STATE OF NEVADA

FIVE-YEAR FLOODPLAIN MANAGEMENT PLAN

by
Nevada Floodplain Management Program
September 30, 2004

Division of Water Resources
Department of Conservation and Natural Resources

I. State Authority

The Nevada State Engineer of the Department of Conservation and Natural Resources is responsible for administering the Nevada Floodplain Management Program to ensure that future uses and development in the State's flood plains occur in a manner to lessen the risk of flood losses. The Floodplain Management program (the program) is funded by two federal grants through the Federal Emergency Management Agency (FEMA): 1) the Community Assistance Program (CAP) grant, and 2) the Flood Mitigation Assistance (FMA) grant. The program is presently staffed with one full-time Program Officer III that acts as the State Floodplain Manager and State National Flood Insurance Program Coordinator, and one half-time Program Assistant III. The authority for the Nevada Floodplain Management Program within the Division of Water Resources and the State's implementation of the National Flood Insurance Program in Nevada resides in a Governor's Executive Order dated April 10, 2003.

The Floodplain Management Program in Nevada predates the Governor's Executive Order of 2003. In 1997 the program was established in the Division of Water Planning within the Department of Conservation and Natural Resources by the 1997 Nevada Legislature. In 2001 the program was transferred to the Division of Water Resources under the authority of the State Engineer when the Division of Water Planning was disbanded. Prior to the program's tenure in the Department of Conservation and Natural Resources, a single position in the Division of Emergency Management was intermittently filled to administer the Community Assistance Program.

II. Five-Year Vision for Floodplain Management

Currently the Floodplain Management Program is limited primarily to providing assistance to local communities participating in the National Flood Insurance Program. The primary focus of the program is to assist each of Nevada's 34 participating cities and counties with implementation of the basic standards of the National Flood Insurance Program to ensure the availability of flood insurance and federal disaster assistance within those communities. The program seeks to educate local communities of their obligations and responsibilities under the National Flood Insurance Program and to assist them in maintaining compliance with Federal regulations related to development in Special Flood Hazard Areas through the Community Assistance Program.

Although constrained by limited staffing, the program has continuous records since it's establishment in 1997 within the Department of Conservation and Natural Resources and has developed productive relationships with FEMA Region IX staff and with city, county, and regional officials responsible for floodplain management at the local level. Program staff also has made contacts within other State agencies responsible for insuring State facilities and potentially responsible for building and development in Special Flood Hazard Areas. The program has resided within the Division of Water Resources since 2001 and staff has sufficient experience to be aware of the major issues related to implementation of the National Flood Insurance Program in Nevada.

The long-term vision for the program would provide for enhanced coordination among State agencies to implement FEMA floodplain management requirements for State building or development projects within Special Flood Hazard Areas and would increase the range of topics offered as workshops to local community officials and provide them to a wider audience of the Nevada public affected by the National Flood Insurance Program. Specific work elements that would enhance floodplain management in Nevada include increasing public outreach to realtors, insurance agents, and mortgage lenders; developing state standards for anchoring manufactured houses in Special Flood Hazard Areas; developing a flood mitigation plan to address flood vulnerabilities in the Capital Complex of Carson City; developing and maintaining a comprehensive database of all historical and occurring flood events around the State for future flood mitigation planning; and evaluating flood risk in each Nevada county using HAZUS-MH software.

III. Strategy to Improve Floodplain Management

Current Nevada Floodplain Management CAP-SSSE Program Funded Activities

The following list summarizes the scope of work for the Nevada Floodplain Management Program in FY 2004. The Community Assistance Program grant, State Support Services Element (CAP-SSSE) provides the primary source of funding for the Nevada Floodplain Management Program and requires a 25% non-Federal funding match. Funding and consequently program activities are primarily constrained by the unavailability of additional State General Funds or any other funding sources for the non-Federal funding match. The scope of work for the program has remained essentially static since 2000 and unless additional sources of funding or resources are identified the scope of work for the program is likely to remain constant into the future.

- *Community Assistance Visits* - Staff will conduct six Community Assistance Visits/Contacts (CAVs/CACs) during FY 04. It is the goal of NDWR to visit each community participating in the National Flood Insurance Program at least once every 5 years. Ordinance review and assistance is provided as part of the CAV process on a 5-year interval for all Nevada communities. As part of the CAV reporting process community data is input into the CIS database on a 5-year interval for all Nevada communities.
- *Workshops for Community Officials, Surveyors and Engineers* - Staff will conduct two workshops for community officials throughout the state, one in the North and one in the South. The workshops are designed to explain and interpret the National Flood Insurance Program regulations, and to establish the need for and principles of floodplain management. A written summary of each workshop, including a copy of the agenda and attendance sheet, will be transmitted to FEMA Region IX with the quarterly report.
- *Program Coordination with Region* - Staff will attend two scheduled FEMA Region IX CAP Coordinators meetings to ensure program consistency and improve coordination with FEMA and the other states. Staff will provide assistance to FEMA such as development of this 5-Year Floodplain Management Work Plan, research of Nevada related flood information,

coordination with local communities or other State agencies, State interpretation of policy issues, and other tasks as requested. This work also includes planning, budgeting and submittal of grant applications for the continuation of the program each year.

- *Public Outreach* - Staff will publish two issues of a semi-annual Nevada Flood Management Newsletter during this period. The recipients are the local floodplain administrators, state agency staff, state legislators and local elected officials, state coordinators in other states, federal agencies, etc. Each issue will be a minimum of 4 pages and will be mailed to over 800 addresses and distributed at meetings and workshops. Staff will also update and maintain current floodplain management program information on the NDWR website.
- *Conferences and Training* - Staff will attend one regional conference such as the Floodplain Management Association Conference or the Arid Regions Conference, and one national conference such as the ASFPM Conference or the National Flood Conference. Staff will also attend one week of training on the National Flood Insurance Program, floodproofing, flood mitigation, or other subjects relevant to floodplain management.
- *General Technical Assistance* - Staff will respond to all requests for general technical and planning assistance. Staff will provide assistance in interpreting floodplain maps, explain laws and regulations, research questions, assist with developing local government flood plans, attend meetings of various working groups, etc.
- *Flood Emergency Response and Recovery Assistance* - NDWR will assist FEMA in response and recovery, damage, assessment, training and education activities incident to federally declared flood disaster events. The primary activity will be to participate in preliminary damage assessment, coordinate with the Division of Emergency Management, and identify potential mitigation opportunities. Staff will attend twelve monthly Preliminary Damage Assessment Team meetings and attend relevant training.

<u>Proposed Work Outside of Current CAP-SSSE Program (will require additional resources)</u>

The following list describes potential work outside of the current scope of the CAP-SSSE Program. The first activity concerning participation in the State Hazard Mitigation Planning Committee is currently part of the Nevada Floodplain Management Program and is funded in part by Flood Mitigation Assistance Program Technical Assistance grant funds. The remaining activities identified below would require additional resources and/or funding in order to implement.

- *Coordination with Other State Agencies* – Closer coordination with other Nevada State Agencies is needed to implement the 2003 Executive Order and to enhance floodplain management in Nevada. Specific agencies and opportunities for coordination are:

- Division of Emergency Management (DEM) – Continue to serve on Hazard Mitigation Planning Committee to assist Division of Emergency Management with setting State priorities for Nevada projects eligible for FEMA Pre-Disaster Mitigation grants. Participate through the State Hazard Mitigation Plan Subcommittee of the Hazard Mitigation Planning Committee in revisions to State Hazard Mitigation Plan. Participate in presentations to communities to explain mitigation grant opportunities. Continue to serve on Preliminary Damage Assessment Team and respond to post-flood disaster assessment as requested.
- State Public Works Board – Implement Executive Order by developing a floodplain ordinance compliance process for new State facilities. Assist with interpretation of local community floodplain management ordinances. Establish annual coordination meetings to review Public Works Boards projects in floodplains and discuss community concerns.
- Department of Administration, Risk Management Division and Buildings and Grounds Division –Work with Risk Management Division and Building and Grounds Division to identify State buildings in Special Flood Hazard Areas and develop plans to mitigate exposure to potential flood damages. As a separate work element described below, work with Risk Management Division and Buildings and Grounds Division to develop a flood mitigation plan for the Capital Complex in Carson City.
- Nevada Department of Transportation (NDOT) – Improve exchange of information and coordination of Letters of Map Revision. Assist with interpretation of local community floodplain management ordinances. Establish annual coordination meeting with NDOT to review new and ongoing NDOT projects in floodplains and discuss community concerns.
- Nevada Department of Business and Industry –Work with Real Estate, Mortgage Lending, and Insurance Divisions to improve outreach and training opportunities to Nevada realtors, mortgage lenders and insurance agents. As a separate work element described below, conduct mass mailing advertising flood insurance workshops already presented in Nevada by FEMA Insurance Contractor, Computer Sciences Corporation. Also as a separate work element described below, assist Manufactured Housing Division with development of manufactured home installation standards in Special Flood Hazard Areas for incorporation into State manufactured housing installation standards.

- *New National Flood Insurance Program Workshops –*
  - Unnumbered A-zone training – for local officials to develop Base Flood Elevations in A zones where FEMA has not defined Base Flood

Elevations. This workshop will require hiring a consultant to teach engineering methods part of this training.

- Insurance for floodplain managers – for local officials to understand the basics of flood insurance and how local ordinances impact flood insurance premiums in their communities. This training should be co-taught with FEMA Insurance Contractor, Computer Sciences Corporation.
- Letters of Map Amendments (LOMAs) / Letters of Map Revisions (LOMRs) – for local officials, engineers and surveyors to understand FEMA's process for amending and revising Flood Insurance Rate Maps. Workshop on LOMRs will require flood mapping and LOMR experience to teach the technical and engineering portion of training.
- Mitigation opportunities – for local officials or other interested grant applicants to define FEMA grant funding availability under the Pre-Disaster Mitigation (PDM) grant program. A presentation is currently under development by the Nevada Hazard Mitigation Planning Committee.
- Community Rating System (CRS) – for local officials to understand how the CRS works and how participation can lower flood insurance premiums in their communities.

- *Insurance Workshops for Realtors, Insurance Agents, Lenders* – Work through Nevada Association of Realtors and Real Estate Division, Department of Administration to advertise flood insurance training to Nevada realtors by FEMA's Insurance Specialist. Work through Nevada Division of Insurance and Local Insurance Agent association to advertise flood insurance training to Nevada insurance agents by FEMA's Insurance Specialist. May require purchasing mailing list from State agency or trade association.
- *State Standards for Anchoring Manufactured Housing* – Nevada Manufactured Housing Division in the Department of Business and Industry has developed installation standards that are required for manufactured homes installed in Nevada. The anchoring requirements found in the State standards, however, address primarily protection from wind forces on manufactured homes and do not account for flood forces when a manufactured home is located in a Special Flood Hazard Area. The program should work with the Manufactured Housing Division to develop and incorporate flood anchoring and foundation standards for manufactured home installations in Special Flood Hazard Areas. This work will require engineering expertise to develop technical standards.
- *Flood Mitigation Plan for the Capital Complex* – The majority of State owned buildings at risk of flood damage in Nevada is located within the Capital Complex in Carson City Nevada. Work with Risk Management Division to identify State buildings in Special Flood Hazard Areas within the Capital Complex. Work with Buildings and Grounds Division to develop mitigation project proposals to reduce exposure to flood damages. Program staff may be

able to assist Risk Management Division or other sponsoring agency with application for FEMA mitigation grant funding for retrofitting State buildings in Special Flood Hazard Areas. This work will require engineering expertise to develop mitigation project proposals.

- *Nevada Flood History Database* – Develop and maintain a comprehensive database of all historical flood events adding flood events as they occur around the State. Database should include a listing of source, description of the event and area affected, scanned photo images, damages and costs incurred and other pertinent information for future flood mitigation planning.
- *HAZUS-MH Study of Nevada Counties* – Conduct or contract a study to understand Nevada's vulnerability to flood damages by running FEMA HAZUS-MH software for each Nevada county. This work element will require expertise in GIS and HAZUS-MH software. Work can be separated into phases producing HAZUS runs for several counties each year.

IV. Needs Analysis

Current Nevada Floodplain Management CAP-SSSE Program Funding

The current funding for the Nevada Floodplain Management Program derives from three sources: Nevada General Fund, the State Support Services Element of a Community Assistance Program (CAP-SSSE) grant, and the Technical Assistance portion of a Flood Mitigation Assistance (FMA) grant. The distribution of funding from these sources for Federal fiscal year 2004 is as follows:

	Nevada General Fund	*FEMA Federal Share*	*Total*
CAP-SSSE	$23,100	$69,300	$ 92,400
FMA Technical Assistance	$3,697	$11,090	$ 14,787
	FY2004 Total Program:		*$107,187*

The scope of work at the current level of program funding was defined in the section above under the subheading "Current Nevada Floodplain Management Program Funded Activities."

Additional Funding Needs for Proposed Work Outside of Current CAP-SSSE Program

Preliminary estimates are made below for proposed work elements described in the section above under the subheading "Proposed Work Outside of Current Program."

- *Coordination with Other State Agencies*

  Numerous Nevada state agencies have a stake in ensuring participation in and compliance with the National Flood Insurance Program. Staff time should be

specifically allocated to cultivating and maintaining productive relations with these agencies through annual coordination meetings and cooperative studies. The following estimates are considered to be annual expenditures.

Division of Emergency Management:
Coordination with Division of Emergency Management will primarily involve additional man-hours devoted to the task by program staff.

Salaries and Benefits:

Program Officer III 20 hours @ $25 per hour	$ 500
Benefits @ 39%	195
Program Assistant III 8 hours @ $20 per hour	160
Benefits @ 33%	53
Total Salaries and Benefits	$ 908

State Public Works Board:
Coordination with State Public Works Board will primarily involve additional man-hours devoted to working with the Board to establish written procedures for ensuring compliance with floodplain regulations for new construction and substantial improvement and annual coordination meetings.

Salaries and Benefits:

Program Officer III 80 hours @ $25 per hour	$2,000
Benefits @ 39%	780
Program Assistant III 16 hours @ $20 per hour	320
Benefits @ 33%	106
Total Salaries and Benefits	$3,206

Department of Administration:
Coordination with Risk Management Division and Buildings and Grounds Division will primarily involve additional man-hours devoted to the task by program staff.

Program Officer III 20 hours @ $25 per hour	$ 500
Benefits @ 39%	195
Program Assistant III 8 hours @ $20 per hour	160
Benefits @ 33%	53
Total Salaries and Benefits	$ 908

Department of Transportation (NDOT):
Coordination with Risk Management Division will primarily involve additional man-hours devoted to the task by program staff for annual coordination meetings.

Program Officer III 40 hours @ $25 per hour	$1,000
Benefits @ 39%	390
Program Assistant III 8 hours @ $20 per hour	160
Benefits @ 33%	53
Total Salaries and Benefits	$ 908

State Coordination Total Cost *$16,924*

- *New National Flood Insurance Program Workshops*

  Development of a new workshop will involve additional man-hours for developing Powerpoint presentation(s) in coordination with FEMA Region IX Mitigation Training Coordinator and time and travel associated with presenting the workshop. The estimate below is for developing one new workshop and presenting it in Carson City and in Las Vegas.

  Salaries and Benefits:

Program Officer III 80 hours @ $25 per hour	$2,000
Benefits @ 39%	780
Program Assistant III 16 hours @ $20 per hour	320
Benefits @ 33%	106
Total Salaries and Benefits	$3,206

  Travel to Las Vegas:

Airfare @ $210	$ 210
Motorpool @ $75	75
Per diem @ $87	87
Southern Nevada Travel	$ 372

  New National Flood Insurance Program Workshop Cost *$3,578*

- *Insurance Workshops for Realtors, Insurance Agents, Lenders*

  Work involves program staff time for coordinating with FEMA Insurance Contractor, Computer Sciences Corporation and the cost of developing and mass mailing single 8 ½" x 11" sheet advertising. May require purchase of mailing lists. The estimate below would be for one year's expenditures.

  Salaries and Benefits:

Program Officer III 20 hours @ $25 per hour	$ 800
Benefits @ 39%	312
Program Assistant III 20 hours @ $20 per hour	400
Benefits @ 33%	132
Total Salaries and Benefits	$1,644

  Mass Mailing Advertising Costs:

Printing, folding, addressing, postage 500 pieces	$ 170
Purchase fee for address lists	300
Total Advertising	$ 470

  Realtors, Insurance Agents, and Lenders Workshop Cost *$2,114*

- *State Standards for Anchoring Manufactured Housing*

  Development of State Standards for Anchoring Manufactured Houses in floodplains will primarily involve additional program staff time devoted to coordinating with Manufactured Housing Division and drafting standards. Travel to Las Vegas to work with Southern Nevada Manufactured Housing Division staff may be required. This task may also require hiring a civil engineer to develop specific anchoring designs relevant to Nevada manufactured home installations. The estimate below is for the cost of

coordination by program staff with Manufactured Housing Division staff. Staff time for contract management and consultant costs were not estimated.

Salaries and Benefits:

Program Officer III 160 hours @ $25 per hour	$4,000
Benefits @ 39%	1,560
Program Assistant III 40 hours @ $20 per hour	800
Benefits @ 33%	264
Total Salaries and Benefits	$6,624

Travel to Las Vegas:

Airfare @ $210	$ 210
Motorpool @ $75	75
5 days per diem @ $87	435
Southern Nevada Travel	$ 720

Engineering Consultant Costs: unknown

Manufactured Housing Standards Cost *unknown*

- *Flood Mitigation Plan for the Capital Complex*

Development of a flood mitigation plan for the Capital Complex in Carson City will primarily involve additional program staff time devoted to coordinating with Risk Management and Buildings and Grounds Division. This task would also require hiring a consultant with engineering, floodproofing, flood-mitigation expertise to develop mitigation solutions for State owned structures. The estimate below is for program staff time to coordinate with Department of Administration staff. Staff time for contract management and consultant costs were not estimated.

Salaries and Benefits:

Program Officer III 120 hours @ $25 per hour	$3,000
Benefits @ 39%	1,170
Program Assistant III 24 hours @ $20 per hour	480
Benefits @ 33%	158
Total Salaries and Benefits	$4,808

Engineering Consultant Costs: unknown

Capital Complex Flood Mitigation Plan Cost *unknown*

- *Nevada Flood History Database*

This task will involve extensive time researching flood history in Nevada and accumulating and scanning photographs. The estimate below is for program staff time to conduct flood history research and to develop and input information into Excel spreadsheet or Access database. Alternately the research and/or database development/input portions of the work may be contracted out. Staff time for contract management and consultant costs were not estimated.

Salaries and Benefits:

Program Officer III 960 hours @ $25 per hour	$24,000

Benefits @ 39%	9,360
Program Assistant III 80 hours @ $20 per hour	1,600
Benefits @ 33%	528
Total Salaries and Benefits	$35,488
Consultant Costs:	unknown
Nevada Flood History Database Cost	*unknown*

- *HAZUS-MH Study of Nevada Counties*

  This task would require hiring a consultant with GIS and HAZUS knowledge and experience. Staff time for contract management and consultant costs were not estimated.

Consultant Costs:	unknown
HAZUS-MH Study of Nevada Cost	*unknown*

V. Map Modernization Activities

The Floodplain Management Program is under contract to provide technical support to the National Flood Insurance Program through the Community Assistance Program grant. Nevada is currently unable to assist in the implementation of the State's priorities, due to budgetary and staffing limitations, and will not be seeking additional funding under the Map Modernization Management Support (MMMS) program. The State may enlist Regional authorities that serve participating NFIP communities into the program and encourages local communities to partner with FEMA to accomplish flood mapping through the Cooperating Technical Partners Program.

VI. Performance Measures

The following tables summarize the performance measures that can be used to gage success of the Current Nevada Floodplain Management activities as well as the Proposed Work Outside of the Current Program.

Performance Measures for Current Floodplain Management CAP-SSSE Program

Task	*Performance Measure*	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Community Assistance Visits	Percentage of NFIP-Participating SFHA-Communities who have received a Community Assistance Visit	20	40	60	80	100
	Percentage of NFIP-Pariticipating SFHA-Community Floodplain Management Ordinances reviewed	20	40	60	80	100
Workshops for Community Officals, Surveyors and Engineers	Percentage of NFIP-Participating SFHA-Communities who have attended State NFIP training	20	30	40	50	66
Program Coordination with Region	Percentage of FEMA quarterly reports submitted within 30 days of the end of each quarter	100	100	100	100	100
Public Outreach	Percentage of NFIP-Participating SFHA-Communities receiving the State's NFIP Newsletter	50	75	90	95	100
Conferences and Training	Percentage of Floodplain Management Program staff receiving FEMA approved training and/or attending one national or regional conference	50	100	50	100	50
General Technical Assistance	Percentage of NFIP-Participating SFHA-Communities who are provided technical assistance	100	100	100	100	100
Flood Emergency Response and Recovery Assistance	Percentage participation in all Division of Emergency Management coordinated Preliminary Damage Assessment Team meetings and requested team response	90	90	90	90	90

Performance Measures for Proposed Work Outside of Current CAP-SSSE Program

Task	*Performance Measure*	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Coordination with Other State Agencies	Percentage of the identified State agencies participating in annual coordination meetings or other cooperative work	20	40	60	80	100
New NFIP Workshops	Percentage of NFIP-Participating SFHA-Communities who attend newly developed State NFIP training	20	30	40	50	66
Workshops for Realtors, Insurance Agents, and Lenders	Percentage of Nevada Realtors, Insurance Agents and Lenders informed about NFIP insurance workshops	25	50	75	75	75
State Standards for Anchoring Manufactured Homes	Percentage of standards developed for manufactured housing installations in Special Flood Hazard Areas	30	60	100		
Flood Mitigation Plan for Capital Complex	Percentage of State owned structures in the Carson City Capital Complex located in Special Flood Hazard Areas with proposed mitigation contained in a Capital Complex Flood Mitigation Plan	20	40	60	80	100
Nevada Flood History Database	Percentage of Nevada historical floods researched and entered into database			30	60	100
HAZUS-MH Study of Nevada Counties	Percentage of Nevada counties for which HAZUS-MS analysis for flood hazard has been done	20	40	60	80	100