EXECUTIVE SUMMARY
In November 2010, the Colorado Water Conservation Board established new statewide floodplain rules (Rules) that apply to all geographic areas in Colorado. The Rules became effective on January 14, 2011 and established new minimum standards for certain floodplain management activities in excess of those required by the National Flood Insurance Program (NFIP).

Several important requirements are contained in the Rules including, but not limited to, the following floodplain management standards that exceed NFIP minimum standards:

- One foot of freeboard shall be provided to all new and substantially changed structures in 100-year floodplains, with the exception of critical facilities;
- Two feet of freeboard shall be provided to all new and substantially changed critical facilities (as defined in the rules) in 100-year floodplains;
- In areas with base flood elevations defined, floodway surcharge criteria shall be reduced to 0.5 feet (from 1.0 feet) for all new studies begun after January 14, 2011. Exceptions to this requirement exist and are discussed in the rules as well as this document. The process for determining floodways and regulations associated with the floodways remain unchanged; and
- Communities shall regulate areas construction in areas removed from FEMA’s regulatory floodplain through a LOMR Based on Fill by requiring new and substantially improved structures built on these lands to maintain a lowest floor one foot above the base flood elevation, consistent with development in other regulatory floodplains;

The purpose of this guidance document is to provide information on the intent and objective of the Rules as well as to clarify areas of ambiguity. The Rules should not be used as a justification for excessive regulation without proper local promulgation. Local governments should update, adopt, and enforce their own local ordinances to stay in compliance with the Rules.

It is important to note that both the NFIP and the CWCB have always encouraged and recognized voluntary higher standards by local governments. Communities may, at their sole discretion, adopt ordinances that go beyond state and federal standards. The CWCB can assist local governments with technical information and support regarding higher standards that may be in the best interest of the community and its citizens.

As stated in the Rules, communities have a three year grace period (through January 14, 2014) to update their local ordinances to be consistent with the new minimum requirements. The CWCB will work closely with communities on a case-by-case basis to provide guidance and ordinance update assistance as needed. Staff will gladly assist with assessment of alleged violations and will work with local officials to come up with reasonable remedies and correction measures on a case-by-case basis.
**General Statements**
Although the Rules present higher standards than those set forth as minimums standards in the NFIP, they become the effective minimum standards for Colorado (in accordance with 40 CFR Part 60.1).

This guidance document is also intended to address issues relating to the adoption and implementation of higher standards outlined in the Rules. It is outside of the scope of this document to provide technical assistance for regular standards of the NFIP. For help in administering or complying with NFIP regulations, please contact the CWCB or FEMA for assistance or a list of resource documents.

This is a guidance document only, and is not meant to be regulatory in nature. As such, if any statements made in this document are found to be in conflict with the Rules, then the language and associated intent of the Rules shall take precedence.

**Regarding Rule 3, “Purpose and Scope”**
It is emphasized that the Rules apply to all State of Colorado (State) agencies as well as federal projects that are fully or partially financed using State funds. All activities conducted by State agencies must meet the criteria contained in the Rules, whether taking place on state, local, or private lands. No State agencies are exempt from the Rules, unless otherwise codified through statutory exemptions on a case-by-case basis. State agencies are strongly encouraged to meet all local regulations, and are requested to self-enforce the Rules.

**Regarding Rule 5, “Regulatory Floodplain”**
It is emphasized that for all purposes, the Rules refer to the 100-year floodplain (1% chance floodplain) as the minimum standard for regulation. There is no CWCB requirement, under any circumstance, for the 500-year floodplain (0.2% chance floodplain) to be used for local regulation. Local decisions to implement wise higher standards, such as a 500-year floodplain standard, are voluntary in nature and the CWCB provides no incentives or disincentives to do so. The 100-year floodplain is consistent with the minimum standards of the NFIP.

One of the provisions in the Rules that exceed the NFIP minimum standard is the requirement for new and substantially changed structures on land removed from the 100-year floodplain by a LOMR Based on Fill (LOMR-F) to be elevated one foot above the base flood elevation. While this provision is specifically addressed in Rule 11(c), the language in Rule 5 specifies that a land area removed by FEMA through the LOMR-F process should still be regulated as if it were still in the previously designated floodplain. The intent of this rule is only to regulate development in areas removed from the 100-year floodplain as it pertains to lowest floor elevations as outlined in Rule 11(c). It is not the intent of this rule to apply all other floodplain regulations to these areas.

Substantial changes as defined in the rules generally include substantially damaged and substantially improved structures as defined in the NFIP.

**Regarding Rule 6, “Critical Facilities”**
It is emphasized that the Rules do not prohibit the placement of critical facilities in the regulatory floodplain. Also, while this rule does encourage local governments to regulate critical facilities within an identified 500-year floodplain, there is no CWCB mandate to either develop 500-year floodplain mapping or to regulate anything within an established 500-year floodplain.

The only requirement that results from having a structure or facility labeled as a “critical facility” is that the lowest floor of the structure (or level of protection for a non-structure) should be elevated or
floodproofed to two feet above the base flood elevation, rather than one foot above the base flood elevation. No additional requirements or regulations apply as a result of the critical facility determination.

Significant latitude is provided to local governments in the determination of whether a proposed land use constitutes a critical facility. As stated in this rule, any “gray area” scenario is up to the discretion of the local government as long as it meets the stated spirit and intent of this rule. While it is impossible to anticipate all circumstances that may arise, the CWCB believes that its intent is clearly stated by the language and examples provided in this rule. CWCB staff will provide technical assistance to any communities requesting help with a determination of whether a proposed structure should be designated as a “critical facility”.

Local jurisdictions are not required by this rule to develop a list of critical facilities within their community. It is up to each community to determine how to address this rule, but the CWCB recommends to simply add the critical facility determination as a checkoff item to the regular permitting process. A question such as “Does the proposed use of this project constitute a critical facility as outlined in this ordinance?” could be added. If this question is answered yes, then two feet of freeboard above the base flood elevation should be provided in the proposed design. If the question is answered no, then the regular one foot of freeboard may be provided.

This rule is not intended to be retroactive. However, substantial changes may require the need to retrofit previously constructed facilities. This substantial change process is not new to the Rules, and has always been in place as a minimum requirement of the NFIP. As has always been the case, the process of determining substantial changes is left to local governments, and there is no need to alter the current local process as a result of this rule. While this rule sets criteria for certain land uses, it is not intended to prescribe local procedures.

Finally, one community has suggested that a way to circumvent the need for a critical facilities section in their ordinance is to require two feet of freeboard community-wide in place of the one-foot freeboard required in these rules. Because the only additional regulation in these rules associated with a critical facility designation is an additional foot of freeboard, this would suffice to meet the intent and requirements of the critical facilities ordinance. While it wasn’t the intent of the CWCB to encourage this, CWCB staff nonetheless agrees that if a two-foot freeboard was applied communitywide, it would nullify the need to have a critical facilities provision in the local ordinance.

**Regarding Rule 7, “Standards for Delineation of Regulatory Floodplain Information”**
The intent of this rule is to provide technical criteria for mapping regulatory floodplains. The required standards of this rule are intended to be synonymous with FEMA’s mapping program.

**Regarding Rule 8, “Standards for Regulatory Floodways”**
Floodway provisions have existed for decades in NFIP regulations. This rule does not change any regulations associated with floodways, but does create a higher standard (lower surcharge) for the identification of floodways when new studies occur.

It is emphasized that this rule does not prohibit any activities in the regulatory floodway, as has always been the case in NFIP and CWCB regulations. Certain operations can and do occur in existing floodway areas in a viable way. The only additional regulation for floodways (in addition to standard floodplain regulations, which apply to all areas of the regulatory floodplain, including the floodway) is the
requirement for a no-rise certification, which prohibits increases in flood elevations due to activities within the floodway. This no-rise requirement for floodway activities has always been present within NFIP regulations. The primary purpose of the floodway requirement is not just protection of the subject development itself, but also to place a limit on the negative effects of the subject development that are pushed off onto neighboring properties.

Some discussion regarding the surcharge criteria is needed to frame this guidance. According to the definition for Regulatory Floodway found in 44 CFR Part 59.1, a regulatory floodway means:

“the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height” (emphasis added).

The CWCB definition is synonymous with this federal definition. An important point to be taken from this wording is that the increase to the water surface elevation is not necessarily equal to the designated height, but can never be more than the designated height. Because cross-sections can vary greatly, even within a reach, the computed floodway is often extremely erratic over short stretches, which makes mapping and regulation challenging. A common technique is to “smooth out” the floodway to a more consistent shape that is more effective for regulation. By definition, the floodway surcharge can never be more than the designated height, but it can be less. This means that in a typical portrayal of a floodway, some of the sections in a reach will contain the maximum surcharge, but some will also show a surcharge less than the designated height, in some cases much less. Examination of a floodway table in most Flood Insurance Studies will show this in real world examples.

For example, if the designated height is one foot, as has been FEMA’s minimum standard for decades, a sample reach containing 5 cross sections, may show one section with a surcharge of 1.0’, one section with a surcharge of 0.9’, one section with a surcharge of 0.5’, one section with a surcharge of 0.3’, and one section with a surcharge of 0.1’. When this reach is shown on the corresponding FIRM, a floodway of relatively consistent width and shape is portrayed.

If the sample reach discussed above were to be restudied, three of the hydraulic model sections (0.5’, 0.3’ and 0.1’ surcharges) would meet the new criteria, but two of the sections (1.0’ and 0.9’ surcharges) would need to have a floodway revision to be consistent with the new statewide rules. It may be possible to re-delineate the floodway with just these two sections revised and still meet FEMA mapping practices for floodway delineation. It is therefore possible that the remaining three sections would not need to be revised. However, if the revised floodway needs to be “smoothed out”, it is also possible that some or all of the remaining three sections would need to be revised, even though they have already met the new criteria.

The Rules require that for all newly studied reaches, the designated floodway surcharge (height) is reduced to 0.5’. An exemption is available for any studies that result in a change that results in a Letter of Map Revision (LOMR) to previously mapped floodway delineation, as defined in the rules. In other words, LOMR submittals are deliberately exempted from the new floodway criteria as an effort in preventing “patchwork floodways”.

This means that new studies that begin after the effective date of the Rules that result in any of the following should use the new criteria (or stricter, if local rules indicate), regardless of whether a local ordinance has already been revised with the new criteria:
- Any reach with a floodway that is being delineated for the first time, including Risk Map studies;
- Any reach that is already mapped using a 0.5’ criteria;
- Any reach that is being revised in a community that locally requests the new criteria; or
- Any reach that is being revised through a FEMA Physical Map Revision

If a new study results in a floodplain and floodway delineation that does not meet any of the above four circumstances, it may continue to use the floodway surcharge criteria that was in place for the previous floodway delineation.

This rule must be applied regardless of whether the restudy was initiated at the local, state, or federal level, as long as it meets one of the above four conditions. Many studies initiated at the local level are of a smaller nature, and regulatory changes are often accomplished through a LOMR. As stated above, these studies would be exempt from the new requirement.

Another important area of clarification relates to the transition of regulation from a 1’ surcharge criteria to a 0.5’ surcharge criteria. With very limited exceptions, nearly all floodways depicted on currently effective Flood Insurance Rate Maps (FIRMs) in Colorado portray the 1’ surcharge criteria. Although some communities have expressed a desire for many years to have a lesser surcharge portrayed on their FIRMs (most commonly 0.5’), FEMA typically has mapped only the 1’ surcharge floodway due to a longstanding policy that floodways based on an allowable surcharge more restrictive than the minimum standard would have to be adopted by state law or regulation (even when a 0.5’ floodway is available and desired by the community).

Because the definition of a floodway states that the surcharge cannot be more than a designated height, a surcharge that is consistently less than the designated height is appropriate and fits the definition. For this reason, CWCB believes that the new surcharge criteria does not require a change in local ordinance and therefore can be considered effective as of January 14, 2011. It is appropriate then that the new floodway criteria can be assumed effective for all new studies that started on or after January 14, 2011. The start date is defined as issuance of Notice to Proceed for all non-federal studies and the date of formal issuance of the scope of work for all federal studies. An exemption is available for any studies that result in a change to a previously mapped floodway delineation due to a LOMR, as defined in the Rules. For normal circumstances, federal studies will take several years to complete and it is highly unlikely that the CWCB will need to designate and approve new floodway information (with the 0.5’ surcharge) during the three year grace period unless a community has a specific need or request to do so.

The CWCB does not intend to designate newly mapped or remapped floodways with a 1’ surcharge criteria for studies with a start date on or after January 14, 2011, with the exception of remapped floodways to be revised through a LOMR. FEMA has been coordinating with the CWCB regarding the new criteria and will support this rule statewide.

The intent of this rule is to avoid “patchwork” floodways, with alternating criteria along short reaches, which is why studies resulting in Letters of Map Revision are specifically exempted. For the sake of consistency and fairness, the CWCB suggests that all new floodway information using the new 0.5’ surcharge criteria should be completed as part of an objective government study that would lead to new FIRMs or Physical Map Revisions.
The CWCB has committed to maintaining a statewide database of stream reaches that use the 0.5’ criteria. Once a reach is mapped with the 0.5’ surcharge criteria, it must continue to use those criteria in future studies.

FEMA and its mapping contractor have been involved in the discussions regarding transitioning to the new criteria. FEMA and the CWCB recommend that any uncertainty over prevailing criteria of a restudied reach should be addressed to the CWCB. If there is uncertainty regarding whether a study will result in a LOMR or a Physical Map Revision, FEMA and its mapping contractor will provide technical support. It is strongly recommended that inquiries regarding this issue take place before the study is started.

It must be emphasized that this rule does not require automatic remapping of any stream reaches. In other words, if existing delineated stream reaches have a 1.0’ surcharge floodway attached to them, they may continue to exist as the regulatory floodways until a decision is made in the future to restudy them. This rule only addresses the criteria to be used when the decision is made to update the stream reaches. If a community is satisfied with the accuracy of a stream reach that has already been mapped, then it may continue to regulate that reach with the currently mapped floodway. However, as soon as a stream reach is restudied, it should incorporate the new criteria to remap the floodway, unless it will revise the effective FIRM with a LOMR.

It must also be emphasized that this rule does not require a floodway to be mapped for new studies. The level of detail for floodplain studies has always varied based on the funds available for the study and the desire for information by the local community. It is still allowable to complete a detailed study for a studied stream without delineating a floodway, as has always been the case. This rule does not add a requirement for floodways to be created either in detailed or approximate studies.

The new criteria are generally considered to be a mapping issue, rather than a regulation issue. The new criteria associated with this rule only affect the identification of a floodway reach. It does not, in any way, change the floodplain regulations associated with the floodway or the process used by a local government to regulate floodways. As such, local governments are recommended to simply regulate identified floodways in the same manner that has always been done. Primarily, local governments should continue to require a no-rise certification by a qualified professional (as outlined in this rule No-rise certifications, while technically challenging in many cases, are entirely possible). The most common approach to arriving at a no-rise design of a project is the concept of compensatory storage/conveyance where excavated areas may counteract stockpiled or filled areas. In these situations, engineers can model conditions to assess “net” floodway impacts.

It is important to note that the floodway to be regulated is the floodway portrayed on the effective FIRM for the community, unless the community locally decides to regulate a stricter floodway. This means that even with the more restrictive criteria set forth in this rule, a community may continue to regulate the already mapped 1’ criteria shown on its effective FIRMs until any reaches are restudied and officially revised by FEMA. As stated earlier, there is no mandate to restudy these reaches, but if any of the reaches are eventually restudied, they should follow the guidelines set forth above.

Communities are reminded that this rule (and NFIP regulations) only require no-rise certifications for development within floodway areas. While development in the flood fringe adjacent to floodway areas may affect base flood elevations for the entire floodplain (including the floodway), increases in water surface elevation due to activities outside of the floodway are permitted.
A number of communities have inquired as to whether previously studied floodway information will be mandated for regulation, as this was not addressed in the Rules. For example, the Urban Drainage and Flood Control District (UDFCD) has completed a number of studies that incorporated both 1' surcharge criteria (to meet FEMA’s requirements) and 0.5' criteria (which meets both UDFCD’s model ordinance as well as some local ordinances of member governments). The 0.5' criteria has been used by some local governments, despite the fact that their official FIRMs portray 1' criteria. However, other governments that have not been regulating to the 0.5' criteria do not use the 0.5' floodways, even though they have been studied and delineated. The decision was made that it will be left to each local government to address this issue at the local level; the CWCB does not mandate previously-studied information that was not incorporated into the regulatory floodplain that was considered optional at the time of study.

This rule also addresses floodway principles in detailed stream reaches in which floodways have not been delineated. This has always been addressed in NFIP regulations through 44 CFR Part 60.3(c)(10), which states:

“(a community shall) require until a regulatory floodway is designated that no new construction, substantial improvements, or other development (including fill) shall be permitted within (regulatory floodplains) unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.”

This federal regulation from the NFIP has generally been described as suggesting that in areas with base flood elevations identified but no delineated floodway - the entire floodplain should be treated as a floodway until an encroachment analysis can identify which areas would have been considered as floodway, which should then be regulated accordingly. Communities are typically given more latitude in this process than with formal floodways. For example, no-rise certifications are not formally required, but are suggested in certain circumstances. How this is managed at a local level is up to the local community; however, this federal regulation, which has existed for decades, indicates that the concepts of the floodway cannot simply be ignored because a floodway is not delineated on the regulatory map. This rule formally modifies this regulation by substituting the 0.5' criteria, although it does not change the basic process of this preexisting regulation. The stricter criteria will not be enforced by the State until the local ordinance is updated to reflect this.

It is important to note that this regulation resides in section (c) of 44 CFR Part 60.3 and addresses stream reaches with base flood elevations identified. FEMA does not require the above regulatory process in approximate studies where base flood elevations are not identified. The Rules similarly do not require that process in stream reaches with approximate studies.

A number of communities have already adopted floodway criteria that is more stringent than the 0.5' criteria established by this rule. Communities are entitled to regulate to stricter criteria than that set forth in this rule. However, FEMA has indicated that it will likely continue to strive for consistency on what is shown on future FIRMs to reduce cross-boundary discontinuities.

A number of industries have requested exemptions to this rule based on their unique circumstances. It should be noted that the floodway requirements have always been uniformly applied, and this will continue to remain so, with no exceptions for any specific activities or project proponents. On the other
hand, this floodway requirement should not be used as the basis for targeting any specific projects, land uses, or industries.

Regarding Rule 9, “Criteria for Determining the Effects of Flood Control Structures on Regulatory Floodplains”
There has been some confusion regarding the purpose and intent of this rule. This rule does not address the legality, maintenance requirements, water rights impacts, and technical requirements for the existence of a flood control structure (such as a dam or detention pond). This rule only addresses whether the flood reduction purposes of the structure can be considered in the floodplain mapping process. In general, the requirements for the consideration of flood reduction capabilities are synonymous with FEMA’s mapping criteria.

For example, a reservoir may provide incidental flood storage potential for a number of runoff events. However, if there is not pool storage specifically dedicated to flood control, the effects of the reservoir are not counted toward reduction of the downstream regulatory floodplain. This is consistent with FEMA mapping standards. However, this rule just addresses the regulatory flood impacts of the reservoir and does not address any ancillary issues with the existence of the reservoir itself.

Regarding Rule 10, “Criteria for Determining the Effects of Levees on Regulatory Floodplains”
There has been some confusion regarding the purpose and intent of this rule. This rule does not address the legality, maintenance requirements, and technical requirements for the existence of a levee. This rule only addresses whether the flood reduction purposes of the levee can be considered in the floodplain mapping process. In general, the requirements for the consideration of flood reduction capabilities are synonymous with FEMA’s mapping criteria.

For example, a levee may provide incidental flood protection, but has no provision for public maintenance or is uncertified as being structurally sound. In this case, the effects of the levee are not counted toward reduction of the regulatory floodplain. This rule just addresses the regulatory flood impacts of the levee and does not address any ancillary issues with the existence of the levee itself.

As of the date of this document, FEMA policy guidance regarding levees is being developed and the ultimate directive is unknown. The intent of this rule was to be synonymous with FEMA guidelines at the time of the rulemaking hearing. While the CWCB still believes this to be the most prudent approach to dealing with levees, this rule is not intended to be in conflict with FEMA’s policies regarding mapping standards involving levees. As such, this rule will remain consistent with FEMA’s approach to mapping regulatory floodplains affected by levees.

Regarding Rule 11, “Floodplain Management Regulations”
This rule, among other things, establishes a new requirement for the treatment of development on lands that are removed by FEMA from the regulatory floodplain through a LOMR Based on Fill (LOMR-F). The intent of this rule is simply to require new and substantially improved structures built on these lands to maintain a lowest floor one foot above the base flood elevation, consistent with development in regulatory floodplains.

The purpose of this rule is to mitigate known hazards associated with development in these areas. Experience has shown statewide that development that occurs in these areas has a higher risk of flooding than development in non-floodplain areas.
This rule does not apply to lands removed from the regulatory floodplain by FEMA through a LOMR, which although similarly named, is a completely different procedure. It also does not apply to lands removed from the regulatory floodplain through a Physical Map Revision or a Letter of Map Amendment.

The local government is responsible for maintaining awareness of which lands within its community have been affected by a LOMR-F. The CWCB and FEMA can assist with this, if needed.

**Regarding Rule 12, “Effects of Flood Mitigation Measures and Stream Alteration Activities on Regulatory Floodplains”**

This rule, among other things, clarifies a requirement established in 2005 that makes a State requirement for a LOMR to be applied for and issued for any development that increases or decreases the regulatory base flood elevation by more than 0.3 feet. The intent of this requirement is to create a compromise for mapping changes for activities deemed to create a significant change. Any change less than 0.3 feet to the base flood elevation is not considered to be significant by the State, and a mapping change will not be enforced.

Although it is not a State concern, communities are reminded of their responsibilities to FEMA through the NFIP, as outlined in 44 CFR Part 65.3, which states:

“A community’s base flood elevations may increase or decrease resulting from physical changes affecting flooding conditions. As soon as practicable, but not later than six months after the date such information becomes available, a community shall notify (FEMA) of the changes...”

This rule does not address responsibilities to FEMA, which is considered to be a local matter. Communities are encouraged to coordinate with FEMA regarding the possible need for floodplain map revisions for impacts from development that are less than 0.3 feet, especially in instances where there are multiple studies in the same general reach that may impact each other.

**Regarding Rule 15, “Variances”**

The consideration and issuance of variances has always been viewed as a local issue. The CWCB is not involved in the variance process unless specifically requested by a local jurisdiction. Communities continue to be cautioned that the excessive issuance of variances, or variances issued for insufficient factors, can be grounds for enforcement action and may also place the community’s status in the NFIP in jeopardy.

**Regarding Rule 16, “Enforcement of Floodplain Rules and Regulations”**

The existence of more restrictive standards is outlined in NFIP regulations in 44 CFR Part 60.1, which states,

“...any flood plain management regulations adopted by a State or a community which are more restrictive than the criteria set forth in (NFIP minimum regulations) are encouraged and shall take precedence.”

While the State has established its own enforcement procedure as outlined in this rule, communities are cautioned that their standing in the NFIP could be placed in jeopardy by violation of the Rules, which take precedence over minimum NFIP standards. However, the CWCB will not provide enforcement for locally adopted higher standards in excess of these state rules. Enforcement of such higher standards is considered to be a local issue and any complaints of violations will be referred to local jurisdictions.
**Regarding Rule 20, “Effective Date”**
The effective date for the Rules is January 14, 2011. The Rules are retroactive in nature. Notwithstanding the previous discussion regarding Rule 8, a three year grace period has been provided for local governments to update their ordinances to comply with the Rules.

The CWCB will undertake a comprehensive public outreach effort to assist communities with ordinance updates, including the development of a model ordinance. Communities and interested parties are encouraged to contact the CWCB for technical assistance at any time. Communities should consider anticipated timeframes of their local legal processes in order to have an updated ordinance by January 14, 2014. The Rules do not have a provision for time extensions on these processes.

In an effort to accommodate development plans that existed prior to the effective date of the Rules, two exceptions have been established to allow (but not mandate) local communities to continue with development proposals that may be inconsistent with the Rules, but would have met previous floodplain standards. These exceptions include:

- Issuance of a floodplain development permit by the local government prior to the date of ordinance update; or
- Issuance of a Conditional LOMR (CLOMR) by FEMA prior to the date of ordinance update.

Project proponents are reminded that a CLOMR is not the same as a floodplain development permit, and all permitting procedures established by the local government must be adhered to. It is at the discretion of the local government as to whether it will permit a non-conforming project having a valid CLOMR.