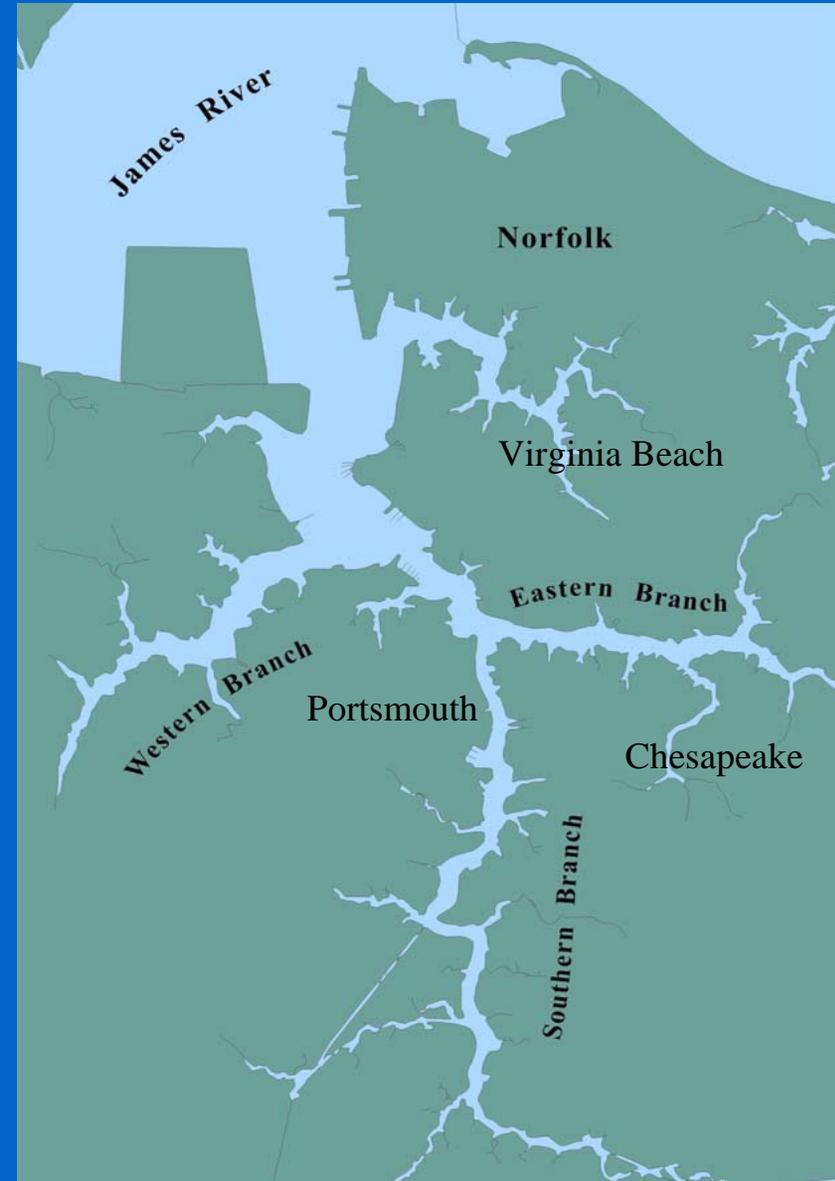
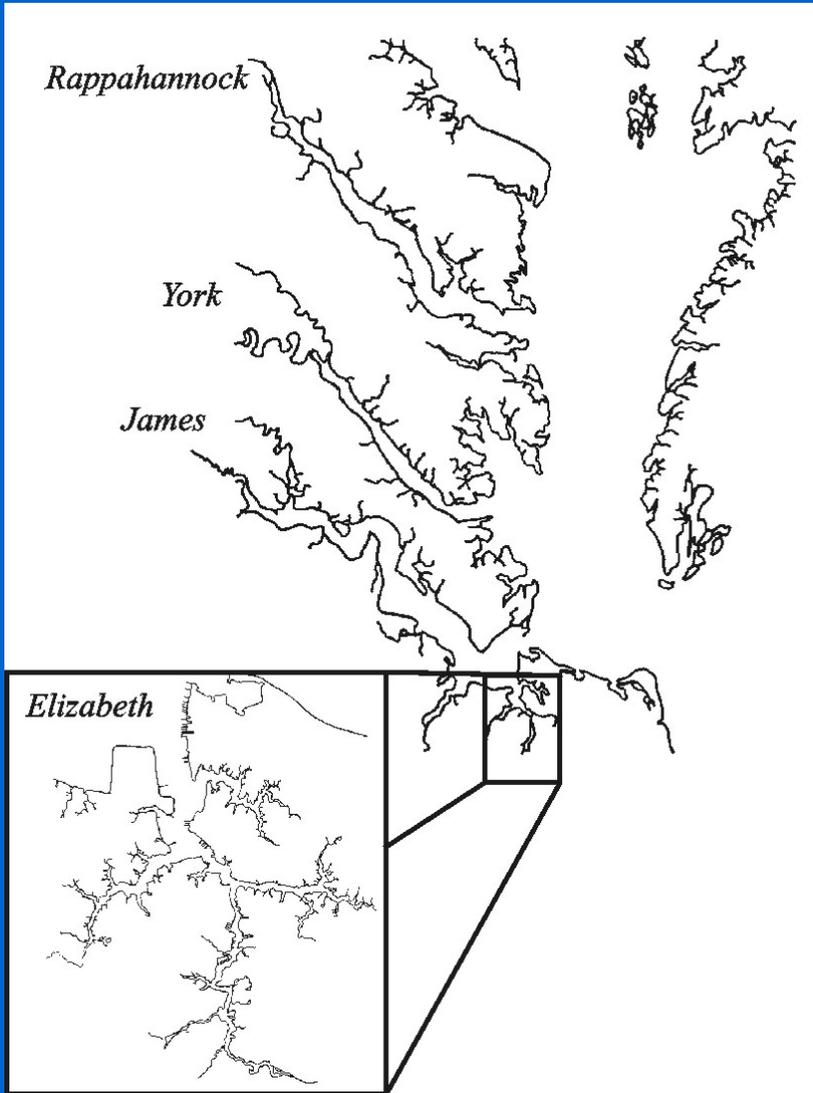


Paradise Creek Restoration

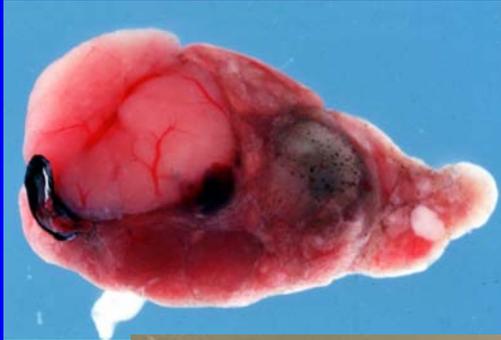
September 14, 2006

Hampton Roads Green Infrastructure Workshop

Elizabeth River Watershed Location



Early 1990s: Elizabeth River perceived as “dead”



- **Liver cancer, bottom-dwelling fish**
- **Urban legends –six shots if you fall in!**

A white egret is captured in mid-flight over a body of water. The bird's wings are spread wide, showing the intricate feather patterns. Its long neck is extended forward, and its black legs trail behind. The water below is dark and rippled, reflecting the ambient light. The overall scene is serene and natural.

Elizabeth River Project: First discussions 1991

- **Four citizens around a kitchen table**
- **Would the community support a cleaner river?**
- **Non-finger pointing approach**

15 years later: National model for partnerships that achieve real results.



- “If you’re looking for an example of the success of partnerships, Elizabeth River Project is the model.”

*- EPA’s former national head
Christie Todd Whitman, 02*

The Elizabeth River Project:

Among 1st environmental groups to succeed with the
positive power of partnerships

Today: 2,000 members, 55 industries, four cities,
state and federal government, many others,
achieving environmental results - **together.**



**How did we
get there?**

1992-96: Building consensus



- Listening and learning across diverse interests
- Consensus 1996
- Action plan that is affordable, effective and acceptable to the community.

Watershed Action Plan – Our Guide



**Developed by 120
volunteers**

- **Citizen/Industry**
- **Government**
- **Scientific/Technical**

Restoration and Conservation

- ❖ Set restoration goals for the river's top priority needs.
- ❖ Included 14 priority actions



*Priority Action: Restore, conserve
buffers, wetlands, forests.*

2020: Create 10 miles of restored river corridor



Giving Wetlands Back to the River



Progress: More than a *dozen wetland restorations* & the *most oyster reefs restored per acre* of any river on the bay!

2007 Goal: Restore Paradise Creek as a model



- **Sub-watershed plan, 2002**
 - Community team
 - Facilitated consensus
 - **\$10 million + underway!**

Rain Garden in the Cradock Neighborhood

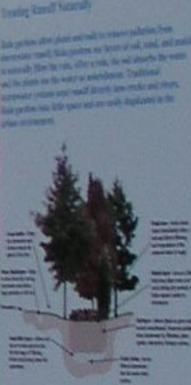




Rain Garden for Paradise Creek

Creating Beautiful Natural

Rain gardens collect storm water runoff in a shallow depression, filter pollutants, and reduce runoff. Rain gardens are a type of wet, sand, and gravel filter that captures runoff from roofs, parking lots, and streets. The water filters through the soil and is absorbed by the plants. Traditional landscaping practices can lead to runoff, soil erosion, and water pollution. Rain gardens can be easily designed in the landscape.



PARADISE CREEK RAIN GARDEN

The Elizabeth River Project constructed this rain garden in 2004 to reduce runoff pollution to Paradise Creek and to target additional rain gardens throughout the Chesapeake Bay. This rain garden helps keep runoff collection from entering the nearby creek through the city storm drains, and supports restoration work for Paradise Creek by 2007. The school site provides community involvement and educational opportunities. This design features native plants selected to suit the rain garden's wet and dry environments and for wildlife habitat. The Virginia Department of Conservation and Recreation and the National Environmental Challenge Fund provided funding for the rain garden.

Elizabeth River Project

Project Lead:
The Elizabeth River Project
1000 Lakeside Drive
Norfolk, VA 23510
757-620-1000 or visit us online: www.elizabethriver.org



Paradise Creek Plan

Cornerstone – a park to provide the only public access to Creek and foster appreciation.





Paradise Creek Nature Park

- 40-acre proposed nature park
- ERP raising \$1.4 million for purchase of land
- Partnership with Virginia Port Authority (wetlands) and City of Portsmouth (park)



MULTI-PURPOSE TRAIL ROUNDABOUT

- DEVELOP NODES AT KEY TRAIL INTERSECTIONS TO IMPROVE SAFETY, SLOW TRAFFIC AND CREATE POINTS FOR ORIENTATIONAL SIGNAGE
- 12' WIDE MULTI-PURPOSE TRAIL WITH 6' DP RIGHT OF WAY. POTENTIAL FOR FUTURE LINKAGES

PARK PERIMETER

- INTEGRATE FACILITY INTO THE PARK PERIMETER BY LOCATING PARK TRAILS, TRAIL, AND VEHICULAR ACCESS OPENINGS
- MINIMIZE OPPORTUNITIES FOR VANDALISM/REPAIRS THROUGH THE USE OF LANDFORM, DECORATIVE FENCE, BOLLARDS, ETC.

TRAIL SYSTEM

- MINIMIZE IMPACT OF TRAIL DEVELOPMENT BY LOCATING PARK TRAILS ALONG EXISTING CLEARED PATHWAYS, AS PRACTICAL
- TRAIL WIDTH VARIETY (0.75M - 1.5M) TO ACCOMMODATE VARIETY OF SYSTEMS & USES
- TRAIL SYSTEM SHOULD PROVIDE ACCESSIBLE "HUBS" OF MATERIALS
- TRAIL SYSTEM ROUTING SHOULD PERMIT THE DEVELOPMENT OF PASSIVE RECREATION OPPORTUNITIES (E.G. HORSE DRIVING)
- INSTALL A CANOPY WALK SYSTEM (EAST OF EDUCATION SPACE) AS AN ELEVATED VANTAGE OVERLOOKING THE WOODLAND FOREST SYSTEM
- INSTALL EMERGENCY COMMUNICATION SYSTEM AT STRATEGIC POINTS ALONG TRAIL NETWORK

PEDESTRIAN LINKAGE (TYP)

- PROVIDE A MINIMUM OF TWO PEDESTRIAN CROSSINGS BETWEEN THE PARK AND THE ADJACENT CRADDOCK NEIGHBORHOOD
- CROSSINGS ARE TO BE DESIGNED IN ACCORDANCE WITH LOCAL GUIDELINES

FACILITY ENTRANCE

- HIGH VISIBILITY "FRONT DOOR" TO PARK ALONG VICTORY BOULEVARD
- VERTICAL ASSESSMENT FLOWS ONE WAY IN / ONE WAY OUT
- "SQUARE" CONCEPT WITH ROUNDABOUT AT DROP OFF POINTS
- METRANS SERVICE AS "RAIN GARDEN" FOR SITE STORAGE WATER
- PARKING WITHIN DPV RIGHT OF WAY (60 SPACES - POROUS PAVEMENT) W/ OUT-TOWN PARKING (NOTICE OF MAINT. IT)
- "PROXIMITY" "RAILHEAD" FOR TRAIL SYSTEM - VISUAL LINK TO PARK INTERIOR
- LOCATING GATE TO "RECREATION" ACCESS BEYOND PARKING AREA (DROP OFF)

CHILDRENS PLAY AREA

PRIMARY PICNIC PAVILION

- 1,200 SF OPEN AIR FACILITY FOR GROUP GATHERINGS
- PAVILION WILL INCLUDE RAIN TENTS (H.D. INCLINATOR TYPE)
- DIRECT LINKAGE & VISIBILITY FROM FACILITY ENTRANCE, W/ CENTRALLY LOCATED RELATIVE TO THE LOCAL TRAIL SYSTEM

DROP OFF

- 25' RESTRICTED "NO DEVELOPMENT ZONE" AROUND DPV (PERMISSION TOWERS (TYP))

"THE OVAL"

- 2.5 ACRE PASSIVE, NON PROGRAMMED OPEN SPACE
- DIRECT VISUAL LINKAGE BETWEEN VICTORY BOULEVARD, WETLAND, & EARTHWORKS SCULPTURE AND PRIMARY PICNIC PAVILION

INTERPRETIVE STATION

- 3,000 SF LEED CERTIFIED BUILDING
- EDUCATIONAL PROGRAMS / OFFICE / RESTROOMS / EXHIBIT SPACE
- ORIENTATION TOWARD WETLANDS (NOT STRAIGHT FLOOR)
- BOARDWALK OVERLOOK INTO WETLAND
- PARKING FOR OFFICE USE

LEARNING BARGE

- HOORING LOCATION FOR WPA SCHOOL ARCHITECTURE STUDENT PROJECT
- TRAIL SYSTEM CONNECTION POINT, ACCESSIBLE VIA BOARDWALK

VICTORY PAVILION

- 400 SF OPEN AIR PAVILION LOCATED AT STRATEGIC POINT, OVERLOOKING THE CORE / EDGE OF THE NEW WETLAND AND PARADISE CREEK

WETLAND CREATION

- NINE ACRES (W/ BUFFER) @ SITE INTERIOR
- ONE ACRE (W/ BUFFER) NORTH OF WETLAND THREAT
- SIDE SLOPES TAPER AT VARYING GRADIENTS, CREATING A DYNAMIC "ADDITION"
- OPEN WATER @ WHEELS BRAND FROM THE WETLAND "TRAIL" INTO THE SITE

PEDESTRIAN BRIDGE/OVERLOOK

- INCLUDE VIEWING OPPORTUNITY @ WETLAND THREAT IN VIEW TOWARD "OVAL" AND WETLAND
- CONNECTING LINK FOR TRAIL SYSTEM AROUND WETLAND

TIDAL GARDEN

- SCULPTURAL ELEMENT AT WETLAND THREAT THAT INCORPORATES TIDAL ACTION TO CREATE A UNIQUE OPPORTUNITY FOR VEGETATIVE AND AQUATIC LIFE GROWTH

EDUCATION SPACE

- SHADE BY TREE SHELTERING ZONE FOR SMALL GROUP GATHERINGS OVERLOOKING WETLAND WITH VIEW TOWARD SOUTHEAST (EARTHWORKS SCULPTURE)
- HOODS SEATING WITHIN OVERSHADE
- SMALL STAGE/PLATFORM @ WETLAND EDGE (10'X10')

SUCCESSION GARDEN

- DEDICATED ONE ACRE ZONE TO PERMIT NATIVE PLANT SUCCESSION

LANDSCAPE PLANTINGS

- PLANT PALETTE TO INCLUDE NATIVE MATERIALS ONLY, IN ACCORDANCE WITH BRP WILDLIFE "HABITAT" GUIDE

EARTHWORKS SCULPTURE

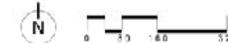
- UTILIZE EXCAVATED MATERIALS TO CREATE UNIQUE SCULPTURAL EARTHWORK
- INCORPORATE PEDESTRIAN ROUTE TO TOP OF SCULPTURE ELEMENT "SOFT" VANTAGE
- SOUL INTERCOMING INTERPRETIVE PLANTATION WHICH ILLUSTRATES UNIQUE HISTORY / TIMESCALE OF PARK PROPERTY

PICNIC SHELTER (TYPICAL)

- 400 SF OPEN AIR OVERLOOK BE SITUATED AT VARIOUS POINTS THROUGHOUT THE FACILITY

BOAT LAUNCH

- NON-MOTORIZED CRAFT ONLY
- CANOPY ADJACENT FROM SOUTHWEST DROP OFF / LOADING
- GATES RESTRICTED VEHICULAR ACCESS BEYOND LAUNCH AREA
- SMALL PARKING AREA SOUTH OF LAUNCH IS STRATEGIC



Paradise Creek Nature Park

Master Plan



Master Plan – Summary Graphic

Elements of Final Design Concept

- **10 acres of restored wetlands (9 shown, tenth to be added)**
- **Perimeter trail and overlooks, with boardwalks and walkways into the tree canopy**
- **Canoe/kayak launch at park entry**
- **Interpretive “tidal garden”**
- **“Timescape” mound, puts visitors 50 feet in air for viewscape of creek and surrounds**
- **Frisbee golf in 20 acres of conserved forest, plus bike trail along Victory**



“Timescape” Mound



Tidal Garden



Walkway into Tree Canopy

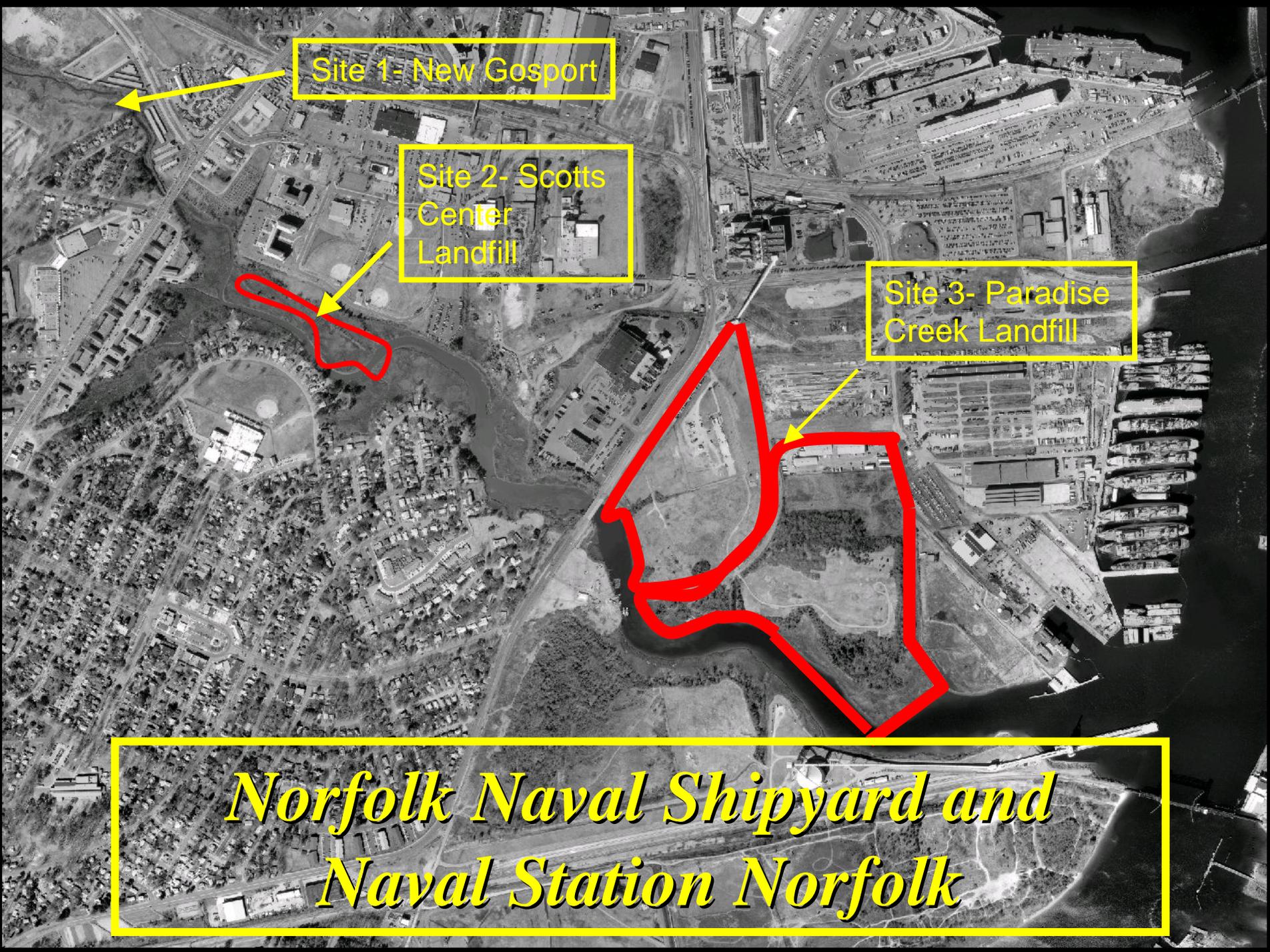
Other Elements of Final Design

- “Victory Pavilion” celebrating repair of river
- 75-100 person Primary Picnic pavilion overlooks launch
- Children’s play area
- Terraced learning area (amphitheater)
- Interpretive Station building (exhibits, possible future home of ERP Office)
- Research station, SE corner
- Roundabout entry with rain garden in median



Industries Get Involved

- Outreach program to businesses in the watershed
- Facilities voluntarily conduct pollution prevention initiatives and habitat enhancement projects above compliance
- Key components to Paradise Creek restoration



Site 1- New Gosport

Site 2- Scotts
Center
Landfill

Site 3- Paradise
Creek Landfill

*Norfolk Naval Shipyard and
Naval Station Norfolk*



Giant Cement



 **RADV**
CORPORATION
Plant 2



A photograph of a sign in a field. The sign is white with a red gear-like logo on the left. The text on the sign reads "RADVA CORPORATION" in large black letters, with "Plant 2" in smaller black letters below it. The sign is supported by two green posts. The field is filled with yellow flowers and tall grasses. In the background, there is a dense line of green trees under a cloudy sky.

RADVA
CORPORATION
Plant 2

SPSA



Peck Iron & Metal



Evidence of Success



Questions?

