

November 2000

**City of Novato  
California**

**Repetitive Loss Plan (RLP)**

**Community Rating System (CRS)  
Program**

**Federal Emergency Management Agency  
(FEMA)**

## Introduction

The CRS Program serves to advise the public about flood issues in their area, how to reduce property damage from floods, and to take advantage of the availability of Flood Insurance. The City of Novato voluntarily entered FEMA's CRS Program in the fall of 1994, when it submitted an application for a Class 9 rating (10 being the lowest). At that time, the City was already performing most of the activities that FEMA tracks and credits as part of normal City Planning, Zoning and Code Enforcement work. The City's application simply identified all of these different activities in the CRS Program's format in order to complete the application.

One of the benefits of obtaining a rating in the CRS Program is that every Flood Insurance policyholder in the City then receives a discount on a portion of their annual flood insurance policy premium. The discount is 5% for every Class rating that is achieved. The City's initial Class 9 rating, effective in 1995, was worth a 5% discount to each flood insurance policyholder. Currently, the City qualifies for a Class 7 rating, or 15% discount. With over 1,300 flood insurance policies currently in force in Novato, a total annual savings of approximately \$80,000 in flood insurance premiums is being realized.

The City's participation in the program requires annual reporting to FEMA, in order to maintain the current Class Rating. In addition, once every five years FEMA performs a Site Verification Visit, to ensure that the City is maintaining the required records as documentation of its activities. As a result of this year's verification visit, and changes to the CRS Program requirements, the City is now required to prepare and adopt a Repetitive Loss Plan.

Nationwide, more than 2.5 million buildings are insured by the National Flood Insurance Program (NFIP). However, less than 2% of these properties account for 33% of the total flood insurance claims paid since 1978 because they have flooded more than once, and some of them have been flooded numerous times. In an effort to address this fact, FEMA requires communities with more than ten (10) repetitive loss properties to develop and adopt a Repetitive Loss Plan. FEMA currently lists 22 repetitive loss properties in Novato, the majority of which are located immediately upstream of the confluence of Novato, Warner and Arroyo Avichi Creeks, as shown in the map attachment. Heavy rains in 1980, 1982, 1983, 1986, 1989, and 1998 caused flooding and damage to buildings within this area.

The purpose of a Repetitive Loss Plan is to obtain public input/consensus by following a proper planning process, so as to develop a plan that determines what is best/feasible for the community in addressing the issue of local repetitive loss properties. A Repetitive Loss Plan is considered a "living document". Plan progress will be reviewed annually by City staff and reported to FEMA, as required by the CRS Program. The Plan may be updated as often as desired by the local community, however the CRS Program requires mandatory Repetitive Loss Plan updates at least once every five (5) years.

## **I. Plan Preparation**

The following City Staff from the Community Development Department were involved in the preparation of this draft Repetitive Loss Plan:

Harry Graves - Deputy Director, Chief Building Official  
Tom Nolan - City Engineer, CRS Program Coordinator/Floodplain Administrator  
Steve Wallace - Principal Civil Engineer  
Frank Wright - Maintenance Supervisor/Streets  
Dick Scott - Principal Engineering Technician  
Steve Marshall - Planner I  
Bud Dunn - Engineer I  
Anthony P. Ballestero, PE - Engineer II (Contract)

Information contained in this plan was checked for conformity with the Novato General Plan, adopted by Novato City Council on March 8, 1996 by Resolution No. 21-96, with a latest Revision dated February 22, 2000.

## **II. Public Involvement**

The Draft RLP shall be available for a 30-day public comment period beginning on Monday, October 30, 2000. A Notice of a Public Workshop to be held on Thursday, November 29, 2000 to discuss the RLP has been advertised. Noticing occurred as with any other formal citywide Planning Division Notice. Copies of the Draft RLP are available for the public's review at City Hall and the local library. Questions or comments on the draft plan may be directed to the Community Development Department, 901 Sherman Avenue, Novato, CA 94945, Attention: Bud Dunn, Engineer I, or by calling (415)-897-4359. The public comment period will end on Tuesday, December 5, 2000.

The Workshop is intended to allow the public to voice their comments in a formal public forum. Comments shall be collected and addressed by City Staff, insofar as possible, in the Final RLP presented to City Council for formal hearing and adoption. The Final RLP shall be presented to City Council for adoption at the first available meeting following the close of the public comment period. The City Council meeting at which the Final RLP shall be heard and adopted will be noticed in the same manner as the Public Workshop.

## **III. Coordination with Other Agencies**

Historically, the following agencies have been invited to review and comment on the City's CRS Program Plan(s), and shall receive a copy of this Draft RLP for review and comment, concurrent with the 30-day Public Comment Period:

- FEMA Regional CRS Coordinator (Cynthia McKenzie)
- California State National Flood Insurance Program (NFIP) Coordinator (Ricardo Pineda)
- Insurance Services Office (ISO) CRS Technical Coordinator (Bill Trakimas)
- ISO/CRS Specialist (Robert B. Flaner)
- Marin County Flood Control & Water Conservation District
- City of Petaluma

#### **IV. Flood Hazards**

Much of the Bayfront lands are in agricultural, conservation or open space uses and flood frequently. These areas are reclaimed marshlands, which had been near high tide level when drained. Since reclamation, the loss of water within the Bay Mud has led to subsidence, and many areas are now below mean sea level and require pumping to drain. If levees and pumps are maintained, flooding in these areas represents minimal hazard to persons or structures. Most of these lands are shown on the City's Land Use Map for Agriculture, Conservation, or other low-intensity uses.

The frequency and severity of flooding has increased in recent years, partly as a result of increasing urban development. As more land becomes covered with impermeable surfaces such as buildings, parking lots and roads, water cannot drain into the soil and surface runoff increases, thereby causing acute local flooding.

Novato Creek has a long history of flooding and is the main flood hazard to the community. Flooding along Novato Creek usually occurs in three stages:

- When the water levels rise above storm drains, resulting in flooded roads and lots.
- When Warner Creek and Arroyo Avichi Creek rise and overflow their banks at the confluence with Novato Creek.
- When Novato Creek itself rises to a level where it overflows at low points in its levees.

In addition, localized flooding occurs periodically in certain locations. The frequency and severity of flooding has been reduced as a result of flood control improvements for Novato, Warner, and Arroyo Avichi Creeks funded by bond measure in 1984 and storm drainage projects funded in 1989.

Dam failure resulting from earthquake(s) is another potential source of flooding. Novato Creek Dam, an earth embankment constructed in 1951, is 71 feet high and under the jurisdiction of the California Division of Safety of Dams. This dam creates Stafford Lake, which has a capacity of 4,430 acre-feet of water. The dam, located upstream of Novato along Novato Creek at Stafford Lake, is designed to withstand an earthquake with a magnitude of 8.25 on the San Andreas Fault with a design epicenter located 10 miles from the dam. The inundation zone in the hypothetical event of a sudden failure of the dam is on file with the North Marin Water District and attached herein.

The City has implemented a Local Drainage Master Plan to accommodate 25-year storm water flows, which have a 4% chance of occurrence in any given year. In 1989, the voters approved a bond measure to provide \$4.2 million funding for storm drainage improvements. In addition, the Marin County Flood Control & Water Conservation District has implemented major improvements since 1985 to prevent flooding from 50-year storm events. These improvements include a detention basin at Deer Island, on the lower reaches of Novato Creek, and improvements to the channels of Novato Creek, Warner Creek and Arroyo Avichi. Downstream of US Highway 101, Novato Creek has little/no bed gradient and is influenced by tidal action from San Pablo Bay. As a result, the lower reaches of Novato Creek require periodic maintenance dredging performed by the Marin County Flood Control & Water Conservation District.

The Federal Emergency Management Agency updated its Flood Insurance Rate Map (FIRM) for the City of Novato in 1989 to reflect these improvements.

The attached map highlights the creek areas and the flood hazard for the City.

## **V. Structures Subject to Flood**

For purposes of this Repetitive Loss Plan, only those areas of the City where structures have historically suffered damage from flooding shall be considered. Specifically, these areas are designated as Zone AO (Depth 1 & 2) and AE (Elev.7-19) And are located immediately upstream of the confluence of Novato, Warner and Arroyo Avichi Creeks.

The above areas comprise a total of approximately 248 acres containing approximately 650 parcels. The majority of these parcels contain single family residences. Approximately 10% of the parcels contain multi-family units (apartments, condominiums). Another 10% of these parcels are occupied by businesses, including small business offices, retail buildings and strip malls. To our knowledge, none of these structures contains a basement area.

## **VI. Goals**

The City's Repetitive Loss Plan shall work towards achieving the following goals:

1. Reduce flood damage to existing buildings by helping property owners and/or residents to protect themselves and their property from (a.) The infrequent but severe general flooding resulting from major storm events that generate storm water runoff that exceeds the capacity of the creek system, (b.) Local drainage system flood events, and (c.) Sewer backup problems that can occur during local flood events.
2. Ensure that residents are given adequate warning of floods.

## VII. Review of Activities

### Current:

Activities are categorized under the following general headings:

Preventive - Serve to keep flood problems from getting worse.

Property Protection - Undertaken by individual property owners.

Natural Resource Protection - Preserve or restore natural areas.

Emergency Services - During a flood event, to minimize its impact.

Structural Projects - Use various man-made barriers to keep flood waters away.

Public Information - Serve to advise residents and visitors about local flood hazards.

Locally, the City of Novato and the Marin County Flood Control & Water Conservation District (MCFC&WCD) currently perform the following Floodplain Management activities within the City limits:

### Preventive:

1. City Code Building, Planning, and Zoning Ordinance limit the use and development of flood-prone areas.
2. Open Space Preservation is one of the goals of the Novato General Plan, and is also supported by City Code Ordinance.
3. Floodplain regulations in the Novato City Code serve to limit development in the Special Flood Hazard Areas of the City (100-year flood plain).
4. The City has adopted a Stormwater Best Management Practices (BMP) Ordinance applicable to all new development within the City.
5. The City's Streets Maintenance Division follows a comprehensive drainage system inspection and maintenance program throughout the year. At the beginning of the winter rainy season, and whenever significant storms are predicted, historically hazardous drainage ways are quickly inspected to ensure that they are clear. The MCFC&WCD performs annual clean-up of all major creeks, and periodic maintenance dredging on the lower reaches of Novato Creek in order to maintain channel capacity.

### Natural Resource Protection:

1. In a 1999 joint project with the Marin County Flood Control & Water Conservation District, the City's Capitol Improvement Program (CIP) used matching Federal funds to preserve, enhance and restore the floodplain in the vicinity of Redwood Boulevard & Rowland Boulevard.
2. The City's Stormwater Best Management Practices (BMP) Ordinance is enforced to ensure onsite erosion and sediment control, which serves to enhance wetlands protection.

### Emergency Services:

1. The City adopted an Emergency Preparedness Plan in 1991, revised in 1996. The purpose of this plan is to ensure that the City will be prepared to respond effectively in the event of emergencies to save lives and restore and protect property. The current plan conforms to the California Standard Emergency Management System (SEMS).

2. As required by the City's current Repetitive Loss Plan, during a flood event the City provides sand and sandbags for use by residents whose property may be in danger of flooding.

**Structural Projects:**

1. Several new subdivisions at Hamilton Field are protected by a Levee/Flood Wall/Pump System.
2. The CIP Division of the City's Community Development Department is completing a bond measure program to upgrade the Storm Drainage System in historically poor drainage areas of the City.
3. The Rush Creek drainage basin is currently being studied for flood reduction improvements by the US Army Corps of Engineers. The City and Marin County Flood Control & Water Conservation District will be participating in the design and location of identified improvements.

**Public Information:**

As part of its CRS Program activities, the Engineering Division of the City's Community Development Department provides the following Public Information services:

1. Map Information: Answers to questions regarding the current Flood Insurance Rate Map (FIRM) may be obtained by calling (415)-897-4359.
2. Outreach Projects: The City posts Public Service Announcements (PSAs) regarding the FIRM and flood insurance availability on the local public Cable Channel 23. For the past five years, properties within the Special Flood Hazard Area (SFHA) received an annual Notice regarding flood information. This Notice is now published in the quarterly Parks & Recreation brochure, to provide community-wide coverage. In addition, local Realtors and Lending Institutions receive an Annual Notice, highlighting the City's ability to provide FIRM information for any particular parcel.
3. Real Estate Disclosure: The City strictly enforces the requirement for a Re-Sale Inspection Report for each residence for sale within the City. This report is completed by a City Building Division staff member, and includes the requirement to note whether or not a parcel is located within the SFHA.
4. Library: The local Marin County Library – Novato Branch maintains copies of the latest flood information brochures and booklets. The City Engineering Division provides updated materials to the library, as the information becomes available.

**Possible:**

The City could consider the following activities for the Repetitive Loss Plan:

**Property Protection:**

Provide property owners with additional information on measures they can take to protect their property from flood damage.

**Emergency Services:**

Provide information to the public regarding the City's flood warning system and the flood response to be expected before/during/after a flood event.

**Public Information:**

Provide technical assistance to the public on ways to protect their property from flood hazards.

Methods to achieve the proposed possible activities listed above are described in the Action Plan.

**VIII. Action Plan**

**A. Continue Existing Plan Activities:**

The current Repetitive Loss Plan only requires (1.) That the City provide residents in the floodplain with an Annual Notice regarding steps that they can take to minimize flood damage to their property, and (2.) That the City provide residents with sand and sandbags, to construct dikes/levees to block flood waters from their property. The City shall continue to perform these two activities.

**B. Emergency Services:**

It is expected that the Engineering Division would take the lead for this activity, funded directly from the division budget. At a minimum, a staff member would need to meet with local Emergency Services authorities (Novato Police, City Administrative Staff) to determine the Standard Operating Procedures that are followed for the current flood-warning program. Depending upon when this program was last revised, staff may propose to review/update the flood-warning program. In order to provide pertinent information regarding pre/post flood event response, staff should meet with County and State Emergency Services authorities. The expected result of the above effort is a clear and concise Notice, which can be published annually to inform the public regarding available flood-emergency services. , It is anticipated that the proposed Notice would be completed and available to the public within 12 months of the adoption of this Repetitive Loss Plan (RLP).

**C. Property Protection:**

**Audit of All Current Repetitive Loss Properties**

It is expected that the Engineering Division would take the lead for this activity, funded directly from the division budget, subject to budgetary allocation by the Novato City Council. There are approximately 30 properties currently listed on FEMA's Repetitive Loss List for the City of Novato. As envisioned, this Action Plan activity would consist of a staff member arranging to meet the Owner/Owner's Representative at each Repetitive Loss property location. Following a brief interview with the Owner regarding the flood history of the property, the staff member would walk the property, taking note of any pertinent features that might affect the property's vulnerability to flood damage. Upon completion of the site visit, a brief standardized report would be completed. When all current Repetitive Loss properties have been audited, staff shall analyze the information to look for similarities, such as property flooding patterns, proximity of repetitive loss properties, and existing drainage system capacity, in an effort to determine whether a comprehensive flood-proofing plan can be developed. It is anticipated that a standardized audit report would be developed, and that at least ½ of the current repetitive



loss properties would be audited within 12 months of the adoption of this Repetitive Loss Plan.

Budget and staff time permitting, the following proposed Action Plan activities may be considered for the future:

**D. Property Protection:**

It is expected that the Engineering Division would take the lead for this activity, funded directly from the division budget, subject to budgetary allocation by the Novato City Council. A staff member may attend at least one training course, such as those offered and funded by FEMA, at their academy in Emmitsburg, Maryland. Following the training, the staff member would collect/prepare literature, for selected distribution to the public. Most of this literature is currently available from FEMA. The availability of this literature shall be advertised to the public in the Notice published in the quarterly Parks & Recreation brochure, and with Public Service Announcements posted on the local public cable TV Channel 23. Considering that the required training course(s) are not available on a frequent basis, it is anticipated that the staff training would be completed within 15 months of the adoption of this Repetitive Loss Plan (RLP). It is expected that the literature availability, and public advertisement of same, would be completed within two years.

**E. Public Information:**

It is expected that the Engineering Division would take the lead for this activity, funded directly from the division budget, subject to budgetary allocation by the Novato City Council. A staff member may attend at least one training course, such as those offered and funded by FEMA at their academy in Emmitsburg, Maryland. Following the training, the staff member would collect/prepare literature, for selected distribution to the public. Some literature is currently available from FEMA. The availability of this literature shall be advertised to the public in the Notice published in the quarterly Parks & Recreation brochure, and with Public Service Announcements posted on the local public cable TV Channel 23. The trained staff member would also be made available to provide personal technical assistance to the public on request, for a fee to be determined by the Novato City Council. It is conceivable that staff would develop a form, similar to a generic building inspection form, to be used to assess/audit a property based on the local flood hazard. Questions regarding limiting liability, form content, etc. would need the review and approval of the City Attorney and Chief Building Official, at a minimum. Considering that the required training course(s) are not available on a frequent basis, it is anticipated that the staff training would be completed within 15 months of the adoption of this Repetitive Loss Plan (RLP). It is expected that the literature/audit form/technical assistance availability, and public advertisement of same, would be completed within two years.

F. **Structural Projects:**

There are areas within the City where structural solutions may be the best alternative, however, funds are not available. As such, Community Development and/or Community Services Department staff could take the lead in seeking/securing Grant Funding, from County, State and/or Federal sources, in order to finance local flood control construction projects.

## **IX. Plan Adoption**

A public notice shall be published pursuant to the City Clerk's procedures for a public hearing, inviting the public to review and comment on this Draft RLP during a 30-day public comment period, during which they are invited to attend a Public Workshop to discuss the Draft RLP. Following the public comment period the RLP shall be finalized, then presented to City Council for formal adoption, as required by the CRS Program.

## **X. Annual Plan Review**

In order to evaluate progress made towards completing the Action Plan, an Annual Review shall be performed. The review shall be performed under the direction of the City Engineer/CRS Program Coordinator. The review shall commence following the end of the annual rainy season, which is considered to be on/about April 15<sup>th</sup> in Novato. The review shall include a summary of the previous rainy season, including details of any significant flood event(s) that may have occurred during that time. The review shall also include a status report of all adopted Action Plan items, and note significant milestones achieved, or changes that may be required. On or before October 1<sup>st</sup> of each year, a copy of the Annual Review shall be forwarded to FEMA, and to each of the "Other Agencies" listed in Article III, for review and comment.

**-End-**

Attachments (3)