

Neighborhood Channel Dredging

Community Briefing on Creating a Neighborhood SSD

For:

Robinhood Forest

August 15th, 2018



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Coastal Project Manager James White

Neighborhood Channel Dredging

Prior Efforts / Reviews

- 1997 Citywide Analysis
 - Too big, too long, unaffordable
- 2004-2005 Series of 4 Council Briefings
 - Four potential courses of action identified
 - No formal council action

Neighborhood Channel Dredging

Project Parameters

Financing
Strategy

- Neighborhood channel funded by SSD
- City cost share's by funding spur channel
 - Individual funding of turn basins
 - City management of project
 - Economies of scale
 - Defined schedule
 - Sunset duration

Funding
Sources
3

Neighborhood Channel Dredging

Virginia Beach Program

- Individual neighborhood SSD Projects
 - specific scopes
 - Standard frequency (3 cycles, 16 years)
- Includes City-funded Spur Channels (early appropriations allow for 1st dredging in year 2)
- Those who receive the benefit help pay for the project - Cost sharing (3 sources)
- City management of effort – formulation, funding, design, permitting, construction, maintenance
- Creates a viable solution to reclaim navigation & improve water quality
- Establishes a reasonable timeline with visible results

Neighborhood Channel Dredging

Legal Considerations

- VA Code §15.2-2403 Authorizes SSDs for navigation
- Minimum of 51% property owner approval
- Formal adoption by City Council
- Council Established 80% property owner approval
- On September 10, 2013, City Council adopted ordinance for Tax Relief for Qualifying Senior & Disabled Persons

Neighborhood Channel Dredging

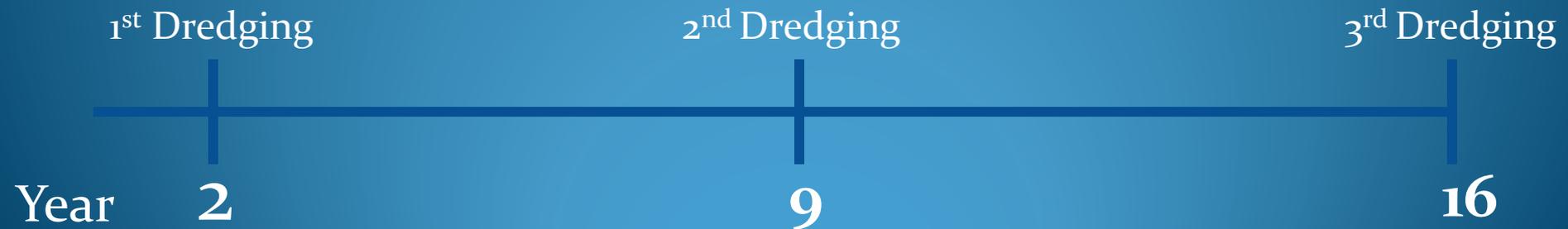
Project Format

- Mechanical Dredging
- Potential for neighborhood dredged material transfer
- City/Neighborhood Dredged Material Transfer Station
- Deposition at City Disposal Area: Whitehurst Dredged Material Management Area (DMMA)
- Mitigation of Vegetated & Non-Vegetated Wetlands
- Property Values Assumed Constant
- Construction Costs (5% Annual Increase Inflation)

Neighborhood Channel Dredging

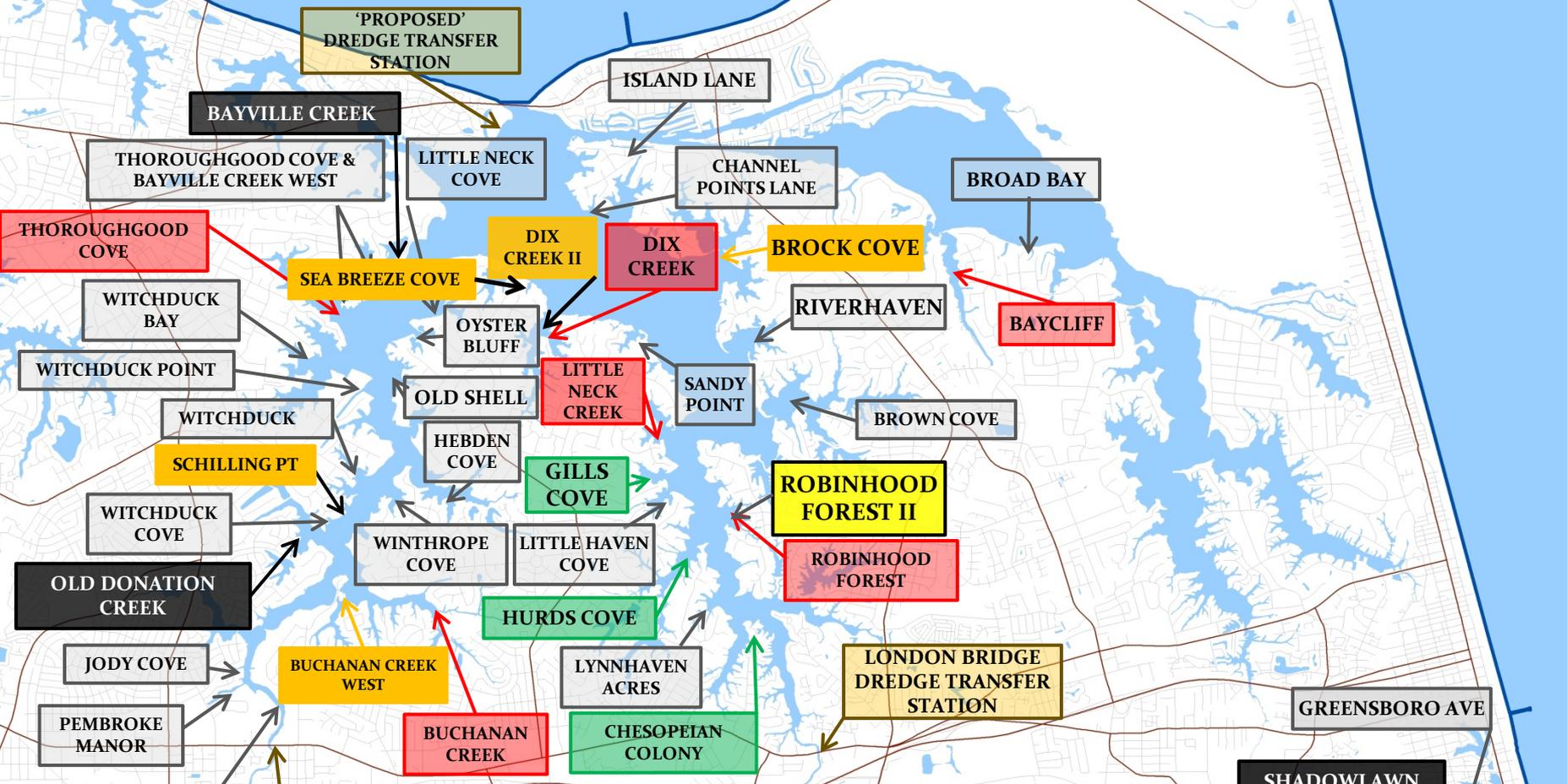
Dredging Cycles

- Initial dredging: 2 years after SSD adoption
- Projected cycle: 7 years
- 2nd cycle anticipated at 70% of initial volume
- 3rd cycle anticipated at 50% of initial volume





Neighborhood SSD Program Status (42 Projects As Of 08/15/2018)



Legend:

| | |
|--|---|
| | Dredging Completed (4) |
| | SSD Ordinance Established in Permit Application Phase or Construction (3) |
| | Petition Phase (5) |
| | Community Briefing (1) |
| | Interest Phase (25) |
| | 80% Interest Not Achieved (6) |
| | Disposal Area/Transfer Station |

Neighborhoods In Play

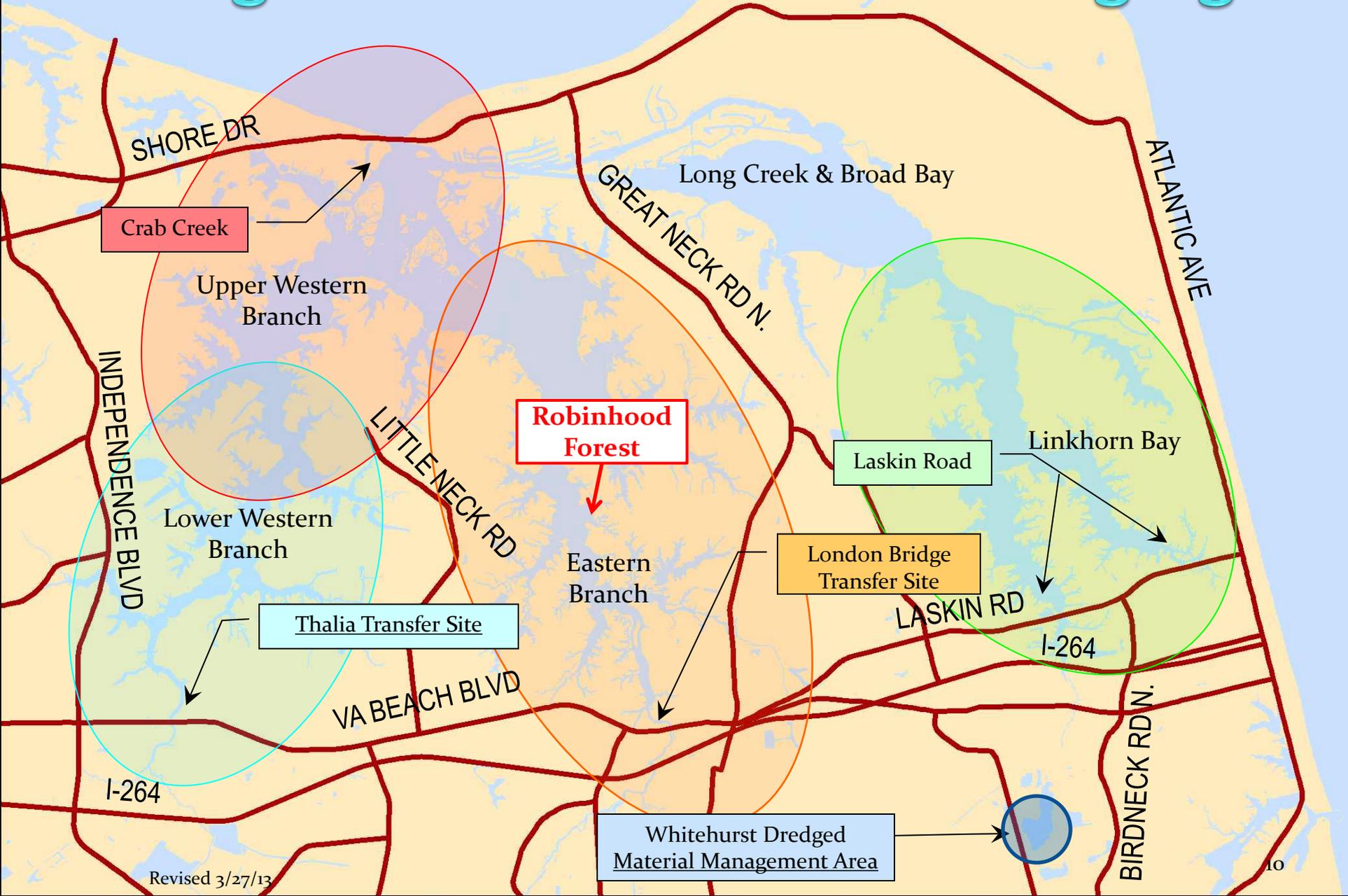
1. Old Donation Creek
2. Bayville Creek
3. Shadowlawn
4. Harbour Point
5. Chesapeake Colony
6. Gills Cove
7. Hurds Cove
8. Brock Cove
9. Buchanan Creek West
10. Schilling Point
11. Sea Breeze Cove
12. Dix Creek II
13. Robin Hood Forest II
14. Thoroughgood Cove & Bayville Creek West
15. Hebden Cove
16. Witchduck Bay
17. Witchduck Point
18. Oyster Bluff
19. Winthrope Cove
20. Little Neck Cove
21. Brown Cove
22. River Haven
23. Island Lane
24. Channel Points Lane
25. Greensboro Avenue
26. Old Shell
27. Owls Creek
28. Pembroke Manor
29. Lynnhaven Acres
30. Cedar Lane
31. Broad Bay
32. Little Haven Cove
33. Jody Cove
34. Witchduck Cove
35. Witchduck
36. Sandy Point
37. **Dix Creek**
38. **Little Neck Creek**
39. **Buchanan Creek**
40. **Thoroughgood Cove**
41. **Baycliff**
42. **Robin Hood Forest**



Legend:

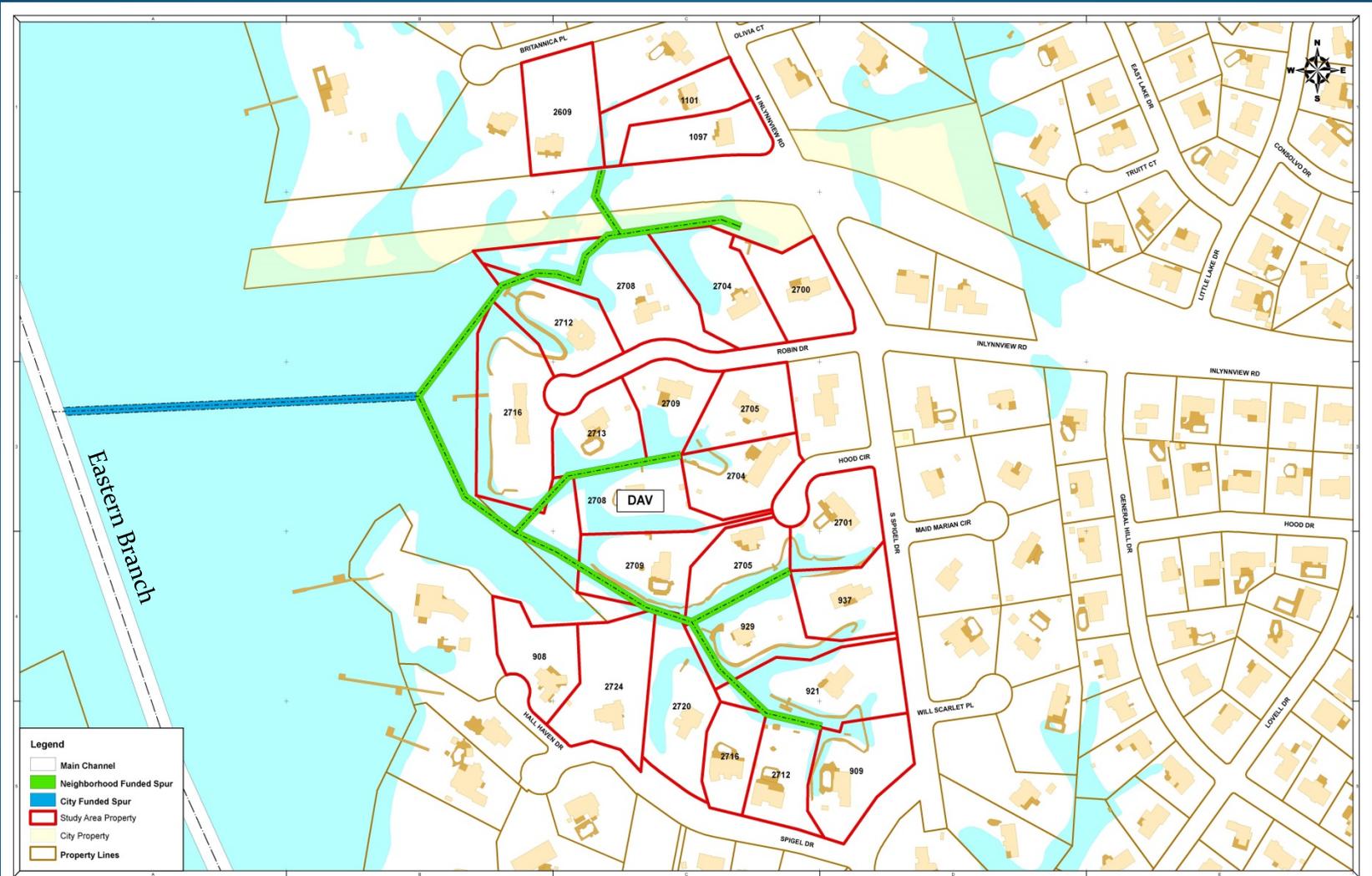
-  Dredging Completed (4)
-  SSD Ordinance Established in Permit Application Phase (3)
-  Petition Phase (5)
-  Community Briefing (1)
-  Interest Phase (23)
-  80% Interest Not Achieved (6)

Neighborhood Channel Dredging



Neighborhood Channel Dredging

Proposed Robinhood Forest SSD



X:\Projects\ARC File\Design\Water Branch Layouts\Main\Robinhood Dredging\Map\Robin Hood Forest\Main Hood Fore 01/18.mxd



Robin Hood Forest Neighborhood Dredging
Preliminary Channel Layout, 24 Properties



Neighborhood Channel Dredging

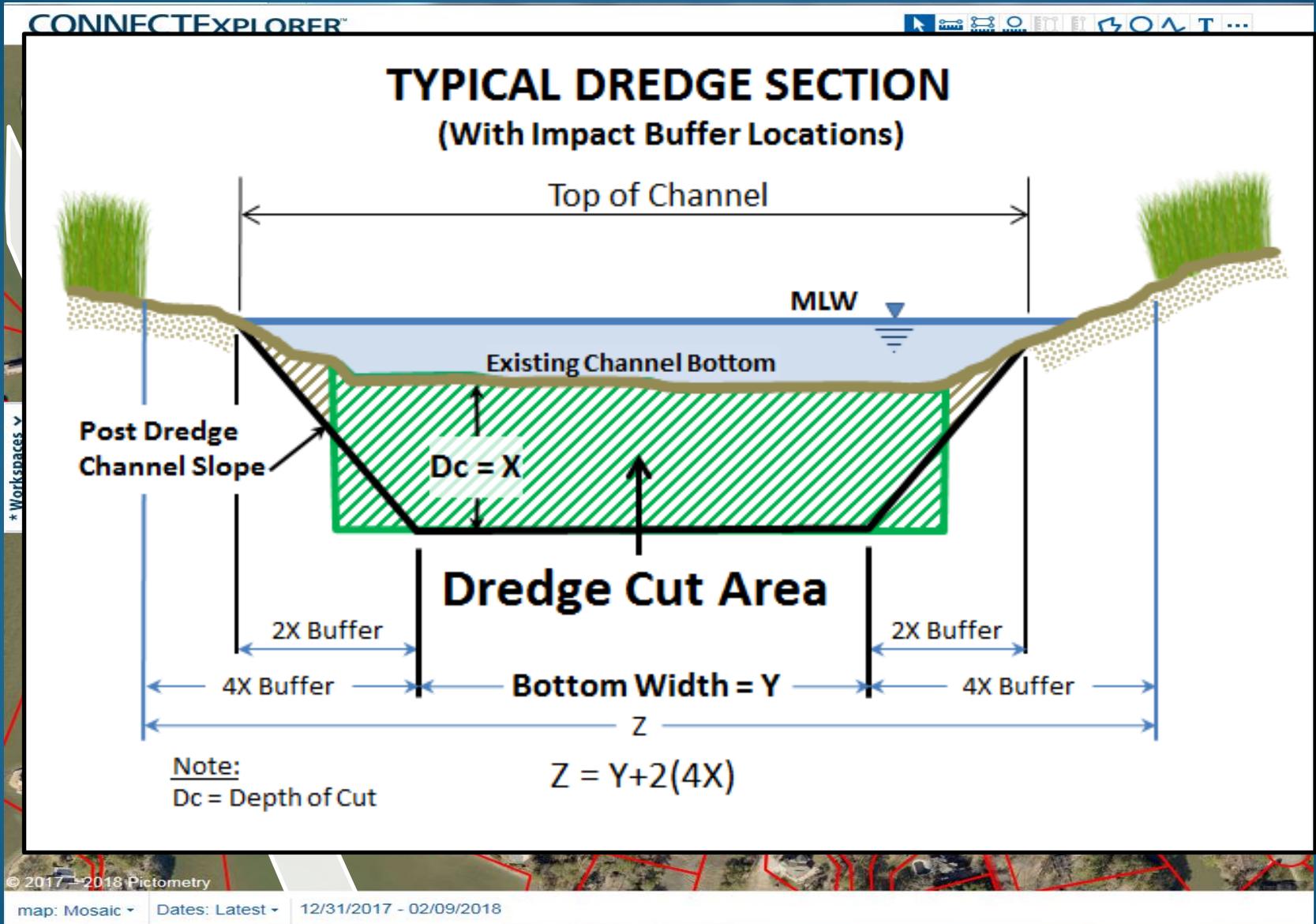
Proposed Robinhood Forest SSD

SSD CHANNEL SUMMARY

- **25** Potential Participants
- SSD Channel Length = **3,560 ft** = 0.67 miles
(Green Channel)
- SSD Channel Width = 15 ft to 20 ft
- SSD Channel Depth = -2.5' to -3.5' MLW + 0.5' overdredge
= -3.0' to -4.0' permitted depth
- SSD Channel Avg. Depth of Cut = 2.5'
- SSD Channel Volume = **7,038 Cubic Yards** (Initial Dredging)
- Total Wetlands Impact Area = **9,335 SF**

Neighborhood Channel Dredging

Proposed Robinhood Forest SSD



Neighborhood Channel Dredging

Life Cycle Estimated Costs SSD Portion

| Cycle | Volume (CY) | Construction Cost | Design Cost | Acc.Basin Design Cost | Mitigation Cost | Total Cost |
|-------|---------------|-------------------|------------------|-----------------------|-----------------|--------------------|
| 1 | 7,038 | \$390,088 | \$89,611 | \$60,000 | \$50,771 | \$590,470 |
| 2 | 4,927 | \$254,780 | \$52,394 | \$0 | \$0 | \$307,174 |
| 3 | 3,519 | \$256,051 | \$52,649 | \$0 | \$0 | \$308,700 |
| Total | 15,484 | \$900,919 | \$194,654 | \$60,000 | \$50,771 | \$1,206,344 |

(includes 5% cost escalation, 15% design, 100% participation of access basin design @ \$2,500 each, Temporary Dredge Transfer Station & navigation aids)

(Dredge cost per cycle = \$36.75/cy, \$51.71/cy, \$72.76/cy)

Neighborhood Channel Dredging

Proposed Robinhood Forest SSD FY18 Data

- 16 year project duration with three dredging cycles
- 25 properties in the neighborhood district
- Total SSD FY18 assessed value: **\$16,068,600**
- Each penny surcharge raises **\$1,607 / year**
- Total SSD neighborhood channel dredging cost: **\$1,206,344**
- SSD rate covers costs for 16 year life: **46.9¢/\$100** of the FY18 assessed value
- Review rate at end of every 4th year/end of each dredging cycle

| Example: | <u>Property Value</u> | <u>Cost/Year</u> | <u>Cost/Month</u> |
|---------------|-----------------------|------------------|-------------------|
| | \$500,000 | \$2,345 | \$195 |
| Median | \$670,000 | \$3,142 | \$262 |
| | \$1,000,000 | \$4,690 | \$391 |

Neighborhood Channel Dredging

Life Cycle Estimated Costs

City Portion (Not Included in SSD Rate Calculation)

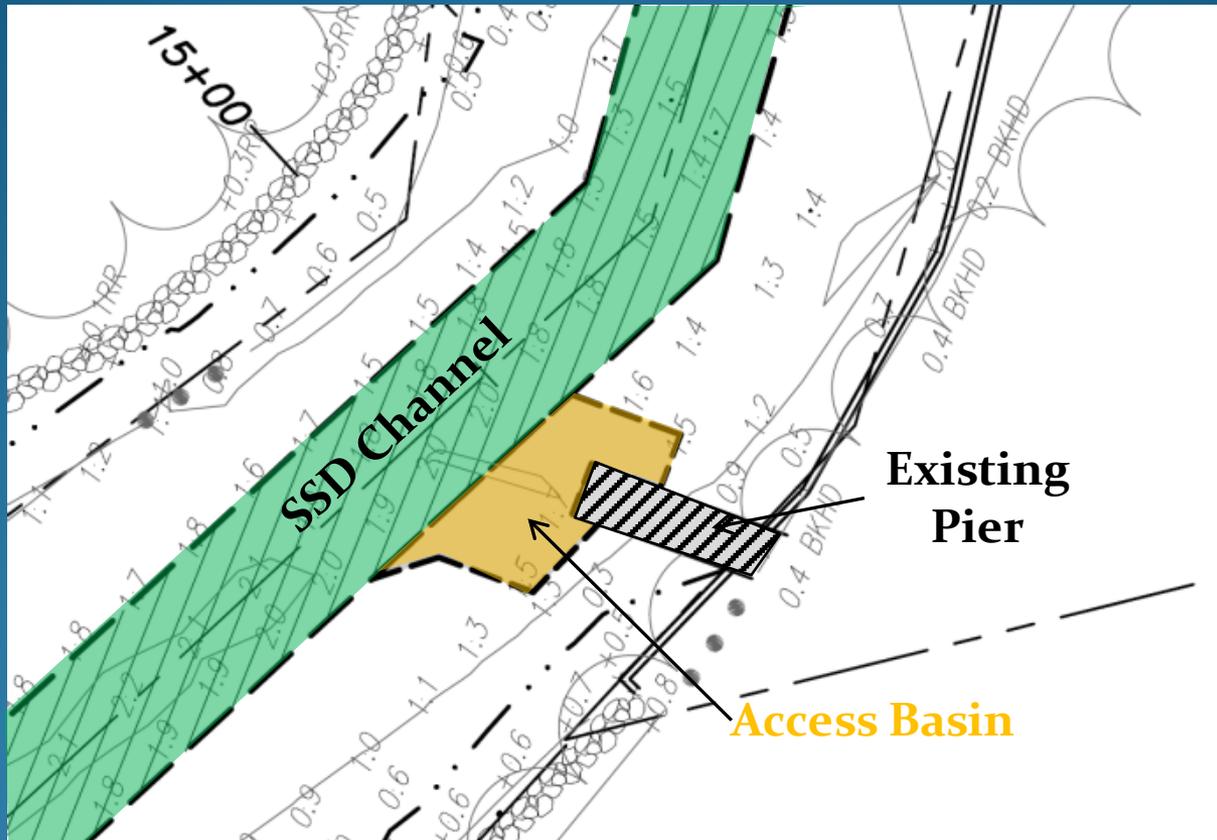
| Cycle | Volume (CY) | Construction Cost | Design Cost | Total Cost |
|-------|-------------|-------------------|-------------|------------------|
| 1 | 2,745 | \$142,937 | \$29,149 | \$172,086 |
| 2 | 1,922 | \$99,388 | \$20,439 | \$119,827 |
| 3 | 1,373 | \$99,903 | \$20,542 | \$120,445 |
| Total | 6,040 | \$342,228 | \$70,130 | \$412,358 |

(includes 5% cost escalation, 15% design cost, & navigation aids)

(Dredge cost per cycle = \$36.75, \$51.71, \$72.76)

Neighborhood Channel Dredging

Typical Elective Individual Access Basin Layouts



Typical Layout of 25' x 25'
Dredging Volume of 100 CY & Depth Of Cut of up to -4.5 feet
Access Basin Costs of \$3,675
Plus Mitigation (if required)

Neighborhood Channel Dredging

Risks:

- Environmental permitting
- Real estate bottom rights
- Oyster leases
- Real estate valuation changes
- Cost escalation assumption (5% annually)
- Unknown shoaling rate

Neighborhood Channel Dredging

Oyster Leases as of August 15th, 2018

- City and SSD channel will transect across potentially 1 oyster lease.
- Oyster lease agreements will need to be acquired in order to dredge.

LEGEND:

-  Commercial or Riparian Oyster Lease Areas
-  Proposed City Spur Channel
-  Proposed SSD Channel



Neighborhood Channel Dredging

Next Steps for Proposed Robinhood Forest SSD Project

- Assess communities willingness to continue
- Brief City Council on project
- When 80% willing - complete formal petitions
- Conduct a Public hearing
- City Ordinance establishing SSD
- Begin design and permitting

Additional Information

City Neighborhood Dredging Website (FAQ, Procedures, & Presentations):

<http://www.vbgov.com/pwdredging>

Virginia Marine Resources Commission Website (FAQ & Permit):

<http://www.mrc.virginia.gov/hmac/hmoverview.shtm>