

1 Dear Manager Spore,

2 The Beaches and Waterways Advisory Commission, as tasked by a resolution of the City Council, has met
3 and comprehensively studied the issues of dredge materials removal and transfer stations necessary to
4 ensure that the Lynnhaven River, Rudee Inlet, the Elizabeth River, Broad Bay and Linkhorn Bay navigation
5 channels are adequately dredged. This report is ready for presentation to City Council detailing our findings
6 and recommendations.

7 The Commission considers the Neighborhood Dredging SSD Program (NDSSDP) to be based on well conceived
8 funding sources and solid engineering principals. The NDSSDP will lead to a beneficial conclusion for the
9 neighborhoods afforded the opportunity to dredge their navigable channels to access deep water. The
10 program will result in enhanced property value for the positively impacted homeowners, increased
11 recreational opportunities and increased real estate tax revenue for the City. Indeed Council recognized this
12 reasoning by adopting the Old Donation Special Service District (SSD) Ordinance on September 13, 2011. The
13 Old Donation neighborhood overwhelmingly requested such approval, and voted a tax rate surcharge, due to
14 a prior dredging experience which improved water quality, increased property values and provided enhanced
15 recreational opportunities via adequate water depths for the largest of their boats. It is believed, as has been
16 demonstrated in the conceptual design for the Thalia Lynn Dredge Materials Transfer Station, (DMTS) that
17 enhanced recreational opportunities by the public can be made available at other DMTS sites. (A copy of the
18 conceptual Thalia Lynn design is included in the report.)

As an introductory to the Commission findings and recommendations, it could be helpful to introduce some similarities with other tasks previously referred to our Commission. This is done in order to establish some perspective pertaining to the Neighborhood Dredging SSD Program.

Just as experienced with the Comprehensive Beach Management Plan, and with the findings in the more recent Lake Trant dredging project, the value or efficacy of the Neighborhood Dredging SSD Program has not received significant challenge. The opposition centers on neighborhood and residents impacts associated with this public improvement and enhancement program. The opposition groups believe that the Dredge Material Transfer Stations (DMTS) and the associated haul vehicles will have adverse impacts on their neighborhoods and their residents. They also share a belief that verbally stated promises between them and the City have been broken. The same was true at Lake Trant.

A well known social phenomenon identified by an equally well known acronym, the NIMBY effect is in play. It has been our experience that any physical change or introduction of a permanent public facility into an established neighborhood that impacts a settled life style will be resisted regardless of the positive benefit to the general public. The response, as always, is exacerbated by a breakdown in civil discourse and questioning of the veracity of the communications on both sides of the issue. However, make no mistake about it, the main reason for not wanting a Dredge Materials Transfer Station on Long Creek in the near proximity of Maple Street is that it will cause adverse impacts, and in some cases severe.

There is a great deal of support for the status quo. The Commission realizes that if the Neighborhood Dredging SSD Program is made available to the neighborhoods on the Long Creek and Broad Bay waterway,

the status quo cannot remain and adverse impacts will be a part of the process to implementation of the program.

When developing the Comprehensive Beach Management Plan, any reference to increased public parking or increased public infrastructure (Bathrooms and Bath houses) in the beach neighborhoods resulted in serious concerns for negative impacts on the resident's quality of life. The locals had their parking places and facilities and they didn't need improvements to maintain their established way of life or their access to the beach. Any added improvement, regardless of the positive benefit to the general public, would result in an adverse impact on their neighborhood and their established quality of life.

The NDSSDP is producing the same effect, if not greater, for impact concerns on the communities close to the DMTS on Long Creek in the proximity of Maple Street. And, just as with the breakdown in constructive dialogue between a segment of the residents of Lake Trant and the City representatives, there exists a similar breakdown between a segment of residents in the Long Creek, Broad Bay, and Bay Island, Cape Story by the Sea, Shore Drive communities and City representatives.

There is a lack of confidence that the negative impacts on these neighborhoods will be adequately addressed by the City and a concern that there are very few in the City that are truly attentive to their circumstance. They are concerned that any conditions agreed to for the mitigation of the impacts or operational controls in the present will be ignored in the future. They are concerned that future Councils or Administrations will change or adjust conditions set out in these recommendations.

56 The NDSSDP currently conceives of five Mechanical Dredge Transfer Stations, one per controlled service
57 area. The Commission believes that a suitable site for locating a DMTS to serve the Lower Western Branch,
58 the Eastern Branch and the Linkhorn Bay service areas can be selected by Public Works from a group of six
59 sites that have been identified by the Commission. We have not prioritized these sites. The six sites have
60 been identified as being adequate to support the needs of these three service areas. The DMTS can be
61 located and constructed in these areas so as to have minimal impact on the surrounding neighborhoods.

62 The Crab Creek site has been previously opposed for impacts on the fishing and recreational communities.
63 Concerns for safety issues with runaway barges hitting the Lesner Bridge and haul route impacts on the
64 neighborhood have been voiced. Several speakers at the public forum spoke against any DMTS located at
65 Crab Creek. The Commission has not been able to locate a suitable alternative site to the one previously
66 selected for a DMTS to facilitate the mechanical transfer of dredged materials in this controlled service area.
67 Site dredging will be necessary to create a turn basin for tendered barges. Dolphins or some other form of
68 moorings will be required to control the barges in the currents at this site. The proximity to the Lesner
69 Bridge is a serious consideration and negative impacts created by the construction project for the new
70 Lesner Bridge is an unknown at this time. There appears to be several options for haul routes from the
71 DMTS to Shore Drive. Even though we know this site to be controversial, it is important to the efficient
72 implementation of the Neighborhood Dredging SSD Program in the upper Western Branch of the Lynnhaven
73 River. We have forwarded for your further consideration, and as a reference tool, relative to the topic of the
74 Lesner Bridge safety, a 2003 report from the United States Coast Guard Bridge Allison Working Group

Report that was provided to the Commission as a NOTICE of potential risk created by conducting any work with loaded barges in the close proximity to the Lesner Bridge. This is submitted without study or opinion.

As has been made obvious, the one site that is truly “ground zero” for greater than 90% of the concerns is the DMTS on Long Creek / Maple Street. It would be difficult to overstate the resistance to this location and the organized opposition to developing the DMTS at this site. The adverse impacts range from minor to severe. Yet, the Commission recommends that Council pursues its original intent to establish the NDSSDP in all service areas of the Lynnhaven and Rudee Inlet basins. In order to do that, there must be a DMTS located on Long Creek. In later recommendations in this report an attempt is made to minimize the adverse impacts by developing stringent management controls with operational parameters at the Long Creek DMTS.

There are two sites on Long Creek capable of fully meeting the requirements to support a mechanical dredge operation in this service area. The first is mentioned above and is known as Long Creek / Maple Street. The second is known as Long Creek / Lynnhaven Drive. The Long Creek / Lynnhaven Drive site is located between the rear of the Marina Shores Shoppes and beside the Lynnhaven Boatel. **The Commission strongly recommends the selection of the Long Creek / Lynnhaven Drive option.**

The use of Long Creek / Maple Street will cause severe impacts that will be experienced along the haul road when dump trucks will pass within 7 to 12 feet of the Long Creek Cove condominium complex while exiting the site on City owned property. If the Long Creek DMTS is utilized, we know of no alternative option to avoid this severe adverse impact. There will be dust and dirt impacts, visual impacts, vibration impacts, noise impacts and smell impacts when a NDSSDP project is active and haul trucks are moving in and out of this

94 site. There are opportunities for mitigation, but regardless of effort, severe impacts will be felt. There exists
95 a serious concern for loss of property value and the opportunity to sell homes abutting the haul route. There
96 are no known alternatives to the haul route if this potential site is used.

97 Either Long Creek DMTS will have adverse impacts on the south shore community of Broad Bay Island. There
98 will be visual impacts, noise during operating hours and the potential for smell impacts. It is known, and
99 concern acknowledged, that there will be an increase in barge and tender activity when a NDSSDP project is
100 active. There is a serious concern voiced for the safe operation of the tendered barges when moving within
101 the confines of Long Creek and as they pass existing docks and structures. In addition to the perceived safety
102 issue, the south shore residents are also concerned about the visual impact of the barges, dump trucks and
103 industrialized activity that would be necessary to establish a DMTS on Long Creek.

104 Only the Long Creek / Maple Street site would have any adverse impact on the Cape Story by the Sea
105 neighborhood. The Civic League and residents have expressed concerns about visual impacts of trucks,
106 barges and the excavated transfer of materials for disposal. This impact will be limited to the relatively few
107 houses bordering the marsh and the City owned beach quality sand storage area. It is acknowledged that
108 surface vibration occurs when digging sand from the holding area. The distance of vibration travel is not
109 known. It is not anticipated that any serious vibration associated with the transfer of dredged material from
110 water borne barges to a tandem axle dump trucks will occur. It is not believed that the smell of diesel
111 exhaust or the odor similar to the marsh at low tide would have serious impact. There is no travel route
112 recommended in the Cape Story neighborhood. Only severe wind conditions could cause the community to

113 experience any dirt or dust impact. It is believed that some noise impact would be present during normal
114 work hours in the permitted months of operation. The severity is thought to be minor.

115 It is reasonable to believe that public access to the current site for the potential DMTS at Long Creek will be
116 limited, if not completely lost, due to private property liability and safety conditions. The same is true for the
117 sand holding area that is utilized by the City for the Army Corps of Engineers dredging of the main channel at
118 Long Creek. The lack of prudent controls for safety and restricted public use has added to the difficulty of
119 working with residents and recommending increased activity at this site. The sand retention area, along with
120 the potential haul road and the access to the small sandy beach are being used as a quasi-public park. The
121 site is part of what is defined as a serene environment and casual recreational area when in fact it is
122 intended to be a Public Works holding facility for beach replenishment activity and a disposal site for the
123 Army Corps of Engineers channel dredging project. It is a welcoming nuisance of the highest order. The
124 opportunities for injury are numerous and significant. Regardless of whether this site is used for the NDP or
125 not, it needs to be controlled and secured.

126 The Long Creek / Lynnhaven site could have some level of adverse impact for the commercial operations
127 located on either side of the truck haul ingress and egress route to approach the DMTS. The impact is
128 considered to be manageable. There are no neighborhood impacts. A recent engineering study concluded
129 that a dredged materials transfer site is feasible on the City of Virginia Beach property at this site. The
130 ingress and egress road contains sufficient upland space for trucks to maneuver and is able to support the
131 weight of dredge materials laden haul trucks. The width of the City of Virginia Beach owned upland property

will allow for truck maneuver for loading from barges. The end cap is sufficient and will not need bulkhead reinforcement since the report conceives of placing the excavator on a timber platform over the water thereby buffering the end wall from a dredged canal. A 25' wide channel at -6.0MLLW elevation and timber fender piles forming a 30' wide canal will allow barge access from Long Creek while protecting adjacent property.

The estimated cost to construct an operational ready DMTS at Long Creek / Maple Street or Long Creek / Lynnhaven Drive are very comparable in the opinion of Public Works.

In conclusion, when the Commission considers all of the adverse impacts on the surrounding neighborhoods associated with Long Creek / Maple Street, the very severe financial burden and loss of quality of life for residents of the Long Creek Cove condominiums and the industrialization of a serene vista, compared to the minor impacts anticipated with the Long Creek / Lynnhaven Drive site, we strongly recommend the Long Creek / Lynnhaven Drive site as the DMTS location for the Long Creek / Broad Bay service area. Additionally, due to the superior advantages of the Long Creek / Lynnhaven Drive site for barge handling, road access, mechanical transfer ease and the absence of sight impacts, along with the very significant push back of the citizens of the surrounding communities to the possibility of a DMTS at the Long Creek / Maple Street location, the Commissions recommends that Council considers directing the removal of Long Creek / Maple Street from further consideration as a Dredge Material Transfer Station to support the Neighborhood Dredging SSD Program now or in the future.

150 Additional topics associated with the NPSSDP that have been presented to us in public forum and in
151 stakeholder comments. The recommendations for your consideration and review are fiscal concerns, safety
152 concerns and concerns for the potential of damage to existing road and utility infrastructure. Please be
153 aware that the Commission has received a number of questions about the fiscal integrity of the Special
154 Service District program in particular. The economics of the Neighborhood Dredging SSD Program are
155 beyond the scope of our assignment and beyond any perceived area of expertise.

156 Our study and recommendations for operational safety are restricted to the Dredge Material Transfer
157 Station sites. Our assumed and consistent response to travel safety has been that the City has conducted
158 many similar projects that required large dump trucks with full loads moving on City streets. The historical
159 record is that this can and has been done in a safe and efficient manner. The point of reference is the
160 100,000 to 150,000 cubic yard truck sand haul for the oceanfront beaches prior to the utilization of deep
161 water hopper dredges. The safety issues are not unique to land travel. There is significant concern for the
162 safe execution of barge and tender operations in Long Creek.

163 The Commission has been questioned about the potential for neighborhood infrastructure damage as a
164 result of heavy truck travel. The Commission understands that all haul route roads are designed for heavy
165 load truck travel. It is also understood that prior to any haul contract being awarded, the City, through the
166 Public Works Department, will require the contractor to identify the travel routes to be used. The City will
167 conduct engineering reviews to ensure the adequacy of the roads to be utilized for both load bearing

capacity and proximity to neighborhood infrastructure prior to approving the contractors preferred haul route.

The Commission was tasked to investigate the feasibility of alternative dredging methods. The

subject of mechanical versus hydraulic dredging was discussed and debated at length. Several opportunities for professional and public input were provided. It is important to acknowledge that certain members of the Commission have significant expertise in the field of dredging and water borne slurries. It has been concluded that the NDSSDP cannot be reasonably initiated or completed without the use of both mechanical and hydraulic dredging. This may not be the case for future maintenance cycles. Currently, the funding, engineering and infrastructure does not exist in Virginia Beach to support a potential third option, a hybrid system. Further investigation may conclude that opportunities exist for consideration and use of a hybrid system in the future. Any decision will require a commitment for inclusion in the Capital Improvement Program and a detailed investigation of engineering and aesthetic challenges. To that end, included with this report is an addendum with comments from Public Works and an independent contractor who was a member of the panel to discuss alternative dredging method.

It is recognized and confirmed that the preferred method of dredging is directly dependant on the site conditions, environmental considerations and the cost associated with the individual projects within the NDSSDP. This should not be a political decision. The dredging methodology for individual projects should be left to engineering and bid proposal processes.

Hydraulic Dredging is more capital intensive, has high mobilization cost, requires 24/7 operation to be economically efficient, produces more noise impact than mechanical and has greater adverse impacts on surrounding neighborhoods in general. Hydraulic is an excellent option for large volume, localized projects. For many of the positive factors, hydraulic dredging is the preferred primary method in the Rudee basin due to the physical conditions of some of the areas to be dredged and the availability of a permitted disposal site. There will be a need for some mechanical dredging in the Harbour Point and Shadow Lawn neighborhoods.

The disposal of dredged materials in the anoxic holes that form portions of the bottom of Lake Rudee and Lake Wesley is actually a beneficial re-use of the dredged materials and gives greater weight to the use of hydraulic dredging. The disposal of dredged materials in the anoxic holes is a condition of the Norfolk District, USA Corps Engineers permit. The only permitted dredge disposal option for inner harbor dredged materials is placement in the deep, anoxic holes in Lake Rudee and Lake Wesley. Under City Council policy, only the Lake Rudee disposal area is to be used.

Mechanical Dredging is recognized as the best method for areas within the neighborhoods of the Lynnhaven basin due to channel sizes, turn basin restrictions and ancillary channel confines. Mechanical dredging methods also provide the flexibility to adapt to the various conditions that will be encountered. Additional positive consideration for mechanical dredging results from the awareness of the existence of tree trunks and similar debris on the bottom of many of the ancillary channels to be dredged. There exist in the mechanical industry, environmentally friendly, level cut excavator buckets which will result in less

205 spillage and less damage to the physical environment. One of the few negatives is that mechanical dredging
206 creates greater turbidity which causes some temporary environmental impacts. Because mechanical
207 dredging is a strong recommendation for any near term dredging in the Lynnhaven basin, an accompanying
208 DMTS, as well as, barge and truck haul routes become necessities. The barge sizes will be determined by the
209 water depth of the channel to be dredged. We do not consider barge traffic to be an unmanageable hazard
210 to navigation or bridges. Dredge project oriented dump trucks present no more of a traffic hazard than any
211 normal rear tandem dump truck.

212 There has been considerable public input opining that DMTS sites for neighborhoods opting into the
213 NDSSDP are best when located inside the project area and on private property. The Commission concurs and
214 supports this position as it would reduce adverse impacts on communities that would receive little or no
215 benefit. Localized DMTS would reduce project cost and benefit the SSD participants. However, it is firmly
216 believed that this option should not preclude the construction of one unique, publically owned transfer
217 station associated with each identified service area. Conditions change constantly with private property and
218 private property ownership. Any unknowns that could complicate future dredging maintenance needs
219 should be avoided. Equally important, and strongly recommended, is the availability of a transfer station in
220 each program service area for use by the public for dredging by entities or individuals other than the City.

221 **The Commission was tasked to consider opportunities for the “beneficial re-use of dredge**
222 **spoils”.** On review and consideration, no known beneficial re-use options are identified for the
223 initial stage of the dredging in the NDSSDP. However, it is felt that there is good reason to investigate

future beneficial re-uses and the needs for alternative placement of dredged materials. It is known that the availability of permitted disposal sites in the City is currently very limited and their capacity is clearly finite. The study of the creation of salt water wetlands and salt water marsh islands are presently underway in the environmental engineering community. The same is true with fresh water studies. At this time, fresh water studies are more advanced than salt water studies. Currently, there is adequate disposal capacity available for the anticipated initial dredging, and some amount of future maintenance dredging, to accomplish the goals of the NDSSDP. It is believed that Council would be wise to authorize and fund a study of alternative re-use options for dredged materials for the future phases of this program. There are several reasons to investigate these options. When permitted by controlling agencies, the beneficial re-use of dredge materials for other than fill for anoxic deep water holes, will play heavily into the future of watered communities such as Virginia Beach. The reduction of future negative impacts on established neighborhoods alone would justify the cost and effort of investigation. We have attached a report to emphasize our interest in recommending this field of research for your serious consideration. The authors, Ronald Vann and Harold Jones of Waterways Survey and Engineering are respected members of this engineering community and were members of the panel to discuss the beneficial re-use potential.

The Commission was tasked to analyze the impact that operational Dredge Material Transfer Stations would have on affected communities with a focus on identifying sites that are sufficient to support the needs of the project but have the least potential for adverse impacts on the community. The Commission interprets this to instruct us to identify, if possible, additional sites adequate to support the

Neighborhood Dredging SSD Program and not to eliminate those previously selected when this program was first briefed to Council.

The sites that have been identified for the DMTS in the Lynnhaven basin that are located at the southern end of Linkhorn Bay, the Eastern Branch and lower Western Branch areas will have minimal impact on neighborhoods and residents. The Crab Creek DMTS, serving the upper Western Branch, will have adverse impacts on the bordering neighborhoods, recreational fishing, and the boating communities. In an effort to mitigate these impacts, the Commission recommends that the Crab Creek DMTS have greater restrictions on its operating activities. The Long Creek DMTS will also cause adverse impacts and will need greater restriction on the operating parameters.

Residents of the neighborhoods near the Long Creek / Maple Street site have cited concern for potential adverse impacts in the form of noise, dirt, dust, odors, visuals, barge traffic complications, truck haul complications, wetland impacts, fishery impacts, the industrialization of a once serene environment, the loss of recreational opportunity, the devaluation of personal property and general concern for public safety and neighbor infrastructure. Because of these many concerns, real or perceived, the most stringent restrictions possible are recommended for operational controls at this DMTS if that site is ever made operational. There are methods of mitigation and opportunities for controls that will eliminate, or significantly reduce, many of the issues of concern. **The Commission strongly recommends that this site not be used now or in the future since there is a significantly superior site to support the same service area.**

To ensure limited and controlled use of any and all of the DMTS, the Commission strongly recommends that only dredge materials generated in an identified service area be transferred through that respective DMTS. The Council will need to provide some flexibility for hardship or unforeseen circumstances and the potential for off cycle dredging which is discussed later in this report. In the opinion of the Commission, the greatest opportunity to reduce adverse impacts in the surrounding neighborhoods is the utilization of guidelines to control the amount of activity at the unique DMTS supporting the service area.

By Council's adoption of this simple concept of a single and unique Dredge Material Transfer Station per Neighborhood Dredging SSD Program service area, Council will provide each neighborhood, or service area, with the opportunity to focus exclusively on their wants, needs and the avoidance of adverse impacts.

As an example, the residents of the Long Creek and Broad Bay service area can focus exclusively on their service area and work to influence the activity in their surrounding neighborhoods. With the very high requirement of an 80% affirmative vote for approval prior to the start of a SSD project, and with the significant organizational structure of the civic leagues and activism in the Long Creek and Broad Bay Island communities, it is possible that activity would be seriously restricted at any Long Creek site. The Linkhorn Bay service area and the Eastern and Western Branches of the Lynnhaven River service areas will have their unique DMTS that will provide them with the necessary infrastructure to economically and effectively provide for a viable Neighborhood Dredging NDSSDP. **The Commission strongly recommends that no construction activity on any DMTS begins until a NDSSDP has been submitted to and approved by Council.**

The Commission was tasked to propose framework with parameters for operation of the spoils sites. The following is a list of nine (9) sites that are sufficient to support the needs of the project.

1) The Long Creek / Maple Street site, south and east of the Lesner Bridge

2) The Long Creek / Lynnhaven Drive site, east of Lynnhaven Boatel and west of Marina Shores Shoppes.

3) The Crab Creek site which lays south and west of the Lesner Bridge

4) The Thalia Creek site at 4300 Virginia Beach Blvd, east of Thalia Lynn Baptist Church

5) The “Pep Boys” site at 321 Hutton Lane, approximately 2500 Virginia Beach Blvd

6) The Reagan Avenue site just west of Riverwood Court

7) The Virginia Beach Shopping Center site at approximately 2868 Virginia Beach Blvd

8) Laskin Road sites in the 800 block and 900 block of Laskin Road

9) Robin Hood Forest at 2713 Robin Drive

All of the sites selected are sufficient to support the needs of the NDSSDP.

All of the DMTS have similarities and differences to consider when establishing their service parameters to ensure the least possible adverse impact on their served and surrounding communities.

Included at the end of this report are the sites with their overarching and unique considerations with recommendations. The overarching similarities are their proximity to wetlands, need for adequate road

structure, need for operational safety, need for cleanliness of operation and need for minimal impact on the surrounding neighborhoods and travel routes. Differences to consider are hours and days of operation, length of operating segments and frequency of use. Wash down, dust and noise abatement, ingress and egress and environmental concerns should necessarily be considered on a per site basis.

THE COMMISSION STRONGLY RECOMMENDS THAT COUNCIL ADOPTS A POLICY WHICH PROVIDES FOR PERMITTED USE OF THE DREDGE MATERIAL TRANSFER STATION SITES BY THE PUBLIC FOR DREDGING BY ENTITIES OR INDIVIDUALS OTHER THAN THE CITY.

DREDGE MATERIALS TRANSFER STATION OPERATION

Areas of concentration are SAFETY, CLEANLINESS, PERMITTING, TRANSFER POINT OPERATIONS, NEIGHBORHOOD TRANSFER POINT MECHANICAL OPERATIONS, INSPECTIONS AND COMMUNICATIONS.

GENERAL COMMENTS THAT ARE APPLICABLE TO ALL SITES

SAFETY: The Commission recommends strict adherence to the Federal Occupational Safety and Health Administration (OSHA) regulations and related Commonwealth Of Virginia and City of Virginia Beach laws, ordinances regulations and policies.

It is recommended that any engaged contractor develop and submit a Site Safety Plan to the City Project Manager for review and approval at least 30 days in advance of the start of work.

City Inspectors should review safety procedures daily for compliance with the approved safety plan and appropriate OSHA standards. Any findings of non-compliance must be discussed with the Contractor and noted in the Inspector's daily report. We recommend that the City Inspector be delegated the authority to stop work until corrections are made and unsafe conditions are eliminated.

CLEANLINESS: It is recommended that the contractor clean the site as needed, but not less than twice per work day. Trash should be collected daily and removed from the site as needed, but not less than twice per work week. We consider it important to pay strict attention to the collection of any and all trash that is on residential property. Vehicles should contain a trash bag for use by the operator.

It is recommended that the contractor establish an equipment wash rack on site or a City approved alternative. Sediment pressure washed from vehicles will be collected to prevent drainage into the waterways. Where possible, at the Inspectors option, a 50' long x 15' to 19' wide VDOT construction entrance featuring a geotextile fabric and VDOT #1 coarse aggregate, maybe substituted for the wash rack. Such construction entrance shall be installed prior to the ingress onto a hard surface public road.

Hauling vehicles beds should be sediment tight.

The contractor should place and maintain portable bathroom facilities at worksites. These facilities should be maintained in a clean condition and inspected daily. They should be serviced at least once per week.

PERMITTING: It is recommended that the City identify a communications contact for the purpose of explaining to interested parties, concisely, how the permitting process for the Special Service Districts (SSD),

small independent groups and individual property owner's permit applications will be handled. Strict adherence to all required permits for the work is critical. Copies of all permits should be provided to the City Inspectors, and their site visits should focus on assuring that the contractor is in compliance.

PERFORMANCE: It is recommended that the contractor be required to post a performance bond. The contractor should be required to conduct his work in the navigable waters so as to minimize obstructions and avoid impacting navigable depths; and comply with appropriate US Coast Guard Regulations.

TRANSFER STATION OPERATIONS:

GENERAL: The General Operation Provisions are applicable to all transfer stations. We recommend an individual review of each site and suggest supplemental guidelines be developed for special conditions and circumstances as needed.

NEIGHBORHOOD TRANSFER SITES: We strongly recommend the establishment of individual Dredge Materials Transfer Stations be located in the neighborhood receiving the benefit of the dredging project. We realize that cost, ingress and egress, site conditions and proximity to established transfer locations will factor into the decision process for site selection.

NOISE ABATEMENT: It is recognized and acknowledged that construction sites by their very nature produce noise. We recommend that all reasonable efforts, and known engineering options, be utilized to reduce noise that impacts travel routes in and adjacent to neighborhoods.

TRUCK TRAVEL: We recommend that adherence to neighborhood speed limits be strictly enforced. We recommend that the contractor submit a proposed haul route plan prior to initiating work. The planned haul route should be reviewed by the City Project Manager and the City Traffic Engineer to ensure appropriateness, sufficient road strength and capacity. The contractor's contract should include stipulation that upon completion of the work, the transfer site and neighborhood streets be returned to their pre-construction condition.

WATER QUALITY: The Contractor must recognize that any adverse impact on water quality will have an equal impact on the quality of life of residents living in the waterfront neighborhoods. We recommend that every effort be made to ensure avoiding even minor pollution of waterways and the placement of deleterious materials into the waterways. Care should be exercised to avoid any impact on fish and wildlife.

NOTICE TO PROPERTY OWNERS: Prior to mobilization, we recommend that the City / Contractor conduct a neighborhood meeting near the neighborhood to answer questions and provide information pertaining to the project, anticipated construction schedules and points of contact with telephone numbers.

LONG CREEK DREDGE MATERIALS TRANSFER STATION MECHANICAL OPERATION:

CRAB CREEK DREDGE MATERIALS TRANSFER STATION MECHANICAL OPERATION:

The Long Creek DMTS and Crab Creek DMTS are uniquely different from the DMTS sites located in the other three control service areas. They are situated in areas that could cause impacts that range from slight to severe. There are impacts associated with the haul routes between the DMTS and the major public

thoroughfare. There are issues associated with barge travel and there are concerns for safety and the industrialization of a serene natural area. The Commission has spent significant time studying these impacts and how best to mitigate or eliminate them. The Commission believes that a DMTS must be located in the Long Creek / Broad Bay service area, as well as the Crab Creek service area, as included in the Council approved Neighborhood Dredging Program. To do otherwise would be to disadvantage a segment of the waterfront community from this worthwhile program.

It is recognized that the Neighborhood Dredging Program was created and designed as a “user friendly” product. The “option in or not” decision allows the benefited neighborhood to determine their involvement and what level of temporary inconvenience they are willing to accept. That is not true with the negatively affected communities that become the travel routes for barges and the haul route for loaded tandem trucks. This inequity needs to be addressed, and for that reason alone, the DMTS supporting Long Creek / Broad Bay and Crab Creek’s involvement in the Neighborhood Dredging Program needs to be strictly managed.

Each and every time that the Commission has proposed to negotiate conditions at the Long Creek / Maple Street site it has encountered positions of “not one day of activity”, “not one truck moving by our property” and “not one barge” moving along Long Creek. There are no operational parameters acceptable to the leadership for opposition to the NDSSDP in this community. The Commission believes that efforts to find common ground will not benefit from any additional amount of discussion, any added amount of willingness to compromise or any amount of additional public input. It is the Commission’s conclusion, and recommendation to Council, that a Dredge Material Transfer Station must be located in this service area to

support the Neighborhood Dredging SSD Program regardless of the unwillingness on the part of the communities' leadership to accept any level of truck, barge and transfer activity in the neighborhoods and waterways.

Selection of the Long Creek / Lynnhaven Drive DMTS option will greatly reduce "neighborhood" impacts, but could present unstudied business or commercial impacts. The recommendation for management of the NDSSDP and the DMTS site on Long Creek, as outlined below, would be the same regardless of which location is selected.

As used above, strictly managed would mean that the programs "user friendly" options for neighborhoods in the Long Creek and Crab Creek control service areas would be reduced. The neighborhoods would make application to Council, through Public Works, for inclusion in the NDSSDP not on an "as wanted time line" but would be managed on an "as available time line". The Commission recommends that use of the Long Creek DMTS and the Crab Creek DMTS be restricted from operation for anytime greater than 60 consecutive workable days during any three year cycle. A workable day is as determined by the contractor in his sole discretion. The 60 day period would be selected from the time period starting after Labor Day and ending before Memorial Day, by Public Works in their sole discretion.

The application process would start with a neighborhood coming forward and requesting a study to determine the amount of the Special Service District increase to their real estate taxes and the other necessary engineering to be done prior to submission to Council for approval. Once approved, the Commission recommends that Public Works advertises and aggressively informs the waterfront

communities in the appropriate service area of the selected time for a dredging project. The opting in neighborhoods would be required to perform financially in the same manner as the NDSSDP currently requires. Those neighborhoods that do not opt in would be made aware that the next opportunity for inclusion in the NDP would be at the next 3 year cycle. Any groups or individuals that desired dredging outside of the three year windows of opportunity would have to provide for their own private DMTS or pay a premium for the cost to barge the dredge materials to an available site for transfer. Public Works would manage and select the best DMTS for this off cycle activity. This would be an approved exception to the "one DMTS per service area which handles only material dredged in the service area" recommendation.

The three year cycles should be timed to eventually coincide with scheduled maintenance cycles and create some economies of scale and possibly provide an opportunity for higher volume hydraulic dredging.

During the 60 workable days of operation, all of the recommended site operational controls would be in effect.

ALL GENERAL OPERATING PROVISIONS APPLY.

Prior to the start of dredge materials transfer, we recommend the following site preparations.

We recommend the installation of a traffic signal at the Lynnhaven Drive and Great Neck Road intersection.

If determined to be practical and necessary to protect the cleanliness of our streets, we recommend the construction of a wash rack located on or near the haul road prior to Lynnhaven Drive.

420 Provide screening for the residences along the 470 ft. reach from the holding area to Lynnhaven Drive. We
421 recommend planting improvements.

422 We recommend a provision in any contract that prohibits trucks from queuing or idling on Lynnhaven Road
423 or the sand pit haul road in the proximity of the Long Creek Condominiums.

424 No equipment shall be operated on Maple Street or elsewhere in the Cape Story by the Sea neighborhood.

425 We strongly recommend a structural survey, to include photography, be accomplished for these residences
426 prior to project initiation.

427 The contractor's office, maintenance facilities and storage needs should be located near the transfer station
428 platform so as to be as far removed from residences as possible.

429 We recommend the contractor be required to provide dust abatement by using a water truck or trailer to
430 spray on the haul road where instructed by the City Inspector.

431 **1) LONG CREEK / MAPLE STREET DREDGE MATERIAL TRANSFER STATION OPERATION:**

432 **2) LONG CREEK / LYNNHAVEN DRIVE DREDGE MATERIAL TRANSFER STATION OPERATIONS:**

433 We recommend the following constraints on operations at the Long Creek Transfer Stations:

434 No more than one 60 consecutive workable day segment in any three year period

435 Work hours: 0700 to 1600

436 40 hour work weeks without Saturday, Sunday or Holidays

No more than 30 truck loads per day. A truck load is defined as a round trip of an empty truck and the departure of the same loaded truck.

No work may be conducted on the Friday before Memorial Day through Labor Day, without special relief

3) CRAB CREEK DREDGE MATERIAL TRANSFER STATION OPERATION:

We recommend the following constraints on operations at the CRAB CREEK transfer station

Work hours: 0700 to 1600

40 hour work week without Saturday, Sunday or holidays

No more than 30 truckloads per day

Work days and periods to be adjusted to accommodate the appropriate fishing seasons

Site preparation should include dredging of adequate turning basin and installation of dolphins or restraining structure for barge control.

4) THALIA CREEK DREDGE MATERIAL TRANSFER STATION OPERATION:

We recommend the following constraints on the operations at the THALIA CREEK TRANSFER STATION:

Work hours: 0700 to 1600

40 hour work week without Saturday, Sunday or Holidays

No more than 30 truck loads per day

Contractor will accommodate the needs of the crew / canoe enthusiasts and Thalia Elementary School.

Contractor will not utilize Thalia Lynn Baptist Church parking lots nor adjacent commercial business lots for employee privately owned vehicle parking.

456 5) LINKHORN BAY / LASKIN ROAD DREDGE MATERIAL TRANSFER STATION OPERATION

457 We recommend the following constraints on the operations at the LINKHORN BAY / LASKIN ROAD
458 DREDGE MATERIAL TRANSFER STATION

459 Work hours: 0700 to 1600

460 40 hour work week without Saturday, Sunday and Holidays

461 During work hours, Flagmen are required to control all vehicular entry from the work area onto Laskin
462 Road

463 Special care is required to prevent the buildup of soil on the heavily revealed Laskin Road to include
464 rotary broom cleaning of the paved surfaces three times per day.

465 No work may be conducted from the Friday before Memorial Day through Labor Day

466 6) REAGAN AVENUE DREDGE MATERIAL TRANSFER STATION OPERATIONS:

467 We recommend the following constraints on operations at the Reagan Avenue transfer station.

468 Work hours: 0700 to 1600

469 40 hour work week without Saturday, Sunday or Holidays

470 No more than 30 truck loads per work day

471 7) VIRGINIA BEACH SHOPPING CENTER DREDGE MATERIAL TRANSFER STATION OPERATION

472 We recommend the following constraints on operations at the Virginia Beach Shopping Center Dredge
473 Material Transfer Station:

474 Work Hours: 0700 to 1600

475 40 hour work week without Saturday, Sunday or Holidays

476 Comments: Two possible sites are present in this location. The first is at the Virginia Beach Blvd and
477 Lynnhaven Road intersection; north of the Wa Wa station and the HRSD pump station locations. It is
478 east of 2924 Lynnhaven Road. Access to Lynnhaven Road would be through the shopping center parking
479 lot adjacent to the Subway restaurant.

480 The second location lies behind and adjacent to the shopping center and just west of the
481 City/Department of Utilities property. Access to Lynnhaven Road is via the shopping center loading area
482 and the parking lot in front of the small strip shopping center.

483 **8) HUTTON LANE/PEP BOYS DREDGE MATERIAL TRANSFER STATION OPERATION OPERATIONS:**

484 We recommend the following constraints on operations at the Hutton Lane/Pep Boys Dredge Material
485 Transfer Station:

486 Work Hours: 0700 to 1600

487 40 hour work week without Saturday, Sunday or Holidays

488 No more than 30 truck loads per day

489 Comments: This site is at 300 Hutton Lane and the Department of Parks and Recreation Hutton Circle
490 Launch. Access to Virginia Beach Blvd us via the Pep Boys parking lot and Hutton Lane. This access route
491 may impact an existing Best Management Practices pond. Townhomes are nearby on Overlook Court.

492 **9) ROBIN HOOD FOREST DREDGE MATERIAL TRANSFER STATION OPERATIONS:**

493 We recommend the following constraints on operations at the Robin Hood Forest Dredge Material

494 Transfer Station:

495 Work Hours: 0700 to 1600

496 40 hour work week without Saturday, Sunday or Holidays

497 No more than 30 truck loads per day

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