Agenda Item F-5

City of Tacoma
Planning and Development Services

To:	Planning Commission
From:	Larry Harala, PDS Land Use Lihuang Wung, PDS Planning
Subject:	**2022 Amendment – Application "South Sound Christian Schools"**
Memo Date:	February 25, 2022
Meeting Date:	March 2, 2022

Action Requested:
Comment, Direction, and Consider Releasing for Public Review.

Discussion:
At the next meeting on March 2, 2022, the Planning Commission will continue to review the 2022 Annual Amendment to the *One Tacoma Comprehensive Plan* and Land Use Regulatory Code (or "2022 Amendment"), focusing on the application of "**South Sound Christian Schools Land Use Designation Change**."

This will be a follow-up review from the previous meeting on February 2, 2022. Attached is a revised staff report including appropriate supplemental materials that document the staff analysis and preliminary recommendations.

Upon completing the review, the Commission will be requested to release the application (along with other applications included in the 2022 Amendment Package) for public review.

Project Summary:
The 2022 Amendment is an annual process for amending the Comprehensive Plan and/or Land Use Regulatory Code pursuant to Tacoma Municipal Code, Section TMC 13.02.070. The process began with accepting applications during January-March 2021 and is slated for completion in June 2022. The Planning Commission is tentatively scheduled to release the 2022 Amendment Package for public review on February 16, conduct a public hearing on March 16, and make a recommendation to the City Council on April 20; and the City Council's review/adoption will occur in May-June 2022.

Prior Actions:
- 02/16/22 – Review status of "Work Plan for STGPD Code Amendments" and "Minor Plan and Code Amendments"
- 02/02/22 – Review status of "NewCold" and "South Sound Christian Schools"
- 01/19/22 – Review status of "Minor Plan and Code Amendments"
- 12/15/21 – Review of private applications
- 10/06/21 – Review status of all applications
- 07/21/21 – Determination on Applications (proceeding with technical analysis)
- 06/16/21 – Public Scoping Hearing on the Applications
- 05/19/21 – Assessment of "South Tacoma Economic Green Zone" and "Minor Plan and Code Amendments"
- 05/05/21 – Assessment of "NewCold" and "South Sound Christian Schools"

Staff Contacts:

- Larry Harala, lharala@cityoftacoma.org
- Lihuang Wung, lwung@cityoftacoma.org

Attachment:

1. Staff Report for Application “South Sound Christian Schools”

c. Peter Huffman, Director

South Sound Christian/CenterPoint Christian Fellowship Land Use Designation Amendment

Staff Analysis Report

March 2, 2022

This application is a request for a Land Use Designation Change request from Low-Scale Residential to Mid-Scale Residential on the western 4 parcels (A, B, C, and D, see map page 2-3), and from Low-Scale Residential to General Commercial on the eastern 4 parcels and a site Rezoning request pertaining to a total of 8-parcels with a total land area of approximately 15.96 acres. The Land Use Designation change request is being made to facilitate a future rezone application for the western 4 properties to be rezoned from R2 to R4L, and the 4 parcels on the east side closer to the Tacoma Mall Blvd alignment to be rezoned to C-2 General Commercial.

Project Summary	
Project Title:	South Sound Christian/CenterPoint Christian Fellowship Land Use Designation Amendment
Applicant:	South Sound Christian/CenterPoint Christian Fellowship
Location and Size of Area:	8-Parcels generally adjacent to 2052 South 64th Street 15.96 acres / 694,260 SF
Current Land Use and Zoning:	Land Use Designation: Low Scale Residential Zoning: R-2-STGPD Single Family Dwelling District and South Tacoma Groundwater Protection District
Neighborhood Council Area:	South Tacoma
Staff Contact:	Larry Harala, Principal Planner, (253) 318-5626, lharala@cityoftacoma.org
Staff Recommendation:	That the Planning Commission accept public comment and begin to develop recommendations to the City Council.
Project Proposal:	See Exhibit "A", attached.

Planning and Development Services
City of Tacoma, Washington
Peter Huffman, Director

Project Manager:
Larry Harala, Principal Planner
lharala@cityoftacoma.org

Project Website:
www.cityoftacoma.org/2022Amendment

A. Area of Applicability

The subject site is located at 2052 South 64th Street and includes 8 parcels with an approximate land are of 15.96 acres.

- Parcel numbers 032030-1024 and 032030-1189 (referred to as Parcel "A" and "B" on the maps below). Located south of South 66th Street the 2.38-acre and 0.179-acre parcels are owned by South Sound Christian Schools. Parcel A currently has multiple buildings on site and parking and is used for administrative purposes. The southernmost portion of the parcel is undeveloped and forested. Parcel B is undeveloped and currently used as a vegetable garden.
- Parcels 032030-1073 and 032030-1075 (referred to as Parcels "C" and "D" respectively) are owned by South Sound Christian and are part of the Tacoma Baptist School site. The sites total 7.34 acres and contain the school, gymnasium, a large field and associated parking for the uses.
- Parcels 302030-1193 and 032030-1194 (referred to as Parcels "E" and "F" respectively) are owned by South Tacoma Baptist Church (CenterPoint Christian Fellowship). Both parcels are undeveloped and located east of the Tacoma Baptist School site and north of CenterPoint Church. Together, the two parcels total approximately 2.06 acres.
- Parcel 032030-1159 (referred to as Parcel "G") is owned by South Tacoma Baptist Church (CenterPoint Christian Fellowship) This parcel consists of 4 acres and contains the church and associated parking. Additionally, parcel 032030-1158 (referred to as Parcel "H") is a parcel set aside for tax exemption status for CenterPoint Christian Fellowship, totals 1-acre in area and is not shown on the map with a parcel outline as it is contained within the 4 acres of Parcel 032030-1159 (Parcel "G").

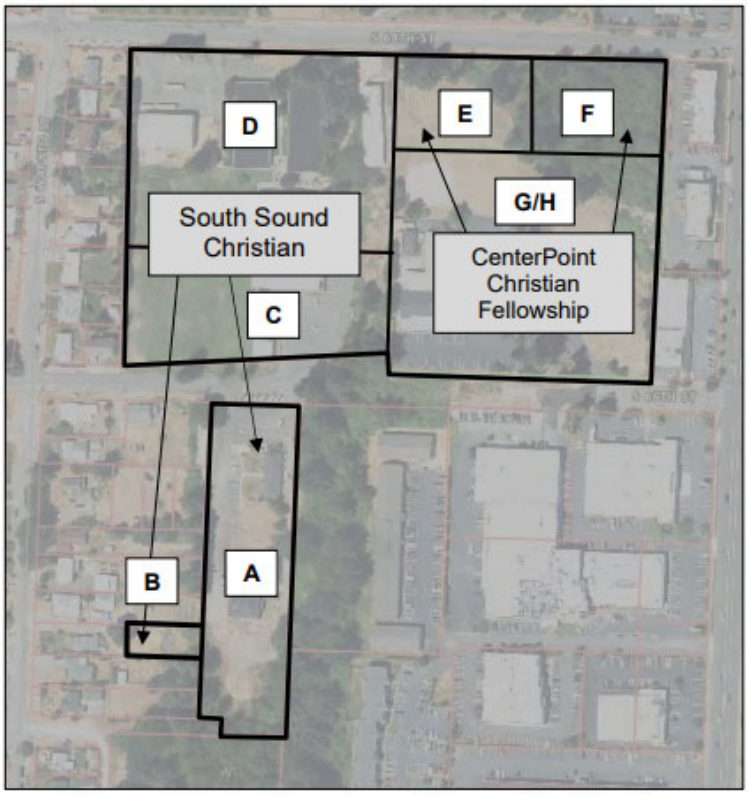


Figure 1: Project Parcels and Owner Identification

B. Background

The subject parcels presently contain a mix of uses but are primarily religious institution and educational institution developments. The parcel owners are working together on a joint application and wish to sell and/or redevelop portions of the site for multi-family development and general commercial development. They applicant hopes to work with Bargreen Ellingson a South Sound area restaurant supply and design company who wishes to expand their operations in the area on development of the parcels E, F, G, H, those requested for redesignation to General Commercial.
This area has been zoned R-2-STGPD Single Family Dwelling District for many years and is also within the South Tacoma Groundwater Protection District (TMC 13.09).

In 2019 the parcel south of South 66th Street ("A") was re-designated from Multi-Family (Low Density) to Single Family Residential, given the assumed educational use and adjacent lands. However, the site has not been used for educational purposes for over 15 years. The school functions on an entirely separate, larger property to the north, with the buildings on the parcel used only for storage and administrative offices.

The original application requested a designation change from Single Family Residential back to Multi-Family (Low-Density). However, those designations have been modified under Home in Tacoma Phase 1. As part of Home in Tacoma, the areas designated Single Family Residential were replaced by Low Scale Residential. Based on this change, the new proposal would amend the land use designation from Low Scale Residential to Mid-Scale Residential. The following table depicts the relationship between the Comprehensive Plan Land Use Designations and implementing zoning districts.

Comprehensive Plan Land Use Designation	***Potential Uses and Impacts***	***Potential Zoning Districts***
Low Scale residential	• Traditional neighborhood scale, height • Low to moderate density • Development oriented to the streets • Pedestrian friendly • Lot sizes from 2,500 -7,500 SF • Single Family Detached up to Triplex/Cottage developments • 10-45 dwelling unit per acre density levels	• R-1 Low-Scale Residential District • R-2 Residential District • R-2SRD Low-scale Residential Special Review District • HMR-SRD Historic Mixed Residential District *These zoning categories are subject to change during Home in Tacoma Phase II
Mid-Scale Residential	• Generally located proximate to Centers Corridors and higher frequency transit • Walkable • Greater housing type diversity • More emphasis on multiunit development • 15-45 dwelling unit per acre density levels	• R-3 Mid-scale Residential • R-4L Mid-scale Residential *These zoning categories are subject to change during Home in Tacoma Phase II
General Commercial	• Medium to high intensity commercial • Larger scale commercial development • Wide range of commercial development type	• C-2 General Community Commercial District • PDB Planned Development Business District

	• Typically located adjacent to highway/transportation corridors • If residential in nature moderate to higher density of around 45-75 units per acre	• HM Hospital Medical District

C. Analysis

It is imperative that both the Comprehensive Plan and the Code are properly maintained. The overall objective of the Minor Pan and Code Amendments is to keep the Plan and the Code current, respond to the changing circusmtances, and enhance customer service. Staff analysis of this application has been conducted in accordance with TMC 13.02.070.F.2, which requires the following four provisions be addressed, as appropriate:

- A staff analysis of the application in accordance with the elements described in 13.02.070.D;
- An analysis of the consistency of the proposed amendment with State, regional and local planning mandates and guidelines;
- An analysis of the amendment options identified in the assessment report, if applicable; and
- An assessment of the anticipated impacts of the proposal, including, but not limited to: economic impacts, noise, odor, shading, light and glare impacts, aesthetic impacts, historic impacts, visual impacts, and impacts to environmental health, equity and quality.

a. A staff analysis of the application in accordance with the elements described in 13.02.070.D;

TMC 13.02.070.D, subsection 5.d.(1), requires that the following objectives shall be met by applications for the annual amendment:

- **Address inconsistencies or errors in the Comprehensive Plan or development regulations;**
  Staff Response: Staff finds no errors in the Comprehensive Plan are being corrected by this application. In regard to parcel A, the designation was changed in the last FLUM amendment cycle as it was thought to house an educational use, when in fact it only houses administrative offices. However, there are no current inconsistencies between the land use designation and zoning district. The site was part of the Home In Tacoma Phase 1 Comprehensive Plan Amendments and is currently designated Low Scale Residential and is zoned R-2 Single family.

- **Respond to changing circumstances, such as growth and development patterns, needs and desires of the community, and the City's capacity to provide adequate services;**
  Staff Response: Staff finds that this application does respond to a change in Tacoma's need for more housing availability, more housing type variety, and more affordable housing. In addition, the educational function of the site has changed, providing an opportunity to consider an appropriate future land use and development pattern for this area.

- **Maintain or enhance compatibility with existing or planned land uses and the surrounding development pattern;**

Staff Response: This application potentially accomplishes this objective, in that commercial development on a portion of this site as well as low scale multi-family would maintain or enhance compatibility of these sites with the surrounding development pattern and there is potential to accommodate a land use designation scheme to support effective transitions between more intensive land uses and less intensive neighborhoods.

- **Enhance the quality of the neighborhood.**
  Staff Response: There is an opportunity to enhance the quality of the neighborhood with quality development. Close attention will need to be given during any subsequent rezoning, and development of these sites to ensure this is accomplished. The amendment would likely support the potential redevelopment of these properties and new investment into the neighborhood. While this may result in new traffic and other activity, it could also support new job opportunities and housing for area residents in an area identified as a Low Opportunity neighborhood in the Tacoma Equity Index. Finally, development standards have been updated since these sites were last developed and would improve consistency between the new use and development and Comprehensive Plan policies.

b. An analysis of the consistency of the proposed amendment with State, regional and local planning mandates and guidelines;

Per the most recent update via the Home in Tacoma Project, The Future Land Use Map designates the subject parcels as Low-Scale Residential. For parcels G,H,F the adjacent future land use designations include Neighborhood Commercial and General Commercial to the East; Parks and Open Space, and Neighborhood and General Commercial to the north; Low Scale Residential, Parks and Open Space, and Neighborhood and General Commercial to the south. For parcel A and B, south of 66th Street, the adjacent future land use designations include Parks and Open Space, Neighborhood Commercial, and Mid-Scale Residential to the east, Low-Scale Residential to the south and north, and Mid-Scale Residential and Low-Scale Residential to the west.

The applicant asserts that amending the comprehensive plan land use designations would provide for consistency with the surrounding area and with the comprehensive plan. Staff notes that the recent Planning Commission and City Council actions relating to the Home in Tacoma Project, amended the One Tacoma Comprehensive Plan in an effort to expand potential for affordable housing, and greater housing variety diversity among other key objectives. Criteria was established surrounding the Mid-Scale designation linked to proximity to centers, higher frequency transit and transportation corridors. Parcels A,B,C,D would be seeking the mid-scale designation. This is not unprecedented in the area as sites that are near and/or adjacent to these sites have that designation. Staff does not find concurrency with the outlined criteria for midscale designation, but does acknowledge some nuance to consider given the surrounding designations.

While staff does not find this area currently has complete, walkable neighborhoods, staff does note proximity to open space and to a commercial corridor which gives potential to develop into such. Staff finds that this area has strong potential to develop into a more walkable community and that transit along Tacoma Mall Blvd in the future is a possibility and presently there is transit as close as Oakes & 66th (route 53). If density and employment increases in the area, added transit and frequency would be more viable.

Relevant comprehensive plan goals and policies:

- Policy H–1.3 Encourage new and innovative housing types that meet the evolving needs of Tacoma households and expand housing choices in all neighborhoods. These housing types include single family dwelling units; multi- dwelling units from duplexes to multifamily developments; small units; accessory dwelling units; pre-fabricated homes such as manufactured, modular; co-housing and clustered housing.
- Policy H–1.9 Apply infill housing approaches to create additional housing opportunities for low and mid-range (Missing Middle) housing types.
- GOAL H–3 Promote safe, healthy housing that provides convenient access to jobs and to goods and services that meet daily needs. This housing is connected to the rest of the city and region by safe, convenient, affordable multimodal transportation.
- Goal UF-1 Guide development, growth, and infrastructure investment to support positive outcomes for all Tacomans.
- Policy UF-1.3 Promote the development of compact, complete and connected neighborhoods where residents have easy, convenient access to many of the places and services they use daily including grocery stores, restaurants, schools and parks, that support a variety of transportation options, and which are characterized by a vibrant mix of commercial and residential uses within an easy walk of home.
- Goal DD–9 Support development patterns that result in compatible and graceful transitions between differing densities, intensities and activities.
- Policy DD–4.3 Encourage residential infill development that complements the general scale, character, neighborhood patterns and natural landscape features of neighborhoods. Consider building forms, scale, street frontage relationships, setbacks, open space patterns, and landscaping. Allow a range of architectural styles and expression, and respect existing entitlements.
- GOAL DD–12 Integrate and harmonize development with the natural environment.

The comprehensive plan amendment of the eastern parcels, E-H, to General Commercial is not incompatible with the surrounding future land use designations or current development patterns. The key to development of these sites will be preservation of sensitive critical area components and development that is harmonious and compatible with adjacent parklands. Staff finds that there are many options that can accommodate that, and that continued scrutiny and focus on these aspects in any subsequent rezoning request and development action would be part of those reviews and actions.

c. An assessment of the anticipated impacts of the proposal, including, but not limited to: economic impacts, noise, odor, shading, light and glare impacts, aesthetic impacts, historic impacts, visual impacts, and impacts to environmental health, equity and quality.

Preliminary Critical Area Review

The applicant, per feedback from City of Tacoma, Planning and Development Services critical areas staff, engaged a consultant to do a preliminary evaluation of parcels designated above as C, D, E, F, G, H. Comprising approximately 13.4 acres. An examination of the site relative to wetlands, species habitat and to

City of Tacoma Biodiversity Corridor code was conducted. No wetlands or endangered species were identified on any of the subject parcels, nor were any indicators such as hydric soils or known wetlands vegetation types were found. The consultant did not conclude that the site would qualify as a biodiversity corridor site.
On February 18, 2022, City of Tacoma Planning and Development Services critical area staff conducted a review of the preliminary environmental assessment. Staff found:

- The report indicates that there are no wetlands or streams on the property. However, Oregon White Oaks, a priority species, was noted on Data Sheet SP2. Note: The soil pit map shows areas C/D, E, F, G/H and the data sheets number the soils pits and thus, I do not precisely know where the Oregon White Oaks are located although I suspect they are within the northeast heavily vegetated corner.

- Oregon White Oaks (Garry Oaks) are protected under the Cities Critical Area code (TMC 13.11). Guidance for their protection can be found in Washington State Department of Fish and Wildlife "Management Recommendations for Washington's Priority Habitats - Oregon White Oak Woodlands". In addition, Garry Oak-Conifer habitat is a forest community habitat that provides contiguous aerial pathways for the State Threatened western gray squirrel, and important roosting, nesting, and feeding habitat for birds and mammals found within the urban environment. Staff also note that conifers were included in the data sheets and additional information such as a tree survey is likely to be required to further evaluate habitat.

- Priority Oregon white oak (Quercus garryana) woodlands consist of stands of pure oak or oak/conifer associations where canopy coverage of the oak component of the stand is greater than or equal to 25%; or where total canopy coverage of the stand is greater than 25%, but Oak accounts for at least 50% of the canopy coverage present. The latter is often referred to as an oak savanna.

- In urban or urbanizing areas, single oaks, or stands of oaks less than 1 acre may also be considered a priority when found to be particularly valuable to fish and wildlife (i.e., they contain many cavities, have a large diameter at breast height [dbh], are used by priority species, or have a large canopy).

- A Critical Area Verification permit process will likely be required prior to any rezone process in order to determine whether the extent of protected areas on site. this will include verification of the non-wetland and no-Biodiversity Area/Corridor determinations in the report.

Preliminary Traffic Analysis

The applicant, per feedback from City of Tacoma, Public Works, Traffic Engineering staff engaged Heath & Associates, Aaron Van Aken, PE, to conduct a preliminary traffic analysis. The analysis concluded that probable development resulting from approval of this request, and subsequent necessary rezoning and development permit requests would not generate sufficient traffic to greatly impact the surrounding areas. The findings were that most of the added trips to the adjacent roadways from low scale multi-family development would utilize Wapato Street, 66th Street (for westbound trips) and then 64th Street for eastbound travel. Commercial development on parcels, C, D, E, F, G, H would be contained on 64th and 66th (for westbound entry onto Tacoma Mall Blvd). The findings were that possible future infrastructural and

traffic controlling features may be necessary, but ultimately the probable increase in development density that approval of this request and subsequent, rezoning and development applications would result in, would be manageable and appropriate for the surrounding transportation network. Staff will note that at the subsequent rezoning, and permitting phases city of Tacoma Public Works, traffic engineering staff will be closely monitoring development of these sites and ensuring that such mitigations would be made.

Preliminary Assessment of Connectivity of 66th, 68th, and 70th Streets

Specifically AHBL examined the viability of completing 66th and 70th Streets at a future time to provide greater connectivity and completion of the city street grid and found that due to the extreme slope that bisects the area. In the case of 66th street an average 7.9% grade is measured, with a portion being upwards of 26%, and thus the street is not eligible per the city's own standards. 70th Street would have an average of 21.5% grade with some area over 30%. While 68th street is not specifically called out it is in the middle of both 66th and 70th and has similar dynamics and slope profile. The consulting engineers conclude the cost and engineering challenge involved would be unwarranted given the potential gain and benefit to the roadway network, and the relatively small increase any potential development in this area might create. An examination of possible pedestrian trail connectivity was not specifically examined; however, staff will note that the same dynamics would be at play and slope would be a challenge relative to the need for Americans with Disabilities Act considerations and provision of a trail that would have a gentle grade for all users. A pedestrian trail would likely be very cost prohibitive given the severe slope in the area. See the attached memo marked Exhibit "C."

Staff will also note that undeveloped property to the south is designated open space, and the private multi-family properties to the south do not have viable connectivity options to the proposed parcels and thus added southern roadway connections to "Parcel A" (former Western Baptist Teachers College site, APN 0320301024) across other private properties is unlikely, however site connectivity to 68th street seems possible, however as mentioned 68th street being completed to the east is unlikely and infeasible. At the time of this staff report the consultant has not been requested to examine that connection, but it has been noted and will be examined if possible prior completion of the planning commission's final consideration.

D. Public Outreach

Public outreach for this application has been conducted as part of the Planning Commission's meetings when this application was on the agenda – on May 19, 2021 (reviewing scope of work), June 16, 2021 (Public Scoping Hearing), and July 21, 2021 (approval of scope of work).

Public notice for the Planning Commission Public Scoping Hearing was mailed out to over 30,000 South Tacoma residents for the scoping hearing, including residents of areas outside the city limit boundaries within 2,000 feet of this site.

Staff conducted a virtual community informational meeting on December 6th, 2021. Notice was mailed out

approximately two weeks prior to the meeting, and the low attendance was in keeping with a lower public interest exhibited during the public scoping phase during the summer of 2021. The mailing for this meeting was to approximately 715 area residents and property owners within a 2,500 foot radius from the site.

The Commission is scheduled to conduct a public hearing on the 2022 Amendment on March 16, 2022 (tentatively). Additional public outreach for all the applications for the 2022 Amendment will be conducted prior to and during the public hearing process.

E. Recommendation

Staff recommends that the Planning Commission release this staff report and Exhibit "A" for public review and comment.

After the public hearing, staff will facilitate the Commission's review of public comments, decision making, and formulation of recommendations to the City Council, pursuant to TMC 13.02.070.H, as cited below:

> H. Findings and recommendations.
>
> 1. Upon completion of the public comment period and review of the public testimony, the Planning Commission will make a determination as to whether the proposed amendments are consistent with the following criteria:
>
> a. Whether the proposed amendment will benefit the City as a whole, will not adversely affect the City's public facilities and services, and bears a reasonable relationship to the public health, safety, and welfare; and
>
> b. Whether the proposed amendment conforms to applicable provisions of State statutes, case law, regional policies, and the Comprehensive Plan.
>
> 2. The Commission will prepare a recommendation and supportive findings to forward to the City Council for consideration.

F. Exhibit

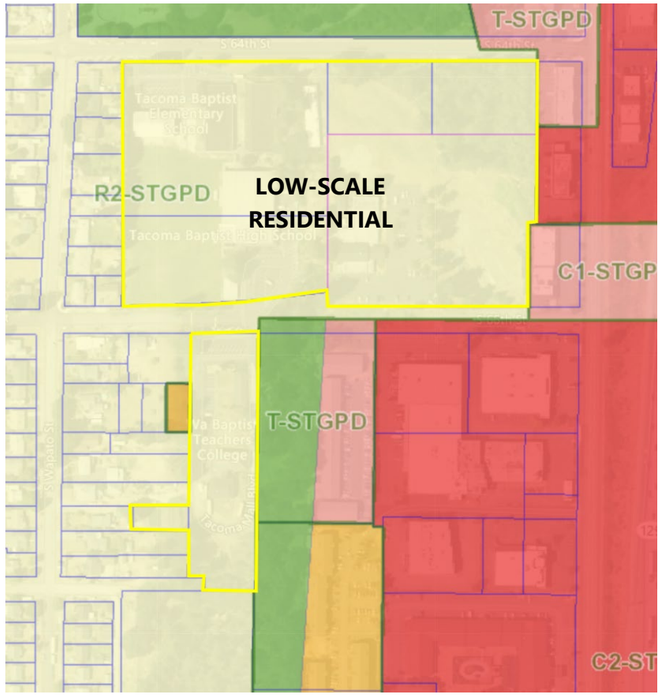
- Exhibit "A" – South Sound Christian/CenterPoint Christian Fellowship Land Use Designation Amendment"

# # #

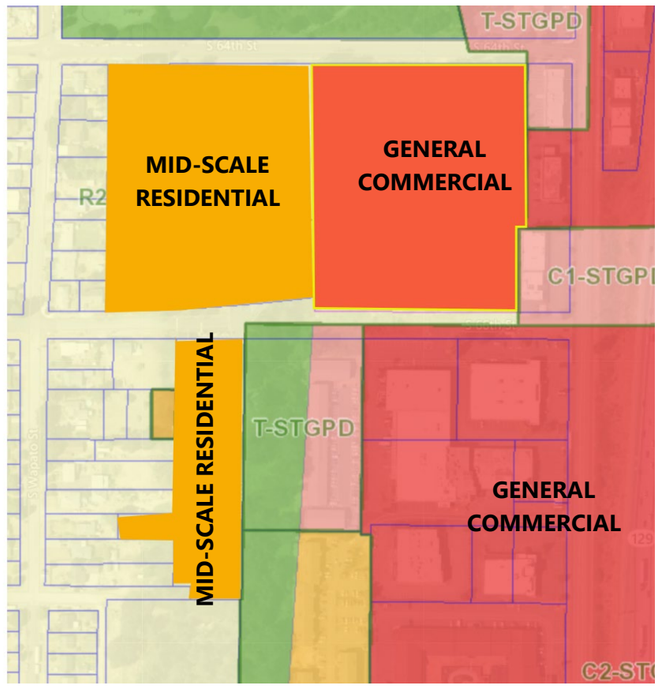
2022 Comprehensive Plan and Land Use Code Amendments

EXHIBIT A: South Sound Christian/CenterPoint Christian

CURRENT LAND USE DESIGNATION: LOW SCALE RESIDENTIAL



PROPOSED LAND USE DESIGNATION: MID-SCALE RESIDENTIAL & GENERAL COMMERCIAL



APPLICANT: South Sound Christian/CenterPoint Christian Fellowship

SITE LOCATION: 8 parcels generally adjacent to 2052 South 64th Street

AMENDMENT TYPE: Comprehensive Plan Future Land Use Map Amendment

WHY IS THIS CHANGE PROPOSED?

The parcel owners are working together on a joint application and wish to sell and/or redevelop portions of the site for multi-family development and general commercial development. The applicant hopes to work with Bargreen Ellingson, a South Sound area restaurant supply and design company, to expand their operations in the area.

This application is a request for a Land Use Designation Change from a Low-Scale Designation to a Mid-Scale Designation on the western 4 parcels and General Commercial on the eastern 4 parcels with a total land area of approximately 15.96 acres.

The Designation change would enable the applicants to seek a site rezone.

CURRENT LAND USE DESIGNATION:

Low-scale Residential Designation Description:
Low-scale residential designations provide a range of housing choices built at the general scale and height of detached houses and up to three stories (above grade) in height. Standards for low-scale housing types provide flexibility within the range of building width, depth, and site coverage consistent with detached houses and backyard accessory structures, pedestrian orientation, and a range of typical lot sizes from 2,500 square feet up to 7,500 square feet. Low-scale residential designations are generally located in quieter settings of complete neighborhoods that are a short to moderate walking distance from parks, schools, shopping, transit and other neighborhood amenities.

PROPOSED LAND USE DESIGNATIONS

Mid-scale Residential Designation Description:
Mid-scale residential designations are generally located in close proximity to Centers, Corridors and transit and provide walkable, urban housing choices in buildings of a size and scale that is between low-scale residential and the higher-scale of Centers and Corridors. Standards for mid-scale housing support heights up to 3 stories (above grade), and 4 stories in limited circumstances along corridors. Standards shall ensure that development is harmonious with the scale and residential patterns of the neighborhood through building height, scale, width, depth, bulk, and setbacks that prevent overly massive structures, provide visual variety from the street, and ensure a strong pedestrian orientation. Development shall be subject to design standards that provide for a smooth scale transitions by methods including matching low-scale building height maximums where mid-scale residential abuts or is across the street from low-scale areas.

General Commercial Designation Description:
This designation encompasses areas for medium to high intensity commercial uses which serves a large community base with a broad range of larger scale uses. These areas also allow for a wide variety of residential development, community facilities, institutional uses, and some limited production and storage uses. These areas are generally located along major transportation corridors, often with reasonably direct access to a highway. This designation is characterized by larger-scale buildings, longer operating hours, and moderate to high traffic generation.

To learn more: visit www.cityoftacoma.org/2022amendment or email at planning@cityoftacoma.org.

Attachment A

SOUTH SOUND COMPREHENSIVE PLAN AMENDMENT
TRAFFIC ASSESSMENT

City of Tacoma, WA

Prepared for: Ron Nelson
c/o: Bill Herried
South Sound Christian Schools
2052 S 64th Street
Tacoma, WA 98409

January 2022

SOUTH SOUND COMPREHENSIVE PLAN AMENDMENT
TRAFFIC IMPACT ANALYSIS

1. INTRODUCTION

The main goals of this study focus on the assessment of roadway/non-motorist conditions and forecasts of newly generated project traffic in relation to a proposed comprehensive plan zoning amendment for the tax parcel #'s: 032030-1024; -1189; -1073; -1075; -1193; -1194; & -1159. The first task includes the review of existing parcel characteristics, permissible land use development and general roadway information on the adjacent street system. Forecasts of future traffic and dispersion patterns on the street system are then determined using established trip generation and distribution techniques for two alternatives. The first includes a forecast analysis encompassing site trip generation under existing zoning ordinances. The second alternative accounts for a zoning amendment, permitting the development of multi-family and commercial uses. As a final step, appropriate conclusions and mitigation measures are defined.

2. PROJECT DESCRIPTION

This report summarizes anticipated traffic impacts related to a comprehensive plan amendment request for tax parcel #'s: 032030-1024; -1189; -1073; -1075; -1193; -1194; & -1159 in the city of Tacoma. The subject site is located south of S 64th Street, east of S Wapato Street and west of S Tacoma Boulevard on a cumulative 15.96-acres. The subject site is currently designated as Single-Family Residential (R2) zoning. The primary aspect of this proposal is to seek a comprehensive plan amendment from the above designation to permit the development of multi-family (western 4 parcels) and commercial (eastern 4 parcels) uses. Surrounding roadway descriptions and additional subject site parcel characteristics are provided in the following section. Figure 1 below shows the vicinity map of the area.

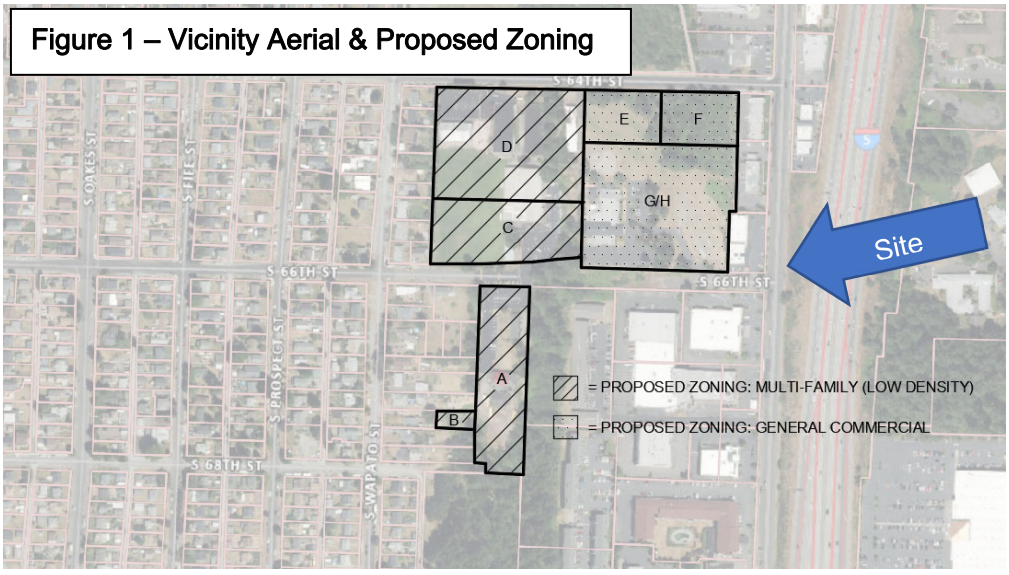


Figure 1 – Vicinity Aerial & Proposed Zoning

3. EXISTING CONDITIONS

3.1 Existing Street System

The street network serving the proposed project consists of a variety of roadways. The major roadways and arterials defined in the study area are listed and described below.

Table 1: Roadway Network

Functional Classification	Roadway	Speed Limit	Lanes	Street Parking	Sidewalk	Bike Facilities
Collector	Tacoma Mall Blvd	35 mph	2-3	Yes	Yes	No
Local	S 64th St	25 mph*	2	Yes	Some	No
	S 66th St	25 mph*	2	Yes	Some	No
	S Wapato St	25 mph*	2	Yes	Some	No

* No posted speed limit observed so the City standard 25 mph applies.

3.2 Roadway Improvement Projects

A review of the current City of Tacoma Six-Year Transportation Improvement Program (2022-2027) indicates projects are planned in the study area. Capacity-related projects and improvements affecting the study intersections are included below:

LID 8668: S 66th St & Wapato (WBS: $LID--8668R): This project includes alley and street asphalt paving and new curb and gutter. The project has a total estimated cost of $923,300.

South 74th Street: Tacoma Mall Blvd to West City Limits (WBS: $PWKS-00005): The project will construct grind and overlay improvements and install ADA compliant curb ramps where needed. Total project cost is estimated at $4,400,000.

56th Street South and Cirque Drive Corridor Improvements: S Washington St to Tacoma Mall Blvd (WBS: PWK-G0006): This project will replace pavement along the corridor, upgrade curb ramps and sidewalks to meet ADA requirements, install traffic signal upgrades and install bike facilities on a parallel route connecting the South Tacoma Sounder Station with the Tacoma Mall Transit Center. Total project cost is estimated at $11,637,651.

3.3 Active Transport

Non-Motorist Facilities:

School-aged children residing in the subject site would attend either Arlington Elementary (0.70-miles walking distance southwest of the subject site) or Gray Middle School (1.30-miles walking distance west). Tacoma Mall Boulevard and the north side of S 66th Street provide curb and sidewalk. Elsewhere, non-motorist infrastructure is discontinuous. It should be noted that Sound Christian Academy, a private pre-k through 12th grade school, is located on-site. Signage alerting drivers of pedestrian crossings associated with the school is available on S 66th Street and S 64th Street in the vicinity of the subject site. Mini-traffic circles are provided at S 66th Street's nearby intersections with S Wapato Street and S Fife Street. Moreover, speed humps reducing driver speed are provided are provided along S Wapato Street in the subject site vicinity.

Transit Service

A review of the Pierce Transit service schedule indicates Route 53 – University Place provides transit service in close proximity to the subject site. The nearest stops are provided at S Oakes Street's intersections with S 64th Street and S 66th Street (~0.30-miles walking distance west of the subject site). The route provides connections between the TCC Transit Center and Tacoma Mall Transit Center with stops provided in University Place along 27th Street W/40th Street W/Grandview Drive W and in South Tacoma. Weekday service is provided from 5:50 AM – 10:45 PM with approximately 30-minute headways during peak travel hours. Saturday service is provided from approximately 8:25 AM – 6:00 PM with approximately 60-minute headways. Sunday service is provided from approximately 8:16 AM – 6:37 PM with approximately 120-minute headways.

Moreover, Route 202 – S 72nd Street provides bus stops 0.60-miles walking distance south of the subject site at S 74th Street & S Wapato Street. The route services the 72nd Street corridor providing connection between the Lakewood Transit Center and the 72nd Street Transit Center. Weekday service is provided from 6:00 AM – 10:18 PM with approximately 30-minute headways during peak travel hours. Saturday service is provided from approximately 8:45 AM – 9:58 PM with approximately 30-minute headways. Sunday service is provided from approximately 9:20 AM – 9:18 PM with approximately 30-minute headways.

Refer to Pierce Transit's routes & schedules for further details.

4. ZONING & DEVELOPMENT POTENTIAL

Under existing zoning regulations, the subject site could be developed via single-family land use. To calculate approximately how many structures could be constructed in accordance with City standards, the total area of each parcel was measured (acreage/feet^2). Values were derived from the Pierce County Assessor. It should be noted that by taking the total site area, assumptions include all existing structures to be demolished and the site redeveloped to maximum single-family potential. While this scenario is not anticipated to occur, it presents a conservative trip generation analysis.

Per Tacoma Municipal Code 13-191, single-family structures within R-2 zoning require a standard minimum lot size of 5,000 square feet. Multi-family development within the proposed Comprehensive Plan Amendment scenario requires a minimum lot size of 6,000 square feet plus 1,500 square feet/unit in excess of 4 units. Lastly, approximately 70% of the total land area was assumed to be developable for the proposed commercial space (C2 zoning). This 30% reduction accounts for building setbacks, parking and more. Table 2 summarizes the permissible number of developable units within each parcel under existing zoning and proposed comprehensive plan amendment conditions.

Table 2: Permissible Development Estimates

Existing Zoning	Parcel	Available Developable Area	Existing Zoning Dev. Estimate (Single-Family)	Proposed Comp. Plan Amend. Dev. Estimate (Multi-Family: A-D / Commercial: E-H)
Single-Family (R-2)	A	2.38-acres / ~103,455 SF	20 S-F DU's	69 M-F DU's
	B	0.18-acres / ~7,840 SF	1 S-F DU's	5 M-F DU's
	C	2.58-acres / ~112,500 SF	22 S-F DU's	75 M-F DU's
	D	4.76-acres / ~207,346 SF	41 S-F DU's	138 M-F DU's
	E	1.00-acres / ~43,560 SF	8 S-F DU's	~215,300 SF of commercial space
	F	1.06-acres / ~46,211 SF	9 S-F DU's	
	G/H	5.00-acres / ~217,800 SF	43 S-F DU's	
Total Subject Site Development Potential			144 S-F DU's	287 M-F DU's; ~215,300 SF Comm.

As illustrated in Table 2, approximately 144 single-family dwelling units may be constructed on-site should the entire site be redeveloped with single-family land use. Under the proposed comprehensive plan amendment estimates, approximately 287 multi-family dwelling units and ~215,300 square feet of commercial space may be constructed should the entire subject site be redeveloped under the proposed comprehensive plan amendment. This estimate assumes a maximum redevelopment of the subject parcels currently occupied by CenterPoint Christian Fellowship church. Therefore, these are conservative estimates as redevelopment of the entire subject site is not planned.

5. FUTURE TRAFFIC CONDITIONS

5.1 Project Trip Generation

Trip generation is defined as the number of vehicle movements that enter or exit a site during a designated time period such as a specific peak hour or an entire day. Data presented in this analysis was derived from the Institute of Transportation Engineer's (ITE) publication *Trip Generation,* 11th Edition. If development were to occur under existing zoning regulations, the designated land use would be classified as Single-Family Detached Housing (LUC 210). Should the comprehensive plan amendment be approved, proposed development could consist of multi-family and commercial development. It should be noted that a tenant is identified should the C2 comprehensive plan amendment become enacted. One development option for parcels E, F G and H could comprise a warehouse use by Bargreen Ellingson, a restaurant supply company. As such, the designated land uses would be classified as Multi-Family Housing Mid-Rise (LUC 220) and Warehousing (LUC 150) under the proposed comprehensive plan amendment development scenario.

ITE average rates were used to determine trip ends with dwelling units used as the input variable for the existing and comprehensive plan amendment residential land uses. Equations and square footage, which comprise more conservative trip estimates when compared with rates, were used for LUC 150. Table 3 below summarizes anticipated vehicular movements for the average weekday daily trips (AWDT), AM peak hour and PM peak hour. ITE Trip Generation sheets have been attached to the appendix for reference.

Table 3: Project Trip Generation

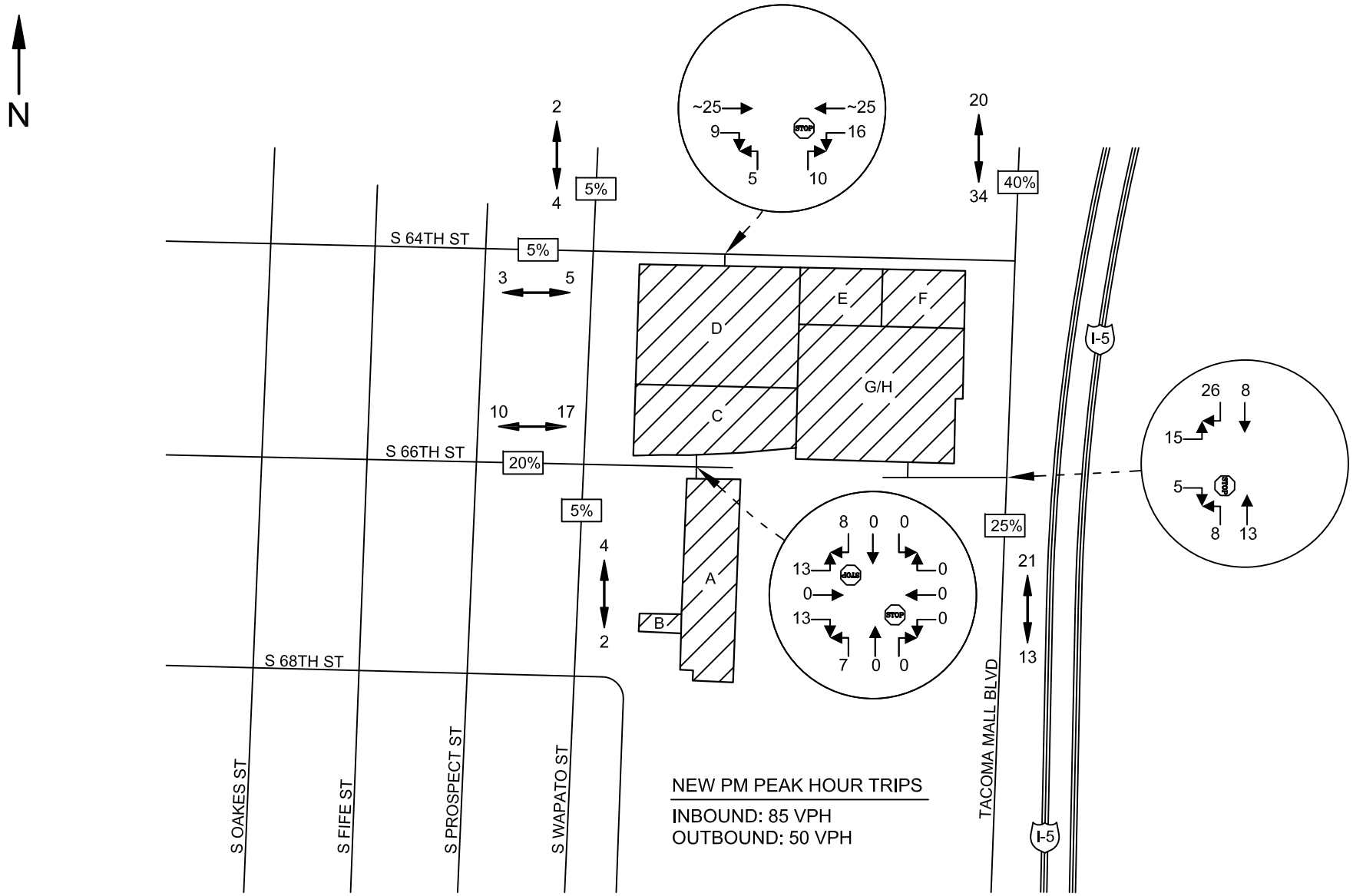
Land Use	Units	AWDT	AM Peak-Hour Trips			PM Peak-Hour Trips		
			In	Out	Total	In	Out	Total
Existing Zoning:								
Single-Family Detached – LUC 210	144 DU's	1358	26	75	**101**	85	50	**135**
Proposed Comp. Plan Amendment:								
Multi-Family (Low-Rise) – LUC 220	287 DU's	1934	28	87	**115**	92	54	**146**
Warehousing – LUC 150	215.3 KSF	378	38	11	**49**	14	38	**52**
Proposed Comp. Plan Amendment Total		2312	66	98	**164**	106	92	**198**

Based on the data presented in Table 3, site redevelopment under existing single-family zoning conditions is anticipated to generate approximately 1358 average weekday trips with 101 trips (26 in/75 out) occurring during the AM peak hour and 135 trips (85 in/50 out) occurring during the PM peak hour.

Proposed comprehensive plan amendment site redevelopment is anticipated to generate 2312 average weekday trips with 164 trips (66 in/98 out) occurring during the AM peak hour and 198 trips (106 in/92 out) occurring during the PM peak hour.

5.2 Trip Distribution and Assignment

Trip distribution describes the process by which project generated trips are dispersed on the street network surrounding the site. Figure 2 illustrates PM peak hour trip distribution & assignment under Scenario 1: forecast site redevelopment under existing single-family zoning conditions. Figure 3 illustrates PM peak hour trip generation and distribution under Scenario 2: forecast site redevelopment given proposed comprehensive plan amendment conditions. Percentages and assignments of project-generated traffic are based on proximity to major arterial routes and destinations. Subject parcels A-C are anticipated to access the site via S 66th Street from the west. Parcel D is anticipated to continue access via S 64th Street and parcels E-H are anticipated to be accessed via S 66th Street by way of Tacoma Mall Boulevard.



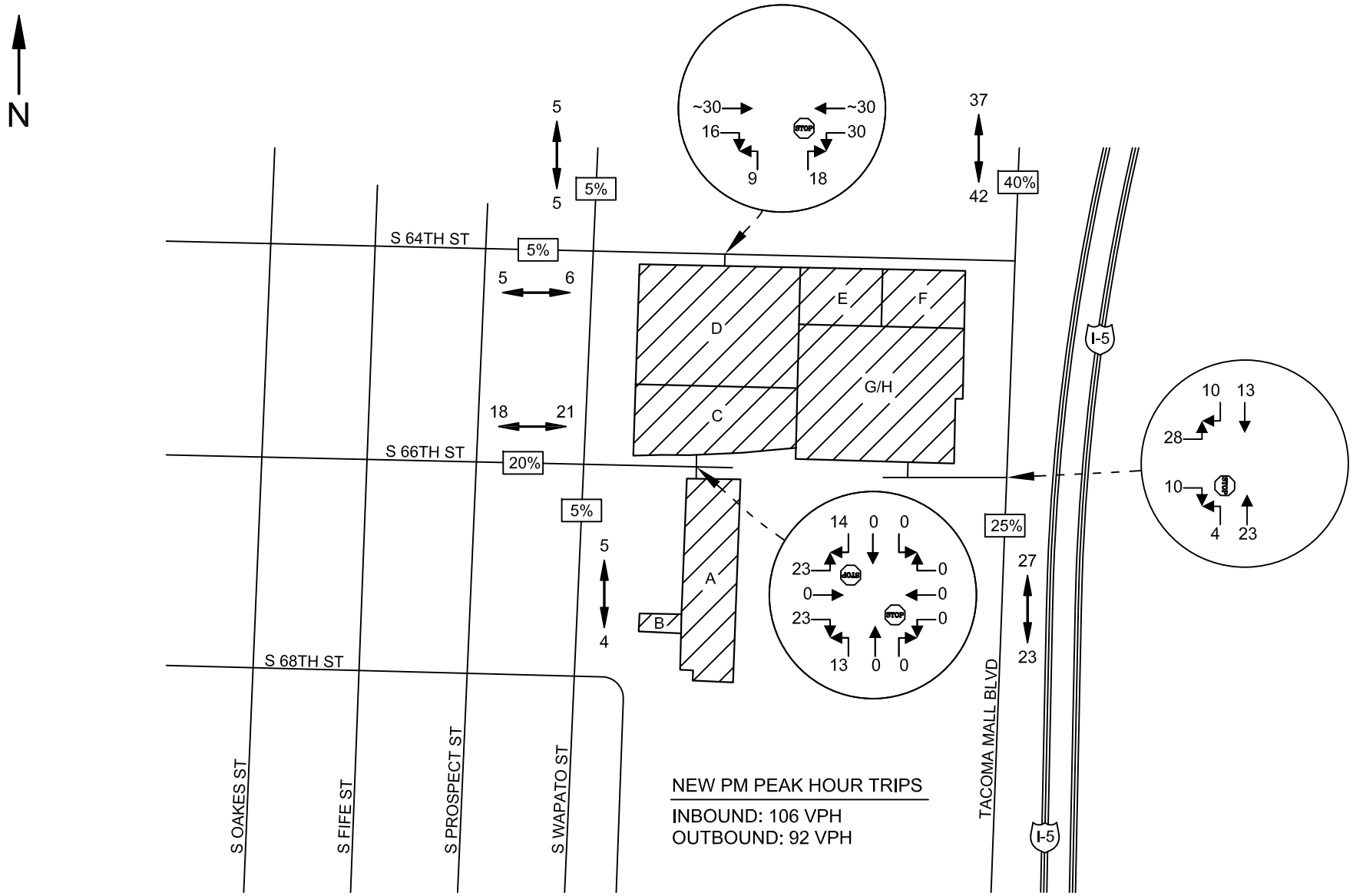
HEATH & ASSOCIATES

TRAFFIC AND CIVIL ENGINEERING

SOUTH SOUND COMPREHENSIVE PLAN AMENDMENT

PM PEAK HOUR TRIP DISTRIBUTION & ASSIGNMENT
SCENARIO 1: SITE REDEVELOPMENT UNDER EXISTING ZONING (SINGLE-FAMILY)
FIGURE 2

PO Box 397 Puyallup, WA 98371 (253) 770 1401 heathtraffic.com



HEATH & ASSOCIATES

TRAFFIC AND CIVIL ENGINEERING

SOUTH SOUND COMPREHENSIVE PLAN AMENDMENT

PM PEAK HOUR TRIP DISTRIBUTION & ASSIGNMENT
SCENARIO 2: SITE REDEVELOPMENT UNDER PROPOSED REZONE (MULTI-FAMILY/COMMERCIAL)
FIGURE 3

PO Box 397 Puyallup, WA 98371 (253) 770 1401 heathtraffic.com

6. SUMMARY

The South Sound Comprehensive Plan Amendment project proposes a future amendment to existing zoning. The comprehensive plan amendment request encompasses tax parcel #'s: 032030-1024; -1189; -1073; -1075; -1193; -1194; & -1159 (15.96-acres), located in the city of Tacoma. The subject site is currently zoned as Single-Family Residential (R2) zoning. The proposed comprehensive plan amendment and future associated rezone would permit the development of multi-family in the western 4 parcels and a commercial use in the eastern 4 parcels.

Future buildout assumptions encompassed two trip generation and distribution scenarios. Scenario 1 assumes the entire subject site be redeveloped under existing single-family zoning. Scenario 2 assumed the entire subject site to be redeveloped under the proposed comprehensive plan amendment, permitting multi-family and commercial development. Based on trip generation estimates derived from approximate development potential, Scenario 1 is anticipated to generate approximately 135 PM peak hour trips (85 in / 50 out). Moreover, Scenario 2 is anticipated to generate approximately 198 PM peak hour trips (106 in / 92 out). Approximate PM peak hour trip distribution and assignment for each development scenario are outlined in Figures 2 and 3. It should again be noted that these are conservative estimates as the future assumptions encompassed complete redevelopment of every subject site parcel.

The majority of trips would be traveling to/from Tacoma Mall Boulevard. Under either analysis scenario, less than 100 PM peak hour trips would be traveling along any local roadway segment in the vicinity of the subject site. Therefore, the proposed comprehensive plan amendment and future associated rezone is not found to have a significant impact to surrounding local roadway operations. Should the proposal differ from the land use assumptions evaluated herein, an additional study may be required at such time. It should be noted that speed reduction strategies such as speed humps and neighborhood traffic circles are provided on the surrounding roadway system. To mitigate potential impacts as a result of the proposed comprehensive plan amendment and future associated rezone, additional infrastructure may be required as a part of site development.

Please feel free to contact should you require additional information.

Single-Family Detached Housing
(210)

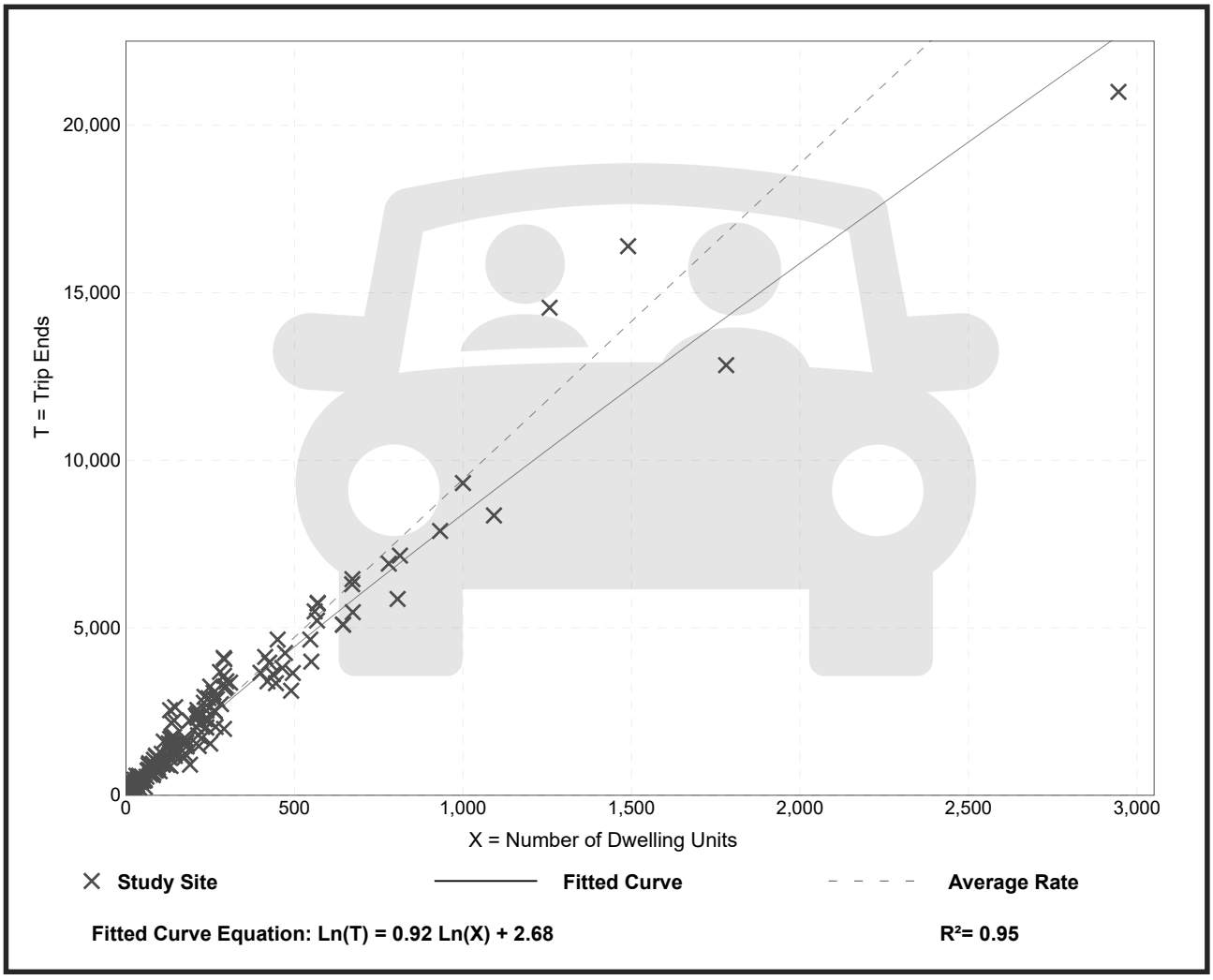
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 174
Avg. Num. of Dwelling Units: 246
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.43	4.45 - 22.61	2.13

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

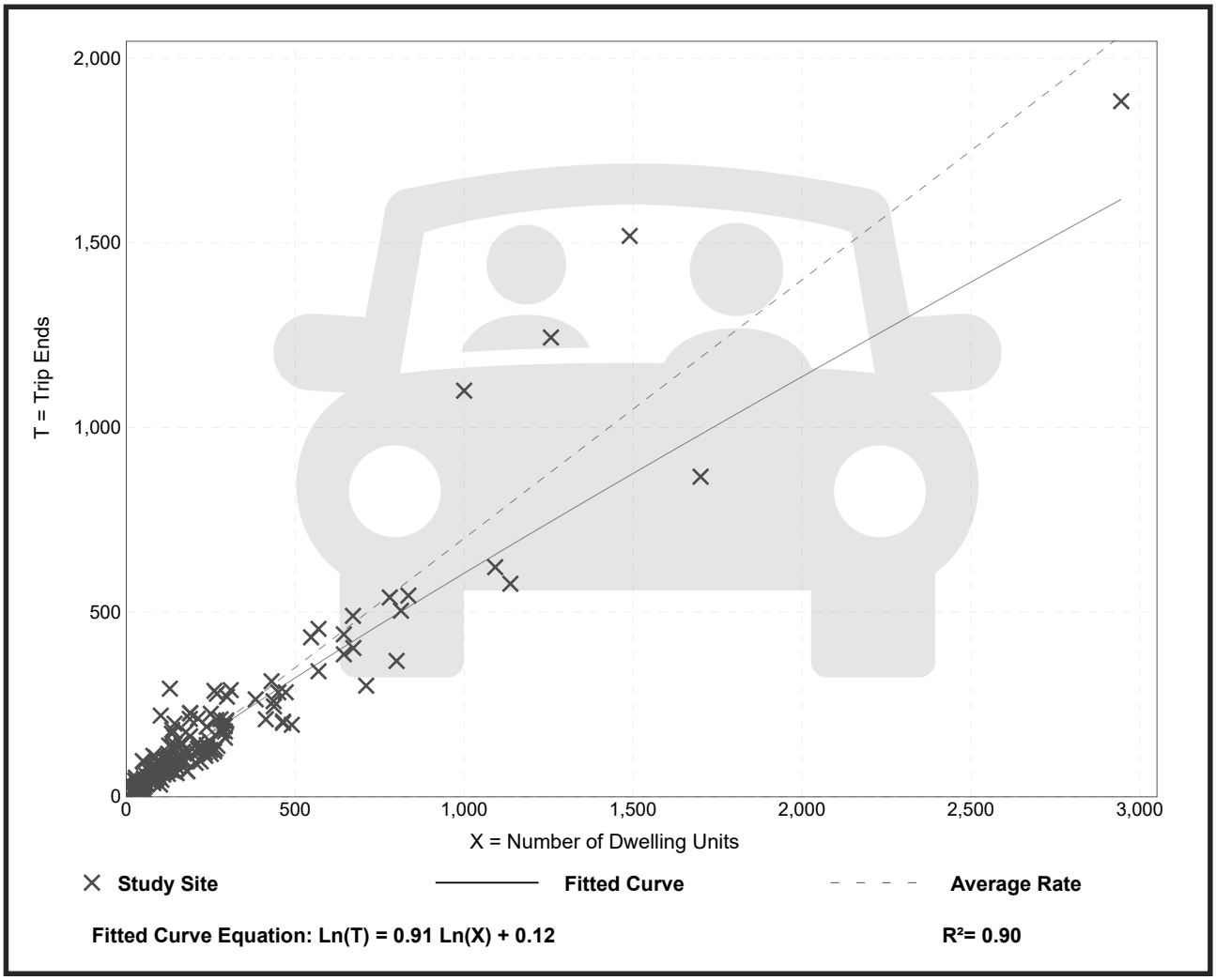
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 192
Avg. Num. of Dwelling Units: 226
Directional Distribution: 26% entering, 74% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.70	0.27 - 2.27	0.24

Data Plot and Equation



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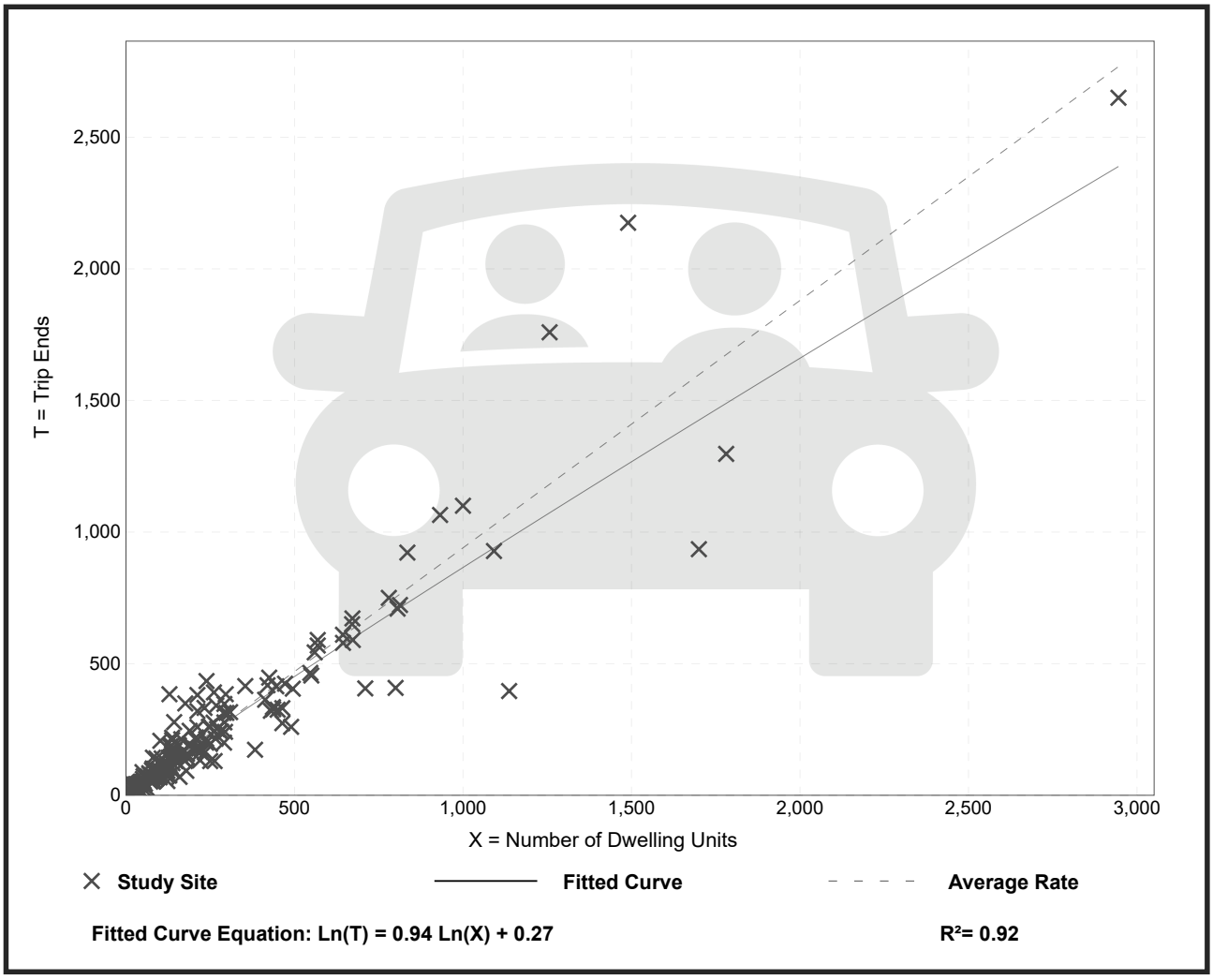
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 208
Avg. Num. of Dwelling Units: 248
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.94	0.35 - 2.98	0.31

Data Plot and Equation



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Warehousing
(150)

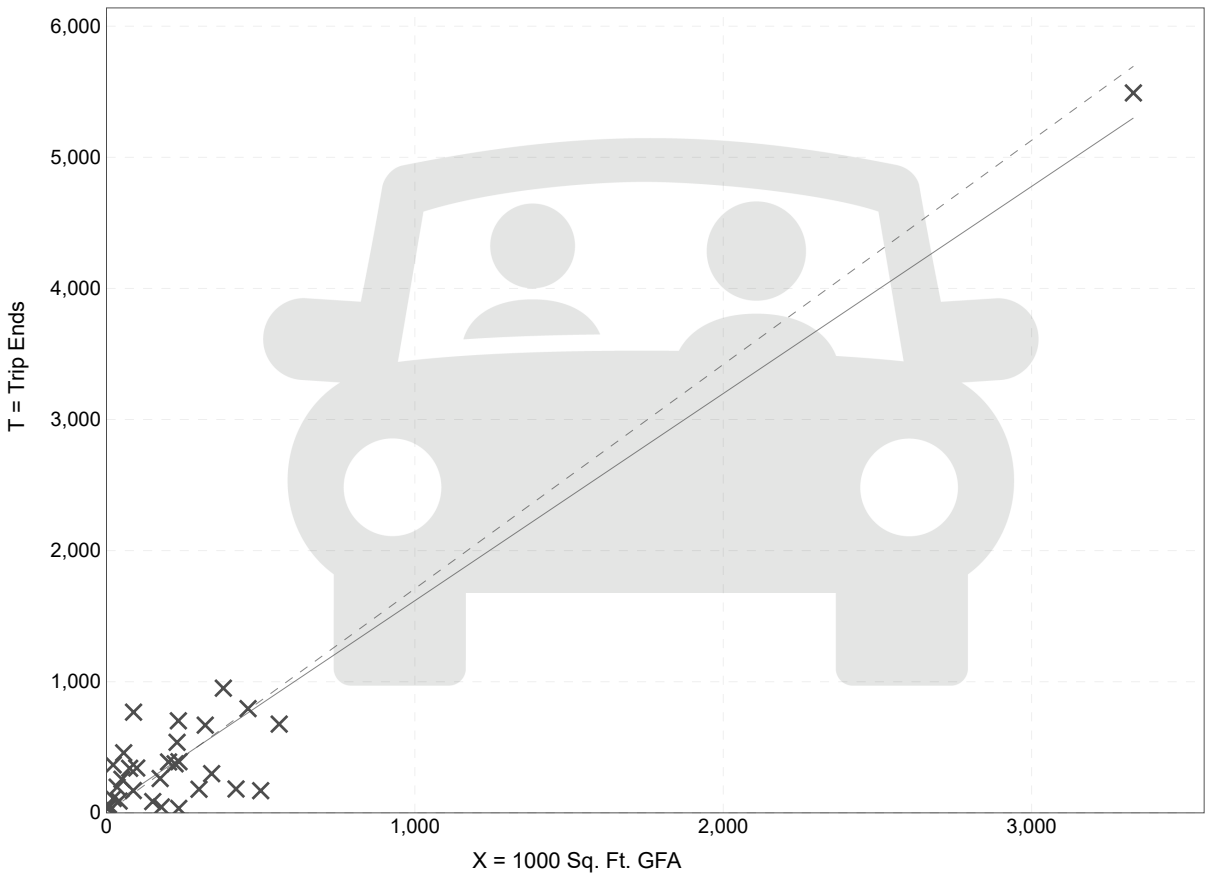
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 31
Avg. 1000 Sq. Ft. GFA: 292
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.71	0.15 - 16.93	1.48

Data Plot and Equation



Fitted Curve Equation: T = 1.58(X) + 38.29 **R^2= 0.92**

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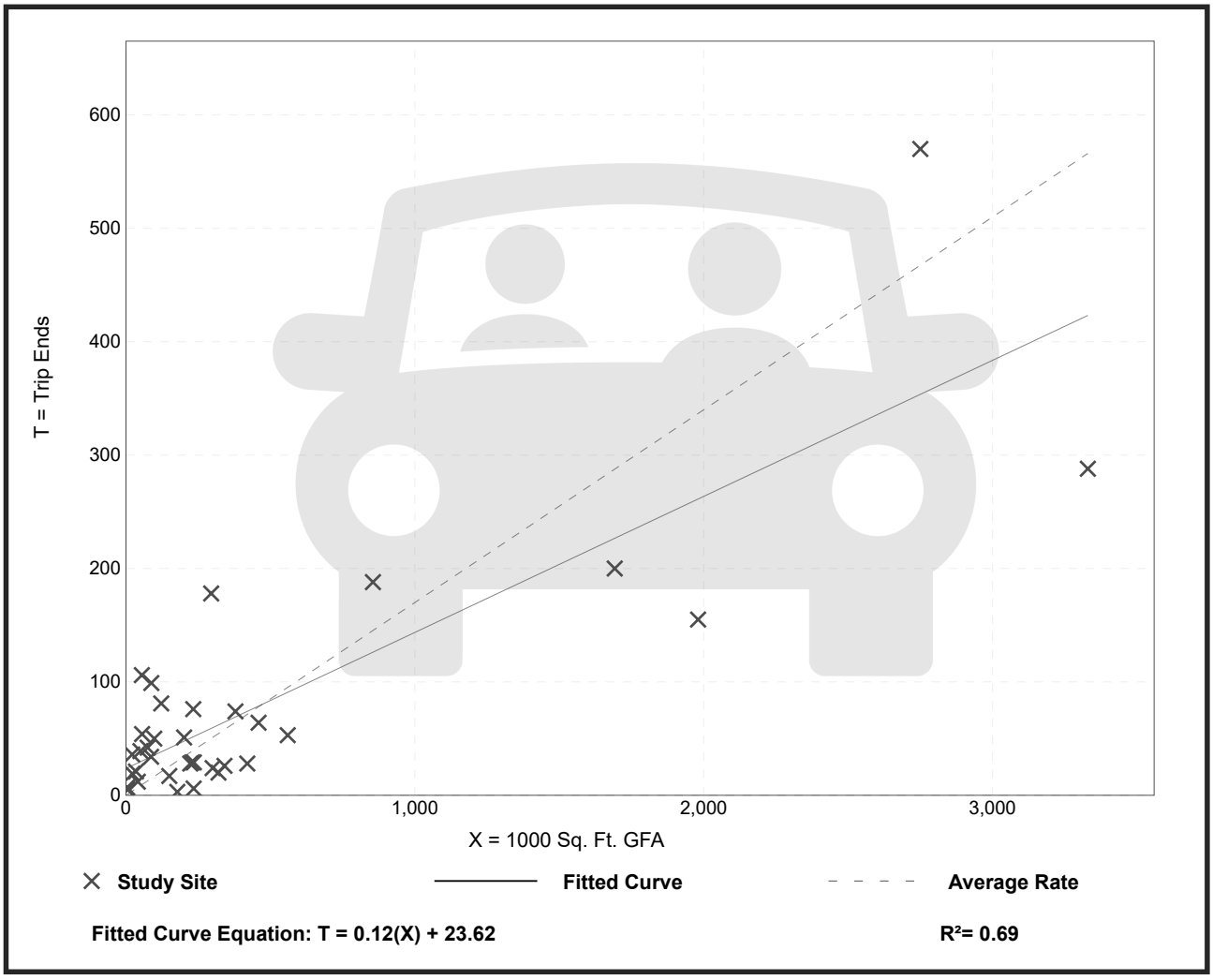
Warehousing
(150)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 36
Avg. 1000 Sq. Ft. GFA: 448
Directional Distribution: 77% entering, 23% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.17	0.02 - 1.93	0.19

Data Plot and Equation



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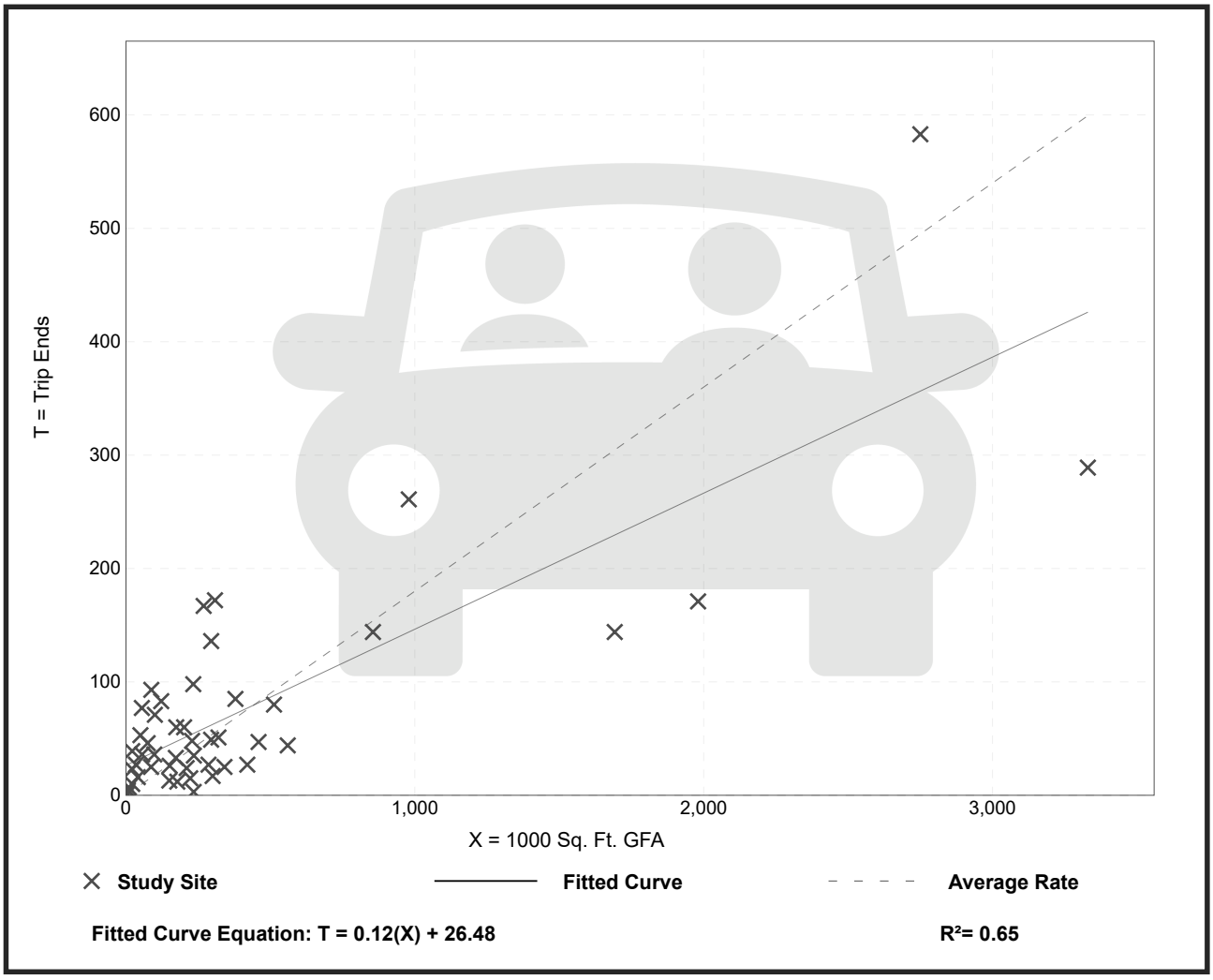
Warehousing
(150)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 49
Avg. 1000 Sq. Ft. GFA: 400
Directional Distribution: 28% entering, 72% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.18	0.01 - 1.80	0.18

Data Plot and Equation



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Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

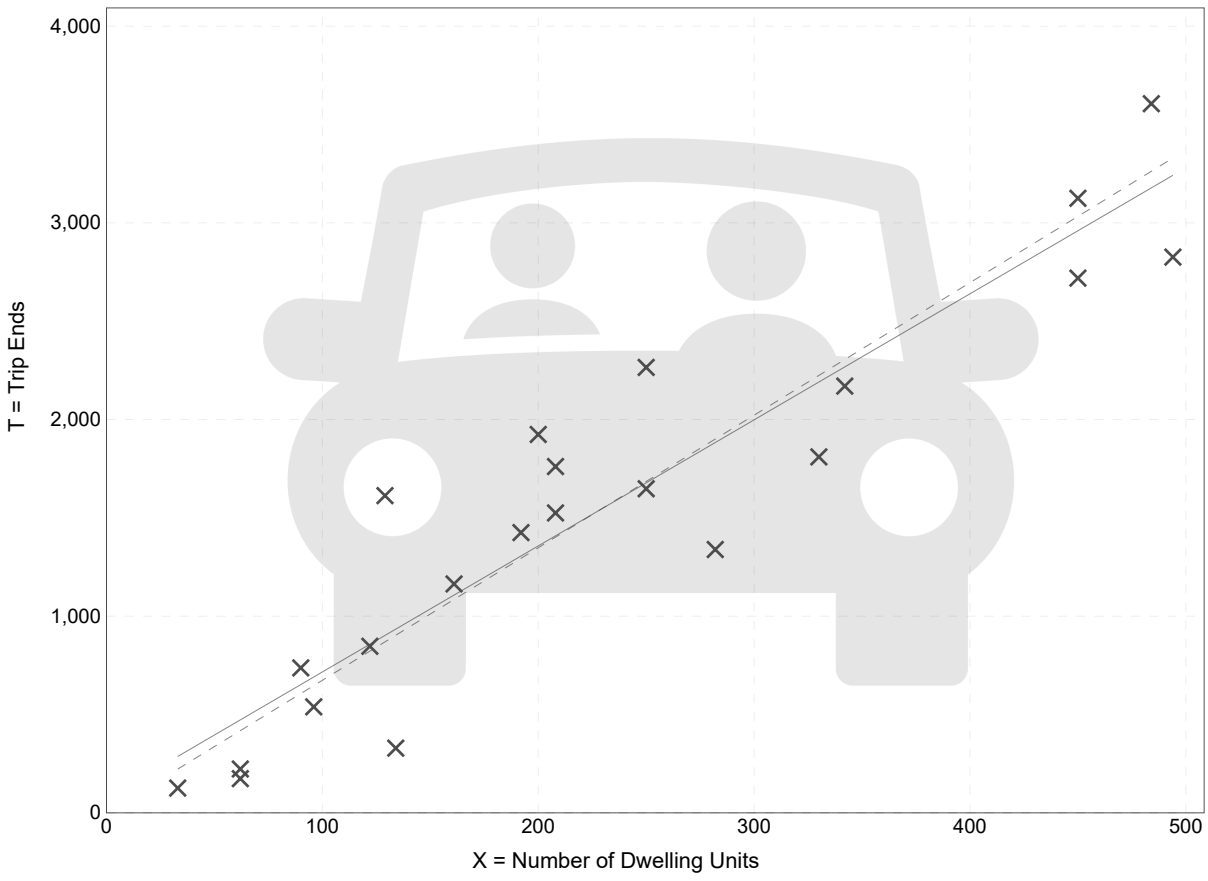
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 22
Avg. Num. of Dwelling Units: 229
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
6.74	2.46 - 12.50	1.79

Data Plot and Equation



Fitted Curve Equation: T = 6.41(X) + 75.31

R^2= 0.86

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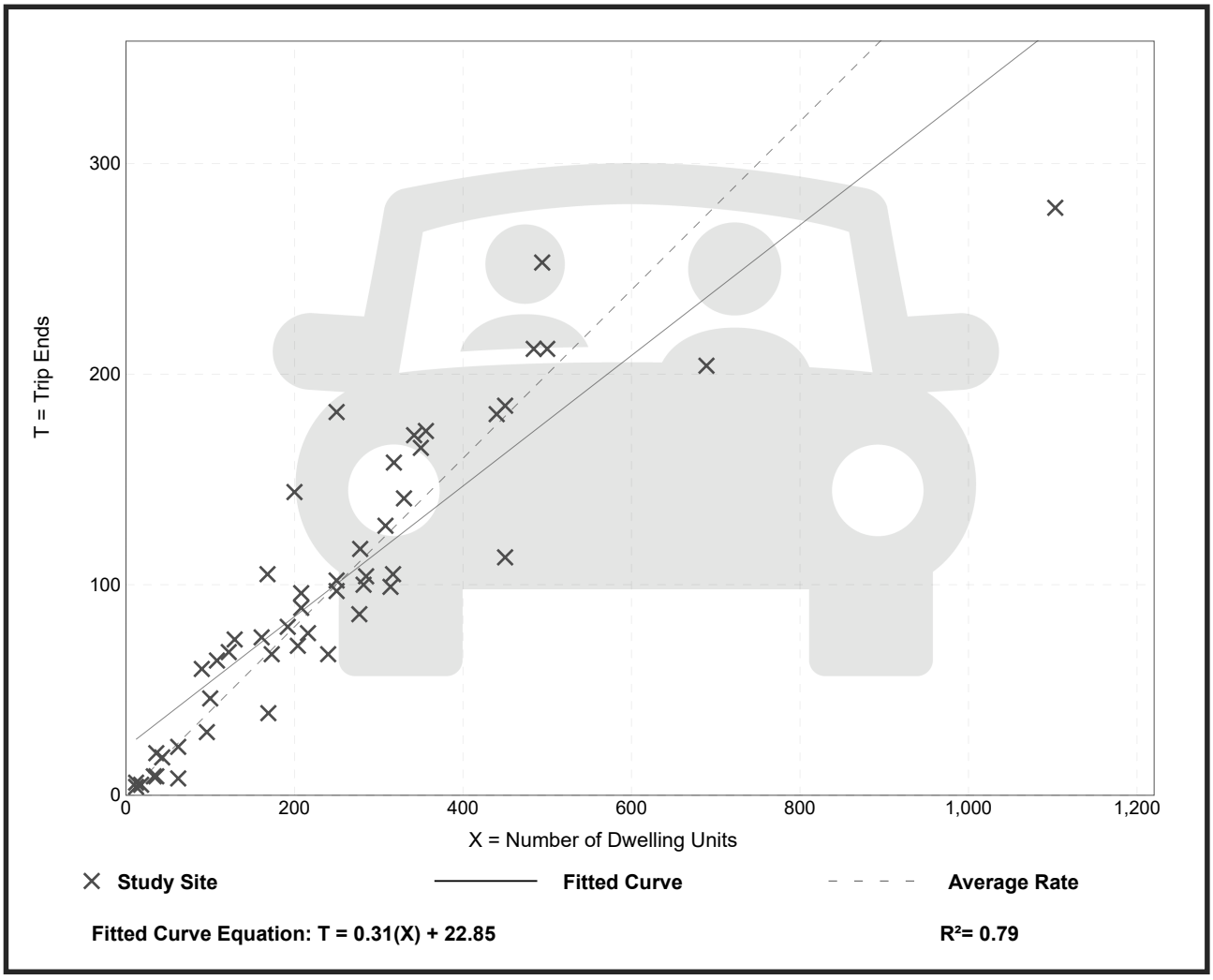
Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 49
Avg. Num. of Dwelling Units: 249
Directional Distribution: 24% entering, 76% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.40	0.13 - 0.73	0.12

Data Plot and Equation



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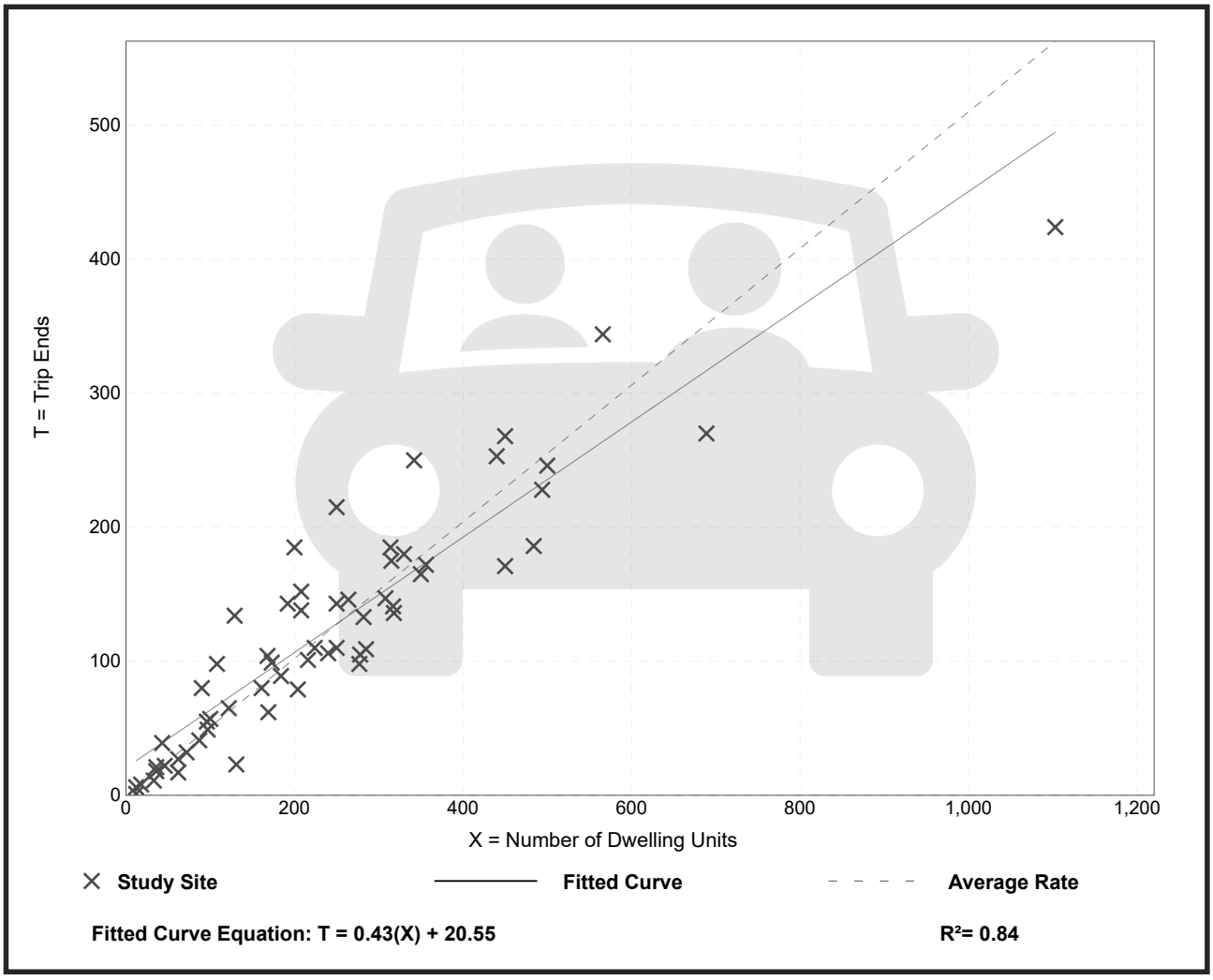
Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 59
Avg. Num. of Dwelling Units: 241
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.51	0.08 - 1.04	0.15

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

Attachment B

PROJECT MEMO

TO:	Larry Harala Principal Planner City of Tacoma – Planning and Development Services 747 Market Street – Room 345 Tacoma, WA 98402	**DATE:**	February 22, 2022
FROM:	Steve Nickison Tacoma - (253) 383-2422	**PROJECT NO.:**	2200382.BP
		PROJECT NAME:	South Sound Christian Comprehensive Plan Amendment
SUBJECT:	South 66th Street and South 70th Street – East-West Connection Feasibility Memo		

Introduction

In conjunction with AHBL's planning efforts, our civil engineering team analyzed the existing conditions of South 66th Street to assess the feasibility of constructing the remainder of the street to the south of the project site in order to connect to the two ends of the street presently disconnected. Currently, the eastern portion of S. 66th Street connects to several commercial establishments and a church. An existing apartment complex to the west of the commercial building butts against the right-of-way. The western portion of the street serves several residences and the Tacoma Baptist Schools site. The existing conditions, street feasibility and implications of connecting the street are discussed in detail below.

South 70th Street was also analyzed to assess the feasibility of connecting the currently disconnected eastern and western portions of the roadway. The existing conditions, street feasibility and implications of connecting the street are also discussed in detail below.

South 66th Street

Existing Conditions

The western section of road is a 32-foot-wide residential street, while the eastern section is a 44-foot-wide commercial street. Portions of the area between the two sections of street have grass and minor scrub brush. A roughly 190-foot section is heavily wooded with large trees on a steep existing hillside.

The current elevations of S. 66th Street are approximately 253 feet at the western end of the road where it connects to the Tacoma Baptist Schools site and 312 feet at the eastern end of the road where is connects to the adjacent church. It is approximately 745 feet between these two points in the road, leading to an average grade of 7.9%. Most of this elevation differential occurs over through the 190 feet of wooded hillside (±26% grade).

Adjacent developments at the eastern side of the street connection area consist of a parking lot, fence line, and concrete retaining wall at the northern property line of the commercial development on the south-east side of the study area. The existing church on the north-east side of the study area has an existing parking lot on its southern property line which steeply slopes from the parking lot to the anticipated roadway area. Additionally, several power poles (likely distribution) run along this parking lot edge and continue to the west. At the western end of the street, S. 66th street turns into a site access road for Tacoma Baptist Schools and connects to several parking lots. The road runs adjacent to an existing soccer field and storage building which lie roughly 6 feet below the existing road elevation.

At the western side of the right-of-way, a 66-inch diameter storm trunk main runs north-south. An 8" sewer main appears to run east-west through the road study area. This sewer main is only 3-4 feet below grade. Utility information was gathered from City of Tacoma GIS.

Street Feasibility and Implications

A proposed street connection in this location would need to taper its width between the two portions of roadway. To minimize disturbance, this would need to occur on the eastern end of the street. As explained above, the average grade in this area is ±7.9%.

To construct a roadway in this area with proper vertical curves, while maintaining access to both portions of the Tacoma Baptist School site would require an average grade closer to 18% which greatly exceeds the current maximum slope per the City of Tacoma right-of-way design manual. This would also require a significant cut out of the area which would cause a significant disturbance to the steep wooded hillside. The amount of tree removal would extend beyond the road extents due to weakened root structures of surrounding trees. Additional investigation would be required to assess the slope stability in this area. The roadway cut necessitates new retaining walls between the roadway and both the church and commercial properties on the eastern side of the street. The existing apartment complex may require a retaining wall to prevent undermining the building. The roadway cut would also uncover the existing sewer main and require its replacement. The existing power infrastructure in this area would likely require relocation.

At the Tacoma Baptist Schools site, the cut section would turn into a fill section as the road transitions down to existing grade which would require a complete reconstruction of both of the schools parking lots on the north and south side of the street. The space occupied would also remove a significant amount of parking stalls which would need to be reconstructed elsewhere. The raised road elevation here would require additional retaining walls to transition the elevation difference between the existing sports field and maintenance building. Walls in this area would need to be designed to not disturb the 66in diameter storm trunk main in the vicinity.

The implications above relate only to the road construction. Adding sidewalk on either side of the street further exacerbates these issues.

South 70th Street

Existing Conditions

The western section of road is a 22-foot-wide residential street, while the eastern section is a 40 foot-wide commercial street which necks down to 32-feet wide to the east. The area between the two sections of road consists of a steep forested hillside, private single-family residence, apartment complex building and parking, as well as a large retaining wall and driveway for an adjacent hardware store.

The current elevations of S. 70th Street are approximately 240 feet at the western end of the road where it serves the single-family residence and 326 feet at the eastern end of the road where is connects to the adjacent apartment complex. It is approximately 400 feet between these two points in the road, leading to an average grade of 21.5%.

Street Feasibility and Implications

A proposed street connection in this location would not be able to hold a linear alignment between S. Trafton St and Tacoma Mall Boulevard without significant impacts to adjacent properties and significant deviations from City of Tacoma road design standards. Additionally, this road connection would require acquisition and demolition of the single-family residence, southern apartment complex building, and ROW acquisition from the commercial properties along the eastern portion of S. 70th Street.

Construction of a roadway here would likely require removal of an existing 10-foot-tall retaining wall which retains fire lane and vehicle access around the adjacent hardware store. It does not appear possible to remove this retaining wall without significant modifications to the hardware store site and building. These impacts would likely continue into the adjacent strip mall site as-well further triggering building and site impacts.

Average road grade across this area would be upwards of 22%. Factoring in transition lengths for vertical curves, the average road grade would be closer to 30%.

Conclusion

The above design considerations seek to provide criteria for potential road construction to connect the two ends of South 66th Street and the two ends of South 70th Street.

South 66th Street

In our opinion, the road cannot be constructed without significant grading and retaining walls, major tree impacts, and considerable site changes to the Tacoma Baptist Schools site. Additional impacts to existing utilities and mitigation to major storm infrastructure also need to be considered. With these factors in mind, connecting South 66th Street is not feasible.

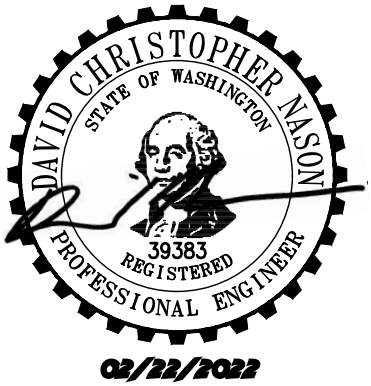
South 70th Street

In our opinion, the road cannot be constructed without significant property acquisition, building and site modifications to private businesses, and non-standard road design. Outside of these factors, a proposed roadway would be upwards of 30% steep which is nearly four times greater than the maximum grade identified in the City's right-of-way design manual. With these factors in mind, connecting South 70th Street is not feasible.

Sincerely,

Steve Nickison, EIT
Project Engineer

David Nason, PE
Principal



02/22/2022

SLN/DN

c: Emily Adams, AICP - AHBL
Wayne Carlson, FAICP - AHBL

Attachment C

CENTERPOINT CHRISTIAN SCHOOL/SOUTH SOUND CHRISTIAN SCHOOLS

HABITAT ASSESSMENT

PREPARED BY:

GRETTE ASSOCIATES LLC
2102 NORTH 30TH STREET, SUITE A
TACOMA, WASHINGTON 98403
(253) 573-9300

JANUARY 2022

Grette Associates LLC
ENVIRONMENTAL CONSULTANTS

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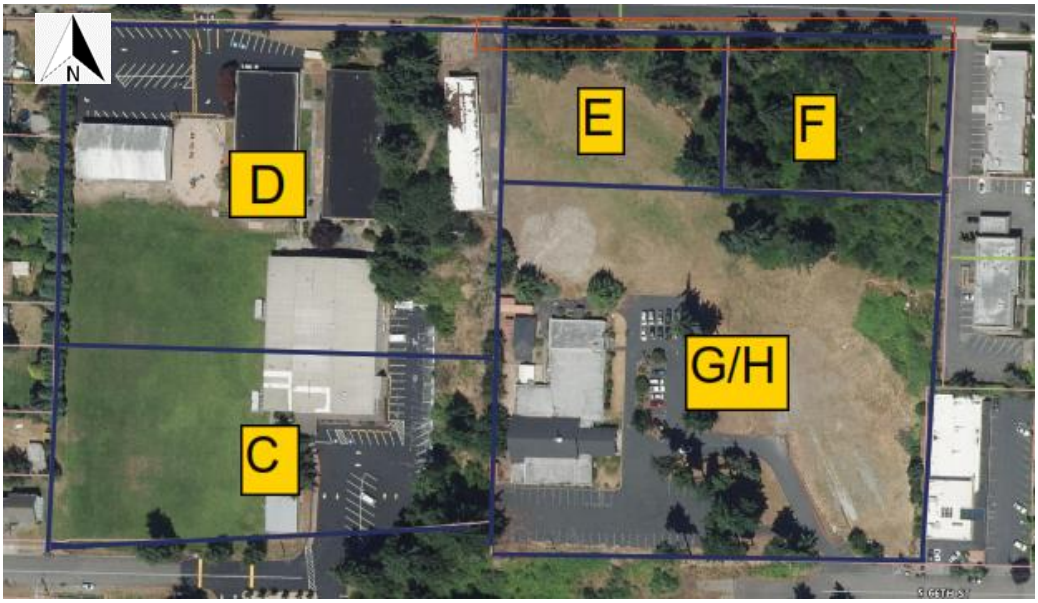
LIST OF APPENDICES

1.1 INTRODUCTION

Grette Associates is under contract with CenterPoint Christian Fellowship and South Sound Christian Schools to visit the site located at 2041 S. 66th St. (Pierce County parcels 0320301073, 0320301075, 3020301193, 0320301194, 0320301159, and 0320301158) in Tacoma, WA, and perform reconnaissance for the presence of wetlands, natural water features and fish and wildlife habitat conservation areas (FWHCAs) situated on and within 300 feet of the properties. The Pierce County tax parcels previously described will be further referred to in this report as the "subject parcels" and are individually described as sites C, D, E, F, and G/H (Figure 1). The subject parcels encompass a total area of 13.4 acres and are situated between S.66th St and S64th St in the City of Tacoma, Washington (Attachment A). This report is intended to satisfy the City of Tacoma's request for a habitat assessment on the subject parcels and is prepared using Chapter 13.11 of the City of Tacoma Municipal Code (TMC) guidance. The following report does not include the assessment of slopes or geologically hazardous areas.

Figure 1. Subject Parcels



2.1 DATABASE REVIEW

Critical Areas are regulated by agencies at the local, state, and federal levels. The appropriate jurisdictional databases were queried to ascertain if any critical areas or their buffers exist on or within 300 feet of the subject parcels.

2.1.1 Local Critical Area Inventory

A review of the City of Tacoma's GIS DART Map was conducted to identify any known critical areas located within the subject parcels (COT, 2022). According to DART, there are no wetlands, streams, floodways, flood hazard areas, or FWHCAs on or within 300 feet of the subject parcels. The City of Tacoma does map the entire area and subject parcels as being in an aquifer recharge

area. North of the subject parcels, approximately 71' across South 64th Street, Tacoma DART GIS maps a Biodiversity Area/Corridor (BAC) known as the Wapato Hills Urban Wildlife Habitat.

2.1.2 National Wetlands Inventory

The U.S. Fish and Wildlife Service's (USFWS) National Wetlands Inventory (NWI) was queried to determine if any aquatic features have been previously identified within the subject parcels. The search of the USFWS GIS database shows no wetlands or other aquatic features mapped on or within 300 feet of the subject parcels.

2.2 WDFW Priority Species and habitat

The WDFW Priority Species and Habitat Mapper was queried to determine if any known locations of priority habitat and species exist on the subject parcels. The PHS data mapper on the web shows that the Western Pond Turtle and Little Brown Bat have the potential to exist on the subject parcels.

2.2.1 Western Pond Turtle - *Actinemys marmorata*

The PHS on the Web mapper designates the general area of the subject parcels to be a potential area of occurrence of Western Pond Turtle. The Western Pond Turtle is listed as endangered in the State of Washington but is not listed federally. The closest aquatic habitat and listed occurrence of the Western Pond Turtle is over 1200 feet away across Interstate 5 at Wapato Park.

2.2.2 Big Brown Bat - *Eptesicus fuscus*

The species is present throughout Washington and roosting primarily occurs in dilapidated buildings or large live or dead trees in the early stages of decay. The Big Brown Bat is listed by PHS on the web to potentially occur near the subject parcels but has no listed occurrence on the subject parcels.

3.1 METHODS and Results

Grette Associates completed a site visit on January 13, 2022, to identify any wetlands, streams, or FWHCAs within the subject parcels. The subject parcels were traversed, and data was collected and assessed according to the wetland criteria defined in the U.S. Army Corps of Engineers (USACE) *Federal Wetland Delineation Manual* (1987) and the Corps' *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (2010). The subject parcels were also evaluated to identify any natural water feature that would be classified as a stream according to WAC 222-16-030 and Chapter 13.11 of the Tacoma Municipal Code (TMC). Potential Biodiversity Areas/Corridor within the subject parcels were evaluated based on the requirements defined in TMC 13.11.510

3.1.1 Wetland Results

No wetland features were identified on the subject parcels during Grette Associates' site assessment. Parcel C is developed and consists of a school classroom building and the southern portion of a soccer field with an approximate 70 stall parking lot. Parcel D is developed with the northern portion of the soccer field and contains school administrative buildings as well as an approximately 40 stall parking facility and two school classroom buildings. Parcels E and F are vacant lots containing a field and forested areas covered in Himalayan Blackberry (*Rubus armeniacus*) and native trees. Parcels G/H consists of the CenterPoint Christian School building facility with an approximately 70 stall parking lot and vacant field to the east of the buildings. The parcels contain infrastructure generally associated with school facilities (driveways, walkways, outside seating, etc.). During the site assessment, Grette Associates did not observe any indication of seasonal hydrology that would meet wetland hydrology indicators defined in the USACE's *Regional Supplement* (2010). More specifically, surface water, surface saturation, water-stained leaves, watermarks, or algal mats were not observed. Furthermore, no vegetation that would suggest a potential wetland feature was observed.

Figure 2. Vacant Field on Parcel G/H

Figure 3. Facing North from Parcel G/H to Parcel F

Figure 4. Vacant Field Parcel E

During the site visit, Grette Biologists assessed areas to evaluate soils and hydrology on each parcel. No hydric soil indicators were identified in the assessed areas (Figures 5 and 6). Datasheets are provided at the end of the report in Attachment B.

Figure 5. Soil Test Pit Locations

Figure 6. Soil Test Pit Photos

Test Pit C

Test Pit D

Test Pit F

Test Pit G/H

3.1.2 Stream Results

No streams were identified on the subject parcels. These findings are further backed up by the data gathered from queried databases summarized above.

3.1.3 Biodiversity Areas/Corridors Results

Per TMC 13.11.510, BACs are those areas that provide quality functions and habitat for wildlife access and/or movement across the landscape. In general, BACs are undeveloped areas with a vertically diverse assemblage of ***native*** vegetation containing multiply canopy layers and/or areas that are horizontally diverse with a mosaic of habitats and microhabitats (TMC 13.11.510).

North of the subject parcels is an undeveloped forested area that is mapped as a BAC from data gathered from Tacoma DART GIS data. The area is labeled as Wapato Hills Urban Wildlife Habitat and is separated from the subject parcels by South 64th Street. The parcels to the south, east, and west of the subject parcels are largely developed. Parcels E and F are largely comprised of a vegetative community consisting of a mix of native and nonnative vegetation dominated by Himalayan blackberry, English ivy (*Hedera helix*), and sword fern (*Polystichum munitum*).

Based on a rapid coverage assessment utilizing the guidance defined in the USACE's Regional Supplement (2010), coverage of nonnative species is approximately 60-65 percent of the total sub-canopy. Given the dominance of nonnative vegetation within the sub-canopy and parcel size, the parcels do not meet the definition of a Biodiversity Area due to the lack of a vertically diverse assemblage of native vegetation. Furthermore, given the existing development and lack connectivity to adjacent undeveloped forested areas, the subject parcels do not provide suitable habitat to be considered a corridor.

Figure 7. Vegetation Community in Parcels E and F

4.1 SUMMARY

In summary, Grette Associates did not identify any wetlands, streams, or FWHCAs, per TMC 13.01.110, within 300 feet of the subject parcels. The results summarized in this technical memorandum have fulfilled the critical areas evaluation requirements requested by the city.

If you have any questions on this wetland reconnaissance, please contact me at (253) 573-9300 or by email at donnyn@gretteassociates.com.

Regards,

Donny Neel

Donny Neel
Biologist

References

City of Tacoma DART GIS. (COT). 2022. https://dart.cityoftacoma.org/#20210121 Queried on January 18, 2022.

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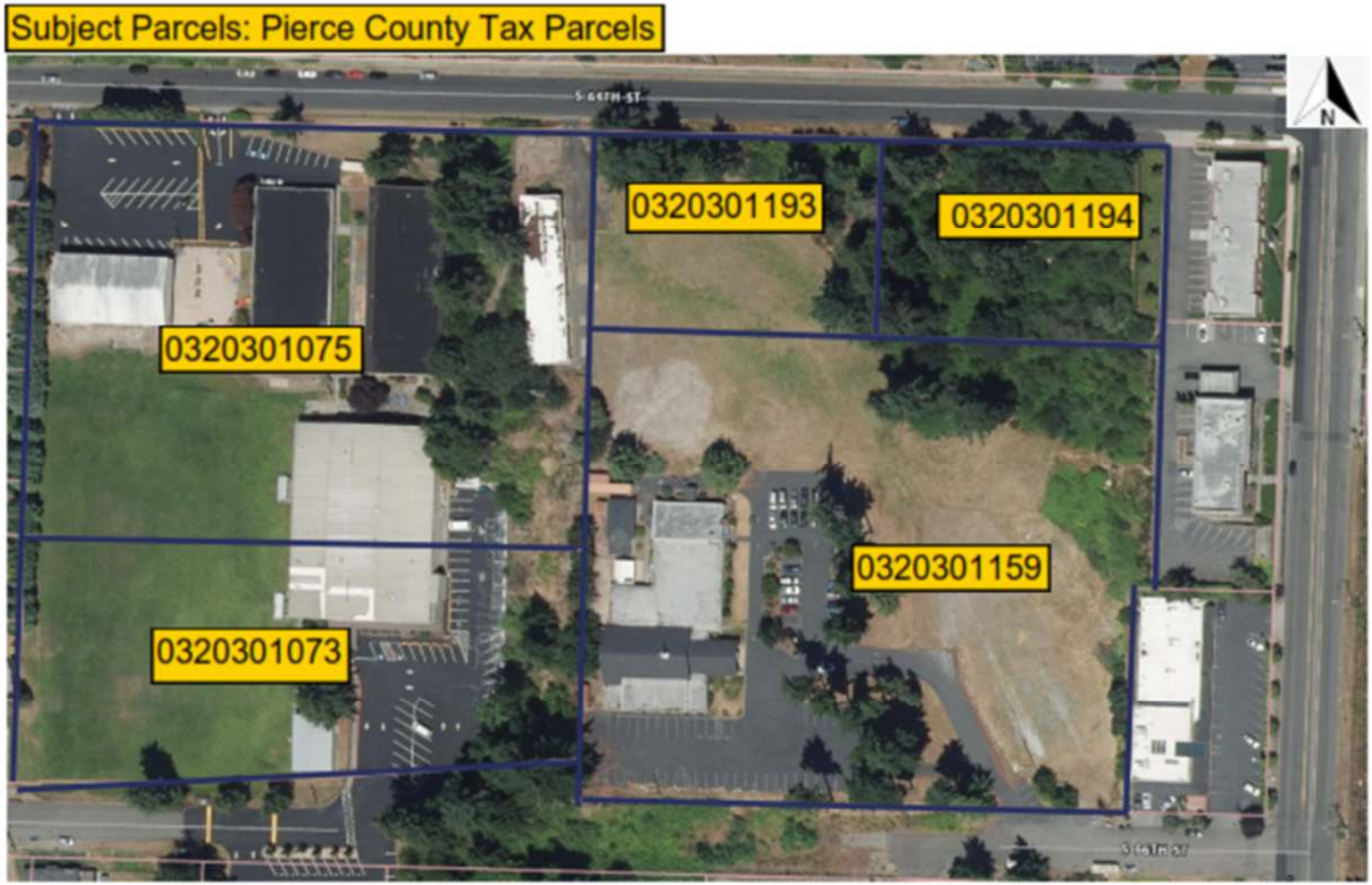
CENTERPOINT CHRISTIAN SCHOOL/SOUTH SOUND CHRISTIAN SCHOOLS

HABITAT ASSESSMENT

APPENDIX A: SITE MAP


Subject Parcels: Pierce County Tax Parcels
0320301193
0320301194
0320301075
0320301159
0320301073
N

CENTERPOINT CHRISTIAN SCHOOL/SOUTH SOUND CHRISTIAN SCHOOLS

HABITAT ASSESSMENT

APPENDIX B: DATA SHEETS

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: CenterPoint GM City/County: Tacoma / Pierce Sampling Date: 1/13/22

Applicant/Owner: State: WA Sampling Point: SP1

Investigator(s): SD, DW Section, Township, Range:

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ✓, Soil ✓, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks:
The site has been developed and a large portion has been leveled with gravel.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. Rhododendron	5		FACU
2. Black Berry	10	Y	FAC
3. Eastern Red cedar	15	Y	FACU
4. Scotch Broom	5		UPL
5.			
50: 125 / 20: 7	35 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Plantain	25		FACU
2. Field grass	75	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50: 50 / 20: 20	100 = Total Cover		

Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 133% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

SOIL

Sampling Point: 3P1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 8	10YR 4/3	90	2.5YR 4/6	30	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Rock Layer

Depth (inches): 8"

Hydric Soil Present? Yes ✓ No ___

Remarks:

Consistant

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No NO Depth (inches): ___

Water Table Present? Yes ___ No NO Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No NO Depth (inches): ___

Wetland Hydrology Present? Yes ___ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Consistant Rain within the last week

Did not reach water table Did

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Center Point F City/County: Tacoma / Pierce Sampling Date: 1/13/22

Applicant/Owner: State: WA Sampling Point: SP 2

Investigator(s): DN, JLD Section, Township, Range:

Landform (hillslope, terrace, etc.): hilltop Local relief (concave, convex, none): Convex Slope (%): 10%

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ____	

Remarks:
Majority of the property is up on a hill
Largely undisturbed

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Madrone	80	Y	FACU
2. Oak, Oregon white	20		UPL
3. Red Alder	10		FAC
4.			
	110	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15')			
1. Evergreen Black	15		FACU
2. Himalayan	45	Y	FACU
3. Beaked hazelnut	25	Y	FACU
4. Salal	40	Y	FACU
5.			
	125	= Total Cover	

Herb Stratum (Plot size: 5')			
1. Salal	40		
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0	= Total Cover	

Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____	= Total Cover	

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

SO 55 / 20 22

SO 62.5 / 20 25

95 / 25 / 15 / 125

SOIL

Sampling Point: SP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-7	10YR 4/3	100					Silt loam	
7-18	10YR 4/2	100					Silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

No redox observed

Soil were not observed to be saturated

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators seen

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Center Point E City/County: Tacoma / Pierce Sampling Date: 1/13/22

Applicant/Owner: State: WA Sampling Point: SP 3

Investigator(s): JLD, DN Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Done Slope (%): 0

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ✓, Soil ✓, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Regularly mowed field

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Hemlock WR	30	Y	FACU
2. Madrone	5		UPL
3.			
4.			
	30	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Herb Stratum (Plot size: 3')			
1. Plantain English	45%	Y	FACU
2. Grass Field (Poa Annua)	75%	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	120	= Total Cover	

Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: ____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

12

30. 60
20. 24

SOIL

Sampling Point: SP3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	2.5Y 3/2	100					Silt Loam	
3-11+	10YR 3/2	100					Sandy loam	Restrictive by rock

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Cobbel Rock

Depth (inches): 11"

Hydric Soil Present? Yes ____ No ✓

Remarks:

No Redox observed Soils were not observed as Saturated

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No ✓ Depth (inches): ____

Water Table Present? Yes ____ No ✓ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No ✓ Depth (inches): ____

Wetland Hydrology Present? Yes ____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No Field Indicators observed

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Tacoma Baptist School D/C City/County: Tacoma / Pierce Sampling Date: 1/13/22
Applicant/Owner: State: WA Sampling Point: SP4
Investigator(s): SID, DN Section, Township, Range:
Landform (hillslope, terrace, etc.): minor SLOPE Local relief (concave, convex, none): Convex Slope (%): 3 ±
Subregion (LRR): Lat: Long: Datum:
Soil Map Unit Name: NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ✓, Soil ✓, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____ No ✓	
Wetland Hydrology Present?	Yes ____ No ✓	

Remarks:
The SP was taken in a maintained sports field across form western Red cedare hedge low present + Maintained 10 yr +

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. W. R. Cedar	65	Y	FAC
2.			
3.			
4.			
	65 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1. N/A	Ø		
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Ryegrass Field Grass	100	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: SP4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 4/2	100	Ø					

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): 7"

Hydric Soil Present? Yes ____ No ✓

Remarks:

No Redox observed

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
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- ___ Algal Mat or Crust (B4)
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- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
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- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No ✓ Depth (inches): _____

Water Table Present? Yes ____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No field indicators observed.