

Mitigation and Disaster Recovery in Federal Disasters

Mitigation projects are meant to avoid or lessen a repetition of damage from the same hazard. As such, they are not meant to rebuild what was before, but rather to rebuild smarter and better, avoiding the cost and heartache the next time. Floods offer many opportunities for mitigation.

Mitigation projects come in two main categories – those that can be done as part of the disaster response and recovery (called 406 projects in FEMA speak), and those that may be done later with separate grant funding under the Hazard Mitigation Grant Program (404 in FEMA speak).

Mitigation As Part Of Recovery

Let us consider the case of a 2-foot diameter culvert that was overtopped and stayed in place unhurt, but the road washed out. FEMA Region I has considered such a culvert not “damaged”, however other FEMA regions consider the culvert and the road to be a unified “facility” that was damaged. You should argue that the whole thing was a facility and try to get the culvert replaced, especially if it is not a large part of the cost of the road repair. If you must fill over it for temporary passage, take a picture of the unrepaired damage first and do the absolute minimum as an emergency temporary repair until FEMA can review the spot. The more you may it look like it never happened the more it may be viewed as the permanent fix. If FEMA denies replacing the culvert and you don’t wish to appeal, at least argue for a headwall or some other mitigation activity to avoid a recurrence of the damage.

Now let us say that instead the culvert failed and washed away or got all beat up. It does not make sense to permanently replace this with another 2-foot culvert that will do the same thing. If the town needs to reopen the road fast it may use whatever culvert is handy, again as an emergency temporary repair, as it decides on the right permanent repair. Write emergency temporary repair on invoices.

A failed culvert site that is destroyed should be reviewed to see why it failed. Was the culvert sound and properly bedded or did “piping” around the culvert cause the failure? Was the culvert poorly aligned? Did it fail due to lack of a headwall? Was it simply too small a diameter to pass flood flows?

Finding the correct replacement usually entails a simple hydraulics study to determine the proper size. If the town has adopted a road and bridge standard that commits it to such a process and follows this process during non-disaster times, it should not have a problem getting FEMA approval for upsizing damaged culverts as needed. *However, as on all future jobs, get a FEMA approved project worksheet in hand to be sure your costs will be covered.*

Typically, replacement of a culvert with a slightly larger one or just adding a header is a small part of the overall project cost and can and should be done as a “406” project. This is on the spot mitigation and the cost is treated the same as a repair. Even if a town does not have codes and standards, FEMA can and should allow mitigation work that increases the cost by 15%, and can even go as high as 100%. If the upsizing drastically changes the cost, such as going from a 3 foot culvert to a 10 foot concrete box, then things will get more difficult and the project may become a candidate for later mitigation grants. Try to get all mitigation done under the disaster when possible as it is faster, not competitive and more likely to be a local priority that gets attention. Any denial of 406 mitigation by your Project Specialist should be appealed if you think you have a good project.

Other recovery mitigation situations include a lack of cross culverts or no protection of ditches. Again, if the town’s standards call for cross culverts every 200 feet and the road is gone, cross culverts should

be installed to the standard when the road base is replaced. If ditches should have stone lining above 10% grade according to your standards, and you are rebuilding the ditch because it ate half the road, then fabric and stone should be installed in the repaired ditch. You may have already done the basic road repair and ditch shaping, but not done any ditch treatment. Ask the FEMA Project Specialist about 406 mitigation work to protect your repair, and if this is your adopted standard, insist on it. Any approval you get MUST be in writing. As FEMA rotates Project Specialists out, sometimes in less than a month, the more you can get the work done agreed to be the specialist when they are still here, the better.

Mitigation After Recovery

Some projects may need to wait a little (really a lot) and use Hazard Mitigation Grant Program (HMGP, also referred to as 404 in FEMAspeak) funding. This may be because the desired repair is so much more expensive than replacement, the project involves private property, or the project is not caused by the current disaster. HMGP projects are funded by a grant to the state from FEMA after a presidential disaster for 15% above the total disaster costs, and any town can apply for them. Applications for these funds are reviewed by a state panel. All infrastructure projects must meet cost-benefit, i.e. save more in future damages than they will cost, and could include larger culverts and small bridges, floodproofing and bank stabilization. Any project with work in the stream should first be run by the VTDEC stream alteration engineer for that area prior to application. The best way to prepare for the cost-benefit challenge is to document any damage by location as a routine matter, regardless of whether you will be paid for it.

This grant opportunity is also one of the best ways to help uninsured homeowners recoup some of their damages if their homes were destroyed. Grants can be obtained to pay 75% of the costs of purchasing a property at its *pre-flood* value, clearing the site, and then ensuring that no building is ever put there. Typically the town may then own the property. Most buyouts, elevations or relocations of properties that were in mapped flood zones do not require a benefit cost analysis.

Alternate And Improved Projects

It is easy to miss opportunities in the hustle of disaster response. The easiest thing is to just put back what was there. In addition to the mitigation projects talked about above, you might consider an “alternate project” or “improved project.” Alternate projects are for when you want to do something very different than what was there before the flood. For example, a bridge was destroyed and you already have other means of accessing the property the bridge served, so the town decides to not rebuild the bridge. Another example is that a town road washed out next to a stream, but it will be cheaper to move the road away from the stream than to rebuild it and rip-rap the streambank. FEMA will pay 90% of the usual 75% of the replacement cost, or 67.5%, and the town can use these funds as they desire. Alternate projects can be used for a variety of innovative solutions and must be approved by FEMA in advance. Get the project worksheet approved in writing before proceeding with these.

Improved projects are just projects that have add-on work being done at the same time. For example, you have already mobilized a contractor to rebuild a section of road that was destroyed, but the town has wanted to add guardrail that was never there. You can add this work in to the rebuilding contract and just have these extra costs broken out. FEMA will pay its 75% share of the rebuild and the town will cover 100% of the cost of the add-on work, but it will minimize the disturbance that it would require to do it at a later date.

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