can preplan the better off you will be.

In California we have something locally here in the San Francisco Bay Area, it's called CalWARN. CalWARN is the California Water and Waste Work Agency Response Network. And so basically we have pre-negotiated terms and contracts where we agree that, if available, we will volunteer to assist each other.

And here's the key someone had mentioned earlier, communication. And it is so true. What we had was the ability to look through basically a manual, a catalog, that we could find online of resource typing to say, hey, we have this type of pipe, ductile iron pipe up to 12 inch, you know, four, six, eight, ten in our system. Or we have asbestos cement pipe and it's 20 inch or 36 inch. So you can quickly make an order and have entities that have those capabilities to help you respond in a clear and concise manner.

We also had four local contractors that we immediately called in to help us assist with our response, and that was everything from, you know, backhoes, and backhoe equipment operators, to entities that could make repairs on life lines. I mean, we basically are a critical system. Fires were occurring. We need our system intact for fire flows and for many reasons.

And so here is how we handled the situation. We had brought in our CalWARN crews. They were arriving and we basically reassigned our staff, found that they were more efficient, because these mutual aid groups that come in, they don't know basic things we might take for granted on a daily basis, such as in emergency, where's the hospital? Where is our corporation yard? Where do you get backflow materials? Where do you, you know, replenish your supplies? And so our crews were better served as managers. And these are our guys that love to fix pipes; it's what they do every day. They were more efficient by being able to organize and coordinate and, you know, basically welcome the management and coordinate the effort so that we were in straight production mode of getting our system back online.

And so this is day two. So this all happened Sunday morning. By Monday we had 90 leaks identified and the phone was still ringing off the hook. We had to order more materials, right? So keep that invoice, I'll tell you that now.

CalWARN, our crews were arriving, but it's really key that once they arrive we are ready to assign them so that they can immediately go to work.

Now, this is how sophisticated we were during the event. We knew that we needed documentation. And this was our crude set up, our filing system, for every worker that came in. At this point we had nine additional crews of people that were coming in to assist us. Each entity, as you could see here, city of American Canyon, they provided, they're our neighbor to the south. They provided assistance for us. Alameda County Water District, Contra Costa Water District, each crew, or each entity, had their own filing system. Here it is; a banker's box with folders in it. And ensuring that every individual has filled out a timesheet and documented where he worked that day and the work that was completed.

And in all honesty some entities were much better, or some individuals, were much better at their paperwork, but in the end we were able to go through this basic information and compile it and ensure that it kept a sound record of the work that was completed.

So, again, by day three we had over 120 leaks identified and we were out fixing them in the middle of the street, one after another, after another. And it's included, again, these nine additional crews all working at different locations jumping from one spot to the next.

And so we established our "dance". They came in, tailgate safety meeting, and one of the keys is some of the crews, they would work, you know, basically 12 hour days, 6 to 6 is when we were starting, but then if they were close to finishing up a repair they would work for an extra two hours, or an extra 45 minutes, so people were, the crews were coming in at different times at the end of the day. And so we were ensuring that as every single individual came in that they had to be clocked in and clocked out. And so that really is instrumental. And so here's, you know, 120 leaks, we fixed them in five days.

So in our response efforts, here's a gist of our lessons learned. Get more staffing than you think you need and know that it's going to be a long term commitment, especially going through the process of getting your reimbursements and proving that the work was completed. The mutual aid, as these people come in, the worst thing you can do is have them there and not ready to work. So make sure you're ready to deploy them immediately when they do arrive onsite to assist you. Collaboration and relationship. Again, back to communication, it really is key. As these entities come in, one it's who you're reaching out to, to bring them in and then, two, once they're there ensuring that they know how this process is going to work and that it is cleanly and clearly organized.

So as all this is happening, this is day three, we're coordinating crews, we're working with our Division of Public Health, at the time, they're renamed now, but making sure that, you know, we're ensuring the safety of the public. And meanwhile FEMA and Office of Emergency Services from the State are coming in and asking for cost

estimates of how much the total damage is. So really the disaster, the declaration that we're in a disaster hadn't even occurred yet. And here we are with, you know, 20 items, not a free breathing moment throughout the day, cellphones running dry, getting hot next to your head. And you have to stop what you're doing and come up with some estimates on the total extent of the damage.

And we're a relatively small agency. Within my Water Division staff we have 52 people. So it does happen quickly, and there's a lot to do. We all worked 18 hour days for the first six days.

And so here's what you really need to know. As you go through the process with FEMA, and this is from a local agency nearby, the recovery is ten times more work than the disaster. And I can say that that is true. I didn't see much of my home life for about six months after the disaster, again, based on the size of our entity. But be prepared to invest significant staff time afterwards so that you can have your documentation organized.

FEMA is only the first step. Someone mentioned it earlier, five to ten years later; we don't know exactly when, OIG will come in and audit you. So you need to make sure that you are -- your documentation is clean and clear and all together and organized. Again, retirements do happen. They will claw back that money. That is their job.

So work together because FEMA, I will say through our experience, the people were amazing. They were really great people. They were concerned about our well-being, helping us through the process. But the rules are set up to, you know, be applied to many different incidences. So you're going to find that they don't always make sense within your specific situation.

So document, document, document everything. Pictures tell a thousand words. It truly does help quite a bit. You need a receipt for every little thing, consumables, food receipts, that mutual aid worker that finished up at 8:30 at night and he stops by for a burger, he needs a receipt.

Other categories. As we went through our FEMA reimbursement process, Category B, that is your immediate response within 72 hours. So there is a little bit more flexibility in the amount of detail that you need during that time period, but that is short-lived. And if your event is like ours there's a lot going on during that time period.

Know that one of the keys to the Stafford Act and with respect to public utilities that in FEMA's eyes it holds fast and true that you can restore it to pre-event form and function. No upgrades, nothing else, just pre-event form and function.

It will serve you well if you have previously adopted standards that you can speak to. For instance, you know, a pipe that is put in that you now mechanically restrain all joints. If you have documentation that that is now how you install a pipe, then that will

be approved. If not, and your pipe was, you know, before the times of it being mechanically restrained, you won't be reimbursed for that aspect of it.

And always, always, always follow your standard procurement rules for your public agency. That is key.

So the second to last slide here, the FEMA kick-off meeting. This is a very important date after your response. It's basically FEMA comes in and has an orientation about all the rules and about how it all works and how it's going to work moving forward. For us that happened October 15<sup>th</sup>, which was 53 days after the earth—after our earthquake. So if you could imagine if we weren't taking care of our documentation and hadn't heard that upfront, it was too late as far as us being able to get reimbursed. So know that upfront as you go through every aspect of your response you need to document everything that you do.

And so another key is after that kick-off meeting there are 60 days from which that time that you have to identify any of the damage and projects moving forward. So these project worksheets are key. That was mentioned earlier as far as changes to those. That has to be documented and pre-approved. Know that, and this is a very good perspective, that we were told by our FEMA folks, is that assume the individual that will be reviewing the project has not seen the light of day in about 12 months. They know nothing about your system and you have to tell them every little thing as to why this is important and why the work was completed. If you go into it with that understanding, and take the time to include that documentation, you will be better served for it in the long run.

So we have a few items where we have under appeal right now. And it looks like we're getting a little short on time, but if you are getting into a situation where you're going to have an appeal, we have been told that expect it to go through two appeals locally and then it goes to the Federal level. And there are tight timelines for you. So prepare to drop everything else when those appeals come to you.

It'll take about nine months for you to get your answer back, but then you get 60 days from the date that FEMA sends the letter to your State agency. We happened to get one that was sent right before the holidays, before the Christmas holiday last year. By the time we got it, 22 of those days had elapsed. They were flexible in that deadline, but just so you know, the rules are hard and fast.

And so at that point that administrative record is closed. So you can't offer any additional information. Hence, to reiterate it, document and write everything as if no one has ever seen the site and has no idea what could have possibly happened during that event.

And so after that appeal process, and I'm completing my response to my second appeal right now, which I'm hoping to get a better sense of it from the, or a better response from the Federal level. That's where we are.

And so in summary, this is what we received; our Category B, which is the first item, the first six days where we were just doing nothing but repairing water mains. We received that almost immediately, within months of -- within days, within 20 days of submitting an invoice, but we received those -- that funding very quickly. Also for our roof repair we've received that quickly. We have several others that have been approved and they take quite a bit of time for the permitting process. They're underway right now, in fact, they'll be going to construction in 2017.

And we have a couple appeals ongoing and I will mention in response to Brandon's first presentation I also have received, just received it last week, a Hazard Mitigation Grant funding for making repairs, not repairs, but making upgrades in sculmore (ph) valves to our 36 inch transmission main. So the funding is there but you need to prove it.

And so final slide. Set up competitively bid or pre-negotiated contracts ahead of time. They'll serve you well. And the costs will be known. Set up mutual aid agreements ahead of time. Adopt your standards ahead of time, when at all practical. Follow every one of your procurement practices during the event. Document everything. Describe your work in great detail; more than you think is necessary. It will serve you well. And finally, pictures will help tell your story. And just know that the reimbursement process is a marathon and not a sprint. And that's all I have today.

**Kristyn Abhold:**

Great, thank you so much, Joy. Before we move into our Q&A session I just wanted to tell you about the EPA tool specifically geared to help water and wastewater utilities get Federal funding after a disaster, or to mitigate impact for [audio gap]. It's called the Federal Funding for Utilities – Water/Wastewater – in National Disaster, or a Fed FUNDS, for short. It's on our EPA website and the hyperlink will be shared after this event, [epa.gov/fedfunds](http://epa.gov/fedfunds). And you can click on funds to help you navigate and find resources you can use.

Next I wanted to do a short plug for our next webinar in this series. It's going to be focused on resiliency financing. So hopefully you got a little scared by our presentation today and you'd like to make your systems a little bit more resilient so you don't have to go through some of the disaster recovery efforts that we heard about today. We'll send an email about that.

Next we have our speaker information. This will be shared, again, with everybody. So if we can't get to your question today, or if you have questions after this, you can reach out to our speakers directly.

And we have one final poll for folks, and we'll do that at the very end of the presentation. But I also want to let folks know, I think it's popped up that if you would like to download the PowerPoint presentations from today, there should be a box that pops up where you can click to download them.

**Kristyn Abhold:**

So we've got just over ten minutes left for Q&A. So I'm going to go through some of the questions that were asked by our audience. Brandon, this one is for you. We had a few questions about whether or not there are different processes that tribal nations seem to go through in order to work with FEMA.

**Brandon Sweeza:**

Yes. Sorry I wasn't able -- I probably should have included the tribes. Tribes are, tribes can either come in as a recipient, so on the same level as the State, to FEMA, or they can come in under the State as a sub-recipient. So they definitely go through sort of the same processes, it just depends on how they want to come in and it also comes up to how the State that they're in is organized, whether they do allow for sub-grantee reimbursements through the State or not, you know, being tribal representatives, so -- or tribal entities. So yeah, no, definitely, they're a little bit more open to being either on the grantee or the sub-grantee level.

**Kristyn Abhold:**

Great. Thank you. David, this one was for you. What interim measures do water and wastewater systems take before funding becomes available months after the disaster?

**David Zimmer:**

Documentation. So this really has to do, I think, with documentation. And I've got two people with me, one from the DEP, Gene Chebra, and he's an engineer at the program and an engineer here at the Trust, because that really digs down into the weeds, George Rolant (ph), so I'm going to turn it over to George and Gene. You guys want to answer that?

**Speaker:**

So really, you want to document everything. And you want to really open up the lines of communication with everyone. It's probably the first defense that will really get you started. So documentation, documentation, documentation. And then, like I said, try to find out who your liaisons are going to be, who your disaster specialists are going to be and start working with them soon.

**David Zimmer:**

So let's tag team on this, because you have to go to your county, the head of the OEM, in your county, and you start to prepare project worksheets with FEMA.

**Speaker:**

Correct.

**David Zimmer:**

And then what you would do on that is while you're working to your project worksheet, then you also want to engage whatever kind of financing vehicle you're going to use. We ask people to come to the EIT and start filling out applications immediately in working with us so that we can join with them in working with OEM and FEMA to kind of

muscle the project worksheet through to approval, because we won't start working on a project until we know that it's going to have FEMA funding. But we do get involved with them in advance.

**Speaker:**

And something you could do now too is become familiar with the Stafford Act, become familiar with Title 44 of the Code of Federal Regulations now so that you're prepared at the time of that event.

**David Zimmer:**

Hopefully that answers.

**Kristyn Abhold:**

Great. Thank you.

Joy, I think this one is for you. You said that if you have a resiliency design for critical facilities FEMA may actually reimburse you for rebuilding that into your standards. Did you experience that at all?

**Joy Eldredge:**

We had design standards that were new compared to our existing facilities that, yes, was deemed acceptable. As with anything I would work very closely with your FEMA and State, for us its OES, and your State liaison to get confirmation of that. You'll be surprised, there are also a lot of rules out there that when I thought I had a slam dunk another rule would be put up next to the one that I saw. So always work closely with them. But if you have -- our example was a pipeline under a freeway. Today that has to be double contained and it's required by the State Department of Transportation. Our old pipe was just, you know, a small eight inch line right under the freeway that you can no longer dig up and close down traffic. Perfect example, so we have to do horizontal directional drilling and we're double containing that pipe. So yes, in that example, we were able to, you know, that cost significantly more, but we do have approval for those projects and that's how we will be reconstructing those segments. What they're looking for often is a resolution or a true adopted, proven standard. So you just say; yeah, we'd like to do it this way. A standard spec will get you a long way if you're proving that you're requiring that and normally constructing it that way within your system, I would say you have a very good shot of getting that ...

**Kristyn Abhold:**

Thank you. And I don't know, Brandon, if you wanted to add anything to that.

**Brandon Sweeza:**

Hmm, no. That ... no, I don't have any further thought on it.

**Kristyn Abhold:**

I have a question that, I mean, maybe Brandon, maybe you can answer this one. What, if any, funding exists for disasters that are human made, so not natural, and thus can't receive a Federal disaster declaration, like the water crisis in Flint?

**Brandon Sweeza:**

Yeah, so water quality is specifically ineligible -- improvements to water quality are specifically ineligible for Hazard Mitigation Grant funding. It's just one of the ineligible listed items in the section. I'm not, and I'm not aware of other programs, I haven't worked with other programs that address water quality. Typically, yeah, all of our grants do address natural hazards. There are some cases when manmade hazards have existed, or have been declared, such as the September 11<sup>th</sup> attacks. So ...

**Kristyn Abhold:**

Great. Thank you. Bob, quick question. Did you have any cash flow issues with paying the contractor with the lag time between receiving the invoice and then Bayshore's reimbursement from the New Jersey Infrastructure -- Environmental Infrastructure Trust?

**Bob Fischer:**

Yes, Kristyn, we did at first. So, as I mentioned earlier in the slides, we did have some surplus money that we had put towards the emergency response, but we also used that surplus money for as seed money into the funding account in which the EIT and the FEMA funds flow back into. And so in the very beginning, yeah, but as David pointed out earlier, the reimbursements come back from FEMA to the EIT in a pretty quick turnaround and a fairly good turnaround from the EIT back to the Bayshore Regional Sewerage Authority. But yeah, I mean, that's one of the takeaways in preparation for a response to a disaster is just make sure you do, especially for a utility, make sure you do have some level of surplus funding set aside. And I would also say that make sure you, and for a utility especially, make sure you have your assets identified, because one of the major items that we incorporated into the program that really sped things along was our computerized maintenance management system that identifies all of the assets that we have. We have a pretty comprehensive list of the pumps and the valves, and the blowers and the pipes, and we were able to show the folks from FEMA at a really early point in the process exactly what was damaged, when it was installed, and how much it cost to install it. So it really moved the process forward pretty quickly.

**Kristyn Abhold:**

Great. Thank you, Bob.

So before we end today's webinar we'd like it if you could all answer one last poll question for us. The last poll asks: What else would you like to learn regarding this topic? This is an open ended question so you can type your question into the box. This will help us with producing some follow up items, potential future webinars and other things that we can do to help communities across the country.

While you're filling out this poll I'd like to, again, thank our speakers for taking the time to speak with us today about their experiences with Disaster Recovery Financing. I think today's session was very beneficial.

I want to let everyone know that this webinar has been recorded and it will be posted on our website after it's been transcribed. So we will send out an email to everyone who registered to let them know that it's available for viewing. Again, we did post hyperlinks to the PDF documents with the presentations. It should be viewable on the middle right-hand side of your screen. Just click on those to download.

So, again, thank you for joining us all. We hope you will return on December 7<sup>th</sup> for our Resiliency Financing webinar. I'm going to leave the poll open for just a little bit longer so you can fill out your answers. Again, thank you so much.