



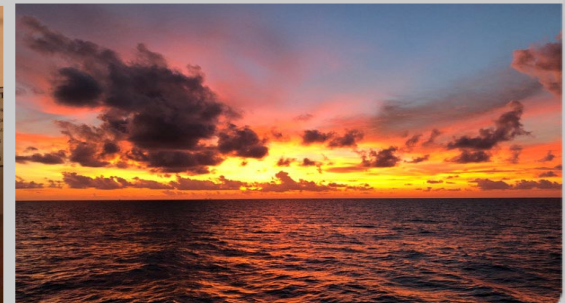
U.S. ARMY

Sabine-Neches Waterway

Developing Operational Guidance for the Ocean Disposal of New Work Dredged Materials

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US Army Corps of Engineers



DISCOVER | DEVELOP | DELIVER

Operational Guidance – Introduction/Recap

- Evaluation of the geological borings to determine number and distribution of representative sample locations (Bourne, 2022)
 - Testing of sediments for open water placement (MPRSA Section 103) (Stevens, 2022)
 - STFATE modeling to determine if placement restrictions are needed to ensure compliance (Bailey, 2022) **
- Determine what operational guidance is needed (if any)
- What is “operational guidance”?

Operational Guidance - The Pieces of the Puzzle

- Operational guidance is the last step in understanding the how, why, when and where of open water placement
- Requires the integration of four components:
 - 1) Suitability determination (MPRSA Section 103) (*)
 - 2) Restrictions for compliance as a function of load restrictions and disposal compliance (STFATE) (*)
 - 3) Apply SMMP monitoring strategies and thresholds for action for disposal at designated ODMDs
→ SMMP is agreed upon by USACE and EPA
 - 4) Sequencing of work during construction



Refined STFATE - Project Specific Considerations/Recap

1. Refined modeling Incorporates the 103 testing results
2. Dredge Load, Disposal Volume, Vessel Speed and Direction
 - hopper dredge → with and without overflow
 - disposal volume 4,350 CY/load to 13,500 CY/load
 - range of velocities traveling westward
3. Current Conditions
 - September through May currents are roughly from WSW → “westerly”
 - June, July and August → SSW, ESE and SE → “all directions”

SNWWNew-04 > SNWWNew-02 > SNWWNew-03 > SNWWNew-01

Most restrictive  Least Restrictive

Site Management and Monitoring Plan (SMMP)

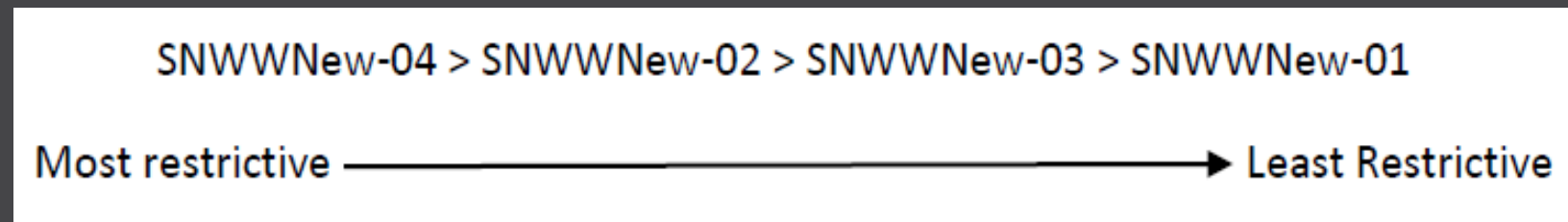
- **Goal is to ensure that ocean disposal activities will not unreasonably degrade the marine environment, endanger human health, economic potentialities or other uses of the ocean**
- **Lays out conditions for how to manage all disposal activities at a disposal site**
- **Provides a framework for site monitoring and management, as required by MPRSA**
- **Only materials suitable and in compliance with the Ocean Dumping Criteria (40 CFR Part 227) can be transported and disposed of in any of the SNWW ODMDSSs**

Site Management and Monitoring Plan (SMMP)

- **Minimum buffer zone of 500 feet required for all eight SNWW ODMDSs**
- **Buffer zones can change on a project specific basis**
- **For SNWW CIP, project specific buffer zones varied by ODMDS and by the classification of new work materials**
- **Mounding of material 15 ft to avoid creating navigational hazards**
- **SNWW SMMP available on EPA R6 Ocean Dumping Program webpage**

Operational Guidance

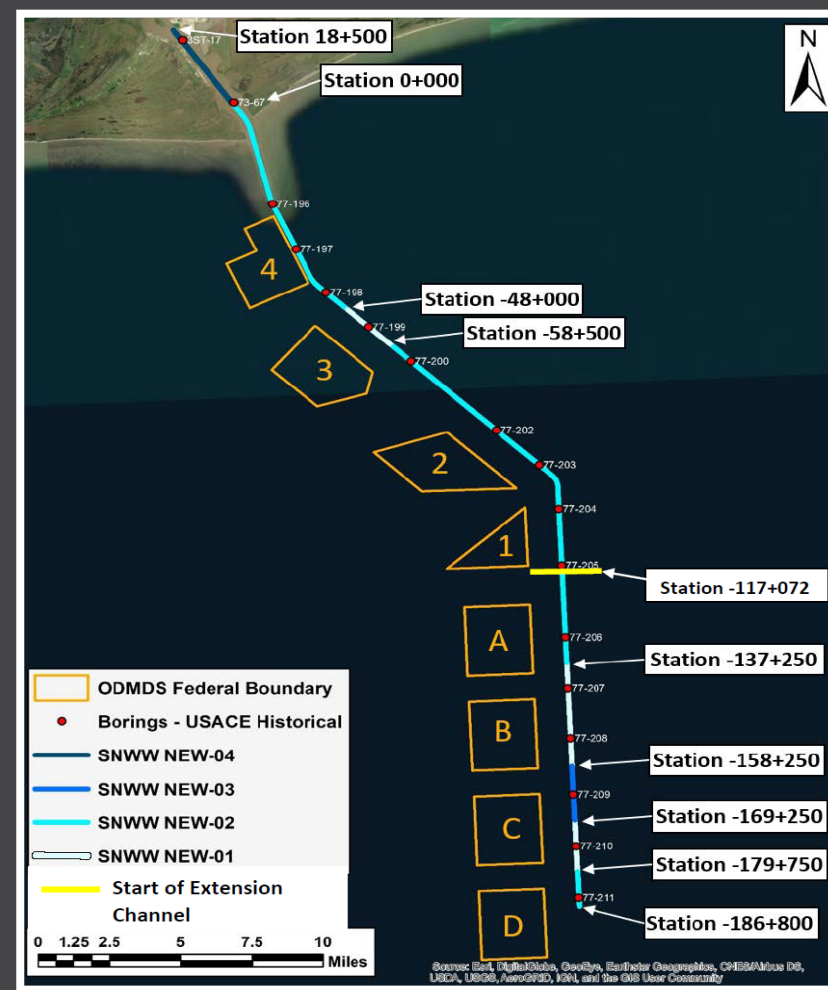
- Purpose → arrive at project specific guidance for the construction phase of the SNWW CIP
- Incorporate the disposal requirements of the SMMP with the project-specific disposal hierarchy determined by STFATE
- **Approach 1:** Classification of channel reaches based upon representative study samples
 - Uses geotechnical information from channel borings to classify channel reaches based upon representative sampling and MPRSA 103 testing



Operational Guidance

Approach 1: Assignment by Reach Based Upon Representative Sampling

	Boring Designation	Representative Sample Location Assignment	Associated Stations	
Entrance Channel	73-68	SNWWNew-04	18+500 to 0+00	
	3ST-17	SNWWNew-04		
	73-67	SNWWNew-04		
	77-196	SNWWNew-02		
↓	77-197	SNWWNew-02	0+00 to -48+000	
	77-198	SNWWNew-02		
	77-199	SNWWNew-01		
	77-200	SNWWNew-02		
	77-202	SNWWNew-02		
	77-203	SNWWNew-02		
	77-204	SNWWNew-02		
	77-205	SNWWNew-02		
	Ext Channel Starts			
	77-206	SNWWNew-02		-58+500 to -137+250
	77-207	SNWWNew-01		
77-208	SNWWNew-01			
77-209	SNWWNew-03			
77-210	SNWWNew-01			
77-211	SNWWNew-02			
Channel Extension			-137+250 to -158+250	
			-158+250 to -169+250	
			-169+500 to -179+750	
			-179+750 to -186+800	



Operational Guidance

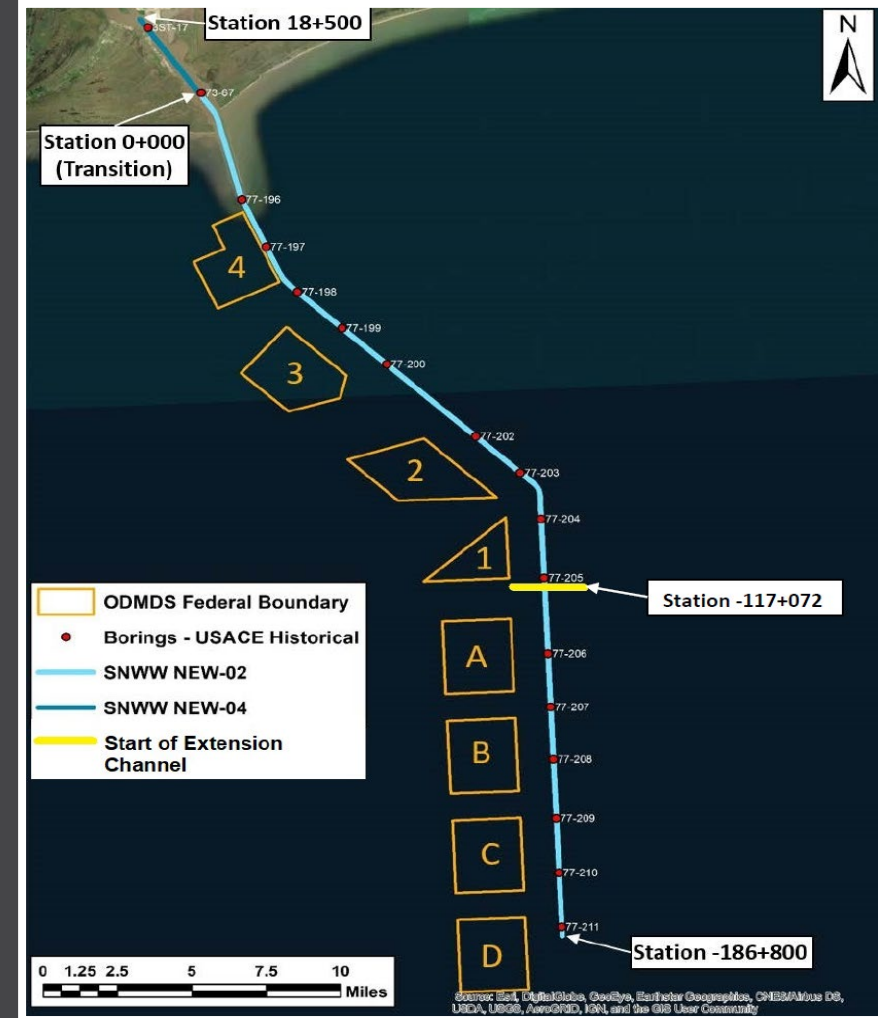
- **Approach 2: Simplified Guidance**
 - **Considers the disposal scenarios that utilize the disposal hierarchy determined by STFATE**
 - **Sediments from the inland portion of the project area are equivalent to SNWWNew-04**
 - **Remaining project sediments are equivalent to SNWWNew-02**
 - **Simplifies disposal during construction; still adheres to the SMMP and MPRSA 103 testing results**

SNWWNew-04 > SNWWNew-02 > SNWWNew-03 > SNWWNew-01

Most restrictive  Least Restrictive

Operational Guidance, Approach 2: Simplified

	Boring Designation	Construction Disposal Scenario and Associated Station Numbers	Associated Stations
Entrance Channel	73-68	SNWWNew-04 (18+500 to 0+00)	18+500 to 0+00
	3ST-17		
	73-67		
Channel Extension	77-196	SNWWNew-02 (0+00 to -186+800)	0+00 to -48+000
	77-197		
	77-198		
	77-199		-48+000 to -58+000
	77-200		-58+500 to -137+250
	77-202		
	77-203		
	77-204		
	77-205		
	Ext Channel		
	77-206		-137+250 to -158+250
	77-207		
	77-208		
	77-209		
	77-210		
77-211	-169+500 to -179+750		
	-179+750 to -186+800		



Sequencing During Construction

- **Observe any environmental windows**
- **Determine site capacities prior to dredging with bathymetry**
- **Dredged materials go to the nearest ODMDS (↓ transport costs)**
- **Consider volume and site capacity → time dredging to maximize usable area and to not exceed site capacity i.e. no off-site drift or mounding, account for seasonal variations**
- **Restrict dredge material releases to within zones defined by Refined STFATE → coordinates used for compliance purposes by USEPA R6**
- **Can alternate open water and landlocked portions if timing restrictions or contract execution require it**

Operational Guidance – Recommendations (SMMP)

- 1. All disposal of new work dredged materials from the CIP must comply with conditions/restrictions outlined in the SNWW SMMP**
- 2. ODMDs 1 through 4 will be limited to disposal of new work dredged materials from the Sabine-Neches area, with exception of material from the Extension Channel (Stations -117+072 to 29+625)**
- 3. ODMDs A through D limited to disposal of new work dredged materials from the Sabine-Neches 13.2-mile Extension Channel only (Stations -186+800 to -117+072)**

Operational Guidance – Recommendations

- 4. Disposal from reaches of the new work project area may use Approach 1 → materials can be handled as smaller units based on the four representative classification categories for sediments**
- 5. Disposal may be simplified to use Approach 2 → most restrictive disposal categories:**
 - (i) SNWWNew-04 inland portion (stations 29+625 to 0+000) and**
 - (ii) SNWWNew-02 for open water (0+000 to -186+800)**

Operational Guidance – Recommendations

- 6. June, July and August - dredged material comparable to sample SNWWNew-04 cannot be placed in ODMDS 1 and ODMDS 4
→ currents in any direction scenario**
- 7. Smaller disposal zones to account for seasonal and storm variation in currents during the months of June, July and August must be observed → sequencing during construction**

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QUESTIONS???