NASSAU COUNTY MITIGATION STRATEGY

DELIVERABLES FOR PHASES "A" AND "B"

Section 1: INTRODUCTION

1. GENERAL

- a. This plan is to provide a frame work for identifying, prioritizing and stipulating resources for those hazard mitigation projects that should be accomplished in order to reduce or eliminate long term risk to the citizens of Nassau County and their property from the effects of all hazards. In conjunction with the Florida Division of Emergency Management, Nassau County has contracted to provide local mitigation strategies for Nassau County and its' municipalities in four (4) distinct deliverable periods, Phases A, B, C and D.
- b. The overall goal of this plan is to promote hazard mitigation and to provide guidelines for the management of post disaster recovery. This strategy is important to Nassau County because of the vulnerability to many different hazards as outlined in the Nassau County Comprehensive Emergency Management Plan.
- c. Recovering from a disaster without a proper hazard mitigation plan will become too expensive for the county's established revenues to absorb. As the cost of post disaster recovery continues to grow, it is essential that local governments, both county and municipality, take advantage of mitigation planning opportunities and available funding to reduce the impact and divert the long term cost (property purchasing, flood mitigation).
- d. This plan is written to ensure a high level of involvement by state and local government representatives and includes the private sector. This section of the plan encompasses Phases A and B which includes Deliverables 1 and 2 from the Scope of Work of the Local Mitigation Contract requirements. Sub-contract points of contact, from the participating municipalities, are listed in Attachment A.

2. PURPOSE:

a. Initially, this Mitigation Strategy is to serve as a bridge between the following Nassau County development documents: Comprehensive Plan, Emergency Management Plan, Emergency Management 5 Year Strategic Plan, County Land Development Regulations, Storm and Flood Water Ordinances as developed, County Building Codes and Regulations and County Zoning and Planning Ordinances.

- b. Perpetually, the Mitigation Strategy will be a precedent setting document that inks out the path of economic growth in Nassau County. It will enhance the development of capital growth programs to continue on their rapid curve while maintaining a fiscally prudent and disaster mitigated community.
- 3. **ORGANIZATION:** The Mitigation Strategy is contained in Section II below and is divided into two parts, with three sections in each part.

SECTION II: ORGANIZATION

PART 1: THE PROCESS

4. **GOVERNMENT COORDINATION:**

a. The following state, regional and local governments are involved in developing our mitigation functions for pre and post disasters:

AGENCY/ENTITIES Florida Division of Emergency Management	MITIGATION FUNCTIONS Technical advice, Assistance, Grants and LMS Funding	PRE-DISASTER YES	POST DISASTER YES
North East Florida Regional Planning Council (RPC)	Technical assistance and Plan development and writing	YES	YES
Nassau County Board of County Commissioners	Policy, Guidance, Approval and Appointment of Mitigation W.G.	YES	YES
Nassau County Attorney	Legal Advice and plan review	YES	YES
Nassau County Office of Emergency Management,	Plan manager, Strategy director, and LMS Vice Chairman	YES	YES
Nassau County School District	Retrofit of Emergency Shelters and Needs Transportation	YES	YES
Nassau County Municipalities	Input, Assistance, Development Partner, and Sub-Contractor	YES	YES
American Red Cross and the Salvation Army	Assistance in Shelter retrofit and shelter assistance provider	YES	YES
Nassau County Local Mitigation Working Group	Developers of the LMS, review committee for continued LMS.	YES	YES
The residents, businesses and visitors of Nassau County	Input and guidance through public forums and seminars; members	YES	YES
Nassau County Soil and Water Conservation Board	De-Snag all Waterways; riverine control and open hydrology	YES	YES

b. <u>Supporting Agencies:</u> In addition to the above listed participants, the following state agencies have roles in mitigation as defined in the State of Florida Comprehensive Emergency Management Plan and other supporting documents:

Department of Agriculture and Consumer Services,
Office of the Attorney General
St. Johns River Water Management District
Department of Community Affairs
Department of Environmental Protection
Department of Health and Rehabilitative Services
Department of Insurance
Department of Transportation
Department of Business Regulations
Department of Highway Safety and Motor Vehicles
Florida Department of Law Enforcement
Small Business Administration
Enterprise Florida (economics)
Natural Conservation Service

- c. <u>Entities with Variances to policies</u>: The Office of Emergency Management is unaware of any governmental entities that have policies that are at variance with the policies that are outlined herein. It is not the intent of this policy to supplant any legal or formal policies that may be in conflict herewith.
- d. Active Intergovernmental Agreements that support Local Hazard Mitigation: Nassau County and each of its' municipalities are signatories to the Statewide Mutual Aid Agreement. All of Nassau County's municipalities are sub-contractors to the unified county LMS Program.
- e. Resolution to Governmental Conflicts: Should conflicts arise between governmental entities relating to this mitigation strategy through the processes included in the Intergovernmental Coordination Element of each local government Comprehensive plan, effort will be made in coordination with the Regional Planning Council (RPC) to resolve such conflicts. Should this initiative be unsuccessful, the matter will be presented to the Nassau County Board of County Commissioners for their final decision on the matter. If conflict still persists, the conflict shall be addressed to the Division of Emergency Management, Local Mitigation Strategy Group, with adjudication by the Department of Community Affairs.

f. <u>Prioritization of City, Town and County Mitigation Projects:</u> The process to prioritize the final mitigation projects from the county and the municipalities, submitted for grant funding, will be accomplished in a joint meeting between the Nassau County Local Mitigation Strategy Working Group and the officials from the respective municipalities. Should the parties concerned be unable to agree on the priority list, the matter will be presented to a joint board of the Nassau County Board of County Commissioners and the governing body of the municipality. This process will allow the mitigation projects to be presented for review and prioritization by the Chairman or Vice-Chairman of the Local Mitigation Strategy Working Group.

5. PUBLIC PARTICIPATION:

- a. <u>Local Mitigation Strategy Working Group</u>: The Nassau County Board of County Commissioners approved the Local Mitigation Strategy contract on April 18th, 1998, and approved the formulation of the Local Mitigation Strategy Working Group on May 25th, 1998. The Working Group consists of elected officials, appointed members of county and municipality governments, members of the business community and its infrastructure support, industry and members of the public sector. See Attachment B for a detailed list of the Working Group members and their affiliation. The full Working Group had its initial meeting on May 25th and additional bi-monthly meetings were scheduled through the next year to complete Phases A, B, C and D. See Attachment C for scheduled meeting dates.
- b. Procedures to Ensure Public Input and Community Involvement: Bimonthly public meetings are conducted, per announcements in the local newspapers, inviting the public to comment and provide input for the mitigation projects and proposals. Newspaper interviews and published Local Mitigation advertisements, talks before civic clubs, school boards, school groups, business organizations and cable TV interviews are part of the scheduled education program with modifications as additional avenues open for keeping the public aware of the program. A public information sub-group will be formed during the HI/VAC phase to ensure proper media coverage of all aspects of mitigation.
- c. <u>Procedures to Coordinate Mitigation Activities with the Business Community:</u> Some of the procedures as outlined above are used to coordinate mitigation activities with the local community. In addition, both Nassau County Chambers of Commerce and the local business and industrial community have representatives on the Working Group. Seminars for businesses and industries in Nassau County are being scheduled to discuss mitigation and other emergency management issues.

d. <u>Procedures for Formally Recognizing the Local Mitigation Strategy Program:</u> This Mitigation Plan and each of it's Deliverable Phases will be approved by the Nassau County Board of County Commissioners and signed by the Chairman of the Board. All potential ordinances, drafted community development plan changes, committees and oversight boards recommended by the Working Group have and will continue to be presented to the Board of County Commissioners by the Vice-Chairman of the Working Group as agenda items for review and vote.

6. EVALUATION AND ENHANCEMENT:

- a. <u>Procedures for Periodic Review of County Mitigation Strategy:</u> The following actions will be accomplished, in accordance with the indicated schedule to ensure complete current and long term reviews of this plan and future modifications:
- (1) The Nassau County Local Mitigation Strategy Working Group will meet bimonthly throughout the contract deliverable phases ensuring proper mitigation projects and programs are addressed and presented. Post contract, the Working Group will continue on a quarterly schedule, unless a disaster or other type of emergency should occur in which case the meeting schedule will be increased to meet the mitigation situation. In a disaster situation, the Working Group will meet as early as possible in the recovery phase and assist in the disaster damage assessment process as required. Actions will commence during recovery to review the current strategy and to amend the current plan based on lessons learned from the response and recovery phases of the disaster. The LMS Working Group will support the Post Disaster Redevelopment Task Force with it's priorities.
- (2) An annual assessment of all mitigation strategies will be made by the Working Group in coordination with all other development committees and boards to ensure connectivity between the groups. This action will be accomplished annually during the month of July to ensure that the Mitigation Strategy is still consistent with Nassau County's Comprehensive Emergency Management Plan and the 5 Year Strategic Plan revisions for that year.
- (3) Any proposed changes to the Local Mitigation Strategy Plan, as the result of the annual reviews or actions taken in subparagraphs (1) and (2), above, will be coordinated with the appropriate elected municipalities and Nassau County Board of County Commissioners. A public forum will be held to ensure proper public input is addressed prior to any approved changes. Notification of change will be sent to RPC, and DEM and will be disseminated throughout the county through the media and newspaper articles.

- (4) Total fiscal responsibility will be adhered to in the strategic development of this Local Mitigation Strategy and any future modifications. Any accomplishment of goals as developed in the Strategy will be contingent upon the availability of funding.
- (5) The Local Mitigation Strategy Working Group will work in parallel to and under the tutelage of the Planning and Zoning Department Director to assist in the completion of the Evaluation and Appraisal Review phase of the Comprehensive Management Plan and Land Development Regulation revisions.
- b. <u>Procedures to Ensure Participation of all County Governments in Mitigation:</u>
 During the review of each contract phase and prior to revisions in post contract periods, one or more meetings will be conducted with the Working Group and the elected officials of the municipalities and the county. These meetings will address all proposed modifications attained by the Working Group. After final coordination between all groups and the public, recommended changes shall be submitted to the Nassau County Board of County Commissioners for final approval.
- c. Procedures for exercising the components of the Local Mitigation Strategic

 Plan: The components of mitigation strategy and current plans and policies are executable on a continuous basis throughout the county and municipalities. As mitigation initiatives are presented to the Working Group, appropriate officials and industrial representatives will be invited, as necessary, to ensure their continual involvement in both planning and execution of the contract phases of the projects. Periodic site visitation will be accomplished by the Working Group to maintain continuity with the project's Scope of Work, thusly, mitigating any confusion and misdirection.

PART II: THE MITIGATION PRODUCT

7. MITIGATION PROJECT OBJECTIVES:

- a. <u>Approved Goals:</u> The following is a list of initial hazard mitigation and long-term recovery goals which have been developed by the Local Mitigation Strategy Working Group, with input from public and private sectors. These goals are not all inclusive, and will become more refined during the 4 contract phases. These goals include the development of mitigation measures that will identify tasks and milestones for completion of each identified project by the end of the mitigation contract deliverable phase D:
- (1) Replacement of under drains on county roads that cause flooding and washouts over roads during heavy rainfall.

- (2) Lining swale areas with concrete pilot channels to mitigate storm water damage to road edges and positive outfall drainage systems.
- (3) Replace selected small bridges and metal cross drainage, where feasible, on county roads, with box culverts and/or elevate road beds to prevent flooding over roadway during periods of heavy rainfall; reduce the elevation of road beds and the lining of swale areas.
- (4) Replace selected non-box culverts with box culverts on county roads that are not sufficiently above flood stage and elevate roadbeds to prevent flooding over roadways during periods of heavy rainfall. Establish hydrology requirements for these replacement programs.
- (5) Reinforce the ocean revetment along Ocean Ave in Fernandina Beach.
- (6) De-snag and conduct limited clearing to applicable creeks in the Thomas Creek flood basin to mitigate potential flooding in surrounding area housing developments.
- (7) De-snag and conduct limited clearing to applicable creeks in the Mills Creek flood basin to mitigate potential flooding in surrounding area housing developments.
- (8) In Hilliard and the surrounding waterways, De-snag the 7^{th} Avenue outfall and Bay/Front Road outfall.
- (9) De-snag and conduct limited clearing to Boggy Creek to mitigate potential flooding in surrounding area housing developments.
- (10) De-snag and conduct limited clearing to Alligator creek flood basin to mitigate potential flooding in surrounding area housing developments.
- (11) Re-establish essential hydraulic flow and remove the DAM effect of the man made impediments to water flow within the flood plains of Callahan, Fernandina Beach and the County unincorporated areas.
- (12) Using funding from grant programs, ensure a positive public benefit by working with property owners who have structures within flood plains to upgrade those structures to meet the mitigation criterion.
- (13) Arrange for land trades of County owned lands for those which are in the enhanced storm water holding basins or purchase the development rights of that land with adjustments for taxation.
- (14) Investigate and identify where flood level waters could be diverted to nearby drainage basins and design and construct modified spillway gates to achieve the process.

- (15) Build an all hazards Emergency Operations Center that is in line with Nassau County's policy of not expanding capital improvements in Coastal High Hazard areas or on barrier islands.
 - (16) Establish a Needs/ Special Needs review committee for Nassau County.
- (17) Reduce or eliminate the long term risk of flood damage to residential housing, with repetitive losses, that are insured under the National Flood Insurance Program (NFIP) by retrofitting, elevating, moving or buying out the structures.
- (18) Place in pre-determined locations, Road Surface Flood Level Posts, with relevant signage.
- (19) Retrofit school facilities that are used as shelters throughout Nassau County. Establish a priority list of facilities to start grant mitigation funding programs.
- (20) Establish a mobile home shelter program for all new mobile home park development sites to ensure that an all hazards shelter, capable of housing all residents, is available ensuring that it is designed into the site development by the developers.
- (21) Establish a unified mitigation ordinance for the county and all municipalities.
- (22) Develop a Code Enforcement Program to meet current and future County Comprehensive Programs and Mitigation Projects.
- (23) Establish unified evacuation routes for Nassau County and educate the public on the use of emergency routes, how they are activated and how to return to their homes.
- (24) Request an annual inspection and review process of the D.O.T. Right of Way, in Nassau County, so as to identify the areas that D.O.T needs to remove debris to ensure un-encumbered storm water flow.

b. Mitigation Goals Matching or Interacting with Active County Wide Plans:

MITIGATION GOALS

1. Replacement of under drains on county roads that cause flooding and washouts over roads during heavy rainfall.

EXISTING PLAN REFERENCE

1. Paragraph NCCP 4.02.02.a & the Proposed Storm Water and Drainage Ordinance

MITIGATION GOALS (cont'd)

- 2. Lining swale areas with concrete pilot channels to mitigate storm water damage to road edges and positive outfall drainage systems.
- 3. Replace selected small bridges and metal cross drainage, where feasible, on county roads, with box culverts and/or elevate road beds to prevent flooding over roadway during periods of heavy rainfall; Reduce elevation of road bed and lining of the swale areas
- 4. Replace selected non-box culverts with box culverts on county roads that are not sufficiently above flood stage and elevate roadbeds to prevent flooding over roadways during periods of heavy rainfall. Establish hydrology requirements for these replacement programs.
- 5. Reinforce the ocean revetment along Ocean Ave in Fernandina Beach.
- 6. De-snag and conduct limited clearing to applicable creeks in the Thomas Creek flood basin to mitigate potential flooding in surrounding area housing developments.
- 7. De-snag and conduct limited clearing to applicable creeks in the Mills Creek flood basin to mitigate potential flooding in surrounding area housing developments.
- 8. In Hilliard and the surrounding waterways, De-snag the 7th Avenue outfall and Bay/Front Road outfall.
- 9. De-snag and conduct limited clearing to Boggy creek to mitigate potential flooding in surrounding area housing developments.

EXISTING PLAN REFERENCE

- 2. Paragraph NCCP 4.02.02.a & 4.05B.05
- 3. Paragraph NCCP 4.02.02.a & the Proposed Storm Water and Drainage Ordinance
- 4. Paragraph NCCP 5.04A.03 & the Proposed Storm Water and Drainage Ordinance
- 5. Paragraph NCCP 5.02A.04 & FBCP 4.05.03, & 5a.02.07
- 6. Paragraph NCCP 4.05B.03 & 1.01.07
- 7. Paragraph NCCP 4.05B.03 ,& 1.01.07
- **8.** Paragraph NCCP 4.05B.03 & 1.01.07
- 9. Paragraph NCCP 4.05B.03 & 1.01.07

MITIGATION GOALS (cont'd)

- 10. De-snag and conduct limited clearing to Alligator creek flood basin to mitigate potential flooding in surrounding area housing developments.
- 11. Re-establish essential hydraulic flow and remove the DAM effect of the man made impediments to water flow within the flood plains of Callahan, Fernandina and the County unincorporated areas.
- 12. To ensure positive public benefit, work with property owners which have structures within flood plains to upgrade those structures so that they meet the mitigation criterion.
- 13. Arrange for land trades of County owned lands for those which are in the enhanced storm water holding basins or purchase the development rights of that land with adjustments for taxation.
- 14. Investigate and identify where flood level waters could be diverted to nearby drainage basins and design and construct modified spillway gates to achieve the process.
- 15. Build an all hazards Emergency Operations Center that is not on a Barrier Island in Nassau County.
- 16. Establish a Needs/ Special Needs review committee for Nassau County.

EXISTING PLAN REFERENCE

- 10. Paragraph NCCP 4.05B.03 & the Flood Plain Ordinance
- 11. Paragraph NCCP 4.05B.03 & the Flood Plain Ordinance
- 12. Paragraph NCCP 5.04A.07 & the Flood Plain Ordinance
- 13. Paragraph NCCP 3.03.04 & the Proposed Post Disaster Redevelopment Ordinance
- 14. Paragraph NCCP 4.02.02 & 4.05B.01 and the Flood Plain Ordinance
- 15. Paragraphs NCCP 5.12.01 & 9.04.01
- 16. Paragraphs NCCP 5.06.02 & 9.04.01 and the Nassau County CEMP

MITIGATION GOALS (cont'd)

- 17. Reduce or eliminate the long term risk of flood damage to residential housing, with repetitive losses, that are insured under the National Flood Insurance Program (NFIP) by retrofitting, elevating, moving or buying out the structures.
- 18. Place in pre-determined locations, Road Surface Flood Level Posts, with relevant signage.
- 19. Retrofit school facilities that are used as shelters throughout Nassau County. Establish a priority list of facilities to start grant mitigation funding programs.
- 20. Establish a mobile home shelter program for all new mobile home park development sites to ensure that an all hazards shelter, capable of housing all residents, is site located on the development by the developers.
- 21. Establish a unified mitigation ordinance for the county and all municipalities
- 22. Develop a Code Enforcement Program, to meet current and future County Comprehensive Programs and Mitigation Projects.
- 23. Establish unified evacuation routes for Nassau County and educate the public on use of emergency routes, how they are activated and how to return to their homes.

EXISTING PLAN REFERENCE

- 17. Paragraphs NCCP 4.05B.03 & 4.05B.05 & 4.05B.06 and the Flood Plain Ordinance
- 18. This Paragraph has yet to be developed for the NCCP. It will be incorporated into the Flood Plain Ordinance.
- 19. Paragraph NCCP 5.06.01 & 5.06.02 And the Nassau County CEMP
- 20. This Paragraph has not been developed yet for the NCCP or current building code requirements.
- 21. NCCP Concurrence Management Plan and F.A.C. 9J-5-.0055(2)(b).
- 22. Florida Statute, Chapter 162
- 23. Paragraph NCCP 5.03.01 and the Nassau County CEMP

EXIZING LIVA REFERENCE

MITIGATION GOALS (cont'd)

24. Paragraph NCCP 4.05B.01

24. Request an annual inspection and review process of the County's controlled drainage along county roads, and monitor and report D.O.T. Right of Way, in Massau County, so as to identify the areas that D.O.T needs to remove debris to ensure unencumbered storm water flow.

c. Contributing Program and Plan Linage to the Development of a Local Mitigation Strategy:

The linkages between the Nassau County Comprehensive Emergency Management Plan (CEMP) and the Local Mitigation Strategy are significant. The CEMP is a detailed vulnerability analysis and the foundation used to develop the strategy. The CEMP identifies the overall mitigation needs and requirements and the mitigation strategy then becomes the implementation arm for accomplishing the specific goals in order to meet Massau County's requirements.

d. Specific Comprehensive Emergency Management Plan Goals Addressed in Local Mitigation:

This strategy is not developed for the purpose of identifying new goals and objectives, but to provide a document to address those that already exist in the CEMP and 5 Year Strategic Plan. By reenforcing the goals and tasks of the CEMP and the 5 Year Strategic Plan, the mitigation strategy can be the engine to supplant positive initiatives, parallel to the above document's completion paths. It is important that this strategy devotes itself to the continued effort to provide Massau County the specific preparedness goals required to achieve timely and efficient response and recovery from all disasters.

e. Mitigation Objectives that are at Variance with other Programs and Policies:

It is the sole intent of this Local Mitigation Plan to support and be in strict accord with all other plans and procedures currently active in the county. Pursuant to the Mitigation Contract with DEM, this Strategy will identify and recommend a fundamental direction in regards to all future modifications to any and all plans and policy approved by the Board of County Commissioners. Therefore, there are no known variances between Local Mitigation Strategy and approved procedures, plans or ordinances of the Massau County Board of County Commissioners.

8. HAZARD IDENTIFICATION AND VULNERABILITY ASSESSMENT:

This phase of the Local Mitigation Strategy Plan will be addressed in detail when PHASE C is completed and delivered to DEM by April, 1999. The pre-identification requirements to properly complete Phase B have commenced and have been properly listed to achieve this deliverable date. They include, but are not limited to; Inventory Analysis, categorizing areas subject to: high winds, fresh water flooding (riverine and rainfall), coastal flooding, storm surge, severe erosion and industrial risk analysis. Included in the technology and mathematical areas are: Computer aided Site Mapping and Plume disbursement, GIS/GPS Modeling, Structural Inventory and Demographics, Storm and Flood Water Modeling including rainfall effects for hurricane and non-hurricane disasters, Hurricane Evacuation requirements, critical and hazardous facilities inventories and risk models, growth models for population and post disaster economic development. This data will be presented in CAD, GPS and tabular form and summarized in deliverable 3, PHASE C.

Current items applicable to DELIVERABLE TWO requirements of the contract:

a. **Mapping**;

- (1) Copies of the Nassau County Flood Insurance Rate Maps are on file in the Emergency Management Office and the Department of Public Works and are used to provide a multi-hazard map of the county. Areas that are prone to flooding (V, VE, AE, and A zones) are show on these maps. Information relating to the repetitive loss data will be on file in the Nassau County Building and Zoning Section of the Public Works Department.
- (2) Maps of current land use patterns that describe development intensity and density that are contained in the Nassau County Future Land Use Map 2005, an Attachment "A" of the Nassau County Comprehensive Plan. Particular note is being made of special sites such as mobile home parks, critical economic facilities or structures, hazardous waste and generator locations, as well as hospitals, nursing homes and other assisted living facilities (ALFs).
- (3) The Emergency Management Office has access to and has used geographic information systems (GIS) to support hazard identification, risk assessment and critical facilities identification.

b. Inventory;

(1) The following information is furnished relative to the National Flood Insurance Program (NFIP) in Nassau County:

- (a) Number of NFIP policy holders: <u>6,036</u>
- (b) Total of NFIP coverage: \$880,228,000
- (c) Total paid out in claim losses during the past two (2) years: \$1,057,984
- (d.) Total properties that experienced repetitive damages during the past two (2) years: None Reported
- (2) Additional historical flood depth information, beyond that which is published in the FEMA flood prone area maps, is not currently available in Nassau County. Information will be requested from the St. John's River Water District, Regional Planning Council and the Division of Emergency Management, for the LMS Working Group staff.
- (3) A basic inventory and map of all critical facilities within the county is on file in the Office of Emergency Management. All of those facilities and the facilities that are being identified in Phase C of this Mitigation Project are vulnerable to industrial Risk Management Plan concerns, damage from multiple disaster categories and are being identified in this mitigation report as critical facilities. Hazardous Facility inventory and site identification has been completed using CAMEO WINDOWS and is an integral part of the Nassau County CEMP.
- (4) Hazard Category identification data, Natural, Technological and Societal is being loaded to a relational database in the MICROSOFT ACCESS database program. The matrix will identify approximately 20 impact parameters and will address all of the significant categories confronting the county and its' municipalities. The outcome of this matrix will then be applied to the previously developed mitigation goals of each municipality and the county to ensure compliance with resultant mitigation theoretical modeling data. Major deviations will require adjustments to the mitigation goals and their supporting plans, policies and ordinances.
- (5) During deliverable PHASE C, with the assistance of the TAOS MODEL, Nassau County will conduct additional study and research to support greater loss reduction and further alignment of the Coastal High Hazard Area mitigation.

c. Modeling;

- (1) The following information has been obtained from applying two models to predict storm damage to existing private structure and public infrastructure. The initial review of this data has been considered in the development of this mitigation strategy:
 - (a) SLOSH
 - (b) RAINFALL

d. Increased vulnerability to Predictive Models Relative to Population Growth:

Nassau County does not currently have the modeling data to determine which traditional vulnerabilities apply to population growth in the Coastal High Hazard Areas of the county. It can be determined though, that there is no increased vulnerability anticipated in predictive data models for Non-Coastal High Hazard Areas due to population growth.

e. Economic Profile of the Planning Area Included in the Vulnerability Assessment:

Without the accomplishment of the mitigation goals outlined in paragraph 7 above (Mitigation Project Objectives), the increase in long term recovery from a disaster within Nassau County would increase by approximately thirty-three (33%) percent.

f. Summary of the Vulnerability Assessment for Deliverable B:

The vulnerability assessment used in this document has been derived primarily from the Nassau County Comprehensive Emergency Management Plan (NCCEMP). The information and assistance in developing the models were obtained from several local agencies in the County. Data pertaining to County roads, bridges and culverts were obtained from historical information and technical data compiled within the Public Works department Road, Bridge and Engineering sections. Information pertaining to flooding, flood damage, flood damage to residential housing and repetitive losses and NFIP was obtained and assembled by the Planning and Zoning Section of the Public Works Department. Information pertaining to the sheltering program in Nassau County was assembled from data in the Office of Emergency Management, American Red Cross and the Nassau County School District. Information concerning economic development has been obtained from the Nassau County Economic Development Board Executive Director.

A comprehensive addition will be developed to our initial summary after all mapping and modeling programs have been finalized for reporting in PHASE C..

9. <u>MITIGATION INITIATIVES IDENTIFIED THROUGH THE LOCAL MITIGATION STRATEGY:</u>

a. Policies Identified:

(1) The Housing Element, Section III, of the Nassau County Comprehensive Plan (NCCP) limits public expenditures in areas identified as subject to repetitive damage from previous disasters. This policy is monitored and evaluated to determine how well it is working in accordance with Appendix C, NCCP

- (2) The Coastal Management Element, Section V, of the NCCP outlines policy to ensure the protection of critical facilities and reducing to essential levels the construction of County Facilities in Coastal High Hazard Areas (CHHA).
- (3) The Coastal Management Element, Section V, of the NCCP outlines policy relating to the removal and relocation of damaged and vulnerable structures.
- (4) The Housing Element, Section III, of the NCCP outlines policy that eliminates development in hazard prone areas.
- (5) The Housing Element, Section III, of the NCCP outlines policy that regulates non-conforming land uses, particularly those in areas subject to sustained damage from disasters.
- (6) The Sanitary/Sewage/Solid Waste/Drainage/PW/NGW Element, Section IV, of the NCCP outlines policy that regulates land use, flood plains, non-point source storm water run-off, and the design and location of sanitary sewer and septic tanks in hazard-prone areas, pursuant to Rule 9J-5.012(3)(b)5, F.A.C.
- (7) The Conservation Element, Section IV, of the NCCP outlines policy that regulates watershed alteration.
- (8) The Coastal Management Element, Section V, of the NCCP outlines policy that the county shall require, through land development regulations, that redevelopment plans within the CHHA include reduced densities and the minimization of public facilities and expenditures to a level no greater than that necessary to support land uses in the effected areas as shown on the Future Land Use Map.
- (9) The Coastal Management Element, Section V, of the NCCP requires that all new construction within the CHHA will be required to meet 9J-5.0055(2)(c) F.A.C. for concurrence
- (10) The Coastal Management Element, Section V, of the NCCP outlines policy that requires the county to review its Zoning Code and Subdivision Regulations and make required revisions to control development on the barrier island in a manner that will reduce vulnerability to hurricane forces.
- (11) The Nassau County Code does not currently outline policy that addresses repetitively damaged and vulnerable residential and commercial structures. This will be included in the new state wide 2001 building code revisions through the mitigation process.
- (12) The Nassau County Code outlines policy that addresses procedures for post storm reconstruction, such as building moratoria or special emergency permitting procedures.

- (13) Governmental applications for state and federal funding assistance may be reviewed by the Local Mitigation Working Group and the Office of Emergency Management for agreement with and direct support of local mitigation objectives. Applications may then be submitted to the Board of County Commissioners for review and approval.
- (14) The Nassau County Board of County Commissioners approved the Local Mitigation Strategy contract on April 18th, 1998, and approved the formulation of the Local Mitigation Strategy Working Group on May 25th, 1998. The Working Group consists of elected officials, appointed members of county and municipality governments, members of the business community and its' infrastructure support, industry and members of the public sector. The Working Group is Chaired by a County Commissioner and the Director of the Office of Emergency Management serves as the Vice-Chairman.

b. Mitigation Programs:

- (1) Nassau County, on <u>9/26/94</u>, amended and adopted the Standard Building Code as the building code for the county.
- (2) The above referenced building code provides the development and redevelopment guidance and regulations relating to hazard mitigation practices within the county.
- (3) Nassau County participates in the National Flood Insurance Program (NFIP) with 6,036 Policy holders.
- (4) The Nassau County's Comprehensive Emergency Management Plan, collectively, cover procedures that address the following activities which can earn credits in the Community Rating System (CRS); (a) Retrofit of existing shelters and other structures; (b) Emergency Services; (c) Public Information.
- (5) The coordination with the local business community in the development of existing and proposed mitigation activities is accomplished through the work of the Local Mitigation Strategy Working Group.
- (6) Nassau County, through the Local Mitigation Strategy Working Group, is considering a proposal for recommendation to the Board of County Commissioners that will identify projects in flood plains and wetlands for Land Acquisition Programs through applicable grant programs.

c. <u>Prioritized Mitigation Projects:</u>
The following is a list of mitigation projects developed by the Local Mitigation Strategy Working Group. Projects are listed by priority, and costs where available:

MITIGATION PROJECTS	LISTED IN PRIORITY	ESTIMATED COSTS
1. Replacement of under drains on county roads that cause flooding and washouts over roads during heavy rainfall.	1	\$175,000.00
2. Lining swale areas with concrete pilot channels to mitigate storm water damage to road edges and positive outfall drainage systems.	2	\$125,000.00
3. Replace selected small bridges and metal cross drainage, where feasible, on county roads, with box culverts and/or elevate road beds to prevent flooding over roadway during periods of heavy rainfall: reduce elevation of road bed and lining of the swale areas.	3	\$750.000.00
4. Replace selected non-box culverts with box culverts on county roads that are not sufficiently above flood stage and elevate roadbeds to prevent flooding over roadways during periods of heavy rainfall. Establish hydrology requirements for these replacement programs.	4	\$500,000.00
5. Reinforce the ocean revetment along Ocean Ave in Fernandina Beach	5	\$ 50,000.00
6. De-snag and conduct limited clearing to applicable creeks in the Thomas Creek flood basin to mitigate potential flooding in surrounding area housing developments.	6	\$500,000.00

MITIGATION PROJECTS (Cont'd)	<u>LISTED IN</u> PRIORITY	ESTIMATED COSTS
7. De-snag and conduct limited clearing to applicable creeks in the Mills Creek flood basin to mitigate potential flooding in surrounding area housing developments.	7	\$400,000.00
8. In Hilliard and the surrounding waterways, De-snag the 7 th Avenue outfall and Bay/Front Road outfall.	8	\$250,000.00
9. De-snag and conduct limited clearing to Boggy Creek to mitigate potential flooding in surrounding area housing developments.	9	\$500,000.00
10. De-snag and conduct limited clearing to Alligator creek flood basin to mitigate potential flooding in surrounding area housing developments.	10	\$ 250,000.00
11. Re-establish essential hydraulic flow and remove the DAM effect of the man made impediments to water flow within the flood plains of Callahan, Fernandina Beach, and County unincorporated areas.	11	\$150,000.00 ea
12. To ensure a positive public benefit, work with property owners which have structures within flood plains to upgrade those structures so that they meet the mitigation criterion.	12	\$ 5,000.00 ea
13. Arrange for land trades of County owned lands for those which are in the enhanced storm water holding basins or purchase the development rights of that land with adjustments for taxation.	13	\$150,000.00

MITIGATION PROJECTS (Cont'd)	LISTED IN	ESTIMATED COSTS
14. Investigate and identify where flood level waters could be diverted to nearby drainage basins and design and construct modified spillway gates to achieve the process.	PRIORITY 14	\$710,000.00
15. Build an all hazards Emergency Operations Center that is not on a Barrier Island in Nassau County.	15	\$ 1,500.00
16. Establish a Needs/ Special Needs review committee for Nassau County.	16	\$300,000.00
17. Reduce or eliminate the long term risk of flood damage to residential housing, with repetitive losses, that are insured under the National Flood Insurance Program (NFIP) by retrofitting, elevating, moving or buying out the structures.	17	\$7,500.00
18. Place in pre-determined locations, Road Surface Flood Level Posts, with relevant signage.	18	\$ 10,000.00 PER SITE
19. Retrofit school facilities that are used as shelters throughout Nassau County. Establish a priority list of facilities to start grant mitigation funding programs.	19	\$ 15,000.00
20. Establish a mobile home shelter program for all new mobile home park development sites to ensure that an all hazards shelter, capable of housing all residents, is site located on the development by the developers.	20	\$ 3,000.00
21. Establish a unified concurrence ordinance for the county and all municipalities	21	\$ 5,000.00

MITIGATION PROJECTS (Cont'd)	LISTED IN	ESTIMATED COSTS
22. Develop a Code Enforcement Program, to meet current and future County Comprehensive Programs and Mitigation Projects.	PRIORITY 22	\$ 5,000.00
23. Establish unified evacuation routes for Nassau County and educate the public on use of emergency routes, how they are activated and how to return to their homes.	23	\$ 7,500.00
24. Request an annual inspection and review process of the D.O.T. Right of Way, in Nassau County, so as to identify the areas that D.O.T needs to remove debris, to ensure un-encumbered storm water flow.	24	\$ 1,500.00

d. Project Funding:

(1) The following figures reflect the average approximate annual expenditures on mitigation programs and projects that Nassau County has spent prior to the start of the mitigation program:

(a) Pre-storm:

\$25,000.00

(b) Post Storm:

\$169,000 from the DSR's and Public Assistance Grant

Programs and county funding.

- (2) The following is a list of available funding mechanisms for mitigation programs and projects:
 - (a) Hazard Mitigation Grant Program (HMGP) funding
 - (b) Emergency Management Preparedness and Assistance Grant Programs
 - (c) EMPA Base Grant Program
 - (d) FEMA's Flood Mitigation Assistance Program (FMAP)

- (3) The following information is furnished relative to the mitigation projects that have been identified for funding:
- (4) As previously addressed in paragraph 6 above (Evaluations and Enhancements), total fiscal responsibility will be adhered to in this Local Mitigation Strategy and any future modifications. The accomplishment of goals as developed in the Strategy or in support of the municipalities will be contingent upon the availability of funding.
- (a) Evaluation of each project has been made by the Nassau County Local Mitigation Strategy Working Group in conjunction with the County's Senior Planner.
 - 1. Cost Effectiveness
 - 2. Environmental effects
 - 3. Technical feasibility
 - 4. If each project contributes to the overall strategy outlined in this plan
 - <u>5.</u> If each project is in conformance with the minimum standards of the NFIP and F.A.C. 9J-5.
 - <u>6.</u> If each project is physically located in a NFIP participating municipality.
- (b) The findings of each of the above evaluations produced positive results that support the continued planning and execution for each project that has been identified for a grant funding request. The attached appendix worksheet is provided as an evaluation working tool for project evaluations.

ATTACHMENT A

LOCAL MITIGATION STRATEGY SUB-CONTRACT

CONTACT REPRESENTATIVES

Fernandina Beach, Fl	Richard Diamond	904-277-7305
Town of Hilliard, Fl	Lisa Purvis	904-845-3555
City of Callahan. Fl	Bobbie Boone	904-879-3801

ATTACHMENT B

LOCAL MITIGATION STRATEGY WORKING GROUP MEMBERS

(As of 10/01/98)

<u>NAME</u>	<u>INTEREST</u>	AFFILIATION
Marianne Marshall	Board of County Commissioners	County Government
Terry Eby	Emergency Management	County Government
Tom Williams	County Port Authority Commissioner	County Administration
Doug Carreria	Senior County Planner	County Government
Gary Larson	County Building Official	County Government
Tom Ford	Land and Business Owner	Residential Base
Fred Pike	Asst. School Superintendent	County School Admin
John Stack	Nassau County Realty Board	Industrial Base
Ken Willette	Economic Development Board Director	County Administration
Bobbie Boone	Callahan Zoning Department	Municipal Government
Lisa Purvis	Hilliard Town Clerk	Municipal Government
Richard Diamond	Fernandina Beach City Manager	Municipal Government
David Dobrzykowski	Fernandina Beach Fire Chief	Municipal Government
Nancy Crews	Nassau Chamber of Commerce	Industrial Base
Wayne Stubbs	Fernandina Beach Chamber of Commerce	Industrial Base
Todd Davis	Nassau Builders Association	Industrial Base
Everett Harpe	Local Business Owner	Industrial Base
Orrin Main	Retired Corporate Executive	Residential Base

ATTACHMENT C

WORKING GROUP MEETING AGENDA

The following dates were assigned for Local Mitigation Strategy Working Group Meeting Dates during the first two deliverable phases:

May 25th-initial approval and startup

June 25th,

July 7th and July 22nd,

August 6th and 20th

September 10th, 23th and 30th

October 8th, 21st and 26th

- 1. Initial meeting of Board of County Commissioners, contract representative Walt Gossett, and Emergency Management staff on 5/25/98.
- 2. Initial authorization for Working Group to be established and populated.
- 3. Tentative meeting schedule of bi-monthly until the Working Group could determine what its needs would be to meet contract requirements.
- 4. Request for BOCC to appoint a Commissioners to be the Working Group Chairman.
- 5. Discussion to determine whether to contract out for the LMS program or conduct it in house. Nassau County will conduct all phases of the deliverables in house.

- 1. Initial meeting of the LMS Working Group with invited attendees. The Emergency Management Coordinator will chair the Group until the BOCC appoints a commissioner to be the active Chairman. Meeting date of: 6/25/98.
- 2. State representative, Douglas Hattaway in attendance to give the members their overview of the Working Group concept. BOCC in attendance to hear this presentation but administrative matters used up available time period. Total state presentation was not completed. Area 3 representative Jim Britts in attendance. Established the meeting schedule and set the next meeting for July 7th.
- 3. Tentative visit by Douglas Hattaway set for August pending his availability and meeting schedule.

- 1. Full meeting of the LMS Working Group with first group of new members in attendance. The following people were in attendance: Terry Eby, Doug Carreria, Fred Pike, Lisa Purvis, Richard Diamond, Dean Woehrle, Wayne Stubbs, Todd Davis, Everett Harpe, Orrin Main. Meeting date of: 7/7/98.
- 2. Each member received a Disaster Mitigation Development Plan written by the Emergency Management Coordinator. Included in this binder were the plan, and the following ordinances; Flood Plain Management, All Hazards Protection District, LDR Regulations for Mitigation, Post Disaster Redevelopment, Emergency Permitting, Storm Water Management and Code Enforcement. All of these items were over viewed and will be discussed in detail at each of the next meetings.
- 3. Items from the Arizona mitigation program were brought by Mr. Orrin Main and given to the Working Group.
- 4. The Working Group was asked to start the review of the ordinances for submission to the BOCC.
- 5. Set the next meeting for July ^{22nd}.

- 1. Full meeting of the LMS Working Group with group members in attendance. Meeting date of: 7/22/98.
- 2. Each member received a Copy of the draft contract for mitigation with the state. Also included in this handout were the following; Case study on Hurricane Opal and the post disaster mitigation required, Morning after Hurricane recovery plan written by Smith and Deyle from FSU, handbook and guide on Community Rating System and Flood plain management, automatic telemetering and "stupid motorist law" documents, documents explaining evacuation routes and shelter requirements, All of these items were over viewed and will be discussed in detail at each of the next meetings.
- 3. The Public Works Director was in attendance and detailed discussions were held on the Flood Plain Management Ordinance. Additions and deletions as required by NFIP and County statutes were worked. PW director was satisfied with the document so that it could go to the BOCC for staff routing.
- 4. The All Hazards District and Post Disaster Redevelopment Ordinances were reviewed in detail and needed some further questions answered. They will be brought to the first August meeting to finalize.
- 5. The Working Group was asked to start the review of LDR and Emergency Permitting Ordinances for submission to the BOCC.
- 6. Set the next meeting for August 6th.

- 1. Full meeting of the LMS Working Group with group members in attendance. Meeting date of: 8/6/98.
- 2. Each member received a Copy of the Hazards and Vulnerability Assessment Supplement for phase "C" deliverables. Also included in this meetings handouts was the draft shelter review from DEM showing Nassau County's current status and recovery requirements. These items were over viewed and will be discussed in detail at each of the next meetings.
- 3. The Nassau County Building Official and his assistant were in attendance and detailed discussions were held on the Emergency Permitting Ordinance, Shutter Usage, Florida 2001 Building Code mandatory adoption and mobile homes in hazards. Additions and deletions as required by code and FEMA were worked into the documents. Building Official was satisfied with the documents so that they could go to the BOCC for staff routing.
- 4. Working Group discussed and agreed to have the Building Official added to the Working Group.
- 5. The Post Disaster Redevelopment Ordinance was reviewed in detail and previous questions were answered. This will be brought to the first September meeting of the BOCC to have it sent to staff and Planning and Zoning.
- 6. The Working Group was asked to start the review of Code Enforcement Program Ordinance for submission to the BOCC.
- 7. The Working Group was informed that the BOCC has appointed Commissioner Marianne Marshall as the chairman of the LMS Working Group.
- 8. Set the next meeting for August 20th.

- 1. Full meeting of the LMS Working Group with group members in attendance. Meeting date of: 8/20/98.
- 2. Each member received a Copy of the LEE County Post Disaster Task Force Ordinance for review. Also included in this meetings handouts was the Critical Facilities short list from February 1995 from DEM showing the basic items that should be reviewed by the Working Group for phase C deliverables and Code Compliance Bill 4181. These items were over viewed and will be discussed in detail at each of the next meetings.
- 3. Commissioner Marshall attended this meeting as well as new members John Stack, Ken Willett, Nancy Crews, Gary Larson (B.O).
- 4. Working Group discussed the acceptance of the Town of Hilliard sub-contract for the Working Group. Also discussed was the lack of response from Callahan and Fernandina Beach on their contracts. It is noted that the City of Fernandina Beach has kept representation at the Working Group meetings from inception, but the Town of Callahan has not shown any attendance or desire to work in the mitigation program.
- 5. The Flood Plain Ordinance was completed and the grand fathering clause was removed and the CRS criteria is being applied. This will be brought to the first September meeting of the BOCC to have it sent to staff and Planning and Zoning.
- 6. The Working Group was asked to start the review of the Storm Water Management Ordinance for submission to the BOCC.
- 7. The Working Group was informed that the BOCC has appointed Port Authority Commissioner Tom Williams and Planning and Zoning member Tom Ford to the LMS Working Group.
- 8. Set the next meeting for September 10th.

- 1. Full meeting of the LMS Working Group with group members in attendance. Meeting date of: 9/10/98.
- 2. Each member received a draft working copy of the SCOPE OF WORK for the first two deliverable phases. Also included in this meetings handouts was the DEM letter showing the basic items that are required by mitigation to resolve critical facilities submission. This was a detailed letter and enclosure for review. These items were over viewed and will be discussed in detail at each of the next meetings.
- 3. Commissioner Tom Williams and Mr. Tom Ford attended this meeting.
- 4. Working Group discussed the continued lack of response from Callahan and the Fernandina Beach contract problem. It has been noted in previous meetings and minutes that the City of Fernandina Beach has kept representation at the Working Group meetings. The Working Group agreed to have the Vice-Chairman go to the Fernandina Beach City Council Meeting to work out the details on getting the contract submitted; The Town of Callahan has still not shown any attendance or desire to work in the mitigation program.
- 5. The Storm Water Management Ordinance review was completed. This will be brought to the second September meeting of the BOCC to have it sent to staff and Planning and Zoning.
- 6. The Working Group was asked to start the detailed review of the Scope of Work for submission to the BOCC in late October.
- 7. Set the next meeting for September 23rd.

- 1. Full meeting of the LMS Working Group with group members in attendance. Meeting date of: 9/23/98.
- 2. Each member received a smooth working copy of the SCOPE OF WORK for the first two deliverable phases. Handouts to the Working Group on Shelters and Red Cross mass care requirements.
- 3. Working Group discussed the continued lack of response from Callahan and the Fernandina Beach contract problem. The Working Group was informed by the Vice-Chairman a meeting with the City Manager of Fernandina Beach. The meeting was the first step in working out the details on getting the contract submitted; The Town of Callahan has still not shown any attendance or desire to work in the mitigation program. A letter will be sent to the Town of Callahan stating that they are going to be reported in DEFAULT if they do not participate. The Working Group is concerned about the lack of work from Callahan and the late attendance where their work is being completed by the Working Group, but the Town would still get paid for doing nothing in mitigation.
- 5. The Scope of Work was reviewed in detail. Items for mitigation were added and initial priorities were established. This will be brought to the second October meeting of the BOCC to have it approved before sending it to DEM for acceptance.
- 6. The Working Group was asked to start the initial review of the Hazards and Vulnerability Assessment deliverables for phase C which is due in April, 1999.
- 7. Set the next meeting for October 8^{th} .

- 1. Full meeting of the LMS Working Group with group members in attendance. Meeting date of: 10/8/98.
- 2. Each member received a revised copy of the SCOPE OF WORK for the first two deliverable phases.
- 3. Working Group was informed of the Fernandina Beach contract resolution. Fernandina Beach will sign the contract at its city council meeting next week. The Town of Callahan has submitted a contract, but it was sent back for error correction. Their representative will be Ms. Bobbie Boone. This contract acceptance comes after the letter which was sent to the Town of Callahan stating that they are going to be reported in DEFAULT. The Working Group is concerned about the lack of work from Callahan and now that they are submitting the contract, how much of the work will they do and how much will they just copy that has been done by the Working Group.
- 5. The Scope of Work was reviewed in detail. A few minor items for mitigation were adjusted. This Scope of Work is on the agenda for the BOCC meeting of 10/26/98.
- 6. The Working Group discussed in detail the Hazards and Vulnerability Assessment deliverables for phase C. The concern is how the three municipal sub-contractors were going to get their requirements done. Secondly, the contract and mitigation documentation states that DEM will have TAOS on line by October, but nothing is been seen or heard from DEM. If the modeling is delayed from DEM, does this reset the April, 1999 submission date in the contract. Vice-chairman is to find out details with DEM and report back to the group.
- 7. A meeting has been established with Public Works, Property Appraiser, Emergency Management and Planning and Zoning on November, 2nd to ensure that the proper foundation is set for meeting the deliverables in phase C.
- 8. Set the next meeting for October 21st.

- 1. Full meeting of the LMS Working Group with group members in attendance. Meeting date of: 10/23/98.
- 2. Each member received a final smooth copy of the SCOPE OF WORK and deliverables for the first two deliverable phases.
- 3. Working Group was informed of the Fernandina Beach sub-contract reception. The Town of Callahan has submitted a corrected sub-contract. Their representative, Ms. Bobbie Boone has now attended the Working Group.
- 5. The Scope of Work was reviewed in detail. A few minor word changes for mitigation intent were adjusted. This Scope of Work is on the agenda for the BOCC meeting of 10/26/98.
- 6. The Code Enforcement Ordinance was discussed in detail and will be brought to the BOCC for action during their first meeting in November. The mobile home ordinance was discussed and will be the major agenda item for the November meeting. A letter will be given to the BOCC to request that the BOCC send a letter to the Secretary of State informing the state of the intention to form an ALL HAZARDS DISTRICT in Nassau County at the beginning of next fiscal year (1999/2000).
- 7. The Working Group discussed in more detail the Hazards and Vulnerability Assessment deliverables for phase C.
- 8. Set the next regular meeting for November 19th and a special meeting with the BOCC on 10/26/98.