



#### Project Team

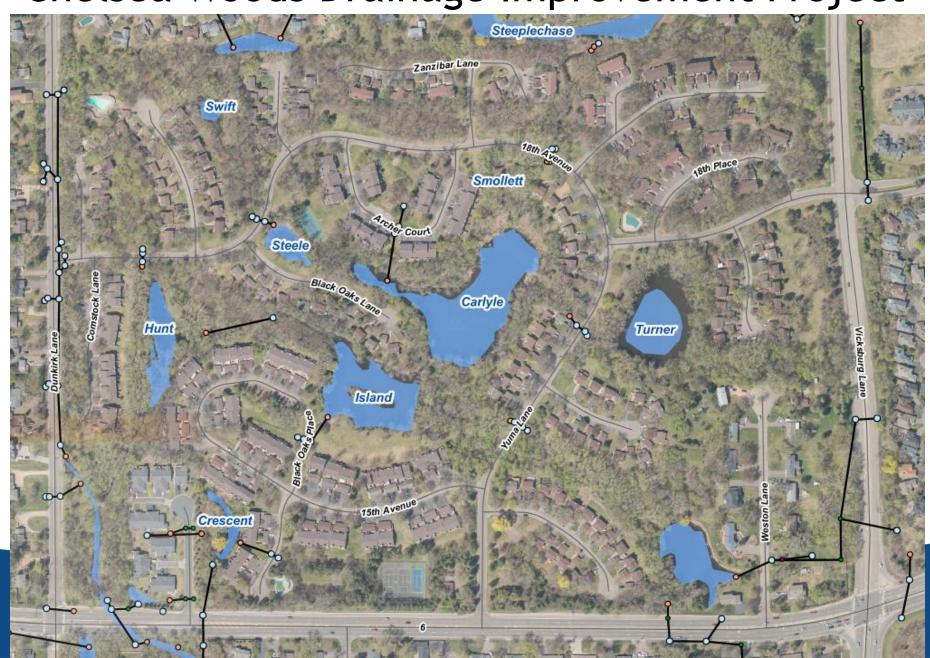
- City of Plymouth
  - Ben Scharenbroich, Water Resources Supervisor
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#### • Design Consultant, Barr Engineering

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# Chelsea Woods Drainage Improvement Project





# Project Timeline

Phase	Time
Resident Questionnaire	2020
Project Scoping & Resident Input	Spring 2022
Preliminary Design	Late Spring 2022
Resident Meeting #2	Summer 2022
Engineering Final Design	Late Summer/Fall 2022
Contractor Bidding	Fall 2023
Construction	Winter 2023/2024



# Resident Input

- Water level desires are variable
- Water quality noted as a concern
- Wildlife habitat has been noted as important
- Weirs and trails are important features to the neighborhood
- Bank erosion observed
- General maintenance of sediment and debris

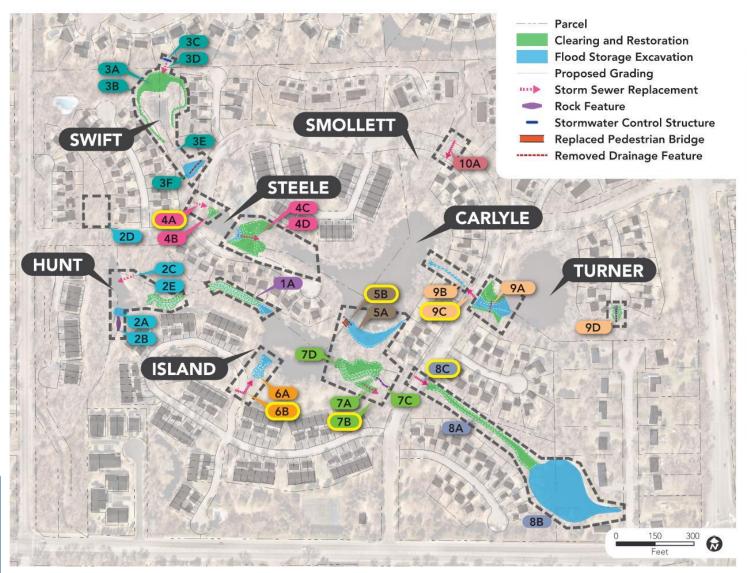


# City Identified Potential Improvements

- Address Weirs
- Perform Pond Maintenance
  - Address water quality
  - Address bank erosion
  - Removal of sediment and debris
- Consider localized drainage concerns
- Resident Input



### Chelsea Woods - Overall Plan



Project Location	Location Name	Description
1	Island Outlet	A. Regrade eroded channel and remove unfavorable trees
2	Hunt	A. Remove sediment at rock dike     B. Restore rock dike     C. Install high flow pipe to NE depression     D. Clear out outlet on north side of 18th Avenue     E. Regrade a meandering channel from Island outlet
3	Swift	A. Regrade side slopes and install native buffer B. Remove unfavorable trees to reduce canopy over pond C. Restore weir from upstream pond D. Replace pedestrian bridge with culvert E. Clear out channel downstream of pond F. Excavate flood storage (remove existing culvert)
4	Steele	A. Replace storm sewer crossing 18th Avenue B. Regrade channel into pond C. Replace pedestrian bridge with culvert D. Remove unfavorable trees
5	Carlyle	A. Excavate flood storage in the southeast and remove unfavorable trees     B. Replace pedestrian bridge and weir with new stone bridge structure
6	Island	A. Dredge southwest inlet B. Replace storm sewer
7	Island Channel from Weston	A. Install high flow pipe to access depression to the southeast     B. Remove unfavorable trees     C. Armor stream bend where erosion may be occurring     D. Regrade Island inlet channel
8	Channel from Weston	A. Clear out channel     B. Dredge pond and channel from Weston Lane     C. Replace storm sewer
9	Turner	A. Remove failed weir     B. Dredge downstream channel     C. Replace storm sewer     D. Clean out debris and trees at cul-de-sac
10	Smollett	A. Clear out high flow double barrel pipe under 18th Avenue North

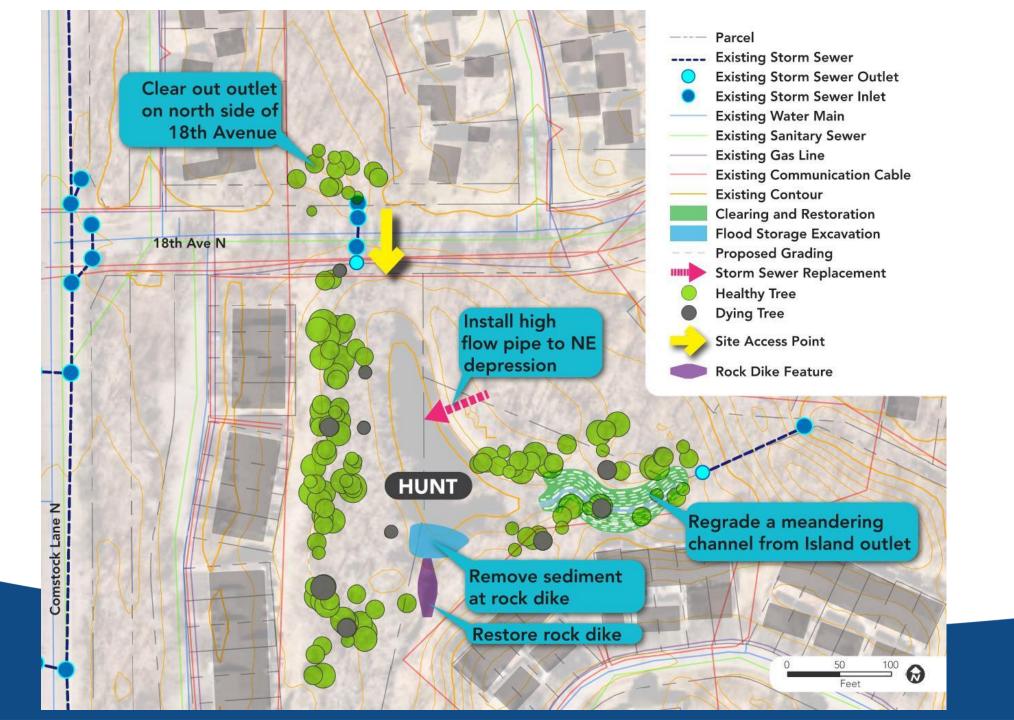
Note: HOA Cost Participation Projects are highlighted in yellow





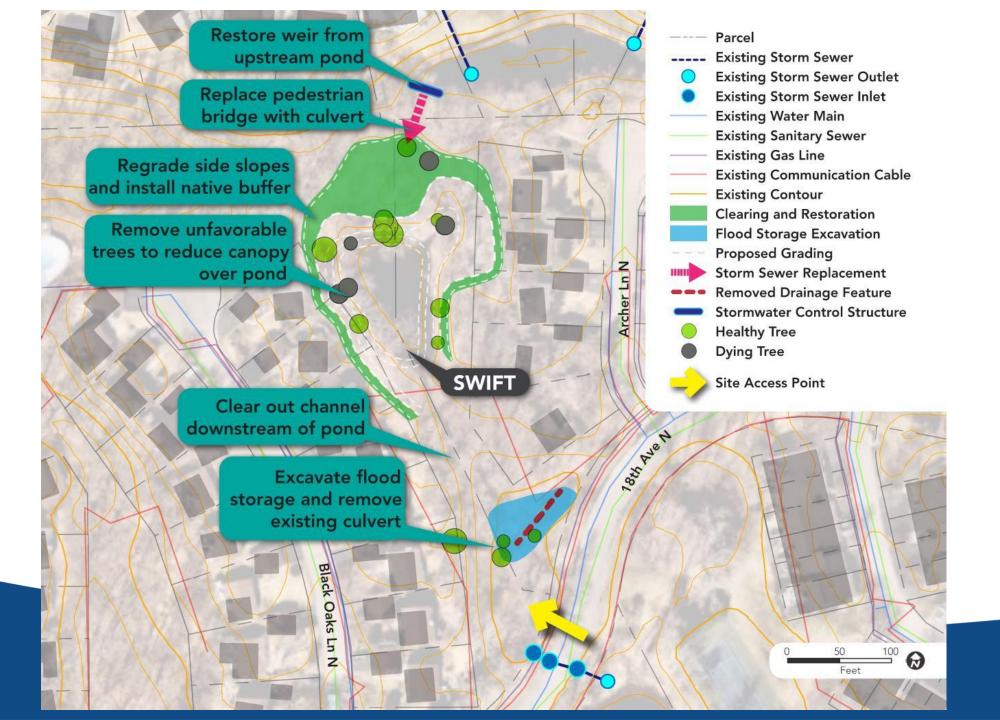
## Island Outlet Channel





#### Hunt





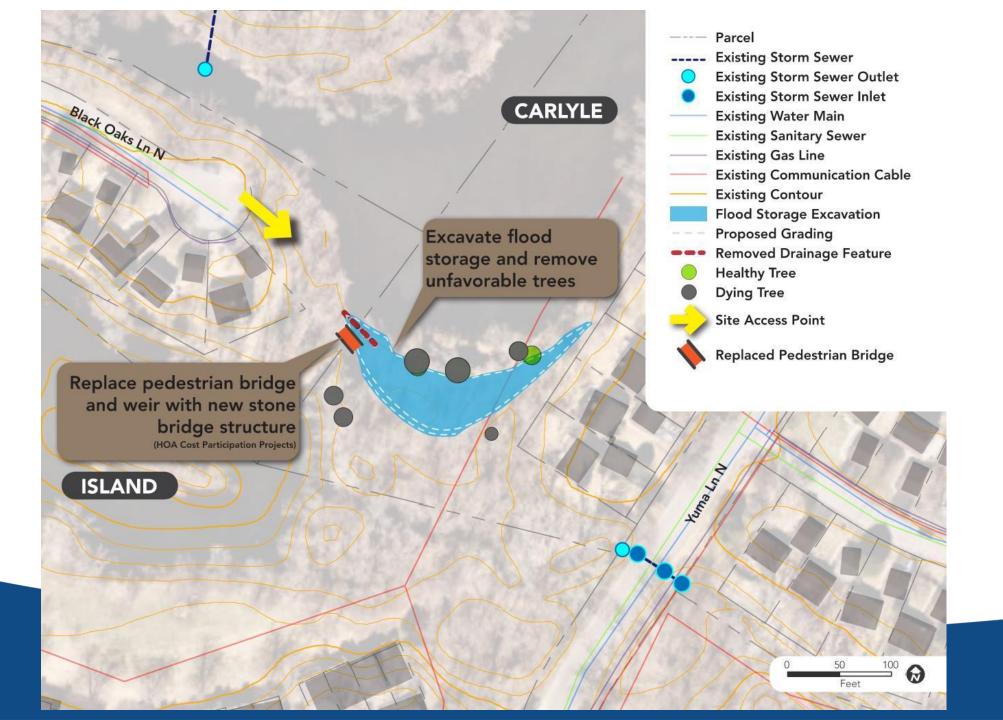
#### Swift



#### ---- Parcel ---- Existing Storm Sewer **Existing Storm Sewer Outlet** Replace storm **Existing Storm Sewer Inlet** sewer crossing 18th **Existing Water Main Existing Sanitary Sewer** Avenue **Existing Gas Line Existing Communication Cable Existing Contour** Regrade channel Clearing and Restoration Archer Ct into pond (HOA Cost Participation Projects) **Proposed Grading Storm Sewer Replacement Healthy Tree Dying Tree** Site Access Point STEELE Replace pedestrian bridge with culvert Black Oaks Ln N Remove unfavorable trees

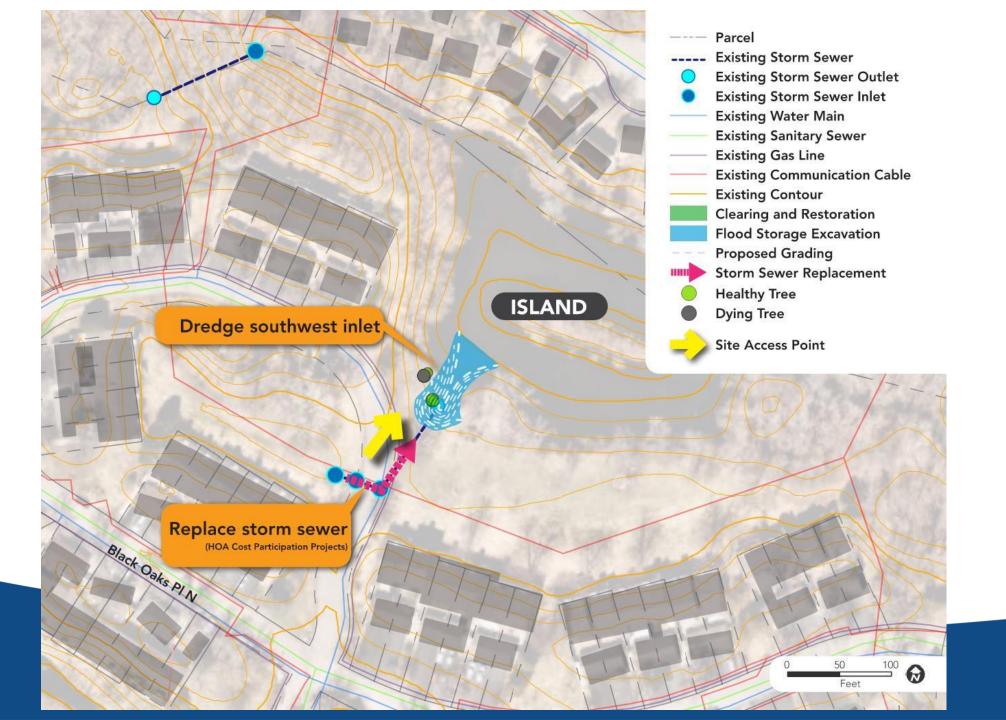
#### Steele





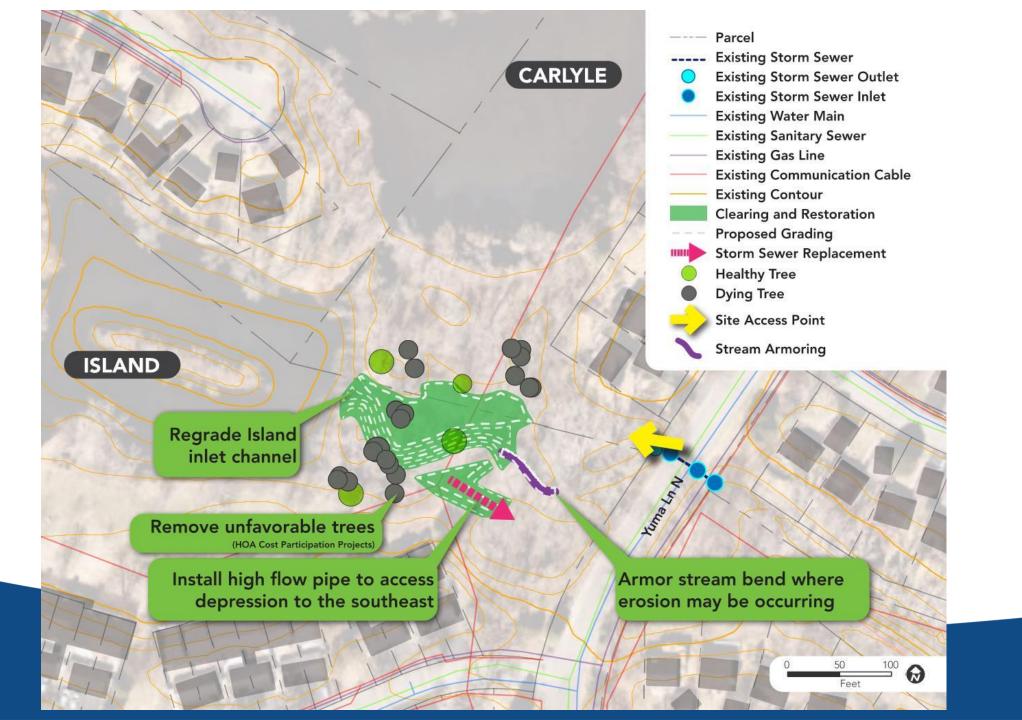
# Carlyle





### Island SW Channel





### Island SE Channel



#### ---- Parcel ---- Existing Storm Sewer **Existing Storm Sewer Outlet Existing Storm Sewer Inlet Existing Water Main Existing Sanitary Sewer Existing Gas Line Existing Communication Cable** 18th Ave N **Existing Contour** Clearing and Restoration CARLYLE Flood Storage Excavation **Proposed Grading** Storm Sewer Replacement Removed Drainage Feature Dredge channel Stormwater Control Structure **Healthy Tree Dying Tree** Site Access Point TURNER Replace storm sewer (HOA Cost Participation Projects) Remove failed weir and clear out downstream channel Clean out debris and trees at cul-de-sac

#### Turner



#### ---- Parcel ---- Existing Storm Sewer **Existing Storm Sewer Outlet Existing Storm Sewer Inlet** Zanzibar Ln N **Existing Water Main Existing Sanitary Sewer Existing Gas Line Existing Communication Cable Existing Contour** Clear out high flow Storm Sewer Replacement double barrel pipe under **Healthy Tree** 18th Avenue North **Dying Tree** Site Access Point 18th Ave N CARLYLE

#### **Smollett**

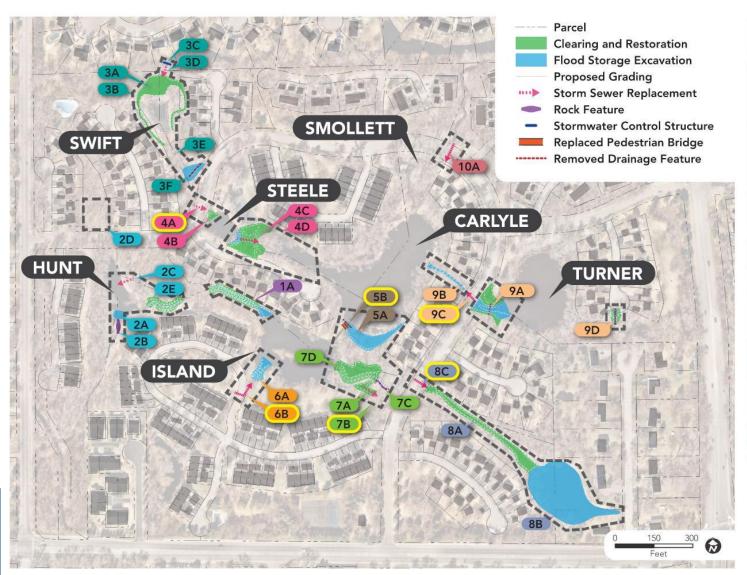


### Questions or Comments?

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## Chelsea Woods Drainage Improvement Project



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