NORTH TEXAS CRS USERS GROUP
COMMUNITY CASE STUDY
CITY OF DALLAS
City of Dallas CRS Program

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DALLAS CRS HISTORY

1991
Joined CRS Program
Class 10

1999
ISO Visit
Class 8

2004
ISO Visit
Class 7

2009
ISO Visit
First since City’s CRS manager retired

2011
Approval of information from 2009 visit
Class 5

2014
ISO Visit
First visit on 2013 manual

2015
Approval of information from 2014 visit
Class 5
200 SERIES

- 213 – Program Data Table
- 230 – Verification
- 240 – CRS Community Self Assessment
# 213 Program Data Table

<table>
<thead>
<tr>
<th>CRS Program Data</th>
<th>A. In the SFHA</th>
<th>B. In a regulated floodplain outside the SFHA</th>
<th>C. In the rest of the community</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Last report’s number of buildings in the SFHA (use: line 6, last report)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Number of new buildings constructed since last report</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Number of buildings removed/demolished since last report</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Number of buildings affected by map revisions since last report (+ or -)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Number of buildings affected by corporate limits changes (+ or -)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Current total number of buildings in the SFHA (total lines 1-5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Number of substantial improvement/damage projects since last report</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Number of repetitive loss properties mitigated since last report</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Number of LOMAs and map revisions (not LOMAs) since last report</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Average of the SFHA (xSFHA) as of the last report (line 13, last report)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Average of area(s) affected by map revisions since last report (+ or -)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Average of area(s) affected by corporate limits changes (+ or -)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Current average of the SFHA (xSFHA) (total lines 10-12)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Primary source for building data</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Primary source for area data</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Period covered</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current FIRM date</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If available, the following data would be useful</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Number of new manufactured homes installed since last report</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. Number of other new 1-4 family buildings constructed since last report</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. Number of all other buildings constructed/installled since last report</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: Lines 1-4 deal with “buildings.” Section 361 has more information about what qualifies as “buildings” and how they are counted for CRS purposes. Numbers in column A are for the Special Flood Hazard Area. If the community also regulates floodplain development outside the SFHA, Column B is completed (and the community may receive credit under Activity 410 Floodplain Mapping). The data in Column C help resolve what happens in the floodplain to what is happening in the rest of the community.
230 VERIFICATION

- Cycle Visit: October 6-7, 2014
- Results Received: June 8, 2015
- 2013 Manual
- Checklists
- Digital Submittal
300 SERIES

- 310 – Elevation Certificates
- 320 – Map Information Service
- 330 – Outreach Projects
- 340 – Hazard Disclosure
- 350 – Flood Protection Information
- 360 – Flood Protection Assistance
- 370 – Flood Protection Promotion
310 ELEVATION CERTIFICATES – 116 POINTS

OBJECT: MAINTAIN CORRECT FEMA ELEVATION CERTIFICATES

- Maintaining Elevation Certificates (EC)
- Maintaining Elevation Certificates for post_FIRM buildings (ECPO)
- Maintaining Elevation Certificates for pre_FIRM buildings (ECPO)
320 MAP INFORMATION SERVICES – 90 POINTS

OBJECT: PROVIDE CITIZENS WITH FLOOD HAZARD INFORMATION

Log

Notification
320 MAP INFORMATION SERVICES – 90 POINTS

- Basic FIRM Information (MI1)
- Problems not shown on the FIRM (MI3)
- Additional FIRM Information (MI2)
- Flood depth data (MI4)
320 MAP INFORMATION SERVICES – 90 POINTS

- Special flood-related hazards (MI5)
- Natural floodplain functions (MI7)
- Historical flood information (MI6)
330 OUTREACH PROJECTS – 200 POINTS

OBJECT: PROVIDE PUBLIC WITH FLOOD RELATED INFORMATION

City of Dallas Annual Outreach Plan

- Targeted Mailings/Email
- Summary of Numbers
- Information Materials
- Public Meetings
- Targeted Training Events
- General Outreach

<table>
<thead>
<tr>
<th>Outreach Projects</th>
<th>Topics Covered</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP#1</td>
<td>1 x 6 6 6 6 6</td>
<td>36</td>
</tr>
<tr>
<td>CP#2</td>
<td>1 x 6 6 6 6 6</td>
<td>36</td>
</tr>
<tr>
<td>CP#3</td>
<td>1 x 6 6 6 6 6</td>
<td>36</td>
</tr>
<tr>
<td>CP#4</td>
<td>2 x 6 6 6 6 6</td>
<td>24</td>
</tr>
<tr>
<td>CP#5</td>
<td>6 x 6 6 6 6 6</td>
<td>180</td>
</tr>
<tr>
<td>CP#6</td>
<td>2 x 6 6 6 6 6</td>
<td>24</td>
</tr>
<tr>
<td>CP#7</td>
<td>2 x 6 6 6 6 6</td>
<td>12</td>
</tr>
<tr>
<td>CP#8</td>
<td>2 x 6 6 6 6 6</td>
<td>2</td>
</tr>
<tr>
<td>CP#9</td>
<td>2 x 6 6 6 6 6</td>
<td>2</td>
</tr>
<tr>
<td>CP#10</td>
<td>2 x 6 6 6 6 6</td>
<td>2</td>
</tr>
<tr>
<td>CP#11</td>
<td>2 x 6 6 6 6 6</td>
<td>2</td>
</tr>
</tbody>
</table>

City of Dallas Floodplain Outreach Plan - October 2014

Targeted Mailings/Email:
- March: All Floodplain Properties – Approximately 11,000 – Letter and Brochures in English and Spanish. Estimated to be 16,000 in 2014.
- April: All Floodplain Properties – Letter and Brochures.
- May/June: All Citizens in Dallas – Short Message in Water Bill to All Citizens. Attachment A.
- June: Real Estate Agents – Email “Flood Hazard – Check Before You Buy” Brochure – Attachment B.
- August: Repetitive Loss Properties – Attachment C. (6,300–7,000 properties will be mailed)
- September: OAAs/ Addressing Flood Risk
- November: Flood Insurance Properties – Letter to be drafted in 2013 for review by ISO.
- January: Levee Protected Properties – Attachment D. (Draft Letter-Outreach Letter) Monthly Social Media Messages on Facebook and Twitter – see below

Numbers:
- Floodplain Properties = Approx 11,000
- Real Estate Agents = Mailing list of 21,500
- Repetitive Loss Area Properties = Approx 600
- Dam Break Inundation Properties = Approx 9,500
- Levee Protected Properties = Approx 13,000

Brochures/Flayer - Information Material:
- Floodplain Brochure in City Hall, Dallas Public Library, Trinity Watershed Management year round.
- Floodplain Brochure:
  - Approx 300
  - Approx 100
  - Approx 100

Real Estate Brochure to be emailed to agents to pass out to their buyers.

Public Meetings:
- Homeowners Association / Neighborhood Meetings – Targeted Outreach and Stakeholder Delivery – at least 3 events per year
- Community Events – General Outreach (fairs, fairs, fairs)
- 1 event per year - Approx 100
330 OUTREACH PROJECTS

SCHEDULE

**January** – Letters sent to approx. 15,000 levee protected properties – (CRS 620)

**March** – Letters/Brochures sent to approx. 11,000 floodplain properties – (CRS 330)

**May** – Water Bill Message – (CRS 320)

**June** – Email sent to approximately 21,500 Real Estate Agents – (CRS 340)

**August** – Letters sent to approx. 300 repetitive loss properties – (CRS 330/501)

**November** – Letters sent to approx. 9,500 dam protected properties (CRS 630)

**Monthly** – Twitter/Facebook messages covering six topics

**Five Times Annually** – HOA/Neighborhood Meetings

**Twice Annually** – Local Engineering/Development Outreach

**Annually** – General Outreach (Preparedness Fair)
330 OUTREACH PROJECTS

**OUTREACH PROJECTS**

**MATERIAL**

**FLOOD HAZARD MITIGATION**

**Dallas**

The City of Dallas has a Flood Hazard Mitigation Program (FHMP) that provides financial assistance to property owners to protect homes and businesses from flood damage. The program offers grants for floodproofing, elevating, or acquiring insurance.

**HOW TO PROTECT YOURSELF IN CASE OF FLOODS**

- **Preparation**
  - Check your flood insurance policy.
  - Keep a flood kit with essential items.
  - Learn your risk of flooding and plan evacuation routes.
- **During a Flood**
  - Stay away from floodwaters.
  - Do not drive through flooded areas.
  - Do not walk through flooded areas.
- **Flood Safety**
  - Follow emergency instructions from officials.
  - Do not enter damaged buildings.

**ATTACHMENT H - DALLAS BREEDER WITH CRS TOYLES**

**FLOOD PROTECTION**

- **Flood Damage**
  - If your property is damaged by floodwaters, call your insurance company immediately.
  - Document all damages and keep receipts for future claims.
- **Flood Insurance**
  - Purchase flood insurance to protect your property.

**PROPERTIES THAT BENEFIT FROM FLOOD INSURANCE**

- **Single-Family Homes**
  - Buildings that are elevated or floodproofed.
- **Commercial Properties**
  - Properties with flood insurance policies.

**ATTACHMENT I - EXPERIENCE OF THE FLOOD**

**FLOOD WATER INCREASES**

- **Water Level**
  - Monitor water levels and stay updated on flooding predictions.
- **Evacuation Plan**
  - Have an evacuation plan in place.
- **Emergency Contact**
  - Keep emergency contact numbers handy.

**ASSISTANCE AVAILABLE**

- **City of Dallas**
  - Contact the City of Dallas for assistance in flood recovery.
- **Insurance Companies**
  - Contact your insurance company for claims processing.
- **Local Organizations**
  - Reach out to local organizations for additional support.

**FACTS**

- **Flood Protection**
  - Did you know that a 1-foot rise in water can cause $15,000 in damage?
  - Remember, flood insurance is not just for homeowners, but also for businesses.

**City of Dallas - Floodplain Management**

**MAPPING THE AREAS AT RISK OF FLOODING**

- **Roads**
  - Use a map to determine if your property is at risk.
- **Properties**
  - Contact the City of Dallas for property information.

**For more information or assistance, contact**

- **City of Dallas**
  - Floodplain Management
  - 214-671-6100
- **Insurance Providers**
  - Check with your insurance provider for flood coverage.

**FOR FURTHER INFORMATION:**

- Contact your local flood insurance provider.
- Visit the City of Dallas Floodplain Management website for more information.

**REFERENCES:**

- City of Dallas Floodplain Management.
- Federal Emergency Management Agency (FEMA).
- National Weather Service.

**ACKNOWLEDGMENTS:**

- Halff Associates Inc.
- City of Dallas.

**CONTACT:**

- City of Dallas Floodplain Management
  - 214-671-6100
  - FloodplainManagement@dal.us
t
340 HAZARD DISCLOSURE – 15 POINTS

OBJECT: DISCLOSE A PROPERTY’S POTENTIAL FLOOD HAZARD TO BUYERS

- Disclosure of flood hazards (DFH)
- Other disclosure requirements (ODR)
  - Texas Association of Relators Seller’s Disclosure Notice
- Real estate agents’ brochure (REB)
350 FLOOD PROTECTION INFORMATION – 58 POINTS

OBJECT: PROVIDE PUBLIC WITH INFORMATION ABOUT FLOOD PROTECTION

- Flood Protection Library (LIB)
  - 10 Required FEMA Publications
- Locally Pertinent Documents (LPD)
- Flood Protection Website (WEB)
  - Floodplain Brochure
  - City of Dallas Flood Warning page
  - City of Dallas Real-time Stream Gage page
  - Helpful Federal, State, Local floodplain information websites
  - Link to DFIRMs
  - Floodplain Ordinances and Regulations

<table>
<thead>
<tr>
<th>Media Type</th>
<th>Title</th>
<th>Author</th>
<th>Publisher</th>
<th>Publishing Date</th>
<th>Call Number</th>
<th>Location</th>
<th>Link</th>
</tr>
</thead>
</table>
360 Flood Protection Assistance – 55 Points

Object: Provide Public with Information about Flood Protection

- Property protection advice (PPA)
- Protection advice provided after a site visit (PPV)
- Financial assistance advice (FAA)
- Advisor training (TNG)

As part of the requirements of the National Flood Insurance Program and the Community Rating System, this is an annual notice to owners of properties in or close to floodplains.

Some measures you can employ to reduce potential losses include:

- Storing items on elevated surfaces
- Preparing emergency kits
- Leaving plastic sheeting, sandbags, and towels ready to help reduce seepage of water through door sills

The City of Dallas pays for flood control projects, floodplain management studies, and voluntary purchases through bond programs, which are offered every few years. We also work with state agencies such as the Texas Water Development Board in seeking funding for flood mitigation projects.

Homeowners' insurance policies generally do not cover damage from floods, however. Because Dallas participates in the National Flood Insurance Program, you can purchase a separate flood insurance policy. In addition, because we also participate in the Community Rating System, you will receive a reduction in flood insurance premiums for your community. The money that you would have paid in flood insurance premiums will be used to fund floodplain management projects.

We have additional floodplain information available on request. If you have any questions about flooding, property protection, or flood insurance, please feel free to call our office at 214-678-6500. Flood maps are available to view or copy at our offices at 320 E. Jefferson Blvd., Room 307. Much more information can be found at http://www.scdtexas.com/trinity/watershed/flood_insurance.html.

Examples of Site Visits Conducted by City of Dallas Staff

<table>
<thead>
<tr>
<th>Date</th>
<th>Street</th>
<th>Name</th>
<th>Staff Member</th>
<th>Findings</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aug-14</td>
<td>West Fork of Joe’s Creek</td>
<td>Inwood Downstream of Viking Chapel</td>
<td>Steve Parker</td>
<td>Property is located in SFHA. Recommended Elevation Certificate provided information on flood insurance. Also going to pursue floodplain management. The water table is high and strategies for reducing flood hazard area.</td>
<td></td>
</tr>
<tr>
<td>Aug-14</td>
<td>Cooper Creek</td>
<td>Apartment Complex</td>
<td>Steve Parker</td>
<td>Ensures a stream bank. Dismissed simple mitigation strategies. Also added this site to flood inventory for potential future bond program.</td>
<td></td>
</tr>
<tr>
<td>Jun-13</td>
<td>Trib of Jackson</td>
<td>Home</td>
<td>David Garcia</td>
<td>Dam is breached in the location. Advised to assess breach and develop mitigation solutions.</td>
<td></td>
</tr>
<tr>
<td>Feb-12</td>
<td>Williamson Branch</td>
<td>Home</td>
<td>Steve Parker</td>
<td>Property is located in SFHA. Recommended Elevation Certificate and provided information on flood insurance.</td>
<td></td>
</tr>
</tbody>
</table>

Steve Parker, PE, CFM
Program Manager
Bachelor of Science Civil Engineering – Texas A&M University (1985)
Licensed Professional Engineer, State of Texas No. 69958
Certified Floodplain Manager, State of Texas No. 1127-06N

Steve Parker joined the City of Dallas Public Works Department – Floodplain Management Section in 1985. The Floodplain Management Section was transitioned to the newly formed Trinity Watershed Management Department in 2007. Steve maintains continuing education for his PE and CFM annually and has presented numerous papers at conferences throughout Texas. His 25+ years of experience in the City’s floodplain management section includes a vast history of flooding concerns and challenges and successful mitigation projects completed.
370 FLOOD PROTECTION ASSISTANCE – 0 POINTS

OBJECT: IMPROVE FLOOD INSURANCE COVERAGE IN THE COMMUNITY

- Flood Insurance Coverage Assessment (FIA)
- Coverage Improvement Plan (CP)
- Coverage Improvement Plan Implementation (CPI)
- Technical Assistance (TA)
400 SERIES

- 410 – Floodplain Mapping
- 420 – Open Space Preservation
- 430 – Higher Regulatory Standards
- 440 – Flood Data Maintenance
- 450 – Stormwater Management
410 FLOODPLAIN MAPPING – 71 POINTS

OBJECT: IMPROVE QUALITY OF MAPPING USED TO IDENTIFY AND REGULATE DEVELOPMENT

- New Study (NS)
- Leverage (LEV)
- State Review (SR)
- Higher Study Standards (HSS)
- More Restrictive Floodway Standard (FWS)
- Floodplain Mapping of Special Flood-Related Hazards (MAPSH)
- Cooperating Technical Partner (CTP)
410 FLOODPLAIN MAPPING

SCORING

New Study

<table>
<thead>
<tr>
<th>Study Scope</th>
<th>Original FIRM Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B, C, D, or X</td>
</tr>
<tr>
<td>1. Delineation of an approximate A Zone</td>
<td>70</td>
</tr>
<tr>
<td>2. a. Flood elevations for a site at time of development</td>
<td>100</td>
</tr>
<tr>
<td>2. b. Flood elevations and floodway for a site at time of development</td>
<td>130</td>
</tr>
<tr>
<td>3. New profile or length of shoreline, base flood elevations/depths in AH and AO Zones</td>
<td>225</td>
</tr>
<tr>
<td>4. New profile with floodway, length of shoreline with coastal velocity zone delineation, or converting coastal A Zones to V Zones</td>
<td>290</td>
</tr>
</tbody>
</table>

Leverage

LEV = EITHER

0, if the study was fully funded by FEMA

OR

LEV = Non-FEMA share of the study cost / Total cost of the study

HSS

<table>
<thead>
<tr>
<th>Study Scope</th>
<th>Original FIRM Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B, C, D, or X</td>
</tr>
<tr>
<td>1. Delineation of an approximate A Zone</td>
<td>20</td>
</tr>
<tr>
<td>2. Flood elevations for a site at time of development</td>
<td>30</td>
</tr>
<tr>
<td>3. New profile or length of shoreline</td>
<td>80</td>
</tr>
</tbody>
</table>

Max per Study

CTP

CTP1 = the total of the following

10 points, if the community is a Cooperating Technical Partner, and

10 points, if the community is in a regional agency or state that has signed a Cooperating Technical Partner agreement with FEMA that mentions the community

CTP2 = EITHER 1.18, if the study was prepared pursuant to the Cooperating Technical Partner program

OR

1.0, if the study was not prepared pursuant to the Cooperating Technical Partner program or if it was prepared before the community, regional agency, or state signed the Cooperating Technical Partner agreement
410 FLOODPLAIN MAPPING

SUPPORTING DOCUMENTATION

- New Study Case A (NSa) – Zone AE to Zone AE with an increase in WSEL
- New Study Case B (NSb) – Zone X to Zone AE
- Higher Standards Case A (HSSa) – Zone AE to Zone AE with a decrease in WSEL
- Higher Standards Case B (HSSb) – 500 Year Floodplain
410 FLOODPLAIN MAPPING

SUPPORTING DOCUMENTATION

- MAP#1 – MapMod Streams – Leverage: 1.0
- MAP#2 – Dallas CTP FY10 Study – Leverage: 0.25
- MAP#3 – Dallas CTP FY11 Study – Leverage: 0.25
- MAP#4 – Dallas CTP FY12 Study – Leverage: 0.25
- MAP#5 – Trinity River Levee Sump Study – Leverage: 1.0
- MAP#6 – Mill Creek/Peaks Branch Study – Leverage: 1.0
420 OPEN SPACE PRESERVATION – 1,199 POINTS

OBJECT: PREVENT FLOOD DAMAGE BY KEEPING LANDS OPEN, PROTECT NATURAL FUNCTIONS

- Open Space Preservation (OSP)
- Deed Restrictions (DR)
- Natural Functions Open Space (NFOS)
- Special Flood-Related Hazards Open Space (SHOS)
- Open Space Incentives (OSI)
- Low-Density Zoning (LZ)
- Natural Shoreline Protection (NSP)
420 OPEN SPACE PRESERVATION

OPEN SPACE PRESERVATION SUPPORTING DOCUMENTATION
420 OPEN SPACE PRESERVATION
NATURAL FUNCTIONS OPEN SPACE SUPPORTING DOCUMENTATION

Natural Floodplain Functions Form

<table>
<thead>
<tr>
<th>Property name</th>
<th>Great Trinity River Forest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property location</td>
<td>The boundaries of the forest extend from the Santa Fe Trestle Trail near Corinth Street and Riverfront Boulevard within view of downtown Dallas, to just past IH-30, an eleven-mile stretch of land that basically follows the Trinity River.</td>
</tr>
<tr>
<td>Summary of the habitat or natural benefits provided at this property</td>
<td>As part of the overall Trinity River Corridor Project, this resource is now almost exclusively owned by the City of Dallas, comprising an area of approximately 7,600 acres. The main objective of the program is to protect the Trinity River, forest, and floodplain, a mostly undisturbed bottomland hardwood forest. Much of the lands within the Great Trinity River Forest have been farmed or grazed at one time, whereas some portions of the forest could be considered a true undisturbed natural state. However, areas manipulated or managed in the past could be considered as restored, or in the process of regenerating, to their natural state. In addition to the numerous natural wetlands that contribute to floodplain function, the USACE is in the process of constructing a series of wetland ponds to reduce flooding and provide ecosystem restoration. Located along the western edge of the Great Trinity River Forest, the completed project will encompass a four mile area from Cedar Creek to Loop 12. In October of 2008, the Trinity River Audubon Center opened in the Great Trinity Forest housing 120 acres, nine emergent wetland ponds, four miles of hiking trails, and a lookout over the Trinity River. Visitors have the opportunity to explore hands-on exhibits and participate in programs offered to educate and entertain children, families, and adults. Academic programs at the center are also available for students, and include teacher workshops to assist educators in environmental education.</td>
</tr>
<tr>
<td>Name of person completing this form</td>
<td>Russell Manuch</td>
</tr>
<tr>
<td>Signature</td>
<td>Russell Manuch</td>
</tr>
</tbody>
</table>
430 HIGHER REGULATORY STANDARDS – 253 POINTS

OBJECT: PREVENT FLOOD DAMAGE BY KEEPING LANDS OPEN, PROTECT NATURAL FUNCTIONS

- Development Limitations (DL)
  - DL1b – Compensatory Storage

- Freeboard (FRB)
  - Fill to two feet above BFE, FF three feet above BFE

- Foundation Protection (FDN)

- Cumulative Substantial Improvements (CSI)
  - 50% cumulative improvements calculated for previous 10 years
430 HIGHER REGULATORY STANDARDS – 253 POINTS

OBJECT: PREVENT FLOOD DAMAGE BY KEEPING LANDS OPEN, PROTECT NATURAL FUNCTIONS

- Lower Substantial Improvements (LSI)
- Protection of Critical Facilities (PCF)
- Enclosure Limits (ENL)
- Building Code (BC)
  - BCEGS Class 5
- Local Drainage Protection (LDP)
  - IBC, Positive drainage away from building site
- Manufactured Home Parks (MHP)
- Coastal A Zones (CAZ)
- Special Flood-Related Hazards Regulations (SHR)
- Other Higher Standards (OHS)
- State-Mandated Regulatory Standards (SMS)
- Regulations Administration (RA)
  - 18 CFMs on Staff
440 FLOOD DATE MAINTENANCE – 179 POINTS
OBJECT: MAKE COMMUNITY FLOODPLAIN DATA MORE ACCESSIBLE, CURRENT, ACCURATE

- Additional Map Data (AMD)
  - AMD1 – SFHA, corporate limits, streets, lot boundaries
  - AMD2 – building footprints
  - AMD3 – floodway
  - AMD4 – base flood elevations
  - AMD5 – FIRM zone attributes
  - AMD6 – 500-year floodplain elevation
  - AMD7 – other natural hazards
  - AMD8 – topographic contour lines
  - AMD9 – floodplain data in tax database
  - AMD10 – old FIRMs
  - AMD11 – other regulations
  - AMD12 – natural floodplain functions
440 FLOOD DATE MAINTENANCE – 179 POINTS
OBJECT: MAKE COMMUNITY FLOODPLAIN DATA MORE ACCESSIBLE, CURRENT, ACCURATE

- FIRM Maintenance (FM)
- Benchmark Maintenance (BMM)
- Erosion Data Maintenance (EDM)
450 STORMWATER MANAGEMENT – 112 POINTS

OBJECT: PREVENT FUTURE DEVELOPMENT FROM INCREASING HAZARDS

- Stormwater Management Regulations (SMR)
  - Size of Development (SZ) – 20% increase in flow for 3 acres or less
  - Design Storm (DS) – Detention designed to match the 100-Year
  - Public Maintenance of Required Facilities (PUB) – Require inspection and maintenance of facilities
  - rSMR (341/513.6) – Dallas (341), Arlington (17.7), Grand Prairie (32.3), Plano (21.1)

- Watershed Master Plan (WMP)

- Erosion and Sedimentation Control Regulations (ESC)
  - Control erosion and soil loss from any disturbed land greater than 1 acre

- Water Quality Regulations (WQ)
  - New development to include BMP in stormwater management facilities design
500 SERIES

- 501 – Repetitive Loss List
- 510 – Floodplain Management Planning
- 520 – Acquisitions and Relocations
- 530 – Flood Protection
- 540 – Drainage System Maintenance
501 THE REPETITIVE LOSS LIST

OBJECT: TRACKING PROPERTIES WHICH HAVE MULTIPLE FLOOD INSURANCE CLAIMS

- Repetitive Loss Plan
  - Mitigation Strategy
  - Repetitive Loss Area Analysis
  - Repetitive Loss Inventory
  - Repetitive Loss Maps
  - Repetitive Loss Outreach
  - Repetitive Loss Areas 1-44
510 FLOODPLAIN MANAGEMENT PLANNING – 50 POINTS

OBJECT: CREDIT OVERALL STRATEGY TO REDUCE ADVERSE IMPACT OF THE HAZARD

- Floodplain Management Planning (FMP)
  - Step 1: Organize to prepare the plan
  - Step 2: Involve the public
  - Step 3: Coordinate
  - Step 4: Assess the hazard
  - Step 5: Assess the problem
  - Step 6: Set goals
  - Step 7: Review possible activities
  - Step 8: Draft an action plan
  - Step 9: Adopt the plan
  - Step 10: Implement, evaluate, and revise

- Repetitive Loss Area Analysis (RLAA)
  - 2D Analysis on four Repetition Loss Areas

- Natural Floodplain Functions Plan (NFP)
520 ACQUISITION AND RELOCATION – 105 POINTS

OBJECT: CREDIT OVERALL STRATEGY TO REDUCE ADVERSE IMPACT OF THE HAZARD

- Buildings Acquired or Relocation (bAR)
- Buildings on the Repetitive Loss List (bRL)
- Severe Repetitive Loss Properties (bSRL)
- Critical Facilities (bCF)
- Buildings located in the V Zone or Coastal A Zone (bVZ)
530 FLOOD PROTECTION – 0 POINTS
OBJECT: RETROFIT BUILDINGS AND CONSTRUCT SMALL FLOOD CONTROL PROJECTS

- Flood Protection Project Technique Used (TU_)
- Flood Protection Improvement (FPI)
- Protected Buildings (PB)
540 DRAINAGE SYSTEM MAINTENANCE – 265 POINTS
OBJECT: KEEP CHANNELS AND STORAGE BASIN CLEAR OF DEBRIS

- Chanel Debris Removal (CDR)
540 DRAINAGE SYSTEM MAINTENANCE – 265 POINTS

OBJECT: KEEP CHANNELS AND STORAGE BASIN CLEAR OF DEBRIS

- Problem Site Maintenance (PSM)
  - Keep list of problem sites, inspect and maintain annually.

- Capital Improvement Program (CIP)
  - Bond program/Needs Inventory

- Stream Dumping Regulations (SDR)

- Storage Basin Maintenance (SBM)

- Coastal Erosion Protection Maintenance (EPM)
600 SERIES

- 610 – Flood Warning and Response
- 620 – Levees
- 630 – Dams
610 FLOOD WARNING AND RESPONSE – 0 POINTS
OBJECT: IDENTIFY FLOOD THREAT, DISSEMINATE WARNINGS, FLOOD RESPONSE ACTIVITIES

- Flood Threat Recognition System (FTR)
  - Manual flood threat recognition systems
  - Correlated to the flood inundation map
- Emergency Warning Dissemination (EWD)
  - Flood Warning Sirens
- Flood Response Operations (FRO)
  - Action list at different flood levels
- Critical Facilities Planning (CFP)
  - Include Critical Facilities in Warning/Response Plan
- StormReady Community (SRC)
- TsunamiReady Community (TRC)
620 LEVEES – 0 POINTS

OBJECT: INSPECT AND MAINTAIN LEVEES, IDENTIFY FAILURE, DISSEMINATE WARNINGS, RESPONSE

- Levee Maintenance (LM)
  - Annual Inspections

- Levee Failure Threat Recognition System (LFR)
  - Monitoring Flood/Levee Conditions

- Levee Failure Warning (LFW)
  - Warning Program

- Levee Failure Response Operations (LFO)
  - Levee failure response plan

- Levee Failure Critical Facilities Planning (LCF)
  - List of Facilities with names and numbers of operators
620 DAMS – 22 POINTS

OBJECT: INSPECT AND MAINTAIN DAMS, IDENTIFY FAILURE, DISSEMINATE WARNINGS, RESPONSE

- State Dam Safety Program (SDS)
  - City has ten high hazard dams
- Dam Failure Threat Recognition System (DFR)
  - Primary/Secondary threat recognition
- Dam Failure Warning (DFW)
  - Warning Program
- Dam Failure Response Operations (DFO)
  - Dam Emergency Action Plan
- Dam Failure Critical Facilities Planning (DCF)
  - List of Facilities with names and numbers of operators
700 SERIES

- 710 – County Growth Adjustments
- 720 – Community Total Points
710 COUNTY GROWTH ADJUSTMENT – 22 POINTS
OBJECT: INCREASE CREDIT FOR MANAGING ACTIVITIES IN GROWING AREAS

- County 10-Year Growth Rate (CGR)
- Annual Growth Adjustment (AGA)
  - CGR converted to an annual growth rate
- County Growth Adjustment (CGA)
  - CGA is ten times the annual growth rate
  - Dallas County has a CGA of 1.15
- Credit for 400 series multiplied by CGA
720 TOTAL POINTS
OBJECT: ASSIGN CRS CLASSIFICATION BASED ON SUM OF ALL ACTIVITIES

Verified Activity Calculations:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Credit</th>
<th>Calculation</th>
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<tbody>
<tr>
<td>c310</td>
<td>86</td>
<td>86</td>
</tr>
<tr>
<td>c320</td>
<td>90</td>
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<td>200</td>
<td>200</td>
</tr>
<tr>
<td>c340</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>c350</td>
<td>58</td>
<td>58</td>
</tr>
<tr>
<td>c360</td>
<td>55</td>
<td>55</td>
</tr>
<tr>
<td>c370</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>c410</td>
<td>82 x CGA x 1.15</td>
<td>71</td>
</tr>
<tr>
<td>c420</td>
<td>1043 x CGA x 1.15</td>
<td>1159</td>
</tr>
<tr>
<td>c430</td>
<td>253 x CGA x 1.15</td>
<td>289</td>
</tr>
<tr>
<td>c440</td>
<td>179 x CGA x 1.15</td>
<td>205</td>
</tr>
<tr>
<td>c450</td>
<td>112 x CGA x 1.15</td>
<td>129</td>
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<tr>
<td>c510</td>
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\[ cT = \text{total of above} \]

\[ cT = 2842 \]

Community Classification (from Table 110-1):  
Class = 5

Table 110-1. CRS classes, credit points, and premium discounts.

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<thead>
<tr>
<th>CRS Class</th>
<th>Credit Points (ct)</th>
<th>Premium Reduction</th>
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<tr>
<td></td>
<td>In SFHA</td>
<td>Outside SFHA</td>
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<tr>
<td>1</td>
<td>4,500+</td>
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<td>2</td>
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<td>3</td>
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<td>35%</td>
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<tr>
<td>4</td>
<td>3,000-3,499</td>
<td>30%</td>
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<tr>
<td>5</td>
<td>2,500-2,999</td>
<td>25%</td>
</tr>
<tr>
<td>6</td>
<td>2,000-2,499</td>
<td>20%</td>
</tr>
<tr>
<td>7</td>
<td>1,500-1,999</td>
<td>15%</td>
</tr>
<tr>
<td>8</td>
<td>1,000-1,499</td>
<td>10%</td>
</tr>
<tr>
<td>9</td>
<td>500-999</td>
<td>5%</td>
</tr>
<tr>
<td>10</td>
<td>0-499</td>
<td>0%</td>
</tr>
</tbody>
</table>
Class 4 Prerequisites

- The community must have received and continue to maintain a classification of 4/4 or better under the BCEGS.

- Activity 430 (Higher Regulatory Standards)
  - At least 100 points for FBR
  - At least 700 points under other elements of 430 and under 422 a, e, f and under Activity 420

- Activity 450 (Stormwater Management)
  - 90 points for meeting all criteria for WMP
  - 30 points for managing the runoff for all storms up to and including the 100-year event
  - Impact adjustment value of rWMP=0.5 or more.

- Activity 510 (Floodplain Management Planning)
  - Receive at least 50% of maximum credit under 510

- Obtain a minimum of 100 points from 420, 450, 510

- Obtain some credit under Activity 610 (Flood Warning and Response)
DALLAS NEXT STEP
DRIVE TO CLASS 4

- Class 4 Prerequisites
  - The community must have received and continue to maintain a classification of 4/4 or better under the BCEGS.
  - Activity 430 (Higher Regulatory Standards)
    - At least 100 points for FBR
    - At least 700 points under other elements of 430 and under 422 a, e, f and under Activity 420
  - Activity 450 (Stormwater Management)
    - 90 points for meeting all criteria for WMP
    - 30 points for managing the runoff for all storms up to and including the 100-year event
    - Impact adjustment value of rWMP=0.5 or more.
  - Activity 510 (Floodplain Management Planning)
    - Receive at least 50% of maximum credit under 510
  - Obtain a minimum of 100 points from 420, 450, 510
  - Obtain some credit under Activity 610 (Flood Warning and Response)
Questions?

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