

Item #9B

**City of Carson City
Agenda Report**

Date Submitted: March 26, 2008

Agenda Date Requested: April 3, 2008

Time Requested: 20 minutes

To: Mayor and Board of Supervisors

From: Public Works Department

Subject Title: Staff presentation regarding the National Flood Insurance Program's (NFIP) Community Rating System (CRS) as it relates to Carson City.

Staff Summary: The National Flood Insurance Reform Act of 1994 codified the Community Rating System in the NFIP. Under the CRS, flood insurance premium rates are adjusted to reflect the reduced flood risk resulting from community activities that meet the three goals of the CRS:

- Reduce flood losses;
- Facilitate accurate insurance rating; and
- Promote the awareness of flood insurance.

Staff will show a 15 minute video followed by 5 minutes of questions and answers.

Type of Action Requested:

- | | |
|---|--|
| <input type="checkbox"/> Resolution | <input type="checkbox"/> Ordinance, first reading |
| <input type="checkbox"/> Formal Action/Motion | <input checked="" type="checkbox"/> Other (Presentation) |

Does This Action Require A Business Impact Statement: ☐ Yes ☒ No

Recommended Board Action: None - information only

Explanation for Recommended Board Action: N/A

Applicable Statute, Code, Policy, Rule or Regulation: Nevada Revised Statutes 278.020, 244A.057, and 543.020; CCMC Title 12.09; CCMC Title 18 Development Standards, Division 14 Storm Drainage, 14.1.7 Floodplain Management

Fiscal Impact: N/A

Explanation of Impact: N/A

Funding Source: Storm Drain Utility

Alternatives: N/A

Supporting Material: Community Rating System Video and supporting documents.

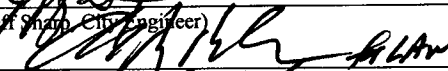
Prepared By: Robert D. Fellows, P.E. - CRS Coordinator

Reviewed By:


(Jeff Sharp, City Engineer)

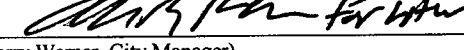
Date:

3/25/08


(Andrew Burnham, Public Works Director)

Date:

3/25/08


(Larry Werner, City Manager)

Date:

3/25/08


(Melanie Roubette, District Attorney)

Date:

3-25-08

Board Action Taken:

Motion: _____

1) _____

Aye/Nay

2) _____

(Vote Recorded By)

Community Rating System

Introduction

The National Flood Insurance Program's (NFIP) Community Rating System (CRS) was implemented in 1990 as a program for recognizing and encouraging community floodplain management activities that exceed the minimum NFIP standards.

The National Flood Insurance Reform Act of 1994 codified the Community Rating System in the NFIP. Under the CRS, flood insurance premium rates are adjusted to reflect the reduced flood risk resulting from community activities that meet the three goals of the CRS:

- Reduce flood losses;
- Facilitate accurate insurance rating; and
- Promote the awareness of flood insurance.

Purpose and Scope

When your community participates in the CRS, everyone benefits, including those who don't live or own property in a floodplain. Even when there is no flooding, your community's public information and floodplain management efforts can improve the quality of life, protect the environment, make people safer, and save everyone money.

If there is a flood, your CRS activities:

- Save lives.
- Prevent property damage.
- Avoid lost jobs and economic devastation caused by flooding of offices, factories, farms, stores, and other businesses.
- Prevent damage and disruption to roads, schools, public buildings, and other facilities.

Benefits of the CRS

There are many benefits to the community to join the CRS. These benefits ensure public safety, property damage reduction, and protection of the environment.

Community Responsibilities

To earn CRS credit, your community can do things like:

- Preserve open space in the floodplain;
- Enforce higher standards for safer new development;
- Maintain drainage systems; and
- Inform people about flood hazards, flood insurance, and how to reduce flood damage.

CRS Activities

Communities should undertake activities that deal with their particular flood problems, regardless whether they are credited by the CRS. Your community may already be implementing several activities that deserve CRS credit

Public Information (Series 300)

This series credits programs that advise people about the flood hazard, flood insurance, and ways to reduce flood damage. These activities also provide data needed by insurance agents for accurate flood insurance rating. They generally serve all members of the community and work toward all three goals of the CRS. Activity 310 (Elevation Certificates) is required of all CRS communities. Designated repetitive loss communities have additional responsibilities.

Mapping and Regulations (Series 400)

This series credits programs that provide increased protection to new development. These activities include mapping areas not shown on the FIRM, preserving open space, enforcing higher regulatory standards, and managing stormwater. The credit is increased for growing communities. These activities work toward the first and second goals of the CRS, damage reduction and accurate insurance rating.

Flood Damage Reduction (Series 500)

This series credits programs for areas in which existing development is at risk. Credit is provided for a comprehensive floodplain management plan, relocating or retrofitting floodprone structures, and maintaining drainage systems. These activities work toward the first goal of the CRS, damage reduction.

Flood Preparedness (Series 600)

This series credits flood warning, levee safety, and dam safety programs. These activities work toward the first and third goals of the CRS, damage reduction and hazard awareness.

CRS Credit Points

A community's classification is based on the community total points. The qualifying community total points, CRS classes, and flood insurance premium credits are shown below:

| Credit Points | CRS Class | Premium Discount |
|---------------|-----------|------------------|
| 4,500+ | 1 | 45% |
| 4,000-4,499 | 2 | 40% |
| 3,500-3,999 | 3 | 35% |
| 3,000-3,499 | 4 | 30% |
| 2,500-2,999 | 5 | 25% |

| | | |
|-------------|----|-----|
| 2,000-2,499 | 6 | 20% |
| 1,500-1,999 | 7 | 15% |
| 1,000-1,499 | 8 | 10% |
| 500-999 | 9 | 5% |
| 0-499 | 10 | 0 |

| Community Number | Community Name | CRS Entry Date | Current Class | % Discount for SFHA | % Discount for Non-SFHA |
|------------------|-----------------|----------------|---------------|---------------------|-------------------------|
| 320001 | Carson City | 10/1/1994 | 8 | 10 | 5 |
| 320003 | Clark County | 10/1/1992 | 6 | 20 | 10 |
| 320008 | Douglas County | 10/1/1993 | 6 | 20 | 10 |
| 320005 | Henderson | 10/1/1991 | 6 | 20 | 10 |
| 325276 | Las Vegas | 10/1/1991 | 6 | 20 | 10 |
| 320035 | Mesquite | 10/1/2002 | 7 | 15 | 5 |
| 320007 | North Las Vegas | 10/1/1991 | 6 | 20 | 10 |
| 320033 | Storey County | 10/1/1994 | 8 | 10 | 5 |

SFHA - special flood hazard area

Carson City's current CRS class is 8 with 1221 points. The City would need 279 points to be a class 7, 779 points to be a class 6 and 1279 points to be a class 5. City Staff is current working toward obtaining a better class through efforts already completed under the Northwest Drainage Projects and in other programs such as storm water quality, open space and the update to the city's web site.

Insurance

There are currently 682 policies in Carson totaling \$434,160 worth of premiums. The insurance in force is \$155,368,100 and there have been 46 paid losses totaling \$518,510 since the City joined the program.

This gives a 10 % discount to those who buy flood insurance in the SFHAs and a 5% discount to those who buy flood insurance outside of the SFHAs. If Carson became a class 5, the people in the SFHAs would receive a 25 % discount and those outside the SFHAs would receive a 10% discount.

The following table shows the general saving by CRS class for Carson City.

Community: CARSON CITY, CITY OF**State:** NEVADA**County:** INDEPENDENT CITY**CID:** 320001**Current CRS Class = 8***[Printable Version]*

| | TOTAL | SFHA * | X-STD/AR/A99 ** | PRP *** |
|-----------------|--------------|---------------|----------------------------|----------------|
| PIF | 682 | 485 | 37 | 160 |
| PREMIUM | \$434,160 | \$359,137 | \$26,014 | \$49,009 |
| AVERAGE PREMIUM | \$637 | \$740 | \$703 | \$306 |

CRS Class

| | | | | | |
|----|---------------|-----------|-----------|---------|-----|
| 09 | Per Policy | \$31 | \$41 | \$37 | \$0 |
| | Per Community | \$21,321 | \$19,952 | \$1,369 | \$0 |
| 08 | Per Policy | \$61 | \$82 | \$37 | \$0 |
| | Per Community | \$41,273 | \$39,904 | \$1,369 | \$0 |
| 07 | Per Policy | \$90 | \$123 | \$37 | \$0 |
| | Per Community | \$61,225 | \$59,856 | \$1,369 | \$0 |
| 06 | Per Policy | \$121 | \$165 | \$74 | \$0 |
| | Per Community | \$82,547 | \$79,808 | \$2,738 | \$0 |
| 05 | Per Policy | \$150 | \$206 | \$74 | \$0 |
| | Per Community | \$102,499 | \$99,761 | \$2,738 | \$0 |
| 04 | Per Policy | \$180 | \$247 | \$74 | \$0 |
| | Per Community | \$122,451 | \$119,713 | \$2,738 | \$0 |
| 03 | Per Policy | \$209 | \$288 | \$74 | \$0 |
| | Per Community | \$142,403 | \$139,664 | \$2,738 | \$0 |
| 02 | Per Policy | \$238 | \$329 | \$74 | \$0 |
| | Per Community | \$162,355 | \$159,617 | \$2,738 | \$0 |
| 01 | Per Policy | \$267 | \$370 | \$74 | \$0 |
| | Per Community | \$182,307 | \$179,569 | \$2,738 | \$0 |

* SHFA (Zones A, AE, A1-A30, V, V1-V30, AO, and AH): Discount varies depending on class.

** SFHA (Zones A99, AR, AR/A, AR/AE, AR/A1-A30, AR/AH, and AR/AO): 10% discount for Classes 1-6; 5% discount for Classes 7-9.

*** Preferred Risk Policies are not eligible for CRS Premium Discounts.

310 ELEVATION CERTIFICATES

CC
SCORE
112

Summary of Activity 310

311 Credit Points. There are four elements in this activity for a maximum of 162 points.

- a. Maintaining elevation certificates (EC): Up to 56 points are provided for maintaining FEMA elevation certificates on all buildings built in the Special Flood Hazard Area (SFHA) after the date of application to the CRS. All communities applying to the CRS must apply for this element. The community must make copies of the certificates available to all inquirers. The FEMA elevation certificate is shown in Figure 310-2.
- b. Maintaining elevation certificates for post-FIRM buildings (ECPO): Up to 56 points are provided for maintaining elevation certificates on buildings built before the date of application to the CRS but after the initial date of the Flood Insurance Rate Map (FIRM).
- c. Maintaining elevation certificates for pre-FIRM buildings (ECPR): Up to 15 points are provided for maintaining elevation certificates on buildings built before the initial date of the FIRM.
- d. Maintaining elevation certificates in computer format (ECCF): Up to 15 points are provided if the elevation certificate data are kept and made available in computer format. A free elevation certificate computer program may be ordered (see Appendix E).
- e. Maintaining elevation certificate data on a website (ECWS): Up to 20 points are provided for putting elevation certificate data on a publicly accessible website.

312 Impact Adjustment. The credit points for the last four elements are adjusted in one of three ways. There is no impact adjustment for EC.

- a. Under Option 1, where there are elevation certificates on all buildings that could have them, the impact adjustment ratio is 1.0.
- b. Under Option 2, where there are elevation certificates on at least 25% of all buildings that could have them, the impact adjustment ratio is 0.25.
- c. Under Option 3, the impact adjustment ratios reflect the proportion of buildings that have elevation certificates.

313 Credit Calculation. The credit points for each element are multiplied by the impact adjustment ratios.

314 Credit Documentation. The community must have the following available to verify implementation of this activity:

- a. [If applying for ECPO or ECPR and the community used a form different from FEMA's] A copy of the elevation certificate form and documentation that FEMA has approved the community's form.
- b. [If applying for ECCF credit] A copy of the computer format (if it is different from the software listed in Appendix E).
- c. Copies of all completed elevation certificates that the community wants credited for EC, ECPR, or ECPO. Sample copies of the digital or website versions will be collected to document credit for ECCF and ECWS.
- d. [If applying for ECWS credit] The website address.
- e. Documentation showing how the impact adjustments were determined.
The community must submit the following with its annual CRS recertification.
- f. [If applying for ECCF credit] A disk with the previous year's elevation certificate data.

315 For More Information.

320 MAP INFORMATION SERVICE

CC
SCORE
140

Summary of Activity 320

321 Credit Points. There is one element in this activity for a maximum of 140 points.

Map Information (MI) Service: up to 140 points are provided if the community or other qualified agency:

1. Provides Flood Insurance Rate Map (FIRM) information to inquirers,
2. Provides information on the flood insurance purchase requirement,
3. Provides information on Coastal Barrier Resources System requirements,
4. Keeps old FIRMs and updates the maps used for the service,
5. Publicizes the service at least once a year,
6. Advises inquirers whether the property is subject to a special flood-related hazard, and
7. Answers questions from the inquirers about related topics such as local floodplain management requirements.

There is no impact adjustment for this activity.

322 Credit Calculation. Up to 140 credit points are provided for this activity. The credit points are based on whether all of the prerequisites are met and whether the service is provided through personal contact, a website, or other remote service provider.

323 Credit Documentation. The community must have the following documentation available to verify implementation of this activity.

- a. Documentation that shows how the service was publicized.
- b. If another agency provides this service, documentation that the agency agrees to provide the service to all inquirers and it will allow the ISO/CRS Specialist to verify its work.
- c. Records of institutions and agencies that were notified of this service.
- d. A record or log of requests for information. The record must note the date, the FIRM zone, the address or location of the property in question, and whether the inquirer was advised of the insurance purchase requirement and/or coastal barrier designation.
- e. Documentation showing how the FIRM is kept updated at least annually. The community must maintain copies of the FIRMs.

324 For More Information.

330 OUTREACH PROJECTS

CC
SCOPE
73

Summary of Activity 330

331 Credit Points. There are five elements in this activity for a maximum of 380 points. The credit points are partially based on the number of topics covered by each outreach project.

- a. Outreach projects to the entire community (OPC): Up to 60 points are provided for sending written information to all properties in the community through a mailing or newsletter.
- b. Outreach projects to the floodplain properties (OPF): Up to 130 points are provided for sending a notice directed to properties in floodprone areas. The notice must clearly explain that the recipient's property is subject to flooding.
- c.
 1. Additional outreach projects (OPA): Up to 60 points are provided for conducting up to three additional outreach projects, such as a "flood awareness week" or flyers inserted in local newspapers, that will reach some of the population; OR
 2. Outreach projects pursuant to a public information program strategy (OPS): Up to 125 points are provided for implementation of additional projects that are identified in a public information program strategy. There is no OPA credit if the community receives credit for OPS.
- d. Promotion of flood insurance (PFI): Up to 65 points are provided for distributing a letter or brochure on flood insurance to all properties in the community.

332 Credit Calculation. The credit points for each element are totaled.

333 Credit Documentation. The community must have the following documentation available to verify implementation of this activity.

- a. Copies of the notices, flyers, and other materials used in the outreach projects.
- b. [If the community applies for credit under Section 331.c.2] A copy of the public information program strategy document and documentation that it is being implemented by the community.
- c. Documentation that shows when the outreach projects are undertaken.
- d. [If the community applies for credit for PFI under Section 331.d] An estimate of the number of buildings, apartments, and condominium units in the community and in the SFHA and how the numbers were calculated.

The community must submit the following with its annual CRS recertification:

- e. Copies of the community's outreach projects that were conducted that year.
- f. [If the community applies for credit under Section 331.c.2] A copy of the annual evaluation of the community's public information program strategy.

334 For More Information.

340 HAZARD DISCLOSURE

CC
SCORE
10

Summary of Activity 340

341 Credit Points. There are four elements in this activity for a maximum of 81 points.

- a. Disclosure of the flood hazard (DFH):
 - 46 points are provided if real estate agents notify those interested in purchasing properties located in the Special Flood Hazard Area (SFHA) about the flood hazard and the flood insurance purchase requirement.
 - 20 points are provided if there is a state law requiring real estate agents to ensure that potential purchasers of properties in the SFHA are notified of the flood hazard.
- b. Other disclosure requirements (ODR): 5 points are provided for each other disclosure method required by law.
- c. Real estate agents' brochure (REB): 10 points are provided if real estate agents are providing brochures or handouts that advise potential buyers to investigate the flood hazard for a property.
- d. Disclosure of other hazards (DOH): 10 points are provided if the notification to prospective buyers includes disclosure of other flood-related hazards, such as erosion, subsidence, or wetlands.

There is no impact adjustment for this activity.

342 Credit Calculation. The credit points for each element are totaled.

343 Credit Documentation. The community must have the following available to verify implementation of this activity.

- a. [If applying for DFH credit under Section 341.a.1] Copies of completed disclosure notices from at least five local real estate agencies showing that they are advising potential property purchasers of the flood hazard and the flood insurance purchase requirement.
- b. [If applying for DFH credit under Section 341.a.2] A copy of the state law that requires real estate agents to ensure that those interested in purchasing properties located in floodplains are notified of the hazards.
- c. [If applying for ODR credit under Section 341.b] A copy of the portion of the ordinance or law that requires one or more additional disclosure methods at the time of sale or rental of a property.
- d. [If applying for REB credit under Section 341.c] The brochure or other document made available by real estate agents.
- e. [If applying for DOH credit under Section 341.d] Documentation that the notice for DFH includes disclosure of other flood-related hazards.

344 For More Information.

350 FLOOD PROTECTION INFORMATION

CC
SCORE
28

Summary of Activity 350

351 Credit Points. There are three elements in this activity for a maximum of 102 points.

- a. Flood protection library (LIB): 25 points are provided if the local public library contains at least one document from these topics and the documents are entered into the library's card catalog or similar system that allows patrons to find publications related to flooding and flood protection.
- b. Locally pertinent documents (LPD): Up to 5 points are provided for having documents keyed to local or state conditions.
- c. Flood protection website (WEB): Up to 72 points are provided for including flood protection information or links to such information on the community's website.

There is no impact adjustment for this activity.

352 Credit Calculation. The credit points for each element are totaled.

353 Credit Documentation. The community must have the following available to verify implementation of this activity.

- a. [Required only if the community is applying for LIB or LPD credit] A statement from the head of the library that includes:
 1. A list, with publication dates, of the flood-related documents in the library;
 2. Either:
 - (a) Certification that the documents have been entered into the library's card catalog or similar system; OR
 - (b) A copy of the card catalog cards or printout of the automated system's inventory of flood documents; and
 3. Certification that the library will maintain adequate numbers of the listed documents to meet the demand and that the FIRMs and other materials will be kept up to date.
- b. [Required only if the community is applying for WEB credit] The address of the community's website.

The community must submit the following with its annual CRS recertification:

- c. [Required only if the community is applying for WEB credit] Certification that it has conducted its annual review and update of the information and links on its flood protection website.

354 For More Information.

360 FLOOD PROTECTION ASSISTANCE

CC
SCORE
62

Summary of Activity 360

361 Credit Points. There is one element in this activity for a maximum of 71 points.

Flood protection assistance (FPA): Up to 71 points are provided based on the type of technical assistance that is provided.

- a. 10 points for providing site-specific flood and flood-related data, such as floor elevations, data on historical flooding in the neighborhood, or similar information so inquirers can relate the flood threat to their properties.
- b. 4 points for providing names of contractors and consultants knowledgeable or experienced in retrofitting techniques and construction.
- c. 3 points for providing material on how to select a qualified contractor and on what recourse people have if they are dissatisfied with a contractor's performance.
- d. 35 points for making site visits to review flooding, drainage, and sewer problems and providing one-on-one advice to the property owner.
- e. 14 points for providing advice and assistance on the retrofitting techniques discussed in Activity 530 (Flood Protection).
- f. 5 points if the person providing the advice and assistance on retrofitting techniques has graduated from the Emergency Management Institute course on retrofitting.

There is no impact adjustment for this activity.

362 Credit Calculation. The credit points for FPA are totaled.

363 Credit Documentation. The community must have the following available to verify implementation of this activity.

- a. A copy of the document the community used to publicize the service.
- b. A description of the technical qualifications of the persons providing the assistance.
- c. If the person is not a community employee, a copy of a letter stating that the person and/or agency has agreed to do the work.
- d. [Required only if the community is applying for credit under Section 361.b or c] A list of the names of contractors or consultants and/or a copy of the material the community provides on how to select a contractor.
- e. [Required only if the community is applying for credit under Section 361.d or e] Records noting the date and person assisted and the type of assistance provided.

364 For More Information.

410 ADDITIONAL FLOOD DATA

CC
SCORE
0

Summary of Activity 410

411 Credit Points. Additional flood data (AFD) credit is provided for portions of the floodplain that are mapped and managed to standards exceeding the minimum requirements of the National Flood Insurance Program (NFIP). Six elements make up AFD for a maximum of 1,346 points.

- a. New study (NS): Up to 410 points are provided for new flood studies that produce base flood elevations or floodways, with additional credit for studying repetitive loss areas.
- b. Leverage (LEV): The points for NS are multiplied by a ratio that reflects how much of the study was financed by non-FEMA funds.
- c. Higher study standards (HSS): Up to 160 points are provided if the new study was done to one or more higher standards than the FEMA mapping criteria.
- d. More restrictive floodway standard (FWS): Up to 200 points are provided based on the allowable floodway surcharge used in the study.
- e. Additional flood data for special hazards (AFDSH): Up to 50 points are provided if the community maps and regulates areas of special flood-related hazards.
- f. Cooperating Technical Partner (CTP): Up to 141 points are provided if the community, appropriate regional agency, or state has a signed, qualifying CTP agreement with FEMA.

412 Impact Adjustment. The credit points for each element are adjusted in one of three ways.

- a. Under Option 1, if the standards apply throughout the Special Flood Hazard Area (SFHA), the impact adjustment ratio for an element is 1.0.
- b. Under Option 2, if the standards do not apply throughout the SFHA, a default impact adjustment ratio of 0.25 may be used.
- c. Under Option 3, the impact adjustment ratios may reflect the proportion of the SFHA affected by the element. The ratio may be as high as 1.5 if the community maps and regulates floodplains outside of the SFHA.

413 Credit Calculation. The credit points for each element are multiplied by the impact adjustment ratios and the products are totaled.

414 Credit Documentation. The community must have the following available to verify implementation of this activity.

- a. The ordinance or law that adopts the map or standard.
- b. A copy of the study or technique used, an explanation of the technique used, and a licensed engineer's statement that the study was based on a technique approved by FEMA, or documentation that the study or technique has been reviewed and accepted by FEMA.
- c. [If applying for NS credit for independent review under Section 411.a] Documentation that the study or analysis technique has been reviewed and accepted.
- d. [If applying for LEV credit under Section 411.b] Documentation of the non-FEMA share of the flood study.
- e. [If the impact adjustment factors were based on Option 3 (412.c)] The Impact Adjustment Map.
- f. [If the community is requesting credit for CTP2 under Section 411.f] Documentation of the relation between the study or standard and the CTP agreement.
- g. [If the community has received credit for a new study (NS)] At the cycle verification visit, a certification by the community's engineer that the maps are still current.

415 For More Information.

420 OPEN SPACE PRESERVATION

CC
SCORE
45

Summary of Activity 420

421 Credit Points. There are four elements in this activity for a maximum of 900 points (excluding special hazards credit).

- a. Preserved open space (OS): Up to 725 points are provided for keeping vacant floodplain lands open. This can be done by keeping the land publicly owned (e.g., a park or golf course), by keeping it as a private preserve (e.g., hunting club lands), or by regulating development so that there will be no new buildings or filling on the land.
- b. Deed restrictions (DR): Up to 75 points are provided if the deeds for the parcels preserved as OS have restrictions that prevent future owners from developing them.
- c. Natural and beneficial functions (NB): Up to 100 points are provided if the parcels preserved as OS are in an undeveloped natural state, have been restored to a natural state, or protect natural and beneficial floodplain functions.
- d. Special hazard areas preserved as open space (SHOS): Up to 50 points are provided if the open space is also in an area subject to one of the special flood-related hazards listed in Section 401.

422 Impact Adjustment. The credit points for each element are adjusted in one of three ways.

- a. Under Option 1, where the entire regulatory floodplain is affected, the impact adjustment ratio for an element is 1.0.
- b. Under Option 2, where at least 5 acres of regulatory floodplain are affected, the impact adjustment ratio for an element is 0.05 for OS and 0.1 for DR and NB.
- c. Under Option 3, the impact adjustment ratios reflect the proportion of the regulatory floodplain affected by an element.

423 Credit Calculation. The credit points for each element are multiplied by the impact adjustment ratios.

424 Credit Documentation. The community must have the following available to verify implementation of this activity.

- a. [Required only if credit for OS is based on a prohibitory regulation] A copy of the regulatory language.
- b. Documentation showing the development restriction for each parcel to be credited under OS. If Option 2 was used, then documentation is only needed for 5 acres.
- c. Documentation showing the deed restriction for each parcel to be credited under DR. If Option 2 was used, then documentation is only needed for 5 acres.
- d. Documentation, signed by a professional in a natural science, that parcels credited under NB have been preserved in or restored to an undeveloped natural state. If Option 2 was used, then documentation is only needed for 5 acres.
- e. The Impact Adjustment Map, showing the areas designated for credit.
- f. [Required only if credit is requested for areas outside the Special Flood Hazard Area (SFHA) shown on the Flood Insurance Rate Map (FIRM)] Documentation showing that floodplain regulations are in effect in those areas.

425 For More Information. Additional credit for open space in special hazard areas is discussed in the supplements on special hazards.

430 HIGHER REGULATORY STANDARDS

CC
SCORE
121

Summary of Activity 430

431 Credit Points. There are 16 elements in this activity for a maximum of 2,740 points (excluding special hazards credit):

- a. Freeboard (FRB): Up to 300 points for a freeboard requirement.
- b. Foundation protection (FDN): Up to 35 points for engineered foundations.
- c. Cumulative substantial improvements (CSI): Up to 110 points for counting improvements cumulatively.
- d. Lower substantial improvements (LSI): Up to 90 points for a substantial improvement threshold lower than 50%.
- e. Protection of critical facilities (PCF): Up to 100 points.
- f. Protection of floodplain storage capacity (PSC): Up to 80 points.
- g. Natural and beneficial functions regulations (NBR): Up to 40 points.
- h. Enclosure limits (ENL): 300 points for prohibiting first-floor enclosures.
- i. Other higher standard (OHS): Up to 100 points for other regulations.
- j. Land development criteria (LD): Up to 700 points, as calculated in Section 430LD.
- k. Special hazards regulations (SH): Credit points vary for regulations keyed to special flood-related hazards.
- l. State-mandated regulatory standards (SMS): Up to 45 points.
- m. Building code (BC): Up to 190 points, based on the community's classification under the Building Code Effectiveness Grading Schedule and adoption of the International Code Series.
- n. Staffing (STF): Up to 50 points, based on certification and training of the community's staff.
- o. Manufactured home parks (MHP): Up to 50 points for certain anchoring and elevation requirements.
- p. Coastal AE Zones (CAZ): Up to 650 points for construction standards in certain coastal zones.

432 Impact Adjustment. The credit points for each element are adjusted in one of three ways:

- a. Under Option 1, if the standards apply throughout the regulatory floodplain, the impact adjustment ratio for an element is 1.0 minus the ratio for open space.
- b. Under Option 2, if the standards do not apply throughout the regulatory floodplain, a default impact adjustment ratio of 0.25 may be used; for CAZ credit, the impact adjustment is 0.1.
- c. Under Option 3, the impact adjustment ratios may reflect the proportion of the regulatory floodplain affected by the element (excluding open space areas); the adjustment for PCF is based on the 500-year floodplain.

433 Credit Calculation. The credit points for each element are multiplied by the impact adjustment ratios and the products are totaled.

434 Credit Documentation. The community must have the following available to verify implementation of this activity.

- a. The portion of the state or local law or ordinance that adopts the regulatory standard.
- b. [If impact adjustment factors are based on Option 3 (432.c)] The Impact Adjustment Map.
- c. An explanation of the community's enforcement procedures.
- d. [If requesting credit for STF (431.n)] A copy of the certification of graduation or floodplain manager certification.

435 For More Information.

440 FLOOD DATA MAINTENANCE

CC
SCORE
151

Summary of Activity 440

441 Credit Points. There are four elements in this activity for a maximum of 239 points (excluding special hazards credit).

- a. Additional map data (AMD): Up to 129 points are provided for implementing digital or paper systems that improve access, quality, and/or ease of updating flood data within the community. Each system must be used by the local regulatory staff on a regular basis. The data in the system must be updated at least annually.
- b. Elevation reference mark maintenance (ERM): Up to 90 points are provided if a community maintains its elevation reference marks.
- c. Erosion data maintenance (EDM): Points are provided for maintaining coastal erosion data as described in *CRS Credit for Management of Coastal Erosion Hazards*.
- d. FIRM maintenance (FM): Up to 20 points for maintaining copies of all Flood Insurance Rate Maps (FIRMs) that have been issued for the community.

442 Impact Adjustment. The credit points for each element are adjusted in one of three ways.

- a. Under Option 1, if the program is implemented throughout the Special Flood Hazard Area (SFHA), the impact adjustment ratio for an element is 1.0.
- b. Under Option 2, if the program is not implemented throughout the SFHA, a default impact adjustment ratio of 0.25 may be used.
- c. Under Option 3, if the program is not implemented throughout the SFHA, the impact adjustment ratios may reflect the proportion of the SFHA affected.

443 Credit Calculation. The credit points for each element are multiplied by the impact adjustment ratios and the products are totaled.

444 Credit Documentation. The community must have the following available to verify implementation of this activity.

- a. A summary of all elements of its flood data maintenance program and a description of how these elements are used and updated on a regular basis.
- b. [If the community calculates impact adjustment factors using Option 3 (Section 442.c)] The Impact Adjustment Map discussed in Section 403.
- c. Copies of the digitized mapping, parcel records, and/or overlay maps, elevation reference mark data, erosion data, shoreline erosion records, and/or old FIRMs, as appropriate.
- d. [If the community is applying for credit for maintaining elevation reference marks (ERM)] A copy of the master list of elevation reference marks and documentation that shows when they are inspected and repaired or replaced.

The community must submit the following documentation with its annual CRS recertification:

- e. Identification of any reference marks that appear on the FIRM that were found to be missing or inaccurate.

445 For More Information.

450 STORMWATER MANAGEMENT

CC
SCORE
139

Summary of Activity 450

451 Credit Points. There are five elements in this activity for a maximum of 670 points.

- a. Stormwater management regulations (SMR): Up to 225 points are provided for regulating developments on a case-by-case basis to ensure that the peak flow of stormwater runoff from each site will not exceed the predevelopment runoff. SMR credit is the sum of three subelements:
 1. Size of developments regulated (SZ): Up to 25 points.
 2. Design storms used in regulations (DS): Up to 90 points.
 3. Public maintenance of required facilities (PUB): Up to 110 points.
- b. Stormwater management master plan (SMP): Up to 225 points are provided for regulating development according to a stormwater management master plan.
- c. Freeboard for new buildings in B, C, D, and X zones (FRX): Up to 150 points are provided for requiring all new buildings (not just those in floodplains) to be protected from local drainage problems.
- d. Erosion and sedimentation control regulations (ESC): Up to 45 points are provided for regulations to minimize erosion from land disturbed due to construction or farming.
- e. Water quality regulations (WQ): 25 points are provided for regulations that improve the quality of stormwater runoff.

452 Impact Adjustment. The credit points for SMR and SMP are adjusted in one of three ways. The standards for the other elements must apply throughout the community, so there is no impact adjustment for them.

- a. Under Option 1, if the standards apply throughout all watersheds affecting the community, the impact adjustment ratio for an element is 1.0.
- b. Under Option 2, if the standards do not apply throughout all watersheds affecting the community, a default impact adjustment ratio of 0.25 may be used.
- c. Under Option 3, if the standards do not apply throughout all watersheds affecting the community, the impact adjustment ratios may reflect the proportion of the watersheds affected.

453 Credit Calculation. The credit points for each element are multiplied by the impact adjustment ratios and the products are totaled.

454 Credit Documentation. The community must submit the following:

- a. [If requesting credit for SMR] A copy of the language from the ordinance or law that tells how surface water runoff from new development is regulated.
- b. [If requesting credit for SMP] Certification and appropriate pages from the stormwater master plan.
- c. [If requesting credit for FRX] A copy of the language from the ordinance or law that requires elevation of the lowest floor or lowest opening of new buildings.
- d. [If requesting credit for ESC] A copy of the erosion and sediment control ordinance or law.
- e. [If requesting credit for WQ] A copy of the language from the ordinance or law that requires new developments to implement appropriate best management practices.
- f. [If impact adjustment ratios use Options 1 or 3] An Impact Adjustment Map showing the watershed boundaries and stormwater management jurisdiction.
- g. [If impact adjustment ratios include areas regulated by another community(ies)] Documentation of the other community's (or communities') regulation.
- h. [If requesting credit for PUB] A copy of inspection and maintenance procedures for drainage facilities.

The community must have the following available to verify implementation of this activity:

- i. Development and building permit records that demonstrate enforcement of the regulations.
- j. An evaluation report on the effectiveness and currency of the stormwater management plans.

455 For More Information.

510 FLOODPLAIN MANAGEMENT PLANNING

CE
SCORE
0

Summary of Section 510

Credit is provided for preparing, adopting, implementing, evaluating, and updating a comprehensive floodplain management plan or repetitive loss area analyses. The Community Rating System (CRS) does not specify what must be in a plan, but it only credits plans that have been prepared and kept updated according to the standard planning process explained in Section 511. Credit is also provided for implementing a habitat conservation plan.

511 Credit Points. Up to 359 points are provided for three elements.

- a. Up to 294 points are provided for adopting and implementing a floodplain management plan (FMP) that was developed using the following standard planning process. There must be some credit for each of the 10 planning steps.

| <u>Step</u> | <u>Max points</u> |
|-------------------------------------|-------------------|
| 1. Organize to prepare the plan | 10 |
| 2. Involve the public | 85 |
| 3. Coordinate with other agencies | 25 |
| 4. Assess the hazard | 20 |
| 5. Assess the problem | 35 |
| 6. Set goals | 2 |
| 7. Review possible activities | 30 |
| 8. Draft an action plan | 70 |
| 9. Adopt the plan | 2 |
| 10. Implement, evaluate, and revise | 15 |

- b. Up to 50 points are provided for conducting repetitive loss area analyses (RLAA).
- c. Up to 15 points are provided for adopting and implementing a Habitat Conservation Plan (HCP).

512 Impact Adjustment.

- a. Under Option 1, if the floodplain management plan covers all of the community's known flood hazard areas, the impact adjustment ratio is 1.0. If the repetitive loss area analyses cover all repetitive loss areas, the impact adjustment ratio is 1.0. A Category C repetitive loss community must use Option 1 if it is preparing a plan or analysis to meet the CRS participation prerequisite specified in Section 502.
- b. Under Option 2, if the floodplain management plan or repetitive loss area analyses cover some of the community's hazard areas, the impact adjustment ratio is 0.25. A Category C repetitive loss community must use Option 1.
- c. Under Option 3, the impact adjustment ratios reflect the proportion of the community's repetitive loss areas that are covered by area analyses.

513 Credit Calculation. The credit points for each element are multiplied by the impact adjustment ratios and the products are totaled.

514 Credit Documentation. The community must submit the following.

- a. The activity worksheet or plan review crosswalk.
 - b. A copy of the floodplain management plan with the credited elements noted in the margin or explained in an attached memo.
 - c. Documentation showing how the public was involved in preparing or reviewing the plan.
 - d. Documentation showing that the plan has been adopted by the community's governing body and/or the habitat conservation plan was accepted by the appropriate agency.
 - e. A copy of each repetitive loss area analysis.
- The community must submit the following with its annual CRS recertification.
- f. An annual evaluation report on progress toward implementing the recommendations.
 - g. An update to the plan, prepared at least every five years.

515 For More Information. A free CRS publication, *Example Plans*, provides more information and examples for this activity.

520 ACQUISITION AND RELOCATION

CC
SCORE
0

Summary of Activity 520

521 Credit Points. There are two elements in this activity for a maximum of 3,200 points.

- a. Buildings acquired or relocated (bAR): Up to 3,200 points are provided based on the number of buildings acquired, relocated, or otherwise cleared from the regulatory floodplain since the effective date of the Flood Insurance Rate Map (FIRM).
- b. Buildings on the repetitive loss list that have been acquired or relocated (bRL). Repetitive loss buildings counted for this element may have been located anywhere in the community.
- c. Severe Repetitive Loss Properties that have been acquired, relocated, or otherwise removed from the problem site (bSRL)

522 Impact Adjustment. All buildings must have been removed from the SFHA in order to receive the full 3,200 points for this activity. The credit points are adjusted in one of two ways.

- a. Under Option 1, if 20 or fewer buildings have been removed, a default impact adjustment gives 5 points for each building.
- b. Under Option 2, the credit points are adjusted to reflect the number of buildings that have been acquired or relocated from the Special Flood Hazard Area (SFHA).

523 Credit Calculation.

- a. Under Option 1, the number of buildings (bAR) is multiplied by the default value of 5; the number of buildings on the repetitive loss list (bRL) is multiplied by 10, and the number of Severe Repetitive Loss Properties (bSRL) is multiplied by 15.
- b. Under Option 2, the impact adjustment ratio is multiplied by 32.

524 Credit Documentation. The community must have the following:

- a. A map showing the parcels where floodprone buildings have been demolished or relocated since the effective date of the FIRM and the total number of such buildings (bAR, bRL, and bSRL).
- b. Documentation that shows that each site credited under this activity can also qualify for credit as preserved open space in Activity 420.
- c. [If the community is using Option 2] Calculations showing the number of buildings in the SFHA.
- d. Real estate or permit records that document the date of removal of each building.
- e. [If credit is being requested for buildings outside the SFHA] Documentation showing that floodplain regulations are in effect in the area outside the SFHA.

525 For More Information.

530 FLOOD PROTECTION

CC
SCORE
0

Summary of Activity 530

531 Credit Points. Up to 2,800 points are provided. However, there is a maximum of 1,000 points for structural flood control projects and 200 for sewer backup protection projects.

- a. Prerequisites: Projects must protect to at least the 25-year flood level, in some cases be designed by an engineer, and meet other requirements specific to the type of project.
- b. Retrofitting technique used (TU): The points for TU are based on the effectiveness of:
 - Elevation,
 - Dry floodproofing,
 - Wet floodproofing, and
 - Protection from sewer backup.
- c. Flood control technique used (TU): The points for TU are based on the effectiveness of:
 - Barriers,
 - Channel modifications, including enlarging bridges and culverts,
 - Diversions,
 - Storm sewer improvements, and
 - Reservoirs and other storage basins that meet state dam safety requirements.
- d. Flood protection improvement (FPI): The points are adjusted based on the difference between the flood protection provided before and after the project.
- e. The values for TU and FPI for each building are multiplied and totaled to produce the score for protected buildings (PB)
- f. Protected buildings on the FEMA repetitive loss list are counted twice toward PB.

532 Impact Adjustment. The credit points are adjusted in one of two ways.

- a. Under Option 1, the community receives 4.2 points for each protected building up to a maximum of 84 points.
- b. Under Option 2, PB is divided by the number of buildings in the Special Flood Hazard Area.

533 Credit Calculation. The impact adjustment ratio is multiplied by 28.

534 Credit Documentation. The community must have the following available to verify implementation of this activity.

- a. Documentation that demonstrates that each project meets the prerequisites as described in Section 531.a.
- b. Documentation for each protected building, appropriate to the flood protection technique used.
- c. A map showing the location of all protected buildings for which credit is being requested.
- d. [If the community is using Option 2] Calculations showing the number of buildings in the SFHA.
- e. [If credit is being requested for buildings outside the SFHA] Documentation that shows that floodplain regulations are in effect in the area outside the SFHA.

535 For More Information.

540 DRAINAGE SYSTEM MAINTENANCE

CC
SCORE
280

Summary of Activity 540

541 Credit Points. There are three elements in this activity for a maximum of 330 points (excluding special hazard credit).

- a. Channel and basin debris removal (CDR): Up to 300 points are provided for inspecting the drainage system and removing debris. For the purposes of this activity, a community's drainage system consists of all natural and human-made watercourses, conduits, and storage basins that must be maintained to prevent flood damage to buildings from smaller, more frequent storms.
- b. Stream dumping regulations (SDR): Up to 30 points are provided if the community has regulations prohibiting dumping in streams and ditches.
- c. Coastal erosion protection maintenance (EPM): Credit points are provided for maintaining erosion protection programs in communities with coastal erosion-prone areas as described in *CRS Credit for Management of Coastal Erosion Hazards*.

542 Impact Adjustment. The credit points for each element are adjusted in one of three ways.

- a. Under Option 1, if the program is implemented throughout the community, the impact adjustment ratio for an element is 1.0.
- b. Under Option 2, if the program is not implemented throughout all of the developed portions of the community, a default impact adjustment ratio of 0.2 may be used.
- c. Under Option 3, if the program is not implemented throughout all of the developed portions of the community, the impact adjustment ratios may reflect the proportion of the community's drainage system that is affected.

543 Credit Calculation. The credit points for each element are multiplied by the impact adjustment ratios and their products are totaled.

544 Credit Documentation. The community must have the following available to verify implementation of this activity.

- a. A description of the drainage system and areas subject to the maintenance program, an explanation of the inspection and debris removal procedures, and records to document both the inspection and removal projects.
- b. [Required if the community is applying for credit under Section 541.a.3] A copy or description of the capital improvements program, including
 1. A master list of the community's drainage maintenance problem sites,
 2. Recommended corrective measures for each problem site, and
 3. Documentation that funds are spent on improvement projects each year.
- c. [Required if applying for credit for SDR under Section 541.b] A copy of the stream dumping ordinance or pertinent portion of the law.
- d. [Required if applying for SDR under Section 541.b.2] A photo or photocopy of the "no dumping" sign OR a copy of the outreach project OR a note that the outreach project documentation is included in the documentation submitted for Activity 330 (Outreach Projects).
- e. [If the community determines the impact adjustment factors using Options 1 or 3 (Sections 542.a and 542.c)] An Impact Adjustment Map that shows all channels and other drainage facilities in the developed portion of the community and identifies the channels and facilities covered by the channel and basin debris removal program.
- f. Documentation demonstrating that the inspection and maintenance were performed according to the procedures submitted in Section 544.a.

545 For More Information.

610 FLOOD WARNING PROGRAM

CC
SCORE
0

Summary of Activity 610

611 Credit Points. There are five elements in this activity for a maximum of 255 points.

- a. Flood threat recognition system (FTR): Up to 40 points are provided for a flood threat recognition system that forecasts flood elevations and arrival times at specific locations within the community.
- b. Emergency warning dissemination (EWD): Up to 60 points are provided for disseminating the warning to the general public.
- c. Other response efforts (ORE): Up to 50 points are provided for implementation of specific tasks to reduce or prevent threats to health, safety, and property.
- d. Critical facilities planning (CFP): Up to 50 points are provided for coordination of flood warning and response activities with operators of critical facilities.
- e. StormReady community (SRC): If FTR credit is received, 25 or 30 points are provided for designation by the National Weather Service as a StormReady community or a TsunamiReady community.

The community must receive credit for FTR to receive any credit under this activity and it must receive credit for EWD to receive credit for ORE or CFP.

612 Impact Adjustment. The credit points for each element (except SRC) are adjusted in one of three ways.

- a. Under Option 1, if the program is implemented throughout the Special Flood Hazard Area (SFHA), the impact adjustment ratio for an element is 1.0.
- b. Under Option 2, if the program is not implemented throughout the SFHA, a default impact adjustment ratio of 0.25 may be used.
- c. Under Option 3, if the program is not implemented throughout the SFHA, the impact adjustment ratios may reflect the number of buildings in the SFHA affected.

613 Credit Calculation. The credit points for each element are multiplied by the impact adjustment ratios and their products are totaled.

614 Credit Documentation. The community must submit the following.

- a. A description of the flood threat recognition system that tells how site-specific forecasts with flood elevations or flood flows and flood arrival times are generated by meteorologic and/or hydrologic data.
- b. [Required only if applying for EWD, ORE, or CFP credit under Sections 611.b through d]:
 1. Documentation of adoption of the flood response plan.
 2. Applicable portions of the plan or other documents.
 3. A copy of the materials that publicize the flood warning system.
- c. [Required if the impact adjustment ratios used Options 1 or 3 (Section 612.a or 612.c)] Documentation showing how the impact adjustments were determined. If Option 3 is used, a map showing the areas covered by the flood warning program.

The community must submit the following with its annual recertification:

- d. [Required if applying for credit for critical facilities planning (CFP1)] A page from the list of operators of the facilities affected by flooding, updated at least annually
If the community experienced a flood during the year, it must submit with its annual recertification:
- e. An evaluation report on the flood warning program's performance.

615 For More Information.

620 LEVEE SAFETY

CC
SCORE
0

Summary of Activity 620

621 Credit Points. There is one element in this activity for a maximum of 900 points.

- a. **Levee protection level (LPL):** Up to 100 points are provided based on the flood recurrence interval at the flood protection level. The levee's flood protection level is 3 feet below the lowest point of the crown. The following conditions must be met:
- b. The levee must have been constructed before January 1, 1991.
- c. The community must have a levee emergency plan that specifies actions to be taken at various flood stages.

622 Impact Adjustment. The credit points for each element are adjusted in one of three ways.

- a. Under Option 1, if all of the buildings in the Special Flood Hazard Area (SFHA) are protected by the levee, the impact adjustment ratio is 1.0.
- b. Under Option 2, if there are at least five buildings protected by the levee, a default impact adjustment ratio of 0.01 may be used and the community receives 9 points for this activity.
- c. Under Option 3, the impact adjustment ratio reflects the number of buildings in the SFHA protected by the levee.

623 Credit Calculation. The credit points for LPL are multiplied by the impact adjustment ratio and then by 9.

624 Credit Documentation. The community must submit the following.

- a. Levee protection level documentation. EITHER:
 1. A statement signed by the U.S. Army Corps of Engineers that states the levee protection level and the date of construction, OR
 2. A certification by a licensed professional engineer that states that the levee meets all of the NFIP levee recognition requirements except for height. The certification must also provide the date of construction and the levee protection level.
- b. The community's levee emergency response plan specifying actions to be taken at various flood stages.
- c. The map showing the area protected by the levee.
- d. Documentation showing how the impact adjustment ratios were determined.

The community must submit the following documentation with its annual recertification.

- e. A certification by a licensed professional engineer that the levee has been maintained in such a manner that it meets all the NFIP levee maintenance requirements.

625 For More Information.

630 DAM SAFETY

CC
SCORE
60

Summary of Activity 630

631 Credit Points. There are two elements in this activity for a maximum of 175 points.

- a. State dam safety program (SDS): Up to 75 points are provided if the community is in a state with a dam safety program that has been accepted by FEMA for Community Rating System (CRS) credit. The state dam safety office must have stated that the community's program is in compliance with the state program.
- b. Dam failure emergency action plan (DFP): Up to 100 points are provided for the community's dam failure emergency action plan.

632 Impact Adjustment. There is no impact adjustment for SDS. The credit points for DFP are adjusted in one of three ways.

- a. Under Option 1, if the plan covers all buildings in the Special Flood Hazard Area (SFHA), the impact adjustment ratio is 1.0.
- b. Under Option 2, if the plan does not cover all buildings in the SFHA, a default impact adjustment ratio of 0.25 may be used.
- c. Under Option 3, if the plan does not cover all buildings in the SFHA, the impact adjustment ratios reflect the proportion of the buildings in the SFHA covered by the plan.

633 Credit Calculation. The credit points for DFP are multiplied by the impact adjustment ratios and added to SDS.

634 Credit Documentation.

The community must have the following available to verify implementation of this activity.

- a. [Required only if applying for DFR or DFP credit under Section 631.b.1] The portions of the emergency plan or other documentation that show that it has dam failure inundation areas, flood elevations, and estimated arrival times, an annual report from the dam operator, annual exercises; and monthly communications checks.
- b. [Required only if applying for credit under Section 631.b.2] The portions of the community's emergency plan that detail at least three methods of disseminating a dam failure warning.
- c. [Required only if the community is applying for credit under Section 631.b.3]
 1. The portions of the community's emergency plan that indicate evacuation routes and procedures for notifying and evacuating critical facilities; and
 2. Documentation of the notification of occupants of the dam failure inundation area as discussed in Section 631.b.3.
- d. [If Option 3 was used to determine the impact adjustment ratios] The Impact Adjustment Map.

635 For More Information.