Plan Name: Beaumont Emergency Management Plan

Responsible Entity: City of Beaumont

Plan Date: September 2022

Audience: Chief elected officials, emergency management staff, department and agency heads and senior staff, leaders of local volunteer organizations

Purpose: Outlines the City's approach to emergency operations, including its methods of mitigation, preparedness, response, and recovery

- Identifies the following hazards as highly likely: drought, flash flooding, hurricane, extreme heat, thunderstorm, hazmat/oil spill (fixed site and transport), major structural fire
- Represents an all-hazard approach to emergency planning
- City of Beaumont has adopted the National Incident Management System (NIMS); plan is in accordance with the National Response Framework (NRF)
- Emergency Operations Center (EOC) may be activated for major events, in which case the EOC will be responsible for:
    - Providing resource support for field operations
    - Issuing community-wide warning
    - Issuing instructions and information to public
    - Organizing and implementing large-scale evacuation, coordinating traffic control
    - Organizing and implementing shelter and mass arrangements for evacuees
    - Requesting assistance from the State
- Lists the legal steps required for disaster declaration / emergency authorization
- Lists the primary responsible party for various emergency services
- Volunteer agencies specifically identified as partners include:
    - Beaumont Chapter, American Red Cross
    - The Salvation Army
    - Southeast Texas VOAD
    - ARES/RACES
    - Jefferson County Long-Term Recovery Group
- Businesses identified as emergency operations support include:
    - ExxonMobil (resources)
    - Christus St. Elizabeth Hospital (parking and sheltering)
    - Memorial Hermann Baptist Hospital (parking and sheltering)
    - Beaumont ISD (transportation, assembly and evacuation sites, points of distribution)
    - Beaumont Chamber of Commerce (business/community liaison)
- Plan is to be updated every five years
- Following annexes available:
    - Warning
    - Communications
    - Shelter & Mass Care
    - Radiological Protection
    - Evacuation

- Firefighting
- Law Enforcement
- Health & Medical Services
- Public Information
- Recovery
- Public Works & Engineering
- Utilities
- Resource Management
- Direction & Control
- Human Services
- Hazard Mitigation
- Hazardous Materials & Oil Spill Response
- Search & Rescue
- Transportation
- Donations Management
- Legal
- Terrorist Incident Response

Plan Name: Water System Assessment in Response to Discolored Water Events

Responsible Entity: City of Beaumont / Corona Environmental Consulting

Plan Date: May 19, 2022

Audience: City of Beaumont Water Utility

Purpose: Reviews the raw and treated water quality in the City to identify causes for iron and manganese exceedances, as well as the treatment processes and develops recommendations for short-term and long-term implementation.

Plan Name: Sanitary Sewer Overflow Initiative Annual Progress Report

Responsible Entity: City of Beaumont / Corona Environmental Consulting

Plan Date: March 28, 2022

Audience: City of Beaumont Water Utility

Purpose: Addresses overflows or unauthorized discharges of untreated or partially treated wastewater from the City's wastewater collection system. Includes collection system evaluations to help identify the scope of the problem and plans for renewing and improving the City's collection system.

Plan Name: Beaumont Comprehensive Plan

Responsible Entity: City of Beaumont

Plan Date: January 2003 *(most recent comprehensive plan linked on City website)*

Audience: City of Beaumont Planning and Zoning Commission

Purpose: Defines the goals and objectives to guide both short-to-long range physical growth and short-to-intermediate range re-development or conservation actions within the City of Beaumont limits and ETJ.

- Recognized flooding as a major concern (p. 11) and sought to remedy through "sound land use planning, proper engineering, and an effective capital improvements strategy"; also noted air and noise pollution as ongoing issues that are "unlikely" to be totally eliminated (p. 11), and sought to minimize through siting new developments in unaffected areas or "providing some means to mitigate them"
    - Related objectives =
        - 2212: Reducing flooding caused by development/urbanization
        - 2215, 2246, & 2284: Providing environmentally sensitive commercial and residential areas w/ protection from air, water, noise, and visual pollution
        - 2264: Encourage developers to maintain tree canopy
        - 2292: Protect Hillebrandt Bayou from Fannett Road south
        - 2293: Develop green belts
    - Related policies =
        - 2314: Flood ways of major drainage ways should be protected
        - 2314: No urbanization in the 100-year floodplain
        - 215: Develop in areas w/o significant environmental constraints
        - 2316: Limit density in land bordering/containing wetlands, to the degree only where development does not degrade the natural environment (esp. Big Thicket National Preserve)
    - Related proposals =
        - The establishment of "Open Space Areas", in areas such as:
            - Wetlands, swamps, marshes, and the banks of natural waterways and water bodies
            - Areas with development limitations and hazardous environmental conditions (poor soil or sub-soil conditions)
            - 100-year floodplains
            - Geological faults
            - Areas with unique animal and plant habitats, groundwater recharge areas, or historical sites
            - Man-made features like cemeteries, golf courses, and natural resource extraction areas
- Page 29 visualizes urban and non-urban areas within the Beaumont ETJ, slates much of NE Beaumont for open space and conservation with "growth reserve" in the SE
- Parks, Recreation & Open Space Plan (August 2002) starts page 78 of PDF
    - Recognizes the flood plains of the Neches River and Pine Island and Hillebrandt Bayous as significant natural resources

Plan Name: Beaumont-Port Arthur State Implementation Plan

Responsible Entity: EPA / Hardin, Jefferson, and Orange Counties

Plan Date: Revised most recently December 10, 2008

Audience: TCEQ Air for approval

Purpose: Chronicles the latest ozone planning activities in the BPA, and BPA compliance with national air quality standards.

- The December 10, 2008 State Implementation Plan (SIP) revision requested that the AP redesignate the BPA area to attainment of the 1997 eight-hour ozone NAAQS (from the one-hour attainment standard), and demonstrated how the area would maintain compliance through 2021
- This redesignation signifies that EPA found that BPA had met the applicable Federal Clean Air Act requirements
- As a result, current ozone reduction strategies will stay in place but no new ozone-reduction strategies will need to be developed as long as ozone levels stay below the 1997 eight-hour standard
- According to the TCEQ website, since the December 2008 update....
    - Feb 2013: SIP revised to replace on-road mobile-source emission inventories with emissions inventories based on the EPA's Motor Vehicle Emission Simulator (MOVES) model
    - October 2018: TCEQ approved proposal for EPA Redesignation Request and Maintenance Plan for the One-Hour Ozone Nonattainment Area and the Second 10-year Maintenance Plan for the 1997 Eight-Hour Ozone Nonattainment Area SIP Revision; Proposed SIP revision requests that the EPA redesignate the BPA area to attainment for one-hour ozone NAAQs and provide a maintenance plan that will ensure attainment through 2032
    - January 2019: TCEQ adopts BPA Redesignation Request and Maintenance Plan for One-Hour Ozone Nonattainment Area and Second 10-year Maintenance Plan for the 1997 Eight-Hour Ozone Nonattainment Area SIP Revision
    - September 2020: TCEQ approves the BPA One-Hour Ozone Redesignation Request and Maintenance Plan SIP Withdrawal, with withdraws from EPA review and a portion of the plan adopted in January 2019 (concerning the redesignation request and one-hour NAAQS maintenance plan)
- Current attainment status = unclassifiable, as the EPA change to a new standard in 2015
- Full BPA Ozone History here

Plan Name: 2021 Regional Water Plan for Region I

Responsible Entity: Submitted by Region I Water Planning Group (representative from agriculture, small business, river authorities, municipalities, electric power, groundwater management areas, industry, water districts, small business, public officials, and water utilities)

Plan Date: October 2020

Audience: TWDB approval

Purpose: Evaluates the water demands projected by TWDB, identifies water supplies, explores broader issues related to water planning, and develops water management strategies designed to meet

identified water shortages in the East Texas region (inclusion 20 counties in the Neches, Sabine, and Trinity River Basins and the Neches-Trinity Coastal Basin).

- Effort repeated every five years
- Summary for Jefferson County
    - Identifies agriculture, education, industry, and recreation as economies dependent upon water
    - Bulk of water demand currently comes from manufacturing
    - Identifies BA Steinhagen Lake, indirect reuse, local supplies, the Neches River, and the Neches-Trinity River as sources
    - Projects a population growth to over 300,000 by 2040 (annual growth of roughly 0.7% per year), with most growth occurring in Beaumont
    - David Gorisch, Randy Stanton, Darla Smith, Fred Jackson, John Martin (Groundwater Management Area 14), Scott Hall, and Terry Stelly on the water planning group
- Discusses water sources for the region
    - Beaumont = three groundwater wells in Hardin County (managed by the Southeast Texas GCD) and a SWTP on Pine Street that treats Neches River water
    - Port Arthur = raw water from LVNA, treated water supplied to both industrial and municipal users
- Current climate discussed (pages 73 through 76) but no projections included
- The report discusses wetland ecology in the BPA region and Clean Water Act-mandated protections for these wetlands.
    - There are two wetland mitigation banks located in Jefferson County and one along the border with Orange County.
    - BPA region is located in the USACE Galveston District.
    - Estuarine and marine wetlands and estuarine and marine deepwater wetlands are located along the coast of the BPA, with freshwater emergent wetlands further inland.
- The Sabine-Neches Estuary, which includes the Port Arthur Canals, is noted as important for fish, shellfish, wildlife habitat, and sport and commercial fishing. It is an area where the Sabine and Neches Rivers meet the saltwater from the Gulf of Mexico
    - In 2014, Congress passed a Water Resources Reform and Development Act that authorized 34 projects including the widening of the Sabine-Neches Waterway, which will deepen the channel to 48 feet and widen it to as much as 700 feet
- There are between 100 and 300 oil wells in Jefferson County classified as “top producing in Texas” and less than 100 wells classified as the “top producing gas wells”
    - Cites concerns about the large volumes of water used during fracking and potential degradation of surface and groundwater quality
    - In addition, surface spills and NPS stormwater discharges can impact surface water quality
    - Cites importance of effective stormwater and spill management practices
- WQ throughout region is “generally very good”
- Summarizes existing water planning efforts, such as
    - Sabine Watershed Management Plan
    - Trinity River Basin Master Plan

- Chapter 2 projects water usage in each category and in each county and water provider
    - Notably caps future manufacturing water use in Region I at 353,415 ac-ft/year (p 131)
    - Projects very significant reductions in demand for water in mining, with only an increase in Jefferson County
- Chapter 5 identifies potentially feasible water management strategies, including conservation, development of new reservoirs, desalination and rainwater harvesting
    - Notes that new reservoir creation may have significant environmental impacts
    - City of Beaumont has begun a meter replacement program, which may increase conservation; group finds it likely that municipal conservation will be successful in helping them meet their demand shortages
    - Recommends purchasing addition water from LVNA to support industrial needs
    - Proposes proactive conservation strategy in Port Arthur, although there are no specific needs
    - City of Beaumont discussed specifically on pg 307
    - City of Port Arthur discussed specifically on pg 327
    - Per capita usage in Beaumont and Port Arthur (221 and 320 respectively) well above state goal of 140 --> both are required to submit Water Conservation Plans, which were created in 2019
- Chapter 7 describes historical droughts and recommends plans for future droughts
    - Droughts here are more localized
    - DOR used for planning

Site Name: Port Arthur Emergency Management Department

Responsible Entity: City of Port Arthur / Jeremy Houston (Emergency Management Coordinator)

Document Date: Published 2022

Audience: Public

- Port Arthur utilizes STAN (Southeast Texas Alerting Network) to push emergency notifications
    - Industrial companies and emergency officials can utilize STAN
    - STAN works on home and cell
    - Emergency messages and outreach messages
    - Serves Jefferson, Orange, Hardin, and Jasper Counties

Site Name: Port Arthur Emergency Management Department – Hurricane Preparedness

Responsible Entity: City of Port Arthur / Jeremy Houston (Emergency Management Coordinator)

Document Date: Published 2022

Audience: Public

- Provides emergency guidance for Port Arthur residents specific to hurricanes
- Defines terms related to hurricanes, including distinctions between hurricane watch, hurricane warning, storm warning, and gale warning

- Provides instruction on before, during, and after a hurricane arrives
    - Before hurricane arrives
        - Recommends creating a family evacuation plan with a transit method, pre-planned destination, contact information, proper items ready, considerations for pets, fuel, medications, et cetera
        - Recommends getting pre-damage photos and videos
        - Emphasizes the possibility of traffic
        - Provides a 2019 Inland Evacuation Map
    - When warning is issued
        - Recommends monitoring conditions via radio or TV
        - Recommends immediate evacuation if order issued
    - After hurricane arrives
        - Includes considerations about electrocution and driving, as well as food spoilage concerns

Document Name: Historical Storm Impacts on the Lower Neches River

Responsible Entity: Parker Lee, Lamar University

Document Date: August 2022

Audience: Faculty of College Graduate Services, Environmental Engineering, Lamar University

Purpose: This research validates a compilation of official river stage data at two locations on the lower Neches River, along with unofficial river stage data at four additional locations between them for Hurricane Harvey, two additional locations for Tropical Storm Imelda, and no additional locations for a storm in May 2021. The research results compare the rainfall along the lower Neches River during the three storms with the stage data, and discusses the potential impact of impervious structures (like the Interstate 10 bridge). Data also shows rainfall bands varied greatly along the sections near the Neches River mouth during Hurrican Harvey.

- Need to understand how changing climate will impact Neches River, so study compares river gauge data from the Lower Neches River with rainfall data in the sub-watersheds around the sensor
- Data from Hurricane Harvey, Tropical Storm Imelda, and a May 2021 rainstorm were analyzed to identify the contributing factors to flooding or river stage levels; previous studies have focused only on land impacts
    - Harvey: 2 official gauges, 4 unofficial gauges
    - Imelda: 2 official gauges, 2 unofficial gauges
    - May 2021 storm: 2 official gauges
- Harvey Impacts on the Lower Neches River
    - Sabine-Neches waterway vulnerable to potential petrochemical spillages during storms
    - Harvey “slowed to a stop around Victoria” (p 7) and rain bands on the eastern and southern side caused flooding and flash flooding
    - Need to be able to model effects on Lower Neches River under various conditions

- Only a few official real time river gauges (Saltwater Barrier and Rainbow Bridge stage), so it's unclear how runoff from areas in between these gauges may have affected the river stages
- Additional "unofficial" gauges added at Pine Street, Old Yacht Club, Exxon Mobil Wharf, and Port Neches Park (pg 12)
- Rain data from also compiled in 4km grids between the gauges
- Results
  - Pg 17 – 19
  - Growing difference in river levels between Saltwater Barrier and Old Yacht Club river gauges (10 ft); important to consider tributaries that flow into the lower Neches River between these points, specifically outflows that come from east of the river below the Saltwater Barrier
  - Difference in water levels could be:
  - Associated w/ a need for a larger hydraulic head to divert all excess water coming in from the tributaries
    - Due to Interstate Highway 10 bridge acting as a weir
  - Future research will indicate if this is a feature of stalled storms or an anomaly

- Imelda and May 2021 Storm impacts on the Lower Neches River
  - Imelda is a short duration storm with most of the rainfall occurring on September 19, 2019; May 2021 storm had excessive rainfall further upstream over a longer period of time
  - Results
    - Pg 31 – 34
    - Imelda:
      - Most rainfall fell west of the Neches River in Jefferson and Liberty County; northern part of Jefferson Co drains into Pine Island Bayou, which combines w/ the Neches River north of the Saltwater Barrier and may have caused a water elevation spike
      - Large dropoff in river levels as you move further down the Lower Neches, which means as the river got wider and deeper, it was able to handle the influx
    - May 2021:
      - Consistent rainfall and some heavy rainfall falling north of Saltwater Barrier that eventually drained into the Neches River, may cause spike in Saltwater Barrier gauge
      - Runoff could also have made its way into the Neches from tributaries and ditches; upstream river would remain elevated b/c it is narrower
    - Both could show that rainfall occurring west of the river and deep navigation channels downstream allows the Lower Neches River to adjust to an influx of water

- Conclusions
  - Hurricane Harvey increased the Saltwater Barrier gauge the fastest, but decreased from its peak the quickest as well ; least intense storm decreased the slowest (possibly due to the least amount of excess water)

        - Shows that time of concentration is an important variable to use when modeling this
    - Tidal effects still visible in Imelda and May 21 storm, subdued in Harvey

Document Name: Marketisation of environmental justice: U.S. EPA environmental justice showcase communities project in Port Arthur, Texas

Responsible Entity: Tianna Bruno (Oregon) & Wendy Jepsen (TAMU)

Document Date: December 19, 2017

Audience: Academic

Purpose/Abstract: *This paper examines how the state responds to persistent claims of environmental injustice in overburdened communities. Our analysis focuses on activities, objectives, and processes of state intervention to understand how state actors attempt to rescript the meaning of environmental justice. We develop our analysis through a case study of the U.S. Environmental Protection Agency's (USEPA) Environmental Justice Showcase Communities (EJSC) Programme, and its project in Port Arthur, Texas, to understand how the state responds to communities of colour facing toxic pollution. We discover a misalignment between the aims of local activists and policy interventions. If interventions do not align with the goals of activists, then what political work is done through the programme? We identify two elements of this USEPA programme: (1) how the EJSC programme targets individuals living in environmental justice communities for remediation rather than facilitating environmental remediation; and (2) how state interventions align in multiple ways with interests of the private sector, effectively redefining environmental justice from a utilitarian view of compensation. Moreover, we describe how the EJSC programme also forges new pathways for private companies to participate in environmental compensation programmes while ignoring requests to enhance monitoring and regulatory compliance in industry. Thus, rather than responding and advancing activist environmental justice objectives, programme discourses and interventions sideline collective community claims and redirect state-level EJ interventions that embrace market-centric measures. Such market-based interventions on behalf and in the name of environmental justice signal a further entrenchment of what we refer to as the marketisation of environmental justice.*

Document Name: Imagine Port Arthur

Responsible Entity: City of Port Arthur staff (Planning and Zoning, administration, Economic Development Corporation Board, FNI)

Document Date: 2018

Audience: Public; provides a 20-year framework

- Chapter 1: Introduction
    - Provides outline of public input and engagement process
        - Comprehensive Plan Advisory Committee (CPAC) of appointed citizens and stakeholders of the community
        - Public meetings = over 100 residents and stakeholder participated in Feb 2017
        - Comprehensive Plan survey administered

        - Youth Advisory Council engaged
        - Two presentations to the Rotary Club
        - Promoted media coverage (promotional website)
    - Maps community assets (p 24)
    - Review relevant planning efforts, including:
        - Downtown Revitalization Plan (2015)
            - Repeatedly mentioned as a community priority
        - Consolidated Housing Plan (2015)
            - Planning document to meet HUD standards
            - Identifies needs for homelessness, other special needs, affordable housing, non-housing community development, barriers to affordable housing, lead-based paint hazards, institutional structure
        - Port Arthur Convention & Visitors Bureau Marketing Plan (2016/17)
            - Marketing/tourism focused
        - Master Plan for Gulf Intracoastal Waterway (2014)
            - Presents complex issues surrounding the ongoing and unmet maintenance and operational needs of the Texas portion of the GIWW and presents next steps to address
            - Increased coastal dev from energy boom in Eagle Ford Shale have made GIWW key in the state's economy
            - USACE no longer maintains the GIWW due to federal funding reductions; therefore, GIWW needs to maintain to keep up with current demands and accommodate increased capacity for petrochemical and petroleum industries
            - Critical components of the Downtown Plan
        - Jefferson County Hazard Action Plan (2011)
            - Plans the implementation of mitigation actions prior to a hazard occurrence
            - Addressed hazards including: dam failure, drought, earthquake, extreme heat, flood, geologic hazard, hazardous materials incidents, hurricane/tropical storms, terrorism, thunderstorms, tornadoes, tsunami, water contamination, and wildfire
            - Recommends
                - Acquiring flood prove properties (including repetitive loss and severe repetitive loss properties)
                - Elevate new and existing flood prone structures and infra
                - Replace/upgrade bridges, culverts
                - Pursue flood protection measures to protect from storm surge (including constructing or upgrading sea walls, flood barriers, berms)
                - Construct or improve detention/retention ponds
                - Identify and pursue any mitigation activities that would aid evacuations
                - Provide the public with educational brochures

Commented [CS1]: Can review/engage this plan more deeply if this sounds useful

Commented [CS2]: Can review/engage this plan more deeply if this sounds useful

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        - Develop and enact water conservation/drought management plans
        - Require all new construction to meet minimum established flood elevations
    - General Development Plan for Growth Area (1975)
        - Makes general recommendations for city-wide drainage needs, development requirements, roadway connections
- Community snapshot
    - Survey highlights
        - Pg 33 - 36
        - Most have lived in Port Arthur over 20 years
        - Most support all the above: more code enforcement, enhanced façade/development standards, improved landscaping, and public art
        - Most feel downtown needs improvement or expansion
        - Most envision the West Side Neighborhood as neighborhood retail/commercial or other
        - See infrastructure, aesthetic quality, lack of employment, and negative perceptions as biggest issues facing Port Arthur
        - Most never take public transportation
        - Most receive news on city social media
        - Half feel the City is well-prepared to communicate in the event of a hurricane
        - Notably, concerns about flooding were not mentioned whatsoever
    - Demographic trends
        - Age distribution and household size reflects a “community of families”, but older adults are making a decision to move to the City or remain as they age – see pg 39
        - Older labor force and college/new family populations are growing
        - Roughly 50% white
        - 76% of housing constructed before 1989
        - 41% renters, 59% owner-occupied --> trending more renters in the last 15 years
        - Median home values increased significantly while median income decreased
        - Educational services, healthcare, and social assistance are the largest employment industry, followed by construction and manufacturing --> has not changed in the last 15 years
- Existing land use and physical constraints
    - 38000+ acres unable to be developed b/c it is impacted by the Sabine Lake and GIWW and Gulf of Mexico, but waterfront properties are ideal for future development
    - Other constraints including aging infra, protected lands to the south of city limits, and the expansive city limits boundaries that place increased demand on limited city services and infra provisions

        - Mapped on pg 46
        - Park inventory page 49 --> park access is differential across the City and lacking in parkland towards the north and northwest limits; most is concentrated downtown and within older, established neighborhoods (mapped on pg 51, with existing service areas on pg 52)
- Ch 2: Downtown Plan Summary
    - Downtown areas targeted for open space on pg 58
    - Emerging issues
        - Wants to provide a greater range of dense housing, address decrease in population growth, improve access to education and the arts/culture, increase recreational/tourist activities, enhance civic character downtown, and fill in vacant lots
        - City is a key landowner that wants to take advantage of this land and "leverag[e] [it] as a partnership with private development" (p 64)
    - Catalyst Projects considered
        - Townhomes, multifamily homes, mixed use retail/office/commercial, and 3+ acres of new parks (p 67)
        - All projects include large surface parking lots
    - Water/wastewater demands
        - CIP investments for proposed catalyst projects on pg 81
        - FNI found that existing wastewater sufficient
    - Stormwater
        - CIP investments for catalyst projects on pg 84
        - Hydraulic model of existing conditions of stormwater system developed, with hydrologic conditions for future land use and a hydraulic evaluation and modeling of existing stormwater system with existing and future flows – performed by consultant
- Ch 3: Future Land Use
    - Future Land Use Plan
        - Pg 91
    - Future Population
        - Four possible growth rates projected, shown in Table 12 (pg 101)
        - If vacant land is totally used, population capacity is 75,370 people
    - Future Land use and growth opportunities
        - Identifies downtown revitalization, infilll development, waterfront and tourism, economic development and corridor enhancement as major opportunities
    - Future growth and infrastructure priorities
    - Future land use recommendations
- Ch 4: Transportation
    - Notes increasing development in the NW sector of the City
    - Proposed roadways and expansions shown on pg 133 (may be relevant from an impervious cover standpoint
- Ch 5: Neighborhood & Community Livability
    - Emergency Management – pg 168

        - Disaster mitigation: "recommends the City develop a Disaster Mitigation Plan to outline strategies and goals to address multiple aspects of the City by identifying changes to development, regulations, strategic infrastructure improvements, location of incompatible land uses, and potential improvements in a single plan"
        - City partnered with PAEDC in Jan 2018 to develop a Disaster Recovery and Assistance Strategy, which will outline how to use federal recovery assistance funds, create a mitigation plan, and conduct an expansion of the Downtown Housing Development Plan
            - PAEDC – Port Arthur Economic Development Corp
        - Emergency Response: emphasizes communication networks
        - Disaster Recovery: recommends developing a Post-Disaster Recovery Plan, which will "outline how to provide and allocate community resources, establish recovery centers, provide temporary housing, begin post-disaster assessments, plan for debris removal, and initiate long-term community recovery needs" - p 170
- Ch 6: Economic Development
    - What the community wants to see: more capitalization on eco-tourism, more development related to the Port, revitalization of downtown area all could be relevant in developing green infra

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Site Name: Transportation and Environmental Resource Division

Responsible Entity: Southeast Texas Regional Planning Committee

Publish Date: ND

Audience: Public

- Shows the status of regional transportation projects
- Shows regional hike/bike trails for Beaumont and Port Arthur
- Links to Regional Solid Waste Management Plan
- Air Quality Advisory Committee = a "diverse, road-based group composed of local elected officials, private industry, government, chambers of commerce, unions, concerned citizens, and environmental groups"
    - Informs residents about air quality concerns
    - Advise elected public officials and citizens about the impact of federal clean air legislation
    - Help identify air quality problems that affect economic growth and develop solutions
    - Recommend public programs regarding existing and proposed federal clean air legislation
    - Work with the Texas Commission on Environmental Quality (TCEQ) to develop air quality plans for southeast Texas
    - Part of South East Texas Clean Cities Coalition
- SETRPC also has $$ to provide public education related to solid waste programs

Document Name: SETPRC Drainage District Mitigation Plan

Responsible Entity: Southeast Texas Regional Planning Committee / GLO

Publish Date: September 2022

Audience: Public

- Related: FEMA press release about improvements from DD6 flood reduction progress
- Approval from GLO of the SETRPC Mitigation Method of Distribution
- Outlined the disbursement of $142,878,000 of HUD funds
- Discusses the increase in rainfall recently; says that flood mitigation was the issue most brought up during public planning meetings
- Majority of projects submitted for CDBG-MIT funding were flood-related and unfunded
- MOD focuses on funding larger projects that impact the most people, regional; thus all allocations went directly to drainage districts, with the exception of Hardin County and Jefferson County DD3 (which were not included)
    - Hardin County doesn't have a drainage district
    - DD3 covers 40k acres of unincorporated land but does not have any hazard mitigation plan, is not covered in any other hazard mitigation plan, has never received or managed this level of funding, and does not meet SETRPC criteria
    - DD3 works closely with DD6, whom they rely on for expertise, b/c DD3 drains through DD6
- Criteria shared by SETRPC
    - Population (20%), social vulnerability (20%)
        - Used census SoVI? No specific formula shared
    - Required areas to have past grant funding and a hazard mitigation plan
    - Only flood control improvements are eligible (not green infra)
- At least 50% of all program funds must benefit low-and-moderate income (LMI) persons, which large scale mitigation projects generally do
- 2 Public Planning meetings, 2 MOD public hearings
    - Ads shared in the newspaper and on the COG website
    - First meeting held during workday, second held after work
    - Zoom also available
    - Ads in English and Spanish
    - Hearings in English with accommodations made for language if requested 48 hours in advance
    - Meeting summaries included (pg 21)
- Allocates $46,525,000 to DD6 (which covers northern area of Jefferson County, including Beaumont)
- Allocates $41,367,400 to DD7 (which serves Port Arthur and some unincorporated parts of Jefferson County)
- Comments from the City of Port Arthur
    - Regional approach may hurt cities, plus the City could move more quickly
    - PA has a 60% LMI population
    - Regional scope doesn't account for local needs and doesn't provide accountability

    - City has a positive relationship with DD7 but does worry about accountability
- CIDA comment on the loose application of LMI standards (p 34)
- Unmet mitigation needs from the City of Port Arthur total $162 M, see on pg 35
- Texas Appleseed commented on CDBG-MIT program, noting lack of public participation, lack of focus on LMI and vulnerable communities
- City of Beaumont submitted a letter of objection but withdrew after discussion with DD6

Document Name: 2023 Regional Flood Plan

Responsible Entity: Friese and Nichols / Region 5 Neches Regional Flood Planning Group

Publish Date: August 2022

Audience: Plan required for funding allocation; to be presented at the state legislature in 2024

- Stakeholder for agriculture, countries, utilities, environmental interests, flood districts, industries, municipalities, public, river authorities, small businesses, and water districts are represented, with nonvoting representation from state agencies
- Flood risk of the region
    - Risk assessed for the 1 percent annual chance and 0.2 percent annual chance events; for existing conditions as well as future conditions over the 30-year planning horizon
    - Flood risk currently based on outdated or approximated maps, so most of the flood risk is not well-quantified
    - Estimated scenarios (with no major changes) find significant increases in residential structures and population in flood zone
- Floodplain management practices and flood protection goals
    - Includes floodplain management, emergency preparedness, and new development that municipalities should adopt (as this is a nonregulatory body) - see page 0-8
- Assessment and identification of flood mitigation needs
    - Uses criteria including flood-prone areas threatening life and property, current floodplain management and land use policies, areas identified as flood map gaps, historical flood events, and SVI to evaluate areas with flood mitigation needs
    - Areas with most flood need shown on page 0-13
    - Assigns areas as needing an evaluation (FME), mitigation project (FMP), or management strategy (FMS)
- Evaluation and recommendation of FMEs, FMSs, and FMPs
    - Examples of FMEs recommended = project design development, master drainage plan, flood mapping updates, and feasibility assessments
    - Examples of FMSs recommended = infrastructure, regulatory/guidance, education/outreach, property acquisition and structure elevation, flood measurement and warning, flood infrastructure maintenance
    - Examples of FMPs recommended = channel extensions, comprehensive updates (I.e., new pump stations, floodwalls, levees), and detention
- Impacts to regional flood plan
    - Quantifies the reduced exposure from implementation of FMEs, FMSs, and FMPs

    - Also reviews the impacts to water supplies
- Flood response information and activities (p. 7-1, 241)
    - Overview of flood emergency management and preparedness in the Neches Region
        - Relies on survey responses, oral testimonies, and local knowledge of technical consultants
    - City of Beaumont
        - Flood gages, flood warning signs, public emergency alert system, public-facing website, rain/stream gages with alerts
    - Jefferson County DD6
        - Cameras, flood gages, early flood detection system (Alert II)
    - List of hazard mitigation acton plans (table 7-2, page 248)

Model Name: Texas Integrating Flooding Framework (TIFF) – Report and Models

Responsible Entity: TWDB, USGS, USACE, GLO

Publish Date: Covers 2021-2022

Audience: The TIFFs include information related to compound flooding issues in Texas coastal communities. It includes a link that folks can use to view models on ArcGIS.

- Funded with CDBG Disaster Recovery Round 1 funding
- Focused on creating an integrated framework to provide local, regional, and state entities with the compound flood risk information and planning tools necessary for comprehensive regional flood planning and mitigation in the coastal zone
- TIFF's main goals are:
    - 1) to develop guidelines and processes for implementing a comprehensive framework to model, visualize, and plan for the risk of flooding in counties affected by Harvey
    - 2) bild relationship among agencies
    - 3) complement ongoing flood science, mapping, modeling, warning, response, and planning efforts
- Section 2: Identifies data and data gaps and establishes a plan for obtaining data critical for successful coastal flood analysis
    - Results suggest more info needed in Beaumont area (Houston Ship Channel, Trinity Bay)
    - Subsidence work carried out as well – evaluated new monitoring technologies and got feedback on who is interested in continuing this work
- Section 3: Provides an overview of available coastal flood-related user interfaces
    - Inventory of Coastal UIs on pg 40
- Section 4: Discusses the integration of flood models
    - Details previous studies on flooding by partner orgs (GLO, FEMA, TWDB, USACE)
    - Result is Draft TIFF Model Inventory viewer
- Section 5: Discusses creation of a comprehensive outreach plan to engage regional planning groups
    - Year 1 goals = building trust as a reliable source of info

- Existing efforts that can be leveraged and built upon = CHARM, TWDB Community Assistance Program, RFPGS, Texas Coastal Resiliency MP, engineering firms
- Future efforts will focus on identifying more end users, building relationships, and identifying ways to leverage existing outreach programs to indirectly reach non-technical end-users

Model Name: Community Health and Resource Management (CHARM)

Responsible Entity: Texas A&M

Publish Date: NA

Audience: This is a public engagement tool that officials/professionals can use to leverage community knowledge for long-term planning and provide immediate impacts about flooding impacts of development.

- Planning workshops let communities see how today's decisions (building homes, shopping centers et cetera) will impact future generations, using over three dozen indicators
- ArcGIS based

Report Name: Texas Ecosystem Services – A Statewide Assessment

Responsible Entity: Texas A&M, Natural Resources Institute (NRI)

Publish Date: October 2022

Audience: This document makes the case to decision-makers and the public for the economic value provided by ecosystems throughout Texas.

- Valuation methods used include market-based (water quantity) and willingness-to-pay (wildlife habitat, flood mitigation, water quality, erosion control, air quality and air pollution removal, carbon storage, recreation – nonconsumptive)
- Found that regulating erosion control, flood mitigation, air quality, and carbon storage would be $81 per acre per year on average across the state
- Found that supporting water quality/quantity, and wildlife habitats would be worth $423/acre/year on average across the state
- Much of the value is concentrated in East TX Gulf Coast region
    - Esp Air quality ($25+ v. statewide mean of $19), flood mitigation ($35+ v. statewide mean of $22), water quantity ($450+ v. statewide mean of $348),

Report Name: InFRM (Interagency Flood Risk Management) Neches WHA Report

Responsible Entity: InFRM (FEMA, USGS, USACE, NWS)

Publish Date: January 2022

Audience: This report uses updated flood models to provide recommendations for frequency discharges and reservoir elevation. These values will be helpful for the InFRM team for revising flood insurance rate maps and informing residents of risks to life and property. The InFRM team is comprised of USGS, FEMS, NWS, and USACE staff based in InFRM Region 6.

- Conducts rainfall-runoff modeling in HEC-HMS, elliptical frequency storms in HEC-HMS, comparison of frequency flow estimates, statistical hydrology, RiverWare Analysis and Reservoir Analyses to provide recommendations on frequency flow and reservoir levels that orgs managing the Neches River Basin can use to update flood insurance rates