



City Council - Transportation, Energy and Utilities Committee

Tuesday, May 27, 2025, 12:00 PM,

Join in Person: Front Conference Room, 645 Pine St. Burlington, VT 05401

Join via Zoom: <https://zoom.us/j/84603122855>

To call into the meeting, including to speak during public comment:

Phone: 312-626-6799, Webinar ID: 846 0312 2855

1. Agenda

1.1. Motion to adopt/amend

2. Adopt Minutes

2.1. Minutes of 4/22/25

3. Public Forum

4. Deliberative Agenda

4.1. GMT Service Changes - 30 min

4.2. planBTV Walk Bike Action Plan - 15 min

4.3. New North End Sidewalk Scoping Study - 10 min

4.4. Ledgewood Circle Street Acceptance - 15 min

4.5. ParkMobile User Fee Policy Change - 10 min

5. Director's Report

- LPR Privacy Policy Update**
- DPW Transportation Projects Update**
- Courthouse Plaza Parking Agreement Next Step**

6. Councilor Items

7. Next Meeting

7.1. Tentative - 6/24/25, time TBD

8. Adjournment



CITY OF BURLINGTON, VERMONT

CITY COUNCIL TRANSPORTATION, ENERGY & UTILITIES COMMITTEE

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Councilor Mark Barlow, Chair, *North District*
Councilor Gene Bergman, *Ward 2*
Councilor Evan Litwin, *Ward 7*
Councilor Marek Broderick, *Ward 8*

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Transportation, Energy and Utilities Committee of the City Council

Tuesday, April 22, 2025 – 5:00PM

--DRAFT MINUTES--

See video for full meeting: <https://www.youtube.com/watch?v=cnmcQJSzpY4>

Councilors absent: None

Councilors Present: Chair Barlow, Councilor Bergman, Councilor Broderick Councilor McKnight

Chair Barlow calls meeting to order at 5:00 PM

1. Agenda

Councilor Bergman moves to approve the agenda as posted.

Councilor Broderick seconds.

All in favor, Unanimous approval.

2. Minutes of 3/25/25

Councilor Bergman moves to adopt the minutes as presented.

Councilor Broderick seconds.

All in favor. Unanimous approval.

3. Transportation Demand Management Study

Information Only

4. Public Forum:

In Person: Judy Barber, Glenn Jarrett, Kathryn Cartularo, David Klyszeiko, Jak Tiam, Nolan Rogers

Zoom: Sharon Bushor, Barbara

5. Deliberative Agenda

5.1 Draft Recommendations for Walk/Bike Acton Plan

Information Only.

.5.2 The Future of Recycling

Councilor Bergman made a motion that we move to support the first bullet on the TEUCS motion, that we modify the second one to fundamentally be the medium curve strategies, bullet points one and two, knowing full well that the number two is not just a cost, but is a full assessment of what we need to do to fix the problems with the City running it and that we also include the third bullet about working with City staff to evaluate a potential transit and propose basically a plan to the council by November of 2025.

**Councilor McKnight Seconded. Chair Barlow, Councilor Bergman, Councilor McKnight – Aye.
Councilor Broderick - Nay**

5.3 New Committee Meeting Schedule
Discussion on new schedule.

6. Director's Report
Information Only

7. Councilor Items
Information Only

8. Next Meeting
May 27, 2025 at 645 Pine St at 12:00 pm

9. Adjournment
Chair Barlow adjourns meeting at 8:27 pm.



Memo

Date: May 27, 2025

To: Transportation, Energy, and Utilities Committee (TEUC)

From: Phillip Peterson, PE, Senior Transportation Planner
Julia Ursaki, PE, Public Works Engineer

CC: Chapin Spencer, Director of Public Works
Laura Wheelock, PE, City Engineer/Division Director – Technical Services

Subject: planBTV Walk Bike Safety Action Plan Approval

Request

We are respectfully requesting that the TEUC approve the following motion:

The TEUC approves and recommends that the City Council approves the planBTV Walk Bike Safety Action Plan.

Background

The planBTV Walk Bike Safety Action Plan (see Attachment-1) provides a structured approach to addressing roadway safety in Burlington, particularly for pedestrians and other vulnerable road users. Crash data from the past decade highlights the disproportionate impact of serious and fatal crashes on people walking, biking, and rolling. This plan builds upon the 2017 planBTV Walk Bike Plan and fulfills the federal requirement for municipalities to adopt a safety action plan every five years to remain eligible for transportation safety funding.

At the April 22 TEUC meeting, DPW Staff presented the plan as an informational item, outlining key recommendations, funding strategies, and project priorities. The discussion provided an opportunity to clarify alignment with broader City initiatives and ensure our grant approach reflects both funding realities and local transportation needs.

SS4A Grant Proposal & Funding Strategy

Following TEUC discussions in April, we will pursue a Safe Streets for All (SS4A) grant application focused specifically on pedestrian safety improvements, with a projected request of up to \$1.4M, allowing for adjustments based on project scope and evolving needs, which require a 20% local match already budgeted. Key investments will include:

- **Crosswalk visibility enhancements**
- **New Crosswalks** to implement a maximum spacing for pedestrian crossings of ¼ mile
- **Intersection safety enhancements** (e.g., sightline improvements, signal modifications)
- Based on guidance from FHWA staff, bike-focused projects will not be competitive in the current SS4A funding cycle. Additionally, large-scale roadway reconfigurations or major corridor projects are unlikely to align with SS4A criteria at this time. This strategy ensures funding alignment while supporting the Mayor's priorities—public safety, housing access, and equity—which pedestrian safety improvements directly contribute to.

Specific Recommendations & Key Highlights of planBTV Walk Bike Action Plan

Recommendations in the Walk Bike Action Plan are based on an analysis of crash history in Burlington. They are proven safety countermeasures that address crash patterns to reduce the number of fatal and serious injury crashes that occur on our transportation system.

- **Intersection & Crosswalk Improvements for Pedestrian Safety**
 - **What:** Implement high-visibility crosswalks, Leading Pedestrian Intervals (LPIs) where appropriate, and Rectangular Rapid Flashing Beacons (RRFBs) at intersections with frequent vehicle-pedestrian conflicts (such as key locations along North Avenue and Winooski Avenue).
 - **Why:** These measures significantly reduce pedestrian-vehicle conflict points, with estimated crash modification factors (CMFs) between **0.413 and 0.53**, effectively lowering the risk of serious injuries.
- **Infrastructure Improvements for Walking & Biking**
 - **What:** Initiate new sidewalk installations in areas lacking sufficient pedestrian infrastructure. Additionally, implement separated and buffered bike lanes in locations with high demand, as identified by crash data and community feedback.
 - **Why:** Continuous and well-maintained pedestrian and bike infrastructure ensures safer mobility while addressing critical safety gaps identified by residents and data analysis. These improvements also advance TDM strategies that reduce single-occupancy vehicle reliance, support new housing developments by enhancing walkability and transit access, and align with broader climate goals.

- **Arterial Corridor Adjustments & Speed Management**
 - **What:** Modify select arterial roadways to enhance safety, such as transitioning four-lane segments to three-lane configurations (e.g., Shelburne Street between Prospect Parkway and the roundabout). These adjustments will be paired with curb extensions and dedicated bike lanes to improve separation between road users.
 - **Why:** These modifications create a safer environment for all road users by reducing vehicle speeds and improving roadway geometry.
- **Prioritization Through Data-Driven Strategy**
 - **What:** Utilize a structured prioritization matrix that accounts for crash frequency, network connectivity, demographic needs, and public input to determine project phasing and implementation.
 - **Why:** A systematic approach ensures that resources are allocated to the most impactful interventions, while allowing flexibility as new data becomes available.
- **Collaborative Implementation & Oversight**
 - **What:** Establish a dedicated oversight team—including representatives from City departments, TEUC, CCRPC, and community advisors—to monitor progress, integrate feedback, and update the plan as needed.
 - **Why:** A structured oversight process ensures accountability, fosters collaboration, and keeps the plan adaptive to evolving safety priorities.

Next Steps

- **June 2nd (City Council Presentation):** Present the plan to the City Council for final approval.
- **SS4A Grant Deadline:** Note that the SS4A grant application deadline is **June 26th**.

Attachments

1. planBTV Walk Bike Action Plan



Walk Bike
plan|**BTV**
SAFETY ACTION PLAN

ACKNOWLEDGMENTS

This Safety Action Plan was prepared by VHB for the City of Burlington through funding by the Chittenden County Regional Planning Commission with input from numerous partners committed to safety in the City of Burlington.

The preparation of this report has been financed in part through grant[s] from the Federal Highway Administration and Federal Transit Administration, U.S. Department of Transportation, under the State Planning and Research Program, Section 505 [or Metropolitan Planning Program, Section 104(f)] of Title 23, U.S. Code. The contents of this report do not necessarily reflect the official views or policy of the U.S. Department of Transportation.



CHITTENDEN COUNTY RPC
Communities Planning Together



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Acronyms

AARP	American Association of Retired Persons
AASHTO	American Association of State Highway Transportation Officials
ACS	American Community Survey
ADA	Americans with Disabilities Act
BIL	Bipartisan Infrastructure Law
BTV	Burlington, Vermont
CCRPC	Chittenden County Regional Planning Commission
DTC	Downtown Transit Center
ECOS	Environment; Community; Opportunity; Sustainability
EMS	Emergency Medical Services
FHWA	Federal Highway Administration
GMT	Green Mountain Transit
HIN	High Injury Network
HSP	Highway Safety Plan
HSIP	Highway Safety Improvement Program
KABCO	Injury Scale
	K Fatality
	A Suspected Serious Injury/A-Injury
	B Non-Incapacitating Injury
	C Possible Injury
	O Property Damage Only
KA	Fatal and Serious Injury
NHTSA	National Highway Traffic Safety Administration
NPA	Neighborhood Planning Assembly
PSC	Proven Safety Countermeasure (As identified by FHWA)
RSA	Road Safety Audit
SHSO	State Highway Safety Office
SHSP	Strategic Highway Safety Plan
SS4A	Safe Streets and Roads for All
UVM	University of Vermont
UVMCMC	University of Vermont Medical Center
USDOT	United States Department of Transportation
VRU	Vulnerable Roadway Users
VTrans	Vermont Agency of Transportation



INTRODUCTION

Background

The City of Burlington is committed to addressing its roadway safety challenges. Development of this Safety Action Plan revealed that there were 6 fatal crashes and 85 serious injury crashes on the City's roadway network between 2014 and 2023. Over 40% of the most severe crashes on the system involved pedestrians or bicyclists. This represents a significantly higher proportion of severe crashes involving pedestrians or bicyclists as compared to statewide rates of 11%. It also speaks to the vulnerability and heightened risk for non-motorized, vulnerable roadway users in the state's largest city. Burlington was identified as one of ten high risk communities in the Vermont Vulnerable Roadway Users Assessment. This can be attributed to Burlington having both a higher propensity for crashes involving pedestrians and bicyclists, as well as demographics and built environment characteristics that contribute to a higher propensity for travel as vulnerable roadway users, both out of necessity and by choice.

Designation as a high-risk community for vulnerable roadway users and circumstances of the serious crashes that have occurred within Burlington warrants a comprehensive assessment of Burlington's safety performance. The aim of the City's commitment to an evolving Safety Action Plan is to identify strategies, countermeasures, and actions that align with the state's "Toward Zero Deaths" ethos, particularly for pedestrians and bicyclists.

Burlington is not starting from scratch on transportation safety. Previous planning efforts have generated pathways for progress in making the transportation system in the city safer for all users. Notably, the 2011 Transportation Plan spurred the Complete Streets approach that transformed two key corridors and set a citywide speed limit of 25 mph. The 2017 planBTV Walk Bike Plan similarly set into motion the goal of creating safer streets for everyone by eliminating traffic-related fatalities and serious injuries. The recommendation of a Vision Zero policy and progress on implementation of over 200 recommended projects are notable. The project implementation progress has entailed

five completed intersection projects, nine interim intersection improvement projects, 17.6 miles of bikeway projects, and pedestrian improvement projects including three to four miles of reconstructed sidewalk per year.

This Safety Action Plan reinvigorates the commitment to safer streets by pledging action in a Safe Systems Approach and Vision Zero philosophy in the march towards eliminating transportation related deaths and serious injuries. A Safe System Approach to walking, biking, and rolling in Burlington represents a shift in how we think about and address roadway safety problems. It requires shifting our thinking upstream to prevent problems before they happen. This entails moving beyond focusing on changing individual behavior and instead accepting shared responsibility for putting a safe system in place for all road users.

About Burlington

Burlington is located in northwest Vermont, and is positioned on the eastern shore of Lake Champlain. The City has an estimated population of 44,528 as of 2023. As the most populous City in the state and home to many institutions and businesses, Burlington serves as a hub and economic center for the state of Vermont. The City is home to the state's only Level 1 Trauma Center at the University of Vermont Medical Center (UVMHC), as well as two of the state's largest employers, UVMHC and the University of Vermont (UVM). The greater Burlington area and surrounding Chittenden County represents Vermont's only Metropolitan Planning Organization – the Chittenden County Regional Planning Commission.

As a hub to the region and the state, Burlington's roadways serve residents, commuters, the regional community, and visitors to the state. Further, critical connections to medical care and emergency medicine are made via city routes. Improving safety and accessibility for all road users, especially pedestrians and bicyclists, is vital to Burlington's goal of

reducing fatalities and serious injuries on the transportation system while supporting safe and low-cost transportation options to residents and visitors alike.

Safe Systems Approach

The Safe System Approach is a comprehensive, US DOT adopted approach to address roadway safety by incorporating the objectives and principles outlined below. The Safe System Approach is built on five pillars or overarching objectives to a safe transportation system, including:

- Safer People / Road Users
- Safer Roads
- Safer Vehicles
- Safer Speeds
- Post-Crash Care

The Safe System Approach incorporated into this Safety Action Plan acknowledges several key principles:

- Death and Serious Injuries are Unacceptable
- Humans Make Mistakes
- Humans Are Vulnerable
- Responsibility is Shared
- Safety is Proactive
- Redundancy is Crucial

The Safe System Approach leverages key fundamental principles from Vision Zero planning practices. The five fundamental principles or concepts that underlie this work include:

- Traffic deaths and severe injuries are acknowledged to be preventable.
- Human life and health are prioritized within all aspects of transportation systems.
- Transportation systems must account for human error.
- Safety work should begin with systems-level changes and follow with influencing individual behavior.

- Speed is recognized and prioritized as a fundamental factor in crash severity.

In developing a Safe System Approach, the following processes and practices are prioritized:

- Build and sustain leadership, collaboration, and accountability to advance safety.
- Collect, analyze, and use data to identify safety concerns and opportunities for improvement.
- Prioritize actions to provide a safe and equitable transportation system for all users.
- Lead with roadway design that prioritizes safety.
- Reduce target design speeds and impact speeds.
- Maximize technology advances, without overlooking low-tech solutions.

Although the targeted safety outcomes of this Safety Action Plan are focused primarily on vulnerable roadway users, the entire roadway system and all roadway users were assessed in the safety analysis. This safety analysis formed the underpinnings of the Safety Action Plan's projects and strategies, which align with the Safe System Approach. Key components of the Safety Action Plan include:

- Data Driven Approach: Comprehensive assessment of crash data resulting in fatalities and serious injuries on the network to identify emphasis areas and connect strategies and countermeasures to address safety deficiencies in a systemic approach.
- Stakeholder Engagement: Public engagement across different media to capture experience and perception of safety on the system while promoting a culture of safety.
- Strategies & Actions: An action table details proven countermeasures and projects along focal corridors that represent a high-injury network for the City.
- Policy Review & Recommendations: Policies and processes were reviewed to identify additional recommendations to support a culture of transportation safety in Burlington.

This Safety Action Plan details Burlington's data driven implementation approach to achieve the goal of a safer system for all users, specifically focused on pedestrians and bicyclists of all ages and abilities.

Aligned Plans & Policies

The planBTV Walk Bike Safety Action plan builds on the foundation of planBTV Walk Bike, a comprehensive active transportation master plan adopted in 2017. With a specific focus on improving safety outcomes by committing to a Safe Systems Approach, the update to the Plan builds on the foundation of previous planning and aligns with a host of efforts across the city, region, and state. Relevant plan documents and aligned safety work are summarized below:

Table 1 Relevant Plans and Policies

Name	Date	Summary
planBTV Walk Bike	2017	planBTV Walk Bike was a comprehensive master plan for active transportation in the City. The plan set targets to create a safer system for users with the aim of reducing fatalities and serious injuries while increasing the share of people walking and biking. Over 200 projects were identified as well as actions to improve evaluation, education, encouragement, enforcement, and equity for walking and biking across the City.
planBTV: Comprehensive Plan	2019	planBTV: Comprehensive Plan is Burlington’s evolving comprehensive plan, outlining the goals and objectives for the future of the City. The plan documents the plan for action around the themes of a distinctive, dynamic, inclusive, and connected city. The plan also details future land use and development framework to support planning activities to conserve, sustain, and grow within the City.
Great Streets Design Standards	2018	Set design and construction standards for Burlington’s downtown streets to support a transformative street environment that is walkable, bikeable, sustainable, vibrant, and functional. The document provides guidance to achieve a cohesive, unified aesthetic to downtown streets that achieve the Great Streets ethos, carrying a project through the development phases of design considerations, street typology, roadway and pedestrian options, siting considerations, street and intersection assemblies, and street ecology.

Name	Date	Summary
Quick Build Design & Materials Standards	2017	Set standards for design and application of materials within the roadway environment to take near-term action on street redesign projects. This document provides guidance to implement safety improvements and placemaking projects with low-cost and flexible elements with the intent of remaining in place for up to five years. This enables opportunities for the community to interact with design elements to identify adjustments to designs and support decision making toward more permanent investments to achieve intended outcomes.
Chittenden County ECOS Plan	2018	The ECOS Plan is a long-range regional planning effort at the county level. The update adopted in 2018 focused primarily on the Metropolitan Transportation Plan, Comprehensive Economic Development Strategy, and Regional Enhanced Energy Plan components. The plan sets the vision for the region and goals for natural systems, social community, economic infrastructure, and built environment. Aligning with this work, key actions identified in the plan include addressing roadway safety issues and supporting areas planned for growth with multimodal infrastructure investments.
CCRPC Safety Action Plan	Ongoing	The CCRPC Safety Action Plan development process is underway. This Safety Action Plan looks to serious crashes and safety outcomes at the county level to assess targets and identify actions for reducing fatalities and serious injuries. It is anticipated that this plan will both reinforce the local objectives and identify other safety actions that will complement Burlington's planBTV Walk Bike Safety Action Plan.
Vermont Vulnerable Roadway Users Safety Assessment	2023	The Vulnerable Roadway Users Safety Assessment was appended to the Vermont Strategic Highway Safety Plan to focus directly on the emphasis areas. The effort entailed additional safety data analysis, outreach to high-risk populations, and identification of challenges facing VRUs on the transportation system. Strategies were identified for implementation including increasing visibility of VRUs, separating VRUs in space, managing speeds, establishing VRU safety culture, increasing transit options, and conducting VRU planning activities.
Vermont Strategic Highway Safety Plan	2022-2026	This plan details statewide strategies to address traffic related fatalities and serious injuries. The plan sets crash reduction targets for emphasis areas identified through safety data analysis and tracks progress towards the plan objectives.

In alignment with the 2017 planBTV Walk Bike Plan and other citywide goals, there are a number of related plans or efforts that aim to increase mode share for walking and biking. Among others, these plans include Burlington's Net Zero Energy Plan and Citywide Transportation Options Study. This is noteworthy as it is anticipated that the share of pedestrians and bicyclists on the City's roadways will continue to increase as Burlington moves to pursue these related goals.

Assessment of progress towards the targets of the previous planBTV Walk Bike Plan was key to the development of this Safety Action Plan. The focus of safety in the previous plan identified actions to address serious crashes on the system related to walking, biking, and rolling. Projects, programs, and policies were reviewed from the plan to understand progress to date and identify potential carry forward projects that align with the updated safety analysis and emphasis areas for this Safety Action Plan update.

Progress has been made on implementing the approximately 200 projects identified in the original planBTV Walk Bike Plan. The status of the projects from the original plan are depicted in the map below and as of winter 2025 have included:

- Intersection Priority Projects
 - 20 identified in the plan and 2 added since
 - 5 intersection projects completed
 - 9 intersection projects with interim improvements
 - 6 intersection projects planned
- Bikeway Projects
 - 28 miles targeted
 - 17.6 miles completed
- Sidewalk Projects
 - 3.4 miles of new sidewalk targeted
 - 0.16 miles of new sidewalk completed
 - 3-4 miles of sidewalk reconstructed each year

Additionally, other engineering actions and policy and protocol changes have been pursued since the plan adoption in 2017, including:

- Expanded use of pilot and demonstration projects with Quick Build Design and Materials Standards
- Established Downtown Slow Zone with implementation of 20 mph speed limit
- Improved pavement markings at bus stop conflicts
- Formalized winter bikeway maintenance plan
- Launched bike skills training initiative
- Expanded Safe Routes to School programs

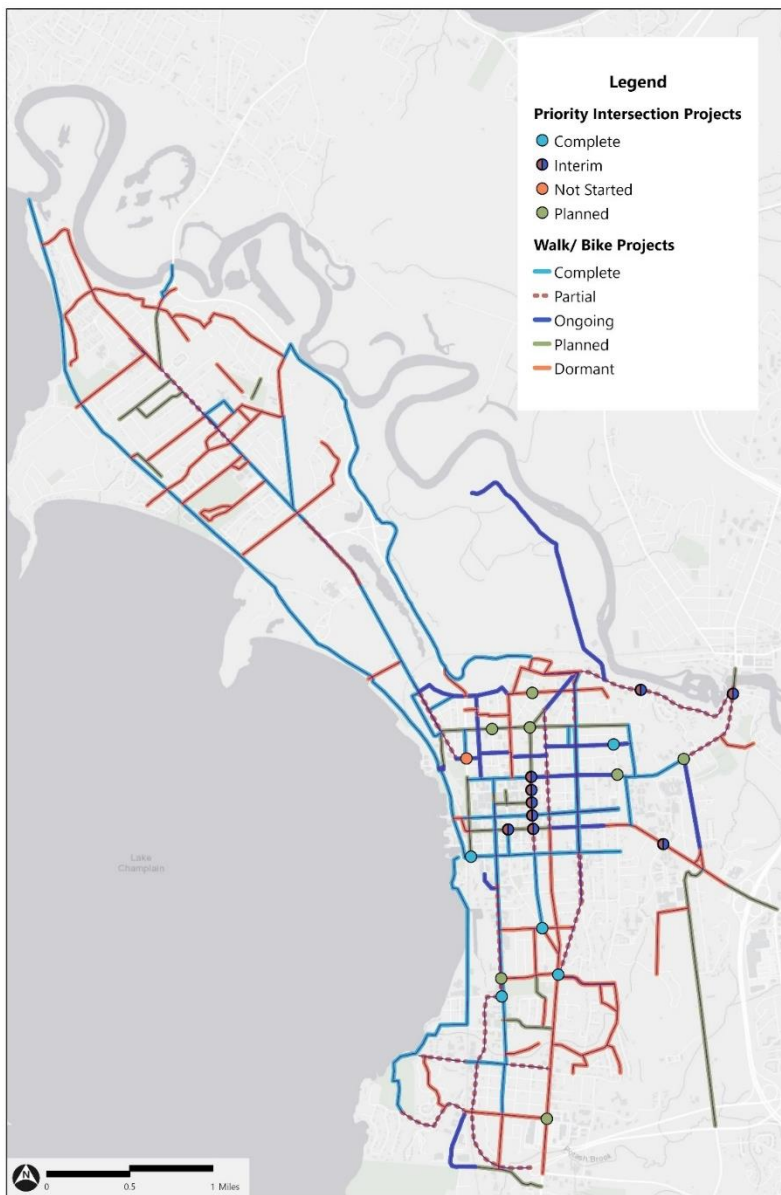


Figure 1. planBTV Walk Bike Plan Project Progress

Public Transportation

It is critical to recognize the inherent connection of transit users to walking and biking, as every transit user is a pedestrian or bicyclist during some part of their transit-based trip. Burlington's transit network is primarily served by fixed bus route service via Green Mountain Transit (GMT).

GMT is a local and regional bus transit provider serving downtown Burlington, the greater Chittenden County, and locations beyond the County's boundary. As the bus transit provider for the region, GMT offers fixed routes, local commuter routes, LINK Express (regional commuter) routes, and ADA paratransit services.

Much of GMT's service converges at the Downtown Transit Center (DTC), located in the northern part of the downtown core of Burlington on St. Paul Street between Cherry and Pearl Streets. The DTC serve as the hub for all the local routes and many of the commuter and regional LINK routes.

These routes operate with varying schedules to accommodate weekday and weekend travelers, helping to connect residents to key locations across the City. GMT also provides Shopping Specials from senior housing complexes to grocery stores Tuesday through Thursday. Monday through Friday during the school year, GMT offers Neighborhood Specials to select neighborhoods that serve students and are open to all riders. There are additional buses to the Burlington International Airport on Saturdays and Sundays. Regional transit routes connect Burlington to destinations like St. Albans, Montpelier, Milton, Essex Junction, and Williston.

Walking and biking safety improvements can help to stretch the service area of the fixed route transit system by enabling more passengers to walk or bike comfortably to and from transit stops. Faced with recent transit service reductions, it will be imperative to expand safe and comfortable walking and biking connections as a means of extending access to transit.

Action Plan Intention

The Safety Action Plan builds on the previous comprehensive planning in Burlington. This plan is not meant to replace the 2017 planBTV Walk Bike Plan but

SAFE STREETS FOR ALL
GOAL SETTING

rather provide an update and refinement to safety strategies and actions through a data-driven planning process. As such, this Plan adapts the Vision set forth in previous planning, updates the Goals specific to creating safer streets for everyone, and identifies Objectives specific to this planning process to align with the safety focus of this update and adoption of a Safe Systems Approach. Adaptation of the previous plan to inform goal setting for the Safety Action Plan was done collaboratively with stakeholders during the plan development process.

Vision

Adapted from the original planBTV Walk Bike Plan, the aligned Vision for this Safety Action Plan is as follows:

Imagine a future where...

- ...Burlington’s streets are safe enough that kids want to walk, bike, or roll to school, to the park, or to a friend’s house without worry; and that older adults comfortably walk, bike, or roll from their home to community destinations such as the grocery store, pharmacy, or community center.
- ...walking, rolling, biking, and taking the bus are the preferred choice for children and adults living, working, or visiting in Burlington, regardless of age or ability all year round.
- ...Burlington’s transportation network continuously improves in support of our local economy and quality of life, leading people to stay in Burlington and invest in our community.

Goals

Adapted from the original planBTV Walk Bike Plan, the safety related goals for this Safety Action Plan are as follows:

Creating safer streets for everyone:

- We will significantly reduce traffic-related fatalities and serious injuries by 2035, prioritizing the safety and accessibility of our streets for users of all ages and abilities.
- The safety of people walking, rolling, and biking will be at the forefront of planning and programming, fostering a culture of transportation safety and protecting our most vulnerable road users.

Objectives

The Safety Action Plan development process sets out specific Objectives, with the overarching aim to:

- Develop a culture of transportation safety in the City through an engagement process.
- Identify actions to improve safety and mobility outcomes through a data-driven process.
- Prioritize actions that address safety and mobility outcomes for the City.
- Leverage the action planning process to make projects eligible for future funds.

The Objectives of the development process are to yield a Safety Action Plan that is:

- **Data-Driven:** Utilize existing data sets, from crash data to pedestrian and bicyclist infrastructure inventories, to develop a comprehensive, data-driven Safety Action Plan for improving transportation safety.
- **Community-Guided:** Engage with the community, stakeholders, and targeted individuals to shape the Plan and its Objectives. This includes holding public meetings to solicit feedback and conducting focus groups or targeted engagement to connect with underserved communities.
- **Safety-Focused:** Prioritize the improvement of safety outcomes by identifying and addressing hot-spot and systemic safety issues, which includes areas with a high occurrence of crashes or safety issues.
- **Encouraging Active Transportation Modes:** Encourage more use of active transportation modes like walking/rolling and biking by creating a safer and more accessible environment for these users.
- **Inclusive:** Center engagement and outreach with underserved and/or disadvantaged populations, and ensure the plan is responsive to their needs and concerns.

- **Prioritizing Projects:** Develop a prioritization matrix for active transportation projects based on safety data analysis and community feedback.
- **Clearly Communicated:** Generate clear, concise communication of analysis outcomes through public meetings, fact sheets, interactive tools, and an easily comprehensible final plan.
- **Future Ready:** Build a dynamic Plan that evolves as projects are implemented, conditions shift, and new data inputs become available. This includes setting monitoring metrics to track and adjust the plan over time.
- **Collaborative:** Create a Safety Action Plan that guides the transportation components of aligned planning processes conducted in partnership with allied City departments.
- **Measurable:** Define metrics that measure progress towards goals that can be continually tracked with transparent reporting and community involvement.



METHODOLOGY



Development Process

The planBTV Walk Bike Safety Action Plan builds upon past and ongoing planning efforts and safety activities. The planBTV Walk Bike Safety Action Plan aligns with the VTrans Strategic Highway Safety Plan and appended Vulnerable Roadway User (VRU) Safety Assessment at the state level, contributing to the “Toward Zero Deaths” philosophy of the Agency as outlined in the message from the Secretary of Transportation that accompanies the VRU Safety Assessment. Additionally, the planBTV Walk Bike Safety Action Plan aligns with the ongoing effort by the CCRPC to establish a Safety Action Plan for Chittenden County, with active transportation making up approximately a quarter of the targeted priorities of the county level action plan. At the citywide level, the planBTV Walk Bike Safety Action Plan builds on previous comprehensive active transportation planning and many other activities aimed at promoting safety for all transportation users.

This Safety Action Plan update identifies the goals and strategies specifically aimed at eliminating traffic fatalities and serious injuries by adopting the principles and elements of the Safe System Approach. Implementation is imperative and has been at the forefront during the Safety Action Plan development process.

Safety Action Plans are developed using a collaborative six-step process as outlined below. This chapter describes the development process and how each step relates to key foundational elements of the Safe Systems Approach. The development process relates directly to the components of a Safety Action Plan to meet the criteria for the Safe Streets for All (SS4A) Program. Program criteria include Leadership Commitment, Goal Setting, Planning Structure, Safety Analysis, Engagement and Collaboration, Policy and Process Changes, Strategy and Project Selections, and Progress and Transparency. Sections of the plan development process that detail specific components of a Safety Action Plan are highlighted with a Safe Streets for All callout.



Source: FHWA.

Figure 2 Safety Action Plan development process.

1 | Establish Leadership

An Advisory Committee with membership from City leaders, City staff, CCRPC, Green Mountain Transit, Burlington Walk Bike Council, AARP Vermont, and

Local Motion was established at the outset of this effort. Along with the consultant team and other City staff, they have shepherded the plan from goal setting to developing strategies and actions. This team was pivotal in development and review of the plan elements, as well as the development, implementation, and adoption of safety projects, programs, and policies for the City. As such, this team will continue to play key partnership



roles to the City staff and City leadership in executing the Safety Action Plan. City staff and City leadership commit to continued collaboration in the execution and monitoring of the planBTV Walk Bike Safety Action Plan, recognizing the essential role of this foundational partnership in reaching the targeted outcomes of the Safety Action Plan.

The planBTV Walk Bike Safety Action Plan team consisted of committed safety leaders across multiple entities, including:

- Phillip Peterson | Burlington Public Works**
- Julia Ursaki | Burlington Public Works**
- Eleni Churchill | CCRPC**
- Sai Sarepalli | CCRPC**
- Eliana Fox | CCRPC**
- Marek Broderick | Burlington City Council**
- Becca Brown McKnight | Burlington City Council**
- Chris Damiani | Green Mountain Transit & DPW Commission**
- Jak Tiano | Burlington Walk Bike Council**
- Kelly Stoddard-Poor | AARP Vermont**
- Jonathon Weber | Local Motion**
- Christian Berry | Burlington Office of Racial Equity, Inclusion & Belonging**
- Charles Dillard | Burlington Office of City Planning**
- Evan Haugh | VHB Transportation Safety Engineer**
- Elisabeth Sundberg | VHB Transportation Planner**
- Karen Sentoff | VHB Project Manager**
- Jenn Conley | VHB Technical Advisor**

This Plan will be brought forth to the Burlington City Council for adoption on June 2, 2025. With the adoption of the plan, City Council and the



Office of the Mayor have committed to execution of the Safety Action Plan. As the governing body and City executive, this commitment establishes City leadership in pursuit of the goals of the Safety Action Plan and required implementation. This leadership is

supported directly by Burlington Public Works, as the responsible department for plan action. Additional leadership beyond the organizations listed above will include Burlington’s Public Works Commission, Planning Commission, Parks and Recreation Commission, and Transportation, Energy and Utilities Committee.

Additional Stakeholders include:

- Vermont Agency of Transportation (VTrans)
- Federal Highway Administration (FHWA) Vermont Division
- Burlington Parks, Recreation, and Waterfront
- Burlington’s Neighborhood Planning Assemblies
- Burlington Police Department
- Burlington Fire Department
- University of Vermont Police Services
- University of Vermont Rescue
- UVM Medical Center Critical Care Transport
- Vermont State Police
- South Burlington Police Department
- South Burlington Fire Department

Promoting a culture of safety in transportation is an additional component to establishing leadership and aligns with the Safe Systems Approach. Through the engagement process for this Safety Action Plan and

building on the safety elements from the 2017 planBTV Walk Bike Plan, engagement with the public to build a culture of safety was key to the process. This took different forms during the development process. The project team visited each Neighborhood Planning Assembly to share the process and hear feedback from each community within the City. Connection with the Burlington Walk Bike Council, who have served as volunteer arbiters



of the 2017 planBTV Walk Bike Plan, were engaged for feedback throughout the process. A project website and map-based survey input tool were shared widely to enable information sharing and solicit feedback on experience and perception of safety. Further, in person and virtual public meetings were held to engage directly with residents on the safety analysis findings and plan development process. These touchpoints helped to build a foundation of responsibility and sense of ownership in a collective transportation safety ethos.

2 | Analyze Safety Data

Development of a data-driven Safety Action Plan relies on the analysis of safety outcomes. Understanding the specific and systemic factors and risks involved in transportation related fatalities and serious injuries unlocks the ability to address these crash outcomes through a Safe Systems Approach, employing proven countermeasures and strategies to prevent and mitigate severe outcomes. As such, the development of the Safety Action Plan used an analysis of safety data to identify crash trends, contributing factors, high-risk characteristics, and system locations with a propensity for serious crashes resulting in fatalities (K crashes on KABCO scale) or serious injuries (A crashes on KABCO scale).



Data were acquired from Vermont Web Crash, which houses the electronic records for crash data for all Vermont reporting agencies, including Vermont State Police and Burlington Police Department. Vermont also maintains a Vermont Public Crash Data Query Tool, which maintains a public facing version of the data. The analysis focused on severe crashes (crashes resulting in fatalities or incapacitating injuries) in Burlington. Serious crashes (K and A crashes) from the past ten calendar years of 2014 through 2023 were examined. To support the specific planning goals of the planBTV Walk Bike Safety Action

Plan, an additional assessment of pedestrian and bike crashes, regardless of severity, was completed. For lower severity pedestrian and bike crashes, five years of data from 2019 through 2023 were examined.

Crash analysis identified crash types, factors, and underlying characteristics contributing to the crash outcomes. Given the stochasticity of crash data, this approach helped to illuminate systemic issues and identify locations where risk of crashes exists even if crashes have not occurred in these specific locations.

The safety data analysis was complemented by additional data driven approaches. Contextual considerations such as neighborhood demographics and destination access across the City were evaluated. Input gathered from public engagement and survey responses were assessed. Additionally, previous plans, current policies, and existing procedures were reviewed. Each of these complementary resources were used to help expand, weigh, and refine the potential systemic and geographic actions that were identified through the safety data analysis.

3 | Determine Emphasis Areas

A combination of crash data analysis and public input served to identify the emphasis areas for the Safety Action Plan. Based on the data driven approach, this analysis reviewed contributing factors, trends, outcomes, and locations of crashes. Several prominent patterns emerged as key issues to consider in the plan and its implementation.

Leading Factors for Serious Vehicular Crashes

- Object Strikes
- Angle Crashes / Turning Conflicts
- Motorcyclist Behavior

Leading Factors for Walking, Biking, and Rolling Crashes

- Informal Midblock Crossings
- Pedestrian Visibility
- Pedestrian Behavior (e.g., unexpected or erratic movements)
- Bicyclist Behavior (e.g., unexpected actions)
- Signalized Intersection / Turning Conflicts

Top Safety Issues based on Survey Respondents and Public Engagement

- Driver Behavior and Speed Management
- Missing or Poor Condition Bike Lane or Separated Bike Facility
- Missing or Poor Condition Sidewalks or Shared Path
- Crossing Conflicts (at Intersections and Midblock)

The Vermont Strategic Highway Safety Plan (SHSP) 2022-2026 identified critical emphasis areas and associated serious crash reduction objectives for each emphasis area. Some of these overlap with emphasis areas identified through the data-driven process for this Safety Action Plan. The areas where the Safety Action Plan aligns with statewide critical emphasis areas are shown in the table below. Some statewide emphasis areas, such as impaired driving, were not factors in Burlington’s bicycle or pedestrian crashes and therefore do not have a corresponding action in this plan. Some local emphasis areas, revealed through the data analysis, relate to modes outside of walking, rolling, and biking and are included to reflect the comprehensive analysis approach.

The geographic analysis found that bicycle and pedestrian crashes occur predominantly on Burlington’s main arterials, representing 83% of all bicycle and pedestrian crashes and 73% of the serious bicycle and pedestrian crashes. The arterial network represents the high injury network when it comes to vulnerable roadway users. As such, the ten most prominent corridors in the crash data were each designated as focal corridors. The emphasis areas and focal corridors were the foundation for identifying strategies that address serious crashes in Burlington.

Table 2. Statewide and Local Emphasis Area Comparison

SHSP Critical Emphasis Areas		planBTV Emphasis Areas
Infrastructure	Lane Departure	Object Strikes
	Intersections	Angle Crashes Turning Conflicts
	Speed and Aggressive Driving	Speed Management
Behavioral	Occupant Protection	
	Impaired Driving	
	Distracted Driving and Alertness	Driver Behavior
Vulnerable Users & Roadway Users	Pedestrians	Pedestrian Behavior
		Midblock Crossings
		Pedestrian Visibility
		Signalized Intersection Conflicts
	Missing/Poor Sidewalks	
	Crossing Conflicts	
Bicyclists	Bicyclist Behavior	
	Signalized Intersection Conflicts	
Motorcyclists	Motorcyclists	
Younger Drivers		
Older Drivers		
Data & Emerging Topics	Data Analysis and Integration	

4 | Identify Strategies

The planBTV Walk Bike Safety Action Plan identifies strategies and actions in an implementation framework with the aim of addressing safety issues related to the emphasis areas to reduce crashes,

specifically serious crashes resulting in fatalities or serious injuries. Although the update to the planBTV Walk Bike Safety Action Plan specifically focused on reinvigorating the commitment to safety for active modes of transportation, the plan took into consideration all types of road users and transportation modes.

There were four primary approaches to identify strategies and actions for the Safety Action Plan. Review of previous plan recommended projects and actions, review of policies and processes, analysis of the safety data in Burlington, and consideration of the emphasis areas and focal corridors were combined to identify strategies, actions, and countermeasures to be applied with the aim of reducing crashes and improving safety. The evaluation specifically identified:

- a series of priority actions that are systemic or policy driven and expected to reduce serious crashes in Burlington;
- specific countermeasures proven to reduce crashes for the emphasis areas identified; and,
- arterial focal corridors where both countermeasures and carry forward projects are expected to address safety issues and reduce crashes.

SAFE STREETS FOR ALL

STRATEGY & PROJECT
SELECTIONS

5 | Prioritize & Incorporate Strategies

The priority actions consisted of primarily systemic and policy actions derived from the safety data analysis and review of policies and processes. Prioritization of the actions was predicated on the crash reduction potential and implementation feasibility. Where

applicable, each strategy was assigned an affiliated countermeasure, appropriate crash modification factor, targeted crash count, calculated 10-year crash reduction potential, timeframe for implementation (i.e., short: less than 2 years, medium: 3-5 years, long: 5-10 years), and priority status (i.e., high, medium, low).

For the focal corridors, actions largely entailed carry forward projects from the previous plan, applicable countermeasures, and new projects based on safety analysis and emphasis areas. A prioritization scheme to rank the focal corridors entailed development of weighted criteria related to safety, network, context, engagement, and cost considerations. The criteria and associated metrics are included in the table below.

Table 3. Prioritization Criteria for Focal Corridors

Criteria	Metrics for Scoring
Bike and Pedestrian Crashes	Number of Bike / Ped Crashes (any severity KABCO)
Serious Crashes	Number of Serious Crashes (KA including non-bike/ped)
Network Connectivity	Addresses Gap in Planned Walk Bike Network
Demographic Context	High, Medium, Low Need
Destination Access Index	High, Medium, Low Need
Community Identified Need	Number of comments expressing need from public engagement or Public Input Tool
Ease of Implementation	Engineering Challenges, Political Will, Fundraising Opps, Resource Capacity, Community Support
Relative Cost	Project Type, Scale

6 | Evaluate and Update

Implementation, monitoring, evaluation, and updating will be crucial to achieving the goals set forth in the Safety Action Plan.

SAFE STREETS FOR ALL

PROGRESS &
TRANSPARENCY

Although the Plan sets guideposts for implementing strategies and actions to help reduce traffic related fatalities and serious injuries, the Safety Action Plan is expected to be an evolving document that will require consistent commitment and dedicated oversight. The plan should be revisited annually to document progress, identify necessary adjustments, enhance approach based on lessons learned, and course correct as required.

A crucial component of the Safety Action Plan development is cultivating a shared responsibility to take collective action to prevent and mitigate serious crashes on the system. Commitment from Burlington's leadership, City staff, and stakeholders to continue to foster a culture of safety will be key to executing the Plan.

A primary aim of the plan is to bolster the progress towards implementation of a safe transportation environment for all users of the system in Burlington. Synergies with allied City departments and local plans that have overlapping and aligned goals should be leveraged in the execution phase of the Safety Action Plan, opening possibilities in collaborative funding and implementation.

Commitment at the local level is bolstered by aligned and complementary regional and statewide efforts like the CCRPC's Safety Action Plan and Vermont's Strategic Highway Safety Plan, respectively. Leadership at the local level, combined with partnership at the regional and state level, to identify and secure resources to support implementation will be imperative. Coordination with stakeholders at the state level may be particularly beneficial, as the aligned statewide plans are positioned to leverage existing funding sources that could aid in the implementation of Burlington's plan.

This Safety Action Plan is not meant to replace the 2017 planBTV Walk Bike Plan but rather enhance the safety elements to enable eligibility to access a broader set of resources to support plan execution. The Safe Street for All (SS4A) Grant Program could potentially support plan implementation. Adoption of the Safety Action Plan demonstrates the criteria required for the program's competitive implementation grants.

The planBTV Safety Action Plan will evolve in the intervening years and must be revisited regularly for updates. Progress on implementation should be tracked and shared with stakeholders and the public. The City maintains a website for this Plan that can be leveraged to generate transparency by sharing strategy and project status. As strategies and actions are implemented, progress towards the plan goals should be monitored. Tracking reductions in crashes and observing shifts in user behavior as different countermeasures and treatments are applied may provide insights on the efficacy of certain safety improvements. This tracking can inform adjustments or augmentations to the Plan's actions at the time of updates.

Transparency and communication are fundamental to action implementation and evaluation. Keeping the community engaged in the dialogue of transportation safety and demonstrating the commitment of leadership to achieving the plan's goals are imperative. The City has developed a dashboard for tracking crashes, which is available on the existing Plan website and depicted below. Users can interact with the safety data, toggling on different years, vehicle types, and crash severities to display a map and charts that describe the data. This will be accompanied by an inventory and map depicting progress on the projects and strategies that are implemented across the City.

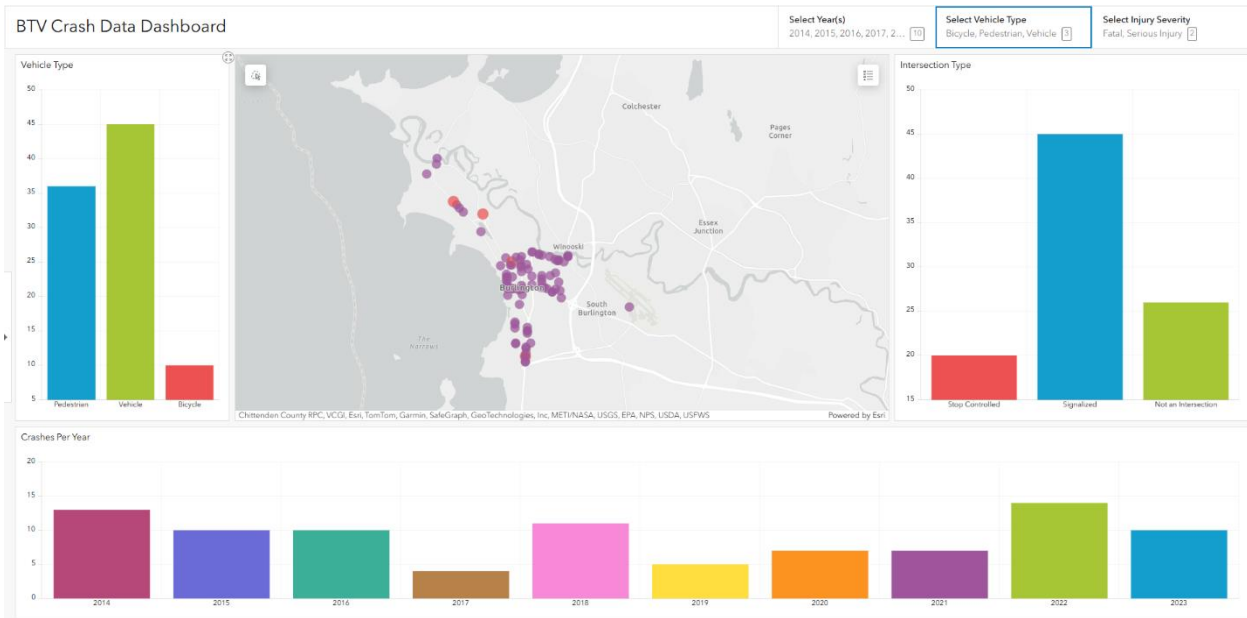


Figure 3. Burlington’s Crash Data Dashboard



DATA DRIVEN

Safety Data

The key underpinning of the Safety Action Plan development is analysis of safety outcomes. The methods and findings of the crash data analysis performed for the planBTV Walk Bike Safety Action Plan are detailed in this section. Consistent with guidelines for the Safe Streets for All program, this analysis focused on *serious crashes* occurring on Burlington's roadways, defined as crashes resulting in fatalities (K type crashes) or incapacitating injuries (A type crashes). Serious crashes from the past ten calendar years (2014 to 2023) were examined. To support the specific goals of the planBTV Walk Bike Safety Action Plan, a deeper analysis of pedestrian and bicyclist-involved crashes was conducted. To this end, an additional assessment of pedestrian and bicyclist crashes, regardless of severity, was completed. For lower severity bike and pedestrian crashes, five years of data spanning 2019 through 2023 were examined. The methods and findings of these reviews are discussed in the following sections.

Data Validation

Several data validation steps were taken to be able to present findings with confidence. As a result of these steps, which improve accuracy, statistics presented in this evaluation are not expected to match the Vermont Public Crash Query Tool. The errors this process corrected are detailed below.

Inaccurate Locations

Crash records include multiple location fields including a street address and GPS coordinates. These fields are sometimes in conflict or wrong altogether. For example, a segment crash may be tagged to a nearby intersection or the automated conversion of coordinates to the nearest street may choose the wrong block. To address these errors, location was carefully determined from crash reports and diagrams and corrected as needed.

Off-Street Crashes

The scope of both planBTV and SS4A is limited to public roadways. Crashes that occurred off-road (most often parking lot crashes) were excluded from the analysis.

Misclassified Injuries

The Vermont Crash Reporting Instructions provide a detailed definition for each level of injury¹. In the source data, some injuries were incorrectly marked as serious/incapacitating. To be conservative, these were only downgraded by our review in cases where the person declined medical care entirely.

Misclassified Persons

For this analysis, classifications of electric scooter riders as pedestrians or bicyclists were left unaltered. However, vehicle occupants classified as pedestrians – such as a driver struck by his own vehicle after exiting without engaging the parking brake – were corrected.

Data Analysis

Once data validation procedures were conducted on the crash data sets, analysis of the data drew understanding of crash types, contributing factors, crash trends, high risk characteristics, and system locations with a propensity for serious crashes. Data were evaluated for vehicle-only serious crashes, pedestrian and bicycle serious crashes, and pedestrian and bicycle minor crashes. Key takeaways, trends, and contributing factors were summarized in the infographic below and detailed further in the following sections.

¹ Serious/incapacitating injury is defined as injuries involving one or more of:

- Severe laceration resulting in exposure of underlying tissues/muscle/organs or resulting in significant loss of blood
- Broken or distorted extremity (arm or leg)
- Crush injuries
- Suspected skull, chest or abdominal injury other than bruises or minor lacerations
- Significant burns (second and third degree burns over 10% or more of the body)
- Unconsciousness when taken from the crash scene
- Paralysis

Serious Crashes

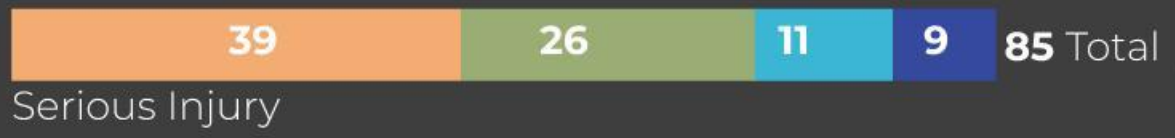
A serious crash results in death or serious injury.

Last 5 Years : 2019 - 2023



1 Total Death

Last 10 Years: 2014 - 2023



4 Total Death



In most of the serious crashes, vehicles were not traveling faster than **25 mph**. In a majority of the bicycle and pedestrian crashes, speed was **10 mph** or less.



8% At Unsignalized Intersections

8% At Driveways

40% On a Segment

9% of serious crashes involved impairment, which is lower than the statewide rate of 19%.

30% of serious crashes involved motorcyclists.

Where?

43% Conflicting movements at signals

How?

Angle crashes or fixed object crashes are the most common serious crash collision types.

42.5% Angle Crashes: Turning and Thru Vehicles at Signals

42.5% Object Strikes: Signs, Trees, Poles

15% Other

Bicycle Crashes

Bicycle injuries occur at signals (6), non-intersections (4), and unsignalized intersections (1).

2/3 Cyclist failed to yield

1/3 Driver failed to yield

25% of pedestrians are struck at signals

50% of pedestrian injuries occur at informal midblock crossings ("jaywalking")

Pedestrian Crashes

Injuries are evenly split between pedestrian (12) and driver (12) failures to yield (3 share responsibility).

Drivers typically fail to yield when turning from a major road.

Pedestrians generally fail to yield by crossing midblock without observing or yielding to approaching traffic.

Vehicle-Only Serious Crashes

There were 40 serious crashes that did not involve a bike or pedestrian in Burlington from 2014 through 2023. Twenty of these were in the last five years, reflecting similar rates in each half of the decade. Of these serious crashes, 43% were single-vehicle fixed-object crashes, usually involving signs, trees, and poles. Another 43% were angle crashes, usually involving a turning vehicle and a vehicle going straight through an intersection, with serious crashes resulting from drivers running red lights being much less common. The remaining 16% were head on or rear end crashes (three each).

The most common location type was signalized intersections, where 43% of serious crashes occurred, with another 40% occurring on segments. Unsignalized intersections and driveways accounted for another 8% each.

Speeds were generally low in the serious crashes involving vehicles only. 42% of serious vehicle-only crashes had maximum speeds of 25 mph or less, with only 20% involving speeds over 35 mph. Driver impairment was a factor in 18% of serious crashes, which is lower than the statewide rate of 54%.

Motorcycles were overrepresented in serious crashes, with 30% of serious crashes involving motorcyclists compared to less than 1% of overall crashes. Of the 12 serious crashes involving motorcycles, five resulted from turning vehicles not seeing oncoming motorcycles, three from a motorcyclist running a red light, and three from a motorcyclist losing control and hitting a fixed object.

Bicycle and Pedestrian Crashes

Serious Crashes

Within the 10-year period examined from 2014 through 2023, one pedestrian died as a result of a motor vehicle crash in Burlington. No bicyclists have died. In that period, 26 pedestrians and 11 cyclists were seriously injured.

When considering only the past five years from 2019 through 2023, there were 13 pedestrian serious injuries, three cyclist serious injuries, and no pedestrian or bicyclist

involved deaths. This is a substantial reduction in cyclist injuries when compared to the five years prior, while pedestrian injuries remained consistent.

Vehicle speeds tend to be low in Burlington, and speed was not a significant factor in pedestrian or bicycle injuries. In nearly 60% of pedestrian or bicyclist involved injury crashes, the maximum vehicle speed was 10 mph or less.

Serious pedestrian crashes were evenly split between driver and pedestrian failures to yield (12 each, with three crashes having shared responsibility). Drivers typically failed to yield when turning from a major road, and pedestrians typically failed to yield by crossing outside established crossings without yielding to approaching traffic. These informal mid-block crossings were the locations with the highest overall share of pedestrian crashes (13, or nearly 50%), followed by signalized intersections (seven) and formal mid-block crossings (four), with unsignalized intersections having the fewest (three).

More than half of the serious bicycle crashes occurred at signalized intersections (six), with only one occurring at an unsignalized intersection and four occurring on segments. In seven of these crashes, or 64%, the cyclist failed to yield, while drivers failed to yield in the other four (36%). Bicyclist failures to yield were generally cases of the bicyclist proceeding inappropriately at intersections.

Minor Crashes

Minor crashes involving a pedestrian or bicyclist were also reviewed for the last five years. There were 57 and 91 minor pedestrian and bicycle crashes, respectively. One major difference from severe crashes is in the failure to yield. Drivers failed to yield in 79% of minor pedestrian crashes and 57% of minor bicycle crashes, which are much higher rates than in serious crashes.

The majority of minor bicycle crashes were at intersections, with more at signals (41%) than unsignalized intersections (26%). Some were at driveways (18%) and a smaller number were segment crashes (12%).

Minor pedestrian crashes were also mostly at intersections, with more at signals (33%) than unsignalized intersections (30%). Fewer (17%) involved informal midblock crossing than serious crashes and the smallest share were at driveways (12%).

Notably, no pedestrian crashes and only one bicycle crash involved a driver disobeying a traffic signal. Reckless or aggressive driving also did not appear in these histories. Negligence, inattention, and poor visibility (night or heavy rain) were most often cited in these crashes. Relatively few minor crashes (2 pedestrian and 8 bicycle) were related to conflicts entering or exiting on-street parking.

Focal Corridors

Serious injury crashes are not clustered in any one place. They have happened in all neighborhoods of the city, but almost exclusively on arterial streets. Shelburne Street and Riverside Avenue have had the highest number of serious injury crashes of any streets in the city, at 11 and 10 respectively. Other arterials with notable numbers of serious crashes (6+ over 10 years) are Main Street, Pine Street, Winooski Avenue, and North Avenue. The only intersection to have reached 3 serious crashes in ten years is Shelburne Street and Home Avenue. The majority of serious crashes at intersections (27 of 38) have been the only serious crash at the intersection in the last decade.

When considering bicycle and pedestrian crashes, regardless of severity, a similar pattern is seen. These crashes are spread around the city rather than concentrated on any particular streets or neighborhoods. These are also overwhelmingly on arterial streets. Winooski Avenue, Pine Street, Main Street, Pearl Street, and Colchester Avenue have the highest number of bike and pedestrian crashes.

Although there are no locations that can be described as “hot spots” or high-crash locations, the dispersion of crashes around the city is still informative. Based on this distribution, a focus on arterial streets, signalized intersections, and (for pedestrians and bicyclists) special emphasis on downtown have emerged as key focal areas.

Safety Analysis Takeaways

One of the most notable conclusions is the minimal occurrences of red light running and excessive speed in Burlington's serious crashes. However, while compliance in those areas is strong, other behavioral factors including impaired driving and informal midblock crossing were more frequent.

Serious crashes without pedestrian or bicyclist involvement are mostly between turning vehicles at signals or fixed object strikes. Fixed object strikes generally involve some type of driver error resulting in loss of control. Motorcyclists are also overrepresented in these crashes.

Most pedestrian or bicyclist crashes do not produce serious injuries, likely due to the low speeds involved – in fact, some have occurred when bicycles overtake vehicles. Serious pedestrian crashes tend to involve a pedestrian misjudging traffic when crossing improperly midblock or a driver not seeing a pedestrian as they complete a turn. Visibility or inattention tend to be causal, while speed through a turn does not. Serious bicycle crashes tend to involve cyclists moving through intersections out of turn.

Finally, with no specific high crash locations found, a more general focus on arterials, signalized intersections, and downtown is advised. Focusing improvements on these areas, with particular attention to providing adequate sight lines to all conflict points, appropriate lighting, and channelizing movements (avoiding informal use of space or irregular crossings), will create a solid foundation for a data-driven safety plan.

Community Context Considerations

Understanding community context is crucial to focusing investments on transportation safety that maximize potential benefits and have the greatest impact on safety outcomes. Additionally, addressing the safety needs of underserved communities is at the forefront of the Safe Streets for All initiative. Burlington is the largest City in Vermont, with a population of over 44,500 people. The majority of the City's population resides in areas of persistent poverty, as all but two of the City's census tracts are persistent poverty census tracts. Of the City's residents, approximately 17,300 people, or 28% of the population, live in historically disadvantaged community census tracts. Compared to the rest of Vermont, Burlington ranks in the 60th percentile for individuals living below 200% of the federal poverty line, 56th percentile for unemployment, 85th percentile for renter-occupied housing, 77th percentile for housing cost burden, and 73rd percentile for limited English proficiency. These metrics highlight social vulnerabilities affecting a substantial portion of the City's population.

Community context is also key to understanding the places where there is higher propensity for vulnerable users on the system and higher risk for roadway users. This context informs prioritization of actions and investments. Metrics that characterize the demographics of the City's various neighborhoods and access to community destinations were developed to identify areas with higher likelihood of walking, biking, and rolling and higher risk for negative safety outcomes. Each metric, or index, scores the level of need and applies it to individual roadway segments based on demographic characteristics within the block group or proximity to community destinations.

The demographic index evaluated population characteristics derived from ACS 5-Year Estimates (2017-2022) as an indicator of areas where residents may have higher likelihood of walking, biking, or rolling out of necessity or predisposition to risk of negative safety outcomes. At the block group level, population characteristics were considered in the

demographic index as follows:

- Percent Living in Poverty
- Percent Youth (<18)
- Percent Elderly (65+)
- Percent Living with Disability
- Percent No Car Available

The destination access index evaluated the locations of destinations and facilities that provide vital resources to the community. The selection of locations represents places within the City that have a higher likelihood of people walking, biking, or rolling to

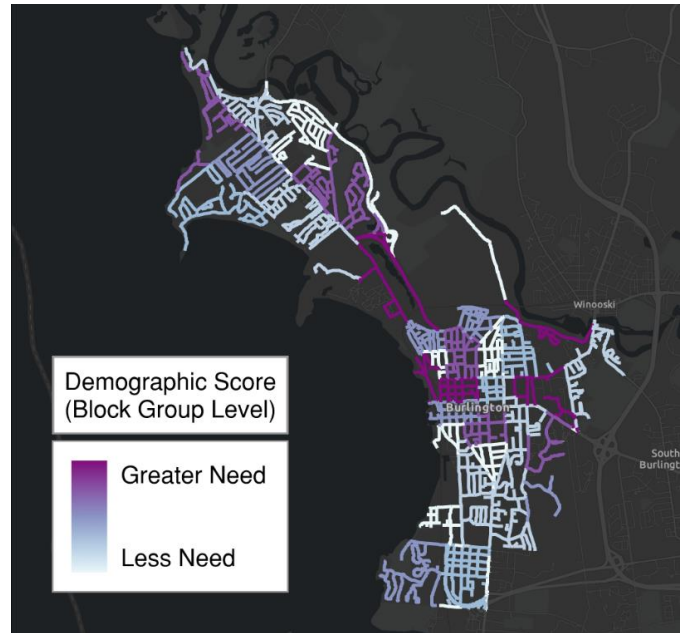


Figure 4. Demographic Index

access the resources and services provided. The location selection was based on the E911 database which provides location type information for all buildings, landmarks, and locations in Burlington. Location types were aggregated into categories of destinations and facilities as follows:

- Government and Public Buildings
- Community Centers
- Schools and Daycares
- Parks and Outdoor Spaces
- Shelters and Food Resources
- Affordable Dwelling Units
- Transit Stops and Lines

These indices were applied to the roadway network with two different processes. The demographic index was applied to the street network by spatially joining the census block group to roadway

segments, scoring each road segment according to the census block group it most overlaps with. The community destinations index was attributed to roadway segments by assessing the number of destinations or facilities within a quarter-mile of each segment. Each input to the destination or demographic indices was normalized on a zero to one scale. Normalized values were multiplied by their corresponding weighting, generating scores for each index. The final score for each road

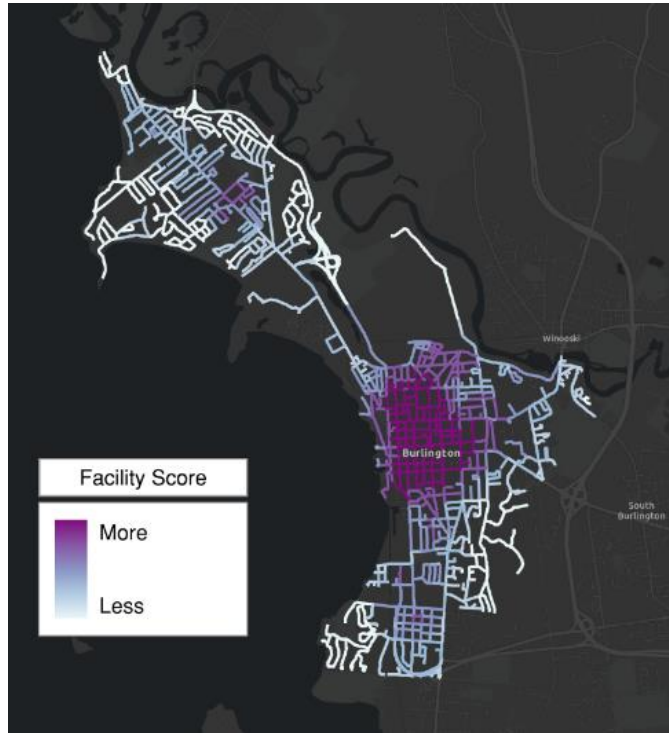


Figure 5. Destination Access Index

segment was calculated by combining the sum of the community destination and demographic data scores.

The demographic score indicates a demographic need based on population characteristics. The index represents a set of indicators that highlight areas where residents may have a higher likelihood of walking, biking, or rolling or face disproportionate risks of negative outcomes. This index identifies populations in need of more targeted resources based on various demographic factors.

The community destinations score reflects areas with an increased presence of resources requiring community access. This index identifies areas in need of more targeted

resources as the locations requiring community access have higher likelihoods of people walking, biking, or rolling to access the resources and services provided.

A combined score summed the demographic index and community destinations index to provide an overview of areas on the network with both high demographic need and high destination access need. The combined score was helpful in identifying both areas of high need and the potential for impactful intervention, where roadways connect underserved populations to vital community resources.

Survey Results

This plan included a community engagement component both to build a culture of transportation safety and to identify any blind spots in the data-based analysis. To this end, it was important to hear about individuals' experiences on the existing transportation network. One of the key opportunities for the community to engage with the plan development process was through an online survey and public input tool. The survey was shared at public meetings, posted online on the City and CCRPC websites, and sent out on platforms like Front Porch Forum. The survey was opened in July 2024 through March 2025 for community members to participate and share their input.

The survey served as an ongoing touchpoint between the community and the plan development process, garnering over 300 participants representing a range of demographics and socioeconomic backgrounds. Respondents shared their transportation safety experiences in Burlington and provided over 400 comments about locations where they felt unsafe traveling in Burlington. Additionally, there were 50 comments indicating locations where respondents stated they felt safe traveling, which identify locations with safety enhancements or other built environment features that are exemplary in fostering a safe transportation system.

Who We Heard From

The plan development process is a collective effort, designed to reflect the range of voices and experiences within the community. The survey acted as an effective tool to capture the input from a wide range of community members. Below a series of figures compares the demographics of [Survey Respondents](#) to the overall [City of Burlington](#)².

² City of Burlington Population: 2023 American Community Survey (ACS), 5-year estimates.

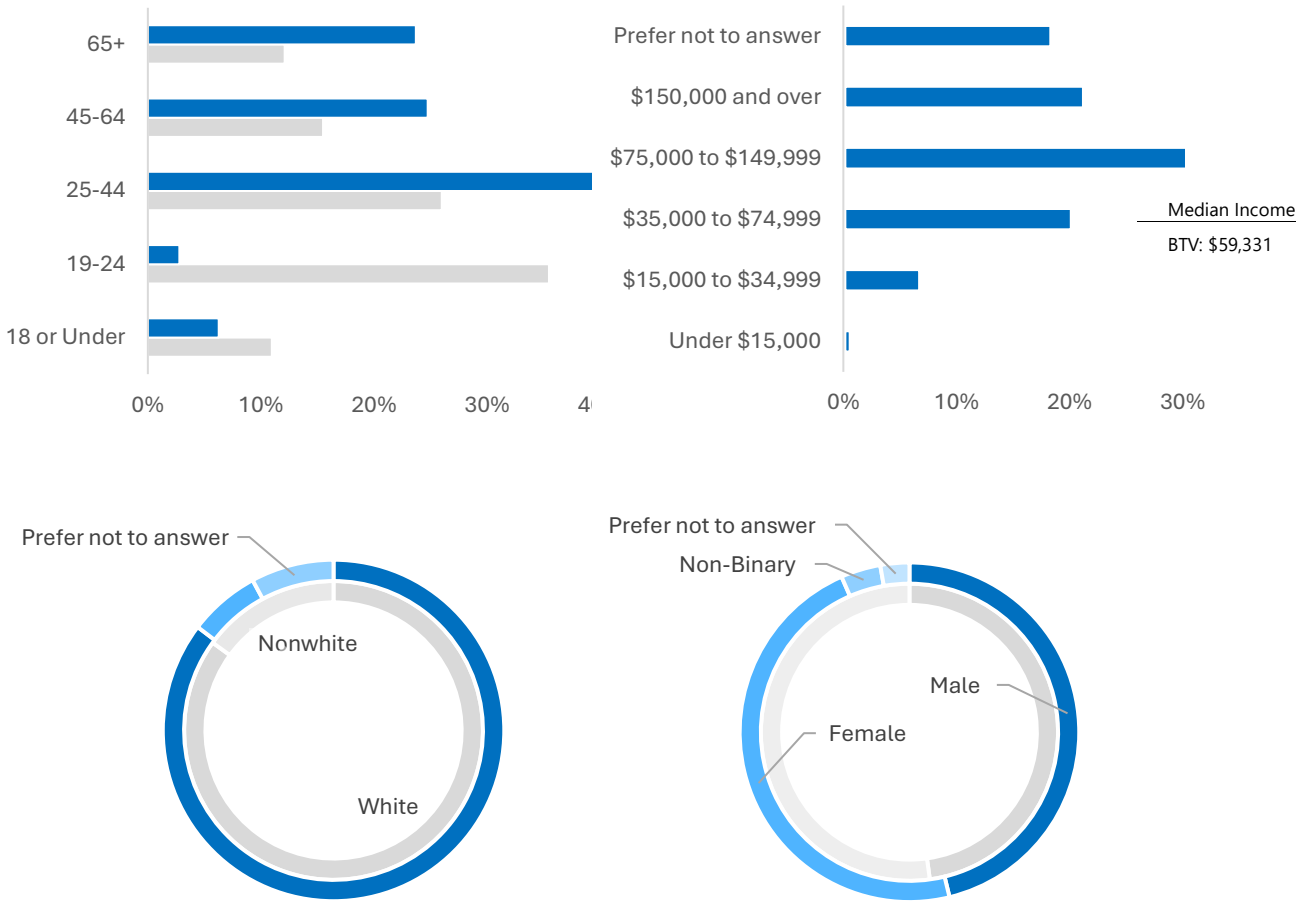


Figure 6. Survey to Census Demographics Comparison

Generally, the survey respondent demographics were consistent with Burlington’s population, including for gender and race. Higher incomes than the citywide median household income may have been slightly overrepresented in the respondent pool, however; about one in five respondents declined to share their household income so it was difficult to assess whether more targeted outreach based on socioeconomic factors was necessary. The distribution of ages in the respondent pool was also slightly skewed,

with more representation in the respondent pool for ages 25 and over than for younger age brackets. It is important to note that there is a disproportionately high population of 19 to 24 year olds in Burlington as compared to other Vermont communities, as the student populations of the University of Vermont and Champlain College are included in Burlington's population statistics. It is notable that there was a limited response from the 19 to 24 year old age group, and to a lesser degree the 18 and under age group, that could warrant additional targeted outreach. It is important to note that the University of Vermont and Champlain College are consistently engaged in transportation related initiatives with the City and should be targeted as a key stakeholder to represent the interests of the students, which largely account for the demographics underrepresented in the survey response.

The survey was advertised through an outreach campaign. Links and QR codes to the survey were distributed both online through project websites and Front Porch Forum posts and offline as the project team promoted the survey at the City's Neighborhood Planning Assembly meetings across each of the neighborhoods within the city. This approach offered targeted outreach to each unique neighborhood in Burlington.

What We Heard

The project team received over 400 comments with locations people have felt unsafe while traveling in Burlington. A map depicts the pinpointed locations on the system where individuals indicated their experiences as safe or unsafe. Much like the findings from the safety analysis, the arterials throughout the city had the greatest propensity of respondents pinpointing locations associated with feeling unsafe. The primary issues driving the indication of unsafe locations throughout Burlington included lack of bike lane or shared path, driver behavior and vehicle speeds, and conflicts at intersections or crossings. These top issues mirror some of the key issues identified in the safety analysis, while providing further insights into locations on the system where safety issues persist beyond the reported crash data.

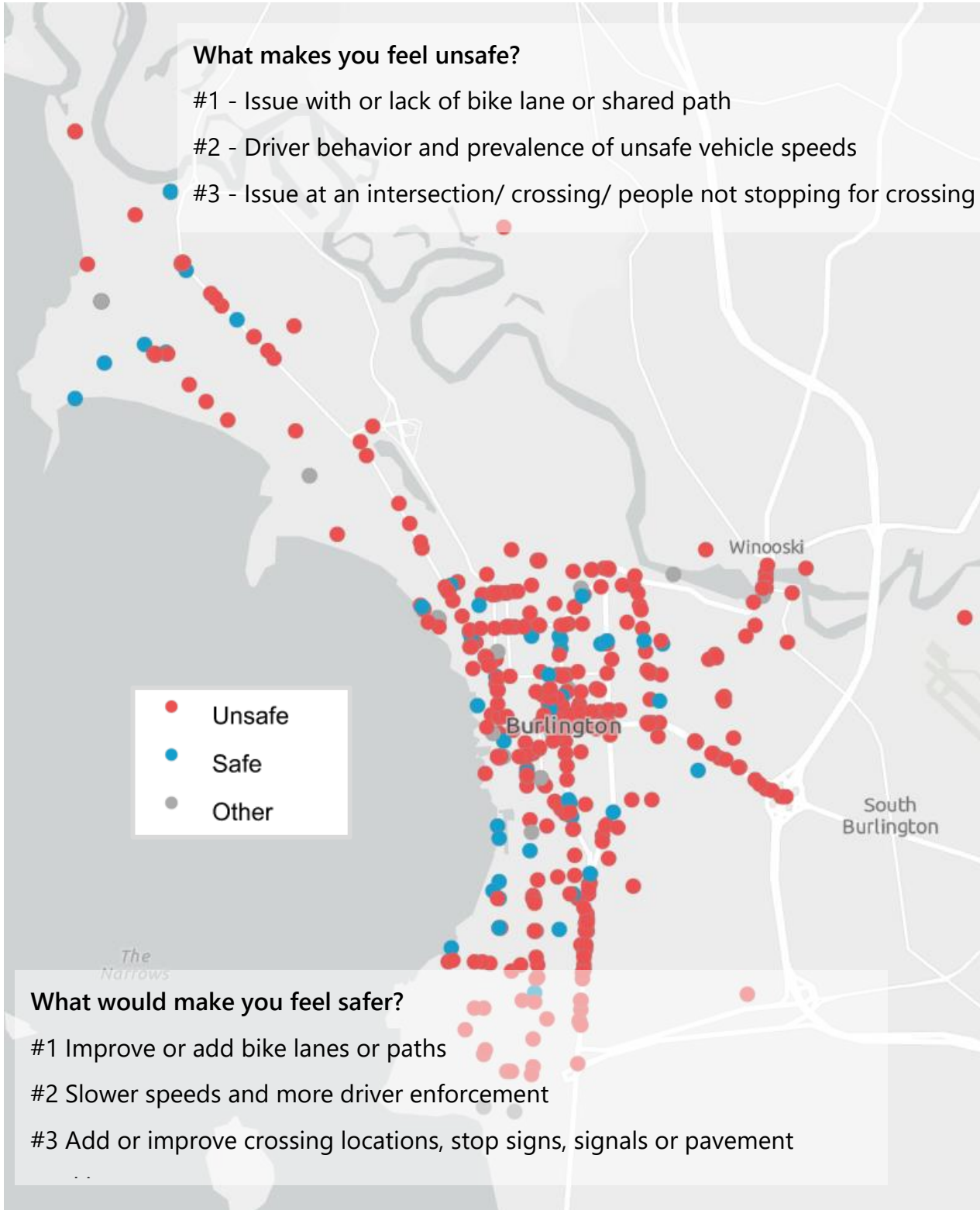


Figure 7. Survey Responses for Locations that Feel Unsafe or Safe

By providing this opportunity to identify locations on the system where individuals feel unsafe, data were expanded to user experience where near misses occur, conflicts arise, or perception of safety issues exist, even if there have yet to be crashes in these particular locations. The opportunity to weigh in on what would improve safety at locations that individuals indicated felt unsafe, the top themes were improved or added bike lanes or paths, slower vehicle speeds with more enforcement, and improved or added crossing locations.

Respondents overwhelmingly indicated locations where they feel unsafe when biking (half of responses) and walking (over a third of responses), which was consistent with the data trends from the safety analysis. A small proportion of respondents indicated where they feel unsafe when in a car (13%) and very few indicated where they feel unsafe while taking the bus (2%), using a mobility device (1%), or some other mode of transportation (1%).

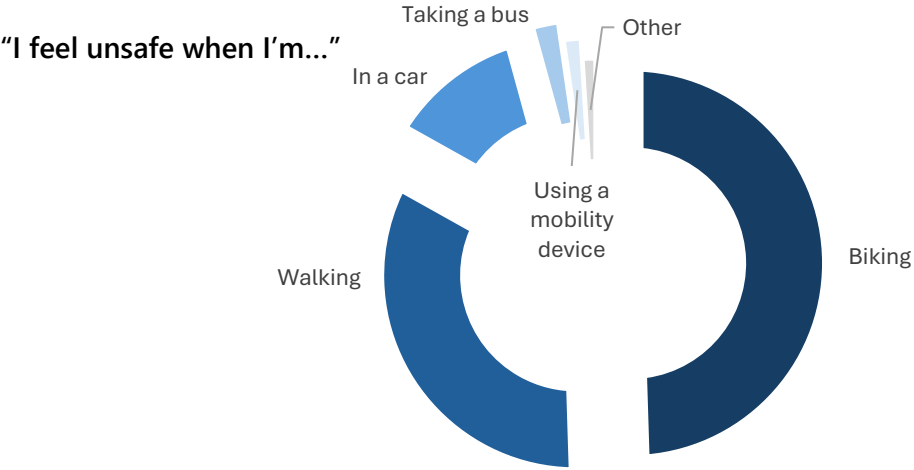


Figure 8. Transportation Mode where User Feels Unsafe

The top safety challenge associated with walking, rolling, and biking was general driver behavior according to survey respondents. Maintenance of facilities, lack of separation or buffer from vehicles, and completeness of the network (both sidewalk/path and bike lane/shared use path) ranked in the top five safety challenges for walking and biking. For walking and rolling, safety at intersections and crossings were indicated as a top five challenge, consistent with the safety data analysis. For biking, winter snow and ice control was cited as a top five safety challenge.

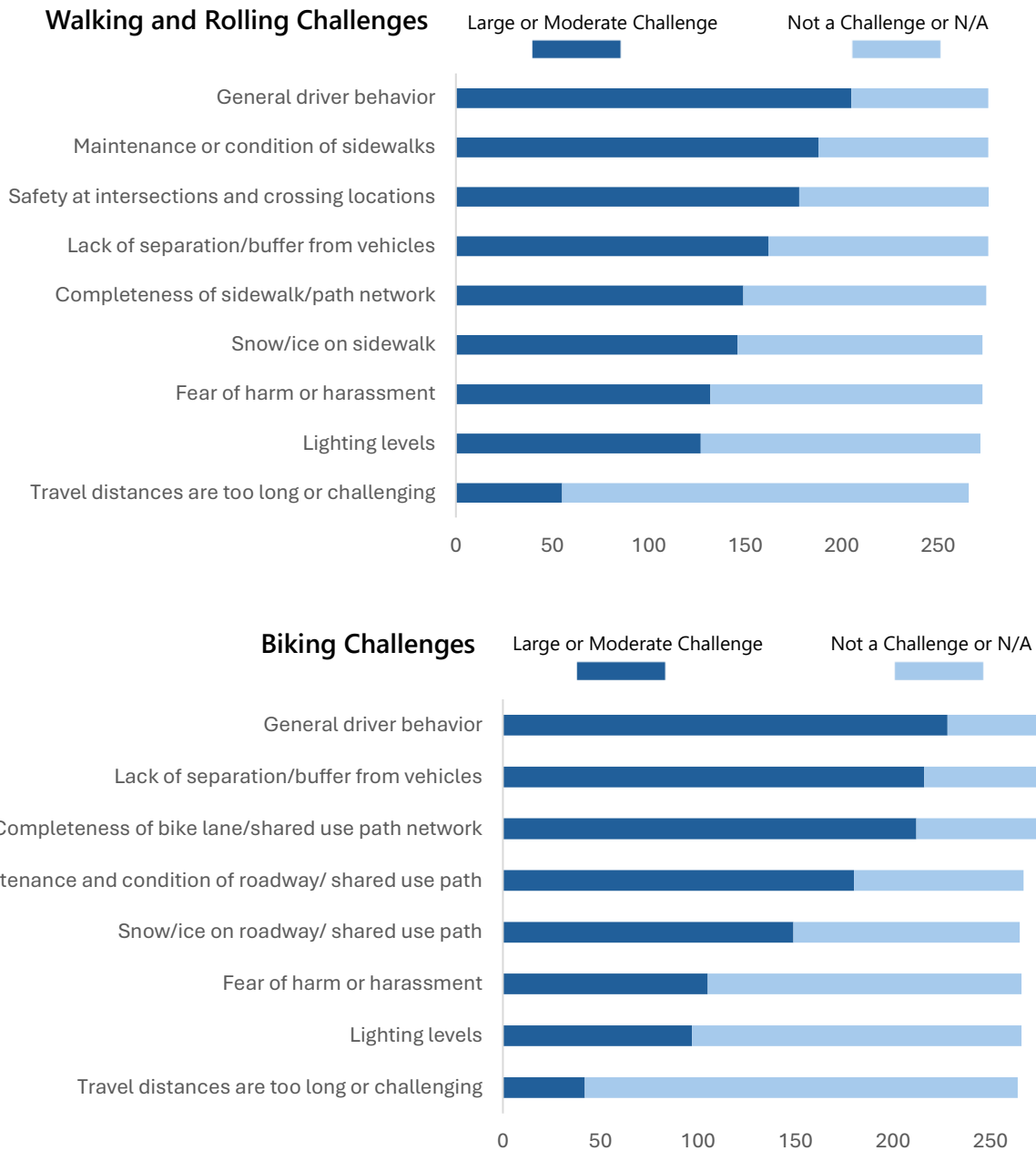


Figure 9. Challenges Identified for Walking, Rolling, Biking

The results from the survey input tool validated many of the findings from the safety data analysis, while helping to fill gaps and illuminate areas that do not necessarily show up in the crash data results. Individuals were able to weigh in on places across the system where they experience safety challenges or issues, some with frequency, and provided insights

on where people experience near misses and other conflicts or issues on the system. This input was considered in the development of the Safety Action Plan through enhancement of strategies and countermeasures stemming from the safety data analysis. The input gathered through the survey tool also provided a mechanism to assess community identified needs for the prioritization of focal corridor projects and countermeasures.



ACTION PLAN



Action Plan Development

Development of an action plan that will address serious crashes in Burlington relied on a data driven approach to prioritize transportation safety through improved processes and policies, systemic strategies to address key emphasis areas, recommended proven safety countermeasures, and project selections on focal corridors.

A number of emphasis areas emerged from the data driven approach. This action plan focused in on those emphasis areas that contribute potential solutions to the more than 40% of serious crashes on the system involving pedestrians and bicyclists and the overwhelming 73% of serious crashes that occur on the arterial roadways. The emphasis areas that emerged from the safety data analysis trends could be generally organized into the following categories:

- Crossing Safety
- Turning Movement Safety
- Arterial Corridor Treatments

For each strategy or project selected, the emphasis area category was noted. Proven countermeasures were identified that were most applicable to the emphasis areas that emerged from the data-driven approach to the Safety Action Plan development. The efficacy of each potential countermeasure was carried through the action plan tables, with the crash reduction potential indicated for each strategy or project where relevant. The application of relevant proven countermeasures to the Safety Action Plan projects and strategies was detailed in the Proven Countermeasures section below.

Priority actions stemmed from systemic initiatives or proposed changes to policy that were specifically anticipated to address key emerging safety trends from the data analysis. These actions are expected to apply across the system, with recommendations listed for prioritization of implementation citywide. The priority actions are detailed in the Priority Action section below.

Serious pedestrian and bicycle crashes have occurred almost exclusively on the arterial network. As a result, the data analysis stage of this project produced strong direction on where on the system to concentrate improvements. The Safety Action Plan was organized around selected focal corridors on the arterial network. Prioritization of the focal corridors entailed weighted scoring of safety, network priority, community context considerations, community identified needs, relative costs, and ease of implementation. This prioritization is described in the Focal Corridors section below.

For each focal corridor, a brief synopsis of the improvement evolution of the corridor was provided, as well as relevant planning, scoping, or design to be considered in implementation. Individualized recommendations were developed for each of the focal corridors, with many of the recommendations drawn from the long-range planning efforts in the original planBTV plan. Each potential carry forward (i.e., uncompleted) project from that plan was reviewed to assess the safety benefit and applicability to the safety risks that emerged from the most recent crash data analysis. Many of these projects are incorporated as recommendations in the new plan, with updates or additions as needed. The projects for each focal corridor are detailed in the Safety Action Tables section below. This chapter steps through the relevant safety countermeasures and how they are applied to the Safety Action Plan. It then details the citywide systemic and policy driven priority actions, the prioritization of the focal corridors, and the safety action tables developed for each of the focal corridors. Finally, implementation and evaluation of the action plan and potential funding sources are discussed.

Proven Countermeasures

Each strategy and project were evaluated based on the crash reduction potential. Proven countermeasures have demonstrated crash reductions that have been quantified through published research studies. The efficacy of the countermeasure in reducing crashes is summarized in a measure called a crash modification factor (CMF). A CMF provides an estimate of the change in the number of crashes that can be anticipated with the

implementation of a countermeasure. For instance, take a segment of roadway that has experienced 20 pedestrian crashes per year and apply a countermeasure that has a CMF of 0.75 for pedestrian crashes. The expected result of the countermeasure application would be 15 pedestrian crashes per year ($20 \times 0.75 = 15$) or a reduction of 5 crashes per year.

The CMF can be applied to future scenarios to understand the crash reduction potential of a type of treatment elsewhere. Crash modification factors for infrastructure-based countermeasures, and their associated research studies, are compiled in the Crash Modification Factors Clearinghouse³ maintained by FHWA. The CMF Clearinghouse provides a rating to indicate the quality or confidence in the results of the study producing the CMF. These are also ratings leveraged in publications like NHTSA's Countermeasures That Work⁴ to provide guidance on efficacy of countermeasures that fall outside of infrastructure-based solutions, such as behavior-oriented strategies in education or enforcement.

For each listed strategy or project, the CMF for the recommended countermeasure is applied to the relevant crash history, calculating an expected crash reduction. In cases where multiple countermeasures are recommended, the countermeasure most applicable was highlighted in bold font and the associated CMF for the countermeasure was used to assess the potential crash reduction for the project or strategy. The table below lists the relevant CMF for the proven countermeasures presented in this plan.

³ FHWA, Crash Modification Factor Clearinghouse, <http://www.cmfclearinghouse.org/>

⁴ NHTSA, Countermeasures that Work: A Highway Safety Countermeasure Guide for State Highway Safety Offices, <https://www.nhtsa.gov/book/countermeasures/countermeasures-that-work>

CATEGORY	COUNTERMEASURE	CRASH TYPE AND SEVERITY		CRASH MODIFICATION FACTOR
		SEVERITY		
Pedestrian Safety	Crosswalk Visibility Enhancements		Pedestrian Crashes	0.52
Pedestrian Safety	Leading Pedestrian Interval		Pedestrian Crashes	0.413
Pedestrian Safety	Improve Overhead Lighting		Pedestrian Crashes with Injury	0.77
Pedestrian Safety	Walkways		Pedestrian Crashes	0.12
Pedestrian Safety	Rectangular Rapid Flashing Beacons		Pedestrian Crashes	0.53
Pedestrian Safety	Pedestrian Refuge Islands		Pedestrian Crashes	0.69
Pedestrian Safety	Shared Path		Pedestrian Crashes	0.75
Bicyclist Safety	Separated Bicycle Lanes		All Crashes	0.552
Bicyclist Safety	Bicycle Lanes		All Crashes	0.734
Pedestrian Safety Bicyclist Safety Roadway and Traffic Management	Roadway Reconfiguration		All Crashes	0.71
Bicyclist Safety Roadway and Traffic Management	Intersection Approach Management		All Crashes	0.79
Pedestrian Safety Bicyclist Safety Roadway and Traffic Management	Corridor Access Management		All Crashes	f(width, density)

Priority Actions

Systemic and Policy Actions

This plan identifies priority actions that are directly responsive to trends in crash data and can be applied at multiple locations across the city. These are systemic initiatives and policy changes that would broadly improve road safety in Burlington.

Strategy Name	Priority Locations	Action	Emphasis Area	Countermeasure	CMF	Timeframe	Priority	Status	Target Crash Count	10 Year Crash Reduction
Maximum Spacing for Pedestrian Crossings	Shelburne Street (between Prospect Pkwy and Ledge Road) North Avenue (between cemetery and high school) Prioritize Focal Corridors and Other Arterials	Provide pedestrian crossings on arterials at a minimum interval of 1/4 mile Install RRFBs or enhanced crossing treatments as appropriate where major street does not have a stop, yield, or signal	Crossing Safety	Rectangular Rapid Flashing Beacon (RRFB)	0.53	Short Term	High	New	5	2.35
Lighting Analysis	Unsignalized Marked Crosswalks (where major street uncontrolled, including RRFB)	Perform lighting analysis using IES standard Make appropriate adjustments and installations in collaboration with Electric Department	Crossing Safety Turning Movements	Add Overhead Lighting	0.77	Medium Term	Medium	New	20	4.6
Uniform Pedestrian Phasing at Signals	Signalized Intersections	Standardize 7-second LPIs at signalized intersections Consider exclusive pedestrian phases only where needed per engineering study	Crossing Safety	Implement Leading Pedestrian Interval (LPI)	0.413	Short Term	Medium	New	3	1.761
Near-Miss Detection	Downtown Intersections Signalized Intersections equipped with MioVision	Implement temporary near-miss detection for vehicle, pedestrian, and bicycle conflicts in the downtown zone to identify intersections with mitigation needs.	Crossing Safety Turning Movements	Improved Data Collection to Target Improvements	--	Medium Term	Medium	New	30	--
Control informal use of lane width at intersections	Pearl / Willard (WB) Pearl / Union (WB) College/ Winooski (WB) Other single lane approaches 14' or wider Prioritize Focal Corridors and Other Arterials	Formalize control where wide single-lane approaches operate with a de facto bypass lane. Perform an engineering analysis to determine whether a formal turn lane is justified. If not, consider curb extension treatments or restriping.	Turning Movements	Intersection Approach Management Install Left-Turn Lane	0.79	Medium Term	Medium	New	2	0.42
Pedestrian and Bicycle Intersection Awareness	Signalized intersections with non-concurrent pedestrian phases Signalized intersections with bicycle signals	Develop a new sign template with instructions for bicyclists or pedestrians at these intersections.	Crossing Safety		--	Short Term	Low	New	--	--
Pedestrian Waiting Time Countdown System	Pearl / Winooski Pearl / Prospect Main / University Heights Other signalized intersections with exclusive pedestrian phases or long cycle lengths	Consider experimentation of a pedestrian waiting time countdown system.	Crossing Safety		--	Medium Term	Low	New	--	--

Focal Corridors

Focal Corridor Prioritization

The focal corridors were prioritized based on a series of factors including number of pedestrian and bike crashes (any severity), number of serious crashes (including all users), network connectivity needs, demographic context, destination access, community identified needs from the survey input tool, relative costs, and ease of implementation. These values were compiled into a raw score and weighted score to determine priority. It is important to note that these corridors were ranked based on the data analyzed for this study, but improvements on any of the ten focal corridors would have major safety benefits in the City of Burlington, and projects on all of these corridors should be pursued as opportunities arise.

RANK	CORRIDOR	BIKE/PED CRASHES (ANY SEVERITY)	SERIOUS CRASHES (INCLUDING NON-BIKE/PED)	NETWORK CONNECTIVITY NEED	DEMOGRAPHIC CONTEXT	DESTINATION ACCESS CONTEXT	COMMUNITY IDENTIFIED NEED	COST	EASE OF IMPLEMENTATION	RAW SCORE	WEIGHTED SCORE
1	Winooski Avenue	18	4	Medium	3	3	19	\$\$	Medium	19	39
2	North Avenue	13	6	Medium	3	2	32	\$\$	Medium	19	39
3	Pine Street	16	4	Medium	2	2	25	\$\$	Medium	18	37
4	Main Street (West of Willard)	14	3	High	3	3	7	\$\$\$	Low	16	34
5	North Street	11	2	Medium	3	3	21	\$\$	Medium	17	33
6	Main Street (East of Willard)	3	4	High	3	3	14	\$\$	Medium	17	33
7	Colchester Avenue	14	4	Medium	3	1	13	\$\$	Low	15	32
8	Shelburne Street	7	7	High	2	1	34	\$\$\$	Low	15	32
9	Riverside Avenue	7	7	Low	3	2	10	\$	High	17	32
10	Battery Street	4	4	High	3	3	14	\$\$\$	Low	15	31

Safety Action Tables

Focal Corridor 1: Winooski Avenue

Prior to this plan, Winooski Avenue has received significant upgrades, including a bikeway between Main and Riverside and 4-to-3 lanes reconfiguration between Main and Pearl. Curb extensions have also been constructed in the downtown area. The main improvements to complete, as listed below, are pedestrian-focused intersection improvements. Recommendations from the Winooski Avenue Transportation Study Report should be considered.

Action #	Strategy Name	Locations	Action	Countermeasure(s)	CMF	Timeframe	Emphasis Area	Status	Target Crash Count	10 Year Crash Reduction
1a	College / South Winooski Pedestrian Improvements	College Street / South Winooski	Turning traffic failing to yield to pedestrians in crosswalk; improve with lighting, reduce crossing distance and/or speeds with curb extensions.	Crosswalk Visibility Enhancements Lighting	0.52	Medium	Crossing Safety	Carry Forward	0	--
1b	Pearl / North Winooski Pedestrian Improvements	Pearl Street / North Winooski Avenue	Southbound left turn traffic fails to yield to pedestrians in crosswalk on Pearl. Revisit pedestrian phasing, implement curb extensions to reduce speeds and crossing distance, and enhance visibility.	Crosswalk Visibility Enhancements Leading Pedestrian Intervals Lighting	0.413	Medium	Crossing Safety	Carry Forward	3	1.76
1c	North Winooski / North Pedestrian Improvements	North Winooski Avenue / North Street	Turning vehicles from Winooski failing to yield to pedestrians crossing North Street. Revisit pedestrian phasing, implement curb extensions to reduce speeds and crossing distance, and enhance visibility.	Crosswalk Visibility Enhancements Leading Pedestrian Intervals Lighting	0.413	Medium	Crossing Safety	Carry Forward	0	--
1d	Bank / South Winooski Pedestrian Improvements	Bank Street / South Winooski	Conflicts at driveway crossings (City Market and Simons gas station); improve with lighting, reduce speeds with lane reassignment, implement land use/urban design/access changes to reduce driveway crossing distances and conflicts.	Corridor Access Management Crosswalk Visibility Enhancements	0.52	Medium	Crossing Safety, Turning Movements	Carry Forward	1	0.48
1e	Cherry / South Winooski Pedestrian Improvements	Cherry Street / South Winooski	Turning or side street traffic failing to yield to pedestrians in crosswalk. Improve with curb extensions across Cherry to increase visibility and reduce crossing distance, revisit pedestrian phasing.	Crosswalk Visibility Enhancements Lighting	0.52	Medium	Crossing Safety	Carry Forward	0	--
1f	South Winooski / College Pedestrian Improvements	South Winooski Avenue / College Street	Consider high visibility crosswalks, curb extensions with creative materials	Crosswalk Visibility Enhancements Lighting	0.52	Medium	Crossing Safety, Turning Movements	Carry Forward	0	--

1g	South Winooski / Howard / St. Paul Pedestrian Improvements	South Winooski / Howard Street / St. Paul Street	Consider signal phasing changes, high visibility crosswalks, curb extensions with creative materials	Crosswalk Visibility Enhancements Leading Pedestrian Intervals Lighting	0.413	Medium	Crossing Safety, Turning Movements	Carry Forward	0	--
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Focal Corridor 2: North Avenue

North Avenue has been the subject of interim changes, with segments north of the Route 127 Ramp reconfigured from 4-to-3 lanes with addition of bike lanes in 2017. Some crossing enhancements and other improvements have been made along the corridor in the interim timeframe with additional carry forward project recommended as outlined below.

Action #	Strategy Name	Locations	Action	Countermeasure(s)	CMF	Timeframe	Emphasis Area	Status	Target Crash Count	10 Year Crash Reduction
2a	North Avenue Complete Streets Upgrades (North)	North Avenue	Stripe conventional bike lanes on North Avenue, north of Plattsburg Avenue	Bicycle Lanes	0.734	Medium	Arterial Corridors	Carry Forward	1	0.80
2b	North Avenue Intersection Safety	North Avenue	High visibility crosswalks, curb extensions with epoxy/pea gravel, flexposts, or other creative materials (at Shore, Cottage Grove, Poirier, Saratoga, and Institute)	Crosswalk Visibility Enhancements Leading Pedestrian Intervals Pedestrian Refuge Islands Lighting Rectangular Rapid Flashing Beacons	0.53	Medium	Arterial Corridors, Crossing Safety	Carry Forward	0	--
2c	North Avenue Complete Streets Upgrades (South)	North Avenue	Add permanent protected bikeway treatments along North Avenue. Add and extend protected/conventional/buffered bike lanes on North Avenue where feasible.	Separated Bicycle Lanes	0.552	Long Term	Arterial Corridors	Carry Forward	19	8.51
2d	North Avenue Crossing	Between Cambrian Way and Institute Road	Consider pedestrian crossing to satisfy spacing recommendations.	Crosswalk Visibility Enhancements Rectangular Rapid Flashing Beacon	0.52	Medium	Crossing Safety	New	2	0.96

Focal Corridor 3: Pine Street

Pine Street has had major recent improvements including bike lanes, raised crossings, traffic calming, and a shared use path installed between Kilburn and Lakeside. These improvements are so recent that they are not yet reflected in the crash data, and so a measured approach with a modest number of additional projects is recommended. These are listed below.

Action #	Strategy Name	Locations	Action	Countermeasure(s)	CMF	Timeframe	Emphasis Area	Status	Target Crash Count	10 Year Crash Reduction
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3a	Pine Street Complete Streets Upgrades (Lakeside to Flynn)	Pine Street	Protected bicycle lane	Separated Bicycle Lanes	0.552	Long Term	Arterial Corridors	Carry Forward	5	2.24
3b	Pine Street Sidewalk (Lyman to Home)	Pine Street	New sidewalk	Walkways	0.12	Long Term	Arterial Corridors	Carry Forward	0	--
3c	Home / Pine Intersection	Pine Street / Home Avenue	Consider mini-roundabout and shared lane markings	Crosswalk Visibility Enhancements Lighting	0.52	Medium	Turning Movements	Carry Forward	0	--

Focal Corridor 4: Main Street (West of Willard)

This segment of Main Street is currently undergoing significant upgrades as part of the Great Streets reconstruction, which will add separated bicycle lanes and shorten pedestrian crossings. While these are expected to be effective, two additional carry forward projects outside the Great Streets limits are proposed.

Action #	Strategy Name	Locations	Action	Countermeasure	CMF	Timeframe	Emphasis Area	Status	Target Crash Count	10 Year Crash Reduction
4a	South Willard / Main Intersection	Main Street / South Willard Street	High visibility crosswalks, curb extensions with creative materials	Crosswalk Visibility Enhancement	0.52	Medium	Crossing Safety	Carry Forward	1	0.48
4b	Main / South Winooski Intersection	Main Street / South Winooski Avenue	Turning traffic failing to yield to pedestrians in crosswalk; long crossing distance and speed also factors. Improve by revisiting pedestrian phasing, reduce crossing distance and/or speeds with curb extensions, implement the Great Streets design.	Crosswalk Visibility Enhancements Intersection Approach Management	0.52	Short	Crossing Safety	Carry Forward	1	0.48

Focal Corridor 5: North Street

North Street has seen a number of pedestrian-focused improvements over the last decades. Two additional improvements are recommended.

Action #	Strategy Name	Locations	Action	Countermeasure	CMF	Timeframe	Emphasis Area	Status	Target Crash Count	10 Year Crash Reduction
5a	North Street near Murray Intersection	North Street near Murray	Conflicts between vehicles and mid-block crossings or people leaving parked cars. Implement a raised-textured intersection to reduce speeds and enhance visibility of pedestrians. Continue to study and pilot	Rectangular Rapid Flashing Beacon	0.53	Short	Crossing Safety, Arterial Corridors	Carry Forward	2	0.94

			projects needed to determine best approach for traffic calming.							
5b	North Street Sidewalk (Prospect to Mansfield Ave - north side)	North Street	New sidewalk	Walkways	0.12	Long Term	Arterial Corridors	Carry Forward	0	--

Focal Corridor 6: Main Street (East of Willard)

This focal corridor has had few crashes but is consistently identified as a high-demand area for pedestrian and bicycle improvements. Two network improvements are recommended. This focal corridor should be revisited as part of the upcoming Main Street Corridor Study.

Action #	Strategy Name	Locations	Action	Countermeasure	CMF	Timeframe	Emphasis Area	Status	Target Crash Count	10 Year Crash Reduction
6a	Main / University Heights Intersection	Main Street / University Heights	Install high visibility pedestrian crossing, other enhancements to increase visibility of signal and crossing, revisit signal timing and phasing, and widen median refuge.	Crosswalk Visibility Enhancement	0.52	Medium	Crossing Safety	Carry Forward	0	--
6b	Main Street Path on UVM Campus	Main Street Path on UVM Campus	Continue UVM Shared Use Path to fill gap from University Heights to the Jughandle	Shared Path	0.75	Medium	Arterial Corridors	Carry Forward	2	0.50

Focal Corridor 7: Colchester Avenue

Colchester Avenue is a low-speed arterial with a cross section that varies between two and three lanes. It is a critical connection between downtown, UVM, the hospital, and Winooski and serves high levels of vehicle and nonmotorized traffic. Over a decade ago, a 4-to-3 lane reconfiguration and introduction of bike lanes was implemented between East Avenue and Prospect. A missing segment of sidewalk between Greenmount Cemetery and Calarco Court was installed. More recently, a shared use path along the south side was widened and extended between East Avenue and Prospect. Additionally, midblock crossings with RRFBs have been added to improve pedestrian crossings and minor improvements have been implemented at the intersections with Prospect / Pearl and Barrett. Continuing bike facilities further east is a key network connectivity goal, as well as intersection improvements. Recommendations from the Colchester Avenue: Bikeways, Parking, and Intersection Safety Study and Pearl Street / Prospect Street / Colchester Avenue Intersection Scoping Study should be considered.

Action #	Strategy Name	Locations	Action	Countermeasure	CMF	Timeframe	Emphasis Area	Status	Target Crash Count	10 Year Crash Reduction
7a	East / Colchester Intersection	East Avenue / Colchester Avenue	Turning traffic failing to yield to pedestrians in crosswalk, address with mid-block, median-protected crossings to the west of this intersection.	Crosswalk Visibility Enhancements	0.413	Medium	Crossing Safety	Carry Forward	1	0.59

				Leading Pedestrian Intervals Pedestrian Refuge Islands Lighting						
7b	Colchester Avenue Bikeway	Colchester Avenue Bikeway	Stripe bike lanes on Colchester east of East Avenue, with a more robust treatment long-term.	Bicycle Lanes	0.734	Medium	Arterial Corridors	Carry Forward	0	--
7c	Colchester / UVMMC Intersection	Colchester Avenue / UVMMC Entrance	Install high visibility pedestrian crossing.	Crosswalk Visibility Enhancements	0.52	Medium	Crossing Safety	Carry Forward	1	0.48
7d	Colchester Avenue Complete Streets Upgrades (Prospect to Riverside)	Colchester Avenue	Protected bicycle lanes.	Separated Bicycle Lanes	0.552	Long Term	Arterial Corridors	Carry Forward	16	7.17
7e	Colchester / Prospect / Pearl Intersection	Colchester Avenue / Prospect Street / Pearl Street	Install long-term multimodal and safety improvements based on prior scoping study.	Intersection Approach Management Crosswalk Visibility Enhancements	0.52	Medium	Arterial Corridors	Carry Forward	1	0.48
7f	Colchester Avenue Bikeway Winooski River Crossing	Colchester Avenue	Construct a shared use path on both sides of the Burlington-Winooski bridge consistent with RAIZ(2).	Shared Use Path	0.75	Long Term	Arterial Corridors	New	0	--
7g	Barrett / Colchester Intersection	Barrett Street / Colchester Avenue	Turning traffic failing to yield to pedestrians in crosswalk – address with exclusive or advance pedestrian phase, curb extensions to reduce speeds and crossing distance, and enhance visibility with lighting or other devices. Consistent with RAIZ(2) and STP 5000(29).	Crosswalk Visibility Enhancements Lighting	0.52	Medium	Crossing Safety	Carry Forward	0	--
7h	Colchester / Riverside Realignment	Colchester / Riverside / Chase / Barrett	Implement design as proposed in STP 5000(29). Realignment to allow all bicycle movements and pedestrian crossings on 4 legs.	Crosswalk Visibility Enhancements Bicycle Lanes	0.52	Long Term	Arterial Corridors	New	0	--

Focal Corridor 8: Shelburne Street

Shelburne Street is one of the least accommodating roadways in the City for nonmotorized traffic. Although there are alternate routes – particularly for bicycles with parallel north-south connections on Pine Street – pedestrian crossings and lack of bikeways remain a concern. With the opening of the Champlain Parkway, vehicle volumes are expected to decrease on Shelburne Street and make capacity reductions, such as a 4-to-3 reconfiguration, potentially more feasible. In the longer term, this is recommended to improve crossing opportunities and provide space for bicycle lanes. Scoping should be pursued once the Champlain Parkway is fully operational. The Home Avenue and Shelburne Street Scoping Study should be referenced for recommendations.

Action #	Strategy Name	Locations	Action	Countermeasure	CMF	Timeframe	Emphasis Area	Status	Target Crash Count	10 Year Crash Reduction
8a	Shelburne / Home Intersection	Shelburne and Home	Consider recommendations of 2024 scoping study and install mid-term recommendations.	Crosswalk Visibility Enhancements	0.52	Medium	Crossing Safety, Turning Movements	Carry Forward	1	0.48
8b	Shelburne Street 4-to-3 Conversion	Shelburne St (Flynn Ave to roundabout)	Scoping to evaluate implementation of a two-way left turn lane, reduced through lanes, and addition of bike lanes. Shorten pedestrian crossings and increase their conspicuity. Implement recommendations of scoping.	Roadway Reconfiguration Bicycle Lanes	0.71	Long Term	Arterial Corridors, Crossing Safety	New	7	2.03
8c	Shelburne Street Pedestrian Crossing	Between Prospect Parkway and roundabout	Consider pedestrian crossing to satisfy spacing recommendations.	Crosswalk Visibility Enhancements Rectangular Rapid Flashing Beacon	0.52	Medium	Crossing Safety	New	2	0.96

Focal Corridor 9: Riverside Avenue

Riverside Avenue currently has a shared-use path on the north side of the road, on-road bicycle lanes, and sidewalk on the south side between Barrett Street and Intervale Road / North Prospect Street. The sidewalk and bike lanes terminate at the Intervale Avenue intersection, stopping short for those headed downtown or to connections in the Old North End. The shared use path continues to the intersection with North Winooski Avenue at which point sidewalks flank the Riverside Avenue corridor on both sides to the intersection with Intervale Avenue and Oak Street. Focus on connected and cohesive facilities and improvements at conflict points are recommended.

Action #	Strategy Name	Locations	Action	Countermeasure	CMF	Timeframe	Emphasis Area	Status	Target Crash Count	10 Year Crash Reduction
9a	Riverside: Intervale to Hillside Intersection	Riverside: Intervale to Hillside	Conflict points in parking lots and at driveway crossings create unsafe conditions for people walking or biking. Address by enhancing visibility of pedestrians, reduce speeds to reduce conflicts, land use/urban design/access changes to reduce driveway crossing distances and conflicts, added pavement markings at conflict points, and pilot more robust urban design changes as needed.	Corridor Access Management	--	Medium	Arterial Corridors	Carry Forward	7	--
9b	Riverside / North Prospect Intersection	Riverside Avenue / North Prospect Street	High visibility crosswalks, curb extensions with epoxy/pea gravel, flexposts or other creative materials, revisit pedestrian phasing.	Intersection Approach Management Crosswalk Visibility Enhancements	0.413	Medium	Crossing Safety	Carry Forward	0	--

				Leading Pedestrian Interval						
9c	Riverside Path Extension	Riverside between North Winooski and Intervale Avenue	Shared use path on north side of street.	Shared Use Path	0.75	Long Term	Arterial Corridors	Carry Forward	1	0.25

Focal Corridor 10: Battery Street

Battery Street was investigated in depth as part of a recent scoping study, which looked at ways to improve pedestrian and bicycle facilities. This plan recommends implementing the scoping study's recommendations.

Action #	Strategy Name	Locations	Action	Countermeasure	CMF	Timeframe	Emphasis Area	Status	Target Crash Count	10 Year Crash Reduction
10a	Battery Street Complete Streets Upgrades (Maple to Park / Sherman)	Battery Street	Lane reassignment and bike lanes (phase 1), Pearl/Battery intersection improvements and protected bike lanes (phase 2), other recommendations from active scoping study.	Roadway Reconfiguration Separated Bike Lanes	0.71	Long Term	Arterial Corridors	Carry Forward	6	1.74

Implementation & Evaluation

The action plan contains strategies that can be implemented independently in the short-term and longer-term projects that require coordination with other work. The City is committed to continuously leveraging opportunities to advance this plan, including pursuing outside funding and incorporating safety treatments into routine roadway projects. A key part of this is keeping recommendations ready as other infrastructure projects are planned, and, as resources and funding allow, chipping away at the short- and medium-term projects.

Reporting

The SS4A program requires that plans designate a reporting process and responsible party. City staff will be responsible for tracking the status of actions in this plan and periodically updating to show completed and in-progress actions.

Data Collection and Evaluation

Another requirement of SS4A is ongoing evaluation of the plan. Both process and outcomes must be evaluated. Process evaluation involves reviewing each action in the plan and determining if progress has been made. Outcome evaluation looks at the impact of activities. For most projects, safety impact is determined with a before-and-after evaluation of crash statistics in the study area. For others, new metrics such as a reduction in the number of near-misses, improved compliance with traffic control devices and laws, or other behavioral changes may be more appropriate measures of effectiveness. In addition to project-level evaluations, City staff will review total crash fatalities, serious injuries, and number of non-motorist crashes on an annual basis. The City's crash data dashboard, already linked on their website⁵, will provide monitoring metrics and transparency on safety outcomes.

⁵ [BTV Crash Data Dashboard:](https://www.arcgis.com/apps/dashboards/0d344de88f014a99b05b41a6fb2e109a)
<https://www.arcgis.com/apps/dashboards/0d344de88f014a99b05b41a6fb2e109a>

The City has set a goal of significantly reducing traffic-related fatalities and serious injuries by 2035. As part of the annual crash data review, City staff will assess whether Burlington is making progress towards that goal and any issues needing focused attention. Crash data will be requested from VTrans and this brief assessment will be published in writing.

Public Reporting

Burlington DPW provided leadership in the development of the Safety Action Plan and will continue to monitor implementation of the plan. This includes reviewing crash statistics and implementation status of actions, recommending re-prioritization of safety priorities, and identifying additional potential funding opportunities that support implementation of strategies and actions. The core team will also coordinate with VTrans where there are opportunities to harmonize state and city safety activities. Staff will prepare an annual progress report.

Integration with the Plan

The City recognizes that many strategies depend on other work taking place first, receiving certain funding, or coordination with future work. The PlanBTV Walk Bike Safety Action Plan is a living document that will be reviewed and updated on an ongoing basis in between full-scale updates. These updates will ensure new projects with opportunities to incorporate safety treatments are reflected in the plan and that it is integrated with other long-term planning documents.

Funding Sources

Funding to implement this Safety Action Plan must be sourced from a mix of federal, state, and local sources. Potential funding sources may include recurring funding programs, existing grants, or grants for new initiatives. These may include the following:

Local Agency Funding

Burlington engages in a coordinated effort across departments to generate a 5-year Capital Plan, known as BTV Thrives. This process identifies a program of capital investments including infrastructure projects for transportation, water, wastewater, stormwater, and other physical assets for the City. Consideration of the Safety Action Plan strategies during future funding planning and allocation should be pursued, especially for maintenance activities or other roadway improvement projects that can support safety project implementation.

Impact fees are assessed to new development with the intent of offsetting the cost of additional demand and new development on City infrastructure. As infill development across the City takes shape, transportation or traffic impact fees may be used to support pedestrian and bicyclist infrastructure safety improvements.

Tax increment financing has also been leveraged in two different districts within the City to support infrastructure investments. This mechanism has been demonstrated to support infrastructure improvements and may be a source to consider for opportunities to support the Safety Action Plan.

Regional Funding Opportunities

The CCRPC is responsible for long range transportation planning for the region. The CCRPC updates the Metropolitan Transportation Plan on a five-year recurring basis. Adoption of projects into the MTP makes them eligible for federal funding. Additionally, the CCRPC develops a Unified Planning Work Program annually to support member cities and towns in their planning activities. These mechanisms should be considered for opportunities to plan for and fund safety strategies identified in the planBTV Walk Bike Safety Action Plan.

State Funding Opportunities

State funding opportunities like the Transportation Alternatives Program or Bicycle and Pedestrian Program grants enable planning, design, and construction for projects through

support from VTrans. Applications to these programs should be considered to support components of the plan.

Highway Safety Improvement Program (HSIP)

VTrans manages the Highway Safety Improvement Program (HSIP) programs for the state. This core Federal-aid highway program funds projects and strategies that are data-driven, align with Vermont's Strategic Highway Safety Plan (SHSP), and through implementation, help reduce traffic-related fatalities and serious injuries on all public roadways including local roads. The HSIP can advance the implementation of the Safe System Approach and this Safety Action Plan. HSIP has spending targets for local road projects, historically achieved through both grants and site-specific projects.

Safe Streets and Roads for All

The Bipartisan Infrastructure Law (BIL) established the Safe Streets and Roads for All (SS4A) discretionary program that will provide \$5-6 billion in grants over the 5-year period. The City should consider applying for demonstration and/or implementation grants which are competitively awarded on an annual basis. SS4A grants require a 20% local match.

NHTSA Behavioral Safety Grants

The State Highway Safety Office (SHSO) awards millions of dollars per year to support enforcement, education, and emergency response activities to improve driver behavior and reduce deaths and injuries from motor vehicle-related crashes. Grants are made on an annual basis with applications due in May. The City should consider partnering with existing grantees to deliver programs in Burlington or applying for its own education and enforcement initiatives.



Memo

Date: May 27, 2025

To: Transportation, Energy, and Utilities Committee (TEUC)

From: Phillip Peterson, PE, Senior Transportation Planner
Madeline Suender, Public Works Engineer

CC: Chapin Spencer, Director of Public Works
Laura Wheelock, PE, City Engineer/Division Director – Technical Services

Subject: New North End Sidewalk Scoping Report Approval

Request:

We are requesting that the Transportation, Energy, and Utilities Committee approve the following motion. The TEUC approves and recommends that the City Council approve the recommended preferred alternatives for the New North End Sidewalk Scoping Study (see Attachment-1):

- **Stanbury Road – Alternative 3:** A concrete sidewalk behind the existing curb on the east side of the road, continuing the sidewalk from Dale Road.
- **Green Acres Drive – Alternative 2:** A seasonal painted pedestrian zone on the east/north side of the street, which will serve as a pilot to evaluate the potential for a future permanent sidewalk project.
- **Cottage Grove/Loaldo Drive – Alternative 1:** No Build.

Preferred Alternative Recommendation

Through the Unified Planning Work Program, the Chittenden County Regional Planning Commission (CCRPC) and the Department of Public Works led this sidewalk scoping study in partnership with engineering consultant Hoyle Tanner & Associates. The study considered sidewalk needs along **Stanbury Road, Cottage Grove/Loaldo Drive, and Green Acres Drive**, all residential streets in Burlington's New North End that currently lack sidewalks or pedestrian facilities. The study considered feasibility, resident concerns, cost, drainage and utility constraints, and design compatibility with the surrounding neighborhood. Several alternatives were analyzed for each street, ranging from a no-build option to fully built sidewalks with new curbing and drainage.

Stanbury Road – Alternative 3

This option extends the existing 5' wide sidewalk on Dale Road to the north, improving access throughout the neighborhood and to the Burlington Greenway and Leddy Park. The sidewalk would be located behind the existing curb on the east side, with a ~3' grass strip. This would use ~8' or right-of-way space that would reduce existing front yards and driveways. This alternative was chosen for its strong network connectivity, moderate cost (~\$496,000), manageable impacts to properties, and general support of local residents.

Figure 1: Example of Stanbury Alt 3 at the intersection with Woodlawn Rd



Cottage Grove/Loaldo Drive – Alternative 1 (No Build)

Due to significant cost (~\$1M+), drainage and property impacts (including mature trees and gardens), and very limited public support, the study recommends a no-build alternative. Traffic calming concerns were a recurring theme for this neighborhood, so this street was added to the City's Traffic Calming Program queue of requests. The City will separately explore those interventions through our established Traffic Calming Program.

Green Acres Drive – Alternative 2

A seasonal pedestrian zone using delineators—but without pavement markings—on the east/north side of Green Acres Drive has been selected as the preferred approach. This alternative idea was generally well-received by the neighborhood during the Stanbury Road pilot in summer 2024 and could serve as an interim, lower-cost solution to improve walkability. The seasonal zone will also allow the City and residents to evaluate the feasibility and desirability of pursuing a permanent sidewalk in the future. While there is clear interest in pedestrian improvements in this neighborhood, a traditional sidewalk presents challenges due to the impacts it would have on private property—including fences, gardens, mature trees, and driveway parking space. The seasonal installation, without pavement markings, will essentially only incur costs related to Staff time.

Figure 2: Example of Green Acres Alt 2



Purpose & Need

The study’s objective was to improve pedestrian safety and fill in missing sidewalk connections in a practical and cost-effective manner. The lack of pedestrian infrastructure on these streets forces residents—including children walking to school—to walk in the street. This is especially hazardous during dark or icy conditions. The study fulfills recommendations from Burlington’s 2019 citywide sidewalk inventory and supports the goals of planBTV Walk Bike.

Public Engagement

Public feedback played a significant role in shaping the recommended alternatives:

- A Local Concerns Meeting was held in June 2024.
- An online survey gathered 55 responses.
- A Public Information Meeting was held in November 2024 to present alternatives and collect feedback.

Residents were divided: some advocated for sidewalks citing safety concerns, while others voiced strong opposition due to concerns over losing garden space, driveway access, or neighborhood character. Resident input was central to shaping the preferred alternatives for each street. On Green Acres Drive, support for the pilot pedestrian zone led to the recommendation of a seasonal installation as an interim step toward a potential permanent sidewalk. On Stanbury Road, many residents supported a more conventional approach, resulting in the recommendation for a traditional sidewalk extension that builds on the existing network. In contrast, feedback from Cottage Grove and Loaldo Drive revealed a lack of consensus and significant concerns about property impacts, parking, and tree loss—leading to the recommendation of a no-build alternative.

Next Steps

- Coordinate with the Capital Committee and various City departments to identify funding and phasing for project implementation for the Stanbury Road sidewalk.

- Explore budget and capacity for seasonal pedestrian zone implementation on Green Acres Drive.
- Collect data for Cottage Grove traffic calming concerns in accordance with DPW's Traffic Calming Program.

Please let us know if you have questions or need clarification prior to the upcoming TEUC meeting.

Thank you to the Chittenden County Regional Planning Commission for helping to fund this important study.

Attachments

1. New North End Sidewalk Scoping Study



New North End Sidewalk Scoping Study Burlington, Vermont

April 2025

Prepared for:
City of Burlington and Chittenden County Regional Planning Commission (CCRPC)



Trusted Experts | Innovative Results

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- A. Local Concerns Meeting Minutes
- B. Survey Results
- C. Public Information Meeting Minutes
- D. Conceptual Plans
- E. Conceptual Construction Cost Estimates
- F. Natural and Cultural Resources
- G. Cottage Grove Traffic Volume and Speed Data
- H. Design Criteria

EXECUTIVE SUMMARY

The Chittenden County Regional Planning Commission (CCRPC) and the City of Burlington retained Hoyle, Tanner & Associates, Inc. (Hoyle Tanner) to prepare this Sidewalk Scoping Study to investigate the potential of providing 5’ wide concrete sidewalks along three sections of residential streets in the New North End neighborhood. These street sections include:

1. Stanbury Road from Staniford Road to Brierwood Lane (0.19 miles)
2. Cottage Grove from Grey Meadow Drive to North Avenue (0.39 miles)
3. Green Acres Drive from Cottage Grove to North Avenue (0.35 miles)

There are currently no sidewalks or pedestrian facilities on these three street sections. Pedestrians walk in the road, which puts them in potential conflict with vehicles, especially during hours of darkness when pedestrians are difficult to see. These streets all have existing curbs and on-street stormwater drainage systems. Street lighting exists with pole-mounted cobra-style lights on all three streets.

The main purpose of this study was to develop feasible concepts for sidewalks or alternative pedestrian facilities that would provide connectivity within the existing sidewalk network of the New North End and to incorporate input from New North End residents into the concepts. The feedback from residents, who responded to an online survey or provided comments at one of two public meetings, was mixed, with many residents in favor of sidewalks, but others concerned with impacts to their property, gardens, trees, and ability to park in their driveways. Many felt that the more pressing issue was the speed of traffic passing through their neighborhoods. The potential for pedestrian facilities and the challenges and concerns with providing facilities is different for each street as the nature of the road and properties are different.

For each street section, two to three alternatives were developed in addition to the No Build Alternative (Alternative 1). For streets with adequate roadway width (Stanbury Road and Green Acres Drive), an on-street pedestrian zone alternative was proposed. This type of zone was piloted on Stanbury Road during the summer of 2024. Two sidewalk alternatives were developed for each of the three street sections. The lower build alternative includes a sidewalk behind the existing curbline, with only minor changes to the curb where relocating the curb would protect mature trees. The higher build alternative proposes a sidewalk with a relocated curb to minimize the impacts of a new sidewalk on residents’ front yards. Descriptions of all alternatives can be found in Section 5 of this study. Table 1 below summarizes Hoyle Tanners recommendations, with reasoning behind those recommendations below.

Table 1 – Recommended Alternatives

Street Name	Alternative	Estimated Cost (2024 Dollars)
Stanbury Road	Alternative 3 – Sidewalk behind curb on east side of Stanbury Road, to continue on from existing sidewalk on Dale Road.	\$496,415
Cottage Grove/Loaldo Drive	Alternative 1 – No Build	No Cost
Green Acres Drive	Alternative 2 – On-street pedestrian zone on east/north side of Green Acres Drive.	Permanent - \$753,575 Seasonal - \$246,790

Stanbury Road

While public feedback received did not show consensus, Hoyle Tanner recommends the design and construction of Alternative 3 (Sidewalk behind existing curb) for Stanbury Road. This alternative would continue the sidewalk on the east side of Dale Road north to Staniford Road, providing important north-

south connections to the Burlington Greenway and Leddy Park and would have minimal impacts to residents on Stanbury Road since a majority of properties have front yards and driveways on Woodbury Road and Woodlawn Road. A bump out at 12 and 15 Stanbury Road could protect the mature tree there and limit impacts to driveway lengths. The estimated cost of **Alternative 3 is \$496,415** (presented in 2024 Dollars). Please see Appendix D for conceptual plans and Appendix E for cost estimates. An Alternatives matrix for each street can be found in Section 9 of this study report.

Cottage Grove/Loaldo Drive

The feedback on a preferred alternative for Cottage Grove and Loaldo Drive was limited. Residents responding to the online survey or commenting at one of the public meetings appeared to be mainly concerned with cut-through traffic and wished to see traffic calming on their street. Providing a pedestrian zone on Cottage Grove is not possible due to the existing roadway width. Constructing a sidewalk along Cottage Grove that does not impact existing utility poles, mailboxes, front gardens, and mature trees would involve relocating curbs and impacting drainage. Alternatives 2 and 3, which also include intersection improvements to reduce the length of a proposed crosswalk on Loaldo Drive, would each cost more than a million dollars. Due to the large expense of the project, finite city resources, and the lack of majority support for sidewalks, Hoyle Tanner recommends the no build option of **Alternative 1, which has no cost.**

Green Acres Drive

Green Acres Drive residents who responded to the online survey or provided comments at one of the public meetings generally preferred the pedestrian zone in **Alternative 2**. This could be first piloted as it was on Stanbury Road in 2024. This concept could be piloted to test the feasibility of adjusting the curb and narrowing the street for a traditional sidewalk. If after the pilot period, residents are in favor of Alternative 2, we would recommend implementing a year-round painted pedestrian zone with delineators and permanent signage. We appreciate, however, that a painted zone would likely be cost and maintenance prohibitive for the City, with an estimated construction cost of \$753,575. Reducing the amount of paint by striping the pedestrian zone would only marginally reduce the cost to approximately \$455,600 and would still incur maintenance costs. The City could opt to implement a seasonal facility with signage, and delineators for approximately \$246,790. This seasonal option would mean during the winter months there are no pedestrian facilities, as is the current situation. The seasonal installation and removal of the delineators and planters will incur an annual expense. With both the seasonal and permanent pedestrian zone options, attractive planters could further delineate the zone and add beautification to the street.

Traffic Calming

The New North End Sidewalk Scoping Study is focused specifically on evaluating the feasibility of adding sidewalks in the area and not a traffic calming study. While sidewalk projects can sometimes have indirect effects on traffic patterns, including potential calming benefits, they are distinct from dedicated traffic calming efforts. Residents raised concerns with speeding and their desire for traffic calming at the public meetings, in the survey, and during our site visit. If residents are interested in pursuing traffic calming measures, they should follow the City's established process, which includes submitting a request and engaging with the Department of Public Works. More information on how to initiate traffic calming projects can be found on the City of Burlington's website in the Transportation section of the Department of Public Works.

1 INTRODUCTION

1.1 Overview

This Scoping Study for the City of Burlington, Vermont, has been completed by Hoyle, Tanner and Associates, Inc. (Hoyle Tanner). This study presents the findings of Hoyle Tanner’s review of existing conditions, details of the proposed alternatives for each street, and potential right of way and utility impacts.

1.2 Study Area

The study area is located west of North Avenue in the New North End neighborhood of Burlington (see Figure 1) and includes Cottage Grove, Green Acres Drive, and part of Stanbury Road. The Cottage Grove segment includes Loaldo Drive between Cottage Grove and North Avenue. The remainder of Loaldo Drive is not part of this study. The Burlington Greenway, part of the Island Line Trail, runs parallel to Stanbury Road and is located just west of Stanbury Road.

These three streets were identified from the 2019 City wide sidewalk inventory of streets missing sidewalk. They were prioritized for this study based on proximity to pedestrian attractions and equity metrics for the surrounding areas.

FIGURE 1 – Study Area



2 PUBLIC INVOLVEMENT

Public involvement for this project included a Local Concerns Meeting and an Alternatives Meeting both held at the Lyman C. Hunt Middle School in the New North End neighborhood. A copy of the meeting minutes for each meeting are included in Appendices B and D, respectively. The in-person and virtual meetings were attended by City officials, a representative from the Chittenden County Regional Planning Commission (CCRPC), residents, and Hoyle Tanner personnel. Public involvement also included a project survey for residents to gather feedback on their concerns and preferences regarding a potential sidewalk. A copy of the survey questionnaire and the responses are included in Appendix B.

2.1 Local Concerns Meeting

A Local Concerns Meeting was held on June 24, 2024. The purpose of the meeting was to solicit public input, comments and concerns regarding the potential installation of new sidewalks in the study area. Hoyle Tanner went over the project study definition and schedule. The City also described a pilot pedestrian zone on Stanbury Road. Then, residents voiced concerns that they had including the following:

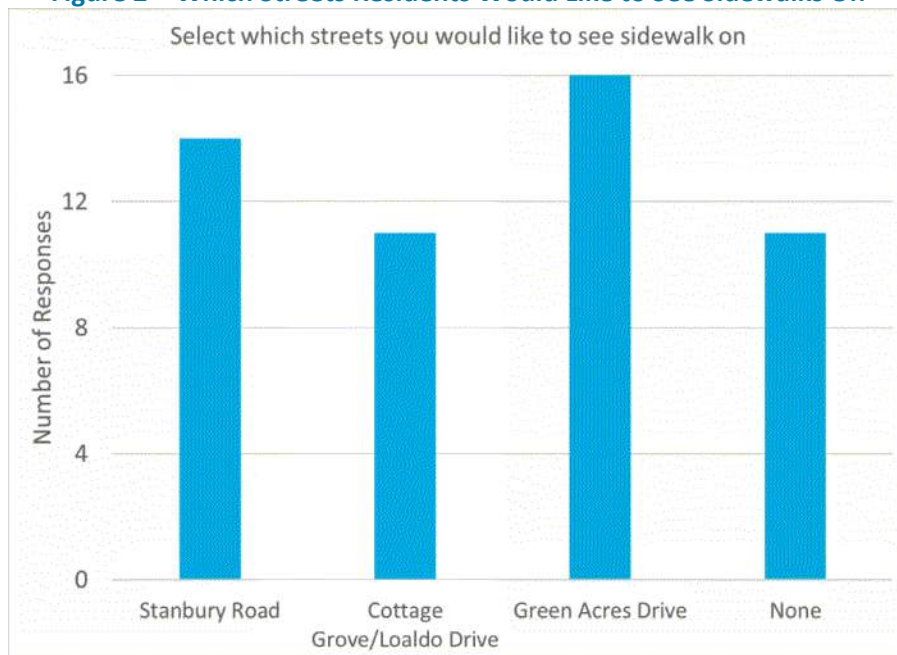
- **Sidewalk/Pedestrian Zone**
 - Support for sidewalk on east side of Stanbury Road
 - Support for pedestrian zones on other streets
 - Parents are not comfortable with children riding bikes in the road
 - Concern for loss of gardens (including commercial gardens) and front yard space
- **Speeding/Traffic Calming**
 - Concern with traffic speed in the study area
 - Concern with cut through traffic in study area that is avoiding a) the intersection of Tracy Drive and North Avenue (including box trucks), and b) other neighborhood streets with traffic calming (Staniford Road)
 - Desire for more traffic calming and stop signs
 - Support for closing the west end of Cottage Grove (making it a dead-end street)
- **Other Concerns**
 - Desire to look at pedestrian facilities, traffic calming, and the streets network holistically
 - Poor drainage and winter maintenance issues, especially on Stanbury Road and Green Acres Drive
 - Parking on Loaldo Drive and Green Acres Drive by North Avenue causing visibility issues as well as not enough room to turn into the side street if a vehicle is waiting to exit

2.2 Project Survey

The City of Burlington created a survey to gather feedback from residents in the study area neighborhoods. A link to the survey was included in the slideshow at the Local Concerns Meeting as well as advertising on Front Porch Forum, the New North End Facebook group, and the CCRPC Current Projects website. The city received 36 responses between June 26, 2024 and July 11, 2024. Additional surveys have been completed since July for a total of 55 responses. (Some residents had previously responded and were submitting additional comments.) A copy of the survey and the 55 responses can be found in Appendix B.

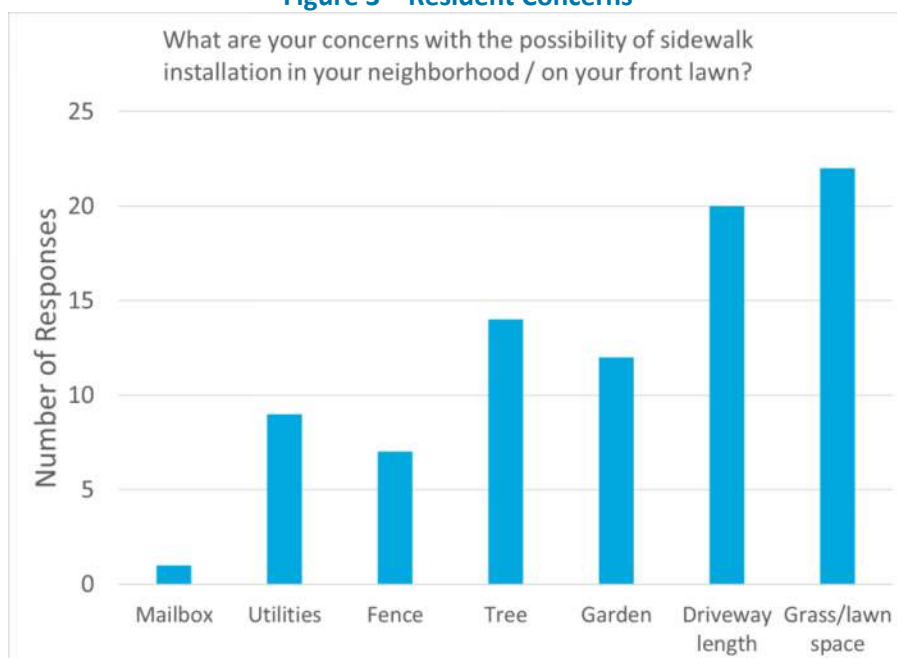
The first two survey questions were regarding respondents' names and contact details. The third question asked residents which streets they would like to see sidewalks on. Results were mixed as shown in Figure 2 below. Eleven residents (30% of respondents) answered that they didn't want to see any sidewalks (although one resident marked both "None" and "Cottage Grove"). Sixteen residents (44% of respondents) replied that they wanted sidewalks on Green Acres Drive and fourteen residents (39% of respondents) replied that they wanted sidewalks on Stanbury Road.

Figure 2 – Which Streets Residents Would Like to See Sidewalks On



The fourth question in the survey asked respondents to select, from a list, concerns they might have about a sidewalk on their front lawn or in the neighborhood. A summary of the concerns selected can be found in Figure 3 (based on the 36 responses through July 11). The two most selected responses were concerns with driveway length and the loss of grass or lawn space. Many residents noted that shortening their driveways would make it difficult or impossible to park their vehicles in their driveways. There was also concern about the loss of front yards and damage to established perennial gardens and trees.

Figure 3 – Resident Concerns



The final question on the survey asked residents for any additional thoughts. Responses were mixed with some residents supporting sidewalks and others opposed. A sample of responses supporting and opposing a sidewalk project is summarized in Table 2 below:

Table 2 – Sample of Resident Comments Regarding Sidewalk Project

Supporting Sidewalk Project	Concerns with Sidewalk Project
I am a strong proponent of pedestrian safety, and that means sidewalks. I very much want to see Stanbury have sidewalks.	I'm 100% opposed to the idea of a sidewalk. If you want to put some kind of lane on the road or something else in the road, that's fine but I don't want to lose 10ft of my lawn.
I look forward to the addition of sidewalks so that my child can safely walk to school. Thank you!	If the concern is to placate speed/traffic concerns rather than designated walking space, I'd be all for speed bumps and/or stop signs, but I vote no on sidewalks. Sidewalks in front yards will remove much of our street's beautiful greenery, shorten some driveways to unusable lengths, bring walkers too close to homes, and remove large portions of the tiny yards we already have. Thank you!
Looking forward to a solution for safe, protected walking.	I am completely opposed to this project which is seeking a problem to solve but will create many resulting problems if carried through.
I would like to see a sidewalk installed on one side of Green Acres (either side would be acceptable), with the space for it being taken from mostly, if not entirely from the roadway.	Instead of a sidewalk, my preference would be for Green Acres to have one sided parking with bollards as a pedestrian walking space.
I would be in favor of a sidewalk on one side of the street and also have parking narrowed down to one side of the road. I would want the sidewalk designed to shorten the street space rather than pulling the space from people's lawns, gardens etc.	Thank you for listening tonight. I think the issue of traffic goes beyond a fix of a sidewalk. A traffic calming study is as much or more necessary than the sidewalk study. I would be ok with a lined section of the street and bollards for pedestrians. I do not want to see our yards dug up for a sidewalk.
I would like to see a sidewalk going up green acres all the way to the cottage grove intersection, with the sidewalk extending up cottage grove from that intersection toward gray meadow - creating a link to the preexisting sidewalk that ends on grey meadow to this new sidewalk.	While a sidewalk seems like the right solution for Stanbury, the bollard divided pedestrian/bicycle space on one side of the road that was discussed at the meeting seems like a much better idea for green acres/cottage grove and eventually loaldo. I would also like to see traffic calming engineering solutions like planter bollards, raised crosswalks, speed bumps/tables etc. For most of us residents, slowing the occasional high speed driver is a much bigger concern on GA/CG than having a fully separate pedestrian walk.
No concerns--I was responding to say I love the idea! I would love it if all the proposed sidewalks get built.	There is nothing that slows traffic more than people walking in the road. There is not a lot of traffic on Green Acres Drive to warrant a sidewalk. I have lived on this street for 50+ years and there has never been a safety issue that I am aware of.

2.3 Public Information Meeting

A Public Information Meeting was held on November 4, 2024. This meeting included a presentation of the survey results and the alternatives developed with the purpose of gathering comments and a consensus on the preferred alternatives. More than half of those in attendance lived on Green Acres Drive. Discussion topics included the following:

- **Sidewalk Alternatives**
 - *In Support Of*
 - Walking in the road in the dark is not safe, and in the winter, it is dark by 5 pm.
 - *Concerns*
 - Shorter driveways may result in people not being able to park in their driveways. The garages were built mostly in the 1950's and many are too small to accommodate modern cars.
 - On street parking would be an issue with winter parking bans if people can't park in their driveways.
 - A narrower road is not worth the benefit of a sidewalk.
 - Some residents have working gardens that are used for their businesses and do not want them removed.
- **Pedestrian/Bicycle Zone Alternatives**
 - *In Support Of*
 - Some residents who attended are not in favor of sidewalks but are in favor of the temporary pedestrian zones.
 - Consider the use of planters or bollards instead of cones if a pedestrian and bicycle zone became an annual fixture.
 - Residents generally liked having the dedicated walking and biking zone on Stanbury Road, although standing water resulting from poor drainage was an issue.
 - *Concerns*
 - Concern about the pedestrian zone narrowing of the roadway to effectively a single lane. The pilot pedestrian and bicycle zone meant that vehicles often had to pull over to let other vehicles pass.
- **Traffic Calming**
 - If the speeding issue can be solved, sidewalks may not be needed.
- **General**
 - Some residents said that they are comfortable walking in the street and feel safe doing so.
 - Need to look at the neighborhood traffic holistically – the Tracy Drive and Plattsburg Avenue intersection effects traffic patterns in the study area.

This is a summary of the opinions of the thirty or so residents who attended the meeting.

3 PURPOSE AND NEED STATEMENT

3.1 Purpose

The purpose of the Burlington New North End Sidewalk Scoping Study project is to provide a continuous network of pedestrian facilities within the study area and to improve pedestrian safety.

3.2 Need

There are currently no pedestrian facilities within the study area. Some surrounding streets have sidewalks, but there are no pedestrian facilities in the study area that connect to those sidewalks. Currently, pedestrians walk in the street as there is no other alternative.

This project area needs improved pedestrian facilities along these streets and connections to the existing network. The streets identified need improvements for the safety of non-motorists within the right-of-way and the interface with vehicles.

4 EXISTING CONDITIONS

The study area includes road segments on Stanbury Road, Cottage Grove, Loaldo Drive, and Green Acres Drive. The study area streets are all located in the New North End neighborhood, west of North Avenue and south of Starr Farm Road. The Burlington Greenway, part of the Island Line Trail, runs generally northwest to southeast through the neighborhood, just west of Stanbury Road. Access to this popular pedestrian and bicycle recreational path is via Staniford Road and Shore Road. The Lyman C Hunt Middle School, Robert Miller Community and Recreation Center, Schifilliti Park, and the C. P. Smith Elementary School are on the east side of North Avenue within walking distance of the study area. Leddy Park is also within walking distance with neighborhood access via Stanbury Road to Dale Road.

The study area segments are all residential streets with a posted speed limit of 25 mph, concrete curbs, closed drainage systems with catch basins, and cobra head style street lighting mounted on utility poles. No traffic calming features currently exist on any of these streets. Each of the streets has an active traffic calming request. The streets vary in width between 26 and 30 feet. All the streets are owned and maintained by the City of Burlington. All streets in the study area allow for on-street parking year-round, except during winter snow bans. Based on digital mapping, the right of way (ROW) on these streets varies from 40' to 60', but in most places it's the standard three rods (49'-6") generally centered on the road. The topography of the study area is generally flat.

The VTrans Public Crash Data Query Tool was used to look up ten years of crash data from July 1, 2014 through July 1, 2024. There was one crash during that period in the study area. There was a sideswipe type crash near the intersection of Loaldo Drive and Cottage Grove that resulted in property damage. There were no crashes involving pedestrians or bicyclists.

4.1 Stanbury Road



Stanbury Road Looking North

The study area includes Stanbury Road from Staniford Road to Brierwood Lane (0.19 miles). Stanbury Road runs generally northwest to southeast in the study area, parallel to the Burlington Greenway which runs behind the houses on the west side of Stanbury Road. Access to the Greenway is from Staniford Road and Shore Road. Stanbury Road turns into Dale Road midblock between Woodlawn Road and Brierwood Lane. Stanbury Road north of Woodbury Road is 27 feet wide and 30 feet south of Woodbury Road. Utility poles with streetlights are located along the west side of the street. The Postal Service delivers mail via door delivery so

there are no curbside mailboxes on Stanbury Road. A mature sycamore tree is located at 12 Stanbury Road, and there are several mature shrubs along the east side of the road. Some of the concrete curbing is in poor condition. Catch basins are located at intersections, on both sides of Stanbury Road. A majority of the properties on the east side of Stanbury Road have front yards and driveways on Woodlawn Road and Brierwood Lane.

There are existing sidewalks on the Dale Road segment just north of Brierwood Lane. The sidewalk is separated from the curb by a grass strip approximately four feet wide. The sidewalk is on both sides of the street. There are also painted pedestrian crosswalks on Woodlawn Road and Brierwood Lane. The Burlington Greenway runs parallel to Stanbury Road, behind the houses on the west side of the street.

4.2 Cottage Grove/ Loaldo Drive

The study area includes Cottage Grove from Grey Meadow Drive to Loaldo Drive and the segment of Loaldo Drive between the end of Cottage Grove and North Avenue. This stretch of road is straight and runs generally southwest to northeast. Green Acres Drive intersects Cottage Grove at an uncontrolled T-style intersection approximately 650 feet northeast of Grey Meadow Drive. Before the construction of Grey Meadow Drive, Cottage Grove was a dead-end street. The width of Cottage Grove is 26 feet wide while the Loaldo Drive section is 30 feet wide. Utility poles with streetlights are located on the north side of the street and mailboxes on posts are located on the north side of the Cottage Grove section. Catch basins are located at the intersection with Loaldo Drive. The road surface is in good condition. The south side of Cottage Grove has a wooded area eight to 19 feet deep. Some of the trees are large, mature trees.



Cottage Grove at the Green Acres Drive Intersection

The Burlington Department of Public Works conducted a traffic count and speed data analysis in June 2023, the results of which can be found in Appendix G. The average daily number of vehicles travelling along Cottage Grove was 254 vehicles. Traffic volumes during the week were slightly higher, with an

average of 274 vehicles. There were three weekday peaks, an AM peak around 8:00 AM, a midday peak around 1:00 PM, and an afternoon peak around 4:00 PM. The afternoon peak was largest, with an average of 27 vehicles per hour. The average speed of vehicles was 22 mph with an 85th percentile speed of 27 mph.

4.3 Green Acres Drive

The study area includes the entire length of Green Acres Drive between Cottage Grove and North Avenue. Green Acres includes a 90-degree bend at the western end of the street. Green Acres also has a slight jog 210 feet west of North Avenue. The road is approximately 28 feet wide, and the pavement is in good condition. Utility poles are located on the west side of Green Acres on the section between the curve and Cottage Grove. Utility poles are located along the south side of the street and shift to the north side of the street closer to North Avenue where the jog in Cottage Grove travels under the utility lines. Several large trees are located near to the curb on the inside of the 90-degree bend. Catch basins are located at the intersection with North Avenue. There are no mailboxes on Green Acres Drive as mail is delivered by door delivery.



Green Acres looking West

4.4 Utilities

Several utilities are known to service residential homes in the study area. Overhead utility poles carry electrical, cable, and telecom fiber optic lines. Pole ownership will need to be determined during the design phase. Water, sewer, and stormwater systems are owned and maintained by the City of Burlington. Vermont Gas provides natural gas to homes throughout the study area. Below is a table summarizing the known utilities within the project area.

Table 3 – Known Utilities

Utility	Owner	Within Project Limits
Electric	Burlington Electric Department	Yes
Telecom	Burlington Telecom	Yes
Cable	Comcast	Yes
Gas	Vermont Gas	Yes
Water	City of Burlington	Yes
Sewer	City of Burlington	Yes
Storm	City of Burlington	Yes

4.5 Roadway Drainage

Closed system drainage is provided throughout the study area. The spacing of catch basins varies by street, with Stanbury having catch basins located no more than 310 feet apart. On Green Acres Drive, the only catch basin is located at the intersection with North Avenue. During the local concerns meeting, residents commented about poor drainage. In a letter to the CCRPC, a resident noted that his wife fell on ice while walking their dog in the road.

During a site visit on September 9, 2024 after a rain storm, standing water was observed on Stanbury Road, including in the pilot pedestrian and bicycle lane more than an hour after the rain had stopped. The catch basins appeared to be blocked and not draining properly. The pilot pedestrian/bicycle zone had standing water the entire width of the zone in some places, with pedestrians likely to avoid using the zone.

Drainage improvements will need to be considered with all options, particularly for alternatives that impact curb location or rely on existing paved facilities.



Standing Water on Stanbury Road

4.6 Land Use Context

The New North End neighborhood has a mix of residential, recreational, educational, retail, services, religious, and health care land uses. These attractions are located within walking distance of residences in the study area. Most of the residential units in the New North End neighborhood are single family homes, but there are also some multifamily units and residential care units, including Birchwood Healthcare and Rehab Center on Starr Farm Road. The retail, restaurants, services, and religious institutions are located mainly along North Avenue. The New North End neighborhood also includes several schools, including Flynn Elementary School, Lyman C Hunt Middle School, and C.P. Smith Elementary School. These are located north of Starr Farm Road or east of North Avenue and within walking distance of students living in the study area. There are several recreational attractions scattered throughout the New North End including Starr Farm Park, Starr Farm dog park, Appletree Park, Crescent Beach, Leddy Park, Gordon H. Paquette Ice Arena, Ethan Allen Park, and Schifiliti Park. Other attractions include the Burlington Greenway and the Starr Farm Community Garden.

Sidewalks are provided on many but not all of the surrounding residential streets. Crosswalks are provided across North Avenue at signalized intersections and at midblock locations with rectangular rapid flashing beacons (RRFBs).

Stanbury Road/Dale Road and the Burlington Greenway are the only north-south pedestrian connectors in the neighborhood west of North Avenue. Dale Road has pedestrian and bicycle access into Leddy Park, so a significant portion of New North End residents walking or riding to or from Leddy Park are likely to use Stanbury Road.

5 ALTERNATIVES ANALYSIS

Four alternatives per study area street were considered and evaluated in this study. The intent was to provide pedestrian facilities while limiting impacts to existing residential properties and trees. The set of alternatives for each street is different, but each alternative falls into similar categories. Alternative 1 is a “No Build” alternative for each study area. Where there is adequate roadway width, a pedestrian and bicycle zone, such as the one piloted on Stanbury Road, is a proposed alternative. Each study area includes a low build sidewalk alternative proposing a sidewalk behind the existing curb on the preferred side of the street. This is a lower cost option as it does not involve moving the curb or modifying the drainage system, although this option would impact some residential front yards. At some locations, it is recommended that the curb be relocated to protect mature trees. Each study area also includes a high build sidewalk alternative that proposes relocating the curb to minimize impacts on existing properties while added a sidewalk to the preferred side of the street. This alternative has the highest costs and largest impacts on the road layout, drainage and parking. Although each alternative presents a layout and conceptual design, the details can be altered during the design phase and there are aspects of all the alternatives that can be “mixed and matched” to provide the preferred alternative. The preferred alternative may be different for each street.

5.1 General Constraints

While developing the alternatives for this scoping study, the existing features of the neighborhoods were taken into consideration. Many of these features are what gives the neighborhood its character and was what drew people to live on these streets, but those features also complicate the construction of sidewalks. The nature of these features varies from street to street and include the following:

- Utility Poles - All of the streets have utility poles along one side of the street. If located on the same side of the street, potential sidewalks would need to be located behind those utility poles, or the utility poles would need to be relocated.
- Established gardens and perennial plants – Many houses in the study area have established gardens in the right of way that would need to be removed and replanted if a sidewalk were to be constructed. Moving established gardens involves many hours of work and not all the plants would survive being transplanted. The loss of gardens would have an impact on the character of the neighborhood. Some residents grow plants and vegetables as part of their businesses.
- Driveways – Some of the driveways in the study area are short, and constructing a sidewalk with a grass strip would effectively shorten those driveways by eight feet or more. In some cases, if residents parked in the driveway their vehicles would block a potential sidewalk which is against City Ordinances. Parking on the street may not be an option during winter parking bans, and some 1950’s era garages are not large enough to accommodate modern vehicles.



Fencing, established shrubs, mailboxes and utility poles along Cottage Grove

- Established street trees – Several mature street trees that are near the curb may be damaged during sidewalk construction or would need to be removed. These trees provide shade, traffic calming, and add character to the neighborhood.
- Mailboxes – The section of Cottage Grove has mailboxes on the north side of the street. A potential sidewalk on this side may need to relocate the mailboxes. Coordination with the US Postal Service would be needed to determine appropriate mailbox location based on delivery method. Stanbury Road and Green Acres Drive have door delivery, so curbside mailboxes are not an issue.
- Fences – Some fences that are within the right of way would need to be relocated to allow for a sidewalk. Some fences have gardens along the fence which may be impacted.
- Front yards – Some residents expressed concerns about loss of front yard lawn space.



Established shrubs and trees, utility poles, and short driveways on Stanbury Road

A sidewalk with a grass strip could decrease front yard space by eight feet or more. Sidewalks with a grassy strip are preferred as they provide room for utility poles and snow storage, and they also create a buffer between the sidewalk and the road.

Some of these features contribute to the character of the neighborhood, such as trees, shrubs and gardens, and would be difficult to relocate. The alternatives attempt to balance the desire for safe pedestrian facilities, construction cost and potential negative impacts on residents and their yards.

5.2 Stanbury Road

Like many of the neighborhoods in the study area, Stanbury Road has the constraints of utility poles and established trees and shrubs on residential property. The west side of Stanbury Road has more front yards than the east side of Stanbury Road (14 vs 4) and therefore more trees, shrubs and gardens than the side yards on the east side. Most of the side yards on Stanbury have fences that are set back from the curb and outside the right-of-way limits. There are also some shrubs and lilacs. Utility poles are located along the west side of Stanbury Road, which in some cases would need to be relocated if there were to be a sidewalk on the west side, or the sidewalk would need to accommodate the utility pole and be located further away from the curb, further impacting front yards. The driveways on both sides of Stanbury Road are short, with several driveways between 32 and 35 feet.

Residents on Stanbury Road felt that vehicles use their road as a cut through by drivers avoiding speedbumps on surrounding roads. Public input received did not show a majority on any alternate.

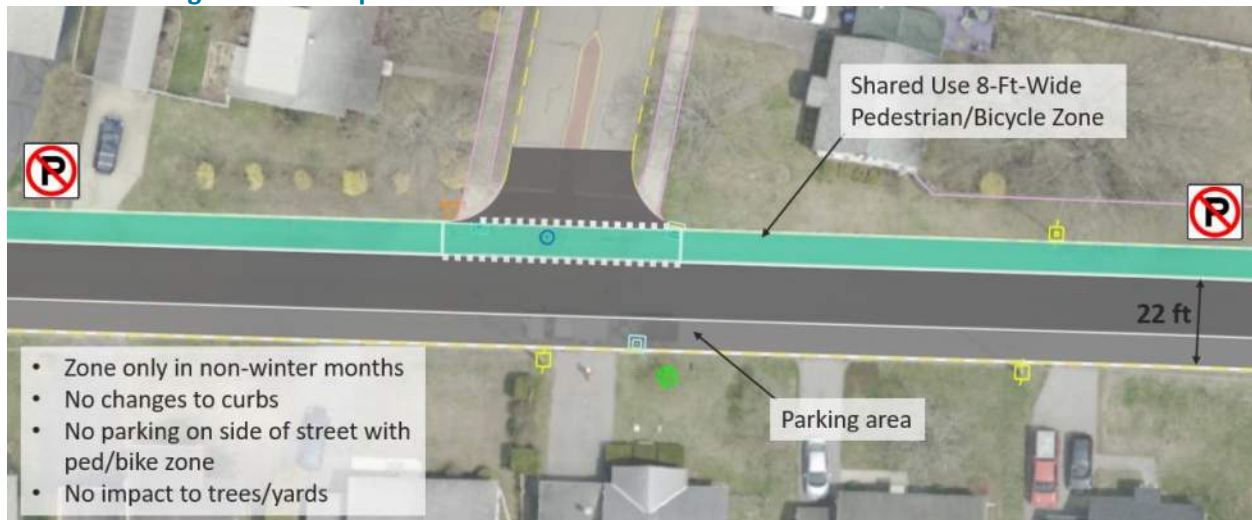
5.2.1 Alternative 1 – No Build

The “No Build” Alternative does not meet the project purpose and need or the City’s goals. This alternative would not provide any dedicated pedestrian facility.

5.2.2 Alternative 2 – Pedestrian and Bicycle Zone

Alternative 2 (see Appendix D for conceptual plans) proposes that the piloted pedestrian and bicycle zone be implemented annually to provide pedestrians and bicyclists with segregated space in the roadway. As during the pilot this summer, parking would be prohibited on the east side of the street. The width of the zone would also need to be tapered on the approach to Staniford Road, to maintain the 22-foot roadway width needed for emergency access, as it was during the pilot period. More aesthetic features such as planters or bollards can be incorporated. A bicycle and painted pedestrian zone would still operate during the winter months, but there would not be any physical delineators or physical barriers. This alternative includes a large area of green roadway paint to mark the pedestrian zone – this is quite costly (\$689,100) and will require regular maintenance. Realistically, this is not a financially viable option for the City of Burlington. The City has noted that they also do not have the capacity to maintain this level of paint. Not painting the zone would reduce costs to less than \$265,500. An unpainted pedestrian zone would be seasonal and not used during the winter months. Drainage improvements will be necessary as this zone is located along the curb line – this should be coordinated with City-wide paving projects to correct puddle areas. This alternative could also be used as an interim measure until other pedestrian facilities are constructed. Figure 4 below depicts the preferred location of the bicycle and pedestrian zone and the proposed parking areas.

Figure 4 – Example of Alternative 2 at the Intersection with Woodlawn Road



5.2.3 Alternative 3 – Sidewalk Behind Existing Curb (East Side)

Alternative 3 proposes that the existing east side sidewalk south of Dale Road be continued north to Staniford Road. Most of the fences and mature shrubs would not be impacted. The five-foot concrete sidewalk would be separated from the curb by a 3-foot greenbelt, like the existing sidewalk on Dale Road which matches City standards. The sidewalk would provide connectivity from the existing sidewalk to neighboring sidewalks on the east side of the street and provide more direct segregated pedestrian access to the Burlington Greenway and Leddy Park for this area. It is recommended that the sidewalk curves around the mature sycamore tree at 12 Stanbury Road to avoid damaging the tree’s roots. This involves bumping out the curb as well. Curb extensions would also help with traffic calming which was a concern brought up during public outreach. Some branches may need to be trimmed to allow pedestrians to walk under the tree.



Fences, trees and shrubs mostly set back from the curb and outside of the right of way on the east side of Stanbury Road

Figure 5 – Example of Alternative 3 at the Intersection with Woodlawn Road

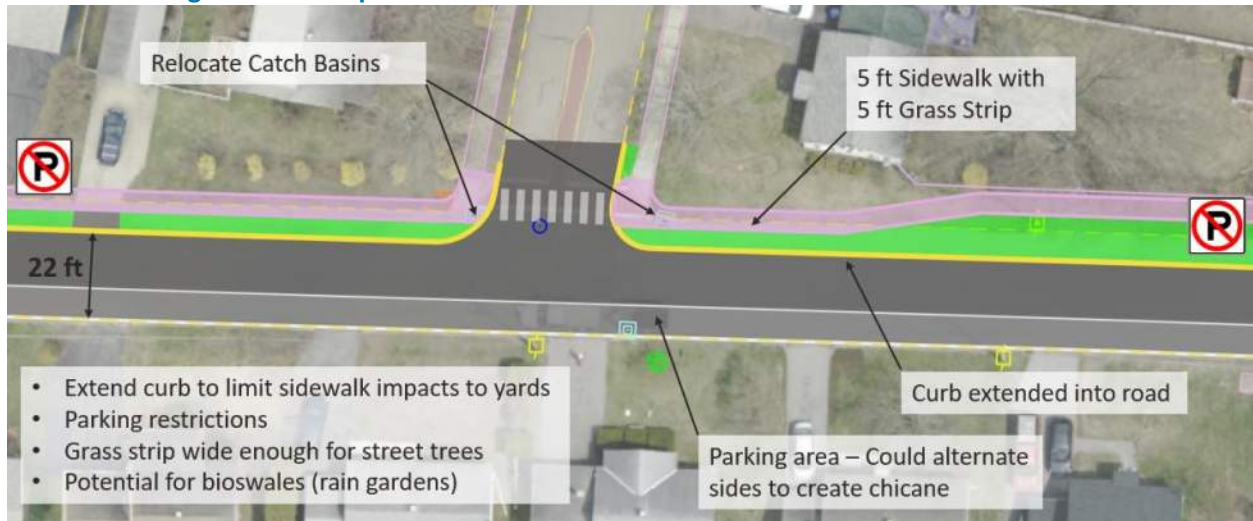


5.2.4 Alternative 4 – Sidewalk with Curb Extension

To minimize impacts to residential yards, Alternative 4 proposes extending the curb by six feet and constructing a five-foot concrete sidewalk with a five-foot grass strip on the east side of Stanbury Road. A five-foot grass strip would allow for the planting of street trees, providing shade and enhancing the character of the neighborhood. Narrowing the road and planting trees would also help with traffic calming which was a concern brought up during public outreach. The removal of some of the existing roadway would offset the new impervious surface of the sidewalk. The new roadway width would be 22 feet, which would mean that parking would be restricted to one side of the road. The designated parking areas could be staggered on either side of the road to create a “chicane-effect”, which would help calm traffic. This alternative would impact the location of existing catch basins but also provide an opportunity to create storm water mitigation bioswales (sometimes called a rain garden) at the intersections. Variations of this

alternative include narrowing the width of the grass strip to bring the sidewalk further away from residents' yards or reducing the curb extension by up to two feet to widen the roadway.

Figure 6 – Example of Alternative 4 at the Intersection with Woodlawn Road



5.3 Cottage Grove/Loaldo Drive

The roadway width and nature of the Cottage Grove section is different from the Loaldo Drive section which makes developing alternatives more complicated. For example, there is ample roadway width for a pedestrian and bicycle zone on Loaldo Drive section, but there is insufficient roadway width on Cottage Grove. Therefore, the pedestrian zone alternative was not included here.

During the site visit and the Local Concerns meeting, several residents raised concerns with vehicles using Cottage Grove as a cut through. They felt that drivers were using Cottage Grove to avoid the speed bumps on Tracy Drive and to avoid turning out of Tracy Drive onto North Avenue due to congestion and confusion at the Plattsburg Avenue traffic signal. They noted that drivers cutting through included fire trucks and delivery box trucks. Residents had raised concerns in the past, so in 2023, the City of Burlington conducted the volume and speed survey. (see Section 4.2 above and Appendix G).

Some residents noted that before the construction of homes along Grey Meadow Drive, Cottage Grove was a dead-end street. Some felt that restricting access at Grey Meadow Drive would eliminate cut through traffic and make a sidewalk not necessary. Restricting access at Grey Meadow Drive is outside the scope of this study and was determined not feasible as part of a pedestrian facilities improvement project.

Some residents also raised concerns with changing the nature of the neighborhood. These residents worried that adding a sidewalk or removing trees would take away the rural character of the street, which is what attracted them to the neighborhood. A majority of the properties on the north side of Cottage Grove include mature trees and shrubs, many near the curb, established perennial gardens and fences, which would all be impacted by a sidewalk on the north side. The utility poles and mailboxes, also on the north side, would mean that a sidewalk would need to be set back from the curb by three to four feet, further impacting gardens, trees and fences. The houses on the Cottage Grove section are also close to the street and residents have short driveways. Some driveways are between 38 and 44 feet long.



Fences, shrubs and perennial garden next to curb on Cottage Grove

Some residents noted that the trees on Cottage Grove shade the roadway, even in winter, adding to ice and snow issues on the road due to poor drainage. Some noted this makes walking in the road more difficult during winter conditions, specifically when navigating around moving vehicles.

On the north side of the Loaldo Drive section, there are fewer gardens and trees, and the houses and fences are set back so that a sidewalk would be feasible. If a sidewalk was constructed on the north side of Loaldo Drive, a crosswalk would be needed at the Loaldo Drive intersection. This scenario was not included in the alternatives below.

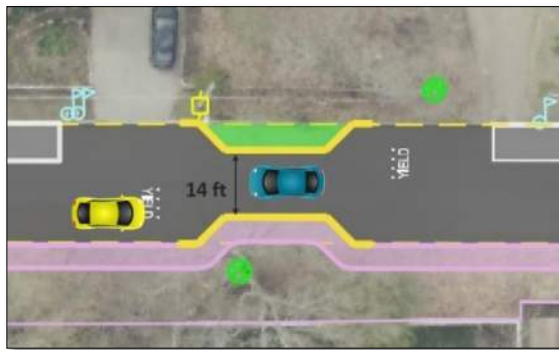
5.3.1 Alternative 1 – No Build

The “No Build” Alternative does not meet the project purpose and need or the City’s goals. This alternative would not provide any dedicated pedestrian facility.

5.3.2 Alternative 2 – Sidewalk Behind Existing Curb

Alternative 2 proposes constructing a sidewalk behind the curb on the south side of Cottage Grove and Loaldo Drive. Constructing a sidewalk on the north side, even immediately behind the curb, would likely result in the removal of many of the mature trees, established perennial gardens, shrubs, and fences along Cottage Grove, significantly impacting front yards and altering the character of the street. Relocating the utility poles and mailboxes would add additional costs and may affect mature trees that may need to have their limbs trimmed to allow for relocated utilities. Providing a sidewalk on the south side of the street would minimize these impacts, although residents would need to cross the street to access the sidewalk.

This alternative proposes extending the curb at locations where there are mature trees to protect those trees and help to maintain the character of Cottage Grove. This would also provide traffic calming which was a concern raised by some residents. These curb extensions would reduce the width of the road to 22 feet, resulting in parking restrictions on the south side of Cottage Grove. It appears that most residents already park only on the north side of the road. These curb extensions could be combined with curb extensions on the north side of Cottage Grove to create a traffic calming pinch point known as a choker. The choker would be 14 feet wide so vehicles approaching the pinch point would need to yield to opposing vehicles passing through the pinch point. This alternative includes an example of such a choker near a large, mature tree approximately 450 feet east of Green Acres Drive. This type of pinch point could be repeated at other locations along Cottage Grove. Parking would be prohibited in the choker.



Example of potential choker on Cottage Grove

These curb extensions would reduce the width of the road to 22 feet, resulting in parking restrictions on the south side of Cottage Grove. It appears that most residents already park only on the north side of the road. These curb extensions could be combined with curb extensions on the north side of Cottage Grove to create a traffic calming pinch point known as a choker. The choker would be 14 feet wide so vehicles approaching the pinch point would need to yield to opposing vehicles passing through the pinch point. This alternative includes an example of such a choker near a large, mature tree approximately 450 feet east of Green Acres Drive. This type of pinch point could be repeated at other locations along Cottage Grove. Parking would be prohibited in the choker.

Figure 7 – Example of Alternative 2 at the Intersection with Green Acres Drive



On the Loaldo Drive section of the study segment, the sidewalk would be immediately behind the curb, with no grassy strip. This would minimize the impact to residents' front yards as the houses are close to the road. This alternative also includes a redesign of the Loaldo Road intersection, narrowing the north-south segment to create a tighter turning radius. The tighter radius and proposed stop sign (pending MUTCD warrant approval) would provide traffic calming at the intersection and reduce the crossing length of the proposed crosswalk.

Figure 8 – Example of Alternative 2 at Loaldo Drive Intersection



5.3.3 Alternative 3 – Sidewalk with Curb Extension

This alternative proposed extending the curb on the south side of Cottage Grove and Loaldo Drive to provide a sidewalk with five-foot grass strip while minimizing impacts to trees, front yards and driveways. The five-foot grass strip would allow for the planting of street trees. The grass strip could be reduced to three feet to further lesson impacts to front yards. Along some sections of Cottage Grove, the sidewalk would be located immediately behind the curb to protect mature trees, especially near the intersection with Green Acres Drive and immediately west of the Loaldo Drive intersection. Extending the curb would narrow the roadway to 22 feet, and therefore, parking would be limited to only the north side of the street. This alternative does not include traffic calming chokers, but they could be incorporated into the design if desired.



Wide intersection with Loaldo Drive, looking west

Figure 9 – Example of Alternative 3 at Green Acres Drive Intersection



As in Alternative 2, this alternative proposes a redesign in the Loaldo Drive intersection to reduce the turning radius, reduce the length of the proposed crosswalk, and calm traffic. It is also possible to implement different alternatives on the Cottage Grove and Loaldo Drive sections.

Figure 10 – Example of Alternative 3 at Loaldo Drive Intersection



5.4 Green Acres Drive

Green Acres Drive has similar constraints as the other two study streets. There are several mature trees, including some very large trees adjacent to the curb at the corner. The tree roots of one large tree are dislodging the curb. Some front yards have gardens, shrubs, and fences that would be impacted by a potential sidewalk. Utility poles run along the west and south side of the street, crossing from the south side to the north side near the North Avenue intersection. Driveways also short, many less than 30 feet and some only 25 feet, and available parking in driveways could be impacted by a potential sidewalk.

There are a very limited number of catch basins on Green Acres. They are located near North Avenue. Residents raised issues with drainage during the public meeting.

5.4.1 Alternative 1 – No Build

The “No Build” Alternative does not meet the project purpose and need or the City’s goals. This alternative would not provide any dedicated pedestrian facility.

5.4.2 Alternative 2 – Pedestrian and Bicycle Zone

Alternative 2 proposes a pedestrian zone be provided on the south and west side of the street. The pedestrian zone would allow pedestrians to walk along a segregated space in the roadway. Because Green Acres Drive is 28 feet wide, the pedestrian zone would be approximately six feet wide and therefore too narrow to allow shared use with bicycles. A painted pedestrian zone would provide a year-round facility but due to the cost of the paint and ongoing maintenance, it is cost prohibitive. A non-painted pedestrian zone would operate only seasonally. Both options would include delineators to indicate the edge of the zone. Parking would be restricted on the same side of the street as the pedestrian zone. This alternative could also be used as an interim measure until other pedestrian facilities are constructed. Planters or bollards could be used as a more attractive alternative to cones to separate vehicles from the pedestrian zone. Figure 11 depicts the recommended pedestrian zone location and proposed parking areas.

Figure 11 – Example of Alternative 2



5.4.3 Alternative 3 – Sidewalk Behind Existing Curb



Fence and mature trees on Green Acres Drive

Alternative 3 proposes a sidewalk behind the existing curb. This sidewalk could be either side of Green Acres Drive or on both with similar scale of impacts. A potential sidewalk on the west and south sides of Green Acres Drive would need a three-foot-wide grass strip to accommodate the utility poles. The City prefers a grass strip for snow storage in winter and to create a buffer between the sidewalk and the road. A sidewalk on the east and north side could be located immediately behind the curb to minimize front yard impacts, but this could cause issues during winter snow removal. The conceptual plans show a grass strip.

Due to the large trees on the corner (at 169 Green Acres Drive), it is recommended that the curb and sidewalk be bumped out to minimize damage to the trees and root systems. A pinch point, similar to the one proposed on Cottage Grove, could also be implemented by the large tree north of the bend to further protect the tree and provide a traffic calming opportunity.

A sidewalk behind the curb on either side of the street would impact shrubs, trees, fences and gardens in residents' front yards. It would also impact how many cars residents are able to park in their driveways without blocking the sidewalk.

Figure 12 – Example of Alternative 3 Showing What a Preliminary Design on Both Sides of the Street



5.4.4 Alternative 4 – Sidewalk with Curb Extension

Alternative 4 proposes extending the curb on the north and east side of Green Acres to allow for a five-foot sidewalk with a five-foot grass strip. Extending the curb minimizes impacts to front yards. In order to protect the trees on the corner, this alternative proposes that the sidewalk be immediately behind the curb on the corner. The five-foot grass strip would be wide enough to plant street trees. Because extending the curb would narrow the width of the road to 22 feet, parking would be restricted to one side of the street. These parking areas could be staggered on either side of the road to create parking chicanes

for traffic calming. Catch basins near North Avenue would need to be relocated.

Figure 13 – Example of Alternative 4 with Sidewalk on Corner Outside of Existing Curb to Protect Trees



6 NATURAL AND CULTURAL RESOURCES

6.1.1 Wetlands and Watercourses

The Vermont Agency of Natural Resources (ANR) Atlas and Wetlands Inventory Map (WIM) search identified no Vermont Significant Wetland Inventory (VSWI)-mapped wetlands in the vicinity of the Project.

6.1.2 Wildlife Habitat

Due to the highly developed nature of the project area, it is not anticipated that there will be significant impacts to wildlife or wildlife habitat. Some displacement of wildlife using adjacent forested areas may temporarily occur during project construction due to noise disturbances.

6.1.3 Rare, Threatened and Endangered (RTE) Species

Results from the US Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) search indicated that the project is located within the range of the monarch butterfly (*Danaus plexippus*) which has become a candidate for listing under the Endangered Species Act (ESA) (Appendix F). The candidate status of the monarch does not provide protection under ESA so no further coordination with the USFWS is required. It is not anticipated that the Project will create significant impacts on any pollinator habitat.

A search of the ANR Atlas identified no occurrences of Rare, Threatened or Endangered (RTE) species within the vicinity of the project. Numerous occurrences of state-protected RTE species and Significant Natural Communities were identified within 0.5-miles of the project area. However, given how project activities would be heavily constrained to the existing ROW, it is not anticipated that these species or protected habitats will be impacted.

6.1.4 Agricultural Soils

The soils in the project area are classified as AdA – Adams and Windsor loamy sands, 0 to 5 percent slopes, and DdA – Duane and Deerfield soils, 0 to 5 percent slopes. These soil types are classified as Farmland of statewide importance, if drained, and Prime farmland if protected from flooding or not frequently flooded during the growing season. These soils have no potential to be used for substantial farmland as they are contained within an already developed residential and commercial area, thus their alteration is not required to be analyzed in light of the ability to affect their agricultural potential (Appendix F).

6.1.5 Hazardous Waste and Contaminated Soils

The ANR Atlas identified two hazardous waste generators located adjacent to the project area that were identified as Thunderbolt Garage and North Avenue Jolley. These sites will not be disturbed by the project.

Almost the entirety of the Project area is located within a Designated Urban Soil Zone, that suggests a potential for increase in concentrations of Polycyclic Aromatic Hydrocarbons (PAHs), Arsenic, and Lead in soil beyond typical background conditions (Appendix F). Current Project planning would re-use some disturbed soil within the Project limits. Plans will indicate for the Contractor that any excavated soil unable to be re-used will need to be disposed of within another Designated Urban Soil Zone.

6.1.6 Stormwater Permitting

Existing impervious area within the project area is 159,090 square feet (sf). This includes 50,030 square feet on Stanbury Road between Staniford Road and Brierwood Lane, 56,070 square feet on Cottage Grove Road/Loaldo Drive between Cottage Grove and North Avenue, and 52,990 square feet on Green Acres Drive.

The approximate new impervious areas for each alternative can be found in Table 4. The table also includes estimates of surface areas that are currently impervious that would be reclaimed as pervious surface areas. This mainly pertains to the lower build sidewalk alternatives where there are curb extensions and the higher build sidewalk alternatives where the roadway width is narrowed to allow for a sidewalk and five-foot-wide grass strip.

Table 4 – Impervious Surface Estimates

Impervious Surfaces		Stanbury Road		Cottage Grove/Loaldo Drive		Green Acres Drive	
		Alt 3	Alt 4	Alt 2	Alt 3	Alt 3	Alt 4
New Impervious Surfaces	Square Feet	3,777	4,341	10,162	10,206	18,138	8,917
	Acres	0.09	0.10	0.23	0.23	0.42	0.20
Reclaimed Impervious Surfaces	Square Feet	319	6,383	2,603	8,405	1,458	10,108
	Acres	0.01	0.15	0.06	0.19	0.03	0.23
Net Change	Square Feet	3,458	-2,042	7,560	1,801	16,680	-1,190
	Acres	0.08	-0.05	0.17	0.04	0.38	-0.03

A new sidewalk would be considered a separate utility and would potentially be subject to an Operational

Stormwater Permit (3-9050) if it exceeds 0.5 acres. This would depend on which combination of alternatives is progressed forward.

The need for a Construction Stormwater Permit (3-9020) would also depend on which combination of alternatives is progressed into the final design phase. If the one-acre earth disturbance threshold is met, it is anticipated that the project will be considered low risk and can be completed in accordance with the Construction Stormwater General Permit.

6.1.7 Historical or Archaeological Resources (Section 106)

A search of the National Register of Historic Places did not identify any properties within the project vicinity.

6.1.8 Public Land and Designated Conservation Areas

6.1.8.1 4 (f) Property

In the case of this project, there is no “permanent incorporation of 4(f) land into a transportation facility” and, therefore, no Section 4(f) use. A Section 4(f) evaluation does not need to be prepared.

6.1.8.2 6 (f) Property

The project is located within the municipal boundary of Burlington so the project will not impede the public’s use of public land or designated conservation areas.

7 RIGHT-OF-WAY

The majority of the proposed work is within the existing right-of-way (ROW) that was obtained from the City of Burlington digital tax maps. The marked right-of-way on the jog in Green Acres Drive does not appear to track with the alignment of the road. Further investigation would be needed to determine the right-of-way if Alternative 3 or 4 is chosen. There may be right-of-way impacts depending on the chosen alternative.

8 UTILITY IMPACTS

Overhead and underground utilities are present at the site (reference Section 4.4 of this report). These include overhead utilities such as electric and fiber as well as underground utilities such as natural gas. The conceptual design alternatives were developed in part to minimize utility impacts, although there may be the need to relocate some utility poles. Further coordination will be required during preliminary design. All build alternatives in this study have similar impacts and associated costs to buried and overhead utilities.

9 COST ESTIMATE AND ENGINEERS ESTIMATE

A detailed Estimate of Probable Construction Cost for each Alternative for each study street can be found in Appendix E. The cost for construction engineering services for each alternative are shown in the estimates and are calculated as 10% of the construction subtotal. The tables below include the construction cost and impacts of the potential project and potential permits that may be needed to implement the project.

Table 5 – Alternatives Matrix for Stanbury Road

Category		Alternative 1:	Alternative 2:	Alternative 3:	Alternative 4:
		<i>No Build</i>	<i>Painted Pedestrian/ Bicycle Zone</i>	<i>Sidewalk Within Existing Curb</i>	<i>Sidewalk with Relocated Curb</i>
Cost	<i>Construction Cost</i>	\$0	\$689,100	\$496,415	\$860,245
Roadway	<i>Curbs</i>	No change	No change	Minor Curb Alterations	Curb Relocation
	<i>Total Roadway Width</i>	No change (28-30' Roadway)	22' Roadway 6-8' Pedestrian/ Bicycle Zone	No change (27-30' Roadway)	22' Roadway
Bike/Ped Facilities	<i>Road Markings</i>	None	None	None	None
	<i>Sidewalk</i>	None	None - Ped/Bike Zone	5 feet	5 feet
	<i>Green Space Barrier</i>	None	None	0-3 feet	5 feet
Engineering	<i>Overhead Utility</i>	None		None anticipated	
	<i>Drainage</i>	No change		None anticipated	Relocation of Catch Basins
Impacts	<i>ROW</i>	None	None	Potential Permanent Temporary Likely	Potential Permanent Temporary Likely
	<i>Ag. Lands</i>	None			
	<i>Archaeological</i>	None			
	<i>Historic</i>	None Anticipated			
	<i>Hazardous Materials</i>	None Anticipated			
	<i>Floodplains</i>	None			
	<i>Fish & Wildlife</i>	None			
	<i>Rare, Threatened & Endangered Species</i>	None			
	<i>Public Lands - Sect. 4(f)</i>	None			
	<i>LWCP - Sect. 6(f)</i>	None			
	<i>Noise</i>	None		Temporary during Construction	
	<i>Wetlands</i>	None			
	Permits	<i>Act 250</i>	None		
<i>401 Water Quality</i>		None			
<i>404 USACE</i>		None			
<i>Stream Alteration</i>		None			
<i>State Individual Wetland Permit</i>		None			
<i>Storm Water Discharge</i>		None		Possible	Possible

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Category		Alternative 1:	Alternative 2:	Alternative 3:	Alternative 4:
		No Build	Painted Pedestrian/ Bicycle Zone	Sidewalk Within Existing Curb	Sidewalk with Relocated Curb
Permits	Lakes & Ponds	None			
	Threatened & Endangered Species	None Anticipated			
	Historic/Archaeological Resources	None Anticipated			
	Section 1111 Permit	None			
Meets Purpose and Need		No	Partially	Yes	Yes
Advantages			No impacts to front or side yards.	Sidewalk segregated from traffic.	Sidewalk segregated from traffic. Five foot grass strip allows for new street trees. Less impact to yards than Alternative 3.
Disadvantages			Painted pedestrian zone would require maintenance, and delineators would need to be moved seasonally. Non-painted Pedestrian/Bicycle Zone only during non-winter months.	Grass strip plus sidewalk affects 8 feet of residents' yards. The effective parking length of two driveways would be reduced by 8 feet.	Narrowing of street and parking on one side. Changes to closed drainage system increases cost.
Other Considerations			Not painting the Pedestrian/Bicycle Zone would reduce costs to \$265,420.	Curb relocation (to protect mature tree) may need alterations to drainage.	Opportunity for bioswale.

Table 6 – Cottage Grove/Loaldo Drive

Category		Alternative 1:	Alternative 2:	Alternative 3:
		<i>No Build</i>	<i>Sidewalk Within Existing Curb</i>	<i>Sidewalk with Relocated Curb</i>
Cost	<i>Construction Cost</i>	\$0	\$1,070,450	\$1,478,245
Roadway	<i>Curbs</i>	No change	Some Curb Alterations	Curb Relocation
	<i>Total Roadway Width</i>	No change (26-30' Roadway)	22-30' Roadway	22' Roadway
Bike/Ped Facilities	<i>Road Markings</i>	None	Yield markings at potential pinch point, Crosswalk and potential stop bars at Loaldo Drive Intersection	Crosswalk and potential stop bars at Loaldo Drive Intersection
	<i>Sidewalk</i>	None	5 feet	5 feet
	<i>Green Space Barrier</i>	None	0-3 feet	0-5 feet
Engineering	<i>Overhead Utility</i>	None	None anticipated	
	<i>Drainage</i>	No change	New/Relocated Catch Basins	
Impacts	<i>ROW</i>	None	Potential Permanent Temporary Likely	Potential Permanent Temporary Likely
	<i>Ag. Lands</i>	None		
	<i>Archaeological</i>	None		
	<i>Historic</i>	None Anticipated		
	<i>Hazardous Materials</i>	None Anticipated		
	<i>Floodplains</i>	None		
	<i>Fish & Wildlife</i>	None		
	<i>Rare, Threatened & Endangered Species</i>	None		
	<i>Public Lands - Sect. 4(f)</i>	None		
	<i>LWCP - Sect. 6(f)</i>	None		
	<i>Noise</i>	None	Temporary during Construction	
	<i>Wetlands</i>	None		
Permits	<i>Act 250</i>	None		
	<i>401 Water Quality</i>	None		
	<i>404 USACE</i>	None		
	<i>Stream Alteration</i>	None		
	<i>State Individual Wetland Permit</i>	None		
	<i>Storm Water Discharge</i>	None	Possible	Possible
	<i>Lakes & Ponds</i>	None		

Category		Alternative 1:	Alternative 2:	Alternative 3:
		No Build	Sidewalk Within Existing Curb	Sidewalk with Relocated Curb
Permits	Threatened & Endangered Species	None Anticipated		
	Historic/Archaeological Resources	None Anticipated		
	Section 1111 Permit	None		
Meets Purpose and Need		No	Yes	Yes
Advantages			Sidewalk segregated from traffic. The redesigned Loaldo Drive intersection provides traffic calming and shorter crossing distance.	Sidewalk segregated from traffic. Five-foot grass strip allows for new street trees. Less impact to yards than Alternative 2. The redesigned Loaldo Drive intersection provides traffic calming and shorter crossing distance.
Disadvantages			Some trees would need to be removed on Cottage Grove. Sidewalk affects 5 feet of residents' yards. Effective driveway length would be reduced.	Narrowing of street and parking restricted to one side. Changes to closed drainage system increases cost.
Other Considerations			Relocated curb in some sections to protect trees. Potential for traffic calming pinch point. May need changes to closed drainage system.	Least impact to yards, biggest impact to roadway width.

Table 7 – Green Acres Drive

Category		Alternative 1:	Alternative 2:	Alternative 3:	Alternative 4:
		<i>No Build</i>	<i>Pedestrian Zone</i>	<i>Sidewalk Within Existing Curb</i>	<i>Sidewalk with Relocated Curb</i>
Cost	<i>Construction Cost</i>	\$0	\$753,575 painted, \$246,790 non-painted	\$1,488,265	\$1,334,195
Roadway	<i>Curbs</i>	No change	No change	Curb Relocation at Corner	Curb Relocation
	<i>Total Roadway Width</i>	No change (28' Roadway)	22' Roadway 6' Pedestrian/ Bicycle Zone	No change (28' Roadway)	22' Roadway
Bike/Ped Facilities	<i>Road Markings</i>	None	None	None	None
	<i>Sidewalk</i>	None	None - Pedestrian Zone	5 feet	5 feet
	<i>Green Space Barrier</i>	None	None	0-3 feet	0-5 feet
Engineering	<i>Overhead Utility</i>	None		Relocate One Utility Pole	Relocate One Utility Pole
	<i>Drainage</i>	No change		Possible New Catch Basin near Curb Relocation	Relocation of Catch Basins
Impacts	<i>ROW</i>	None	None	Potential Permanent Temporary Likely	Potential Permanent Temporary Likely
	<i>Ag. Lands</i>	None			
	<i>Archaeological</i>	None			
	<i>Historic</i>	None Anticipated			
	<i>Hazardous Materials</i>	None Anticipated			
	<i>Floodplains</i>	None			
	<i>Fish & Wildlife</i>	None			
	<i>Rare, Threatened & Endangered Species</i>	None			
	<i>Public Lands - Sect. 4(f)</i>	None			
	<i>LWCP - Sect. 6(f)</i>	None			
	<i>Noise</i>	None		Temporary during Construction	
	<i>Wetlands</i>	None			
Permits	<i>Act 250</i>	None			
	<i>401 Water Quality</i>	None			
	<i>404 USACE</i>	None			
	<i>Stream Alteration</i>	None			

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Category		Alternative 1:	Alternative 2:	Alternative 3:	Alternative 4:
		<i>No Build</i>	<i>Painted Pedestrian Zone</i>	<i>Sidewalk Within Existing Curb</i>	<i>Sidewalk with Relocated Curb</i>
Permits	<i>State Individual Wetland Permit</i>	None			
	<i>Storm Water Discharge</i>	None		Possible	Possible
	<i>Lakes & Ponds</i>	None			
	<i>Threatened & Endangered Species</i>	None Anticipated			
	<i>Historic/Archaeological Resources</i>	None Anticipated			
	<i>Section 1111 Permit</i>	None			
Meets Purpose and Need		No	Partially	Yes	Yes
Advantages			No impacts to front or side yards.	Sidewalk segregated from traffic.	Sidewalk segregated from traffic. Five-foot grass strip allows for new street trees. Less impact to yards than Alternative 3.
Disadvantages			Pedestrian Zone only during non-winter months.	Grass strip plus sidewalk affects 8 feet of residents' yards. Effective driveway length also reduced.	Narrowing of street and parking restricted to one side. Changes to closed drainage system increases cost.
Other Considerations			A non-painted pedestrian zone would be seasonal. In the winter months, there would be no pedestrian facility.	Bump out around inner corner to avoid mature trees. May need changes to closed drainage system.	Least impact to yards, biggest impact to roadway width.

10 PROJECT FUNDING

Project funding opportunities for this project are limited, the following are a sample of potential funding sources, and how they impact the project timeline shown below:

Table 8 – Potential Funding Sources

Funding Source	Federal Funding	Max Funding Amount
Municipally Bonded	No	-
VTrans Bicycle and Pedestrian Program Grant	Yes	80% (20% Municipal Match)
VTrans Transportation Alternatives Grant	Yes	80%, \$300,000 Max (20% Municipal Match)

11 CONCLUSIONS AND RECOMMENDATIONS

Residents in the New North End neighborhood who responded to an online survey or provided comments on one of two public meetings appear to be split on the desire to add sidewalks to their neighborhoods. Some felt that sidewalks were not necessary and had serious concerns with impacts to their property including loss of front yard space, removal of trees and gardens, and shortened driveways that would make parking on their property difficult and in some cases impossible. Other residents were in favor of sidewalks, especially those with children. They noted that the speed of traffic made them feel unsafe and they did not feel safe walking in the road in the dark. There was no consensus at the Alternatives Meeting as to which alternatives were the preferred alternatives. Residents present did agree that they felt that drivers were speeding in their neighborhoods and using Cottage Grove and Stanbury Road as cut throughs to avoid difficult intersections or other streets with traffic calming.

Below are Hoyle Tanner’s recommendations on the best path forward for each street given residents concerns and the desire for some form of pedestrian facilities expressed by many, but not all residents.

11.1 Stanbury Road

Hoyle Tanner recommends that Alternative 3 on Stanbury Road advance into design. Stanbury Road is one of the few north to south roads in the neighborhood and therefore an important pedestrian connector to the Burlington Greenway and Leddy Park for those living on the surrounding streets. A sidewalk on Stanbury Road would be the natural extension of the existing sidewalk on Dale Road. Since a majority of the properties on the east side of Stanbury Road have side yards as opposed to front yards, there are fewer trees, gardens and driveways that would be impacted. Relocating the curb at 12 and 15 Stanbury Road would protect the mature Sycamore tree and limit impacts to the residents’ front yards as well as provide some traffic calming.

11.2 Green Acres Drive

Green Acres Drive residents participating in the survey/public meetings were in support of a pedestrian zone along the north and east sides of the road. A pilot program would give residents the opportunity to see how that may benefit their neighborhood as well as the potential impacts of the narrower road width if Alternative 4 was pursued in the future. Hoyle Tanner recommends the pedestrian zone in Alternative 2.

11.3 Cottage Grove/Loaldo Drive

There was no clear consensus on Cottage Grove from the survey/public meetings. There were few residents from Cottage Grove or Loaldo Drive at the meeting where alternatives were presented, so it was difficult to ascertain a preferred option. Residents who have lived there for a long time remember when Cottage Grove was a dead-end street and walking in the road felt safe. The construction of Grey Meadow Drive brought through traffic, including cut through traffic avoiding traffic calming on Tracy Drive and the difficult intersection of Tracy Drive and North Avenue. There was a lot of discussion about the possibility of restricting access to all but emergency vehicles at the end of Cottage Grove. These issues were outside the scope of this sidewalk study but warrant further conversations with between the City with the potential of conducting a traffic calming study in the future. Due to lack of consensus and high cost of constructing a sidewalk, which would involve relocation of curbs and additional drainage structures, Hoyle Tanner recommends the no build option.

The following is a summary of recommendations and requirements to complete the project that has been collected during public meetings, site investigations, and the alternatives development that should be considered in the design phase of this project:

- Investigate the potential of incorporating traffic calming features such as bump outs at intersections, speed bumps, raised crossings, and mid-block pinch points that would also protect trees into the sidewalk projects.
- Consider planting street trees where possible to provide shade for pedestrians and contribute to traffic calming.
- Investigate the possibility of incorporating water mitigation bioswales when drainage relocation is part of the design.
- During preliminary design, coordination with VTrans Watershed Management Division, Stormwater Program is required to confirm that total impacts do not require an Operational Stormwater Permit or a Construction Stormwater Permit.

This Study has been completed utilizing information available as of December 2024. Design criteria, permitting requirements, field data obtained by Hoyle Tanner and reports or survey information prepared by others, are subject to change. The condition of an existing roadway can change rapidly, or it can be damaged through manmade or natural events that could alter the conclusions reached herein. Therefore, the conceptual design, estimate of construction cost, and conclusions reached in this Study should not be relied upon for an extended period.

APPENDIX A

Local Concerns Meeting Minutes

Attendees:

In Person:

Alyssa Smith (Hoyle Tanner)	Jim Moody	Keegan Carter
Todd Sumner (Hoyle Tanner)	Patrica Crowley	Mary Harkin
Maddy Suender (City of Burlington)	Emily Canter	Elaine Riley
Phillip Peterson (City of Burlington)	Susan Hoxie	Gabriel Courage
Christine Ford (CCRPC)	Suzy Haas	Holly Courage
Johanna Prince	Tim Looney	Colin Burch
John Carbs	Linda Looney	Stef Burch
	Richard Yee	
	Christa Carter	

Purpose:

The purpose of this meeting was to solicit public input, comments and concerns regarding the installation of new sidewalks and/or pedestrian improvements on Stanbury Road, Green Acres Drive, Cottage Grove and a portion of Loaldo Drive.

Overview:

A. Smith introduces Hoyle Tanner and begins slide presentation. Highlighted streets under consideration (Stanbury Road, Green Acres Drive, Cottage Grove Drive and Loaldo Drive). Scoping Report Schedule. Photos of existing challenges and complications to installing sidewalks. Photos of typical sidewalks in the area. Photos specific to Stanbury, Green Acres and Cottage Grove/Loaldo. A slide regarding proposed Stanbury Road Pedestrian Zone.

Discussion:

Pilot Pedestrian Zone on Stanbury Road

P. Peterson discussed the temporary pedestrian area for Stanbury Road until Nov. 1st and potential for long term insight. Noting that current parking utilization is roughly 5%, therefore reduced parking from this change is not an issue.

QUESTIONS/ COMMENTS CONCERNS:

- Resident: Has this option been considered for other roadways in the area.
- Resident: 25 mph is too fast for the pedestrian zone and other streets, we suggest 15 mph.
 - P. Peterson: the state minimum is 25 mph outside of downtown designated areas.
- Resident: Not having sidewalks beside the street in winter is treacherous. You often end up walking/falling in snow and ice.
 - A. Smith: A dedicated sidewalk would be maintained to prevent this.
- Resident: Regarding the 8ft temporary pedestrian area, there are numerous locations where drainage is not adequate and standing water can reduce the effective width of that section.
 - P. Peterson: getting into the drainage can get very costly.

- Resident: Pedestrians and bikers are funneled into the roadway. A roadway with increased traffic from people avoiding speedbumps. A lane like this on the East side of Stanbury would offer a potentially easier solution than sidewalks.
- Resident: Can you propose speedbumps that were previously voted down (same for Green Acres).
- Resident: Are these decision uniform and different by street?
 - T. Sumner: No, they are site specific.
- Resident (Green Acres intersection with Cottage Grove): I have witnessed two accidents in the last 10 years at my intersection. They both involved young boys on bikes being hit by motorists.

Stanbury Road

QUESTIONS/ COMMENTS CONCERNS:

- Resident: It is hard to comment without knowing the full range of possibles.
 - A. Smith: Options include a paved sidewalk on one or both sides of the street located either on the curb or offset. Bollard sections are an option, but not a focus.
 - M. Suender: It is possible to narrow the roadway in many areas, however minimum street widths need to be upheld to accommodate emergency vehicles.
- Resident: So, these options are partially customizable.
 - T. Sumner: Yes, in terms of where the sidewalk is but not its' size.
- Drivers use Stanbury Road to avoid speed bumps on Staniford Road.
- Resident: I think we need to take a holistic approach...focus on why people are using Stanbury to avoid the speedbumps/bad conditions on other roads.
- Support for sidewalk on east side of the street

Stanbury Road Hearing Plan Markups/Comments

- Extend the current separated sidewalk on the East side of Stanbury Rd to Staniford Rd and add a crosswalk that connects to the existing sidewalk on the North side of Staniford Rd.

Image:



Green Acres Drive

QUESTIONS/ COMMENTS CONCERNS:

- Resident: There is a significant lack of drainage, an increasing impermeable surface area will enhance the effects. Same for Cottage Grove.
 - T. Sumner: Moving the existing curb would likely require changes to the drainage system.
- Resident: I would like to see curb bump outs and a narrowed street. Possibly cut through driveways to avoid more pavement or use permeable concrete.
- Resident: There are many things that would be impacted by expanding a sidewalk beyond the current road.
- Resident: A single sidewalk in the road would be great.
- Resident: Does adding an off-road sidewalk use up some of the impermeable surfaces allowed in our lot?
 - M. Suender: No, that area is within the right of way not in individual lots.
- Resident: How did the study come about?
 - M. Suender: A city-wide survey that identified these streets as potential sites for significant improvement.
- Resident: I count the average number of cars I see driving on my walks (from Green Acres, to Loaldo, and then cottage). It averages 5-6 cars on my short walks (morning, lunch, and evening).
- Resident: Green Acres sees large rushes at peak morning and night hours without much otherwise. Many use this to avoid intersections (the crazy one).
- Resident: Bring back the dead-end road at Green Acres.
- Resident: If it turns into a dead end, we have concerns about the impact of a potential drug haven as there is a “drug house” near the end of this road.

- Residents: Green Acres and North Ave intersection forces slow turns as there are often cars parked on both side of the road here.

Green Acres Hearing Plan Markups/Comments

- A multi-use lane is more inclusive and better maintained for bikes, pedestrians, strollers, and wheelchairs than a sidewalk.
- All way stop signs at all intersections please!
- Parking on one side, shared use lane on the other, and separation for shared use lane. +4 In my opinion looks better than paint too!
- No sidewalk! +1
- Bollards and/or planters +3 and remove parking from both sides or one side of the street.

Drawn Notes:

- Shared use lane on the South side (okay on either side)
- Parking remains on North side
- Periodic Speed tables
- No parking zones close to intersections
- Crosswalk at the intersection of Green Acres and Cottage Grove.

Images:





Cottage Grove/ Loaldo Drive

QUESTIONS/ COMMENTS CONCERNS:

- Resident: I would like to not see a sidewalk built on Cottage Grove.
- Resident: I disagree, I think we need a sidewalk there.
- Resident: A large variety of pedestrians and large trucks avoid lights and go through this neighborhood...there are also people who use this street as a raceway (they can be heard at night).
- Resident: Make Cottage Grove one way east to west, you could add a bike lane and prevent large trucks from using this street.
- Resident: We have experienced issues with people speeding on one-ways in between stop signs where we previously lived.
- Resident: Reducing lane size can reduce speed, one-ways plus narrowing is a cost-effective alternative to using sidewalks as traffic calming devices (cottage grove).
- Resident: The entrance of Loaldo is constantly full (parking wise) making it very hard to turn.
- There is no stop sign at the intersection of Loaldo and Cottage Grove.

- Is there a real concern about adding sidewalks or is it mostly just about traffic calming? I feel comfortable walking currently and see young families with kids doing the same. I have concerns about how close people will be walking by my house, how much driveway I'll lose and lawn space if there is an added sidewalk. This neighborhood has a rural feel, adding sidewalks could take away from the original neighborhood feel many moved here for. Focus on traffic calming and reckless driving instead of sidewalks.
- Resident: Would a sidewalk built into the street help calm traffic and retain lot space.
- Resident (w/ 3 kids on Green Acres): Parking on both sides of the street is an issue (mostly from landscaping company on North Ave parking on our street). I vote to have a painted area on one side of the street (pedestrian area) and parking on the other to limit blind spots behind parked cars. We could survey to see how many people need street parking.
- Resident: I recommend adding a physical boundary, people do not respect paint. A shared use "lane" area is maintained with the road and allows multiple uses of the lane (bikes, pedestrians, dogs) at once, a sidewalk is only enough space for one lane user. People often gather and linger in the sidewalk, preventing other users from passing.
- Resident: Instead of plastic markers, how about temporary curbs with planters for seasonal use.
- Resident: Cottage Grove Drive has areas where drainage does not work. Ponding along curb.
- Resident: Suggested installing a dead end where Grey Meadow and Cottage Grove meet.

Cottage Grove/Loado Drive Hearing Plan Markups/Comments

- Bollards and/or planters +3 and remove parking from both sides or one side of the street.

Drawn Notes:

- Shared use lane on the South side that ties into the sidewalk present at Grey Meadow Dr.
- Parking remains on North side
- Periodic Speed tables
- No parking zones close to intersections
- Crosswalks at the intersection of Green Acres + Cottage Grove and Loado Dr + Cottage Grove

Images:



Brief final talk about alternatives:

- Dead end Cottage Grove Road that retains emergency vehicle use
- Loaldo Drive to Cottage Grove: painted lines with bollards (widely supported by others). This will help with the intersection parking issues too.
- Emphasize on maintaining anything that is put in place
- Retaining mobility to a bus stop and for families recreating

General Hearing Plan Markups/Comments

- Have traffic studies been done to determine if sidewalks are needed?

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- What about all the mature trees that will need to come down? Hotter ... in the summer. +4
- Runoff is bad now. Adding more concrete and removing trees will make it worse. +4
- Many of the yards have gardens and fences that will need to be removed. +4
- All way stop signs on all intersections of Loado, Cottage Grove, Green acres, & Grey Meadow!

APPENDIX B

Survey Results

NNE Sidewalk Scoping Study Survey

This survey is for input regarding the potential addition of sidewalk along one or both sides of Cottage Grove, Green Acres, and Stanbury where it does not currently exist. This input will help us inform our design alternatives for each of these streets which could include a no-build option.

All answers submitted here will be kept confidential.

* Required

1. Please provide your name:

Enter your answer

2. Please provide contact information (email/phone):

Enter your answer

3. Select which streets you would like to see sidewalk on: *

- Stanbury
- Green Acres
- Cottage Grove
- None

4. What are your concerns with the possibility of sidewalk installation in your neighborhood / on your front lawn? (select all that apply) *

- Mailbox
- Utilities

- Fence
- Tree
- Garden
- Driveway length
- Grass/lawn space
- Other

5. If you have a specific concern in front of your house, please leave your address:

Enter your answer

6. Additional notes:

Enter your answer



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Burlington Near North End Sidewalk Scoping Study Survey

ID	Completion time	3. Select which streets you would like to see sidewalk on:	4. What are your concerns with the possibility of sidewalk installation in your neighborhood / on your front lawn? (select all that apply)	5. If you have a specific concern in front of your house, please leave your address:	6. Additional notes:
2	6/24/24 17:42:05	Stanbury;	Driveway length; Grass/lawn space; Tree;		
3	6/24/24 17:42:15	Cottage Grove;	Fence;	XX Loaldo Drive	Street is narrow and people drive too fast. On a narrow street even 25 mph is too fast.
4	6/24/24 17:46:25	Stanbury; Green Acres; Cottage Grove;	Utilities; Fence; Mailbox; Driveway length; Slip/fall liability;	XX Loaldo Drive Burlington	Sewage line impacts—who's liable if construction causes damage
5	6/24/24 18:35:22	Stanbury; Green Acres; Cottage Grove;	No concerns. It's worth it. ;		I am a strong proponent of pedestrian safety, and that means sidewalks. I very much want to see Stanbury have sidewalks.
6	6/24/24 18:35:36	Stanbury; Green Acres; Cottage Grove;	No concerns. It's worth it. ;		I am a strong proponent of pedestrian safety, and that means sidewalks. I very much want to see Stanbury have sidewalks.
7	6/24/24 18:37:07	Green Acres;	Garden; Driveway length; Grass/lawn space; A sidewalk isn't going to solve everyone's concerns about speeding cars. ;		I'm 100% opposed to the idea of a sidewalk. If you want to put some kind of lane on the road or something else in the road, that's fine but I don't want to lose 10ft of my lawn.
8	6/24/24 18:38:27	Stanbury;	Garden; Driveway length; Grass/lawn space; City's ability to maintain additional sidewalks as current sidewalks are in disrepair in the city.;		Seems we are addressing a problem that doesn't exist. "Traffic" is minimal. Cost for additional plowing, repairs, etc. is disproportionate to the perceived "need". Lawns are small as it stands. Unnecessary expense for the city. Drives are short-causing additional problems for winter weather.
9	6/24/24 18:42:58	Stanbury; Green Acres; Cottage Grove;	Driveway length;		I look forward to the additions of sidewalks so that my child can safely walk to school. Thank you!
10	6/24/24 18:43:22	Cottage Grove;	Tree; Driveway length;	XX Green Acres	
11	6/24/24 18:44:46	Stanbury; Green Acres; Cottage Grove;	Driveway length;		Looking forward to solution for safe, protected walking
12	6/24/24 18:47:52	Green Acres;	Tree; Fence; Garden; Driveway length;	We have a very short driveway. If the sidewalk cut into our lawn, it might make it so that our car couldn't fit into our driveway without going onto the sidewalk	Instead of a sidewalk, my preference would be for Green Acres to have one sided parking with bollards as a pedestrian walking space.
13	6/24/24 18:50:10	None;	Utilities; Tree; Garden; Driveway length; Grass/lawn space;		The issue for me on green acres is the speed of cars on the straightaway. I'd like to keep the lawn and tree and garden, they've been carefully tended for years before we purchased our property. A sidewalk would remove yard for whichever side it is built on.
14	6/24/24 18:54:28	Green Acres;	Driveway length; Grass/lawn space; The probability that people will be walking 6' from my windows + that my driveway hardly fits a single car length as is;	XX Green Acres—driveway length	If the concern is to placate speed/traffic concerns rather than designated walking space, I'd be all for speed bumps and/or stop signs, but I vote no on sidewalks. Sidewalks in front yards will remove much of our street's beautiful greenery, shorten some driveways to unusable lengths, bring walkers too close to homes, and remove large portions of the tiny yards we already have. Thank you!
15	6/24/24 18:59:43	Green Acres;	Tree; Driveway length; Grass/lawn space; Garden; Loss of parking, loss of front yard space, addition of impervious surface ;	XX Green Acres	I am completely opposed to this project which is seeking a problem to solve but will create many resulting problems if carried through.
16	6/24/24 19:35:36	Green Acres;	Grass/lawn space; Garden;		I would like to see a sidewalk installed on one side of Green Acres (either side would be acceptable), with the space for it being taken from mostly, if not entirely from the roadway. I personally would be ok with a couple feet of lawn concessions to see this happen, if necessary. Lots of neighbors, including myself, walk up and down Green Acres every day. A dedicated, separated space for walkers is the safe thing to do before someone eventually gets hurt as people drive fast and nowadays are often on their phones driving. I enjoy seeing people's gardens and lawns and would rather see the ample roadway space used for a new sidewalk, as it will keep the green space green and also create traffic calming by narrowing the road. Have parking be on one side of the street only. Thanks

Burlington Near North End Sidewalk Scoping Study Survey

ID	Completion time	3. Select which streets you would like to see sidewalk on:	4. What are your concerns with the possibility of sidewalk installation in your neighborhood / on your front lawn? (select all that apply)	5. If you have a specific concern in front of your house, please leave your address:	6. Additional notes:
17	6/24/24 19:36:15	Green Acres;	Grass/lawn space; Utilities; Fence; Tree; Garden; Driveway length; The sidewalk being too close to people's private homes/windows;		I would be in favor of a sidewalk on one side of the street and also have parking narrowed down to one side of the road. I would want the sidewalk designed to shorten the street space rather than pulling the space from people's lawns, gardens etc.(would be open to giving up a few feet if necessary) I understand this would be costly however, I feel if we could get the proper funding this would be the safest option for the neighborhood. It slows cars, encourages all pedestrians the accessibility and safety to walk/bike etc. to north ave or towards the bike path.
18	6/24/24 19:51:17	None;	Utilities; Fence; Tree; Garden; Driveway length; Grass/lawn space;	Mature red maple that would probably need to come down.	Thank you for listening tonight. I think the issue of traffic goes beyond a fix of a sidewalk. A traffic calming study is as much or more necessary than the sidewalk study. I would be ok with a lined section of the street and bollards for pedestrians. I do not want to see our yards dug up for a sidewalk.
19	6/24/24 21:53:22	None;	Utilities; Tree; Driveway length;	XX Green Acres	I can barely fit our 2 cars in the driveway now and the garage is used for other storage. If you make my driveway shorter I'll be forced to park on the lawn or widen the driveway. This as well as the sidewalk would create more runoff on a street with no drainage.
20	6/24/24 23:17:06	Green Acres;	Utilities; Tree; Garden; Driveway length; Grass/lawn space; Loss of neighborhood feel;		<p>I think a sidewalk on green acres would not serve the wider community as well as a shared use lane would.</p> <p>Not only would a sidewalk be costly to install it would further cause issue with drainage while killing a number of large trees and gardens in our already short front lawns.</p> <p>A fully separate raised sidewalk only serves the segment of the community that can walk well enough on one when it degrades or heaves in 5 years. Something like a separated ped/bike lane and some speed tables would accomplish everything a sidewalk would at a fraction of the cost while serving a wider slice of the community for longer without ongoing maintenance and less upfront costs.</p> <p>If the speed issue can be addressed I think it would go a long way to appeasing the minority that has been asking for a sidewalk.</p>
21	6/25/24 4:34:38	Green Acres;	Garden; Driveway length; Grass/lawn space ;Utilities; Water run off/ heat exposure/ maintenance ;	XX Green Acres	<p>Our street is already lacking good shade cover and is VERY hot in the summer. More concrete would only make that worse while taking away green space that aids in storm drainage.</p> <p>The traffic speed has ceased since the drug house was busted 1 year ago, aside from 1 neighbor that still speeds just to caused trouble. We are not a thru road and do not have a ton of walking or driving traffic. We would benefit more from a project like the Dale st. Trial of converting half the street parking to walking traffic for a safer space for bikes, young kids & dog walkers. Yet at this time I see no need beyond the issue of the drug house traffic that has since been resolved by the police & DEA stepping in to evict the drug house a year ago.</p>
22	6/25/24 9:33:22	Green Acres; Cottage Grove;	Grass/lawn space;		I would like to see a sidewalk going up green acres all the way to the cottage grove intersection, with the sidewalk extending up cottage grove from that intersection toward gray meadow - creating a link to the pre existing sidewalk that ends on grey meadow to this new sidewalk

Burlington Near North End Sidewalk Scoping Study Survey

ID	Completion time	3. Select which streets you would like to see sidewalk on:	4. What are your concerns with the possibility of sidewalk installation in your neighborhood / on your front lawn? (select all that apply)	5. If you have a specific concern in front of your house, please leave your address:	6. Additional notes:
23	6/25/24 21:44:51	Cottage Grove; None;	Driveway length; Grass/lawn space; Tree; Would change the feel of green acres neighborhood ;		We are regular pedestrians on green acres drive and the adjoining streets. We are a family with a wheelchair user we comfortable and confident walking on the road on green acres drive. We would prefer sidewalk and curb cut to crosswalk transitions improvements were done on North Ave toward the shopping plaza as it is a busy street and there are several areas in difficult shape as we have to utilize the sidewalk to get there.
24	6/27/24 7:25:46	None;	Garden; Driveway length; Utilities; Grass/lawn space; Tree;	XX Green Acres Drive	Is there any way to create a walking access solution in the wide street rather than by overtaking peoples' properties? My neighbors and I are feeling like this is not the best option. We would all 100% prefer an in-street solution like a painted bike/walk lane, a protected bike lane, single-side street parking, stop signs and speed bumps. Our main concern is traffic calming or slowing. However, I have resolved in my mind that I'd be willing to sacrifice my front garden that we've worked so hard to create, and parking conveniences in order to improve safe walking access on our street, or on any street for that matter. If it has to be sidewalks or nothing, I won't make a stink. To reiterate, please share an alternative solution to making neighbors get angry at the city and each other by seizing property. At least think about it.
25	6/27/24 18:28:53	Stanbury;	You need a none option ;		Green acres and cottage Grove are extremely low traffic and I have never felt unsafe walking or biking on the shoulder. There is better usage for the funds for refurbishment of existing side walks or bike lanes around the NNE
26	6/29/24 13:22:47	None;	Tree; Grass/lawn space; It seems totally unnecessary?;	I have several mature oak trees that I do not want to lose, including a "specimen tree" identified by the city.	I was quite puzzled when I got the flyer about this idea. It came out of nowhere, from my perspective. I do know there have been some concerns about pedestrian safety on the street, but those seem to relate mostly to some obnoxious driving behavior from a couple individuals in the area who are intentionally trying to intimidate/annoy. I don't see that a major overhaul of the neighborhood that negatively affects many people's yards is a suitable or effective response to that problem.
27	7/10/24 17:17:48	None;	Unnecessary spending of tax payer dollars, whether state, federal, or local. Stop spending!;		I walk 5-6 miles a day in Burlington and generally avoid the sidewalks because of their often poor condition. I will not risk walking or running on icy sidewalks in winter, using the road instead. It is nice that sidewalks are plowed but there are often whole sections that ice over due to poor drainage. I think the plows create trenches. There are often deep grooves where the expansion joints have eroded, creating tripping hazards. How about maintaining the existing sidewalks before adding more? Also, enough is enough! Stop spending!

Burlington Near North End Sidewalk Scoping Study Survey

ID	Completion time	3. Select which streets you would like to see sidewalk on:	4. What are your concerns with the possibility of sidewalk installation in your neighborhood / on your front lawn? (select all that apply)	5. If you have a specific concern in front of your house, please leave your address:	6. Additional notes:
28	7/10/24 18:32:40	Stanbury;	Fence; Tree; Garden; Driveway length; Grass/lawn space;		While a sidewalk seems like the right solution for Stanbury, the bollard divided pedestrian/bicycle space on one side of the road that was discussed at the meeting seems like a much better idea for green acres/cottage grove and eventually loaldo. I would also like to see traffic calming engineering solutions like planter bollards, raised crosswalks, speed bumps/tables etc. For most of us residents, slowing the occasional high speed driver is a much bigger concern on GA/CG than having a fully separate pedestrian walk.
29	7/10/24 19:05:51	Stanbury;	None;		Thank you for asking!
30	7/10/24 19:49:11	Cottage Grove; Green Acres; Stanbury;	Utilities;		
31	7/10/24 22:19:48	None;	Driveway length; Grass/lawn space; There is not enough frontage on Green Acres Dr. for a sidewalk;		There is nothing that slows traffic more than people walking in the road. There is not a lot of traffic on Green Acres Drive to warrant a sidewalk. I have lived on this street for 50+ years and there has never been a safety issue that I am aware of.
32	7/11/24 8:33:22	None;	Utilities; Tree; Grass/lawn space; Fence; Garden;	XX Stanbury Rd	I have an in ground irrigation system that would have to be redone. The large american sycamore that I planted 40 yrs ago would likely be damaged and possibly killed by excavation around its roots. Could the sidewalk be built on the existing asphalt of the road ?
33	7/11/24 15:20:33	None;	Tree; Garden; Driveway length; Grass/lawn space;		On Green Acres, the main issue we see is speed. Some speed mitigation measures would be more welcome than a sidewalk which would disrupt the feel of our neighborhood with many gardens and trees.
34	7/11/24 15:57:04	None;	Tree; Grass/lawn space;	I'm at XX Loaldo Drive, which backs up against Cottage Grove. If the new sidewalk was on the south side of Cottage Grove, then there are many wonderful old oak trees on that side that may be slated for removal which I would hate to see.	<p>Respectfully, I do not see an excessive amount of cars on Cottage Grove, and I don't see a high need for a sidewalk there. I would be more supportive of traffic calming measures, like tree planters or bump outs. As an alternative to the issue, I wonder if concrete barriers at the corner of Cottage Grove and Grey Meadows would be a solution to stop cars, but allow bikers and pedestrians to use that route.</p> <p>On a separate but related note, I do get frustrated by the closed streets that are unconnected to other streets, like Pleasant ave., York, Sunset Cliff Road, Curtis ave., etc. It would be great if those streets could get some kind of pedestrian/bike connection attached to them somehow that would allow walkers and bikers to move more easily throughout the NNE. That could be a huge bonus to walkers and bikers to be able to shortcut around the area.</p> <p>Thank you for taking the time to work on these street issues and improve the livability of the city.</p> <p>Sincerely, Isaac</p>
35	7/11/24 17:44:33	Stanbury;	Grass/lawn space;		
36	7/11/24 17:45:18	Stanbury; Green Acres; Cottage Grove;	Grass/lawn space;		
37	7/11/24 21:01:54	Stanbury; Green Acres; Cottage Grove;	None...right of way exists. Needs of the many outweigh the voices of the few!;		
38	7/11/24 21:05:45	Stanbury;	none;		No concerns--I was responding to say I love the idea! I would love it if all the proposed sidewalks get built.

PUBLIC INPUT MEETING

1. Do the owners own the property up to the curb?
2. If sidewalks were installed, would the city take responsible for any further maintenance such as snow clearing, cracking, i.e., tree root overgrowth?
3. Would property owners get any tax relief from the city taking away square footage of their rightful property?
4. Are you considering adding sidewalks to both sides of the street?

ARGUMENTS/CONS

1. Many homeowners on my street (Green Acres Drive), have ornamental and vegetable gardens growing and thriving in their front yards up to the existing curb.
2. Some of these residents rely on their gardens to grow food they help to distribute to the community, and for their personal businesses.
3. It's not uncommon to see many residents locally and from nearby streets, (that you propose to add unnecessary concrete to), walking their pets on the street with no danger from oncoming traffic since practically every motorist coming down my street hardly exceeds 20 mph.

PRO/FOR

1. LESS runoff from rainfall draining into the streets' sewer system rather than soaking the vegetation being grown for food or curb appeal.
2. NO expense on the city to plow those proposed sidewalks.
3. NO hidden charges or property taxes against owners to install sidewalks. Right??

DON'T FIX WHAT ISN'T BROKEN

From: Madeline Suender <msuender@burlingtonvt.gov>
Sent: Friday, June 14, 2024 7:51 AM
To: Soren [REDACTED]
Subject: RE: NNE Sidewalk Scoping Study

Hi Soren,

Thanks for reaching out. With this effort, those are the exact things we are trying to determine. The sidewalk would be within the City Right of Way. The city has identified these streets for added sidewalk connections and now we are hoping to gain input from the neighborhood to see where this would best fit and what, if any, barriers there are. There are not yet any plans to add this sidewalk, this effort would inform that process and help it progress if there was support. It would be great to hear any concerns you have or support for sidewalks on your street as you mentioned below. We welcome that input at the public meeting which I am glad to hear you plan to attend. If you are unable to attend for whatever reason feel free to email or call me. There will be multiple opportunities to provide feedback.

Regarding your mention of traffic calming – we are aware of traffic calming requests on Green Acres and it is in our queue of traffic calming requests. We will look to coordinate any improvements on the street to keep both of these efforts in mind if they are to both progress.

Thanks,
Maddy

Maddy Suender
Public Works Engineer

Burlington Department of Public Works
645 Pine Street | Burlington, VT 05401
PH: 802-735-5324
MSuender@burlingtonvt.gov

From: Soren [REDACTED]
Sent: Thursday, June 13, 2024 4:57 PM
To: Madeline Suender <msuender@burlingtonvt.gov>
Subject: NNE Sidewalk Scoping Study

You don't often get email from [REDACTED]. [Learn why this is important](#)

[WARNING]: This email was sent from someone outside of the City of Burlington.


Hi Maddy,

I hope you are well. I am reaching out regarding the New North End Sidewalk Scoping Study flyer I received today. I am a resident of Green Acres Drive and I am very hesitant about adding a sidewalk to our street. Without more information about the exact placement of a sidewalk, I cannot give my support to this project.

My main concern is that a sidewalk which leaves the curb and street intact would destroy carefully established landscaping that has been in place for decades. I would lose a beautiful sour cherry tree that was planted well before I purchased my property. My front flower garden would be hugely impacted.

I would much sooner support a project to implement speed bumps in the straightaway on Green Acres Drive. It would slow drivers while leaving lawns as they are. I can only assume it would also be less expensive than constructing a new sidewalk. I plan to attend the public meeting on June 24th, and I hope to hear more about the exact details of the project and how residents would be impacted.

Thank you for your time and consideration.

Warmly, Soren 

Smith, Alyssa M.

From: Madeline Suender <msuender@burlingtonvt.gov>
Sent: Monday, June 24, 2024 3:32 PM
To: Sarah [REDACTED]
Cc: Phillip Peterson
Subject: [External] RE: Sidewalks in the new north end

Hi Sarah,

Thanks so much for reaching out and providing input. I have recorded your comment for support of adding sidewalks and the helpful context you provided. This is just the first public meeting for this project so if you would like the chance to attend a meeting, there will be other opportunities in the future.

Thanks,
Maddy

Maddy Suender
Public Works Engineer

Burlington Department of Public Works
645 Pine Street | Burlington, VT 05401
PH: 802-735-5324
MSuender@burlingtonvt.gov

From: Sarah [REDACTED]
Sent: Saturday, June 22, 2024 10:33 PM
To: Madeline Suender <msuender@burlingtonvt.gov>
Subject: Sidewalks in the new north end

You don't often get email from [REDACTED] [Learn why this is important](#)

[WARNING]: This email was sent from someone outside of the City of Burlington.

Hi Maddy,

I received the flyer about the city starting to look at options for putting sidewalks onto Cottage Grove, Green Acres and Stanbury. I am unable to attend the meeting on Monday so I wanted to pass on my support by email. Before having a kid, I didn't even really notice the lack of sidewalks. Now that I have a young child (age 3) I can't tell you how often over the past three years I have lamented the lack of sidewalks. The New North End is a wonderful place to live for families with lots of great places to visit on foot (playground at Starr Farm, bike path, lake, community gardens at Starr farm, Pingala down the road, even the fire station!) However any time I take my young child out for walks I am continually concerned about traffic since we have to walk on the street. The stretch of Loaldo-Cottage Grove, starting on North Ave and ending at Great Meadows, is a long straight street and unfortunately lots of people speed on this section of road. Also, it's not uncommon to see large tractor trailers or the fire truck coming down our road either. A sidewalk would certainly ease my safety concerns for when I'm out walking with my child.

Thank you for your consideration!

Sarah [REDACTED]

Please note that this communication and any response to it will be maintained as a public record and may be subject to disclosure under the Vermont Public Records Act.

APPENDIX C

Public Informational Meeting Slides and Minutes

Burlington New North End Sidewalk Scoping Study

Alternatives Meeting

November 4, 2024

Hunt Middle School



Trusted Experts | Innovative Results

Sidewalk Scoping Study



- Scope of the Project
 - Assess the possibility of a sidewalk on one or both sides of the street within the study areas
 - No Build alternative also an option
- Purpose of Tonight's Meeting
 - Review Survey Responses
 - Discuss any issues or concerns with possible alternatives
 - Gather feedback to help inform recommended alternative selection

Sidewalk Scoping Study



- Purpose

- To provide a continuous network of pedestrian facilities within the study areas and to improve pedestrian safety.


- Need

- There are currently no pedestrian facilities within the study area. Some surrounding streets have sidewalks, but there are no pedestrian facilities that connect to those sidewalks. Pedestrians walk in the street as there is no other alternative.

Project Schedule (Estimated)



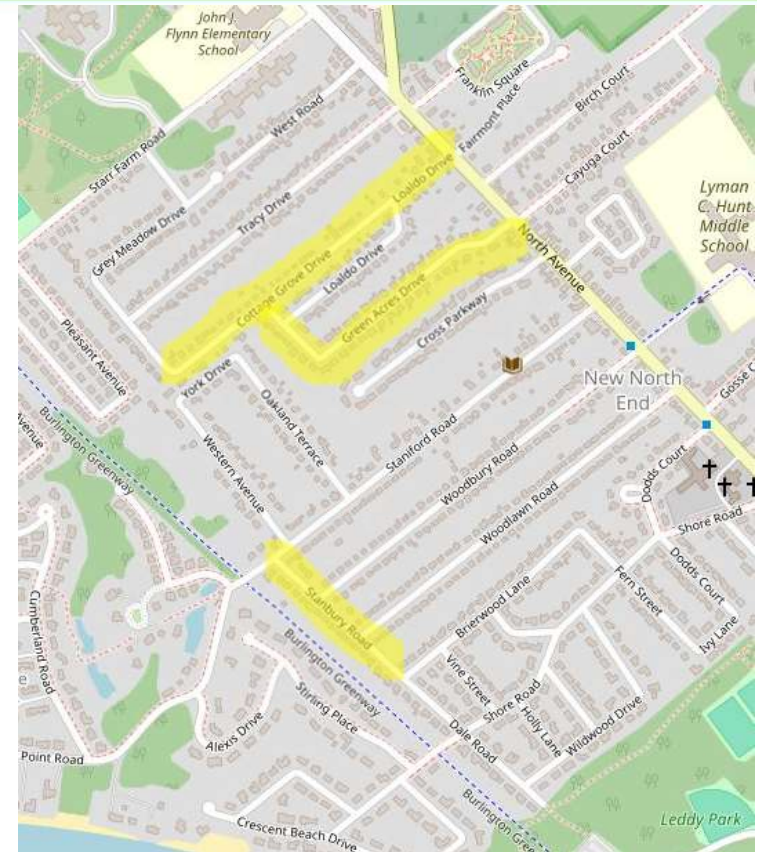
- Study Phase

- **May 2024** – Initial Site Visit
- **June 2024** – Local Concerns Meeting
- **November 2024** – Alternatives Presentation (Public Information) Meeting 
- **December 2024** – Final Sidewalk Scoping Study

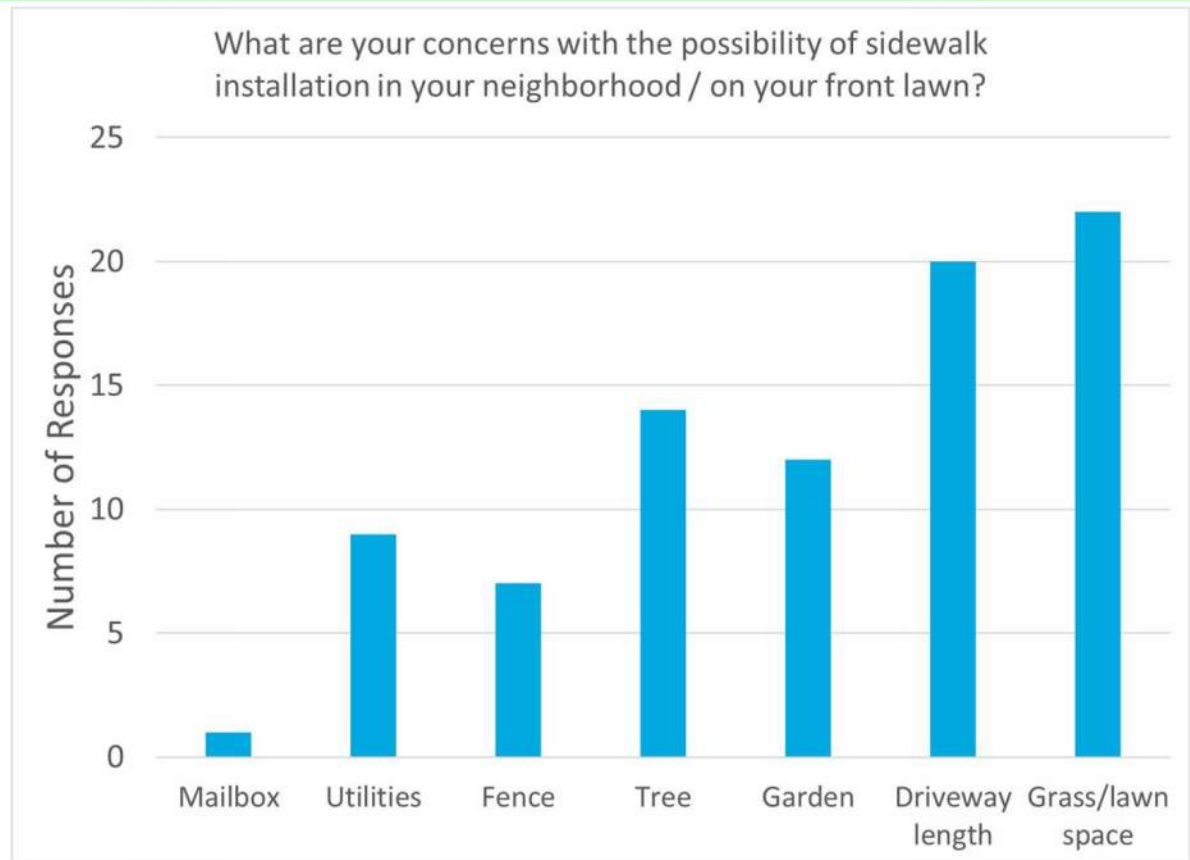
Project Background



- Cottage Grove/Loaldo Drive – from Grey Meadow Drive to North Avenue
- Green Acres Drive – from Cottage Grove to North Avenue
- Stanbury Road – from Staniford Road to Brierwood Lane
- Existing Conditions
 - No sidewalks
 - Posted Speed: 25mph
 - Concrete curbs
 - Variable roadway widths from 26-30 feet
 - Streetlights
 - ROW: 3 Rod Right of Way (24'-9") either side of centerline of road



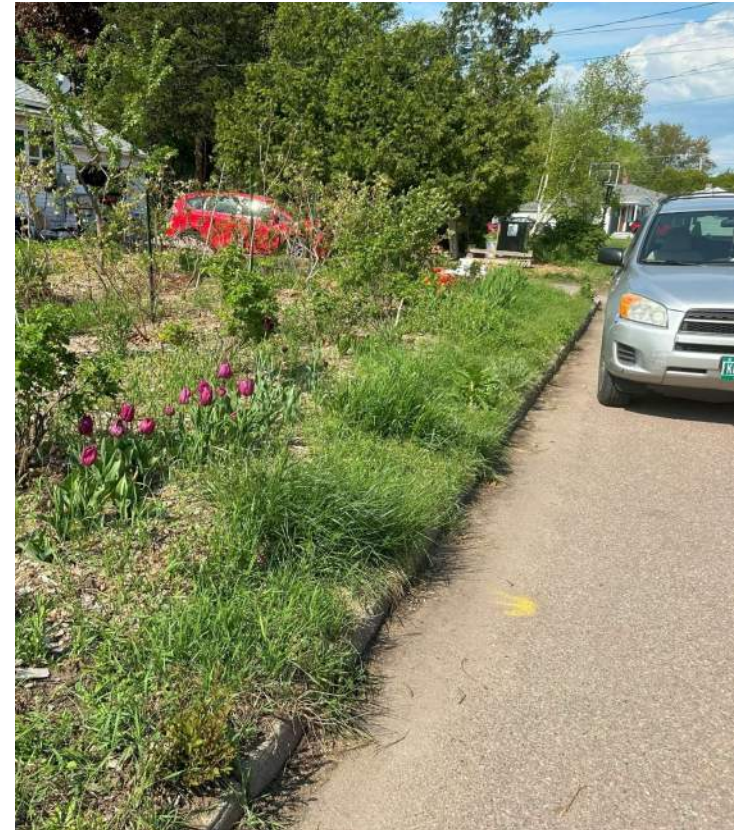
Survey Results – What are your concerns?



Survey Results – What are your concerns?



- Additional Concerns
 - City's ability to maintain additional sidewalks
 - Sidewalk being too close to private homes/windows
 - Loss of neighborhood feel
 - Sidewalk seems unnecessary
 - Addition of impervious surfaces
 - Loss of parking
 - Unnecessary spending of tax dollars
 - Drainage/water run off
 - Don't want a sidewalk



Survey Results – General Comments



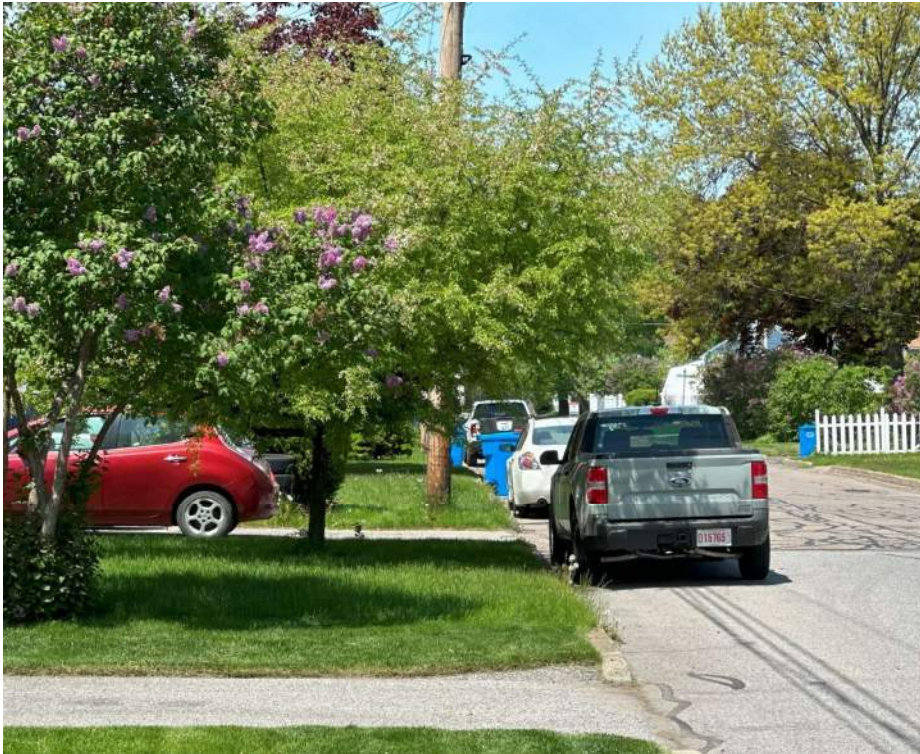
Summary of “Additional Notes”	Number of Responses
Want to see sidewalks	7
Don’t want sidewalks	5
Want a shared pedestrian/bike lane	5
Sidewalks don’t seem necessary	4
Concerned with speeding traffic	4
Concerned how sidewalks would impact my driveway	1
Concerned about sewage line liability	1

Stanbury Road

- Existing Conditions
 - 28 ft wide north of Woodbury, 30 ft wide south of Woodbury
 - Utility poles on west side
 - Existing sidewalk with 3.5 ft grass strip south of Dale Road
 - Catch basins at intersections
 - Access to Burlington Greenway via nearby Staniford Road and Shore Road



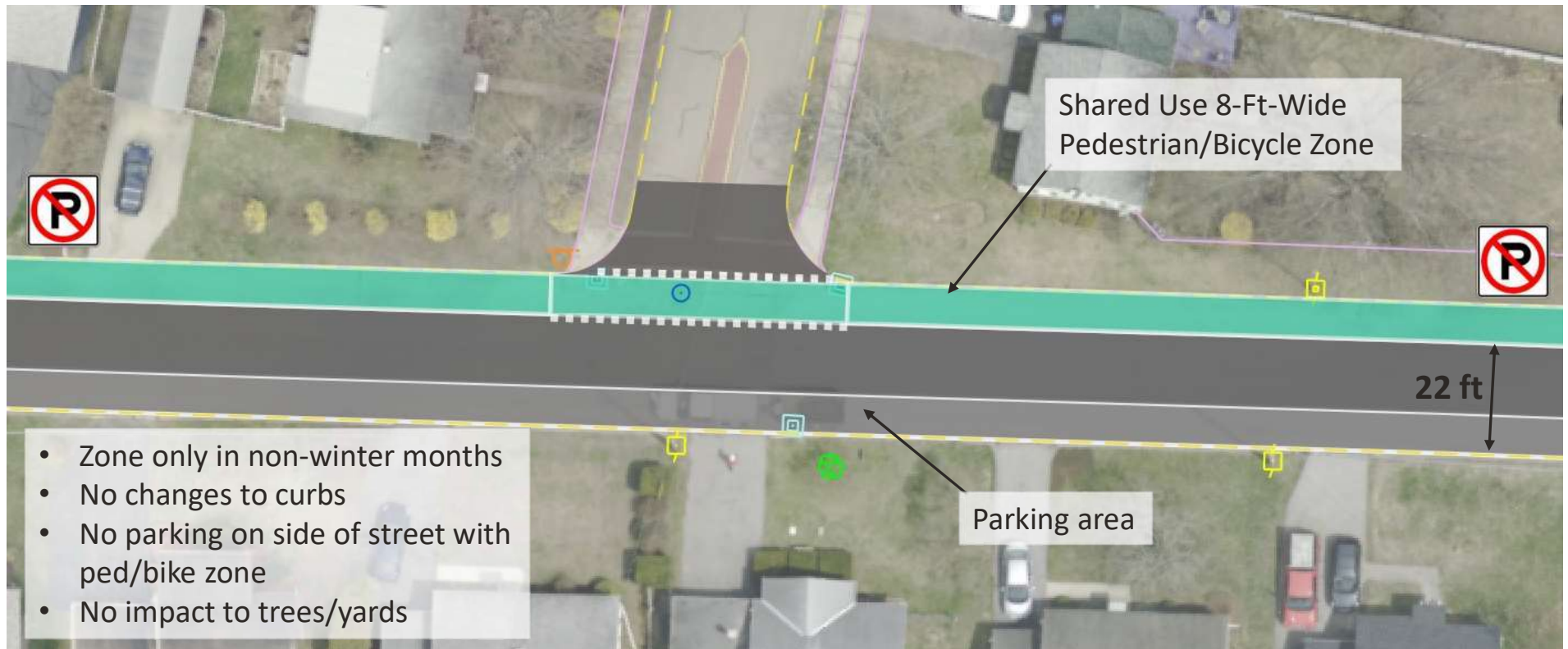
Stanbury Road



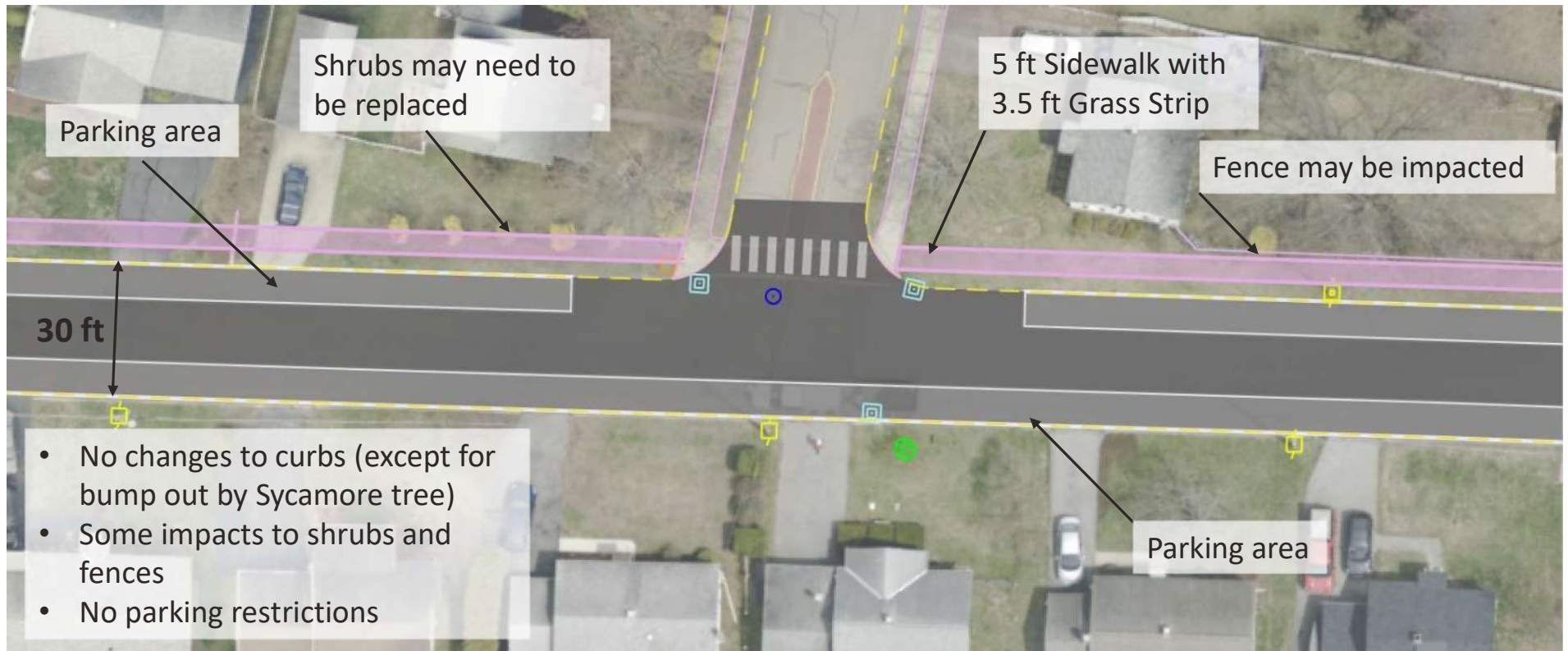
• Concerns/Challenges

- Poor drainage – ponding and slow draining catch basins
- West side has front yards with mature plantings
- East side has a mature sycamore tree near the intersection with Staniford Road

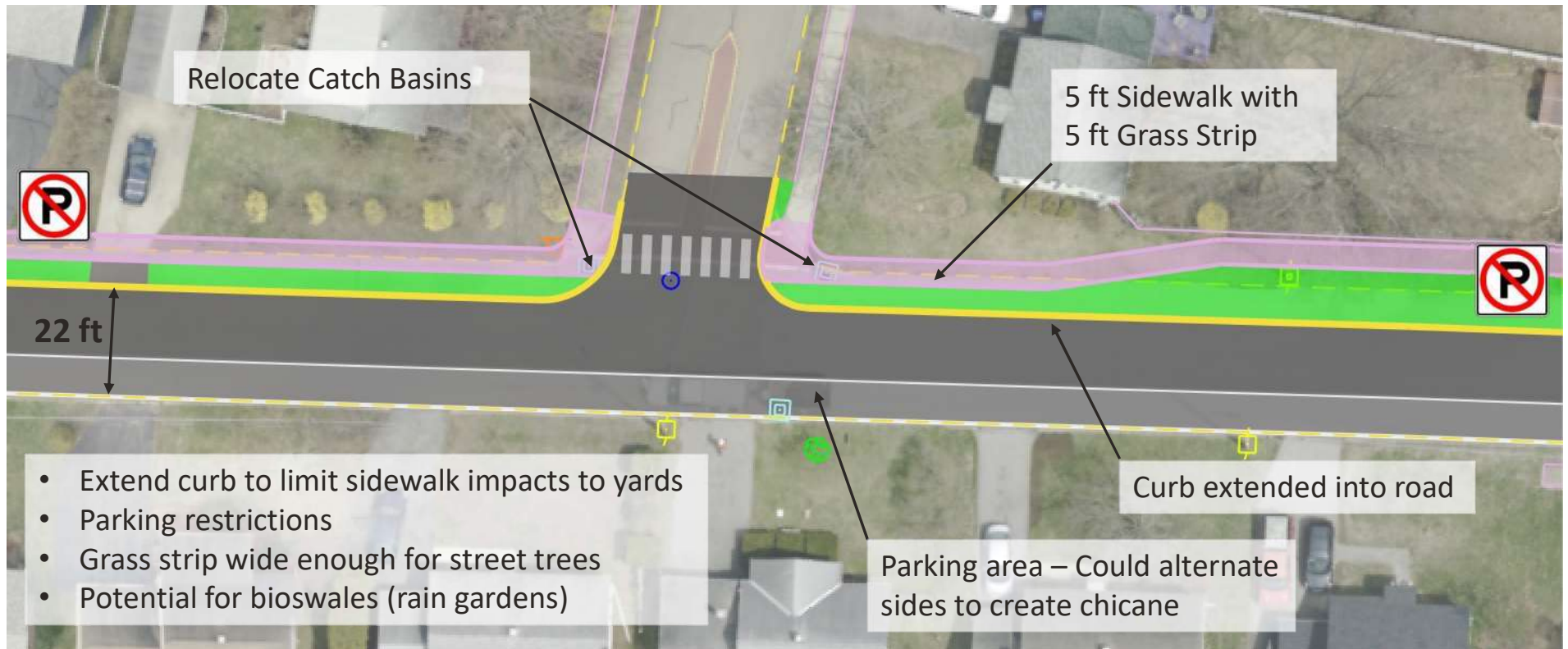
Stanbury Road – Alt 2 – Ped/Bike Zone



Stanbury Road – Alt 3 – Sidewalk behind curb



Stanbury Rd – Alt 4 – Sidewalk w/ Curb Extension



Stanbury Road Alternatives Matrix



	Meets Purpose & Need	Bike/Ped Facilities	Other Considerations	Residential Impacts	ROW Impacts
Alternative 1: No Build	No	None	None	None	None
Alternative 2: Painted Ped/Bike Zone	Partial	8' Painted Ped/Bike Lane 22' road	No physical barriers during winter months.	Parking restrictions on east side of road.	None
Alternative 3: Sidewalk behind existing curb	Yes	5' sidewalk 0'-3' grass strip 28' road	Sidewalk bump out at sycamore tree. May need to remove or relocate fence panels.	Loss of front/side yard green space and driveway length. Some shrubs/lilacs may be affected.	Minor: Temporary Impacts
Alternative 4: Sidewalk with relocated curb	Yes	5' sidewalk 0'-3'+ grass strip 22" road	Requires changes to closed drainage system. Opportunity for bioswale.	Some impact to front yard green space and driveway length. Parking restrictions.	Minor: Temporary Impacts

Cottage Grove/Loaldo Drive

- Existing Conditions
 - 26 ft wide road on Cottage Grove
 - 30 ft wide on Loaldo Drive
 - Utility poles on north side
 - Catch basins at intersections
 - South side of Cottage Grove has wooded grass strip 8-19 ft wide



Cottage Grove/Loaldo Drive

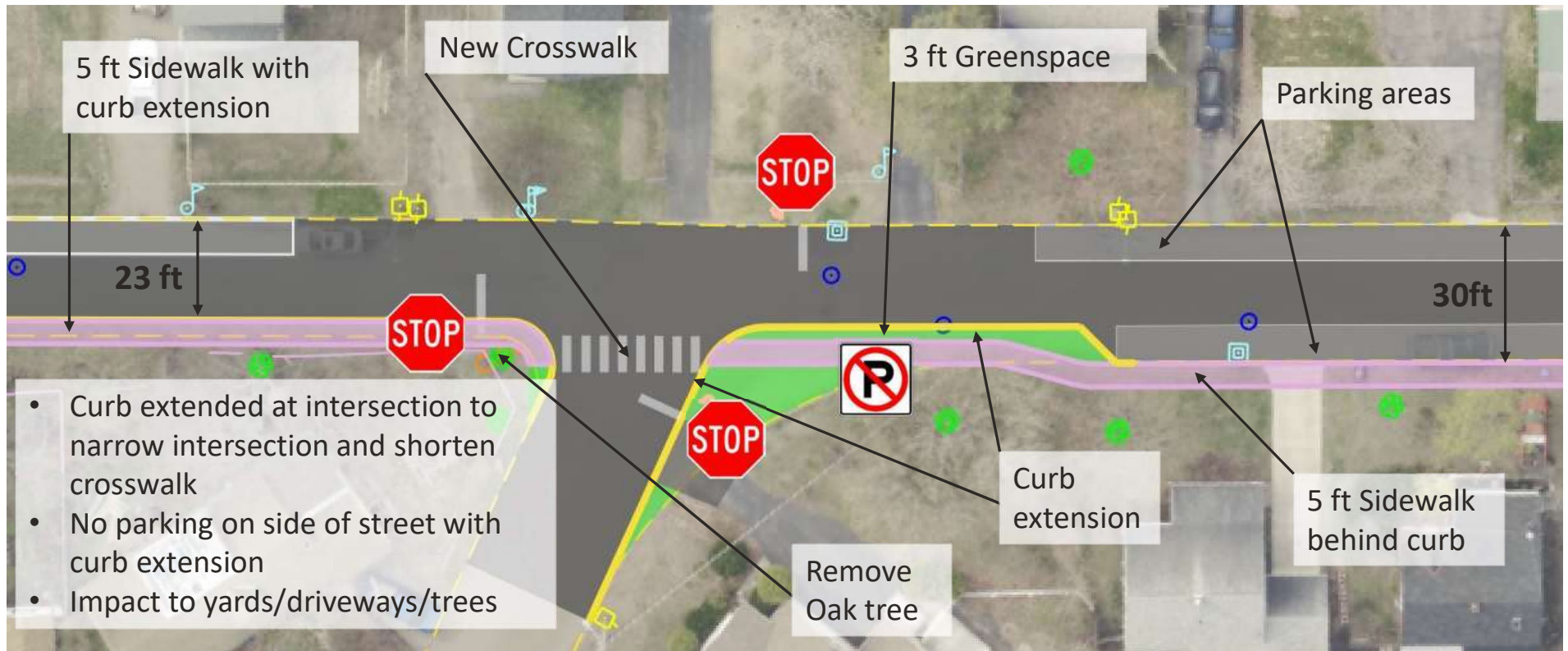


- Concerns/Challenges
 - North side of Cottage Grove has mature trees, established gardens, mailboxes and fences
 - Mature trees on south side of Cottage Grove provide character, shade and traffic calming
 - Street used as a cut through
 - Narrow street

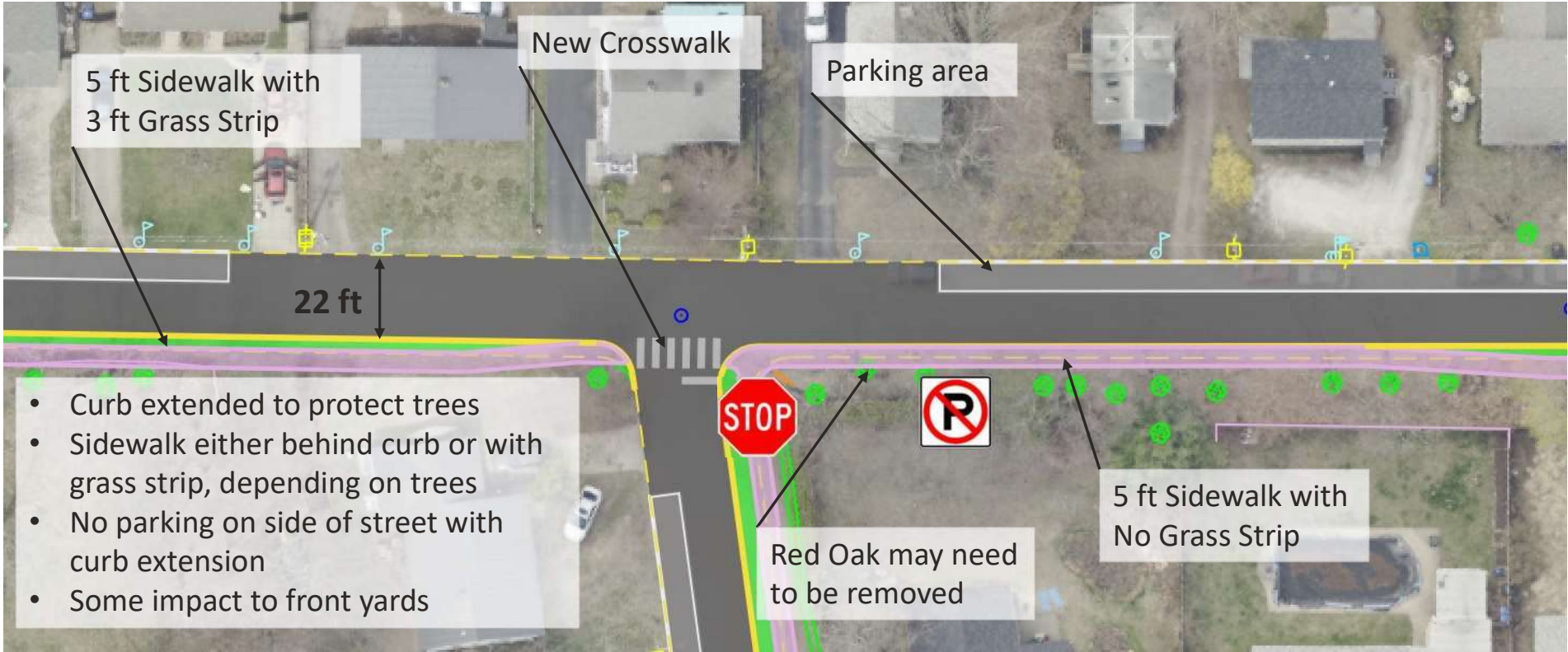
Cottage Grove– Alt 2 – Sidewalk behind curb



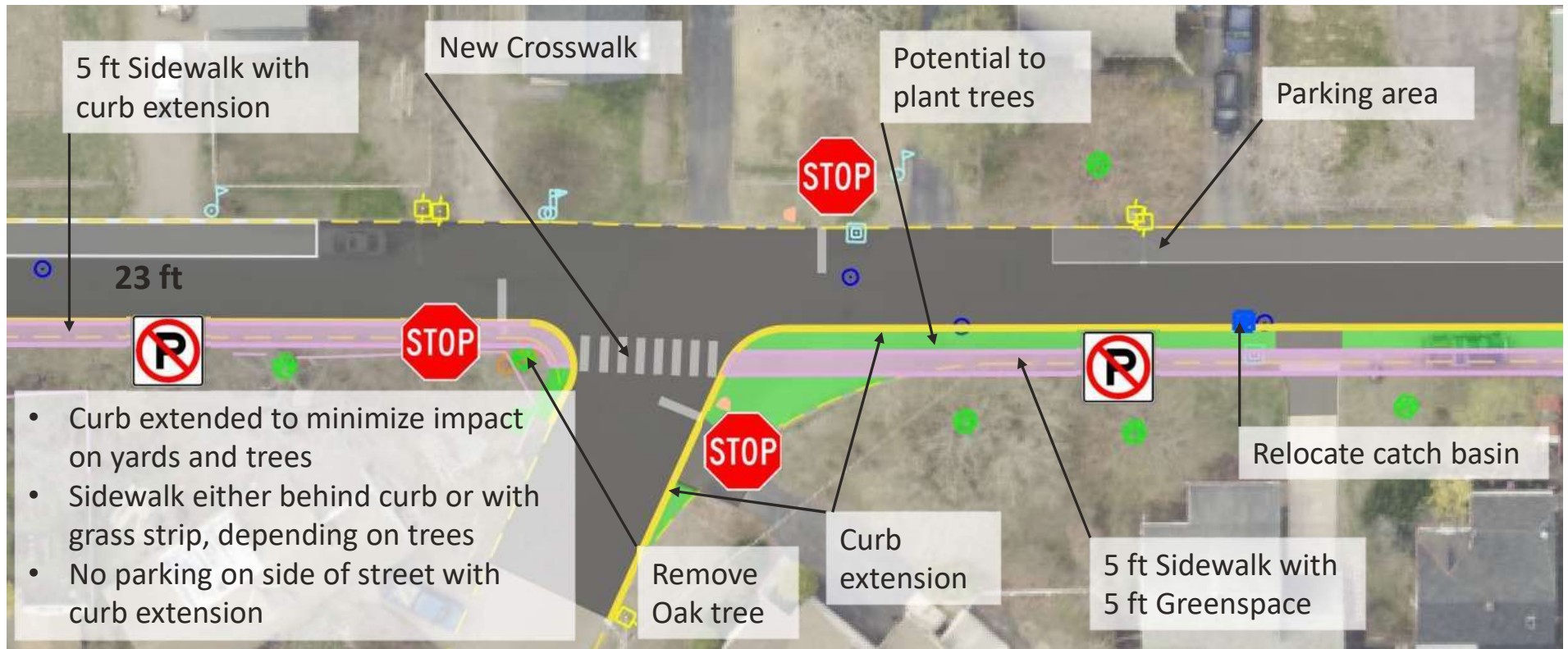
Loaldo Drive– Alt 2 – Sidewalk behind curb



Cottage Grove – Alt 3 – Sidewalk with curb extension



Loaldo Dr – Alt 3 – Sidewalk with curb extensions



Cottage/Loaldo Alternatives Matrix



	Meets Purpose & Need	Bike/Ped Facilities	Other Considerations	Residential Impacts	ROW Impacts
Alternative 1: No Build	No	None	None	None	None
Alternative 2: Sidewalk behind existing curb	Yes	5' Sidewalk 0'-3' grass strip 22-30' road	Loaldo Drive intersection improvements. Sidewalk with curb extensions to preserve trees. Traffic calming pinch point opportunity. Some tree removal.	Tree impacts on Cottage Grove. Loss of front yard and driveway length on Loaldo Drive. Trees in front yards may be impacted.	Minor: Temporary Impacts
Alternative 3: Sidewalk with relocated curb	Yes	5' sidewalk 0'-5' grass strip 22' road	Loaldo Drive intersection improvements. Requires changes to closed drainage system. Some tree removal.	Some impact to front yard green space and driveway length. Parking restrictions.	Minor: Temporary Impacts

*Not enough road width to accommodate a pedestrian/bicycle zone alternative

Burlington NNE Sidewalks

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Green Acres Drive

- Existing Conditions
 - 28 ft wide roadway
 - Utility poles on west and south side of the road, crossing to north side near North Avenue
 - 90° bend in road
 - Limited number of catch basins



Green Acres Drive

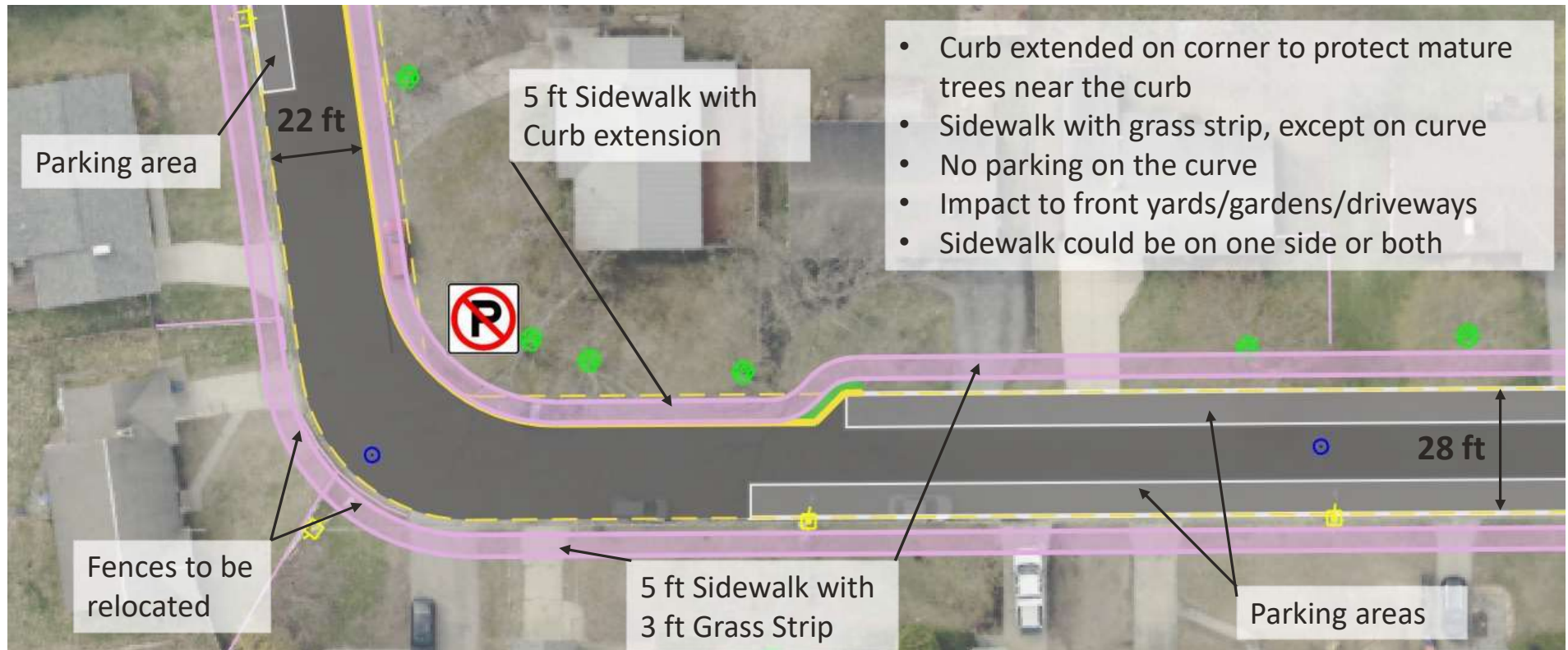


- Concerns/Challenges
 - Large statement trees on corner, adjacent to curb
 - Short driveways
 - Front yard gardens, trees and fences
 - Very little drainage

Green Acres – Alt 2 – Pedestrian Zone



Green Acres – Alt 3– Sidewalk behind curb



Green Acres – Alt 4 – Sidewalk w/ curb ext.



Green Acres Alternatives Matrix



	Meets Purpose & Need	Bike/Ped Facilities	Other Considerations	Residential Impacts	ROW Impacts
Alternative 1: No Build	No	None	None	None	None
Alternative 2: Painted Pedestrian Zone	Partial	6' Painted Pedestrian Zone 22' road	No physical barriers during winter months.	Parking restrictions on east side of road.	None
Alternative 3: Sidewalk behind existing curb	Yes	5' Sidewalk 0'-3' grass strip 22-28' road	Sidewalk with curb extensions to preserve trees on corner. Sidewalk could be on either side or both sides.	Loss of front yard and driveway length. Parking restrictions near corner.	Minor: Temporary Impacts
Alternative 4: Sidewalk with relocated curb	Yes	5' sidewalk 0'-5' grass strip 22' road	Requires changes to closed drainage system. Opportunity to plant street trees in grass strip.	Some impact to front yard green space and driveway length. Parking restrictions.	Minor: Temporary Impacts

COMMENTS & CONCERNS

CONTACT

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Senior Transportation Planner
Chittenden County Regional
Planning Commission
cforde@ccrpcvt.org

Alyssa Smith, EI, RSP1
Technical Lead
asmith@hoyletanner.com



Attendees:

In Person:

Alyssa Smith (Hoyle Tanner)	R. Lloyd	Herb Schroeder
Jon Olin (Hoyle Tanner)	C. Peltier	Rich Ronaldo
Zachary Roussel (Hoyle Tanner)	C. Gidney	Eliana Fox
Maddy Suender (City of Burlington)	J. Murphy	Joanne Kalisz
Phillip Peterson (City of Burlington)	E. Farrell	Brian Haas
Christine Ford (CCRPC)	Lynette Reep	Christa Carter
	Colin Burch	Keegan Carter
	Stephanie Burch	Linda Looney
	Johanna Prince	Tim Looney

Purpose:

The purpose of this meeting was to solicit public input, comments and concerns regarding the installation of new sidewalks and/or pedestrian improvements on Stanbury, Green Acres, Cottage Grove and a portion of Loaldo. At this meeting, the Hoyle Tanner Team, lead by Alyssa Smith presented three alternative options for each location.

Overview:

A. Smith introduces Hoyle Tanner and begins slide presentation. Highlighted streets under consideration include Stanbury Road, Green Acres Drive, Cottage Grove Drive and Loaldo Drive. For each location, alternative 1 was reserved for a “do nothing” option. Alternatives 2, 3 and 4 were discussed within the presentation for each location.

Discussion:

Stanbury Road

Alternative 2:

Resident*: How would cones be maintained for a pedestrian/bicycle zone during the winter?

A. Smith: They wouldn't be. This would be a seasonal proposal for the cones.

Resident: What about using planters or bollards? Orange cones are an eye sore.

M. Suender: This can be explored further.

A. Smith: We agree they can be an eye sore. There is more to discuss if this is the chosen alternative.

Resident: I have concerns with the bike lane making the road essentially 1-lane. With the road being so long, it makes waiting times long when cars are parked along the street. I think people generally liked having the dedicated walking and biking zone.

P. Peterson: This is an example of a yield street. In the end, it is a strategy to slow people down.

* In order to establish anonymity, resident names were not recorded are omitted from the discussion section.

Resident: In this area, speed is a huge issue. I think if the speed issue can be solved, the proposed sidewalk may not be needed.

A. Smith: If money is limited, traffic calming could be given priority.

Resident: It sounds like this is more a traffic calming project than a sidewalk project.

M. Suender: After these past few meetings, that has become more evident. Getting feedback like this will aid the city in grant applications to get traffic studies done in the future.

Resident: Can speeds be monitored from the temporary traffic signs that display speed?

M. Suender: Yes, and this has been done in the city, but results show averages around the speed feedback sign.

Resident: Is it in the city charter to have a sidewalk on every street?

P. Peterson: Not sure that it's in the city charter, but it is a goal.

Resident: With the schedule as presented ending in December, will this meeting advise the decision.

A. Smith: The short answer is yes, but the selectboard and representatives from the city will make the final decision. But, things take a while to actually get built, so there will be more time submit comments.

Alternative 3

Resident: Would the cost to move a fence or shrub fall on the homeowners?

A. Smith: The cost would be covered by the city and within the project budget.

Resident: Would any property lines change?

A. Smith: Everything that has been proposed is within the city ROW.

Resident: Concern with upkeep of sidewalks adjacent to green strips and eventually ponding after the sidewalks have shifted.

Alternative 4

Resident: I don't think have a green strip is worth having a one-lane road.

A. Smith: The green strip serves as both a natural barrier and a storage area for both stormwater and snow. It serves an important function beyond just making the area look more "natural"

Resident (Green Acres): People on Green Acres are not concerned with safety while walking in the street.

Resident: Opposed to sidewalks considering the condition of sidewalks in more heavily traveled areas (ex. North Ave).

Resident: There should really be a bigger conversation about traffic calming on Stabury Road before the sidewalk discussion occurs.

J. Olin: The survey will still be open to give more feedback on these sorts of issues.

Resident: I perceive many issues with pedestrian use of Stanbury road.

- I am in favor of a sidewalk with a green strip. Cars move way to fast on this road and cut through from other streets. Especially when walking in the dark, visibility of pedestrians is not great. The traffic calming efforts on Staniford haven't really helped.
- Concerns of water pooling along the edges of Stanbury. The edges freeze in the winter making walking along the edge of the road dangerous. Most people prefer to walk in the middle of the road where it is less icy.
- I am not in favor of the cones as a temporary barrier. It makes driving more difficult and the cones don't make me feel safe.

A.Smith: Especially with it getting dark so early now, walking is even more dangerous in non-lit areas.

P. Peterson: There has been some discussion about replacing the cones with bollards or planters one day.

Cottage Grove

[Alternative 2](#)

Resident: people don't often park on the South side of Cottage Grove.

Resident: What did this street look like historically?

A. Smith: This street used to be a dead-end.

Resident: The proposed 14' travelway, is that enough space for 2-way traffic?

A. Smith P. Peterson: Yes, 2-way traffic will be maintained

Resident: A big problem currently is that some of the stop signs in the area are covered by trees. Drivers don't even know they have to stop.

P. Peterson: The thing about stop signs is that a warrant analysis needs to be done, even to install the proposed signs as shown.

Resident: it sounds like the cheapest solution is to transition cottage grove back to a dead end.

Resident: The Tracy Drive and Plattsburg Avenue intersection is blame for a lot of the issues in this neighborhood.

Alternative 3

Resident: The people who own the corner house have campers that likely wouldn't fit with the proposed changes.

Green Acres

Resident: Not only do residents have gardens in their front yards, some people have working gardens that they use for their businesses. Not in favor of removing these people's gardens/farms.

Resident: Since our neighborhood was built in the 50s, a lot of our cars don't fit in our garages. We have concerns about the lost parking on the street and in driveways.

Resident: People are generally not in favor of sidewalks around the neighborhood, but we are in favor of a temporary pedestrian zone for warmer months.

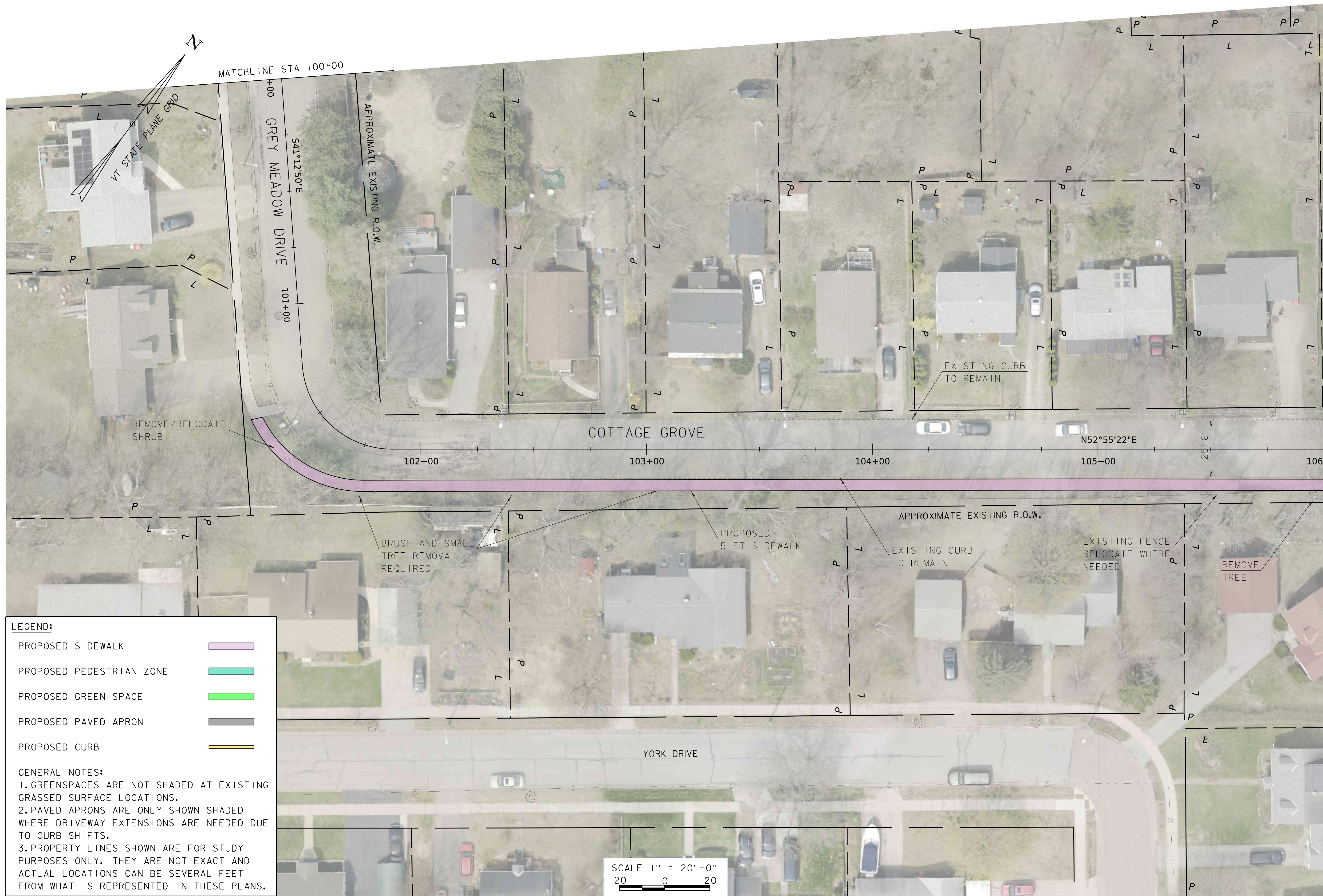
Resident: The street parking is only intermittently used and is not in use heavily now. Concerns with reduction of driveway size for winter parking bans since there's no close garage.

Resident: Concerns with sidewalks adjacent to trees.

M. Suender: The city arborist will be consulted on all things adjacent to trees.

APPENDIX D

Conceptual Plans



LEGEND:

- PROPOSED SIDEWALK
- PROPOSED PEDESTRIAN ZONE
- PROPOSED GREEN SPACE
- PROPOSED PAVED APRON
- PROPOSED CURB

GENERAL NOTES:

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3. PROPERTY LINES SHOWN ARE FOR STUDY PURPOSES ONLY. THEY ARE NOT EXACT AND ACTUAL LOCATIONS CAN BE SEVERAL FEET FROM WHAT IS REPRESENTED IN THESE PLANS.

SCALE 1" = 20' - 0"
20 0 20

MATCHLINE STA 106+00

MATCHLINE STA 100+00

NINE SIDEWALK STUDY	
FILENAME	DESIGNER
21_12006_09bdr_levy	AMS
MODELNAME	DRAWN
all2 Cottage(1 of 4)	LSB
SCALE	CHECKED
AS SHOWN	JAO
DATE	DECEMBER 2024

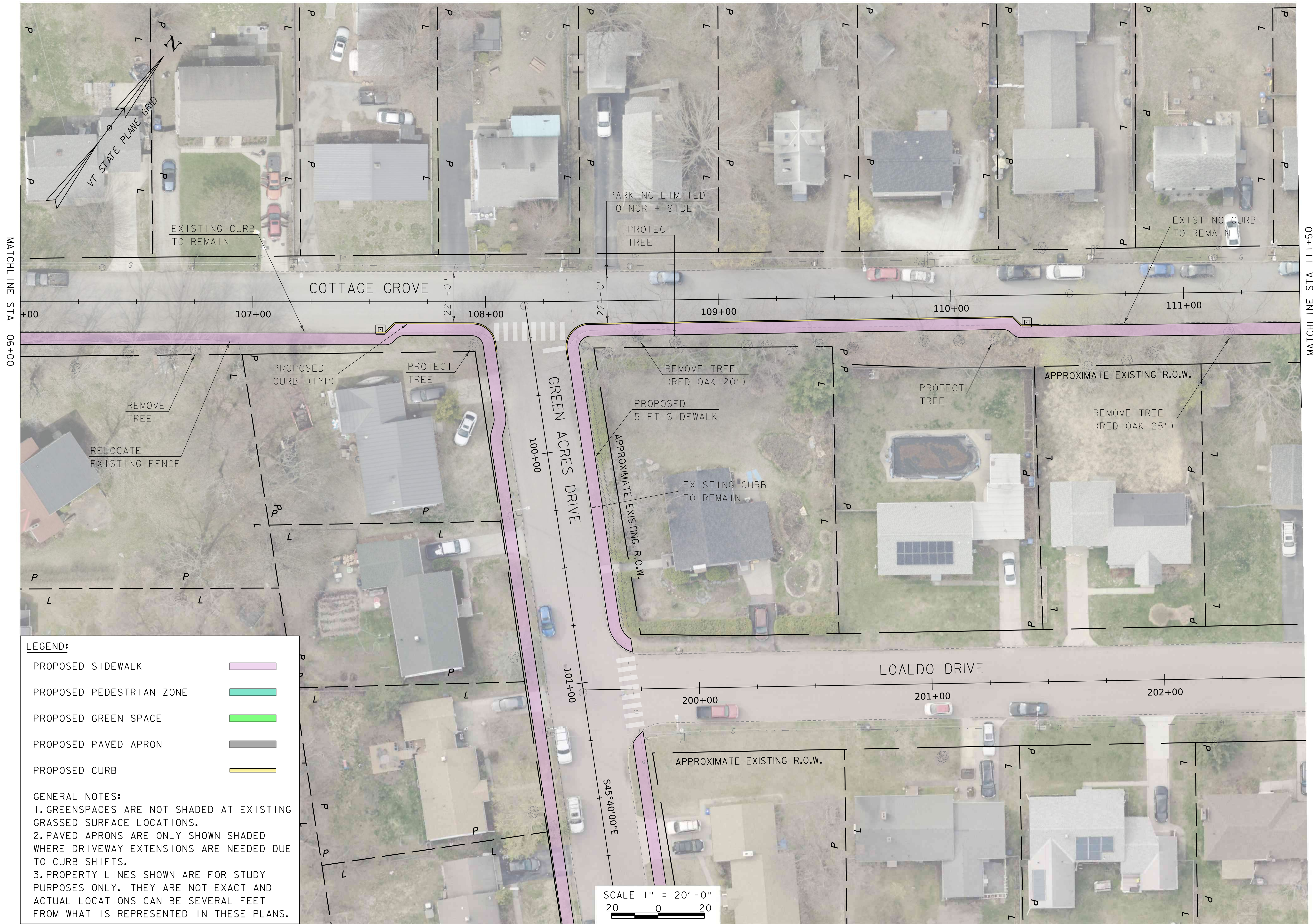
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NEW NORTH END SIDEWALKS
COTTAGE GROVE ALTERNATIVE 2 (SHEET 1 OF 4)

PROJECT NO. 21.120006.09

FIGURE
1
FIGURE 1 OF 29



LEGEND:

- PROPOSED SIDEWALK
- PROPOSED PEDESTRIAN ZONE
- PROPOSED GREEN SPACE
- PROPOSED PAVED APRON
- PROPOSED CURB

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20 0 20

NINE SIDEWALK STUDY	
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all2Cottage(204)	LSB
SCALE	CHECKED
AS SHOWN	JAO
DATE	DECEMBER 2024

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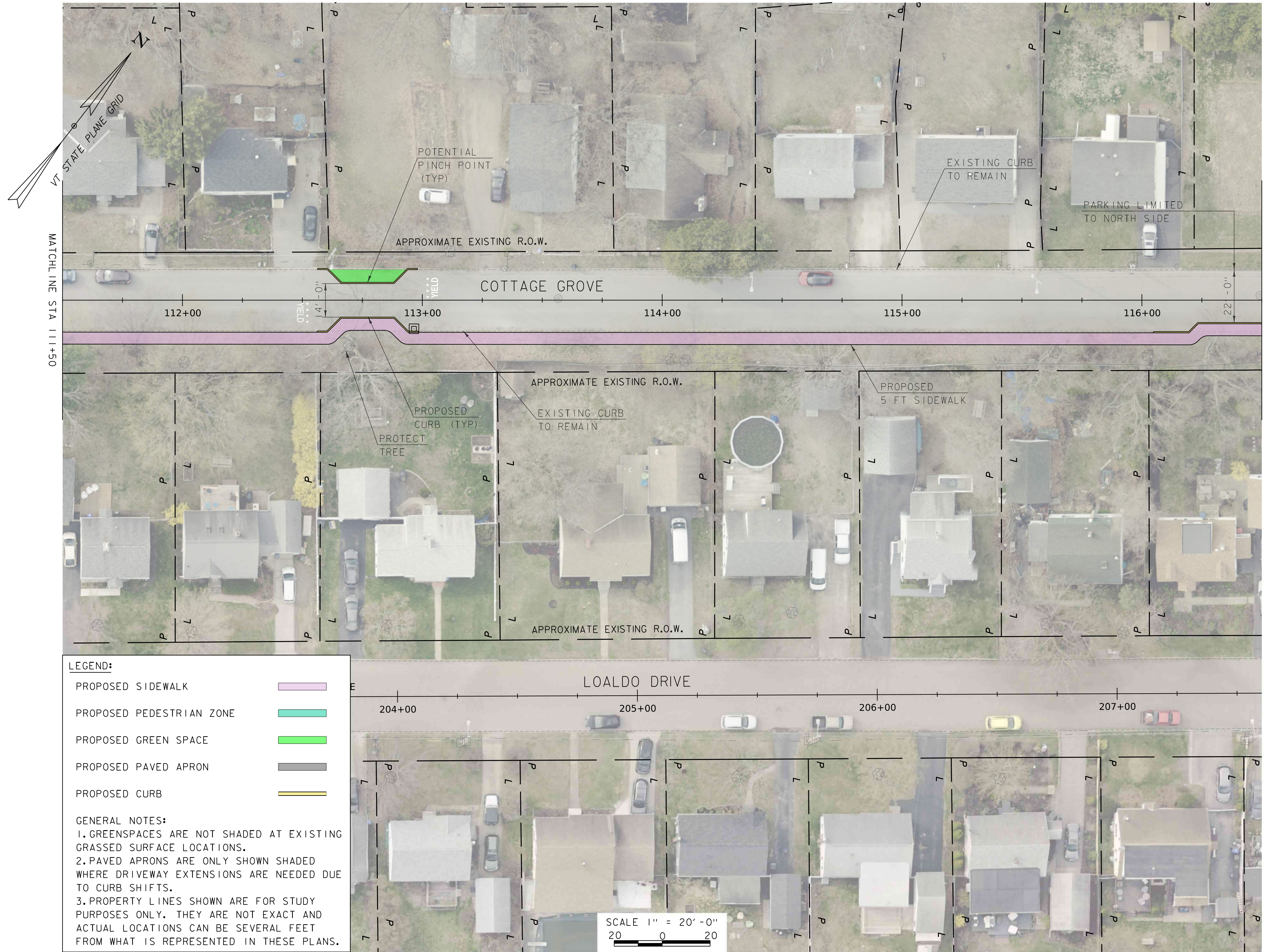
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COTTAGE GROVE ALTERNATIVE 2 (SHEET 2 OF 4)

PROJECT NO. 21_120006_09
FIGURE

2

FIGURE 2 OF 29



NINE SIDEWALK STUDY	
FILENAME	DESIGNER
21_12006_09bdt_levy	AMS
MODELNAME	DRAWN
all2Cottage(3of4)	LSB
SCALE	CHECKED
AS SHOWN	JAO
DATE	DATE
	DECEMBER 2024

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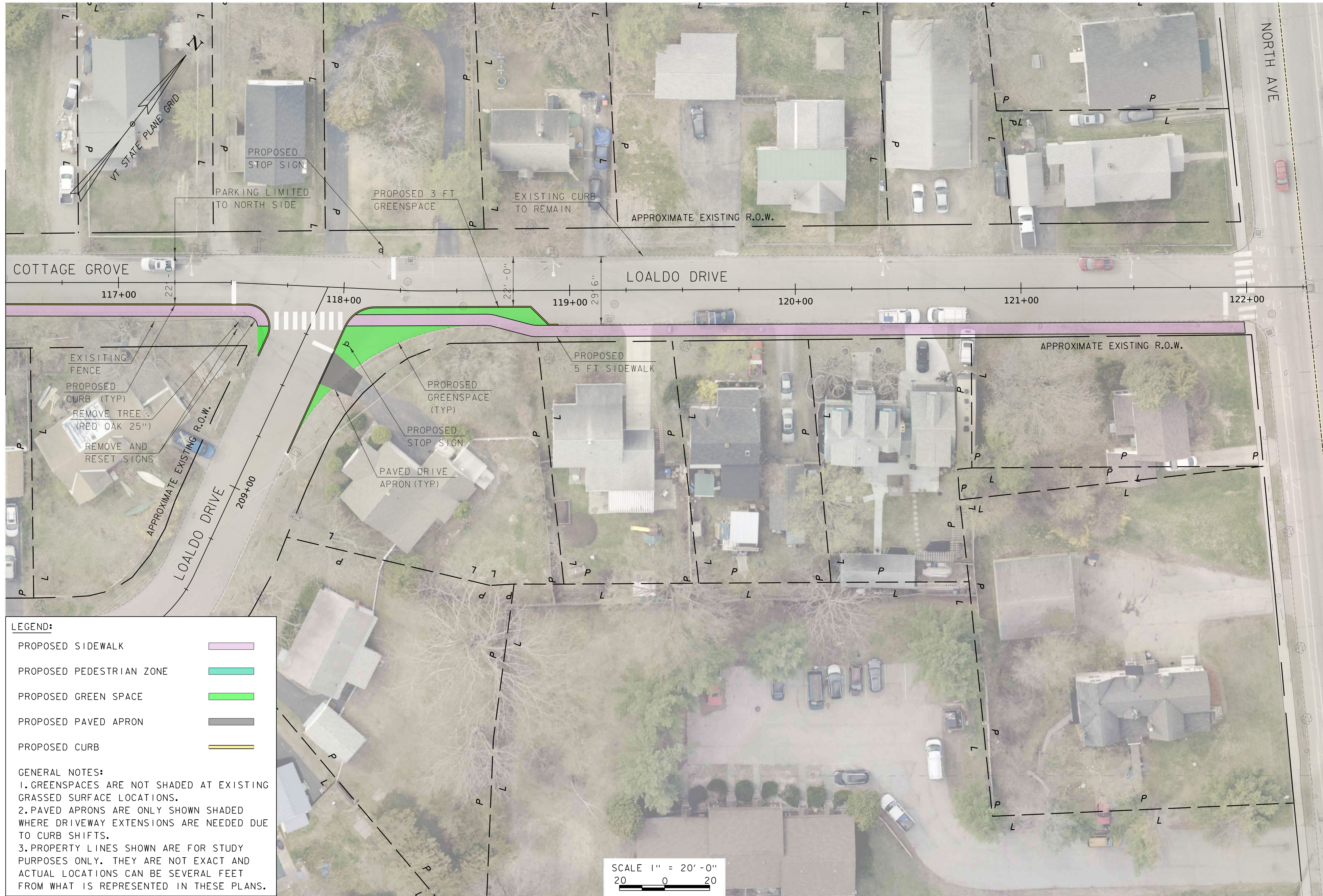
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COTTAGE GROVE ALTERNATIVE 2 (SHEET 3 OF 4)

PROJECT NO. 21.120006.09

FIGURE
3
FIGURE 3 OF 29

MATCH LINE STA 116+50

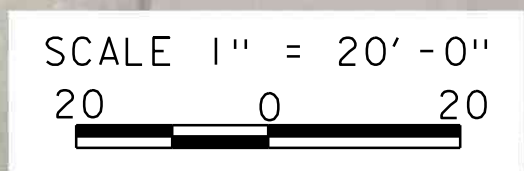


LEGEND:

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- PROPOSED GREEN SPACE
- PROPOSED PAVED APRON
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NINE SIDEWALK STUDY	
DESIGNER	AMS
FILENAME	21_12006_09bdr_levy
DRAWN	LSB
MODEL NAME	all2\Cottage(4of4)
CHECKED	JAO
SCALE	AS SHOWN
DATE	DECEMBER 2024

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COTTAGE GROVE ALTERNATIVE 2 (SHEET 4 OF 4)

PROJECT NO. 21.120006.09

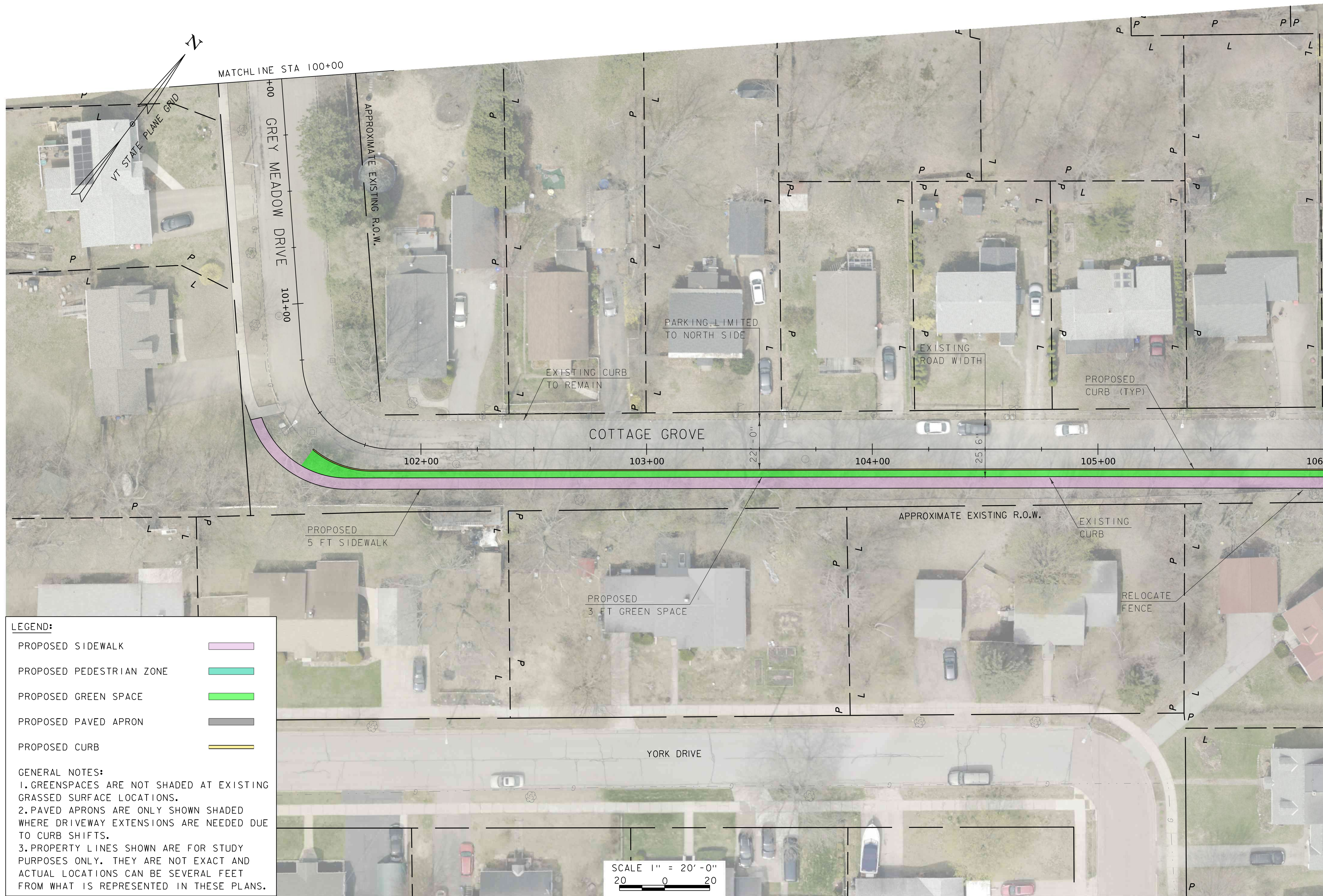
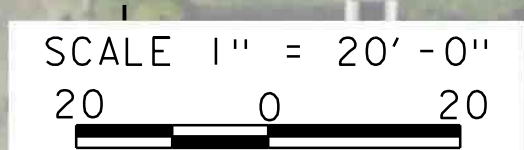
FIGURE
4
FIGURE 4 OF 29

LEGEND:

- PROPOSED SIDEWALK 
- PROPOSED PEDESTRIAN ZONE 
- PROPOSED GREEN SPACE 
- PROPOSED PAVED APRON 
- PROPOSED CURB 

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NINE SIDEWALK STUDY	
DESIGNER	AMS
FILENAME	21.12006.09bdt_levy
MODEL NAME	all3Cottage(1 of 4)
DRAWN	LSB
CHECKED	JAO
SCALE	AS SHOWN
DATE	DECEMBER 2024

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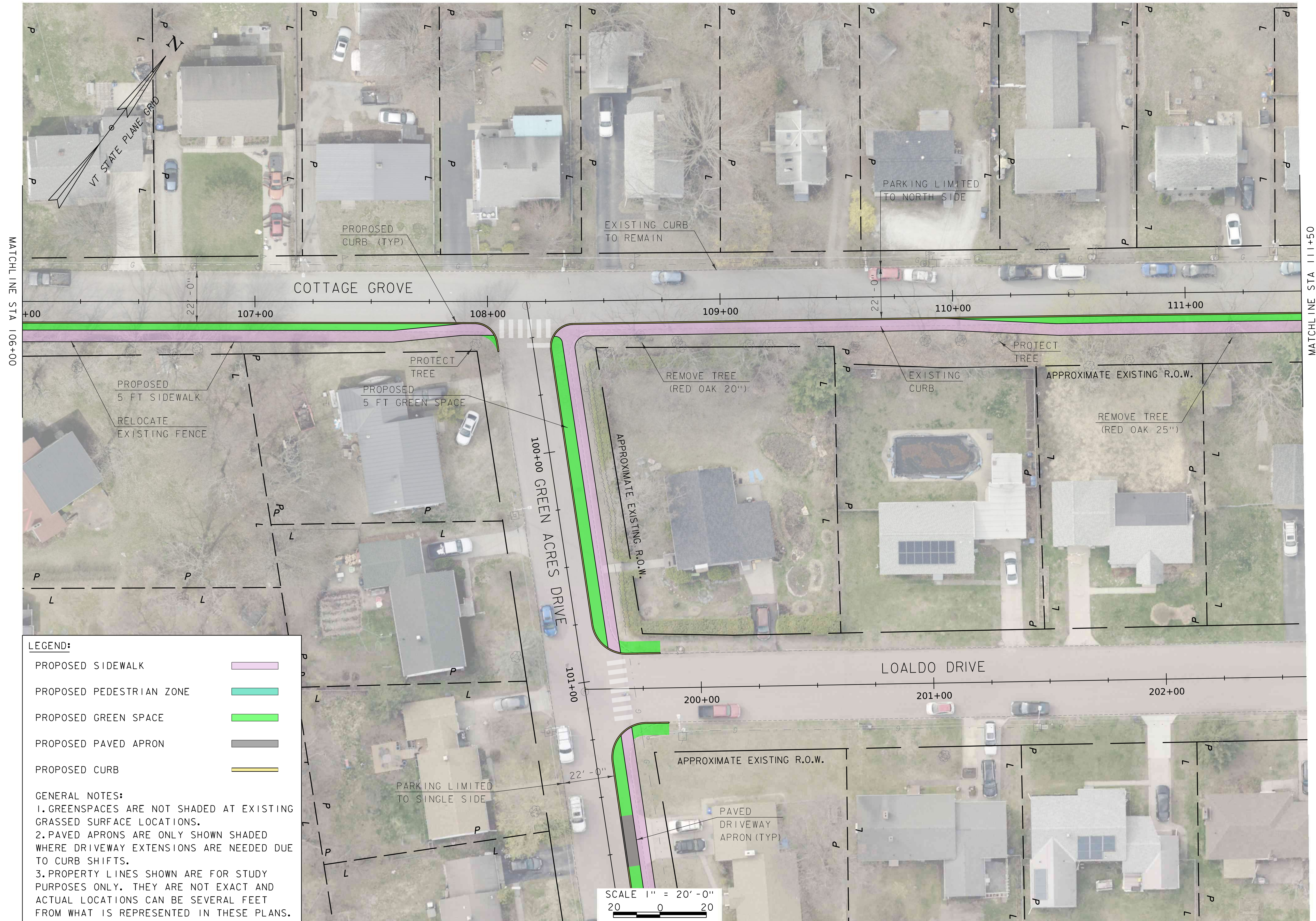
CITY OF BURLINGTON
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NEW NORTH END SIDEWALKS

COTTAGE GROVE ALTERNATIVE 3 (SHEET 1 OF 4)

PROJECT NO. 21.120006.09
FIGURE

5

FIGURE 5 OF 29

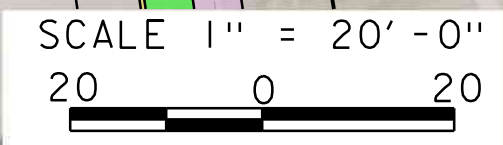


LEGEND:

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- PROPOSED PEDESTRIAN ZONE
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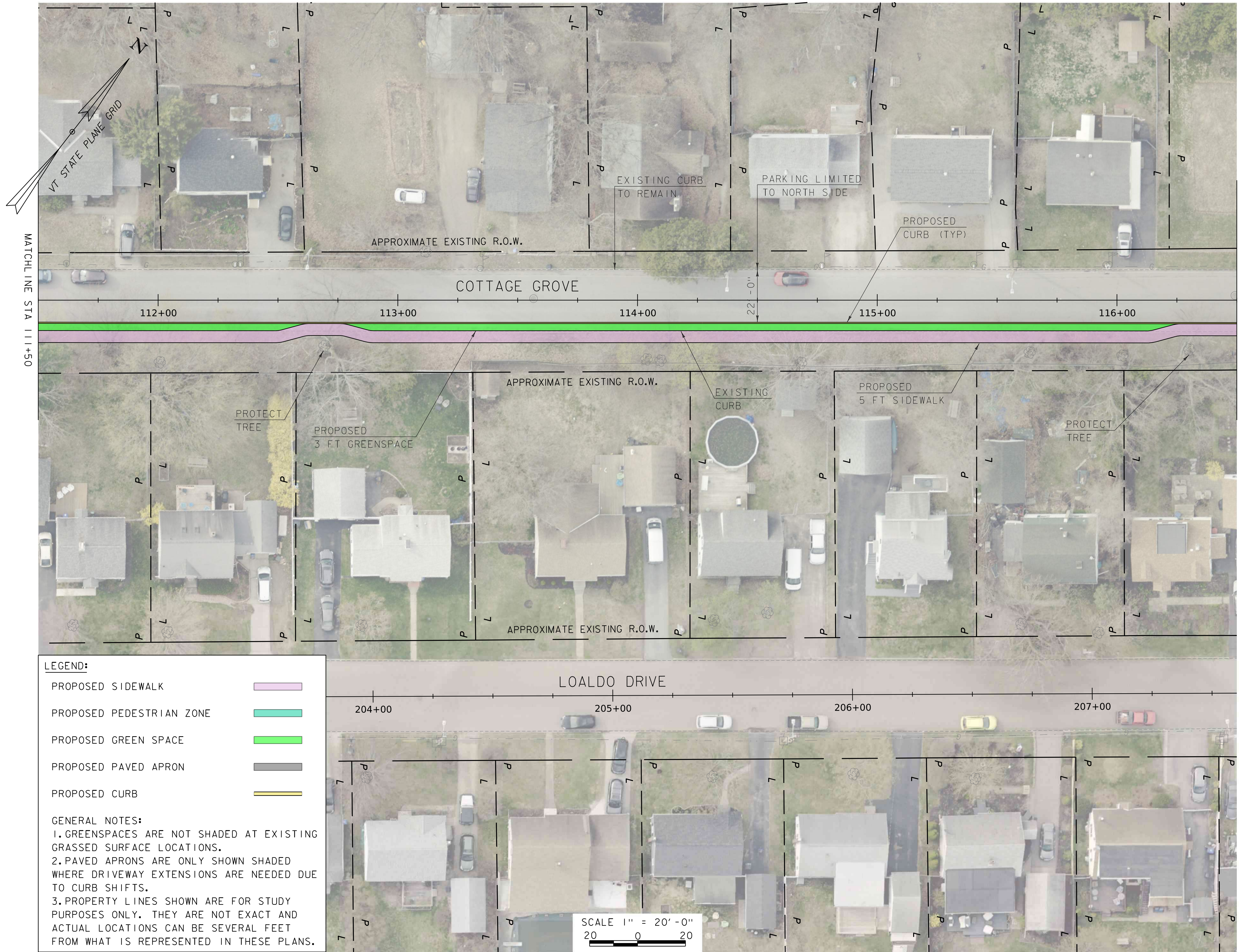


NINE SIDEWALK STUDY	
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21.12006.09bdt_levy	AMS
MODELNAME	DRAWN
all3Cottage(204)	LSB
SCALE	CHECKED
AS SHOWN	JAO
DATE	DECEMBER 2024

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NEW NORTH END SIDEWALKS
COTTAGE GROVE ALTERNATIVE 3 (SHEET 2 OF 4)

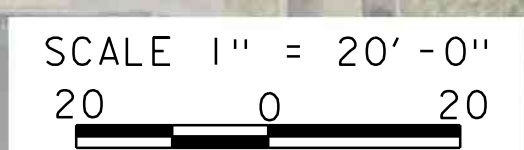


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NINE SIDEWALK STUDY	
FILENAME	DESIGNER
21_12006_09bdt_levy	AMS
MODELNAME	DRAWN
all3Cottage(3of4)	LSB
SCALE	CHECKED
AS SHOWN	JAO
DATE	DECEMBER 2024

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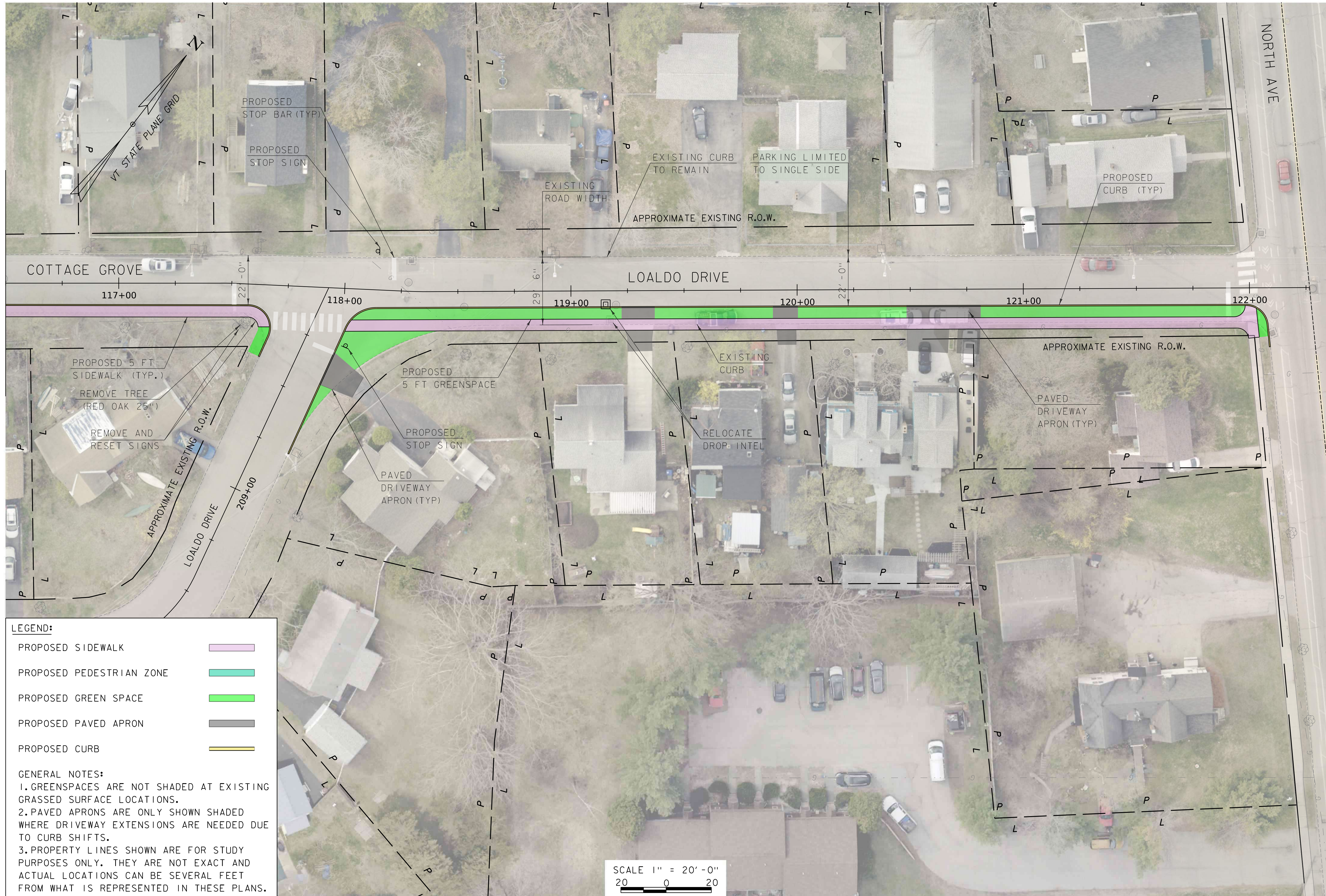
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COTTAGE GROVE ALTERNATIVE 3 (SHEET 3 OF 4)

PROJECT NO. 21.120006.09

FIGURE
7
FIGURE 7 OF 29

MATCH LINE STA 116+50

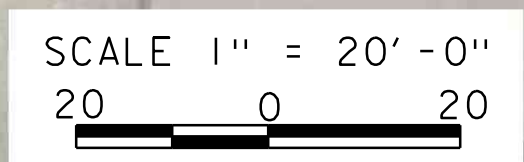


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FILENAME	DESIGNER
21.12006.09bdr_levy	AMS
MODELNAME	DRAWN
all3Cottage(4of4)	LSB
SCALE	CHECKED
AS SHOWN	JAO
DATE	DECEMBER 2024

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NEW NORTH END SIDEWALKS
COTTAGE GROVE ALTERNATIVE 3 (SHEET 4 OF 4)

PROJECT NO. 21.120006.09

FIGURE
8
FIGURE 8 OF 29

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LEGEND:

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NINE SIDEWALK STUDY	
FILENAME	DESIGNER
21.12006.09bdt_levy	AMS
MODEL NAME	DRAWN
#12GreenAcres(1of4)_LSB	LSB
SCALE	CHECKED
AS SHOWN	JAO
DATE	DECEMBER 2024

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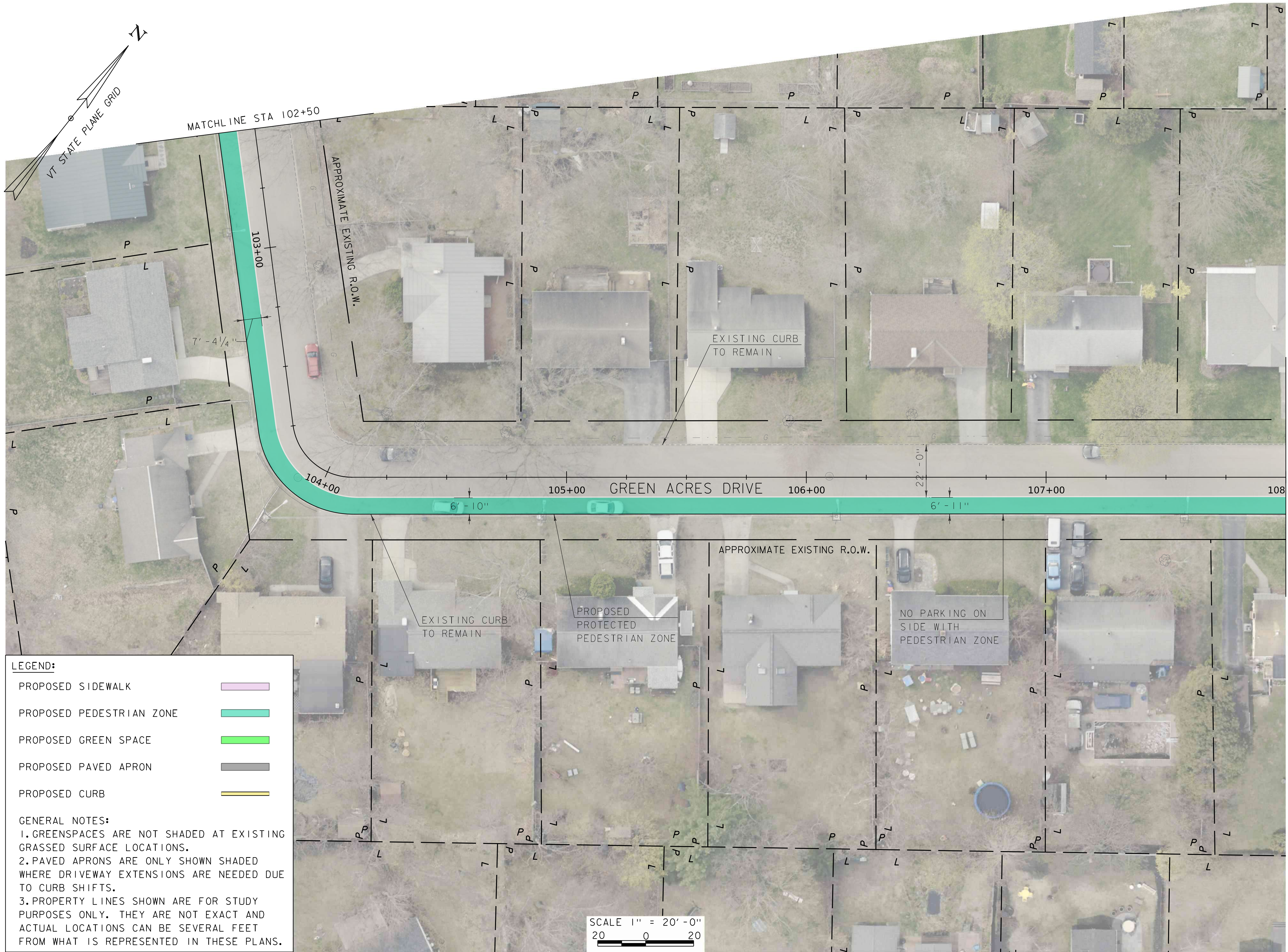
MATCHLINE STA 102+50

CITY OF BURLINGTON
BURLINGTON, VERMONT
NEW NORTH END SIDEWALKS
GREEN ACRES DRIVE ALTERNATIVE 2 (SHEET 1 OF 4)

PROJECT NO. 21.120006.09
FIGURE

9

FIGURE 9 OF 29

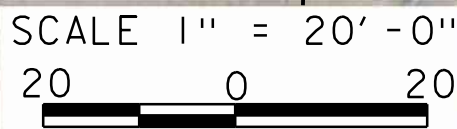


LEGEND:

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NINE SIDEWALK STUDY	
FILENAME	DESIGNER
21_12006_09bdr_levy	AMS
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#12GreenAcres(2off)_LSB	LSB
SCALE	CHECKED
AS SHOWN	JAO
DATE	DECEMBER 2024

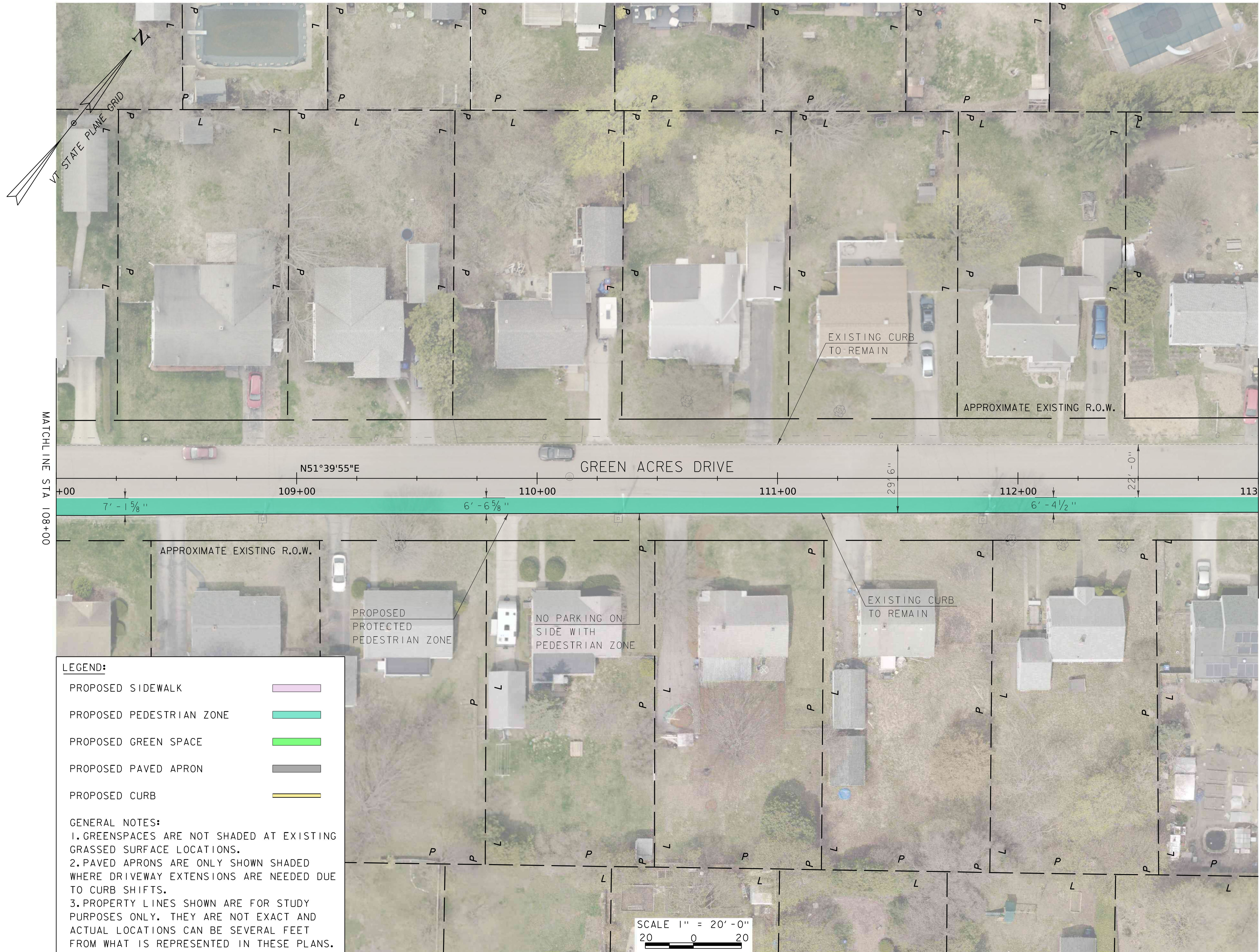
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CITY OF BURLINGTON
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NEW NORTH END SIDEWALKS
GREEN ACRES DRIVE ALTERNATIVE 2 (SHEET 2 OF 4)

PROJECT NO. 21.120006.09
FIGURE
10
FIGURE 10 OF 29

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LEGEND:

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SCALE 1" = 20'-0"
 20 0 20

NINE SIDEWALK STUDY	
FILENAME	DESIGNER
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MODEL NAME	DRAWN
#12GreenAcres(9off)_LSB	LSB
SCALE	CHECKED
AS SHOWN	JAO
DATE	DECEMBER 2024

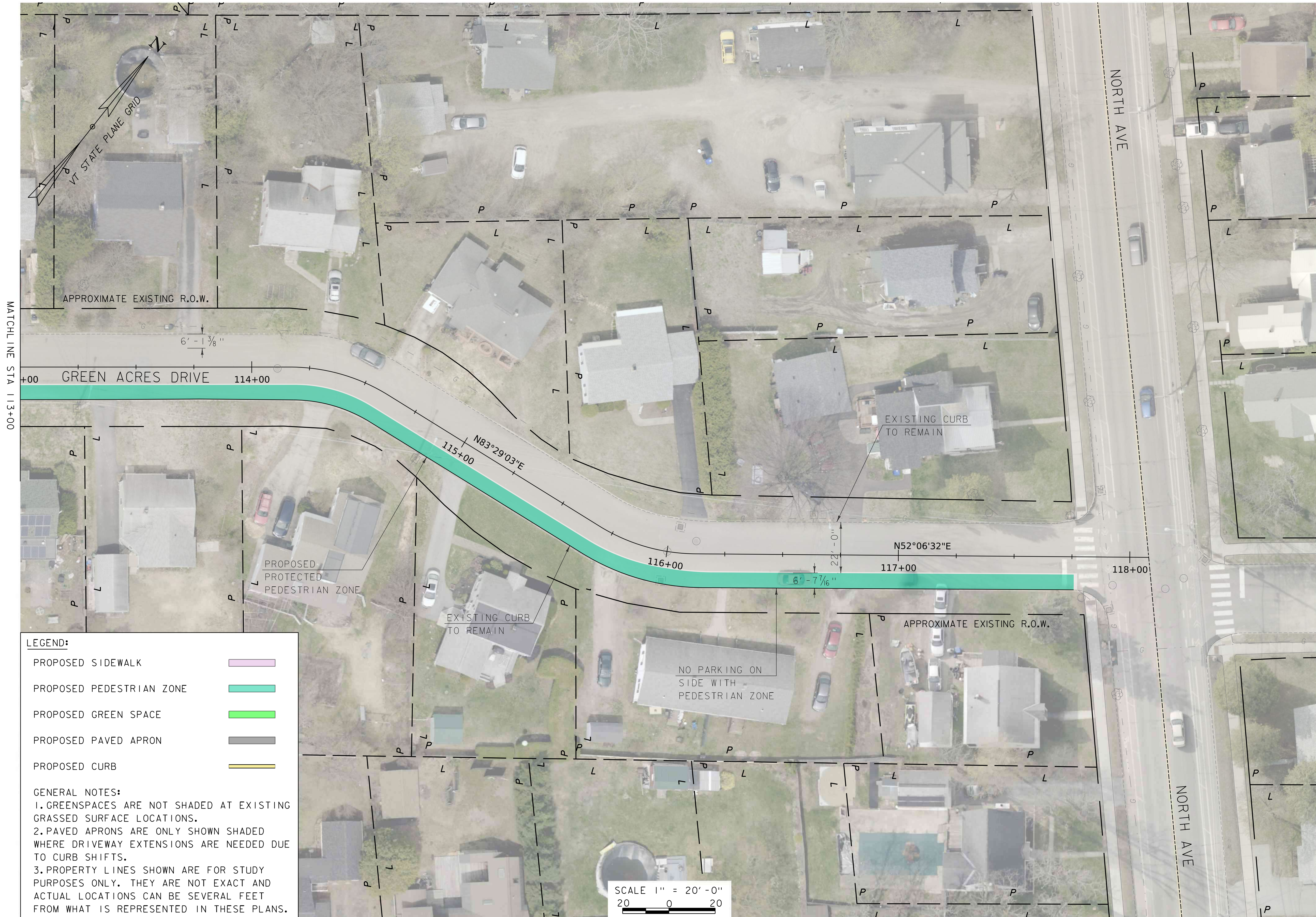
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 NEW NORTH END SIDEWALKS

GREEN ACRES DRIVE ALTERNATIVE 2 (SHEET 3 OF 4)

PROJECT NO. 21.120006.09
 FIGURE
11
 FIGURE 11 OF 29

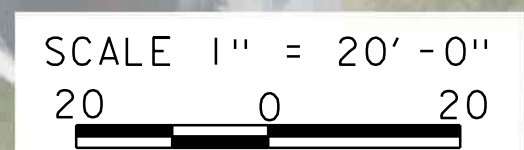


LEGEND:

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NINE SIDEWALK STUDY	
DESIGNER	AMS
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MODEL NAME	LSB
DRAWN	LSB
CHECKED	JAO
SCALE	AS SHOWN
DATE	DECEMBER 2024

HOYLE TANNER

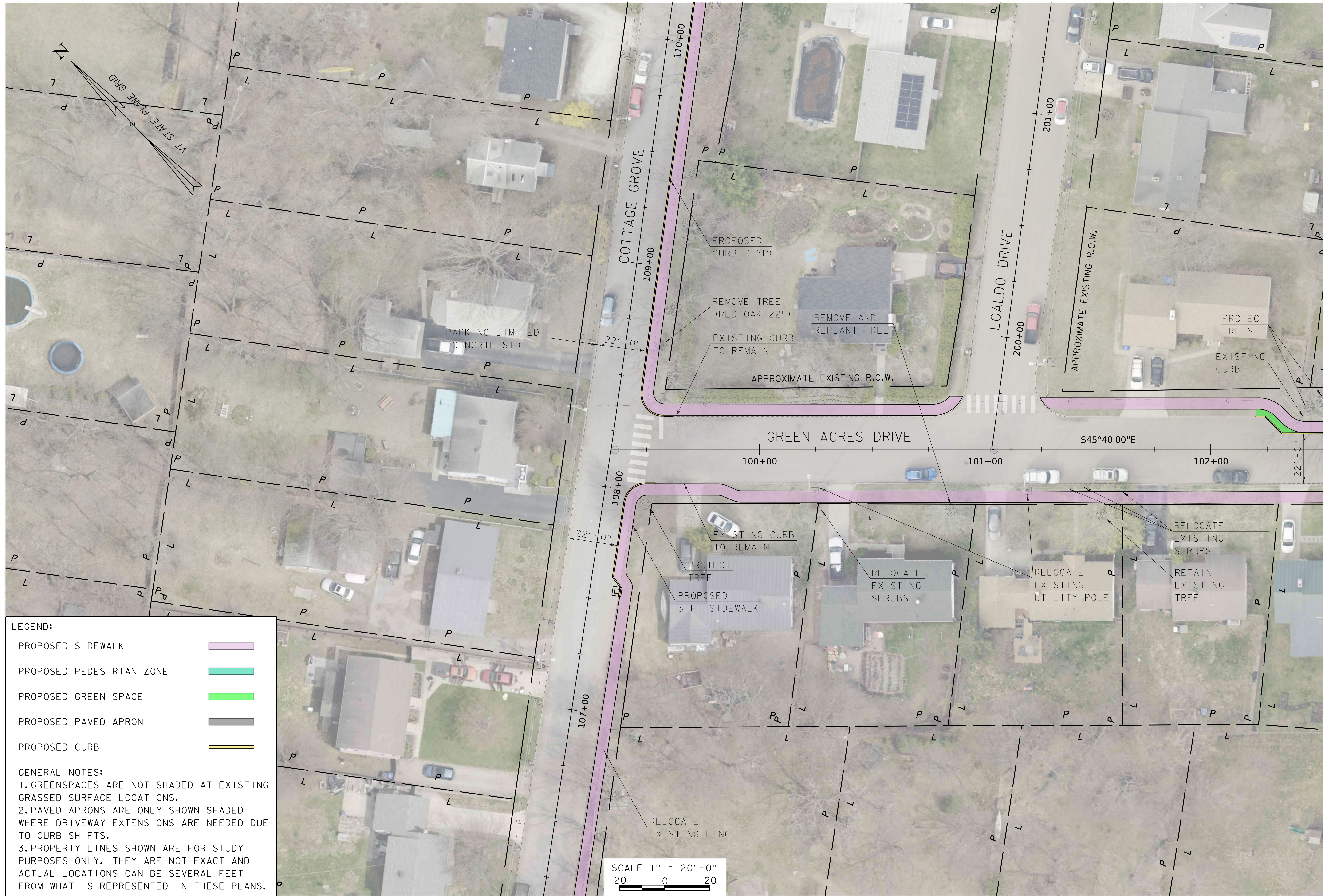
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CITY OF BURLINGTON
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NEW NORTH END SIDEWALKS
GREEN ACRES DRIVE ALTERNATIVE 2 (SHEET 4 OF 4)

PROJECT NO. 21.120006.09
FIGURE

12
FIGURE 12 OF 29

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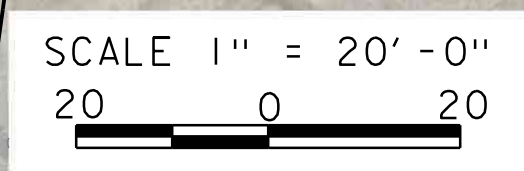


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MATCHLINE STA 102+50

NINE SIDEWALK STUDY	
FILENAME	DESIGNER
21.12006.09bdt_levy	AMS
MODEL NAME	DRAWN
#13GreenAcres(1of4)_LSB	LSB
SCALE	CHECKED
AS SHOWN	JAO
DATE	DECEMBER 2024

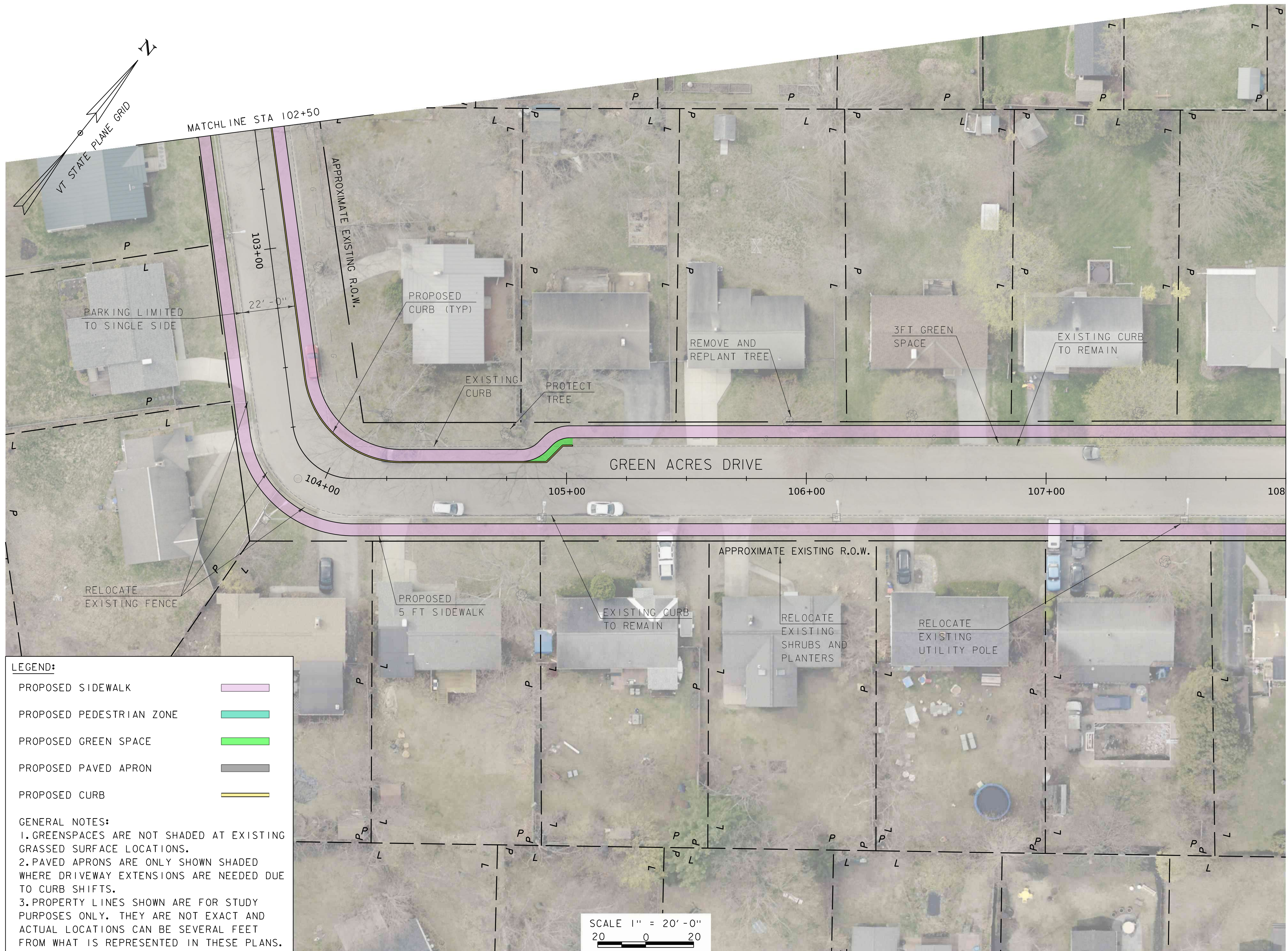
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CITY OF BURLINGTON
BURLINGTON, VERMONT
NEW NORTH END SIDEWALKS
GREEN ACRES DRIVE ALTERNATIVE 3 (SHEET 1 OF 4)

PROJECT NO. 21.120006.09

FIGURE
13
FIGURE 13 OF 29

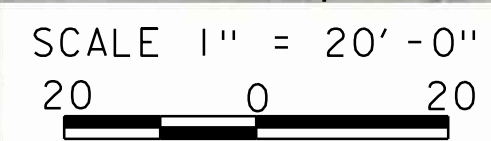


LEGEND:

- PROPOSED SIDEWALK
- PROPOSED PEDESTRIAN ZONE
- PROPOSED GREEN SPACE
- PROPOSED PAVED APRON
- PROPOSED CURB

GENERAL NOTES:

1. GREENSPACES ARE NOT SHADED AT EXISTING GRASSED SURFACE LOCATIONS.
2. PAVED APRONS ARE ONLY SHOWN SHADED WHERE DRIVEWAY EXTENSIONS ARE NEEDED DUE TO CURB SHIFTS.
3. PROPERTY LINES SHOWN ARE FOR STUDY PURPOSES ONLY. THEY ARE NOT EXACT AND ACTUAL LOCATIONS CAN BE SEVERAL FEET FROM WHAT IS REPRESENTED IN THESE PLANS.



NINE SIDEWALK STUDY	
DESIGNER	AMS
FILENAME	21.12006.09bdt_levy.dgn
MODEL NAME	DRWWT
SCALE	#13GreenAcres(2of4) LSB
CHECKER	JAO
DATE	DECEMBER 2024
AS SHOWN	

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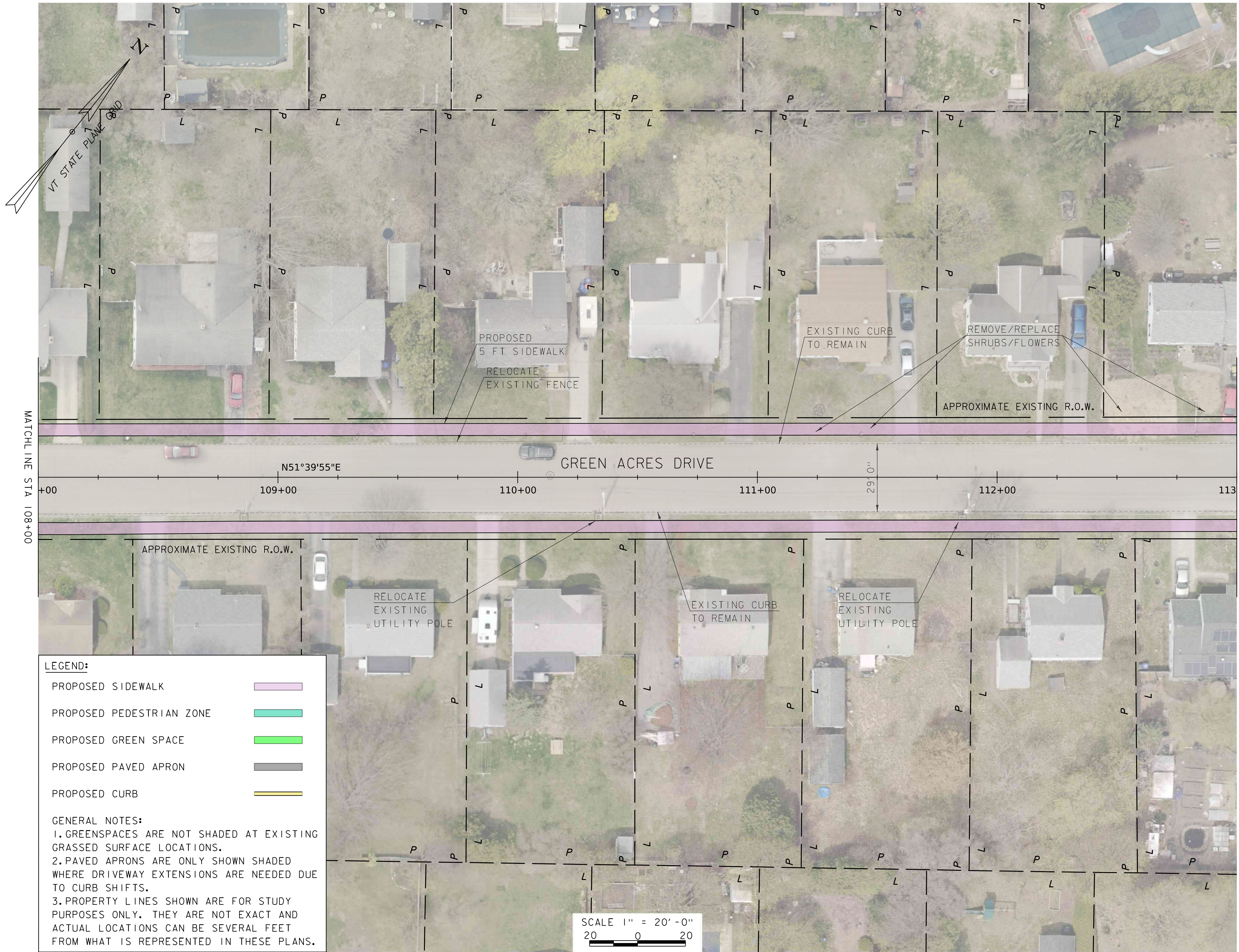
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BURLINGTON, VERMONT
NEW NORTH END SIDEWALKS
GREEN ACRES DRIVE ALTERNATIVE 3 (SHEET 2 OF 4)

PROJECT NO. 21.120006.09

FIGURE

14

FIGURE 14 OF 29

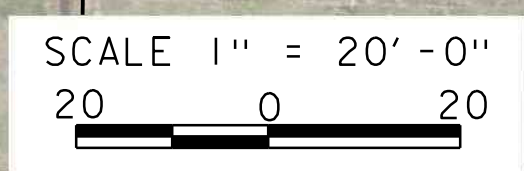


LEGEND:

- PROPOSED SIDEWALK
- PROPOSED PEDESTRIAN ZONE
- PROPOSED GREEN SPACE
- PROPOSED PAVED APRON
- PROPOSED CURB

GENERAL NOTES:

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NINE SIDEWALK STUDY	
FILENAME	DESIGNER
21_120006_09bdt_levy	AMS
MODEL NAME	DRAWN
#13GreenAcres(9off)_LSB	LSB
SCALE	CHECKED
AS SHOWN	JAO
DATE	DECEMBER 2024

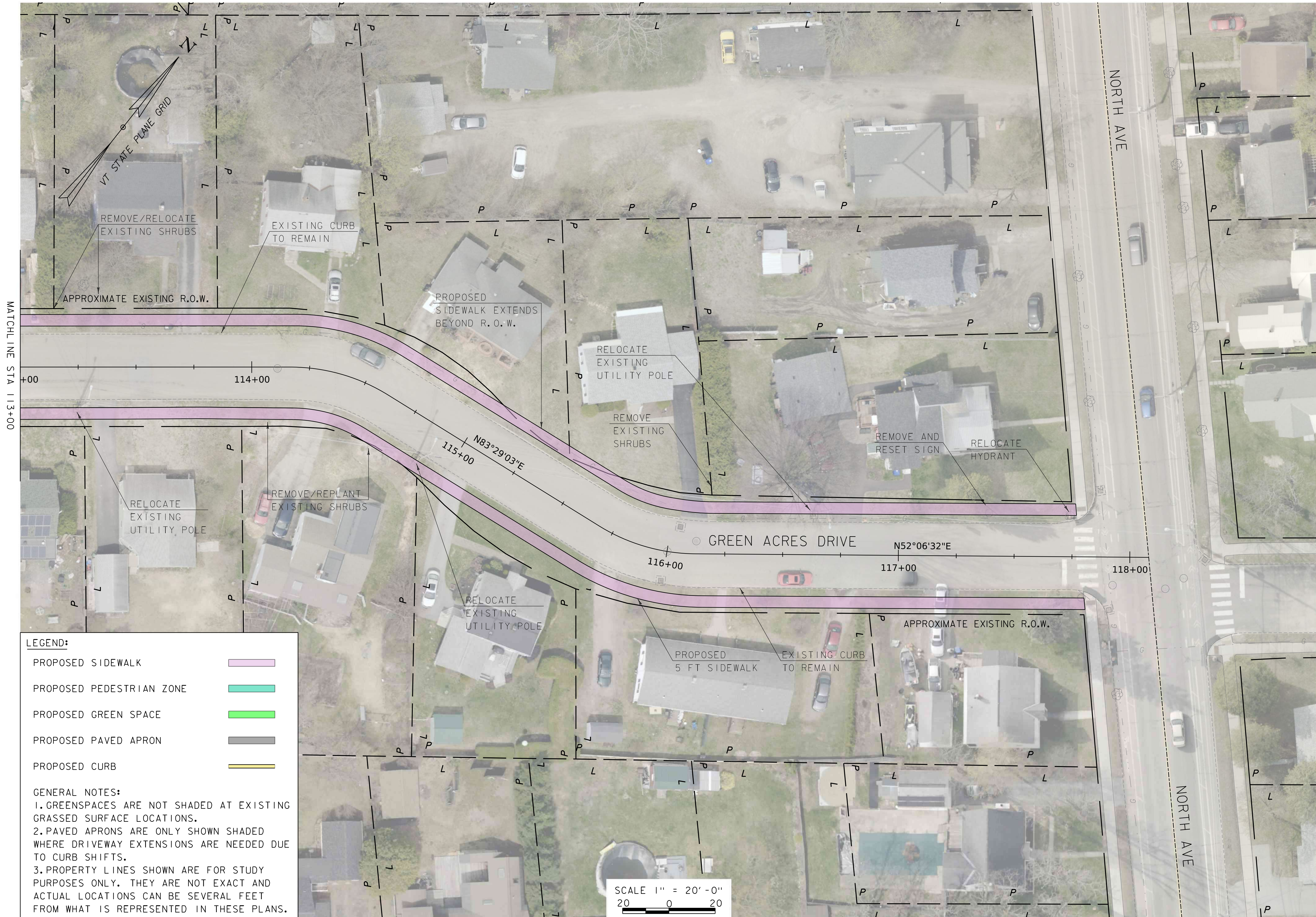
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GREEN ACRES DRIVE ALTERNATIVE 3 (SHEET 3 OF 4)

PROJECT NO. 21_120006_09
 FIGURE
15
 FIGURE 15 OF 29



LEGEND:

- PROPOSED SIDEWALK
- PROPOSED PEDESTRIAN ZONE
- PROPOSED GREEN SPACE
- PROPOSED PAVED APRON
- PROPOSED CURB

GENERAL NOTES:

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SCALE 1" = 20' - 0"
20 0 20

NINE SIDEWALK STUDY	
FILENAME	DESIGNER
21_12006_09bdt_levy	AMS
MODEL NAME	DRAWN
#13GreenAcres(4of4)_LSB	LSB
SCALE	CHECKED
AS SHOWN	JAO
DATE	DECEMBER 2024

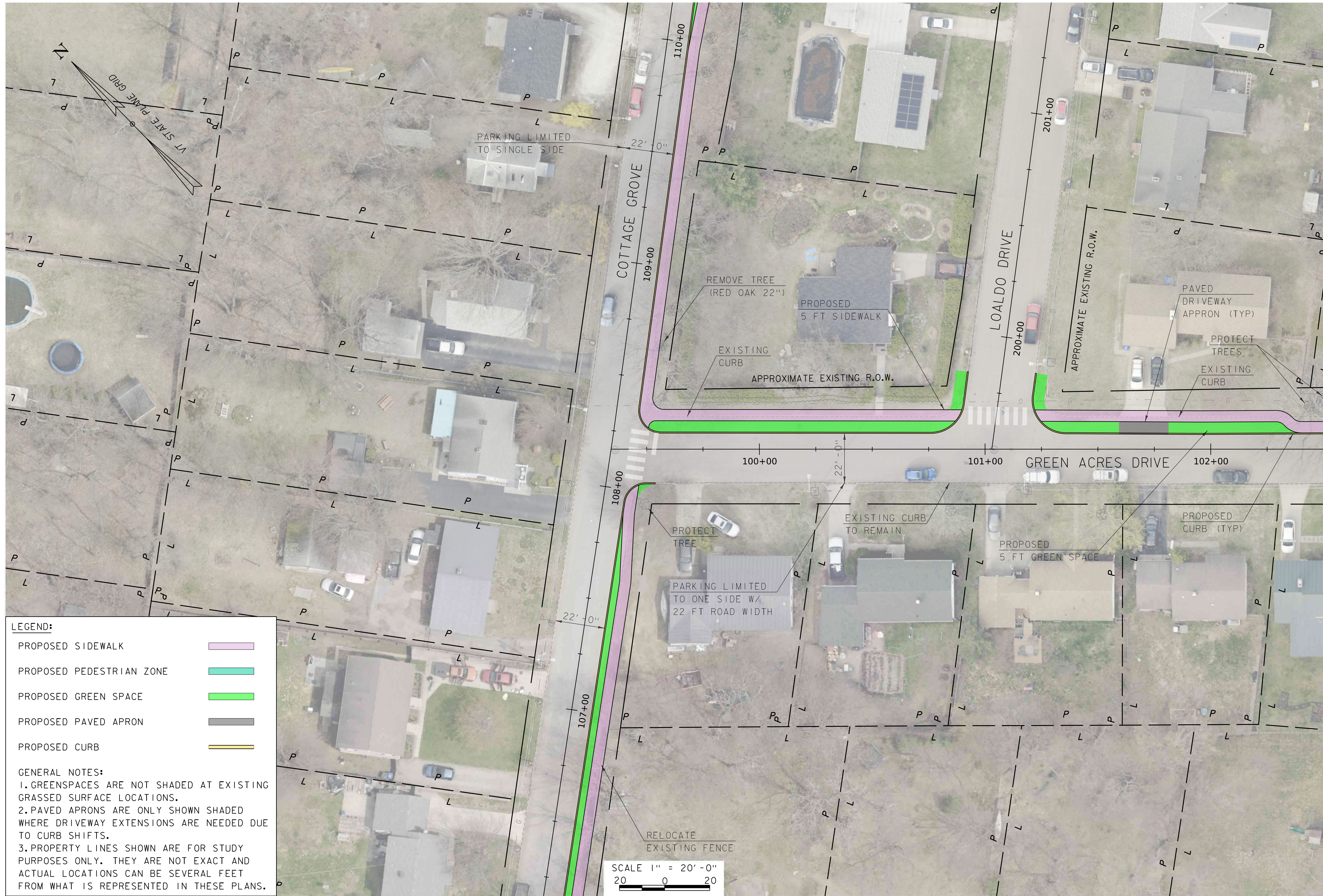
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GREEN ACRES DRIVE ALTERNATIVE 3 (SHEET 4 OF 4)

PROJECT NO. 21_120006_09
FIGURE
16
FIGURE 16 OF 29

1/28/2025 9:53:26 AM V:\PROJECTS\CCRPC-Burlington-North-End-Sidewalks\CADD\0-Plans\21.12006.09bdt_levy.dgn

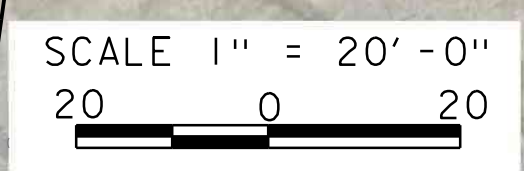


LEGEND:

- PROPOSED SIDEWALK
- PROPOSED PEDESTRIAN ZONE
- PROPOSED GREEN SPACE
- PROPOSED PAVED APRON
- PROPOSED CURB

GENERAL NOTES:

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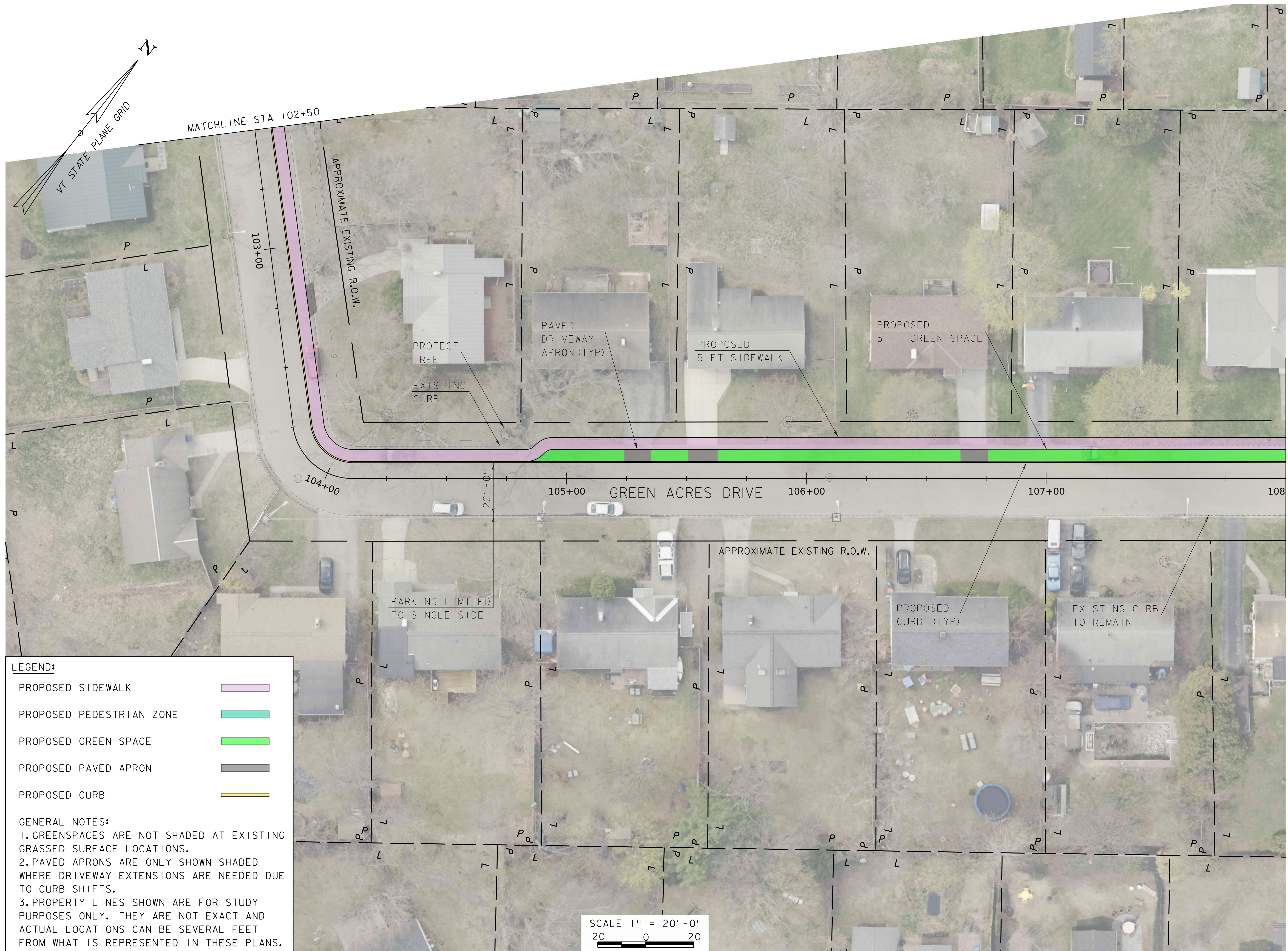
NINE SIDEWALK STUDY	
FILENAME	DESIGNER
21.12006.09bdt_levy	AMS
MODEL NAME	DRAWN
444GreenAcres(1of4)_LSB	LSB
SCALE	CHECKED
AS SHOWN	JAO
DATE	DECEMBER 2024

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GREEN ACRES DRIVE ALTERNATIVE 4 (SHEET 1 OF 4)

PROJECT NO. 21.120006.09
FIGURE
17
FIGURE 17 OF 29

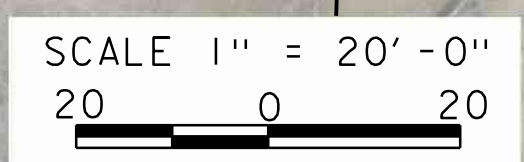


LEGEND:

- PROPOSED SIDEWALK
- PROPOSED PEDESTRIAN ZONE
- PROPOSED GREEN SPACE
- PROPOSED PAVED APRON
- PROPOSED CURB

GENERAL NOTES:

1. GREENSPACES ARE NOT SHADED AT EXISTING GRASSED SURFACE LOCATIONS.
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NINE SIDEWALK STUDY	
DESIGNER	AMS
FILENAME	21_12006_09bdt_levy.dgn
MODEL NAME	DRAWN
#MGreenAcres(2of4)	LSB
SCALE	CHECKED
AS SHOWN	JAO
DATE	DECEMBER 2024

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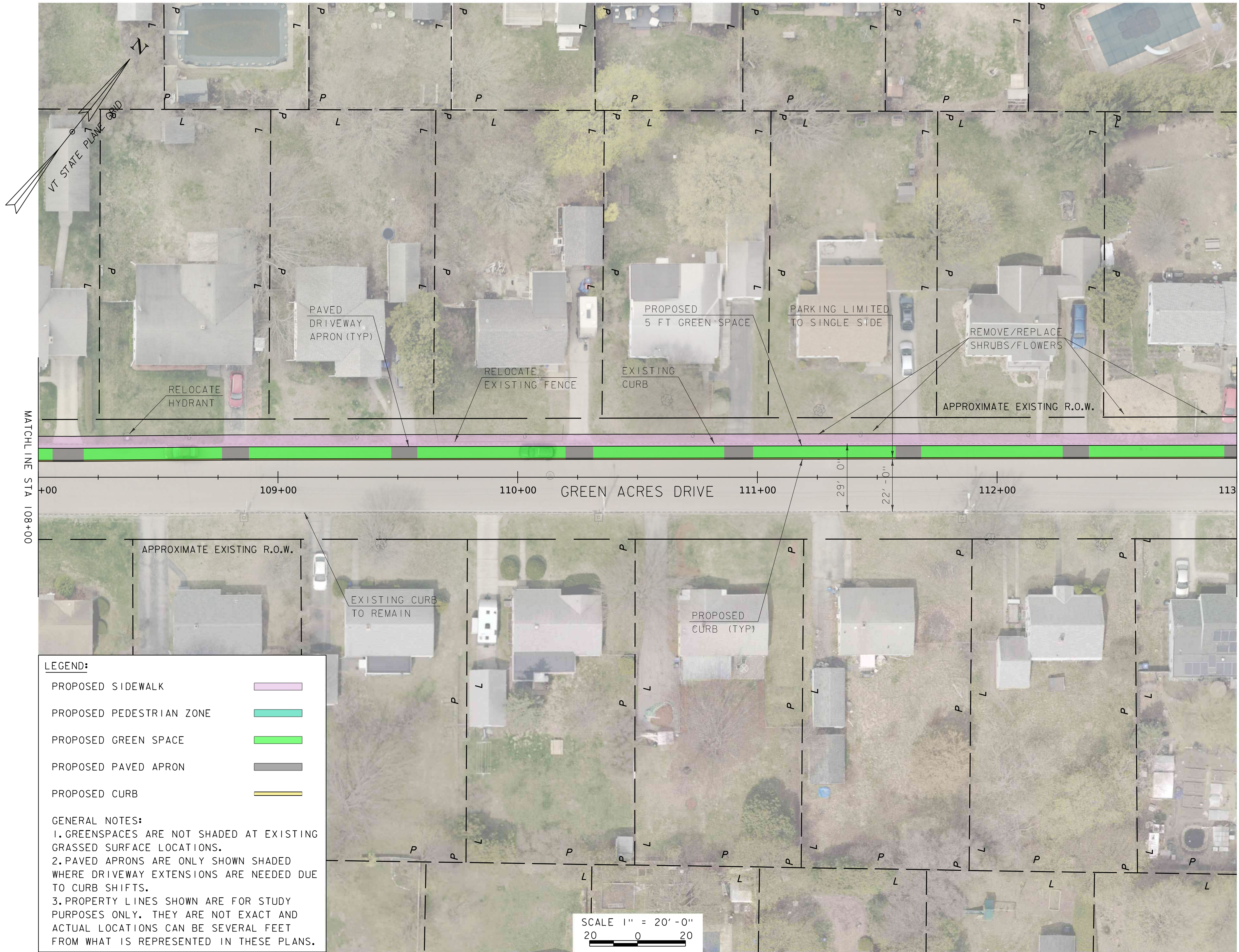
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BURLINGTON, VERMONT
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GREEN ACRES DRIVE ALTERNATIVE 4 (SHEET 2 OF 4)

PROJECT NO. 21.120006.09

FIGURE
18
FIGURE 18 OF 29

1/28/2025 9:54:04 AM V:\1_PROJECTS\CCRPC-VT121_120006_09-CCRPC-Burlington-North-End-Sidewalks2-CADD\0-Plans\21.12006.09bdt_levy.dgn

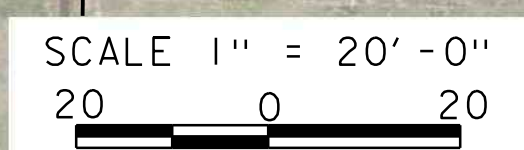


LEGEND:

- PROPOSED SIDEWALK
- PROPOSED PEDESTRIAN ZONE
- PROPOSED GREEN SPACE
- PROPOSED PAVED APRON
- PROPOSED CURB

GENERAL NOTES:

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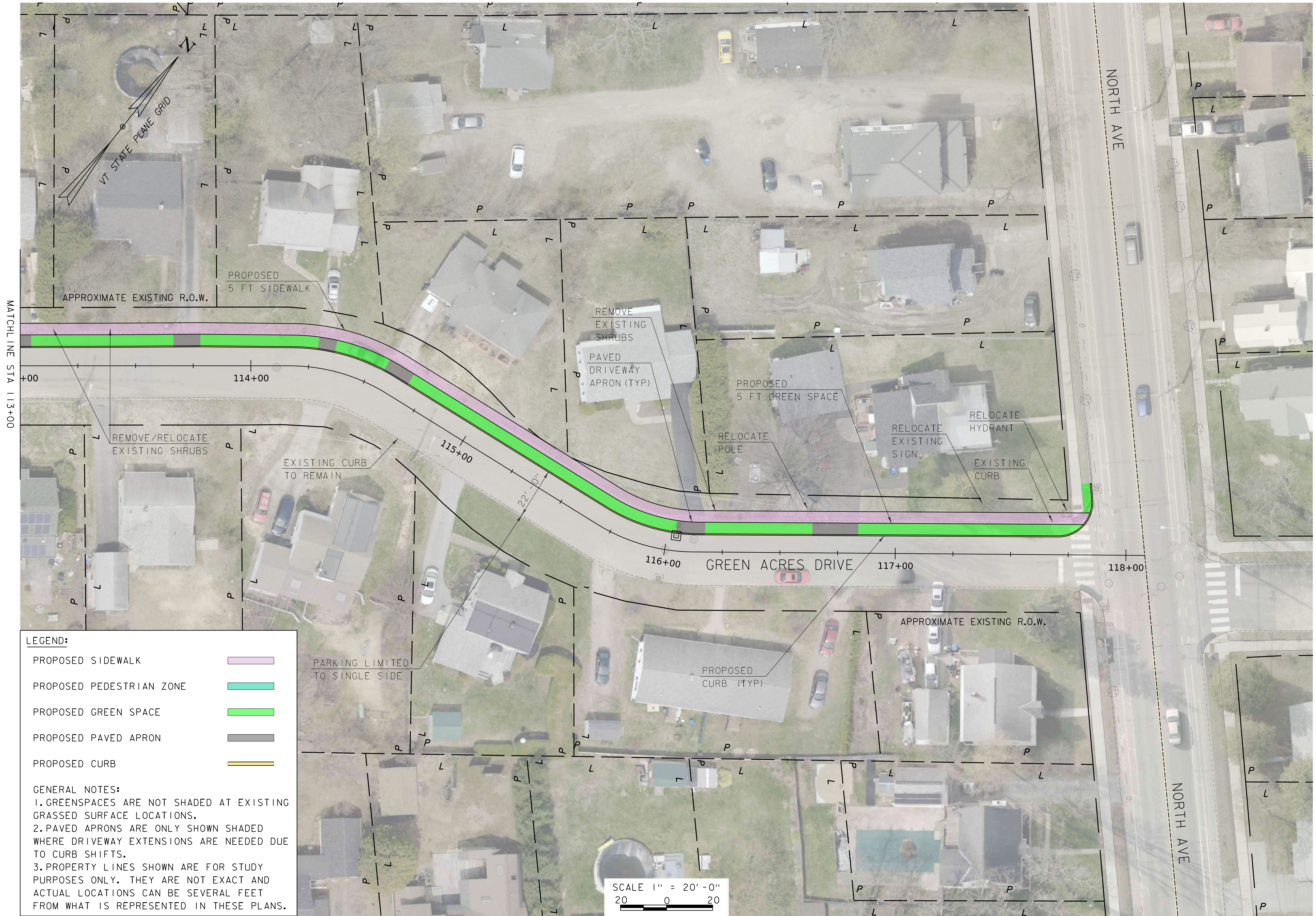
NINE SIDEWALK STUDY	
FILENAME	DESIGNER
21.12006.09bdt_levy	AMS
MODEL NAME	DRAWN
444GreenAcres(9off)_LSB	LSB
SCALE	CHECKED
AS SHOWN	JAO
DATE	DECEMBER 2024

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GREEN ACRES DRIVE ALTERNATIVE 4 (SHEET 3 OF 4)

PROJECT NO. 21.120006.09
FIGURE
19
FIGURE 19 OF 29

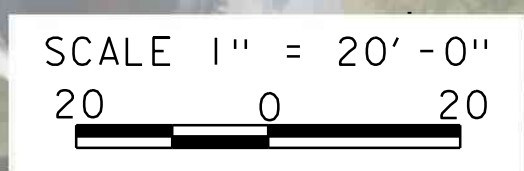


LEGEND:

- PROPOSED SIDEWALK
- PROPOSED PEDESTRIAN ZONE
- PROPOSED GREEN SPACE
- PROPOSED PAVED APRON
- PROPOSED CURB

GENERAL NOTES:

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3. PROPERTY LINES SHOWN ARE FOR STUDY PURPOSES ONLY. THEY ARE NOT EXACT AND ACTUAL LOCATIONS CAN BE SEVERAL FEET FROM WHAT IS REPRESENTED IN THESE PLANS.



NINE SIDEWALK STUDY	
DESIGNER	AMS
FILENAME	21.12006.09bdt_levy.dgn
MODEL NAME	LSB
DRAWN	LSB
CHECKED	JAO
DATE	DECEMBER 2024

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1/28/2025 9:54:42 AM V:\PROJECTS\CCRPC-VT121_120006_09-CCRPC-Burlington-North-End-Sidewalks2-CADD\0-Plans\21_12006.09bdt_levy.dgn

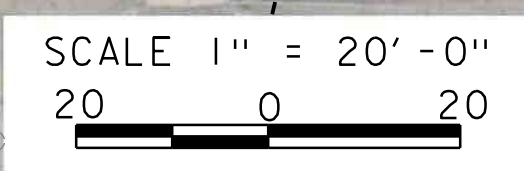


LEGEND:

- PROPOSED SIDEWALK
- PROPOSED PEDESTRIAN ZONE
- PROPOSED GREEN SPACE
- PROPOSED PAVED APRON
- PROPOSED CURB

GENERAL NOTES:

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NINE SIDEWALK STUDY	
FILENAME	DESIGNER
21.12006.09bdt_levy	AMS
MODEL NAME	DRAWN
all2Stanbury(1 of 3)	LSB
SCALE	CHECKED
AS SHOWN	JAO
DATE	DECEMBER 2024

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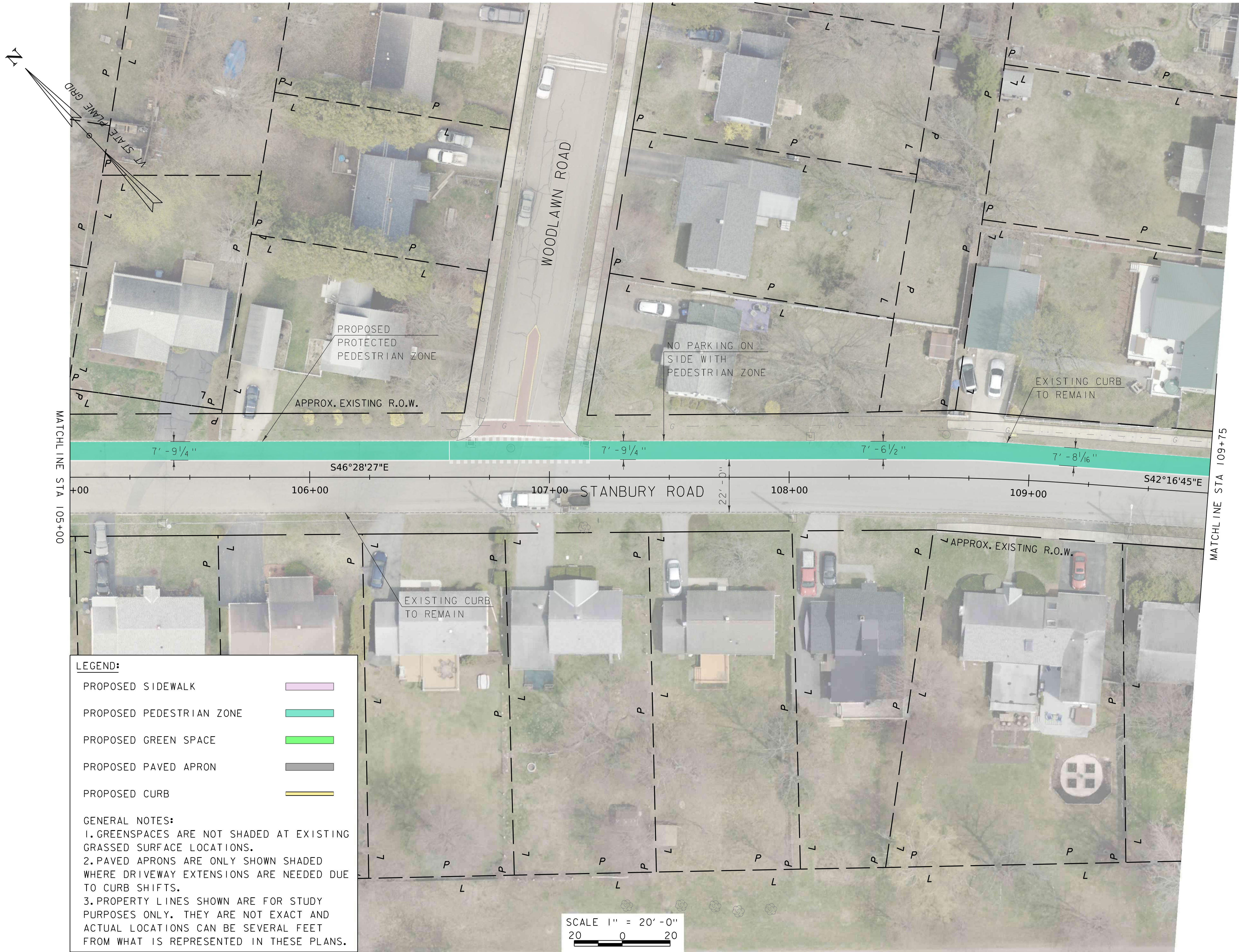
MATCHLINE STA 105+00

CITY OF BURLINGTON
BURLINGTON, VERMONT
NEW NORTH END SIDEWALKS
STANBURY ROAD ALTERNATIVE 2 (SHEET 1 OF 3)

PROJECT NO. 21.120006.09

FIGURE
21
FIGURE 21 OF 29

1/28/2025 9:55:02 AM V:\1_PROJECTS\CCRPC-VT121_120006_09-CCRPC-Burlington-North-End-Sidewalks2-CADD\0-Plans\21.120006.09bdt_levy.dgn

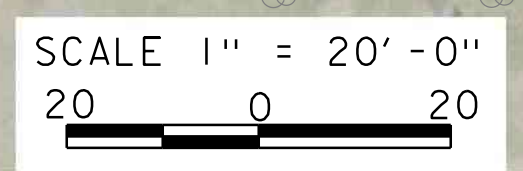


LEGEND:

- PROPOSED SIDEWALK
- PROPOSED PEDESTRIAN ZONE
- PROPOSED GREEN SPACE
- PROPOSED PAVED APRON
- PROPOSED CURB

GENERAL NOTES:

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3. PROPERTY LINES SHOWN ARE FOR STUDY PURPOSES ONLY. THEY ARE NOT EXACT AND ACTUAL LOCATIONS CAN BE SEVERAL FEET FROM WHAT IS REPRESENTED IN THESE PLANS.



NINE SIDEWALK STUDY	
DESIGNER	AMS
FILENAME	21.120006.09bdt_levy
DRAWN	LSB
MODEL NAME	all2Stanbury(2of3)
CHECKED	JAO
SCALE	AS SHOWN
DATE	DECEMBER 2024

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NEW NORTH END SIDEWALKS

STANBURY ROAD ALTERNATIVE 2 (SHEET 2 OF 3)

PROJECT NO. 21.120006.09

FIGURE
22
FIGURE 22 OF 29

1/28/2025 9:55:20 AM V:\PROJECTS\CCRPC-VT121_120006_09-CCRPC-Burlington-North-End-Sidewalks2-CADD\0-Plans\21.120006.09bdt_levy.dgn

MATCHLINE STA 109+75

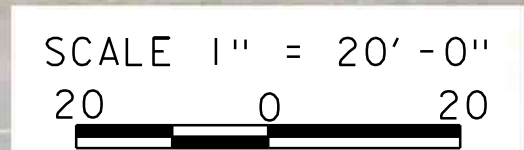


LEGEND:

- PROPOSED SIDEWALK
- PROPOSED PEDESTRIAN ZONE
- PROPOSED GREEN SPACE
- PROPOSED PAVED APRON
- PROPOSED CURB

GENERAL NOTES:

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NINE SIDEWALK STUDY	
FILENAME	DESIGNER
21.120006.09bdt_levy	AMS
MODELNAME	DRAWN
all2Stanbury(3c/3)	LSB
SCALE	CHECKED
AS SHOWN	JAO
DATE	DATE
	DECEMBER 2024

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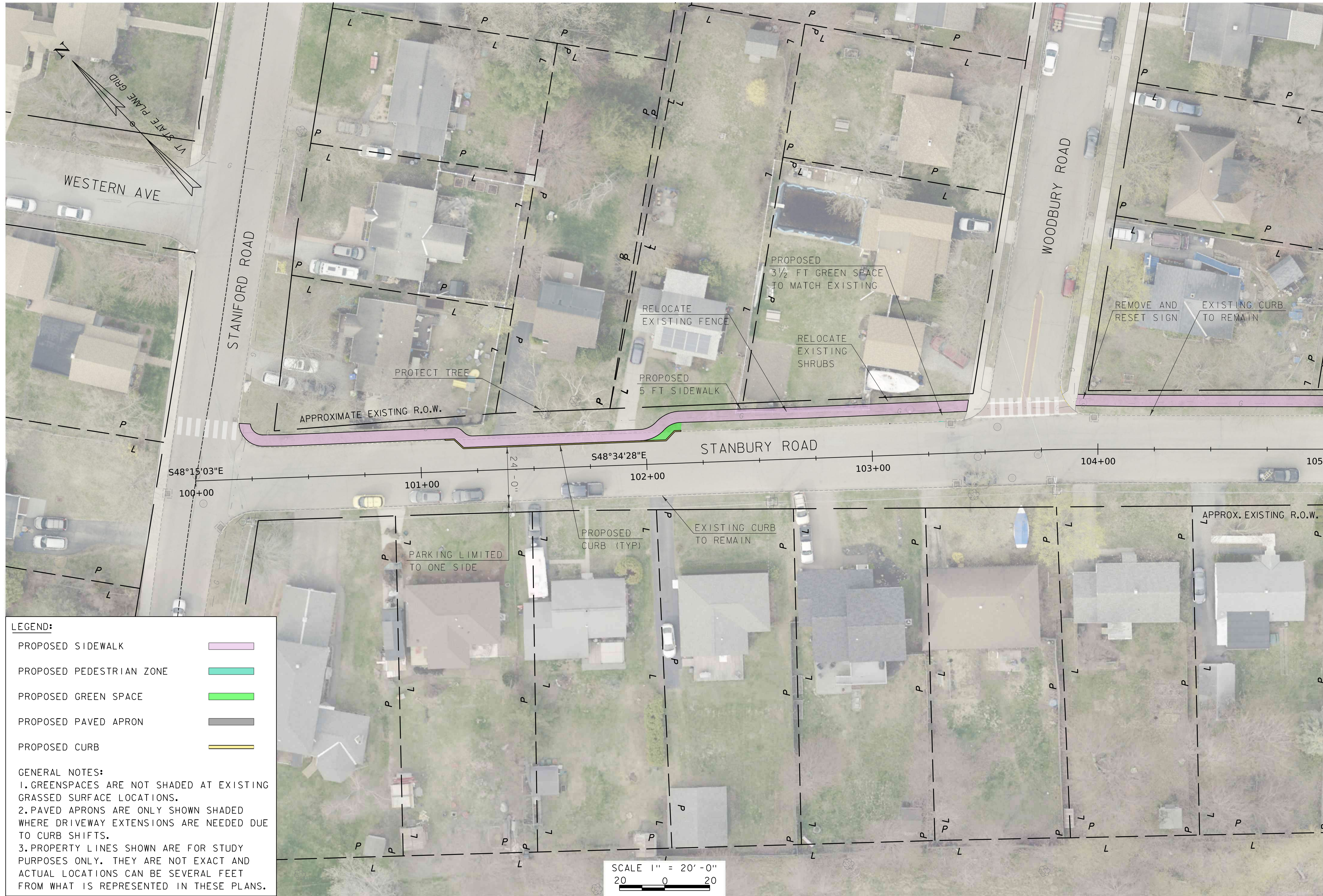
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NEW NORTH END SIDEWALKS
STANBURY ROAD ALTERNATIVE 2 (SHEET 3 OF 3)

PROJECT NO. 21.120006.09

FIGURE
23
FIGURE 23 OF 29

1/28/2025 9:55:38 AM V:\PROJECTS\CCRPC-VT121_120006_09-CCRPC-Burlington-North-End-Sidewalks2-CADD\0-Plans\21.12006.09bdt_levy.dgn

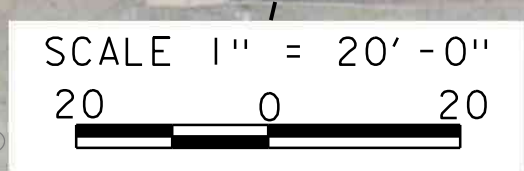


LEGEND:

- PROPOSED SIDEWALK
- PROPOSED PEDESTRIAN ZONE
- PROPOSED GREEN SPACE
- PROPOSED PAVED APRON
- PROPOSED CURB

GENERAL NOTES:

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NINE SIDEWALK STUDY	
FILENAME	DESIGNER
21.12006.09bdt_levy	AMS
MODEL NAME	DRAWN
all3Stanbury(1c)3	LSB
SCALE	CHECKED
AS SHOWN	JAO
DATE	DECEMBER 2024

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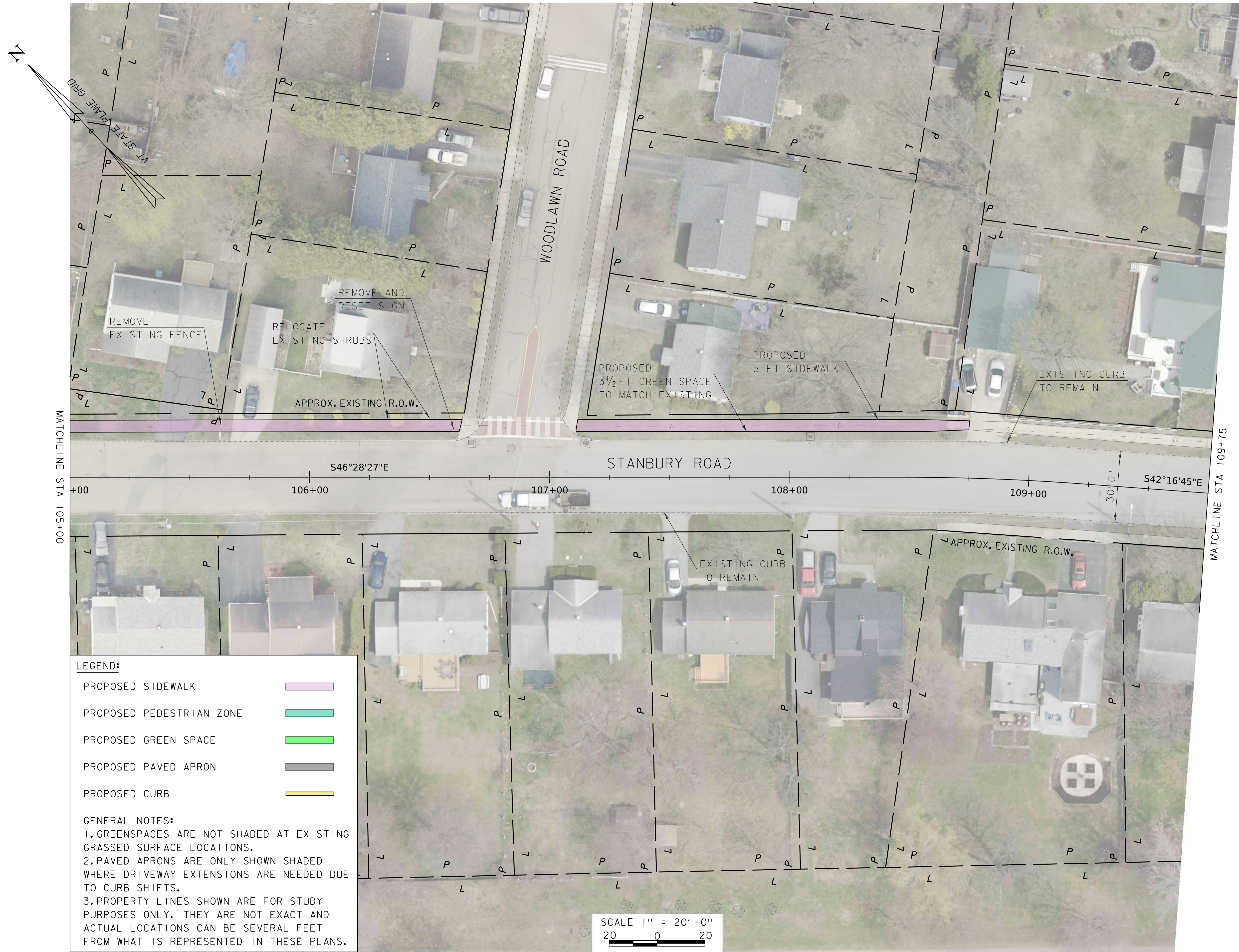
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NEW NORTH END SIDEWALKS

STANBURY ROAD ALTERNATIVE 3 (SHEET 1 OF 3)

PROJECT NO. 21.120006.09
FIGURE
24
FIGURE 24 OF 29

1/28/2025 9:55:56 AM V:\1_PROJECTS\CCRPC-VT121_120006_09-CCRPC-Burlington-North-End-Sidewalks2-CADD\0-Plans\21.120006.09bdt_levy.dgn

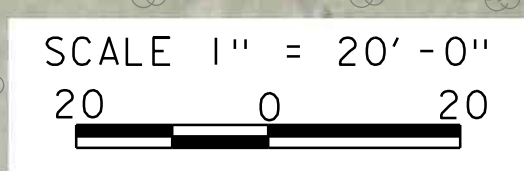


LEGEND:

- PROPOSED SIDEWALK
- PROPOSED PEDESTRIAN ZONE
- PROPOSED GREEN SPACE
- PROPOSED PAVED APRON
- PROPOSED CURB

GENERAL NOTES:

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NINE SIDEWALK STUDY	
DESIGNER	AMS
FILENAME	21.120006.09bdt_levy
DRAWN	LSB
MODEL NAME	all3Stanbury(2of3)
CHECKED	JAO
SCALE	AS SHOWN
DATE	DECEMBER 2024

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NEW NORTH END SIDEWALKS

STANBURY ROAD ALTERNATIVE 3 (SHEET 2 OF 3)

PROJECT NO. 21.120006.09

FIGURE

25

FIGURE 25 OF 29

MATCHLINE STA 109+75

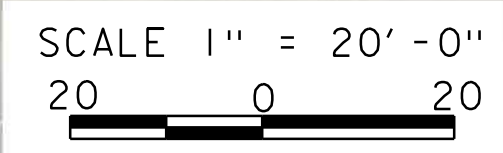


LEGEND:

- PROPOSED SIDEWALK
- PROPOSED PEDESTRIAN ZONE
- PROPOSED GREEN SPACE
- PROPOSED PAVED APRON
- PROPOSED CURB

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NINE SIDEWALK STUDY	
FILENAME	DESIGNER
21.12006.09bdt_levy	AMS
MODEL NAME	DRAWN
all3Stanbury(3c/3)	LSB
SCALE	CHECKED
AS SHOWN	JAO
DATE	DATE
	DECEMBER 2024



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BURLINGTON, VERMONT
NEW NORTH END SIDEWALKS

STANBURY ROAD ALTERNATIVE 3 (SHEET 3 OF 3)

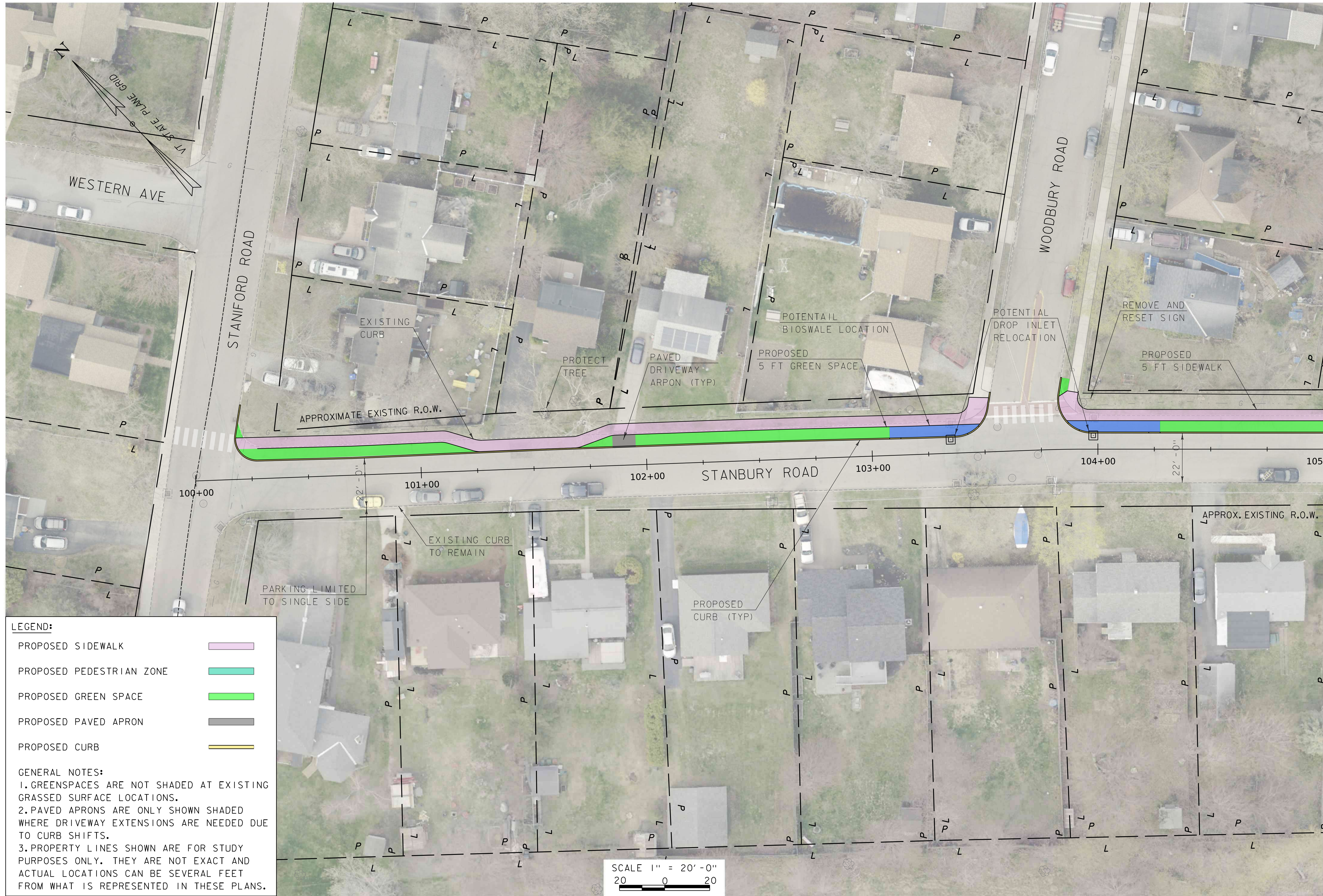
PROJECT NO. 21.120006.09

FIGURE

26

FIGURE 26 OF 29

1/28/2025 9:56:35 AM V:\PROJECTS\CCRPC-VT121_120006_09-CCRPC-Burlington-North-End-Sidewalks2-CADD\0-Plans\21.12006.09bdt_levy.dgn

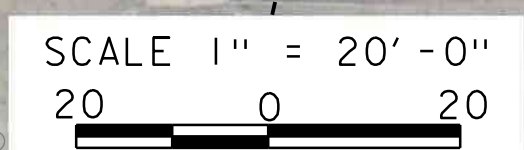


LEGEND:

- PROPOSED SIDEWALK
- PROPOSED PEDESTRIAN ZONE
- PROPOSED GREEN SPACE
- PROPOSED PAVED APRON
- PROPOSED CURB

GENERAL NOTES:

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NINE SIDEWALK STUDY	
FILENAME	DESIGNER
21.12006.09bdt_levy	AMS
MODEL NAME	DRAWN
all4Stanbury(1)03	LSB
SCALE	CHECKED
AS SHOWN	JAO
DATE	DECEMBER 2024

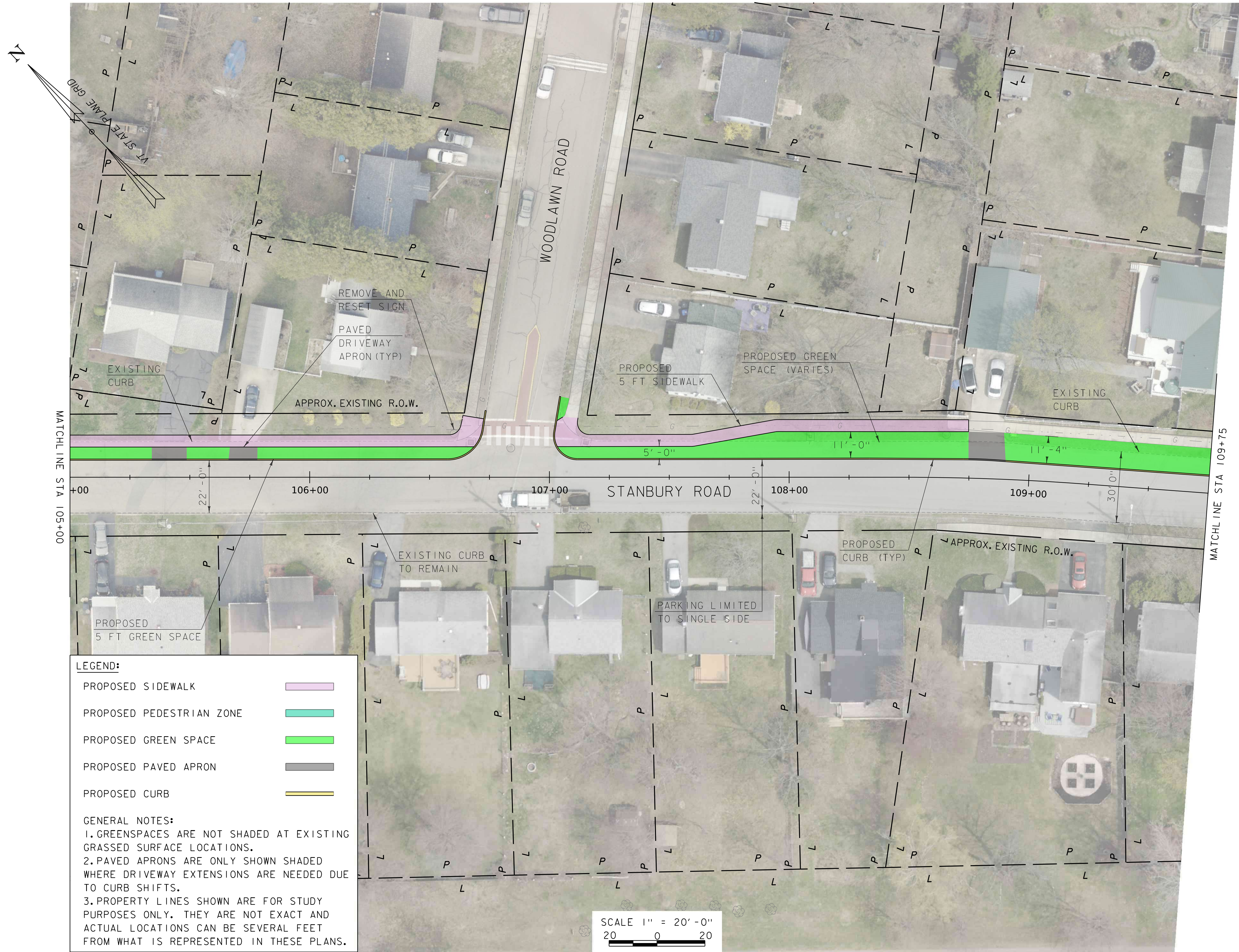
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CITY OF BURLINGTON
BURLINGTON, VERMONT
NEW NORTH END SIDEWALKS
STANBURY ROAD ALTERNATIVE 4 (SHEET 1 OF 3)

PROJECT NO. 21.120006.09
FIGURE
27
FIGURE 27 OF 29

1/28/2025 9:56:51 AM V:\1_PROJECTS\CCRPC-VT121_120006_09-CCRPC-Burlington-North-End-Sidewalks2-CADD\0-Plans\21.120006.09bdt_levy.dgn

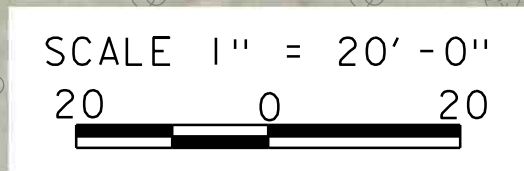


LEGEND:

- PROPOSED SIDEWALK
- PROPOSED PEDESTRIAN ZONE
- PROPOSED GREEN SPACE
- PROPOSED PAVED APRON
- PROPOSED CURB

GENERAL NOTES:

1. GREENSPACES ARE NOT SHADED AT EXISTING GRASSED SURFACE LOCATIONS.
2. PAVED APRONS ARE ONLY SHOWN SHADED WHERE DRIVEWAY EXTENSIONS ARE NEEDED DUE TO CURB SHIFTS.
3. PROPERTY LINES SHOWN ARE FOR STUDY PURPOSES ONLY. THEY ARE NOT EXACT AND ACTUAL LOCATIONS CAN BE SEVERAL FEET FROM WHAT IS REPRESENTED IN THESE PLANS.



NINE SIDEWALK STUDY	
FILENAME	DESIGNER
21.120006.09bdt_levy	AMS
MODEL NAME	DRAWN
all4Stanbury(2of3)	LSB
SCALE	CHECKED
AS SHOWN	JAO
DATE	DECEMBER 2024

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CITY OF BURLINGTON
 BURLINGTON, VERMONT
 NEW NORTH END SIDEWALKS
 STANBURY ROAD ALTERNATIVE 4 (SHEET 2 OF 3)

PROJECT NO. 21.120006.09
 FIGURE
28
 FIGURE 28 OF 29

MATCHLINE STA 109+75

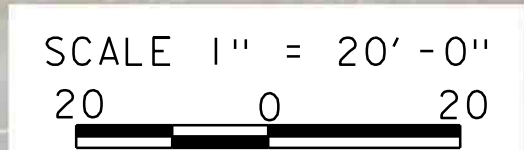


LEGEND:

PROPOSED SIDEWALK	
PROPOSED PEDESTRIAN ZONE	
PROPOSED GREEN SPACE	
PROPOSED PAVED APRON	
PROPOSED CURB	

GENERAL NOTES:

- GREENSPACES ARE NOT SHADED AT EXISTING GRASSED SURFACE LOCATIONS.
- PAVED APRONS ARE ONLY SHOWN SHADED WHERE DRIVEWAY EXTENSIONS ARE NEEDED DUE TO CURB SHIFTS.
- PROPERTY LINES SHOWN ARE FOR STUDY PURPOSES ONLY. THEY ARE NOT EXACT AND ACTUAL LOCATIONS CAN BE SEVERAL FEET FROM WHAT IS REPRESENTED IN THESE PLANS.



NINE SIDEWALK STUDY	
DESIGNER	AMS
FILENAME	21.12006.09bdr_lev
DRAWN	LSB
MODEL NAME	all4Stanbury(3c/3)
CHECKED	JAO
SCALE	AS SHOWN
DATE	DECEMBER 2024

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CITY OF BURLINGTON
BURLINGTON, VERMONT
NEW NORTH END SIDEWALKS
STANBURY ROAD ALTERNATIVE 4 (SHEET 3 OF 3)

PROJECT NO. 21.120006.09
FIGURE

29
FIGURE 29 OF 29

APPENDIX E

Conceptual Construction Cost Estimates

 HOYLE TANNER	125 College Street	Calc. By:	LSB	Date:	12/5/2024
	4th Floor	Chck. By:	JAO	Date:	12/12/2024
	Burlington, VT 05401	Chck. By:		Date:	
	(802) 860-1331	Chck. By:		Date:	

Burlington New North End Sidewalks
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.09

STANBURY ROAD ALTERNATIVE 2

SECTION A - MAJOR ITEMS

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
646.4040	Durable 4 Inch White Line, Polyurea	LF	1550	\$ 3.00	\$ 4,650.00
646.4840	Durable 24 Inch Stop Bar, Polyurea	LF	30	\$ 20.00	\$ 600.00
646.9001	Colored Pavement Markings, Green	SF	11300	\$ 20.00	\$ 226,000.00
675.2000	Traffic Sign, Flat Sheet Aluminum	SF	140	\$ 25.00	\$ 3,500.00
675.3410	Square Tube Sign Post and Anchor	LF	650	\$ 25.00	\$ 16,250.00
676.2000	Delineator with Flexible Post	EACH	310	\$ 300.00	\$ 93,000.00
	MISCELLANEOUS ROADWAY			15% OF ABOVE TOTAL	\$ 51,600.00
	MISCELLANEOUS EPSC				\$ 10,000.00
				SUBTOTAL A	\$ 405,600.00

SECTION B - TRAFFIC CONTROL

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
630.1500	Flaggers	HR	160	\$ 50.00	\$ 8,000.00
641.1100	Traffic Control, All-Inclusive	LS	1	\$ 30,000.00	\$ 30,000.00
				SUBTOTAL B	\$ 443,600.00

SECTION C - MOBILIZATION AND CONTINGENCIES

ROADWAY MOBILIZATION			10%	\$	44,360.00
				SUBTOTAL C	\$ 487,960.00



**HOYLE
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125 College Street
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Calc. By:	LSB	Date:	12/5/2024
Chck. By:	JAO	Date:	12/12/2024
Chck. By:		Date:	
Chck. By:		Date:	

Burlington New North End Sidewalks
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.09

STANBURY ROAD ALTERNATIVE 2

SECTION D - CONSTRUCTION (CON)

ROUNDED CONSTRUCTION SUBTOTAL:	\$	488,000.00
CONTINGENCY	15% \$	73,200.00
CONSTRUCTION ENGINEERING	5% \$	28,060.00
EOR CONSTRUCTION ADMINISTRATION	3% \$	16,840.00
CON TOTAL FOR PLANNING	\$	606,100.00

SECTION E - RIGHT-OF-WAY (ROW)


TAKES	\$0.00
EASEMENTS	\$2,000.00
ROW TOTAL	\$2,000.00

SECTION F - DESIGN SERVICES

FINAL DESIGN	\$75,000.00
BID PHASE SERVICES	\$6,000.00
PE TOTAL	\$81,000.00

PROJECT TOTAL COST (CON+PE) \$689,100.00

This Engineers Estimate of Probable Construction Costs is based on the anticipated scope of work, as well as Hoyle Tanner's experience with similar projects and understanding of current industry trends. The estimate has not been based on a final design for this project, and as such, it is intended to be preliminary in nature. It should be noted that changes in material or labor costs in the construction industry could impact the project cost in either direction.

 HOYLE TANNER	125 College Street	Calc. By:	LSB	Date:	11/26/2024
	4th Floor	Chck. By:	JAO	Date:	12/12/2024
	Burlington, VT 05401	Chck. By:		Date:	
	(802) 860-1331	Chck. By:		Date:	

Burlington New North End Sidewalks
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.09

STANBURY ROAD ALTERNATIVE 3

SECTION A - MAJOR ITEMS


ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
201.1000	Clearing and Grubbing, Including Individual Trees and Stumps	LS	1	\$ 6,200.00	\$ 6,200.00
203.1500	Common Excavation	CY	170	\$ 25.00	\$ 4,250.00
203.2800	Excavation of Surfaces and Pavements	CY	6	\$ 50.00	\$ 300.00
203.3000	Earth Borrow	CY	110	\$ 25.00	\$ 2,750.00
301.2500	Subbase of Crushed Gravel, Coarse Graded	CY	100	\$ 65.00	\$ 6,500.00
616.2100	Vertical Granite Curb	LF	80	\$ 100.00	\$ 8,000.00
616.4100	Removal of Existing Curb	LF	80	\$ 15.00	\$ 1,200.00
618.1005	Portland Cement Concrete Sidewalk, 5 Inch	SY	450	\$ 200.00	\$ 90,000.00
620.5500	Removal of Existing Fence	LF	80	\$ 10.00	\$ 800.00
629.3600	Relocate Hydrant	EACH	1	\$ 10,000.00	\$ 10,000.00
646.5040	Durable Crosswalk Marking, Polyurea	LF	125	\$ 30.00	\$ 3,750.00
651.1500	Turf Establishment, General Seed	SY	275	\$ 10.00	\$ 2,750.00
651.3500	Topsoil	CY	1	\$ 55.00	\$ 55.00
675.3410	Square Tube Sign Post and Anchor	LF	30	\$ 25.00	\$ 750.00
675.5000	Sign Removal, Flat Sheet Aluminum	EACH	4	\$ 30.00	\$ 120.00
675.6000	Resetting Signs	EACH	4	\$ 50.00	\$ 200.00
681.1010	Remove and Relocate Landscape Items	EACH	2	\$ 4,000.00	\$ 8,000.00
	MISCELLANEOUS ROADWAY		15% OF ABOVE TOTAL		\$ 20,913.75
	MISCELLANEOUS EPSC				\$ 10,000.00
			SUBTOTAL A		\$ 176,538.75

SECTION B - TRAFFIC CONTROL

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
630.1500	Flaggers	HR	160	\$ 50.00	\$ 8,000.00
641.1100	Traffic Control, All-Inclusive	LS	1	\$ 30,000.00	\$ 30,000.00
			SUBTOTAL B		\$ 214,538.75

SECTION C - MOBILIZATION AND CONTINGENCIES

ROADWAY MOBILIZATION	12%	\$	25,744.65
	SUBTOTAL C	\$	240,283.40

 HOYLE TANNER	125 College Street	Calc. By: LSB	Date: 11/26/2024
	4th Floor	Chck. By: JAO	Date: 12/12/2024
	Burlington, VT 05401	Chck. By:	Date:
	(802) 860-1331	Chck. By:	Date:

Burlington New North End Sidewalks
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.09

STANBURY ROAD ALTERNATIVE 3

SECTION D - CONSTRUCTION (CON)

ROUNDED CONSTRUCTION SUBTOTAL:	\$	241,000.00
CONTINGENCY	25% \$	60,250.00
CONSTRUCTION ENGINEERING	10% \$	30,125.00
EOR CONSTRUCTION ADMINISTRATION	3% \$	9,040.00
CON TOTAL FOR PLANNING	\$	340,415.00

SECTION E - RIGHT-OF-WAY (ROW)


TAKES	\$0.00
EASEMENTS	\$25,000.00
ROW TOTAL	\$25,000.00

SECTION F - DESIGN SERVICES

FINAL DESIGN	\$125,000.00
BID PHASE SERVICES	\$6,000.00
PE TOTAL	\$131,000.00

PROJECT TOTAL COST (CON+PE) **\$496,415.00**

This Engineers Estimate of Probable Construction Costs is based on the anticipated scope of work, as well as Hoyle Tanner's experience with similar projects and understanding of current industry trends. The estimate has not been based on a final design for this project, and as such, it is intended to be preliminary in nature. It should be noted that changes in material or labor costs in the construction industry could impact the project cost in either direction.

 HOYLE TANNER	125 College Street	Calc. By:	LSB	Date:	10/24/2024
	4th Floor	Chck. By:	JAO	Date:	12/12/2024
	Burlington, VT 05401	Chck. By:		Date:	
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Burlington New North End Sidewalks
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.09

STANBURY ROAD ALTERNATIVE 4

SECTION A - MAJOR ITEMS


ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
201.1000	Clearing and Grubbing, Including Individual Trees and Stumps	LS	1	\$ 12,000.00	\$ 12,000.00
203.1500	Common Excavation	CY	510	\$ 25.00	\$ 12,750.00
203.2800	Excavation of Surfaces and Pavements	CY	165	\$ 50.00	\$ 8,250.00
203.3000	Earth Borrow	CY	325	\$ 25.00	\$ 8,125.00
301.2500	Subbase of Crushed Gravel, Coarse Graded	CY	250	\$ 65.00	\$ 16,250.00
406.3400	Bituminous Concrete Pavement, Non-Paver Placed, Type IVS	SY	45	\$ 50.00	\$ 2,250.00
604.1800	Precast Reinforced Concrete DI with Cast Iron Grate	EACH	2	\$ 6,500.00	\$ 13,000.00
616.2100	Vertical Granite Curb	LF	1200	\$ 100.00	\$ 120,000.00
616.4100	Removal of Existing Curb	LF	1120	\$ 15.00	\$ 16,800.00
618.1005	Portland Cement Concrete Sidewalk, 5 Inch	SY	520	\$ 200.00	\$ 104,000.00
620.5500	Removal of Existing Fence	LF	12	\$ 10.00	\$ 120.00
646.5040	Durable Crosswalk Marking, Polyurea	LF	125	\$ 30.00	\$ 3,750.00
651.1500	Turf Establishment, General Seed	SY	1050	\$ 10.00	\$ 10,500.36
651.3500	Topsoil	CY	75	\$ 55.00	\$ 4,125.01
675.3410	Square Tube Sign Post and Anchor	LF	30	\$ 25.00	\$ 750.00
675.5000	Sign Removal, Flat Sheet Aluminum	EACH	4	\$ 30.00	\$ 120.00
675.6000	Resetting Signs	EACH	4	\$ 50.00	\$ 200.00
	MISCELLANEOUS ROADWAY		15% OF ABOVE TOTAL		\$ 49,948.55
	MISCELLANEOUS EPSC				\$ 10,000.00
			SUBTOTAL A		\$ 392,938.92

SECTION B - TRAFFIC CONTROL

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
630.1500	Flaggers	HR	160	\$ 50.00	\$ 8,000.00
641.1100	Traffic Control, All-Inclusive	LS	1	\$ 30,000.00	\$ 30,000.00
			SUBTOTAL B		\$ 430,938.92

SECTION C - MOBILIZATION AND CONTINGENCIES

ROADWAY MOBILIZATION	12%	\$ 51,712.67
	SUBTOTAL C	\$ 482,651.59

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Burlington New North End Sidewalks
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.09

STANBURY ROAD ALTERNATIVE 4

SECTION D - CONSTRUCTION (CON)

ROUNDED CONSTRUCTION SUBTOTAL:	\$	483,000.00
CONTINGENCY	25% \$	120,750.00
CONSTRUCTION ENGINEERING	10% \$	60,375.00
EOR CONSTRUCTION ADMINISTRATION	3% \$	18,120.00
CON TOTAL FOR PLANNING	\$	682,245.00

SECTION E - RIGHT-OF-WAY (ROW)


TAKES	\$0.00
EASEMENTS	\$2,000.00
ROW TOTAL	\$2,000.00

SECTION F - DESIGN SERVICES

FINAL DESIGN	\$170,000.00
BID PHASE SERVICES	\$6,000.00
PE TOTAL	\$176,000.00

PROJECT TOTAL COST (CON+PE) **\$860,245.00**

This Engineers Estimate of Probable Construction Costs is based on the anticipated scope of work, as well as Hoyle Tanner's experience with similar projects and understanding of current industry trends. The estimate has not been based on a final design for this project, and as such, it is intended to be preliminary in nature. It should be noted that changes in material or labor costs in the construction industry could impact the project cost in either direction.

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	4th Floor	Chck. By:	JAO	Date:	12/12/2024
	Burlington, VT 05401	Chck. By:		Date:	
	(802) 860-1331	Chck. By:		Date:	

Burlington New North End Sidewalks
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.09

COTTAGE GROVE ALTERNATIVE 2

SECTION A - MAJOR ITEMS


ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
201.1000	Clearing and Grubbing, Including Individual Trees and Stumps	LS	1	\$ 22,000.00	\$ 22,000.00
201.1500	Removing Medium Trees	EACH	5	\$ 1,000.00	\$ 5,000.00
203.1500	Common Excavation	CY	500	\$ 25.00	\$ 12,500.00
203.2800	Excavation of Surfaces and Pavements	CY	70	\$ 50.00	\$ 3,500.00
203.3000	Earth Borrow	CY	325	\$ 25.00	\$ 8,125.00
301.2500	Subbase of Crushed Gravel, Coarse Graded	CY	310	\$ 65.00	\$ 20,150.00
406.3400	Bituminous Concrete Pavement, Non-Paver Placed, Type IVS	SY	15	\$ 50.00	\$ 750.00
616.2100	Vertical Granite Curb	LF	906	\$ 100.00	\$ 90,600.00
616.4100	Removal of Existing Curb	LF	800	\$ 15.00	\$ 12,000.00
618.1005	Portland Cement Concrete Sidewalk, 5 Inch	SY	1200	\$ 200.00	\$ 240,000.00
620.5500	Removal of Existing Fence	LF	150	\$ 10.00	\$ 1,500.00
646.4840	Durable 24 Inch Stop Bar, Polyurea	LF	45	\$ 20.00	\$ 900.00
646.4940	Durable Letter or Symbol, Polyurea	EACH	20	\$ 200.00	\$ 4,000.00
646.5040	Durable Crosswalk Marking, Polyurea	LF	65	\$ 30.00	\$ 1,950.00
651.1500	Turf Establishment, General Seed	SY	820	\$ 10.00	\$ 8,200.00
651.3500	Topsoil	CY	13	\$ 55.00	\$ 715.00
675.2000	Traffic Sign, Flat Sheet Aluminum	SF	13	\$ 25.00	\$ 325.00
675.3410	Square Tube Sign Post and Anchor	LF	30	\$ 25.00	\$ 750.00
675.5000	Sign Removal, Flat Sheet Aluminum	EACH	2	\$ 30.00	\$ 60.00
675.6000	Resetting Signs	EACH	2	\$ 50.00	\$ 100.00
	MISCELLANEOUS ROADWAY		15% OF ABOVE TOTAL		\$ 64,968.75
	MISCELLANEOUS EPSC				\$ 10,000.00
			SUBTOTAL A		\$ 508,093.75

SECTION B - TRAFFIC CONTROL

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
630.1500	Flaggers	HR	160	\$ 50.00	\$ 8,000.00
641.1100	Traffic Control, All-Inclusive	LS	1	\$ 30,000.00	\$ 30,000.00
			SUBTOTAL B		\$ 546,093.75

SECTION C - MOBILIZATION AND CONTINGENCIES

ROADWAY MOBILIZATION			12%		\$ 65,531.25
			SUBTOTAL C		\$ 611,625.00

 HOYLE TANNER	125 College Street	Calc. By: LSB	Date: 12/3/2024
	4th Floor	Chck. By: JAO	Date: 12/12/2024
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Burlington New North End Sidewalks
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.09

COTTAGE GROVE ALTERNATIVE 2

SECTION D - CONSTRUCTION (CON)

ROUNDED CONSTRUCTION SUBTOTAL:	\$	612,000.00
CONTINGENCY	25% \$	153,000.00
CONSTRUCTION ENGINEERING	10% \$	76,500.00
EOR CONSTRUCTION ADMINISTRATION	3% \$	22,950.00
CON TOTAL FOR PLANNING	\$	864,450.00

SECTION E - RIGHT-OF-WAY (ROW)


TAKES	\$0.00
EASEMENTS	\$25,000.00
ROW TOTAL	\$25,000.00

SECTION F - DESIGN SERVICES

FINAL DESIGN	\$175,000.00
BID PHASE SERVICES	\$6,000.00
PE TOTAL	\$181,000.00

PROJECT TOTAL COST (CON+PE) **\$1,070,450.00**

This Engineers Estimate of Probable Construction Costs is based on the anticipated scope of work, as well as Hoyle Tanner's experience with similar projects and understanding of current industry trends. The estimate has not been based on a final design for this project, and as such, it is intended to be preliminary in nature. It should be noted that changes in material or labor costs in the construction industry could impact the project cost in either direction.

 HOYLE TANNER	125 College Street	Calc. By:	LSB	Date:	10/24/2024
	4th Floor	Chck. By:	JAO	Date:	12/12/2024
	Burlington, VT 05401	Chck. By:		Date:	
	(802) 860-1331	Chck. By:		Date:	

Burlington New North End Sidewalks
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.09

COTTAGE GROVE ALTERNATIVE 3

SECTION A - MAJOR ITEMS


ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
201.1000	Clearing and Grubbing, Including Individual Trees and Stumps	LS	1	\$ 22,000.00	\$ 22,000.00
201.1500	Removing Medium Trees	EACH	3	\$ 1,000.00	\$ 3,000.00
203.1500	Common Excavation	CY	800	\$ 25.00	\$ 20,000.00
203.2800	Excavation of Surfaces and Pavements	CY	210	\$ 50.00	\$ 10,500.00
203.3000	Earth Borrow	CY	525	\$ 25.00	\$ 13,125.00
301.2500	Subbase of Crushed Gravel, Coarse Graded	CY	475	\$ 65.00	\$ 30,875.00
406.3400	Bituminous Concrete Pavement, Non-Paver Placed, Type IVS	SY	55	\$ 50.00	\$ 2,750.00
604.1800	Precast Reinforced Concrete DI with Cast Iron Grate	EACH	1	\$ 6,500.00	\$ 6,500.00
616.2100	Vertical Granite Curb	LF	2300	\$ 100.00	\$ 230,000.00
616.4100	Removal of Existing Curb	LF	2200	\$ 15.00	\$ 33,000.00
618.1005	Portland Cement Concrete Sidewalk, 5 Inch	SY	1300	\$ 200.00	\$ 260,000.00
620.5500	Removal of Existing Fence	LF	110	\$ 10.00	\$ 1,100.00
646.4840	Durable 24 Inch Stop Bar, Polyurea	LF	45	\$ 20.00	\$ 900.00
646.5040	Durable Crosswalk Marking, Polyurea	LF	65	\$ 30.00	\$ 1,950.00
651.1500	Turf Establishment, General Seed	SY	1300	\$ 2.00	\$ 2,600.00
651.3500	Topsoil	CY	70	\$ 55.00	\$ 3,850.00
675.2000	Traffic Sign, Flat Sheet Aluminum	SF	13	\$ 25.00	\$ 325.00
675.3410	Square Tube Sign Post and Anchor	LF	30	\$ 25.00	\$ 750.00
675.5000	Sign Removal, Flat Sheet Aluminum	EACH	2	\$ 30.00	\$ 60.00
675.6000	Resetting Signs	EACH	2	\$ 50.00	\$ 100.00
	MISCELLANEOUS ROADWAY		15% OF ABOVE TOTAL		\$ 96,507.75
	MISCELLANEOUS EPSC				\$ 10,000.00
			SUBTOTAL A		\$ 749,892.75

SECTION B - TRAFFIC CONTROL

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
630.1500	Flaggers	HR	160	\$ 50.00	\$ 8,000.00
641.1100	Traffic Control, All-Inclusive	LS	1	\$ 30,000.00	\$ 30,000.00
			SUBTOTAL B		\$ 787,892.75

SECTION C - MOBILIZATION AND CONTINGENCIES

ROADWAY MOBILIZATION			12%		\$ 94,547.13
			SUBTOTAL C		\$ 882,439.88

 HOYLE TANNER	125 College Street	Calc. By: LSB	Date: 10/24/2024
	4th Floor	Chck. By: JAO	Date: 12/12/2024
	Burlington, VT 05401	Chck. By:	Date:
	(802) 860-1331	Chck. By:	Date:

Burlington New North End Sidewalks
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.09

COTTAGE GROVE ALTERNATIVE 3

SECTION D - CONSTRUCTION (CON)

ROUNDED CONSTRUCTION SUBTOTAL:	\$	883,000.00
CONTINGENCY	25% \$	220,750.00
CONSTRUCTION ENGINEERING	10% \$	110,375.00
EOR CONSTRUCTION ADMINISTRATION	3% \$	33,120.00
CON TOTAL FOR PLANNING	\$	1,247,245.00

SECTION E - RIGHT-OF-WAY (ROW)

TAKES	\$0.00
EASEMENTS	\$25,000.00
ROW TOTAL	\$25,000.00

SECTION F - DESIGN SERVICES

FINAL DESIGN	\$200,000.00
BID PHASE SERVICES	\$6,000.00
PE TOTAL	\$206,000.00

PROJECT TOTAL COST (CON+PE) **\$1,478,245.00**

This Engineers Estimate of Probable Construction Costs is based on the anticipated scope of work, as well as Hoyle Tanner's experience with similar projects and understanding of current industry trends. The estimate has not been based on a final design for this project, and as such, it is intended to be preliminary in nature. It should be noted that changes in material or labor costs in the construction industry could impact the project cost in either direction.



**HOYLE
TANNER**

125 College Street
4th Floor
Burlington, VT 05401
(802) 860-1331

Calc. By:	LSB	Date:	12/5/2024
Chck. By:	JAO	Date:	12/12/2024
Chck. By:		Date:	
Chck. By:		Date:	

Burlington New North End Sidewalks
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.09

GREEN ACRES DRIVE ALTERNATIVE 2


ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
646.4040	Durable 4 Inch White Line, Polyurea	LF	1900	\$ 3.00	\$ 5,700.00
646.4840	Durable 24 Inch Stop Bar, Polyurea	LF	30	\$ 20.00	\$ 600.00
646.9000	Colored Pavement Markings	SF	13200	\$ 20.00	\$ 264,000.00
675.2000	Traffic Sign, Flat Sheet Aluminum	SF	162	\$ 25.00	\$ 4,050.00
675.3410	Square Tube Sign Post and Anchor	LF	620	\$ 25.00	\$ 15,500.00
676.2000	Delineator with Flexible Post	EACH	310	\$ 300.00	\$ 93,000.00
	MISCELLANEOUS ROADWAY			15% OF ABOVE TOTAL	\$ 43,477.50
	MISCELLANEOUS EPSC				\$ 10,000.00
				SUBTOTAL A	\$ 436,327.50

SECTION B - TRAFFIC CONTROL

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
630.1500	Flaggers	HR	160	\$ 50.00	\$ 8,000.00
641.1100	Traffic Control, All-Inclusive	LS	1	\$ 30,000.00	\$ 30,000.00
				SUBTOTAL B	\$ 474,327.50

SECTION C - MOBILIZATION AND CONTINGENCIES

ROADWAY MOBILIZATION			10%	\$	47,432.75
				SUBTOTAL C	\$ 521,760.25

 HOYLE TANNER	125 College Street	Calc. By: LSB	Date: 12/5/2024
	4th Floor	Chck. By: JAO	Date: 12/12/2024
	Burlington, VT 05401	Chck. By:	Date:
	(802) 860-1331	Chck. By:	Date:

Burlington New North End Sidewalks
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.09

GREEN ACRES DRIVE ALTERNATIVE 2

SECTION D - CONSTRUCTION (CON)

ROUNDED CONSTRUCTION SUBTOTAL:	\$	522,000.00
CONTINGENCY	15% \$	78,300.00
CONSTRUCTION ENGINEERING	5% \$	30,015.00
EOR CONSTRUCTION ADMINISTRATION	3% \$	18,010.00
CON TOTAL FOR PLANNING	\$	648,325.00

SECTION E - RIGHT-OF-WAY (ROW)

TAKES	\$0.00
EASEMENTS	\$2,000.00
ROW TOTAL	\$2,000.00

SECTION F - DESIGN SERVICES

FINAL DESIGN	\$97,250.00
BID PHASE SERVICES	\$6,000.00
PE TOTAL	\$103,250.00

PROJECT TOTAL COST (CON+PE) **\$753,575.00**

This Engineers Estimate of Probable Construction Costs is based on the anticipated scope of work, as well as Hoyle Tanner's experience with similar projects and understanding of current industry trends. The estimate has not been based on a final design for this project, and as such, it is intended to be preliminary in nature. It should be noted that changes in material or labor costs in the construction industry could impact the project cost in either direction.



125 College Street
4th Floor
Burlington, VT 05401
(802) 860-1331

Calc. By:	AMS	Date:	4/2/2025
Chck. By:	TAS	Date:	4/4/2025
Chck. By:		Date:	
Chck. By:		Date:	

Burlington New North End Sidewalks
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.09

GREEN ACRES DRIVE ALTERNATIVE 2 - SEASONAL ZONE (NO PAINT)

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
675.2000	Traffic Sign, Flat Sheet Aluminum	SF	162	\$ 25.00	\$ 4,050.00
675.3410	Square Tube Sign Post and Anchor	LF	620	\$ 25.00	\$ 15,500.00
676.2000	Delineator with Flexible Post	EACH	310	\$ 300.00	\$ 93,000.00
	MISCELLANEOUS ROADWAY			15% OF ABOVE TOTAL	\$ 2,932.50
	MISCELLANEOUS EPSC				\$ 10,000.00
				SUBTOTAL A	\$ 125,482.50

SECTION B - TRAFFIC CONTROL

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
630.1500	Flaggers	HR	40	\$ 50.00	\$ 2,000.00
641.1100	Traffic Control, All-Inclusive	LS	1	\$ 10,000.00	\$ 10,000.00
				SUBTOTAL B	\$ 137,482.50

SECTION C - MOBILIZATION AND CONTINGENCIES


ROADWAY MOBILIZATION	10%	\$	13,748.25
	SUBTOTAL C	\$	151,230.75

SECTION D - CONSTRUCTION (CON)

ROUNDED CONSTRUCTION SUBTOTAL:	\$	152,000.00
CONTINGENCY	15%	\$ 22,800.00
CONSTRUCTION ENGINEERING	5%	\$ 8,740.00
EOR CONSTRUCTION ADMINISTRATION	3%	\$ 5,250.00
CON TOTAL FOR PLANNING	\$	188,790.00

SECTION E - RIGHT-OF-WAY (ROW)

TAKES	\$0.00
EASEMENTS	\$2,000.00
ROW TOTAL	\$2,000.00

 HOYLE TANNER	125 College Street 4th Floor Burlington, VT 05401 (802) 860-1331	Calc. By:	AMS	Date:	4/2/2025
		Chck. By:	TAS	Date:	4/4/2025
		Chck. By:		Date:	
		Chck. By:		Date:	

Burlington New North End Sidewalks
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.09


GREEN ACRES DRIVE ALTERNATIVE 2 - SEASONAL ZONE (NO PAINT)

SECTION F - DESIGN SERVICES

FINAL DESIGN	\$50,000.00
BID PHASE SERVICES	\$6,000.00
PE TOTAL	\$56,000.00

PROJECT TOTAL COST (CON+PE) \$246,790.00

This Engineers Estimate of Probable Construction Costs is based on the anticipated scope of work, as well as Hoyle Tanner's experience with similar projects and understanding of current industry trends. The estimate has not been based on a final design for this project, and as such, it is intended to be preliminary in nature. It should be noted that changes in material or labor costs in the construction industry could impact the project cost in either direction.

 HOYLE TANNER	125 College Street	Calc. By: LSB	Date: 11/26/2024
	4th Floor	Chck. By: JAO	Date: 12/12/2024
	Burlington, VT 05401	Chck. By:	Date:
	(802) 860-1331	Chck. By:	Date:

Burlington New North End Sidewalks
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.09


GREEN ACRES DRIVE ALTERNATIVE 3

SECTION A - MAJOR ITEMS

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
201.1000	Clearing and Grubbing, Including Individual Trees and Stumps	LS	1	\$ 20,000.00	\$ 20,000.00
201.1500	Removing Medium Trees	EACH	2	\$ 1,000.00	\$ 2,000.00
203.1500	Common Excavation	CY	800	\$ 25.00	\$ 20,000.00
203.2800	Excavation of Surfaces and Pavements	CY	35	\$ 50.00	\$ 1,750.00
203.3000	Earth Borrow	CY	500	\$ 25.00	\$ 12,500.00
301.2500	Subbase of Crushed Gravel, Coarse Graded	CY	460	\$ 65.00	\$ 29,900.00
616.2100	Vertical Granite Curb	LF	290	\$ 100.00	\$ 29,000.00
616.4100	Removal of Existing Curb	LF	275	\$ 15.00	\$ 4,125.00
618.1005	Portland Cement Concrete Sidewalk, 5 Inch	SY	2150	\$ 200.00	\$ 430,000.00
620.5500	Removal of Existing Fence	LF	137	\$ 10.00	\$ 1,370.00
629.3600	Relocate Hydrant	EACH	1	\$ 10,000.00	\$ 10,000.00
646.4840	Durable 24 Inch Stop Bar, Polyurea	LF	15	\$ 20.00	\$ 300.00
646.5040	Durable Crosswalk Marking, Polyurea	LF	34	\$ 30.00	\$ 1,020.00
651.1500	Turf Establishment, General Seed	SY	1250	\$ 10.00	\$ 12,499.52
651.3500	Topsoil	CY	6	\$ 55.00	\$ 330.00
675.2000	Traffic Sign, Flat Sheet Aluminum	SF	7	\$ 25.00	\$ 175.00
675.3410	Square Tube Sign Post and Anchor	LF	15	\$ 25.00	\$ 375.00
675.5000	Sign Removal, Flat Sheet Aluminum	EACH	2	\$ 30.00	\$ 60.00
675.6000	Resetting Signs	EACH	2	\$ 50.00	\$ 100.00
681.1010	Remove and Relocate Landscape Items	EACH	8	\$ 4,000.00	\$ 32,000.00
	MISCELLANEOUS ROADWAY			15% OF ABOVE TOTAL	\$ 91,125.68
	MISCELLANEOUS EPSC				\$ 10,000.00
				SUBTOTAL A	\$ 708,630.20

SECTION B - TRAFFIC CONTROL

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
630.1500	Flaggers	HR	160	\$ 50.00	\$ 8,000.00
641.1100	Traffic Control, All-Inclusive	LS	1	\$ 30,000.00	\$ 30,000.00
				SUBTOTAL B	\$ 746,630.20

 HOYLE TANNER	125 College Street	Calc. By: LSB	Date: 11/26/2024
	4th Floor	Chck. By: JAO	Date: 12/12/2024
	Burlington, VT 05401	Chck. By:	Date:
	(802) 860-1331	Chck. By:	Date:

Burlington New North End Sidewalks
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.09

GREEN ACRES DRIVE ALTERNATIVE 3

SECTION C - MOBILIZATION AND CONTINGENCIES

ROADWAY MOBILIZATION	12%	\$	89,595.62
SUBTOTAL C		\$	836,225.82

SECTION D - CONSTRUCTION (CON)

ROUNDED CONSTRUCTION SUBTOTAL:	\$	837,000.00
CONTINGENCY	25% \$	209,250.00
CONSTRUCTION ENGINEERING	10% \$	104,625.00
EOR CONSTRUCTION ADMINISTRATION	3% \$	31,390.00
CON TOTAL FOR PLANNING	\$	1,182,265.00

SECTION E - RIGHT-OF-WAY (ROW)

TAKES	\$0.00
EASEMENTS	\$50,000.00
ROW TOTAL	\$50,000.00

SECTION F - DESIGN SERVICES

FINAL DESIGN	\$250,000.00
BID PHASE SERVICES	\$6,000.00
PE TOTAL	\$256,000.00

PROJECT TOTAL COST (CON+PE) \$1,488,265.00

This Engineers Estimate of Probable Construction Costs is based on the anticipated scope of work, as well as Hoyle Tanner's experience with similar projects and understanding of current industry trends. The estimate has not been based on a final design for this project, and as such, it is intended to be preliminary in nature. It should be noted that changes in material or labor costs in the construction industry could impact the project cost in either direction.



125 College Street
4th Floor
Burlington, VT 05401
(802) 860-1331

Calc. By:	LSB	Date:	10/24/2024
Chck. By:	JAO	Date:	12/12/2024
Chck. By:		Date:	
Chck. By:		Date:	

Burlington New North End Sidewalks
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.09


GREEN ACRES DRIVE ALTERNATIVE 4

SECTION A - MAJOR ITEMS

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
201.1000	Clearing and Grubbing, Including Individual Trees and Stumps	LS	1	\$ 20,000.00	\$ 20,000.00
201.1500	Removing Medium Trees	EACH	0	\$ 1,000.00	\$ -
203.1500	Common Excavation	CY	775	\$ 25.00	\$ 19,375.00
203.2800	Excavation of Surfaces and Pavements	CY	240	\$ 50.00	\$ 12,000.00
203.3000	Earth Borrow	CY	500	\$ 25.00	\$ 12,500.00
301.2500	Subbase of Crushed Gravel, Coarse Graded	CY	425	\$ 65.00	\$ 27,625.00
406.3400	Bituminous Concrete Pavement, Non-Paver Placed, Type IVS	SY	140	\$ 50.00	\$ 7,000.00
604.1800	Precast Reinforced Concrete DI with Cast Iron Grate	EACH	0	\$ 6,500.00	\$ -
616.2100	Vertical Granite Curb	LF	1950	\$ 100.00	\$ 195,000.00
616.4100	Removal of Existing Curb	LF	1925	\$ 15.00	\$ 28,875.00
618.1005	Portland Cement Concrete Sidewalk, 5 Inch	SY	1050	\$ 200.00	\$ 210,000.00
620.5500	Removal of Existing Fence	LF	78	\$ 10.00	\$ 780.00
629.3600	Relocate Hydrant	EACH	2	\$ 10,000.00	\$ 20,000.00
646.4040	Durable 4 Inch White Line, Polyurea	LF	0	\$ 3.00	\$ -
646.4840	Durable 24 Inch Stop Bar, Polyurea	LF	15	\$ 20.00	\$ 300.00
646.4940	Durable Letter or Symbol, Polyurea	EACH	0	\$ 200.00	\$ -
646.5040	Durable Crosswalk Marking, Polyurea	LF	34	\$ 30.00	\$ 1,020.00
651.1500	Turf Establishment, General Seed	SY	1430	\$ 10.00	\$ 14,299.99
651.3500	Topsoil	CY	90	\$ 55.00	\$ 4,950.00
675.2000	Traffic Sign, Flat Sheet Aluminum	SF	7	\$ 25.00	\$ 175.00
675.3410	Square Tube Sign Post and Anchor	LF	15	\$ 25.00	\$ 375.00
675.5000	Sign Removal, Flat Sheet Aluminum	EACH	2	\$ 30.00	\$ 60.00
675.6000	Resetting Signs	EACH	2	\$ 50.00	\$ 100.00
681.1010	Remove and Relocate Landscape Items	EACH	4	\$ 4,000.00	\$ 16,000.00
	MISCELLANEOUS ROADWAY		15% OF ABOVE TOTAL		\$ 88,565.25
	MISCELLANEOUS EPSC				\$ 10,000.00
			SUBTOTAL A		\$ 689,000.24

SECTION B - TRAFFIC CONTROL

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
630.1500	Flaggers	HR	160	\$ 50.00	\$ 8,000.00
641.1100	Traffic Control, All-Inclusive	LS	1	\$ 30,000.00	\$ 30,000.00
			SUBTOTAL B		\$ 727,000.24

 HOYLE TANNER	125 College Street	Calc. By: LSB	Date: 10/24/2024
	4th Floor	Chck. By: JAO	Date: 12/12/2024
	Burlington, VT 05401	Chck. By:	Date:
	(802) 860-1331	Chck. By:	Date:

Burlington New North End Sidewalks
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.09

GREEN ACRES DRIVE ALTERNATIVE 4

SECTION C - MOBILIZATION AND CONTINGENCIES

ROADWAY MOBILIZATION	12%	\$	87,240.03
	SUBTOTAL C	\$	814,240.26

SECTION D - CONSTRUCTION (CON)

	ROUNDED CONSTRUCTION SUBTOTAL:	\$	815,000.00
	CONTINGENCY	25%	\$ 203,750.00
	CONSTRUCTION ENGINEERING	10%	\$ 101,875.00
	EOR CONSTRUCTION ADMINISTRATION	3%	\$ 30,570.00
	CON TOTAL FOR PLANNING	\$	1,151,195.00

SECTION E - RIGHT-OF-WAY (ROW)

	TAKES	\$0.00
	EASEMENTS	\$2,000.00
	ROW TOTAL	\$2,000.00

SECTION F - DESIGN SERVICES

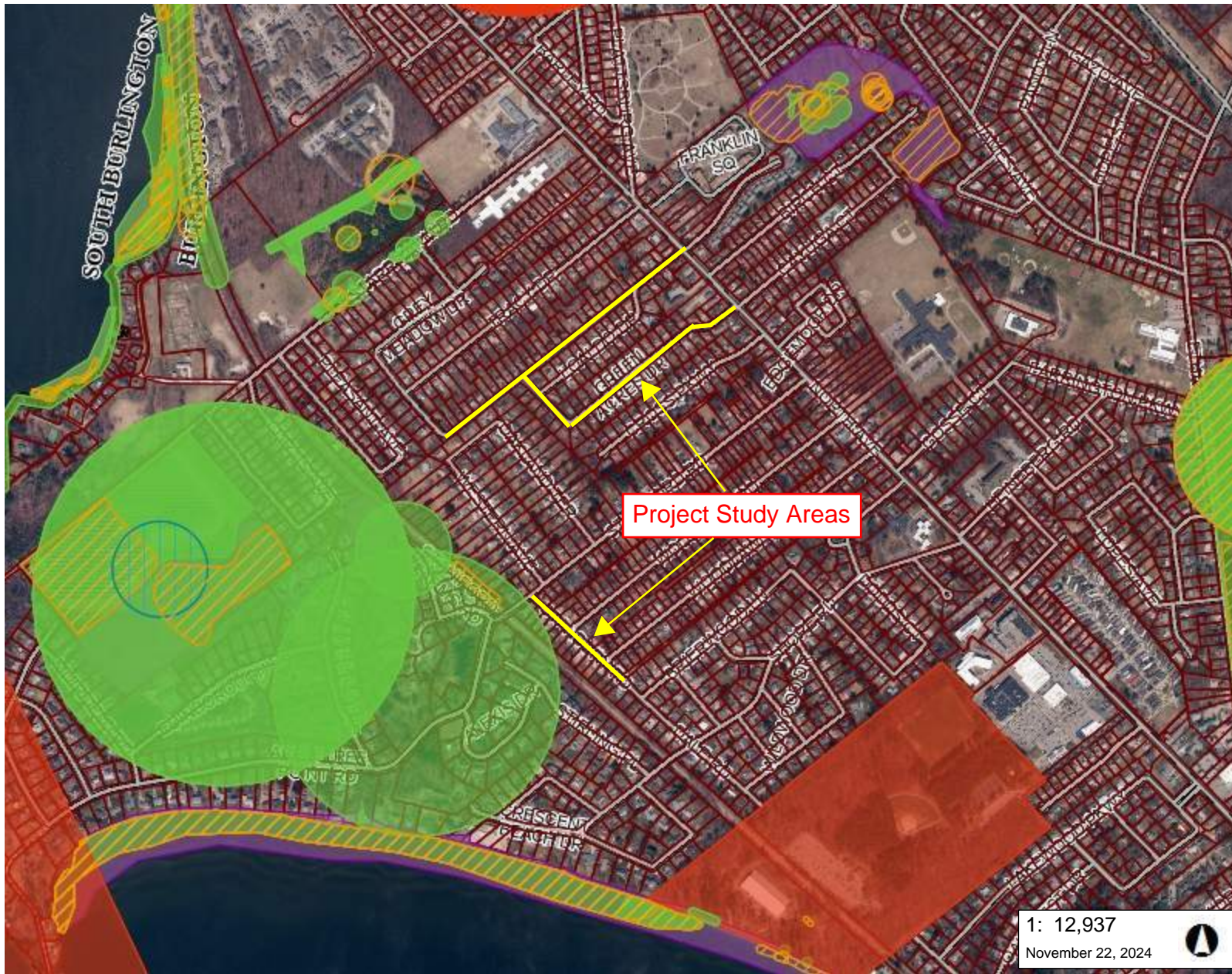
	FINAL DESIGN	\$175,000.00
	BID PHASE SERVICES	\$6,000.00
	PE TOTAL	\$181,000.00

PROJECT TOTAL COST (CON+PE) **\$1,334,195.00**

This Engineers Estimate of Probable Construction Costs is based on the anticipated scope of work, as well as Hoyle Tanner's experience with similar projects and understanding of current industry trends. The estimate has not been based on a final design for this project, and as such, it is intended to be preliminary in nature. It should be noted that changes in material or labor costs in the construction industry could impact the project cost in either direction.

APPENDIX F

**Natural and Cultural Resources:
Endangered Species Letter
Map of Hazardous Sites
Natural Resources Atlas
Farmland Classification Map
Wetland Map**



LEGEND

- Uncommon Species and other
 - Plant
 - Animal
 - Natural Community
- Rare Threatened and Endange
 - RTE Animal
 - RTE Plant
- Significant Natural Communities
 - Indiana Bat Summer Range
 - Observed
 - Potential
- Parcels (standardized)
- Roads
 - Interstate
 - US Highway; 1
 - State Highway
 - Town Highway (Class 1)
 - Town Highway (Class 2,3)
 - Town Highway (Class 4)
 - State Forest Trail
 - National Forest Trail
 - Legal Trail
 - Private Road/Driveway
 - Proposed Roads
- Town Boundary

1: 12,937
November 22, 2024

657.0 0 328.00 657.0 Meters

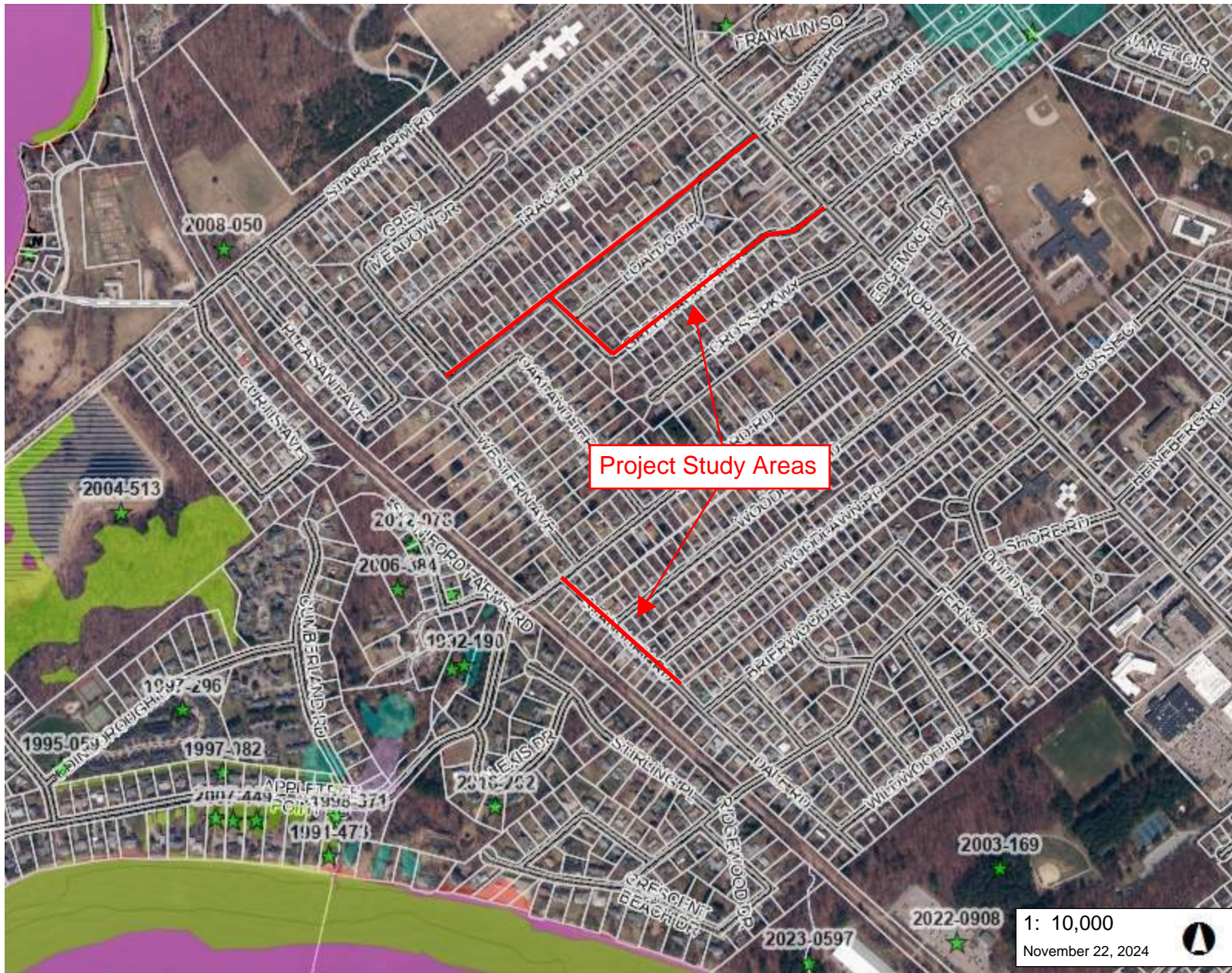
WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 1078 Ft. 1cm = 129 Meters

© Vermont Agency of Natural Resources THIS MAP IS NOT TO BE USED FOR NAVIGATION

NOTES

Map created using ANR's Natural Resources Atlas

DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. ANR and the State of Vermont make no representations of any kind, including but not limited to, the warranties of merchantability, or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map.



Project Study Areas

LEGEND

- Wetland
- Wetland Projects
- Wetlands - VSWI**
 - Class 1 Wetland
 - Class 2 Wetland
 - Buffer
- Wetlands - VSWI Advisory Lay
- Vermont Vernal Pool Atlas**
 - Confirmed
 - Potential
 - Probable
- VT List of Priority Rivers and S**
 - Part B (impaired TMDL not requirec
 - Part C (stressed needs more asses
 - Part D (impaired with approved TM
 - Part E (altered exotic species)
 - Part F (altered flow regulation)
 - Part G (channel alteration)
- VT List of Priority Lakes and P**
 - Part B (impaired TMDL not requirec
 - Part C (stressed needs more asses
 - Part D (impaired with approved TM
 - Part E (altered exotic species)
 - Part F (altered flow regulation)
- DFIRM Floodways
- Special Flood Hazard Areas (A Counties)**
 - AE (1-percent annual chance flood)
 - A (1-percent annual chance flood)

1: 10,000
November 22, 2024

508.0 0 254.00 508.0 Meters
WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 833 Ft. 1cm = 100 Meters
© Vermont Agency of Natural Resources THIS MAP IS NOT TO BE USED FOR NAVIGATION

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IMPORTANT! The Wetlands Viewer is designed to help the public research wetland locations and features. Only a qualified wetland scientist may determine the absence or presence of a wetland and the boundaries. Not all wetlands are mapped. Wetlands not mapped on the Vermont Significant Wetland Inventory may still be considered significant.



United States Department of the Interior



FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104

In Reply Refer To:

11/22/2024 12:28:35 UTC

Project Code: 2025-0023185

Project Name: Burlington New North End Sidewalk Scoping Study

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

Updated 4/12/2023 - Please review this letter each time you request an Official Species List, we will continue to update it with additional information and links to websites may change.

About Official Species Lists

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Federal and non-Federal project proponents have responsibilities under the Act to consider effects on listed species.

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested by returning to an existing project's page in IPaC.

Endangered Species Act Project Review

Please visit the “**New England Field Office Endangered Species Project Review and Consultation**” website for step-by-step instructions on how to consider effects on listed

species and prepare and submit a project review package if necessary:

<https://www.fws.gov/office/new-england-ecological-services/endangered-species-project-review>

NOTE Please do not use the **Consultation Package Builder** tool in IPaC except in specific situations following coordination with our office. Please follow the project review guidance on our website instead and reference your **Project Code** in all correspondence.

Northern Long-eared Bat - (Updated 4/12/2023) The Service published a final rule to reclassify the northern long-eared bat (NLEB) as endangered on November 30, 2022. The final rule went into effect on March 31, 2023. You may utilize the **Northern Long-eared Bat Rangewide Determination Key** available in IPaC. More information about this Determination Key and the Interim Consultation Framework are available on the northern long-eared bat species page:

<https://www.fws.gov/species/northern-long-eared-bat-myotis-septentrionalis>

For projects that previously utilized the 4(d) Determination Key, the change in the species' status may trigger the need to re-initiate consultation for any actions that are not completed and for which the Federal action agency retains discretion once the new listing determination becomes effective. If your project was not completed by March 31, 2023, and may result in incidental take of NLEB, please reach out to our office at newengland@fws.gov to see if reinitiation is necessary.

Additional Info About Section 7 of the Act

Under section 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to determine whether projects may affect threatened and endangered species and/or designated critical habitat. If a Federal agency, or its non-Federal representative, determines that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Federal agency also may need to consider proposed species and proposed critical habitat in the consultation. 50 CFR 402.14(c)(1) specifies the information required for consultation under the Act regardless of the format of the evaluation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<https://www.fws.gov/service/section-7-consultations>

In addition to consultation requirements under Section 7(a)(2) of the ESA, please note that under sections 7(a)(1) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species. Please contact NEFO if you would like more information.

Candidate species that appear on the enclosed species list have no current protections under the ESA. The species' occurrence on an official species list does not convey a requirement to

consider impacts to this species as you would a proposed, threatened, or endangered species. The ESA does not provide for interagency consultations on candidate species under section 7, however, the Service recommends that all project proponents incorporate measures into projects to benefit candidate species and their habitats wherever possible.

Migratory Birds

In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see:

<https://www.fws.gov/program/migratory-bird-permit>

<https://www.fws.gov/library/collections/bald-and-golden-eagle-management>

Please feel free to contact us at **newengland@fws.gov** with your **Project Code** in the subject line if you need more information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat.

Attachment(s): Official Species List

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office

70 Commercial Street, Suite 300

Concord, NH 03301-5094

(603) 223-2541

PROJECT SUMMARY

Project Code: 2025-0023185

Project Name: Burlington New North End Sidewalk Scoping Study

Project Type: Residential Construction

Project Description: The project is to assess the possibility of a sidewalk on one or both sides of the street within the study areas.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@44.5108754,-73.25764979319464,14z>



Counties: Chittenden County, Vermont

ENDANGERED SPECIES ACT SPECIES

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

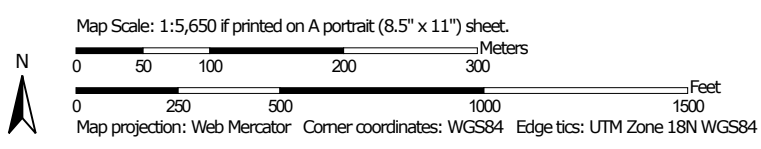
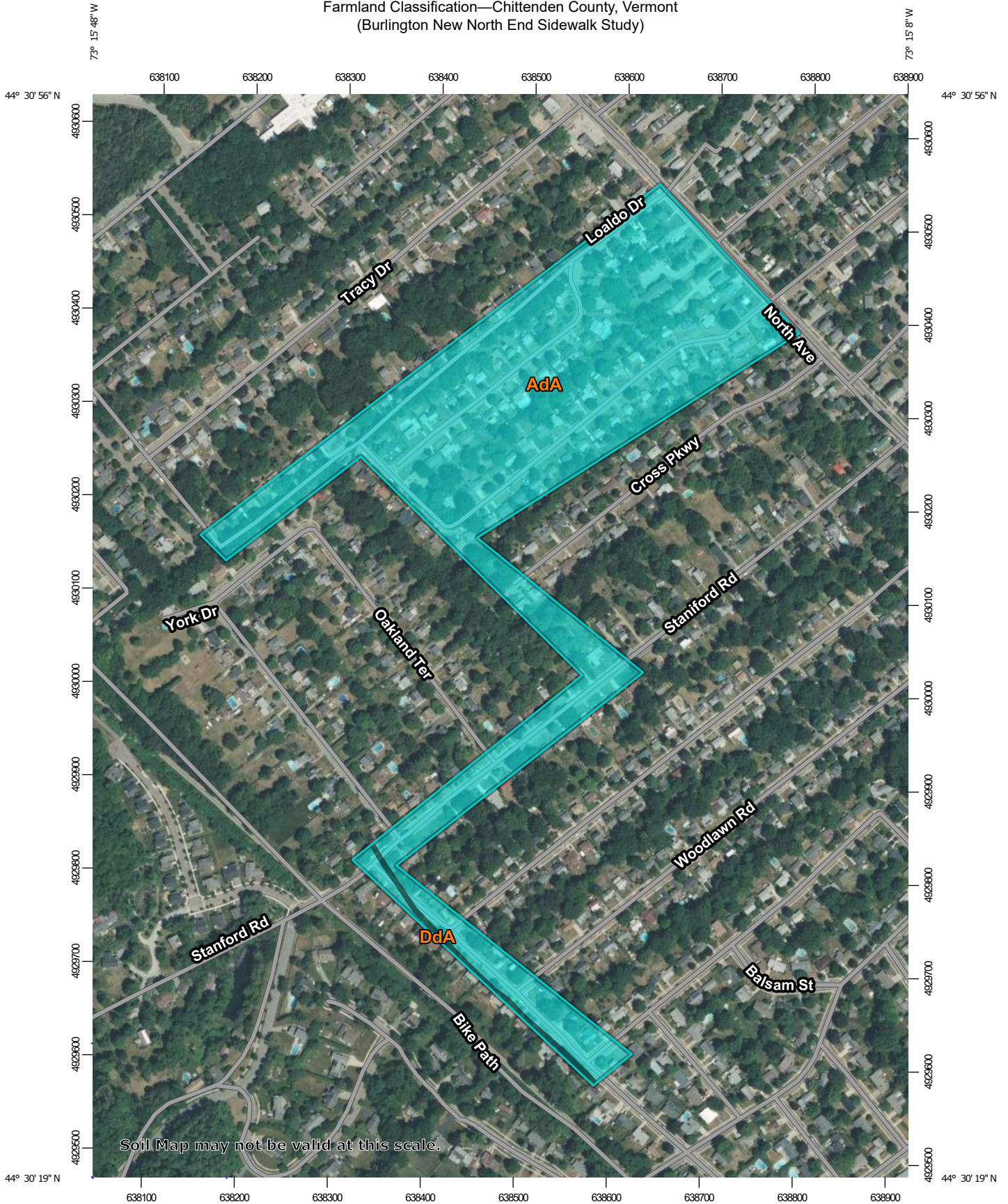
THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Melinda Squillace
Address: 125 College Street, 4th Floor
City: Burlington
State: VT
Zip: 05401
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Farmland Classification—Chittenden County, Vermont
(Burlington New North End Sidewalk Study)



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(Burlington New North End Sidewalk Study)









MAP LEGEND








Area of Interest (AOI)






 Area of Interest (AOI)








Soils



Soil Rating Polygons

-  Not prime farmland
-  All areas are prime farmland
-  Prime farmland if drained
-  Prime farmland if protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated
-  Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated and drained
-  Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season









-  Prime farmland if subsoiled, completely removing the root inhibiting soil layer
-  Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
-  Prime farmland if irrigated and reclaimed of excess salts and sodium
-  Farmland of statewide importance
-  Farmland of statewide importance, if drained
-  Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if irrigated

-  Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if irrigated and drained
-  Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
-  Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60





































-  Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
-  Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if warm enough
-  Farmland of statewide importance, if thawed
-  Farmland of local importance
-  Farmland of local importance, if irrigated

-  Farmland of unique importance
-  Not rated or not available

Soil Rating Lines

-  Not prime farmland
-  All areas are prime farmland
-  Prime farmland if drained
-  Prime farmland if protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated
-  Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated and drained
-  Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

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	Prime farmland if subsoiled, completely removing the root inhibiting soil layer		Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season		Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium		Farmland of unique importance		Prime farmland if subsoiled, completely removing the root inhibiting soil layer
	Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60		Farmland of statewide importance, if irrigated and drained		Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season		Soil Rating Points Not prime farmland		Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
	Prime farmland if irrigated and reclaimed of excess salts and sodium		Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season		Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season		All areas are prime farmland		Prime farmland if irrigated and reclaimed of excess salts and sodium
	Farmland of statewide importance		Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer		Farmland of statewide importance, if warm enough		Prime farmland if drained		Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
	Farmland of statewide importance, if drained		Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60		Farmland of local importance		Prime farmland if irrigated		Farmland of statewide importance, if drained
	Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season				Farmland of statewide importance, if thawed		Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season		Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
	Farmland of statewide importance, if irrigated				Farmland of local importance, if irrigated		Prime farmland if irrigated and drained		Farmland of statewide importance, if irrigated
							Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season		

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<p> Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season</p> <p> Farmland of statewide importance, if irrigated and drained</p> <p> Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season</p> <p> Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer</p> <p> Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60</p>	<p> Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium</p> <p> Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season</p> <p> Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season</p> <p> Farmland of statewide importance, if warm enough</p> <p> Farmland of statewide importance, if thawed</p> <p> Farmland of local importance</p> <p> Farmland of local importance, if irrigated</p>	<p> Farmland of unique importance</p> <p> Not rated or not available</p> <p>Water Features</p> <p> Streams and Canals</p> <p>Transportation</p> <p> Rails</p> <p> Interstate Highways</p> <p> US Routes</p> <p> Major Roads</p> <p> Local Roads</p> <p>Background</p> <p> Aerial Photography</p>	<p>The soil surveys that comprise your AOI were mapped at 1:15,800.</p> <div style="border: 1px solid black; padding: 5px;"> <p>Warning: Soil Map may not be valid at this scale.</p> <p>Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.</p> </div> <p>Please rely on the bar scale on each map sheet for map measurements.</p> <p>Source of Map: Natural Resources Conservation Service Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857)</p> <p>Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.</p> <p>This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.</p> <p>Soil Survey Area: Chittenden County, Vermont Survey Area Data: Version 28, Aug 28, 2024</p> <p>Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.</p> <p>Date(s) aerial images were photographed: Jun 18, 2020—Jun 20, 2020</p> <p>The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.</p>
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Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AdA	Adams and Windsor loamy sands, 0 to 5 percent slopes	Farmland of statewide importance	30.6	98.1%
DdA	Duane and Deerfield soils, 0 to 5 percent slopes	Farmland of statewide importance	0.6	1.9%
Totals for Area of Interest			31.2	100.0%

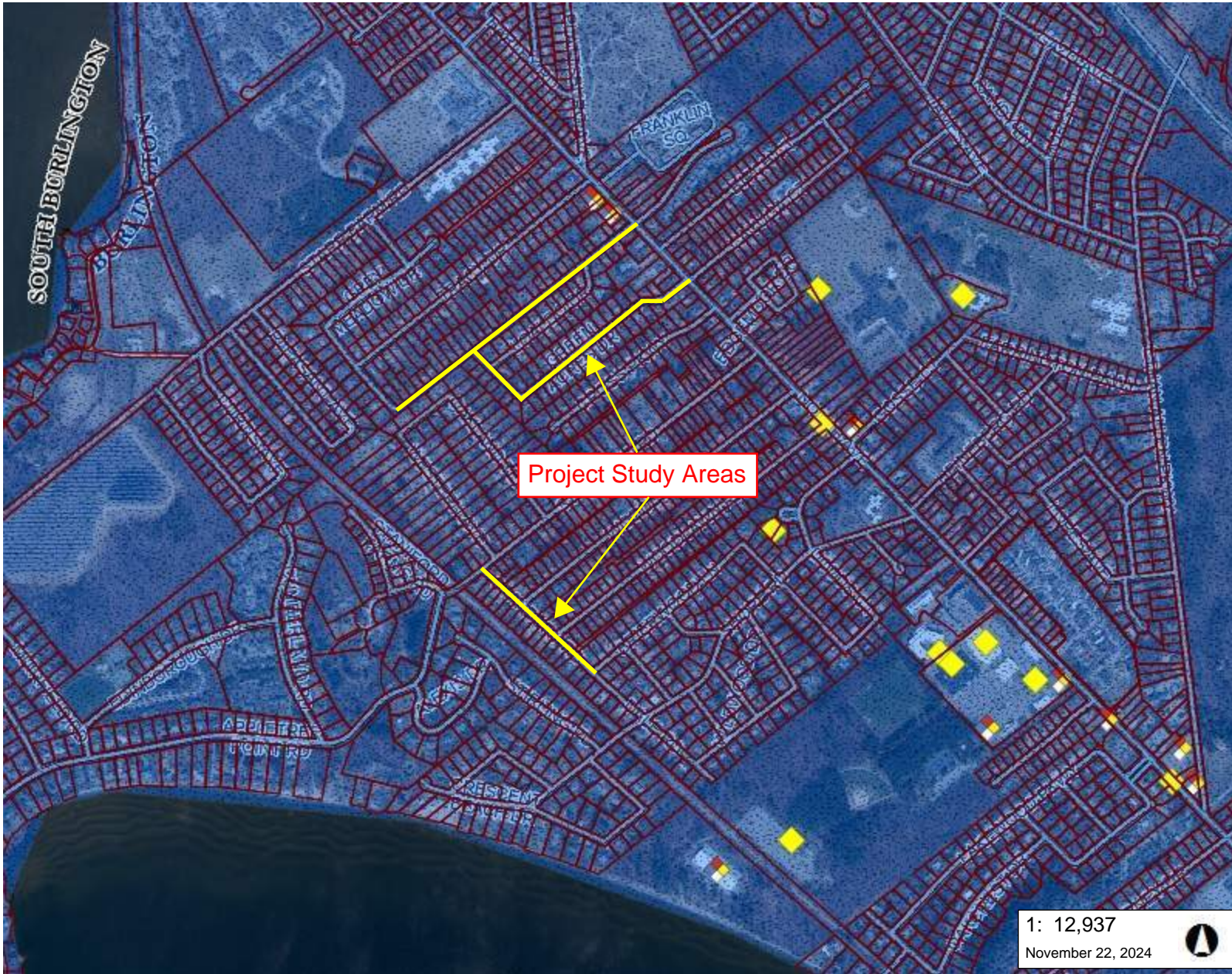
Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower



LEGEND

- PFAS Results (Waste Manage)**
- ◆ Hazsite, Non-Detect
- ◆ Hazsite, Below Standard
- ◆ Hazsite, Detected-No Standards
- ◆ Hazsite, Above Standard
- Residuals, Non-Detect
- Residuals, Below Standard
- Residuals, Detected-No Standards
- Residuals, Above Standard
- ▲ Solid Waste, Non-Detect
- ▲ Solid Waste, Below Standard
- ▲ Solid Waste, Detected-No Standard
- ▲ Solid Waste, Above Standard
- Waste Water, Non Detect
- Waste Water, Below Standard
- Waste Water, Detected-No Standarc
- Waste Water, Above Standard
- ◆ Hazardous Site
- ◆ Hazardous Waste Generators
- Aboveground Storage Tank
- Urban Soil Background Areas
- PFAS Results (Drinking Water)**
- DETECTION
- NON DETECT
- Waste Water Facilities
- Parcels (standardized)
- Roads

1: 12,937
November 22, 2024



NOTES

Map created using ANR's Natural Resources Atlas

657.0 0 328.00 657.0 Meters
 WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 1078 Ft. 1cm = 129 Meters
 © Vermont Agency of Natural Resources THIS MAP IS NOT TO BE USED FOR NAVIGATION

DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. ANR and the State of Vermont make no representations of any kind, including but not limited to, the warranties of merchantability, or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map.

APPENDIX G

Cottage Grove Traffic Volume and Speed Data

Burlington Department of Public Works
645 Pine Street | Burlington VT, 05401

Site Code: bURL176
Location 1: Cottage Grove
Location 2: Burlington Vt
Start Date: 6/21/2023
End Date: 6/28/2023
Direction: A to B, None Specified

Latitude: 44.513552
Longitude: -73.257902
Date Processed 6/29/2023
Processed By CR
Counted By CR, AP, KD

6/21/2023	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	1	3
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
8:00	0	0	0	1	0	1	0	1	1	0	0	0	0	0	4
9:00	0	0	0	0	0	2	0	1	1	0	0	0	0	0	4
10:00	0	0	0	0	0	2	3	1	1	0	0	0	0	0	7
11:00	0	0	0	0	1	0	0	1	1	0	0	0	0	0	3
12:00 PM	0	0	0	1	0	0	1	0	1	0	0	0	0	0	3
1:00	0	0	1	0	1	0	1	3	2	0	0	0	0	0	8
2:00	0	0	0	0	0	2	6	3	2	1	1	0	0	0	15
3:00	0	0	0	1	1	1	1	2	3	0	0	1	0	0	10
4:00	0	0	0	1	0	2	2	3	3	0	1	0	0	0	12
5:00	0	0	0	2	1	4	3	3	6	1	0	2	0	0	22
6:00	0	0	0	1	0	0	0	2	0	0	1	0	0	0	4
7:00	0	0	0	0	0	1	5	4	3	0	0	0	0	0	13
8:00	0	0	0	0	1	0	3	1	0	0	0	0	0	0	5
9:00	0	0	0	0	0	1	2	2	0	0	0	0	0	0	5
10:00	0	0	0	0	0	1	0	0	2	0	0	0	0	0	3
11:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Total	0	0	1	7	5	18	27	27	26	4	4	3	0	1	123

Percentile	15th	50th	85th	95th
Speed	16	21	26	30
Mean Speed (Average)	22.3			
10 MPH Pace Speed	17-26			
Number in Pace	86			
Percent in Pace	69.9%			
Number > 45 MPH	1			
Percent > 45 MPH	0.8%			

Burlington Department of Public Works
645 Pine Street | Burlington VT, 05401

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Direction: A to B, None Specified

Latitude: 44.513552
Longitude: -73.257902
Date Processed 6/29/2023
Processed By CR
Counted By CR, AP, KD

6/22/2023	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
6:00	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2
7:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
8:00	0	0	0	0	0	2	1	1	0	1	0	0	0	0	5
9:00	0	0	0	0	0	3	2	0	2	0	0	0	0	0	7
10:00	0	0	0	1	0	0	3	1	0	0	0	0	0	0	5
11:00	0	0	0	0	1	0	4	0	1	0	0	0	0	0	6
12:00 PM	0	0	0	1	1	0	1	1	1	0	0	0	0	0	5
1:00	0	0	0	0	1	1	2	3	1	0	0	0	0	0	8
2:00	0	0	0	1	2	1	2	3	1	0	0	0	0	0	10
3:00	0	0	0	0	0	1	0	5	2	1	0	0	0	1	10
4:00	0	0	0	1	0	2	2	3	2	1	1	0	0	0	12
5:00	0	0	0	0	0	0	1	4	2	0	0	1	0	0	8
6:00	0	0	0	0	3	0	2	3	0	0	0	0	0	0	8
7:00	0	0	0	0	0	0	5	0	2	1	1	0	0	0	9
8:00	0	0	0	0	1	0	0	1	1	1	1	0	0	0	5
9:00	0	0	0	1	0	0	2	2	1	0	0	0	0	0	6
10:00	0	0	0	0	0	2	1	0	0	0	0	0	0	0	3
11:00	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2
Total	0	0	1	5	9	14	28	29	16	6	3	1	1	1	114

Percentile	15th	50th	85th	95th
Speed	15	21	25	30
Mean Speed (Average)	22.0			
10 MPH Pace Speed	17-26			
Number in Pace	78			
Percent in Pace	68.4%			
Number > 45 MPH	1			
Percent > 45 MPH	0.9%			

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6/23/2023	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
7:00	0	0	0	0	2	1	0	0	0	0	1	0	0	0	4
8:00	0	0	0	0	0	0	0	1	2	0	0	0	0	0	3
9:00	0	1	0	0	1	0	2	0	1	0	0	0	0	0	5
10:00	0	0	0	0	1	1	1	1	0	0	0	0	0	0	4
11:00	0	0	0	0	0	2	0	1	1	1	1	0	0	0	6
12:00 PM	0	0	0	1	0	1	1	1	4	0	0	0	0	0	8
1:00	0	0	1	0	2	1	5	2	5	0	0	0	0	0	16
2:00	0	0	0	1	0	2	1	1	2	1	0	0	0	0	8
3:00	0	0	1	1	0	3	5	2	5	1	1	0	0	0	19
4:00	0	0	1	1	1	0	1	6	3	0	0	0	0	0	13
5:00	0	0	1	0	1	1	4	2	0	3	1	0	0	0	13
6:00	0	0	1	2	0	0	4	1	2	0	0	0	0	0	10
7:00	0	0	0	0	1	0	2	3	3	0	0	1	0	0	10
8:00	0	0	0	0	1	0	3	2	1	0	0	0	0	0	7
9:00	0	0	0	0	0	0	2	2	0	1	0	0	0	0	5
10:00	0	0	0	0	0	1	2	0	0	0	0	0	0	0	3
11:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Total	0	1	5	6	10	13	33	25	30	7	6	1	0	0	137

Percentile	15th	50th	85th	95th
Speed	15	21	26	30
Mean Speed (Average)	20.8			
10 MPH Pace Speed	17-26			
Number in Pace	92			
Percent in Pace	67.2%			
Number > 45 MPH	0			
Percent > 45 MPH	0.0%			

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Direction: A to B, None Specified

Latitude: 44.513552
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6/24/2023	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
1:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
6:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
7:00	0	0	0	0	0	1	1	1	0	0	0	0	0	0	3
8:00	0	0	0	1	0	0	0	1	1	0	0	1	0	0	4
9:00	0	0	0	0	0	4	1	3	2	0	0	0	0	0	10
10:00	0	0	0	0	0	0	2	2	0	0	0	0	0	0	4
11:00	0	0	0	0	0	3	1	2	4	0	0	0	0	0	10
12:00 PM	0	0	0	1	0	0	3	2	3	0	0	0	0	0	9
1:00	0	0	0	0	0	0	4	3	1	1	0	0	0	0	9
2:00	0	0	0	0	1	1	1	1	2	0	0	0	0	0	6
3:00	0	0	0	0	0	3	0	3	1	0	0	0	0	0	7
4:00	0	0	0	0	0	1	4	2	1	1	0	0	0	0	9
5:00	0	0	0	0	0	0	1	1	3	2	0	0	0	0	7
6:00	0	0	0	0	1	0	2	2	0	1	0	0	0	0	6
7:00	0	0	0	1	0	1	3	0	2	0	0	0	0	0	7
8:00	0	0	0	0	0	0	3	2	0	1	0	0	0	0	6
9:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
10:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
11:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	3	4	17	28	25	22	6	0	1	0	0	106

Percentile	15th	50th	85th	95th
Speed	17	21	25	28
Mean Speed (Average)	21.2			
10 MPH Pace Speed	17-26			
Number in Pace	80			
Percent in Pace	75.5%			
Number > 45 MPH	0			
Percent > 45 MPH	0.0%			

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Counted By CR, AP, KD

6/25/2023	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
8:00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
9:00	0	0	0	0	1	4	0	3	1	1	0	0	0	0	10
10:00	0	0	0	0	1	0	2	1	2	0	1	1	0	0	8
11:00	0	0	1	1	0	1	2	4	0	0	0	0	0	0	9
12:00 PM	0	0	0	0	0	0	2	3	0	1	0	0	0	0	6
1:00	0	0	0	0	1	1	1	2	1	0	1	0	0	0	7
2:00	0	0	0	1	1	1	1	2	3	2	0	0	0	0	11
3:00	0	0	0	0	0	2	1	1	2	0	0	0	0	0	6
4:00	0	0	0	0	1	0	5	0	1	0	1	0	0	0	8
5:00	0	0	0	1	0	2	2	4	0	2	0	0	0	0	11
6:00	0	0	0	2	1	1	2	0	2	0	0	0	0	0	8
7:00	0	0	0	0	0	0	3	2	0	0	1	0	0	0	6
8:00	0	0	0	0	0	0	2	2	0	1	0	0	0	0	5
9:00	0	0	0	0	0	0	4	0	1	0	0	0	0	0	5
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	5	6	13	27	25	14	8	4	1	0	0	104
				Percentile	15th	50th	85th	95th							
				Speed	16	21	26	30							
				Mean Speed (Average)	21.1										
				10 MPH Pace Speed	16-25										
				Number in Pace	70										
				Percent in Pace	67.3%										
				Number > 45 MPH	0										
				Percent > 45 MPH	0.0%										

Burlington Department of Public Works
645 Pine Street | Burlington VT, 05401

Site Code: bURL176
Location 1: Cottage Grove
Location 2: Burlington Vt
Start Date: 6/21/2023
End Date: 6/28/2023
Direction: A to B, None Specified

Latitude: 44.513552
Longitude: -73.257902
Date Processed 6/29/2023
Processed By CR
Counted By CR, AP, KD

6/26/2023	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	0	3	1	0	1	0	1	0	1	0	0	0	0	0	7
8:00	0	0	0	0	0	1	1	2	0	0	0	0	0	0	4
9:00	0	0	0	0	1	2	0	2	0	0	0	0	0	0	5
10:00	0	0	0	0	0	0	0	3	1	0	0	0	0	0	4
11:00	0	0	0	0	1	1	0	2	1	0	0	0	0	0	5
12:00 PM	0	0	1	0	0	0	1	0	2	1	0	1	0	0	6
1:00	0	0	0	1	1	1	1	2	0	1	0	0	0	0	7
2:00	0	0	0	2	1	0	1	1	0	0	0	0	0	0	5
3:00	0	0	0	0	2	0	1	2	4	1	0	0	0	0	10
4:00	0	0	0	0	0	2	0	4	2	1	0	0	0	0	9
5:00	0	0	0	0	0	0	3	4	2	0	1	0	0	0	10
6:00	0	0	0	1	1	2	2	1	1	0	0	0	0	0	8
7:00	0	0	0	0	1	2	1	0	1	2	0	0	0	0	7
8:00	0	0	0	0	0	1	1	1	0	2	1	0	0	0	6
9:00	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2
10:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
11:00	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
Total	0	3	2	4	10	15	15	24	15	8	2	1	0	0	99
Percentile					15th	50th	85th	95th							
Speed					14	21	26	28							
Mean Speed (Average)					20.2										
10 MPH Pace Speed					15-24										
Number in Pace					59										
Percent in Pace					59.6%										
Number > 45 MPH					0										
Percent > 45 MPH					0.0%										

Burlington Department of Public Works
645 Pine Street | Burlington VT, 05401

Site Code: bURL176
Location 1: Cottage Grove
Location 2: Burlington Vt
Start Date: 6/21/2023
End Date: 6/28/2023
Direction: A to B, None Specified

Latitude: 44.513552
Longitude: -73.257902
Date Processed 6/29/2023
Processed By CR
Counted By CR, AP, KD

6/27/2023	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
7:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
8:00	0	0	0	0	1	0	1	0	1	1	0	0	0	0	4
9:00	0	0	0	1	1	2	1	1	2	1	0	0	0	0	9
10:00	0	0	1	0	0	2	0	1	0	0	0	0	0	0	4
11:00	0	0	0	0	0	1	2	0	0	0	0	0	0	0	3
12:00 PM	0	0	0	1	1	0	1	1	2	0	0	0	0	0	6
1:00	0	0	1	1	2	2	0	0	0	0	0	0	0	0	6
2:00	0	0	0	0	1	1	2	2	1	0	0	0	0	0	7
3:00	0	1	0	1	0	1	2	2	0	0	0	0	0	0	7
4:00	0	0	0	0	2	3	6	3	5	1	0	0	0	0	20
5:00	0	0	0	1	0	0	0	5	4	1	0	1	0	0	12
6:00	0	0	0	0	1	1	5	0	1	0	0	0	0	0	8
7:00	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
8:00	0	0	0	0	1	1	1	2	1	1	0	0	0	0	7
9:00	0	0	0	0	1	1	1	1	0	1	0	0	0	0	5
10:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
11:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Total	0	1	2	5	11	19	23	18	18	6	0	1	0	0	104
Percentile					15th	50th	85th	95th							
Speed					14	20	25	28							
Mean Speed (Average)					19.8										
10 MPH Pace Speed					15-24										
Number in Pace					66										
Percent in Pace					63.5%										
Number > 45 MPH					0										
Percent > 45 MPH					0.0%										

Burlington Department of Public Works
645 Pine Street | Burlington VT, 05401

Site Code: bURL176
Location 1: Cottage Grove
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Start Date: 6/21/2023
End Date: 6/28/2023
Direction: A to B, None Specified

Latitude: 44.513552
Longitude: -73.257902
Date Processed 6/29/2023
Processed By CR
Counted By CR, AP, KD

6/28/2023	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	0	0	0	0	0	1	0	1	1	1	0	0	0	0	4
8:00	0	0	0	0	3	2	0	2	1	0	0	0	0	0	8
9:00	0	0	0	0	0	3	4	3	0	1	0	0	0	0	11
10:00	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
11:00	0	0	0	1	0	1	0	2	1	1	0	0	0	0	6
12:00 PM	0	0	0	0	1	2	2	1	1	0	0	0	0	0	7
1:00	0	1	0	1	0	0	4	0	1	3	0	0	0	0	10
2:00	0	0	0	0	0	2	3	1	2	0	0	0	0	0	8
3:00	0	0	0	1	0	0	4	0	0	0	0	0	0	0	5
4:00	0	0	0	1	0	1	3	2	2	0	0	0	0	0	9
5:00	0	0	0	0	1	1	2	2	4	1	0	0	0	0	11
6:00	0	0	0	0	1	0	0	5	2	1	0	0	1	0	10
7:00	0	0	0	1	0	2	4	2	0	0	0	0	0	0	9
8:00	0	0	0	0	0	1	1	2	1	0	0	0	0	0	5
9:00	0	0	0	0	0	0	1	2	1	0	0	0	0	0	4
10:00	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	5	6	17	31	26	17	8	0	0	1	0	112

Percentile	15th	50th	85th	95th
Speed	15	21	26	27
Mean Speed (Average)	20.6			
10 MPH Pace Speed	16-25			
Number in Pace	80			
Percent in Pace	71.4%			
Number > 45 MPH	0			
Percent > 45 MPH	0.0%			

Grand Total	0	6	12	40	61	126	212	199	158	53	19	9	2	2	899
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Stats	Percentile	15th	50th	85th	95th
	Speed	15	21	26	29
Mean Speed (Average)	21.0				
10 MPH Pace Speed	17-26				
Number in Pace	610				
Percent in Pace	67.9%				
Number > 45 MPH	2				
Percent > 45 MPH	0.2%				

Burlington Department of Public Works
645 Pine Street | Burlington VT, 05401

Site Code: bURL176
Location 1: Cottage Grove
Location 2: Burlington Vt
Start Date: 6/21/2023
End Date: 6/28/2023
Direction: B to A, None Specified

Latitude: 44.513552
Longitude: -73.257902
Date Processed 6/29/2023
Processed By CR
Counted By CR, AP, KD

6/21/2023	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
6:00	0	0	0	0	0	0	0	2	1	1	0	0	0	0	4
7:00	0	0	1	2	0	0	3	3	1	0	2	1	0	0	13
8:00	0	0	0	1	0	3	0	1	6	2	0	0	0	0	13
9:00	0	0	0	0	0	2	2	5	1	1	0	0	0	0	11
10:00	0	0	0	0	0	2	2	4	1	1	0	0	0	0	10
11:00	0	0	0	0	0	0	3	0	3	1	0	0	0	0	7
12:00 PM	0	0	0	0	0	1	2	0	1	3	0	0	0	0	7
1:00	0	0	0	0	0	1	1	4	2	2	0	1	0	0	11
2:00	0	0	0	0	0	0	1	2	1	0	1	0	0	0	5
3:00	0	0	0	0	1	1	0	2	4	0	0	0	0	0	8
4:00	0	0	0	0	0	3	2	4	5	0	1	1	0	0	16
5:00	0	0	0	1	0	0	1	2	3	1	0	0	0	0	8
6:00	0	0	0	0	1	2	1	5	1	0	0	1	0	0	11
7:00	0	0	0	0	0	2	1	3	1	0	1	0	1	0	9
8:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
9:00	0	0	0	0	0	0	0	2	0	2	0	0	0	0	4
10:00	0	0	0	0	0	0	1	0	1	1	0	0	0	0	3
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	4	3	18	20	39	33	15	5	4	1	0	143

Percentile	15th	50th	85th	95th
Speed	18	23	27	31
Mean Speed (Average)	22.8			
10 MPH Pace Speed	17-26			
Number in Pace	98			
Percent in Pace	68.5%			
Number > 45 MPH	0			
Percent > 45 MPH	0.0%			

Burlington Department of Public Works
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Site Code: bURL176
Location 1: Cottage Grove
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Start Date: 6/21/2023
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Direction: B to A, None Specified

Latitude: 44.513552
Longitude: -73.257902
Date Processed 6/29/2023
Processed By CR
Counted By CR, AP, KD

6/22/2023	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
2:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
3:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
4:00	0	0	0	0	1	0	0	0	0	1	0	0	0	0	2
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
7:00	0	0	0	1	0	0	5	1	2	1	1	0	1	0	12
8:00	0	0	0	1	0	1	4	4	6	1	0	0	0	0	17
9:00	0	0	0	0	0	2	4	2	4	3	0	0	0	1	16
10:00	0	0	1	0	0	0	2	4	1	0	0	0	0	0	8
11:00	0	0	0	0	1	0	2	5	4	2	0	0	0	0	14
12:00 PM	0	0	0	0	0	2	2	2	0	2	1	0	0	0	9
1:00	0	0	0	0	0	1	2	1	1	0	0	0	0	0	5
2:00	0	0	0	0	0	0	1	2	3	3	1	1	0	0	11
3:00	0	0	0	1	0	0	1	5	1	0	1	0	0	0	9
4:00	0	0	0	0	0	1	3	5	3	0	1	1	0	0	14
5:00	0	0	0	0	0	1	1	4	2	0	0	0	0	0	8
6:00	0	1	0	1	1	1	1	0	2	2	0	0	0	0	9
7:00	0	0	0	0	0	0	0	1	2	0	0	0	0	0	3
8:00	0	0	0	0	0	0	0	2	1	1	0	0	0	0	4
9:00	0	0	1	0	0	0	0	0	1	1	0	0	0	0	3
10:00	0	0	0	0	0	1	0	0	0	0	1	0	0	0	2
11:00	0	0	0	0	0	0	1	0	0	1	0	0	0	0	2
Total	0	1	2	4	3	10	30	40	34	19	7	2	1	1	154
Percentile				15th	50th	85th	95th								
Speed				18	23	28	31								
Mean Speed (Average)				23.7											
10 MPH Pace Speed				18-27											
Number in Pace				110											
Percent in Pace				71.4%											
Number > 45 MPH				1											
Percent > 45 MPH				0.6%											

Burlington Department of Public Works
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Site Code: bURL176
Location 1: Cottage Grove
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Start Date: 6/21/2023
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Direction: B to A, None Specified

Latitude: 44.513552
Longitude: -73.257902
Date Processed 6/29/2023
Processed By CR
Counted By CR, AP, KD

6/23/2023	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
1:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
2:00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	0	0	0	0	1	2	0	3	1	1	0	0	0	8
7:00	0	0	0	1	0	1	4	4	2	2	0	0	0	0	14
8:00	0	0	0	0	0	0	4	2	5	1	2	0	0	0	14
9:00	0	0	0	1	1	0	3	1	0	0	0	0	0	0	6
10:00	0	0	0	0	0	2	0	0	0	2	0	0	0	0	4
11:00	0	0	0	0	1	1	1	4	4	3	1	1	0	0	16
12:00 PM	0	0	0	0	0	0	0	2	1	3	1	0	0	0	7
1:00	0	0	0	0	2	1	1	3	4	1	0	0	0	0	12
2:00	0	0	0	0	0	3	0	1	0	0	0	0	0	0	4
3:00	0	0	0	2	0	1	1	3	1	1	0	0	0	0	9
4:00	0	0	0	2	1	0	2	3	2	4	0	1	0	0	15
5:00	0	0	0	2	0	1	1	3	1	2	0	2	0	0	12
6:00	0	0	0	0	0	1	0	1	3	0	0	0	0	0	5
7:00	0	0	0	0	0	1	0	4	2	0	0	0	0	0	7
8:00	0	0	0	0	1	0	2	0	1	0	0	0	0	0	4
9:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
10:00	0	0	0	0	1	0	0	2	1	1	0	0	0	0	5
11:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Total	0	0	0	8	7	13	22	33	34	23	5	4	0	0	149
Percentile					15th	50th	85th	95th							
Speed					17	23	28	30							
Mean Speed (Average)					22.8										
10 MPH Pace Speed					19-28										
Number in Pace					97										
Percent in Pace					65.1%										
Number > 45 MPH					0										
Percent > 45 MPH					0.0%										

Burlington Department of Public Works
645 Pine Street | Burlington VT, 05401

Site Code: bURL176
Location 1: Cottage Grove
Location 2: Burlington Vt
Start Date: 6/21/2023
End Date: 6/28/2023
Direction: B to A, None Specified

Latitude: 44.513552
Longitude: -73.257902
Date Processed 6/29/2023
Processed By CR
Counted By CR, AP, KD

6/24/2023	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
2:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
5:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
6:00	0	0	0	0	0	0	1	0	0	1	0	0	0	0	2
7:00	0	0	0	0	2	0	1	0	1	0	0	0	0	0	4
8:00	0	0	0	0	0	0	0	6	2	0	0	1	0	0	9
9:00	0	0	0	0	0	0	5	4	1	1	0	0	0	0	11
10:00	0	0	0	1	0	1	2	6	3	1	0	0	0	0	14
11:00	0	0	0	0	0	0	1	2	1	1	0	0	0	0	5
12:00 PM	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
1:00	0	0	0	0	1	0	2	3	3	0	0	0	0	0	9
2:00	0	0	1	0	0	3	2	1	4	2	0	0	0	0	13
3:00	0	0	0	1	0	0	4	5	4	0	1	0	0	0	15
4:00	0	0	0	0	0	1	0	1	2	0	1	0	0	0	5
5:00	0	0	0	0	0	2	1	3	2	0	1	0	0	0	9
6:00	0	0	0	0	1	0	0	1	0	0	1	0	0	0	3
7:00	0	0	0	0	0	1	2	2	2	0	0	0	1	0	8
8:00	0	0	0	0	0	0	0	1	2	0	0	0	0	0	3
9:00	0	0	0	0	0	0	1	1	0	1	0	0	0	0	3
10:00	0	0	0	0	0	1	0	0	0	2	0	0	0	0	3
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	2	5	10	23	41	28	10	4	1	1	1	127
Percentile					15th	50th	85th	95th							
Speed					18	23	27	30							
Mean Speed (Average)					23.5										
10 MPH Pace Speed					17-26										
Number in Pace					95										
Percent in Pace					74.8%										
Number > 45 MPH					1										
Percent > 45 MPH					0.8%										

Burlington Department of Public Works
645 Pine Street | Burlington VT, 05401

Site Code: bURL176
Location 1: Cottage Grove
Location 2: Burlington Vt
Start Date: 6/21/2023
End Date: 6/28/2023
Direction: B to A, None Specified

Latitude: 44.513552
Longitude: -73.257902
Date Processed 6/29/2023
Processed By CR
Counted By CR, AP, KD

6/25/2023	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	0	0	0	1	0	0	1	1	0	0	0	0	0	0	3
8:00	0	0	0	0	1	1	0	1	1	1	1	0	0	0	6
9:00	0	0	1	0	0	2	2	2	0	3	0	0	0	1	11
10:00	0	0	0	1	1	2	1	3	1	2	0	0	0	0	11
11:00	0	0	0	1	0	1	1	2	4	3	0	0	0	0	12
12:00 PM	0	0	0	0	0	0	2	3	1	2	0	1	0	0	9
1:00	0	0	0	0	0	0	2	2	4	3	0	0	0	1	12
2:00	0	0	0	0	0	0	1	3	1	2	1	0	0	0	8
3:00	0	0	0	0	0	1	2	3	0	0	0	0	0	0	6
4:00	0	0	0	0	1	3	2	1	1	1	0	0	0	0	9
5:00	0	0	0	0	1	1	2	1	1	2	0	0	0	0	8
6:00	0	0	0	2	0	2	2	3	0	0	0	0	0	0	9
7:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
8:00	0	0	0	0	0	0	1	2	1	0	0	0	0	0	4
9:00	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2
10:00	0	0	0	0	0	0	0	1	1	1	0	0	1	0	4
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	5	5	15	19	28	17	20	3	1	1	2	117

Percentile	15th	50th	85th	95th
Speed	17	23	28	32
Mean Speed (Average)	24.3			
10 MPH Pace Speed	19-28			
Number in Pace	71			
Percent in Pace	60.7%			
Number > 45 MPH	2			
Percent > 45 MPH	1.7%			

Burlington Department of Public Works
645 Pine Street | Burlington VT, 05401

Site Code: bURL176
Location 1: Cottage Grove
Location 2: Burlington Vt
Start Date: 6/21/2023
End Date: 6/28/2023
Direction: B to A, None Specified

Latitude: 44.513552
Longitude: -73.257902
Date Processed 6/29/2023
Processed By CR
Counted By CR, AP, KD

6/26/2023	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
5:00	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
6:00	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
7:00	0	0	0	0	1	1	2	1	6	2	1	0	0	0	14
8:00	0	0	0	0	0	0	3	6	2	0	0	0	0	0	11
9:00	0	0	1	2	0	1	0	0	3	1	0	0	0	0	8
10:00	0	0	0	0	0	1	3	1	0	0	0	0	0	0	5
11:00	0	0	0	0	0	1	2	3	0	2	0	0	0	0	8
12:00 PM	0	0	0	0	0	1	1	2	1	1	1	0	0	0	7
1:00	0	0	0	0	0	0	1	3	1	0	1	0	0	0	6
2:00	0	0	0	1	0	0	2	2	2	1	0	0	0	0	8
3:00	0	0	0	1	1	1	1	0	3	1	0	0	0	0	8
4:00	0	0	0	0	0	0	2	2	2	2	1	0	0	0	9
5:00	0	0	0	0	0	0	0	1	2	2	0	1	0	0	6
6:00	0	0	0	0	1	0	3	1	3	0	0	0	0	0	8
7:00	0	0	0	0	0	0	0	3	0	0	0	0	0	1	4
8:00	0	0	0	0	0	0	1	1	3	0	0	0	0	0	5
9:00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
10:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
11:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Total	0	0	1	4	3	7	23	29	29	15	4	1	0	1	117

Percentile	15th	50th	85th	95th
Speed	18	23	27	30
Mean Speed (Average)	23.8			
10 MPH Pace Speed	18-27			
Number in Pace	86			
Percent in Pace	73.5%			
Number > 45 MPH	1			
Percent > 45 MPH	0.9%			

Burlington Department of Public Works
645 Pine Street | Burlington VT, 05401

Site Code: bURL176
Location 1: Cottage Grove
Location 2: Burlington Vt
Start Date: 6/21/2023
End Date: 6/28/2023
Direction: B to A, None Specified

Latitude: 44.513552
Longitude: -73.257902
Date Processed 6/29/2023
Processed By CR
Counted By CR, AP, KD

6/27/2023	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
1:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
4:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
7:00	0	0	0	0	2	0	2	3	0	3	0	1	0	0	11
8:00	0	0	0	1	0	0	1	7	5	1	0	0	0	0	15
9:00	0	0	0	0	0	2	2	1	2	0	1	0	0	0	8
10:00	0	0	0	1	0	3	1	4	1	0	0	1	0	0	11
11:00	0	0	0	0	0	1	1	2	3	1	0	0	0	0	8
12:00 PM	0	0	0	0	0	0	2	1	4	1	0	1	0	0	9
1:00	0	0	0	0	0	1	2	0	0	1	0	0	0	1	5
2:00	0	0	0	0	0	0	1	4	0	0	0	0	0	0	5
3:00	0	0	0	0	0	0	3	4	3	0	0	0	0	0	10
4:00	0	0	0	1	1	3	2	2	1	0	1	0	0	0	11
5:00	0	0	0	0	0	0	3	3	2	2	0	0	0	0	10
6:00	0	0	0	0	0	0	1	1	0	1	0	0	0	0	3
7:00	0	0	0	0	0	1	1	2	2	0	0	0	0	0	6
8:00	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
9:00	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	3	4	13	22	37	25	11	3	3	0	1	122
Percentile				15th	50th	85th	95th								
Speed				17	22	27	30								
Mean Speed (Average)				23.5											
10 MPH Pace Speed				17-26											
Number in Pace				88											
Percent in Pace				72.1%											
Number > 45 MPH				1											
Percent > 45 MPH				0.8%											

Burlington Department of Public Works
645 Pine Street | Burlington VT, 05401

Site Code: bURL176
Location 1: Cottage Grove
Location 2: Burlington Vt
Start Date: 6/21/2023
End Date: 6/28/2023
Direction: B to A, None Specified

Latitude: 44.513552
Longitude: -73.257902
Date Processed 6/29/2023
Processed By CR
Counted By CR, AP, KD

6/28/2023	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	0	1	0	1	0	0	1	0	0	3
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	1	0	0	0	1	1	0	0	0	0	0	0	3
6:00	0	0	0	0	0	0	0	0	3	1	0	0	0	0	4
7:00	0	0	0	0	0	1	4	4	1	0	0	0	0	0	10
8:00	0	0	0	0	0	0	4	4	0	1	0	0	0	0	9
9:00	0	0	0	1	0	4	2	4	3	0	1	0	0	0	15
10:00	0	0	0	0	0	0	1	2	1	0	1	0	0	0	5
11:00	0	0	0	0	0	2	3	0	3	0	0	0	0	0	8
12:00 PM	0	0	0	0	0	0	3	4	1	0	0	0	0	0	8
1:00	0	0	0	0	0	2	2	0	5	1	0	0	0	0	10
2:00	0	0	0	0	0	0	1	2	1	0	0	0	0	0	4
3:00	0	0	0	1	0	0	4	1	1	0	0	0	0	0	7
4:00	0	0	0	2	1	1	1	2	3	1	0	0	0	0	11
5:00	0	0	1	1	0	2	2	1	0	0	0	0	0	0	7
6:00	0	0	0	0	0	0	0	1	4	0	0	0	0	0	5
7:00	0	0	0	0	0	0	0	2	3	0	0	0	0	0	5
8:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
9:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Total	0	0	2	6	1	13	29	29	31	4	2	1	0	0	118
Percentile					15th	50th	85th	95th							
Speed					17	22	25	28							
Mean Speed (Average)					21.5										
10 MPH Pace Speed					17-26										
Number in Pace					93										
Percent in Pace					78.8%										
Number > 45 MPH					0										
Percent > 45 MPH					0.0%										
Grand Total	0	1	8	36	31	99	188	276	231	117	33	17	4	6	1047
Stats					Percentile	15th	50th	85th	95th						
Speed					18	23	27	30							
Mean Speed (Average)					23.2										
10 MPH Pace Speed					18-27										
Number in Pace					733										
Percent in Pace					70.0%										
Number > 45 MPH					6										
Percent > 45 MPH					0.6%										

Burlington Department of Public Works
645 Pine Street | Burlington VT, 05401

Site Code: bURL176
Location 1: Cottage Grove
Location 2: Burlington Vt
Start Date: 6/21/2023
End Date: 6/28/2023
Direction: Combined

Latitude: 44.513552
Longitude: -73.257902
Date Processed 6/29/2023
Processed By CR
Counted By CR, AP, KD

6/21/2023	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	1	3
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
6:00	0	0	0	0	0	0	0	2	1	1	0	0	0	0	4
7:00	0	0	1	2	0	0	3	3	1	1	2	1	0	0	14
8:00	0	0	0	2	0	4	0	2	7	2	0	0	0	0	17
9:00	0	0	0	0	0	4	2	6	2	1	0	0	0	0	15
10:00	0	0	0	0	0	4	5	5	2	1	0	0	0	0	17
11:00	0	0	0	0	1	0	3	1	4	1	0	0	0	0	10
12:00 PM	0	0	0	1	0	1	3	0	2	3	0	0	0	0	10
1:00	0	0	1	0	1	1	2	7	4	2	0	1	0	0	19
2:00	0	0	0	0	0	2	7	5	3	1	2	0	0	0	20
3:00	0	0	0	1	2	2	1	4	7	0	0	1	0	0	18
4:00	0	0	0	1	0	5	4	7	8	0	2	1	0	0	28
5:00	0	0	0	3	1	4	4	5	9	2	0	2	0	0	30
6:00	0	0	0	1	1	2	1	7	1	0	1	1	0	0	15
7:00	0	0	0	0	0	3	6	7	4	0	1	0	1	0	22
8:00	0	0	0	0	2	0	3	1	0	0	0	0	0	0	6
9:00	0	0	0	0	0	1	2	4	0	2	0	0	0	0	9
10:00	0	0	0	0	0	1	1	0	3	1	0	0	0	0	6
11:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Total	0	0	2	11	8	36	47	66	59	19	9	7	1	1	266
Percentile				15th	50th	85th	95th								
Speed				17	23	27	31								
Mean Speed (Average)				22.6											
10 MPH Pace Speed				17-26											
Number in Pace				183											
Percent in Pace				68.8%											
Number > 45 MPH				1											
Percent > 45 MPH				0.4%											

Burlington Department of Public Works
645 Pine Street | Burlington VT, 05401

Site Code: bURL176
Location 1: Cottage Grove
Location 2: Burlington Vt
Start Date: 6/21/2023
End Date: 6/28/2023
Direction: Combined

Latitude: 44.513552
Longitude: -73.257902
Date Processed 6/29/2023
Processed By CR
Counted By CR, AP, KD

6/22/2023	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
2:00	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2
3:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
4:00	0	0	0	0	1	0	0	0	0	1	0	0	0	0	2
5:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
6:00	0	0	1	0	0	0	1	2	0	0	0	0	0	0	4
7:00	0	0	0	1	0	0	5	2	2	1	1	0	1	0	13
8:00	0	0	0	1	0	3	5	5	6	2	0	0	0	0	22
9:00	0	0	0	0	0	5	6	2	6	3	0	0	0	1	23
10:00	0	0	1	1	0	0	5	5	1	0	0	0	0	0	13
11:00	0	0	0	0	2	0	6	5	5	2	0	0	0	0	20
12:00 PM	0	0	0	1	1	2	3	3	1	2	1	0	0	0	14
1:00	0	0	0	0	1	2	4	4	2	0	0	0	0	0	13
2:00	0	0	0	1	2	1	3	5	4	3	1	1	0	0	21
3:00	0	0	0	1	0	1	1	10	3	1	1	0	0	1	19
4:00	0	0	0	1	0	3	5	8	5	1	2	1	0	0	26
5:00	0	0	0	0	0	1	2	8	4	0	0	1	0	0	16
6:00	0	1	0	1	4	1	3	3	2	2	0	0	0	0	17
7:00	0	0	0	0	0	0	5	1	4	1	1	0	0	0	12
8:00	0	0	0	0	1	0	0	3	2	2	1	0	0	0	9
9:00	0	0	1	1	0	0	2	2	2	1	0	0	0	0	9
10:00	0	0	0	0	0	3	1	0	0	0	1	0	0	0	5
11:00	0	0	0	0	0	1	1	0	0	2	0	0	0	0	4
Total	0	1	3	9	12	24	58	69	50	25	10	3	2	2	268
				Percentile	15th	50th	85th	95th							
				Speed	17	22	27	31							
				Mean Speed (Average)	23.0										
				10 MPH Pace Speed	18-27										
				Number in Pace	185										
				Percent in Pace	69.0%										
				Number > 45 MPH	2										
				Percent > 45 MPH	0.7%										

Burlington Department of Public Works
645 Pine Street | Burlington VT, 05401

Site Code: bURL176
Location 1: Cottage Grove
Location 2: Burlington Vt
Start Date: 6/21/2023
End Date: 6/28/2023
Direction: Combined

Latitude: 44.513552
Longitude: -73.257902
Date Processed 6/29/2023
Processed By CR
Counted By CR, AP, KD

6/23/2023	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
1:00	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
2:00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	0	0	0	0	1	2	0	3	1	2	0	0	0	9
7:00	0	0	0	1	2	2	4	4	2	2	1	0	0	0	18
8:00	0	0	0	0	0	0	4	3	7	1	2	0	0	0	17
9:00	0	1	0	1	2	0	5	1	1	0	0	0	0	0	11
10:00	0	0	0	0	1	3	1	1	0	2	0	0	0	0	8
11:00	0	0	0	0	1	3	1	5	5	4	2	1	0	0	22
12:00 PM	0	0	0	1	0	1	1	3	5	3	1	0	0	0	15
1:00	0	0	1	0	4	2	6	5	9	1	0	0	0	0	28
2:00	0	0	0	1	0	5	1	2	2	1	0	0	0	0	12
3:00	0	0	1	3	0	4	6	5	6	2	1	0	0	0	28
4:00	0	0	1	3	2	0	3	9	5	4	0	1	0	0	28
5:00	0	0	1	2	1	2	5	5	1	5	1	2	0	0	25
6:00	0	0	1	2	0	1	4	2	5	0	0	0	0	0	15
7:00	0	0	0	0	1	1	2	7	5	0	0	1	0	0	17
8:00	0	0	0	0	2	0	5	2	2	0	0	0	0	0	11
9:00	0	0	0	0	0	0	2	2	1	1	0	0	0	0	6
10:00	0	0	0	0	1	1	2	2	1	1	0	0	0	0	8
11:00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
Total	0	1	5	14	17	26	55	58	64	30	11	5	0	0	286
				Percentile	15th	50th	85th	95th							
				Speed	16	22	27	30							
				Mean Speed (Average)	21.8										
				10 MPH Pace Speed	18-27										
				Number in Pace	187										
				Percent in Pace	65.4%										
				Number > 45 MPH	0										
				Percent > 45 MPH	0.0%										

Burlington Department of Public Works
645 Pine Street | Burlington VT, 05401

Site Code: bURL176
Location 1: Cottage Grove
Location 2: Burlington Vt
Start Date: 6/21/2023
End Date: 6/28/2023
Direction: Combined

Latitude: 44.513552
Longitude: -73.257902
Date Processed 6/29/2023
Processed By CR
Counted By CR, AP, KD

6/24/2023	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	1	0	0	2	1	0	0	0	0	4
1:00	0	0	0	0	0	1	0	0	0	0	0	0	0	1	2
2:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
5:00	0	0	0	0	1	2	0	0	1	0	0	0	0	0	4
6:00	0	0	0	0	1	0	1	0	0	1	0	0	0	0	3
7:00	0	0	0	0	2	1	2	1	1	0	0	0	0	0	7
8:00	0	0	0	1	0	0	0	7	3	0	0	2	0	0	13
9:00	0	0	0	0	0	4	6	7	3	1	0	0	0	0	21
10:00	0	0	0	1	0	1	4	8	3	1	0	0	0	0	18
11:00	0	0	0	0	0	3	2	4	5	1	0	0	0	0	15
12:00 PM	0	0	0	1	0	0	3	6	3	0	0	0	0	0	13
1:00	0	0	0	0	1	0	6	6	4	1	0	0	0	0	18
2:00	0	0	1	0	1	4	3	2	6	2	0	0	0	0	19
3:00	0	0	0	1	0	3	4	8	5	0	1	0	0	0	22
4:00	0	0	0	0	0	2	4	3	3	1	1	0	0	0	14
5:00	0	0	0	0	0	2	2	4	5	2	1	0	0	0	16
6:00	0	0	0	0	2	0	2	3	0	1	1	0	0	0	9
7:00	0	0	0	1	0	2	5	2	4	0	0	0	1	0	15
8:00	0	0	0	0	0	0	3	3	2	1	0	0	0	0	9
9:00	0	0	0	0	0	0	2	1	0	1	0	0	0	0	4
10:00	0	0	0	0	0	1	1	0	0	2	0	0	0	0	4
11:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Total	0	0	1	5	9	27	51	66	50	16	4	2	1	1	233
Percentile					15th	50th	85th	95th							
Speed					17	22	26	29							
Mean Speed (Average)					22.4										
10 MPH Pace Speed					17-26										
Number in Pace					175										
Percent in Pace					75.1%										
Number > 45 MPH					1										
Percent > 45 MPH					0.4%										

Burlington Department of Public Works
645 Pine Street | Burlington VT, 05401

Site Code: bURL176
Location 1: Cottage Grove
Location 2: Burlington Vt
Start Date: 6/21/2023
End Date: 6/28/2023
Direction: Combined

Latitude: 44.513552
Longitude: -73.257902
Date Processed 6/29/2023
Processed By CR
Counted By CR, AP, KD

6/25/2023	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	1	0	0	0	0	1	0	0	0	2
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
3:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	0	0	0	1	0	0	1	1	1	0	0	0	0	0	4
8:00	0	0	0	0	1	1	0	1	1	2	1	0	0	0	7
9:00	0	0	1	0	1	6	2	5	1	4	0	0	0	1	21
10:00	0	0	0	1	2	2	3	4	3	2	1	1	0	0	19
11:00	0	0	1	2	0	2	3	6	4	3	0	0	0	0	21
12:00 PM	0	0	0	0	0	0	4	6	1	3	0	1	0	0	15
1:00	0	0	0	0	1	1	3	4	5	3	1	0	0	1	19
2:00	0	0	0	1	1	1	2	5	4	4	1	0	0	0	19
3:00	0	0	0	0	0	3	3	4	2	0	0	0	0	0	12
4:00	0	0	0	0	2	3	7	1	2	1	1	0	0	0	17
5:00	0	0	0	1	1	3	4	5	1	4	0	0	0	0	19
6:00	0	0	0	4	1	3	4	3	2	0	0	0	0	0	17
7:00	0	0	0	0	0	1	3	2	0	0	1	0	0	0	7
8:00	0	0	0	0	0	0	3	4	1	1	0	0	0	0	9
9:00	0	0	0	0	1	0	4	0	2	0	0	0	0	0	7
10:00	0	0	0	0	0	0	0	1	1	1	0	0	1	0	4
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	2	10	11	28	46	53	31	28	7	2	1	2	221
Percentile					15th	50th	85th	95th							
Speed					17	22	28	30							
Mean Speed (Average)					22.8										
10 MPH Pace Speed					17-26										
Number in Pace					139										
Percent in Pace					62.9%										
Number > 45 MPH					2										
Percent > 45 MPH					0.9%										

Burlington Department of Public Works
645 Pine Street | Burlington VT, 05401

Site Code: bURL176
Location 1: Cottage Grove
Location 2: Burlington Vt
Start Date: 6/21/2023
End Date: 6/28/2023
Direction: Combined

Latitude: 44.513552
Longitude: -73.257902
Date Processed 6/29/2023
Processed By CR
Counted By CR, AP, KD

6/26/2023	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
5:00	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
6:00	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
7:00	0	3	1	0	2	1	3	1	7	2	1	0	0	0	21
8:00	0	0	0	0	0	1	4	8	2	0	0	0	0	0	15
9:00	0	0	1	2	1	3	0	2	3	1	0	0	0	0	13
10:00	0	0	0	0	0	1	3	4	1	0	0	0	0	0	9
11:00	0	0	0	0	1	2	2	5	1	2	0	0	0	0	13
12:00 PM	0	0	1	0	0	1	2	2	3	2	1	1	0	0	13
1:00	0	0	0	1	1	1	2	5	1	1	1	0	0	0	13
2:00	0	0	0	3	1	0	3	3	2	1	0	0	0	0	13
3:00	0	0	0	1	3	1	2	2	7	2	0	0	0	0	18
4:00	0	0	0	0	0	2	2	6	4	3	1	0	0	0	18
5:00	0	0	0	0	0	0	3	5	4	2	1	1	0	0	16
6:00	0	0	0	1	2	2	5	2	4	0	0	0	0	0	16
7:00	0	0	0	0	1	2	1	3	1	2	0	0	0	1	11
8:00	0	0	0	0	0	1	2	2	3	2	1	0	0	0	11
9:00	0	0	0	0	1	0	1	0	1	1	0	0	0	0	4
10:00	0	0	0	0	0	0	1	0	0	1	0	0	0	0	2
11:00	0	0	0	0	0	2	1	0	0	0	0	0	0	0	3
Total	0	3	3	8	13	22	38	53	44	23	6	2	0	1	216
Percentile					15th	50th	85th	95th							
Speed					16	22	27	30							
Mean Speed (Average)					22.2										
10 MPH Pace Speed					18-27										
Number in Pace					143										
Percent in Pace					66.2%										
Number > 45 MPH					1										
Percent > 45 MPH					0.5%										

Burlington Department of Public Works
645 Pine Street | Burlington VT, 05401

Site Code: bURL176
Location 1: Cottage Grove
Location 2: Burlington Vt
Start Date: 6/21/2023
End Date: 6/28/2023
Direction: Combined

Latitude: 44.513552
Longitude: -73.257902
Date Processed 6/29/2023
Processed By CR
Counted By CR, AP, KD

6/27/2023	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
1:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
4:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
7:00	0	0	0	0	2	0	3	3	0	3	0	1	0	0	12
8:00	0	0	0	1	1	0	2	7	6	2	0	0	0	0	19
9:00	0	0	0	1	1	4	3	2	4	1	1	0	0	0	17
10:00	0	0	1	1	0	5	1	5	1	0	0	1	0	0	15
11:00	0	0	0	0	0	2	3	2	3	1	0	0	0	0	11
12:00 PM	0	0	0	1	1	0	3	2	6	1	0	1	0	0	15
1:00	0	0	1	1	2	3	2	0	0	1	0	0	0	1	11
2:00	0	0	0	0	1	1	3	6	1	0	0	0	0	0	12
3:00	0	1	0	1	0	1	5	6	3	0	0	0	0	0	17
4:00	0	0	0	1	3	6	8	5	6	1	1	0	0	0	31
5:00	0	0	0	1	0	0	3	8	6	3	0	1	0	0	22
6:00	0	0	0	0	1	1	6	1	1	1	0	0	0	0	11
7:00	0	0	0	0	0	3	1	2	2	0	0	0	0	0	8
8:00	0	0	0	0	1	1	1	3	1	2	0	0	0	0	9
9:00	0	0	0	0	2	1	1	2	0	1	0	0	0	0	7
10:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
11:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Total	0	1	2	8	15	32	45	55	43	17	3	4	0	1	226
Percentile				15th	50th	85th	95th								
Speed				16	21	26	29								
Mean Speed (Average)				21.8											
10 MPH Pace Speed				17-26											
Number in Pace				153											
Percent in Pace				67.7%											
Number > 45 MPH				1											
Percent > 45 MPH				0.4%											

Burlington Department of Public Works
645 Pine Street | Burlington VT, 05401

Site Code: bURL176
Location 1: Cottage Grove
Location 2: Burlington Vt
Start Date: 6/21/2023
End Date: 6/28/2023
Direction: Combined

Latitude: 44.513552
Longitude: -73.257902
Date Processed 6/29/2023
Processed By CR
Counted By CR, AP, KD

6/28/2023	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total	
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH		
12:00 AM	0	0	0	0	0	0	2	0	1	0	0	0	1	0	4	
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00	0	0	1	0	0	0	1	1	0	0	0	0	0	0	3	
6:00	0	0	0	0	0	0	0	0	3	1	0	0	0	0	4	
7:00	0	0	0	0	0	2	4	5	2	1	0	0	0	0	14	
8:00	0	0	0	0	3	2	4	6	1	1	0	0	0	0	17	
9:00	0	0	0	1	0	7	6	7	3	1	1	0	0	0	26	
10:00	0	0	0	0	0	0	2	3	1	0	1	0	0	0	7	
11:00	0	0	0	1	0	3	3	2	4	1	0	0	0	0	14	
12:00 PM	0	0	0	0	1	2	5	5	2	0	0	0	0	0	15	
1:00	0	1	0	1	0	2	6	0	6	4	0	0	0	0	20	
2:00	0	0	0	0	0	2	4	3	3	0	0	0	0	0	12	
3:00	0	0	0	2	0	0	8	1	1	0	0	0	0	0	12	
4:00	0	0	0	3	1	2	4	4	5	1	0	0	0	0	20	
5:00	0	0	1	1	1	3	4	3	4	1	0	0	0	0	18	
6:00	0	0	0	0	1	0	0	6	6	1	0	0	1	0	15	
7:00	0	0	0	1	0	2	4	4	3	0	0	0	0	0	14	
8:00	0	0	0	1	0	1	1	2	1	0	0	0	0	0	6	
9:00	0	0	0	0	0	1	1	2	1	0	0	0	0	0	5	
10:00	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2	
11:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
Total	0	1	2	11	7	30	60	55	48	12	2	1	1	0	230	
Percentile					15th	50th	85th	95th								
Speed					16	21	26	27								
Mean Speed (Average)					21.1											
10 MPH Pace Speed					17-26											
Number in Pace					172											
Percent in Pace					74.8%											
Number > 45 MPH					0											
Percent > 45 MPH					0.0%											
Grand Total	0	7	20	76	92	225	400	475	389	170	52	26	6	8	1946	
Stats					Percentile	15th	50th	85th	95th							
Speed					16	22	27	30								
Mean Speed (Average)					22.2											
10 MPH Pace Speed					17-26											
Number in Pace					1334											
Percent in Pace					68.6%											
Number > 45 MPH					8											
Percent > 45 MPH					0.4%											

APPENDIX H

Design Criteria

DESIGN CRITERIA

Stanbury Road, Cottage Grove, Loaldo Drive, Green Acres Drive

ROADWAY FUNCTIONAL CLASS:	No functional class assigned
DESIGN SPEED:	25 MPH
DESIGN MANUALS:	<ol style="list-style-type: none"> 1) AASHTO "A Policy on Geometric Design of Highways and Streets", 2018, 7th Edition. 2) AASHTO "Roadside Design Guide", 2011, 4th Edition. 3) VTrans Roadway Design Manual, 1998 Edition. 4) Manual on Uniform Traffic Control Devices, 2009. 5) VTrans Pedestrian and Bicycle Facility Planning and Design Manual, 2002.
DESIGN SPECIFICATIONS:	<ol style="list-style-type: none"> 1) VTrans Standard Specifications for Construction, 2018. 2) City of Burlington Standards and Specifications
DESIGN GUIDELINES:	<ol style="list-style-type: none"> 1) Guidebook for Municipality Managed Projects (Revised 2021). 2) NCHRP Report 480; "A Guide to Best Practices for Achieving Context Sensitive Solutions", 2002. 3) AASHTO "A Guide for Achieving Flexibility in Highway Design", May 2004



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**CITY OF BURLINGTON
DEPARTMENT OF PUBLIC WORKS**

645 Pine Street, Suite A
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Burlington, VT 05402-0849
802.863.9094 VOX
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www.burlingtonvt.gov

MEMORANDUM

Date: May 27, 2025

To: Transportation, Energy, and Utilities Committee (TEUC)

From: Caleb Manna, Associate Public Works Engineer
Corey Mims P.E., Senior Public Works Engineer

CC: Chapin Spencer, Director of Public Works.
Laura Wheelock, P.E., Assistant Director/City Engineer

RE: LedgeWood Circle Street Acceptance

Recommendations to the TEUC

Department of Public Works requests the TEUC recommend full acceptance of a portion of the street known as LedgeWood Circle (Exhibit - D), from the current ownership group LedgeWood 1 Condominium Board, to Board of Finance and City Council subject to final review and approval by the City Attorney's Office.

Background

A segment of LedgeWood Circle, (also know as the Austin Drive entryway) located between Austin Drive and Oakbeach Drive in the south end of the City of Burlington, serves as crucial connector street linking acces to Austin Drive , Oakbeach Drive, Southwind Drive, and Flynn Av-
enue. The current owner of the street, LedgeWood 1 Condominium Board, is requesting the lands be conveyed to the City for public right-of-way acceptance.

History of LedgeWood Circle - 1960's

On July 19, 1967, an agreement was made between the then owner, Champlain Associates, and the City, conveying ownership of the entire parcel lot, then know as LedgeWood Apartments, to the City. The street was never accepted via resolution by City Council. No documentation of an existing resolution pertaining to this location has been found. The original agreement demonstrates there was always intent to deed this section of road to city.

In 1981, the then owner, Champlain Associates, deeded the 8.9 acre parcel (including the Austin Dr. entryway currently proposed for acceptance) know as LedgeWood Apartments, to LedgeWood Associates.

At this time LedgeWood Associates (LA), in turn created the LedgeWood Home Owners Association (LHOA), by Declaration of Covenant, deeding to LHOA the existing pool and community building. It is important to note the role of a home owners association, (different from

a condo association) created for the function of maintaining shared facilities (pool and building) between four condo associations (Ledgewood South, Ledgewood East, Southwind Condo, and Ledgewood 1) making up the 8.9 acre parcel lot know as Ledgewood Apartments during this time.

Also in 1981, LA created Ledgewood 1 Condominium Association (Ledgewood 1), and conveyed to them, the same 8.9 acre parcel including the entryway from Austin Drive, into condo ownership, clearly assigning ownership of the entryway to Ledgewood 1. All 76 condo units were sold from LA to Ledgewood 1 at this time. Under the common elements of the parcel transfer to a condo association, this meant each owner owned a unit, and a percentage share of the parcel lot, which included the Austin Dr. entryway.

In July of 1981, the City and LA, executed an amendment to the 1967 agreement between City and Champlain Associates, amending the agreement to allow for the sale of individual units and townhouses. This amended agreement defines the roadway and infrastructure as privately owned and maintained by LA. Section 3 of this amendment contains language that allowing for the future acceptance of the Austin Drive entryway to the City, so long as the roadway was constructed to city specifications.

1982-1993

In June of 1982, we begin to see some confusion over ownership of the parcel. LA executed an amendment to LHOA and Ledgewood 1 Declaration of Covenant, specifying that the roadway between Austin Dr. and Flynn Ave., would be dedicated to the City. Language from section 2 of this amendment, clearly states “ *the declarant (LA) and (LHOA,) shall dedicate to the City of Burlington a roadway connecting Austin Drive and Flynn Ave.*” Oakbeach Drive as we know it today, had not been constructed as of 1982, but was planned for future development, and was completed in 1988 as public roadway.

The issue being, that LA had previously deeded the parcel lot to Ledgewood 1 in the 1981 amendment, and that Ledgewood 1, as the owner, was not included in the above mentioned 1982 amendment to the Declaration of Covenant.

Between 1982 and 1993, LHOA assumed responsibility for maintaining the Austin Drive entry way used by the four condo associations, making up LHOA.

In 1993, LA executed a warranty deed conveying the Austin Drive entryway, southern extension of Oakbeach, and the tennis courts to LHOA. Had the title search under the warranty deed been properly executed, it was have become known that LA, did have the rights to convey this property.

2018-Present

This discrepancy in ownership came to light in 2018, when LHOA began the process to convey the Austin Drive entryway to the City. LHOA in fact, has no rights to convey said property to the City, as the parcel was conveyed to Ledgewood 1 in 1981. LHOA has since recognized the error and disclaimed ownership.

For a full history and associated documentation of ownership transfers, see EX-A.

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Right-of-Way Acceptance

The Department of Public Works, Technical Services Division, was tasked with compiling the missing documentation for the acceptance of the Austin Drive entryway in January of 2023. In collaboration with the current President of Ledgewood 1 Condo Assoc. Mr. Andrew Prendimano, which included securing a policy of title insurance, completing a boundary survey, establishing monumentation for the parcel, and a providing a warrenty deed dedicating said lands to the city.

DPW, following the guidance of the Right-of-Way Acceptance Procedure for Post Development, received sign offs from all city departments responsible for maintaining infrastructure, certifying any asset proposed for acceptance within the street segement is of adequate condition, and will not become a liability to the city as ownership is transferred.

These City Departments include:

- DPW Streets Maintenance
- DPW Water Resources
- DPW Technical Services
- DPW Traffic Division
- Department of Parks, Waterfront and Recreation
- Burlington Electric Department
- Burlington Fire Department

Historically, the city has provided a routine level of servive in maintaining the street segement. Typical maintenance over the years includes pothole filling, snow plowing, and catch basin repairs.

Future Plans for Ledgewood Circle

Should the street be accepted, it is anticipated a bike lane and new sidewalk will be installed on the north side of the divided entryway at some point in the future. With the right-of-way acceptance, DPW will be authorized to establish no parking regulations in ordinance, and bring roadway signage up to current MUTCD standards. The existing street lighting will be added to BED's capital improvement plan, and brought up to current IES lighting standards applicable to Burlington city streets.

Thank you for consideration of this request, please do not hesitate to contact me directly at CManna@burlingtonvt.gov or 802-865-7562.

Exhibits

- A. Chronology of Events Related To Ownership Of The Austin Drive Entryway
- B. Title Insurance
- C. Warranty Deed
- D. Right-of-Way Final Drawing
- E. Future transportation design
- F. Right-of-Way Acceptance Procedure

CHRONOLOGY OF EVENTS RELATED TO OWNERSHIP OF THE AUSTIN DRIVE ENTRYWAY

[For anyone not familiar with the area, the **site map on the last page of the attached documents** may be helpful in following this chronology.]

1. On 1/12/81, Champlain Associates, then-owner of the Ledgewood Apartments at 80 Austin Drive, executed a warranty deed conveying an 8.9 acre parcel which included those apartments to developer Gerry Milot/Ledgewood Associates. That deed included the Austin Drive entryway. {Attachment 3}
2. On 1/15/81, Ledgewood Associates executed a Declaration of Covenant creating the Ledgewood Home Owners Association. [Vol. 271/Pg.512 of the City Land Records/not attached.] (The LHOA is NOT a condo association; it is a home owners association that exists for the purpose of managing certain facilities -- principally a pool and tennis courts-- shared by the owners of units in Ledgewood I and three other adjacent condo associations. The LHOA has no legal relationship with those four condo associations as entities, only with the unit owners.) Ledgewood Associates conveyed to the LHOA, by deed, the pool and a small "community building" that were located on the Ledgewood Apartments parcel; the entryway was not part of the property conveyed to the LHOA by Ledgewood Associates at this time. {Attachment 6}
3. On 1/15/81, the developer, Ledgewood Associates, also executed a Declaration of Condominium creating the Ledgewood I Condominium and conveying the exact same 8.9 acre parcel acquired from Champlain Associates into condo ownership, again, clearly including the Austin Drive entryway, in both the detailed description of property and the site map that were part of that Declaration. Under the provisions of its Declaration. the entryway was part of the Common Elements of the Ledgewood I Condominium. {Attachment 1, 1a, 1b}
4. Ledgewood Associates subsequently sold all 76 of the units in the Ledgewood I Condominium, meaning that, like all other common elements, each unit's percentage share of the entryway was deeded to each unit. It is important to recognize that the Common Elements, or jointly owned property, of any condo association are not conveyed by deed to the Association per se, but rather, are conveyed into condo ownership via a Declaration of Condominium, and then subsequently deeded incrementally to individual owners as a percentage share of jointly held property, along with full ownership of the unit itself. In other words, a condo association, as a legal entity, does not hold a "deed" to its common elements. By contrast, the Ledgewood Home Owners Association, which is not a condo association, does own property as a corporate entity and must acquire that property by deed.
5. On 7/14/81, the City of Burlington and Ledgewood Associates ("owner") executed an amendment to a 7/67 agreement between the City and Champlain Associates pertaining to the Ledgewood Apartments. This 7/81 agreement served to resolve a dispute over subdivision rules. One provision of that agreement states, "*It is currently contemplated by the Owner and the City that, in connection with further development of the Ledgewood property, so called, the Owner will dedicate to the City a roadway, connecting Austin Drive and Flynn Avenue, said roadway to be constructed to City specifications...*" {Attachment 4}
6. On 6/21/82, Ledgewood Associates executed a single/identical amendment to both the LHOA Declaration of Covenant AND the Ledgewood I Declaration of Condominium, the provisions of which included the following: "*[Ledgewood Associates] and the [Ledgewood] Home Owners Association ... shall dedicate to the City...a roadway connecting Austin Drive and Flynn Avenue, subject to the provisions of [the above 7/81 Agreement].*" At that time, Ledgewood Associates owned the land on which the entire Oakbeach Drive portion of this roadway was eventually built, but it did not own the already-completed Austin Drive entryway portion of the roadway, having previously conveyed it to Ledgewood I in January 1981. And the Ledgewood Home Owners Association did not own ANY of the existing or anticipated roadway property. {Attachment 5}

By this time, more than half of the Ledgewood I units had been sold, so this Amendment to both the LHOA and Ledgewood I Declarations required approval of 75% of all LHOA and Ledgewood I owners, which was obtained. Because Ledgewood I owners were the only members of the LHOA at that time, they concurrently approved the amendment to both Declarations. One possible interpretation of this Amendment could be that Ledgewood I owners approved the conveyance of the Austin Drive entryway to the City in June 1982. (However, they could not have approved the conveyance of the Oakbeach Drive Extension to the City, since neither Ledgewood I nor LHOA owned the Oakbeach Drive extension.)

7. Then, (later) in 1982, 1984 and 1986 respectively, the separate Ledgewood South, Ledgewood East and Southwind Condo Associations were created, making the owners of the 210 units in all four condo associations members of the Ledgewood Home Owners Association by virtue of a covenant in their deeds.

8. At some point between 1982 and 1993, the Ledgewood Home Owners Association apparently assumed responsibility for maintenance of the entryway, perhaps because it was used by owners in all four condo associations. (Of course, ever since Oakbeach Drive was completed around 1988, it has been used by the general public as a thoroughfare between Austin Drive and Flynn Avenue.) It's unclear if the LHOA Board at that time believed that the LHOA owned the entryway, or if there was just an informal arrangement by which the LHOA paid for maintenance.

9. For many years, much of the regular maintenance of the actual roadway of the entryway has been done by the City, including plowing, fixing potholes, installing catch basins, etc. The LHOA's main expenses have been for summer grounds maintenance around the road, as well as paying for the leased street lights and associated City stormwater fees. I believe the LHOA paid to pave the entryway at least once, in the mid-90's, the need for which probably was connected to the deed executed in 1993 (#10, next.)

10. In January 1993, Ledgewood Associates executed a warranty deed purportedly conveying the Austin Drive entryway, the southern extension of Oakbeach Drive (the northern section of Oakbeach had already been accepted as a City street) and the Ledgewood tennis courts to the Ledgewood Home Owners Association. At the time, Ledgewood Associates owned the Oakbeach Drive extension and the tennis courts, but did not own the entryway. Either a proper title search was not conducted by any of the parties prior to execution of the deed, or the information was ignored. (The reason that Ledgewood Associates initiated this deed at this time is murky, but presumably was to avoid as much financial liability as possible. It is a complete mystery as to why the LHOA would have agreed to accept ownership of any roadway, since this was not in the best interest of the 210 LHOA owners, and the intent all along was for these to become City streets.) {Attachment 2}

11. Due to the existence of this deed, LHOA and LWI Boards since that time appear to have assumed that the LHOA, in fact, owned the entryway.

12. The LHOA has always wanted to convey the entryway to the City; it was pursued a few times but somehow never happened.

13. In 2018, the LHOA Board decided to again pursue conveying the entryway to the City, and while researching the documents related to entryway ownership, discovered that, in fact, the entryway was part of the property conveyed to Ledgewood I in 1981. This meant that the 1993 deed held by the LHOA was invalid with respect to the entryway, because Ledgewood Associates had no legal right to convey it. In response, the Ledgewood Home Owners Association Board formally notified the Ledgewood I Condo Association Board that the LHOA disclaimed ownership of the entryway, because Ledgewood Associates clearly did not own it at the time the 1993 deed was executed. This disclaimer is filed in the City Land Records. {Attachment 7}

ATTACHED DOCUMENTS:

1. Pertinent excerpts from Ledgewood I Declaration of Condominium [Vol. 271/Pg. 481; Plat 118/71]
 - 1a. LWI Declaration of Condominium Exhibit B – parcel map (1/81)
 - 1b. LWI Declaration of Condominium Exhibit D – description of parcel (1/81)
2. 1/93 Warranty Deed from Ledgewood Associates to Ledgewood Home Owners Association for Austin Drive entryway, Oakbeach Drive extension & tennis courts [Vol. 473/Pg. 126]
3. 1/81 Warranty Deed from Champlain Associates to Ledgewood Associates for Ledgewood I parcel [Vol. 272/Pg. 669]
4. 7/81 Agreement between City of Burlington and Ledgewood Associates [Vol. 275/Pg.507]
5. 6/82 Amendment to Declaration of Covenant of the Ledgewood Home Owners Association and to Declaration of Condominium for Ledgewood I [Vol. 283/Pg. 141; Plat 141/28]
6. 1/81 Quit Claim Deed from Ledgewood Associates to Ledgewood Home Owners Association for pool & Community building [Vol. 272/Pg. 685]
7. 3/19 Letter from LHOA Board to Ledgewood I Board disclaiming ownership of entryway [Bk. 1437/Pg. 193]

ATTACHMENT 1:

Excerpts from DECLARATION OF LEDGEWOOD I CONDOMINIUM (January 1981)

[Vol. 271/Pg.481; Plat 118/71]

Section 1.01. Submission of Property; Creation.

*Ledgewood Associates, a Vermont general partnership having a place of business in Essex, Vermont (the "Declarant") in fee simple of **the lands described in Exhibit D**, located in the City of Burlington, County of Chittenden and State of Vermont (the "Land") , hereby submits the Land, together with all easements, rights and appurtenances thereto (the "Property") , to the provisions of Chapter 15 of Title 27 of the Vermont Statutes Annotated, known as the Vermont Condominium Ownership Act (the "Act"), and hereby creates with respect to the Property a condominium, to be known as Ledgewood I Condominium (the "Condominium").*

Section 2.03. Description of Units; Allocation. The locations of all Apartments (the "Units") within the Buildings are shown on the "Plans" attached as Exhibits A and B. There are a total of 76 Units, of which 8 Units are one-bedroom apartments, 16 Units are two—bedroom apartments, 8 Units are three—bedroom apartments and 44 Units are two—bedroom townhouse style apartments occupying two stories.

Section 3.02. Common Areas and Facilities. The Common Elements are all the Property depicted on Exhibits A and B except Units and Limited Common Elements. The Common Elements shall remain undivided and shall be devoted to the common use and enjoyment of all Unit owners. No Unit owner nor any other person shall maintain any action for partition or division thereof, unless the Property has been removed from the provision of this Declaration pursuant to the Act. Each Unit owner may use the respective Common Elements in accordance with the purposes for which they were intended without hindering or encroaching upon the lawful rights of other Unit owners. The Common Elements include, without limitation, the following:

- (a) the Land described in Exhibit D, including the real, estate upon which the Buildings and other improvements are located, together with the benefit of, and subject to, all rights, easements, restrictions and agreements recorded in the Land Records of the City of Burlington, including the specific reservations and grants set forth in a deed of Champlain Associates dated January 15 , 1981, to the Declarant, recorded in Volume Page of the Land Records of the City of Burlington;*
- (b) all portions of the Buildings, except those portions identified as Units and Limited Common Elements; and*
- (c) all improvements other than the Buildings and Limited Common Elements.*

Section 5.03. Easement for Completion. The Declarant hereby reserves an easement through the Common Elements for the purpose of completing or making improvements described in this Declaration or to make improvements in the Condominium and to make and complete improvements on lands described in a Declaration of Covenants, Conditions and Restrictions, dated January , 1981, recorded in Volume , Page of the Land Records of the City of Burlington, and to erect and remove signs advertising the Condominiums.

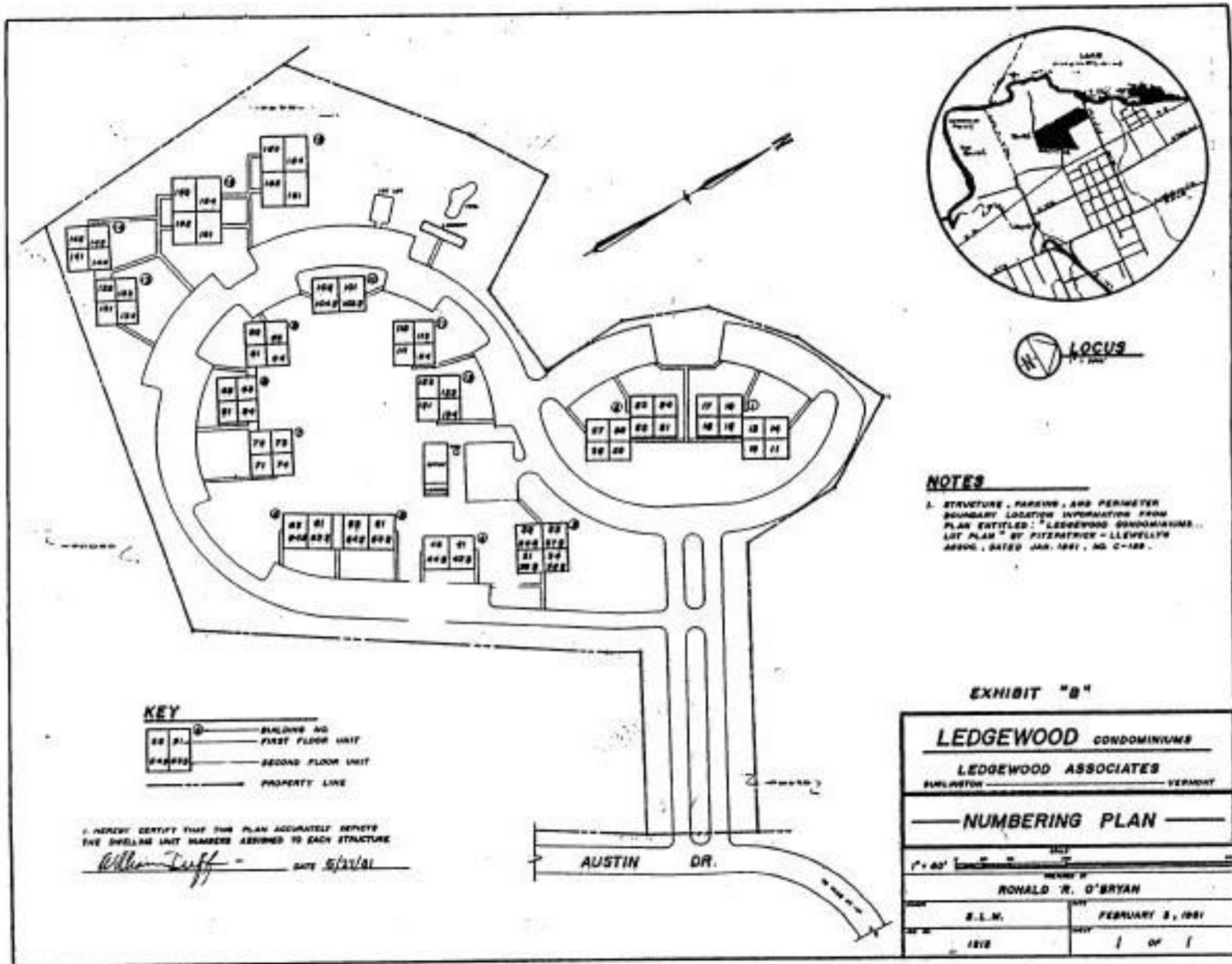


EXHIBIT "B"

KEY

20 21 — BUILDING AND FIRST FLOOR UNIT
 2001 2002 — BUILDING AND SECOND FLOOR UNIT
 ———— PROPERTY LINE

I HEREBY CERTIFY THAT THIS PLAN ACCURATELY REFLECTS THE DWELLING UNIT NUMBERS ASSIGNED TO EACH STRUCTURE

William Duff DATE 5/11/01



NOTES

1. STRUCTURE, PARKING, AND PERIMETER BOUNDARY LOCATION INFORMATION FROM PLAN ENTITLED: "LEDGEWOOD CONDOMINIUMS... LOT PLAN" BY FITZPATRICK - LLEWELLYN ASSOC., DATED JAN. 1981, NO. C-189.

EXHIBIT "B"

LEDGEWOOD CONDOMINIUMS	
LEDGEWOOD ASSOCIATES	
BURLINGTON	VERMONT
NUMBERING PLAN	
SCALE	
1" = 80'	
DRAWN BY	
RONALD R. O'BRYAN	
DATE	DATE
2.1.81	FEBRUARY 3, 1981
SHEET	SHEET
1818	1 OF 1

EXHIBIT D

Being a certain piece or parcel of land lying or being northerly and westerly of Austin Drive in said City of Burlington, containing 8.97 acres and improved by a 76 unit apartment project known as Ledgewood Apartments and which said premises are more particularly described as follows: Commencing at a point which marks the intersection of the westerly line of Austin Drive with the northerly boundary of the right of way leading from Austin Drive northwesterly into the Ledgewood Development; thence continuing in a generally northwesterly direction a distance of 200.00 feet to a survey marker; thence continuing in the same course a distance of 118.00 feet; thence turning to the right so as to form an included angle of 238°00'00" and continuing in a northerly direction a distance of 112.00 feet; thence turning to the left so as to form an included angle of 151°30'00" and continuing in a northwesterly direction a distance of 113.00 feet; thence turning to the left so as to form an included angle of 97°00'00" and continuing in a generally westerly direction a distance of 114.00 feet; thence turning to the left so as to form an included angle of 163°30'00" and continuing in a southwesterly direction a distance of 103.00 feet; thence turning to the left so as to form an included angle of 153°00'00" and continuing in a generally southerly direction a distance of 95.00 feet; thence turning to the left so as to form an included angle of 155°00'00" and continuing in a southerly direction a distance of 100.00 feet; thence turning to the right so as to form an included angle of 269°00'00" and continuing in a westerly direction a distance of 110.00 feet; thence turning to the right so as to form an included angle of 242°00'00" and continuing in a northwesterly direction a distance of 141.00 feet; thence turning to the left so as to form an included angle of 91°00'00" and continuing in a southerly direction a distance of 96.00 feet; thence turning to the left so as to form an included angle of 173°23'00" and continuing in a southerly direction 219.76 feet, to a point on the boundary of lands now or formerly belonging to Cliffside Country Club, Inc.; thence turning to the left so as to form an included angle of 123°53'20" and continuing along the easterly boundary of the Cliffside land a distance of 315.80 feet to a survey marker located at the southwesterly-most corner of Phase I of the Ledgewood Town House Development; thence turning to the left so as to form an included angle of 104°26'00", and continuing along the northerly boundary of the numbered lots as delineated on the Harvell Plan referred to below, a distance of 480.64 feet in an easterly direction to a survey marker; thence turning to the left so as to form an included angle of 113°07'40", and continuing in a generally north-

Point		Cumul. Ft
1	200	
2	118	318
3	112	430
4	113	543
5	114	657
6	103	760
7	95	855
8	100	955
9	110	1065
10	141	1206
11	96	1302
12	220	1522
13	316	1838
14	481	2319
15	448	2767
16	42	2809
17	200	3009
18	120	3129
3129 ft.		
perimeter		

easterly direction approximately parallel with the boundary line of Austin Drive, a distance of 447.71 feet to a survey marker; thence turning to the left so as to form an included angle of 175°10'00" and continuing in a northeasterly direction a distance of 42.00 feet to a survey marker; thence turning to the right so as to form an included angle of 270°00'00" and continuing in a generally southeasterly direction parallel with the North line of the access road to Phase I of Ledgewood Development, a distance of 200.00 feet to a survey marker located at the intersection of the southerly line of the access road with the westerly line of the right of way of Austin Drive; thence turning to the left so as to form an included angle of 90°00'00" and continuing in a northeasterly direction along the boundary line of the right of way of Austin Drive a distance of 120.00 feet to the point of beginning.

The lands and premises herein described are delineated on a survey dated January 1969 by Harvell Associates, Inc. entitled "Perimeter of Phase I and Building Lots Champlain Associates, Ledgewood Townhouse Development, Burlington, Vermont", as recorded in Volume 188 at Page 638 of the Burlington City Land Records.

Being all and the same property conveyed to the within Mortgagor by Warranty Deed of Thomas Cholnoky, Imre Cholnoky, William C. Brooks and Ralph F. Brooks d/b/a Champlain Associates of or about even date herewith and to be recorded in the Burlington City Land Records.

The above described property is conveyed subject to the easements and rights reserved and with the benefit of a sewer easement granted, all as set forth in said aforementioned warranty deed; is conveyed subject to existing leasehold rights; and is conveyed subject to an Agreement and Covenant between Champlain Associates and the City of Burlington dated July 19, 1967 and recorded in Volume 183 at Pages 350-353 of the Burlington City Land Records.

Reference is hereby made to the above-mentioned instruments, the records thereof and the references therein contained in further aid of this description.



126
WARRANTY DEED

CITY CLERK'S OFFICE
1-29-89
422 on Page
In 21 V.S.A. Chap. 208
NOTARIAL COMM. NO. 1000
Notary, Corrothers & Parkes Notaries
Attest
James L. Ruder, City Clerk

KNOW ALL MEN BY THESE PRESENTS:

That LEDGEWOOD ASSOCIATES, a Vermont general partnership of Essex Junction in the County of Chittenden and State of Vermont (the "Grantor"),

in consideration of TEN AND MORE DOLLARS paid to the Grantor's full satisfaction by

LEDGEWOOD HOME OWNERS ASSOCIATION, a Vermont non-profit corporation having a place of business in

Burlington in the County of Chittenden and State of Vermont (together, if more than one, the "Grantee"),

by these presents, do freely GIVE, GRANT, SELL, CONVEY AND CONFIRM unto the Grantee, and the heirs, successors and assigns of the Grantee forever, a certain piece of land in Burlington in the County of Chittenden and State of Vermont, described as follows, viz:

Being two pieces or parcels of land, with all improvements thereon, and being a portion of the lands and premises conveyed to LedgeWood Associates pursuant to a warranty deed, dated January 12, 1981, from Champlain Associates, recorded in Volume 272, Page 669 of the Land Records of the City of Burlington, more particularly described as follows:

- (a) the tennis courts, at LedgeWood, and have dimensions marked by the exterior fences thereof; and
- (b) being a piece or parcel of land, more particularly described as follows:

Beginning at a point, which point is in the westerly sideline of Austin Drive, so-called, and is also the northeasterly corner of the lands and premises known as "LedgeWood South", as more particularly described in the Declaration of Condominium, dated June 14, 1982, recorded in Volume 283, Page 90- of the Land Records of the City of Burlington;

thence proceeding N60°01'34"W a distance of 200.35 to a point; thence proceeding in the same course a distance of 84.46 feet to a point;

thence turning to the right, at an angle of 90°, and proceeding N29°58'26"E a distance of 120.53 feet to a point marked by a concrete monument;

thence proceeding in a general northerly direction in a curve to the left having a length of 134.16 feet to a point; thence proceeding N30°11'34"W a distance of 113.00 feet to a point; thence proceeding in the same course along the common sideline with lands and premises commonly known as "Southwind-By-The-Lake", as more particularly described in a Declaration of Condominium, dated July 30, 1986, recorded in Volume 341, Page 129- of the Land Records of the City of Burlington, a distance of 26.01 feet to a point;

thence proceeding along a curve to the left in the sideline of Southwind-By-The-Lake, the curve having a length of 85.52 feet to a point;

feet in perimeter as described section by section in 1993 deed:

200	cumulative	
84.5		284.5
120.5		405
134		539
113		652
26		678
85.5		763.5
18		781.5
60		841.5
119		960.5
120		1080.5
199		1279.5
220		1499.5
120		1619.5
1619.5		

estimated (omitted from deed)

from LWI property map/des

thence turning to the right and proceeding N50°11'03"E in the common line of Southwind By The Lake a distance of 17.89 feet to a point; thence proceeding in the same course a distance of 60.00 feet to a point;

thence turning to the right along a curve to the right in the common boundary with lands known as "Ledgewood East", more particularly described in the Declaration of Condominium, dated June 15, 1984, recorded in Volume 309, Page 52- of the Land Records of the City of Burlington, a distance of _____ to a point;

Measure ment missing, but can deduce

thence proceeding S30°31'34"E in the common boundary of Ledgewood East a distance of 139.01 feet to a point;

thence proceeding in a curve to the right in the common boundary of Ledgewood East, the curve having a length of 199.25 feet to a point;

thence turning to the left and proceeding S60°01'34"E in the common boundary of Ledgewood East a distance of 220.26 feet to a point in the westerly sideline of Austin Drive;

thence turning to the right and proceeding in the westerly boundary of Austin Drive to the point or place of beginning.

Final # ft. across road back to beginning taken from LWI parcel map & description

Meaning and intending hereby to describe and convey Ledgewood Road, so-called.

Reference is hereby made to the aforementioned instruments, the records thereof and the references therein in further aid of this description.

TO HAVE AND TO HOLD said granted premises, with all the privileges and appurtenances thereof, to the said Grantee, and the heirs, successors and assigns of the Grantee, to their own use and behoof forever;

And the Grantor, for itself and its successors and assigns, does covenant with the Grantee, and the heirs, successors and assigns of the Grantee, that until the execution of these presents it is the sole owner of the premises, and has good right and title to convey the same in manner aforesaid, that they are FREE FROM EVERY ENCUMBRANCE, except the Declaration of Covenants, Conditions and Restrictions, recorded in Volume 271, Page 512 of the Land Records of the City of Burlington, as amended, and real estate taxes and other municipal liens or assessments and, by acceptance hereof, the Grantee agrees to assume, be responsible for and hold harmless the Grantor from, all unpaid and future real estate taxes and other municipal liens or assessments; and that it hereby engages to WARRANT AND DEFEND the same against all lawful claims whatever, except as aforesaid.

IN WITNESS WHEREOF, the Grantor has caused this deed to be executed this 27 day of February, 1993.

IN PRESENCE OF:
[Signature]
[Signature]

[Stamp]
LEDGEWOOD ASSOCIATES
BY *[Signature]* LS
Duly Authorized Agent

Sketch of roadway described in 1-19-93 Warranty Deed from Ledgewood Assoc to LHOA, using coordinates from the deed. V473/P126 [Sketch revised 9-18-18 to improve accuracy using coordinates from LWI Decl. as well.]



Warranty Deed from Champlain Associates to Ledgewood Associates 1-15-81 for original LWI parcel

BROWNS COURT

Amendment, see vol. 283 p141

BASEMENT PROPOSED TO BE CONVEYED FROM THE CITY OF BURLINGTON TO COLLEGE, INC.

669

WARRANTY DEED

KNOW ALL PERSONS BY THESE PRESENTS That WE, THOMAS CHOLNOKY, IMRE CHOLNOKY, WILLIAM C. BROOKS, RALPH F. BROOKS, all of Greenwich in the County of Fairfield and State of Connecticut d/b/a CHAMPLAIN ASSOCIATES, a Connecticut partnership, located at said Greenwich and duly authorized to transact business in Vermont, (formerly d/b/a Oakledge Associates, a Connecticut partnership) GRANTORS, in the consideration of One Dollar and other valuable consideration, paid to our full satisfaction by LEDGEWOOD ASSOCIATES, a partnership located at Burlington, in the County of Chittenden, and State of Vermont, GRANTEE, by these presents do freely GIVE, GRANT, SELL, CONVEY, AND CONFIRM unto the said Grantee, LEDGEWOOD ASSOCIATES, a Vermont partnership, and its successors and assigns forever, a certain piece of land in Burlington, in the County of Chittenden, and State of Vermont, described as follows:

Being a certain piece or parcel of land lying or being northerly and westerly of Austin Drive in said City of Burlington, containing 8.97 acres and improved by a 76 unit apartment project known as Ledgewood Apartments and which said premises are more particularly described as follows:

Commencing at a point which marks the intersection of the westerly line of Austin Drive with the northerly boundary of the right of way leading from Austin Drive northwesterly into the Ledgewood Development.

Then continuing in a generally northwesterly direction a distance of 200.00 feet to a survey marker.

Thence continuing in the same course a distance of 118.00 feet;

Thence turning to the right so as to form an included angle of 238° 00' 00" and continuing in a northerly direction a distance of 112.00 feet;

Thence turning to the left so as to form an included angle of 151° 30' 00" and continuing in a northwesterly direction a distance of 113.00 feet;

Vermont Property Transfer Tax 32 V.S.A. Chap. 231
-ACKNOWLEDGMENT-
Return Rec'd - Tax Paid - Board of Health Cert. Rec'd
Vt. Land Use & Development Plans Act Cert. Rec'd
Return No. 4550739
Signed [Signature] Clerk
Date 1/15/81

Attest [Signature] City Clerk

670

Thence turning to the left so as to form an included angle of $97^{\circ} 00' 00''$ and continuing in a generally westerly direction a distance of 114.00 feet;

Thence turning to the left so as to form an included angle of $163^{\circ} 30' 00''$ and continuing in a southwesterly direction a distance of 103.00 feet;

Thence turning to the left so as to form an included angle of $153^{\circ} 00' 00''$ and continuing in a generally southerly direction a distance of 95.00 feet;

Thence turning to the left so as to form an included angle of $155^{\circ} 00' 00''$ and continuing in a southerly direction a distance of 100.00 feet;

Thence turning to the right so as to form an included angle of $269^{\circ} 00' 00''$ and continuing in a westerly direction a distance of 110.00 feet;

Thence turning to the right so as to form an included angle of $242^{\circ} 00' 00''$ and continuing in a northwesterly direction a distance of 141.00 feet;

Thence turning to the left so as to form an included angle of $91^{\circ} 00' 00''$ and continuing in a southerly direction a distance of 96.00 feet;

Thence turning to the left so as to form an included angle of $173^{\circ} 23' 00''$ and continuing in a southerly direction 219.76 feet, to a point on the boundary of lands now or formerly belonging to Cliffside Country Club, Inc.;

Thence turning to the left so as to form an included angle of $123^{\circ} 53' 20''$ and continuing along the easterly boundary of the Cliffside land a distance of 315.80 feet to a survey marker located at the southwest-most corner of Phase I of the Ledgewood Town House Development;

Thence turning to the left so as to form an included angle of $104^{\circ} 26' 00''$, and continuing along the northerly boundary of the numbered lots as delineated on the Harvell Plan referred to below, a distance of 480.64 feet in an easterly direction to a survey marker;

Thence turning to the left so as to form an included angle of $113^{\circ} 07' 40''$, and continuing in a generally northeasterly direction approximately parallel with the boundary line of Austin Drive, a distance of 447.71 feet to a survey marker;

Thence turning to the left so as to form an included angle of 175° 10' 00", and continuing in a northeasterly direction a distance of 42.00 feet to a survey marker;

Thence turning to the right so as to form an included angle of 270° 00' 00", and continuing in a generally southeasterly direction parallel with the North line of the access road to Phase I of Ledgewood Development, a distance of 200.00 feet to a survey marker located at the intersection of the southerly line of the access road with the westerly line of the right of way of Austin Drive;

Thence turning to the left so as to form an included angle of 90° 00' 00", and continuing in a northeasterly direction along the boundary line of the right of way of Austin Drive a distance of 120.00 feet to the point of beginning.

The lands and premises herein conveyed are delineated on a survey dated January 1969, by Harvell Associates, Inc., entitled, "Perimeter of Phase I and Building Lots Champlain Associates, Ledgewood Town House Development, Burlington, Vermont," a copy of which is filed in Burlington Land Records (Volume 188, Page 638) and reference may be made to said survey in aid of the description hereinabove set forth.

This conveyance is subject to the terms of a certain Agreement and Covenant dated 19 July 1967, between Champlain Associates and the City of Burlington, recorded in Burlington Land Records (Volume 183, Pages 350-353).

Excepting and reserving from the conveyance hereunder all apartment leasehold interests now in force in the 76 unit apartment project known as Ledgewood Apartments which is conveyed hereunder.

Grantors reserve for themselves and their successors and assigns, for the benefit of the remaining adjacent lands of Grantors, an easement and right of way over the roadways as they presently exist on the property herein conveyed, or as they may exist in the future on the property herein conveyed (Grantee to have the right to alter, relocate or improve same at its sole discretion, or as may be required by any municipal or state authority, and as long as any alteration, relocation, improvement, or imposed requirement does not terminate or prohibit the availability of access to Grantors' remaining lands), together with the right, at Grantors' sole expense, to extend said roadway at the northeasterly corner of the herein conveyed property, if necessary, to the perimeter of the herein conveyed

property in order to have a continuous uninterrupted way of access from Austin Drive in a northeasterly direction to the remaining lands of the within Grantors. Said easement and right of way shall be for the benefit of any future development on the remaining lands of Grantors, and Grantors shall have the right to create additional tenancies in said right of way for the benefit of subsequent owners or occupants of Grantors' remaining property. The expense of maintenance, repair, and/or replacement of the roadways whose use is shared shall be on a pro rata basis based on residential units using said roadways. Grantors reserve, for the benefit of the remaining lands of Grantors, the right to improve the existing roadway on the lands herein conveyed, if so required by any municipal or state authority or agency in connection with the development of the remaining lands of Grantors. Likewise, Grantors reserve for themselves and their successors and assigns, for the benefit of the remaining adjacent lands of Grantors, the right to hook on to and use existing utility services as they presently exist on the property conveyed herein, and to extend same, by underground means only, through the property herein conveyed for the benefit of and use on the remaining property of Grantors. No such extension, however, shall interfere with or adversely affect the property or improvements conveyed herein.

Further, Grantors reserve, for the benefit of the Grantors and their successors and assigns, and/or the occupants of units on the remaining lands of Grantors, and their successors and assigns, the right to use, in common with others, the laundry and pool facilities presently existing on the property conveyed herein, or any replacements thereof. The expenses of maintenance, improvements, replacements and/or capital expenses as to such facilities shall be shared on a pro rata basis based on residential units using said facilities. Grantee herein is not obligated by the terms of this paragraph to continue the existence of said facilities and same may be eliminated at Grantee's sole discretion. Upon 90 days' written notice to Grantee, or its successors and assigns, Grantors may elect to waive the rights reserved in this paragraph, whereupon its obligations to share in such expenses shall terminate. Grantors grant to Grantee, for the benefit of Grantee and its successors and assigns, the right to hook on to and use sewer lines now or hereafter existing on the remaining lands of Grantors, so as to connect to the Flynn Avenue sewer, so-called. If the Grantee, or its successors or assigns, does not or cannot hook on to sewer lines now or hereafter existing on remaining lands of Grantors, Grantors grant to Grantee, for the benefit of Grantee and its successors and assigns, an easement or right of way over the remaining lands of Grantors for the installation, construction, repair, maintenance and renovation of a sewer line, twenty feet in width in the location of the former Berkshire Life Insurance Company easement, and adjacent to the easterly boundary line of said easement, running from the lands herein conveyed to Flynn Avenue, said easement or right of way shall terminate however if Grantee, or its successors or assigns, shall exercise the right to hook on to sewer lines now or hereafter existing as herein granted.

Grantors covenant that any sewer line to be installed hereafter in the remaining lands of Grantors will be of sufficient size to connect to any hook-up made by Grantee, and Grantee shall reimburse Grantors, upon hook-up, for the additional costs incurred by Grantor, if any, on account of this covenant.

Being all of Parcel One as described and conveyed by Quitclaim Deed of Berkshire Life Insurance Company to Thomas Chohnoky, Imre Chohnoky, William C. Brooks and Ralph F. Brooks d/b/a Champlain Associates dated August 12, 1976 and recorded in Volume 237 at Page 477 of the Burlington City Land Records. Previously being Parcel One as described and conveyed to Berkshire Life Insurance Company by Warranty Deed of Imre Chohnoky, Thomas Chohnoky, William C. Brooks and Ralph F. Brooks d/b/a Champlain Associates and their respective wives dated February 26, 1969 and recorded in Volume 191 at Pages 638-643 of the Burlington City Land Records. Said property conveyed herein is a portion of the property originally conveyed to Imre Chohnoky, Thomas Chohnoky, William C. Brooks and Ralph F. Brooks d/b/a Oakledge Associates by Warranty Deed of Cliffside Country Club, Inc. dated December 14, 1966 and recorded in Volume 181 at Pages 116-121 of said Burlington City Land Records. A small portion of the herein conveyed property may originally have been conveyed to Imre Chohnoky, Thomas Chohnoky, William C. Brooks and Ralph F. Brooks d/b/a Oakledge Associates by Quitclaim Deed of Redstone Park, Inc. dated December 14, 1966 and recorded in Volume 181 at Page 121 of said Burlington City Land Records.

TO HAVE AND TO HOLD said granted premises, with all the privileges and appurtenances thereof, to the said Grantee LEDGEWOOD ASSOCIATES, a Vermont partnership, and its successors and assigns, to their own use and behoof forever; And we the said Grantors for ourselves and our successors and assigns, do covenant with the said Grantee LEDGEWOOD ASSOCIATES, and its successors and assigns, that until the ensealing of these Presents we are the sole owners of the premises, and have good right and title to convey the same in manner aforesaid, that they are FREE FROM EVERY ENCUMBRANCE, except as aforesaid;

And we hereby engage to WARRANT AND DEFEND the same against all lawful claims whatever, except as aforesaid.

IN WITNESS WHEREOF, The Grantors hereunto set our hands this 17th day of January A.D. 1981.

In the Presence of:

Leslie A. Young
 Leslie A. Young
Patricia B. Callan
 Patricia B. Callan

Leslie A. Young
 Leslie A. Young
Patricia B. Callan
 Patricia B. Callan

Leslie A. Young
 Leslie A. Young
Patricia B. Callan
 Patricia B. Callan

Leslie A. Young
 Leslie A. Young
Patricia B. Callan
 Patricia B. Callan

Thomas Cholnoky
 Thomas Cholnoky

Imre Cholnoky
 Imre Cholnoky

William C. Brooks
 William C. Brooks

Ralph F. Brooks
 Ralph F. Brooks,
 PARTNERSHIP WITH
 CHAMPLAIN ASSOCIATES.

STATE OF CONNECTICUT)
 COUNTY OF FAIRFIELD)SS. At Greenwich this 12th day of
 January A.D. 1981, Thomas Cholnoky, Imre Cholnoky, William C. Brooks
 and Ralph F. Brooks personally appeared, and they acknowledged this
 instrument, by them sealed and subscribed, to be their free act and
 deed.

Before me Patricia B. Callan
 Notary Public
 Patricia B. Callan

(Authentication Certificate to be attached)

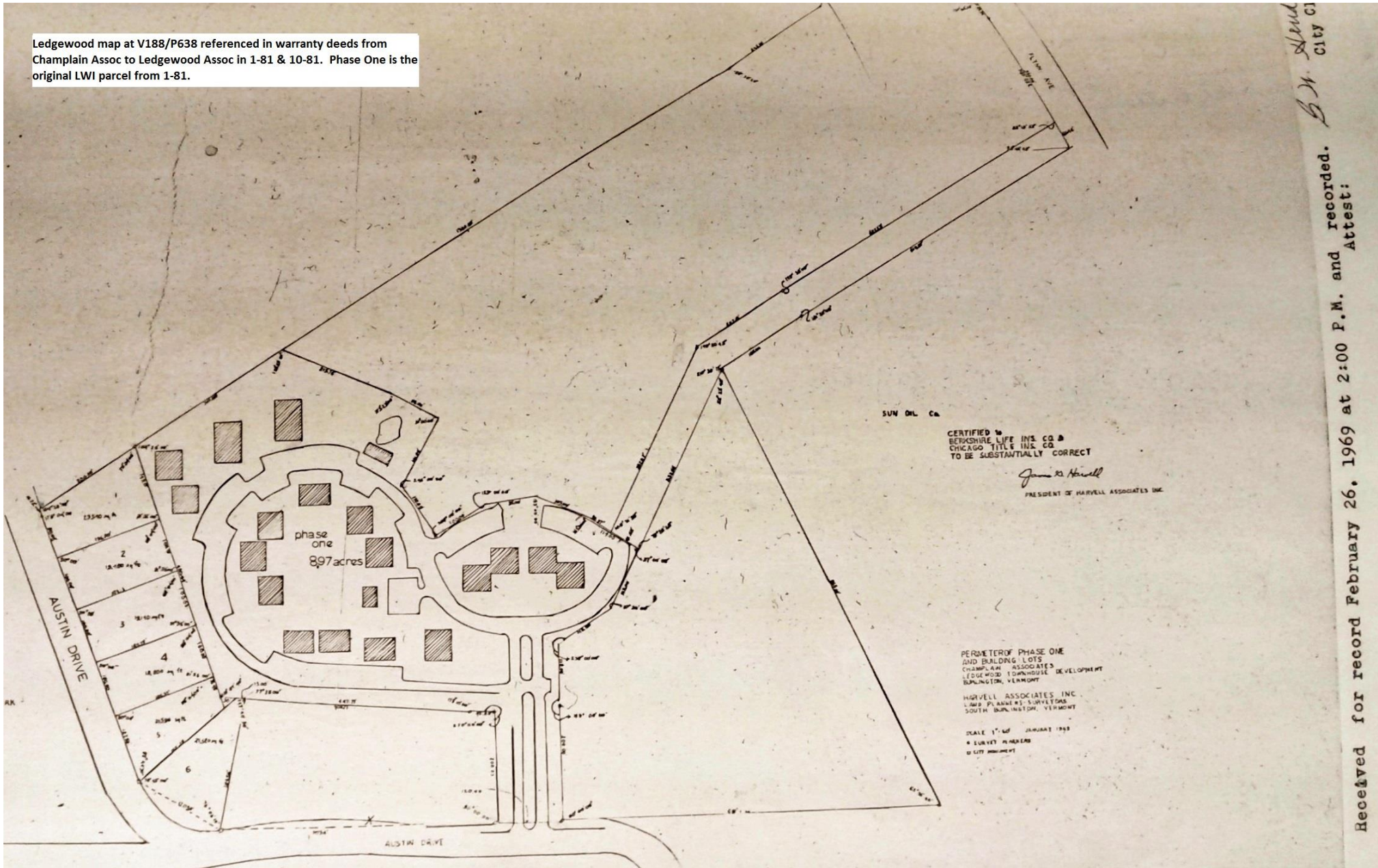
State of Connecticut
 Judicial District
 T.A. Fairfield
 H. [Signature]

BERNARD J. LUCKART
 I, Bernard J. Luckart Clerk of said Judicial District and of the Superior Court in and for said
 District, the same being a Court of Record, having by law a seal hereby certify
 That Patricia B. Callan
 whose name is subscribed to the certificate of proof, acknowledgment or affidavit or to the instrument
 thereon written, was, at the time of taking such proof, acknowledgment or affidavit, a single, unmarried, adult
 person, within and for said Judicial District, being a resident thereof, and being duly
 appointed, commissioned and sworn, and authorized by the laws of said State to take such
 acknowledgments and proofs of deeds or conveyances for lands, tenements and hereditaments, and to
 instruments to be recorded herein, and to certify the same, that full faith and credit shall be given to
 official acts; and I further certify that I have compared the signature to the original instrument with the
 this office by such person and verily believe that the signature, to the original instrument, is the
 signature and said certificate is not required to be under seal, and the person signing such certificate
 law to file in this office an impression of the official seal.

her
 In testimony whereof, I have hereunto set my hand and affixed the seal of said office
 and Judicial District and State, on the 13th day of January
 1981
 By Joyce M. [Signature]

Received for record Jan. 15 . 19 81
 Attest: [Signature]

Ledgewood map at V188/P638 referenced in warranty deeds from Champlain Assoc to Ledgewood Assoc in 1-81 & 10-81. Phase One is the original LWI parcel from 1-81.



B. M. Wood
CITY CL

Received for record February 26, 1969 at 2:00 P.M. and recorded. Attest:

AGREEMENT BETWEEN CITY & LEDGEWOOD ASSOC

R. 507

7/14/81

AGREEMENT

Agreed

AGREEMENT, dated this 14 day of July, 1981, by and between LedgeWood Associates, a Vermont partnership having a place of business in Essex Junction, Vermont (the "Owner"), and the City of Burlington, a municipal corporation of the State of Vermont (the "City"):

WITNESSETH:

WHEREAS, the Owner has acquired the interests of Champlain Associates in certain lands and premises described in an Agreement and Covenant, dated July 19, 1967, recorded in Volume 183, Page 350 of the Land Records of the City of Burlington; and

WHEREAS, pursuant to the Agreement and Covenant, Champlain Associates obligated itself to satisfy certain standards at such time as such lands and premises were conveyed to anyone other than a purchaser who would continue to maintain them as a private and unitary development; and

WHEREAS, the Owner desires to commit said lands and premises to the provisions of the Vermont Condominium Ownership Act and to sell garden apartments and townhouse units to purchasers for value; and

WHEREAS, the Owner and the City have disagreed whether the conveyance of condominium apartments is consistent with the provisions of the Agreement and Covenant; and

WHEREAS, the Owner and the City desire to resolve their differences;

NOW, THEREFORE, THE Owner and the City, in consideration of Ten and More Dollars and other good and valuable consideration, hereby agree to modify and supplement the Agreement and Covenant, as follows:

- 1. The Owner may sell condominium apartments and townhouses on such lands and premises, providing that the deed from the Owner to each purchaser shall contain the following language:

The Grantee, by acceptance of this deed, acknowledges that certain of the water mains and services, sewer laterals and sewer facilities servicing the Apartments and the Condominium are owned by, and subject to maintenance, repair and replacement by the LedgeWood I Condominium Association or the LedgeWood Home Owners

Association; and the Grantee covenants for itself, its successors, heirs and assigns, not to petition or otherwise request the City of Burlington to accept such facilities as public facilities, nor to seek from the City of Burlington any repair, maintenance or replacement thereof.

2. The Owner shall further amend the Declaration of Covenants, Conditions and Restrictions, originally dated January 15, 1981, to add the following:

§2.05. Private Roads; Utilities. The Association shall own, and shall maintain, repair and replace all water mains and services, sewer laterals and secondary sewer facilities servicing the Property (including any portion thereof committed to Condominium ownership), and during such period of ownership the Association shall not, either directly or indirectly, petition or otherwise request the City of Burlington to accept such facilities as public facilities, nor seek from the City of Burlington any repair, maintenance or replacement thereof. At no time shall the City of Burlington be responsible for maintenance, repair or replacement thereof. At no time shall the City of Burlington be responsible for maintenance, repair or replacement of such water mains and services, sewer laterals and secondary sewer facilities.

*originally to the P
at the time
when "T"*

3. It is currently contemplated by the Owner and the City that, in connection with the further development of the LedgeWood property, so-called, the Owner will dedicate to the City a roadway, connecting Austin Drive and Flynn Avenue, said roadway to be constructed to City specifications and to contain within its right-of-way water, sewer and electrical lines, mains, and circuits. At the time that such roadway is dedicated to the City of Burlington, there shall be excluded from the dedication all secondary water mains and sewer laterals, so-called, which shall remain the responsibility of the appropriate Condominium Association or the LedgeWood Home Owners Association.

4. Except as otherwise provided herein the parties here-to ratify and affirm the Agreement and Covenant.

DATED at Burlington, Vermont this 14 day of July, 1981.

LEDGEWOOD ASSOCIATES

By: Gerald C. Milt
Partner and Duly Authorized Agent

CITY OF BURLINGTON

By: Bernard Kander
Mayor, Duly Authorized

Received for record July 14, 1981, at 1:55 P. M. and recorded.

Attest: A. F. Wagner
City Clerk

Attachment 5

AMENDMENT

WHEREAS, on or about January 12, 1981, Ledgewood Associates (the "Declarant") acquired from Champlain Associates certain lands and premises at Ledgewood pursuant to a deed, recorded in Volume 272, Page 669 of the Land Records of the City of Burlington; and, on or about October 28, 1981, the Declarant acquired the remainder of Ledgewood from Champlain Associates' pursuant to a deed, recorded in Volume 279, Page 463 of the Land Records of the City of Burlington; and

WHEREAS, the Declarant intended that Ledgewood would be a fully integrated residential community and, to that end, the Declarant, on January 15, 1981, caused to be executed a Declaration of Covenants, Conditions and Restrictions, recorded in Volume 271, Page 512 of the Land Records of the City of Burlington, which has been amended by instruments recorded in Volume 225, Page 333 and Volume 275, Page 509 of the Land Records of the City of Burlington; and

WHEREAS, in connection with the governance of the original 76 units, the Declarant established a condominium regime, known as Ledgewood I as evidenced by a Declaration of Condominium, dated January 15, 1981, and recorded in Volume 271, Page 481 of the Land Records of the City of Burlington, as amended by an Amendment, dated May 29, 1981, and recorded in Volume 275, Page 328 of the Land Records of the City of Burlington; and

WHEREAS, in order to confirm certain rights reserved by Champlain Associates which are now possessed by the Declarant, and to assure further orderly development of Ledgewood, the parties hereto agree as follows:

1. The lands and premises acquired by the Declarant from Champlain Associates, recorded in Volume 279, Page 463 of the Land Records of the City of Burlington are, and shall be, subject to the provisions of the Declaration of Covenants, Conditions and Restrictions, as amended to date and from time to time hereafter.

2. The Declarant and the Home Owners Association (as defined in the Declaration of Covenants, Conditions and Restrictions) shall dedicate to the City of Burlington a roadway, connecting Austin Drive and Flynn Avenue, subject to the provisions of an Agreement, dated July 14, 1981 between the Declarant and the City of Burlington, recorded in Volume 275, Page 507 of the Land Records of the City of Burlington.

3. The Declarant, for itself and its successors and assigns, shall have a right to construct, install, use, maintain, repair and replace a total of 24 enclosed parking stalls, numbered 171 through 198, inclusive, at locations easterly and southerly of Buildings 4, 5, 6, 7, 8 and 9 and adjacent to the private roadway within Ledgewood I, together with the right of access to, over and through said roadway and the 24 open parking stalls adjacent thereto. The location of the parking facilities are shown and set forth on a plan of land entitled

4. This Amendment shall be an amendment to the Declaration of Covenants, Conditions and Restrictions, and to the Declaration of Condominium of the Ledgewood I Condominium, both as previously amended.

5. Vermont Service Corporation and Vermont Federal Savings & Loan Association join in the execution of and consent to this Amendment as mortgagees of the interests of the Declarant and Unit Owners.

6. The date of this Amendment is June 21st, 1982.

WITNESSES:

UNIT NO. 11

[Signature]
[Signature]

Gerald C. Melot for
Ledgewood Associates

STATE OF VERMONT
CHITTENDEN COUNTY, SS.

At Burlington in said County and State on this 21st day of June, 1982, personally appeared Gerald C. Melot and he acknowledged this instrument by his signed and sealed to be his free act and deed.

Before me

[Signature]
Notary Public

Signature pages continue for pages 143 to 164, representing at least 75% of the 76 Ledgewood I/LHOA units

[Signature]
[Signature]

UNIT NO. 12

Frederick R. Sporck
Frederick R. Sporck

STATE OF VERMONT
CHITTENDEN COUNTY, SS.

At Burlington in said County and State on this 23rd day of June, 1982, personally appeared Frederick R. Sporck, he acknowledged this instrument by him signed and sealed to be his free act and deed.

Before me

[Signature]
Notary Public

UNIT NO. 13

[Signature]
[Signature]

Ledgewood Associates
Gerald C. Melot

STATE OF VERMONT
CHITTENDEN COUNTY, SS.

Know all Men by these Presents

That LEDGEWOOD ASSOCIATES, a Vermont partnership having a place of business in

Quit Claim Deed for LW pool & community building, from LW Assoc to LHOA, signed 1/15/81, recorded 1/20/81 V272/P685

~~xxx~~ Essex in the County of Chittenden
and State of Vermont Grantor, in the consideration of
-----Ten and more-----Dollars

paid to its full satisfaction by
LEDGEWOOD HOME OWNERS ASSOCIATION, a Vermont non-profit corporation having a place of business in

~~xxx~~ Burlington in the County of Chittenden
and State of Vermont Grantee, have Remised, Released,
and Foreber Quit-claimed unto the said

LEDGEWOOD HOME OWNERS ASSOCIATION, and its successors and assigns
heirs or assigns,
all right and title which

LEDGEWOOD ASSOCIATES

its successors and assigns ~~xxx~~ ~~xxx~~ have in, and to a
certain piece of land in Burlington in the
County of Chittenden and State of Vermont, described as
follows, viz:

Being two pieces or parcels of land, with all buildings and improvements thereon, and being a portion of the lands and premises conveyed to Ledgewood Associates pursuant to a warranty deed, dated January 12, 1981 of Champlain Associates, recorded in Volume 272, Page 669 of the Land Records of the City of Burlington.

Said parcels of land are the swimming pool, pool building and community building, so-called, at Ledgewood, and have dimensions equal to five feet greater than the length and width of pool or building as the case may be.

Reference is hereby made to said deed and records and to the deeds and records therein referred in further aid of this description.

Vermont Property Transfer Tax
32 V.S.A. Chap. 231
--ACKNOWLEDGMENT
Return Rec'd. - Tax Paid - Board of Health Cert.
Vt. Land Use & Development Plans Act Cert.
Return No. 1588063
Signed - G. Wagner
D. 1c 1/20/81

To Have and to Hold all its right and title in and to said quit-claimed premises, with the appurtenances thereof, to the said

LEDGEWOOD HOME OWNERS ASSOCIATION, and its successors

~~heirs~~ and assigns forever.

And Furthermore it the said

LEDGEWOOD ASSOCIATES

do for itself and its successors

~~heirs, executors and administrators~~ covenant with the said

LEDGEWOOD HOME OWNERS ASSOCIATION, and its successors

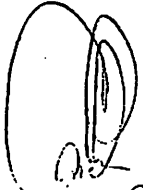
~~heirs~~ and assigns, that from and after the ensembling of these presents the said








LEDGEWOOD ASSOCIATES

will have and claim no right, in, or to the said quit-claimed premises.

In Witness Whereof, LEDGEWOOD ASSOCIATES hereunto sets its hand and seal
this 15 day of January A. D. 1981




In Presence of


Toni A. Lisman

LEDGEWOOD ASSOCIATES 
BY:  





State of Vermont, } ss. At Burlington this
CHITTENDEN County } 15 day of January A. D. 1981

Gerald C. Prout

personally appeared, and  acknowledged this instrument, by
 sealed and subscribed, to be  free act and deed.
and the free act and deed of LEDGEWOOD ASSOCIATES.
Before me _____

Received for record Jan, 20, 19 81, at 2:05 P. M. and recorded

Attest: 
City Clerk

Deed.

QUIT-CLAIM

LEDGEWOOD ASSOCIATES.

TO

LEDGEWOOD HOME OWNERS
ASSOCIATION

Dated. January 19 81

Burlington CLERK'S OFFICE

RECEIVED FOR RECORD

January 20 A. D., 19 81
AT 2 O'CLOCK 05 MINUTES P. M.

AND RECORDED IN Warranties
BOOK 272 PAGE 685 OF LAND RECORDS

ATTEST D. F. Wagner
Carl Raymond CLERK

RECORDERS FEE \$ _____

LISMAN & LISMAN
ATTORNEYS AT LAW
191 COLLEGE STREET
BURLINGTON, VERMONT 05401

March 13, 2019

TO: LedgeWood I Condo Association Board:
Werner Ostmann (President), Emily Ryan, Joe Johnson

FROM: LedgeWood Home Owners ("Master") Association Board:
Betsy Liley (President), Heather Ballou, Ann Rugg, Judy Schultz, Craig Weatherly

RE: **DISCLAIMING OWNERSHIP OF AUSTIN DRIVE ENTRYWAY**

We are writing to notify you that the LedgeWood Home Owners Association Board has voted that effective immediately, the LedgeWood Home Owners Association disclaims any right, title or interest in or to the so-called "Austin Drive entryway", having determined that the deed by which that parcel was conveyed to the LHOA is invalid, and that the LedgeWood I Condo Association is the owner of the property.

The "Austin Drive entryway" is a portion of the property purportedly conveyed by the developer, LedgeWood Associates, to the LedgeWood Home Owners Association by warranty deed on January 27, 1993 [*City Land Records V473/P126*]. It consists of a roughly 120' by 285' rectangular parcel that encompasses the two paved entry/exit lanes connected to Austin Drive, the median between those lanes, a roughly 30' wide strip of land along the outer side of each lane, and the paved intersection with the southern extension of Oakbeach Drive.

The LedgeWood Home Owners Association will no longer arrange or pay for any property maintenance, services or fees related to the above-described parcel of land, including the paved roadway, grounds, leased street lights, underground utilities, and City stormwater management fees.

Last year, while pursuing the possible conveyance of the Austin Drive entryway to the City of Burlington, we determined that the 1993 warranty deed referenced above did not effect a conveyance of the Austin Drive entryway because:

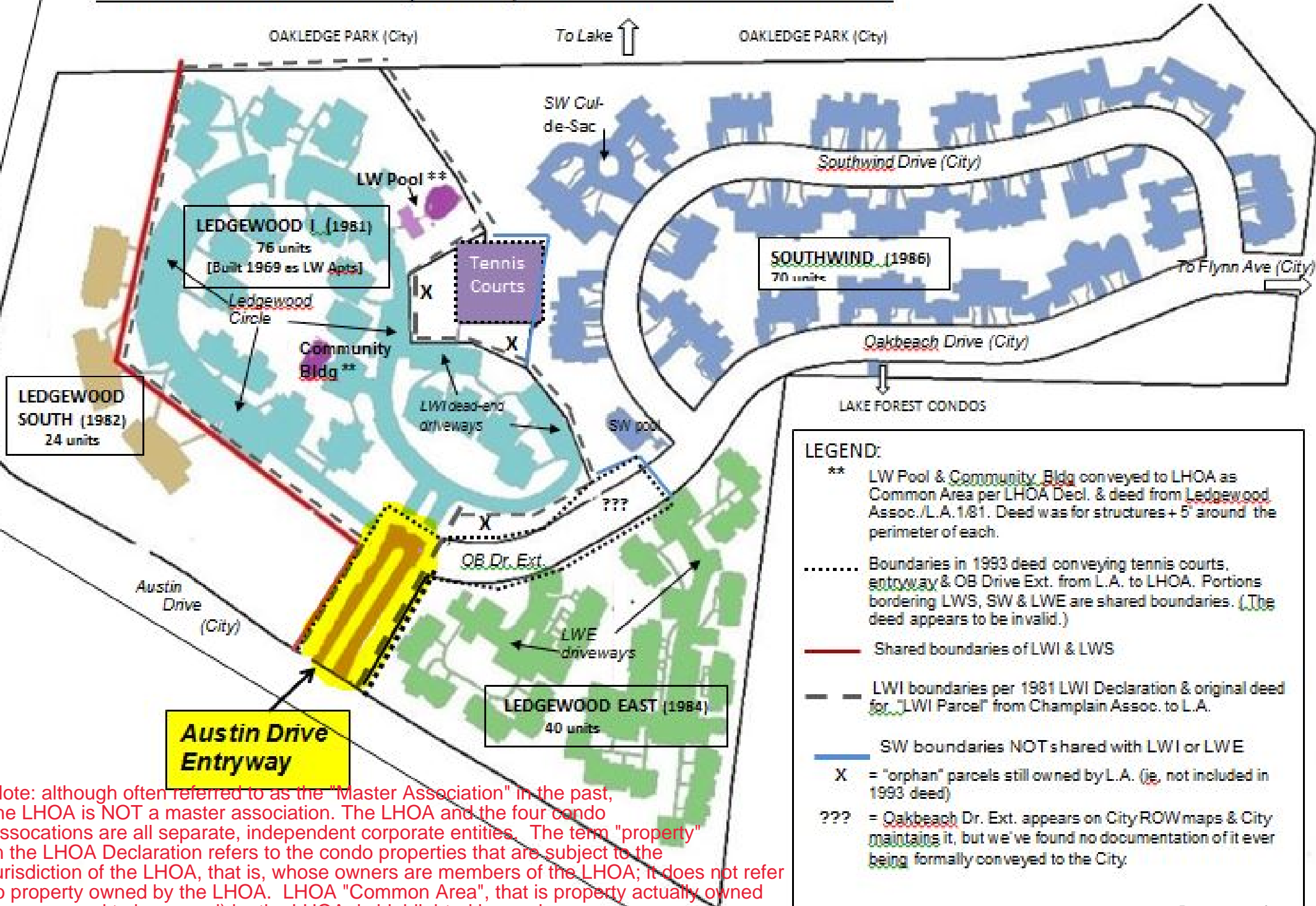
- It was part of the parcel of land that LedgeWood Associates conveyed into LWI Condo Association ownership on January 15, 1981 [*City Land Records V271/P481*]. Therefore, LedgeWood Associates did not own the entryway when it purported to convey it to the LHOA in 1993. LWI is and always has been the owner, since January 1981.
- §5.06 of the LHOA Declaration requires approval by 2/3 of owners in order to annex additional Common Area to the Property, which was never done when it was purportedly deeded to the LHOA.
- The LWI Declaration and/or pertinent state statutes presumably would have required some type of LWI owner approval, along with a vote of the LWI Board and a deed from LWI to the LHOA, in order to convey a LWI Common Element to the LHOA. This was not done.

The attached property site map shows the approximate location and boundaries of the Austin Drive entrance and exit. The exact property lines may be determined from the parcel description in the 1993 warranty deed [*City Land Records V473/P126*] combined with the parcel description in Exhibit D of the Declaration of LedgeWood I Condominium [*V271/P505*].

This action will be recorded in the City of Burlington Land Records. [Recorded in Book 1437/Pg. 193]

cc: All members of the LedgeWood Home Owners Association (owners of units in the LedgeWood I, LedgeWood South, LedgeWood East, and Southwind Condo Associations)

LEDGEWOOD HOME OWNERS ("Master") ASSOCIATION "PROPERTY" SITE MAP



Note: although often referred to as the "Master Association" in the past, the LHOA is NOT a master association. The LHOA and the four condo associations are all separate, independent corporate entities. The term "property" in the LHOA Declaration refers to the condo properties that are subject to the jurisdiction of the LHOA, that is, whose owners are members of the LHOA; it does not refer to property owned by the LHOA. LHOA "Common Area", that is property actually owned (or presumed to be owned) by the LHOA, is highlighted in purple.

Transaction Identification Data, for which the Company assumes no liability as set forth in Commitment Condition 5.e.:

Issuing Agent: MSK Attorneys
Issuing Office: 004949
Loan ID Number:
Agent File Number:
Property Address: Austin Drive, Burlington, Vermont 05401

COMMITMENT FOR TITLE INSURANCE

SCHEDULE A

1. Commitment Date: 5/5/2025
2. Policy to be issued:
 - (a) 2021 ALTA Owner's Policy (Standard)
Proposed Insured: City of Burlington

Proposed Policy Amount: \$50,000.00
3. The estate or interest in the Land at the Commitment Date is Fee Simple.
4. The Title is, at the Commitment Date, vested in:
Ledgewood I Condominium Association and Ledgewood I Condominium Homeowners' Association, Inc.
5. The land is described as follows: Property Description attached.
Austin Drive, Burlington, Vermont 05401

Countersigned and validated



By: Authorized Signatory

Jonathan S. R. Anderson,
Vice President & Chief Underwriting Counsel

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**SCHEDULE B - PART I
Requirements**

All of the following Requirements must be met:

1. The Proposed Insured must notify the Company in writing of the name of any party not referred to in this Commitment who will obtain an interest in the Land or who will make a loan on the Land. The Company may then make additional Requirements or Exceptions.
2. Pay the agreed amount for the estate or interest to be insured.
3. Pay the premiums, fees, and charges for the Policy to the Company.
4. Documents satisfactory to the Company that convey the Title or create the Mortgage to be insured, or both, must be properly authorized, executed, delivered, and recorded in the Public Records.
5. An ALTA Homeowner's Policy or ALTA Owner's Policy must include the Vermont Definitions Endorsement.
6. If the property is unimproved, unoccupied, or otherwise vacant, confirm that seller or borrower is legitimate using reliable identity verification methods. Refer to our underwriting guidelines or contact one of our Underwriters for assistance.

See attached Schedule B - Part I Continuation Sheet for additional Requirements

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Schedule B, Part I Requirements are continued as follows:

All references are to recorded documents in the City of Burlington Land Records.

6. Execute and record Warranty Deed from Ledgewood I Condominium Association and Ledgewood I Condominium Homeowners' Association, Inc. to the City of Burlington.

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SCHEDULE B, PART II Exceptions

Some historical land records contain Discriminatory Covenants that are illegal and unenforceable by law. This Commitment and the Policy treat any Discriminatory Covenant in a document referenced in Schedule B as if each Discriminatory Covenant is redacted, repudiated, removed, and not republished or recirculated. Only the remaining provisions of the document will be excepted from coverage.

The Policy will not insure against loss or damage resulting from the terms and conditions of any lease or easement identified in Schedule A, and will include the following Exceptions unless cleared to the satisfaction of the Company:

1. Rights or claims of persons in possession, other than the insured, which are not shown by the Public Records.
2. (i) Boundary line disputes, overlaps, encroachments, title to filled lands (if any) and all other facts which an accurate survey and inspection of the land would disclose and which are not shown by the Public Records; (ii) Any easements or claims of easements not shown by the Public Records.
3. Real estate taxes, municipal assessments and private association assessments, if any, including liens and assessments, not yet due and payable.
4. Any defect, lien, encumbrance, adverse claim, or other matter that appears for the first time in the Public Records or is created, attaches, or is disclosed between the Commitment Date and the date on which all of the Schedule B, Part I—Requirements are met.

See attached Schedule B - Part II Continuation Sheet for additional Exceptions from Coverage

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**Schedule B, Part II
Exceptions**

Continuation Sheet

All references are to recorded documents in the City of Burlington Land Records.

5. Easement and Right-of-Way Agreement granted by Ledgewood Associates to the City of Burlington dated March 1, 1982 and recorded March 3, 1982 in Volume 280 at Page 632.
6. Matters depicted and notes recited on a survey entitled "Burlington Electric Department, Burlington, Vermont, Ledgewood Condominiums, South Cluster, Drawing No. D-253 dated October 6, 1981".
7. Easement to Vermont Gas Systems, Inc. dated June 6, 2017 and recorded September 19, 2019 in Volume 1360 at Page 321.
8. Matters depicted and notes recited on a plan entitled "Boundary Survey Land of Ledgewood I Condominium To Be Conveyed To The City of Burlington" prepared by Krebs and Lansing Consulting Engineers, Inc. as Project 23159, dated June 1, 2023 and recorded in Map Slide 595B.
9. Matters depicted and notes recited on the following:
 - a. Site & Utility Plan entitled "Ledgewood Condominiums, Burlington, Vermont" prepared by Fitzpatrick – Llewellyn Associates dated August 1981 and recorded in Map Book 123 at Page 18.
 - b. Site & Utility Plan – South Cluster entitled "Ledgewood Condominiums, Burlington, Vermont" prepared by Fitzpatrick – Llewellyn Associates dated August 1981 and recorded in Map Book 124 at Page 21.
 - c. Site & Utility Plan – East Cluster entitled "Ledgewood Condominiums, Burlington, Vermont" prepared by Fitzpatrick – Llewellyn Associates dated June 1983 and recorded in Map Book 141 at Page 27.

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ALTA COMMITMENT FOR TITLE INSURANCE**issued by
CATIC****NOTICE**

IMPORTANT—READ CAREFULLY: THIS COMMITMENT IS AN OFFER TO ISSUE ONE OR MORE TITLE INSURANCE POLICIES. ALL CLAIMS OR REMEDIES SOUGHT AGAINST THE COMPANY INVOLVING THE CONTENT OF THIS COMMITMENT OR THE POLICY MUST BE BASED SOLELY IN CONTRACT.

THIS COMMITMENT IS NOT AN ABSTRACT OF TITLE, REPORT OF THE CONDITION OF TITLE, LEGAL OPINION, OPINION OF TITLE, OR OTHER REPRESENTATION OF THE STATUS OF TITLE. THE PROCEDURES USED BY THE COMPANY TO DETERMINE INSURABILITY OF THE TITLE, INCLUDING ANY SEARCH AND EXAMINATION, ARE PROPRIETARY TO THE COMPANY, WERE PERFORMED SOLELY FOR THE BENEFIT OF THE COMPANY, AND CREATE NO EXTRACTIONAL LIABILITY TO ANY PERSON, INCLUDING A PROPOSED INSURED.

THE COMPANY'S OBLIGATION UNDER THIS COMMITMENT IS TO ISSUE A POLICY TO A PROPOSED INSURED IDENTIFIED IN SCHEDULE A IN ACCORDANCE WITH THE TERMS AND PROVISIONS OF THIS COMMITMENT. THE COMPANY HAS NO LIABILITY OR OBLIGATION INVOLVING THE CONTENT OF THIS COMMITMENT TO ANY OTHER PERSON.

COMMITMENT TO ISSUE POLICY

Subject to the Notice; Schedule B, Part I—Requirements; Schedule B, Part II—Exceptions; and the Commitment Conditions, CATIC (the "Company"), commits to issue the Policy according to the terms and provisions of this Commitment. This Commitment is effective as of the Commitment Date shown in Schedule A for each Policy described in Schedule A, only when the Company has entered in Schedule A both the specified dollar amount as the Proposed Amount of Insurance and the name of the Proposed Insured.

If all of the Schedule B, Part I—Requirements have not been met within six months after the Commitment Date, this Commitment terminates and the Company's liability and obligation end.

COMMITMENT CONDITIONS**1. DEFINITIONS**

- a. "Discriminatory Covenant": Any covenant, condition, restriction, or limitation that is unenforceable under applicable law because it illegally discriminates against a class of individuals based on personal characteristics such as race, color, religion, sex, sexual orientation, gender identity, familial status, disability, national origin, or other legally protected class.
- b. "Knowledge" or "Known": Actual knowledge or actual notice, but not constructive notice imparted by the Public Records.
- c. "Land": The land described in Item 5 of Schedule A and improvements located on that land that by State law constitute real property. The term "Land" does not include any property beyond that described in Schedule A, nor any right, title, interest, estate, or easement in any abutting street, road, avenue, alley, lane, right-of-way, body of water, or waterway, but does not modify or limit the extent that a right of access to and from the Land is to be insured by the Policy.
- d. "Mortgage": A mortgage, deed of trust, trust deed, security deed, or other real property security instrument, including one evidenced by electronic means authorized by law.
- e. "Policy": Each contract of title insurance, in a form adopted by the American Land Title Association, issued or to be issued by the Company pursuant to this Commitment.
- f. "Proposed Amount of Insurance": Each dollar amount specified in Schedule A as the Proposed Amount of Insurance of each Policy to be issued pursuant to this Commitment.
- g. "Proposed Insured": Each person identified in Schedule A as the Proposed Insured of each Policy to be issued

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- pursuant to this Commitment.
- h. "Public Records": The recording or filing system established under State statutes in effect at the Commitment Date under which a document must be recorded or filed to impart constructive notice of matters relating to the Title to a purchaser for value without Knowledge. The term "Public Records" does not include any other recording or filing system, including any pertaining to environmental remediation or protection, planning, permitting, zoning, licensing, building, health, public safety, or national security matters.
 - i. "State": The state or commonwealth of the United States within whose exterior boundaries the Land is located. The term "State" also includes the District of Columbia, the Commonwealth of Puerto Rico, the U.S. Virgin Islands, and Guam.
 - j. "Title": The estate or interest in the Land identified in Item 3 of Schedule A.
2. If all of the Schedule B, Part I—Requirements have not been met within the time period specified in the Commitment to Issue Policy, this Commitment terminates and the Company's liability and obligation end.
 3. The Company's liability and obligation is limited by and this Commitment is not valid without:
 - a. the Notice;
 - b. the Commitment to Issue Policy;
 - c. the Commitment Conditions;
 - d. Schedule A;
 - e. Schedule B, Part I—Requirements;
 - f. Schedule B, Part II—Exceptions; and
 - g. a counter-signature by the Company or its issuing agent that may be in electronic form.
 4. **COMPANY'S RIGHT TO AMEND**

The Company may amend this Commitment at any time. If the Company amends this Commitment to add a defect, lien, encumbrance, adverse claim, or other matter recorded in the Public Records prior to the Commitment Date, any liability of the Company is limited by Commitment Condition 5. The Company is not liable for any other amendment to this Commitment.
 5. **LIMITATIONS OF LIABILITY**
 - a. The Company's liability under Commitment Condition 4 is limited to the Proposed Insured's actual expense incurred in the interval between the Company's delivery to the Proposed Insured of the Commitment and the delivery of the amended Commitment, resulting from the Proposed Insured's good faith reliance to:
 - i. comply with the Schedule B, Part I—Requirements;
 - ii. eliminate, with the Company's written consent, any Schedule B, Part II—Exceptions; or
 - iii. acquire the Title or create the Mortgage covered by this Commitment.
 - b. The Company is not liable under Commitment Condition 5.a. if the Proposed Insured requested the amendment or had Knowledge of the matter and did not notify the Company about it in writing.
 - c. The Company is only liable under Commitment Condition 4 if the Proposed Insured would not have incurred the expense had the Commitment included the added matter when the Commitment was first delivered to the Proposed Insured.
 - d. The Company's liability does not exceed the lesser of the Proposed Insured's actual expense incurred in good faith and described in Commitment Condition 5.a. or the Proposed Amount of Insurance.
 - e. The Company is not liable for the content of the Transaction Identification Data, if any.
 - f. The Company is not obligated to issue the Policy referred to in this Commitment unless all of the Schedule B, Part I—Requirements have been met to the satisfaction of the Company.
 - g. The Company's liability is further limited by the terms and provisions of the Policy to be issued to the Proposed Insured.
 6. **LIABILITY OF THE COMPANY MUST BE BASED ON THIS COMMITMENT; CHOICE OF LAW AND CHOICE OF FORUM**
 - a. Only a Proposed Insured identified in Schedule A, and no other person, may make a claim under this Commitment.
 - b. Any claim must be based in contract under the State law of the State where the Land is located and is restricted to the terms and provisions of this Commitment. Any litigation or other proceeding brought by the Proposed Insured

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- against the Company must be filed only in a State or federal court having jurisdiction.
- c. This Commitment, as last revised, is the exclusive and entire agreement between the parties with respect to the subject matter of this Commitment and supersedes all prior commitment negotiations, representations, and proposals of any kind, whether written or oral, express or implied, relating to the subject matter of this Commitment.
 - d. The deletion or modification of any Schedule B, Part II—Exception does not constitute an agreement or obligation to provide coverage beyond the terms and provisions of this Commitment or the Policy.
 - e. Any amendment or endorsement to this Commitment must be in writing and authenticated by a person authorized by the Company.
 - f. When the Policy is issued, all liability and obligation under this Commitment will end and the Company's only liability will be under the Policy.
7. **IF THIS COMMITMENT IS ISSUED BY AN ISSUING AGENT**
The issuing agent is the Company's agent only for the limited purpose of issuing title insurance commitments and policies. The issuing agent is not the Company's agent for closing, settlement, escrow, or any other purpose.
8. **PRO-FORMA POLICY**
The Company may provide, at the request of a Proposed Insured, a pro-forma policy illustrating the coverage that the Company may provide. A pro-forma policy neither reflects the status of Title at the time that the pro-forma policy is delivered to a Proposed Insured, nor is it a commitment to insure.
9. **CLAIMS PROCEDURES**
This Commitment incorporates by reference all Conditions for making a claim in the Policy to be issued to the Proposed Insured. Commitment Condition 9 does not modify the limitations of liability in Commitment Conditions 5 and 6.
10. **CLASS ACTION**
ALL CLAIMS AND DISPUTES ARISING OUT OF OR RELATING TO THIS COMMITMENT, INCLUDING ANY SERVICE OR OTHER MATTER IN CONNECTION WITH ISSUING THIS COMMITMENT, ANY BREACH OF A COMMITMENT PROVISION, OR ANY OTHER CLAIM OR DISPUTE ARISING OUT OF OR RELATING TO THE TRANSACTION GIVING RISE TO THIS COMMITMENT, MUST BE BROUGHT IN AN INDIVIDUAL CAPACITY. NO PARTY MAY SERVE AS PLAINTIFF, CLASS MEMBER, OR PARTICIPANT IN ANY CLASS OR REPRESENTATIVE PROCEEDING. ANY POLICY ISSUED PURSUANT TO THIS COMMITMENT WILL CONTAIN A CLASS ACTION CONDITION.



CATIC

By



JAMES M. CZAPIGA, PRESIDENT

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Property Description

Re: Austin Drive, Burlington, VT 05401

Being the lands and premises identified as "Land To Be Conveyed to the City of Burlington Area = 0.73 Acres" on the plan entitled "Boundary Survey Land of Ledgewood I Condominium To Be Conveyed To The City of Burlington" prepared by Krebs and Lansing Consulting Engineers, Inc. as Project 23159, dated June 1, 2023 and recorded in Map Slide 595B of the City of Burlington Land Records.

Being a portion of the lands and premises declared as a Common Element of the Ledgewood I Condominium (the "Condominium"), a common interest community established by Declaration dated January 15, 1981 and recorded January 15, 1981 in Volume 271 at Page 481 of the City of Burlington Land Records, as amended including, without limitation, by Amendment dated June 21, 1982 and recorded in Volume 283 at Page 141 of the City of Burlington Land Records (the "Declaration").

Being a portion of the lands and premises conveyed by Warranty Deed from Thomas Cholnoky, Imre Cholnoky, William C. Brooks, Ralph F. Brook, d/b/a Champlain Associates to Ledgewood Associates dated January 12, 1981 and recorded January 15, 1981 in Volume 272 at Page 669 of the City of Burlington Land Records, and is described more particularly in the Declaration.

Reference is made to a letter from Ledgewood Home Owners ("Master") Association Board to Ledgewood I Condominium Association Board dated March 13, 2019 and recorded in Volume 1437 at Page 193 of the City of Burlington Land Records by which Ledgewood Home Owners ("Master") Association disclaimed "any right, title or interest in or to" the Property, which is described therein with reference to a Warranty Deed from Ledgewood Associates to Ledgewood Home Owners Association dated January 27, 1993 and recorded January 29, 1993 in Volume 473 at Page 126 of the City of Burlington Land Records.

Reference is hereby made to said deeds and their records, to all references therein and to the Stowe Land Records in aid of this description."

WARRANTY DEED

KNOW ALL PERSONS BY THESE PRESENTS, that **Ledgewood I Condominium Association**, an unincorporated Vermont association with its principal place of business in the City of Burlington, County of Chittenden and State of Vermont, and **Ledgewood I Condominium Homeowners' Association, Inc.**, a Vermont nonprofit corporation ("Grantor"), in consideration of the sum of Ten and More Dollars paid to its full satisfaction by the **City of Burlington**, a Vermont municipal corporation situated in Chittenden County, Vermont ("Grantee"), by these presents, does freely GIVE, GRANT, SELL, CONVEY and CONFIRM unto the said Grantee and to its successors and assigns forever, the following lands and premises with all appurtenances thereto located in the City of Burlington, County of Chittenden, and State of Vermont (the "Property") described as follows, viz:

Being the lands and premises identified as "Land To Be Conveyed to the City of Burlington Area = 0.73 Acres" on the plan entitled "Boundary Survey Land of Ledgewood I Condominium To Be Conveyed To The City of Burlington" prepared by Krebs and Lansing Consulting Engineers, Inc. as Project 23159, dated June 1, 2023 and recorded in Map Slide ___ of the City of Burlington Land Records.

Being a portion of the lands and premises declared as a common element by Declaration of Ledgewood I Condominium made by Ledgewood Associates, a Vermont general partnership, dated January 15, 1981 and recorded in Volume 271 at Page 481 of the City of Burlington Land Records, as amended (the "Declaration") including, without limitation, by Amendment dated June 21, 1982 and recorded in Volume 283 at Page 141 of the City of Burlington Land Records, which authorized and required the dedication of the property conveyed hereby to the City of Burlington for use as a public roadway. The Declaration identifies the association of unit owners that manages the common elements of the condominium as Ledgewood I Condominium Association, an unincorporated association, however, the unit owners have also formed a Vermont nonprofit corporation called Ledgewood I Condominium Homeowners' Association, Inc. to manage those same common elements; accordingly, this deed is executed by both entities.

The Property shall be used for the purpose of: (a) operating, maintaining, repairing, replacing and reconstructing an existing public roadway; and (b) operating, maintaining, repairing, replacing and reconstructing stormwater collection, detention and disposal infrastructure, including swales, pipes and catch basins, and associated appurtenances and equipment and other related facilities and improvements. By acceptance of this Deed, Grantee acknowledges and agrees that it has received all necessary certifications and test results, and it has performed all investigations, it deems necessary to accept the above-mentioned improvements in their "as-is, where-is" condition. By its conveyance of the Property, Grantor intends for the Property to longer be subject to the Declaration, to the Grantor's bylaws or rules and regulations, or to any other term or condition associated with the Property's prior status as a common element of a common interest community, except with respect to Grantor's management of any private utilities that may be located upon or within the Property.

The Property is conveyed subject to and with the benefit of: (1) applicable provisions of state laws and regulations, municipal ordinances, public laws and special acts; (2) all rights of the public and others legally entitled thereto in any portion of the Property lying within the boundaries of a public road, way, street, trail, or alley, not meaning to reinstate any claims barred by operation of the Vermont Marketable Record Title Act, 27 V.S.A. § 601 et seq.; (3) the requirements of applicable federal, state and municipal laws, ordinances, regulations, permits and approvals pertaining to the Property, as each may be modified or amended from time to time; (4) all existing utilities located upon or within the Property, including any associated easements; and

(5) the reservation by Grantor of an easement to install, inspect, maintain, repair and replace all private utilities owned or maintained by Grantor and located within the Property.

Reference is made to a letter from Ledgewood Home Owners (“Master”) Association Board to Ledgewood I Condominium Association Board dated March 13, 2019 and recorded in Volume 1437 at Page 193 of the City of Burlington Land Records by which Ledgewood Home Owners (“Master”) Association disclaimed “any right, title or interest in or to” the Property, which is described therein with reference to a Warranty Deed from Ledgewood Associates to Ledgewood Home Owners Association dated January 27, 1993 and recorded January 29, 1993 in Volume 473 at Page 126 of the City of Burlington Land Records. Ledgewood Home Owners Association joins in the execution of this deed to remise, release and forever quit claim any and all right, title, and interest that it may have in and to the Property and to covenant with the Grantee that from and after the execution of this deed it will have and claim no right in or to the Property.

Reference is hereby made to the above-referenced instruments, plans and deeds and the records thereof, and the references therein made all in further aid of this description.

TO HAVE AND TO HOLD the Property, with all the privileges and appurtenances thereto, to Grantee, the **City of Burlington**, and to its successors and assigns, to their own use and behoof forever; and Grantor, **Ledgewood I Condominium Association** and **Ledgewood I Condominium Homeowners’ Association, Inc.**, each for itself and its successors and assigns, does covenant with the said Grantee and its successors, and assigns, that until the ensealing of these presents, Grantor is the sole owner of the Property, and has good right and title to convey the same in the manner aforesaid, that the Property is FREE FROM EVERY ENCUMBRANCE, except as aforementioned; and Grantor hereby engages to WARRANT and DEFEND the same against all lawful claims whatever, except as aforesaid.

Signature Page to Follow

IN WITNESS WHEREOF, the undersigned does hereby execute this Warranty Deed on _____, 2023.

**Ledgewood I Condominium Association
Ledgewood I Condominium Homeowners'
Association, Inc.**

By: _____
Andrew Prendimano
Treasurer and Authorized Agent

STATE OF VERMONT
COUNTY OF CHITTENDEN, SS.

This deed was acknowledged before me on _____, 2023 by Andrew Prendimano as Treasurer and Authorized Agent of Ledgewood I Condominium Association and of Ledgewood I Condominium Homeowners' Association, Inc.

Before me, _____
Notary Public State of Vermont
My commission expires: 1.31.25
My credential number: _____

Ledgewood Home Owners Association

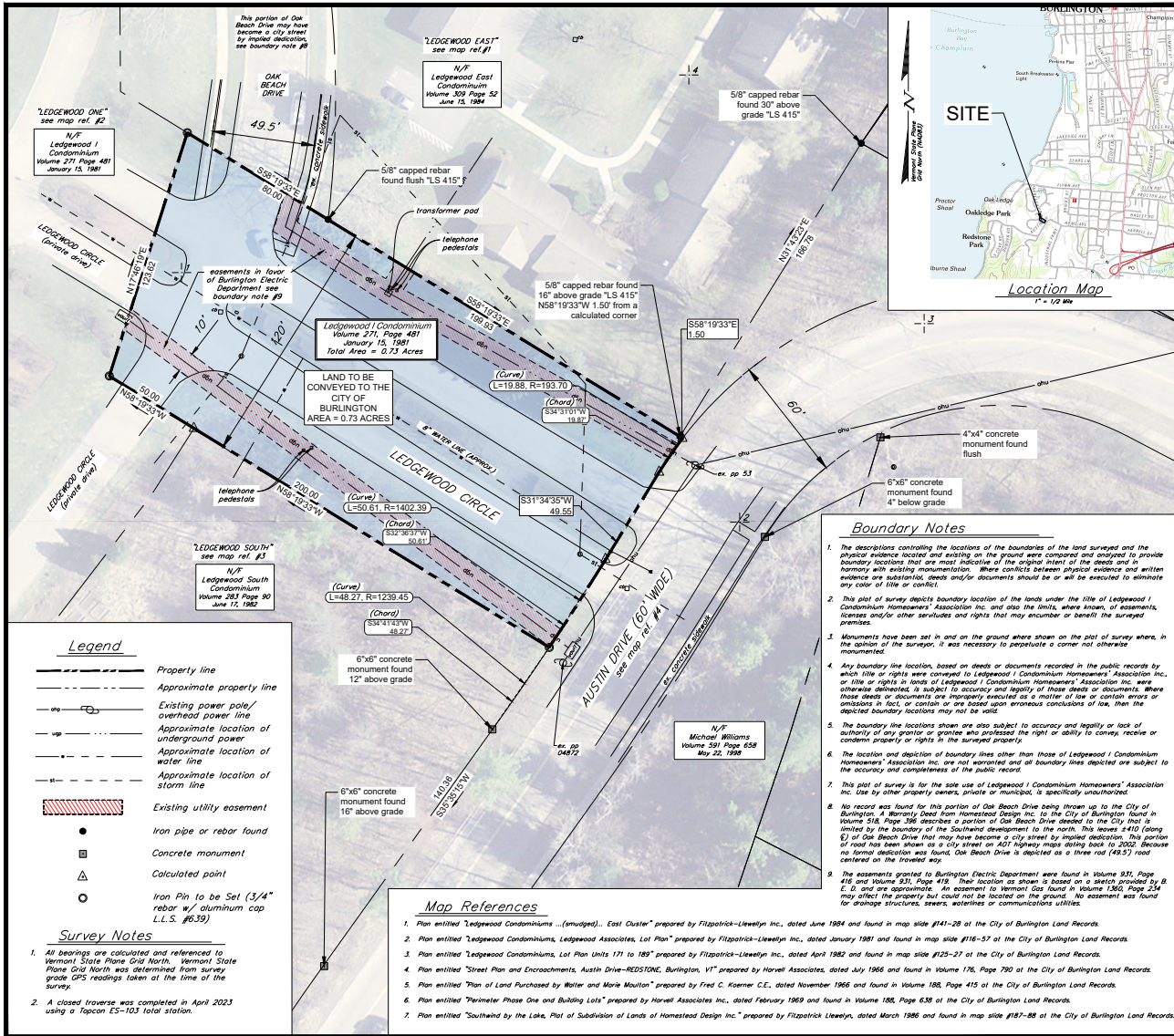
By: _____
Betsy Liley
President and Authorized Agent

STATE OF VERMONT
COUNTY OF CHITTENDEN, SS.

This deed was acknowledged before me on _____, 2023 by Betsy Liley as President and Authorized Agent of Ledgewood Home Owners Association.

Before me, _____
Notary Public State of Vermont
My commission expires: 1.31.25
My credential number: _____

EX-D



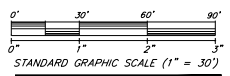
Ledgewood I Condominium Homeowners' Association Inc.

80 Austin Drive, Burlington, Vermont



Certification
 This survey is based on physical evidence found in the field and information abstracted from deeds and other pertinent records and this survey is consistent with that evidence. This plot conforms to V.S.A. section 1205.

[Signature]
 LARRY JAMES, L.L.S. #639



BOUNDARY SURVEY

LAND OF LEDGEWOOD I CONDOMINIUM TO BE CONVEYED TO THE CITY OF BURLINGTON

REV. NO.	REVISIONS/COMMENTS	DATE

Drawing Title: Boundary Survey

DATE of Issue: 6/1/2023

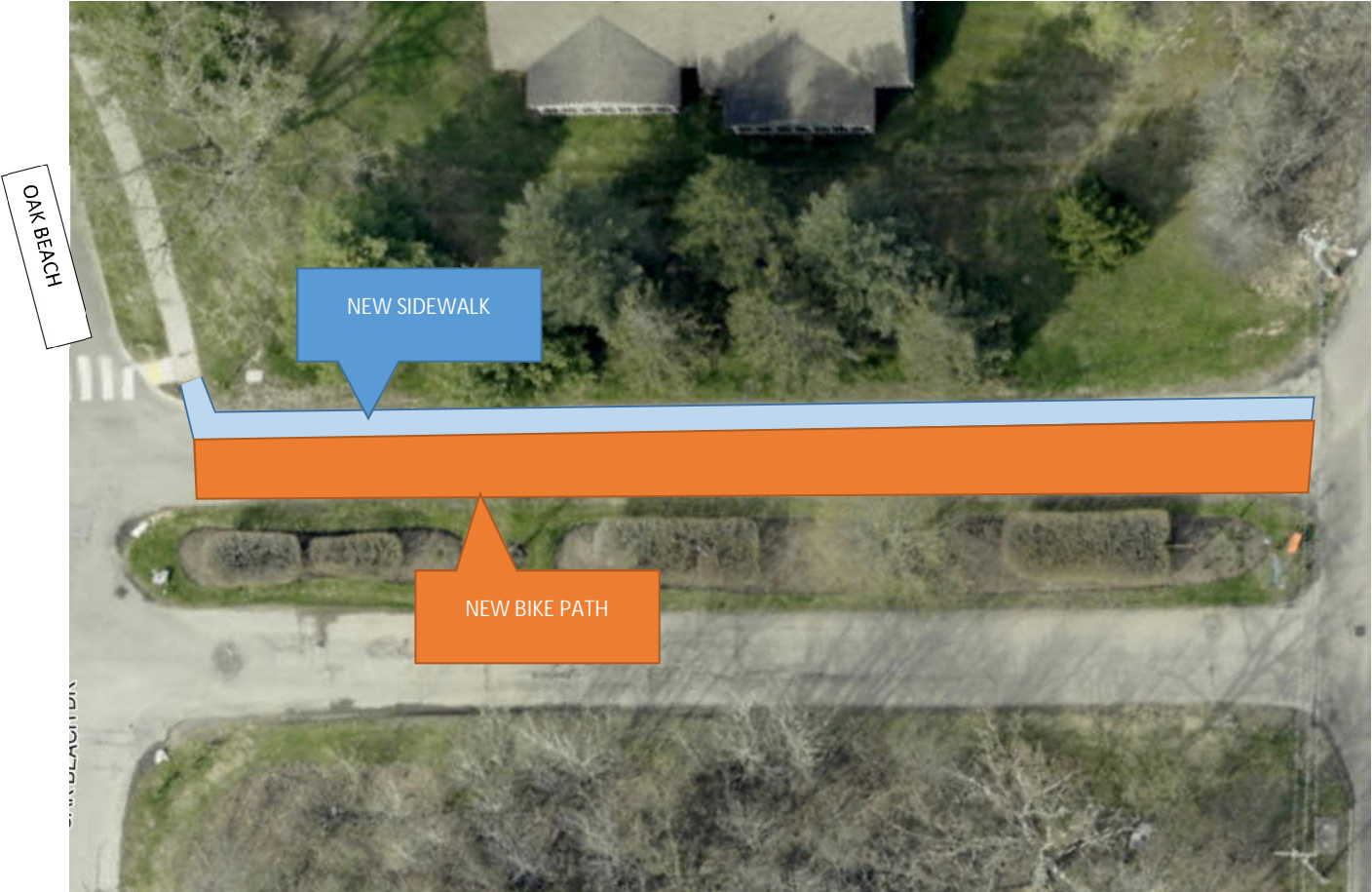
Drawn by: BLW Checked by: LKJ

Project No: 23159 Scale: 1" = 30'

Drawing No: _____ Rev. No: _____

B-1

EX-E





**CITY OF BURLINGTON
DEPARTMENT OF PUBLIC WORKS**

645 Pine Street
Post Office Box 849
Burlington, Vermont 05402-0849
802.863.9094 VOX
802.863.0466 FAX
802.863.0450 TTY

Chapin Spencer
DIRECTOR OF PUBLIC WORKS

Norman J. Baldwin, P.E.
*CITY ENGINEER
ASSISTANT DIRECTOR OF PUBLIC WORKS*

RIGHT OF WAY ACCEPTANCE PROCEDURE

JANUARY 26, 2014

PRE-DEVELOPMENT

Pre-Development Documentation

Before a pre-construction meeting can be held, the Developer must provide the Public Works Department with the following information:

- All deeds and/or easements;
- Cost estimate for construction;
- Evidence that all requirements and conditions imposed by the Development Review Board have been met;
- Two (2) copies of all accepted plans and specifications;
- Evidence that the required Mylar depicting all lots, Rights-of-Way and easements has been filed.

Project Duration

Development projects are to be completed within fifteen (15) months of the first project meeting unless otherwise agreed in advance of the start of a project.

Project Escrow Account

All of the public works improvements to be dedicated to the City of Burlington are to be guaranteed through an escrow account provided to the City at no cost and in coordination with any development agreement under the City of Burlington Development Review Board. The escrow account shall be in an amount sufficient to cover the total estimated costs of the improvements as accepted by the City Engineer. The escrow account shall be conditioned upon the satisfactory completion of the improvements for a period of three (3) years, from the date of final acceptance by the City.

Prior to establishment of a satisfactory dollar value for the escrow account, the Developer shall submit an accurate construction cost estimate. The cost estimate shall be submitted to the City Engineer for review and acceptance, prior to the establishment of an escrow account. Releases to the escrow account will be made periodically based on satisfactory progress, however no more than one release per month will be allowed because of processing requirements.

Partial releases of the bond for water distribution, sanitary sewers, and storm drainage will only be made for those continuous sections which pass all required tests.

Warranty and Retainage

Following City acceptance of final construction there is a three (3) year guarantee period with a ten (10%) percent retainage.

Work to Conform

All materials, design, and workmanship must meet nationally accepted standards and practices along with all applicable standards of the City of Burlington. The City recognizes the State of Vermont Agency of Transportation Standard Specifications for Construction (latest edition as a supplemental source for standards not detailed in the City of Burlington specifications). Where a conflict arises between the published standards established in this document and other published City Engineering Standards, the more stringent shall apply.

During the progress of construction and upon completion, all work must conform to these standards and the plans permitted by the City of Burlington. Field revisions necessitated by the conditions of the site must be approved by the Design/Project Engineer and accepted by the City Engineer prior to acceptance of the completed work. The work shall be performed in conformance with current standard engineering practices and principles.

Protection and Repair to Existing Utilities

The Contractor shall notify Dig-Safe (1-888-344-7233) prior to any excavation in the public Right-of-Way or utility easement limits, except in the case of emergencies. In emergency situations, the Contractor shall notify the Public Works Department during regular office hours (8:00 a.m. to 4:30 p.m.). In addition, the Public Works Department shall be contacted seventy-two (72) hours prior to any scheduled work within the limits of the public Right-of-Way. Whenever culverts, sewers, drains, manholes, catch basin connections, water mains, electric conduits, telephone conduits, utility poles, overhead lines or other existing facilities are encountered, they shall be protected and firmly supported by the Contractor at his/her own expense, by methods approved by the Design/Project Engineer. Until excavation is backfilled and the existing structures are made secure, injury to any such structures caused by or resulting from the Contractor's Operations, shall be repaired at the Contractor's expense within a time period that will not place an unreasonable burden on the users. The authority having charge of any particular underground structure shall be notified promptly of injury to its structure. Pipes or other underground structures encountered in excavating or trenching shall be permanently supported by methods acceptable to the Public Works Department for municipal utilities and the utility owner

Reconstruction of Existing Utilities

In no case shall the Developer/Contractor move, change or repair any water main, sewer main, electric conduit, telephone conduit, utility pole, anchor, or any underground cables, conduits or structures without permission of the Public Works Director and the utility owner, and until they are satisfied that adequate warning to the users has been provided. The Developer shall be responsible for the work and for providing notice to users before interrupting service. Unless specifically provided for by written agreement, reconstruction, both overhead and underground, of the utilities shall be at the Developer/Contractor's expense.

Permits-General

It shall be the Contractor's responsibility to obtain all federal, state, local or utility company permits necessary for the construction of the project prior to initiation of construction. The Contractor is also responsible for maintaining these permits in force during the length of the contract and for taking all required actions to comply with the content of the permits. All permits shall be readily available on site at all times.

Building Permits

Building Permits will only be issued when

- A Zoning Permit has been issued and in the "Released" status.
- Construction Plan Sets have met with the satisfaction of the Building Inspectors and the State of Vermont Division of Fire Safety.
- A Development Project Escrow Account has been established that meets with the satisfaction of the Department of Public Works City Engineer.
- Evidence that the required Mylar depicting all lots, Rights-of-Way and easements have been filed.
- The design drawings containing a stamped and signed statement by a licensed land surveyor that all property corner markers and roadway monuments have been set in accordance with the accepted property plat.
- Street Addresses have been assigned.

Unified Certificate of Occupancy

- No Temporary or Permanent Certificates of Occupancy will be issued until the roadway has been accepted by the City of Burlington.

Maintenance

Projects are generally split into phases with approval from the DRB for each phase. To avoid conflicts over reductions in payment and questions over responsibility for winter maintenance during construction, the following procedure is established:

The City will provide winter snow removal and maintenance services during the first winter of the roadway construction phase only if prior acceptance is given and if the base course of asphalt has been constructed and Snow Plow Agreement has been accepted. If only the sub-base gravel course has been constructed, the Developer/Contractor shall be responsible for plowing and salting/sanding on all unpaved streets. Building permits should generally not be requested for streets which cannot have a base course of asphalt on them prior to winter.

It is recommended that the top course of asphalt not be laid during the first construction season as construction settlement or frost damage historically shows up the following spring. By postponing the top course, corrections can be made at less cost to the Developer. It should be noted however, heavy truck traffic may damage the base course pavement prior to paving the top course. To alleviate this problem, the base course shall be a minimum 2-½" thick if allowed to sit through the winter or construction equipment should be kept off the paved base course until the top course is applied and has been accepted by the Public Works Department.

Liability Insurance Coverage

In the event that the City is being asked to clear ice and snow in advance of the City's acceptance of the roadway the Owner/Developer of the roadway shall secure a Liability Insurance policy with at least \$2,000,000 in aggregate coverage. This insurance policy shall name the City as the additional insured and be in effect up until the date of acceptance.

DURING DEVELOPMENT

Supervisor on the Job Site

The Contractor shall be responsible for ensuring that there is a supervisor or responsible individual with the authority to make decisions for the Contractor under his/her direct employ on the job site at all times

that construction is underway, whether or not the construction is being accomplished by a subcontractor hired by a general contractor.

Contact List

Developer will maintain and make available to the City a contact list for the project.

Construction Meetings

Regularly scheduled construction meetings shall occur and City Engineering staff and Utilities shall be given adequate notice to attend.

Resident Engineer

The Developer shall hire a Resident Engineer to inspect the work to ensure the work is built according to the permitted and approved design. A daily log of construction activities, testing and field inspections to properly document the work is being completed in accordance with the approved plan set. Inspection Documentation will be made available to the City for their review throughout the process of construction.

Water Division-Water Distribution System Installation

Public Works Water Division reserves the first right of refusal to make connections and install the water distribution and hydrant system. If it is agreed a private contractor will be performing the work then a member of the water distribution crew must be on site to ensure work is done in a manner that meets City Standards and ensures sanitary connections to our water supply system.

BED Inspection Personnel

BED will require an inspector on site to verify proper installation of our duct banks, pads and hand holes and all electrical Equipment/Infrastructure.

POST DEVELOPMENT

Engineering Services During and at the end of Construction

The Developer is required to have the Design/Project Engineer inspect the project during construction for the purpose of providing verification of tests and also to verify that the project was constructed in conformance with the accepted plans.

Acceptance of Roadway

The following shall occur where a roadway is to be irrevocably offered by way of dedication to the City:

- The survey map depicting the roadway shall be completed by a licensed surveyor and recorded with the City.
- All pins/concrete markers/other monumentation in and along the roadway must be installed before acceptance of the roadway and no later than the date of the offer of dedication.
- The complete inspection file which should include (field notes, daily logs, material testing, pressure tests, bacti tests) and will be made available at the point of dedication and City acceptance.
- The owner of the roadway shall secure an owner's policy of title insurance in favor of the City of Burlington.

- The owner will produce all waivers of lien from their design engineers, contractors, and material suppliers utilized in the development of the roadway seeking to be dedicated to the City.
- Counsel for the owner of the roadway shall certify that all permits and all acceptances for construction of the road have been secured and that the roadway and any water, storm, or sewer lines situated within the roadway have been constructed in accordance with such permits/acceptances.
- BED will participate in review of the final plans/plats to ensure that any necessary easements are in place and facilities are developed to a standard they are prepared to accept.
- The Warranty Deed transferring the roadway to the City shall contain a meets and bounds description of the roadway and reference to the recorded survey map.
- The Developer shall pay the reasonable costs of the City in reviewing the instruments of transfer and compliance with the foregoing conditions.

City Engineer Fees

City Engineer fees shall be assessed to all proposed development in the City of Burlington consistent with staff billable rates.

City Attorney Fees

CITY attorney fees shall be assessed at prevailing rates to all proposed development in the City of Burlington. The City Attorney assists the City in reviewing the instruments of transfer and compliance with the requirements where easement(s) and/or roadway is to be irrevocably offered by dedication to the City.

Submittal of As-Built Drawings

A Certificate of Compliance will not be issued for any portion of a project involving an extension of utilities or a road until all testing/inspection certifications have been submitted and an initial set of record drawings have been accepted by the City. Record drawings shall be submitted in electronic format (PDF) and should include the following information:

Sanitary Sewers

- Accurate locations, depths, pipe materials, sizes, and slopes, of all sanitary sewer lines, sewer service lines at the Right-of-Way, building connections, cleanouts, and manholes including rim elevations, invert elevations and distances between manholes.

General Requirements Burlington Public Works Standards and Specifications

- Results of leakage tests on all pipelines and manholes.
- Results of deflection and lamping tests.
- Results of sewerline video, if available.
- Documentation of three (3) distance tie measurements for each structure.

Water Distribution

- Accurate locations of all water lines, valves, and appurtenances.
- Accurate measurements and depths to all valves, tees, bends, curb stops, and any other fittings from permanent fixtures such as telephone poles, hydrants, buildings, transformers, etc.
- All curb boxes shall be marked with stakes so they can be easily located before building services are connected.

- Results of hydrostatic, leakage, and disinfection tests on all pipelines.
- Documentation of three (3) distance tie measurements for each structure.

Storm Drains

- Depth, size, location, and type of all storm drain lines and culverts, including underdrains and services along with elevations.
- Location of all catch basins.
- Location and details for all storm drainage facilities, such as detention ponds.
- Location of all drainage ways, water courses, etc.
- Location and width of drainage easements.
- Results of pipeline video, if available.

Highways

- Accurate locations of all streets, culverts, and other facilities.
- For streets, the following information shall be shown:
- Width of pavement from curb to curb or shoulder to shoulder;
- General Requirements (City of Burlington Public Works Standards and Specifications)
- Right-of-way dimensions for streets;
- Width of sidewalks, bike paths and easements;
- Location of street lights;
- Location of driveways;
- Location and size of planter islands, if any
- Typical cross-section of streets as installed with date of completed construction;
- Location of all underground electric, gas, telephone lines, and crossing sleeves.
- Results of all sieve analyses, compaction, and bituminous pavement tests.

Electrical Utility

- Accurate location both depth and horizontal position of all electrical and street lighting infrastructure.

Record Drawings

Record drawings are required for both subdivision and site development projects in the City of Burlington. Record drawings shall include all items as defined on the City's As-built Check List.

Right of Way Final Drawings

After review of final drawings by the Public Works Department, a final set of record drawings, including two (2) sets of prints, and all drawings on CD in AutoCAD and/or PDF format, shall be submitted to the City Engineer within sixty (60) days of the completion of a project and shall have a P.E. stamp by the Design/Project Engineer. The record drawings shall also contain a stamped and signed statement by a licensed land surveyor that all property corner markers and roadway monuments have been set in accordance with the accepted property plat.



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Chapin Spencer
DIRECTOR OF PUBLIC WORKS

Jackie Esperti
DIVISION DIRECTOR

Date: 5/27/2025

From: Jackie Esperti, Division Director for Parking and Traffic

C.C. Chapin Spencer, Director of Public Works
Cindi Wight, Director of BPRW

Subject: ParkMobile Contract Renewal

The City's contract with ParkMobile expired in February 2025. We have continued to offer the pay-by-phone method for parking under previously-negotiated contract terms while we negotiate a new contract with ParkMobile (PM).

ParkMobile is an online, digital payment platform. DPW began using ParkMobile in November 2015 for meter transactions. A few years later, Parks, Recreation and Waterfront (BPRW) initiated a separate ParkMobile account for BPRW lots, expanding ParkMobile footprint from just DPW meters to include BPRW lots. In 2020, DPW and BPRW worked together to blend these two accounts into a single ParkMobile platform, managed by DPW. This has provided operational efficiency, simplified administration and improved customer service. Also in 2020, ParkMobile was further expanded to the Marketplace Garage (as a pilot program) and then to DPW managed lots in 2021. Currently, ParkMobile covers 100% of city owned and managed paid parking spots including those at municipal parks. It currently accounts for more than 80% of our paid parking transactions, though Burlington parkers always have the opportunity to pay by credit card or coin at kiosks and meters on-street and in DPW garages and lots. Paying by coin does not incur any additional fee.

With the most recent ParkMobile contract, Burlington parkers pay our parking rate, plus a 30 cent convenience fee. Of that 30 cent fee, 25 cents goes to ParkMobile and 5 cents comes to the city to partially cover credit card processing fees. With the new contract, ParkMobile will no longer be offering a revenue sharing option. The new contract terms are outlined below.

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- Customer pays minimum 35 cents OR 15% up to \$2.50 per transaction, whichever is greater
- City would no longer receive the 5 cent per transaction payment, but City would no longer pay bank fees (PM will cover this)
- Net estimated annual gain to city - \$226,400
- Using a 3-month sample – July, Aug, Sept 2024 – there were a total of 280,346 transactions.
 - 203,132 – 72% - would pay only an additional 5 cents
 - 39,851 – 14% - would pay 35 cents to 49 cents
 - 24,473 – 9% - Would pay between 50 cents and \$1.00
 - 10432 – 4% would pay between \$1.00 and \$2.00
 - 1812 - .06% would pay \$2.00 to \$2.47
 - 28 transactions would pay the full \$2.50

The following chart shows 3 months’ worth of transactions from July, August and September 2024 on-street and in city owned Garages and lots. This data is based on 280,346 transactions.

ON-STREET & LOTS (DPW)	Current	New Contract
Gross Parking Revenues	\$ 656,591	\$ 711,466
City Paid Transaction Fees	\$ 95,000	\$ -
Quarterly Net Revenues	\$ 561,591	\$ 711,466
Yearly Net Revenues	\$ 2,246,364	\$ 2,845,864
% Lost Revenue	15%	0%

BPRW transactions in City parks are typically higher, though there are much fewer transactions. The following chart shows transactions from July, August, and September of 2024 and what the 2 options are projected to cost. This is based on 44,486 transactions.

CITY PARKS (BPRW)	Current	New Contract
Gross Parking Revenues	\$ 234,146	\$ 256,421
City Paid Transaction Fees	\$ 40,000	
Quarterly Net Revenues	\$ 194,146	\$ 256,421
% Lost Revenue	18%	0%

When looking into other cities in New England, using both ParkMobile and Passport pay-by-phone systems, our customers are currently paying less than most others. With the newly adjusted fee, over 50% of Burlington parkers would still be paying less than most cities. Additionally, we understand that mobile payment providers will be pushing their other accounts to fee structures similar to the structure above as their existing contracts expire.

City	Convenience Fee Charged
UVM	\$ 0.40
Montpelier, VT	\$ 0.55
Nashua, NH	\$ 0.50
Portland, ME	\$ 0.25
Shrewsbury, MA	\$ 0.55

Woodstock, VT	\$	0.45
St Albans, VT	\$	0.40
Hanover, NH	\$	0.40

These new proposed contract terms with ParkMobile are consistent with the City's General Fund policy direction to have the customer cover the processing costs for using credit card / electronic payment methods. As stated above, parking customers can use coin for payments on-street and at DPW garages and lots without incurring any fee.

Because fees are paid by members of the public, and not the City, the City Attorney's Office has provided us guidance that this does not need City Council approval. That said, we have discussed with the Mayor's Office and would like to get feedback from the Transportation, Energy & Utilities Committee before signing the contract.



**CITY OF BURLINGTON
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Chapin Spencer
DIRECTOR OF PUBLIC WORKS

TO: Transportation Energy & Utilities Committee

FROM: Chapin Spencer, DPW Director
Jackie Esperti, DPW Division Director – Parking & Traffic

RE: **License Plate Recognition Technology Update**

Date: May 27, 2025

This is an update for the Council's Transportation, Energy & Utilities Committee relating to DPW's plans to utilize license plate recognition (LPR) / optical character recognition (OCR) technology for our parking compliance work.

Here is a link to the previous memo from January 2025 with an overview of the technology and how we plan to use it to expedite our enforcement capabilities (<https://burlingtonvt.portal.civicclerk.com/event/7862/files/attachment/7670>). We already use the LPR/OCR technology in our handheld devices. The plan going forward is to mount this technology to one or two Parking Services vehicles in FY'26.

The draft privacy policy we provided to the TEUC in January 2025 (<https://burlingtonvt.portal.civicclerk.com/event/7862/files/attachment/7643>) has been approved by the City Attorney's Office and submitted to the Mayor's Office for final sign off.

The FY'26 revenues for Parking Services (Fund 53) and Parking Facilities (Fund 265) are ambitious in order to achieve balanced budgets for the General Fund and Parking & Traffic's special revenue funds. LPR/OCR is needed to meet these targets as it will both enable more efficient enforcement as well as additional products such as a parking "Punch Card" for downtown workers and visitors with flexible schedules.

Management has continued the conversation about implementing LPR with AFSCME representatives. We had a productive meeting on April 7 this year. Management heard concerns about what this technology might mean for future staffing levels and potential micro-management of the workforce. Jackie and I confirmed that we were budgeting to maintain our existing Parking Services workforce for FY'26 as this would be a year of learning to use the technology. I (Chapin) stated that all changes with garage workers and enforcement workers over my 12 years as Director have been handled through attrition, and if any future adjustments were needed, that would certainly be the first strategy moving forward. Management is committed to continuing the conversation and we will engage the Union on any issues/concerns that arise during implementation.

As the City Attorney's Office has stated that no Council approval is needed as the expenses for the vehicle-mounted LPR/OCR implementation (approximately \$50,000 in FY'26) are below purchasing policy thresholds, we are providing this update to the TEUC for information purposes. We are happy to answer any questions you may have around this technology.