

From: [Buddie, Matthew](#)
To: [Alan Goldich](#)
Subject: RE: FW: Gravel Pit in the floodplain
Date: Thursday, June 18, 2020 3:46:54 PM

Alan-

This seems like an acceptable approach. I recommend you condition the floodplain permit so it can't be closed out until the analysis and possible LOMR is completed.

Matt Buddie

Regional Junior Analyst | Region VIII Office of the Regional Administrator

| Mobile: (303) 842-4710

matthew.buddie@fema.dhs.gov

Federal Emergency Management Agency

fema.gov

From: Alan Goldich <agoldich@co.routt.co.us>
Sent: Thursday, June 18, 2020 6:54 AM
To: Buddie, Matthew <Matthew.Buddie@fema.dhs.gov>
Subject: RE: FW: Gravel Pit in the floodplain

Matt,

Good morning. I hope you are doing well through this crazy time. Attached is a letter from 4 Points Surveying requesting that the required floodplain study be postponed 5 years so that the actual final conditions can be modeled instead of the anticipated final conditions. The risk to life and property on this stretch of the Yampa is pretty low. He has provided reasons for why and I agree. I know the decision to postpone the study is ultimately up to the County, but do you see any reason why this cannot be put off until actual conditions are better understood?

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Routt County COVID-19 website: www.covid19routtcounty.com

From: Buddie, Matthew [<mailto:Matthew.Buddie@fema.dhs.gov>]
Sent: Monday, March 30, 2020 3:40 PM

To: Walter Magill <wnmpepls@gmail.com>; Alan Goldich <agoldich@co.routt.co.us>;
doug.mahan@state.co.us
Cc: David S. Zehner <dzehner@precisionexcavatinginc.com>
Subject: RE: FW: Gravel Pit in the floodplain

Walter-

In order to determine impacts it will require some kind of engineering analysis. Typically this done by running H&H modeling looking at pre-project and post project impacts. HEC-RAS is not necessarily the required program but FEMA likes it because it's available to anyone as opposed to some of the other proprietary ones that are expensive and labor/time intensive to run. Here is the list of approved models to use for new FEMA flood studies

<https://www.fema.gov/hydraulic-numerical-models-meeting-minimum-requirement-national-flood-insurance-program>

That being said seems logical to start off using whatever the effective flood study was created with and go from there. If the effective mapping uses HEC-RAS I would recommend using HEC-RAS.

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From: Walter Magill <wnmpepls@gmail.com>
Sent: Thursday, March 26, 2020 4:39 PM
To: Alan Goldich <agoldich@co.routt.co.us>; doug.mahan@state.co.us
Cc: David S. Zehner <dzehner@precisionexcavatinginc.com>; Buddie, Matthew
<Matthew.Buddie@fema.dhs.gov>
Subject: Re: FW: Gravel Pit in the floodplain

Folks;
Does the state or FEMA have any alternative methods besides HEC-RAS modeling to determine the impacts of the BFE?
Thank you;
Walter

Walter Magill, PE & PLS
Four Points Surveying and Engineering
P.O. Box 775966
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970-819-1161
wnmpepls@gmail.com

On Thu, Mar 26, 2020 at 10:12 AM Alan Goldich <agoldich@co.routt.co.us> wrote:

Walter and Dave,

Below is the response I got from FEMA. Attached are the Rules and Regulations for Regulatory Floodplains in Colorado from the Department of Natural Resources. Rule 12.J on page 19 is what requires any change of +/- .3' in the floodplain to submit a LOMR to FEMA. The process we are going through is determine whether this needs to occur or not. The only way to determine this is to model the proposed final conditions.

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From: Buddie, Matthew [mailto:Matthew.Buddie@fema.dhs.gov]

Sent: Thursday, March 26, 2020 9:54 AM

To: Alan Goldich <agoldich@co.routt.co.us>; Mahan - DNR, Doug <doug.mahan@state.co.us>

Subject: RE: Gravel Pit in the floodplain

Alan-

Thanks for your patience on a response. The +/- 0.3' is a state requirement but was intended to give more teeth to 44 CFR 65.3 which basically says any change in BFE, increase or decrease, as the result of a man-made project/development must be submitted to FEMA for inclusion into the effective mapping. Essentially this is the map maintenance component of the NFIP which puts the responsibility back on the local jurisdiction to make sure their FIRMs and FISs are kept up to date as changes occur through the LOMR process. Since land use decisions, evacuation route planning, watershed planning, subdivision regulations, flood insurance rating, etc., etc. are made based off the FIRMs/FISs it is a local responsibility to make sure they are kept up to date. We have been asked before about increases and decreases that occur but are contained on deed restricted land or open space or conservation easements. There is no appetite at FEMA HQ to allow for this or to provide broad program policy/guidance because the concern for cumulative downstream (or possibly upstream) impacts. Personally I believe the actual impacts of projects in this type of situation are not as important as keeping the overall models up to date. We spend a lot of time and money going through flood studies and updating maps, I think they should be kept up to date as best as possible within the confines of engineering judgement. If someone wants to do work in the floodplain it will cost more time and money and that should not be looked upon as a negative

but just a reality.

I think keeping a good record of the decisions that are made and why will be key not only for this project but others like it. All documentation should be kept in the floodplain permit file. If you don't feel comfortable with any of it requiring a CLOMR is always a good choice to consider. That way it puts the technical review on FEMA. You get concurrence that the proposed project will be in line with floodplain management regulations. In past conversations with communities, not necessarily Routt County, it always seems to be about finding a way to skirt around a CLOMR but I've been a part of several that have turned into major violations. I'm now telling everyone to strongly consider requiring it. It really protects the community down the road.

Hope you, family, and friends are all healthy.

Matt Buddie
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From: Alan Goldich <agoldich@co.routt.co.us>
Sent: Friday, March 20, 2020 7:03 AM
To: Buddie, Matthew <Matthew.Buddie@fema.dhs.gov>; Mahan - DNR, Doug <doug.mahan@state.co.us>
Subject: RE: Gravel Pit in the floodplain

Matt and Doug,

I hope everyone is coping well with the situation everyone is currently facing.

In our previous correspondence concerning this gravel pit, I suggested that modeling of final reclamation should take place once mining is complete. You agreed and said to make sure that the modeling is done prior to reclamation starting. I've re-thought this approach because reclamation and mining go hand in hand. The Colorado Division of Mining, Reclamation, and Safety requires reclamation to take place concurrent with mining for various reasons. Because of this, I've asked them to do the modeling now and they are questioning the need. I explained that this is so that the county, CWCB, and FEMA have an accurate understanding of the flood risk that exists in this area. I have attached several documents for your review along with notes about the various documents.

1. Approved reclamation plan - The BFEs and cross sections from the FIRM are shown on it.

The final reclamation will result in a lake. The proposed water surface elevation of the lake after reclamation is 8-10' below the BFE. The highest proposed grade is approximately 4' below BFE.

2. Map showing the limits of the study area – The downstream limits of the FIRM are approximately 2,500' downstream.
3. Conservation Easements map – The land upstream and downstream of the pit is under various conservation easements.

The applicant is requesting that I get feedback from you on the need and/or requirement to model the proposed conditions to determine whether a +/- .3' change would occur as a result of this gravel pit. This is based on the surrounding land use patterns (virtually no new development is allowed because of the conservation easements), the fact that the proposed reclamation plan results in less earth physically being in the area due to mining and the resulting drop in land elevation, and the proximity to the limits of the flood study. Any feedback/suggestions on how to proceed would be appreciated. Stay healthy!

Thanks,

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From: Buddie, Matthew [<mailto:Matthew.Buddie@fema.dhs.gov>]

Sent: Monday, January 6, 2020 1:48 PM

To: Alan Goldich <agoldich@co.routt.co.us>; Mahan - DNR, Doug <doug.mahan@state.co.us>

Subject: RE: Gravel Pit in the floodplain

Yes, anything completed after it was mapped (2005) should be permitted and subject to the regulations. No need to go back to 2001 if it wasn't designated as Special Flood Hazard Area.

Matthew Buddie
FEMA Region VIII
Floodplain Management & Community Resilience
O: 303.235.4730
M: 303.842.4710

Your resource for flood risk – from awareness to action

From: Alan Goldich <agoldich@co.routt.co.us>

Sent: Monday, January 6, 2020 9:19 AM

To: Buddie, Matthew <Matthew.Buddie@fema.dhs.gov>; Mahan - DNR, Doug

<doug.mahan@state.co.us>

Subject: RE: Gravel Pit in the floodplain

Thanks Matt. This helps. There is one thing I forgot to ask about. The original pit was permitted in 2001, prior to this area being mapped in 2005. The expansion area was permitted in 2009. Should a permit only be obtained for the expansion area because of the timing of the mapping?

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Please consider the environment before printing this email.

From: Buddie, Matthew [<mailto:Matthew.Buddie@fema.dhs.gov>]

Sent: Monday, January 6, 2020 9:14 AM

To: Alan Goldich <agoldich@co.routt.co.us>; Mahan - DNR, Doug <doug.mahan@state.co.us>

Subject: RE: Gravel Pit in the floodplain

Hi Alan-

It sounds like you are thinking through all the right issues with this permit. Here are a couple of thoughts.

1. Scale house – do the county's regulations allow for floodproofing of non-residential structures? I only ask because you specifically say it needs to be elevated to meet elevation standards but then ask if a floodproofing cert should be required so I'm confused. If the regulations say the lowest floor must be elevated above BFE then I would say it must meet that requirement. Here are options for elevating:

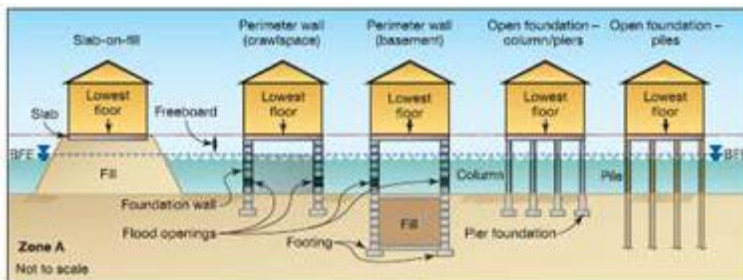


Figure 3: Examples of NFIP-compliant homes in Zone A where the top of the lowest floor is located above the BFE

If the county's regulations allow for floodproofing of non-residential structures, which I assume they do, I recommend following the guidance in:

Technical Bulletin 3, Non-Residential Floodproofing - Requirements and Certification (1993): <https://www.fema.gov/media-library/assets/documents/3473>;

FEMA P-936, Floodproofing Non-Residential Buildings (2013):
<https://www.fema.gov/media-library/assets/documents/34270>

Any option that involves floodproofing would need a floodproofing certificate by engineer/architect to show compliance.

2. This sounds like a very good idea. The federal requirements only require an analysis if it encroaches into the floodway however these are minimum standards and anything above and beyond is only going to make upstream, downstream, adjacent properties safer and more resilient in the future. You will probably get push back but I also believe there is an argument for not only public safety but legal liability on the county to ensure you aren't permitting something that will cause future harm/damage to others.
3. Agreed. All electrical equipment (panels, controls, etc) must be elevated.
4. Federal regulations do not address critical facilities so I will defer to Doug since CWCB has standards on critical facilities. All fuel tanks should also be anchored.
5. They must be sited outside the floodway or else have a no-rise certification.
6. I agree as long as they understand the need to come back in prior to reclamation work starting.

Hope this helps. Let me know if you have anything else.

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Your resource for flood risk – from awareness to action

From: Alan Goldich <agoldich@co.routt.co.us>
Sent: Friday, January 3, 2020 3:32 PM
To: Mahan - DNR, Doug <doug.mahan@state.co.us>; Buddie, Matthew <Matthew.Buddie@fema.dhs.gov>
Subject: Gravel Pit in the floodplain

Doug and Matt,

I am working on the renewal of a Special Use Permit for a gravel pit located at the confluence of Trout Creek and the Yampa River. Attached is an aerial of the pit with the floodplain mapping laid over it along with a site plan of the pit. The original pit is on the east side of Trout Creek. When this portion of the pit was permitted (2001), this area was not mapped by FEMA. Revised maps were adopted in 2005. That mapping is reflected on the attached map. In 2009 the County approved an expansion of the pit to the east side of Trout Creek. During that review, floodplains were not taken into consideration. As part of this renewal, a Floodplain Development permit will be required. I have not reviewed a Floodplain Development permit for a gravel pit before so I wanted to get some feedback on what I should be looking for. Below is what I believe needs to be addressed in the application. Please let me know if I'm missing anything.

1. Scale house
 - a. It's a non-residential structure and, according to our regs, needs to be elevated to meet our elevation standards. This structure is located on disturbed land that is lower than native ground. It is also associated with the scale used to weigh loaded trucks. Does this structure in fact need to meet our elevation standards since requiring it to would make it significantly higher than the surrounding ground?
 - b. Would a floodproofing certification be required?
2. I have the option to require a technical analysis to show whether the development would result in physical damage to other property. Should this be required?
3. Certification that all gravel processing equipment is adequately anchored against hydrostatic and hydrodynamic forces.
4. I need to determine if this site meets the criteria for a critical facility because they have fuel storage tanks for the equipment on-site. I think the best way to handle this is to require the fuel tanks to be removed or emptied prior to spring runoff. Thoughts?
5. Do I need to address the gravel stockpiles?
6. Proposed final conditions will have to be modeled to determine if there is a change of .3' or more. If there is a LOMR will be required. The modeling can be done now to determine if there is a change and to what degree the change is. This will determine if a LOMR is needed. I think it would be most appropriate to do this once mining is complete and they are working on reclamation of the pit. Thoughts?

Any help that you can provide on this would greatly appreciated.

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