

Wyatt Way Reconstruction Project

City Council Study Session

June 14, 2016



CITY OF
BAINBRIDGE ISLAND

Including:

- Public Works
- Non-Motorized Transportation Advisory Committee
- Bainbridge Island City Council



LOCHNER



Presentation Outline

- Project overview and goals
- Public outreach and NMTAC coordination
- Design Approach
 - Corridor design
 - Intersection analysis
- Right of way acquisition
- Considerations for Grow Ave

Overview

Project Background

Funding

\$2,516,000 Transportation Improvement Board Grant

\$1,114,000 City Matching Funds

\$ 70,000 Developer Matching credit (Grow Ave Dev. Frontage Improvements)

\$3,700,000 Total

Schedule

- Duration 3 or more years
- Select preferred alternative by summer of 2016
- Earliest construction start is the summer of 2018



Project Goals

Safety: complete street with sidewalk and bike lanes

Mobility: preserve vehicle LOS and improve non-motorized LOS and connections

Preservation: road surfacing and drainage reconstruction

Public Outreach – Meeting 1

What we heard:

March 2, 2016

- Desire for traffic calming
- Traffic signal is not appropriate for context
- Concerns with roundabout: safety, impact to nearby properties (access), size
- Concerns with a 2-way stop at Wyatt/Grow: speed, sightlines, crossing at Grow Avenue
- How will intersection improvements affect other nearby intersections?
- Will ROW acquisition be required?



Public Outreach – Meeting 2

What we heard:

April 20, 2016

- **Madison/Wyatt Intersection:**
 - Prefer the roundabout or 4-way stop.
 - Did not support traffic signal due to issues such as safety and queueing.
- **Grow/Wyatt Intersection**
 - Reducing the existing 4-way stop at Grow Avenue to a 2-way stop concerned many meeting attendees. However, reducing traffic on local access streets was viewed positively.
- Appreciate the context sensitive design approach along the corridor



Public Outreach – NMTAC Meeting

May 18, 2016

City staff and design team presented:

- Design alternatives from Public Meeting #2
- Recommended alternative

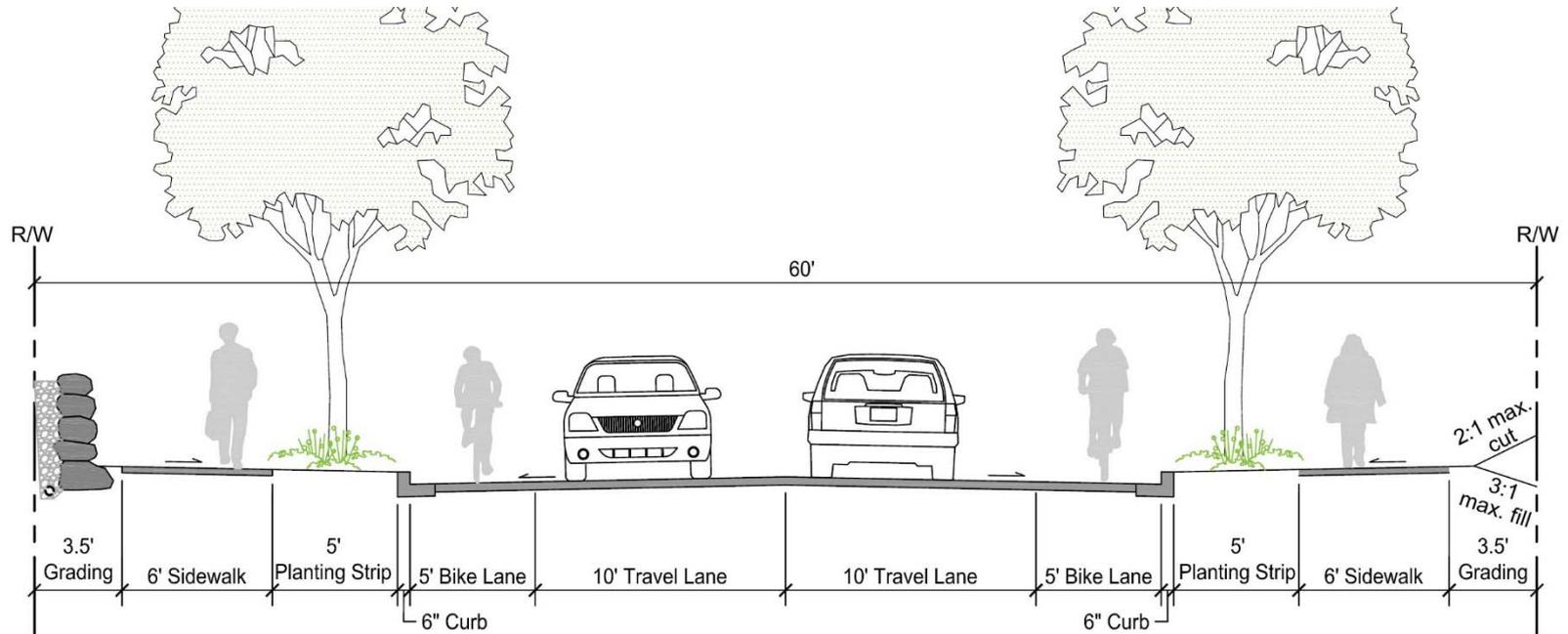
Unanimous support for recommended alternative:

- Mini-roundabout at Madison Avenue
- All-way stop at Grow Avenue
- Context sensitive design along corridor

Design Approach

- Corridor Design
 - Considerations for Context Sensitive Design
- Intersection Analysis
 - Madison Avenue
 - Grow Avenue

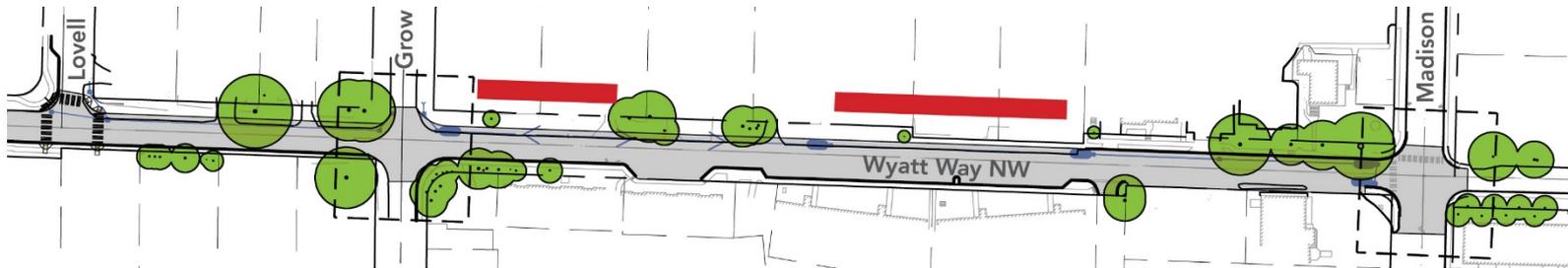
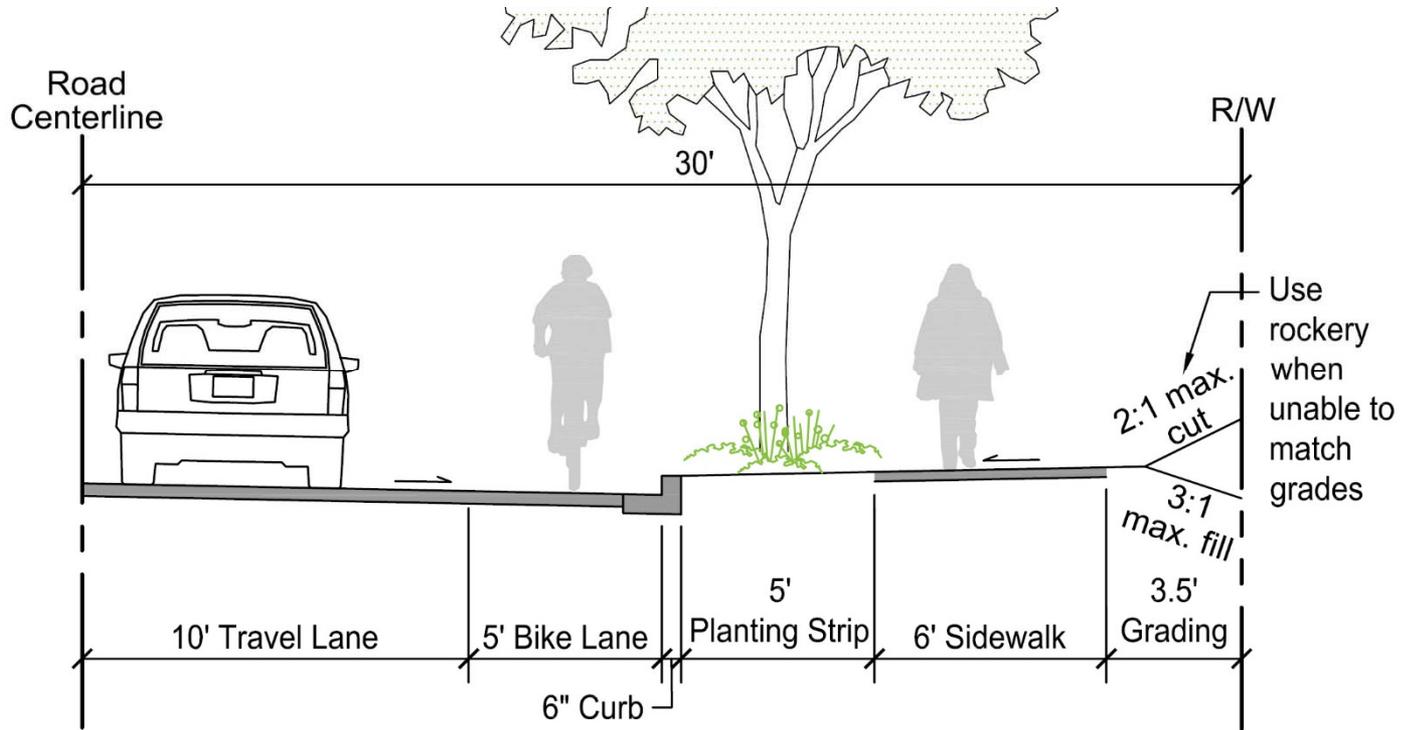
Context Sensitive Design



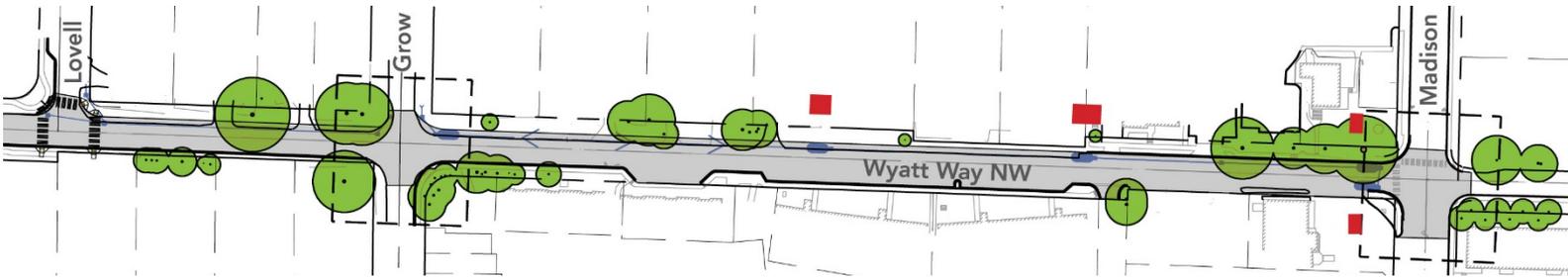
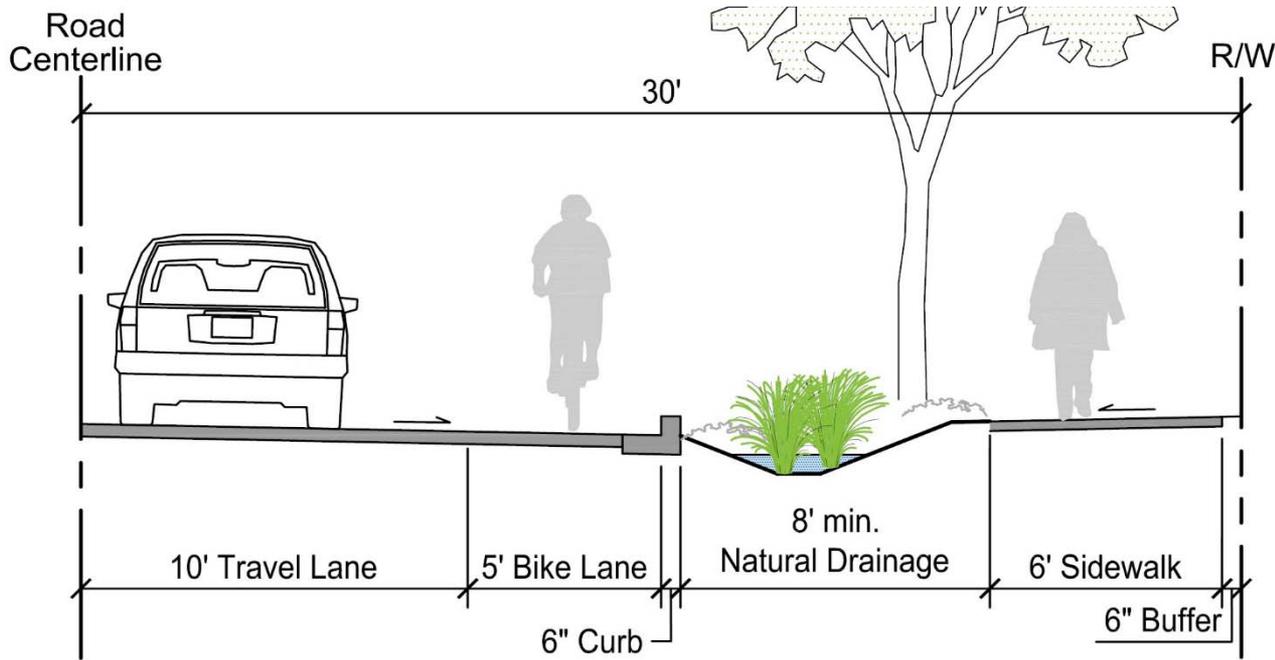
Context Sensitive Design Options

1. Modified City Standard
2. Natural Drainage for Water Quality Treatment
3. Reduce Impacts at Existing Trees
4. Reduce Impacts for New Street Trees
5. Retrofit Existing Parking with Tree Bulb

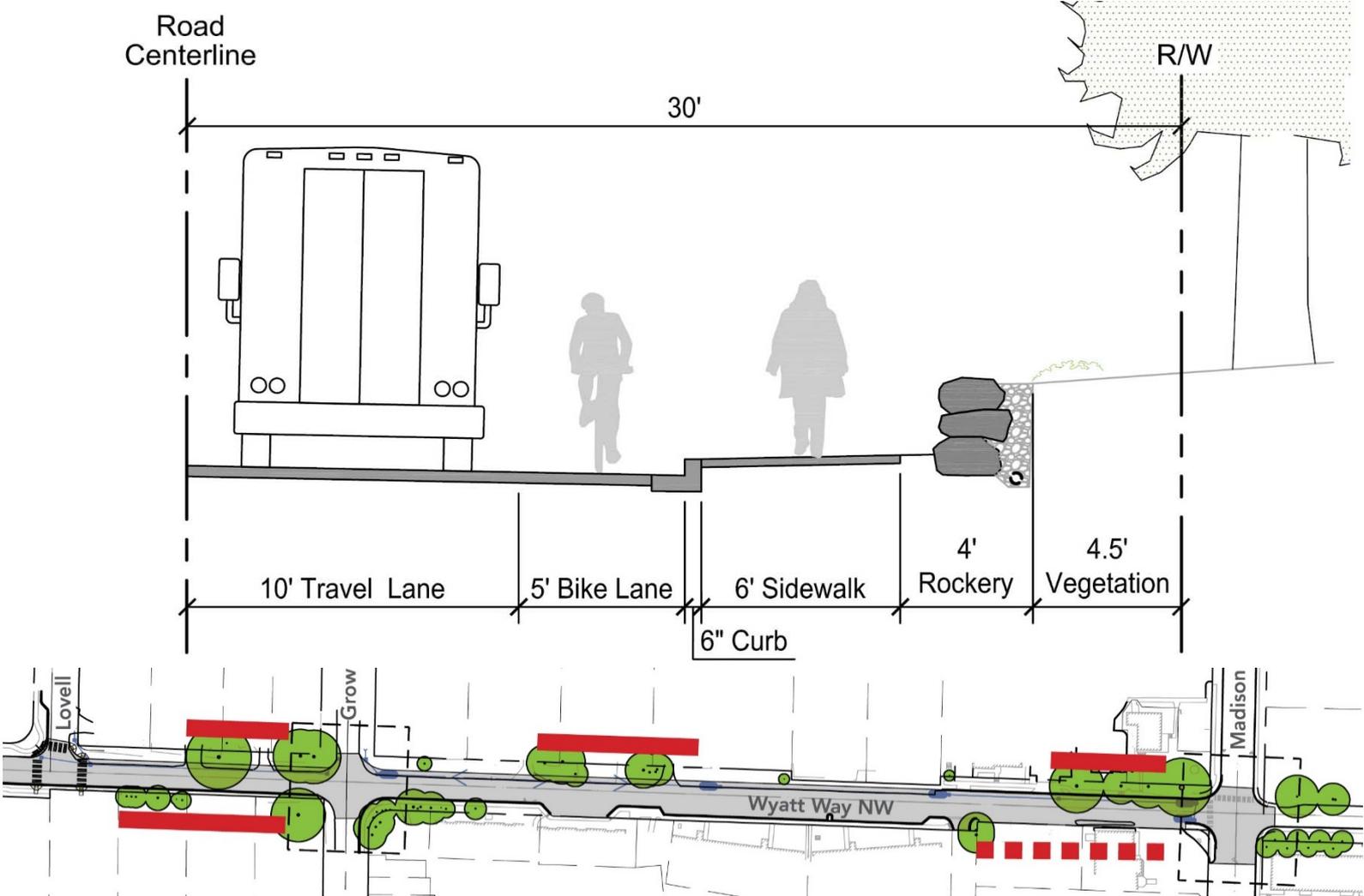
Section 1 – Modified City Standard



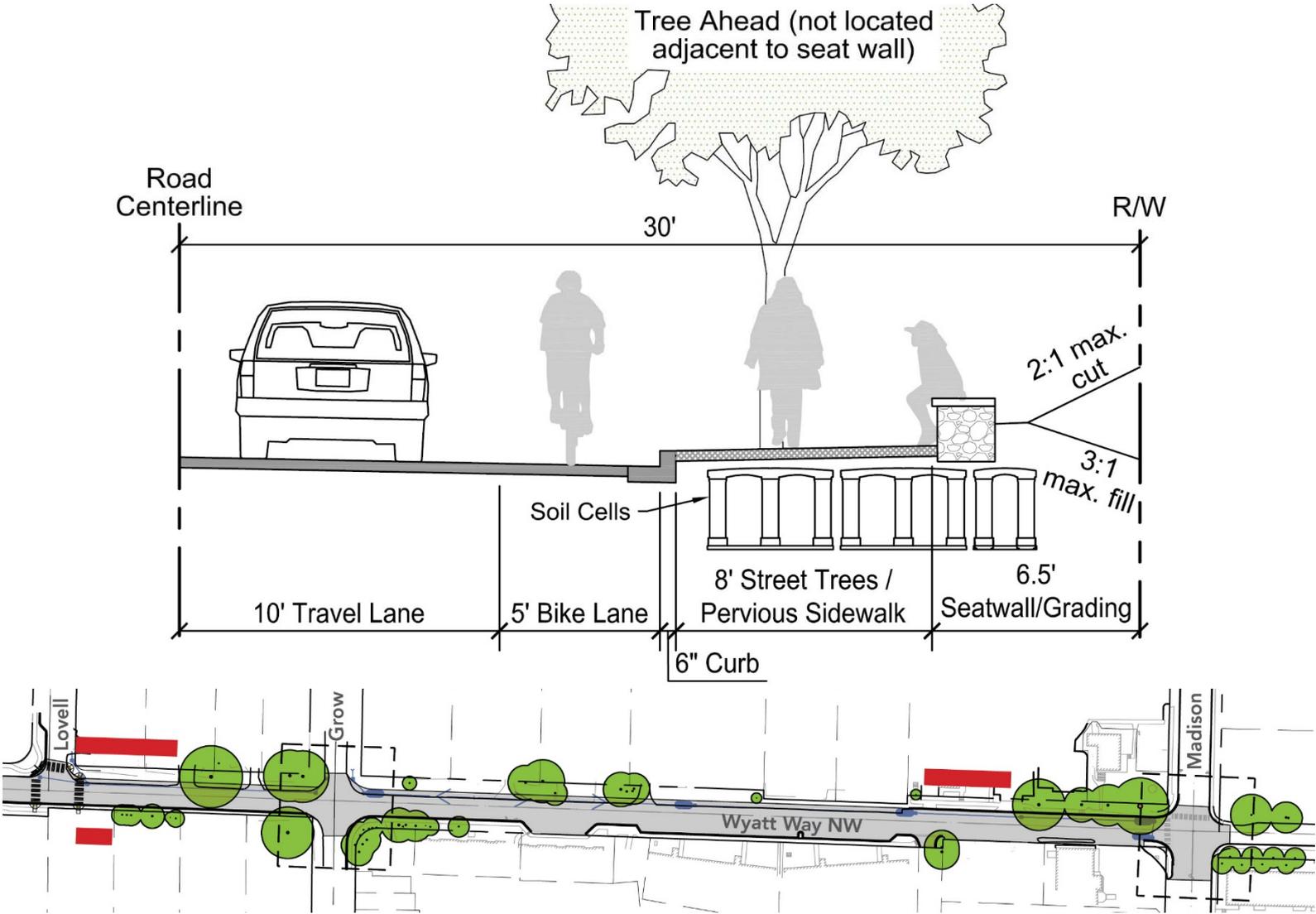
Section 2 – Natural Drainage for Water Quality



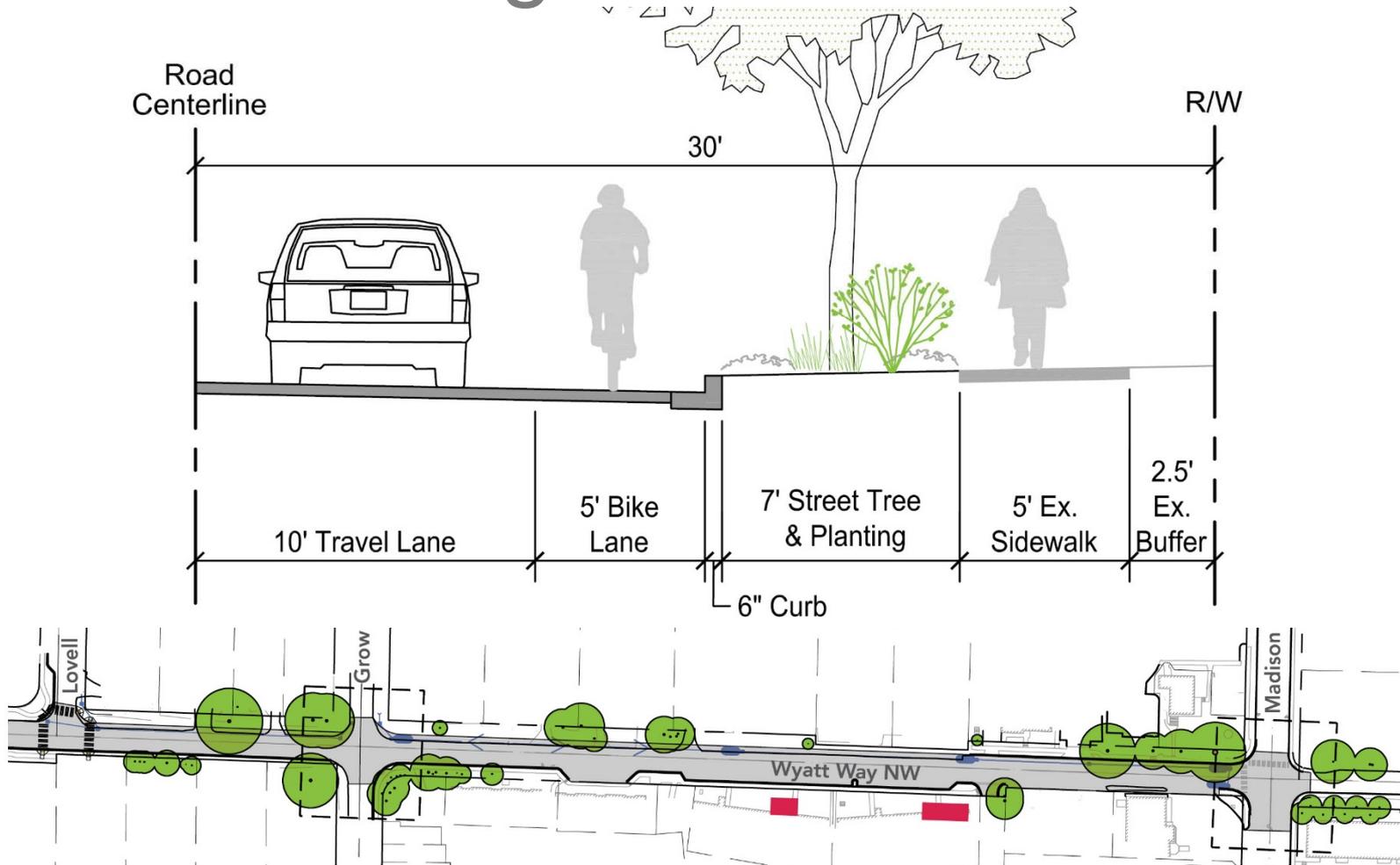
Section 3 – Reduce Impacts at Ex. Trees



Section 4 – Reduce Impacts for New Street Trees



Section 5 – Retrofit Existing Parking with Tree Bulb



Intersections Analysis



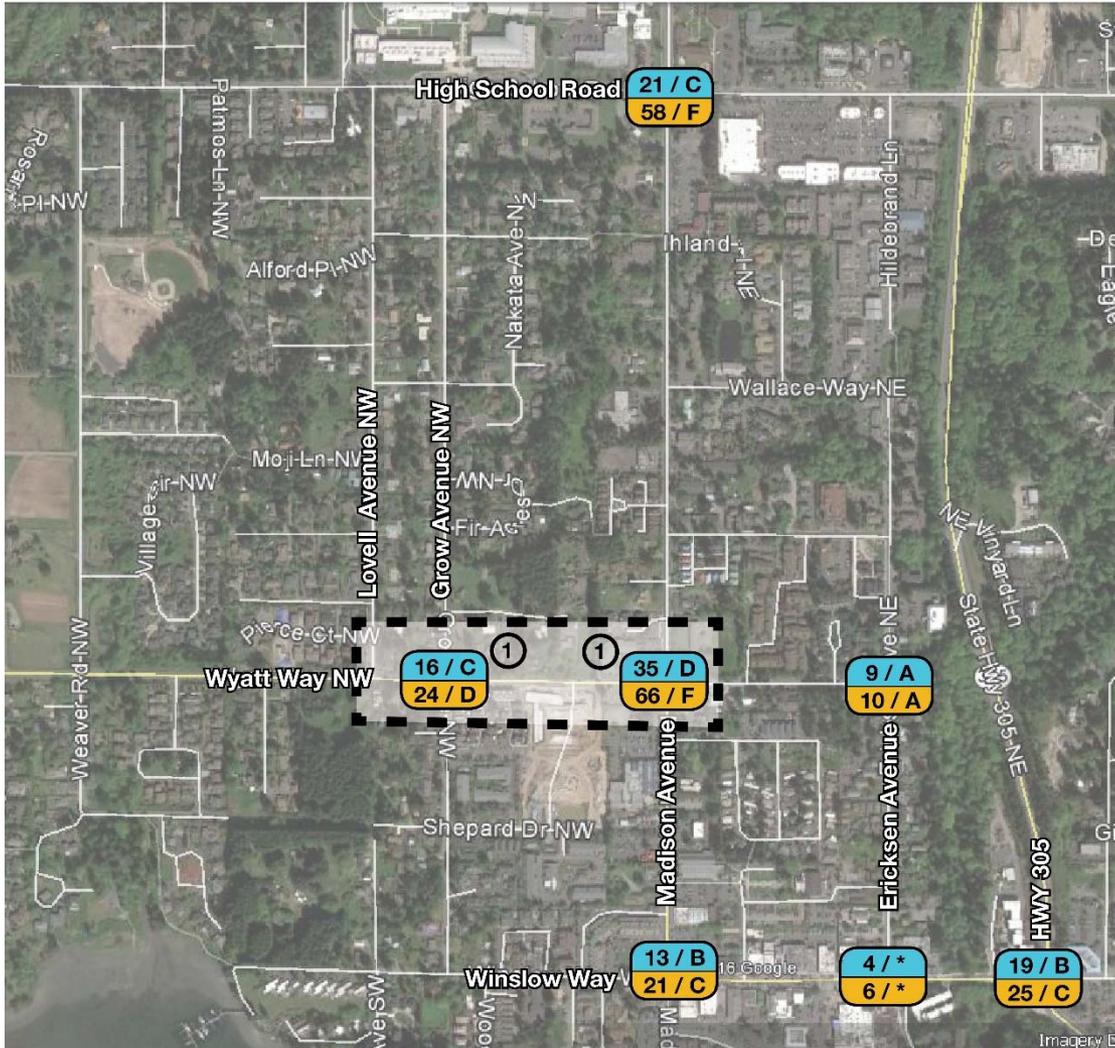
Wyatt and Grow Intersection Options

1. No Change / All-Way Stop
2. Two-Way Stop
 1. Rectangular Rapid Flash Beacon
 2. HAWK Beacon

Wyatt and Madison Intersection Options

1. ~~No Change / All Way Stop~~
 - Does not meet LOS
2. Mini-Roundabout
3. Urban Compact Roundabout
4. ~~Traffic Signal~~

Intersection Analysis



Legend

- 2014
 Delay in Seconds / LOS
- 2035
 Delay in Seconds / LOS

* Island wide traffic model LOS is not computed for this two-way stop

- ① LOS and delay at project intersections for 2014/2035 is based on existing conditions

Intersection Wyatt & Madison



Intersection Analysis

Wyatt & Madison

Summary of Key Evaluation Criteria

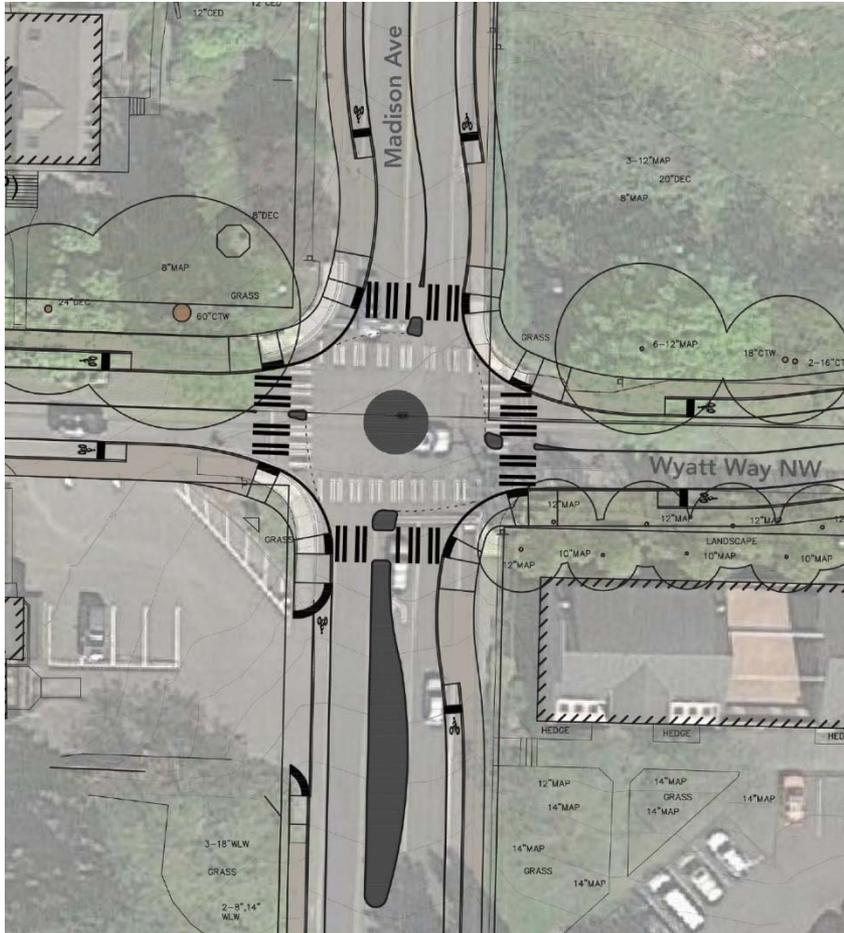
Intersection Option	Future LOS Performance	Connectivity	Safety	Capital Costs	Operations (Cost & Maintenance)	Right-of-Way Impacts	Tree Impacts
All-Way Stop	●	●	●	●	●	●	●
Mini-Roundabout	●	●	●	●	●	●	●
Urban Compact Roundabout	●	●	●	●	●	●	●

Legend

- Desirable
- Neutral
- Less desirable

Wyatt & Madison

Mini-roundabout Option



Features:

- Paved and mountable center island

Advantages:

- Less right of way needed
- Limited annual maintenance cost
- Accommodates future growth

Issues:

- Right-of-way acquisition

Wyatt & Madison

Urban Compact Roundabout Option



Features:

- Landscaped center island

Advantages:

- Limited annual maintenance cost
- Accommodates future growth

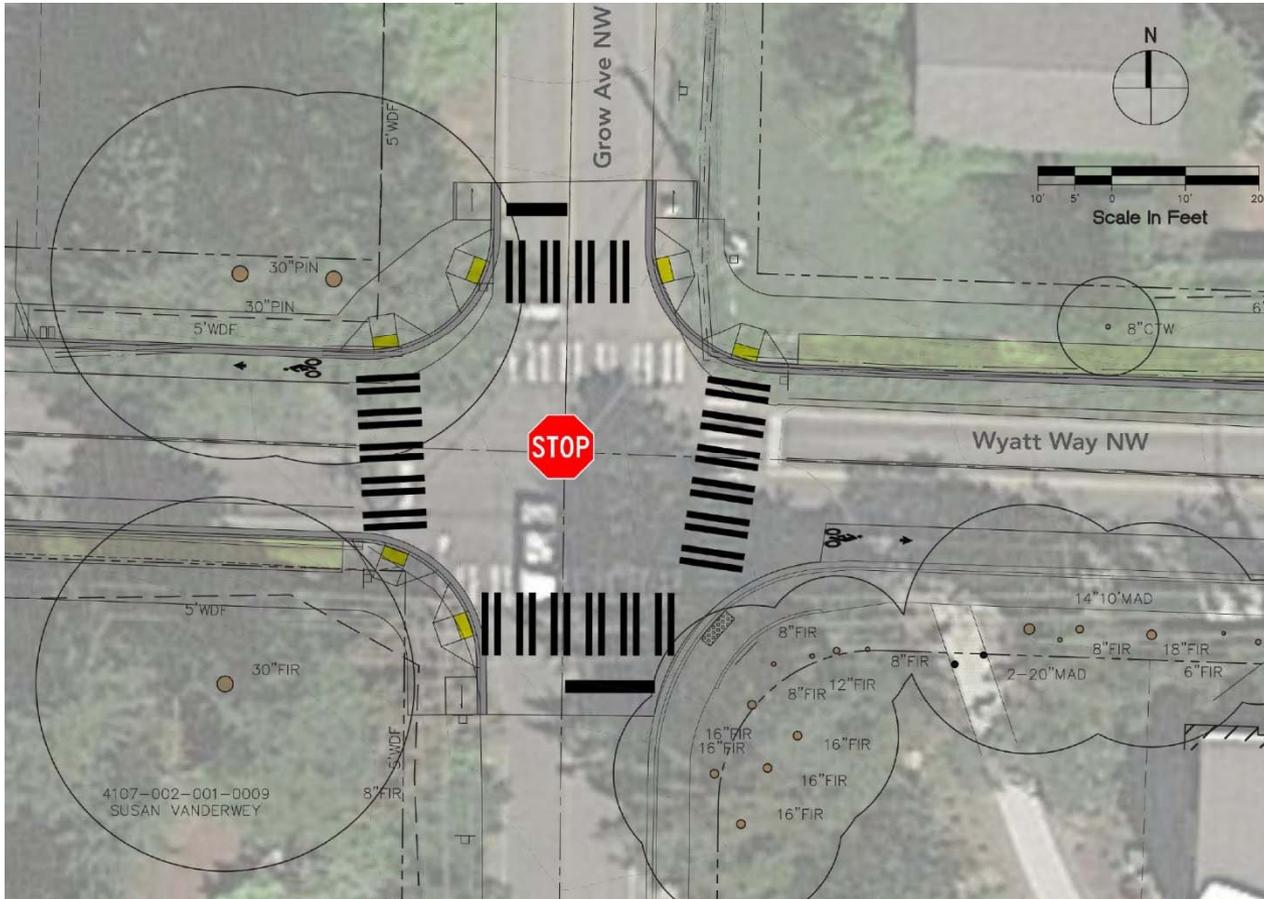
Issues:

- Right of way acquisition
- Higher construction cost
- Impact to existing trees

Intersection Wyatt & Grow



Wyatt & Grow



Intersection Options

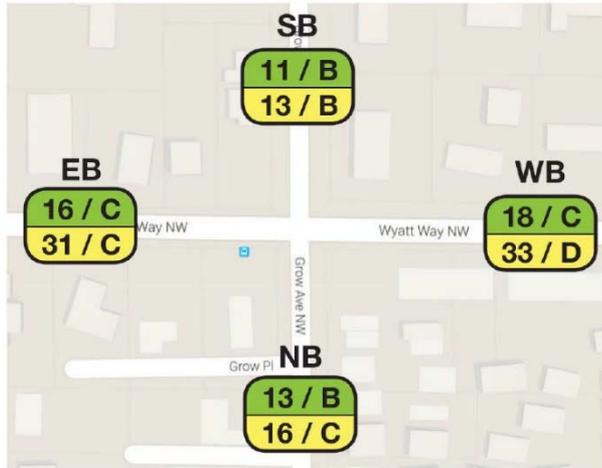
1. All-Way Stop
2. Two-Way Stop
 - 2a. RRFB
 - 2b. HAWK signal

Issues

1. Sightlines
2. Grades
3. Vehicle Speed

Wyatt & Grow

All-Way Stop Option (No Change)



Features:

- Stop signs and stop lines

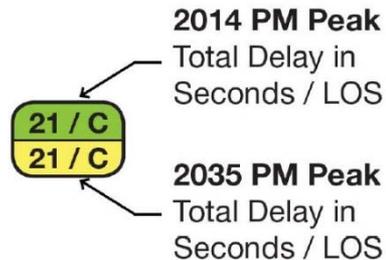
Advantages:

- Accommodates future growth
- Connectivity for people walking and biking across Wyatt Way
- Supports greenway concept

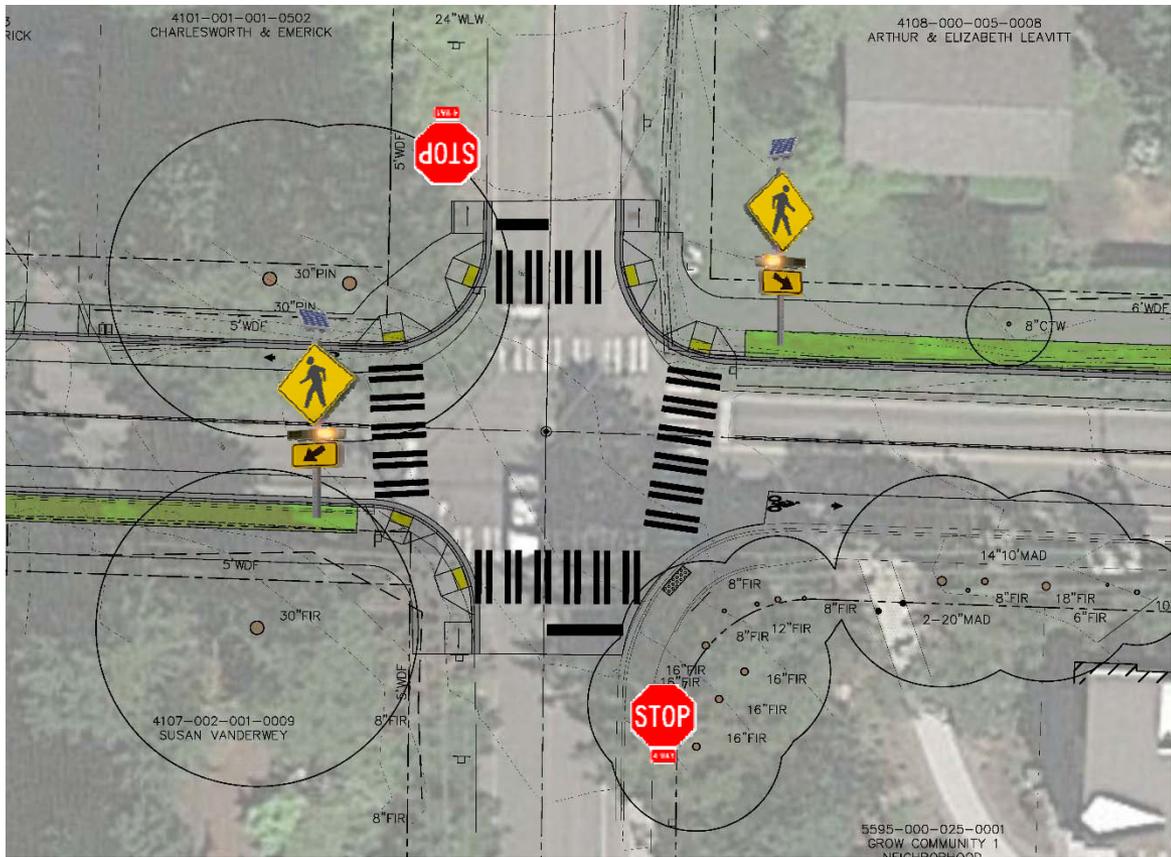
Issues:

- Delay on Wyatt Way
- Traffic on Grow Ave

Legend - Modeling Results



Wyatt & Grow Two-Way Stop Option (for N/S Traffic)

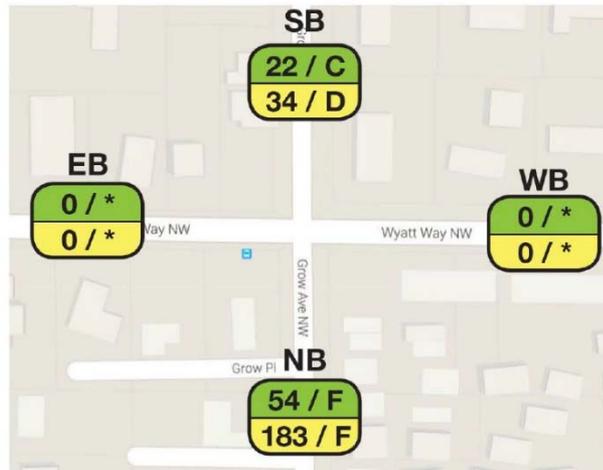


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Wyatt & Grow

Two-Way Stop Option (for N/S Traffic)



Features:

- Remove stop sign on Wyatt Way
- Use RRFB or HAWK

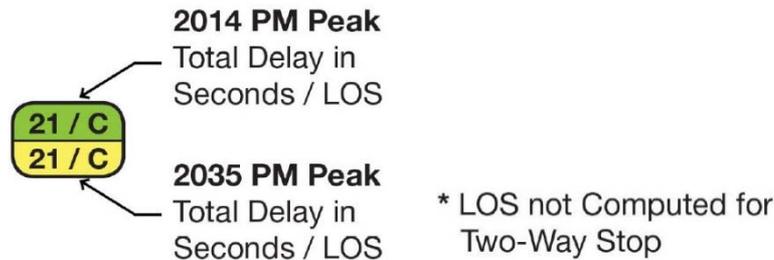
Advantages:

- Decreases delay on Wyatt Way

Issues:

- Increases delay on Grow Ave
- Speeds on Wyatt Way
- Connectivity

Legend - Modeling Results



Intersection Analysis

Wyatt & Grow

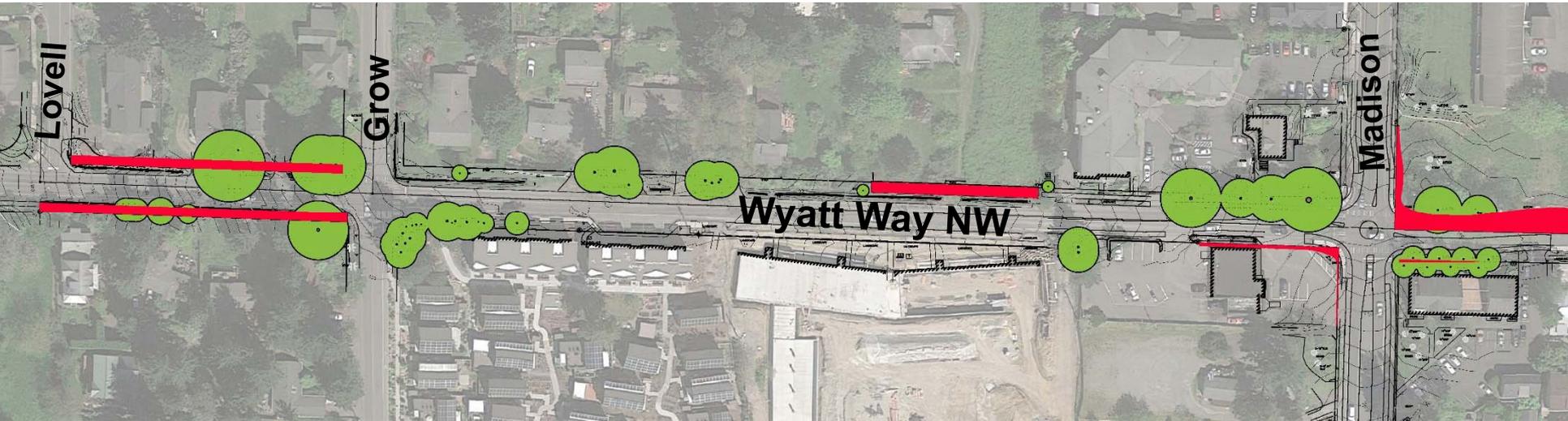
Summary of Key Evaluation Criteria

Intersection Options	Future LOS Performance	Connectivity	Safety	Capital Costs	Operations (Cost & Maintenance)	Right-of-Way Impacts	Tree Impacts
All-Way Stop	●	●	●	●	●	●	●
Two-Way Stop	●	●	●	●	●	●	●
RRFB	●	●	●	●	●	●	●
HAWK Beacon	●	●	●	●	●	●	●

Legend

- Desirable
- Neutral
- Less desirable

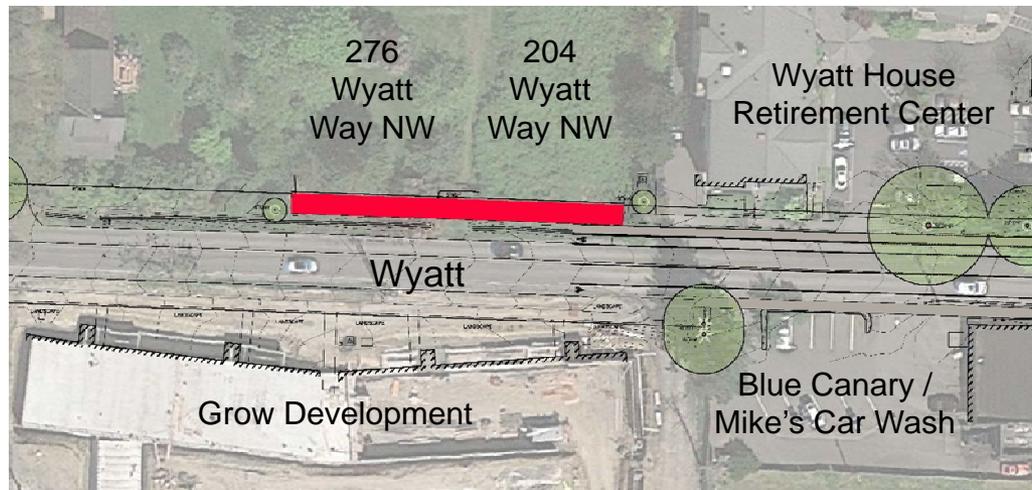
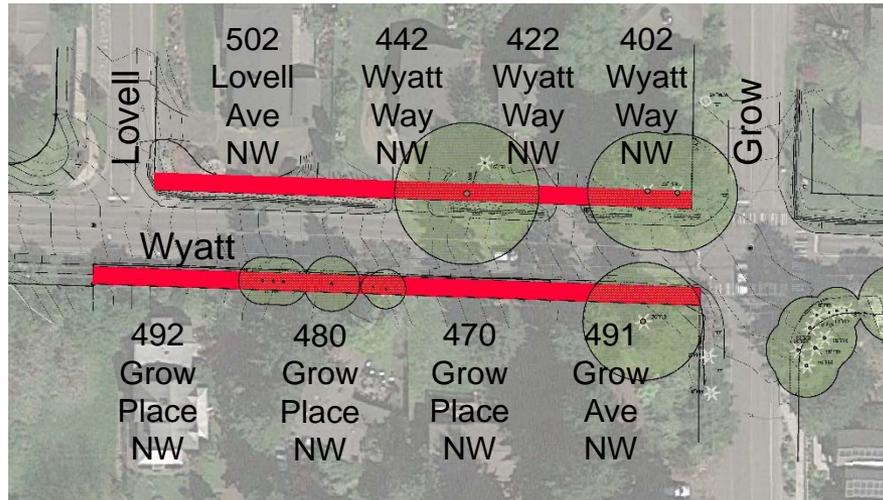
ROW Acquisition



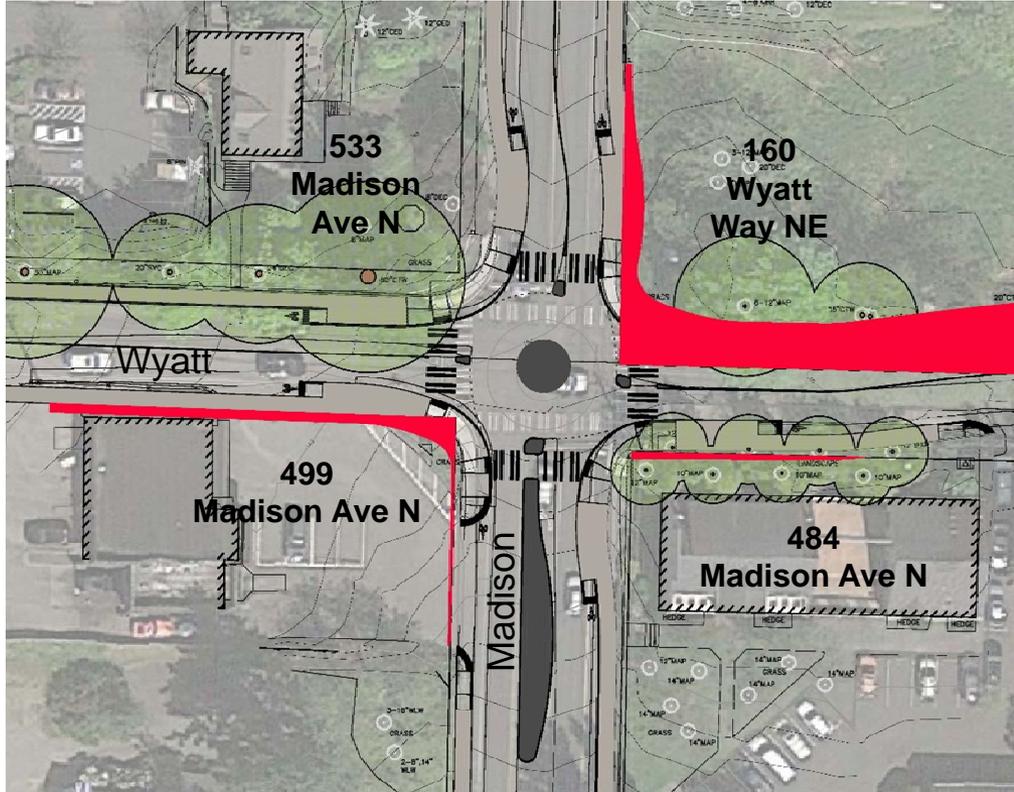
- for continuous 60' right of way along Wyatt Way
- for mini-roundabout at Madison Avenue

NOTE: Areas shown are approximate, final R/W acquisition to be determined during final engineering.

ROW Acquisition - Corridor

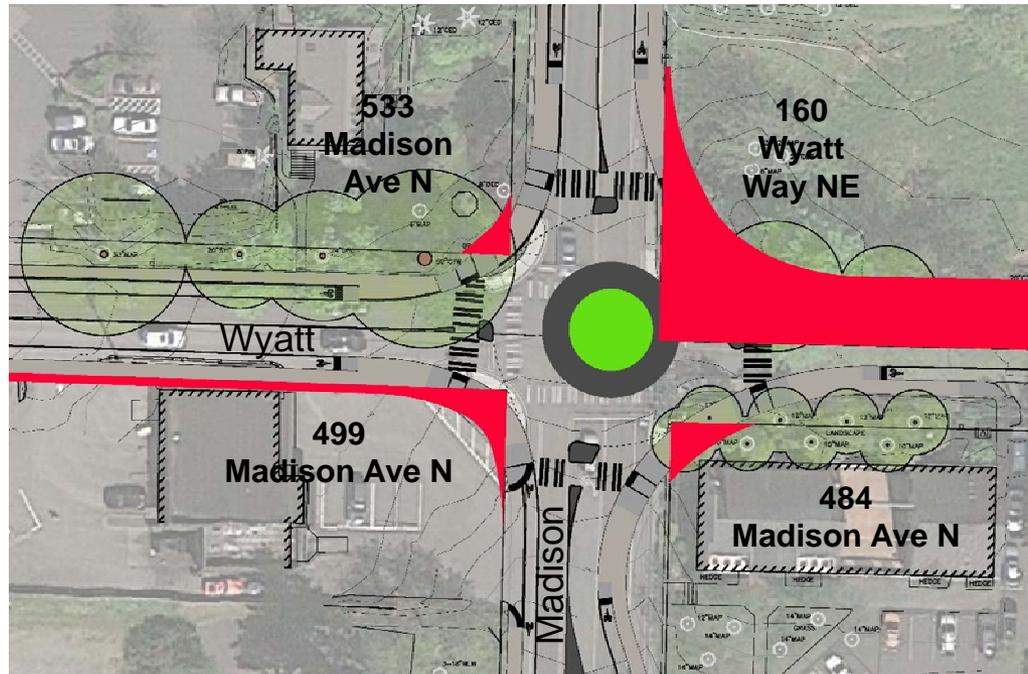


ROW Acquisition – Intersection Mini-roundabout



NOTE: Areas shown are approximate, final R/W acquisition to be determined during final engineering.

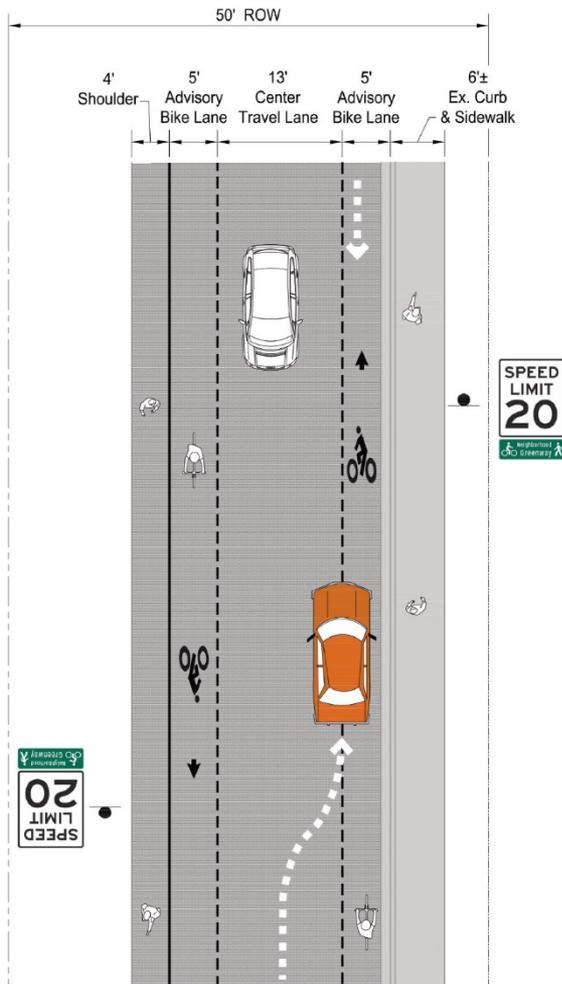
ROW Acquisition – Intersection Alternative Not Preferred (for comparison)



NOTE: Areas shown are approximate based on urban compact roundabout layout.

Grow Ave Neighborhood Greenway Concepts

Advisory Bike Lanes with Shoulder & Signage



The Netherlands
(Photo: Andre De Graff)

Advantages:

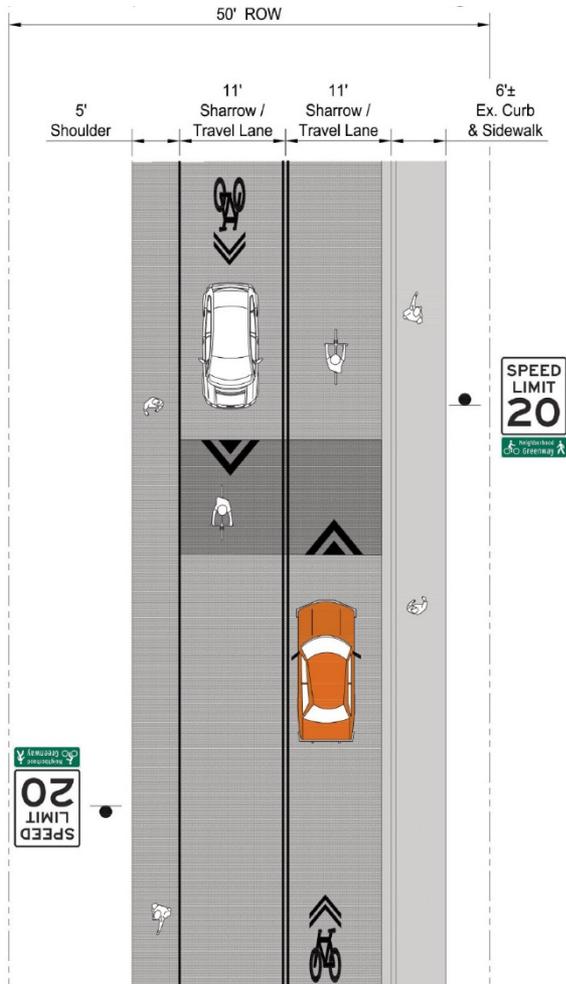
- Potential option when street is too narrow for standard bike lanes
- Striping (and optional colored pavement) offers visual separation on low-traffic streets
- Slows vehicle traffic

Issues:

- Not a standard pavement marking (not in MUTCD)

Grow Ave Neighborhood Greenway Concepts

Speed Humps & Shared Lane Markings with Signage

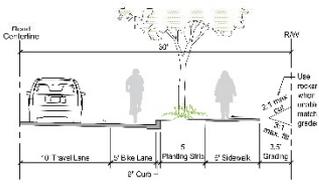
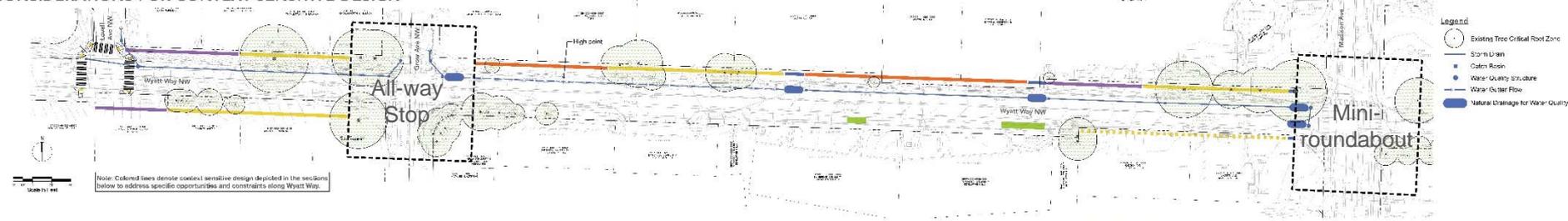


Advantages:

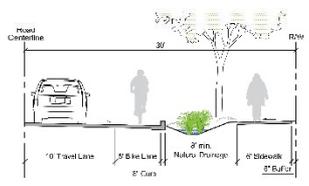
- Prioritizes travel for people walking and biking
- Slows vehicle traffic
- Reinforces proper bicycle positioning on a shared street

Preferred Alternative

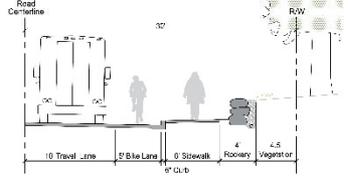
CONSIDERATIONS FOR CONTEXT SENSITIVE DESIGN



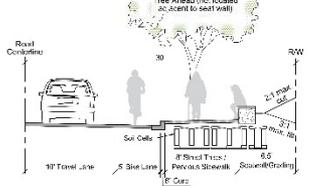
Section 1 - Modified City Standard Section
Why:
 • Provide more space for bicyclists
 • Slow cars by narrowing travel lanes
How:
 • Increase sidewalk width from 5' to 8'
 • Reduce travel lane from 11' to 10'
Where:
 • Locations where existing trees do not present conf. dts
 • Existing grades can be easily achieved



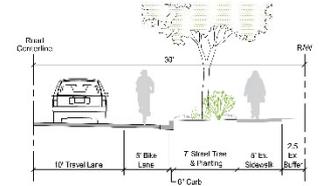
Section 2 - Natural Drainage for Water Quality Treatment
Why:
 • Treat stormwater runoff from the street
 • Slow stormwater to reduce peak flow rates
How:
 • Curb cuts allow stormwater runoff to enter the site
 • Bioretention (tree) uses soil, mulch and plants to filter stormwater
 • Inoculate above up to 12" depth for ponding of stormwater
Where:
 • Upstream of catch basins before stormwater enters the drainage system
 • At low points along the corridor



Section 3 - Reduce Impacts at Existing Trees
Why:
 • Protect existing trees
 • Reduce grading impacts of existing trees
How:
 • Think up and down to provide more space for trees
 • Use retaining walls to reduce grading in tree zones
Where:
 • Locations where existing trees do not be retained
 • Retains, review grades as high value trees
Alternative Section 3 - Reduce Impacts for Grades Specific to Parcel with Car Wash



Section 4 - Reduce Impacts with New Street Trees
Why:
 • Allow new streets trees with 1' minor impacts to existing grades
 • Not a continuous tree canopy along full corridor
How:
 • Replace planting strip with wider sidewalk
 • Trees so tall system connects more area to landscape beyond sidewalk
 • Retaining wall reduces impacts to existing properties
 • Vertical sidewalk allows water into root area
Where:
 • Locations without existing trees
 • Locations with existing grading challenges



Section 5 - Retrofit Existing Parking with Tree Bulb
Why:
 • Increase tree canopy along existing street
How:
 • Replace parking stall with a curb bulb and street tree
Where:
 • Existing parking along Grow Flow corridor
 • Away from existing poles and utility services