



Joint Permit Application and Supporting Information
for
Mason Creek Dredging Project¹

City of Norfolk
Dept. of Public Works

Contents

Project Description and Need	2
Dredged Material Management Plan	10

Attachments

1. Joint Permit Application
2. Adjacent Property Owners
3. Proposed Project Plans

<i>Date</i>	<i>Version</i>	
11/26/2014	Agency submittal	

¹ USACE assigned project number NAO-2014-0896

Project Description and Need

Description of Project Area and Need for Project

Mason Creek is a micro-tidal brackish water body that is connected to tidal Willoughby Bay via an 1,800-foot long box culvert with dimensions 20 feet wide by 11 feet high. Prior to 1940, the present-day area of Mason Creek was part of a much larger tidal estuary connected directly to Willoughby Bay (Figure 1). In the early 1940s, Naval Station Norfolk was expanded, including land reclamation over much of Mason Creek. This land reclamation isolated the creek from Willoughby Bay and effectively prevented tidal flushing of Mason Creek. Prior to 1945, the culvert between Mason Creek and Willoughby Bay was installed to address local concerns about the deteriorating water quality condition of the creek.

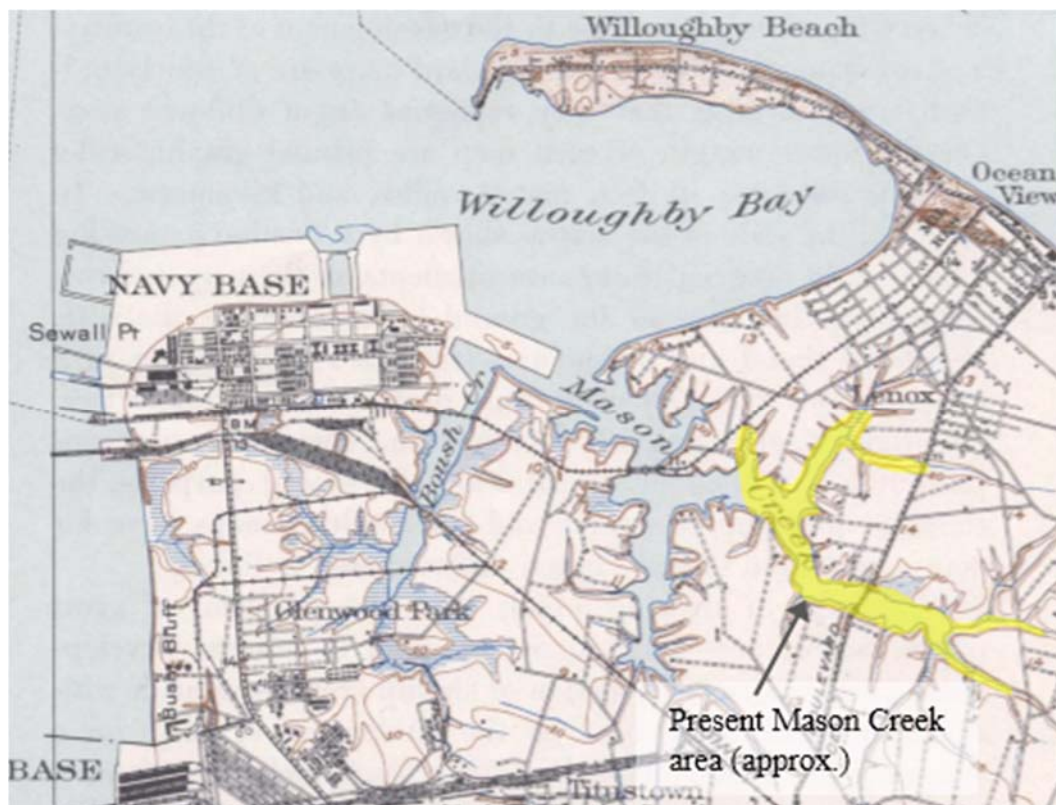


Figure 1: 1921 extents of Mason Creek (U.S. Geological Survey, Newport News, VA Quad, 1921 edition)

Since the culvert was installed, Mason Creek receives tidal flows from Willoughby Bay through the culvert, but the flow rate is limited by the dimensions of the culvert and by a tide gate structure on the creek end of the culvert. The culvert and gate together limit tidal amplitudes in the creek and the rate of water exchange between Willoughby Bay and Mason Creek. Figure 2 shows a time series of measured tidal water levels within Mason Creek (red line) and the NOAA tide gauge at Sewells Point (black line) near the entrance to Willoughby Bay. The time series is indicative of the significant damping of the tidal signal from Willoughby Bay into Mason Creek.

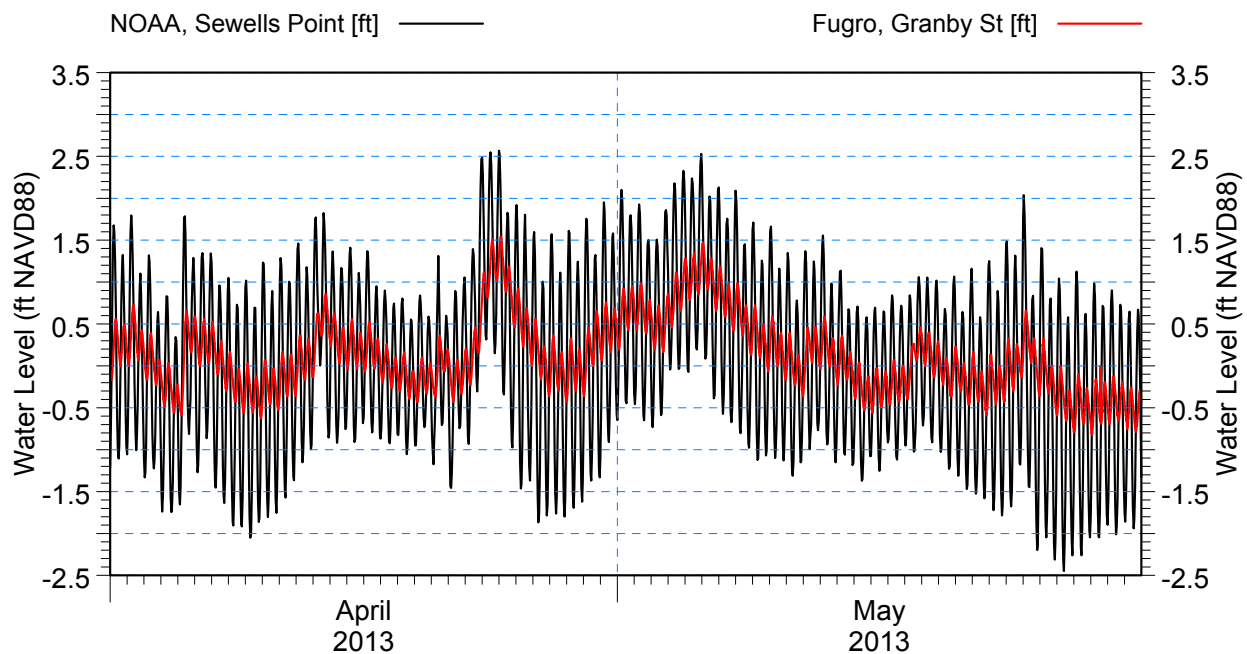


Figure 2: Measured water levels in Mason Creek and at Sewells Point, April – May 2013

A second culvert exists within Mason Creek, at the Granby Street crossing, dividing the creek into western and eastern basins. The eastern basin is the smaller of the two. Water quality sampling demonstrated that periodically the eastern basin exhibits noticeable differences from the western basin in key water quality indicators such as salinity, nutrient and pathogen concentrations.



Figure 3: Mason Creek and surrounding watershed

The watershed draining to Mason Creek consists mainly of a Naval Station Norfolk airfield, low- to medium-density residential neighborhoods, parks, a cemetery, and two interstate interchanges with water crossings. Non-tidal flow to the creek consists of storm runoff generated locally, with little to no persistent upstream inflow from other areas of the City.

A map of present-day Mason Creek and its contributing watershed are shown in Figure 3. Statistics on tidal water levels within Mason Creek have been calculated based on tide gauge data collected within the creek from November 2012 to November 2013. General information on Mason Creek within the project limits includes:

- Mean Low Water (MLW) elevation is approximately 0.0 feet NAVD88, and Mean High Water (MHW) elevation is approximately 0.5 feet NAVD88
- Typical average water surface elevation is approximately 0.3 feet NAVD88
- Average existing water depth at MLW in the area to be dredged is approximately 2.3 feet
- Invert at the box culvert at the outlet to Willoughby Bay is approximately -4.6 feet NAVD88
- Bank to bank area of the creek within the project limits, I-64 in the northeast to Northside Park in the southeast, is approximately 85 acres

A year-long water quality monitoring campaign was conducted on Mason Creek from October 2012 through September 2013. Virginia water quality standards for dissolved oxygen (DO) were exceeded when DO levels near Granby Street in late July 2013 fell to approximately 2.0 mg/L, below the Virginia standard for daily instantaneous minimum DO of 3.2 mg/L. On the same date, DO concentrations creek-wide were also low, between 3.5 and 5.0 mg/L.

Observations of the bed sediments in Mason Creek indicate that the lower water column and the sediment layers may experience anoxic conditions. The anoxic decomposition of the organic clays and silts is believed to be responsible for the surrounding residents' complaints of objectionable odors from Mason Creek. Additionally, a literature review indicates that anoxic sediments tend to release more nitrogen and phosphorus back into the water column.

At least two substantial algal blooms occurred during the 2013 growing season. The March-April 2013 bloom, which exhibited floating mats of algae and appeared to be severe, occurred during the cooler months of spring. As a rule of thumb, the combined impact of total nitrogen levels greater than 1.0 mg/L and total phosphorus levels above 0.1 mg/L are sufficient to support eutrophic conditions in freshwater systems, provided that residence time, water temperature and sunlight are suitable. Such thresholds are not so steadfast for more saline waters, such as Mason Creek, but as with most urban to suburban impoundments, it is clear that nutrient loads to Mason Creek are sufficient to support nuisance algal blooms and the associated adverse consequences. High turbidity was observed visually during the summer months, possibly indicating algae suspended in the water column during most of the summer of 2013. Calculations based on Total Kjeldahl Nitrogen (TKN) concentrations observed in June 2013 indicate that eutrophic conditions could have existed in Mason Creek. Given the high concentrations of nitrogen and phosphorus present, Mason Creek is at risk for eutrophication events of greater severity.

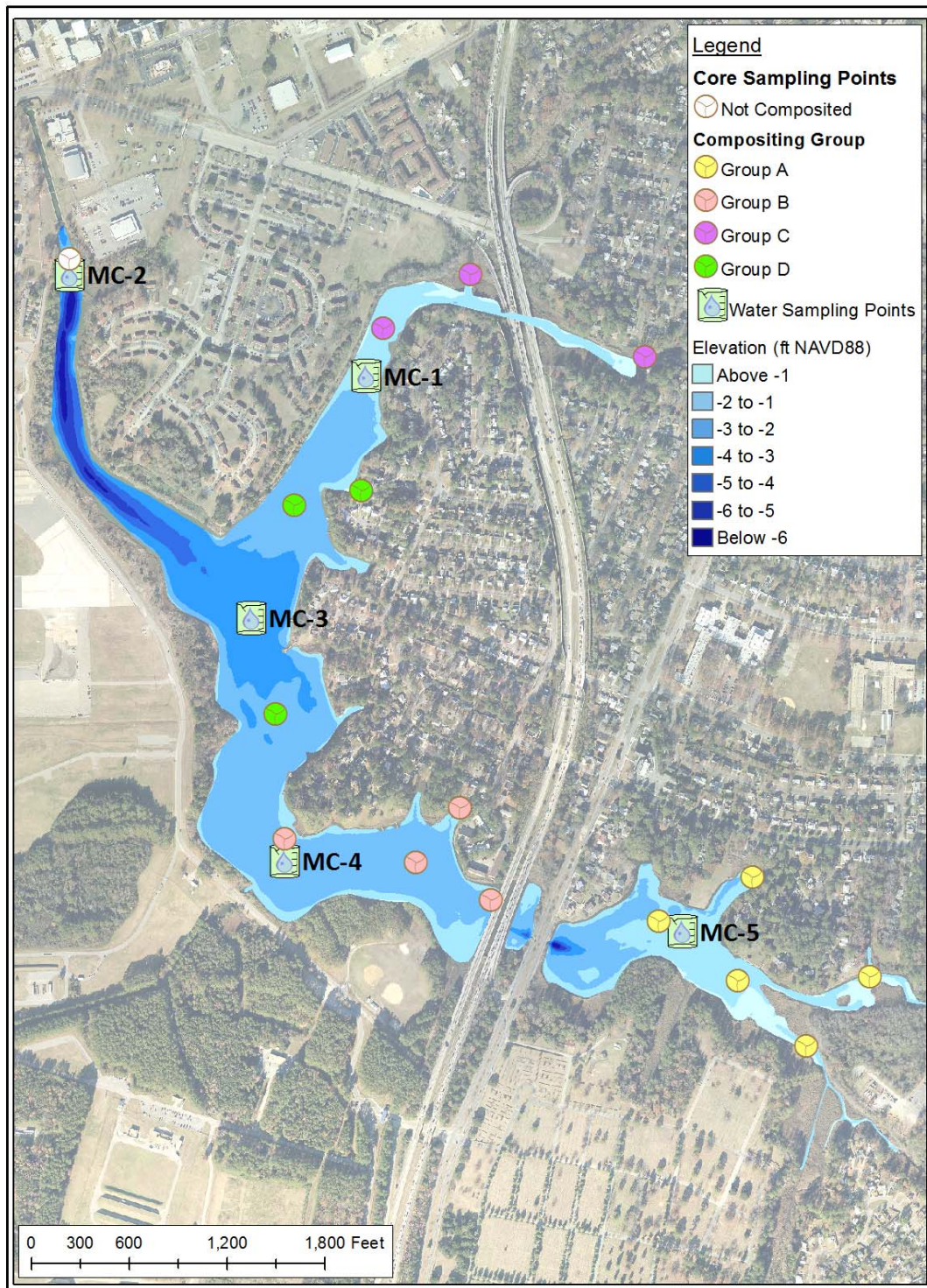


Figure 4: Locations of 2012-2013 water quality and sediment core sampling

In addition to the water quality issues discussed above, progressive sediment deposition over the decades has resulted in very shallow depths in much of Mason Creek. The most shallow areas are generally located in the reaches most closely associated with potential access areas for recreational watercraft and fishing, i.e. along the residential shorelines and near Northside Park. During typical mid to low tide conditions, water depths are too shallow in many areas of the creek to use small electric trolling motors, to paddle canoes and kayaks, or to sail in small boats with centerboards. Long-time residents of the surrounding community have reported that the depth in the creek for recreational boating was significantly greater several decades ago.

In summary, the expansion of Naval Station Norfolk facilities across the mouth of the creek and urbanization of the Mason Creek watershed over the past several decades have resulted in significant sediment accumulation and poor circulation and tidal flushing in the creek. As a result, the creek experiences lower dissolved oxygen, higher summer temperatures, higher nutrient concentrations, and higher pathogen indicator concentrations than it would have experienced in its historical state as an open tidal estuary. The degradation of water quality within Mason Creek has manifested as persistent algae blooms, and odors that appear to be associated with anaerobic decomposition of organic bed sediments. In addition, the sediment accumulation has significantly reduced the ability of adjacent residents and the general public to use Mason Creek for recreation.

Description of Proposed Project

The proposed dredging project is needed (1) as a major component of a project to improve water quality within the creek and (2) as the only means for restoring water depths suitable for recreation, including canoe, kayak, and small boat navigation.

The project seeks to improve water quality and decrease nuisance odors by removing nutrient-laden organic sediments (through dredging) and by increasing mixing through the phased installation of bubble diffusers (aerators). Bottom-mounted fine-bubble diffusers generate localized vertical currents in the water column, bringing less oxygenated water to the surface where it becomes reaerated. The induced circulation and turbulence mix the reaerated water with adjacent areas, over time increasing dissolved oxygen levels over broad areas. Maintaining higher dissolved oxygen levels in the water column results in improved habitat for fish and aquatic organisms and is likely to reduce the harmful effects of algal blooms. Increasing oxygen levels near the bed and within the upper bed sediments generally reduces the potential for release of nutrients to the water column and reduces the production of odor-causing compounds that occur in organic sediments under anoxic conditions.

Diffuser system manufacturers report a minimum water depth of approximately 4 feet for cost-effective use of bubble diffusers; the area of the water body circulated by each diffuser panel generally increases with water depth. The proposed dredging project is therefore needed to support the mixing and aeration of Mason Creek by providing the required 4 feet of water depth at low tide.

Dredging proposed to improve recreational access to Mason Creek encompasses the same footprint and depth as that proposed to be performed in conjunction with aeration. A depth of approximately 4 feet

would provide sufficient depth to accommodate the use of kayaks, canoes, and small sailboats such as Lasers or Sunfish which typically draft 2.5 to 3.5 feet.

As shown in the attached drawings, the proposed dredge template is a minimum dredge cut elevation of -4.0 feet NAVD88 in the main body of the creek and -3.5 feet NAVD88 in the narrower arms and coves. The shallower dredge elevation in the narrow reaches of the creek is designed to avoid impacts to shoreline wetlands considering lateral effects of dredging to occur at a distance of four times the depth of cut. Each section will have an allowable pay overdredge (also considered advance maintenance) of 0.5 feet below the specified dredge cut elevation. This dredge template with allowable overdredging will provide for between 4.0 and 4.5 feet of depth at MLW.

Dredging contractors will use a “box cut” template to efficiently remove the material. A box cut removes an equivalent volume of material using vertical side slopes. Over time the cuts slough in and a side slope is formed by the soil’s angle of repose. Based on the sediment sampling an angle of repose of 1 Vertical to 4 Horizontal is anticipated. The estimated *in situ* dredge volume, with allowable overdredging, is approximately 165,000 cubic yards (CY).

The method of dredging is proposed to be mechanical dredging by barge-mounted excavator, with truck haul of the dredged material to an upland facility. The specific final dredged material placement / disposal facility will be secured by the contractor.

Two locations are proposed for contractor access to the creek for transferring dredged material to sealed dump trucks. Materials dredged from the larger basin (west of Granby Street) will be transferred via landside equipment to dump trucks at an open field owned by the Norfolk Redevelopment and Housing Authority (NRHA). Sheets CS-104, CS-106 and CS-307 of the attached permit drawings shows the proposed transfer location, including a schematic representation of a construction entrance and onsite construction road. Construction traffic would access the site via a temporary construction entrance off of Bellinger Boulevard. This NRHA parcel will be the primary laydown area for the project, and the site will be restored at the completion of the work.

Transfer of materials dredged mechanically from the smaller basin (east of Granby Street) would require a temporary transfer area to be constructed adjacent to the northbound lanes of Granby Street. Sheets CS-102, CS-106 and CS-307 of the attached permit drawings shows the proposed transfer location and a schematic representation of a pull-off area for dump trucks and a temporary working platform. This parcel is owned by the City of Norfolk. Construction of the working platform will require earthwork and/or structural construction over tidal wetlands comprised primarily of *Phragmites australis*. The platform will support a long-reach excavator to transfer dredged materials from the hopper barges to sealed dump trucks queued in the right lane of northbound Granby Street. The area will be restored following construction.

Anticipated Impacts of Proposed Project

The dredge cut has been designed so as not to impact any tidal wetland areas (other than subaqueous areas) away from the dredged material transfer areas. Impacts of the dredging project consist of temporary impacts during construction, including impacts to tidal wetland (primarily *Phragmites australis*) at the two dredged material transfer areas, and impacts to subaqueous areas and temporarily increased turbidity from sediment suspension. Impact areas are indicated on the attached JPA and permit drawings. Table 1 summarizes the impacts and benefits associated with the proposed Dredging and the proposed Aeration.

Because the impacts are of a temporary nature and the sites will be restored following construction, no additional mitigation is proposed.

Table 1. Anticipated Impacts and Benefits of Proposed Dredging and Aeration

Project Component	Impacts	Benefits
Dredging	Temporary increase in turbidity during construction Temporary tidal wetlands impact during construction, primarily to <i>Phragmites</i> . Impacted shorelines will be restored following construction Temporary nuisance odors and equipment exhaust / noise during construction Temporary impacts on traffic along Bay Avenue and Granby Street during construction	Provides sufficient minimum water depth for aeration to be effective. Removes nutrient-laden, organic sediments Improves ability to use Mason Creek for boating and fishing
Aeration	Small increase in impervious area for compressor equipment Noise from compressor operations, minimized through mufflers integrated into the equipment.	Maintains higher dissolved oxygen levels by improving circulation; improves aquatic habitat Reduces nuisance odors arising from anaerobic bed sediment processes

Dredged Material Management Plan

Dredging is to be completed using mechanical dredge equipment. Equipment will be trucked to the site. Barges and excavators have maximum widths of 14 feet for over the road transportation.

Typical construction equipment includes:

- Barges for excavators – typically a two-piece barge, each section 14 feet by 45 feet, making the barge 28 feet by 45 feet
- Long-reach excavators mounted on barges
- Material / hopper barges (14 feet by 45 feet) for transporting dredged material to transfer areas; hoppers contain material volumes of approximately 50 CY each, and typically four or five hoppers will be used
- Small boats for pushing barges
- Long reach excavator at transfer area for unloading material barges
- Sealed dump trucks for transport to a final dredged material placement area

Material will be dredged by the barge-mounted excavators and loaded in the hopper barges. The hoppers will then be transported to the transfer sites where they will be unloaded by other excavators directly into sealed dump trucks. Note that some excavation from shore will be necessary immediately adjacent to the dredged material transfer areas, to create sufficient water depth for launching the barges and boats.

Samples of the materials to be dredged were collected from the proposed dredge area. The sediment testing program consisted of 16 samples collected to a depth of four feet below the bed. Composite samples were prepared representing geographic sections of the creek, and the composite samples were compiled for environmental testing. Classification testing results indicate the material to be dredged consist of silts and clays, with widespread presence of plant matter or roots, and relatively high water contents (112% to 282%). A single sampling point near the Navy channel and culvert to Willoughby Bay indicated fine to medium sand. The complete results of sediment sampling, with environmental testing results, are an attachment to this permit application.

No onsite dewatering of dredged material is anticipated. The dredged material will be truck hauled to an upland landfill or other facility that accepts excavated and dredged material. The project has been specifically discussed with two area facilities that have indicated that they are able to accept the dredged material from Mason Creek without dewatering. The specific final dredged material placement / disposal facility will be secured by the contractor in keeping with any and all permit requirements.

Property owned by the NRHA would constitute a 2.4 acre area for contractor access and laydown adjacent to Bellinger Boulevard and the northeastern shoreline of Mason Creek. This area is open grass space with no consistent present usage. After construction, this area will be restored to existing conditions. Dredged material will be loaded into sealed dump trucks and transported to the placement sites immediately to avoid re-handling, minimizing impacts on this parcel. Two reaches of shoreline will

be temporarily disturbed during construction, as outlined above, for equipment access and as areas to pull barges near shore for unloading. The disturbed shoreline, estimate to be on the order of 50 to 70 feet at each site, will be restored to pre-project conditions following construction (without restoring the *Phragmites*).

Production for mechanical dredges is estimated to be on the order of 40 – 50 CY/hr. Based on an estimated dredge volume of 165,000 CY, and production of 400-500 CY/day (assuming 10 hour work days), approximately 4 to 5 sealed 10 CY dump trucks will be leaving the site hourly over the project period estimated to be 24 months. Given the dredging volume and need to establish two separate dredged material transfer locations, the project may be conducted in phases over multiple calendar years.

A traffic control plan will be developed to provide ingress and egress onto Bellinger Boulevard and along Granby Street. Traffic control is proposed through a combination of signs and flagmen when trucks enter the road.

Attachment 1. Joint Permit Application

PLEASE PRINT OR TYPE ALL ANSWERS. If a question does not apply to your project, please print N/A (not applicable) in the space provided. **If additional space is needed, attach extra 8 ½ x 11 inch sheets of paper.**

<u>CHECK ONE, if applicable:</u>	Pre-Construction Notification (PCN) <input type="checkbox"/> (For Nationwide Permits ONLY)	SPGP <input type="checkbox"/>
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1. PROJECT LOCATION INFORMATION (Attach a copy of a detailed map, such as a USGS topographic map or street map showing the site location and project boundary, so that it may be located for inspection. Include an arrow indicating the north direction.)	
Street Address	City/County/Zipcode
Subdivision	Lot/Block/Parcel #
Name of water body(ies) within project boundaries and drainage area (acres or square miles)	
Tributary(ies) to: _____ Basin: _____ Subbasin: _____ (Example: Basin: <u>James River</u> Subbasin: <u>Middle James River</u>)	
Special Standards (based on DEQ Water Quality Standards 9VAC25-260 et seq.): _____	
Project type (check one) _____ Single user (private, non-commercial, residential) _____ Multi-user (community, commercial, industrial, government)	
Latitude and longitude at center of project site: ____- ____- ____/ ____- ____- ____	
USGS topographic map name: _____	
8- digit USGS Hydrologic Unit Code (HUC) for your project site (See http://cfpub.epa.gov/surf/locate/index.cfm): _____ If known, indicate the 10-digit and 12-digit USGS HUCs (see: _____)	
Name of your project (Example: <i>Water Creek driveway crossing</i>) _____	
Is there an access road to the project? __ Yes __ No. If yes, check all that apply: __ public __ private __ improved __ unimproved	
Provide driving directions to your site, giving distances from the best and nearest visible landmarks or major intersections:	
Does your project site cross boundaries of two or more localities (i.e. cities/counties/towns)? __ Yes __ No If so, name those localities:	

FOR AGENCY USE ONLY	
	Notes:
JPA#	

2. APPLICANT, AGENT, PROPERTY OWNER, AND CONTRACTOR INFORMATION

The applicant(s) is/are the legal entity to which the permit may be issued. The applicant(s) can either be the property owner(s) or the person/people/company(ies) that intend(s) to undertake the activity. The agent is the person or company that is representing the applicant(s). If a company, please use the company name that is registered with the State Corporation Commission (SCC), or indicate no registration with the SCC.

Applicant(s) (For a company, use SCC-registered name)			Agent (if applicable) (For a company, use SCC-registered name)		
Mailing address			Mailing address		
City	State	Zip Code	City	State	Zip Code
Phone number w/area code	Fax		Phone number w/area code	Fax	
Mobile/pager	E-mail		Mobile/pager	E-mail	
State Corporation Commission ID number (if applicable)			State Corporation Commission ID number (if applicable)		
<i>Certain permits or permit authorizations may be provided via electronic mail. If the applicant wishes to receive their permit via electronic mail, please provide an e-mail address here:</i> _____					
Property owner(s), if different from applicant (For a company, use SCC-registered name)			Contractor, if known (For a company, use SCC-registered name)		
Mailing address			Mailing address		
City	State	Zip code	City	State	Zip code
Phone number w/area code	Fax		Phone number w/area code	Fax	
Mobile/pager	E-mail		Mobile/pager	E-mail	
State Corporation Commission ID number (if applicable)			State Corporation Commission ID number (if applicable)		

3. PROVIDE A DESCRIPTION OF THE PROJECT, PROJECT PRIMARY AND SECONDARY PURPOSES, PROJECT NEED, INTENDED USE, AND ALTERNATIVES CONSIDERED (Attach additional sheets if necessary)

- The purpose must include any new development or expansion of an existing land use and/or proposed future use of residual land
- Describe the physical alteration of surface waters
- Include a description of alternatives considered to avoid or minimize impacts to surface waters, including wetlands, to the maximum extent practicable. Include factors such as, but not limited to, alternative construction technologies, alternative project layout and design, alternative locations, local land use regulations, and existing infrastructure
- For utility crossings, include both alternative routes and alternative construction methodologies considered
- For major surface water withdrawals, public surface water supply withdrawals, or projects that will alter in-stream flows, include the water supply issues that form the basis of the proposed project.

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3. PROVIDE A DESCRIPTION OF THE PROJECT (Continued)

Date of proposed commencement of work (MM/DD/YYYY)

Date of proposed completion of work (MM/DD/YYYY)

Are you submitting this application at the direction of any State, local, or Federal agency? ____ Yes ____ No

Has any work commenced or has any portion of the project for which you are seeking a permit been completed?

____ Yes ____ No

If you answered "yes" to either question above, give details stating when the work was completed and/or when it commenced, who performed the work, and which agency (if any) directed you to submit this application. In addition, you will need to clearly differentiate between completed work and proposed work on your project drawings.

Are you aware of any unresolved violations of environmental law or litigation involving the property? ____ Yes ____ No
(If yes, please explain)

4. PREVIOUS SITE VISITS AND/OR PERMITS RELATED TO THE PROPOSED WORK (Include all Federal, State, and Local pre-application coordination or previous permits)

Agency	Activity	Permit/Project number, and explanation of non-reporting Nationwide permits previously used	Action taken ** and Date of Action	If denied, give reason for denial

** Issued, denied, site visit

5. PROJECT COSTS

Approximate cost of the entire project, including materials and labor: \$ _____

Approximate cost of only the portion of the project affecting State waters (below mean low water in tidal areas and below ordinary high water mark in nontidal areas): \$ _____

6. PUBLIC NOTIFICATION (Attach additional sheets if necessary)

- Complete information for all property owners adjacent to the project site and across the waterway, if the waterway is less than 500 feet in width. If your project is located within a cove, you will need to provide names and mailing addresses for all property owners within the cove.
- If you own the adjacent lot, provide the requested information for the first adjacent parcel beyond your property line.

Property owner's name	Mailing address	City	State	Zip code

Name of newspaper having general circulation in the area of the project: _____
Address and phone number (including area code) of newspaper: _____

Have adjacent property owners been notified with forms in Appendix A? ____ Yes ____ No (attach copies of distributed forms)

7. THREATENED AND ENDANGERED SPECIES INFORMATION

Please provide any information concerning the potential for your project to impact state and/or federally threatened and endangered species (listed or proposed). Attach correspondence from agencies and/or reference materials that address potential impacts, such as database search results or your Corps' waters and wetlands delineation confirmation. Contact information for the Virginia Department of Game and Inland Fisheries and the Virginia Department of Conservation and Recreation, Division of Natural Heritage can be found on page 4 of this package.

8. HISTORIC RESOURCES INFORMATION

Note: Historic properties include but are not limited to archeological sites, battlefields, Civil War earthworks, graveyards, buildings, bridges, canals, etc. Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant.

Are any historic properties located within or adjacent to the project site? ____ Yes ____ No ____ Uncertain
If Yes, please provide a map showing the location of the historic property within or adjacent to the project site.

Are there any buildings or structures 50 years old or older located on the project site? ____ Yes ____ No ____ Uncertain
If Yes, please provide a map showing the location of these buildings or structures on the project site.

Is your project located within a historic district? ____ Yes ____ No ____ Uncertain
If Yes, please indicate which district: _____

8. HISTORIC RESOURCES INFORMATION (Continued)

Has a survey to locate archeological sites and/or historic structures been carried out on the property?

___ Yes ___ No ___ Uncertain

If Yes, please provide the following information: Date of Survey: _____

Name of firm: _____

Is there a report on file with the Virginia Department of Historic Resources? ___ Yes ___ No ___ Uncertain

Title of Cultural Resources Management (CRM) report: _____

Was any historic property located? ___ Yes ___ No ___ Uncertain

9. WETLANDS, WATERS, AND DUNES/BEACHES IMPACT INFORMATION

Report each impact site in a separate column. If needed, attach additional sheets using a similar table format. Please ensure that the associated project drawings clearly depict the location and footprint of each numbered impact site. For dredging, mining, and excavating projects, use Section 18.

	Impact site number 1	Impact site number 2	Impact site number 3
Impact description (use all that apply): F=fill EX=excavation S=Structure T=tidal NT=non-tidal TE=temporary PE=permanent PR=perennial IN=intermittent SB=subaqueous bottom DB=dune/beach IS=hydrologically isolated V=vegetated NV=non-vegetated MC=Mechanized Clearing of PFO (Example: F, NT, PE, V)			
Wetland/waters impact area (square feet)			
Dune/beach impact area (square feet)			
Stream dimensions at impact site (length and average width in linear feet, and area in square feet)			
Volume of fill below Mean High Water or Ordinary High Water (cubic yards)			
Cowardin classification of impacted wetland/water or geomorphological classification of stream Example wetland: PFO; Example stream: wide; bank eroding; braided channel; Example stream: 'C' channel			
Average stream flow at site (flow rate under normal rainfall conditions in cubic feet per second)			
Contributing drainage area (acres or square miles)			

9. WETLANDS/WATERS IMPACT INFORMATION (Continued)

DEQ classification of impacted resource(s):

Estuarine Class II
Non-tidal waters Class III
Mountainous zone waters Class IV
Stockable trout waters Class V
Natural trout waters Class VI
Wetlands Class VII

For DEQ permitting purposes, also submit as part of this section a wetland and waters boundary delineation map⁽⁴⁾ – see the Footnotes section in the form instructions.

For DEQ permitting purposes, also submit as part of this section a written disclosure of all wetlands, open water, or streams that are located within the proposed project or compensation areas that are also under a deed restriction, conservation easement, restrictive covenant, or other land-use protective instrument.

10. APPLICANT, AGENT, OWNER, AND CONTRACTOR CERTIFICATIONS

If the Applicant(s), Agent(s), Owner(s), or Contractor(s) is/are a company, please use the company name(s) that is/are registered with the State Corporation Commission (SCC).

READ ALL OF THE FOLLOWING CAREFULLY BEFORE SIGNING

PRIVACY ACT STATEMENT: The Department of the Army permit program is authorized by Section 10 of the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act, and Section 103 of the Marine Protection Research and Sanctuaries Act of 1972. These laws require that individuals obtain permits that authorize structures and work in or affecting navigable waters of the United States, the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters prior to undertaking the activity. Information provided in the Joint Permit Application will be used in the permit review process and is a matter of public record once the application is filed. Disclosure of the requested information is voluntary, but it may not be possible to evaluate the permit application or to issue a permit if the information requested is not provided.

CERTIFICATION: I am hereby applying for permits typically issued by the DEQ, VMRC, U.S. Army Corps of Engineers, and/or Local Wetlands Boards for the activities I have described herein. I agree to allow the duly authorized representatives of any regulatory or advisory agency to enter upon the premises of the project site at reasonable times to inspect and photograph site conditions, both in reviewing a proposal to issue a permit and after permit issuance to determine compliance with the permit.

In addition, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Is/Are the Applicant(s) and Owner(s) the same? ____ Yes ____ No

Applicant's name & title (printed or typed)

Second applicant's name & title, if applicable (printed or typed)

Applicant's signature

Second applicant's signature

Date

Date

(Required for VMRC permit actions only)

Property owner's name, if different from Applicant

(Required for VMRC permit actions only)

Second property owner's name, if applicable

Owner's signature, if different from Applicant

Second owner's signature

Date

Date

10. APPLICANT, AGENT, OWNER, AND CONTRACTOR CERTIFICATIONS (Continued)

If the Applicant(s), Agent(s), Owner(s), or Contractor(s) is/are a company, please use the company name(s) that is/are registered with the State Corporation Commission (SCC).

CERTIFICATION OF AUTHORIZATION TO ALLOW AGENT(S) TO ACT ON APPLICANT'S(S') BEHALF (IF APPLICABLE)

I (we), _____ (and) _____ ,
 APPLICANT'S NAME(S) – *complete the second blank if more than one Applicant*

hereby certify that I (we) have authorized _____ (and) _____
 AGENT'S NAME(S) – *complete the second blank if more than one Agent*

to act on my (our) behalf and take all actions necessary to the processing, issuance, and acceptance of this permit and any and all standard and special conditions attached. I (we) hereby certify that the information submitted in this application is true and accurate to the best of my (our) knowledge.

Applicant's signature	Second applicant's signature, if applicable
Date	Date
Agent's signature and title	Second agent's signature and title, if applicable
Date	Date

CONTRACTOR ACKNOWLEDGEMENT (IF APPLICABLE)

I (we), _____ (and) _____ ,
 APPLICANT'S NAME(S) – *complete the second blank if more than one Applicant*

have contracted _____ (and) _____
 CONTRACTOR'S NAME(S) – *complete the second blank if more than one Contractor*

to perform the work described in this Joint Permit Application, signed and dated _____.

I (we) will read and abide by all conditions as set forth in all Federal, State, and Local permits as required for this project. I (we) understand that failure to follow the conditions of the permits may constitute a violation of applicable Federal, State, and Local statutes and that we will be liable for any civil and/or criminal penalties imposed by these statutes.

In addition, I (we) agree to make available a copy of any permit to any regulatory representative visiting the project site to ensure permit compliance. If I (we) fail to provide the applicable permit upon request, I (we) understand that the representative will have the option of stopping our operation until it has been determined that we have a properly signed and executed permit and are in full compliance with all of the terms and conditions.

Contractor's name or name of firm (printed/typed)	Contractor's or firm's mailing address	
Contractor's signature and title	Contractor's license number	Date
Applicant's signature	Second applicant's signature, if applicable	
Date	Date	



END OF GENERAL INFORMATION

The following sections are activity-specific. Fill out only the sections that apply to your particular project.

18. DREDGING, MINING, AND EXCAVATING

FILL OUT THE FOLLOWING TABLE FOR DREDGING PROJECTS

	NEW dredging				MAINTENANCE dredging			
	Hydraulic		Mechanical (clamshell, dragline, etc.)		Hydraulic		Mechanical (clamshell, dragline, etc.)	
	Cubic yards	Square feet	Cubic yards	Square feet	Cubic yards	Square feet	Cubic yards	Square feet
Vegetated wetlands								
Nonvegetated wetlands								
Subaqueous land								
Totals								
Is this a one-time dredging event? ____Yes ____ No If "no", how many dredging cycles are anticipated: _____ (____ initial cycle in cu. yds.) (____ subsequent cycles in cu. yds.)								
Composition of material (percentage sand, silt, clay, rock): Provide documentation (i.e. laboratory results or analytical reports) that <i>dredged</i> material from on-site areas is free of toxics. If not free of toxics, provide documentation of proper disposal (i.e. bill of lading from commercial supplier or disposal site).								
Please include a dredged material management plan that includes specifics on how the dredged material will be handled and retained to prevent its entry into surface waters or wetlands. If on-site dewatering is proposed, please include plan view and cross section drawings of the dewatering area and associated outfall.								
Will the dredged material be used for any commercial purpose or beneficial use? ____Yes ____No If yes, please explain:								
If this is a maintenance dredging project, what was the date that the dredging was last performed? _____ Permit number of original permit: _____ (It is important that you attach a copy of the original permit.)								
<p><i>For mining projects:</i> On separate sheets of paper, explain the operation plans, including: 1) the frequency (i.e., every six weeks, for example), duration (i.e., April through September), and volume (in cubic yards) to be removed per operation; 2) the temporary storage and handling methods of mined material, including the dimensions of the containment berm used for upland disposal of dredged material and the need (or no need) for a liner or impermeable material to prevent the leaching of any identified contaminants into ground water; 3) how equipment will access the mine site; and 4) verification that dredging: a) will not occur in water body segments that are currently on the effective Section 303(d) Total Maximum Daily Load (TMDL) priority list or that have an approved TMDL; b) will not exacerbate any impairment; and c) will be consistent with any waste load allocation/limit/conditions imposed by an approved TMDL.</p> <p>Have you applied for a permit from the Virginia Department of Mines, Minerals and Energy? ____Yes ____No</p>								
Contributing drainage area: _____square miles					Average stream flow at site (flow rate under normal rainfall conditions): _____cfs			

19. FILL (not associated with backfilled shoreline structures) AND OTHER STRUCTURES (other than piers and boathouses) IN WETLANDS OR WATERS, OR ON DUNES/BEACHES

Source and composition of fill material (percentage sand, silt, clay, rock): _____

Provide documentation (i.e. laboratory results or analytical reports) that *fill* material from *off-site* locations is free of toxics. If not free of toxics, provide documentation of proper disposal (i.e. bill of lading from commercial supplier or disposal site). Documentation is not necessary for fill material obtained from on-site areas.

Explain the purpose of the filling activity and the type of structure to be constructed over the filled area (if any):

Describe any structure that will be placed in wetlands/waters or on a beach dune and its purpose:

Will the structure be placed on pilings? ____ Yes ____ No

Total area occupied by any structure.
_____ Square Feet

How far will the structure be placed channelward from the back edge of the dune? _____ feet

How far will the structure be placed channelward from the back edge of the beach? _____ feet

20. NONTIDAL STREAM CHANNEL MODIFICATIONS FOR RESTORATION OR ENHANCMENT, or TEMPORARY OR PERMANENT RELOCATIONS

If proposed activities are being conducted for the purposes of compensatory mitigation, please attach separate sheets of paper providing all information required by the most recent version of the stream assessment methodology approved by the Norfolk District of the U.S. Army Corps of Engineers and the Virginia Department of Environmental Quality, in lieu of completing the questions below. Required information outlined by the methodology can be found at:
<http://www.nao.usace.army.mil/Missions/Regulatory/UnifiedStreamMethodology.aspx> or
<http://www.deq.virginia.gov/Programs/Water/WetlandsStreams/Mitigation.aspx>.

Has the stream restoration project been designed by a local, state, or federal agency? ____ Yes ____ No. If yes, please include the name of the agency here: _____.

Is the agency also providing funding for this project? ____ Yes ____ No

Linear feet of stream impact: _____

Contributing drainage area: _____ acres or _____ square miles

Existing average stream flow at site (flow rate under normal rainfall conditions): _____ cfs

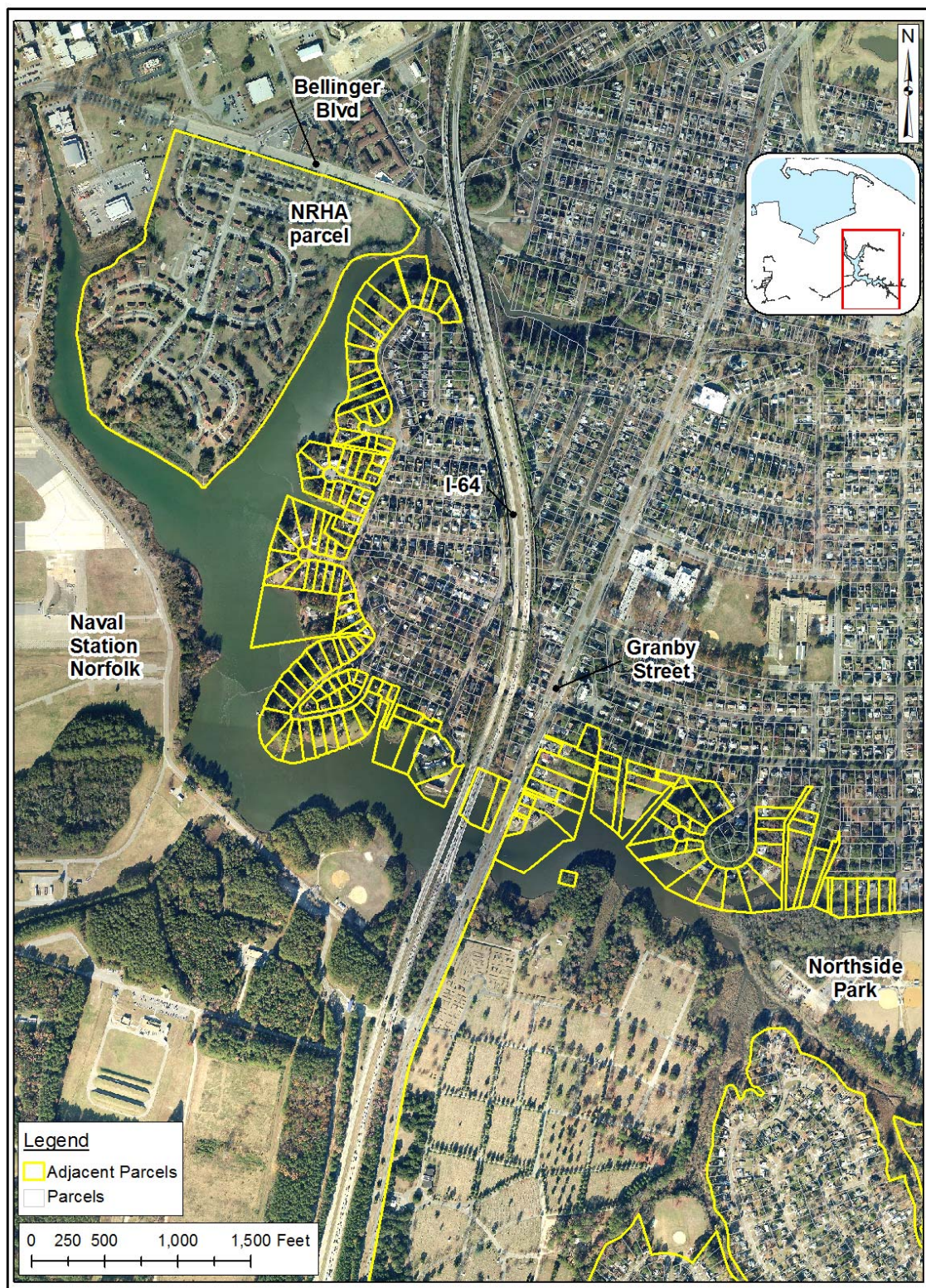
Proposed average stream flow at site after modifications (flow rate under normal rainfall conditions): _____ cfs

Explain, in detail, the method to be used to stabilize the banks:

Explain the composition of the existing stream bed (percent cobble, rock, sand, etc.):

9. WETLANDS, WATERS, AND DUNES/BEACHES IMPACT INFORMATION				
Impact number (description)	Impact site number 1 (Dredge area w/ 3x buffer)	Impact site number 2 (Eastern Transfer Area)	Impact site number 3 (Western Transfer Area)	Impact site number 4 (Dredge area w/ 3x buffer)
Impact description (use all that apply):	EX, T, PE, SB, NV	F, T, TE, V	F, T, TE, NV	EX, T, PE, SB, NV
Wetland/waters impact area (square feet)	2,382,943	4,185	1,316	6,870
Dune/beach impact area (square feet)	N/A	N/A	N/A	N/A
Stream dimensions at impact site (length and average width in linear feet, and area in sq. ft.)	N/A	N/A	N/A	N/A
Volume of fill below Mean High Water or Ordinary High Water (cubic yards)	N/A	N/A	N/A	N/A
Cowardin classification of impacted wetland/water or geomorphological classification of stream	EUB3	EEM5	ERS2	EUB2
Average stream flow at site (flow rate under normal rainfall conditions) (cubic feet per second)	N/A	N/A	N/A	N/A
Contributing drainage area (acres or square miles)	3491 acres	3491 acres	3491 acres	3491 acres
DEQ classification of impacted resource(s):	Estuarine (Class II)	Estuarine (Class II)	Estuarine (Class II)	Estuarine (Class II)
For DEQ permitting purposes, also submit as part of this section a wetland and waters boundary delineation map (4) – see the Footnotes section in the form instructions.	See project drawings for wetlands and waters boundary map.	See project drawings for wetlands and waters boundary map.	See project drawings for wetlands and waters boundary map.	See project drawings for wetlands and waters boundary map.
For DEQ permitting purposes, also submit as part of this section a written disclosure of all wetlands, open water, or streams that are located within the proposed project or compensation areas that are also under a deed restriction, conservation easement, restrictive covenant, or other land-use protective instrument.	N/A	N/A	N/A	N/A

Attachment 2. Adjacent Property Owners



Adjacent Property Owner (APO) Parcel Locations

GPIN	Owner Name	Owner Street	Owner City	Owner ZIP	Property Street	Property City	Property ZIP
1530473371	ABBOTT, JOSEPH E JR & ANN B	8534 CULFOR CRES	NORFOLK, VA	23503-4709	8534 CULFOR CRES	NORFOLK, VA	23503-4709
1530499087	ALBERT, DEL W & DORIS L	8769 COMMODORE OVLK	NORFOLK, VA	23503-4733	8769 COMMODORE OVLK	NORFOLK, VA	23503-4733
1530570412	ALMOND, LAWRENCE A	187 BLADES ST	NORFOLK, VA	23503-4742	187 BLADES ST	NORFOLK, VA	23503-4742
1530853927	HAIR, JOHNATHAN & PAMELA	257 LOUVIK ST	NORFOLK, VA	23503-5224	257 LOUVICK ST	NORFOLK, VA	23503-5224
1530669331	APLET, NORMA J ET ALS	147 CIRCLE CT	NORFOLK, VA	23503-4835	147 CIRCLE CT	NORFOLK, VA	23503-4835
1530769445	CASEY, NOREEN J & WILLIAM B	8545 LAWSON AVE	NORFOLK, VA	23503-5220	8545 LAWSON AV	NORFOLK, VA	23503-5220
1530669432	ROSSETTI, WILLIAM	144 CIRCLE CT	NORFOLK, VA	23503-4835	144 CIRCLE CT	NORFOLK, VA	23503-4835
1530573186	ASPHALT ROADS & MATERIALS CO INC	4901 CLEVELAND ST	VIRGINIA BEACH, VA	23462-5301	8578 EXECUTIVE DR	NORFOLK, VA	23503
1530562947	ASPHALT ROADS & MATERIALS CO INC	4901 CLEVELAND ST	VIRGINIA BEACH, VA	23462-5301	W S EXECUTIVE DR	NORFOLK, VA	23503
1530477172	MARUSICH, ROBERT P ET AL	8510 CULFOR CRES	NORFOLK, VA	23503-4709	8510 CULFOR CRES	NORFOLK, VA	23503-4709
1530488567	SANCHEZ, DOUGLAS A	8729 COMMODORE DR	NORFOLK, VA	23503-4705	8729 COMMODORE DR	NORFOLK, VA	23503-4705
1530486368	CORCORAN, JESSAMYN	212 W BAYVIEW BLVD	NORFOLK, VA	23503-4702	212 W BAYVIEW BLVD	NORFOLK, VA	23503-4702
1530489933	GRIMPEL, LUCAS & NATALIE	206 RODMAN RD	NORFOLK, VA	23503-4727	206 RODMAN RD	NORFOLK, VA	23503-4727
1530489884	CAMPBELL, JERGEN D & SHERRY D HANDEL	8749 COMMODORE DR	NORFOLK, VA	23503-4733	8749 COMMODORE DR	NORFOLK, VA	23503-4733
1530669821	VITEK, LEIGH T & ROBERT T	8588 MARGARET AVE	NORFOLK, VA	23503-4842	8588 MARGARET AV	NORFOLK, VA	23503-4842
1530477343	BASTIAN, RICHARD A & BETTY S	8523 CULFOR CRES	NORFOLK, VA	23503-4708	8523 CULFOR CRES	NORFOLK, VA	23503-4708
1530760179	BATEMAN, JESSICA C REVOCABLE TRUST	8548 CIRCLE DR	NORFOLK, VA	23503-4837	8548 CIRCLE DR	NORFOLK, VA	23503-4837
1530486126	ATKINSON, CHRISTOPHER J ET AL	209 W BAYVIEW BLVD	NORFOLK, VA	23503-4701	209 W BAYVIEW BLVD	NORFOLK, VA	23503-4701
1530477623	MENDOZA, RICARDO U & PAULA M	8552 CUFOR CRESCENT	NORFOLK, VA	23503	8552 CULFOR CRES	NORFOLK, VA	23503-4709
1530571022	WRIGHT, MARIAN W REV LIVING TR	4744 POOL SIDE RD	VIRGINIA BEACH, VA	23455-5329	8560 ROSMAR CT	NORFOLK, VA	23503-4728
1530485445	BUEN, EDSSELL D	218 W BAYVIEW BLVD	NORFOLK, VA	23503-4702	218 W BAYVIEW BLVD	NORFOLK, VA	23503-4702
1530485178	DEAN TIMOTHY M & ANNA	211 W BAYVIEW BLVD	NORFOLK, VA	23503-4701	211 W BAYVIEW BLVD	NORFOLK, VA	23503-4701
1530487754	HABIB, AMEET I & STEPHANIE	213 RODMAN RD	NORFOLK, VA	23503-4726	213 RODMAN RD	NORFOLK, VA	23503-4726
1530488917	CASTOR, MARY ANN	214 RODMAN RD	NORFOLK, VA	23503-4727	214 RODMAN RD	NORFOLK, VA	23503-4727
1530487154	SUMMIT HOLDING GROUP, LLC	7656 W SAHARA AVE STE 110	LAS VEGAS, NV	89117-2773	201 W BAYVIEW BLVD	NORFOLK, VA	23503-4701
1530762414	MULLALY, HUGH J	156 CIRCLE CT	NORFOLK, VA	23503-4835	156 CIRCLE CT	NORFOLK, VA	23503-4835
1530768194	WISE, KEITH ET AL	8541 LAWSON AVE	NORFOLK, VA	23503-5220	8541 LAWSON AV	NORFOLK, VA	23503-5220
1530478669	COULSTING, MARY S TRUST	1420 RAMSEY RD	NORFOLK, VA	23503-4124	8560 CULFOR CRES	NORFOLK, VA	23503-4709
1530662776	IACONO, D BARRY & MYRA V TRS	8568 GRANBY ST	NORFOLK, VA	23503-4816	8568 GRANBY ST	NORFOLK, VA	23503-4816
1530499228	GUERRA, ERIC S	8803 COMMODORE OVLK	NORFOLK, VA	23503-4733	8803 COMMODORE OVLK	NORFOLK, VA	23503-4733
1531501133	CALEO, MICHAEL V & CATHRYN L	8831 COMMODORE DR	NORFOLK, VA	23503-4706	8831 COMMODORE DR	NORFOLK, VA	23503-4706
1530479744	FECTEAU, JEAN E ET AL	8580 CULFOR CRES	NORFOLK, VA	23503-4709	8580 CULFOR CRES	NORFOLK, VA	23503-4709
1530767437	BLINK, MARTIN J & CATHERYN C	PO BOX 121	BUXTON, NC	27920-0121	8518 CIRCLE DR	NORFOLK, VA	23503-4837

GPIN	Owner Name	Owner Street	Owner City	Owner ZIP	Property Street	Property City	Property ZIP
1530664903	PHILLIPS, MATTHEW & AMY W	8584 GRANBY ST	NORFOLK, VA	23518-2504	8584 GRANBY ST	NORFOLK, VA	23518-2504
1530663816	HUTCHINS, GREGORY M	8576 GRANBY ST	NORFOLK, VA	23503-4816	8576 GRANBY ST	NORFOLK, VA	23503-4816
1530855928	DOWNING, LYNETTE K	269 LOUVICK ST	NORFOLK, VA	23503-5224	269 LOUVICK ST	NORFOLK, VA	23503-5224
1530855958	DOWNING, LYNETTE K	269 LOUVICK ST	NORFOLK, VA	23503-5224	273 LOUVICK ST	NORFOLK, VA	23503
1530478407	BOYD, JAMES A ET AL	8555 CULFOR CRES	NORFOLK, VA	23503-4708	8555 CULFOR CRES	NORFOLK, VA	23503-4708
1530476027	SOUSA, EMILIO ET ALS	8516 CULFOR CRES	NORFOLK, VA	23503-4709	8516 CULFOR CRES	NORFOLK, VA	23503-4709
1530486412	OZMON, TIMOTHY T	216 W BAYVIEW BLVD	NORFOLK, VA	23503-4702	216 W BAYVIEW BLVD	NORFOLK, VA	23503-4702
1530496030	FOSTER, LAWRENCE H JR ET AL	222 RODMAN RD	NORFOLK, VA	23503-4727	222 RODMAN RD	NORFOLK, VA	23503-4727
1530761392	DICKINSON, DEBRA A	155 CIRCLE CT	NORFOLK, VA	23503-4835	155 CIRCLE CT	NORFOLK, VA	23503-4835
1530661771	CAPUTO, JOHN P JR & VIVIAN C	8562 GRANBY ST	NORFOLK, VA	23503-4816	8562 GRANBY ST	NORFOLK, VA	23503-4816
1530663671	WALTER, ANNETTE E	8560 GRANBY ST	NORFOLK, VA	23503-4816	8560 GRANBY ST	NORFOLK, VA	23503-4816
1530660662	CATCHOT, ROBERT H JR & GARNET V	8552 GRANBY ST	NORFOLK, VA	23503-4816	8552 GRANBY ST	NORFOLK, VA	23503-4816
1530660536	ERB, DANIEL LEE & NANCY	5579 STERLING LAKES CIR #310	MASON, OH	45040-7838	8548 GRANBY ST	NORFOLK, VA	23503-4816
1530569486	TYSON, TONY & ALBERTA L	8540 GRANBY ST	NORFOLK, VA	23503-4816	8540 GRANBY ST	NORFOLK, VA	23503-4816
1530760522	MULLIGAN, CHARLES H & HELEN P, TRS	148 CIRCLE CT	NORFOLK, VA	23503-4835	148 CIRCLE CT	NORFOLK, VA	23503-4835
1530580946	GILDEA, ROBERT E & SHIRLEY V	8757 COMMODORE DR	NORFOLK, VA	23503-4733	8757 COMMODORE DR	NORFOLK, VA	23503-4733
1530486709	CHARNOCK, JOSEPH P & SHEILA A	221 RODMAN RD	NORFOLK, VA	23503-4726	221 RODMAN RD	NORFOLK, VA	23503-4726
1530483398	GORNEY, LOUIS F & HAZEL A	224 W BAYVIEW BLVD	NORFOLK, VA	23503-4702	224 W BAYVIEW BLVD	NORFOLK, VA	23503-4702
1530488683	HINOJOSA, FRANKLIN ALEJANDRO	8733 COMMODORE DR	NORFOLK, VA	23503-4705	8733 COMMODORE DR	NORFOLK, VA	23503-4705
1530486185	GREENE, DAVID A & TAMMIE A	205 W BAYVIEW BLVD	NORFOLK, VA	23503-4701	205 W BAYVIEW BLVD	NORFOLK, VA	23503-4701
1530767338	BEALES, EDWARD H	8522 CIRCLE DR	NORFOLK, VA	23503-4837	8522 CIRCLE DR	NORFOLK, VA	23503-4837
1530499619	DAY, DANIEL B & CARYNN	8819 COMMODORE DR	NORFOLK, VA	23503-4706	8819 COMMODORE DR	NORFOLK, VA	23503-4706
1530499298	WALL, LISA M ET AL	8805 COMMODORE DR	NORFOLK, VA	23503-4706	8805 COMMODORE OVLK	NORFOLK, VA	23503-4706
1530571345	CRISTEA, SIMEON & SAMANTHA L	173 BLADES ST	NORFOLK, VA	23503-4742	173 BLADES ST	NORFOLK, VA	23503-4742
1530489649	MCLAUGHLIN, JAMES B & KRYSTLE A	201 RODMAN RD	NORFOLK, VA	23503-4726	201 RODMAN RD	NORFOLK, VA	23503-4726
1530474044	JOHNSON, DEREK W & JANICE L	8524 CULFOR CRES	NORFOLK, VA	23503-4709	8524 CULFOR CRES	NORFOLK, VA	23503-4709
1530762684	BUNS, PHILLIP A & RACHEL A	8568 CIRCLE DR	NORFOLK, VA	23503-4850	8568 CIRCLE DR	NORFOLK, VA	23503-4850
1530488792	MATEO, RICHARD H & ESMIN B	205 RODMAN RD	NORFOLK, VA	23503-4726	205 RODMAN RD	NORFOLK, VA	23503-4726
1530477685	WARD, RICHARD C & VIRGINIA M	5326 POWHATAN AVE	NORFOLK, VA	23508	8554 CULFOR CRES	NORFOLK, VA	23503-4709
1530564904	JEFFERSON ARMS CORP	8562 EXECUTIVE DR # DR-2	NORFOLK, VA	23503-4711	8562 EXECUTIVE DR	NORFOLK, VA	23503-4715
1530498103	MORRIS, EMILY ANN ET ALS	8777 COMMODORE OVLK	NORFOLK, VA	23503-4741	8777 COMMODORE OVLK	NORFOLK, VA	23503-4741
1530487938	JOHNSON, GAIL T & JAMES JUSTIN	218 RODMAN RD	NORFOLK, VA	23503-4727	218 RODMAN RD	NORFOLK, VA	23503-4727
1530761439	SAULT, KENNETH R ET AL	152 CIRCLE CT	NORFOLK, VA	23503-4835	152 CIRCLE CT	NORFOLK, VA	23503-4835

GPIN	Owner Name	Owner Street	Owner City	Owner ZIP	Property Street	Property City	Property ZIP
1530479230	THOMPSON, BRYAN	8506 CULFOR CRES	NORFOLK, VA	23503-4709	8506 CULFOR CRES	NORFOLK, VA	23503-4709
1531500053	COFFMAN, NICHOLAS	8829 COMMODORE DR	NORFOLK, VA	23503-4706	8829 COMMODORE DR	NORFOLK, VA	23503-4706
1530499531	STARITA, PATRICIA D	8815 COMMODORE DR	NORFOLK, VA	23503-4706	8815 COMMODORE DR	NORFOLK, VA	23503-4706
1530760719	VITEK, ROBERT T & LEIGH T	8588 MARGARET AVENUE	NORFOLK, VA	23503-4842	E S MARGARET AV	NORFOLK, VA	23503-0000
1530668784	PINE, CHRISTOPHER W & KRISTEN M	8584 MARGARET AVE	NORFOLK, VA	23503-4842	8584 MARGARET AV	NORFOLK, VA	23503-4842
1530763032	SMITH, WINFORD W & KAY D	8540 CIRCLE DR	NORFOLK, VA	23503-4837	8540 CIRCLE DR	NORFOLK, VA	23503-4837
1530475046	GLEASON, RYAN J & REBECCA L	8522 CULFOR CRES	NORFOLK, VA	23503-4709	8522 CULFOR CRES	NORFOLK, VA	23503-4709
1530564762	KMH LLC	2492 ENTRADA DR	VIRGINIA BEACH, VA	23456-4222	8554 EXECUTIVE DR	NORFOLK, VA	23503-4714
1530851977	HARDY, MARION, TRUSTEE	PO BOX 429	HAMPTON FALLS, NH	03844-0429	245 LOUVICK ST	NORFOLK, VA	23503-5224
1531503191	STINE, RACHEL E ET AL	194 COMMODORE DR	NORFOLK, VA	23503-4801	194 COMMODORE DR	NORFOLK, VA	23503-4801
1530767228	EVERSOLE, JASON C & BRIDGID R	8526 CIRCLE DR	NORFOLK, VA	23503-4837	8526 CIRCLE DR	NORFOLK, VA	23503-4837
1530764070	LAWRENCE, VERNIE C JR & BETTY S, TRS	8538 CIRCLE DR	NORFOLK, VA	23503-4837	8538 CIRCLE DR	NORFOLK, VA	23503-4837
1530590385	LEVESQUE, RONALD F	8809 COMMODORE DR	NORFOLK, VA	23503-4706	8809 COMMODORE DR	NORFOLK, VA	23503-4706
1530572242	ZADD, PATRICK J & JAMIE G	8564 ROSMAR CT	NORFOLK, VA	23503-4728	8564 ROSMAR CT	NORFOLK, VA	23503-4728
1530476661	LEWIS, JOHN H & PATSY P	8550 CULFOR CRES	NORFOLK, VA	23503-4709	8550 CULFOR CRES	NORFOLK, VA	23503-4709
1530487473	LINDEN, GENE M & JANET K	8721 COMMODORE DR	NORFOLK, VA	23503-4705	8721 COMMODORE DR	NORFOLK, VA	23503-4705
1530590098	LLAMES, GIL C & MARIA L	8765 COMMODORE DR	NORFOLK, VA	23503-4733	8765 COMMODORE DR	NORFOLK, VA	23503-4733
1530476336	LOPEZ, MARIO L & SEVERINA C	8541 CULFOR CRES	NORFOLK, VA	23503-4708	8541 CULFOR CRES	NORFOLK, VA	23503-4708
1530860151	BARRINGTON, BILLY R & SHIRLEY D TRS	416 E BAYVIEW BLVD	NORFOLK, VA	23503-5438	8532 LAWSON AV	NORFOLK, VA	23503
1530661329	LUSH, WALTER D & CARMENCITA B	8544 GRANBY ST	NORFOLK, VA	23503-4816	8544 GRANBY ST	NORFOLK, VA	23503-4816
1530484447	BUEN, THOMAS R & GISELA M	222 W BAYVIEW BLVD	NORFOLK, VA	23503-4702	222 W BAYVIEW BLVD	NORFOLK, VA	23503-4702
1530474315	MINOR, MATTHEW H ET AL	8536 CULFOR CRES	NORFOLK, VA	23503-4709	8536 CULFOR CRES	NORFOLK, VA	23503-4709
1530478459	ALEXANDER, KEVIN M & VALERIE D	8559 CULFOR CRES	NORFOLK, VA	23503-4708	8559 CULFOR CRES	NORFOLK, VA	23503-4708
1530762019	HESS, STEVEN C & ANDREA G	8544 CIRCLE DR	NORFOLK, VA	23503-4837	8544 CIRCLE DR	NORFOLK, VA	23503-4837
1530488520	ELENBACK, GERALD & MARYANN N	8725 COMMODORE DR	NORFOLK, VA	23503-4705	8725 COMMODORE DR	NORFOLK, VA	23503-4705
1530477401	BURTON, MARK & KATHLEEN	8543 CULFOR CRES	NORFOLK, VA	23503-4708	8543 CULFOR CRES	NORFOLK, VA	23503-4708
1530478826	HOYT, BRYAN J	177 W BAYVIEW BLVD	NORFOLK, VA	23503-4744	177 W BAYVIEW BLVD	NORFOLK, VA	23503-4744
1530761705	BAKER, RAND E	151 E BAYVIEW BLVD	NORFOLK, VA	23503-4852	N S CIRCLE DR	NORFOLK, VA	23503-0000
1530483299	MAHLAU-HEINERT, JERALD L & PATRICIA	221 W BAYVIEW BLVD	NORFOLK, VA	23503-4701	221 W BAYVIEW BLVD	NORFOLK, VA	23503-4701
1530473211	SANDOW, BRUCE A & MONIKA I	8530 CULFOR CRES	NORFOLK, VA	23503-4709	8530 CULFOR CRES	NORFOLK, VA	23503-4709
1530487383	RODE, CHRISTOPHER B	200 W BAYVIEW BLVD	NORFOLK, VA	23503-4702	200 W BAYVIEW BLVD	NORFOLK, VA	23503-4702
1531504057	LOFTIN, RAYMOND L JR	192 COMMODORE DR	NORFOLK, VA	23503-4801	192 COMMODORE DR	NORFOLK, VA	23503-4801
1530488115	NORTON, HERSHEL C & MARTHA L	187 W BAYVIEW BLVD	NORFOLK, VA	23503-4744	187 W BAYVIEW BLVD	NORFOLK, VA	23503-4744

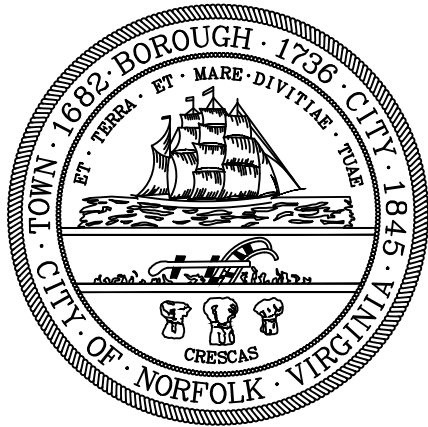
GPIN	Owner Name	Owner Street	Owner City	Owner ZIP	Property Street	Property City	Property ZIP
1530478925	KRUMM, GLEN S & TARN K	181 W BAYVIEW BLVD	NORFOLK, VA	23503-4744	181 W BAYVIEW BLVD	NORFOLK, VA	23503-4744
1530761670	NELSON, GERARD L	8562 CIRCLE DR	NORFOLK, VA	23503-4850	8562 CIRCLE DR	NORFOLK, VA	23503-4850
1530499336	SMITH, TIMOTHY C & SUSAN L	8811 COMMODORE DR	NORFOLK, VA	23503-4706	8811 COMMODORE DR	NORFOLK, VA	23503-4706
1530476360	NEWTON, EDWARD W	2823 LAMBERT TRL	CHESAPEAKE, VA	23323-2301	8529 CULFOR CRES	NORFOLK, VA	23503-4708
1530488975	DUNN, KELLI THERESA	210 RODMAN RD	NORFOLK, VA	23503-4727	210 RODMAN RD	NORFOLK, VA	23503-4727
1530476099	PARRISH, DANIEL L	8512 CULFOR CRES	NORFOLK, VA	23503-4709	8512 CULFOR CRES	NORFOLK, VA	23503-4709
1530662536	VINCENT, GEORGE T JR	8556 GRANBY ST	NORFOLK, VA	23503-4816	8556 GRANBY ST	NORFOLK, VA	23503-4816
1530473077	NOFLOT, MANUEL G, III & AMY HESTER	8528 CULFOR CRES	NORFOLK, VA	23503-4709	8528 CULFOR CRES	NORFOLK, VA	23503-4709
1530668601	STEERMAN, KATHY T	8580 MARGARET AVE	NORFOLK, VA	23503-4842	8580 MARGARET AV	NORFOLK, VA	23503-4842
1530852977	PIERSON, FINIS E & IRMALEE	251 LOUVICK ST	NORFOLK, VA	23503-5224	251 LOUVICK ST	NORFOLK, VA	23503-5224
1530478305	SPIVEY, PATRICK CADE	USS GONZALEZ	FPO, AE	09570-1284	8517 CULFOR CRES	NORFOLK, VA	23503-4708
1530499739	PAYTON, SEAN M	8821 COMMODORE DR	NORFOLK, VA	23503-4706	8821 COMMODORE DR	NORFOLK, VA	23503-4706
1530499444	SCICHLONE, MICHAEL MAREK	8813 COMMODORE DR	NORFOLK, VA	23503-4706	8813 COMMODORE DR	NORFOLK, VA	23503-4706
1530499857	BREUER, LAUREN T & JAMES E	8823 COMMODORE DR	NORFOLK, VA	23503-4706	8823 COMMODORE DR	NORFOLK, VA	23503-4706
1530666804	SCOUTEN, WILLIAM B & NADINE K	8585 MARGARET AVE	NORFOLK, VA	23503-4841	8585 MARGARET AV	NORFOLK, VA	23503-4841
1530570280	RYCHEN, CHARLES B & BETTY I AS TRS	179 BLADES ST	NORFOLK, VA	23503-4742	179 BLADES ST	NORFOLK, VA	23503
1530485109	SPANGLER, BONNIE K, TRUSTEE	7413 RED BROOK RD	NORFOLK, VA	23518-4337	215 W BAYVIEW BLVD	NORFOLK, VA	23503-4701
1530485960	FRAZIER, DAVID S & CHERYL L	225 RODMAN RD	NORFOLK, VA	23503-4726	225 RODMAN RD	NORFOLK, VA	23503-4726
1530665688	JENKINS, RICHARD F JR & LESLIE	8581 MARGARET AVE	NORFOLK, VA	23503-4841	8581 MARGARET AV	NORFOLK, VA	23503-4841
1530769582	WEIL, CHRISTOPHER R & KATHRYN ELLEN	8549 LAWSON AVE	NORFOLK, VA	23503-5220	8549 LAWSON AV	NORFOLK, VA	23503-5220
1530486795	SHAMPINE, DALE B TRUSTEE	217 RODMAN RD	NORFOLK, VA	23503-4726	217 RODMAN RD	NORFOLK, VA	23503-4726
1530487316	ROSS, LUCY	206 W BAYVIEW BLVD	NORFOLK, VA	23503-4702	206 W BAYVIEW BLVD	NORFOLK, VA	23503-4702
1530498223	SMITH, MIRIAM C	8801 COMMODORE OVLK	NORFOLK, VA	23503-4733	8801 COMMODORE OVLK	NORFOLK, VA	23503-4733
1530499984	FITZPATRICK, JULIE A	8825 COMMODORE DR	NORFOLK, VA	23503-4706	8825 COMMODORE DR	NORFOLK, VA	23503-4706
1530666901	SPARKMAN, JAMES L	8591 MARGARET AVE	NORFOLK, VA	23503-4841	8591 MARGARET AV	NORFOLK, VA	23503-4841
1530675004	BREEN, DAVID A & DEBORAH L TRUSTEES	111 E BAYVIEW BLVD	NORFOLK, VA	23503-4833	111 E BAYVIEW BLVD	NORFOLK, VA	23503-4833
1530475864	RIVIN, RICHARD ET AL	191 W BAYVIEW BLVD	NORFOLK, VA	23503-4744	191 W BAYVIEW BLVD	NORFOLK, VA	23503-4744
1530478369	SUMERLIN, GLADYS C TRUST	8511 CULFOR CRES	NORFOLK, VA	23503-4708	8511 CULFOR CRES	NORFOLK, VA	23503-4708
1530478497	BELSHA, JAMES L	193 BLADES ST	NORFOLK, VA	23503-4740	193 BLADES ST	NORFOLK, VA	23503-4740
1530478637	DAVIS, MARY E	8558 CULFOR CRES	NORFOLK, VA	23503-4709	8558 CULFOR CRES	NORFOLK, VA	23503-4709
1530488712	HENSON, JONATHAN A	209 RODMAN RD	NORFOLK, VA	23503-4726	209 RODMAN RD	NORFOLK, VA	23503-4726
1530499008	TRAYNOR, PATRICIA A	8773 COMMODORE OVLK	NORFOLK, VA	23503-4741	8773 COMMODORE OVLK	NORFOLK, VA	23503-4741
1530767555	SCHOONOVER, BETHANY L ET AL	8514 CIRCLE DR	NORFOLK, VA	23503-4837	8514 CIRCLE DR	NORFOLK, VA	23503-4837

GPIN	Owner Name	Owner Street	Owner City	Owner ZIP	Property Street	Property City	Property ZIP
1530484200	WIPPERFURTH, KEVIN A & MICHELLE L	219 W BAYVIEW BLVD	NORFOLK, VA	23503-4701	219 W BAYVIEW BLVD	NORFOLK, VA	23503-4701
1530479757	BRENDA PERKINS TRUST	173 W BAYVIEW BLVD	NORFOLK, VA	23503-4744	173 W BAYVIEW BLVD	NORFOLK, VA	23503-4744
1530478155	KESSELY, LINNIE D	8508 CULFOR CRES	NORFOLK, VA	23503-4709	8508 CULFOR CRES	NORFOLK, VA	23503-4709
1530590063	JONES, WESLEY W E AL	8761 COMMODORE DR	NORFOLK, VA	23503-4733	8761 COMMODORE DR	NORFOLK, VA	23503-4733
1530475418	BEAHR, ROBERT C & ROBIN D	8544 CULFOR CRES	NORFOLK, VA	23503-4709	8544 CULFOR CRES	NORFOLK, VA	23503-4709
1530476506	CHARALAMBOUS, ALEXANDER C & HILLARY	8548 CULFOR CRES	NORFOLK, VA	23503-4709	8548 CULFOR CRES	NORFOLK, VA	23503-4709
1530477444	WADE, ALEX	8549 CULFOR CRES	NORFOLK, VA	23503-4708	8549 CULFOR CRES	NORFOLK, VA	23503-4708
1530767114	8530 CIRCLE DRIVE, LLC	8530 CIRCLE DR	NORFOLK, VA	23503-4837	8530 CIRCLE DR	NORFOLK, VA	23503-4837
1530488022	SOMERS, HELEN M	183 W BAYVIEW BLVD	NORFOLK, VA	23503-4744	183 W BAYVIEW BLVD	NORFOLK, VA	23503-4744
1530761311	ARCHIBALD, DANIEL M & KOREN M	151 CIRCLE CT	NORFOLK, VA	23503-4835	151 CIRCLE CT	NORFOLK, VA	23503-4835
1530595927	LEFF, JOSEPH D	190 COMMODORE DR	NORFOLK, VA	23503-4801	190 COMMODORE DR	NORFOLK, VA	23503-4801
1530479391	GEORGE, CHRISTOPHER THOMAS & SUELLEN	8504 CULFOR CRES	NORFOLK, VA	23503-4709	8504 CULFOR CRES	NORFOLK, VA	23503
1530499529	FOREMAN, JONATHAN J ET AL	8817 COMMODORE DR	NORFOLK, VA	23503-4706	8817 COMMODORE DR	NORFOLK, VA	23503-4706
1530580910	DAWSON, LINDA B	8753 COMMODORE DR	NORFOLK, VA	23503-4733	8753 COMMODORE DR	NORFOLK, VA	23503-4733
1530854957	MC GUIRT, KEITH M & MARTHA A	263 LOUVICK ST	NORFOLK, VA	23503-5224	263 LOUVICK ST	NORFOLK, VA	23503-5224
1530474483	ROBBINS, JOHN CLEVELAND, JR	2861 RIVER RD	VIRGINIA BEACH, VA	23454-1212	8540 CULFOR CRES	NORFOLK, VA	23503-4709
1530663130	CITY OF NORFOLK	810 UNION ST	NORFOLK, VA	23510-2717	E S GRANBY ST	NORFOLK, VA	23503-0000
1530475268	DUVAL, JAMES L ET AL	8533 CULFOR CRES	NORFOLK, VA	23503-4708	8533 CULFOR CRES	NORFOLK, VA	23503-4708
1530766022	FENZ, RANDY S & KAREN D JOINT	8530 CIRCLE DR	NORFOLK, VA	23503-4837	8534 CIRCLE DR	NORFOLK, VA	23503-4837
1531308079	NRHA	201 GRANBY MALL	NORFOLK, VA	23510-1810	8807 MONITOR WAY	NORFOLK, VA	23503-4624
1530669795	CITY OF NORFOLK	811 UNION ST	NORFOLK, VA	23510-0000	E S MARGARET AV	NORFOLK, VA	
1530479801	CITY OF NORFOLK	810 UNION ST	NORFOLK, VA	23510-2717	175 W BAYVIEW BLVD	NORFOLK, VA	23503-4744
1530649449	CITY OF NORFOLK	810 UNION ST	NORFOLK, VA	23510-2717	8100 GRANBY ST	NORFOLK, VA	23505-1500
1531502283	KENNEY, MICHAEL A	198 COMMODORE DR	NORFOLK, VA	23503-4801	198 COMMODORE DR	NORFOLK, VA	23503-4801
1530568645	CITY OF NORFOLK	810 UNION ST	NORFOLK, VA	23510-2717	W S GRANBY ST	NORFOLK, VA	
	COMMANDER, NAVAL STATION NORFOLK	1530 GILBERT ST, SUITE 2000	NORFOLK, VA	23511	1530 GILBERT ST, SUITE 2000	NORFOLK, VA	23511

Attachment 3. Proposed Project Plans

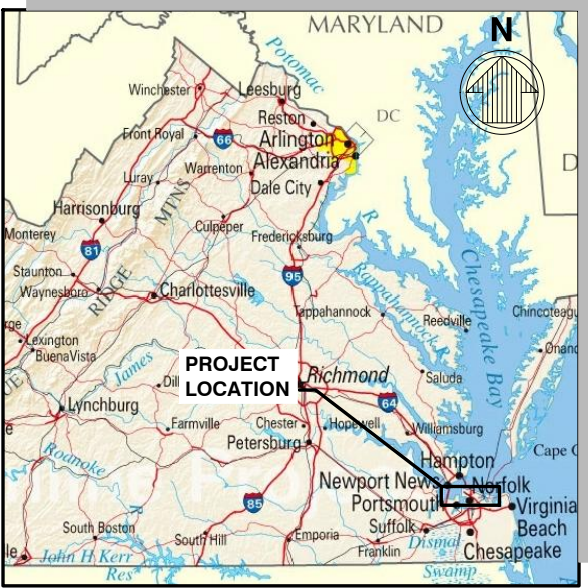


LOCATION MAP
NTS

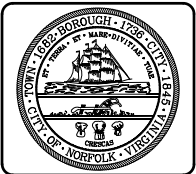


City of Norfolk

Department of Public Works



VICINITY MAP
NTS



PERMIT DRAWINGS			
NOT TO BE USED FOR CONSTRUCTION			
Mark	Description	Date	Appr.

MASON CREEK DREDGING NORFOLK, VA	
TITLE SHEET & INDEX OF DRAWINGS	


MASON CREEK DREDGING

CITY OF NORFOLK, VIRGINIA

SITE PLAN #XX
BEFORE YOU DIG
CALL
"MISS UTILITY"
OF VIRGINIA
1-800-552-7001
(TOLL FREE)

INDEX OF DRAWINGS		
NO	SHEET	SHEET TITLE
1	G-001	TITLE SHEET & INDEX OF DRAWINGS
2	G-002	GENERAL NOTES - SHEET 1 OF 2
3	C-100	OVERALL LAYOUT
4	CS-101	DREDGING PLAN - SHEET 1 OF 5
5	CS-102	DREDGING PLAN - SHEET 2 OF 5
6	CS-103	DREDGING PLAN - SHEET 3 OF 5
7	CS-104	DREDGING PLAN - SHEET 4 OF 5
8	CS-105	DREDGING PLAN - SHEET 5 OF 5
9	CS-106	ENLARGED PLAN - DREDGED MATERIAL TRANSFER AREA
10	CS-301	MAIN CANAL SECTIONS - SHEET 1 OF 4
11	CS-302	MAIN CANAL SECTIONS - SHEET 2 OF 4
12	CS-303	MAIN CANAL SECTIONS - SHEET 3 OF 4
13	CS-304	MAIN CANAL SECTIONS - SHEET 4 OF 4
14	CS-305	NORTHEAST CANAL SECTIONS
15	CS-306	EAST CANAL SECTIONS
16	CS-307	DREDGED MATERIAL TRANSFER AREA SECTIONS

_____ DEPARTMENT OF PLANNING	_____ DATE
---------------------------------	---------------

 moffatt & nichol	800 WORLD TRADE CENTER NORFOLK, VA 23510 757-628-8222			Designed by: BJ	Date: NOV. 2014	Rev.
				Own by: BA	M&N Project No. 7970-13	
				Reviewed by: BJ	Drawing code	
				Submitted by: MOFFATT & NICHOL	Drawing Scale: AS NOTED	
					Plot scale: 1:1 (D SHEET)	
PREPARED FOR: CITY OF NORFOLK DEPARTMENT OF PUBLIC WORKS						



Sheet Reference Number: G-001 Sheet 1 of 16
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GENERAL NOTES:

1. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THESE PLANS, SPECIFICATIONS, AND WITH ALL CURRENT APPLICABLE CODES AND THE LATEST REVISIONS OF THE FOLLOWING REFERENCE DOCUMENTS:
 - A. VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) ROAD AND BRIDGE SPECIFICATIONS
 - B. VDOT ROAD AND BRIDGE STANDARDS
 - C. CITY OF NORFOLK SPECIFICATIONS AND CODE REQUIREMENTS
 - D. MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)
 - E. VIRGINIA WORK AREA PROTECTION MANUAL
 - F. VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH)
 - G. CITY OF NORFOLK RIGHT-OF-WAY EXCAVATION & RESTORATION MANUAL
2. THESE PLANS ARE INCOMPLETE WITHOUT THE PROJECT SPECIFICATIONS
3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS BEFORE STARTING WORK AND NOTIFY OWNER OF DISCREPANCIES.
4. ALL SAFETY REGULATIONS ARE TO BE STRICTLY FOLLOWED. METHODS OF CONSTRUCTION AND ERECTION OF STRUCTURAL MATERIAL ARE THE CONTRACTOR'S RESPONSIBILITY.
5. THE CONTRACTOR SHALL, ON A DAILY BASIS, REMOVE FROM THE SITE ANY EXCAVATED MATERIAL OR DEBRIS. DISPOSAL OF THE MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR. ALL DEBRIS NOT SUITABLE FOR PLACEMENT IN WHITEHURST DREDGED MATERIAL MANAGEMENT AREA SHALL BE DISPOSED OF IN A PERMITTED LANDFILL. CONTRACTOR SHALL SUPPLY OWNER WITH ALL APPLICABLE DISPOSAL TICKETS.
6. THE CONTRACTOR SHALL COORDINATE ACCESS TO THE WORK, STORAGE, AND STAGING AREA LOCATIONS WITH THE OWNER. THE CONTRACTOR SHALL RESTORE THE ACCESS AREAS TO THEIR ORIGINAL CONDITION AFTER WORK IN THE AREA IS COMPLETE. THIS WORK INCLUDES REPLACEMENT OF FENCING, SIGNAGE, AND OTHER MISCELLANEOUS ITEMS.
7. STAGING AREAS SHALL BE AS APPROVED BY THE OWNER AND FENCED AND MAINTAINED BY THE CONTRACTOR. STAGING AREAS SHALL BE CLEARED OF DEBRIS AND CONTRACTOR INSTALLED AMENITIES AT THE COMPLETION AND ACCEPTANCE OF WORK IN THE AREA.
8. UNLESS OTHERWISE APPROVED BY THE OWNER, EXCESS EQUIPMENT MAY ONLY BE STORED IN APPROVED STORAGE/STAGING AREAS. THE OWNER RESERVES THE RIGHT TO LIMIT SUCH AREAS AS DEEMED NECESSARY. OPERATION OF DREDGING AND OTHER CONSTRUCTION EQUIPMENT WILL NOT BE PERMITTED OUTSIDE THE WORK AREA LIMITS EXCEPT FOR INGRESS AND EGRESS OF THE SITE AT APPROVED LOCATIONS.
9. ANY EXISTING SIGNS, FENCES, OR OTHER STRUCTURES WITHIN THE WORK LIMITS SHALL BE PROTECTED AND/OR REMOVED AND LATER REPLACED BY THE CONTRACTOR AS DIRECTED.
10. A SET OF PROJECT PLANS AND THE PROJECT MANUAL SHALL BE KEPT ON SITE.
11. WITH THE EXCEPTION OF THE TEMPORARY TRANSFER AREAS, NO DREDGING SHALL BE ALLOWED FROM THE SHORELINE.
12. IT IS THE INTENT OF THESE PLANS TO BE IN ACCORDANCE WITH APPLICABLE CODES AND AUTHORITIES HAVING JURISDICTION. ANY DISCREPANCIES BETWEEN THESE PLANS AND APPLICABLE CODES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER.
13. CONTRACTOR IS ENCOURAGED TO VISIT SITE PRIOR TO SUBMITTING BID.
14. ALL INFORMATION SHOWN ON THESE DRAWINGS RELATIVE TO EXISTING CONDITIONS IS GIVEN AS THE BEST PRESENT KNOWLEDGE. THE CONTRACTOR SHALL REPORT IMMEDIATELY TO THE CONSTRUCTION ENGINEER ANY CONDITIONS CONFLICTING WITH THE DRAWINGS. FIELD MODIFICATIONS TO THE DRAWINGS SHALL NOT BE MADE WITHOUT THE CONSENT OF THE CONSTRUCTION ENGINEER.
15. IT IS INTENT OF THESE PLANS AND THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLY WITH THE ENVIRONMENTAL PERMITS ISSUED FOR THIS PROJECT. THE PERMITS ARE HEREBY MADE PART OF THE CONTRACT DOCUMENTS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE AND GOVERN HIMSELF/HERSELF BY ALL PROVISIONS OF THESE PERMITS.
16. ALL SAFETY REGULATIONS ARE TO BE STRICTLY FOLLOWED. METHODS OF CONSTRUCTION ARE THE CONTRACTOR'S RESPONSIBILITY.
17. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING, AT HIS OWN EXPENSE, ANY AND ALL DAMAGES THAT MAY OCCUR OUTSIDE THE LIMITS OF THIS PROJECT AS A RESULT OF DEMOLITION/CONSTRUCTION.

18. ALL AREAS DISTURBED DURING DEMOLITION/CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION, AT NO EXPENSE TO THE OWNER, UNLESS OTHERWISE NOTED.
19. THE CONTRACTOR SHALL PROTECT ADJACENT STRUCTURES, UTILITIES AND PEDESTRIANS FROM POTENTIAL DAMAGE DUE TO CONTRACTOR'S OPERATIONS.
20. CONTACT CITY FORESTER, RICHARD WERNICKE (757) 823-4024 TO INSPECT TREES SCHEDULED FOR DEMOLITION OR PRUNING WITHIN THE RIGHT OF WAY AND TO GET A PERMIT FOR WORK. ANY EXCAVATION THAT OCCUR WITHIN THE ABOVE MENTIONED TREE PROTECTION AREAS INTENDED TO BE PRESERVED WILL NEED TO HAVE ROOT PRUNING DONE AT 1'-0" TO THE INSIDE EDGE OF THE PROPOSED EXCAVATION.
21. ALL MISS UTILITY MARKINGS IN THE RIGHT-OF-WAY ARE REQUIRED TO BE ERADICATED AT THE COMPLETION OF THE PROJECT.

SURVEY NOTES:

1. THE HYDROGRAPHIC/TOPOGRAPHIC INFORMATION PRESENTED ON THE PLANS AND SECTIONS IS BASED ON SURVEYS COMPLETED IN JANUARY 2013 BY PRECISION MEASUREMENTS, INC. AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS AT THAT TIME. CONDITIONS MAY VARY FROM THOSE SHOWN HEREIN.
2. BASED ON THE AVAILABLE DATA THE WATER LEVELS WITH RESPECT TO NAVD88 ARE APPROXIMATELY AS FOLLOWS:
 - A. MASON CREEK MHW = 0.500 FT
 - B. MASON CREEK MLW = 0.000 FT
3. THE MERIDIAN SOURCE OF THIS TOPOGRAPHIC SURVEY IS BASED ON VIRGINIA STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NORTH AMERICAN DATUM 1983/1993 HARN (U.S. SURVEY FOOT), RTK GPS DERIVED. HORIZONTAL CONTROL WAS ESTABLISHED USING CITY BENCHMARK CVB DISK G-9-1.
4. VERTICAL DATUM FOR THIS PROJECT IS NORTH AMERICAN VERTICAL DATUM OF 1988.
5. THE SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT OR LEASE EXHIBIT AND MAY NOT SHOW ALL EASEMENTS OR RESTRICTIONS THAT MAY EFFECT THE PROPERTY.
6. THE SURVEY DOES NOT CONSTITUTE A BOUNDARY SURVEY NOR A SUBDIVISION OF LAND.
7. THE SURVEY DOES NOT INTEND TO DEPICT ANY HAZARDOUS WASTE AND ENVIRONMENTAL FEATURES THAT MAY EFFECT SAID PROPERTY SHOWN HEREON EXCEPT AS SHOWN.
8. METADATA MEETS MINIMUM ACCURACY STANDARDS UNLESS OTHERWISE NOTED.
9. IF AN EXISTING CONTROL OR BOUNDARY MONUMENT IS DAMAGED OR DESTROYED DURING CONSTRUCTION NEW MONUMENTATION SHALL BE INSTALLED WITHIN THE CONTRACT BY A LAND SURVEYOR, LICENSED IN THE COMMONWEALTH OF VIRGINIA, AS REQUIRED BY THE VIRGINIA DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATIONS – RULE AND REGULATIONS SECTION 18-VAC-10-20-370 PARAGRAPH C-4. THE MONUMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE PUBLIC WORKS SPECIFICATIONS AND STANDARDS.
10. THE CONTRACTOR SHALL PROVIDE AND PAY FOR ALL CONSTRUCTION LAYOUT SURVEYING REQUIRED.

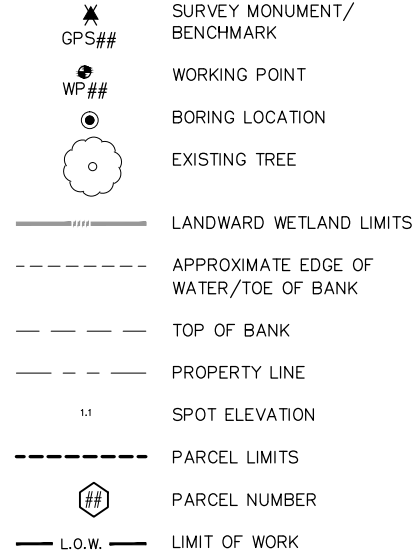
CONSTRUCTION

1. MATERIAL SUBMITTALS FOR THIS PROJECT SHALL BE PROVIDED TO THE CONSTRUCTION ENGINEER FOR APPROVAL PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION.
2. A CONSTRUCTION SCHEDULE SHALL BE SUBMITTED TO THE CONSTRUCTION ENGINEERING OFFICE, AT THE TIME OF THE PRE-CONSTRUCTION CONFERENCE.
3. THE CONTRACTOR SHALL CONFORM TO ALL REQUIREMENTS OF THE "CITY OF NORFOLK TREE ORDINANCE" (EFFECTIVE FEBRUARY 15, 2005).
4. FOR WORK IN THE CITY OF NORFOLK RIGHT-OF-WAY, CONTACT 48 HOURS IN ADVANCE:

DIVISION OF RIGHT-OF-WAY (PERMITS)	757-664-7306
DIVISION OF ENVIRONMENTAL STORM WATER	757-823-4000
DEPARTMENT OF PARKS AND URBAN FORESTRY	757-823-4023
CONSTRUCTION PERMITS	757-664-6565
5. ALL CLEARING, GRUBBING, AND GRADING SHALL BE PERFORMED IN ACCORDANCE WITH VDOT SPECIFICATIONS AND STANDARDS.

6. THE CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO ALL OWNERS AND RESIDENTS OF PROPERTY ADJACENT TO WORK SITE, THIRTY (30) DAYS PRIOR TO THE COMMENCEMENT OF WORK, UNLESS OTHERWISE DIRECTED BY THE CITY. CONSTRUCTION WITHIN EASEMENT OR ON PUBLIC RIGHT-OF-WAY NECESSITATED NOTICE WHETHER ADJACENT TO OR LOCATED ON THE ADJOINING PROPERTY. FAILURE TO PROVIDE THE MINIMUM NOTIFICATION TIME WILL RESULT IN A SUSPENSION OF WORK.
9. THE CONTRACTOR SHALL NOTE THAT THERE MAY BE OTHER CONSTRUCTION IN THIS AREA. THE CONTRACTOR SHALL COOPERATE WITH THE CITY AND ANY OTHER CONTRACTOR OR UTILITY OWNER TO PREVENT DELAYS TO EITHER PROJECT.

LEGEND:



ABBREVIATIONS


AC	ASPHALTIC CONCRETE
APPROX	APPROXIMATE
AVG	AVERAGE
B	BASELINE
BP	BEGINNING POINT
C	CENTERLINE
CY / CYS	CUBIC YARD / CUBIC YARDS
DIA	DIAMETER
E	EAST
EL	ELEVATION
ELEV	ELEVATION
EP	ENDING POINT
EX	EXISTING
EXIST	EXISTING
FT	FOOT / FEET
HARN	HIGH ACCURACY REFERENCE NETWORK
HORIZ	HORIZONTAL
L	LENGTH, LEFT
LB / LBS	POUND / POUNDS
MAX	MAXIMUM
MHW	MEAN HIGH WATER
MHHW	MEAN HIGHER HIGH WATER
MIN	MINIMUM
MISC	MISCELLANEOUS
MLW	MEAN LOW WATER
MLLW	MEAN LOWER LOW WATER
MSL	MEAN SEA LEVEL
N	NORTH
NAVD	NORTH AMERICAN VERTICAL DATUM
NTS	NOT TO SCALE
OFF.	OFFSET
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
POB	POINT OF BEGINNING
POE	POINT OF ENDING
PT	POINT / POINT OF TANGENT
PVI	POINT OF VERTICAL INTERSECTION
R	RADIUS, RIGHT
REQ'D	REQUIRED
R.O.W	RIGHT-OF-WAY
S	SOUTH
SCH	SCHEDULE
SQ	SQUARE
STA	STATION
TEMP	TEMPORARY
TYP	TYPICAL
VERT	VERTICAL
W	WEST
W/	WITH
WP	WORKING POINT
&	AND
@	AT
'	FEET OR MINUTES
"	INCHES OR SECONDS
#	NUMBER OR POUND
±	PLUS OR MINUS



PERMIT DRAWINGS	
NOT TO BE USED FOR CONSTRUCTION	
Work	Description Date Appr.

**MASON CREEK DREDGING
NORFOLK, VA**

GENERAL NOTES - SHEET 1 OF 2

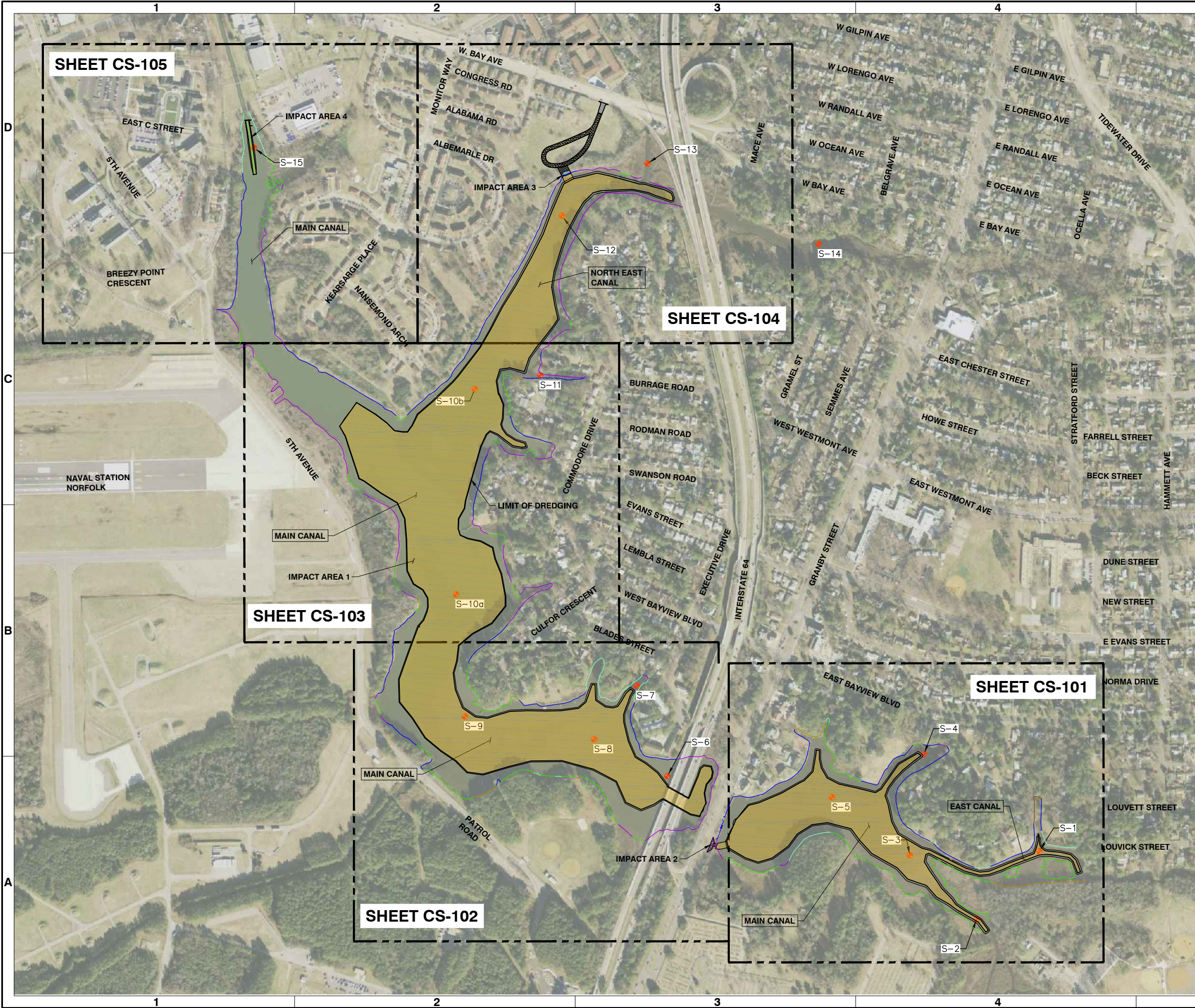
 moffatt & nichol	800 WORLD TRADE CENTER NORFOLK, VA 23510 757-628-8222	Designed by: BJ		Date: NOV. 2014	Rev.: —
		Drawn by: BA		M&N Project No. 7970-13	
		Reviewed by: BP-J		Drawing code:	
		Submitted by: MOFFATT & NICHOL		Drawing Scale: Plot scale: 1:1 (D SHEET)	
PREPARED FOR: CITY OF NORFOLK DEPARTMENT OF PUBLIC WORKS					

SEAL

Sheet
Reference
Number:
G-002
Sheet 2 of 16

DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING

File: P:\7970-13\500 CADD\!Permit\797013-GI-002; Plotted: 11/26/2014 11:10 AM by AYTODA, BINA; Saved: 11/7/2014 10:36 AM by BAYTODA



LEGEND:


- LIMITS OF DREDGING BOXCUT
- DREDGED MATERIAL TRANSFER AREA
- FORESTED
- UNVEGETATED
- PHRAGMITES
- SCRUB/ SHRUB
- SPARTINA
- RIPRAP/ BULKHEAD
- SEDIMENT SAMPLE
- EUB2
- EUB4
- EEM5
- ERS2

N

300' 0' 300' 600'

SCALE: 1"=300'

DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING



Rev.	Date	By	Description
1	NOV. 2014	BJ	MAN Project No. 7970-13
2		BA	Plot by: BPL
3			Reviewed by:
4			Submitted by: MOFFATT & NICHOL

800 WORLD TRADE CENTER
NORFOLK, VA 23510
757-628-8222

moftatt & nichol

PREPARED FOR:
CITY OF NORFOLK DEPARTMENT
OF PUBLIC WORKS

SEAL

Sheet
Reference
Number:
C-100
Sheet 3 of 16

**PERMIT
DRAWINGS**

NOT TO BE USED FOR CONSTRUCTION

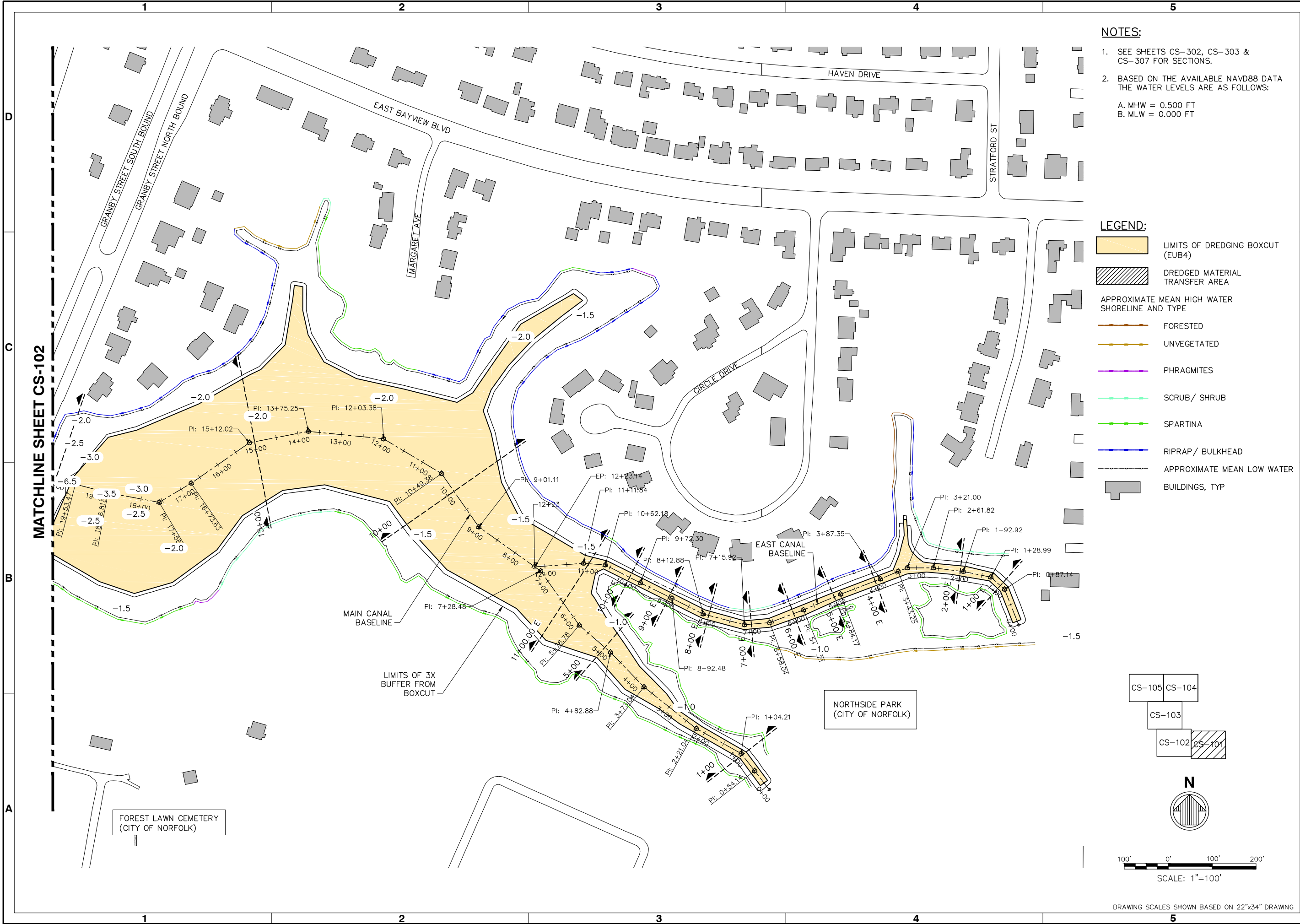
Date

Description

Mark

**MASON CREEK DREDGING
NORFOLK, VA**

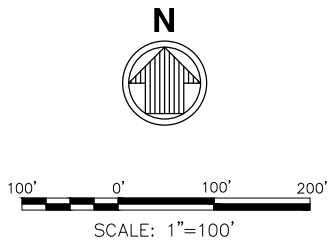
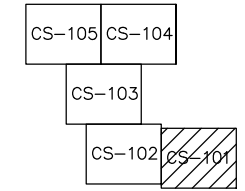
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NOTES:

- SEE SHEETS CS-302, CS-303 & CS-307 FOR SECTIONS.
- BASED ON THE AVAILABLE NAVD88 DATA THE WATER LEVELS ARE AS FOLLOWS:
A. MHW = 0.500 FT
B. MLW = 0.000 FT

- LEGEND:**
- LIMITS OF DREDGING BOXCUT (EUB4)
 - DREDGED MATERIAL TRANSFER AREA
 - APPROXIMATE MEAN HIGH WATER SHORELINE AND TYPE
 - FORESTED
 - UNVEGETATED
 - PHRAGMITES
 - SCRUB/ SHRUB
 - SPARTINA
 - RIPRAP/ BULKHEAD
 - APPROXIMATE MEAN LOW WATER
 - BUILDINGS, TYP



DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING



PERMIT DRAWINGS	NOT TO BE USED FOR CONSTRUCTION	Mark	Date	Appr.

**MASON CREEK DREDGING
NORFOLK, VA**

DREDGING PLAN - SHEET 1 OF 5

Designed by: BJ	Drawn by: BA	Reviewed by: BPJ	Submitted by: MOFFATT & NICHOL
800 WORLD TRADE CENTER NORFOLK, VA 23510 757-628-8222			

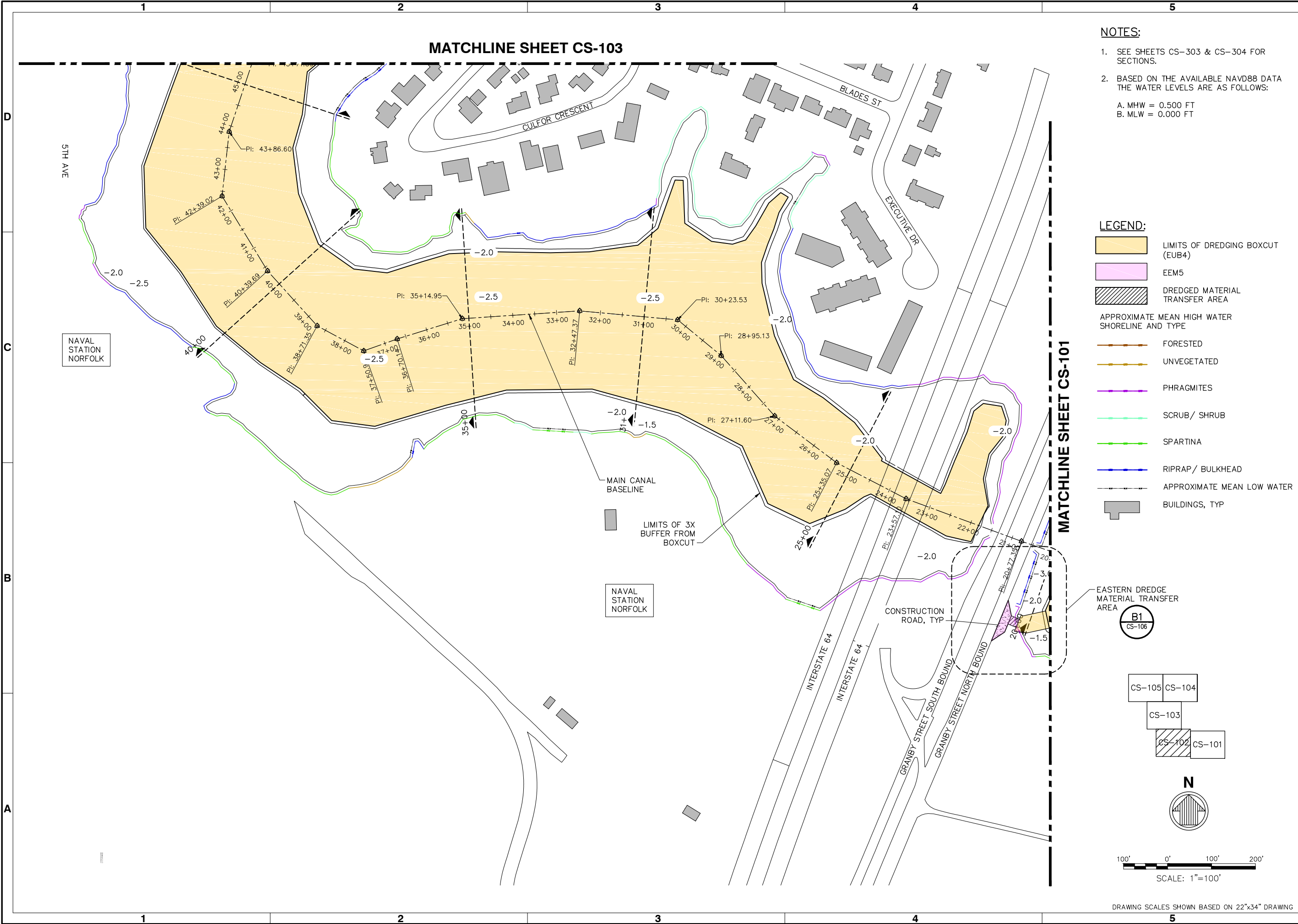
moftatt & nichol

PREPARED FOR:
CITY OF NORFOLK DEPARTMENT
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SEAL

Sheet
Reference
Number:
CS-101
Sheet 4 of 16

File: P:\7970-13\500 CAD\797013-CS-101-105.dwg Plotted: 11/26/2014 11:17 AM by: AYTODA, BINA; Saved: 11/7/2014 11:34 AM by: BAYTODA



PERMIT DRAWINGS

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Mark	Description	Date	Appr.

MASON CREEK DREDGING NORFOLK, VA

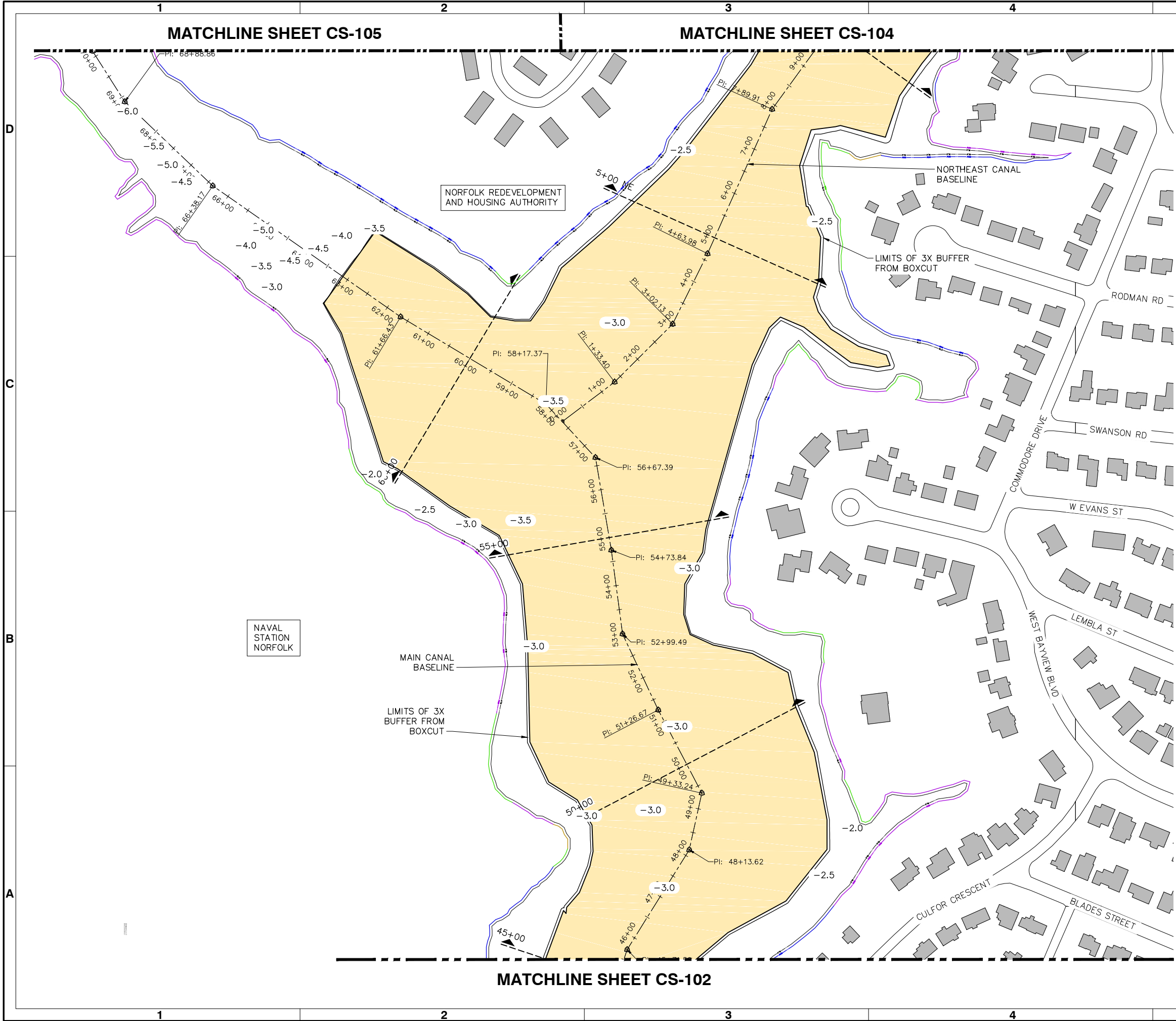
DREDGING PLAN - SHEET 2 OF 5

<p>800 WORLD TRADE CENTER NORFOLK, VA 23510 757-628-8222</p>	Designed by: BJ	Rev: NOV. 2014
	Drawn by: BA	M&N Project No. 7970-13
	Reviewed by: BPJ	Drawing code: Drawing Scale: 1"=100' Plot scale: 1:1 (D SHEET)
	Submitted by: MOFFATT & NICHOL	

PREPARED FOR:
CITY OF NORFOLK DEPARTMENT OF PUBLIC WORKS

SEAL

Sheet Reference Number:
CS-102
Sheet 5 of 16



NOTES:

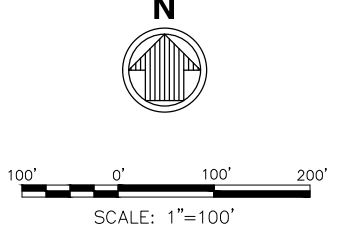
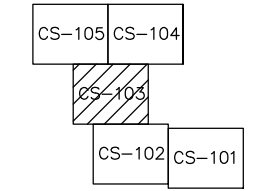
1. SEE SHEETS CS-304, CS-305 & CS-306 FOR SECTIONS.

2. BASED ON THE AVAILABLE NAVD88 DATA THE WATER LEVELS ARE AS FOLLOWS:

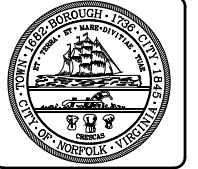
A. MHW = 0.500 FT
B. MLW = 0.000 FT

LEGEND:

- LIMITS OF DREDGING BOXCUT (EUB4)
- DREDGED MATERIAL TRANSFER AREA
- APPROXIMATE MEAN HIGH WATER SHORELINE AND TYPE
 - FORESTED
 - UNVEGETATED
 - PHRAGMITES
 - SCRUB/ SHRUB
 - SPARTINA
 - RIPRAP/ BULKHEAD
- APPROXIMATE MEAN LOW WATER
- BUILDINGS, TYP




DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING



PERMIT DRAWINGS	Mark	Description	Date	Appr.

**MASON CREEK DREDGING
NORFOLK, VA**

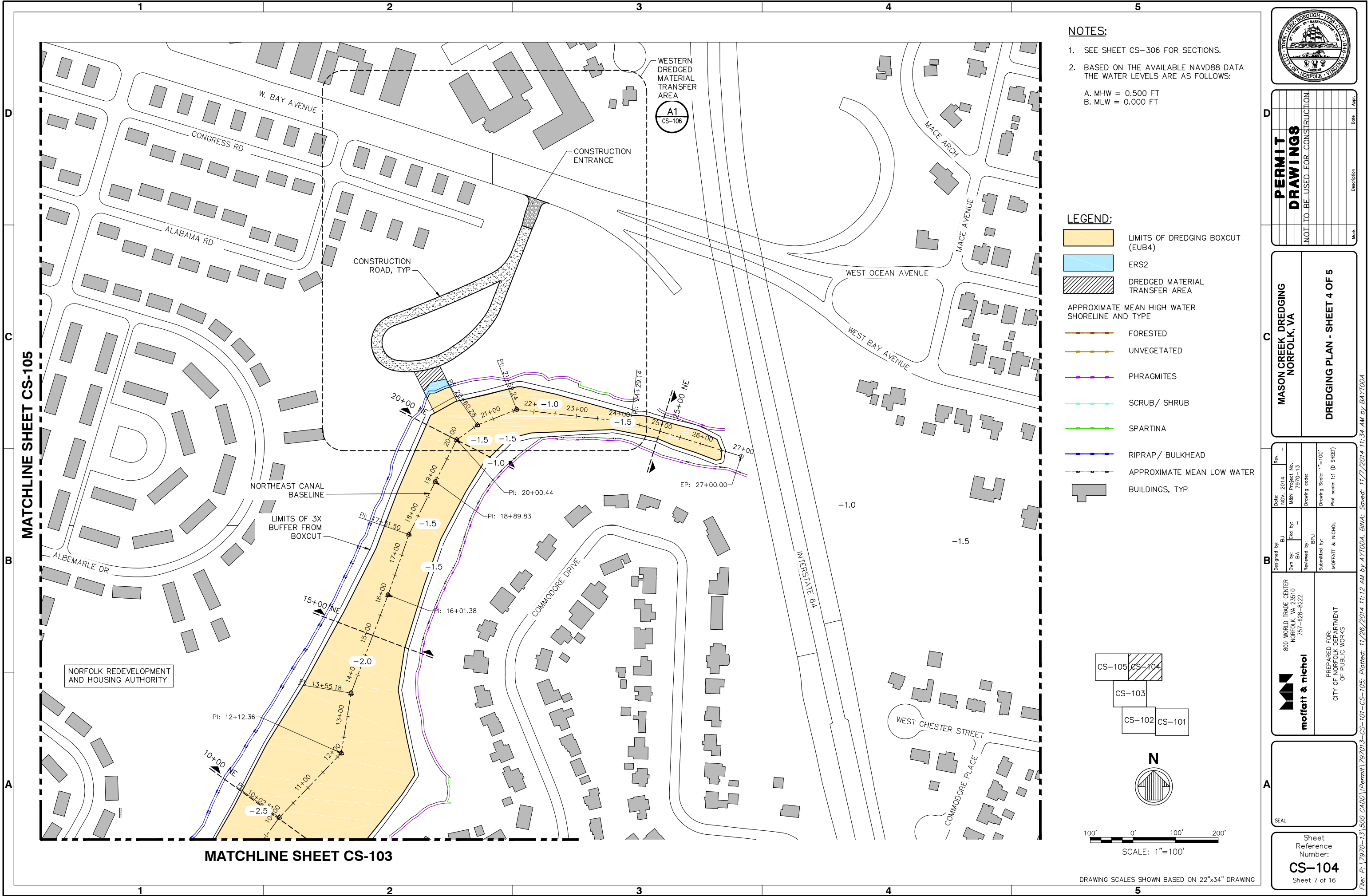
DREDGING PLAN - SHEET 3 OF 5

 <p>moffatt & nichol</p>	Designed by: BJ	Rev: NOV. 2014	<p>800 WORLD TRADE CENTER NORFOLK, VA 23510 757-628-8222</p>
	Drawn by: BA	M&N Project No. 7970-13	
	Reviewed by: BPJ	Drawing code:	
	Submitted by: MOFFATT & NICHOL	Drawing Scale: 1"=100' Plot scale: 1:1 (D SHEET)	

SEAL

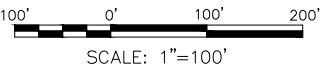
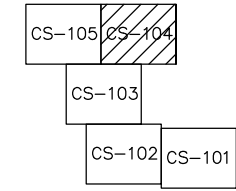
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Reference
Number:
CS-103
Sheet 6 of 16

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- NOTES:**
- SEE SHEET CS-306 FOR SECTIONS.
 - BASED ON THE AVAILABLE NAVD88 DATA THE WATER LEVELS ARE AS FOLLOWS:
A. MHW = 0.500 FT
B. MLW = 0.000 FT

- LEGEND:**
- LIMITS OF DREDGING BOXCUT (EUB4)
 - ERS2
 - DREDGED MATERIAL TRANSFER AREA
 - APPROXIMATE MEAN HIGH WATER SHORELINE AND TYPE
 - FORESTED
 - UNVEGETATED
 - PHRAGMITES
 - SCRUB/ SHRUB
 - SPARTINA
 - RIPRAP/ BULKHEAD
 - APPROXIMATE MEAN LOW WATER
 - BUILDINGS, TYP




DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING



PERMIT DRAWINGS	NOT TO BE USED FOR CONSTRUCTION	Mark	Date	Appr.

MASON CREEK DREDGING NORFOLK, VA

DREDGING PLAN - SHEET 4 OF 5

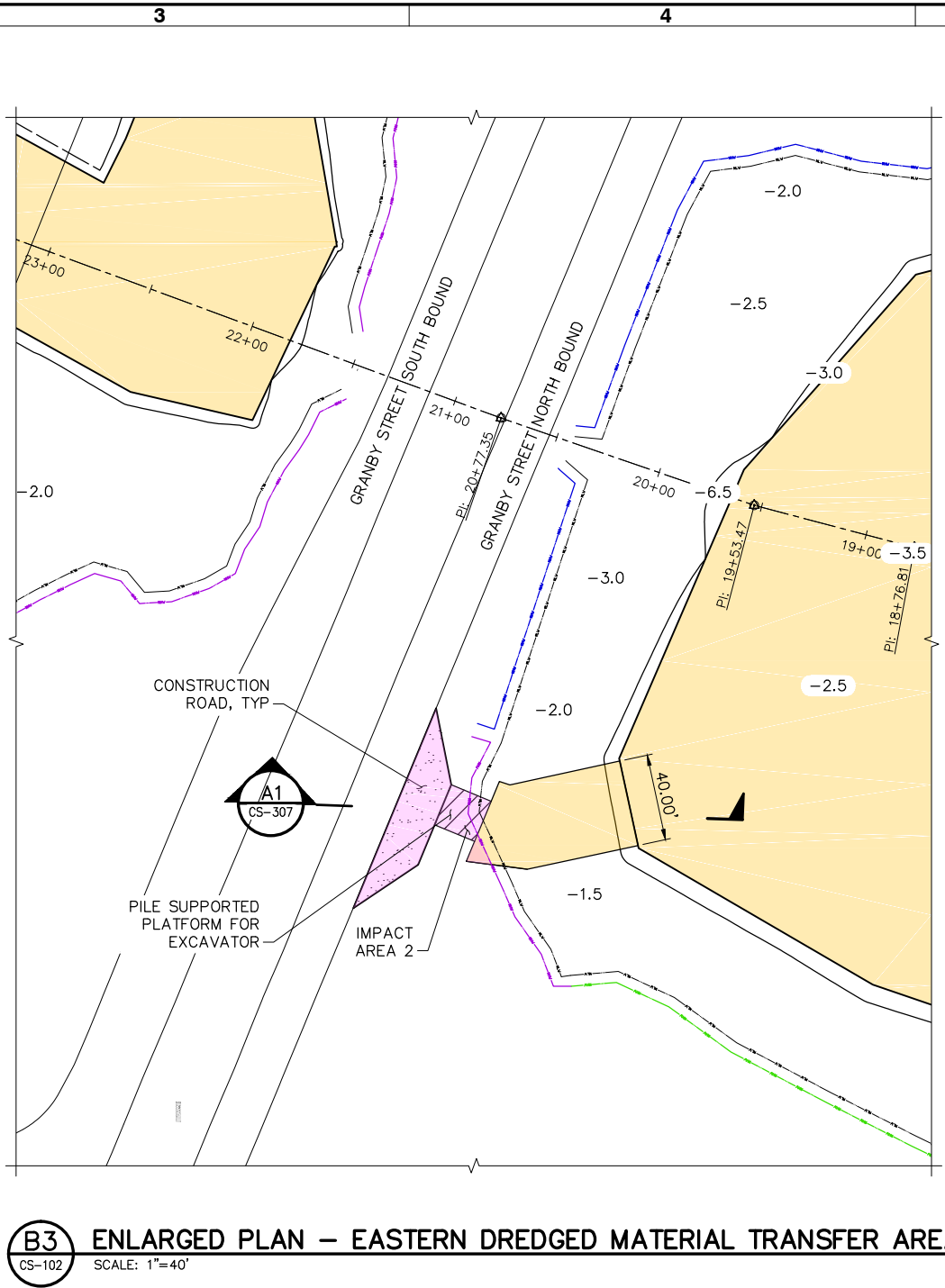
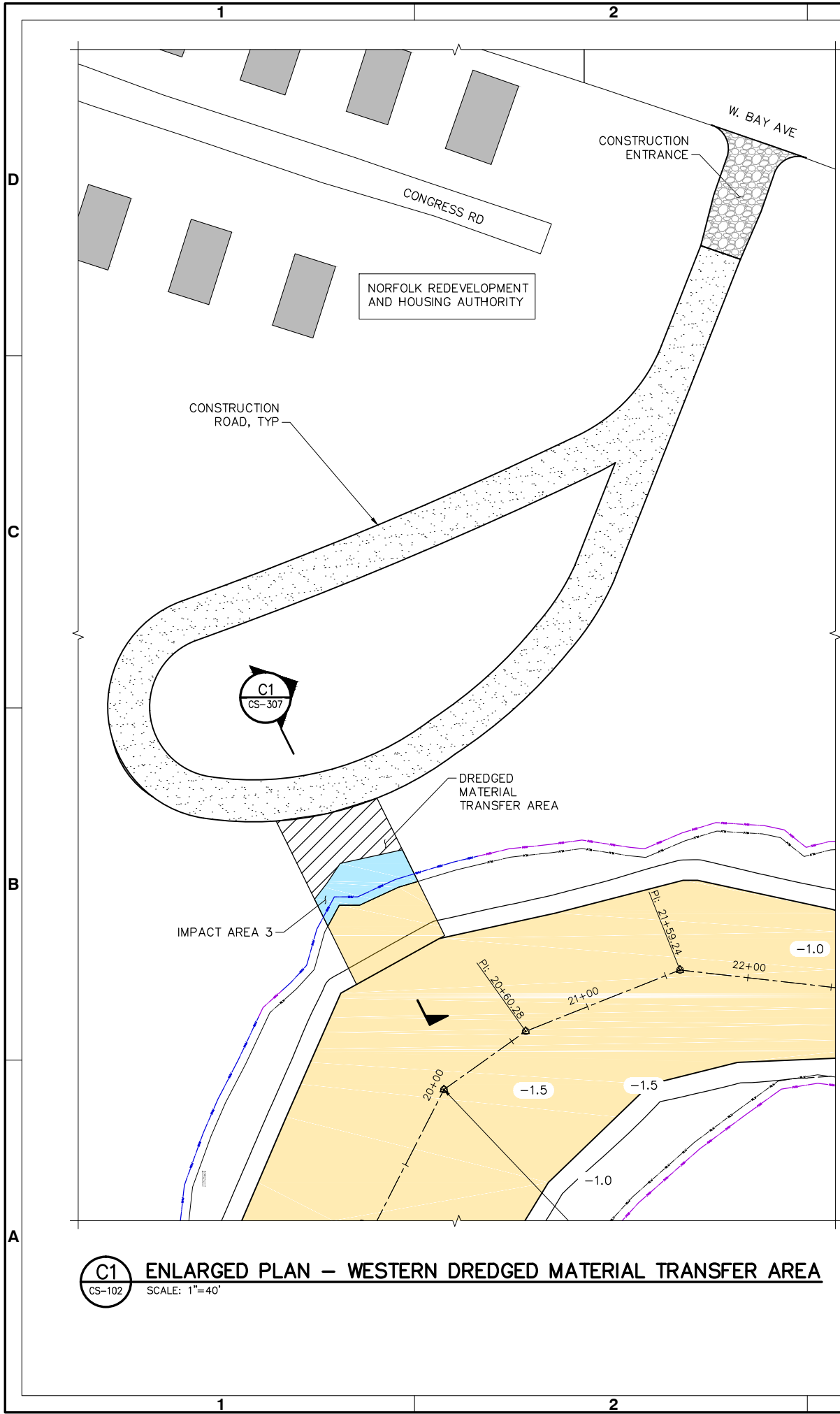
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	Drawn by: BJJ	M&N Project No. 7970-13	
	Reviewed by: BJJ	Drawing code:	
	Submitted by: MOFFATT & NICHOL		

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Sheet Reference Number:
CS-104
Sheet 7 of 16

File: P:\7970-13\500 CAD\797013-CS-101-CS-105; Plotted: 11/26/2014 11:12 AM by AYTODA, BIMA; Saved: 11/7/2014 11:34 AM by BAYTODA

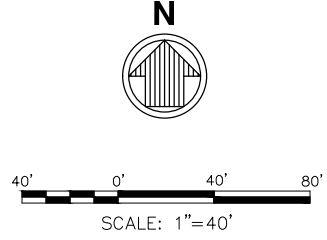


NOTES:


1. BASED ON THE AVAILABLE NAVD88 DATA
THE WATER LEVELS ARE AS FOLLOWS:

A. MHW = 0.500 FT
B. MLW = 0.000 FT

- LEGEND:
- LIMITS OF DREDGING BOXCUT (EUB4)
 - EEM5
 - ERS2
 - DREDGED MATERIAL TRANSFER AREA
 - APPROXIMATE MEAN HIGH WATER SHORELINE AND TYPE
 - FORESTED
 - UNVEGETATED
 - PHRAGMITES
 - SCRUB/ SHRUB
 - SPARTINA
 - RIPRAP/ BULKHEAD
 - APPROXIMATE MEAN LOW WATER
 - BUILDINGS, TYP



DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING



PERMIT DRAWINGS

NOT TO BE USED FOR CONSTRUCTION

Mark	Description	Date	Appr.


MASON CREEK DREDGING
NORFOLK, VA

ENLARGED PLAN - DREDGED MATERIAL TRANSFER AREA

Designed by:	Drawn by:	Checked by:	Reviewed by:	Submitted by:
BJ	BA	BA	BPJ	MOFFATT & NICHOL

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NORFOLK, VA 23510
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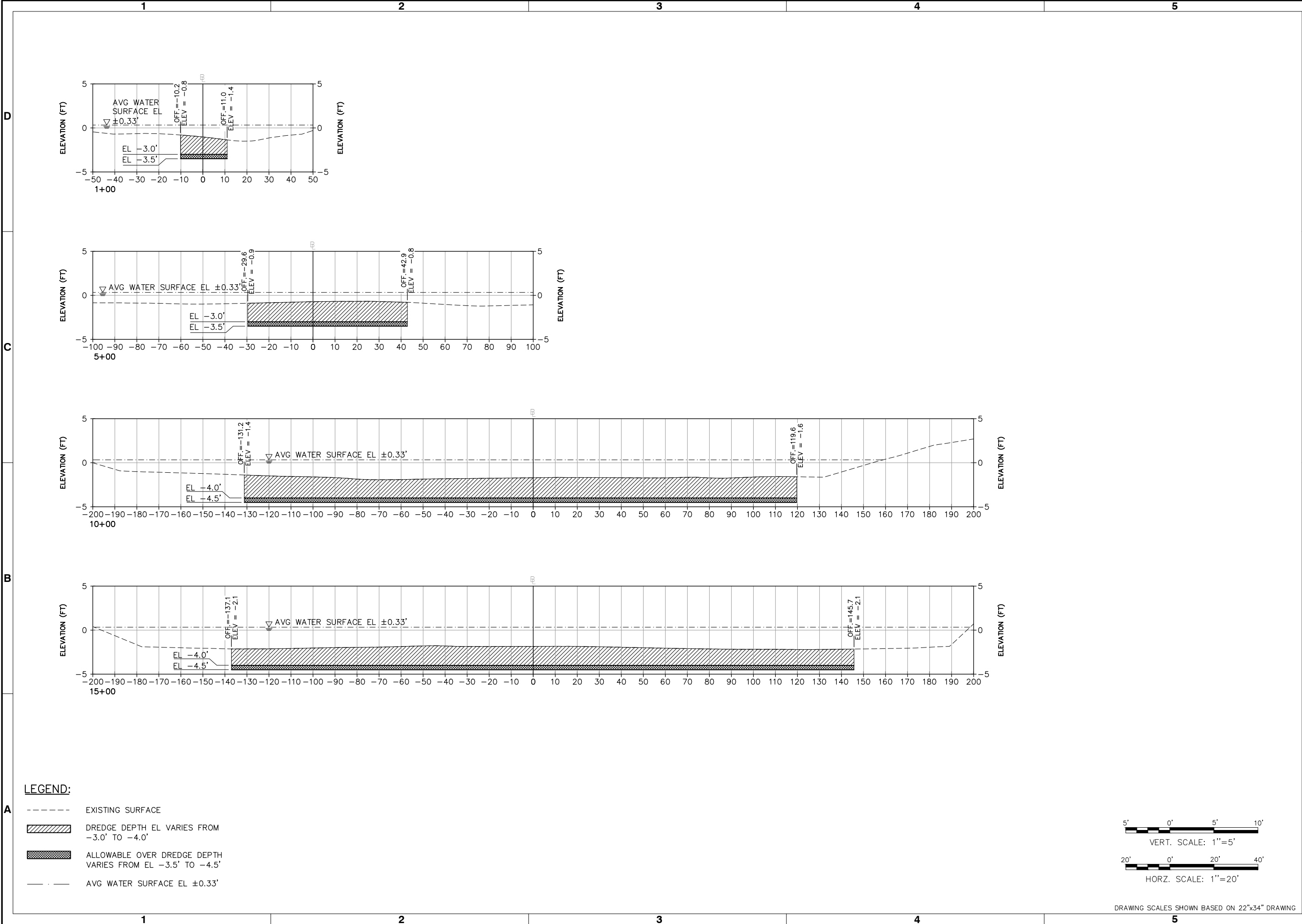
PREPARED FOR:
CITY OF NORFOLK DEPARTMENT
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moffatt & nichol

Sheet
Reference
Number:
CS-106
Sheet 9 of 16

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MASON CREEK DREDGING
NORFOLK, VA

MAIN CANAL SECTIONS -
SHEET 1 OF 4

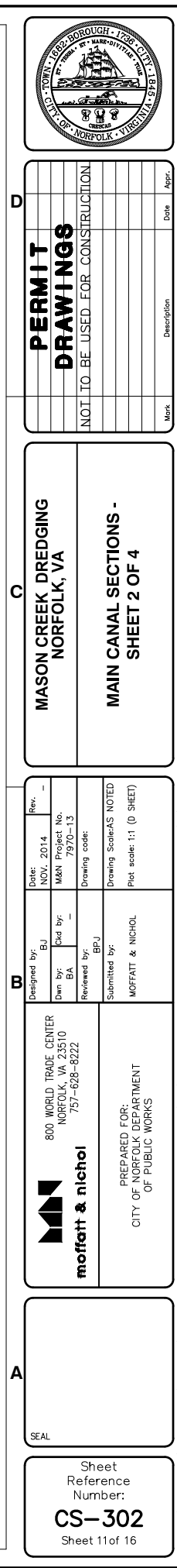
 <p>800 WORLD TRADE CENTER NORFOLK, VA 23510 757-628-8222</p>	Designed by: B.J.	Rev. NOV. 2014
	Drawn by: B.A.	MAN Project No. 7970-13
	Reviewed by: B.P.J.	Drawing code:
	Submitted by: MOFFATT & NICHOL	Drawing Scale/AS NOTED Plot scale: 1:1 (D SHEET)

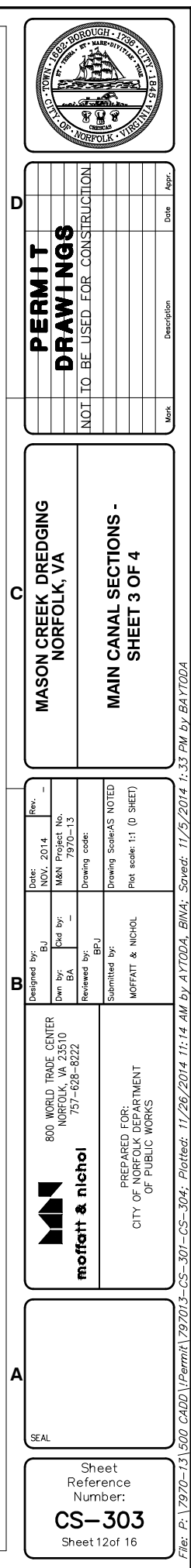
PREPARED FOR:
CITY OF NORFOLK DEPARTMENT
OF PUBLIC WORKS

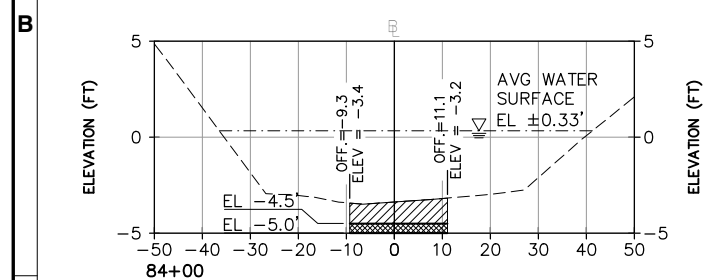
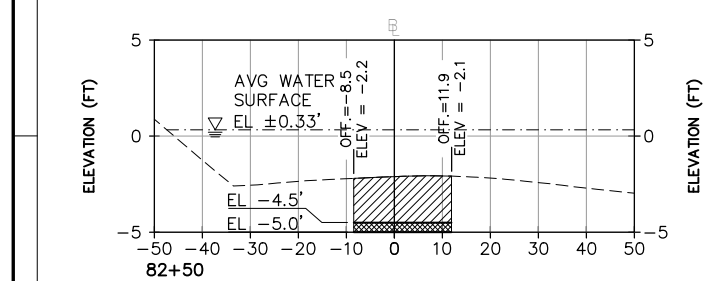
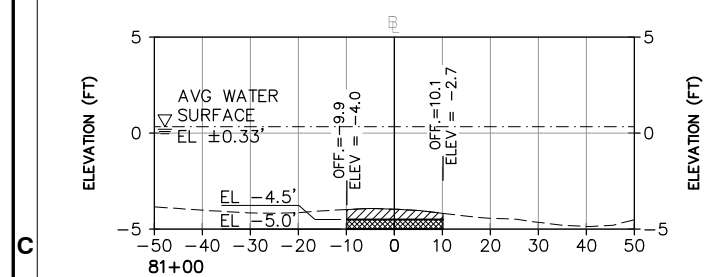
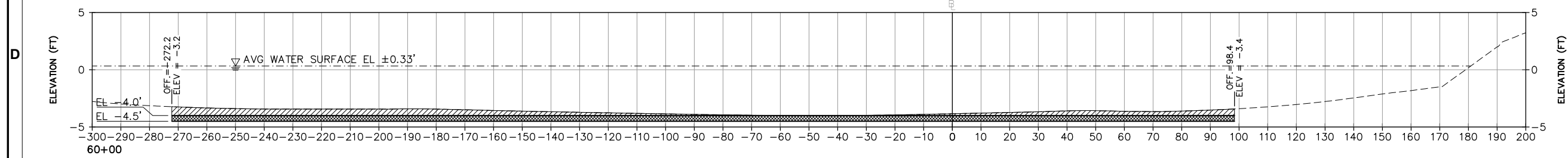
SEAL

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Reference
Number:
CS-301
Sheet 10 of 16




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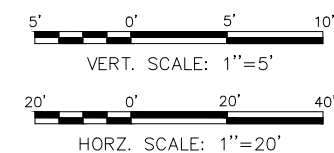




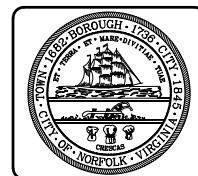


A LEGEND:

- EXISTING SURFACE
 DREDGE DEPTH EL VARIES FROM
 -4.0' TO -4.5'
 ALLOWABLE OVER DREDGE DEPTH
 VARIES FROM EL -4.5' TO -5.0'
 AVG WATER SURFACE EL $\pm 0.33'$



DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING



PERMIT DRAWINGS

	DRAWINGS
	NOT TO BE USED FOR CONSTRUCTION

**MASON CREEK DREDGING
NORFOLK, VA**

**MAIN CANAL SECTIONS -
SHEET 4 OF 4**

Designed by:	BJ	Date:	NOV. 2014	Rev.	-
Own by:	CA	Ckd by:	M&N Project No.		

800 WORLD TRADE CENTER
NORFOLK, VA 23510
757-628-8222



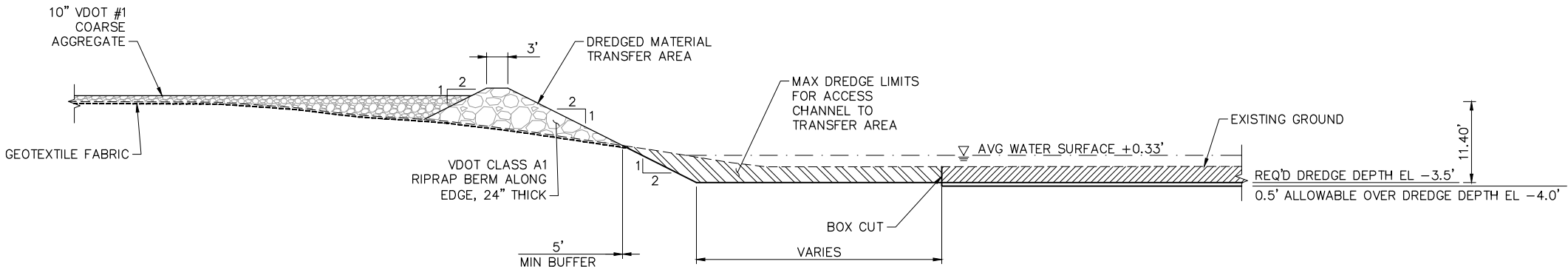
Mott & Nichol



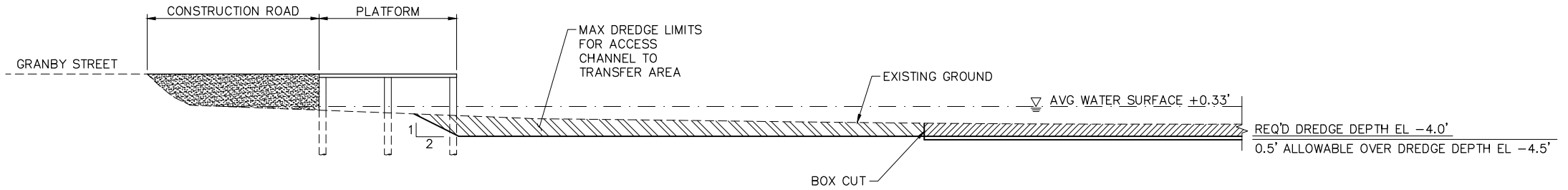
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Reference
Number:
CS-304
Sheet 13 of 16

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C1 SECTION – WESTERN DREDGED MATERIAL TRANSFER AREA
CS-106 SCALE: 1"=10'



A1 SECTION – EASTERN DREDGED MATERIAL TRANSFER AREA
CS-106 SCALE: 1"=10'




DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING



PERMIT DRAWINGS	NOT TO BE USED FOR CONSTRUCTION	Mark	Description	Date	Appr.

**MASON CREEK DREDGING
NORFOLK, VA**

**DREDGED MATERIAL TRANSFER
AREA SECTIONS**

 moffatt & nichol	800 WORLD TRADE CENTER NORFOLK, VA 23510 757-628-8222	DESIGNED BY: BJ	DATE: NOV. 2014	REV.:
	OWN BY: BA	DRAWN BY: BA	PROJECT NO.: 7970-13	REVISIONS:
PREPARED FOR: CITY OF NORFOLK DEPARTMENT OF PUBLIC WORKS		REVIEWED BY: BPJ	DRAWING CODE: Drawing Scale: 1"=10' Plot Scale: 1:1 (D SHEET)	
		SUBMITTED BY: MOFFATT & NICHOL		

SEAL

Sheet
Reference
Number:
CS-307
Sheet 16 of 16

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