

Port of Corpus Christi
Channel Improvement Project
Public Involvement

San Patricio County

The Port staff met with county officials at their County Commissioners meeting on October 6, 1997, to discuss various projects at the Port including the deepening project.

Coastal Coordination Council

The Port made a presentation to the Coastal Coordination Council (CCC) on May 13, 1998, to inform the group of the status of the project. A letter transmitted from the CCC regarding this meeting is included in Appendix A-3.

Corpus Christi Bay National Estuary Program

The Port made a presentation to the Corpus Christi Bay National Estuary Program (CCBNEP) at their annual Bay Summit on April 27, 1998, to inform the group of the status of the project. A summary of the presentation is included in Appendix A-3.

Corpus Christi Beach Association

The Port was invited to attend the April 20, 2000, meeting and discuss the project. Approximately 25 people attended the meeting. The presentation included a description of the effort to authorize a major navigation feature, the goals of the Port in this project, and the beneficial uses opportunities associated with the project. The audience was encouraged to ask questions and make comments about the project. A summary of this meeting is included in Appendix A-3.

Gulf of Mexico Fishery Management Council

The Port was invited to attend the September 19, 2000, Texas Habitat Protection Advisory Panel meeting. Approximately 11 people attended the meeting. The presentation included information on the existing system, the proposed improvements, an outline of the federal project authorization process, and examples of beneficial uses of dredged material. Attendees were encouraged to comment on possible beneficial uses of dredged material that would result from the project.

Coastal Bend Guides Association

The Port was invited to attend the October 3, 2000, meeting and discuss the project. Eighteen people attended the meeting. The presentation included information on the existing system, the proposed improvements, an outline of the federal project authorization process, and examples of beneficial uses of dredged material. Attendees were encouraged to comment on possible beneficial uses of dredged material that would result from the project.

The Port was invited to return for a second meeting on February 6, 2001, to update the group on the project. Twenty-nine people attended the meeting. The presentation included a summary of the status of the project and various studies, providing detail on those studies related to dredged materials management. The draft Dredged Materials Management/ Beneficial Uses (DMM/BU) plan was reviewed in detail. Attendees were

Port of Corpus Christi
Channel Improvement Project
Public Involvement

encouraged to comment on the draft DMM/BU plan. Summaries of these meetings are included in Appendix A-3.

Coastal Bend Bays Foundation

The Port was invited to attend the January 8, 2001, meeting and discuss the project. Twenty-five people attended this meeting. The presentation included the project alternatives, study results to date, and the draft Dredged Materials Management/Beneficial Uses (DMM/BU) plan. Attendees were encouraged to comment on the draft DMM/BU plan. A summary of this meeting is included in Appendix A-3.

Ingleside Point Conservation Commission

The Port was invited to attend the January 23, 2001, meeting and discuss the project. Approximately 20 people attended this meeting. The presentation included a review of the channel project, the project alternatives, and the draft Dredged Materials Management/Beneficial Uses (DMM/BU) plan. Attendees were encouraged to comment on the draft DMM/BU plan. A summary of this meeting is included in Appendix A-3.

Port Industries

The Port made a presentation to the Port Industries group on March 27, 2001. The presentation included an update of the project.

Naval Station Ingleside

The Port staff met with the base commander and staff to discuss the project on October 16, 2001.

Commission of the Port of Corpus Christi

A number of presentations have been made to the Port Commission updating them on this project. A full presentation was presented on April 10, 2001, that included background information about the channel system, the studies that were underway, estimated construction costs, and benefits including economic projections and transportation cost savings.

Coastal Bend Environmental Conference

The Port made a presentation at the 9th Annual Coastal Bend Environmental Conference on October 26, 2001. The presentation included background information about the existing channel system, the proposed improvements, the planning efforts undertaken to address engineering and environmental studies performed, and the proposed Dredged Materials Management/Beneficial Uses (DMM/BU) Plan. The overview for this presentation is included in Appendix A-3.

Numerous other special interest group meetings have been held with various organizations such as the Waterway Users (Fall 1999 and Spring 2001), Port Advisory Council (January 17, 2001 and May 16, 2001), Port Aransas Rotary Club (October 1999),

Port of Corpus Christi
Channel Improvement Project
Public Involvement

Corpus Christi Downtown Rotary Club (December 1999), and the Corpus Christi Chapter of the National Audubon Society (May 2, 2001).

Other Outreach

Various other forms of outreach were utilized during this project. They included early regulatory agency coordination, Regulatory Agency Coordination Team (RACT)/Workgroup meetings, individual contacts, a toll-free 800 number, Spanish voice mailbox, web site posting, press releases, and comment forms.

Early Regulatory Agency Coordination

The Port hosted several early meetings with regulatory agencies such as U.S. Fish and Wildlife Service, National Marine Fisheries Service, Texas Natural Resource Conservation Commission, Texas Water Development Board, Texas Parks and Wildlife Department, and Texas General Land Office. The purpose of these meetings was to allow regulatory agencies to participate and provide guidance in project planning, to recommend studies to evaluate environmental effects, and to assist in development of beneficial use alternatives or mitigation plans. The first meeting was held in May 1998. A summary of this meeting is included in Appendix A-3.

RACT/Workgroup meetings

Several technical groups were formed to assist the project managers during the Feasibility Study phase of the project. The Regulatory Agency Coordination Team (RACT) provides guidance and wise counsel on matters relating to the evaluation of environmental impacts for this project. Members of the RACT include the Port, U.S. Army Corps of Engineers, National Marine Fisheries Services, U.S. Fish and Wildlife Services, U.S. Environmental Protection Agency, Texas Parks and Wildlife Department, Texas Natural Resource Conservation Commission, Texas Railroad Commission, Texas Water Development Board, Texas Department of Transportation, and Texas General Land Office.

The Workgroups include Shoreline Erosion, Cumulative Assessment, Mitigation, Hydrodynamic and Salinity Modeling, Water and Sediment Quality (Contaminants), and Beneficial Uses. Each workgroup focuses on specific environmental issues of the project. They have helped define the scopes of work for certain studies and have reviewed study results. Members of these workgroups include the same state and federal regulatory and permitting agencies as the RACT.

Thirty-eight meetings have been held with the RACT and various workgroups to date. Summary minutes are kept of all RACT and Workgroup meetings and routinely distributed to members for review and approval. A table of Workgroup meetings and meeting dates is included in Appendix A-4.

1. Public Meeting Summary Report

A total of approximately 130 people attended the public meeting, filling the Council Chambers of the Corpus Christi City Hall. Among those attending were:

Josephine Miller, San Patricio County Judge
Gordon Porter, San Patricio Commissioner
Kirt Emerick, Portland Councilman
Glen Martin, Port Aransas Mayor
Tommy Brooks, Port Aransas City Manager
Elizabeth Nesbit, Coastal Coordination Council member

DRAFT

Bill Dodge, Port Commission Chairman
Bernard Paulsen, Port Commissioner
Ruben Bonilla, Port Commissioner

George Alcala, Bob Bass and Frank Garcia, U.S. Army Corps of Engineers

citizen &

Also attending were representatives of environmental interest groups and state and federal natural resource agencies. Media attending included KIII and KZTV representatives.

PRESENTATION

John LaRue, Port Authority executive director, opened the session noting that the proposed project can be viewed as having four components. The first is a barge shelf which PCCA is already working on. It will allow the barges to get out of the ^{main} channel and will provide ^{to} much safer ^{navigation} environment in the deep part of the channel. The second component is widening the channel across Corpus Christi Bay which is also a safety issue because ships are getting wider and it is important to maintain a safe distance between passing vessels. The third element is extension of La Quinta Channel to serve the property purchased by PCCA in early 1998 (long known as the Tenneco tract). The fourth component is to deepen the entire channel system from 45' to 50' to enhance efficiency and maintain the region's competitive position.

Mr. LaRue said that the meeting was not being held to meet any regulatory requirement, rather that it was a port authority effort to encourage public involvement at the beginning of the planning process. He stressed that it would be a listening session for the Port Authority and Corps representatives present. He said the coming planning effort will be a very open process and that the July 15th meeting was the first part of that process.

Mr. LaRue noted that many of those signing in were from Ingleside-on-the-Bay and had indicated they were present to express their concern about an application by Mr. Kenneth Berry to the Corps of Engineers for permits regarding an island across La Quinta Channel from Ingleside-on-the-Bay. LaRue explained that the Port Authority has no regulatory authority regarding Mr. Berry's application and has no greater role than does any other member of the public. Mr. Berry's proposed project is not in any way a part of the 50-Foot Project, nor does it have anything directly to do with the existing channel.

David Krams, P.E., project engineer, and Paul Carangelo, project environmental coordinator, presented a project overview using a series of slides and graphics which are included as an appendix to this report. They provided information on the history of the channel, trends in the shipping industry, specifics of the widening, deepening and extension elements of the 50-Foot Project proposal, an outline of the federal project authorization process, and an overview of issues which had already been identified for inclusion in the Feasibility Study and Environmental Impact Statement.

The public meeting was held to gather public input on issues that should be addressed in the Feasibility Study/EIS, and to hear opinions on which issues may be more important to the public.

Issues and ideas raised in comments during the public input session include the following:

- Comprehensive chemical analysis of dredge material constituents.
- Open water material placement alternatives including containment and stabilization.
- Possible creation of bird nesting islands at open water placement sites.
- Future private or industrial use of dredge material placement sites, particularly islands.
- Impacts of material placement on access to oil and gas wells.
- Beneficial uses of dredge material.
- Wakes and other affects of increased ship traffic.

- Use of interdisciplinary teams in study of issues. Involvement and participation of those conducting studies. The weight and consideration given agency input. ?
- Public participation in the study process. Providing forums to deliver information to interested private citizens.
- Geographical boundaries of the study area and risk assessments.
- Safety criteria and levels in ship traffic evaluation. Comparisons for off-shore lightering and other liquid cargo delivery systems. SPM?
- Traffic controls on ship and barge traffic. Importance and priority of separating barge and ship traffic.
- Potential increases in storm surge.
- Shoreline erosion.
- Environmental damage to fishery resources, seagrass beds, other habitats.
- Other ports with 50-foot channels and their problems.
- The need to include the cost of the proposed La Quinta Channel extension in estimating cost benefit.
- A geological fault near La Quinta Channel.
- Additional project cost of mitigation projects.
- Impacts of primary and secondary growth encouraged by the project.
- Industrialization of area and conflict with residential or natural areas.
- Procedures for handling toxic waste and hazardous materials.
- Current and future Liquid Natural Gas cargoes.

Summary of Beneficial Uses Public Forums
Corpus Christi Ship Channel - Channel Improvement Project

Monday, May 15, 2000
Texas A&M University – Corpus Christi
Blucher Institute

Attendees were:

- Dana Cheney, JFK Group
- J.W. Howell, Nueces River Authority
- Brooke Sween-McGloin, McGloin & Sween
- Patrick McGloin, McGloin & Sween
- Jim Shiner, Shiner, Moseley & Associates
- Robert Corrigan, Coastal Bend Bays & Estuaries Program
- Nolan Rhodes, Resident
- Bryan Davis, Parsons Brinkerhoff
- Danny Garcia, Coastal Refining & Marketing
- Frank Garcia, US Army Corps of Engineers
- Johnny French, US Fish & Wildlife Services
- Paula Sales, Texas Department of Transportation
- Pat Suter, Resident
- Bob Wallace, Coastal Bend Bays & Estuaries Program
- Manuel Freytes, Texas General Land Office
- Alan Mategoursky, Parsons Brinkerhoff
- Ajmer Kular, Govind & Associates
- Jim Bonner, CBI, Texas A&M University, Corpus Christi
- Frank Brogan, Port of Corpus Christi Authority
- Commissioner Gordon Porter, San Patricio County
- Leah Olivarri, Olivarri & Associates
- Kelly Billington, Olivarri & Associates
- David Krams, Port of Corpus Christi Authority
- Greg Brubeck, Port of Corpus Christi Authority
- Paul Carangelo, Port of Corpus Christi Authority
- Mary Perez, Texas Department of Transportation
- Pat Veteto, RVE Engineering
- Ray Allen, Coastal Bend Bays & Estuaries Program
- Jim Tolan, Texas Parks & Wildlife Department

The meeting began at 6:00 P.M. with Paul Carangelo from the Port of Corpus Christi Authority (Port) greeting attendees and expressing his thanks for their attendance. Mr. Carangelo introduced other Port staff Greg Brubeck, Frank Brogan, and David Krams, Frank Garcia from the US Army Corps of Engineers, and San Patricio County Commissioner Gordon Porter.

Mr. Carangelo reviewed the agenda for the evening and informed the audience that the Port and the Coastal Bend Bays and Estuaries Program (CBBEP) had joined forces to make the identification of beneficial uses a joint effort.

Summary of Beneficial Uses Public Forums
Corpus Christi Ship Channel - Channel Improvement Project

Mr. Carangelo asked Ray Allen of the CBBEP to speak briefly on the joint venture. Mr. Allen said that the CBBEP and the Port had the same objective and that it was only natural for them to join together. The joint effort project has a little bit larger scope, but it will lead to an outcome that will be applicable to both CBBEP and the Port.

Mr. Carangelo then asked David Krams to describe the existing system and explain the proposed improvements. Mr. Krams said most people in the audience had a pretty good idea of the current system and so reviewed the system very quickly. The Entrance Channel is 47' deep and 700' wide. The Corpus Christi Ship Channel is 45' deep and 400' wide. La Quinta Channel is 45' deep and 400' wide, and the Corpus Christi Inner Harbor is 45' deep.

Mr. Krams also noted that the proposed Channel Improvement Project is a Federal Project, with the U.S. Army Corps of Engineers (Corps) as lead and the Port as local sponsor. The project began with the local sponsor's decision to pursue the project. It was then sent to Congress for approval to investigate. After Congressional approval, the first part of a two-phase planning process began with a Reconnaissance Study by the Corps. That study was completed in 1994. The second phase, Feasibility Study and Environmental Impact Statement, is currently underway. It began with a cost sharing agreement signed in June 1999. If the results of the Feasibility Study find there is no national benefit or interest, then the project is dead. On the other hand, if the results show there is national interest or benefit, then it is sent to Congress for authorization and funding, then to engineering and design, construction, and finally operation and maintenance. The Feasibility Study is expected to be completed within three years.

Mr. Krams said there were three basic elements to the proposed Channel Improvement Project – widening the channel across the Corpus Christi Bay and adding barge shelves, deepening the entire ship channel system to 50- or 52-feet, and extending the La Quinta Ship Channel and adding a turning basin for the proposed container terminal facility.

Mr. Carangelo thanked Mr. Krams and stated that this was an open process. The Port is interested in public comment and input and they have sought and continue to urge early participation. In addition, there has been intensive state and federal regulatory agency involvement since 1999.

Mr. Carangelo then identified the existing Dredge Material Placement Areas (DPMAs) east of the Inner Harbor. These DMPAs are located along both sides of the main channel in the open water of the Corpus Christi Bay and on the islands just south of the main channel between Live Oak Peninsula and Port Aransas. There are also DMPAs in the Inner Harbor Reach along both sides of the Inner Harbor.

Summary of Beneficial Uses Public Forums
Corpus Christi Ship Channel - Channel Improvement Project

Mr. Carangelo explained that seen from a global approach, the beneficial uses of dredged material include engineered, agricultural, and environmental applications. Examples of engineered uses include land creation and land development uses such as levees, landfill capping, and strip mine reclamation, as well as dredged material reuse like construction quality materials, manufactured soils (building products), and commercial and industrial facilities. Examples of agricultural uses of dredged material include aquaculture use of confined placement sites and topsoil.

Mr. Carangelo said the most popularly recognized of the three types of beneficial uses of dredged materials were environmental uses. Examples of environmental uses include marsh wetland creation and restoration, aquatic and marine habitat enhancement (reef structures, seagrass beds, unvegetated shallow water habitat, and emergent mudflats habitat), gulf beach and bay beach nourishment, terrestrial habitats (rookery islands and recreational destinations and parks), shoreline erosion control, near shore sediment management (underwater berms/capping), and thin layering (ecological stimulation).

Mr. Carangelo then turned the meeting over to Leah Olivarri, who introduced the guidelines for the public input. She said that the purpose of the meeting was to solicit ideas and perceptions on Beneficial Uses of Dredged Materials. The Port wanted to know how the public would like to see the dredged material used beneficially. She also asked that the focus of comments be on potential beneficial uses of dredged material. All input will be fully considered and greatly appreciated. Ultimately, there would be formal public and agency scrutiny through the NEPA process.

Ms. Olivarri asked the audience to literally take markers to paper and come to the front to draw on the map, exactly what they wanted to see. She also noted that comment forms were handed out and the public was encouraged to write their comments down on those as well. Comments could be submitted now or mailed in later.

Jim Shiner noted there was an ongoing need for sand on the south end of the north side of Shamrock Island and suggested that the Port consider using dredged material for beach renourishment of Shamrock Island.

Commissioner Gordon Porter asked if there was a cost analysis going on along with this part of the study. Mr. Carangelo said yes, there was, but they were still looking for all ideas no matter how large or small. Commissioner Porter then suggested dredged material be used as shoreline protection at Conn Brown Harbor and for commercial development enhancement north of Conn Brown Harbor.

Pat Suter noted the shoreline erosion that is happening at Ingleside On The Bay and asked about open water placement areas and how much dredged material was slipping back down. Mr. Carangelo spoke about the benthic recovery study and a sister study on the fate of dredged materials placed in open water. The benthic recovery study indicates

Summary of Beneficial Uses Public Forums
Corpus Christi Ship Channel - Channel Improvement Project

that benthic community recovery was complete within one year of placement. The dredged material fate study was in preparation.

Dana Cheney asked about the Port's long-term dredging plans. Mr. Carangelo said the maintenance material is rather soupy, so the virgin new work materials will probably be used to build structures like levees. Ms. Cheney suggested that the Port stay away from Nueces Bay because it is so shallow and is a long distance from the area being dredged and also suggested that they add marshes to the back side of the islands along the ship channel (Pelican Island, et al.) and renourish the back sides of Mustang Island as well.

Pat Veteto suggested some of the dredged material be used to protect the downtown Corpus Christi area. Five million cubic yards could be used to build a land barrier in front of the seawall. This could give a \$15 million benefit. Raise the existing break wall to 15 feet and put a beach in front of it. Mr. Veteto also presented the Port with a color drawing of his suggested plan. The proposed plan would include a 32-acre festival site, 10-acre marina, 15-acre resort hotel, 23-acres for commercial development, 15-acre amusement park, 11-acre amphitheatre, and a lagoon.

Brooke Sween-McGloin supported Mr. Veteto's idea and said it was good for the City's economic development. The idea has lots of merit and could have a big impact on this community.

Bob Wallace asked where the material goes during a storm and high tides. Mr. Veteto replied that they would have to have a good containment system.

Johnny French cautioned the group on the issue of fresh water inflows and said there was a possibility of project delay if there was dredged material placement in Nueces Bay for the intended purpose of maximizing fresh water inflows. His concern was that the modeling effort required might be too complex to resolve in a timely manner.

Ray Allen suggested using dredged material for rookery islands in Nueces Bay and enhancing the Nueces Bay area with habitat creation.

Pat Suter suggested the Port take a look at raising the current dredged material placement areas in the open bay to right below the water level, or above it, since shallow water was likely more biologically productive than the current practice.

Commissioner Gordon Porter suggested dredged material to support seagrass around the backside of the existing dredged material islands, as opposed to placement in open areas because of wind, tides, etc.

J.W. Howell suggested they are attempting to reverse the anticipated potential effects of hydrology and the natural phenomenon of the shoreline building on the north side and

Summary of Beneficial Uses Public Forums
Corpus Christi Ship Channel - Channel Improvement Project

eroding on the south side. Mr. Howell suggested the Port extend La Quinta Island with dredged material from the La Quinta Extension to protect the La Quinta Channel Extension and extend the proposed berm into the water to protect habitat on Portland banks.

Commissioner Porter suggested they could connect all this area with a cul-de-sac but warned of potential damage to the circulatory system. He reminded the audience of the disaster of Sunset Lake and said they could create a water exchange or break and it might work.

Danny Garcia asked if the natural buildup would create a berm anyway. He suggested the Port build something like the sandbars or some other natural extension buildup.

Mr. Howell suggested they create wetlands on the backside of the La Quinta Island Extension.

Ray Allen asked if the Port was considering the purchase of the Reynolds Metals property. Frank Brogan said no.

Robert Corrigan asked about a prioritization of all these ideas. Mr. Carangelo said they have to look at the texture of the material, pumping, engineering and geo-technical studies involved, and that the RACT plans to combine mitigation and the Dredged Material Management Plan (DMMP). Cost will also be a factor in setting priorities for beneficial uses of dredged material for the Corpus Christi Ship Channel - Channel Improvement Project.

Ms. Sween-McGloin asked how much dredged material is 40 million cubic yards. Mr. Brogan answered it was approximately 1,000 acres, 27 feet tall +/-.

Patrick McGloin asked if someone was pushing for a proposal of use for dredged material which was not environmentally or economically appropriate within the context of the decision-making process for the Corpus Christi Ship Channel - Channel Improvement Project, or any other dredging project, how might they be able to earmark dredged material from the project for these uses.

Nolan Rhodes answered Mr. McGloin saying anyone who can get an individual permit for these other uses in a timely manner and has funds to pay for the cost involved, and be vociferous should be pushing for these beneficial uses.

There were no written comments handed back to us at the close of the meeting.

Two written comments were mailed back to us, both from Paul Carangelo, coastal resident. The first was to create high and low marsh and open water habitat east of the

Summary of Beneficial Uses Public Forums
Corpus Christi Ship Channel - Channel Improvement Project

east groin on North Beach. Use appropriate wave dissipation structures seaward and dredged or other suitable material for habitat development fill. This proposal could also include increase hydrologic-tidal connectivity to existing wetlands on the east end of North Beach adjacent to and south of SH 181. Potential for enhanced recreational benefits/use.

The second comment was to create (restore) black skimmer nesting habitat in the Upper Laguna Madre directly south of the Kennedy Causeway across the ICWW from Marker 37. The existing skimmer nesting area is unfortunately located along the shoulder of the Kennedy Causeway and is heavily impacted. Nesting success typically is nil. The proposal is to place suitable material on existing, eroded placement islands on a regular basis to maintain the land suitable for use by skimmers and other tern species.

**Summary of Beneficial Uses Public Forums
Corpus Christi Ship Channel - Channel Improvement Project**

Wednesday, May 17, 2000
Ingleside On The Bay
Ingleside Beach Club

Attendees were:

- Virginia Hargrove, Resident
- Cynthia Pearl, IPCC
- June Hardy, Resident
- David Dear, Citgo Refining
- Jim Morgan, Resident
- Marcie Counter, IPCC
- Charles Counter, IPCC
- Wayne Jewell, Resident
- Patt Watson, Resident
- Corra Ward, Resident
- Delano Lockhart, Resident
- Don Vance, Resident
- James Rio, Resident
- Phil McMulin, Resident
- Scott Pearl, Resident
- Carole Lawson, Resident
- Patty Miller, Resident
- Marcella Saathoff, Resident
- Joel Cue, Resident
- Paul Carangelo, Port of Corpus Christi Authority
- Greg Brubeck, Port of Corpus Christi Authority
- David Krams, Port of Corpus Christi Authority
- Leah Olivarri, Olivarri & Associates, Inc.
- Kelly Billington, Olivarri & Associates, Inc.
- Frank Garcia, US Army Corps of Engineers
- Howard Gillespie, Resident
- April Gillespie, Resident
- Katie Hatch, Resident
- Skip Hatch, Resident
- Jaime Adame, AGM
- Doug Defratus, Medicine Shop
- Jay Masterson, Masterson Suites & Studios
- Keith Reignier, Bahia Marina
- Carol Reignier, Bahia Marina
- Ray Allen, Coastal Bend Bays & Estuaries Program
- Vicki Allen, Corpus Christi Resident
- Pat Hunt, Coastal Bend Guides Association
- Berry Rowland, Council IOTB
- Janice Arnsdorff, Index
- Dick Endman, Resident

The meeting began a few minutes after 6:00 P.M. with Paul Carangelo from the Port of Corpus Christi Authority (Port) greeting attendees and expressing his thanks for their attendance. Mr. Carangelo introduced other Port staff Greg Brubeck and David Krams and Frank Garcia from the US Army Corps of Engineers.

Mr. Carangelo reviewed the agenda for the evening and informed the audience that the Port and the Coastal Bend Bays and Estuaries Program (CBBEP) had joined forces to make the identification of beneficial uses a joint effort.

Mr. Carangelo asked Ray Allen of the CBBEP to speak briefly on the joint venture. Mr. Allen said that the CBBEP and the Port had the same objective and that it was only

Summary of Beneficial Uses Public Forums
Corpus Christi Ship Channel - Channel Improvement Project

natural for them to join together. The joint venture project has a little bit larger scope, but it will lead to an outcome that will be applicable to both CBBEP and the Port.

Mr. Carangelo then asked David Krams to describe the existing system and explain the proposed improvements. Mr. Krams said most people in the audience had a pretty good idea of the current system and so reviewed the system very quickly. The Entrance Channel is 47' deep and 700' wide. The Corpus Christi Ship Channel is 45' deep and 400' wide. La Quinta Channel is 45' deep and 400' wide, and the Corpus Christi Inner Harbor is 45' deep.

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Mr. Krams then asked if there were any questions up to this point. One individual asked what the reasons were for deepening and widening the channel. Mr. Krams responded that there were several reasons, including better accommodation of existing fleet and large vessels, increasing of shipping efficiency, and enhancement of navigation safety.

Greg Brubeck added that the process is expensive. It's about a \$6.5 million three-year project. They want to study all alternatives. If there is a successful feasibility study, they will have the option to construct in stages, a little at a time.

Another individual asked if the ships going into the La Quinta Channel were getting larger.

Mr. Krams said La Quinta Channel is only going to be 300' wide. There are no plans to widen La Quinta Channel; deepening was under study. There will not be passing traffic because it was designed for one-way traffic.

Summary of Beneficial Uses Public Forums
Corpus Christi Ship Channel - Channel Improvement Project

One gentleman asked during the simulation studies, how much would this [deepening and widening the channel] increase the storm surge? Mr. Carangelo said there are a number of environmental and engineering studies that are ongoing. One of those is the Hydrodynamic and Salinity Modeling Study. That study will investigate the change in tidal amplitude, if any, or the change in circulation, if any, as a result of changing the dimensions of the channel.

Mr. Krams added they hope to be finished with that study by the end of this year. The gentleman then asked if the results would be published. Mr. Carangelo replied that they would be published because it was important not only to coastal residents, but also to understanding the effects to the natural environment. There are a lot of shallow flats all around the area and they are both used by endangered species and valuable habitats like marshes. If the water came up too high and flooded those flats permanently so the animals could not get to them, then that could be a negative. Similarly, it may either increase one area for more growth of wetland plants which could be positive, or may cause light not to penetrate deep enough possibly causing problems for seagrass.

Mr. Carangelo went on to say the ship simulation study is a computer program based on real information from the channel – the currents, the winds – and real ships. These simulations are analogous to those simulations performed by the US Navy and the US Air Force and commercial airlines. The modelers actually hire our own pilots, from Corpus Christi, to run the simulations in Vicksburg, Mississippi using different vessels, different kinds of engines, different kinds of equipment on those vessels, and under different current and wind conditions. It is a very good simulation of exactly what these pilots will be doing.

Someone asked if the deepening and widening was being done to relieve the problem of Harbor Bridge? Mr. Krams said in the Reconnaissance Study it was found that the deepening is to better utilize the existing fleet. The Port gains that much more benefits, transportation cost savings, from those vessels. If a vessel is coming in with more cargo, it is going to be drafting out deeper and the top of the ship will still be just a bit shorter than the bridge. The height of the bridge is a separate issue that can affect other marine traffic.

Ms. Olivarri asked Mr. Krams to explain about lightering. Mr. Krams explained the process as transferring of oil off very large ships unloaded offshore to smaller ships, which transfer it to the docks. He said they could potentially reduce the amount of times a vessel would lighter and the number of vessel trips in and out of the channel.

Someone asked if they had studied the proposed increase in shipping traffic. Mr. Krams said the ship simulation study would take the largest, regularly used vessel. Mr. Carangelo added that there will also be a study looking at the effect of all environmental conditions as well as ship traffic on shoreline erosion. That will look at what nature is doing with water level and tide and what kind of energy it is putting on these shorelines,

Summary of Beneficial Uses Public Forums
Corpus Christi Ship Channel - Channel Improvement Project

looking at sea level rise and any kind of natural phenomenon as well as the energy that comes from ships as they pass by. They will be accounting for ships passage and the number. If, for example, only 25% of the erosion is coming from the ships, then we can look at that and say any additional ships would generate that much more incremental erosion.

A woman asked if they would take into consideration anything that might be added in the future, like the jetties on Berry Island, when they do the studies in La Quinta Channel. Mr. Krams said they can either put it in the model or leave it out, but they were not going to study the effects of the jetty if it is there and if it is not there. Mr. Carangelo said because of the cost of running model simulations, you try to change model scenarios as little as possible, trying to reasonably model the ones you want to look at and these are the ones with the best indications that they will become a reality. The woman then asked whose decision it was to include that in the model. Mr. Carangelo said that determination has not yet been made and that the Port and the Corps would ultimately make that decision. She noted that the permit has been approved. Mr. Brubeck said they were aware of that approval and stated it seems like the audience wants to see this included in the model. Mr. Krams suggested that they, as a group, write a letter to the Port requesting that action, so it could be presented to the Corps and the Work Group to include that.

Mr. Carangelo and Mr. Krams asked that they move along through the rest of the presentation then continue with comments and suggestions. He said because of the economics of this project, there would probably not be feasible to construct a beneficial uses project in the Upper Laguna Madre. However, it does not mean that the CBBEP won't use that suggestion if an opportunity in the Upper Laguna Madre exists. This isn't just for the Port. There will be an overall inventory prepared of these ideas that will be used in future projects as well.

Mr. Carangelo then turned the meeting over to Leah Olivarri. Ms. Olivarri noted that the focus is on the beneficial uses of dredged material, but there were a few people who had comments earlier that didn't get to speak.

One gentleman asked if, after construction, would the existing permits have to be re-permitted or reassessed. Mr. Frank Garcia said they try and address what is projected for the next 50 years. They put in all concerns as best as they can forecast, and once the study is done, then they can not go back and remodel. Mr. Carangelo added there is a Work Group called the Cumulative Impacts Assessment Work Group. It is very difficult to try to identify which projects should be identified in a cumulative impacts assessment. The Work Group had to come up with a series of criteria to count or manage those projects. When you have a special type of project, or one you are not sure will ever happen, there is no way those can be quantified.

Ms. Olivarri noted that it would be very important for interested parties to fill out their comment forms or write letters so they can get back in touch to say why they did or did

Summary of Beneficial Uses Public Forums
Corpus Christi Ship Channel - Channel Improvement Project

not include things like the jetty at Berry Island. Mr. Carangelo added that part of their mission is to provide feedback to comments.

A gentleman asked if anyone had identified how many permits have been approved in the study area. Mr. Garcia said that if it was necessary, they could get that information and those permits would be looked at to determine if these are reasonably foreseeable future projects. Those that were determined to be reasonably foreseeable future projects would be considered as being added into the Cumulative Impact Study.

Someone else asked if a permit has lapsed and they reapply for the permit and it interferes with the CIP, would the Corps accept that reapplication. Mr. Garcia said that they probably would not accept that permit as is. It would probably need to be modified.

David Dear, representing Citgo, said they are very excited about the renovations that the Port and Corps are taking to handle this dredged material. He said the cost of the dredging is shared by the Port and the Corps and asked how the Port is going to recoup its cost. He also suggested that the Port talk to its customers to see if it will actually reduce costs. Mr. Brubeck said this is a very expensive project, roughly \$150 million. They cannot afford to do it all at once. This project will be done in stages, reinvesting their profits back into the community. He also said they might be able to get the federal government to contribute to this project.

Mr. Carangelo added that the Port is soliciting a partner for the container terminal facility. The partners will be significantly contributing to the container terminal project. There are lots of ways money comes in; it is not just strictly out of current users of the channels.

One gentleman asked for clarification on the fact that the Port would not build the container terminal without commitment from these companies. Mr. Brubeck said this was a separate study. They have received several letters of interest. In the next couple of months, they hope to have partnership with one of them. In the next year, a market analysis will be done. All this has to be done before investments are made.

A woman noted that one possible beneficial use would be shoreline stabilization around the bay.

Mr. Brubeck noted that we held a similar meeting in Corpus Christi at the University just two days ago, the turnout here was much greater than in Corpus Christi, and there were several suggestions given there.

A woman asked about the extra salinity from deepening and widening. Mr. Carangelo said that was being studied by the Hydrodynamic and Salinity Modeling Work Group and noted that a lot of times we actually get our fresh (or less saline) water from the sea.

Summary of Beneficial Uses Public Forums
Corpus Christi Ship Channel - Channel Improvement Project

A man suggested a series of bars between the ship channel and the existing flats to cut down on wake and waves. He said when the ships come through, they create a wave that hits against the side of the island and are large enough to flip a John Boat. He suggested that if there were a series of underwater reefs to break that wave action up, maybe that would reduce the wave energy. Mr. Carangelo said that is a concept that could be used. The same concept could also possibly be used around Dagger Island.

Another man suggested that would not work because the waves would just push those bars flat again and the waves would come through.

Someone suggested that the dredged material be used as road base for Joe Fulton International Trade Corridor and also as renourishment of North Beach.

A gentleman asked in reference to item S-20 on Ingleside On The Bay, what type of erosion protection did the Port have in mind along Bayshore Drive. In three years, there may not be a Bayshore Drive. Ms. Olivarri responded that this list was generated from information that the CBBEP got from different people including Ingleside On The Bay residents and other sources, and were not necessarily from the Port. He suggested that they build bulkheads around Bayshore Drive.

Ms. Olivarri added that there are funds available to communities for erosion through the State that have nothing to do with the Port of Corpus Christi. She suggested they think about applying for the funds and because there is a matching requirement, passing a bond or something to address that issue.

An audience member suggested that there needs to be a series of "geo-tubes" parallel along Bayshore Drive to break up the water, similar to what they did at the Mine Warfare Property.

One gentleman suggested a driver's education class for the pilots. He noted that a lot of these problems (shoreline erosion) are due to speeding pilots.

Another gentleman suggested enhancing the La Quinta area with seagrass.

Ms. Olivarri said one suggestion that came out of the meeting in Corpus Christi was to extend the La Quinta Island to protect the channel and maybe increase the berm area there to also help protect that side of the Live Oak Peninsula.

A gentleman said that might not be a bad idea. It could also help save on maintenance dredging.

A gentleman said there is an erosion problem, and he is not an expert. He is afraid that the Port may come back and say they gave residents a chance to say what they wanted and because they did not know what all they could do, and thus they did not get what

Summary of Beneficial Uses Public Forums
Corpus Christi Ship Channel - Channel Improvement Project

they needed. Mr. Carangelo said the whole idea here is concepts. If the Port can incorporate their needs into this project, they will do everything they reasonably can to incorporate those. Mr. Krams noted that this meeting is focusing on Beneficial Uses. There is a Work Group dedicated to shoreline erosion. One of the areas they are looking at closely is Ingleside On The Bay.

A woman said that when their children or grandchildren are out playing in the water right outside the building and they see a ship coming into Corpus Christi, they have to get the children far out of the water because of the undertow. If there is a ship coming into La Quinta, they nearly drown. She said the erosion is tremendous.

A man suggested that they dredge a new channel to the west of the existing dredged placement island along La Quinta the terminal site on La Quinta Channel. Mr. Krams said that it was not economically feasible to do that. It would more than double the cost of the project.

A gentleman asked for clarification that widening the channel would allow for ships to pass one another. Mr. Krams said yes and that one of the benefits to widening may reduce the propagation of waves that hit this area.

A woman said that when the boats cross now at the point out in front of Ingleside On The Bay, it causes huge waves. Mr. Krams said that the ships are waiting to cross at that point, because that is their first opportunity and they probably want to take advantage of that. Widening the entire channel would allow them to pass at many other places.

A man asked what the chance was of slowing the ships down. Mr. Krams said that they would probably start that discussion tomorrow. He noted that he was distressed to learn this evening that someone called the Harbor Master about this and said they were laughed at. There may be a very simple solution to this by giving notice to the pilots. They will begin to address the problem of ship speed immediately.

Mr. Brubeck added that with the new technology that is coming out now, they may have better control and by widening the reach across the bay, it would help safety and reduce speed.

A woman asked if there was a control to determine where those ships pass. Mr. Brubeck said that because of meetings like this, and listening to people's concerns, they will go back and focus on operational things they can do to alleviate these problems.

A woman asked for clarification of improvements to La Quinta Channel. Mr. Brubeck said that the Reconnaissance Study showed that there was no benefit to deepening or widening that channel. The Port will do another study to confirm that deepening is not advantageous, but the major planned improvement is extension of this channel.

Summary of Beneficial Uses Public Forums
Corpus Christi Ship Channel - Channel Improvement Project

A woman brought up the Wildlife Refuge in Ingleside Cove and voiced her concern for seagrass and habitat protection in that area. Mr. Carangelo noted that there had been a beneficial use suggestion previously identified for increasing seagrass and marsh in that area.

A gentleman noted that there are a lot of people that use that cove for their boats during big storms and hurricanes. They would miss that if it were filled up. Mr. Carangelo said that the purpose of meeting like this is to identify possible beneficial uses sites and to identify possible conflicts.

A man asked if any other Ports in the US have done projects like this recently. Mr. Carangelo said that yes, Houston has done this and they are currently in the construction phase and will create over 4200 acres of wetland habitat using dredged material over the next 50 years. They will create over 230 million cubic yards of dredged material over the life of the project. There were other major port projects in Savannah, Norfolk, and Baltimore, and also smaller projects have been done successfully.

A woman suggested there are always new Port faces in meetings like these and wondered if current projects had available resources to see what was done in the past. Mr. Carangelo said that he has been here since 1973 and was one of the first people in Texas to use dredged material in environmental uses. The Port is trying to take the expertise of people like himself and others and draw on those lessons learned in the past. Ms. Olivarri noted that the Port's relationship with the CBBEP will also help in this area.

The woman noted that she hoped this information would be available to the City of Corpus Christi because they seemed to not know anything about this project at their meeting. She asked that a database be created to make this available to everyone for future projects.

Ms. Olivarri mentioned that 1500 newsletters were mailed out about this project, of which 40-50 people at the City received those same newsletters.

Mr. Carangelo urged her and other people like her to participate with the work of the CBBEP.

She also asked about a buyout plan as a buffer zone. Mr. Carangelo said that no, there is not a buyout plan.

A gentleman asked if there ever was or is currently discussion of buying, using, or acquiring the Berry Island property. Mr. Brubeck said that the island was created when the La Quinta Channel was dug. It belonged to Larry Baker. The Port, for a number of years, had the right to deposit dredged material on the island. That is why the island has gotten about twice as big as it was when the channel was dug. Right after they finished Naval Station Ingleside, the government put a lot of dredged material on the island. At

Summary of Beneficial Uses Public Forums
Corpus Christi Ship Channel - Channel Improvement Project

that point, Larry Baker asked the Port to terminate their right to deposit dredged material on the island and they agreed. The island was eventually bought by Mr. Berry. It is a possibility that maybe the Port needs to buy the island. Several years ago, the Port had an opportunity to buy the island, but they have not had discussions about that since, to his knowledge.

We received four written comments before we left Ingleside On The Bay. They are as follows.

Jay Masterson requested to receive the PowerPoint presentation via e-mail and noted that she was willing to help with outreach in the Aransas Pass/Rockport area.

Wayne Jewell noted erosion control on Bayshore Drive and the speed of ships at Ingleside on the Bay.

Howard Gillespie requested a copy of PowerPoint Presentation via e-mail and suggested the inclusion of Berry Island jetty on the simulation model.

Karen Schniepp requested a copy of PowerPoint Presentation via e-mail and suggested the inclusion of Berry Island jetty on the simulation model as well as bulkhead on Ingleside Cove area in the hydro model.

We received one written comment by mail from Keith & Carol Regnier of Bahia Marina, Ingleside On The Bay. They proposed that the dredged material be used as protection to prevent the deep-water basin [La Quinta] from silting. They also proposed dredged material be used for the creation of u-shaped coves, like Ingleside Cove, to plant seagrass and create wildlife habitat. They noted that these coves should be for drift fishing only, and that nothing touches the grass (no wading, no anchoring), i.e., nurseries. They noted these uses of the dredged material would be beneficial for wildlife and would be economical for the Port because of their proximity to the proposed dredged area. They also noted that "DMPA's should NEVER be used for industrial use!"

Summary of Beneficial Uses Meeting
University of Texas – Marine Sciences Institute
September 15, 2000

Friday, September 15, 2000
Port Aransas
UTMSI Auditorium

Attendees who signed the sign in sheet were:

- Dan Roper, Student, TAMU-CC
- Glenn Martin, Mayor, City of Port Aransas
- Michael Smith, UTMSI
- Dr. Paul Montagna, UTMSI
- Cynthia Faulk, UTMSI
- Kim Halbrook, TGLO
- John Keller, UTMSI
- Dr. Liz Smith, TAMU-CC
- Meris Sims, TAMU-CC
- Tom Brooks, City Manager, City of Port Aransas
- Wayne Gardner, UTMSI
- Heather Alexander, UTMSI
- Carolyn Chancellor, Airport & Channel Corp.
- Cameron Pratt, UTMSI
- Jack Arnold, UTMSI
- Scott Holt, UTMSI

There were other attendees who did not sign in.

Representatives from the Port, CBBEP, and Olivarri & Associates, Inc. were:

- David Krams, Port of Corpus Christi
- Paul Carangelo, Port of Corpus Christi
- Leo Trevino, CBBEP
- Tim Landers, EPA
- Leah Olivarri, Olivarri & Associates
- Kelly Billington, Olivarri & Associates

The meeting began at 3:45 PM with Dr. Paul Montagna greeting attendees and introducing Paul Carangelo. Dr. Montagna noted Mr. Carangelo's work for UTMSI between 1973 and 1979 and that he has performed a lot of work on seagrasses and vegetated habitats.

Mr. Carangelo said this meeting provided a unique opportunity for the Port of Corpus Christi (Port) and the Coastal Bend Bays and Estuaries Program (CBBEP). Because the Port has the Channel Improvement Project, they are looking at the Beneficial Uses of Dredged Material. The CBBEP, in their Estuary plan, identified maximizing Beneficial Uses of Dredged Material. The CBBEP was going to start an outreach program to begin contacting people about their ideas and potential projects. The Port was going to start an outreach program similarly to get ideas and comments from the public in regard to the Ship Channel Project. So, instead of having two programs trying to reach the same audience, the Port and CBBEP joined together to collectively solicit ideas. The Port is a contractor to the CBBEP to obtain the information. Once that information is obtained, Olivarri & Associates, Inc. will prepare a report that will be used as needed by the Port's Channel Improvement Project and the CBBEP.

Mr. Carangelo introduced David Krams (Port) and Leah Olivarri and Kelly Billington (Olivarri & Associates, Inc.). He asked Mr. Krams to talk about the existing system of the ship channel and the proposed improvements to the ship channel.

Summary of Beneficial Uses Meeting
University of Texas – Marine Sciences Institute
September 15, 2000

Mr. Krams said the existing system is about 38 nautical miles in length. The Entrance Channel is 47' deep and 700' wide. The main Ship Channel is 45' deep and 400' wide. La Quinta Channel is 45' deep and 400' wide, and the Corpus Christi Inner Harbor is 45' deep.

Mr. Krams noted that the proposed Channel Improvement Project is a federal project, with the U.S. Army Corps of Engineers (Corps) as the lead and the Port as the local sponsor. The project began with the local sponsor's decision to pursue the project. It was then sent to Congress for approval to investigate. After Congressional approval, the first part of a two-phase planning process began with a Reconnaissance Study by the Corps. That study was completed in 1994. The second phase, Feasibility Study and Environmental Impact Statement, is currently underway. It began with a cost sharing agreement signed in June 1999. If the results of the Feasibility Study find there is no national benefit or interest, then the project is dead. On the other hand, if the results show there is national interest or benefit, then it is sent to Congress for authorization and funding, then to engineering and design, construction, and finally operation and maintenance. The Feasibility Study is expected to be completed within three years.

Mr. Krams said there were three initial alternatives to the proposed Channel Improvement Project. The first is widening the channel across the Corpus Christi Bay and adding barge shelves. The ship simulation study has been complete. It has been determined that if the channel is deepened, the optimum is widening to 530-feet. The second alternative is deepening the entire ship channel system to 50- or 52-feet. This will be a phased project, meaning the Port may be authorized to deepen to 52-feet, but may only deepen to 50-feet. The third alternative is to extend the La Quinta Ship Channel and adding a turning basin for the proposed container terminal facility.

Mr. Carangelo thanked Mr. Krams and introduced Leo Trevino (CBBEP) and asked him to speak about the coordination effort between the Port and CBBEP. Mr. Trevino said their participation in this process is to develop a list of beneficial uses of dredged material that may result from this and other projects in the estuary area. He thanked attendees for their participation in this process. He also introduced Tim Landers (USEPA) who is the sponsor for their part of this project.

Mr. Carangelo stated that this is an open process. The Port and CBBEP are interested in public comment and input and have sought and continue to urge early participation. There has been intensive state and federal regulatory agency involvement since 1999. There have been a number of workgroups set up for the purpose of assisting the Port with developing the Environmental Impact Statement (EIS) and the Dredged Material Management Plan (DMMP). There have been a number of feasibility study public meetings and updates, and Beneficial Uses Public Forums. This is the third such Beneficial Use public meeting of the five or more planned. Previous meetings were held at TAMU-CC Blucher Institute and Ingleside On The Bay. Others will be held in the Rockport and Kingsville areas.

Summary of Beneficial Uses Meeting
University of Texas – Marine Sciences Institute
September 15, 2000

Mr. Carangelo identified the existing Dredge Material Placement Areas (DMPAs). Some DMPAs are located along both sides of the main channel in the open water of the Corpus Christi Bay and on the islands just south of the main channel between Live Oak Peninsula and Port Aransas. There are also DMPAs in the Inner Harbor Reach along both sides of the Inner Harbor.

Mr. Carangelo explained that seen from a global perspective, the beneficial uses of dredged material include engineered, agricultural, and environmental applications. Examples of engineered uses include land creation and land development uses such as levees, landfill capping, and strip mine reclamation, as well as dredged material reuse like construction quality materials, manufactured soils (building products), and commercial and industrial facilities. Examples of agricultural uses of dredged material include aquaculture use of confined placement sites and topsoil.

The most popularly recognized of the three types of beneficial uses of dredged materials are environmental uses. Examples of environmental uses include marsh wetland creation and restoration, aquatic and marine habitat enhancement (reef structures, seagrass beds, unvegetated shallow water habitat, and emergent mudflats habitat), gulf beach and bay beach nourishment, terrestrial habitats (rookery islands and recreational destinations and parks), shoreline erosion control, near shore sediment management (underwater berms/capping), and thin layering (ecological stimulation).

Mr. Carangelo turned the meeting over to Leah Olivarri. She said that the purpose of the meeting was to solicit ideas and perceptions on Beneficial Uses of Dredged Materials. The Port's focus is on the Channel Improvement Project and the materials that can be used from that project. The CBBEP's focus is the entire estuary area. Ms. Olivarri noted handouts that included a map and corresponding list of suggested beneficial uses of dredged material that have been compiled from surveys by the CBBEP and previous public meetings held by the Port and CBBEP. Paul Carangelo had also added some others based on his knowledge and experience.

Tom Brooks asked if this list was directed more towards dredged material resulting from the Channel Improvement Project or from projects across the board. Ms. Olivarri said if the deepening and widening does occur, those materials would probably be used for beneficial uses in the main ship channel area. However, this process of generating a list of beneficial uses encompasses the entire estuary area for the CBBEP.

Mr. Brooks asked how one got on the list to become a recipient of dredged material. Mr. Krams said as far as federal dredging goes, you have to talk to the Corps. Let them know what you are interested in and ask if you can become a local sponsor for a particular project. Currently, the City of Corpus Christi is interested in dredged material for Corpus Christi Beach. The Corps has already identified that area as a potential placement site for dredged material. The City is meeting with the Corps to coordinate that effort. Mr. Carangelo agreed and added that one should get their ideas out there and become committed to being a local sponsor. Mr. Trevino added that the Corps plans their dredging activities far in advance, and it is a good idea to get those commitments in early

Summary of Beneficial Uses Meeting
University of Texas – Marine Sciences Institute
September 15, 2000

to the Corps. Mr. Krams noted the Corps holds an annual dredging conference where they outline their projects for the next 2 years. Ms. Olivarri added that the reason the CBBEP is doing this is so they can send this list of ideas back to the Corps, and hopefully they can then use it in their process.

Someone asked if there is any vision of how you will decide on which ideas are good ones and which are not. Mr. Carangelo said that would not be part of their particular effort but there are methods of doing cost estimates and other tests to determine the success of a project.

Dr. Montagna said this product should be reviewed to take a big picture and see what ideas are good ones and which conflict with others.

Someone asked if anyone has looked at how building islands like Pelican Island affect the flow of water in and out of the Corpus Christi Bay. Mr. Carangelo said they have performed a Hydrodynamic and Salinity Model of the existing system. The Texas Water Development Board has already done some work on this subject. The Channel Improvement Project will perform Hydrodynamic and Salinity Modeling of the existing footprint. In addition, they will model the footprint of the proposed dredged material management alternatives including beneficial uses of dredged material.

Someone said Mr. Carangelo spoke about the possibility of capping contaminated areas with new dredged material. He asked if all the material in the bottom of the ship channel was uncontaminated. Mr. Carangelo said this is a sensitive area because some people think "contaminated" is anything that has gone above what God has done. Others think it is only when you get ecological impairment from man-caused pollution. The ship channel has been intensively evaluated. The Corps does routine sampling throughout the area. Historically, there has been a problem with contamination in the Inner Harbor. Some of that contamination has migrated out and ended up in Nueces Bay. By in large, the sediments in Corpus Christi Bay are in pretty good shape.

Kim Halbrook asked if there was any data on what types of material are available and in what quantities. Mr. Krams said in general, the reach across the upper bay is composed of very fine silts. The area out toward the entrance channel, the reach to Ingleside, and the La Quinta Channel is mostly silty sands. The area west of the Harbor Bridge also has good sands. There are potentially 25 million yards of new work material from the CCSC-CIP and about 3 million yards of maintenance material each year.

Carolyn Chancellor said they currently pay to have their channel (Piper Channel) dredged routinely and their placement area is getting full. She asked who was responsible for removing and disposing the material. Mr. Carangelo said it is their responsibility to dredge it, but they could make arrangements with the Port to place that material in another area. Greg Brubeck is the contact person at the Port for making those arrangements. He also stated they may want to contact the Corps about availability in their placement areas.

Summary of Beneficial Uses Meeting
University of Texas – Marine Sciences Institute
September 15, 2000

Dr. Smith asked how far away from the ship channel are they looking at to use the dredged material. Mr. Carangelo said that beyond two or two and one-half miles they have to use boosters, so that is the limit at this time.

Someone asked if there was a possibility that there are some contaminated areas that might be dredged during this project and if so, what is the plan for that material. Mr. Carangelo said if the question he was referring to “hot spots”, then they know where those hot spots should be – mostly in the Inner Harbor area. Sediments don’t change all that much unless there is a spill or midnight dumping. If unacceptable levels of contamination are found, it could be sequestered in a designated area and will be capped with uncontaminated material.

Dr. Montagna said there should be a filter for these ideas to sort out the good ones from the bad ones. He suggested considering the “First, do no harm” theory and suggested placing dredged material on the beach as nourishment. He said because the concept of beneficial use is not always beneficial, we should consider the ideas only if there is a net gain. For example, storm protection and beach nourishment both have a clear net gain. He suggested ranking these ideas. Ms. Olivarri said the project’s goal is to solicit beneficial use ideas from the public. After the ideas are compiled, the scientific community needs to assist in the evaluation of what are good ideas and what are not, and then go back to the public to tell them why they believe this. But that is outside the scope of this project. It may be something that the CBBEP needs to take on later. She asked Dr. Montagna who he would suggest be the people that review this list. Dr. Montagna said the Scientific and Technical Advisory Committee (STAC) would be a good place to start.

Ms. Halbrook said a list like this is very important for brainstorming.

Mr. Trevino said the CBBEP has been recognized by the ICT (Interagency Coordination Team) for the Upper Laguna Madre, and they are open to listening to the CBBEP about suggested beneficial uses. CBBEP will also make this information available to Texas Parks & Wildlife.

Someone said it is very important to develop a mechanism to determine what is a “true” beneficial use – which are detrimental, which are neutral.

Someone asked if all the material could fit in the existing containment areas. Mr. Krams said during the Reconnaissance Phase, it was determined that all possible dredged material from the CCSC-CIP could be placed in existing placement areas used by the existing 45-foot project.

Someone asked if a 55-foot depth was necessary for container ships. Mr. Carangelo said there have been many analyses on the draft needs for the container fleet. Some ships in the container fleet will be drafting the 55-foot depths. However, most ships will be drafting much less than that. There is a large fleet that can traverse even the existing channel depth.

Summary of Beneficial Uses Meeting
University of Texas – Marine Sciences Institute
September 15, 2000

Someone asked if the potential impact of a storm coming through the channel has been evaluated. Mr. Krams said there is a storm surge analysis that will be performed.

Several attendees commented that their ideas for beneficial uses were already included in the list.

One written comment was received at the conclusion of the meeting. Kim Halbrook, Texas GLO, wrote "I am glad that beneficial uses of dredge material is an option these days. The fact that so many meetings are occurring in our area is a sign that we are moving in the right direction. Great presentation as well as information."

Summary of Beneficial Uses Meeting
Kingsville
October 10, 2000

Tuesday, October 10, 2000
Kingsville Chamber of Commerce

The Port of Corpus Christi Authority (Port) and the Coastal Bend Bays & Estuaries Program (CBBEP) held a public meeting in Kingsville on Tuesday, October 10, 2000.

Attendees were:

- Butch Thompson, King Ranch
- Frank Salinas, Kingsville Resident

Port and CBBEP representatives who attended were:

- Paul Carangelo, Port
- David Krams, Port
- Leo Trevino, CBBEP
- Leah Olivarri, Olivarri & Assoc.
- Kelly Billington, Olivarri & Assoc.

The presentation began with Paul Carangelo thanking Mr. Thompson and Mr. Salinas for attending. He introduced David Krams (Port), Leo Trevino (CBBEP), Leah Olivarri (Olivarri & Associates, Inc.), and Kelly Billington (Olivarri & Associates, Inc.) He asked Mr. Trevino to talk about the CBBEP.

Mr. Trevino said the CBBEP is a non-profit organization. Their goals and objectives are to protect the natural resources and ensure a high quality of life in a 12 county area (McMullen, Live Oak, Bee, Refugio, Aransas, Duval, Jim Wells, San Patricio, Nueces, Kleberg, Kenedy, and Brooks Counties.) The CBBEP is a relatively new organization, as it is only a couple of years old. Prior to the CBBEP being organized, a group called the Corpus Christi National Estuary spent five years studying the area and determining the areas needs, resources, and endangered areas. From that work, the CBBEP Base Plan was created. The Base Plan is a blueprint of sorts, in that it gives ideas about what resources are available and how they might be managed.

The purpose of this meeting is to focus on the beneficial uses of dredged material. There are many different projects in our area that require routine maintenance dredging. It is the CBBEP's goal to ensure that that material is used in the most beneficial way possible. The Intercoastal Waterway (ICWW) is dredged periodically and some of that material may be used beneficially in this area.

Mr. Carangelo said the Port is in the process of studying improvements for the Corpus Christi Ship Channel. In that project, they are trying to identify potential beneficial uses of dredged material associated with that project. The CBBEP has identified maximizing beneficial uses of dredged material in their Estuary plan. The CBBEP was going to start an outreach program to begin contacting people about their ideas for dredged material and potential projects. Similarly, the Port was going to start an outreach program to get ideas and comments from the public in regard to the Ship Channel Project. So, instead of having two programs trying to reach the same audience, the Port and CBBEP joined together to collectively solicit ideas.

Summary of Beneficial Uses Meeting
Kingsville
October 10, 2000

The Port is a contractor to the CBBEP to obtain the information. Once that information is obtained, Olivarri & Associates, Inc. will prepare a report that will be used as needed by the Port's Channel Improvement Project and the CBBEP.

This meeting is one in a series of five meetings on the beneficial uses of dredged material throughout the area. Previous meetings have been held at the Blucher Institute at Texas A&M University in Corpus Christi, Ingleside On The Bay, and The University of Texas Marine Sciences Institute in Port Aransas. Another meeting will be held tomorrow night in Rockport.

Mr. Carangelo asked Mr. Krams to speak about the existing system of the ship channel and the proposed improvements to the ship channel. Mr. Krams said the existing system is about 38 nautical miles in length. The Entrance Channel is 47' deep and 700' wide. The main Ship Channel is 45' deep and 400' wide. La Quinta Channel is 45' deep and 400' wide, and the Corpus Christi Inner Harbor is 45' deep.

Mr. Krams noted that the proposed Channel Improvement Project is a federal project, with the U.S. Army Corps of Engineers (Corps) as the lead and the Port as the local sponsor. The project began with the local sponsor's decision to pursue the project. It was then sent to Congress for approval to investigate. After Congressional approval, the first part of a two-phase planning process began with a Reconnaissance Study by the Corps. That study was completed in 1994. The second phase, Feasibility Study and Environmental Impact Statement, is currently underway. It began with a cost sharing agreement signed in June 1999. If the results of the Feasibility Study show there is national interest or benefit, then it is sent to Congress for authorization and funding, then to engineering and design, construction, and finally operation and maintenance. The Feasibility Study is expected to complete within three years.

Mr. Krams said there are three general improvements to the proposed Channel Improvement Project. The first is widening the channel across the Corpus Christi Bay and adding barge shelves. The second alternative is deepening the entire ship channel system to 50- or 52-feet. The third alternative is to extend the La Quinta Ship Channel and adding a turning basin for the proposed container terminal facility.

Mr. Carangelo stated that there is approximately 25-30 million cubic yards of new work material and 150 million cubic yards, over a 50-year period, of maintenance material that could result from this project. He identified the Port's existing Dredge Material Placement Areas (DPMAs.) Some are located along both sides of the main channel in the open water of the Corpus Christi Bay and on the islands just south of the main channel between Live Oak Peninsula and Port Aransas. There are also DMPAs in the Inner Harbor Reach along both sides of the Inner Harbor.

Mr. Carangelo explained that seen from a global perspective, the beneficial uses of dredged material include engineered, agricultural, and environmental applications. Examples of engineered uses include land creation and land development uses such as

Summary of Beneficial Uses Meeting
Kingsville
October 10, 2000

levees, landfill capping, and strip mine reclamation, as well as dredged material reuse like construction quality materials, manufactured soils (building products), and commercial and industrial facilities. Examples of agricultural uses of dredged material include aquaculture use in confined placement sites and topsoil.

The most popularly recognized of the three types of beneficial uses of dredged materials are environmental uses. Examples of environmental uses include marsh wetland creation and restoration, aquatic and marine habitat enhancement (reef structures, seagrass beds, unvegetated shallow water habitat, and emergent mudflats habitat), gulf beach and bay beach nourishment, terrestrial habitats (rookery islands and recreational destinations and parks), shoreline erosion control, near shore sediment management (underwater berms/capping), and thin layering (ecological stimulation.)

The Port and CBBEP are interested in public comment and input and have sought and continue to urge early participation. There has been intensive state and federal regulatory agency involvement since 1999. There have been a number of workgroups set up for the purpose of assisting the Port with developing the Environmental Impact Statement (EIS) and the Dredged Material Management Plan (DMMP.) There have been a number of feasibility study public meetings and updates, and Beneficial Uses Public Forums.

Mr. Carangelo turned the meeting over to Leah Olivarri. Ms. Olivarri said that the purpose of the meeting was to solicit ideas and perceptions on beneficial uses of dredged materials for the entire estuary area. These ideas will not automatically be done just because they are on a list, but it will prevent project managers from having to start a square one to decide what to do with the dredged material resulting from their project.

Verbal comments that were received were:

- Several years ago the Corps approached the King Ranch to acquire land from the ranch for the placement of dredged material resulting from the maintenance dredging of the ICWW. TPWD stepped in and took members of the King Ranch to a Port Lavaca ranch to show them the benefits of dredged material placement on land as a way to assist growth of vegetation and there was nothing there. The concern of the King Ranch is they still have not seen any agricultural benefits of dredged material placement in this area. If there were some documented positive agricultural uses that would apply, then worth pursuing.
- The rookery islands are great and would like to see more.
- Spray dredged material into the Laguna Madre to stimulate seagrass growth.
- Stabilize/restore waste lands on the mainland adjacent to the Lower Laguna Madre in Kenedy County.
- Beach nourishment or enhancement, shoreline protection near Loyola Beach. The residents near Kaufer Park are building a seawall to protect from erosion.

There were no written comments received at the meeting. Mr. Carangelo thanked the attendees and adjourned the meeting.

Summary of Beneficial Uses Meeting

Rockport
October 11, 2000

Wednesday, October 11, 2000
Rockport Community Building

The Port of Corpus Christi Authority (Port) and the Coastal Bend Bays & Estuaries Program (CBBEP) held a public meeting in Rockport on Wednesday, October 11, 2000.

Attendees were:

- Dan Gill
- Thomas Blazek
- Wilson McBride

Port and CBBEP representatives who attended were:

- Paul Carangelo, Port
- David Krams, Port
- Leo Trevino, CBBEP
- Leah Olivarri, Olivarri & Assoc.
- Kelly Billington, Olivarri & Assoc.

The presentation began with Paul Carangelo thanking Mr. Gill, Mr. Blazek, and Mr. McBride for attending. He introduced David Krams (Port), Leo Trevino (CBBEP), Leah Olivarri (Olivarri & Associates, Inc.), and Kelly Billington (Olivarri & Associates, Inc.) He asked Mr. Trevino to talk about the CBBEP.

Mr. Trevino said the CBBEP is a non-profit organization. Their goals and objectives are to protect the natural resources and ensure a high quality of life in a 12 county area (McMullen, Live Oak, Bee, Refugio, Aransas, Duval, Jim Wells, San Patricio, Nueces, Kleberg, Kenedy, and Brooks Counties.) The CBBEP is a relatively new organization, as it is only a couple of years old. Prior to the CBBEP being organized, a group called the Corpus Christi National Estuary spent five years studying the area and determining the areas needs, resources, and endangered areas. From that work, the Coastal Bend Bays Plan was created. The Coastal Bend Bays Plan is a blueprint of sorts, in that it gives ideas about what resources are available and how they might be managed.

The purpose of this meeting is to focus on the beneficial uses of dredged material. There are many different projects in our area that require routine maintenance dredging. It is the CBBEP's goal to ensure that that material is used in the most beneficial way possible. The Intercoastal Waterway (ICWW) is dredged periodically and some of that material may be used beneficially in this area.

Mr. Carangelo said the Port is in the process of studying improvements for the Corpus Christi Ship Channel. In that project, they are trying to identify potential beneficial uses of dredged material associated with that project. The CBBEP has identified maximizing beneficial uses of dredged material in their Estuary plan. The CBBEP was going to start an outreach program to begin contacting people about their ideas for dredged material and potential projects. Similarly, the Port was going to start an outreach program to get ideas and comments from the public in regard to the Ship Channel Project. So, instead of having two programs trying to reach the same audience, the Port and CBBEP joined

Summary of Beneficial Uses Meeting
Rockport
October 11, 2000

together to collectively solicit ideas. The Port is a contractor to the CBBEP to obtain the information. Once that information is obtained, Olivarri & Associates, Inc. will prepare a report that will be used as needed by the Port's Channel Improvement Project and the CBBEP.

This meeting is the last in a series of five meetings on the beneficial uses of dredged material throughout the area. Previous meetings have been held at the Blucher Institute at Texas A&M University in Corpus Christi, Ingleside On The Bay, The University of Texas Marine Sciences Institute in Port Aransas, and in Kingsville.

Mr. Carangelo asked Mr. Krams to speak about the existing system of the ship channel and the proposed improvements to the ship channel. Mr. Krams noted that the proposed Channel Improvement Project is a federal project, with the U.S. Army Corps of Engineers (Corps) as the lead and the Port as the local sponsor. The project began with the local sponsor's decision to pursue the project. It was then sent to Congress for approval to investigate. After Congressional approval, the first part of a two-phase planning process began with a Reconnaissance Study by the Corps. That study was completed in 1994.

The second phase, Feasibility Study and Environmental Impact Statement, is currently underway. It began with a cost sharing agreement signed in June 1999. If the results of the Feasibility Study show there is national interest or benefit, then it is sent to Congress for authorization and funding, then to engineering and design, construction, and finally operation and maintenance. The Feasibility Study is expected to complete within three years.

Mr. Krams said the existing system is about 38 nautical miles in length. The Entrance Channel is 47' deep and 700' wide. The main Ship Channel is 45' deep and 400' wide. La Quinta Channel is 45' deep and 400' wide, and the Corpus Christi Inner Harbor is 45' deep. There are three general improvements to the proposed Channel Improvement Project. The first is widening the channel across the Corpus Christi Bay and adding barge shelves to 530-feet. The second alternative is deepening the entire ship channel system to 50- or 52-feet. The third alternative is to extend the La Quinta Ship Channel and add a turning basin for the proposed container terminal facility. In March 1998, the Port purchased approximately 1,000 acres of adjacent to Reynolds Metals to build a container terminal. They are currently in negotiations with several large container companies and this alternative is contingent upon an agreement with one of these companies.

Mr. Carangelo said it is the goal of the Port to get the Channel Improvement Project into the Water Resources Development Act (WRDA) 2002. There are a lot of environmental studies going on and it is a very high intensity project.

Mr. Carangelo explained that seen from a global perspective, the beneficial uses of dredged material include engineered, agricultural, and environmental applications. Examples of engineered uses include land creation and land development uses such as

Summary of Beneficial Uses Meeting
Rockport
October 11, 2000

levees, landfill capping, and strip mine reclamation, as well as dredged material reuse like construction quality materials, manufactured soils (building products), and commercial and industrial facilities. Examples of agricultural uses of dredged material include aquaculture use in confined placement sites and topsoil.

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Mr. Carangelo turned the meeting over to Leah Olivarri. Ms. Olivarri said that the purpose of the meeting was to solicit ideas and perceptions on beneficial uses of dredged materials for the entire estuary area. These ideas will not automatically be done just because they are on a list, but it will prevent project managers from having to start a square one to decide what to do with the dredged material resulting from their project.

Verbal comments that were received were:

- Shoreline erosion and stabilization on Live Oak Peninsula, especially in Copano Bay.
- Renourish the public beach in Rockport.
- Enhance rookeries.
- Enhance nesting sites at Little Bay.
- Create wetlands as exchange for other wetlands on property adjacent to Hwy 35 (Cove Harbor) to expand Aransas Navigation District.

There were no written comments received at the meeting. Mr. Carangelo thanked the attendees and adjourned the meeting.

Summary of Public Meeting
December 6, 2000

The Port of Corpus Christi held a public meeting on Wednesday, December 6, 2000 at 6:00 P.M. in the Nueces Room of the Solomon P. Ortiz International Center, 402 Harbor Drive, in Corpus Christi. The purpose of this meeting was to update the public on the status of the Channel Improvement Project.

The meeting had two parts: the first was a comprehensive project overview presented by Paul Carangelo and David Krams, Port of Corpus Christi. The second was a presentation of the hydrodynamic and salinity modeling presented by Gary Powell, Texas Water Development Board, and a presentation of the beneficial uses/dredged material management (BU/DMM) options presented by Paul Carangelo, Port of Corpus Christi.

Attendees were:

- Kari Jecker, PBS&J
- Terry Roberts, Corps of Engineers
- Greg Brubeck, Port of Corpus Christi
- Leslie Enriquez, Ch. 28 Univision
- Nolan Rhodes, resident
- Alan Dinn, CC Water Shore
- Frank Brogan, Port of Corpus Christi
- Gary Powell, Texas Water Development Board
- Norma Urban, resident
- Daniel, Michael & Mary Birt, Boy Scout Troop 164
- Dana Cheney, JFK Group
- Dave Michaelson, Port of Corpus Christi
- Mark Fisher, Texas Natural Resource Conservation Commission
- Frank Beck, City of Corpus Christi
- Jim Shiner, Shiner, Moseley & Associates
- Peter Davidson, City of Corpus Christi Marina
- Bill Dodge, Chairman, Port Commission
- Paul Carangelo, Port of Corpus Christi
- Kelly Billington, Olivarri & Associates, Inc.
- Johnny French, US Fish & Wildlife
- Martin Arhelger, PBS&J
- Mike Jansky, Environmental Protection Agency
- David Dear, Citgo
- Mark Meunier, Kiewit
- Pat Veteto, RVE, Inc.
- Tom Rodino, Shiner, Moseley & Assoc.
- Barbara Dorf, Texas Parks & Wildlife, Coastal Fisheries
- J. Goldston, Goldston Engineering
- Jay Reining, Legal Department, City of Corpus Christi
- Jaime Adame, Kiewit/Gulf Marine
- Ray Newby, Texas General Land Office
- David Ondrias, City of Corpus Christi, Parks and Recreation
- John Phillips, International Resource Group
- Mark Avelar, Morehead, Dotts & Associates
- Leo Trevino, Coastal Bend Bays & Estuaries Program
- David Krams, Port of Corpus Christi
- Leah Olivarri, Olivarri & Associates, Inc.

Summary of Public Meeting
December 6, 2000

Mr. Bill Dodge, Chairman of the Port Commission, welcomed the public to the meeting. He said the purpose of the meeting is to update the public on the status of the Channel Improvement Project. This is the fourth meeting of this partnership with the US Army Corps of Engineers. This study is being done at a cost of \$6.9 million. The Port Commission and Staff have been very busy working on a number of fronts to diversify our Port to either remain competitive or grow competitive in a number of different non-traditional lines. The Channel Improvement Project effort is considered critical, not just to the current competitiveness, but also to the future competitiveness of the Port of Corpus Christi. Tonight's briefing continues a series of public briefings that have been held over the past few months, most recently in August 1999 and May 2000. Another public briefing is tentatively scheduled for February or March 2001. The Port plans to complete this project in time for authorization through WRDA (Water Resources Development Act) 2002.

Comprehensive Project Overview Summary

Mr. Paul Carangelo, Project Environmental Coordinator, thanked Mr. Dodge and reviewed the agenda. The meeting is set up in two parts. The first part is a comprehensive overview of all elements of the project followed by a question and answer session. Part two will be a more detailed briefing on Hydrodynamic and Salinity Modeling and Beneficial Uses/Dredged Material Management Options that are being considered for this project. Part two will be followed by another question and answer session. There are also comment forms available in the agenda packets.

Mr. Carangelo introduced Mr. David Krams, Senior Project Engineer. He reviewed the existing channel system. There are a total of 35 miles of deep draft navigation channel that begins in the Gulf of Mexico. From the Gulf through the Port Aransas jetties the channel is about 500-foot wide. There is an eight-mile reach from Port Aransas to La Quinta Junction near Ingleside. Across the Corpus Christi Bay, there is about 10 miles of 400-foot wide channel to the Harbor Bridge. Finally, there is eight-miles of Inner Harbor to the west of the bridge. The Port of Corpus Christi is currently authorized to 45-foot through all of those reaches.

Now, the Port of Corpus Christi is studying six alternatives. Originally, there were seventeen alternatives and those have been narrowed down to six. They are:

1. Widen existing 400-foot wide channel across Corpus Christi Bay between Ingleside and the Harbor Bridge to 530-feet;
2. Add barge lanes across Corpus Christi Bay;
3. Extend La Quinta Channel approximately 8,000-feet and add a turning basin at the proposed La Quinta Trade Gateway;
4. Deepen the entire Corpus Christi Ship Channel system to 52-feet, from the Gulf of Mexico to Viola Turning Basin, and widen across Corpus Christi Bay;
5. Deepen the entire Corpus Christi Ship Channel system to 50-feet, from the Gulf of Mexico to Viola Turning Basin, and widen across Corpus Christi Bay;
6. Deepen La Quinta Channel to 50-feet.

Summary of Public Meeting
December 6, 2000

This is a federal process, lead by the Corps. We are in the second phase of a two-phased planning process. The first phase was Reconnaissance, which was completed in 1994. This was a quick initiative study by the Corps to determine whether there was federal interest to proceed into a more detailed Feasibility Study. We are about midway through the Feasibility Study and are seeking authorization under WRDA (Water Resources Development Act) 2002.

There are various socio-economic, environmental, and engineering studies that are a part of this project. Economic studies that have been completed include:

- Channel Widening Benefits
- Channel Deepening Benefits
- Multi-port Analysis for La Quinta
- Tonnage Forecasts
- Vessel Fleet ForecastsCommodity Specific Vessel Forecasts

Deepening benefits are constrained by existing and projected trading ports and routes. Some users of our port will be coming from a port that has shallower water that we have. However, the draft analysis did show that we would be able to derive benefits from 75% of crude imports, 50% of petroleum imports, 40% of petroleum exports, and 8% of grain exports. We will also be evaluating how the deepening will affect offshore transfer of crude (lightering).

Widening benefits will be derived from reductions in delays caused by vessel meeting restrictions. There are various meeting restrictions that are self-imposed by the pilots including combined beam width restrictions and combined draft restrictions. Widening increases safety and reduces delays, which result in transportation cost savings.

Preliminary economic results show recommend deepening of the Corpus Christi Ship Channel to 50-feet or 52-feet with widening to 500-feet or 530-feet. Results for La Quinta show justification for the extension at its current depth of 45-feet although deepening of that reach may not be economically justified.

There have been many engineering and environmental studies going on. They include:

- Ship Simulation
- Geo-technical Analyses
- Dredge Quantities
- Shoaling Studies
- Cultural Resources
- Dredge Material Placement Plan
- Shoreline Erosion
- Hydrodynamic and Salinity Modeling
- Pipelines
- Living Resources Trends
- Species-Habitat Database
- Water and Sediment Quality

Summary of Public Meeting
December 6, 2000

- Beneficial Uses of Dredge Material
- Mitigation Alternatives
- Ballast Water Management
- Spill Control Strategies
- Cumulative Impacts
- Endangered Species
- Marine and Estuarine Resources

The Corps performed the ship simulation study. It is a real-time ship simulator. Actual Aransas and Corpus Christi Pilots participated in the study. The simulator modeled the entire reach of the channel, including channel meetings and turning basins. They also included a Barge Shelf Analysis with a video survey of existing practices to make recommendations on the addition of barge shelves. Recommendations included widening across the Corpus Christi Bay to 530-feet, widening across the Lower Bay Reach (La Quinta Junction to Port Aransas) to 530-feet, widen a portion of the entrance channel to 700-feet, and widen La Quinta extension to 400-feet.

Geo-technical analyses have been completed. A review of existing borings was completed to determine the types of materials that will be removed from the project areas. In general, the materials across Corpus Christi Bay and offshore are soft clay, stiff clay in the Inner Harbor and La Quinta extension, and sand in Lower Bay and La Quinta Channel. These material characteristics determine costs related to dredging, any suitable use for beneficial uses, Slope Stability Analysis, and suitability of use as levee and beneficial use construction.

The amount of material that will be available is dependent on the alternatives that are chosen. There are approximately:

- 5-6 million cubic yards of new material available from widening across Corpus Christi Bay;
- 300,000 cubic yards of new material available from creating barge shelves;
- 7 to 8 million cubic yards of new material available from the La Quinta extension;
- 10 to 15 million cubic yards of new material available from the extended entrance to the La Quinta Junction;
- 7 to 10 million cubic yards of new material available from deepening across Corpus Christi Bay;
- 3 to 5 million cubic yards of new material available from deepening the Inner Harbor; and
- 3 to 4 million cubic yards of new material available from deepening La Quinta Channel.

Total available new work material is between 5 and 50 million cubic yards.

A shoaling study was done to determine the amount of material that would need to be removed during the 50-year life of this project. Historical records were reviewed and sampling was done.

Summary of Public Meeting
December 6, 2000

Comprehensive Project Overview Questions & Answers

David Dear said in the Houston Ship Channel Project, they widened first and are now going back to add barge shelves. Citgo thinks widening the Channel and adding the barge shelves are most important and want to make sure that Corpus Christi does not make that same mistake, widening without barge shelves.

Paul Carangelo said the Port is taking note of the lessons learned from other projects. The barge shelves have always been a component of all the alternatives being considered. As a nuance of the way the study monies and processes go forward, the barge shelves are actually broken out as a separate component, but they are always there for every option. The Port is very focused on that component.

David Krams added that the current practice is to use the existing beacons that are 800-foot apart. The barges are already using this area as a barge shelf. The Port recognizes the importance of that.

David Dear asked where the funding comes from to relocate pipelines. Paul Carangelo said the relocation of pipelines is the subject of state and federal court action at this time. Current practice is that the owner of the pipeline is considered responsible for that relocation.

Peter Davidson said the DMPA areas south of the Ship Channel impede access to the Corpus Christi Marina, which causes problems and impedes navigation. Coming in from Port Aransas, boats have to be careful of draft to avoid the spoil areas coming into the marina. He asked if the Port had any evaluations of what could be done in the future.

Paul Carangelo said this was interesting to learn because the Port was not familiar with that problem. He thanked Mr. Davidson for bringing this problem to the Port's attention. It has been a standard practice throughout history for the Port to use those areas. At this time, they have not considered it a problem because they have not been aware of that until now. Oddly enough, some people have suggested the Port put dredge material there to renourish Sunfish Island. This may be a conflict of ideas. DMPA 17D typically receives very soft clay and consolidation in that area goes back very quickly to its original depths. David Krams added that depth is eight feet.

Greg Brubeck suggested the Port meet with the Marina as soon as possible to address these issues.

David Dear asked if the deepening would be all the way up the Inner Harbor. Paul Carangelo said, "Yes."

Greg Brubeck noted the Port's schedule for the recommended economic plan is early next year. Paul Carangelo added that is why the Port is planning another update meeting in the spring.

Summary of Public Meeting
December 6, 2000

Frank Brogan asked if there is any need to widen at the entrance channel, near Port Aransas. David Krams said there is a transition from 600-feet to 720-feet in that area. WES recommended they widen that area because the ships have to swing wide to make the turn.

David Ondrias said he was a newcomer to the area and will be working with the Water Shore Advisory Committee at the City. He just moved here from Houston and has some familiarity with the Houston Ship Channel Project. He was interested to know if, at the outset, there were private interests of smaller channels that wanted to become part of this project or if it has been an issue at all.

Paul Carangelo said that was a somewhat thorny issue. The short answer is no, but there have been some ideas tendered for other dredging and waterfront development projects. These ideas will be presented as part of the beneficial uses forum.

David Ondrias said he was asking this question from the standpoint of Federal, State, and City government working together for substantial improvements. He asked if the Port was still open to the idea of having a dedicated channel to the Marina.

Paul Carangelo asked that the Port and the City meet to discuss this. Greg Brubeck will be the point of contact to arrange this meeting. There have been some proposals tendered to the Port in the past, but have been complicated for this project to address because they have their own set of issues that have to be dealt with. Leah Olivarri noted that the Corps might have limitations on this issue, too.

Nolan Rhodes said if the Port does have the opportunity, they should look into this. It is also important to look into the fact that the harbor at the Marina was originally dug to 20-feet, in some places 26-feet. Today, it is 6- to 7-feet. At some point in the near future, the City has to go through the planning and environmental impacts of dredging that material. If it could be included in this project, even though it is not the Port's obligation, that is something to think about. Maybe the Port could solicit help from the City.

Paul Carangelo said his job is to get a project for the Port and he is going to very jealously guard that timeline. However, given the resources between the two parties, they can think through the best way to do that. Greg Brubeck added that the Port's focus is the authorized federal channel. These discussions are not part of that definition. That doesn't mean that we cannot talk about them, but realize that it is outside the scope of what the Port has embarked on.

Hydrodynamic and Salinity Modeling Summary

Gary Powell said there was a RACT (Regulatory Agency Coordination Team) meeting about a month ago where TWDB presented animations that showed the circulation and salinity patterns in this estuary under current conditions and then repeated that with wet and dry years with the maximum development plan for the Channel Improvement Project. The interesting thing about that is the difference between the current conditions and the proposed improvements is almost nothing. For example, the difference in tidal

Summary of Public Meeting
December 6, 2000

elevation was .06 - .08 feet. It does not appear that anything that has been proposed for this project would have any profound effects. The bay is very healthy. In fact, this system has tendency for very high salinity. The ship channel actually diminishes the stressful periods because it improves the ocean circulation.

The salinity effect is mostly already here. The improvements show a change of about two parts per thousand over the entire range of the bay. There were some areas that seemed to have enhanced recovery. One was the area of the Nueces Bay near the Nueces River Delta. There was a structure that was suggested be placed in that area in the maximum development plan to see what the impact would be. It turns out that salinities were greatly improved by "trapping" the fresh water fronts. They reside longer in the Nueces Bay before they are washed out to the Corpus Christi Bay.

There is continued modeling going on. We are still working to look at dredged material and three-dimensional stratification. The animations will be available on the TWDB website, www.twdb.state.tx.us.

Beneficial Uses/Dredged Material Management Options Summary

The presentation is attached to serve as summary notes.

Beneficial Uses/Dredged Material Management Options Questions & Answers

Jay Reining asked if the Port was dredging the Inner Harbor deep enough to get all the contaminated material. Paul Carangelo said the idea of contamination is in the eye of the beholder. Because this is an industrialized channel, it has always been suspect to contamination.

Greg Brubeck added that when the Port went from 40- to 45-feet, they accomplished essentially what Mr. Reining was asking about. All of those sediments that might have been considered contaminated were captured. None of the sediments that have come from the channel have violated any thresholds. They have just had trace amounts. All suspect materials that were removed during the 45-foot project were placed in upland confined areas and capped.

Paul Carangelo said because of the history of the Corpus Christi Ship Channel, it is a textbook case for zinc contamination. He noted his disagreement with the Ward report, because he used some dated information. Many of the materials that were placed in upland confined sites and capped were later sold. There was no trace of contamination.

Greg Brubeck said the current plan is to continue placing all the material from the Inner Harbor into upland confined sites because it is simply not worth the effort.

Paul Carangelo added that it is not on a chemical basis, but on an environmental basis, that the Port has made that decision and the Workgroup agrees.

Dave Michaelson asked if in Option 3A, the deepening stops at Beacon 82. Paul Carangelo said option 3 is actually to deepen all the way through the system. Because the

Summary of Public Meeting
December 6, 2000

materials west of Beacon 82 are going to go to upland placement sites and materials east of Beacon 82 are going to other areas, they decided to separate Option 3 into two parts to show the separation of materials.

David Dear asked how many more years of capacity was available for maintenance material. Paul Carangelo said they have additional capacity that was not there during the 45-foot project. The Port purchased the Tule Lake area, the Driscoll Foundation, and have added significant capacity. The idea of a 50-year project life is to think of a major navigation project as a generational improvement. We can continue to raise levee heights, but still get that capacity even with diminishing sites.

David Dear asked if the Port had received interest expressed by industry to dredge their berths if the channel is deepened. Paul Carangelo said when they do these studies, they accommodate for the material as if the user was going to dredge their berths to that depth also. David Krams added that the Port must account for the additional materials and the cost of bringing that facility to proper depths.

To further answer the question about capacity, Greg Brubeck said the Port makes very conservative assumptions. David Krams added the Port has a better understanding of the numbers now and are still refining those estimates.

Frank Brogan asked if they factored in any opportunities for selling dredge material. Paul Carangelo said they have not accounted for that, although it has been identified as a beneficial use. Given the yardage requirements available, they would just get the benefits of the sale and improving the capacity and save the long-term costs. There is no requirement that he knows of where the Port would have to account for that.

POCCA Channel Improvement Project
Summary of Public Meeting
Wednesday, April 25, 2001

The Port of Corpus Christi Authority (Port) and US Army Corps of Engineers (Corps) held an informational public meeting at 6:00 PM on Wednesday, April 25, 2001 in the Nueces Room of the Solomon P. Ortiz International Center.

Attendees were:

- Pat Suter, Sierra Club
- Fuat Sezer, Kiewit Offshore Services
- Allan Hayes, Shiner Moseley & Assoc.
- Gabrielle Grunkemeyer, Nueces River Authority
- Susan Stone, Stone Earth Sciences
- Robert Roberts, A&C Corporation
- Jay Masterson, Masterson Fabrication
- Ann Melton, Par-Mel Printers
- David Dear, Citgo
- Jim Shiner, Shiner Moseley & Assoc.
- Mark Pattillo, US Army Corps of Engineers
- Sarah Hudlow, Ingleside Resident
- Tom Hall, Coastal Bend Guides Association
- Bob Heinly, US Army Corps of Engineers
- Bobby Nedbalek, San Patricio EDC
- David Jensen, Texas A&M University - Corpus Christi
- Chuck Rushing, FUGRO
- Judy McQueen, Sherwin Alumina
- Hugo Bermudez, PI Engineering
- David Krams, Port of Corpus Christi
- Eddie Arnold, Aransas Pass Resident
- Scott Cheney, Kiewit Offshore Services
- Leah Olivarri, Olivarri & Associates
- Laurie Valenta, Olivarri & Associates
- Steve Williams, Resident
- Laura Elder, Caller-Times
- Bill Kopecky, Coastal Bend Sun
- Michael Berry, Bay, Ltd.
- Kenneth Rice, US Fish & Wildlife Services
- Wayne Clayborne, US Coast Guard
- Rusty Rusteberg, Channel 10
- Clayton Poenish, Ingleside Resident
- Louis Adams, Aransas Corpus Christi Pilots Association
- Leo Trevino, Coastal Bend Bays & Estuaries Program
- Marie Pattillo, US Army Corps of Engineers
- R.L. Jenkins, Portland Resident
- Jay Reining, City of Corpus Christi
- Pat Parr, League of Women Voters
- David Mayo, San Patricio EDC
- Tom Posey, FUGRO
- David Jones, Sherwin Alumina
- Vladimir Shepsis, PI Engineering
- Greg Brubeck, Port of Corpus Christi
- Paul Carangelo, Port of Corpus Christi
- Pauline Clarke, League of Women Voters
- Carolyn Chancellor, Airport & Channel Corp.
- Kelly Billington, Olivarri & Associates

POCCA Channel Improvement Project
Summary of Public Meeting
Wednesday, April 25, 2001

I Welcome and Introductions

Greg Brubeck welcomed the attendees to the meeting.

II Presentation of the Corps' Recommended Plan

David Krams introduced Bob Heinly, Paul Carangelo, Vladimir Shepsis, Hugh Burmudez, Gary Powell, Leah Olivarri, Kelly Billington, and Laurie Valenta. Mr. Krams reviewed the agenda, noting the presentation would be broken into two segments. The first presentation, given by Mr. Krams, would be the Corps' recommended plan followed by a question and answer session. The second presentation, given by Mr. Carangelo, would outline the proposed Dredged Materials Management/Beneficial Uses (DMM/BU) Plan and would also be followed by a question and answer session. Mr. Krams also noted there would be time at the end of the presentations for general questions and comments from the public.

Mr. Krams reviewed the existing channel system and noted the history of the channel deepening. The current channel system has several limitations. First, the current 45-foot depth may not be sufficient for future use. Second, proposed Port facilities on the La Quinta Channel lack deep-water access. Third, the channel across Corpus Christi Bay is narrow. It was because of these limitations that the Port requested the following improvements to the system:

- Deepen to 50-feet,
- Extend La Quinta Channel, and
- Widen channel to 500-feet and add barge shelves.

Mr. Krams said vessel sizes are increasing and therefore are able to transport more cargo. With a deeper, wider channel and the addition of barge shelves, these vessels can reduce costs and improve safety. An extension of the La Quinta Channel would allow access to the site of the proposed La Quinta Trade Gateway.

This is a federal planning process lead by the Corps. The Port is the local sponsor. They are currently involved in the second part of a two-phase planning process to determine the feasibility of the project and to develop an Environmental Impact Statement. A cost/share agreement was signed between the Port and Corps in June 1999, for \$6.7 million. The process will take approximately 36 months to complete.

Many engineering and environmental studies have taken place. Some of these include ship simulation, geotechnical quantities, shoreline erosion, and hydrodynamic and salinity modeling. Other studies include water and sediment quality, beneficial uses of dredged material, mitigation alternatives, and endangered species.

POCCA Channel Improvement Project
Summary of Public Meeting
Wednesday, April 25, 2001

Initially, 17 alternatives were identified for this project. These alternatives were screened and narrowed down to six alternatives:

- Deepen Corpus Christi Ship Channel to 52-feet,
- Widen Corpus Christi Ship Channel to 530-feet and add barge shelves,
- Extend channel entrance 10, 000 feet and deepen,
- Extend La Quinta Channel 7,200-feet, and
- No deepening of La Quinta Channel.

A benefit-cost analysis was performed on all six alternatives, which resulted in the Corps' recommended plan. The Corps' plan formulation included: an estimate of initial construction and operation/maintenance costs for various alternatives; a projection of future transportation cost savings or benefits for each alternative; a calculation of the benefit-cost ratios and net benefits of each alternative, and the resulting recommended plan.

Initial construction costs included the cost of dredging, levee construction, bank stabilization, pipeline relocation, and engineering and construction maintenance. The Corps' total estimated cost for construction is \$192 million, of which approximately \$50 million is allocated for pipeline relocation and \$100 million for dredging.

The Corps' economic analyses included: tonnage/vessel fleet forecasts; channel deepening benefits like lightering, direct shipments, and lightening; channel widening benefits; and the benefit-cost analysis and recommended plan. Tonnage forecasts revealed an annual growth of one to four percent per year through 2056. Average annual deepening benefits are estimated at over \$44 million at 52-foot depths. Average annual widening benefits are estimated at approximately \$900,000.

III Question and Answer Session on Corps' Recommended Plan

Jim Shiner commented he was surprised there were not enough benefits to deepen La Qunita Channel. Mr. Krams responded saying the existing industries along that channel barely use the 45-foot depths. If another industry were here that would utilize deeper depths, it might affect the benefits.

Pat Suter asked to whom the benefits accrue. Mr. Krams said these are transportation cost savings. Industries that contract these ships to bring in cargo are the ones that will benefit.

Ms. Suter asked what benefit is there to the Port. Mr. Krams observed that this is a federal channel, so the federal government mandates the Port make shipping lanes as competitive as possible. That is why a reconnaissance study was performed; to see if it is really in the government's interest to pursue this study.

POCCA Channel Improvement Project
Summary of Public Meeting
Wednesday, April 25, 2001

The Port is trying to keep Corpus Christi in the lead. Several other Texas ports are considering deepening their ports. Corpus Christi is not unique anymore, however, it has the advantage in that it only needs to be extended two miles instead of the fifteen required by other ports.

Ms. Suter asked if the docking fees were by ship or by tonnage. Mr. Krams said the Port charges docking fees by tonnage. Mr. Brubeck added that the deeper channel would facilitate more tonnage and more dockage revenue.

Ms. Suter asked what effects this project will have on the Harbor Bridge. Mr. Krams said the deeper channel would allow vessels to draft deeper, therefore increasing the clearance at the bridge.

David Mayo responded that the widening of the channel is important because if there were a collision in the bay, it would be catastrophic. Mr. Krams agreed and added that was difficult to put a price tag on.

Mr. Mayo asked if the recommended plan was going to be done in part or in whole. Mr. Krams said it is all one package. Mr. Heinly added the National Economic Development (NED) benefits were considered. They are trying to get the best benefits for the entire nation. If the Port decided to widen only, there may not be enough benefit for it to be supportable for the nation.

Mr. Mayo asked if the La Quinta Channel extension would be an additional phase. Mr. Krams said because it is in the feasibility study phase, we have to ask Congress to authorize as big a project as possible. That is not to say that it would all be constructed at one time, it may be phased. It depends on available funding.

Judy McQueen asked if the Port looked at current utilization. Mr. Krams responded yes. Ms. McQueen then asked if we were alleviating some of the burden of other Texas ports. Mr. Krams replied this study did not go into that, because of already existing infrastructure. Mr. Brubeck added that the Port of Corpus Christi is one of three such projects in Texas. There is no fighting over cargo at this point as Corpus Christi cargos differ from other Texas ports.

Someone in the audience asked what the timeline was for this project. Mr. Krams said they are planning for authorization in the Water Resources Development Act 2002 (WRDA 2002).

IV Presentation of DMM/BU Plan

Mr. Krams introduced Paul Carangelo, who presented the DMM/BU update. Mr. Carangelo reviewed the information that would be covered in this presentation and noted a question and answer session would follow. He noted the purpose of

APPENDIX D

COORDINATION

POCCA Channel Improvement Project
Summary of Public Meeting
Wednesday, April 25, 2001

this presentation was to present the recommended DMM/BU Plan to the public and provide an opportunity for public comment.

Mr. Carangelo said the key finding in the 1994 Reconnaissance Report with regard to dredged material management planning was that the existing placement sites could accommodate all the dredged material resulting from this project. This plan incorporates beneficial uses for several reasons: it is a federal, state, and Port policy; there is the potential to yield net positive environmental benefits; beneficial uses can be done potentially at similar costs; and there is great public acceptance.

The DMM/BU Plan integrates engineering studies, environmental studies, and public input. The proposed project is environmentally sound. This proposal was developed by and agreed to by state and federal regulatory agencies, has involved the public throughout, and has long-term environmental benefits.

The new work dredging would result in approximately 41 million cubic yards (CY) of material. The maintenance work would result in approximately 3.5 million CY per year.

The proposed placement plan includes:

- A breakwater and +/- 200 acres of unvegetated and vegetated submerged and emergent habitat at the west end of Dredge Material Placement Area 13 (DMPA 13), across from the La Quinta Channel Extension.
- A +/- 130-acre buffer zone on the west side of the proposed La Quinta Trade Gateway property. Shoreline and vegetated habitat for Ingleside On The Bay. Three +/- 175 to 200 acre sites with breakwater and vegetated and unvegetated submerged habitat near the La Qunita Junction. Shoreline protection for Pelican Island and Port Aransas. A breakwater and +/- 200 acre vegetated and unvegetated emergent, shallow, and deep-water habitat just east of Dagger Island. A submerged feeder berm for the Port Aransas Beach. And, continued placement of existing DMPAs, including the Inner Harbor and offshore sites.

Mr. Carangelo said there is still much work ahead. A draft Feasibility Report and draft Environmental Impact Statement (EIS) are scheduled for completion in fall 2001. The Corps' will hold a public meeting in fall 2001. The final EIS is scheduled for completion in February 2002 for inclusion in the Water Resources Development Act (WRDA) 2002.

V Question and Answer Session on DMM/BU Plan

Mr. Mayo asked when mitigation would begin for this project. Mr. Carangelo replied now that the proposed plan has been identified, the impacts of the model would be evaluated. This is where mitigation takes place. However, they have

POCCA Channel Improvement Project
Summary of Public Meeting
Wednesday, April 25, 2001

taken great care to avoid mitigation issues thus far. He stated it was his guess that because they were creating more habitats, there would be little or no mitigation.

Mr. Mayo asked if there would be dredged material placed on shore. Mr. Carangelo said some material would be placed in existing confined placement areas. For example, inner harbor material will be placed in upland confined areas.

Mr. Mayo asked if there was no concern about contaminants. Mr. Carangelo said the Inner Harbor has a legacy of contamination, so the workgroup has determined that any of the new work or maintenance material would be placed in upland confined sites even though there have been no significant findings of contamination. It was noted that The Clean Water Act is working and maintenance dredging helps. Mr. Brubeck added that there are trace amounts of some contaminants found throughout the channel, but because of management, it is not a huge problem. When the channel was dredged from 40-feet to 45-feet, the material was placed in an upland confined placement area and capped.

David Jones asked how the \$110 million non-federal amount would be raised. Mr. Carangelo replied the funds would be based on the revenue from the dockage and tariff revenues the Port receives. He stressed the fact that the Port is self-sufficient. Mr. Krams added that \$50 million is estimated for pipeline relocations, which will be borne by pipeline owners.

Someone in the audience asked how they proposed to generate the required federal funds without a fight. Mr. Carangelo said there is always a fight for money, but if the community agrees that this is an important project then there is a better chance for funding. He added that the Port has a strong past of obtaining necessary funding. Mr. Heinly added that there are no negatives to date regarding funding. There is only a question of building as fast as you can or allowing the Port to slow down its timetable to ensure funds are generated. He also noted that the almost four to one ratio the Port has for this project is a strong indication that they will receive necessary funding in appropriate time.

Tom Hall said he is concerned about the area filling in between Pelican Island and Placement Plan Option J. They call this area the East Flats. It is disturbing the fresh water flows in this area. They are losing the fish hatchery here. Mr. Carangelo said there is a conflict in this area because some people like to fish there. Others are only concerned about the birds on Pelican Island. This conflict will be addressed, in depth, in the next modeling scenario.

Anne Milton said she thought that the area mentioned in Public Comment #61 was wetlands. Mr. Carangelo said these were just general ideas gathered from the public. The Port is not considering this as an option in the DMM/BU Plan.

POCCA Channel Improvement Project
Summary of Public Meeting
Wednesday, April 25, 2001

David Jensen asked what type of armored levees would be constructed in this plan. Mr. Carangelo explained they would be rocks and large boulders similar to those used in current shoreline protection. Mr. Krams added they could be likened to the Marina jetties.

Someone in the audience asked what the plan was for the area to the west of the La Quinta Trade Terminal property. Mr. Carangelo said the plan for this area is a 130-acre, elevated buffer zone to protect neighbors to the west from sound and visual distractions. The buffer would be a one-time placement area and may become a park or recreation destination.

Eddie Arnold noted dredge activity drives birds away from Pelican Island. He suggested only dredging that area when the birds had migrated. Mr. Carangelo reassured him that they would calendar restraints into consideration when dredging that area. Ms. Suter affirmed they have been careful of calendar limitations in the past.

David Dear asked if the Houston/Galveston project had any impact on shipping during that project's construction. Mr. Krams answered he did not know about Houston, but the Corpus Christi Port's dredging contract stipulates that the dredge gets out of the way of ships. The pilots give the dredge a heads up with plenty of lead way to move. One audience member noted that the Houston Ship Channel has been shut down for pipeline relocation, but had not had any problems with dredging as far as he knew.

Someone in the audience asked if the Corpus Christi Port Industries were behind this project. Mr. Krams said they have been kept abreast of the progress and, in general, were supportive of the project.

There were no additional comments. One written comment was received at the meeting. Michael Berry asked David Krams to call him to discuss costs; including the cost of dredging from dock to channel; and the cost to dispose dredged materials from this area.

The meeting adjourned at 8:00 PM.

Olivarri & Associates has received three written comments in the mail, to date:

Fuat Sezer and Scott Cheney wrote, "Thank you very much for the meeting to inform people about the latest developments. Kiewit Offshore is developing a new offshore fabrication facility at the intersection of Jewel Fulton Canal and La Quinta Channel. We have a 3,600-foot long water frontage along the La Quinta Channel. It is very important for us to widen and deepen the La Quinta Channel to the same water depth and width as the CCSC. We will be constructing and transporting large floater structures, which will require every bit of water depth

POCCA Channel Improvement Project
Summary of Public Meeting
Wednesday, April 25, 2001

and width available in the ship channel. Please reconsider the widening of the La Quinta Channel. Thank you.”

Robert B. Roberts wrote, “I serve on the Board of Directors of the Airport and Channel Corporation at Island Moorings, Port Aransas. We are responsible for the maintenance and upkeep of Piper Channel. Please keep me informed.”

Chuck Rushing wrote, “Has a deep draft anchorage been considered for inside the bay? Consider discussing benefits with shipping lines and port industries versus costs of initial and maintenance dredging. A good location might be on the south side of the bay crossing channel, just west of La Quinta Channel and Dredge Material Placement Area “R”.