PLANNING COMMISSION
Meeting Agenda
Monday, March 9, 2020
7:00 PM
City Council Chambers – 222 NE 2nd Avenue

Commissioner John Savory (Chair)

Commissioner Larry Boatright (Vice Chair) | **Commissioner Derrick Mottern**
Commissioner Jeff Mills | **Commissioner Jennifer Trundy**
Commissioner Jason Taylor | **Commissioner John Hutchinson**

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1. CALL TO ORDER
   a. Invocation and Pledge of Allegiance

2. CITIZEN INPUT ON NON-AGENDA ITEMS – *This is an opportunity for audience members to address the Planning Commission on items not on the agenda. Each person will be given 3 minutes to speak. You are first required to fill out a testimony/comment card prior to speaking and hand it to the Recording Secretary. These forms are available by the sign-in podium. Staff and the Planning Commission will make every effort to respond to questions raised during citizen input before tonight's meeting ends or as quickly as possible thereafter.*

3. MINUTES – Planning Commission Minutes for January 27, 2020.

4. NEW BUSINESS – None

5. PUBLIC HEARING – *To testify, please fill out a testimony/comment card and give to the Recording Secretary.*
   a. To consider a request from Stafford Development for Dodds Subdivision (SUB 19-03) application for 82 lots located at 1882 N. Holly Street.

6. FINAL DECISIONS – *These are the final, written versions of previous oral decisions. No public testimony is taken*

   a. Dodds Subdivision Final Findings (SUB 19-03)

7. ITEMS OF INTEREST/REPORT FROM PLANNING STAFF–
   a. City Council/Planning Commission Joint Work Session on Wednesday, March 18, 2020 re: Small cell 5G wireless communication facilities within the public right-of-way.
   b. Next regularly scheduled Planning Commission meeting – Monday, March 23, 2020:
      - City Council Remand of APP 20-01 Caruso Produce Appeal
      - 17th Ave Subdivision SUB 20-01, N Redwood St & NE 17th Ave

8. ITEMS OF INTEREST/GUIDANCE FROM PLANNING COMMISSION

9. ADJOURNMENT

The meeting location is accessible to persons with disabilities. A request for an interpreter for the hearing impaired or for other accommodations for person with disabilities should be made at least 48 hours before the meeting at 503-266-7001. A copy of this agenda can be found on the City's web page at www.canbyoregon.gov . City Council and Planning Commission Meetings are broadcast live and can be viewed on OCTS Channel 5. For a schedule of the playback times, please call 503-263-6287.

MINUTES
CANBY PLANNING COMMISSION
7:00 PM – Monday, January 27, 2020

PRESENT: Commissioners John Savory, Larry Boatright, Derrick Mottern, Jeff Mills, Michael Hutchinson, and Jason Taylor

ABSENT: Jennifer Trundy

STAFF: Bryan Brown, Planning Director, Sandy Freund, Senior Planner, and Laney Fouse, Recording Secretary, Ryan Potter, Associate Planner, Scott McClure, City Administrator, Jamie Stickel, Economic Development Director.

OTHERS: Jason Sahlin, Terry N. Tolls, Allen Patterson, Kathleen Polley, Scott Gustafson, Brenda Gundersen, Scott Brawner, Dan Walker, and Brad Christiansen

CALL TO ORDER

Chair Savory called the meeting to order at 7:00 p.m.

CITIZEN INPUT ON NON-AGENDA ITEMS – None

MINUTES

Approval of Planning Commission Minutes for January 14, 2020

Motion: A motion was made by Commissioner Hutchinson and seconded by Commissioner Mills to approve the January 14, 2020 Planning Commission minutes. Motion passed 6/0.

NEW BUSINESS – None

PUBLIC HEARING –

a. A request from Stanton Furniture for a Site and Design Review to construct a 167,000 square foot manufacturing and distribution facility at the corner of SE 4th Ave and S Mulino Rd. (DR 19-03)

Chair Savory opened the public hearing and read the public hearing format. He asked if the Commission had any conflicts of interest or ex parte contacts to declare including a visit to the site.

Commissioner Mills said he rode his bike by the site regularly.

Staff Report: Sandy Freund, Associate Planner, entered her staff report into the record. She said written testimony was received on January 21 in support of the project. This was a request to construct a 174,000 square foot manufacturing and warehouse facility with associated office and storage space for Stanton Furniture who was relocating from Tualatin to Canby. There would be two employee shifts, one from 5:30 a.m. to 3 p.m. and the other from 3:30 p.m. to midnight. There would be 35 loading berths and 196 parking spaces. She discussed the applicable criteria for the project. The site was located on S Mulino Road, was 15.84 acres, was zoned M-1 Light Industrial, and was within the Industrial Area Overlay Zone. She explained the site plan, truck circulation, and accesses. The applicant would be required to construct half street improvements on SE 4th Avenue to S Mulino Road to SE Township Road and dedicate right-of-way on Township. The project was consistent with the criteria. The building was proposed to be 36 feet tall, which was under the allowed maximum height of 45 feet. There were 196 parking spaces provided, and 174 spaces were required. The traffic study stated that 460 overall daily trips, which included 64 a.m. peak hour trips, 69 p.m. peak hour trips,

and 40 truck trips, would be generated by this project. It was not anticipated to trigger unacceptable levels of service at area intersections. The extension of SE 4th Avenue would also include half street improvements east to S Mulino. Staff received conditions from the City Engineer, Clackamas County, and Canby Fire. Public comments included one in support with the suggestion to construct more schools in Canby and the other expressed concern regarding noise impacts and lighting. Because the site would ultimately be 7-12 feet below street grade from Mulino, in conjunction with the proposed retaining wall and distance from the loading berths from S Mulino, the applicant was confident that potential noise impacts would be mitigated. Four street lights were proposed on Mulino as well as internal lighting. All street lighting must comply with the City's standards. She reviewed the conditions of approval which included standard conditions, right-of-way dedication and half street improvements on SE 4th and S Mulino, right-of-way dedication on S Township, and a photometric plan. Staff recommended approval of the application with conditions.

Commissioner Mills asked about the possibility of a partition. Ms. Freund said the plan was for the southern third of the site to be partitioned, but that application had not been submitted yet.

Commissioner Mills was concerned that the partition was a Type II decision and would not come before the Planning Commission. Ms. Freund stated that there was still public notice required with a Type II and staff took public comments and those decisions could be appealed to the Planning Commission.

Commissioner Mills asked if there would be deferral of street improvements. Ms. Freund said yes, there was a deferral on S Township improvements, which would occur either when the partition was done or when that portion of the property was developed.

Commissioner Mills asked that the acronyms in the traffic studies be explained better in the future. He also commented on the high number of conditions, and how many of them related to fire and utilities. He thought many of these should be included in the Fire Code instead of being conditions. Ms. Freund said the document included Canby Fire's conditions so that it was specifically spelled out in the record.

There was discussion regarding the concern about the sound and how they could not regulate the back up beepers on the trucks as it was an OSHA requirement.

Applicant: Jason Sahlin, VLMK Engineering, 3939 SW Kelley Ave, Portland, was representing the applicant. They held a neighborhood meeting and many of the neighbors showed up to review the project and give input. The site was zoned for this use and was similar to other developments in this area. The topography of the site would shield the property from adjacent agricultural uses. Trucks would be entering and exiting from Mulino Road. He did not think they would have more noise than what was outside the allowable regulations within the City. They would be bringing a lot of jobs to Canby, it far exceeded the 10 employees per acre, and brought development to the community.

Commissioner Hutchinson asked about storage of organic solvents or finishes. He wanted to make sure they were contained and did not make it into the drywells and groundwater. Mr. Sahlin thought they would be in compliance with the code.

Commissioner Mills asked about the location of the employee bike racks. Mr. Sahlin said they would be adjacent to the primary entrance and some would be inside the building.

Chair Savory asked about the shift changes and bringing more traffic onto 99E. Mr. Sahlin said two-thirds of the employee count that they anticipated would be on the day shift. The traffic counts were well within the limitations of the roadways in those areas and service levels.

Chair Savory asked when the trucks would be leaving the facility. Mr. Sahlin said most of them would be leaving intermittently during the daytime.

Brad Rheam, Stanton Furniture, said there would be about three trucks per day receiving materials, and eight to ten trucks outbound. The trucks would come and go throughout the day and the employees were on staggered shifts.

Mr. Sahlin asked for clarification on the condition for deferment of the sidewalk and landscape strip on S Mulino Road. Ms. Freund said that was Condition 34, which could be adjusted to reflect that.

Proponents:

Kathy Polley, 12678 S New Era Rd, Oregon City 97045, owned land adjacent to 4th Avenue. She stated the City, State, and Clackamas County had an agreement on 4th Avenue that took part of the burden of constructing this piece of 4th Avenue off of the landowners. That was a deal that had fallen through, but she thought they should research it to see if the money was still available. She was in favor of the application.

Bryan Brown, Planning Director, said that was a state grant to help facilitate the construction of 4th Avenue from Sequoia to Mulino. It was based on jobs that would be brought to the community from the land use deal that fell through. It expired two years later.

Scott Gustafson, 23885 S Blount Rd, Canby, OR, provided an option for increasing the height of the berm to better shield the neighborhood from the light and noise from this business. He gave the example of Canby Disposal, and how their higher berm helped buffer them from the neighborhood. He thought this would be a good development, but the berm could be improved. He intended to be a good neighbor.

Opponents:

Scott Brawner, 23905 S Blount Road, Canby, OR, discussed his concerns about traffic, especially when the other nearby developments were taken into account. There needed to be a larger traffic safety plan. There would be 1,300 to 1,500 cars per day with the three new businesses. Most of the employees would not live in Canby and would be transient and the current infrastructure could not support it. It was not a safe location to bike or walk to, and he thought all of the street improvements needed to be done now and not be deferred.

Brenda Gunderson, 23951 S Blount Rd, Canby, OR, also expressed concerns about traffic and how cars would end up coming through the residential area on Blount to avoid the traffic. Blount was an unimproved road with no center line and marginal maintenance. She asked if there was a way to mitigate the traffic impact on a road that was not near the development, such as putting in speed bumps or signage. She would also like the new road to 99E to be built as soon as possible to make the whole traffic system work more smoothly.

Rebuttal:
Jason Sahlin, VLMK, 3939 SW Kelley Ave, Portland, talked about how the development met the criteria in the code and was an allowed use for the property. He understood there were limitations on the current roadways based on other properties that were not ready to develop, and when they did develop some of the traffic concerns would be alleviated. They needed development to occur to participate and create these roadways and sometimes owners weren't ready to do that. He knew the City was working on many of the traffic concerns and many of the conditions dictated how they would maneuver on this property and surrounding area and protecting the residential area. The general intent was that the truck and employee traffic was being generated through Sequoia Parkway through the Industrial Park. They intended to bring in employees who would spend their money in the City and contribute to the community.

Chair Savory closed the public hearing at 8:07 p.m.

Commissioner Mottern asked about the timeline for the new connection to 99E. Ms. Freund said ODOT was reviewing the alternative route and once that was approved, the City would be pushing though the amendment to the Transportation System Plan. The City would also apply for a grant to update the entire TSP for the next planning horizon of 20 years.

Mr. Brown said ODOT thought the proposed Walnut extension to Hwy 99E looked promising. There were a lot of steps to go through to get the road permits to connect to the highway. The TSP would need to be amended to add the new route which would also give them a potential funding avenue through SDC fees. They were continuing to look for other funding sources as well. There were lots of steps left, securing more right-of-way, engineering design plans, and concept planning stage. They were also going to be doing a traffic study to find out when that connection would be needed. This let them know when a development would cause a true traffic problem.

Commissioner Taylor asked if the connection could be done within the next 5 years. Mr. Brown thought five years was realistic.

Commissioner Taylor sympathized with community members about the traffic situation.

Commissioner Hutchinson asked if the traffic studies had been done in isolation or had they taken an aggregate look at all of the nearby projects.

Mr. Brown stated staff made sure each study built upon the next one, especially looking at nearby intersections that had the potential to be impacted. In this case they looked at Hwy 99E and Sequoia as part of the study. The study concluded that this project did not lower the level of service of that intersection below an acceptable level.

Commissioner deliberation:

The Commission was in favor of the development, but still had concerns about the noise level and traffic.

Commissioner Taylor suggested a condition to require a higher berm to reduce the noise.

Commissioner Mills had reservations about the improvements being deferred until the partition was completed.

Motion: A motion was made by Commissioner Savory and seconded by Commissioner Boatright to approve DR 19-03 Stanton Furniture, with a change to Condition 20. Motion passed 5/1 with Commissioner Taylor opposed.

There was discussion regarding the deferment of the sidewalk on part of Mulino and deferment of improvements on Township. Mr. Brown said it came down to a matter of nexus and proportionality. There had to be a balance in how much they required and making it proportional to the impact. This project was providing a lot of improvements and right-of-way. This was always the issue when the entire site was not being developed.

Commissioner Taylor thought the sidewalk should be put in all the way down Mulino to Township.

Motion: A motion was made by Commissioner Taylor and seconded by Commissioner Mills to amend the motion to require the applicant to complete the sidewalk on Mulino instead of the deferral. Motion failed 2/4 with Commissioners Taylor and Mills in favor.

FINAL DECISIONS (Note: These were final, written versions of previous oral decisions. No public testimony.)

a. Stanton Furniture Final Findings (DR 19-03)

Motion: A motion was made by Commissioner Savory and seconded by Commissioner Hutchinson to approve the final findings for DR 19-03 Stanton Furniture. Motion passed 5/1 with Commissioner Taylor opposed.

ITEMS OF INTEREST/REPORT FROM PLANNING STAFF

- Next regularly scheduled Planning Commission meeting – Monday, February 10, 2020

Mr. Brown said there would be a work session about small cell 5G wireless technology in the City's rights-of-way.

- Planning Commissioner Training, Land Use Decision-making – Wednesday, January 29, 2020

ITEMS OF INTEREST/GUIDANCE FROM PLANNING COMMISSION – None

ADJOURNMENT

Motion: A motion was made by Commissioner Boatright and seconded by Commissioner Mottern to adjourn the meeting. Motion passed 6/0. The meeting was adjourned at 8:40 p.m.

DODDS SUBDIVISION SUB 19-03/EAS 20-01
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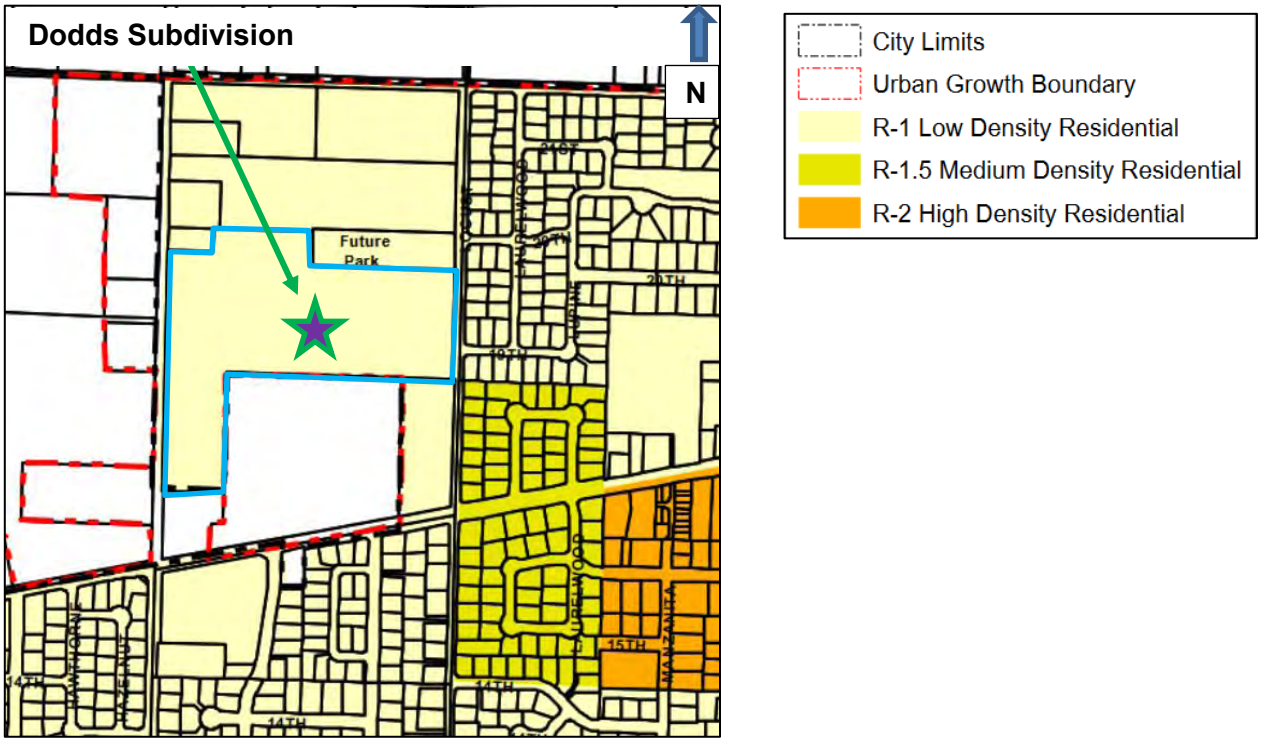
City of Canby

File #: SUB 19-03/EAS 19-01 – Dodds Subdivision

HEARING DATE:	March 9, 2020
STAFF REPORT DATE:	February 28, 2020
TO:	Planning Commission
STAFF:	Sandy Freund, AICP, Senior Planner

Applicant Request

The applicant requests approval to subdivide a ±19.32-acre parcel into 82 single-family residential tax lots with associated public infrastructure.



Staff Recommendation

Based on the application submitted and the facts, findings, and conclusions of this report, staff recommends that the Planning Commission **Approve** SUB 19-03/EAS 19-01 Dodds Subdivision pursuant to the Conditions of Approval presented in *Section VI* at the end of this report.

Project Overview

The proposed project will consist of 82 residential lots with all associated infrastructure necessary for the development of a residential subdivision. The subject site was part of the overall approved North Holly Development Concept Plan, which was approved by the Canby City Council for annexation into the Canby city limits on February 6, 2019. The properties within the concept plan area were rezoned from Clackamas County's Rural Residential Farm Forest 5-Acre (RRFF-5) zone to the City of Canby Low Density Residential (R-1) zone.

The subject site is zoned R-1, Low Density Residential (LDR), with a Comprehensive Plan designation of Low Density Residential (LDR). Minimum and maximum lot sizes for single-family residential development in the R-1 zone are 7,000 square feet and 10,000 square feet, respectively. The applicant is proposing to divide the ±19.32 acre parcel into 82 lots, ranging in size from 6,001 to 9,956 square feet in size, with an average lot size of approximately 7,352 square feet. Lot area exceptions will be address further within the staff report where Section 16.64.40 of the code is discussed. The project is expected to be constructed over one to two separate phases. Potential phases would be: Phase 1, lots 1-20, and Phase 2, lots 21-82, however, it is anticipated entire site improvements will be constructed at one time under one single site improvement permit.

There is a City Park site adjacent to the project site on the north, northeast, however this park will not be developed as part of the proposed subdivision. The proposed subdivision will, however, include pedestrian pathways that would be dedicated to, and maintained by the City that will lead to the future park site to be developed by the City. The pedestrian paths, to be 16-feet wide, are represented as Tracts "A", "B", and "C" on the tentative plat. Tract "D" is an approximate 2,907 square foot sliver of property that will be retained by the developer for future development. Access to the development and its interior streets will be from N. Holly Street and N. Locust Street, both streets connect from NE Territorial Road. Specific information related to access, traffic and circulation are addressed within the body of this staff report under Section F.

Property/Owner Information

Location	Located at 1882 N. Holly Street, generally bounded by N. Locust to the east, NE Territorial Road to the south, and N. Holly Street to the west.
Tax Lot(s)	31E28C 00400
Property Size	±19.32 acre
Comprehensive Plan	LDR – Low Density Residential
Zoning	R-1 Low Density Residential
Owner	Thomas Dodds
Applicant	Stafford Development Company, LLC, Attn: Levi Levasa
Application Type	Subdivision - Type III Quasi-Judicial/Legislative
City File Number(s)	SUB 19-03 / EAS 19-01

Exhibits

A. Land Use Application materials – Subdivision, Type III / Exception to Access Standards, Type I
B. Application Narrative, including provided application Exhibits
C. Proposed Preliminary Subdivision Plat
D. Traffic Impact Study (TIS)
E. Pre-Application Conference Minutes
F. Neighborhood Meeting Notes
G. Agency Comments:

1. City Engineer – Hassan Ibrahim, PE, 503-684-3478
2. Canby Fire District, Matt English, Division Chief/Paramedic, 503-878-0187
3. Clackamas County Transportation, Jonny Gish, 503-742-4707
4. Canby Postmaster – Sheila L. Laney, 503-266-3353
5. DirectLink, Eric Kehler, 503-266-8223 and Matt Downs, 503-266-8252
6. Canby Utility, Jim Stuart

I. Existing Conditions:

The subject property is generally located at 1882 N. Holly Street, and bounded by N. Locust Street to the east, NE Territorial Road to the south, and N. Holly Street to the west. The ±19.32-acre site is relatively flat, sloping slightly from the west and northwest to the east. The site is currently zoned R-1 and developed with one single-family residence amongst a stand of cedar trees, several outbuildings, as well as overhead utility lines and a wireless communications cell tower. Predominant use is the residence with farm uses on the property. All structures currently on the project site will be removed except for the wireless cell tower on proposed Lot 44, a portion of which is subject to a long-term lease.

Surrounding Land Uses:

Direction	*Zoning*	*Land Uses*
North	R-1	Low Density Residential (LDR)
West	RRFF-5	Rural Residential Farm Forest 5-Acre – inside Urban Growth Boundary, within unincorporated Clackamas County outside city limits.
South	R-1 / EFU	Low Density Residential (LDR) / Agricultural lands and within unincorporated Clackamas County – outside Urban Growth Boundary
East	R-1	Low Density Residential (LDR)

Utilities/Sewer/Disposal/Fire/Police:

- Water and electric service will be provided by Canby Utility.
- Wastewater, storm drainage, and streets are managed by the City of Canby Public Works.
- Disposal services are provided by Canby Disposal.
- Fire services are provided by Canby Fire District.
- Police services are provided by Canby Police Department.

Staff has provided conditions of approval at the end of this staff report (Section VI), written to ensure the necessary public infrastructure is constructed and installed in accordance with all applicable city, county, state, and federal requirements.

II. Applicable Criteria & Findings

In addition to components of the City of Canby Comprehensive Plan, applicable criteria used in evaluating this application are listed in the following sections of the *City of Canby's Land Development and Planning Ordinance*:

- 16.08 General Provisions
- 16.10 Off-street Parking and Loading
- 16.16 R-1 Low Density Residential Zone
- 16.46 Access Limitations on Project Density
- 16.62 Subdivisions-Applications
- 16.64 Subdivisions – Design Standards
- 16.86 Street Alignments
- 16.88 General Standards and Procedures
- 16.89 Application and Review Procedures
- 16.120 Parks, Open Space, and Recreation Land General Provisions

III. Summary of Findings

Consistent with Section 16.04.600 of the *Canby Land Development and Planning Ordinance* (the *Ordinance)*, Chapter 16 of the Municipal Code, the proposed application qualifies as a Subdivision, as it would divide the subject property into "four or more lots in a given calendar year for the purpose of transfer of ownership."

Section 16.56 of the *Ordinance* identifies the purpose and scope of land divisions and sets forth regulations for dividing land within the City. Section 16.62.020 *Subdivisions*, sets forth the standards and approval criteria for subdivisions which the applicant must respond to in their narrative within their submitted application materials. Staff incorporates the applicant's written response as findings in support of the criteria. Additional facts and findings are provided herein.

Section 16.62.020 *Standards and criteria*
Applications for a subdivision shall be evaluated based upon the following standards and criteria:

A. Conformance with other applicable requirements of the Land Development and Planning Ordinance.

Facts and Findings:

The applicant has indicated in the narrative consistency with all applicable standards of the *Canby Land Development and Planning Ordinance* as addressed within the submitted application materials and plan set. Staff finds this request is consistent with the applicable standards of the *Ordinance*. Therefore, staff finds this criterion has been met.

B. The overall design and arrangement of lots shall be functional and adequately provide building sites, utility easements, and access facilities deemed necessary for the development of the property without unduly hindering the use or development of adjacent properties.

Facts and Findings:

According to the applicant the proposed lots are consistent with the requirements of the *Canby Land Development and Planning Ordinance* as well as the North Holly Development Concept Plan (DCP). The DCP was created in part, to ensure logical and equitable development patterns, thus providing opportunities to individual land owners to develop their tracts of land independently with

each property having a proportionate share of improvements adjacent to or within future subdivisions. Staff finds the applicant will meet the requirements of adequately providing building sites, utility easements, and access facilities necessary without unduly hindering the use of adjacent properties. Staff finds this request is consistent with the applicable standards of the *Ordinance*. Therefore, staff finds this criterion has been met.

C. Subdivision design and layout shall incorporate Low Impact Development techniques where possible to achieve the following:

1. **Manage stormwater through a strategy that emphasizes conservation and use of onsite natural features…to more closely mimic predevelopment hydrologic conditions.**
2. **Encourage…the conservation of natural conditions and features, appropriate use of technologies and techniques, efficient layout of open space, streets, utility networks and other public improvements.**
3. **Minimize impervious surfaces.**
4. **Encourage the creation or preservation of native vegetation and permanent open space.**
5. **Clustering of dwellings where appropriate to achieve 1-4 above. Arrangement of clustered dwellings shall be designed to avoid linear development patterns.**

Facts and Findings:

According to the applicant the above criteria have been considered as part of the review and layout in the creation of the N Holly DCP in order to provide efficient design of all stormwater management. Proposed stormwater management will occur through drywells and on-site infiltration. The applicant states stormwater generated on-site will be infiltrated on site via public drywells; and private drywells will infiltrate the stormwater from roof drains and foundation drains of individual homes. LID techniques have been incorporated where possible. A preliminary Geotechnical report has been submitted for review by Canby Public Works and the City Engineer. A Storm Water Drainage Report may also be required by Canby Public Works and City Engineer staff. Staff has provided conditions of approval requiring all stormwater management and other public improvements be constructed in compliance with all applicable Department of Environmental Quality (DEQ) requirements, Canby Public Works Design Standards, Clackamas County Water Environmental Services (WES) requirements, and State of Oregon requirements. Therefore, staff finds, as conditioned, this criterion has been met.

D. It must be demonstrated that all required public facilities and services are available, or will become available through the development, to adequately meet the needs of the proposed land division.

Facts and Findings:

The applicant has stated that all necessary public facilities are available to serve the proposed residential development, as illustrated on Sheets C-108, 115, 116, *Utility Plans (sewer and water),* of the submitted plan set, and as demonstrated in the adopted N. Holly DCP. Staff has reviewed the plan set, and has provided conditions of approval requiring that the necessary public facilities be constructed to adequately meet the needs of the proposed land division. Therefore, staff finds, as conditioned, this criterion has been met.

E. The layout of subdivision streets, and pedestrian ways supports the objects of the Safe Routes to School Program by providing safe and efficient walking and bicycling routes within the subdivision…and all schools within a one-mile radius.

Facts and Findings:

The applicant states in the narrative that the proposed street network for the subdivision will have sidewalks on both sides in order to provide safe and efficient routes for walking and bicycling within, and to adjacent neighborhoods and schools. Additional improvements will be provided along the project frontage of N. Holly Street and N. Locust Street, which will include pedestrian and bicycle facilities where required. Additionally, Tracts "A", "B" and "C" will provide public pedestrian pathways to the future City Park property to the north. The proposed subdivision supports safe, multimodal transportation. Staff concur that the proposed street layout and sidewalks will provide for connectivity in support of the Safe Routes to School Program. Staff has provided conditions of approval requiring all necessary street and sidewalk construction, including planter strips, and street trees, to be in compliance with the applicable Public Works Design Standards, and the *Planning Ordinance*. Therefore, staff finds, as conditioned, this criterion has been met.

F. A Traffic Impact Study (TIS) may be required in accordance with Section 16.08.150.

Facts and Findings:

The applicant has submitted a Traffic Impact Study (TIS), completed by Lancaster Engineering, pursuant to a scope of work provided by DKS Engineering, the City's traffic consultant. The projected trip generation estimates were based on information published in the Trip Generation Manual, Institute of Transportation Engineers, 10th Edition.

Per the Traffic Study, the new residential development will generate a total of 764 average daily trips with 60 AM Peak Hour trips and 80 PM Peak Hour trips. The current AM and PM Peak Hour trips, prior to development are 1 and 1 trips respectively, which represents the one single-family residence on the subject site. Staff has provided conditions of approval regarding all necessary street and sidewalk construction to accommodate the new residential project. The applicant has provided the requisite traffic impact study in accordance with the *Planning Ordinance.* Therefore, staff finds, as conditioned, this criterion has been met.

Other applicable requirements of the Land Development and Planning Ordinance:

Section 16.46.030 *Access Management*

***The number and spacing of accesses of City streets shall be as specified as demonstrated in* Table 16.46.030.** According to the *Planning Ordinance,* Table 16.46.030, the minimum spacing of roadways between Local streets is 150-feet; however, the applicant has requested an *exception* to this standard, as allowed by Section 16.46.070. Specifically, the exception is requested between proposed local streets "A" Court and "B" Street, from 150-feet to 139.14 feet, as well as between proposed "B" Street and "C" Court, from 150-feet to 140.88 feet. In order to grant this *exception* the applicant shall comply with the following:

Section 16.*46.070 *Exception standards

A. An exception may be allowed from the access spacing standards if the applicant can provide proof of unique or special conditions that make strict application of the provisions impractical. Applicants shall include proof that:

1. Indirect or restricted access cannot be obtained;

2. No engineering or construction solutions can be reasonably applied to mitigate the condition; and,
3. No alternative access is available from a street with a lower functional classification than the primary roadway.

The applicant has stated in the narrative the proposed street pattern and access spacing are in close alignment with the adopted N Holly Development Concept Plan (DCP), which necessitates access between the aforementioned streets to be less than the minimum required of 150 feet. Additionally, the proposed design is limited due to the location of the City Park property to the north, the existing alignment of NE 19th Avenue to the east of N Locust Street, and the adjacent N Holly Street right-of-way which does not allow direct driveway access for homes. As such, no engineering or construction solutions could change the physical characteristics of the surrounding properties and road alignments that could mitigate the challenges of the existing conditions. The two streets affected by this request are already at the lowest functional classification (local) and no alternative access points are available.

Additionally, if "B" Street were eliminated (as it is stubbed to property outside the UGB), it would diminish the efficiency of future development to the south and create a street block in excess of 400 feet in the proposed subdivision, which would also require an exception or variance. Therefore the proposed alignment is the most effective option for the proposed project with the least impacts. Lastly, as the existing conditions of surrounding properties were considered in the development of the N Holly DCP, this access spacing hardship was not created by the applicant, but rather a result of the overall N Holly DCP as adopted, therefore leaving little option for the applicant in the design of the local street network spacing standards.

Staff concur that the options for meeting the minimum access spacing standards are difficult in this instance, to meet, therefore granting the request for exception is the best option and maintains harmony with the purpose and intent of the N Holly DCP. Therefore, staff finds the criterion for the exception have been met.

Section 16.46 *Access Limitations on Project Density* / Section 16.86 *Street Alignment*

Residential density is partly determined by the number of vehicular access points to an area in order to assure sufficient access is provided, especially as it relates to emergency vehicles, special limitations are placed on the number of allowable units in a residential development to the number of access points provided. For single-family residential access, road shall be a minimum of 28 feet in width with parking restricted to one side only, or a minimum of 34 feet in width with no parking restriction. Per Section 16.46.010 (A)(2) *of the Planning Ordinance,* the number of access points required for the proposed 82 lot subdivision is two for up to 132 units. Per Exhibit 2, Sheets 113 and 114 of the submitted application materials, the applicant has provided the conceptual street pattern for the residential development. The conceptual plan is in compliance with the North Holly DCP as adopted. All proposed local roads will be comprised of two travel lanes and connect to NE Territorial Road via N Locust Street or N Holly Street. Both N Locust Street and N Holly Street will be improved along the project site frontage in accordance with the Public Works Design Standards and Chapter 16 of the *Planning Ordinance.*

All proposed interior streets shall be designed to City local street standards with curbs, 4.5 foot wide planter strips with street trees, 6-foot wide sidewalks with street lights and all utilities in accordance with the Public Works Design Standards. Staff finds, as conditioned, the criterion has been met.

Sections 16.64.010 *Streets* and 16.64.015 *Access*

The proposed street locations throughout the residential development match the N Holly Development Concept Plan as adopted.

The subject site will be accessed from two existing roadways; N Holly Street, identified as an arterial street in Clackamas County's TSP and a collector in the Canby TSP; and, N Locust Street, identified as a local street in the Canby TSP. Both roadways were included in the N Holly DCP as part of the future street network for projects within the DCP area. The applicant proposes one (1) access point into the subdivision from N Locust Street, and two (2) access points from the subdivision to N Holly Street. The internal street network will consist of local streets with a pavement width of 34-feet, as well as sidewalks on both sides of the street. Pedestrian access will be provided to the future City Park to the north. The local street network will provide the public, as well as emergency services, full access to all individual homes within the subdivision. The applicant has provided access information for the proposed subdivision which is consistent with the access management standards adopted in the Transportation System Plan (TSP).

Staff has provided condition(s) of approval to ensure all new streets are constructed in compliance with the roadway design standards provided in Chapter 7 of the Transportation System Plan (TSP), and in accordance with the requirements of the Public Works Design Standards in consultation with the City Traffic Engineer and Clackamas County Transportation.

Section 16.64 *Subdivisions – Design Standards*

16.64.10 (I) Cul-de-Sacs

The *Planning Ordinance* sets forth standards related to cul-de-sacs, specifically allowing them only when site constraints, such as existing development patterns, topography, environmental constraints and/or other code standards that would preclude extension of streets or through circulation. The applicant has stated in the narrative the proposal of two (2) cul-de-sacs as part of the subdivision. Each cul-de-sac is proposed due to existing development patterns, including the alignment of 19th Avenue to the east side of N Locust Street, which must align with the existing street pattern to the east. Additionally, each cul-de-sac proposed, "C" Court and "A" Court cannot be extended to the north due to the location of the City Park property, which will be developed sometime in the future.

Each proposed cul-de-sac will be less than the maximum allowable distance of 400 feet (220 feet respectively) and designed and built to the Public Works Design Standards, as well as include a 16-foot wide pedestrian access tract (Tracts "C" and "D") that will connect to the future City Park. Staff concurs that the two proposed cul-de-sacs are unavoidable as part of the overall design of the proposed subdivision. The applicant proposes a rolled curb with curb tight sidewalk proposed with common driveways for the cul-de-sac lots. Landscaping and street trees are proposed to be installed behind the sidewalk on these lots and not in the public utility easement (PUE). Staff concurs with the applicant's proposal. Therefore, staff finds, as conditioned, this criterion has been met.

16.64.020 Blocks

The *Planning Ordinance* sets forth standards for the length, width and shape of blocks within a subdivision, specifically, block length shall be limited to 400 feet maximum length within residential zones. There are exceptions however, when topography, railroads, arterial roads, and environmental constraints are present on a project site which will then present challenges with keeping block length from exceeding the standard 400-foot length. The applicant has stated the proposed development contains three blocks that exceed the 400-foot maximum length. According to the applicant, barriers contributing to the three longer blocks include the UGB "island" to the

south of the property, the City Park property to the north, extremely flat topography impacting potential sewer routes, and N Holly Street, which is classified as an Arterial roadway in Clackamas County's TSP and a Collector within the City's TSP. The County classification must be followed in this instance.

The applicant has tried to balance the requirements of the code while working with the barriers present that result in three longer blocks, exceeding the 400-foot maximum block length permitted. In working with the adopted N Holly DCP, the proposed subdivision presents the most balanced design that accomplishes the intent of the code despite the specific project site barriers. Staff concur with the applicant's design and length of street blocks for said subdivision as proposed. Therefore, staff finds, the criterion has been met.

16.64.030 Easements

The *Ordinance* states all public utility easements shall be twelve-feet in width and be required along all street lot lines adjacent to the public right-of-way, unless specifically waived. The applicant has indicated there will be twelve-foot wide public utility easements along all street frontages of the newly created residential lots. The applicant shall comply with all Public Works Design Standards in coordination with the City Engineer for the final placement of all easements throughout the subdivision. Staff finds, as conditions, the criterion has been met.

16.64.040 Lots / 16.16.030 Development Standards R-1 Lot Frontages

The R-1 Low Density Residential zoning district requires minimum lot sizes of 7,000 square feet, and maximum lot sizes of 10,000 square feet. The proposed lots are consistent with the standards of the zone, including area, dimensions, and street frontages. There are however, eight (8) lots below the minimum lot size standards for the R-1 zone, Lots: 13, 53, 56, 57, 58, 69, 70, and 71. Section 16.16.030 (B) of the *Planning Ordinance* does allow an exception to the minimum and maximum lot area standards, provided that the average area of all lots created are no less than seven thousand square feet and no greater than ten thousand square feet. The applicant states that the average lot size for the proposed subdivision is 7,352 square feet. No lots are proposed over 10,000 square feet or below 6,000 square feet. The applicable criteria permitting this exception to the minimum lot size has been met. Therefore, staff finds this criterion has been met.

The applicant also proposes several lots varying in size, less than sixty (60) feet of frontage, due to the characteristics of the approved street alignments of the N Holly DCP as adopted. Specifically Lots 7, 9, 10, 11, 12, 30, 31, 32, 33, 45, 53, 81, and 82. The majority of these lots are part of the two cul-de-sacs and flag lots within the cul-de-sacs. The other lots are challenged due to fronting the outside radius of a curved street and/or border undeveloped parcels, thus making meeting the minimum lot frontage requirements difficult. Staff is in support of the reduced lot frontages for all the proposed lots, except Lot 82 at the northwest corner of the subject project site. The lot is 53-feet wide, and proposed to be 168.57 feet long. The proposed length violates the rule that a lot cannot be more than three (3) times its width (53 x 3 = 159 feet long). Staff cannot support the request to reduce the lot frontage for Lot 82; however, staff does support the request to reduce the lot frontages on the other twelve (12) aforementioned lots. Therefore, staff finds, as conditioned, the lot frontages can be reduced for Lots 7, 9, 10, 11, 12, 30, 31, 32, 33, 45, 53, and 81 only.

Street Trees

As a condition of approval, a Street Tree Plan shall be submitted with the Final Subdivision Plat. All street trees shall be paid for prior to the recordation of the Final Subdivision Plat.

16.64.050 & 16.120.020 Parks, Open Space and Recreation Land

These two sections of the *Ordinance* set forth regulations for the creation of parks, open space and recreation in the city. For example, parkland dedication is required for all new residential subdivision project approvals. The dedication of park land, or payment of system development charges (SDC) in lieu of land dedication are the two options available to applicants seeking compliance with said requirements. Based on the formula provided in Section 16.120.020 (A)(3)(a) *Population Formula,* Table 1, of the *Ordinance,* the number of acres of land necessary for park dedication. Based on 2.7 persons per unit per single family residence (82 lots), a total of 2.21 acres of park land would be required for dedication for this project. The applicant has elected to pay the SDC in lieu of land dedication. Section 16.120.040 (B)(b) of the *Ordinance* states the SDC "may be paid …on a per lot basis for platted single family subdivisions." Staff has provided conditions of approval to ensure that all SDCs, including Park SDC fees, are collected at the time of building permit review and approval for each of the 82 residential lots.

16.64.060 Grading of building sites

The subject site is relatively flat and mostly undeveloped. There are several agricultural buildings that will be removed at the time of development. The applicant has provided a preliminary geotechnical report with the application materials (Exhibit 6). The applicant has stated that per the geotechnical report, there are no steep slopes or unstable soil conditions known to exist on the subject site. A final grading plan will be reviewed and approved by the city Engineer and Clackamas County as applicable, prior to any ground disturbing activities. Staff has provided conditions of approval to ensure all site grading meets the requirements of the city Engineer in conjunction with the Public Works Design Standards and in coordination with Clackamas County.

16.64.070 Improvements

The applicant states that all necessary infrastructure to serve the residential lots will be installed in conjunction with the development of the subdivision, to include: sanitary sewer and storm water lines, water lines, fire hydrants, sidewalks, streets and streetlights, and all underground utilities in accordance with the requirements of the applicable regulations found within the *Ordinance*, the Public Works Design Standards, and other applicable regulations as deemed necessary by the city Engineer. Construction plans shall be reviewed and approved by the City prior to the installation of all required infrastructure. All proposed streets and utilities have been illustrated on the submitted plan set. Staff has provided conditions of approval to ensure all infrastructure is provided and installed in accordance with all applicable city and state regulations, to include those of the city Engineer, Canby Utility, Canby Fire District, and Public Works.

IV. Public/Agency Comments

Notice of this application and opportunity to provide comment was mailed to owners and residents of lots within 500 feet of the subject property and to all applicable public agencies. Staff has received conditions of approval from the City Engineer and Public Works, Canby Utility, Canby Fire District, Canby Post Office, and DirectLink, which are provided herein. Other agency comments and/or conditions of approval received after staff report publication will be provided at the public hearing. Citizen comments received to date (if applicable) are provided herein and available in the file. Comments received after staff report publication will be provided at the time of the public hearing.

V. Conclusion

Staff has reviewed the applicant's narrative and submitted application materials and finds that this Subdivision application conforms to the applicable review criteria and standards, subject to the conditions of approval noted in Section VI of this report.

VI. Conditions of Approval

A. Public Improvements:

1. Prior to the start of any public improvements work, the applicant shall schedule a pre-construction conference with the City Of Canby and obtain construction plans sign-off from all applicable reviewing agencies. (Canby Planning – SF)
2. All site development shall comply with all applicable City of Canby Public Works Design Standards. (City Engineer – HI/Public Works – JN)

Fees/Assurances:

3. All public improvements are typically installed prior to the recordation of the final plat. If the applicant wishes to forgo construction of any portion of the public improvements until after the recordation of the final plat, then the applicant shall provide the City with appropriate performance security (subdivision performance bond or cash escrow) in the amount of 110% of the cost of the remaining public improvements to be installed. (City Engineer – HI/Public Works – JN/Canby Planning - SF)
4. If the applicant chooses to provide a subdivision performance bond for some or all of the required public improvements, the applicant shall obtain a certificate from the city engineer that states:
    a. The applicant has complied with the requirements for bonding or otherwise assured completion of required public improvements.
    b. The total cost or estimate of the total cost for the development of the subdivision is to accompany a final bid estimate of the subdivider's contractor if a contractor has been engaged to perform the work. The certificate of the total cost estimate shall be approved by the city engineer. (City Engineer – HI)
5. The applicant shall guarantee or warranty all public improvement work with a one (1) year Subdivision Maintenance Bond following written notice of acceptance by the city to the developer in accordance with Section 16.64.070(P) of the *Ordinance.* (Public Works – JN/Canby Planning – SF)
6. The applicant shall pay the city of Canby Master Fee authorized engineering plan review fee equal to 2% of public improvement costs prior to the construction of public improvements (approval of construction plans) as each phase of development occurs. The applicant shall also pay the city of Canby Master Fee authorized Site Plan Development Engineering Plan Review Fee based on the area of the phase of the subdivision being constructed and associated plat filed of record. (Canby Planning – SF)

B. Streets, Easements, Signage & Striping:

7. The applicant shall obtain development permits from Clackamas County Transportation prior to constructing and/or improving N Holly and N Locust Streets, both county roads, which shall be improved to County standards. The County Transportation Engineer, in conjunction with the City Engineer, shall determine compliance with this condition. (County Transportation – JG/City Engineer – HI)

8. All interior streets within the subdivision shall be designed to City local street standards with 34-foot paved width, formed concrete curbs and gutters, 4.5-foot wide planter strip with street trees, 6-foot wide concrete sidewalks, street lights and utilities in conformance with Chapter 2 of the City of Canby Public Works Design Standards, dated February 2020. The City Engineer shall determine compliance with this condition. (City Engineer – HI)
9. The proposed cul-de-sacs shall be improved in conformance with the Oregon Fire Code/Metro Code committee having a minimum paved radius of 48 feet. The City Engineer shall determine compliance with this condition. (City Engineer – HI)
10. All interior street names and traffic signs shall be installed by the developer as part of this development. The developer's design engineer will be required to submit as part of the construction plans, a *signing and striping* plan. The City may supply the required traffic and street name signs based on a mutually agreed cost. (City Engineer – HI)
11. As part of the final design, the developer's design engineer shall provide a minimum of 200-foot future centerline street profile design to assure future grades can be met. The City Engineer shall determine compliance with this condition. (City Engineer – HI)
12. Temporary fire truck turnarounds shall be constructed at the phase lines and at the end of the phase lines where the roadway is in excess of 150 feet in length. The geometric turnaround and location shall meet the City of Canby Fire department requirements. The City Engineer, in conjunction with Canby Fire District, shall determine compliance with this condition. (City Engineer – HI / Canby Fire District – ME)
13. The applicant shall provide, and have approved, a truck haul route, with flaggers if deemed necessary, for all construction activity at said development site. The haul route shall be approved at the time of the pre-construction meeting by the Public Works Department. (County Transportation – JG/Public Works – JN)

C. <u>Grading and Erosion Control/Demolition</u>:

14. The applicant shall obtain an Erosion Control permit from the City of Canby prior to any on-site disturbance. (City Engineer/Canby Public Works – HI)
15. The applicant shall obtain a demolition permit from Clackamas County, (with a release for permit from Canby Planning) prior to demolition of on-site existing structures. (City Engineer – HI/Canby Public Works/Canby Planning – SF)
16. The applicant shall obtain a grading permit from Clackamas County prior to any on-site disturbance and provide the City proof of permit. (Clackamas County/Coordination with City Public Works – JN)

D. <u>Street Trees</u>:

17. The applicant shall be responsible for selecting street trees from the City approved tree list. The developer shall pay the City $250 per street tree installation typically prior to home occupancy with (2) years of city maintenance, prior to final plat recordation. Property owners shall take over all responsibility of said street trees after the two (2) year period lapses. Canby Public Works in conjunction with Canby Planning, shall determine compliance with this condition. (Public Works - JN / Canby Planning - SF)

E. Sewer and Storm Drainage:

18. Sanitary sewer lines exist on N Locust Street and NE Territorial Road. The applicant shall be required to extend and install a minimum 8-inch public sanitary sewer line to serve the development. The City Engineer and Public Works shall determine compliance with this condition. (City Engineer – HI/Public Works - JN)
19. All private storm drainage discharge shall be disposed on-site, design methodology shall be in conformance with the City of Canby Public Works Design Standards, February 2020. The City Engineer and Public Works shall determine compliance with this condition. (City Engineer – HI/Public Works - JN)
20. The applicant shall be required to submit a Storm Drainage Report that provides detailed analysis as part of the storm report. The developer's engineer shall demonstrate how the storm runoff generated from the new impervious surfaces will be disposed of. If drywells (UIC) are used as a means to discharge storm runoff from the private streets, they must meet the following criteria:
    a. The UIC structures location shall meet at least one of two conditions:
        i. The vertical separation distance between the UIC and seasonal high groundwater is more than 2.5 feet or;
        ii. The horizontal separation distance between the UIC and any water well is a minimum of 267 feet in accordance with the City of Canby Stormwater master Plan, Appendix "C", Groundwater Protectiveness Demonstration and Risk Prioritization of Underground Injection Control (UIC) Devices.

    The storm drainage report shall be in conformance with the requirements as stated in Chapter 4 of the City of Canby Public Works Design Standards, dated February 2020. The City Engineer and Public Works shall determine compliance with this condition. (City Engineer – HI/Public Works JN)
21. The applicant shall be responsible for the abandonment of any existing on-site domestic or irrigation wells in conformance with OAR 690—220-0030. A copy of the Oregon Water Rights Department (OWRD) Certificate shall be submitted to the City. The City Engineer and Public Works shall determine compliance with this condition (City Engineer – HI/Public Works - JN)
22. The applicant shall be responsible for the abandonment of any existing on-site sewage disposal system, in conformance with DEQ and Clackamas County Water Environmental Services (WES) regulations. A copy of the septic tank removal certificate shall be submitted to the City. The City Engineer and Public Works shall determine compliance with this condition. (City Engineer – HI/Public Works - JN)

F. Clackamas County Conditions

23. The applicant shall comply with all applicable Clackamas County Traffic and Development conditions of approval as stated in Memorandum, dated February 27, 2020, and attached herein as Exhibit G-3. (Clackamas County – Jonny Gish)

G. Water & Electric Utility Services

24. Water services shall be constructed in conformance with Canby Utility's standards and specifications. Canby Utility, in conjunction with the City Engineer shall determine compliance with this condition. (City Engineer – HI/Canby Utility-JS)

25. The applicant shall submit drawings for all project water lines to Canby Utility for review and approval. Submittal shall meet the requirements of Canby Utility as well as the State of Oregon's requirements. Canby Utility shall determine compliance with this condition. (Canby Utility – JS)
26. Canby Utility, in coordination with the applicant will determine the electrical system layout to serve the subdivision. This shall include required street light placement which shall be represented on a utility service page of the construction plans for the subdivision by the applicant. Canby Utility shall determine compliance with this condition. (Canby Utility – JS)
27. The applicant shall schedule all water and electric utility construction and inspections at least 15-days in advance. Contact Canby Utility Operations Field Supervisor at 503-263-4331.
28. The applicant shall be required to provide 4-inch Schedule 40 PVC sleeves for all road crossings for DirectLink services where applicable. The applicant shall work with DirectLink for coordination of all sleeves and required open trenching scheduling for said communication facilities. DirectLink shall determine compliance with this condition. (Contact DirectLink at 503-266-8242)

H. Fire Protection

29. All fire protection apparatus's such as fire hydrants placement and location shall be placed in accordance with the requirements of the Canby Fire District codes and regulations (Oregon Fire Code 2019, Chapter 33). Canby Fire District shall determine compliance with all fire regulations. (Canby Fire District – ME)
30. The applicant shall contact the Canby Fire District for review and inspection of placement of all fire hydrants, and placement of any and all flammable construction materials on-site, prior to placement of said materials. Canby Fire District shall determine compliance with all fire regulations. (Canby Fire District – ME)
31. Building Address shall be marked at the beginning of construction with a lot marker if needed for each lot under construction. Canby Fire District shall determine compliance with all fire regulations. (Canby Fire District – ME)
32. All fire hydrants shall all have Storz quick adapter couplings on the steamer port as required by Canby Utility. A Blue reflector will be in the center of the road to indicate the hydrant is in the vicinity. Canby Fire District shall determine compliance with all fire regulations. (Canby Fire District – ME)
33. Landscaping shall be low growing vegetation so as not to block visibility of hydrants, or addressing. Canby Fire District shall determine compliance with all fire regulations. (Canby Fire District – ME)
34. The applicant shall provide a PDF of approved prints for the Canby Fire District Pre-Fire Plan program of the development. Canby Fire District shall determine compliance with all fire regulations. (Canby Fire District – ME)
35. All Fire Lanes shall be painted red on curb with – "No Parking Fire Lane" in white - and signage, in accordance with the Oregon Fire Code 2019. Fire Lanes will be determined while on site for any access issues with Canby Fire and the builder. Canby Fire District shall determine compliance with all fire regulations. (Canby Fire District – ME)
36. Fire access shall always be part of the construction plan for the development. Canby Fire District shall determine compliance with all fire regulations. (Canby Fire District – ME)

I. Post Office (mailbox locations)

37. The applicant shall designate on the civil construction plans placement of a community cluster mail boxes to serve:

    a. Lots 1-38 in the following location: between Lots 15 and 27. Said mailbox shall be 3 CBU's 2-16 unit and 1-8 unit.

    b. Lots 45, 46, and 55-82 said box shall be placed between Lots 60 and 61, and would be 2 CBU's both 16 units.

    c. Lots 39 through 54, minus Lots 45 and 46. The box shall be placed at Lot 55, and be a 1-16 unit box.

    The Postmaster shall determine compliance with this condition. (Canby Postmaster Sheila L. Laney, 503-266-3353)

J. Final Plat:

38. All public improvements or submittal of necessary performance security assurances shall be made prior to the signing and release of the final plat for filing of record. Canby Planning shall determine compliance with this condition. (Canby Planning – SF)

39. The applicant shall apply for final plat approval at the City, and pay any applicable city fees associated with final plat review. Prior to the recordation of the final plat at Clackamas County, the plat must be approved by the City. If deemed necessary, the City will distribute the final plat to other applicable local service providers for comment prior to signing off on the final plat. Canby Planning shall determine compliance with this condition. (Canby Planning – SF)

40. The final plat shall conform to the necessary information and requirements of CMC 16.68.030, 16.68.040(B), and 16.68.050. The City Engineer or County Surveyor shall verify that these standards are met prior to the recordation of the subdivision plat. (Canby Planning – SF/City Engineer - HI)

41. All "as-built plans" of City public improvements installed shall be filed with Canby Public Works within sixty (60) days of completion and acceptance of the improvements. (City Engineer – HI/Public Works - JN)

42. Clackamas County Surveying reviews pending subdivision plat documents for Oregon Revised Statutes and county requirements. A subdivision final plat prepared in substantial conformance with the approved tentative plat must be submitted to the City for approval within two years of approval of the tentative plat, or formally request an extension of up to 6-months with a finding of good cause. Canby Planning shall determine compliance with this condition. (Canby Planning – SF)

43. The applicant shall record the final plat at Clackamas County within 6-months of the date of the signature of the Planning Director. Canby Planning shall determine compliance with this condition. (Canby Planning – SF)

44. The applicant shall assure that the City is provided with a copy of the final plat in a timely manner after it is recorded at Clackamas County, including any CC&Rs recorded in conjunction with the final plat. Canby Planning shall determine compliance with this condition. (Canby Planning – SF)

45. The City shall assign addresses for each newly created subdivision lot and distribute those addresses to the developer, and other applicable agencies accordingly prior to home permitting. Canby Planning shall determine compliance with this condition. (Canby Planning – SF)

46. Proposed Lots 7, 9, 10, 11, 12, 30, 31, 32, 33, 45, 53, 81 are permitted to have reduced lot frontages of less than sixty (60) feet. Canby Planning shall determine compliance with this condition. (Canby Planning – SF)

K. Easements

47. All public utility easements traversing the newly created residential lots related to water, sewer, electric, and gas service shall be noted on the final plat. Canby Planning in conjunction with the City Engineer shall determine compliance with this condition. (Canby Planning – SF / City Engineer – HI)

L. Residential Building Permit(s):

48. Construction of all required public improvements and the recordation of the Final Plat shall be completed prior to the issuance of building permits and comply with all applicable City Public Works Design Standards. The City Engineer and Public Works shall determine compliance with this condition. (City Engineer – HI / Public Works – JN/Canby Planning –SF)
49. The homebuilder shall apply for and submit a City of Canby Site Plan Permit application and Clackamas County Building permit for each home, and satisfy the residential design standards of CMC 16.21. Canby Planning shall determine compliance with this condition. (Canby Planning – SF)
50. Home permits for the following Lots: 1, 10, 11, 31, 32, 42, and 43 shall include installation of fencing by the developer and/or homebuilder, using the appropriate materials and dimensions as specified in conditions 56 and 57 below. Canby Planning shall determine compliance with this condition. (Canby Planning – SF)
51. All residential construction shall be in accordance with applicable Public Works Design Standards. Public Works shall determine compliance with this condition. (Public Works – JN)
52. Clackamas County Building Codes division will provide structural, electrical, plumbing, and mechanical plan review and inspection services for all new home construction. The applicable county building permits are required prior to the construction of a new single-family residence. (Canby Planning – SF)
53. Per the Canby Public Works Design Standards, minimum residential driveway widths at the inside edge of the sidewalk shall be 12-feet and the maximum width shall be 24 feet, with an allowed exception of 28 feet for a home with 3 or more garages. Canby Planning shall determine compliance with this condition. (Canby Planning – SF)
54. All usual System Development Charges (SDC) shall be collected with each new home permit within this development. Canby Planning shall determine compliance with this condition. (Canby Planning – SF)

M. Fencing

55. Placement of residential fences along any front or street-adjacent side yard property line are permitted to be a maximum of 3-feet, 6-inches in height, and must not exceed 30-inches in height when within the *Vision Clearance Triangle* for all corner lots, and *Vision Clearance Area* of ten (10) feet from driveways to the street. Perimeter and rear yard fencing is not to exceed six (6) feet in maximum height. Please reference Section 16.08.110 of the Canby Land Development and Planning Ordinance, Chapter 16, of the Municipal Code. (Canby Planning – SF).

56. For the residential lots abutting the future City Park to the north, specifically Lots 1, 10, 11, 31, 32, 42, and 43, rear yard fencing material shall be clear and open in order to ensure visibility and safety. Preferred fencing material shall be black (or similar dark color) vinyl coated chain link or similar, not to exceed six (6) feet in maximum height, or four (4) feet in maximum height if solid fencing. All new fencing shall comply with Section 16.08.110 (G)(2)(a or b). The applicant shall be responsible for the fence installation for the aforementioned lots. Canby Planning shall determine compliance with this condition. (Canby Planning – SF)

57. Pedestrian path fencing between Lots 32 and 31, and 11 and 10, and immediately to the north of Lot 43 (Tract "A") shall be open, visible fencing so as not to create a "tunnel" effect and safety issues to pedestrians using the path(s). Preferred fencing material shall be black (or similar dark color) vinyl coated chain link or similar, not to exceed six (6) feet in maximum height, or four (4) feet in maximum height if solid fencing. All new fencing shall comply with Section 16.08.110 (G)(2)(a or b). The applicant shall be responsible for the fence installation for the aforementioned lots. Canby Planning shall determine compliance with this condition. (Canby Planning – SF)

City of Canby
Planning Department
222 NE 2nd Avenue
PO Box 930
Canby, OR 97013
(503) 266-7001

LAND USE APPLICATION

SUBDIVISION
Process Type III

APPLICANT INFORMATION: *(Check ONE box below for designated contact person regarding this application)*

☐ Applicant Name: Stafford Development Company, LLC Phone: 503-305-7647
Address: 8840 SW Holly Ln Email:
City/State: Wilsonville, OR Zip: 97070

■ Representative Name: Levi Levasa Phone: 503-250-3651
Address: 8840 SW Holly Ln Email: levi@staffordlandcompany.com
City/State: Wilsonville, OR Zip: 97070

☐ Property Owner Name: Thomas Dodds Phone: 503-266-6729
Signature: Thomas Dodds
Address: 2030 N Holly St Email: tomdodds@wavecable.com
City/State: Canby, OR Zip: 97013

☐ Property Owner Name: Phone:
Signature:
Address: Email:
City/State: Zip:

NOTE: Property owners or contract purchasers are required to authorize the filing of this application and must sign above

❶ All property owners represent they have full legal capacity to and hereby do authorize the filing of this application and certify that the information and exhibits herewith submitted are true and correct.
❷ All property owners understand that they must meet all applicable Canby Municipal Code (CMC) regulations, including but not limited to CMC Chapter 16.49 Site and Design Review standards.
❸ All property owners hereby grant consent to the City of Canby and its officers, agents, employees, and/or independent contractors to enter the property identified herein to conduct any and all inspections that are considered appropriate by the City to process this application.

PROPERTY & PROJECT INFORMATION:

1882 N Holly St	~19.32	TL 400 on Map 3S1E28C
Street Address or Location of Subject Property	Total Size of Property	Assessor Tax Lot Numbers
Farming, Mobile Home, Barn, Cell Tower	R-1	LDR
Existing Use, Structures, Other Improvements on Site	Zoning	Comp Plan Designation

2 Phase, 82-Lot subdivision for Single Family Residential use.
Describe the Proposed Development or Use of Subject Property

STAFF USE ONLY				
SUB 19-03	12/16/19	YT		
FILE #	DATE RECEIVED	RECEIVED BY	RECEIPT #	DATE APP COMPLETE

EAS 19-01 (Attached)

SUBDIVISION APPLICATION – TYPE III
Instructions to Applicants

All required application submittals detailed below must also be submitted in electronic format on a CD, flash drive or via email to: PlanningApps@canbyoregon.gov

Applicant Check	City Check	
☑	☐	One (1) copy of this application packet. The City may request further information at any time before deeming the application complete.
☑	☐	Payment of appropriate fees – cash or check only. Refer to the city's Master Fee Schedule for current fees. Checks should be made out to the *City of Canby*.

SUBDIVISION APPLICATION – TYPE III

Applicant Check	City Check	
☐	☐	**Please submit one (1) electronic copy of mailing addresses in either an EXCEL SPREADSHEET or WORD DOCUMENT** for all property owners and all residents within 500 feet of the subject property. If the address of a property owner is different from the address of a site, an address for each unit on the site must also be included and addressed to "Occupant." A list of property owners may be obtained from a title insurance company or from the County Assessor's office.
☑	☐	One (1) copy of a written, narrative statement describing the proposed development and detailing how it conforms with the Municipal Code and to the approval criteria, including the applicable Design Review Matrix, and availability and adequacy of public facilities and services. ***Ask staff for applicable Municipal Code chapters and approval criteria.*** Applicable Code Criteria for this application includes: _____ _____ _____ _____
☐	☐	Three (3) copies of a Traffic Impact Study (TIS), conducted or reviewed by a traffic engineer that is contracted by the City and paid for by the applicant (payment must be received by the City *before the traffic engineer will conduct or review a traffic impact study.* Ask staff to determine if a TIS is required.
☑	☐	One (1) copy in written format of the minutes of the neighborhood meeting as required by Municipal Code 16.89.020 and 16.89.070. The minutes shall include the date of the meeting and a list of attendees.
☑	☐	One (1) copy in written format of the minutes of the pre-application meeting
☑	☐	One copy of either the recorded plat or the recorded deeds or land sales contracts that demonstrates how and when legal property lines were established and where the boundaries of the legal lot(s) of record are located. If the property is a lot or parcel created by plat, a copy of the recorded plat may be obtained from the Clackamas County Surveyor's office. If the property is a legal lot of record created by recorded deed or land sales contract at a time when it was legal to configure property lines by deed or contract,

then those recorded deeds may be obtained from the Clackamas County Office of the Clerk, or a Title Company can also assist you in researching and obtaining deeds.

Applicant Check | City Check

☐ ☐ If the development is located in a Hazard ("H") Overlay Zone, submit one (1) copy of an affidavit signed by a licensed professional engineer that the proposed development will not result in significant impacts to fish, wildlife and open space resources of the community. If major site grading is proposed, or removal of any trees having trunks greater than six inches in diameter is proposed, then submit one (1) copy of a grading plan and/or tree-cutting plan.

SUBDIVISION APPLICATION – TYPE III

☐ ☐ Two (2) 11" x 17" paper copies of the proposed plans, printed to scale no smaller than 1"=50'. The plans shall include the following information:

- ☐ Vicinity Map. Vicinity map at a scale of 1"=400' showing the relationship of the project site to the existing street or road pattern.
- ☐ Site Plan-the following general information shall be included on the site plan:
  - ☐ Date, north arrow, and scale of drawing;
  - ☐ Name and address of the developer, engineer, architect, or other individual(s) who prepared the site plan;
  - ☐ Property lines (legal lot of record boundaries);
  - ☐ Location, width, and names of all existing or planned streets, other public ways, and easements within or adjacent to the property, and other important features;
  - ☐ Location of all jurisdictional wetlands or watercourses on or abutting the property;
  - ☐ Finished grading contour lines of site and abutting public ways;
  - ☐ Location of all existing structures, and whether or not they are to be retained with the proposed development;
  - ☐ Layout of all proposed structures, such as buildings, fences, signs, solid waste collection containers, mailboxes, exterior storage areas, and exterior mechanical and utility equipment;
  - ☐ Location of all proposed hardscape, including driveways, parking lots, compact cars and handicapped spaces, loading areas, bicycle paths, bicycle parking, sidewalks, and pedestrian ways;
  - ☐ Callouts to identify dimensions and distances between structures and other significant features, including property lines, yards and setbacks, building area, building height, lot area, impervious surface area, lot densities and parking areas;
  - ☐ Location of vision clearance areas at all proposed driveways and streets.
- ☐ Landscape Plan

  The following general information shall be included on the landscape plan:
  - ☐ Layout and dimensions of all proposed areas of landscaping;
  - ☐ Proposed irrigation system;
  - ☐ Types, sizes, and location of all plants to be used in the landscaping (can be a "palette" of possible plants to be used in specific areas for landscaping);
  - ☐ Identification of any non-vegetative ground cover proposed, and dimensions of non-vegetative landscaped areas;

- ☐ Location and description of all existing trees on-site, and identification of each tree proposed for preservation and each tree proposed for removal;
- ☐ Location and description of all existing street trees in the street right-of-way abutting the property, and identification of each street tree proposed for preservation and each tree proposed for removal.
- ☐ Elevations Plan
  The following general information shall be included on the elevations plan:
- ☐ Profile elevations of all buildings and other proposed structures;
- ☐ Profile of proposed screening for garbage containers and exterior storage areas;
- ☐ Profile of proposed fencing.

☐ Sign Plan.
- ☐ Location and profile drawings of all proposed exterior signage.

☐ Color and Materials Plan.
- ☐ Colors and materials proposed for all buildings and other significant structures.

☐ Name of Proposed Subdivision Plat (subject to review and approval by Clackamas County).

☐ Township, range, and section in which the property lies.

☐ Title Block Including:
- o Name & address of engineer or surveyor who prepared plans
- o Date that the plans were prepared
- o Scale of the drawings (standard engineer's scale)

☐ Subdivision boundary, lot lines, lot dimensions, gross area in square feet of each lot (excluding the square footage of accessways for flag lots), proposed public and private easements, and subdivision phase boundaries;

☐ If any undevelopable tract is proposed to be created, the dimensions, gross area, and purpose of the tract shall be included.

☐ If any oversized lots are proposed, which in the opinion of the Planning Director are likely to be further divided in the future, provide an illustration of how the lot could be further divided in conformance with all CMC standards in a manner which provides for continuation of streets and provides adequate building envelopes.

☐ Existing contour lines having the following minimum intervals:
- o One-foot contour intervals for ground slopes up to five percent;
- o Two-foot contour intervals for ground slopes between five and ten percent;
- o Five-foot contour intervals for ground slopes exceeding ten percent.
- o Include base flood elevation and delineation of any areas on the property subject to inundation in the event of a 100-year flood.

☐ Location and proposed disposition of all existing: driveways, wells, septic tanks, drain fields, easements, drainage ways, and jurisdictional watercourses or wetlands on or abutting the property. As a reminder, the property owner is responsible for meeting all state/federal wetland and waterway regulations.

☐ Location, names, right-of-way width, improvement dimensions, curve radius, and grades of all existing and proposed streets and public access ways within the proposed subdivision and abutting the subdivision.

☐ Identify the classification of all streets in accordance with the Canby Transportation System Plan. Show typical cross-sections of proposed street improvements, including identification of proposed street trees. Provide street center profiles showing the finished grade of all streets as approved by the City Engineer, including extensions for a reasonable distance beyond the limits of the proposed subdivision.

- ☐ Location and type of existing and proposed transit facilities.
- ☐ Location of all proposed utilities, including sewer, water, storm water, electric, telephone, and natural gas; including utility sizes and grades.
- ☐ Indicate on the proposed plans how the proposed lots meet Canby's solar access standards (only applicable to lots created in an R-1, R-1.5, or R-2 zoning district).

SUBDIVISION – TYPE III: APPLICATION PROCESS

1. Prior to submitting an application, all applicants are encouraged to request a pre-application meeting with the City or the City Planner may determine that a pre-application meeting is necessary after an application has been discussed or upon receipt of an application by the City. To schedule a pre-application meeting, an applicant must submit a completed pre-application form, two (2) sets - 11" x 17" paper copies of preliminary drawings, and an electronic submittal of all application materials either on CD, a jump drive, or by email to PlanningApps@canbyoregon.gov to the Planning Department and pay the appropriate fees. You will receive an email notice verifying the date of the Pre-Application meeting.

2. Prior to submitting an application, all applicants must hold a neighborhood meeting with surrounding property owners and any recognized neighborhood association representative, pursuant to the procedures described in Canby Municipal Code Section 16.89.070. In certain situations, the Planning Director may waive the neighborhood meeting requirement.

3. At the time an application is submitted to the City, payment of all required application processing fees is required. An application will not be accepted without payment of fees. Please see the Master Fee Schedule on our website at www.canbyoregon.gov

4. Staff will check the application, making sure that it is complete and all fees are paid. Copies of the application materials are routed to various City/State/County departments, as applicable, for their comments. Along with the comments received from others, the application is reviewed for completeness. The City Planner will accept or return the application with a written list of omissions within thirty (30) calendar days of the submittal.

5. Staff investigates the application, writes a staff report, issues public notice, notifies surrounding property owners, and makes all facts relating to the request available to the Planning Commission and all interested parties.

6. Prior to the public hearing, the City will prepare notice materials for posting on the subject property. This material will be posted **City Staff** at least ten (10) days before the public hearing.

7. The staff report will be available to all interested parties seven (7) days prior to the hearing.

8. The Planning Commission holds a public hearing. The staff report is presented to the Commission. Testimony is presented by the applicant, proponents and opponents, followed by rebuttal from the applicant.

9. The Commission then issues findings of fact which support approval, modification, or denial of the application. A decision may be appealed to the City Council.

10. If an approval or a denial is appealed, City Council holds a public hearing. The staff report is presented and testimony taken, as at the original hearing(s). Unless the City Council decides to hear the appeal de novo, only testimony regarding items already in the record is permitted, and no new information may be entered. In the case of an appeal, the Council may affirm, revise or reverse the action of the Planning Commission in all or in part. The Council may also remand the matter back to the hearing body for further consideration.

11. Prior to construction of any of the subdivision improvements required pursuant to CMC 16.64.070, a preconstruction meeting is held with the City and all applicable utility and service providers. If required, this meeting must be held before issuance of any permits.

SUBDIVISION – TYPE III: STANDARDS AND CRITERIA

Under Section 16.62.020 of the Canby Municipal Code, an application for tentative subdivision approval shall be evaluated based on the following standards and criteria:

A. Conformance with the text and applicable maps of the Comprehensive Plan;

B. Conformance with other applicable requirements of the Land Development and Planning Ordinance;

C. The overall design and arrangement of lots shall be functional and shall adequately provide building sites, utility easements, and access facilities deemed necessary for the development of the subject property without unduly hindering the use or development of adjacent properties; and

D. It must be demonstrated that all required public facilities and services are available, or will become available through the development, to adequately meet the needs of the proposed land division.

LAND USE APPLICATION

City of Canby
Development Services Dept.
222 NE 2nd Avenue
PO Box 930
Canby, OR 97013
(503) 266-7001

Exception to Access Standards Application
Type I Process

Please provide electronic copies of all files to the City

☑ **APPLICANT INFORMATION:** *(Check ONE box below for designated contact person regarding this application)*

☑ Applicant Name: STAFFORD DEVELOPMENT Phone: 503-305-7647
Address: 8340 SW HOLLY LN Email: LEVI@STAFFORDLANDCOMPANY.CO
City/State: WILSONVILLE, OR Zip: 97070

☒ Representative Name: LEVI LEVASA Phone: 503-250-3651
Address: SAME AS APPLICANT Email: LEVI@STAFFORDLANDCOMPANY.COM
City/State: [illegible] Zip:

☐ Property Owner Name: THOMAS DODDS Phone: 503-266-6729
Signature:
Address: 2030 N HOLLY ST. Email: TOMDODDS@WAVECABLE.COM
City/State: CANBY, OR Zip: 97013

☐ Property Owner Name: Phone:
Signature:
Address: Email:
City/State: Zip:

NOTE: Property owners or contract purchasers are required to authorize the filing of this application and must sign above

❶ All property owners represent they have full legal capacity to and hereby do authorize the filing of this application and certify that the information and exhibits herewith submitted are true and correct.
❷ All property owners understand that they must meet all applicable Canby Municipal Code (CMC) regulations.
❸ All property owners hereby grant consent to the City of Canby and its officers, agents, employees, and/or independent contractors to enter the property identified herein to conduct any and all inspections that are considered appropriate by the City to process this application.

☐ **PROPERTY & PROJECT INFORMATION:**

1882 N HOLLY ST.	~19.32	TL 400 MAP 3S1E28C
Street Address or Location of Subject Property	Total Size of Property	Assessor Tax Lot Numbers
FARM, MOBILE HOME BARN	R-1	LDR
Existing Use, Structures, Other Improvements on Site	Zoning	Comp Plan Designation

82-LOT SUBDIVISION SEE DODDS NARRATIVE
Describe the Proposed Development or Use of Subject Property

STAFF USE ONLY				
EAS 19-01	12/16/19	[illegible]		
CITY FILE#	DATE RECEIVED	RECEIVED BY	RECEIPT #	DATE APP COMPLETE

SUB 19-03

Visit our website at: www.canbyoregon.gov
Email Application to: PlanningApps@canbyoregon.gov

DODDS SUBDIVISION APPLICATION

APPLICANT:

Stafford Development Company, LLC
8840 SW Holly Lane, Wilsonville, OR 97070
Levi Levasa, Project Manager
levi@staffordlandcompany.com
971.206.8614

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I. Introduction.

Purpose and Background

The purpose of this application is to request approval of an 82-lot Subdivision for single-family detached residences. The subject property is located at 1882 N Holly Street, Canby, OR 97013 and is identified as tax lot 400 on Clackamas County Assessor's Map 3S1E28C (Exhibit 1) and includes approximately 19.32 acres.

The subject property was approved by the Canby City Council for annexation into the Canby City Limits on February 6, 2019 and was rezoned from Clackamas County's Rural Residential Farm Forest 5-Acre (RRFF-5) zone to the City of Canby Low Density Residential (R-1) zone. The property is within the North Holly Development Concept Plan (Holly DCP) that was adopted as a part of the Annexation hearings per the Findings, Conclusion & Final Order for City Files ANN 18-05/ZC 18-06 and Ordinance No. 1501. The adopted Holly DCP maps are included in the Subdivision and DCP Plans (Exhibit 2) on sheets 109-116.

This application will provide explanatory material and address the relevant sections of the Canby Municipal Code (CMC), the Canby Comprehensive Plan, and the North Holly Development Concept Plan. The relevant sections of these controlling documents will be quoted or summarized throughout the application in ***bold italics*** and followed by a **FINDING** from the Applicant to exemplify the compliance of this application and proposal with the applicable approval criteria. To be concise, text from certain sections has been omitted as it is explanatory or procedural.

Site Description

The subject property is zoned R-1 and currently includes rural residential and farm uses. To the west of the subject property is N Holly St., the centerline of which is the Canby City Limits. Immediately to the west of N Holly St. is Rural Residential Farm Forest 5-Acre (RRFF-5) zoned property that is part of unincorporated Clackamas County but within the Canby Urban Growth Boundary (UGB) and the Holly DCP as seen in Exhibit 2. To the north is property within the City R-1 zone that is actively farmed and includes rural single-family residences. Property to the north is also within the Holly DCP. Immediately adjacent to the east is N Locust St., with subdivisions in the Canby R-1 zone further east. The property adjacent to the south is actively farmed and part of an unusual "island" of property that is outside of the UGB in Unincorporated Clackamas County. The property at the corner of N Holly St. and NW Territorial Rd. is within the Holly DCP but is not annexed into the City, and the property at the corner of N Locust St. and NW Territorial Rd. is zoned R-1 and was annexed to the City as part of the annexation approval of the subject property. Property to the south of Territorial Rd. primarily consists of single-family residential subdivisions in the Canby R-1 zone.

The site is occupied by a single mobile home residence, several outbuildings, overhead utility lines, and a cell tower. There are several cedar trees around the mobile home and there is a row of arbor vitae or similar foliage along the eastern boundary adjacent to N Locust St. The property is very flat but generally

falls from the west and northwest to the east. These features can be seen on Sheet C102 and C103 of Exhibit 2.

Proposal Summary

The Dodds Subdivision is proposed as a Type III application in accordance with this Title and includes all of tax lot 400. The approximately 19.32 acres included in tax lot 400 are proposed to be divided into 82 lots in conformance with the R-1 zoning requirements. The average lots size is 7,352 square feet. The subdivision is proposed to be developed in one or two phases. If developed in two phases, then Phase 1 would include lots 1-20, and Phase 2 would include lots 21-82. Alternatively, all 82 lots and site improvements could be constructed at the same time and under a single permit. The proposed Subdivision plans are included in Exhibit 2 and show the location of the proposed optional phase line.

The proposed subdivision does not include any parks or open space. Tracts "A", "B", "C" are 16-foot wide public pedestrian pathways that would be dedicated to and maintained by the City. The pathways lead to the adjacent City Park property that was recently annexed. The City Park property is expected to be developed by the City in the future. Tract "D" is a 2,907 square foot sliver of property that will be retained by the subdivider for future development.

All structures on the site will be removed except the existing cell tower on Lot 44, a portion of which is subject to a long-term lease. All trees are expected to be removed unless the developer elects to save them.

The new subdivision lots will be accessed by new local streets interior to the site and the existing N Holly St. to the west and N Locust St. to the east. The City of Canby TSP identifies N Holly St. as a Collector street and N Locust St. as a Local street. Clackamas County identifies N Holly St. as an Arterial. Each of these existing roadways run north to south and connect to Territorial Rd. to the south. N Locust St and the new proposed local streets are proposed to have a 50-foot right-of-way and N Holly St is proposed to have 70 feet of right-of-way, or 35 feet from centerline consistent with the Holly DCP. Half street improvements on N Holly St. and N Locust St. would be constructed with the proposed subdivision consistent with this Title. A Traffic Impact Study (TIS) for the subdivision was prepared by Lancaster Engineering and is included in this application in Exhibit 3. There are no off-site improvements warranted by the traffic volumes generated by the proposed subdivision and none are proposed.

Exceptions to access spacing, block length, and lot size, width, and frontage standards are requested in accordance with this Title and explained in more detail in Section IV of this application.

II. Site Services and Utilities

The subject property can be served by the following public and private services, utilities, and facilities:

Water - 12-inch line in Territorial Road and an 8-inch line in Locust Street

Sanitary Sewer - 10-inch line in Territorial Road and an 8-inch line in Locust Street

Public Storm Sewer - 12-inch lines in Territorial Road and Locust Street

Fire - Canby Fire District

Police - City of Canby Police Department

Electricity - Canby Utility

Natural Gas - NW Natural Gas Company

Telecommunications - Canby Telecom, Direct Link, and Wave Broadband

Public schools - Canby School District.

Public and private services, utilities, and facilities are adequate to serve this proposed 82-Lot subdivision as identified in the adopted N Holly DCP.

III. Approval Criteria

This section of the application will address the relevant sections of the Canby Municipal Code, Comprehensive Plan, and North Holly DCP and any applicable sections of other controlling documents referenced therein. Findings of fact provided by the Applicant will demonstrate that the Approval Criteria for the proposed subdivision are met or can be met.

Canby Land Development and Planning Ordinance, Title 16, Canby Municipal Code

Division III. Zoning

Chapter 16.08 – General Provisions

16.08.110 – Fences [summarized]

G. In all zones, private fences along a public pedestrian/bicycle pathway shall comply with the following in order to provide security and visibility for pathway users while maintaining privacy for the residence.

1. Fencing installed as part of a new subdivision shall comply with either (a) or (b) below.

2. ***Fencing installed by a property owner on an individual lot shall comply with either (a), (b), or (c) below.***
    - ***a. Solid fencing shall be no greater than four (4) feet in height; or***
    - ***b. Fencing shall be constructed with black open wire material, wooden slats, or some other material that allows visual access between he pathway and adjacent uses; or***
    - ***c. Solid fencing shall be set back at least three (3) feet from the property line that abuts the pathway.***

FINDING: No fencing is proposed as a part of this subdivision application and any fencing included as a part of future site development or home construction will comply with this section. The criteria of this subsection are not applicable at this time but can be met as a part of the site development and home building permitting and construction processes when fences are proposed. The applicant is aware that the City would like fencing described in section (b) above along the rear of lots abutting the City park property and adjacent to public pedestrian paths on Tracts "A", "B", and "C."

16.08.130 – Standard Transportation Improvements

A. Pursuant to the Transportation Planning Rule, projects that are specifically identified in the Canby Transportation System Plan, for which the City has made all the required land use and goal compliance findings, are permitted outright and subject only to the standards established by the Transportation System Plan. This section pertains to additional transportation projects that may not be identified in the Canby Transportation System Plan, and whether the use is permitted outright or permitted subject to the issuance of a conditional use permit.

1. ***Except where otherwise specifically regulated by this ordinance, the following improvements are permitted outright:***

    - ***g. Construction of a local street or road as part of subdivision or land partition approved consistent with this Ordinance.***

FINDING: All transportation improvements included in this proposal are part of the proposed subdivision and permitted outright subject to the approval of the proposed subdivision. This criterion is met.

16.08.150 – Traffic Impact Study (TIS). [detailed provisions omitted for brevity]

FINDING: Lancaster Engineering prepared a Traffic Impact Study for the proposed subdivision which is included in Exhibit 3. Additionally, a Traffic Impact Study was prepared for the N Holly Development Concept Plan by Lancaster Engineering at the time of adoption and is attached as Exhibit 4. Each TIS was prepared in accordance with this section. The provisions of this section are met.

16.08.160 – Safety and Functionality Standards

The City will not issue any development permits unless the proposed development complies with the city's basic transportation safety and functionality standards, the purpose of which is to ensure that

development does not occur in areas where the surrounding public facilities are inadequate. Upon submission of a development permit application, an applicant shall demonstrate that the development property has or will have the following: … [omitted for brevity]

FINDING: Development permits are not part of this application, but the requirements of this section will be addressed when a development permit application is submitted with construction plans and calculations provided by a professional engineer. The requirements of this section can be met.

Chapter 16.10 – Off-Street Parking and Loading [summarized]

16.10.050 – Parking Standards Designated
The parking standards set out in Table 16.10.050 shall be observed. (Ord. 854 section 2, [part], 1991; Ord. 848 section 1, 16.10.050, 1990; Ord. 740 section 10.3.10(E), 1984; Ord. 981 section 20, 1997)

Table 16.10.050 – Off-street Parking Provisions [summarized]
For Single-family residential dwellings, a minimum of two (2) off-street parking spaces are required for new construction.

FINDING: Each of the proposed lots will include a minimum of two (2) and allow for up to four (4) off-street parking spaces including two spaces in the garage and two spaces in the driveway. No loading facilities are proposed. These criteria are met.

Chapter 16.16 – R-1 Low Density Residential Zone

16.16.030 – Development Standards [summarized]

- ***A. Minimum lot area is 7,000 square feet and maximum lot area is 10,000 square feet. However, the Planning Commission may approve smaller or larger lots in conformance with subsection B, below.***
- ***B. Lot area exceptions:***
  - ***1. The Planning Commission may approve an exception to the minimum and maximum lot area standards in subsection 16.16.030.A as part of a subdivision or partition application when all of the following standards are met:***
    - ***a. The average area of all lots within the subdivision shall be no less than seven thousand (7,000) square feet and no greater than ten thousand (10,000) square feet.***
    - ***b. No lots shall contain less than six thousand square feet.***
    - ***c. Lot area standards for two-family dwellings shall be met; and.***
    - ***d. If lots over ten thousand square feet are proposed, the city will require a deed restriction that prevents redivision of oversized lots.***

FINDING: The proposed subdivision includes eight (8) lots that are below the minimum lot size standards and requests approval of an exception consistent with this section. The lots below the minimum lot size include lots 13, 53, 56, 57, 58, 69, 70, and 71. The average lot size of the proposed subdivision is 7,352 square feet. No lots are proposed that are over 10,000 square feet or below 6,000 square feet and two-family dwellings are not proposed. The applicable criteria for lot area exceptions are met and the Planning Commission may approve the proposed exceptions.

2. ***A public benefit must be demonstrated in order to allow more than ten percent of the lots to be outside of the minimum and maximum lot areas in subsection 16.16.030.A.***
3. ***The Planning Commission may modify the maximum lot area requirements in 16.16.030.A. if these cannot be met due to existing lot dimensions, road patterns, or other site characteristics.***

FINDING: Of the 82 lots proposed, 8 lots are proposed to be between 6,000 and 6,999 square feet. 8 lots is 9.76% of the 82 lot total. No modification of the maximum lot area requirements is proposed. These criteria are not applicable as the lot area exception can be approved per subsection 16.16.030(B) as noted above.

C. Minimum width and frontage: sixty feet, except that the Planning Commission may approve lots having less frontage subject to special conditions to assure adequate access.

FINDING: Variable lot sizes are proposed to take advantage of the unique characteristics of the road layout and accommodate a range of house footprints in the same zone. The proposed subdivision includes lot widths and frontages below the minimum and the Applicant requests approval from the Planning commission for an exception as adequate access can be assured as further described below.

The thirteen (13) lots proposed with less than sixty (60) feet of frontage include lots 7, 9, 10, 11, 12, 30, 31, 32, 33, 45, 53, 81, and 82 and are made up of flag lots, cul-de-sac lots, or lots fronting the outside radius of a curved street. Lots 7, 81, and 82 are also less than sixty feet wide. Lots 10, 11, and 31 are flag lots; Lots 7, 9, 12, 30, 32, and 33 are cul-de-sac lots; and lots 45, 53, 81, and 82 are lots that front the outside radius of a curved street and/or border undeveloped parcels. The location of these lots makes meeting the minimum width and frontage requirements more difficult. The flag lots, which normally have narrow street frontage ranging from 15-feet to 22-feet, will have common driveways with adjacent cul-de-sac lots. Access to flag lots is further addressed in response to section 16.64.040. A final driveway plan for the project will be submitted with the final civil engineering plans for additional review. Each lot with less than 60 feet of width and/or frontage will still have adequate access and as such the Planning Commission can approve the proposed exceptions.

Chapter 16.46 – Access Limitations on Project Density

16.46.010 – Number of Units in Residential Development [summarized]
A major factor in determining the appropriate density of residential development, particularly in higher density areas, is vehicular access. In order to assure that sufficient access is provided for emergency response as well as the convenience of residents, the following special limitations shall be placed on the allowable number of units in a residential development:

A. Single-family residential access, public and private roads:
1. ***Roads shall be a minimum of 28 feet in width with parking restricted to one side only, or a minimum of 34 feet in width with no parking restrictions***
2. ***The number of units permitted are as follows***
   One Access: 30 units
   Two Accesses: 132 units

Three Accesses: 207 units

For more than three accesses, use the following formula: # of units permitted = (60 x (1 + (.05 x # of access points))) x (# of access points)

B. Single ownership developments

FINDING: As depicted in the subdivision plans in Exhibit 2, all proposed streets include a minimum of 34 feet of pavement. N Locust Street is a local street that connects to Territorial Rd. which is a collector street, and N Holly Street is identified as an arterial street in the Clackamas County TSP and a collector in the Canby TSP. There will be 1 access to N Locust St. and 2 accesses from the subdivision to N Holly Street. A total of 132 units are allowed with the 2 access points to N Holly St. If access to N Locust St., which connects to Territorial is counted as well, then up to 207 units would be allowed. A total of 82 units are proposed which is less than the maximum of 132 units (or 207). These criteria are met.

C. The Planning Commission may allow increases beyond the maximum number of units listed in the above Subsection A. Such increases shall be based upon findings that no unwarranted problems will result for the public street system or emergency service provision will result.

FINDING: The applicant is not requesting an increase beyond the maximum number of units allowed as the proposed subdivision includes less than the maximum. This subsection is not applicable. However, the projected density for the remainder of the Holly DCP area was considered during the preparation of the Holly DCP Traffic Impact Study and could be used in future consideration for allowing an increase as described in this subsection if needed.

D. All turnaround systems shall…[summarized for brevity]

E. All on-site private roads and drives shall….[summarized for brevity]

F. N Maple Street…[summarized for brevity]

FINDING: No turnaround systems, private roads and drives, or development off N Maple street are proposed. The above subsections are not applicable

G. requires all on-site public roads accessing development to be a minimum of two (2) travel lanes with twenty-four (24) feet of pavement width to the nearest improved Collector or Arterial street.

FINDING: All on-site public roads are proposed to have two travel lanes within thirty-four (34) feet of pavement width and connect to Territorial Rd (collector) via N Locust St (local) or N Holly St. (City collector, County arterial). N Locust St. and N Holly St. will each be further improved along the project frontage as shown in the subdivision plans. This criterion is met.

16.46.030 – Access Connection [summarized]

The number and spacing of accesses on City streets shall be as specified in Table 16.46.030. Proposals that do not comply with these standards must obtain an access spacing exception and address the joint and cross access requirements of this Chapter.

Table 16.46.030 – Access Management Guidelines for City Streets

Street Facility	*Maximum spacing of roadways*	*Minimum spacing of roadways*	*Minimum spacing of roadway to driveway*	*Minimum Spacing driveway to driveway*
Arterial	*1,000 feet*	*660 feet*	*330 feet*	*330 feet or combine*
Collector	*600 feet*	*250 feet*	*100 feet*	*100 feet or combine*
Neighborhood/Local	*600 feet*	*150 feet*	*50 feet*	*10 feet*

FINDING: The proposed subdivision has road alignments matching the adopted Holly DCP. The proposed intersections generally meet the access guidelines listed above. However, the applicant requests an access spacing exception to the above listed guidelines for minimum roadway spacing on local streets in two areas. Specifically, the access spacing exception is requested for the 139.14' spacing between proposed local streets "A" Court and "B" Street and the 140.88' spacing between proposed local streets "B" Street and "C" Court. The provisions of the Joint and Cross Access requirements of 16.46.040 are not applicable as they relate to commercial and/or shared driveways, neither of which are proposed here. As such, the proposed exceptions to the access spacing requirements can be granted and the provisions of this section can be met by approval of the exception as further described in response to Section 16.46.070 below.

16.46.070 – Exception Standards [summarized]

- ***A. An exception may be allowed from the access spacing standards if the applicant can provide proof of unique or special conditions that make strict application of the provisions impractical. Applicants shall include proof that:***
  - ***1. Indirect or restricted access cannot be obtained;***
  - ***2. No engineering or construction solutions can be reasonably applied to mitigate the condition; and***
  - ***3. No alternative access is available from a street with a lower functional classification than the primary roadway***
- ***B. An applicant requesting an access exception may be required to submit an access management plan***
- ***C. The granting of the exception shall be in harmony with the purpose and intent of these regulations and shall not be considered until every feasible option for meeting access standards is explored***
- ***D. No exception shall be granted where such hardship is self-created.***
- ***E. Reasons for denying access spacing exception applications include, but are not limited to, traffic safety concerns, expected or planned traffic increases due to development or road construction, and emergency service provision issues. (Ord. 1043 section 3, 2000; Ord 1237, 2007; Ord. 1340, 2011)***

FINDING: The proposed street pattern and spacing is consistent with the adopted Holly DCP. In addition to the adopted Holly DCP, other special conditions on this site that necessitate the exception include the location of the City Park property to the north, existing alignment of NE 19th Ave. to the east of N Locust St., and the adjacent N Holly St. right-of-way that does not allow direct driveway access for homes.

Indirect or restricted access would not increase the spacing of the proposed streets and CMC 16.46.010.G. requires two-way streets on a minimum of 24' of pavement. No engineering or construction solutions can change the physical characteristics of the surrounding properties and road alignments in a way that would mitigate the challenges presented by the existing conditions. Additionally, the adjacent and proposed streets in question are already of the lowest functional classification (local) and no alternative access points are available.

The only feasible option for eliminating the need for the access spacing exception would be to eliminate the proposed "B" Street as it is stubbed to property outside the UGB. However, elimination of "B" street would diminish the efficiency of future development on properties to the south and create a block in excess of 400 feet long in the proposed subdivision, which also requires an exception or variance. The proposed alignment is the most ideal option for the proposed subdivision and future development of properties to the south.

The existing conditions on surrounding properties that were considered in creation of the Holly DCP are not a hardship created by the applicant. Granting the proposed exception to the access spacing standards for "no outlet" local streets would not jeopardize the safety of residents and would maintain the alignment shown in the Holly DCP that was a result of extensive neighborhood outreach and involvement of surrounding owners in the creation of the adopted Holly DCP road layout. The provisions of this section have been satisfied, and the City can grant the proposed access spacing exception as doing so is in harmony with the purpose and intent of these regulations.

Division IV. – Land Division Regulation

Chapter 16.62 – Subdivision Applications

16.62.010 – Filing Procedures

A. Application procedures shall be as described in Chapter 16.89

FINDING: Filing procedures for this application are addressed below in response to Chapter 16.89.

16.62.020 – Standards and Criteria [summarized]
Applications for subdivisions shall be evaluated based upon the following standards and criteria.

A. Conformance with other applicable requirements of the Land Development and Planning Ordinance;

FINDING: Other applicable requirements for the Land Development and Planning Ordinance, as identified in the Pre-Application Summary (Exhibit 5.1) have been addressed throughout this application and evidence of this applications' conformance with said requirements is provided. This criterion is met.

B. The overall design and arrangement of lots shall be functional and shall adequately provide building sites, utility easements, and access facilities deemed necessary for the development of the subject property without unduly hindering the use or development of adjacent properties;

FINDING: The City can determine the subdivision design and arrangement of lots is functional and adequately provides building sites, utility easements and access facilities without unduly hindering the

use or development of adjacent properties. The proposed subdivision conforms to the adopted Holly DCP which was created in part to ensure a logical and equitable development pattern that would allow properties owned by separate individuals and entities to be developed independently with each property having a proportionate share of improvements adjacent to or within future subdivisions. This criterion is met.

C. Subdivision design and layout shall incorporate Low Impact Development techniques where possible to achieve the following:

1. ***Manage stormwater through a land development strategy that emphasizes conservation and use of onsite natural features integrated with engineered stormwater controls to more closely mimic predevelopment hydrologic conditions.***
2. ***Encourage creative and coordinated site planning, the conservation of natural conditions and features, the use of appropriate new technologies and techniques, and the efficient layout of open space, streets, utility networks and other publi8c improvements.***
3. ***Minimize impervious surfaces***
4. ***Encourage the creation or preservation of native vegetation and permanent open space.***
5. ***Clustering of residential dwellings where appropriate to achieve (1-4) above. The arrangement of clustered dwellings shall be designed to avoid linear development patterns.***

FINDING: This proposed subdivision design and layout does incorporate Low Impact Development (LID) techniques where possible. Creative and coordinated site planning started during the creation of the Holly DCP. The coordinated effort resulted in the most efficient layout for the proposed subdivision and all surrounding properties. Efficient planning results in less paved roads and impervious surfaces. The residential blocks are defined, but the streets are curved where possible to avoid a linear development pattern and to create lots with some variation in size and shape despite being in the same zone. Stormwater generated on site will be infiltrated on site via public drywells after passing through pollution control manholes for public improvements; and private drywells will infiltrate the stormwater from roof drains and foundation drains of individual homes. LID techniques have been incorporated in the proposed subdivision where possible. The provisions of this section have been met.

D. It must be demonstrated that all required public facilities and services are available, or will become available through the development, to adequately meet the needs of the proposed land division.

FINDING: All required public facilities and services are available or will become available through development to meet the needs of the proposed subdivision as demonstrated in the adopted Holly DCP and further demonstrated in the proposed subdivision plans. This criterion is met.

E. The layout of subdivision streets, sidewalks, and pedestrian ways supports the objectives of the Safe Routes to Schools Program by providing safe and efficient walking and bicycling routes within the subdivision and between the subdivision and all schools within a one-mile radius. During review of a subdivision application, city staff will coordinate with the appropriate school

district representative to ensure safe routes to schools are incorporated into the subdivision design to the greatest extent possible.

FINDING: The streets within the subdivision will have sidewalks on both sides of the street which provides safe and efficient walking and bicycling routes within the subdivision and to adjacent subdivisions. Safe routes are available to schools to the south for bicyclist and pedestrians and additional improvements along the project frontage of N Holly St. and N Locust St. will include pedestrian and bicycle facilities where required as seen in the subdivision plans in Exhibit B. Tracts "A", "B" and "C" provide public walkways to the city park property to the north. The proposed subdivision supports safe multimodal transportation as required. This criterion is met.

F. A Traffic Impact Study (TIS) may be required in accordance with Section 16.08.150

FINDING: Lancaster Engineering prepared a TIS in accordance with Section 16.08.150 for the Holly DCP and the proposed Dodds Subdivision which are included as Exhibit C and D respectively. This criterion is met.

Chapter 16.64 – Subdivisions – Design Standards [summarized]

16.64.010 – Streets.

A. Generally. The location, width and grade of streets shall be considered in relation to existing and planned streets, to topographical conditions, to public convenience and safety, and to the proposed use of land to be served by the streets. The street system shall assure an adequate traffic circulation pattern with intersection angles, grades, tangents, and curves appropriate for the traffic to be carried. Where location is not shown in a development plan, the arrangement of streets shall either:

1. ***Provide for the continuation or appropriate projection of existing principal streets in surrounding areas; or***
2. ***Conform to a plan for the neighborhood approved or adopted by the commission to meet a particular situation where topographical or other conditions make continuance of conformance to existing street patterns impractical;***
3. ***Minimum right-of-way and roadway width shall follow the requirements of the Canby Public Works Design Standards;***
4. ***Consider opportunities to incrementally extend and connect local streets to provide for safe and convenient bike and pedestrian circulation.***

FINDING: The proposed street locations match the adopted Holly DCP roadway pattern and accomplishes or allows for accomplishment of all the items listed above, not just one. This criterion is met.

B. Permeable Surfaces…[omitted for brevity]

FINDING: No permeable surfaces are proposed at this time. This criterion is not applicable.

C. Reserve Strips…[omitted for brevity]

FINDING: No reserve strips are proposed at this time. This criterion is not applicable.

D. Alignment. All streets other than minor streets or cul-de-sacs, shall, as far as possible, be in alignment with the existing streets by continuations of the center lines thereof. Jogs creating "T" intersections shall have centerline offsets of not less than one hundred fifty feet, unless it is found that community benefits of such an alignment outweigh its disadvantages.

FINDING: The proposed 19th Avenue aligns with the existing 19th Avenue intersection on the east side of N Locust Street. "T" intersection offsets are generally greater than 150 feet, except for "A" Court and "C" Court each have offsets of slightly less than 150' with "B" street. The proposed alignment of these intersections matches the Holly DCP and was done to allow future development to the south to be built efficiently and with better circulation. The benefits of this minor exception to the alignment can be found to outweigh any disadvantages. This criterion has been met.

E. Future Extension of Streets. Where a subdivision adjoins unplatted acreage, streets which in the opinion of the commission should be continued in the event of the subdivision of the acreage, will be required to be provided through to the boundary lines of the tract. Reserve strips, street plugs and temporary turnaround areas may be required to preserve the objectives of street extensions. Reserve strips and street plugs shall be deeded to the city prior to final plat approval. The Planning Commission may require that the costs of title insurance and recordation fees, if any, for such areas be borne by the subdivider. If, in the opinion of the city engineer, a traffic pedestrian, or safety hazard temporarily exists by the construction of a dead-end street, he may direct that a barricade of adequate design be installed at the developer's expense as one of the required improvement items for the subdivision.

FINDING: Future street extensions and patterns are shown in the adopted Holly DCP. Proposed streets within the subdivision will be extended to the edge of the development property to allow for future extension. This criterion is met.

F. Intersection Angles. Streets shall intersect one another at an angle as near to a right angle as possible, and no intersections of streets at angles of less than thirty degrees will be approved unless necessitated by topographic conditions. When intersections of other than ninety degrees are unavoidable, the right-of-way lines along the acute angle shall have a minimum corner radius of twelve feet. All right-of-way lines at intersections with arterial streets shall have a corner radius of not less than twelve feet.

FINDING: All proposed intersection angles are at or near ninety degrees. This criterion is met.

G. Existing Streets. Whenever existing streets, adjacent to or within a tract, are of inadequate width, dedication of additional right-of-way shall be provided at the time of subdivision.

FINDING: Existing streets adjacent to the proposed subdivision include N Holly St. and N Locust St., each of which have inadequate right-of-way. An additional 10' is proposed to be dedicated for the N Locust Street right-of-way to provide adequate width for construction of improvements that meet City standards for a local street as Public Works has indicated they will ultimately be taking ownership and responsibility for the Locust St. right-of-way. An additional 15' is proposed to be dedicated for the North Holly St right-of-way to provide adequate width for construction of improvements that meet both City collector street

requirements and County arterial requirements. The proposed cross-sections are shown on Sheet C105 of the subdivisions plans (Exhibit 2). This criterion is met.

H. Half Streets. Half streets, while generally not acceptable, may be approved where essential to the reasonable development of the subdivision, when in conformity with the other requirements of these regulations, and when the commission finds it will be practical to require the dedication of the other half when the adjoining property is subdivided. Whenever a half street is adjacent to a tract to be subdivided, the other half of the street shall be platted within such tract. Reserve strips, street plugs, special signs and barricades may be required to preserve the objectives of half streets.

FINDING: "Half street improvements" along N Holly St. and N Locust St. is proposed as part of this development. However, "half streets" as they are described here, are not proposed. This criterion is not applicable.

I. Cul-de-sacs. A cul-de-sac shall only be allowed when environmental or topographical constraints, existing development patterns, or compliance with other standards in this code preclude street extension and through circulation. When cul-de-sacs are provided, all of the following shall be met:

- ***a. The cul-de-sac shall not exceed a length of 400 feet. Length of the cul-de-sac shall be measured along the centerline of the roadway from the near side of the intersecting street to the farthest point of the cul-de-sac;***
- ***b. The cul-de-sac shall be designed in accordance with the Canby Public Works Design Standards.***
- ***c. The cul-de-sac may have a vegetated center island that will serve to treat stormwater runoff generated by the cul-de-sac. Specifications for cul-de-sac design are located in the Public Works Design Standards.***
- ***d. The cul-de-sac shall provide a pedestrian connection between it and adjacent streets, access ways, parks, or other right-of-way. Such pedestrian ways shall conform to Section 16.64.030(C).***

FINDING: There are two cul-de-sacs proposed as a part of this subdivision that are referred to as "A" Court and "C" Court in the subdivision plans. Each is proposed due to existing development patterns including the alignment of 19th Ave. on the east side of Locust Street, which our roads must align with, and the location of the City Park property that would prevent extension to the north. "A" Court is 226' long, and "C" Court is 220' long, each of which is less than the maximum. The cul-de-sac will be designed and built in conformance with the Canby Public Works Standards, and no vegetated center island is expected or proposed at this time. At the end of each cul-de-sac is a 16' wide pedestrian access tract (Tracts "C" and "D") that connects the cul-de-sacs to the future City Park property. These criteria have been met.

J. Marginal Access Streets. Where a subdivision abuts or contains an existing or proposed arterial street, the commission may require marginal access streets, through lots with suitable depth, screen planting contained in a nonaccess reservation along the rear property line, or such other

treatment as may be necessary for adequate protection of residential properties and to afford separation of through and local traffic.

FINDING: The proposed subdivision abuts N Holly St and N Locust St which are designated as a Collector and Local street, respectively in the Canby TSP. This criterion is not applicable.

K. Alleys…[omitted for brevity]

FINDING: There are no alleys proposed. This criterion is not applicable.

L. Street Names. No street name shall be used which will duplicate or be confused with the name of existing streets except for extensions of existing streets. Street names and numbers shall conform to the established pattern in the city and the surrounding area and shall be subject to the approval of the commission.

FINDING: 17th, 18th and 19th Avenues are appropriate street names. New names for "A" through "F" Streets will be approved by city staff prior to recordation of the final plat. This criterion can be met.

M. Planting Easements. The Planning Commission may require additional easements for planting street trees or shrubs.

FINDING: The new streets within the subdivision have 5-foot planter strips between the face of the curb and the 6-foot sidewalk. Street trees will be planted in this planter in accordance with city standards. A 12-foot PUE is proposed as shown by the street section on the subdivision plan. The only exception will be the cul-de-sacs. Because of the narrow street frontages of the lots, a rolled curb with a curb sight sidewalk is proposed with common driveways. This will eliminate very short 6-inch driveway wings. The landscaping and street trees will be installed behind the sidewalk on the lots and out of the PUE.

N. Grades and Curbs. Grades shall not exceed seven percent on arterials, ten percent on collector streets, or fifteen percent on any other street. In flat areas allowance shall be made for finished street grades having a minimum slope of .5 percent. Centerline radii of curves shall not be less than three hundred feet on major arterials, two hundred feet on secondary arterials, or one hundred feet on other streets, unless specifically approved by the City, and shall be to an even ten feet.

FINDING: All streets, curbs, sidewalks and other public improvements will be designed to comply with city requirements and submitted for review during the engineering, permitting, and construction phases of this project. The site is very flat and level. Street grades will generally be 1 to 3 percent. This criterion can be met.

O. Streets Adjacent to Highway 99-E or Railroad Right-of-way…[omitted for brevity]
P. Private Streets…[omitted for brevity]

FINDING: No Private streets or streets adjacent to HWY 99 or railroad right-of-way are proposed. These criteria are not applicable.

16.64.015 – Access

A. ***Any application that involves access to the State Highway System shall be reviewed by the Oregon Department of Transportation for conformance with state access management standards (See appendix G of the Transportation System Plan).***
B. ***All proposed roads shall follow the natural topography and preserve natural features of the site as much as possible. Alignments shall be planned to minimize grading.***
C. ***Access shall be properly placed in relation to sight distance, driveway spacing, and other related considerations, including opportunities for joint and cross access.***
D. ***The road system shall provide adequate access to buildings for residents, visitors, deliveries, emergency vehicles, and garbage collection.***
E. ***Streets shall have sidewalks on both sides. Pedestrian linkages should also be provided to the peripheral street system.***
F. ***Access shall be consistent with the access management standards adopted in the Transportation System Plan.***

FINDING: Adequate street intersection sight distance is available as indicated in the submitted TIS. The proposed 34-feet of pavement on local streets is adequate for this residential subdivision. Sidewalks are provided on both sides of the street. Pedestrian pathways are provided to the city park. The local street network will allow residents, visitors, service and emergency vehicles to fully access individual homes. These features will fulfill the access management standards of the TSP. These criteria are met.

16.64.020 – Blocks

A. ***Generally. The lengths, widths and shapes of blocks shall be designed with due regard to providing adequate building sites suitable to the special needs of the type of use contemplated, needs for access, circulation, control and safety of street traffic and limitations and opportunities of topography.***
B. ***Sizes. Block length shall be limited to 300 feet in the C-1 zone, 400 feet in residential zones, 600 feet in all other zones, except for 1,000 feet on arterials. Exceptions to this prescribed block standard shall be permitted where topography, barriers such as railroads or arterial roads, or environmental constraints prevent street extension. The block depth shall be sufficient to provide two lot depths appropriate to the sizes required by Division III. (Ord. 740 section 10.4.40(C)(2), 1984; Ord. 1043 section 3, 2000; Ord. 1076, 2001; Ord. 1338, 2010)***

FINDING: The road pattern and block lengths and widths were designed during the planning stages of the Holly DCP and great emphasis was placed on each parcel being able to develop independently and still meet the greatest number of standards with minimal exceptions needed while still providing reasonable building sites, circulation, safety, and livability. The challenge of balancing various spacing requirements for different design elements throughout the entire Holly DCP area resulted in three blocks within the proposed subdivision that exceed the 400-foot length standard. Blocks and Lengths. Barriers that contributed to the longer blocks include the UGB "island" to the south, the City Park property, very flat topography that impacted potential sewer routes, and N Holly Street. N Holly St. is unique because it is designated as an arterial by Clackamas County and a collector by the City of Canby. The adopted DCP and proposed subdivision is the most balanced plan that accomplishes the intent of the code despite the site-specific barriers. An exception to the block length standards can be granted as the above criteria are met.

16.64.030 – Easements.

A. Utility Lines. Easements for electric lines or other public utilities are required, subject to the recommendations of the utility providing agency. Utility easements twelve feet in width shall be required along all street lot lines unless specifically waived. The commission may also require utility easements along side or rear lot lines when required for utility provision. The construction of buildings or other improvements on such easements shall not be permitted unless specifically allowed by the affected utility providing agency.

FINDING: Adequate easements for all utility lines will be provided. A Public Utility Easement will be provided as required along street frontages and in any other location deemed necessary during the final design engineering and construction stages of development. This criterion will be met.

B. Watercourses. Where a subdivision is traversed by a watercourse…[omitted for brevity]

FINDING: There are no watercourses traversing the subject property. This criterion is not applicable.

C. Pedestrian Ways. In any block over six hundred feet in length, a pedestrian way or combination pedestrian way and utility easement shall be provided through the middle of the block... [omitted for brevity].

FINDING: There are no blocks proposed that exceed six hundred feet in length, however, future extension of "D" Street to the north will likely create a block length in excess of 600' due to the City Park location and as such Tract "A" is provided as a future pedestrian connection to the park as indicated by the Holly DCP. This criterion is not applicable, but Tract "A" satisfies the intent of this section for future development to the north.

16.64.040 – Lots.

A. Size and Shape. The lot size, width, shape and orientation shall be appropriate for the location of the subdivision and for the type of development and use contemplated. To provide for proper site design and prevent the creation of irregularly shaped parcels, the depth of any lot or parcel shall not exceed three times its width (or four times its width in rural areas) unless there is a topographical or environmental constraint or an existing man-made feature such as a railroad line.

FINDING: The size and shape of the 82 lots in the proposed subdivision are appropriate for the location of this subdivision as evidenced by the nearest subdivisions to the east and south with the same zoning designation. None of the proposed lots have a depth that exceeds 3 times the width. This criterion is met.

B. Minimum Lot Sizes:

1. ***Lot sizes shall conform with requirements of Division III unless the applicant chooses to use an alternative lot layout per subsection (3) below…[omitted for brevity***
2. ***In areas that cannot be connected to sewer trunk lines…[omitted for brevity.]***
3. ***Alternative lot layout…[omitted for brevity].***
4. ***When using the alternative lot layout option…[omitted for brevity].***

FINDING: Lot sizes conform with the requirements of Division III as described in response to Chapter 16.16 above. An alternative lot layout is not proposed. These criteria are met.

C. Lot Frontage. All lots shall meet the requirements specified in Division III for frontage on a public street, except that the Planning Commission may allow the creation of flag lots, cul-de-sac lots and other such unique designs upon findings that access and building areas are adequate. Lots that front on more than one major street shall be required to locate motor vehicle accesses on the street with the lower functional classification.

FINDING: The Lot Frontage requirements specified in Division III are addressed in response to Chapter 16.16 above and are met. The proposed subdivision includes flag lots, cul-de-sac lots, double frontage lots and lots with less than sixty feet of frontage. The criteria of this section are met as evidenced by the applicant Findings related to CMC 16.16 and additional responses below.

D. Double Frontage. Double frontage or through lots should be avoided except where essential to provide separation of residential development from traffic arteries or to overcome specific disadvantages of topography and orientation.

FINDING: The proposed subdivision includes fourteen (14) double frontage lots (lots 69-82) that are included due to access restrictions off of N Holly St that do not allow driveways for new homes within a subdivision to connect directly to N Holly St. as it is designated as a collector by the City of Canby TSP and an arterial by Clackamas County. The proposed double frontage lots are essential to provide separation from the higher classification of N Holly Street and creates an access to the lots from a proposed local street ("F" Street) with a lower classification. This criterion is met.

E. Lot Side Lines. The side lines of lots shall run at right angles to the street upon which the lots face, or on curved streets they shall be radial to the curve, unless there is some recognizable advantage to a different design.

FINDING: The proposed lot side lines within the subdivision are generally either at or near perpendicular to the street they face, at or near radial to the curve of the street they face, or are flag lots that comply with Section I below. Some of the double frontage lots are perpendicular to N Holly St., and not perpendicular to "F" Street since Holly and "F" Street are not parallel. As such, having a single lot perpendicular to both is not feasible. This criterion is met.

F. Resubdivision. In subdividing tracts into large lots…[omitted for brevity]
G. Building Lines. If special building setback lines are to be established…[omitted for brevity]
H. Potentially Hazardous Lots or Parcels…[omitted for brevity]

FINDING: No lots large enough to resubdivide are proposed, no special building setbacks are proposed, and potentially hazardous lots are not proposed within the subdivision. These criteria are not applicable.

I. Flag Lots or Panhandle-shaped Lots. The commission may allow the creation of flag lots provided that the following standards are met.
1. Not more than one flag lot shall be created to the rear of any conventional lot and having frontage on the same street unless it is found that access will be adequate and

that multiple flag lots are the only reasonable method to allow for development of the site. Every flag lot shall have access to a public street.

FINDING: Proposed lots 10, 11, and 31 are flag lots that take access of off the cul-de-sac at the end of "A" Court or "C" Court. Lot 10 will share a driveway drop with Lot 9 which proposes reduced frontage as cul-de-sac lot; Lot 11 will share a driveway drop with lot 12, which is proposed for reduced frontage as a cul-de-sac lot; and Lot 31 will share a driveway drop with Lot 30, which is proposed for reduced frontage as a cul-de-sac lot. Each of the proposed flag lots has direct access to a public street. This criterion is met.

2. ***The access strip is to be a minimum of twenty feet in width and shall be paved for its full width from its connection with the public street to the main body of the lot. Except, however, that the width requirement may be reduced to twelve feet, for accessing a single flag lot, where the total length of the access strip does not exceed one hundred feet. Access strips not less than ten feet in width may be permitted where two such drives abut and are provided with reciprocal easements for use. For drives accessing more than two flag lots, the access strip shall be a minimum of twenty feet with reciprocal access and maintenance agreements for all lots.***

FINDING: Each individual proposed flag lot has a panhandle that will allow for an access strip (driveway) a minimum of twelve feet wide from the public right-of-way to the main body of the lot in less than one hundred feet. Construction drawings can include the required paved access strip, or the paved access strip can be provided during home construction. This criterion can be met.

3. ***For residential flag lots, a minimum building setback of five feet from the access strip shall be maintained where such buildings exist prior to the creation of the flag lot.***

FINDING: There are no existing buildings that are proposed to remain on the proposed flag lots. This criterion is not applicable.

4. ***Design and locations of buildings on flag lots shall be such that normal traffic will have sufficient area to turn around, rather than necessitating backing motions down the access strip. The commission may establish special setback requirements at the time of approving the creation of flag lots.***

FINDING: The proposed flag lots are for single family residences and no traffic beyond private access to the home is expected or proposed. Sufficient area can be provided for homeowner access and turning movements by meeting building setbacks as described in Division III and below. This criterion is likely not applicable, but regardless, can be met at the time of home construction.

5. ***Flag lots shall not be permitted when the result would be to increase the number of properties requiring direct and individual access connections to the State Highway System or other arterials.***

FINDING: The proposed flag lots do not connect to a State Highway System or other arterials. This criterion is not applicable.

6. ***The area of a panhandle shaped or flag lot shall be considered to be the rear or buildable portion of the lot and shall not include the driveway or access strip.***

FINDING: The proposed flag lots meet the area requirements for the R-1 zone with or without the panhandle included. Lot 10 is 9,431 square feet with the access strip and 8,372 square feet without. Lot 11 is 9,031 square feet with the access strip and 8,096 square feet without. Lot 31 is 9,441 square feet with the access strip and 8,442 square feet without. This criterion is met.

7. ***For the purposes of defining setbacks, flag lots shall have three side yards and one yard of 20 feet generally on the garage access side of the dwelling.***

FINDING: The proposed flag lots can accommodate a setback of 20 feet on the garage access side of a future dwelling and elsewhere. No exception is sought for this standard. This criterion can be met at the time of home construction.

J. Designation of Lots as 'Infill Home' Sites…[omitted for brevity]

FINDING: The proposed subdivision does not include lots that would be designated as 'Infill Home' sites. This criterion is not applicable.

16.64.050 – Parks and recreation.
Subdivision shall meet the requirements for park, open space and recreation as specified in Division XI.

FINDING: As determined during the creation and adoption of the Holly DCP, no parks are proposed for dedication as a part of this subdivision. Per City staff, there is sufficient park land owned by the City to the northeast of the project site. Per the applicant response to Section 16.120 below, this criteria has been met.

16.64.060 – Grading of building sites.
The commission may impose bonding requirements, similar to those described in section 16.64.070, for the purpose of ensuring that grading work will create no public hazard nor endanger public facilities where either steep slopes or unstable soil conditions are known to exist. (Ord. 740 section 10.4.40(C)(6), 1984)

FINDING: Per the Geotechnical Report included in Exhibit 6, no steep slopes or unstable soil conditions are known to exist on the project site. This criterion is not applicable.

16.64.070 – Improvements. [detailed provisions omitted for brevity]

FINDING: All improvement procedures will be followed by the applicant during the final design engineering, permitting, construction, and recording phases of the project as outlined in this section.

Improvements required to serve the proposed subdivision will be paid for, constructed, installed, and/or bonded by the subdivider or their contractors as required. In the event that oversized or excess improvements are required by the City to provide capacity for future developments, then SDC credits, to

the extent available, should be granted to the subdivider and any cost beyond what may be covered by SDC credits should be reimbursed to the subdivider.

All engineering design requirements and standards will be addressed during the design engineering and permitting phase of the proposed subdivision and reviewed for compliance by the City Engineer prior to commencing site construction. These criteria can be met.

16.64.080 – Low Impact Development Incentives

FINDING: The applicant is not requesting to utilize Low Impact Development Incentives. The provisions of this section are not applicable.

Division VII. – Street Alignments

Chapter 16.86 – Regulations [summarized]

16.86.010 – Purpose
This chapter is intended to ensure that adequate space is provided in appropriate locations for the planned expansion, extension, or realignment of public streets. Further, it is intended to allow for the safe utilization of streets once developed. The street standards are also intended to encourage the efficient layout of streets, minimize impervious surfaces, and incorporate LID green street treatments whenever feasible. This section is to be used in conjunction with other general ordinances of the city which affect public improvements, roads, highways, etc. (Ord. 740 section 107.10, 1984; Ord. 1338, 2010)

16.86.020 – General Provisions. [details omitted for brevity]
16.86.040 – Recommended Roadway Standards [details omitted for brevity]
16.86.060 – Street Connectivity [details omitted for brevity]

FINDING: The proposed subdivision street alignments are consistent with the adopted Holly DCP which was adopted with much the same purpose identified in this section. The proposed transportation elements of the subdivision including cross section design, multimodal transportation infrastructure, right-of-way dedication, and connectivity, are consistent with the Holly DCP, the Canby TSP, and Canby Public Works Design Standards. The provisions and purpose of this chapter have been satisfied.

Division VIII. – General Standards

Chapter 16.88 – Standards and Procedures [details omitted for brevity]

Chapter 16.89 – Application and Review Procedures [summarized]

16.89.010 – Purpose.
The purpose of this chapter is to establish standard decision-making procedures that will enable the City, the applicant, and the public to review applications and participate in the decision-making process in a timely and effective way. (Ord. 1080, 2001)

16.89.020 – Description and Summary of Processes. [summarized]
All land use and development applications shall be decided by using the procedures contained in this Chapter. Specific procedures for each type of permit are contained in Sections 16.89.030 through 16.89.060. The procedure type assigned to each permit governs the decision-making process for that permit. Additional requirements may be found in the individual chapters governing each permit type. The four types of procedure are described below. Table 16.89.020 lists the City's land use and development applications and their required procedures.

A. Type III Procedure (Quasi-Judicial/Legislative). Type III decisions are made by the Planning Commission after a public hearing, with appeals reviewed by the City Council. Type III procedures generally use discretionary approval criteria.

Table 16.89.020 – Land Use and Development Application Procedures [summarized]
For a Subdivision, the decision Process Type is a Type III procedure that is subject to a Notice Radius of five hundred (500) feet, and requires a Neighborhood Meeting.

16.89.050 – Type III Decision. [summarized]

A. Pre-application conference. A pre-application conference may be required by the Planning Director for Type III applications.
B. Neighborhood meetings. As directed in Table 16.89.020, the applicant may be required to present their development proposal at a neighborhood meeting before the City accepts the application as complete. See Section 16.89.070.
C. Application requirements. Type III applications shall be made on forms provided by the Planning Director. The application shall be accompanied by all required information and fees.
D. Public notice. [omitted for brevity]
E. Conduct of public hearing. [omitted for brevity]
F. Decision process. [omitted for brevity]
G. Notice of Decision. [omitted for brevity]
H. Effective Date. [omitted for brevity]
I. Appeal. [omitted for brevity]
J. Any decision of the Planning Commission may be appealed to the City Council unless otherwise specified in this Title. Such appeals will be processed using the Type III procedures unless otherwise specified in this Title.
K. The decision of the City Council regarding a Type IV decision, appeal of a Planning Commission decision, or any other process contained within this title, is the final decision of the City. (Ord. 1080, 2001; Ord. 1111 section 5, 2003; Ord 1237, 2007)

FINDING: The proposed subdivision is subject to the general standards of this Division and the application has been submitted for review following the Type III procedures as required, using forms provided by the City. A Pre-Application conference was held on April 23, 2019 (Exhibit 5) and neighborhood meetings were held in compliance with Section 16.89.070 as identified below. The Applicant expects that the City will follow the processes and procedures for which they are responsible for as outlined above and the Applicant will do the same. The provisions of the Division can be met.

16.89.070 – Neighborhood Meetings.

- ***A. Applicants are encouraged to meet with adjacent property owners and neighborhood representatives prior to submitting their application in order to solicit input, identify issues, and exchange information about the proposed meeting.***
- ***B. The Planning Commission or Planning Director may require an applicant to hold a meeting in the neighborhood prior to accepting an application as complete. A neighborhood meeting is required for some application types, as shown in Table 16.89.020, unless this requirement is waived by the Planning Director.***
- ***C. At least two weeks prior to the neighborhood meeting, the applicant shall mail notice of the meeting to:***
  - ***1. The appointed chair of any neighborhood association in whose boundaries the application lies; and***
  - ***2. All of those who would receive notice of the application's public hearing before the Planning Commission.***
- ***D. The meeting shall be held in a fully accessible location approved by the City.***
- ***E. Following a required neighborhood meeting, applicants shall prepare a written summary of pertinent issues raised and shall prepare a detailed response to each issue. This material shall be submitted to the Planning Department in electronic format at least two weeks before the initial public hearing.***
- ***F. Applicants or attendees may make audio or video recordings of the neighborhood meeting if desired. (Ord. 1080, 2001; Ord. 1111 section 5, 2003; Ord 1237, 2007; Ord. 1514, 2019)***

FINDING: The applicant held neighborhood meetings at the Canby United Methodist Church on April 25th and May 23rd of 2019. The invite letters are included in Exhibit 7. Notice of the neighborhood meetings were provided for both meetings, however, only the second meeting, held on May 23rd, was noticed in accordance with this section. Notice for the April 25th meeting did not get sent to the adjacent Neighborhood Association Chair and as such the second meeting was scheduled to ensure everyone was given a chance to attend the meeting. A summary of each neighborhood meeting and sign-in sheets are included in Exhibit 7. No audio or video recordings of the meetings were made. These criteria are met.

16.89.080 – Application Requirements and Completeness. [omitted for brevity]

FINDING: The proposed subdivision application has been filed on forms provided by the City and includes the appropriate fees. The Applicant understands the completeness review process and is not proposing or requesting any amendments to forms. The requirements in this section are met.

16.89.90 – Modifications. [omitted for brevity]
16.89.100 – Administrative Reviews. [omitted for brevity]

FINDING: There are not proposed modifications and administrative reviews will not be a part of this application. These sections are not applicable.

Division XI. – Parks, Open Space and Recreation Land

Chapter 16.120 – General Provisions

16.120.010 – Purpose
The availability of park, open space, and recreation land is an important element in determining the character of a developing neighboring city to the metropolitan area, such as City of Canby. Land which substitutes trees, grass, and vegetation for structures, paving, and other urban features provides not only an aesthetically pleasing landscape with striking views of Mt. Hood, but also buffers incompatible uses, and preserves sensitive environmental features and important resources. Parks, open space, natural parks and trail recreation lands, together with support facilities, also help to meet the active and passive recreational needs of the population of Canby; therefore, concurrent development of support facilities is equally important. This chapter implements policies of Goal 8 of the Comprehensive Plan, the Park and Recreation Master Plan, and Park and Open Space Acquisition Plan by outlining provisions for parks, open space and recreational facilities in the City of Canby.

16.120.020 – Minimum standard for park, open space and recreation land

- ***A. Parkland Dedication…[omitted for brevity]***
  - ***1. The required parkland shall be dedicated…[omitted for brevity]***
  - ***2. The City shall require land dedication or payment of the system development charge (SDC) in lieu of land dedication (Section 4.20.170). In addition, the City may credit private on-site park, open space and recreation area(s) and facilities (Section 16.120.060). The City may approve any combination of these elements. Prior to parkland dedication, a Level I Environmental Assessment of the lands proposed for dedication shall be performed by the applicant as part of the site plan approval for the project.***

FINDING: City staff indicated that no park dedication will be sought in the Holly DCP area as the existing City Park property was annexed into the City limits at the same time the Holly DCP was adopted. No park land or open space is proposed with this subdivision. The Applicant suggested park improvements and facilities be included as a part of this application, but staff indicated that they have alternative means of developing the park in the future and do not want such improvements included with this project. As such, the SDC will be paid in lieu of park dedication and improvement. This criterion can be met.

City of Canby Comprehensive Plan

III. Land Use Element

Goal:
To guide the development and uses of land so that they are orderly, efficient, aesthetically pleasing, and suitably related to one another.

FINDING: The goal of the Land Use Element will be realized upon approval of the proposed subdivision. The creation and adoption of the Holly DCP were a result of the policies from the Comprehensive Plan. The Holly DCP set forth an orderly, efficient, and aesthetically pleasing plan for future development in the

entire DCP area. Implementing the design of the DCP in the proposed subdivision further accomplishes the goal of the Comprehensive Plan's Land Use Element.

V. Transportation Element

Policy 6: Canby shall continue in its efforts to assure that all new developments provide adequate access for emergency response vehicles and for the safety and convenience of the general public.

FINDING: All proposed improvements, including the cul-de-sacs provide ample space for emergency access. There are no "half streets" proposed to access any portion of the project and "T" intersections are utilized to discourage unnecessary through traffic. All streets are proposed per the adopted Holly DCP and will provide for logical future extension. Policy 6 has been effectively implemented in the proposed subdivision and its provisions have been satisfied.

Policy 7: Canby shall provide appropriate facilities for bicycles and, if found to be needed, for other slow moving energy efficient vehicles.

FINDING: All proposed internal and adjacent rights-of-way will be provided with the required width, and specifically, the N Holly St. right-of-way will be wide enough to support the required bike facilities, per both City and County standards. Policy 7 has been effectively implemented in the proposed subdivision and the provisions of such have been satisfied.

VIII. Housing Element

GOAL: To provide for the housing needs of the citizens of Canby
Policy 2: Canby shall encourage a gradual increase in housing density as a response to the increase in housing costs and the need for more rental housing.
Policy 4: Canby shall encourage the development of housing for low income persons and the integration of that housing into a variety of residential area within the City.

FINDING: Allowing the proposed exceptions to some of the lot size standards implements these policies by allowing lots below the minimum lot size which does increase density while maintaining an average lot size above the base zone minimum.

IV. CONCLUSION

Based on the findings above, the proposed subdivision and related exceptions meet the relevant criteria of the Canby Municipal Code and other controlling documents and implement the goals and policies of the Comprehensive Plan. As such, the Planning Commission can find that the proposed subdivision should be approved in accordance with this Title.

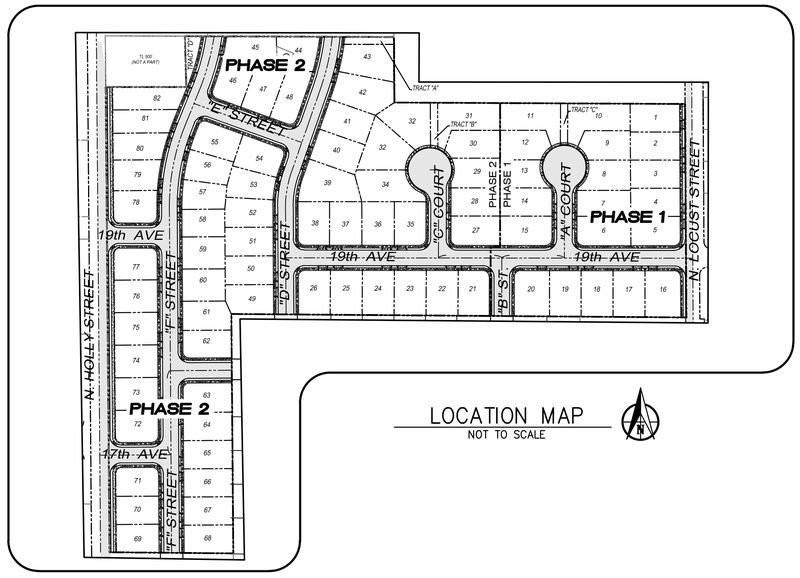
PRELIMINARY LAND USE APPROVAL DRAWINGS

DODD'S SUBDIVISION

(INCLUDES 2 PROJECT PHASES)

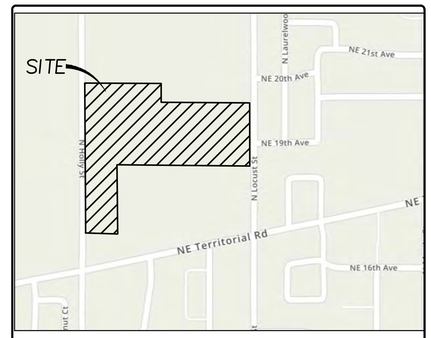
82 LOTS - CITY OF CANBY, OREGON

TAX MAP: SE 1/4 AND SW 1/4 SECTION 28 - T3S R1E, W.M.
TAX LOT 31E28 400



LOCATION MAP
NOT TO SCALE

DRAWING INDEX



VICINITY MAP
NOT TO SCALE

VERTICAL DATUM INFORMATION
BENCHMARK UTILIZED: NGS PID – RD0255
ELEV: 153.10' NGVD 29
DATUM HAS VERTCON DATUM SHIFT = –3.44'
FROM PUBLISHED NAVD 88 VALUE OF 156.54'
3" BRASS DISK LOCATED 100 FEET SOUTH OF SOUTHERN PACIFIC CO. STATION, 150 FEET WEST OF THE TRACK, ON THE SOUTH SIDE OF THE ENTRANCE TO THE BUILDING FORMERLY OCCUPIED BY THE FIRST NATIONAL BANK, IN THE TOP OF THE SECOND STEP AND 5 INCHES FROM THE WALL.

DEVELOPMENT TEAM

CIVIL ENGINEER
KITTREDGE ENGINEERS, LLC
6565 SW 207TH AVENUE
ALOHA, OREGON 97078
ATTN: CHRIS KITTREDGE, P.E.
PH: 503-708-3942

OWNER/APPLICANT
STAFFORD LAND COMPANY
485 SOUTH STATE STREET
LAKE OSWEGO, OR 97034
ATTN. MR. LEVI LEVASA
PH: 971-206-8614

PROJECT PLANNER
PLANNING AND LAND DESIGN, LLC
1862 NE ESTATE DRIVE
HILLSBORO, OREGON 97124
ATTN: RYAN O'BRIEN
PH: 503-708-4061

PROJECT SURVEYOR
BARKER SURVEYING COMPANY
3657 KASHMIR WAY
SALEM, OREGON 97317
ATTN: KEITH KOHLER
PH: 503-588-8800 EXT. 3

PROJECT GEOTECHNICAL ENGINEER
GEOPACIFIC ENGINEERING, INC.
14835 SE 72ND AVENUE
PORTLAND, OREGON 97224
ATTN: BEN COOK
PH: 503-598-8445

CITY OF CANBY CONTACTS

ADDRESS: 222 NE 2ND AVENUE
CANBY, OREGON 97013

CITY PLANNER
ATTN: BRYAN BROWN
PH: 503-266-0702

ENGINEERING CONSULTANT
ATTN: HASSAN IBRAHIM, P.E.
(CURRAN McLEOD ENGS.)
PH: 503-684-3478

PUBLIC WORKS DEPARTMENT
ATTN: JERRY NELZEN
PH: 971-253-9173

CUB, WATER DEPARTMENT
ATTN: BILL MAKOWSKI
PH: 503-266-1156

CUB, ELECTRIC
ATTN: GARY STOCKWELL
PH: 503-266-1156

CANBY EROSION CONTROL
ATTN: NEIL OLSEN
PH: 503-849-2064

CANBY FIRE MARSHAL
ATTN: MATT ENGLISH - DIVISION CHIEF
PH: 503-878-0187

CANBY UTILITY CONTACTS

DIRECT LINK
ATTN: DIN VU
PH: 503-266-8201

WAVE BROADBAND
ATTN: ROBERT LEE
PH: 503-707-1076

NW NATURAL
ATTN: DAVID BENTON
PH: 971-227-6337

LEGAL DESCRIPTION/LOCATION
SE 1/4 and SW 1/4 SECTION 28, T3S R1E, W.M.
TAX LOTS 400 AND 500
CLACKAMAS COUNTY

PROPOSED USE
83 UNIT SUBDIVISION
SINGLE FAMILY RESIDENTIAL

SITE ZONING
R-1 RESIDENTIAL (83 LOTS)

SITE AREA
19.07 ACRES (830,657 SF) INCLUDES AFTER ROW DEDICATIONS

PLAN PREPARED BY:
KITTREDGE ENGINEERS, LLC
CONSULTING
CIVIL ENGINEERING
6565 SW 207TH AVENUE
ALOHA, OR 97078 (503)708-3942

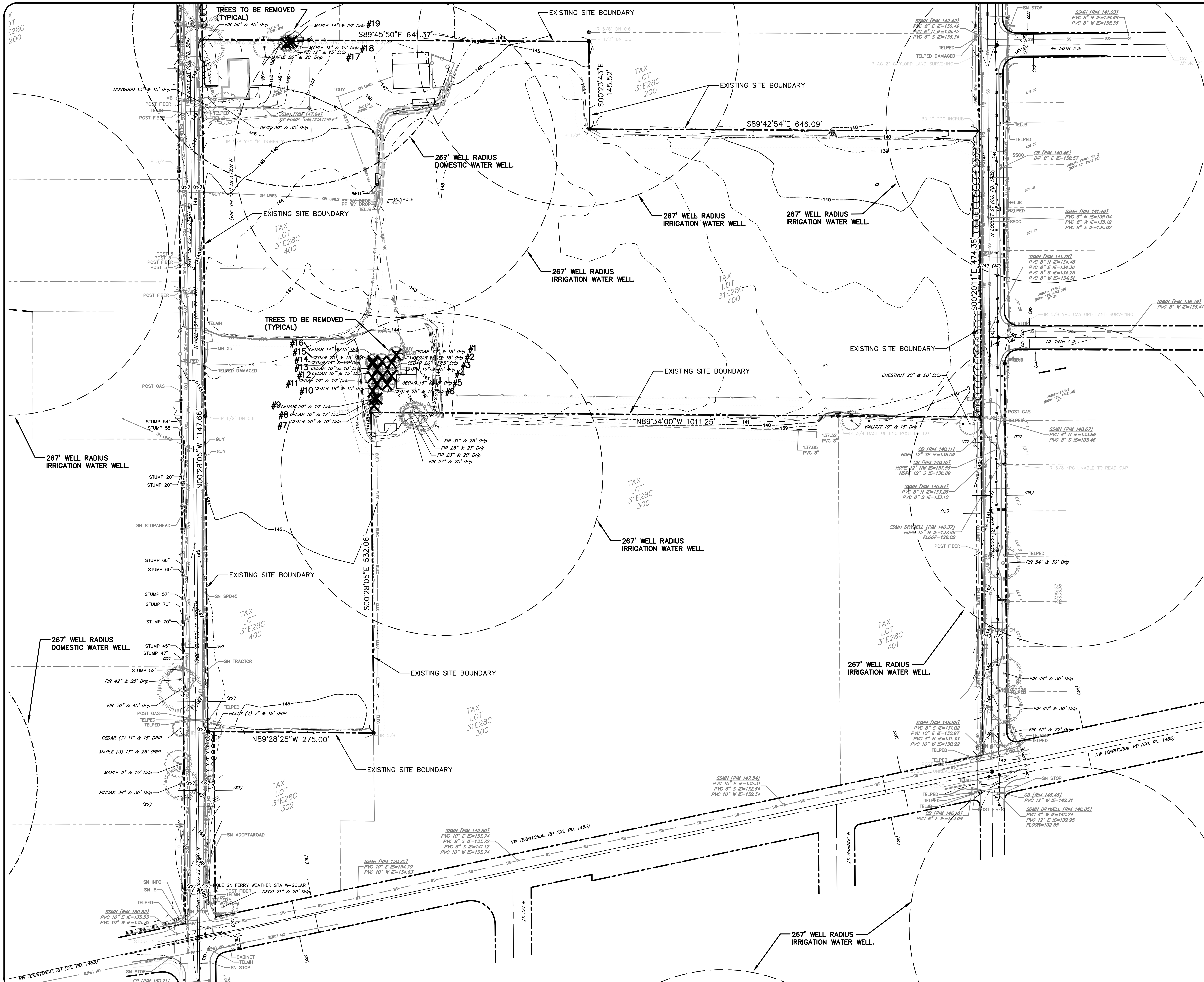
COVER SHEET
DODD'S SUBDIVISION
STAFFORD HOMES AND LAND, LLC
8840 SW HOLLY LN, WILSONVILLE, OR 97070
MR. LEVI LEVASA (503) 250-3651

DATE:	REVISION

PLAN PREPARED FOR:
STAFFORD HOMES & LAND , LLC
8840 SW HOLLY LANE
WILSONVILLE, OR 97070
503-250-3651

DATE:	11/05/2019
DRAWN BY:	CPK
DESIGNED BY:	CPK
CHECKED BY:	CPK

SHEET
101



EXISTING LEGEND

SYMBOLS

- AREA DRAIN
- CATCH BASIN
- CLEANOUT
- FIRE HYDRANT
- GAS VALVE
- WATER VALVE
- GAS/POWER/WATER METER
- DOWN SPOUT
- MANHOLE TELEPHONE
- MANHOLE STORM DRAIN
- MANHOLE SANITARY SEWER
- SIGN POST
- PEDESTAL
- MAIL BOX
- IRRIGATION VALVE
- LIGHT POLE
- UTILITY/POWER POLES
- TEST PIT
- MONUMENT FOUND

TREES – *TREENAME* DIAMETER (INCHES)/DRIP RADIUS (FEET)
NOTE: DIAMETER MEASURED AT BREAST HEIGHT

TREES – TREES TO BE REMOVED: DIAMETER (INCHES)/DRIP
NOTE: RADIUS (FEET) MEASURED AT BREAST HEIGHT

LINE TYPES

Line	Symbol
CATV LINE	CATV
COMMUNICATION LINE	COM
EASEMENT LINE	— — —
FENCE LINE	—○—
FIBER OPTIC LINE	FOC
GAS LINE	GAS
EDGE OF GRAVEL LINE	········
OVERHEAD LINE	OH LINES
PHONE LINE	PH
POWER LINE	ELEC
SANITARY SEWER LINE	SS
STORM DRAIN LINE	SD
WATER LINE	W

1 inch = 80 ft.

TREE REMOVAL LIST

TREE NUMBER	DIAMETER & TREE TYPE	DRIP LINE WIDTH
#1	30" CEDAR	15'
#2	16" CEDAR	15'
#3	20" CEDAR	15'
#4	12" CEDAR	10'
#5	15" CEDAR	15'
#6	25" CEDAR	15'
#7	20" CEDAR	10'
#8	16" CEDAR	12'
#9	20" CEDAR	10'
#10	19" CEDAR	10'
#11	19" CEDAR	10'
#12	16" CEDAR	15'
#13	10" CEDAR	10'
#14	16" CEDAR	10'
#15	20" CEDAR	15'
#16	14" CEDAR	15'
#17	12" CEDAR	15'
#18	11" CEDAR	15'
#19	14" CEDAR	20'

PLAN PREPARED BY:

KITTREDGE ENGINEERS, LLC
CONSULTING CIVIL ENGINEERING
6565 SW 207TH AVENUE
ALOHA, OR 97078 (503)708-3942

EXISTING CONDITIONS PLAN
DODD'S SUBDIVISION

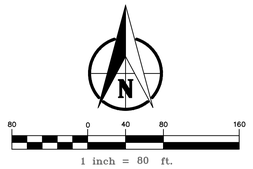
STAFFORD HOMES AND LAND, LLC
8840 SW HOLLY LN., WILSONVILLE, OR 97070
MR. LEVI LEVASA (503) 250-3651

DATE:	REVISION

PLAN PREPARED FOR:
STAFFORD HOMES & LAND , LLC
8840 SW HOLLY LANE
WILSONVILLE, OR 97070
503-250-3651

DATE:	11/05/2019
DRAWN BY:	CPK
DESIGNED BY:	CPK
CHECKED BY:	CPK

SHEET
C102



LEGEND

CENTERLINE	
RIGHT OF WAY	
PROPERTY LINE	
EASEMENT LINE	
PUE	
X-PROPERTY LINE	

PLAN PREPARED BY:
KITTREDGE ENGINEERS, LLC
CONSULTING
CIVIL ENGINEERING
6565 SW 207TH AVENUE
ALOHA, OR 97078 (503)708-3942

SITE PLAN WITH AERIAL
DODD'S SUBDIVISION

STAFFORD HOMES AND LAND, LLC
MR. LEVI LEVASA (503) 250-3651
8840 SW HOLLY LN., WILSONVILLE, OR 97070

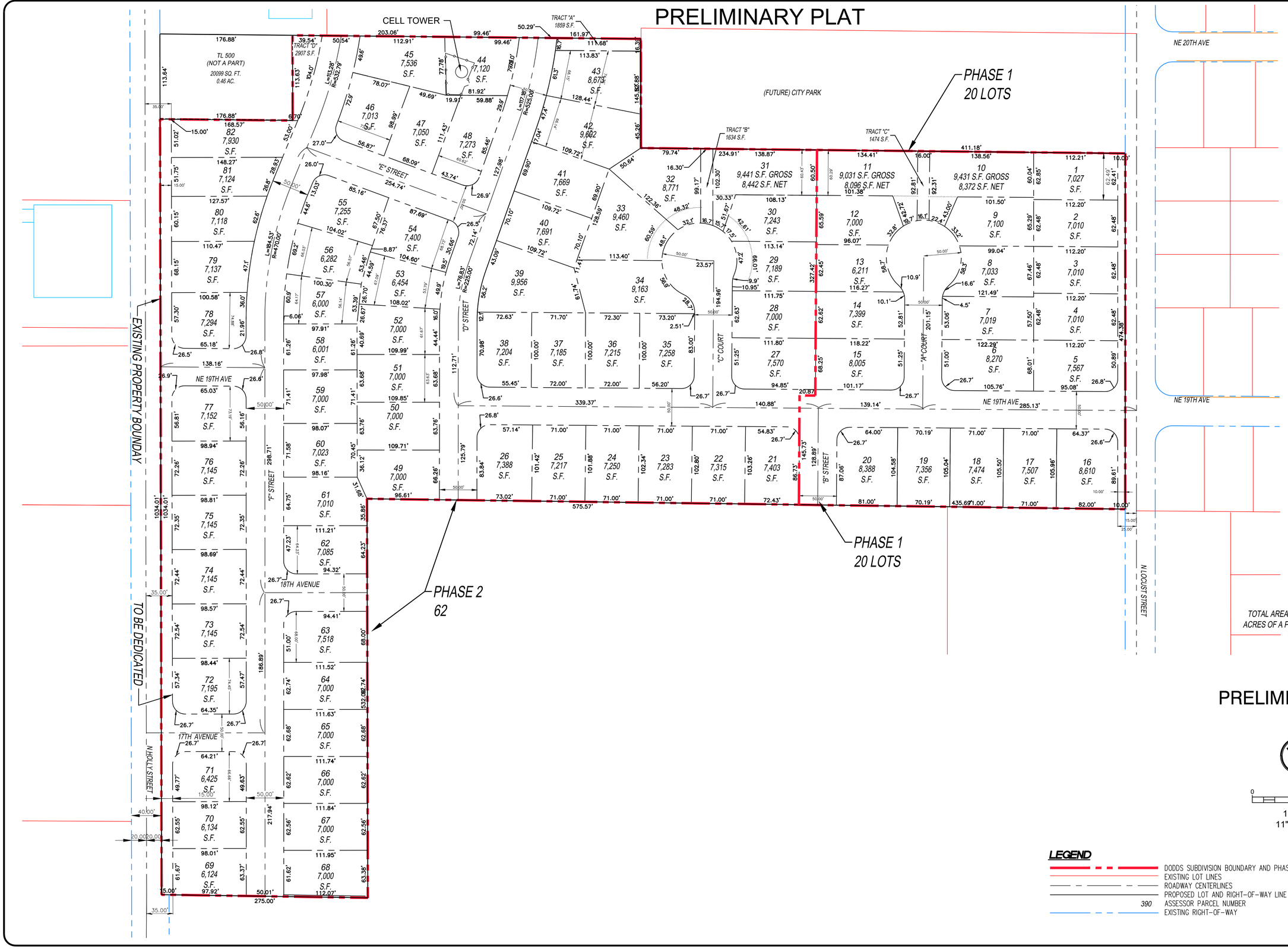
DATE:	REVISION

PLAN PREPARED FOR:
STAFFORD HOMES & LAND , LLC
8840 SW HOLLY LANE
WILSONVILLE, OR 97070
503-250-3651

DATE:	11/05/2019
DRAWN BY:	CPK
DESIGNED BY:	CPK
CHECKED BY:	CPK

SHEET
C103

PRELIMINARY PLAT



PRELIMINARY PLAT

0 60 120

1"=120' at 11"x17" Sheet

LEGEND

- DODDS SUBDIVISION BOUNDARY AND PHASE LINES
- EXISTING LOT LINES
- ROADWAY CENTERLINES
- PROPOSED LOT AND RIGHT-OF-WAY LINE
- 390 ASSESSOR PARCEL NUMBER
- EXISTING RIGHT-OF-WAY

DEVELOPMENT CONCEPT PLAN
FOR SW ¼ T3S. R1E. W.M.
TAX LOTS 400, AND A PORTION
OF TAX LOT 500, OF TAX MAP
3-1E-28C

STAFFORD
DEVELOPMENT COMPANY, LLC
485 SOUTH STATE STREET
LAKE OSWEGO, OREGON 97034

DODDS
SUBDIVISION
PRELIMINARY PLAT
9-20-2019

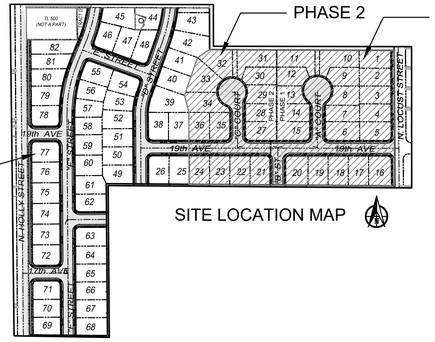
REVISIONS

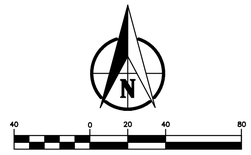
NO.	DATE	DESCRIPTION

PLANNING & LAND DESIGN
1862 NE ESTATE DRIVE
HILLSBORO, OREGON 97124
RYAN O'BRIEN
(503)780-4061

SHEET

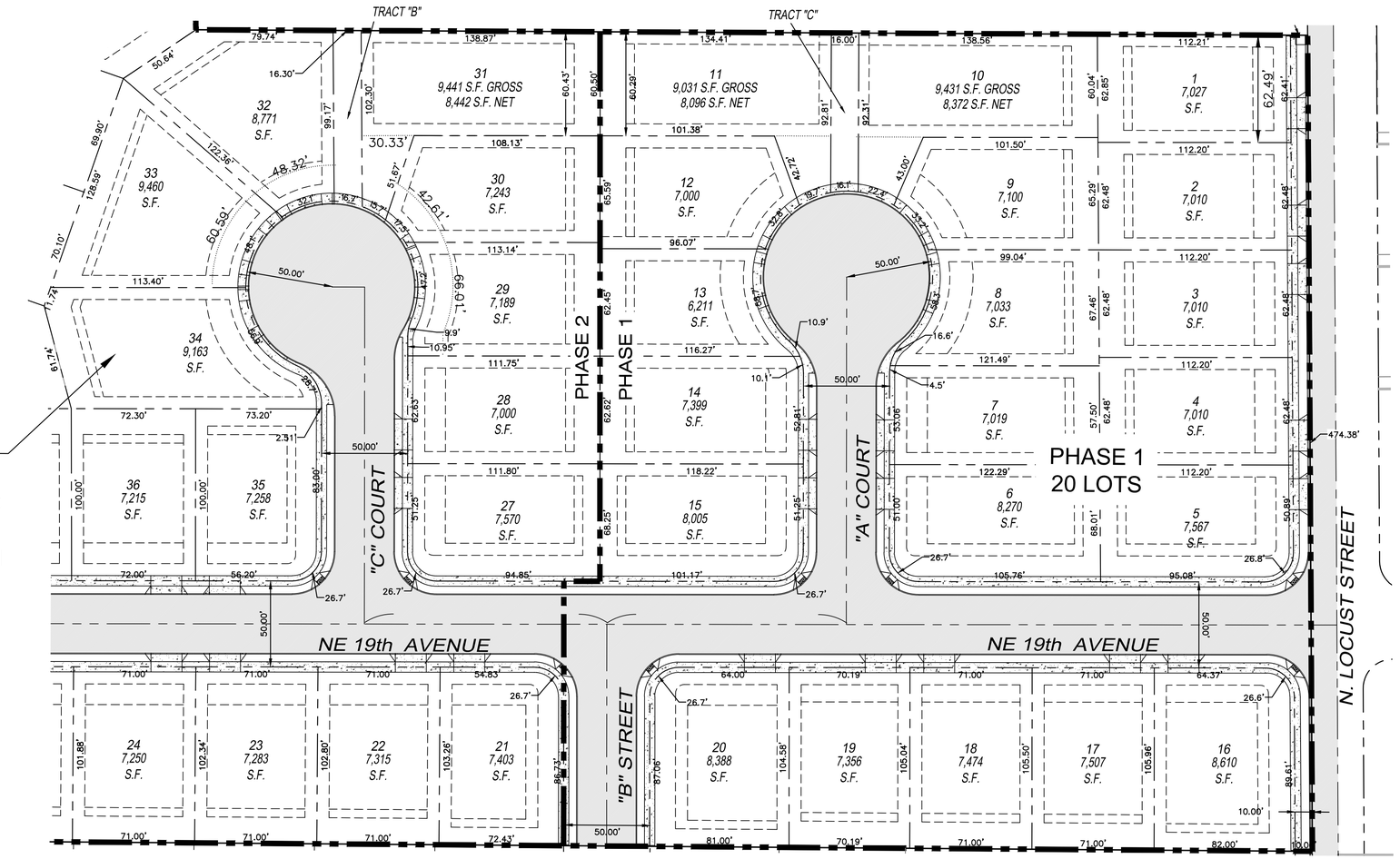
104A

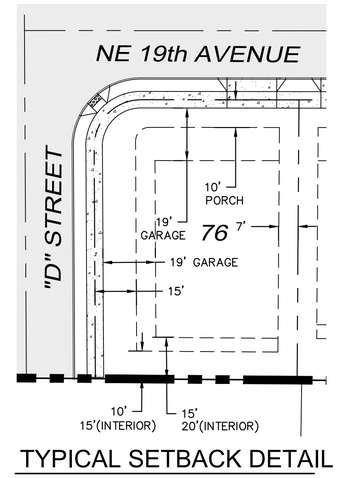




LEGEND

- CENTERLINE
- RIGHT OF WAY
- PROPERTY LINE
- EASEMENT LINE
- PUE
- X–PROPERTY LINE





TYPICAL SETBACK DETAIL

DODD'S SUBDIVISION SETBACKS

BUILDING FRONT AND STREET SIDE YARD WITHOUT GARAGE DOOR	= 15 FEET
GARAGE DOOR OFFSET	= 20' FROM ROW MIN. AND 19' FROM BACK OF SIDEWALK
CORNER LOT – REAR	= 10' ONE STORY = 15' TWO STORY
INTERIOR LOT – REAR	= 15' ONE STORY = 20' TWO STORY
INTERIOR LOT – SIDE	= 7'
COVERED PORCH FRONTING STREET	= 10'

PLAN PREPARED BY:
KITTREDGE ENGINEERS, LLC
CONSULTING CIVIL ENGINEERING
6565 SW 207TH AVENUE
ALOHA, OR 97078 (503)708-3942

PRELIMINARY PLAT - PHASE 1
WITH SETBACKS
DODD'S SUBDIVISION

STAFFORD HOMES AND LAND, LLC
MR. LEVI LEVASA (503) 250-3651
8840 SW HOLLY LN., WILSONVILLE, OR 97070

DATE:	REVISION

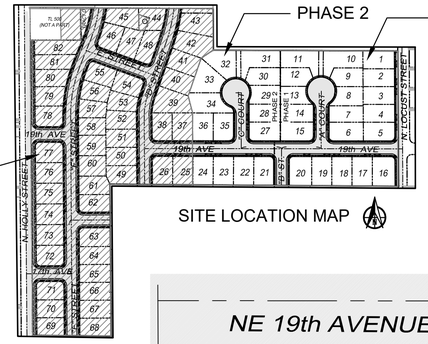
PLAN PREPARED FOR:
STAFFORD HOMES & LAND , LLC
8840 SW HOLLY LANE
WILSONVILLE, OR 97070
503-250-3651

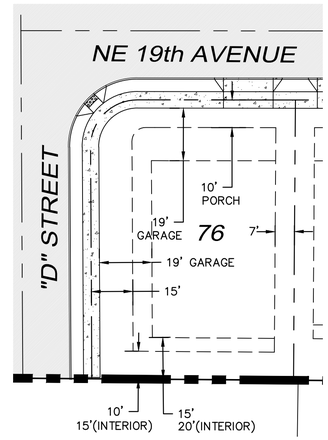
DATE: 11/05/2019
DRAWN BY: CPK
DESIGNED BY: CPK
CHECKED BY: CPK

SHEET
104B

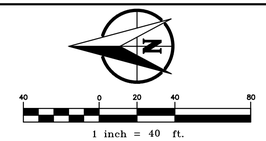
PHASE 2
62 LOTS

SEE SHEET 104B
FOR
CONTINUTATION





TYPICAL SETBACK DETAIL



LEGEND

- CENTERLINE
- RIGHT OF WAY
- PROPERTY LINE
- EASEMENT LINE
- PUE
- X–PROPERTY LINE

DODD'S SUBDIVISION SETBACKS

BUILDING FRONT AND STREET SIDE YARD WITHOUT GARAGE DOOR	= 15 FEET
GARAGE DOOR OFFSET	= 20' FROM ROW MIN. AND 19' FROM BACK OF SIDEWALK
CORNER LOT – REAR	= 10' ONE STORY = 15' TWO STORY
INTERIOR LOT – REAR	= 15' ONE STORY = 20' TWO STORY
INTERIOR LOT – SIDE	= 7'
COVERED PORCH FRONTING STREET	= 10'

PLAN PREPARED BY:
KITTREDGE ENGINEERS, LLC
CONSULTING
CIVIL ENGINEERING
6565 SW 207TH AVENUE
ALOHA, OR 97078 (503)708-3942

PRELIMINARY PLAT - PHASES 2 AND 3
WITH SETBACKS
DODD'S SUBDIVISION

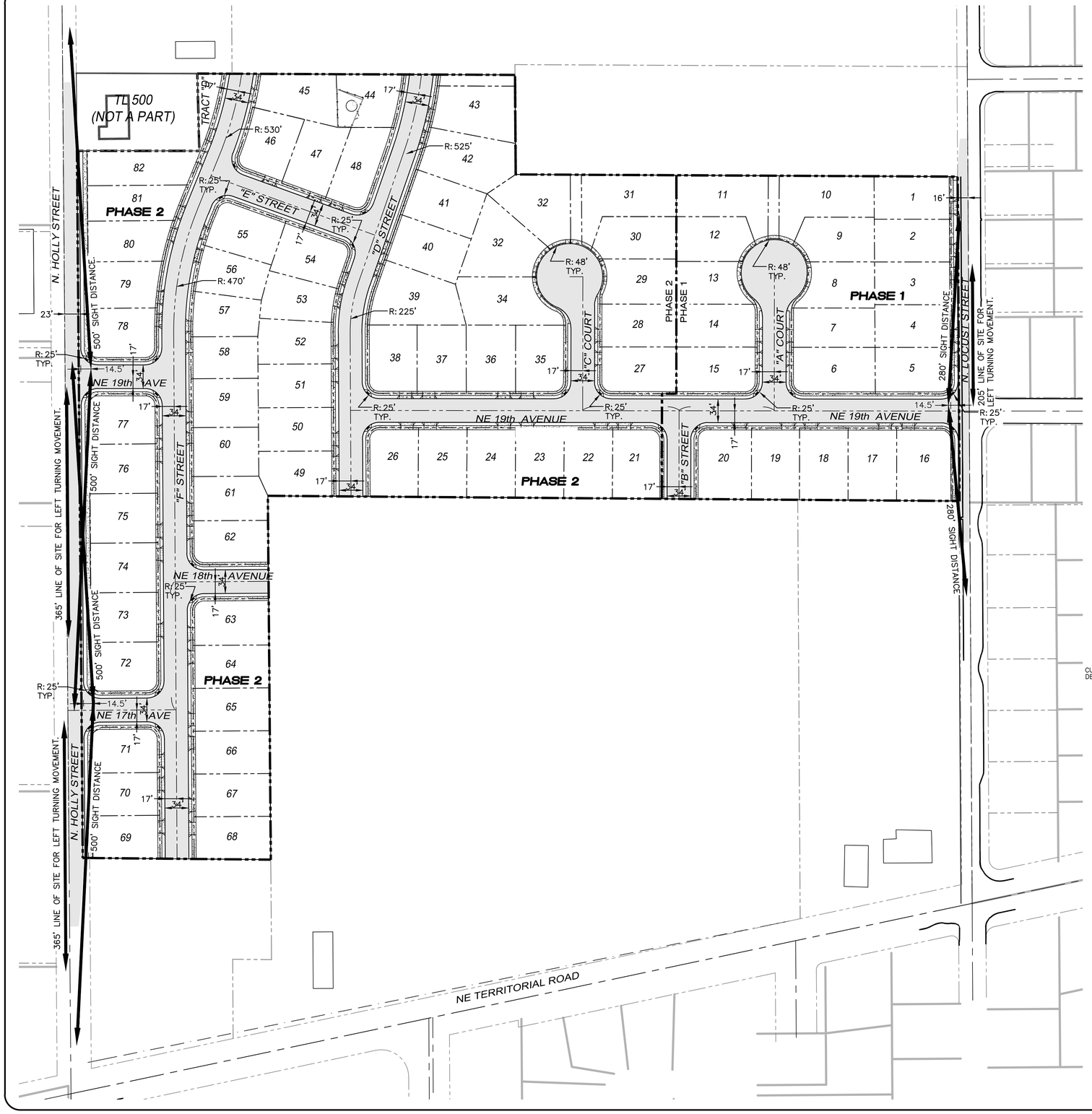
STAFFORD HOMES AND LAND, LLC
MR. LEVI LEVASA (503) 250-3651
8840 SW HOLLY LN., WILSONVILLE, OR 97070

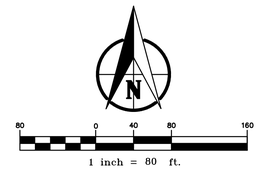
DATE:	REVISION

PLAN PREPARED FOR:
STAFFORD HOMES & LAND , LLC
8840 SW HOLLY LANE
WILSONVILLE, OR 97070
503-250-3651

DATE:	11/05/2019
DRAWN BY:	CPK
DESIGNED BY:	CPK
CHECKED BY:	CPK

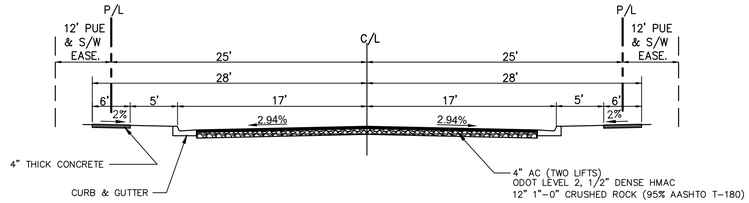
SHEET
104C





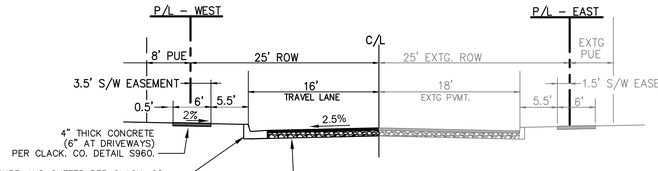
LEGEND

- CENTERLINE
- RIGHT OF WAY
- PROPERTY LINE
- EASEMENT LINE
- PUE
- X-PROPERTY LINE



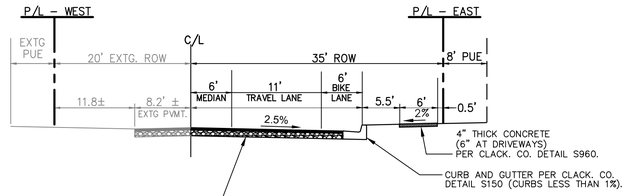
TYPICAL - INTERIOR STREET SECTION (LOCAL)

NTS (CITY OF CANBY JURISDICTION)



TYPICAL - N. LOCUST STREET SECTION (LOCAL)

NTS (CLACKAMAS COUNTY JURISDICTION)



TYPICAL - N. HOLLY STREET SECTION (LOCAL)

NTS (CLACKAMAS COUNTY JURISDICTION)

PLAN PREPARED BY:
KITTREDGE ENGINEERS, LLC
CONSULTING
CIVIL ENGINEERING
6565 SW 207TH AVENUE
ALOHA, OR 97078 (503)708-3942

SITE PLAN WITH ROAD SECTIONS AND SITE DISTANCE INFORMATION
DODD'S SUBDIVISION

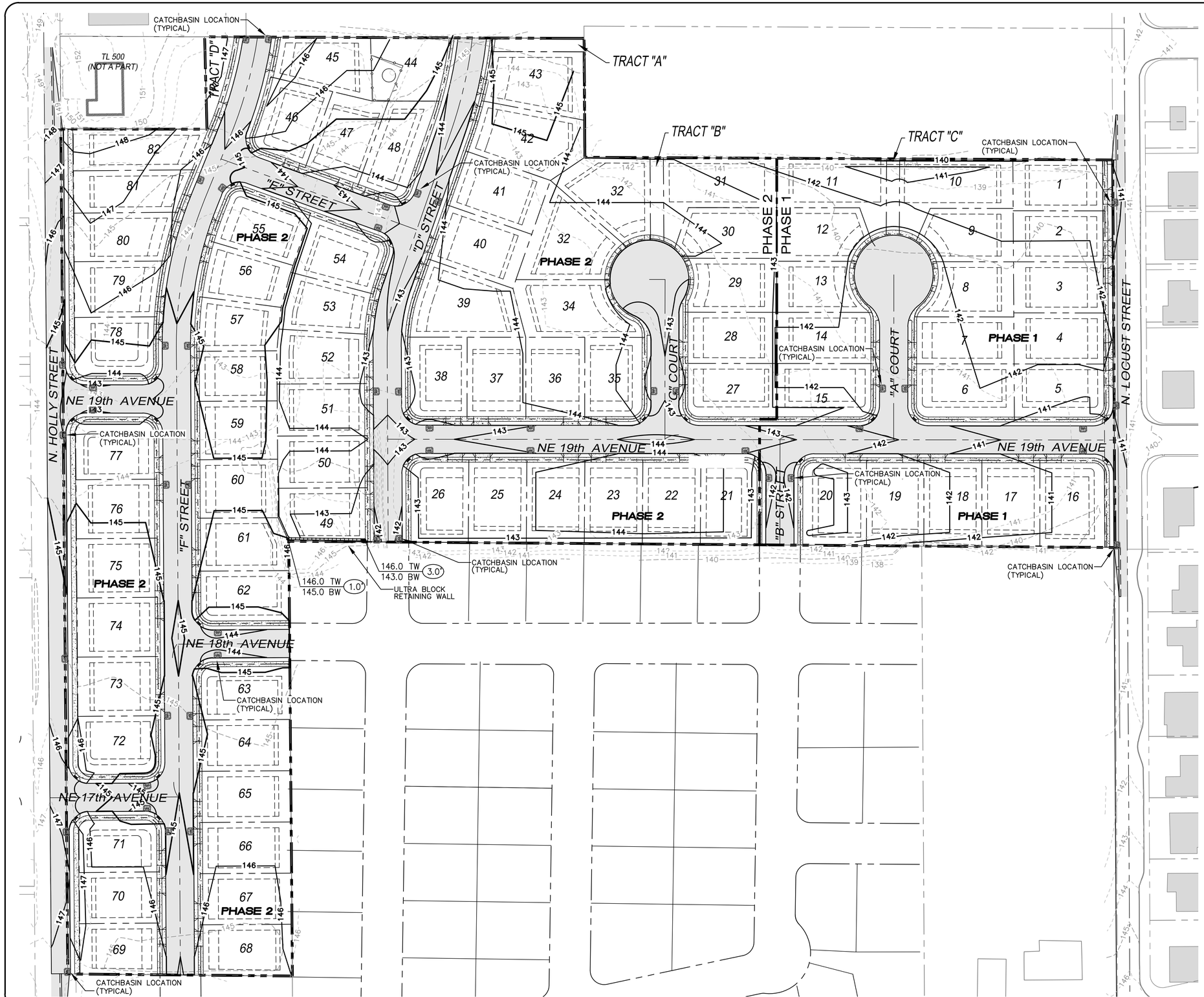
STAFFORD HOMES AND LAND, LLC
MR. LEVI LEVASA (503) 250-3651
8840 SW HOLLY LN., WILSONVILLE, OR 97070

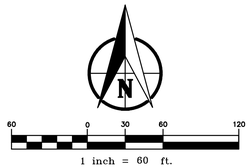
DATE:	REVISION

PLAN PREPARED FOR:
STAFFORD HOMES & LAND , LLC
8840 SW HOLLY LANE
WILSONVILLE, OR 97070
503-250-3651

DATE:	11/05/2019
DRAWN BY:	CPK
DESIGNED BY:	CPK
CHECKED BY:	CPK

SHEET
C105





PROPOSED LEGEND

- CENTERLINE
- RIGHT OF WAY
- PROPERTY LINE
- PUE
- PAVEMENT SAWCUT
- PROPOSED CATCHBASIN W/INLET SEDIMENT PROTECTION
- PROPOSED 5FT. CONTOUR — 215
- PROPOSED 1FT. CONTOUR — 216
- EXISTING 5FT. CONTOUR — 215
- EXISTING 1FT. CONTOUR — 216
- TOP AND BOTTOM RETAINING WALL ELEVATION – EXPOSED WALL FACE ONLY. 448.0 TW / 447.5 BW (0.5')
- PROJECT PAVEMENT LIMITS

PLAN PREPARED BY:
KITTREDGE ENGINEERS, LLC
CONSULTING CIVIL ENGINEERING
6565 SW 207TH AVENUE
ALOHA, OR 97078 (503)708-3942

PRELIMINARY GRADING PLAN
DODD'S SUBDIVISION

STAFFORD HOMES AND LAND, LLC
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8840 SW HOLLY LN., WILSONVILLE, OR 97070

DATE:	REVISION

PLAN PREPARED FOR:
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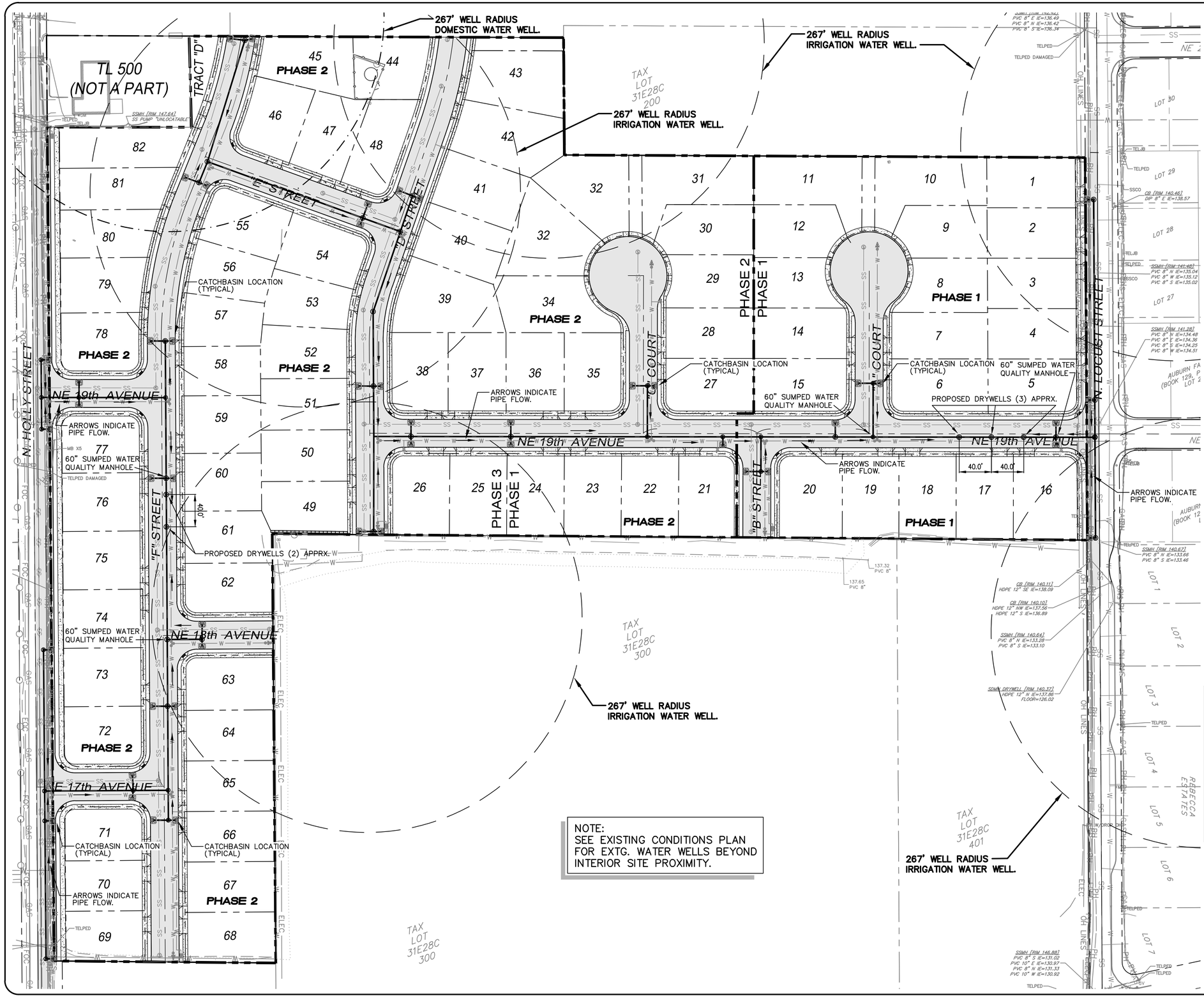
WILSONVILLE, OR 97070
503-250-3651

DATE:	11/05/2019
DRAWN BY:	CPK
DESIGNED BY:	CPK
CHECKED BY:	CPK

SHEET
C106



1 inch = 60 ft.

PROPOSED LEGEND

- CENTERLINE
- RIGHT OF WAY
- PROPERTY LINE
- PUE
- PAVEMENT SAWCUT
- PROPOSED 8" SANITARY SEWER LINE — 8" SS
- PROPOSED 8" WATER LINE — 8" WAT
- PROPOSED STORM LINE
- PROPOSED STORM MANHOLE

NOTE: ALL STORM MANHOLES TO BE STD. 48" DIAMETER, UNLESS SPECIFICALLY DETAILED AS EITHER DRYWELL OR 60" SUMPED WQMH.

- PROPOSED SANITARY MANHOLE
- PROPOSED CATCHBASIN W/INLET SEDIMENT PROTECTION

EXISTING LEGEND

SYMBOLS

- AREA DRAIN
- CATCH BASIN
- CLEANOUT
- FIRE HYDRANT
- GAS VALVE
- WATER VALVE
- GAS/POWER/WATER METER
- DOWN SPOUT
- MANHOLE TELEPHONE
- MANHOLE STORM DRAIN
- MANHOLE SANITARY SEWER
- SIGN POST
- PEDESTAL
- MAIL BOX
- IRRIGATION VALVE
- LIGHT POLE
- UTILITY/POWER POLES
- TEST PIT
- MONUMENT FOUND
- TREES – *TREENAME* DIAMETER (INCHES)/DRIP RADIUS (FEET) NOTE: DIAMETER MEASURED AT BREAST HEIGHT

LINE TYPES

- CATV LINE
- COMMUNICATION LINE
- EASEMENT LINE
- FENCE LINE
- FIBER OPTIC LINE
- GAS LINE
- EDGE OF GRAVEL LINE
- OVERHEAD LINE
- PHONE LINE
- POWER LINE
- SANITARY SEWER LINE
- STORM DRAIN LINE
- WATER LINE

EXISTING WATER WELLS NOTE:

PROPOSED STORM DRAINAGE DRYWELLS AS CURRENTLY SHOWN MEET THE CITY OF CANBY 267' WELL RADIUS SEPARATION REQUIREMENT. IT IS THE INTENT OF THE ENGINEER TO MAINTAIN THIS SEPARATION. HOWEVER, THE UIC TECHNICAL MEMORADUM PREPARED BY GSI WATER SOLUTIONS, INC DATED AUGUST 29, 2013 AND ADOPTED BY THE CITY OF CANBY STATES THAT THE REQUIRED DRYWELL SEPARATION FROM WATER WELLS MUST EITHER BE 267' HORIZONTALLY FROM THE NEAREST WATER WELL, OR, 2.5' VERTICALLY FROM THE SEASONAL HIGH GROUND WATER ELEVATION. WHILE IT IS THE INTENT OF THE ENGINEER TO MAINTAIN THE 267' HORIZONTAL SETBACK STANDARD, IN THE EVENT THIS SEPARATION COULD NOT BE MAINTAINED, WHICH IS UNLIKELY, THEN THE ENGINEER WOULD MAINTAIN THE 2.5' VERTICAL SEPARATION DISTANCE FROM SEASONAL GROUNDWATER AS REQUIRED. GEOTECHNICAL BORING EVIDENCE OF THIS WOULD BE PROVIDED TO CITY OF CANBY FOR VERIFICATION.

PLAN PREPARED BY:
KITTREDGE ENGINEERS, LLC
CONSULTING CIVIL ENGINEERING
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ALOHA, OR 97078 (503)708-3942

PRELIMINARY
STORM SEWER PLAN
DODD'S SUBDIVISION

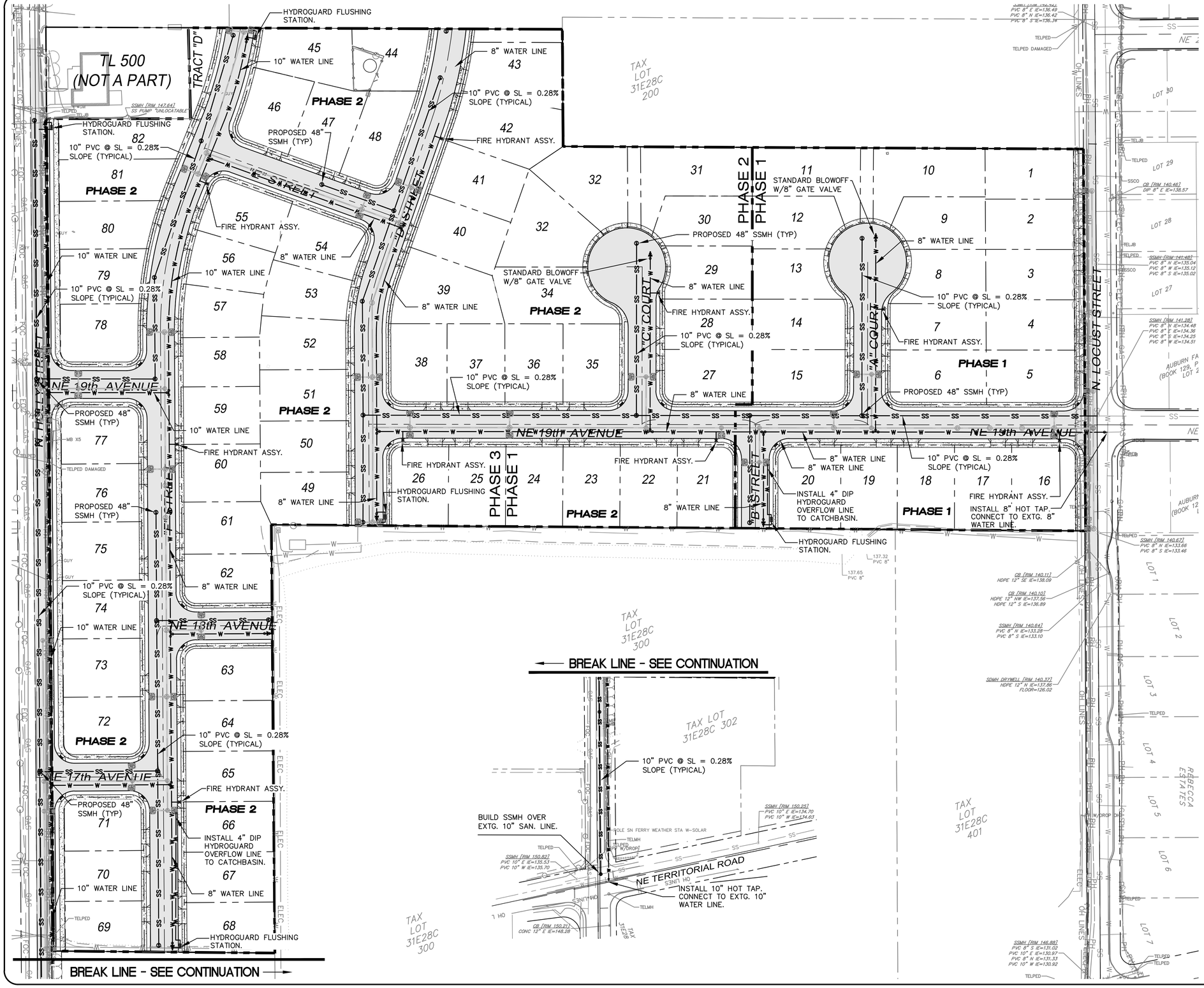
STAFFORD HOMES AND LAND, LLC
MR. LEVI LEVASA (503) 250-3651
8840 SW HOLLY LN., WILSONVILLE, OR 97070

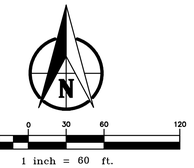
DATE:	REVISION

PLAN PREPARED FOR:
STAFFORD HOMES & LAND , LLC
8840 SW HOLLY LANE
WILSONVILLE, OR 97070
503-250-3651

DATE:	11/05/2019
DRAWN BY:	CPK
DESIGNED BY:	CPK
CHECKED BY:	CPK

SHEET
C107





PROPOSED LEGEND

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- PAVEMENT SAWCUT
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- PROPOSED STORM MANHOLE
- PROPOSED SANITARY MANHOLE
- PROPOSED CATCHBASIN W/INLET SEDIMENT PROTECTION

EXISTING LEGEND

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- FIRE HYDRANT
- GAS VALVE
- WATER VALVE
- GAS/POWER/WATER METER
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- GAS LINE
- EDGE OF GRAVEL LINE
- OVERHEAD LINE
- PHONE LINE
- POWER LINE
- SANITARY SEWER LINE
- STORM DRAIN LINE
- WATER LINE

PLAN PREPARED BY:
KITTREDGE ENGINEERS, LLC
CONSULTING CIVIL ENGINEERING
6565 SW 207TH AVENUE
ALOHA, OR 97078 (503)708-3942

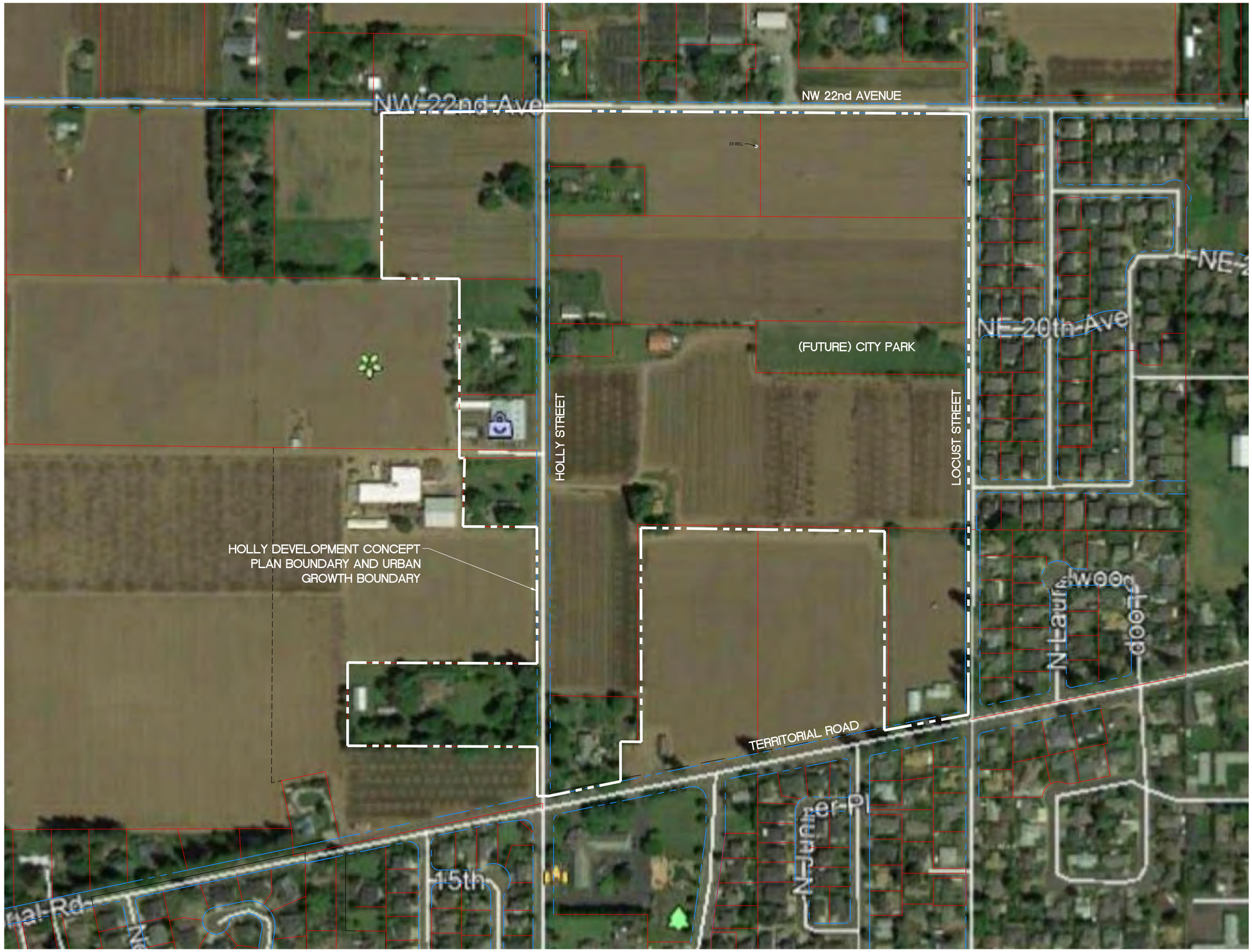
PRELIMINARY WATER AND SANITARY SEWER
DODD'S SUBDIVISION
STAFFORD HOMES AND LAND, LLC
MR. LEVI LEVASA (503) 250-3651
8840 SW HOLLY LN., WILSONVILLE, OR 97070

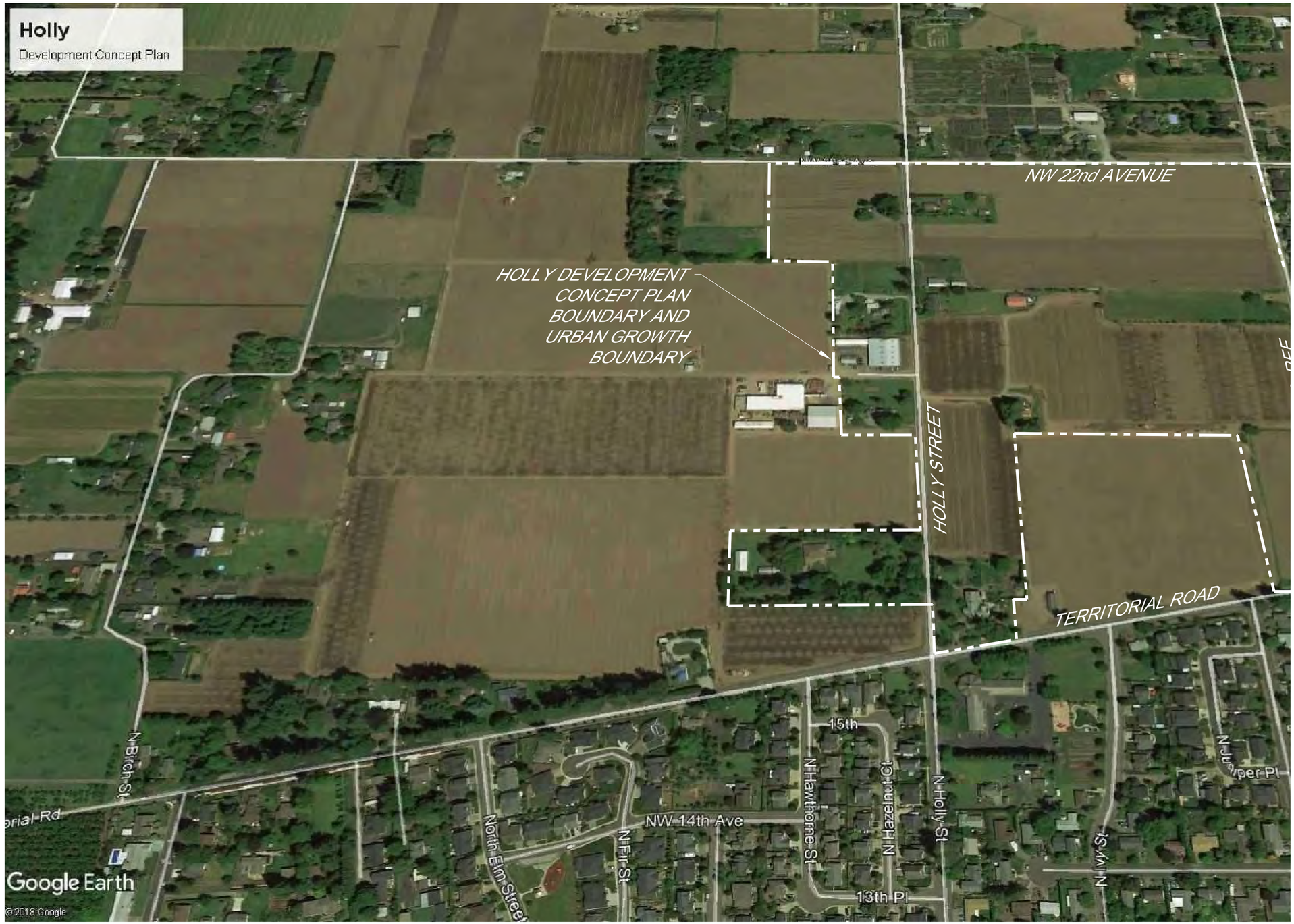
DATE:	REVISION

PLAN PREPARED FOR:
STAFFORD HOMES & LAND , LLC
8840 SW HOLLY LANE
WILSONVILLE, OR 97070
503-250-3651

DATE:	11/05/2019
DRAWN BY:	CPK
DESIGNED BY:	CPK
CHECKED BY:	CPK

SHEET
C108


NW 22nd AVENUE
(FUTURE) CITY PARK
HOLLY STREET
LOCUST STREET
NE 20th Ave
HOLLY DEVELOPMENT CONCEPT PLAN BOUNDARY AND URBAN GROWTH BOUNDARY
TERRITORIAL ROAD


Holly
Development Concept Plan
NW 22nd AVENUE
HOLLY DEVELOPMENT CONCEPT PLAN BOUNDARY AND URBAN GROWTH BOUNDARY
HOLLY STREET
TERRITORIAL ROAD
N Birch St
North Elm Street
N Fir St
NW 14th Ave
N Hawthorne St
N Hazelnut Ct
15th
N Holly St
13th Pl
Google Earth
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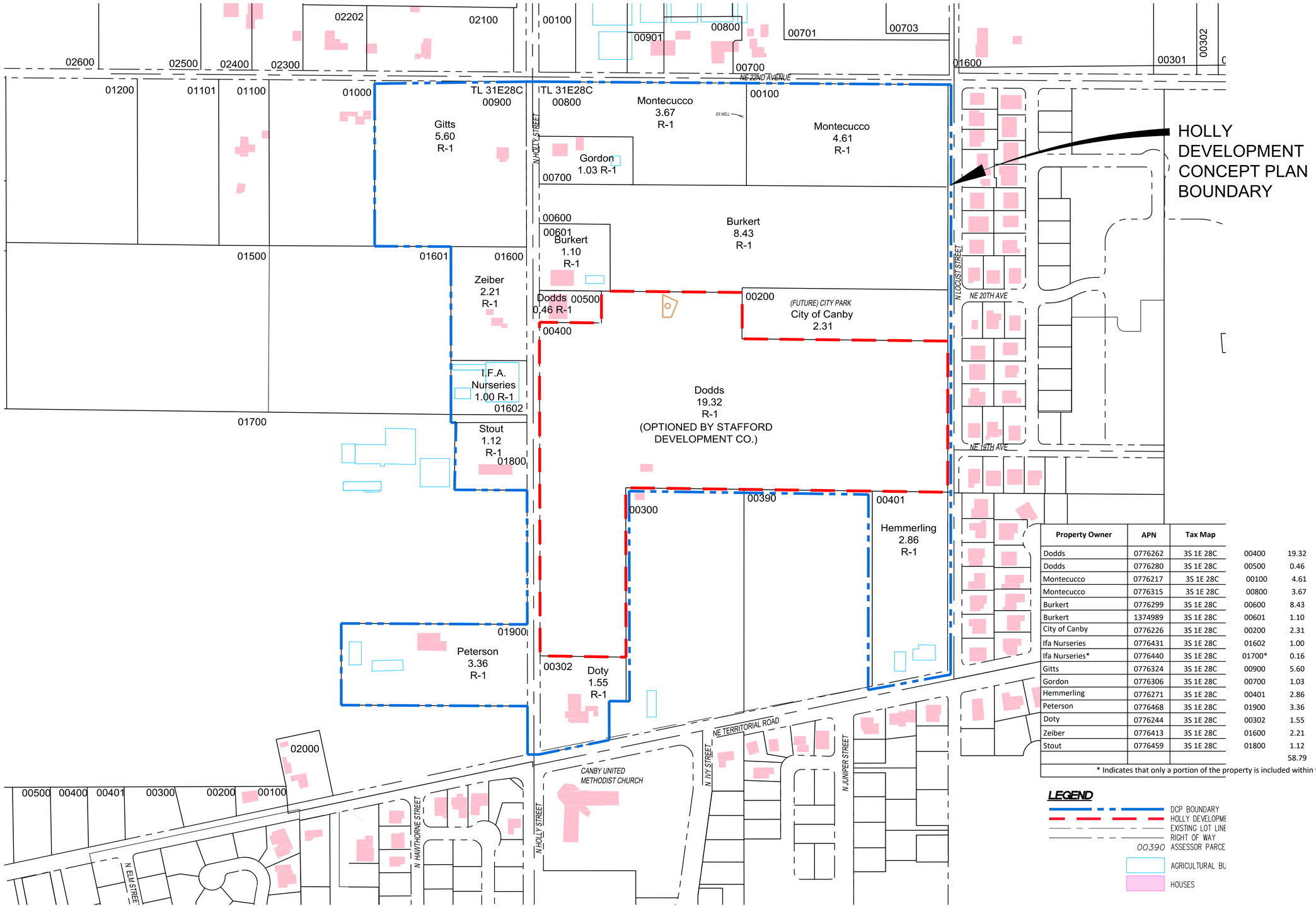
OWNERSHIP, ACREAGE & FUTURE ZONING IN DCP BOUNDARY



Property Owner	APN	Tax Map				
Dodds	0776262	3S 1E 28C	00400	19.32	LDR	R-1
Dodds	0776280	3S 1E 28C	00500	0.46	LDR	R-1
Montecucco	0776217	3S 1E 28C	00100	4.61	LDR	R-1
Montecucco	0776315	3S 1E 28C	00800	3.67	LDR	R-1
Burkert	0776299	3S 1E 28C	00600	8.43	LDR	R-1
Burkert	1374989	3S 1E 28C	00601	1.10	LDR	R-1
City of Canby	0776226	3S 1E 28C	00200	2.31	Park	Park
Ifa Nurseries	0776431	3S 1E 28C	01602	1.00	LDR	R-1
Ifa Nurseries*	0776440	3S 1E 28C	01700*	0.16	LDR	R-1
Gitts	0776324	3S 1E 28C	00900	5.60	LDR	R-1
Gordon	0776306	3S 1E 28C	00700	1.03	LDR	R-1
Hemmerling	0776271	3S 1E 28C	00401	2.86	LDR	R-1
Peterson	0776468	3S 1E 28C	01900	3.36	LDR	R-1
Doty	0776244	3S 1E 28C	00302	1.55	LDR	R-1
Zeiber	0776413	3S 1E 28C	01600	2.21	LDR	R-1
Stout	0776459	3S 1E 28C	01800	1.12	LDR	R-1
				58.79		

* Indicates that only a portion of the property is included within the DCP area

LEGEND

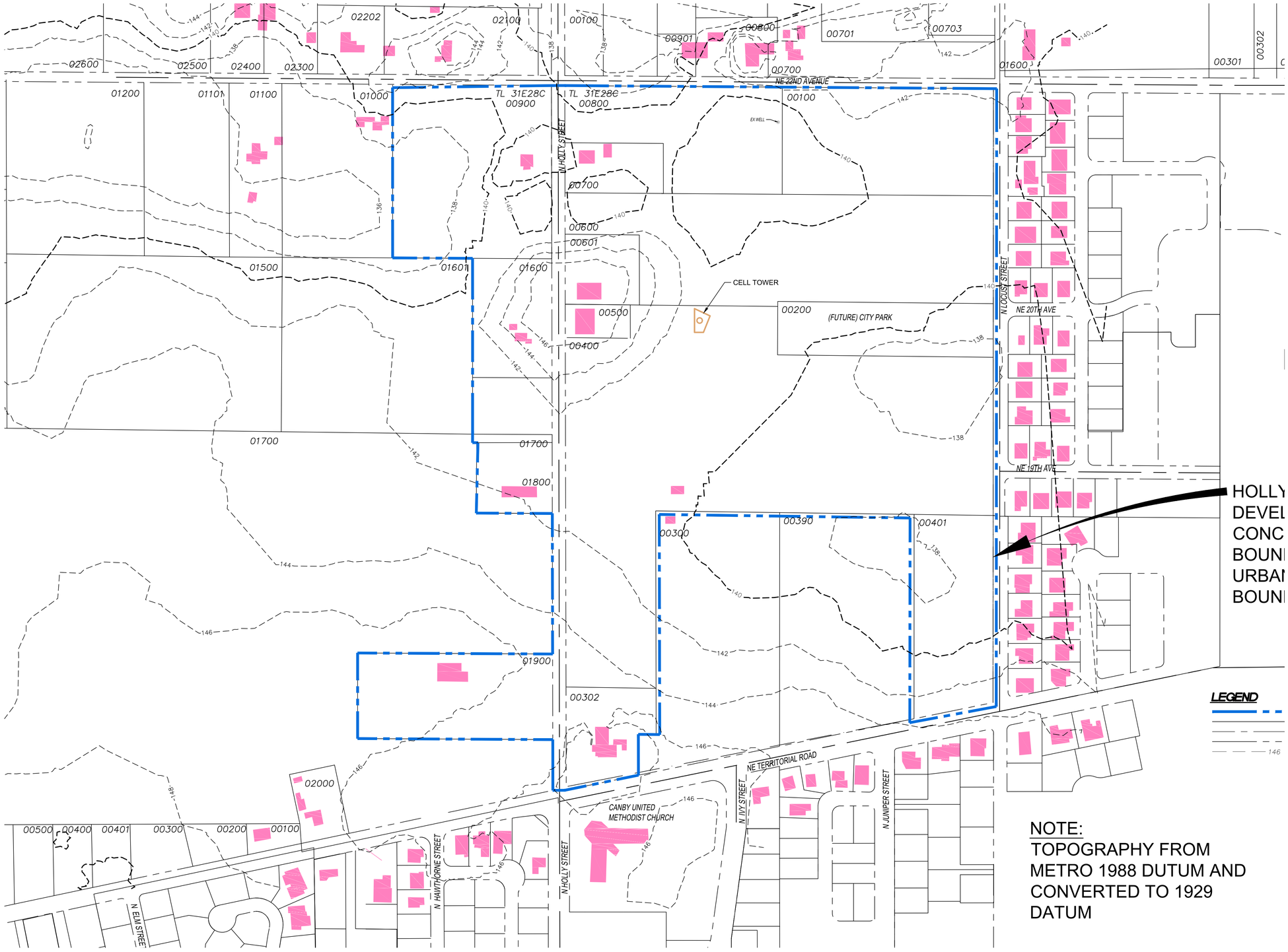
- DCP BOUNDARY
- HOLLY DEVELOPME
- EXISTING LOT LINE
- RIGHT OF WAY
- 00390 ASSESSOR PARCE
- AGRICULTURAL BU
- HOUSES

DEVELOPMENT CONCEPT PLAN
FOR SW 1/4, T3S, R1E, W.M.
TAX LOTS 400 AND 401, OF
TAX MAP 3-1E-28C

OWNERSHIP, ACREAGE,
& FUTURE ZONING

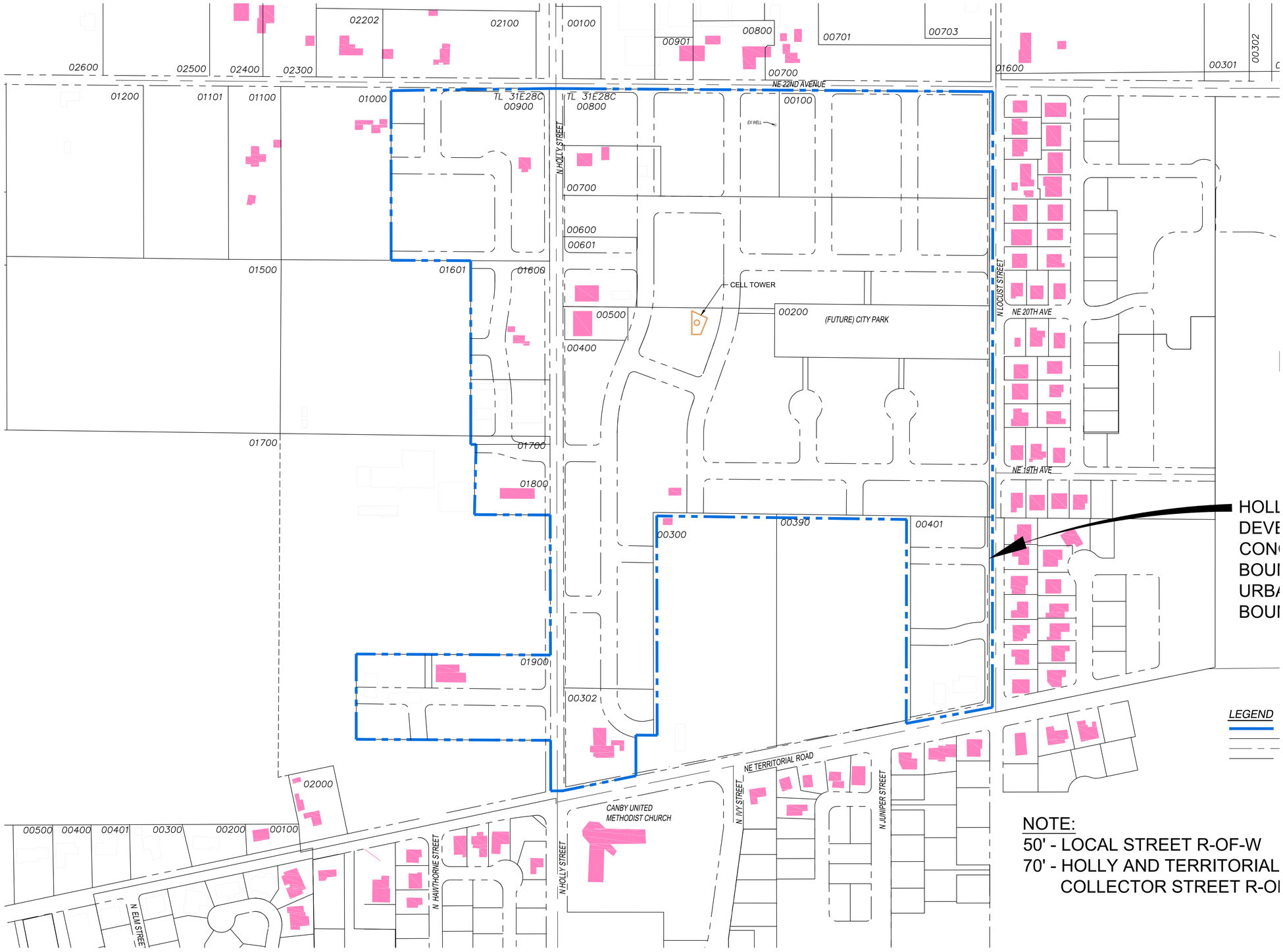
SHEET

EXISTING CONDITIONS AND TOPOGRAPHY



NOTE:
TOPOGRAPHY FROM METRO 1988 DUTUM AND CONVERTED TO 1929 DATUM

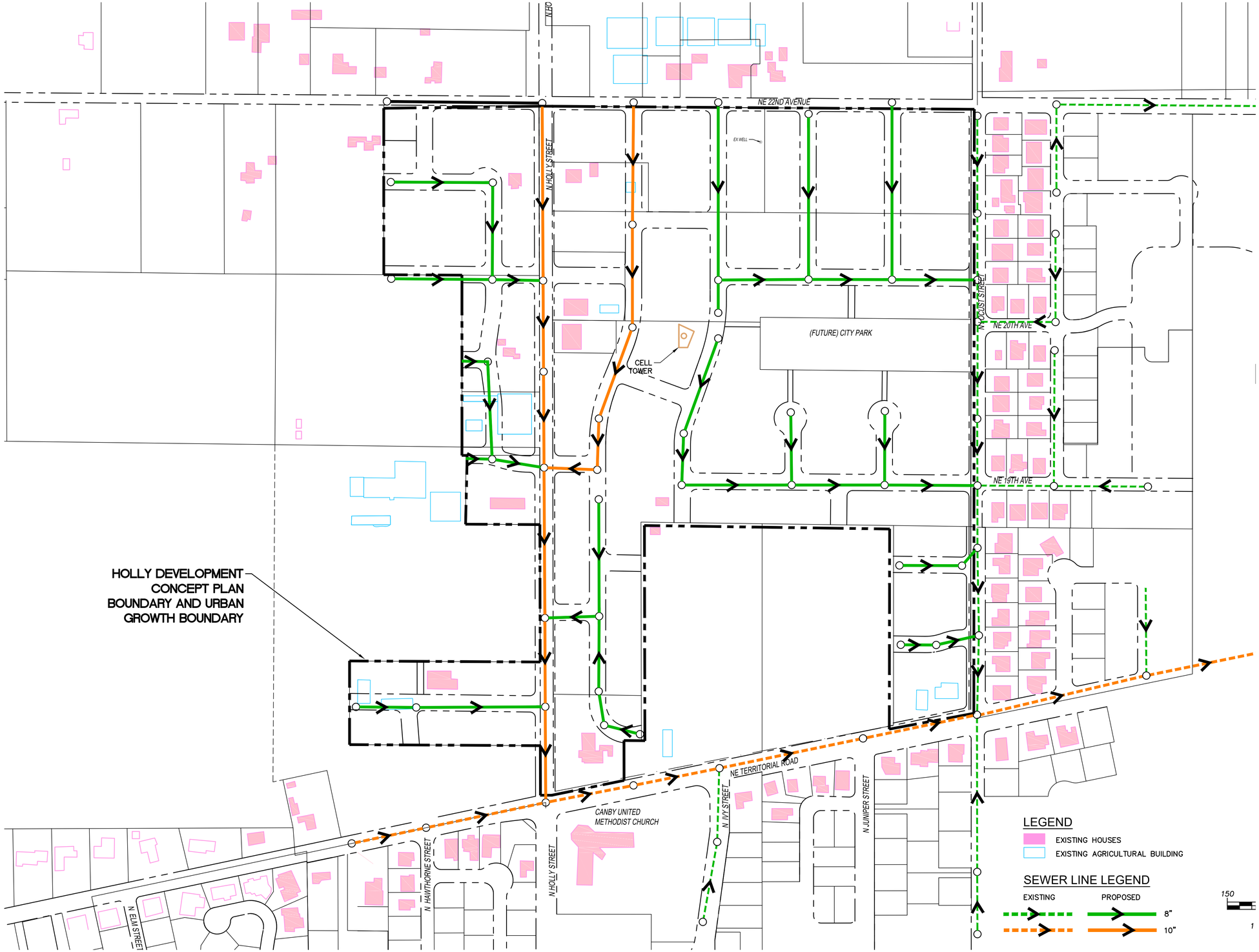
DEVELOPMENT CONCEPT PLAN AND STREET PATTERN



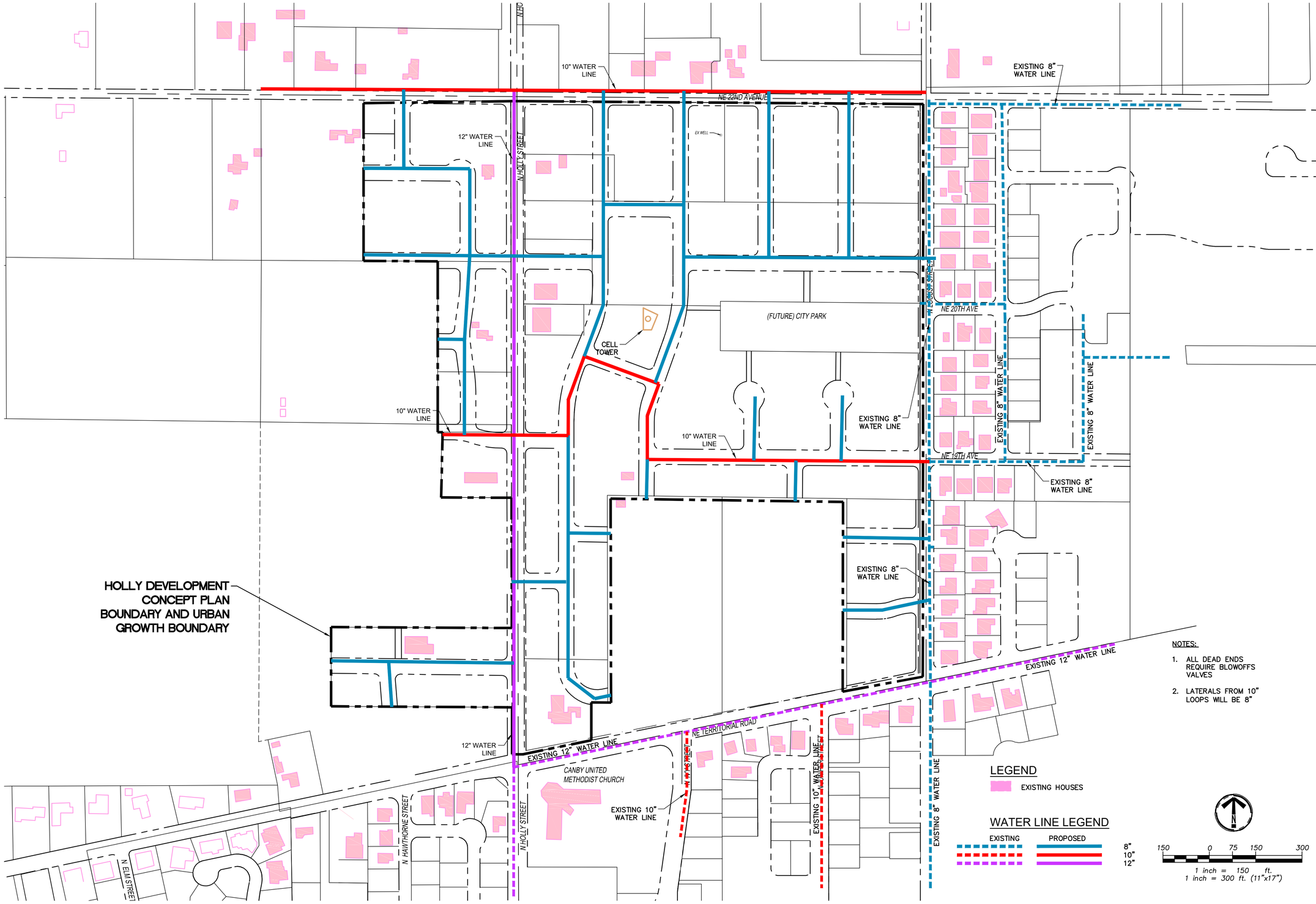
NOTE:
50' - LOCAL STREET R-OF-W
70' - HOLLY AND TERRITORIAL
COLLECTOR STREET R-OI


NW 22nd AVENUE
NW 22nd Ave
EX WELL
(FUTURE) CITY PARK
LOCUST STREET
NE 20th Ave
HOLLY DEVELOPMENT CONCEPT PLAN BOUNDARY AND URBAN GROWTH BOUNDARY
HOLLY STREET
TERRITORIAL ROAD
15th

SANITARY SEWER MASTER PLAN



WATER LINE MASTER PLAN



DEVELOPMENT CONCEPT PLAN
FOR SW ¼, T3S, R1E, W.M.
TAX LOTS 400 AND 401, OF
TAX MAP 3-1E-28C

STAFFORD
DEVELOPMENT COMPANY, LLC
485 SOUTH STATE STREET
LAKE OSWEGO, OREGON 97034

HOLLY DCP
WATER LINE
MASTER PLAN

NO.	DATE	REVISIONS DESCRIPTION

PLANNING & LAND DESIGN
1862 NE ESTATE DRIVE
HILLSBORO, OREGON 97124
RYAN O'BRIEN
(503)780-4061

SHEET
116

Dodds Subdivision

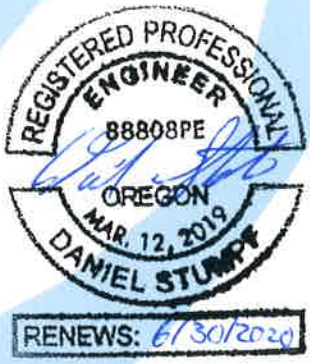
Transportation Impact Study

Canby, Oregon

Date:
February 6, 2020

Prepared for:
Levi Levasa
Stafford Land Company

Prepared by:
Daniel Stumpf, PE
Todd Mobley, PE



LANCASTER
ENGINEERING

321 SW 4th Ave., Suite 400 | Portland, OR 97204 | 503.248.0313 | lancasterengineering.com

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Executive Summary

1. The proposed Dodds Subdivision will include the redevelopment of a property located north of NE/NW Territorial Road, south of NE/NW 22nd Avenue, west of N Locust Street, and east of N Holly Street in Canby, Oregon. Specifically, the project will include the construction of an 82-lot residential subdivision.
2. The trip generation calculations show that the proposed development is projected to generate a net increase of 60 trips during the morning peak hour, 80 trips during the evening peak hour, and 764 average weekday trips.
3. No significant trends or crash patterns were identified at any of the study intersections that were indicative of safety concerns.
4. Upon removal or proper maintenance of any obstructing onsite foliage, adequate sight distance can be made available at all proposed site access intersections to ensure safe and efficient operation at each location.
5. Left-turn lane warrants are not projected to be met at the study intersections for any of the analysis scenarios. Accordingly, no new turn lanes are projected to be necessary or recommended.
6. Due to insufficient main and side-street traffic volumes, traffic signal warrants are not projected to be met at the study intersections along NE/NW Territorial Road under any of the analysis scenarios.
7. All study intersections are currently operating acceptably per their respective jurisdictional standards and are projected to continue operating acceptably through year 2022 with the completion and occupancy of the site.

Project Description and Location

Introduction

The proposed Dodds Subdivision will include the redevelopment of a property located north of NE/NW Territorial Road, south of NE/NW 22nd Avenue, west of N Locust Street, and east of N Holly Street in Canby, Oregon. Specifically, the project will include the construction of an 82-lot residential subdivision. Based on correspondence with City of Canby staff, the report conducts safety and capacity/level of service analyses at the following intersections:

- N Holly Street at NW Territorial Road;
- N Locust Street at NE Territorial Road; and
- N Locust Street at NE 19th Avenue (future site access).

The purpose of this study is to determine whether the transportation system within the site vicinity is capable of safely and efficiently supporting the existing and proposed uses and to determine any mitigation that may be necessary to do so. Detailed information on traffic counts, trip generation calculations, safety analyses, and level of service calculations is included in the appendix to this report.

Project and Location Description

The project site is located near the northern edge of City limits in Canby, Oregon. The subject site is situated in a developing residential area, with single-family houses to the east and south, and agricultural land-uses to the north and west.

The project site includes a single tax lot, lot 400, which encompasses an approximate total of 19.32 acres. The site is currently developed as low density residential/agricultural land-use. The proposed Dodds Subdivision will include the construction of three future public access intersections onto vicinity roadways: specifically, two access intersections onto N Holly Street and one access intersection onto N Locust Street, opposite of NE 19th Avenue.

Vicinity Streets

The proposed development is expected to primarily impact three nearby, existing vicinity roadways. Table 1 provides a description of each of the vicinity roadways.

Table 1: Vicinity Roadway Descriptions

Roadway	Jurisdiction	Functional Classification	Cross-Section	Speed	On-street Parking	Bicycle Lanes	Curbs	Sidewalks
NE/NW Territorial Road	City of Canby	Arterial/ Neighborhood Connector	2 Lanes	25/30 mph Posted	Partially Permitted	Partial Both Sides	Partial Both Sides	Partial Both Sides
N Holly Street	City of Canby/ Clackamas County	Arterial/ Collector/Local Street	2 Lanes	25/45 mph Posted	Partially Permitted	None	Partial Both Sides	Partial Both Sides
N Locust Street	City of Canby/ Clackamas County	Local Street	2 Lanes	25 mph Posted	Partially Permitted	None	Partial Both Sides	Partial Both Sides

Note: Functional Classification and Jurisdiction based on City of Canby's *Transportation System Plan*.

Study Intersections

A majority of site trips generated by the proposed development are expected to impact three nearby, existing intersections of significance. A summarized description of these intersections is provided in Table 2.

Table 2: Study Intersection Descriptions

Number	Name	Geometry	Traffic Control	Phasing/Stopped Approaches
1	N Holly Street at NW Territorial Road	Four-Legged	Stop-Controlled	All-Way Stop-Controlled
2	N Locust Street at NE Territorial Road	Four-Legged	Stop-Controlled	NB/SB Stop-Controlled
5	N Locust Street at NE 19th Avenue	Three-Legged	Stop-Controlled	WB Stop-Controlled

A vicinity map displaying the project site, vicinity streets, and the study intersections with their associated lane configurations is shown in Figure 1 on page 8.

Transportation System Plan Projects and Standards

At the direction of the City of Canby's consulting engineer, the City's Transportation System Plan (TSP) was referenced to identify the following:

- Relevant transportation improvement projects;
- Applicable street cross-sections;
- Truck routes;
- Local street connectivity recommendations; and
- Access spacing standards.

The following narrative describes each of the above listed points in detail.

Transportation Improvement Projects

There are several transportation improvement projects described in the City's TSP that are planned within the site vicinity. Table 3 below summarizes these planned projects.

Table 3: Transportation Improvement Projects

Category	ID Code	Location	Description	Planning Level Cost
Pedestrian	S7	N Holly Street, between Knights Bridge Road and NW Territorial Road.	Fill in sidewalk gaps.	$550,000
Pedestrian	S8	NW/NE Territorial Road, between N Holly Street and OR-99E	Fill in sidewalk gaps.	$1,230,000
Bicyde	B3	N Holly Street, between NW 22nd Avenue and NW 6th Avenue	Stripe bike lanes (widen as needed)	$663,000
Functional Classification	-	NW/NE Territorial Road, between N Holly Street and OR-99E	Downgrade from Arterial	-
Functional Classification	-	N Holly Street, NW Territorial Road and NW 22nd Avenue	Downgrade from Arterial	-

Street Cross-Sections

Table 4 presents the roadway cross-section standards for NE/NW Territorial Road, N Holly Street, and N Locust Street based on the functional classification and jurisdiction of the roadways.

Table 4: Street Cross-Section Standards

Roadway	From	To	Functional Classification	Cross-Section Type	Right of Way	Paved Section
NW Territorial Road	N Holly Street	West	Neighborhood Connector	Neighborhood Route	40' - 64'	36'
NE Territorial Road	N Holly Street	East	Arterial	Arterial (Two-Way Traffic)	60' - 80'	34' - 50'
N Holly Street	NW Territorial Road	South	Collector	Collector	50' - 80'	34' - 50'
N Locust Street	NE Territorial Road	South	Local Street	Standard Local Street	50' - 62'	34'

Additional information regarding roadway cross-section standards can be found in Figures 7-4, 7-5, and 7-6 of the City's TSP.

Truck Routes

Per Figures 7-2a, 7-2b, and 7-2c of the City's TSP, NE/NW Territorial Road is classified as a truck route between N Holly Street and OR-99E. Additionally, N Holly Street is also classified as a truck route from the northern edge of the City limits to NW 3rd Avenue.

Local Street Connectivity Recommendations

According to the City's TSP, local street connectivity is analyzed in order to reduce potential vehicle miles traveled (VMT) within the City of Canby. The design for specific alignments of roadways are based on the following criteria:

- Pedestrian and bicycle connections should be provided every 330 feet; and
- Vehicle connections should be provided every 600 feet centerline to centerline.

Upon reviewing Figure 7-8 of the TSP, two potential local street connections (bounded by NE 22nd Avenue, NE Territorial Road, N Holly Street, and N Locust Street) that are relevant to the proposed subdivision were noted: one connection onto N Locust Street and one connection onto N Holly Street. Based on a review of the proposed site plan, within the same area the proposed subdivision will include one connection onto N Locust Street and two connections onto N Holly Street. Given the proposed development provides more connections than described in Figure 7-8, no additional recommendations regarding local street connectivity are suggested.

Access Spacing Standards

According to the *Access Management* section of the TSP, the maximum block length shall not exceed 600 feet, or 1,000 feet along an arterial. In addition, Table 5 below describes access spacing standards along City roadways, as referenced from Table 7-2 from the TSP. It should be noted that spacing is measured centerline to centerline and private access onto an arterial roadway may only be granted through a requested variance when access to a lower classification roadway is not feasible.

Table 5: Access Spacing Standards

Street Facility	Roadway Spacing		Driveway Spacing	
	Maximum	Minimum	Maximum	Minimum
Arterial	1,000'	660'	330'	330' or combine
Collector	600'	250'	100'	100' or combine
Neighborhood/Local Street	600'	150'	50'	10'

Internal Circulation

The proposed site plan depicts multiple points of access onto vicinity roadways: two points of access onto N Holly Street, one point of access onto N Locust Street, and six additional access points to accommodate future development of the surrounding area north and south of the proposed subdivision. All accesses are intended to serve residents of the proposed subdivision. In addition, residents of the proposed subdivision are provided multiple, redundant routes to and from the nearby vicinity roadways and each planned single-family house, allowing for efficient circulation within the site and reducing the potential for out of direction travel.

Local streets constructed within the City of Canby are required to provide a six-foot sidewalk on both sides of the street. Improvements along portions of the site frontage with N Holly Street and N Locust Street are also anticipated to include new sidewalks. Accordingly, adequate pedestrian facilities are expected to be provided with the proposed development.

Traffic Counts

Intersection Counts

Traffic counts were conducted at the study intersections on Thursday, August 9th, 2018, from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM. Data was used from each intersection's respective morning and evening peak hours. To estimate existing traffic volumes at the proposed site access intersections along N Holly Street, volumes were balanced with the highest recorded peak hour volumes at the study intersection of N Holly Street at NW Territorial Road as well as the intersection of N Holly Street at NW 22nd Avenue, where additional count data was collected.

School Traffic

At the time of conducting traffic counts, local schools were closed for the summer months. In order to reflect typical weekday traffic conditions with school in session, additional volumes were added to the collected count data utilizing the City of Canby's Small Community Model. The modeling data was provided by DKS Associates and is included within the technical appendix to this report.

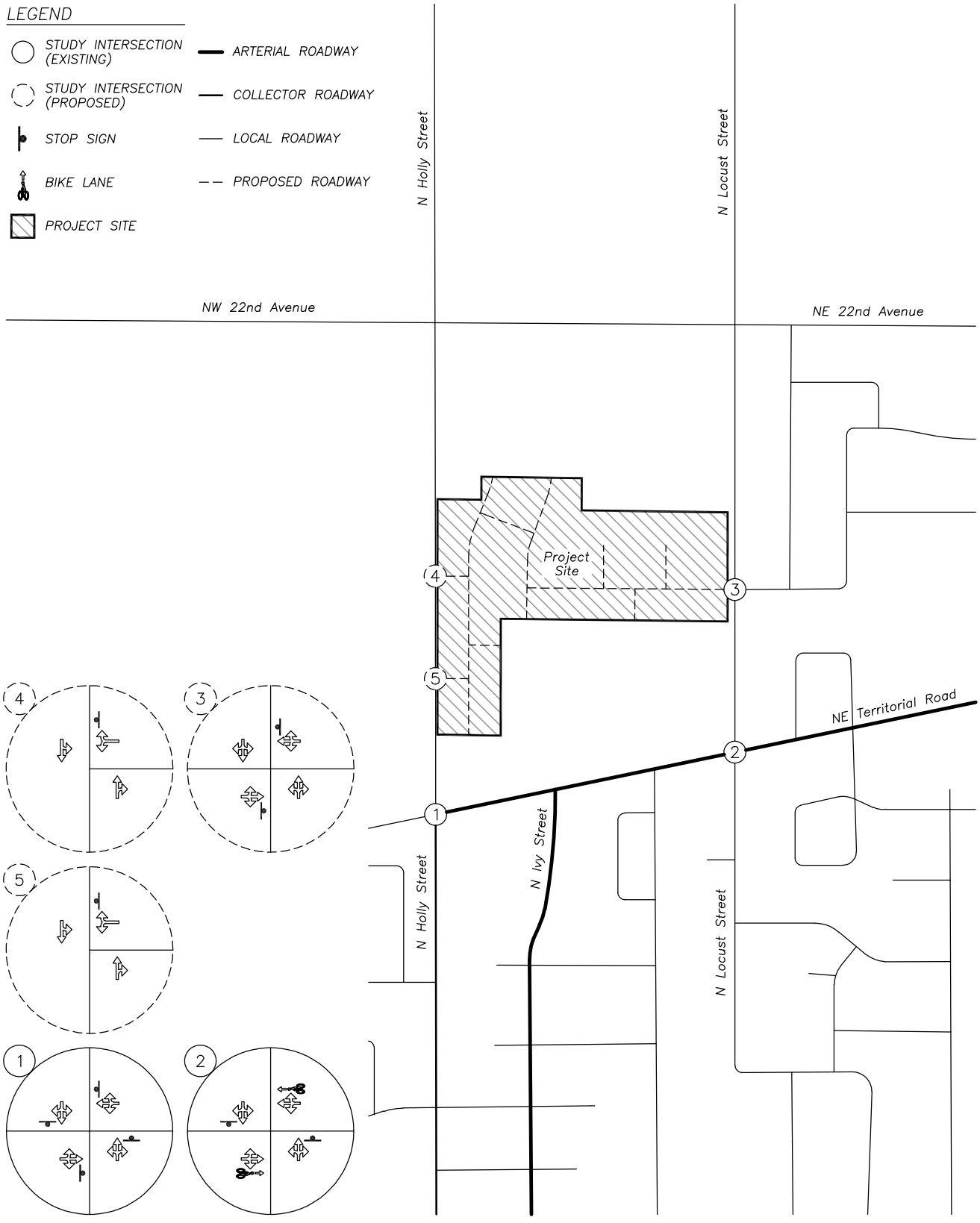
NE/NW Territorial Road Data Collection

Per direction by the City of Canby, 24-hour vehicle volume, classification, and speed data was collected along NE/NW Territorial Road on Thursday, August 9th, 2018. Table 6 summarizes the reported findings of the collected data.

Table 6: Territorial Road Volume Summary

	Classification (Daily Count)								Speed (mph)	
	Bikes	**Cars & Trailers**	**2 Axle (Long)**	**Buses**	**2 Axle (6 Tires)**	**3+ Axle (Single & Multi)**	**Not Classed**	**ADT**	**50th Percentile**	**85th Percentile**
EB	62	2,068	472	4	168	13	57	2,844	28	33
WB	39	1,863	555	7	221	18	78	2,781	31	35
Total	**101**	**3,931**	**1,027**	**11**	**389**	**31**	**135**	**5,625**	**-**	**-**

Figure 2 on page 9 shows the existing morning and evening peak hour traffic volumes at the study intersections.

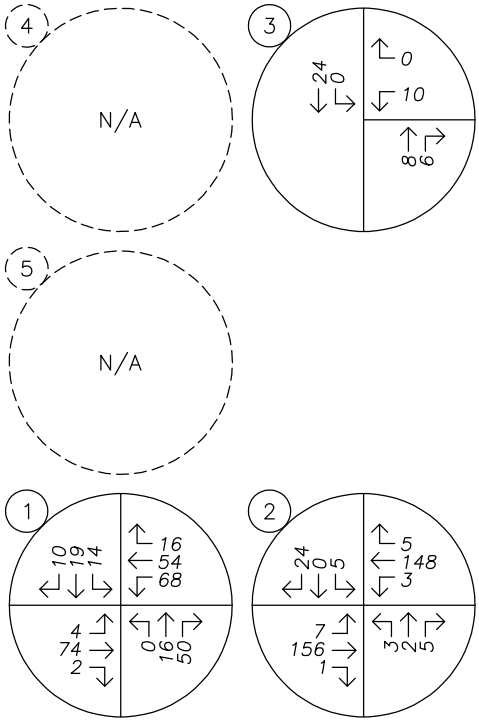


VICINITY MAP

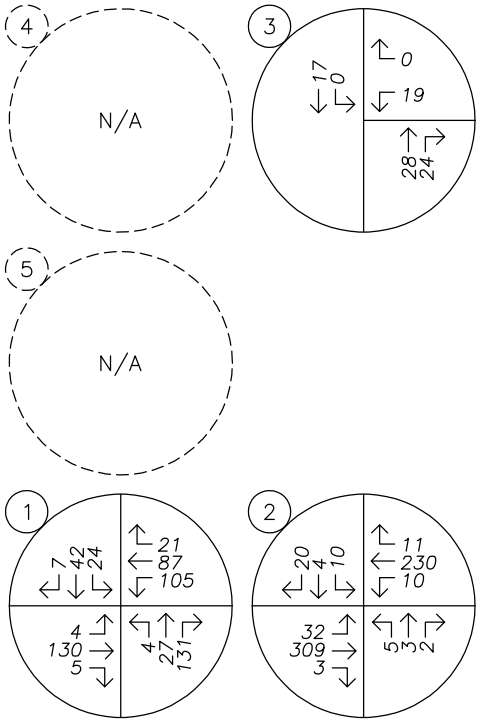
no scale

FIGURE 1

AM PEAK HOUR



PM PEAK HOUR



NOTE: EXISTING TRAFFIC VOLUMES INCLUDE SCHOOL TRAFFIC BASED ON THE CANBY SMALL COMMUNITY MODEL.

TRAFFIC VOLUMES
Existing Conditions
AM & PM Peak Hours

no scale

FIGURE 2

Site Trips

Trip Generation

The proposed Dodds Subdivision will include the construction of an 82-lot subdivision, removing 1 existing house for a net increase of 81 houses. To estimate the number of trips generated by the proposed development, trip rates from the *Trip Generation Manual* [1] were used. Data from land-use code 210, *Single-Family Detached Housing*, was used to estimate the existing and proposed development's trip generation based on the number of dwelling units.

The trip generation calculations show that the proposed development is projected to generate a net increase of 60 trips during the morning peak hour, 80 trips during the evening peak hour, and 764 average weekday trips. The trip generation estimates are summarized in Table 7. Detailed trip generation calculations are included in the technical appendix to this report.

Table 7: Trip Generation Summary

	ITE Code	Size	Morning Peak Hour			Evening Peak Hour			Weekday Total
			Enter	Exit	Total	Enter	Exit	Total	
Existing Conditions									
Single-Family Detached Housing	210	1 unit	0	1	1	1	0	1	10
Proposed Conditions									
Single-Family Detached Housing	210	82 units	15	46	61	51	30	81	774
Net New Trips		81 units	15	45	60	50	30	80	764

Trip Distribution

The directional distribution of site trips to/from the project site was estimated based on locations of likely trip destinations, locations of major transportation facilities in the site vicinity, and existing travel patterns at the study intersections. The following trip distribution was estimated and used for analysis:

- Approximately 45 percent of site trips will travel to/from the south along N Holly Street;
- Approximately 35 percent of site trips will travel to/from the east along NE Territorial Road;
- Approximately 10 percent of site trips will travel to/from the south along N Ivy Street;

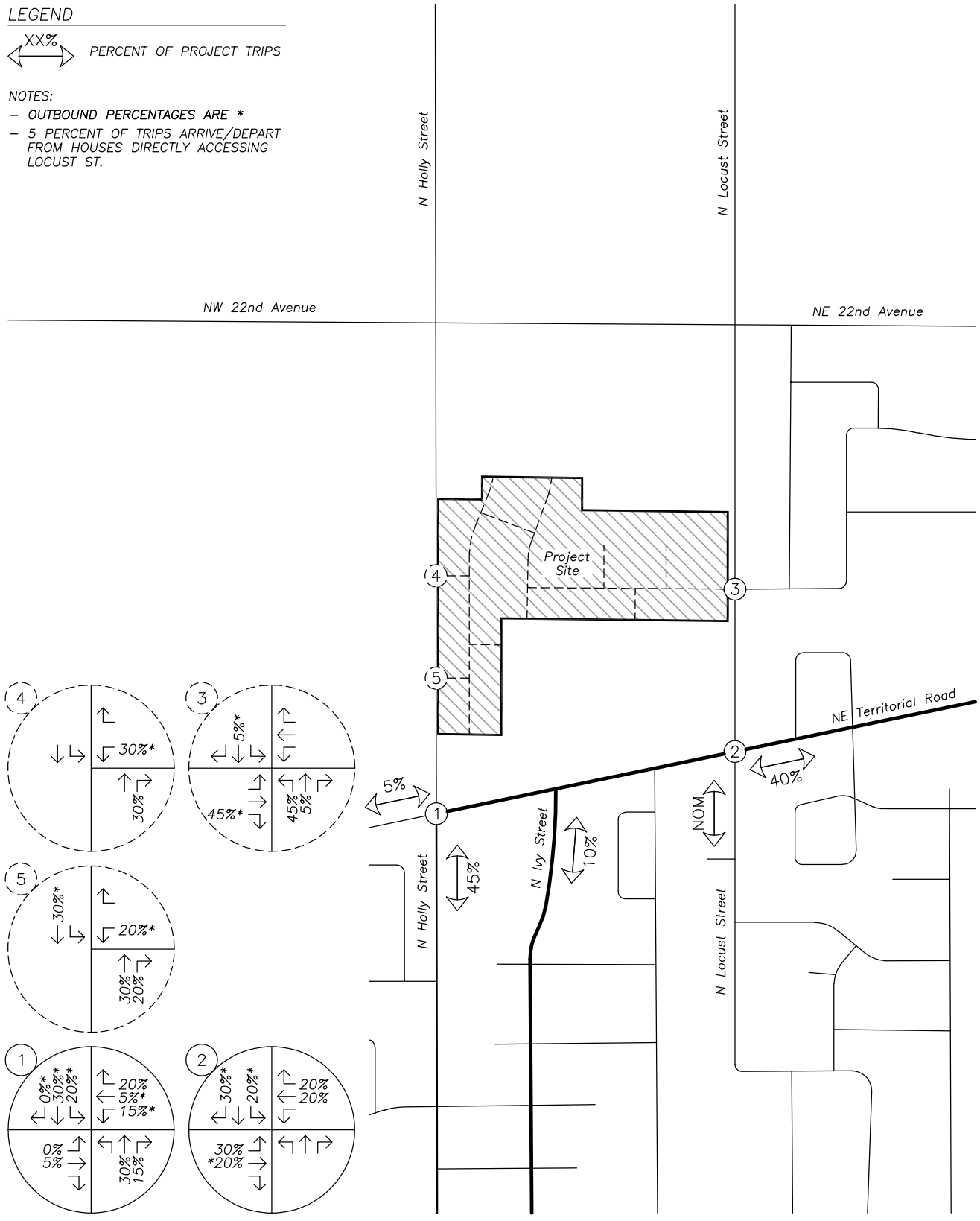
[1] Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 10th Edition, 2017.

- Approximately 5 percent of site trips will travel to/from the east along NE 22nd Avenue; and
- Approximately 5 percent of site trips will travel to/from the west along NW Territorial Road.

Based on the preliminary site plan and locations of proposed accesses, site trips are expected to utilize site accesses as follows:

- Approximately 45 percent of site trips will travel to/from the west at Intersection 3;
- Approximately 30 percent of site trips will travel to/from the west at Intersection 4; and
- Approximately 20 percent of site trips will travel to/from the west at Intersection 5; and
- Approximately 5 percent of site trips will travel to/from houses which take direct access to N Locust Street, north of Intersection 3.

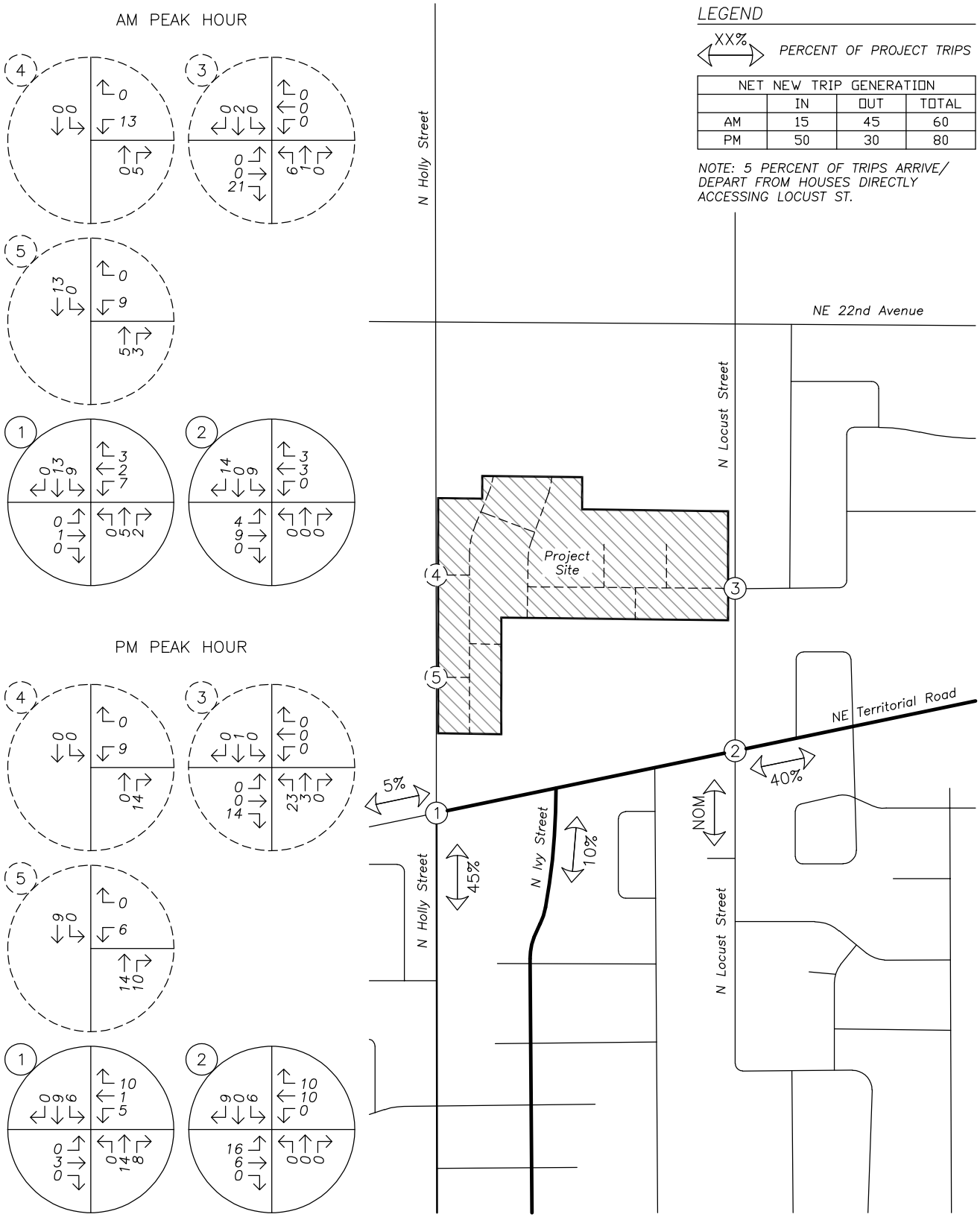
The trip distribution utilized for site trips generated by the subject site are shown in Figure 3 on page 12. The trip assignment for the site trips generated during the morning and evening peak hours is shown in Figure 4 on page 13.



SITE TRIP DISTRIBUTION
Inbound & Outbound Site Trip Percentages
AM & PM Peak Hours

no scale

FIGURE 3



SITE TRIP ASSIGNMENT
Proposed Development Plan – Net New Site Trips
AM & PM Peak Hours

no scale

FIGURE 4

Future Traffic Volumes

2022 Background Volumes

To provide analysis of the impact of the proposed annexation on the nearby transportation facilities, an estimate of future traffic volumes is required.

In order to calculate the future traffic volumes, a compounded growth rate of 2.62 percent per year was applied to the measured existing traffic volumes over a four-year period to approximate year 2022 background traffic conditions. The assumed 2.62 percent per year growth rate was calculated based on the expected population growth within the City between 2009 and 2030, as reported in the City of Canby's TSP.

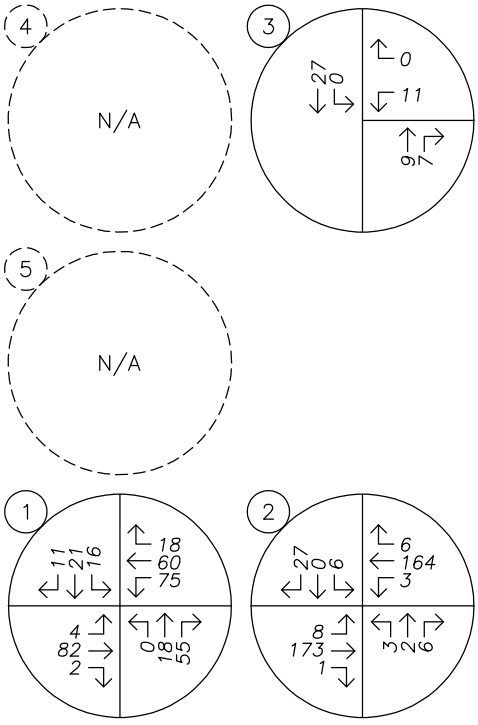
Figure 5 on page 15 shows the projected year 2022 background volumes, without the proposed annexation, at the study intersections during the morning and evening peak hours.

2022 Buildout Volumes

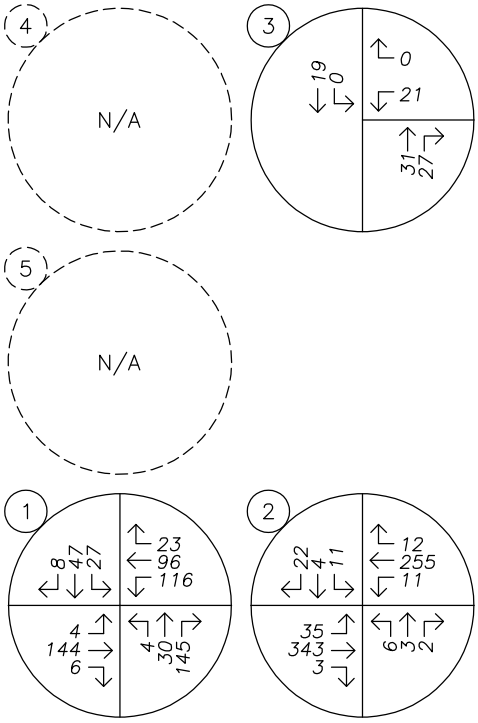
Peak hour trips calculated to be generated by the proposed development, as described earlier within the *Site Trips* section, were added to the projected year 2022 background volumes to obtain the expected year 2022 site buildout volumes.

Figure 6 on page 16 shows the projected year 2022 site buildout volumes at the study intersections during the morning and evening peak hours.

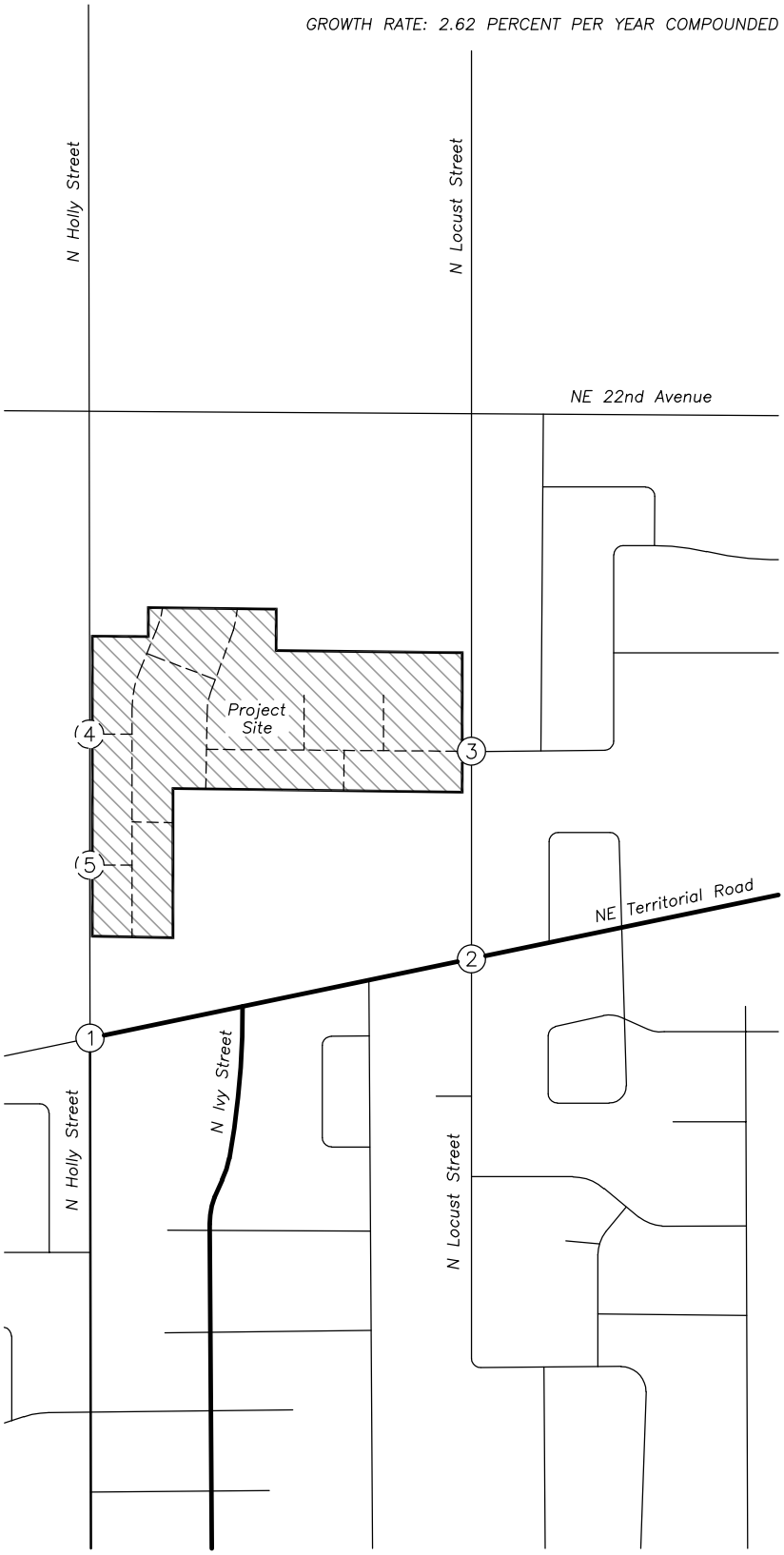
AM PEAK HOUR



PM PEAK HOUR



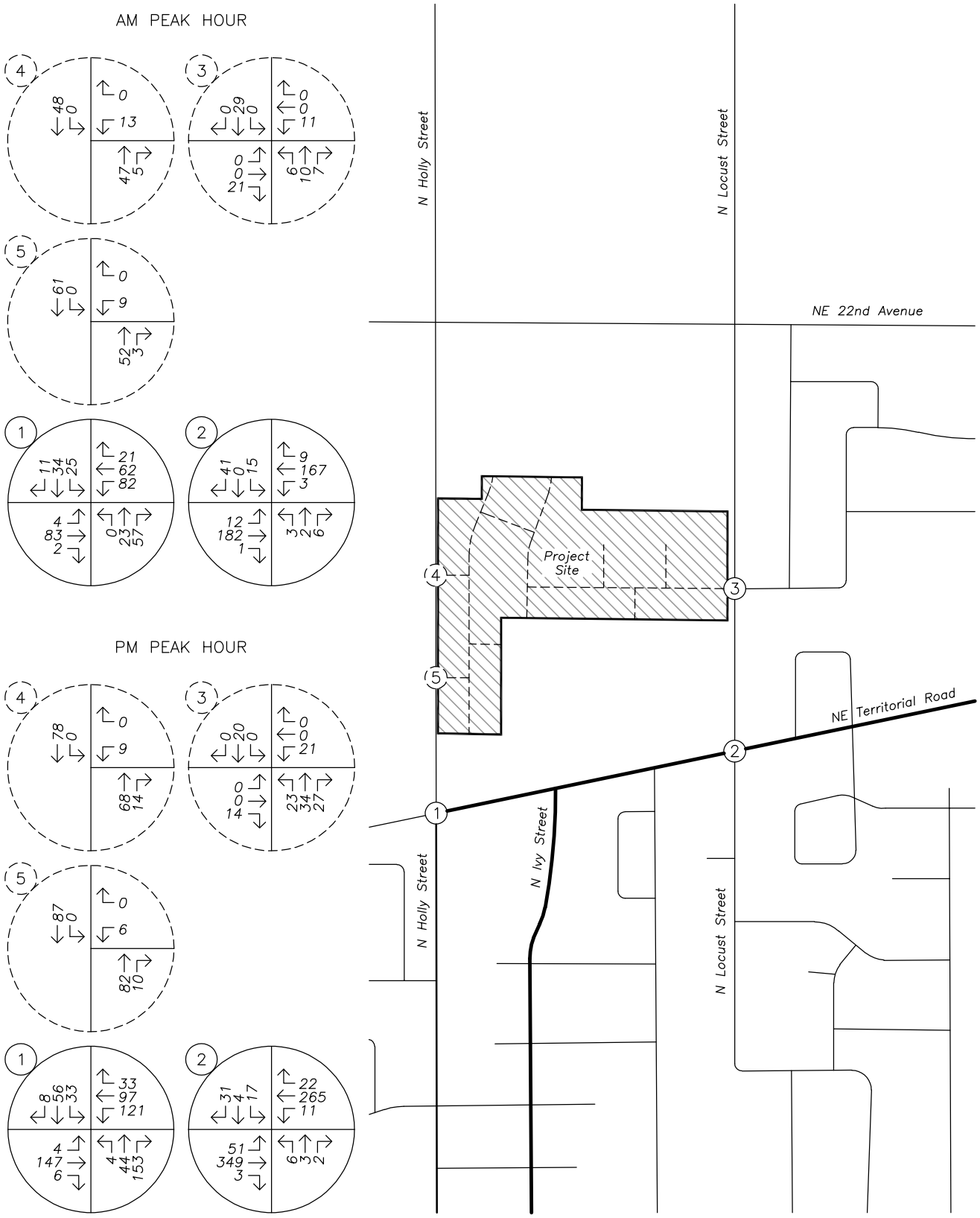
GROWTH RATE: 2.62 PERCENT PER YEAR COMPOUNDED



TRAFFIC VOLUMES
Year 2022 Background Conditions
AM & PM Peak Hours

no scale

FIGURE 5



TRAFFIC VOLUMES
Year 2022 Buildout Conditions
AM & PM Peak Hours

no scale

FIGURE 6

Safety Analysis

Crash Data Analysis

Using data obtained from the Oregon Department of Transportation's (ODOT) Crash Analysis and Reporting Unit, a review of the most recent available five years of crash history (January 2013 to December 2017) at the study intersections was performed. The crash data was evaluated based on the number of crashes, the type of collisions, the severity of the collisions, and the resulting crash rate for the intersection. Crash rates provide the ability to compare safety risks at different intersections by accounting for both the number of crashes that have occurred during the study period and the number of vehicles that typically travel through the intersection. Crash rates were calculated using the common assumption that traffic counted during the evening peak period represents 10 percent of the annual average daily traffic (AADT) at the intersection. Crash rates in excess of 1.0 crashes per million entering vehicles (CMEV) may be indicative of design deficiencies and therefore require a need for further investigation and possible mitigation.

N Holly Street at NW Territorial Road

The intersection of N Holly Street at NW Territorial Road had three reported crashes during the analysis period. The crashes consisted of two angle-type collisions and one bicycle related crash. Of the reported crashes, two were classified as "Property Damage Only" (*PDO*) and one was classified as "Non-Incapacitating Injury" (*Injury B*). The crash rate at the intersection was calculated to be 0.28 CMEV.

One of the crashes at the intersection involved a bicyclist. The crash occurred when a north/south traveling bicyclist disregarded an intersection stop sign and collided with a westbound passenger car. The bicyclist sustained injuries consistent with *Injury B* classification.

N Locust Street at NW Territorial Road

The intersection of N Locust Street at NW Territorial Road had four reported crashes during the analysis period. The crashes consisted of three angle-type collisions and one rear-end collision. Of the reported crashes, two were classified as *PDO*, one was classified as "Possible Injury – Complaint of Pain" (*Injury C*), and one was classified as *Injury B*. The crash rate at the intersection was calculated to be 0.34 CMEV.

N Locust Street at NE 19th Avenue

The intersection of N Locust Street at NW Territorial Road had no reported crashes during the analysis period.

Based on the most recent five years of available crash data, no significant trends or crash patterns were identified at any of the study intersections that were indicative of safety concerns.

Sight Distance Analysis

Intersection sight distance was measured for the proposed site access intersections along N Holly Street and N Locust Street. Sight distance was evaluated in accordance with standards established in *A Policy on Geometric Design of Highways and Streets*[2] as well as *Clackamas County Roadway Standards*. According to AASHTO, the driver's eye is assumed to be 14.5 feet from the near edge of the nearest travel lane of the intersecting street and at a height of 3.5 feet above the minor-street approach pavement. The vehicle driver's eye-height along the major-street approach is assumed to be 3.5 feet above the cross-street pavement.

Per Section 250.1.2.c. in the *Clackamas County Roadway Standards*, the design speed of the roadway is assumed to be either the intended posted regulatory speed plus 5 mph, the existing posted regulatory speed plus 5 mph, or the measured 85th percentile speed of traffic. Referencing Tables 2-6 and 2-7 of the *Clackamas County Roadway Standards*, based on posted speed of 25 mph along N Locust Street and 45 mph along N Holly Street, the minimum recommended intersection sight distances for vehicles stopped on the minor-street approaches of these roadways is 335 feet and 555 feet, respectively.

Site Accesses along N Holly Street

Upon removal or proper maintenance of any obstructing onsite foliage, intersection sight distances along N Holly Street were measured to be in excess of 600 feet to the north and south of each of the proposed site access locations, with the exception of Intersection 4 viewing north. Specifically, sight distance at Intersection 4 was measured to be 556 feet to the north, limited by a crest vertical curve in the roadway.

Site Access along N Locust Street

Upon removal or proper maintenance of any obstructing onsite foliage, intersection sight distances along N Locust Street were measured to be in excess of 400 feet to the north and south of the proposed site access location.

Based on the sight distance analysis, upon removal or proper maintenance of any obstructing onsite foliage, adequate sight distance can be made available at all proposed site access intersections to ensure safe and efficient operation at each location. Accordingly, no other sight distance mitigation is necessary or recommended.

[2] American Association of State Highway and Transportation Officials (AASHTO), *A Policy on Geometric Design of Highways and Streets*, 6th Edition, 2011.

Warrant Analysis

Left-turn lane and traffic signal warrants were examined for the study intersections where such treatments would be applicable.

A left-turn refuge lane is primarily a safety consideration for the major-street, removing left-turning vehicles from the through traffic stream. The left-turn lane warrants were examined using methodologies provided within the *National Cooperative Highway Research Program's* (NCHRP) *Report 457*. Turn lane warrants were evaluated based on the number of advancing and opposing vehicles as well as the number of turning vehicles, the travel speed, and the number of through lanes.

Left-turn lane warrants are not projected to be met at the study intersections for any of the analysis scenarios. Accordingly, no new turn lanes are projected to be necessary or recommended.

Preliminary traffic signal warrants were examined for the unsignalized study intersections along NE/NW Territorial Road to determine whether the installation of a new traffic signal will be warranted at these intersections by year 2022 with completion and occupancy of the site. Due to insufficient main and side-street traffic volumes, traffic signal warrants are not projected to be met at these intersections under any of the analysis scenarios.

Operational Analysis

A capacity and delay analysis was conducted for each of the study intersections per the unsignalized intersection analysis methodologies in the *Highway Capacity Manual*[3] (HCM). Intersections are generally evaluated based on the average control delay experienced by vehicles and are assigned a grade according to their operation. The level of service (LOS) of an intersection can range from LOS A, which indicates very little or no delay experienced by vehicles, to LOS F, which indicates a high degree of congestion and delay. The volume-to-capacity (v/c) ratio is a measure that compares the traffic volumes (demand) against the available capacity of an intersection.

According to the City of Canby's TSP, the following minimum acceptable operation standards apply to intersections under City jurisdiction:

- Signalized and all-way stop-controlled intersections are required to operate at LOS D or better with a v/c ratio no greater than 0.85.
- Two-way stop-controlled intersections are required to operate at LOS E or better with a v/c ratio no greater than 0.90.

Additionally, the roadways of N Holly Street and N Locust Street (north of NE/NW Territorial Road) as well as NE/NW 22nd Avenue (east of N Locust Street and west of N Holly Street) are under the jurisdiction of Clackamas County. Therefore, intersections along these roadways must operate acceptably per County standards. According to the Clackamas County Comprehensive Plan, *Chapter 5 – Transportation System Plan*, rural intersections (i.e. intersections outside the Portland Metropolitan Urban Growth Boundary) inside City Urban Growth Boundaries are required to operate with a maximum v/c ratio of 0.80 to 0.95 during the first and second hours of the evening peak period.

The v/c, delay, and LOS results of the capacity analysis are shown in Table 8 for the morning and evening peak hours. Detailed calculations as well as tables showing the relationship between delay and LOS are included in the appendix to this report.

[3] Transportation Research Board, *Highway Capacity Manual*, 6th Edition, 2016.

Table 8: Intersection Capacity Analysis Summary

	Morning Peak Hour			Evening Peak Hour		
	LOS	**Delay (s)**	**v/c**	**LOS**	**Delay (s)**	**v/c**
1. N Holly Street at NW Territorial Road						
Existing Conditions	A	8	-	A	9	-
2022 Background Conditions	A	8	-	B	10	-
2022 Buildout Conditions	A	8	-	B	10	-
2. N Locust Street at NE Territorial Road						
Existing Conditions	B	11	0.11	B	15	0.22
2022 Background Conditions	B	11	0.12	C	16	0.25
2022 Buildout Conditions	B	11	0.13	C	17	0.26
3. N Locust Street at NE 19th Avenue						
Existing Conditions	A	9	0.02	A	9	0.03
2022 Background Conditions	A	9	0.02	A	9	0.03
2022 Buildout Conditions	A	9	0.03	A	10	0.06
4. Site Access at N Locust Street						
2022 Buildout Conditions	A	9	0.03	A	9	0.05
5. Site Access at NW 22nd Avenue						
2022 Buildout Conditions	A	9	0.04	A	10	0.06

* Converted from three-legged to four-legged intersection.

Based on the results of the operational analysis, all study intersections are currently operating acceptably per their respective jurisdictional standards and are projected to continue operating acceptably through the 2022 buildout year of the site. No operational mitigation is necessary or recommended.

Conclusions

No significant trends or crash patterns were identified at any of the study intersections that were indicative of safety concerns.

Upon removal or proper maintenance of any obstructing onsite foliage, adequate sight distance can be made available at all proposed site access intersections to ensure safe and efficient operation at each location.

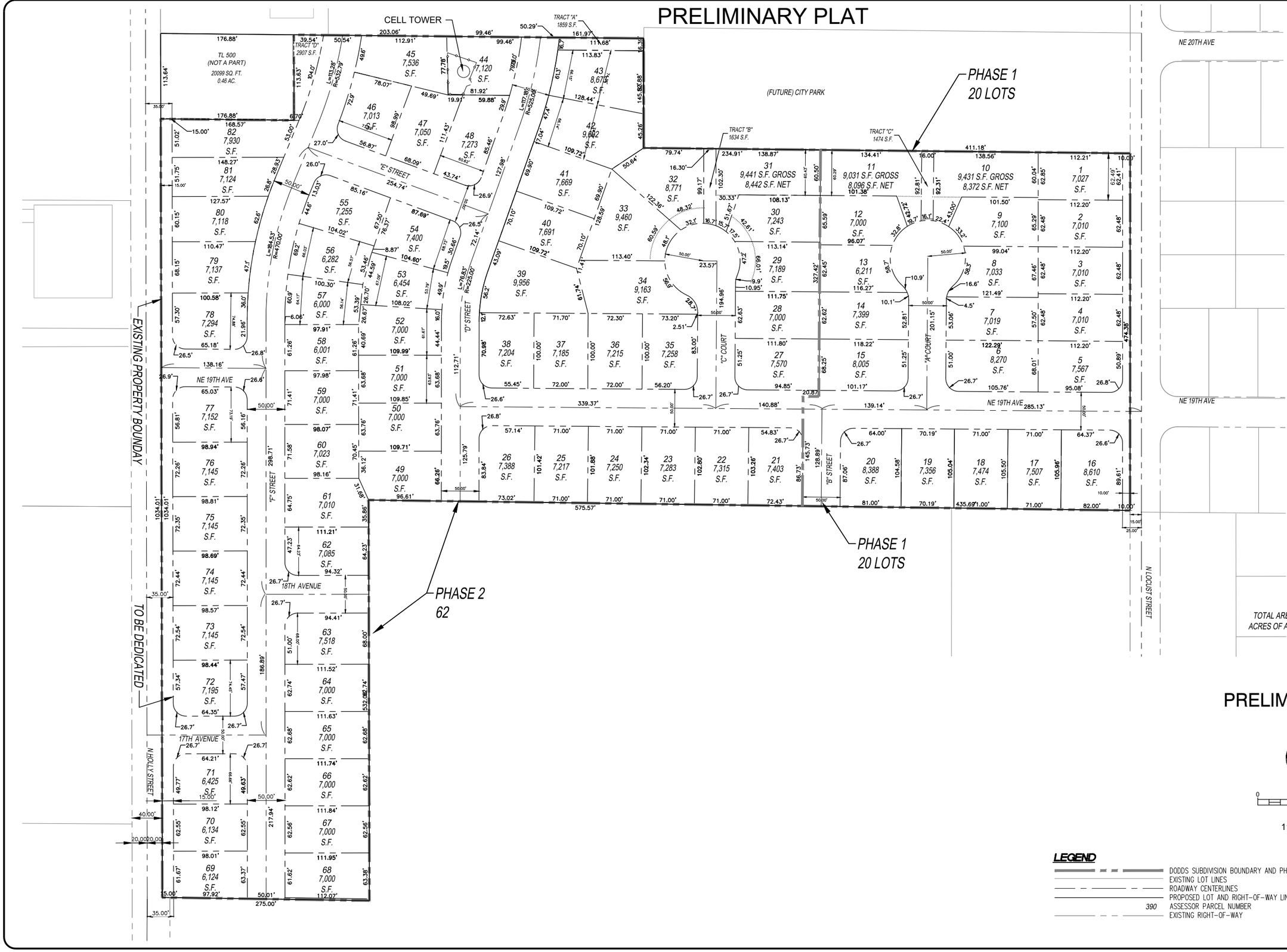
Left-turn lane warrants are not projected to be met at the study intersections for any of the analysis scenarios. Accordingly, no new turn lanes are projected to be necessary or recommended.

Due to insufficient main and side-street traffic volumes, traffic signal warrants are not projected to be met at the study intersections along NE/NW Territorial Road under any of the analysis scenarios.

All study intersections are currently operating acceptably per their respective jurisdictional standards and are projected to continue operating acceptably through year 2022 with the completion and occupancy of the site.

Appendix

PRELIMINARY PLAT



PRELIMINARY PLAT

1"=120' at 11"x17" Sheet

LEGEND

- DODDS SUBDIVISION BOUNDARY AND PHASE LINES
- EXISTING LOT LINES
- ROADWAY CENTERLINES
- PROPOSED LOT AND RIGHT-OF-WAY LINE
- 390 ASSESSOR PARCEL NUMBER
- EXISTING RIGHT-OF-WAY

DEVELOPMENT CONCEPT PLAN FOR SW ¼ T3S. R1E. W.M. TAX LOTS 400, AND A PORTION OF TAX LOT 500, OF TAX MAP 3-1E-28C

STAFFORD
DEVELOPMENT COMPANY, LLC
485 SOUTH STATE STREET
LAKE OSWEGO, OREGON 97034

DODDS SUBDIVISION PRELIMINARY PLAT *9-20-2019*

REVISIONS

NO.	DATE	DESCRIPTION

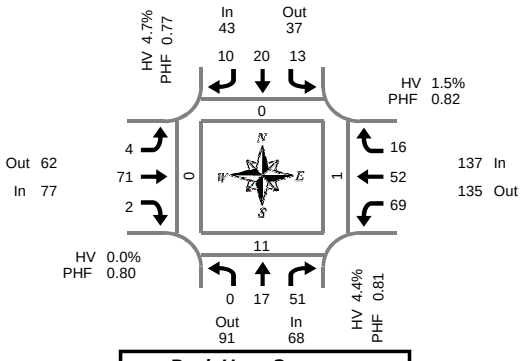
PLANNING & LAND DESIGN
1862 NE ESTATE DRIVE
HILLSBORO, OREGON 97124
RYAN O'BRIEN
(503)780-4061

SHEET

104A

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:20 AM to 8:20 AM

N Holly St & Territorial Rd

Thursday, August 09, 2018
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound N Holly St				Southbound N Holly St				Eastbound Territorial Rd				Westbound Territorial Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	0	3	0	0	3	0	0	0	5	0	0	8	5	0	0	24	0	0	0	0
7:05 AM	2	2	4	0	0	0	0	0	1	4	0	0	4	7	3	0	27	0	3	0	0
7:10 AM	0	1	0	0	0	3	0	0	1	4	0	0	4	7	1	0	21	0	1	0	0
7:15 AM	0	0	6	0	0	0	0	0	1	5	0	0	3	5	1	0	21	0	0	0	0
7:20 AM	0	0	3	0	1	0	0	0	1	9	0	0	6	8	0	0	28	0	3	0	0
7:25 AM	0	2	5	0	2	4	1	0	0	7	0	0	6	5	2	0	34	0	4	0	0
7:30 AM	0	2	4	2	1	2	1	0	0	1	1	0	5	4	1	0	22	0	0	0	0
7:35 AM	0	1	6	0	0	2	1	0	0	7	0	0	12	7	0	0	36	0	1	1	0
7:40 AM	0	1	7	0	0	0	1	0	0	6	0	0	0	9	0	0	24	0	0	0	0
7:45 AM	0	1	2	0	0	3	0	0	0	9	0	0	6	3	1	0	25	0	0	0	0
7:50 AM	0	3	5	0	2	0	2	0	1	8	0	0	2	4	4	0	31	0	1	0	0
7:55 AM	0	2	6	0	1	1	0	0	0	5	0	0	5	2	3	0	25	0	0	0	0
8:00 AM	0	1	3	0	2	2	1	0	0	7	0	0	9	1	4	0	30	0	1	0	0
8:05 AM	0	1	4	0	1	1	2	0	0	4	0	0	2	3	0	1	18	0	1	0	0
8:10 AM	0	1	4	0	2	2	1	3	2	4	0	1	9	2	0	0	27	0	0	0	0
8:15 AM	0	2	2	0	1	3	0	0	0	4	1	0	7	4	1	0	25	0	0	0	0
8:20 AM	0	1	3	0	0	2	0	0	1	7	0	0	6	8	0	0	28	0	1	0	0
8:25 AM	0	2	2	0	1	1	0	0	2	7	0	0	4	1	1	0	21	0	0	0	0
8:30 AM	0	0	5	0	2	2	1	0	0	0	0	0	4	11	1	0	26	0	1	0	0
8:35 AM	0	1	7	0	4	1	0	0	0	3	0	0	6	3	2	1	27	0	1	0	0
8:40 AM	0	2	3	0	3	2	1	0	0	7	0	0	5	5	2	0	30	0	0	0	0
8:45 AM	0	0	6	0	1	1	2	0	2	4	0	0	6	7	2	0	31	0	0	0	0
8:50 AM	0	4	5	0	0	1	0	0	0	3	0	0	8	2	0	0	23	0	0	0	0
8:55 AM	0	3	5	0	3	2	0	0	1	5	0	0	7	5	1	0	32	0	0	0	0
Total Survey	2	33	100	2	27	38	14	3	13	125	2	1	134	118	30	2	636	0	18	1	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound N Holly St				Southbound N Holly St				Eastbound Territorial Rd				Westbound Territorial Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	2	3	7	0	0	6	0	0	2	13	0	0	16	19	4	0	72	0	4	0	0
7:15 AM	0	2	14	0	3	4	1	0	2	21	0	0	15	18	3	0	83	0	7	0	0
7:30 AM	0	4	17	2	1	4	3	0	0	14	1	0	17	20	1	0	82	0	1	1	0
7:45 AM	0	6	13	0	3	4	2	0	1	22	0	0	13	9	8	0	81	0	1	0	0
8:00 AM	0	3	11	0	5	5	4	3	2	15	0	1	20	6	4	1	75	0	2	0	0
8:15 AM	0	5	7	0	2	6	0	0	3	18	1	0	17	13	2	0	74	0	1	0	0
8:30 AM	0	3	15	0	9	5	2	0	0	10	0	0	15	19	5	1	83	0	2	0	0
8:45 AM	0	7	16	0	4	4	2	0	3	12	0	0	21	14	3	0	86	0	0	0	0
Total Survey	2	33	100	2	27	38	14	3	13	125	2	1	134	118	30	2	636	0	18	1	0

Peak Hour Summary
7:20 AM to 8:20 AM

By Approach	Northbound N Holly St				Southbound N Holly St				Eastbound Territorial Rd				Westbound Territorial Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	68	91	159	2	43	37	80	3	77	62	139	1	137	135	272	1	325	0	11	1	0
%HV	4.4%				4.7%				0.0%				1.5%				2.2%				
PHF	0.81				0.77				0.80				0.82				0.88				

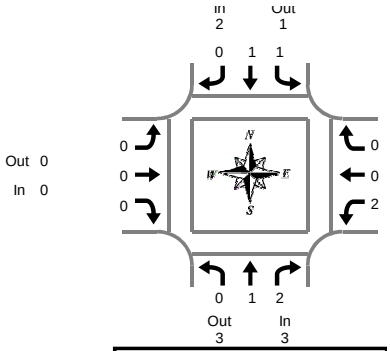
By Movement	Northbound N Holly St				Southbound N Holly St				Eastbound Territorial Rd				Westbound Territorial Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	17	51	68	13	20	10	43	4	71	2	77	69	52	16	137	325
%HV	0.0%	5.9%	3.9%	4.4%	7.7%	5.0%	0.0%	4.7%	0.0%	0.0%	0.0%	0.0%	2.9%	0.0%	0.0%	1.5%	2.2%
PHF	0.00	0.71	0.75	0.81	0.65	0.63	0.63	0.77	0.50	0.77	0.50	0.80	0.75	0.65	0.36	0.82	0.88

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound N Holly St				Southbound N Holly St				Eastbound Territorial Rd				Westbound Territorial Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	2	15	51	2	7	18	6	0	5	70	1	0	61	66	16	0	318	0	13	1	0
7:15 AM	0	15	55	2	12	17	10	3	5	72	1	1	65	53	16	1	321	0	11	1	0
7:30 AM	0	18	48	2	11	19	9	3	6	69	2	1	67	48	15	1	312	0	5	1	0
7:45 AM	0	17	46	0	19	20	8	3	6	65	1	1	65	47	19	2	313	0	6	0	0
8:00 AM	0	18	49	0	20	20	8	3	8	55	1	1	73	52	14	2	318	0	5	0	0

Heavy Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:20 AM to 8:20 AM

N Holly St & Territorial Rd

Thursday, August 09, 2018
7:00 AM to 9:00 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound N Holly St				Southbound N Holly St				Eastbound Territorial Rd				Westbound Territorial Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
7:20 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:25 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:30 AM	0	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	2
7:35 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:40 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:50 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
7:55 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
8:20 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:25 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:35 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
8:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
8:45 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
8:50 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
8:55 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	2	5	7	1	1	0	2	0	0	0	0	2	2	0	4	13

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound N Holly St				Southbound N Holly St				Eastbound Territorial Rd				Westbound Territorial Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	1	2
7:30 AM	0	0	2	2	0	1	0	1	0	0	0	0	1	0	0	1	4
7:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	2
8:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	2
8:45 AM	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Survey	0	2	5	7	1	1	0	2	0	0	0	0	2	2	0	4	13

Heavy Vehicle Peak Hour Summary
7:20 AM to 8:20 AM

By Approach	Northbound N Holly St			Southbound N Holly St			Eastbound Territorial Rd			Westbound Territorial Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	3	3	6	2	1	3	0	0	0	2	3	5	7
PHF	0.38			0.50			0.00			0.25			0.44

By Movement	Northbound N Holly St				Southbound N Holly St				Eastbound Territorial Rd				Westbound Territorial Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	1	2	3	1	1	0	2	0	0	0	0	2	0	0	2	7
PHF	0.00	0.25	0.25	0.38	0.25	0.25	0.00	0.50	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.25	0.44

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

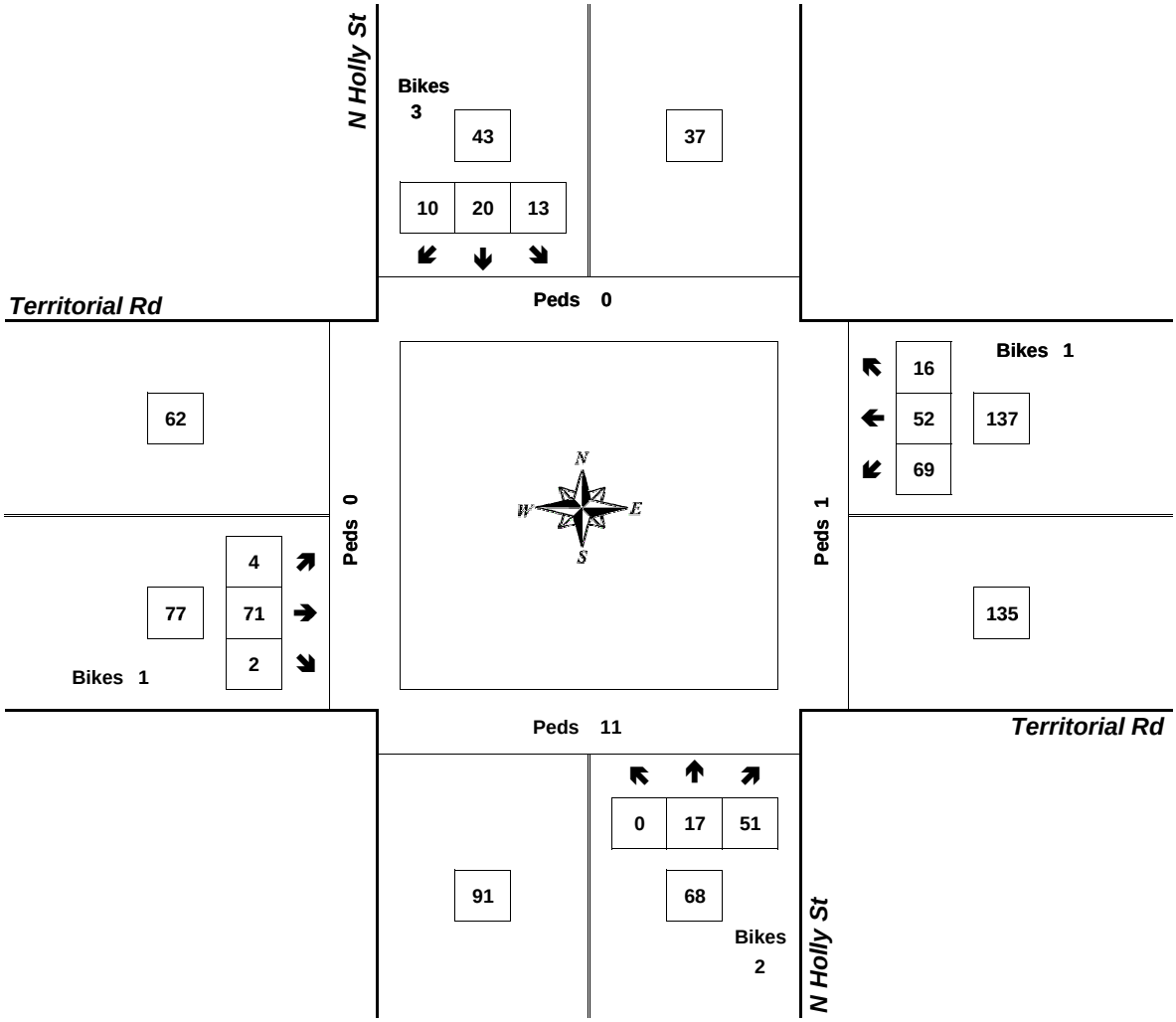
Interval Start Time	Northbound N Holly St				Southbound N Holly St				Eastbound Territorial Rd				Westbound Territorial Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	1	3	4	0	1	0	1	0	0	0	0	2	0	0	2	7
7:15 AM	0	1	3	4	0	1	0	1	0	0	0	0	2	0	0	2	7
7:30 AM	0	1	2	3	1	1	0	2	0	0	0	0	1	1	0	2	7
7:45 AM	0	2	0	2	1	0	0	1	0	0	0	0	0	2	0	2	5
8:00 AM	0	1	2	3	1	0	0	1	0	0	0	0	0	2	0	2	6

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

N Holly St & Territorial Rd

7:20 AM to 8:20 AM
Thursday, August 09, 2018

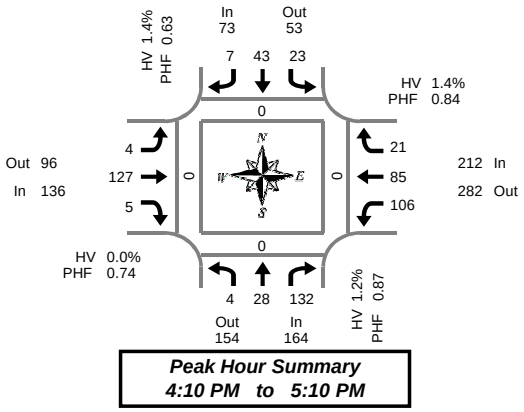


Approach	PHF	HV%	Volume
EB	0.80	0.0%	77
WB	0.82	1.5%	137
NB	0.81	4.4%	68
SB	0.77	4.7%	43
Intersection	0.88	2.2%	325

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:10 PM to 5:10 PM

N Holly St & Territorial Rd

Thursday, August 09, 2018
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound N Holly St				Southbound N Holly St				Eastbound Territorial Rd				Westbound Territorial Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	0	11	0	5	0	0	1	0	8	0	0	17	7	0	0	48	0	0	0	0
4:05 PM	0	0	9	0	1	2	0	0	3	8	0	1	7	6	1	0	37	0	0	0	0
4:10 PM	0	5	11	0	1	1	0	0	0	6	0	0	15	13	1	0	53	0	0	0	0
4:15 PM	0	1	14	0	0	3	2	0	2	8	0	0	10	5	1	0	46	0	0	0	0
4:20 PM	0	2	7	0	6	1	1	0	0	13	0	0	4	11	3	0	48	0	0	0	0
4:25 PM	0	0	10	0	1	3	1	2	0	8	1	0	11	1	1	0	37	0	0	0	0
4:30 PM	0	2	8	0	0	2	0	1	0	13	0	0	13	10	4	0	52	0	0	0	0
4:35 PM	1	6	12	0	4	12	2	0	0	12	0	0	5	4	0	0	58	0	0	0	0
4:40 PM	0	1	14	0	1	2	1	0	0	15	1	0	7	6	1	0	49	0	0	0	0
4:45 PM	1	2	10	0	3	4	0	0	2	16	0	0	9	7	1	0	55	0	0	0	0
4:50 PM	0	0	16	0	1	2	0	0	0	7	2	0	11	3	0	0	42	0	0	0	0
4:55 PM	1	1	5	0	1	4	0	1	0	9	0	0	8	7	2	1	38	0	0	0	0
5:00 PM	1	3	12	0	2	4	0	1	0	10	1	0	6	10	4	0	53	0	0	0	0
5:05 PM	0	5	13	0	3	5	0	0	0	10	0	0	7	8	3	0	54	0	0	0	0
5:10 PM	0	1	14	0	1	0	0	0	0	13	1	0	7	6	4	0	47	0	0	0	0
5:15 PM	0	2	3	0	2	2	0	0	0	10	0	0	9	10	1	0	39	0	0	1	0
5:20 PM	0	2	11	0	5	3	1	1	0	6	0	0	11	8	1	0	48	0	0	0	0
5:25 PM	0	1	11	0	1	0	0	0	1	15	0	0	8	7	2	0	46	0	0	0	0
5:30 PM	0	2	10	0	2	4	0	0	0	10	0	0	8	9	2	0	47	0	0	0	0
5:35 PM	0	2	6	0	4	4	1	0	0	9	1	0	6	10	3	0	46	0	0	0	0
5:40 PM	0	2	8	0	3	4	0	0	3	3	0	0	9	1	1	1	34	0	0	0	0
5:45 PM	0	4	6	0	4	4	0	1	0	5	1	0	7	8	3	0	42	0	2	0	0
5:50 PM	2	4	6	0	2	0	0	0	2	6	0	0	4	5	1	0	32	0	2	0	0
5:55 PM	0	5	6	0	3	6	1	0	0	8	0	0	3	3	2	0	37	0	0	0	0
Total Survey	6	53	233	0	56	72	10	8	13	228	8	1	202	165	42	2	1,088	0	4	1	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound N Holly St				Southbound N Holly St				Eastbound Territorial Rd				Westbound Territorial Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	5	31	0	7	3	0	1	3	22	0	1	39	26	2	0	138	0	0	0	0
4:15 PM	0	3	31	0	7	7	4	2	2	29	1	0	25	17	5	0	131	0	0	0	0
4:30 PM	1	9	34	0	5	16	3	1	0	40	1	0	25	20	5	0	159	0	0	0	0
4:45 PM	2	3	31	0	5	10	0	1	2	32	2	0	28	17	3	1	135	0	0	0	0
5:00 PM	1	9	39	0	6	9	0	1	0	33	2	0	20	24	11	0	154	0	0	0	0
5:15 PM	0	5	25	0	8	5	1	1	1	31	0	0	28	25	4	0	133	0	0	1	0
5:30 PM	0	6	24	0	9	12	1	0	3	22	1	0	23	20	6	1	127	0	0	0	0
5:45 PM	2	13	18	0	9	10	1	1	2	19	1	0	14	16	6	0	111	0	4	0	0
Total Survey	6	53	233	0	56	72	10	8	13	228	8	1	202	165	42	2	1,088	0	4	1	0

Peak Hour Summary
4:10 PM to 5:10 PM

By Approach	Northbound N Holly St				Southbound N Holly St				Eastbound Territorial Rd				Westbound Territorial Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	164	154	318	0	73	53	126	5	136	96	232	0	212	282	494	1	585	0	0	0	0
%HV	1.2%				1.4%				0.0%				1.4%				1.0%				
PHF	0.87				0.63				0.74				0.84				0.90				

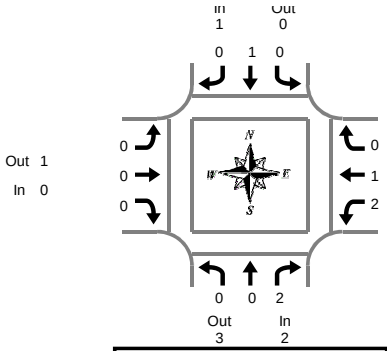
By Movement	Northbound N Holly St				Southbound N Holly St				Eastbound Territorial Rd				Westbound Territorial Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	4	28	132	164	23	43	7	73	4	127	5	136	106	85	21	212	585
%HV	0.0%	0.0%	1.5%	1.2%	0.0%	2.3%	0.0%	1.4%	0.0%	0.0%	0.0%	0.0%	1.9%	1.2%	0.0%	1.4%	1.0%
PHF	0.50	0.78	0.83	0.87	0.72	0.60	0.44	0.63	0.50	0.74	0.42	0.74	0.91	0.73	0.58	0.84	0.90

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound N Holly St				Southbound N Holly St				Eastbound Territorial Rd				Westbound Territorial Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	3	20	127	0	24	36	7	5	7	123	4	1	117	80	15	1	563	0	0	0	0
4:15 PM	4	24	135	0	23	42	7	5	4	134	6	0	98	78	24	1	579	0	0	0	0
4:30 PM	4	26	129	0	24	40	4	4	3	136	5	0	101	86	23	1	581	0	0	1	0
4:45 PM	3	23	119	0	28	36	2	3	6	118	5	0	99	86	24	2	549	0	0	1	0
5:00 PM	3	33	106	0	32	36	3	3	6	105	4	0	85	85	27	1	525	0	4	1	0

Heavy Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:10 PM to 5:10 PM

N Holly St & Territorial Rd

Thursday, August 09, 2018
4:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound N Holly St				Southbound N Holly St				Eastbound Territorial Rd				Westbound Territorial Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
4:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:10 PM	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	2	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:25 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
4:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:25 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:35 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:40 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
5:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
5:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	1	2	3	1	2	0	3	1	0	0	1	3	1	0	4	11

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound N Holly St				Southbound N Holly St				Eastbound Territorial Rd				Westbound Territorial Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	1	1	0	0	0	0	0	0	0	0	2	1	0	3	4
4:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
4:45 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	1	0	1	1	0	0	1	0	0	0	0	2
5:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
Total Survey	0	1	2	3	1	2	0	3	1	0	0	1	3	1	0	4	11

Heavy Vehicle Peak Hour Summary
4:10 PM to 5:10 PM

By Approach	Northbound N Holly St			Southbound N Holly St			Eastbound Territorial Rd			Westbound Territorial Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	2	3	5	1	0	1	0	1	1	3	2	5	6
PHF	0.50			0.25			0.00			0.38			0.50

By Movement	Northbound N Holly St				Southbound N Holly St				Eastbound Territorial Rd				Westbound Territorial Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	0	2	2	0	1	0	1	0	0	0	0	2	1	0	3	6
PHF	0.00	0.00	0.50	0.50	0.00	0.25	0.00	0.25	0.00	0.00	0.00	0.00	0.50	0.25	0.00	0.38	0.50

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

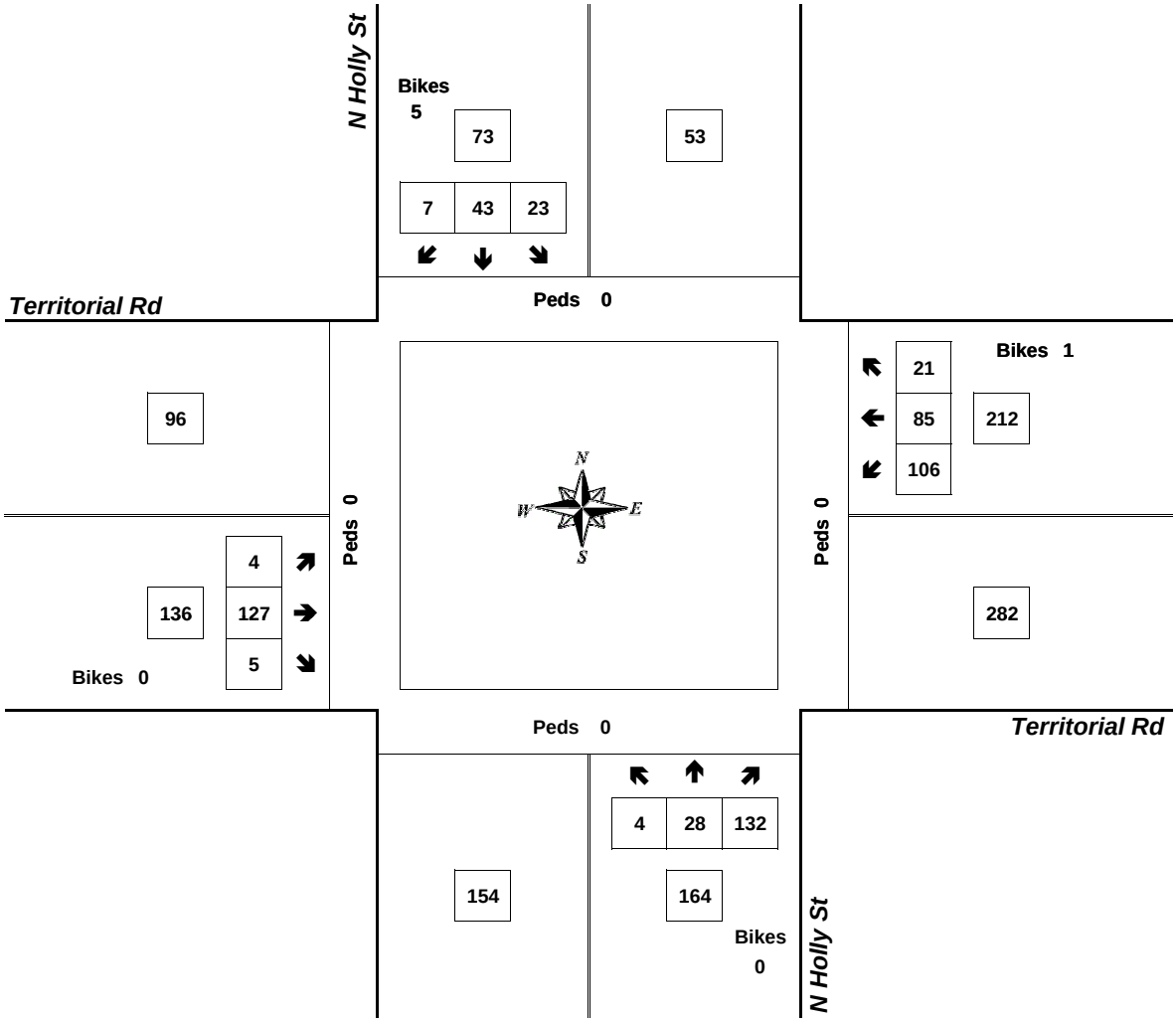
Interval Start Time	Northbound N Holly St				Southbound N Holly St				Eastbound Territorial Rd				Westbound Territorial Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	2	2	0	1	0	1	0	0	0	0	3	1	0	4	7
4:15 PM	0	0	1	1	0	1	0	1	0	0	0	0	1	0	0	1	3
4:30 PM	0	1	1	2	0	0	0	0	0	0	0	0	1	0	0	1	3
4:45 PM	0	1	1	2	0	1	0	1	1	0	0	1	0	0	0	0	4
5:00 PM	0	1	0	1	1	1	0	2	1	0	0	1	0	0	0	0	4

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

N Holly St & Territorial Rd

4:10 PM to 5:10 PM
Thursday, August 09, 2018

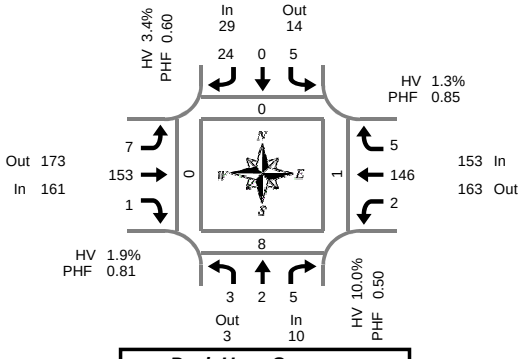


Approach	PHF	HV%	Volume
EB	0.74	0.0%	136
WB	0.84	1.4%	212
NB	0.87	1.2%	164
SB	0.63	1.4%	73
Intersection	0.90	1.0%	585

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:50 AM to 8:50 AM

N Locust St & Territorial Rd

Thursday, August 09, 2018
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound N Locust St				Southbound N Locust St				Eastbound Territorial Rd				Westbound Territorial Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	0	1	0	1	0	1	0	0	6	0	0	0	13	0	0	22	0	0	0	0
7:05 AM	0	0	1	0	0	0	2	0	0	10	0	0	1	18	0	0	32	0	1	0	0
7:10 AM	0	0	0	0	1	0	1	0	0	6	0	0	0	10	0	0	18	0	0	0	2
7:15 AM	0	0	1	0	0	0	0	0	1	8	0	0	0	8	0	0	18	0	0	0	0
7:20 AM	1	0	0	0	0	1	1	0	1	13	0	0	0	11	0	0	28	0	0	0	0
7:25 AM	1	0	0	0	0	0	2	0	2	16	0	0	0	12	0	0	33	0	2	0	0
7:30 AM	0	0	1	0	1	0	3	0	0	12	0	2	0	10	1	0	28	0	3	0	0
7:35 AM	0	0	0	0	0	1	4	0	0	14	0	0	1	15	0	0	35	0	0	0	0
7:40 AM	0	0	0	0	1	0	2	0	0	14	0	0	0	9	0	0	26	0	0	0	0
7:45 AM	0	0	0	0	0	1	3	0	0	11	0	0	0	9	1	0	25	0	1	0	0
7:50 AM	0	0	0	0	0	0	0	0	1	20	0	0	0	8	1	0	30	0	0	0	0
7:55 AM	1	0	1	0	2	0	1	0	1	13	0	0	0	10	0	0	29	0	1	1	0
8:00 AM	0	0	0	0	1	0	1	0	1	14	0	0	1	16	0	0	34	0	0	0	0
8:05 AM	0	0	0	0	0	0	1	0	3	5	0	0	0	7	2	1	18	0	0	0	0
8:10 AM	0	0	1	0	0	0	3	0	0	7	0	3	0	16	0	0	27	0	1	0	0
8:15 AM	0	1	0	0	0	0	4	0	0	17	0	2	0	14	0	1	36	0	0	0	0
8:20 AM	0	0	0	0	0	0	2	0	1	9	0	0	1	12	0	0	25	0	0	0	0
8:25 AM	0	0	2	1	0	0	1	0	0	12	0	0	0	7	1	1	23	0	2	0	0
8:30 AM	0	0	1	0	0	0	1	0	0	13	0	0	0	19	0	0	34	0	1	0	0
8:35 AM	2	0	0	0	0	0	2	0	0	12	0	0	0	14	1	1	31	0	2	0	0
8:40 AM	0	1	0	0	0	0	1	0	0	12	1	0	0	11	0	0	26	0	1	0	0
8:45 AM	0	0	0	0	2	0	7	0	0	19	0	0	0	12	0	0	40	0	0	0	0
8:50 AM	0	0	1	0	1	0	3	0	0	9	0	0	0	12	1	0	27	0	0	0	0
8:55 AM	1	0	0	0	0	1	1	0	3	11	0	0	0	11	3	0	31	0	0	1	0
Total Survey	6	2	10	1	10	4	47	0	14	283	1	7	4	284	11	4	676	0	15	2	2

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound N Locust St				Southbound N Locust St				Eastbound Territorial Rd				Westbound Territorial Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	0	2	0	2	0	4	0	0	22	0	0	1	41	0	0	72	0	1	0	2
7:15 AM	2	0	1	0	0	1	3	0	4	37	0	0	0	31	0	0	79	0	2	0	0
7:30 AM	0	0	1	0	2	1	9	0	0	40	0	2	1	34	1	0	89	0	3	0	0
7:45 AM	1	0	1	0	2	1	4	0	2	44	0	0	0	27	2	0	84	0	2	1	0
8:00 AM	0	0	1	0	1	0	5	0	4	26	0	3	1	39	2	1	79	0	1	0	0
8:15 AM	0	1	2	1	0	0	7	0	1	38	0	2	1	33	1	2	84	0	2	0	0
8:30 AM	2	1	1	0	0	0	4	0	0	37	1	0	0	44	1	1	91	0	4	0	0
8:45 AM	1	0	1	0	3	1	11	0	3	39	0	0	0	35	4	0	98	0	0	1	0
Total Survey	6	2	10	1	10	4	47	0	14	283	1	7	4	284	11	4	676	0	15	2	2

Peak Hour Summary
7:50 AM to 8:50 AM

By Approach	Northbound N Locust St				Southbound N Locust St				Eastbound Territorial Rd				Westbound Territorial Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	10	3	13	1	29	14	43	0	161	173	334	5	153	163	316	4	353	0	8	1	0
%HV	10.0%				3.4%				1.9%				1.3%				2.0%				
PHF	0.50				0.60				0.81				0.85				0.91				

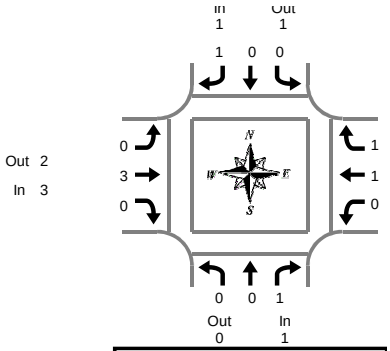
By Movement	Northbound N Locust St				Southbound N Locust St				Eastbound Territorial Rd				Westbound Territorial Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	3	2	5	10	5	0	24	29	7	153	1	161	2	146	5	153	353
%HV	0.0%	0.0%	20.0%	10.0%	0.0%	0.0%	4.2%	3.4%	0.0%	2.0%	0.0%	1.9%	0.0%	0.7%	20.0%	1.3%	2.0%
PHF	0.38	0.50	0.42	0.50	0.42	0.00	0.60	0.60	0.35	0.81	0.25	0.81	0.50	0.83	0.63	0.85	0.91

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound N Locust St				Southbound N Locust St				Eastbound Territorial Rd				Westbound Territorial Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	3	0	5	0	6	3	20	0	6	143	0	2	2	133	3	0	324	0	8	1	2
7:15 AM	3	0	4	0	5	3	21	0	10	147	0	5	2	131	5	1	331	0	8	1	0
7:30 AM	1	1	5	1	5	2	25	0	7	148	0	7	3	133	6	3	336	0	8	1	0
7:45 AM	3	2	5	1	3	1	20	0	7	145	1	5	2	143	6	4	338	0	9	1	0
8:00 AM	3	2	5	1	4	1	27	0	8	140	1	5	2	151	8	4	352	0	7	1	0

Heavy Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



N Locust St & Territorial Rd

Thursday, August 09, 2018
7:00 AM to 9:00 AM

Peak Hour Summary
7:50 AM to 8:50 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound N Locust St				Southbound N Locust St				Eastbound Territorial Rd				Westbound Territorial Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:20 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:25 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:35 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:40 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
7:50 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:55 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
8:20 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:25 AM	0	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:35 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
8:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
8:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
8:50 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
8:55 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	0	1	1	0	0	1	1	0	7	0	7	0	2	1	3	12

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound N Locust St				Southbound N Locust St				Eastbound Territorial Rd				Westbound Territorial Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2
7:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	1	1	0	0	1	1	0	2	0	2	0	0	0	0	4
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2
8:45 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
Total Survey	0	0	1	1	0	0	1	1	0	7	0	7	0	2	1	3	12

Heavy Vehicle Peak Hour Summary
7:50 AM to 8:50 AM

By Approach	Northbound N Locust St			Southbound N Locust St			Eastbound Territorial Rd			Westbound Territorial Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	1	0	1	1	1	2	3	2	5	2	4	6	7
PHF	0.25			0.25			0.38			0.25			0.44

By Movement	Northbound N Locust St				Southbound N Locust St				Eastbound Territorial Rd				Westbound Territorial Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	0	1	1	0	0	1	1	0	3	0	3	0	1	1	2	7
PHF	0.00	0.00	0.25	0.25	0.00	0.00	0.25	0.25	0.00	0.38	0.00	0.38	0.00	0.25	0.25	0.25	0.44

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

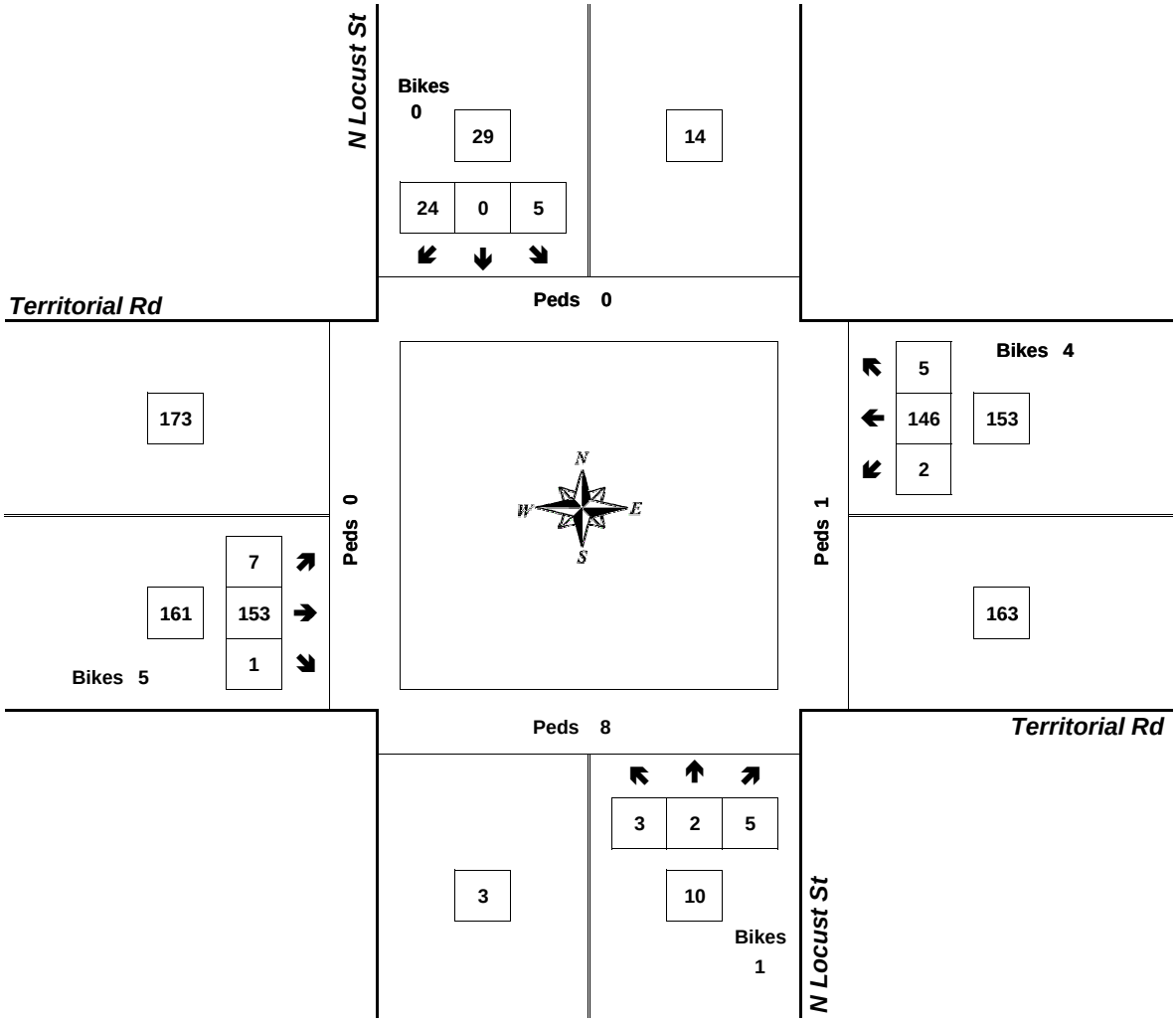
Interval Start Time	Northbound N Locust St				Southbound N Locust St				Eastbound Territorial Rd				Westbound Territorial Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	3	0	3	0	1	0	1	4
7:15 AM	0	0	0	0	0	0	0	0	0	3	0	3	0	1	0	1	4
7:30 AM	0	0	1	1	0	0	1	1	0	4	0	4	0	0	0	0	6
7:45 AM	0	0	1	1	0	0	1	1	0	3	0	3	0	1	1	2	7
8:00 AM	0	0	1	1	0	0	1	1	0	4	0	4	0	1	1	2	8

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

N Locust St & Territorial Rd

7:50 AM to 8:50 AM
Thursday, August 09, 2018

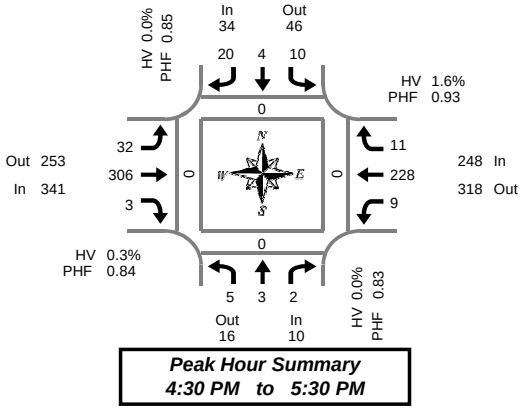


Approach	PHF	HV%	Volume
EB	0.81	1.9%	161
WB	0.85	1.3%	153
NB	0.50	10.0%	10
SB	0.60	3.4%	29
Intersection	0.91	2.0%	353

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:30 PM to 5:30 PM

N Locust St & Territorial Rd

Thursday, August 09, 2018
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound N Locust St				Southbound N Locust St				Eastbound Territorial Rd				Westbound Territorial Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	0	1	0	1	0	4	0	5	23	1	1	1	21	0	0	57	0	0	0	0
4:05 PM	0	4	1	0	0	0	0	0	1	20	0	2	0	14	0	0	40	0	0	2	0
4:10 PM	0	0	0	0	0	2	1	0	5	16	1	0	2	31	1	0	59	0	0	0	0
4:15 PM	0	0	0	0	0	1	4	0	1	31	0	0	0	14	1	0	52	0	0	0	0
4:20 PM	0	0	0	0	0	1	3	0	5	17	1	0	0	19	1	0	47	0	0	0	0
4:25 PM	0	0	1	0	0	1	1	0	5	17	0	1	0	13	1	0	39	0	0	0	0
4:30 PM	0	1	1	0	0	2	2	0	4	21	0	0	2	32	1	0	66	0	0	0	0
4:35 PM	0	0	0	1	1	0	2	0	3	29	0	1	0	14	0	0	49	0	0	0	0
4:40 PM	1	0	0	0	1	1	1	0	3	28	0	0	3	15	0	0	53	0	0	0	0
4:45 PM	0	1	0	0	2	0	2	0	2	35	1	0	1	18	1	0	63	0	0	0	0
4:50 PM	0	0	0	0	0	0	1	0	3	26	0	0	0	16	0	0	46	0	0	0	0
4:55 PM	2	0	0	0	1	0	3	0	2	14	0	0	1	17	1	0	41	0	0	0	0
5:00 PM	1	0	0	0	1	1	1	0	1	24	0	0	0	22	4	2	55	0	0	0	0
5:05 PM	0	0	0	0	1	0	2	0	5	29	0	0	0	18	1	0	56	0	0	0	0
5:10 PM	0	0	0	0	1	0	0	0	0	36	0	0	1	17	1	0	56	0	0	0	0
5:15 PM	0	1	0	0	0	0	3	0	4	17	0	0	1	22	0	0	48	0	0	0	0
5:20 PM	1	0	1	0	2	0	1	0	2	20	2	0	0	19	0	0	48	0	0	0	0
5:25 PM	0	0	0	0	0	0	2	0	3	27	0	0	0	18	2	0	52	0	0	0	0
5:30 PM	0	0	0	0	0	0	1	0	3	27	0	0	0	25	1	0	57	0	0	0	0
5:35 PM	1	0	1	0	0	0	4	0	2	20	1	0	1	15	0	0	45	0	0	0	0
5:40 PM	0	1	0	0	0	0	1	0	1	14	1	0	0	11	0	2	29	0	0	0	0
5:45 PM	0	0	1	0	0	0	6	0	2	18	0	0	1	23	2	0	53	0	2	2	0
5:50 PM	1	0	0	0	0	0	1	0	3	11	0	0	0	8	1	0	25	0	0	0	0
5:55 PM	0	1	1	0	0	0	1	0	3	16	0	0	2	9	0	0	33	0	0	0	0
Total Survey	7	9	8	1	11	9	47	0	68	536	8	5	16	431	19	4	1,169	0	2	4	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound N Locust St				Southbound N Locust St				Eastbound Territorial Rd				Westbound Territorial Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	4	2	0	1	2	5	0	11	59	2	3	3	66	1	0	156	0	0	2	0
4:15 PM	0	0	1	0	0	3	8	0	11	65	1	1	0	46	3	0	138	0	0	0	0
4:30 PM	1	1	1	1	2	3	5	0	10	78	0	1	5	61	1	0	168	0	0	0	0
4:45 PM	2	1	0	0	3	0	6	0	7	75	1	0	2	51	2	0	150	0	0	0	0
5:00 PM	1	0	0	0	3	1	3	0	6	89	0	0	1	57	6	2	167	0	0	0	0
5:15 PM	1	1	1	0	2	0	6	0	9	64	2	0	1	59	2	0	148	0	0	0	0
5:30 PM	1	1	1	0	0	0	6	0	6	61	2	0	1	51	1	2	131	0	0	0	0
5:45 PM	1	1	2	0	0	0	8	0	8	45	0	0	3	40	3	0	111	0	2	2	0
Total Survey	7	9	8	1	11	9	47	0	68	536	8	5	16	431	19	4	1,169	0	2	4	0

Peak Hour Summary
4:30 PM to 5:30 PM

By Approach	Northbound N Locust St				Southbound N Locust St				Eastbound Territorial Rd				Westbound Territorial Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	10	16	26	1	34	46	80	0	341	253	594	1	248	318	566	2	633	0	0	0	0
%HV	0.0%				0.0%				0.3%				1.6%				0.8%				
PHF	0.83				0.85				0.84				0.93				0.94				

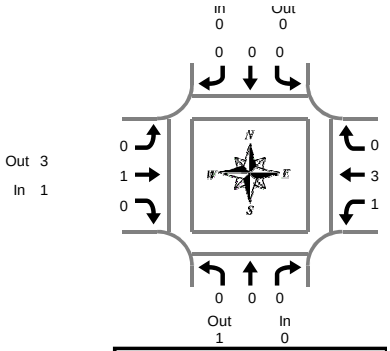
By Movement	Northbound N Locust St				Southbound N Locust St				Eastbound Territorial Rd				Westbound Territorial Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	5	3	2	10	10	4	20	34	32	306	3	341	9	228	11	248	633
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.3%	11.1%	1.3%	0.0%	1.6%	0.8%
PHF	0.42	0.75	0.50	0.83	0.63	0.33	0.83	0.85	0.80	0.83	0.38	0.84	0.45	0.93	0.46	0.93	0.94

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound N Locust St				Southbound N Locust St				Eastbound Territorial Rd				Westbound Territorial Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	3	6	4	1	6	8	24	0	39	277	4	5	10	224	7	0	612	0	0	2	0
4:15 PM	4	2	2	1	8	7	22	0	34	307	2	2	8	215	12	2	623	0	0	0	0
4:30 PM	5	3	2	1	10	4	20	0	32	306	3	1	9	228	11	2	633	0	0	0	0
4:45 PM	5	3	2	0	8	1	21	0	28	289	5	0	5	218	11	4	596	0	0	0	0
5:00 PM	4	3	4	0	5	1	23	0	29	259	4	0	6	207	12	4	557	0	2	2	0

Heavy Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



N Locust St & Territorial Rd

Thursday, August 09, 2018
4:00 PM to 6:00 PM

Peak Hour Summary
4:30 PM to 5:30 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound N Locust St				Southbound N Locust St				Eastbound Territorial Rd				Westbound Territorial Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
4:05 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
4:10 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	2	3
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
4:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
4:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
4:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
4:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:50 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	0	0	0	0	0	0	0	0	5	0	5	1	6	0	7	12

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound N Locust St				Southbound N Locust St				Eastbound Territorial Rd				Westbound Territorial Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	3	0	3	5
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total Survey	0	0	0	0	0	0	0	0	0	5	0	5	1	6	0	7	12

Heavy Vehicle Peak Hour Summary
4:30 PM to 5:30 PM

By Approach	Northbound N Locust St			Southbound N Locust St			Eastbound Territorial Rd			Westbound Territorial Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	1	1	0	0	0	1	3	4	4	1	5	5
PHF	0.00			0.00			0.25			0.50			0.63

By Movement	Northbound N Locust St				Southbound N Locust St				Eastbound Territorial Rd				Westbound Territorial Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	0	0	0	0	0	0	0	0	1	0	1	1	3	0	4	5
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.25	0.25	0.38	0.00	0.50	0.63

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

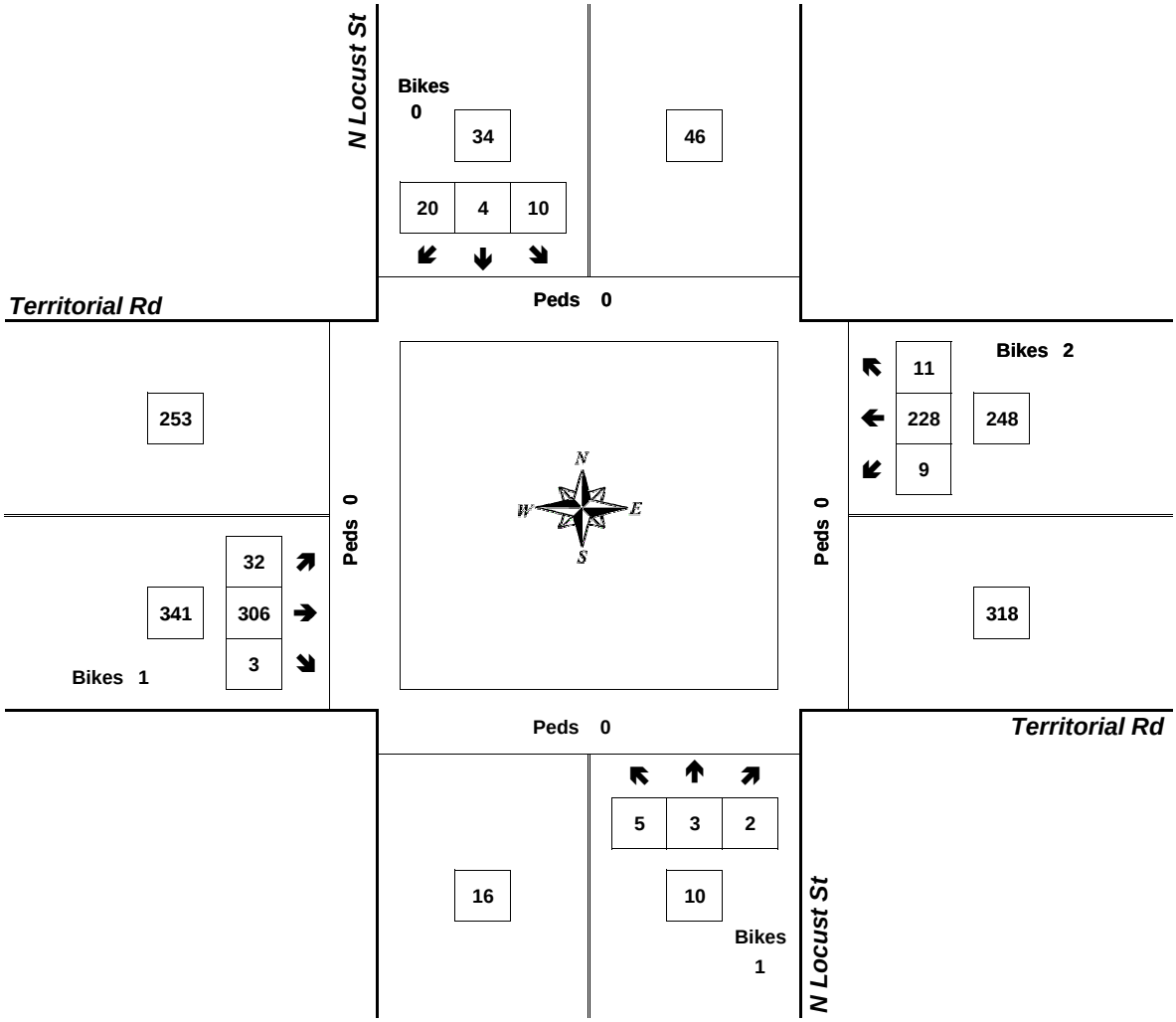
Interval Start Time	Northbound N Locust St				Southbound N Locust St				Eastbound Territorial Rd				Westbound Territorial Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	4	0	4	0	6	0	6	10
4:15 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	3	0	3	5
4:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	1	3	0	4	5
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	2	3
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	1	2

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

N Locust St & Territorial Rd

4:30 PM to 5:30 PM
Thursday, August 09, 2018

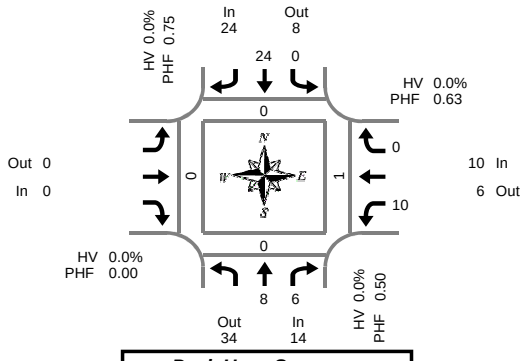


Approach	PHF	HV%	Volume
EB	0.84	0.3%	341
WB	0.93	1.6%	248
NB	0.83	0.0%	10
SB	0.85	0.0%	34
Intersection	0.94	0.8%	633

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:25 AM to 8:25 AM

N Locust St & NE 19th Ave

Thursday, August 09, 2018
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound N Locust St				Southbound N Locust St				Eastbound NE 19th Ave				Westbound NE 19th Ave				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T	Bikes		L	T	Bikes		L	R	Bikes			North	South	East	West
7:00 AM	0	0	0		0	1	0				0		1	0	0		2	0	0	0	0
7:05 AM	0	0	0		0	1	0				0		1	0	0		2	0	0	0	0
7:10 AM	0	0	0		0	0	0				0		1	0	0		1	0	0	0	0
7:15 AM	0	1	0		0	0	0				0		1	0	0		2	0	0	0	0
7:20 AM	0	0	0		0	1	0				0		0	0	0		1	0	0	0	0
7:25 AM	2	0	0		0	1	0				0		2	0	0		5	0	0	0	0
7:30 AM	1	1	0		0	2	0				0		2	0	0		6	0	0	0	0
7:35 AM	0	0	0		0	4	0				0		0	0	0		4	0	0	0	0
7:40 AM	0	0	0		0	2	0				0		1	0	0		3	0	0	0	0
7:45 AM	1	0	0		0	2	0				0		1	0	0		4	0	0	0	0
7:50 AM	0	1	0		0	2	0				0		0	0	0		3	0	0	0	0
7:55 AM	0	0	0		0	2	0				0		1	0	0		3	0	0	1	0
8:00 AM	2	0	0		0	2	0				0		0	0	0		4	0	0	0	0
8:05 AM	1	2	0		0	1	0				0		0	0	0		4	0	0	0	0
8:10 AM	1	1	0		0	1	0				0		0	0	0		3	0	0	0	0
8:15 AM	0	1	0		0	3	0				0		3	0	0		7	0	0	0	0
8:20 AM	0	0	1		0	2	0				0		0	0	0		2	0	0	0	0
8:25 AM	1	0	1		0	0	0				0		0	0	0		1	0	0	0	0
8:30 AM	1	1	0		0	1	0				0		1	0	0		4	0	0	0	0
8:35 AM	1	0	0		0	3	0				0		0	0	0		4	0	0	0	0
8:40 AM	1	0	0		0	1	0				0		0	0	0		2	0	0	0	0
8:45 AM	0	0	0		0	3	0				0		4	0	0		7	0	0	0	0
8:50 AM	1	0	0		0	3	0				0		2	0	0		6	0	0	0	0
8:55 AM	3	0	0		0	1	0				0		0	0	0		4	0	0	0	0
Total Survey	16	8	2		0	39	0				0		21	0	0		84	0	0	1	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound N Locust St				Southbound N Locust St				Eastbound NE 19th Ave				Westbound NE 19th Ave				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T	Bikes		L	T	Bikes		L	R	Bikes			North	South	East	West
7:00 AM	0	0	0		0	2	0				0		3	0	0		5	0	0	0	0
7:15 AM	2	1	0		0	2	0				0		3	0	0		8	0	0	0	0
7:30 AM	1	1	0		0	8	0				0		3	0	0		13	0	0	0	0
7:45 AM	1	1	0		0	6	0				0		2	0	0		10	0	0	1	0
8:00 AM	4	3	0		0	4	0				0		0	0	0		11	0	0	0	0
8:15 AM	1	1	2		0	5	0				0		3	0	0		10	0	0	0	0
8:30 AM	3	1	0		0	5	0				0		1	0	0		10	0	0	0	0
8:45 AM	4	0	0		0	7	0				0		6	0	0		17	0	0	0	0
Total Survey	16	8	2		0	39	0				0		21	0	0		84	0	0	1	0

Peak Hour Summary
7:25 AM to 8:25 AM

By Approach	Northbound N Locust St				Southbound N Locust St				Eastbound NE 19th Ave				Westbound NE 19th Ave				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	14	34	48	1	24	8	32	0	0	0	0	0	10	6	16	0	48	0	0	1	0
%HV	0.0%				0.0%				0.0%				0.0%				0.0%				
PHF	0.50				0.75				0.00				0.63				0.80				

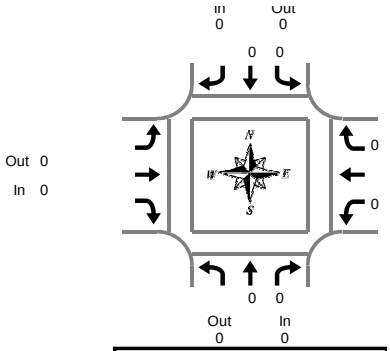
By Movement	Northbound N Locust St				Southbound N Locust St				Eastbound NE 19th Ave				Westbound NE 19th Ave				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	8	6	14		0	24		24				0	10		0	10	48
%HV	NA	0.0%	0.0%	0.0%	0.0%	0.0%	NA	0.0%	NA	NA	NA	0.0%	0.0%	NA	0.0%	0.0%	0.0%
PHF		0.50	0.38	0.50	0.00	0.75		0.75				0.00	0.63		0.00	0.63	0.80

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound N Locust St				Southbound N Locust St				Eastbound NE 19th Ave				Westbound NE 19th Ave				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T	Bikes		L	T	Bikes		L	R	Bikes			North	South	East	West
7:00 AM	4	3	0		0	18	0				0		11	0	0		36	0	0	1	0
7:15 AM	8	6	0		0	20	0				0		8	0	0		42	0	0	1	0
7:30 AM	7	6	2		0	23	0				0		8	0	0		44	0	0	1	0
7:45 AM	9	6	2		0	20	0				0		6	0	0		41	0	0	1	0
8:00 AM	12	5	2		0	21	0				0		10	0	0		48	0	0	0	0

Heavy Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



N Locust St & NE 19th Ave

Thursday, August 09, 2018
7:00 AM to 9:00 AM

Peak Hour Summary
7:25 AM to 8:25 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound N Locust St				Southbound N Locust St				Eastbound NE 19th Ave				Westbound NE 19th Ave				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		0	0	0	0	0		0				0	0		0	0	0
7:05 AM		0	0	0	0	0		0				0	0		0	0	0
7:10 AM		0	0	0	0	0		0				0	0		0	0	0
7:15 AM		0	0	0	0	0		0				0	0		0	0	0
7:20 AM		0	0	0	0	0		0				0	0		0	0	0
7:25 AM		0	0	0	0	0		0				0	0		0	0	0
7:30 AM		0	0	0	0	0		0				0	0		0	0	0
7:35 AM		0	0	0	0	0		0				0	0		0	0	0
7:40 AM		0	0	0	0	0		0				0	0		0	0	0
7:45 AM		0	0	0	0	0		0				0	0		0	0	0
7:50 AM		0	0	0	0	0		0				0	0		0	0	0
7:55 AM		0	0	0	0	0		0				0	0		0	0	0
8:00 AM		0	0	0	0	0		0				0	0		0	0	0
8:05 AM		0	0	0	0	0		0				0	0		0	0	0
8:10 AM		0	0	0	0	0		0				0	0		0	0	0
8:15 AM		0	0	0	0	0		0				0	0		0	0	0
8:20 AM		0	0	0	0	0		0				0	0		0	0	0
8:25 AM		0	0	0	0	0		0				0	0		0	0	0
8:30 AM		0	0	0	0	0		0				0	1		0	1	1
8:35 AM		1	0	1	0	0		0				0	0		0	0	1
8:40 AM		0	0	0	0	0		0				0	0		0	0	0
8:45 AM		0	0	0	0	0		0				0	0		0	0	0
8:50 AM		0	0	0	0	0		0				0	0		0	0	0
8:55 AM		0	0	0	0	0		0				0	0		0	0	0
Total Survey		1	0	1	0	0		0				0	1		0	1	2

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound N Locust St				Southbound N Locust St				Eastbound NE 19th Ave				Westbound NE 19th Ave				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		0	0	0	0	0		0				0	0		0	0	0
7:15 AM		0	0	0	0	0		0				0	0		0	0	0
7:30 AM		0	0	0	0	0		0				0	0		0	0	0
7:45 AM		0	0	0	0	0		0				0	0		0	0	0
8:00 AM		0	0	0	0	0		0				0	0		0	0	0
8:15 AM		0	0	0	0	0		0				0	0		0	0	0
8:30 AM		1	0	1	0	0		0				0	1		0	1	2
8:45 AM		0	0	0	0	0		0				0	0		0	0	0
Total Survey		1	0	1	0	0		0				0	1		0	1	2

Heavy Vehicle Peak Hour Summary
7:25 AM to 8:25 AM

By Approach	Northbound N Locust St			Southbound N Locust St			Eastbound NE 19th Ave			Westbound NE 19th Ave			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	0.00			0.00			0.00			0.00			0.00

By Movement	Northbound N Locust St				Southbound N Locust St				Eastbound NE 19th Ave				Westbound NE 19th Ave				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		0	0	0	0	0		0				0	0		0	0	0
PHF		0.00	0.00	0.00	0.00	0.00		0.00				0.00	0.00		0.00	0.00	0.00

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

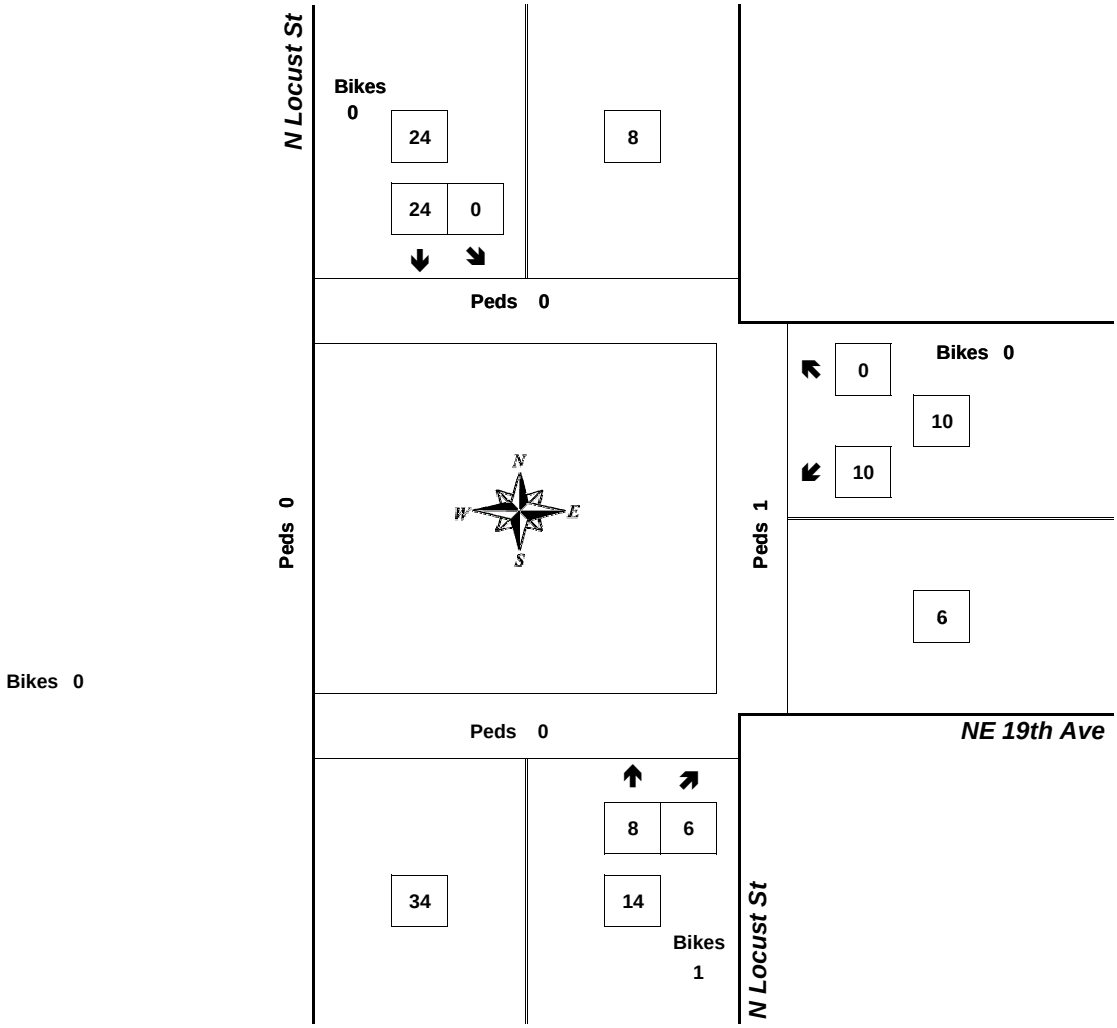
Interval Start Time	Northbound N Locust St				Southbound N Locust St				Eastbound NE 19th Ave				Westbound NE 19th Ave				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		0	0	0	0	0		0				0	0		0	0	0
7:15 AM		0	0	0	0	0		0				0	0		0	0	0
7:30 AM		0	0	0	0	0		0				0	0		0	0	0
7:45 AM		1	0	1	0	0		0				0	1		0	1	2
8:00 AM		1	0	1	0	0		0				0	1		0	1	2

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

N Locust St & NE 19th Ave

7:25 AM to 8:25 AM
Thursday, August 09, 2018

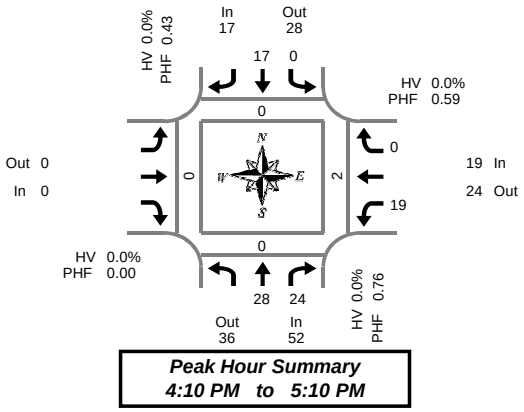


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.63	0.0%	10
NB	0.50	0.0%	14
SB	0.75	0.0%	24
Intersection	0.80	0.0%	48

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:10 PM to 5:10 PM

N Locust St & NE 19th Ave

Thursday, August 09, 2018
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound N Locust St				Southbound N Locust St				Eastbound NE 19th Ave				Westbound NE 19th Ave				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T	Bikes				Bikes		L	R	Bikes			North	South	East	West
4:00 PM	0	1	0		0	2	0				0		0	0	0		3	0	0	0	0
4:05 PM	3	2	0		0	3	0				0		0	0	0		8	0	0	0	0
4:10 PM	2	3	0		0	0	0				0		2	0	0		7	0	0	0	0
4:15 PM	2	3	0		0	0	1				0		1	0	0		6	0	0	0	0
4:20 PM	2	1	0		0	7	0				0		0	0	0		10	0	0	0	0
4:25 PM	5	2	0		0	1	0				0		1	0	0		9	0	0	1	0
4:30 PM	3	1	0		0	2	0				0		2	0	0		8	0	0	0	0
4:35 PM	2	4	0		0	1	0				0		2	0	0		9	0	0	0	0
4:40 PM	1	2	0		0	1	0				0		2	0	0		6	0	0	0	0
4:45 PM	0	3	0		0	0	0				0		4	0	0		7	0	0	1	0
4:50 PM	4	1	0		0	0	0				0		0	1	0		5	0	0	0	0
4:55 PM	1	1	0		0	3	0				0		2	0	0		7	0	0	0	0
5:00 PM	1	3	0		0	0	0				0		1	0	1		5	0	0	0	0
5:05 PM	5	0	0		0	2	0				0		2	0	0		9	0	0	0	0
5:10 PM	4	0	0		0	2	0				0		0	0	0		6	0	0	0	0
5:15 PM	2	2	0		0	1	0				0		1	0	0		6	0	0	0	0
5:20 PM	0	2	0		0	1	0				0		2	0	0		5	0	0	0	0
5:25 PM	2	3	0		0	0	0				0		2	0	0		7	0	0	0	0
5:30 PM	1	2	0		0	0	0				0		1	0	0		4	0	0	0	0
5:35 PM	2	1	0		0	1	0				0		3	0	0		7	0	0	0	0
5:40 PM	3	0	0		0	1	0				0		0	1	0		5	0	0	0	0
5:45 PM	2	2	0		0	2	0				0		2	0	0		8	0	0	2	0
5:50 PM	1	2	0		0	1	0				0		2	0	0		6	0	0	0	0
5:55 PM	2	1	0		0	0	0				0		0	0	0		3	0	0	0	0
Total Survey	50	42	0		0	31	1				0		32	1	2		156	0	0	4	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound N Locust St				Southbound N Locust St				Eastbound NE 19th Ave				Westbound NE 19th Ave				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T	Bikes				Bikes		L	R	Bikes			North	South	East	West
4:00 PM	5	6	0		0	5	0				0		2	0	0		18	0	0	0	0
4:15 PM	9	6	0		0	8	1				0		2	0	0		25	0	0	1	0
4:30 PM	6	7	0		0	4	0				0		6	0	0		23	0	0	0	0
4:45 PM	5	5	0		0	3	0				0		6	0	1		19	0	0	1	0
5:00 PM	10	3	0		0	4	0				0		3	0	1		20	0	0	0	0
5:15 PM	4	7	0		0	2	0				0		5	0	0		18	0	0	0	0
5:30 PM	6	3	0		0	2	0				0		4	1	0		16	0	0	0	0
5:45 PM	5	5	0		0	3	0				0		4	0	0		17	0	0	2	0
Total Survey	50	42	0		0	31	1				0		32	1	2		156	0	0	4	0

Peak Hour Summary
4:10 PM to 5:10 PM

By Approach	Northbound N Locust St				Southbound N Locust St				Eastbound NE 19th Ave				Westbound NE 19th Ave				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	52	36	88	0	17	28	45	1	0	0	0	0	19	24	43	2	88	0	0	2	0
%HV		0.0%				0.0%				0.0%				0.0%			0.0%				
PHF		0.76				0.43				0.00				0.59			0.81				

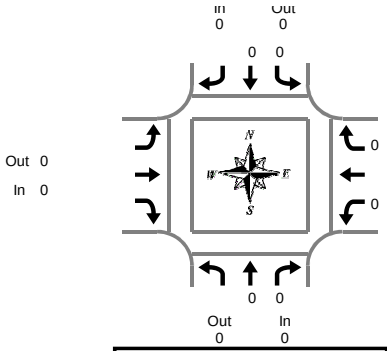
By Movement	Northbound N Locust St				Southbound N Locust St				Eastbound NE 19th Ave				Westbound NE 19th Ave				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	28	24	52		0	17		17				0	19		0	19	88
%HV	0.0%	0.0%	0.0%	NA	0.0%	0.0%	NA	0.0%	NA	NA	NA	0.0%	0.0%	NA	0.0%	0.0%	0.0%
PHF	0.70	0.67	0.76		0.00	0.43		0.43				0.00	0.59		0.00	0.59	0.81

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound N Locust St				Southbound N Locust St				Eastbound NE 19th Ave				Westbound NE 19th Ave				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T	Bikes				Bikes		L	R	Bikes			North	South	East	West
4:00 PM	25	24	0		0	20	1				0		16	0	1		85	0	0	2	0
4:15 PM	30	21	0		0	19	1				0		17	0	2		87	0	0	2	0
4:30 PM	25	22	0		0	13	0				0		20	0	2		80	0	0	1	0
4:45 PM	25	18	0		0	11	0				0		18	1	2		73	0	0	1	0
5:00 PM	25	18	0		0	11	0				0		16	1	1		71	0	0	2	0

Heavy Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



N Locust St & NE 19th Ave

Thursday, August 09, 2018
4:00 PM to 6:00 PM

Peak Hour Summary
4:10 PM to 5:10 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound N Locust St				Southbound N Locust St				Eastbound NE 19th Ave				Westbound NE 19th Ave				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		0	0	0	0	0		0				0	0		0	0	0
4:05 PM		0	0	0	0	0		0				0	0		0	0	0
4:10 PM		0	0	0	0	0		0				0	0		0	0	0
4:15 PM		0	0	0	0	0		0				0	0		0	0	0
4:20 PM		0	0	0	0	0		0				0	0		0	0	0
4:25 PM		0	0	0	0	0		0				0	0		0	0	0
4:30 PM		0	0	0	0	0		0				0	0		0	0	0
4:35 PM		0	0	0	0	0		0				0	0		0	0	0
4:40 PM		0	0	0	0	0		0				0	0		0	0	0
4:45 PM		0	0	0	0	0		0				0	0		0	0	0
4:50 PM		0	0	0	0	0		0				0	0		0	0	0
4:55 PM		0	0	0	0	0		0				0	0		0	0	0
5:00 PM		0	0	0	0	0		0				0	0		0	0	0
5:05 PM		0	0	0	0	0		0				0	0		0	0	0
5:10 PM		0	0	0	0	0		0				0	0		0	0	0
5:15 PM		0	0	0	0	0		0				0	0		0	0	0
5:20 PM		0	0	0	0	0		0				0	0		0	0	0
5:25 PM		0	0	0	0	0		0				0	0		0	0	0
5:30 PM		0	0	0	0	0		0				0	0		0	0	0
5:35 PM		0	0	0	0	0		0				0	0		0	0	0
5:40 PM		0	0	0	0	0		0				0	0		0	0	0
5:45 PM		0	0	0	0	0		0				0	0		0	0	0
5:50 PM		0	0	0	0	0		0				0	0		0	0	0
5:55 PM		0	0	0	0	0		0				0	0		0	0	0
Total Survey		0	0	0	0	0		0				0	0		0	0	0

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound N Locust St				Southbound N Locust St				Eastbound NE 19th Ave				Westbound NE 19th Ave				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		0	0	0	0	0		0				0	0		0	0	0
4:15 PM		0	0	0	0	0		0				0	0		0	0	0
4:30 PM		0	0	0	0	0		0				0	0		0	0	0
4:45 PM		0	0	0	0	0		0				0	0		0	0	0
5:00 PM		0	0	0	0	0		0				0	0		0	0	0
5:15 PM		0	0	0	0	0		0				0	0		0	0	0
5:30 PM		0	0	0	0	0		0				0	0		0	0	0
5:45 PM		0	0	0	0	0		0				0	0		0	0	0
Total Survey		0	0	0	0	0		0				0	0		0	0	0

Heavy Vehicle Peak Hour Summary
4:10 PM to 5:10 PM

By Approach	Northbound N Locust St			Southbound N Locust St			Eastbound NE 19th Ave			Westbound NE 19th Ave			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	0.00			0.00			0.00			0.00			0.00

By Movement	Northbound N Locust St				Southbound N Locust St				Eastbound NE 19th Ave				Westbound NE 19th Ave				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		0	0	0	0	0		0				0	0		0	0	0
PHF		0.00	0.00	0.00	0.00	0.00		0.00				0.00	0.00		0.00	0.00	0.00

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

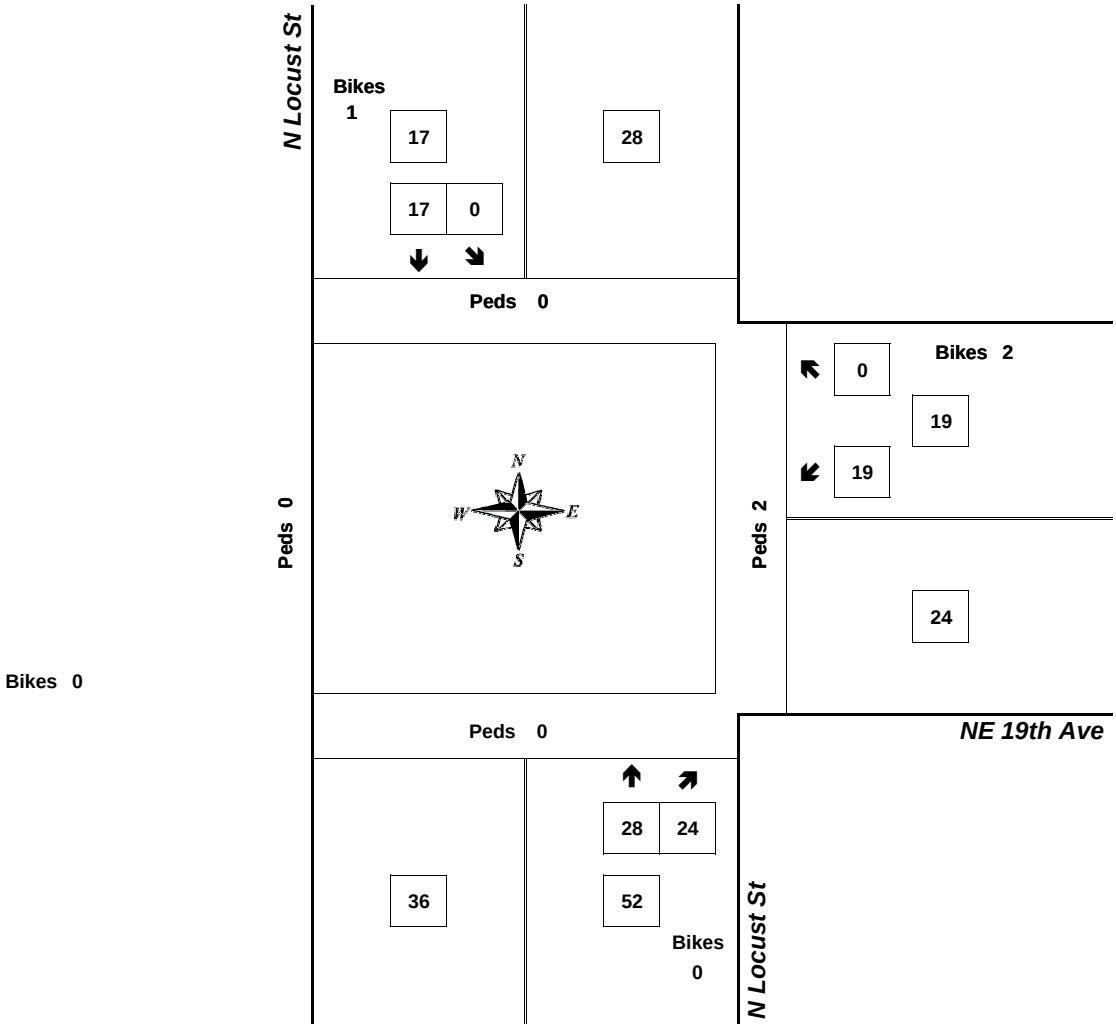
Interval Start Time	Northbound N Locust St				Southbound N Locust St				Eastbound NE 19th Ave				Westbound NE 19th Ave				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		0	0	0	0	0		0				0	0		0	0	0
4:15 PM		0	0	0	0	0		0				0	0		0	0	0
4:30 PM		0	0	0	0	0		0				0	0		0	0	0
4:45 PM		0	0	0	0	0		0				0	0		0	0	0
5:00 PM		0	0	0	0	0		0				0	0		0	0	0

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

N Locust St & NE 19th Ave

4:10 PM to 5:10 PM
Thursday, August 09, 2018

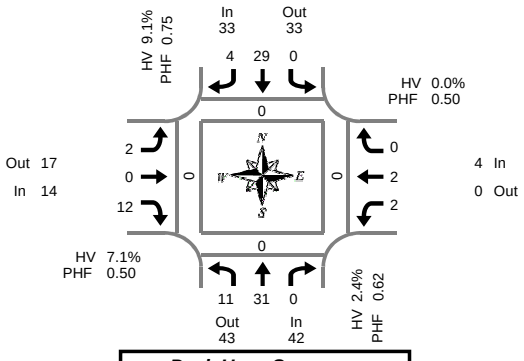


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.59	0.0%	19
NB	0.76	0.0%	52
SB	0.43	0.0%	17
Intersection	0.81	0.0%	88

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
8:00 AM to 9:00 AM

N Holly St & NE 22nd Ave

Thursday, August 09, 2018
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound N Holly St				Southbound N Holly St				Eastbound NE 22nd Ave				Westbound NE 22nd Ave				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	3	0	0	0	0
7:05 AM	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	1	0
7:10 AM	0	5	0	0	0	1	0	0	0	0	1	0	0	0	0	0	7	0	0	0	0
7:15 AM	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0
7:20 AM	3	1	0	0	1	0	0	0	0	0	0	0	0	1	1	0	7	0	0	0	0
7:25 AM	0	4	0	0	0	5	0	0	0	0	1	0	1	0	0	0	11	1	0	1	0
7:30 AM	3	2	0	0	0	3	0	0	0	0	1	0	0	0	0	0	9	0	1	0	0
7:35 AM	0	2	0	0	0	4	1	0	1	0	1	0	1	0	0	0	10	0	0	0	0
7:40 AM	1	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	4	0	0	0	0
7:45 AM	1	0	0	0	0	2	0	0	0	0	1	0	0	0	0	0	4	0	0	0	0
7:50 AM	1	3	0	0	0	1	0	0	0	0	4	0	0	0	0	0	9	0	0	0	0
7:55 AM	1	6	0	0	1	0	0	0	0	0	1	0	0	0	0	0	9	0	0	0	0
8:00 AM	2	2	0	0	0	1	1	0	0	0	2	0	0	0	0	0	8	0	0	0	0
8:05 AM	3	2	0	1	0	3	2	0	0	0	0	0	0	0	0	0	10	0	0	0	0
8:10 AM	1	0	0	0	0	1	0	3	0	0	3	0	0	0	0	0	5	0	0	0	0
8:15 AM	1	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8:20 AM	1	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	4	0	0	0	0
8:25 AM	0	4	0	0	0	1	0	1	0	0	0	0	1	1	0	0	7	0	0	0	0
8:30 AM	0	2	0	0	0	3	0	0	0	0	2	0	0	0	0	0	7	0	0	0	0
8:35 AM	0	2	0	0	0	4	0	0	1	0	1	0	0	0	0	0	8	0	0	0	0
8:40 AM	0	3	0	0	0	2	0	0	0	0	3	0	0	0	0	0	8	0	0	0	0
8:45 AM	1	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0
8:50 AM	1	5	0	0	0	2	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0
8:55 AM	1	4	0	0	0	3	1	0	0	0	1	0	1	1	0	0	12	0	0	0	0
Total Survey	21	60	0	1	2	47	7	4	3	0	23	1	5	3	1	0	172	1	1	2	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound N Holly St				Southbound N Holly St				Eastbound NE 22nd Ave				Westbound NE 22nd Ave				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	9	0	0	0	2	0	0	0	0	2	0	1	0	0	0	14	0	0	1	0
7:15 AM	3	7	0	0	1	5	0	0	0	0	1	1	1	1	1	0	20	1	0	1	0
7:30 AM	4	4	0	0	0	8	3	0	1	0	2	0	1	0	0	0	23	0	1	0	0
7:45 AM	3	9	0	0	1	3	0	0	0	0	6	0	0	0	0	0	22	0	0	0	0
8:00 AM	6	4	0	1	0	5	3	3	0	0	5	0	0	0	0	0	23	0	0	0	0
8:15 AM	2	6	0	0	0	5	0	1	1	0	0	0	1	1	0	0	16	0	0	0	0
8:30 AM	0	7	0	0	0	9	0	0	1	0	6	0	0	0	0	0	23	0	0	0	0
8:45 AM	3	14	0	0	0	10	1	0	0	0	1	0	1	1	0	0	31	0	0	0	0
Total Survey	21	60	0	1	2	47	7	4	3	0	23	1	5	3	1	0	172	1	1	2	0

Peak Hour Summary
8:00 AM to 9:00 AM

By Approach	Northbound N Holly St				Southbound N Holly St				Eastbound NE 22nd Ave				Westbound NE 22nd Ave				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	42	43	85	1	33	33	66	4	14	17	31	0	4	0	4	0	93	0	0	0	0
%HV	2.4%				9.1%				7.1%				0.0%				5.4%				
PHF	0.62				0.75				0.50				0.50				0.75				

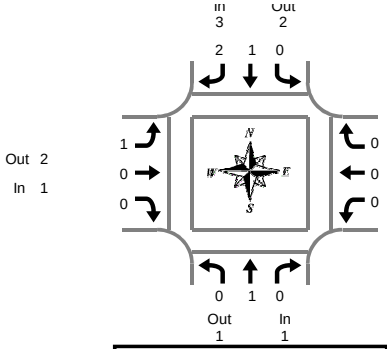
By Movement	Northbound N Holly St				Southbound N Holly St				Eastbound NE 22nd Ave				Westbound NE 22nd Ave				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	11	31	0	42	0	29	4	33	2	0	12	14	2	2	0	4	93
%HV	0.0%	3.2%	0.0%	2.4%	0.0%	3.4%	50.0%	9.1%	50.0%	0.0%	0.0%	7.1%	0.0%	0.0%	0.0%	0.0%	5.4%
PHF	0.46	0.55	0.00	0.62	0.00	0.66	0.33	0.75	0.50	0.00	0.50	0.50	0.50	0.50	0.00	0.50	0.75

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound N Holly St				Southbound N Holly St				Eastbound NE 22nd Ave				Westbound NE 22nd Ave				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	10	29	0	0	2	18	3	0	1	0	11	1	3	1	1	0	79	1	1	2	0
7:15 AM	16	24	0	1	2	21	6	3	1	0	14	1	2	1	1	0	88	1	1	1	0
7:30 AM	15	23	0	1	1	21	6	4	2	0	13	0	2	1	0	0	84	0	1	0	0
7:45 AM	11	26	0	1	1	22	3	4	2	0	17	0	1	1	0	0	84	0	0	0	0
8:00 AM	11	31	0	1	0	29	4	4	2	0	12	0	2	2	0	0	93	0	0	0	0

Heavy Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



N Holly St & NE 22nd Ave

Thursday, August 09, 2018
7:00 AM to 9:00 AM

Peak Hour Summary
8:00 AM to 9:00 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound N Holly St				Southbound N Holly St				Eastbound NE 22nd Ave				Westbound NE 22nd Ave				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
7:20 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
7:25 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
7:35 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
7:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:50 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
7:55 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:05 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
8:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
8:20 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
8:25 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:35 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
8:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:50 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:55 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
Total Survey	1	4	0	5	0	3	2	5	1	0	0	1	0	0	0	0	11

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound N Holly St				Southbound N Holly St				Eastbound NE 22nd Ave				Westbound NE 22nd Ave				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
7:30 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
7:45 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	1	0	1	1	0	0	1	0	0	0	0	2
8:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
Total Survey	1	4	0	5	0	3	2	5	1	0	0	1	0	0	0	0	11

Heavy Vehicle Peak Hour Summary
8:00 AM to 9:00 AM

By Approach	Northbound N Holly St			Southbound N Holly St			Eastbound NE 22nd Ave			Westbound NE 22nd Ave			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	1	1	2	3	2	5	1	2	3	0	0	0	5
PHF	0.25			0.38			0.25			0.00			0.63

By Movement	Northbound N Holly St				Southbound N Holly St				Eastbound NE 22nd Ave				Westbound NE 22nd Ave				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	1	0	1	0	1	2	3	1	0	0	1	0	0	0	0	5
PHF	0.00	0.25	0.00	0.25	0.00	0.25	0.50	0.38	0.25	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.63

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

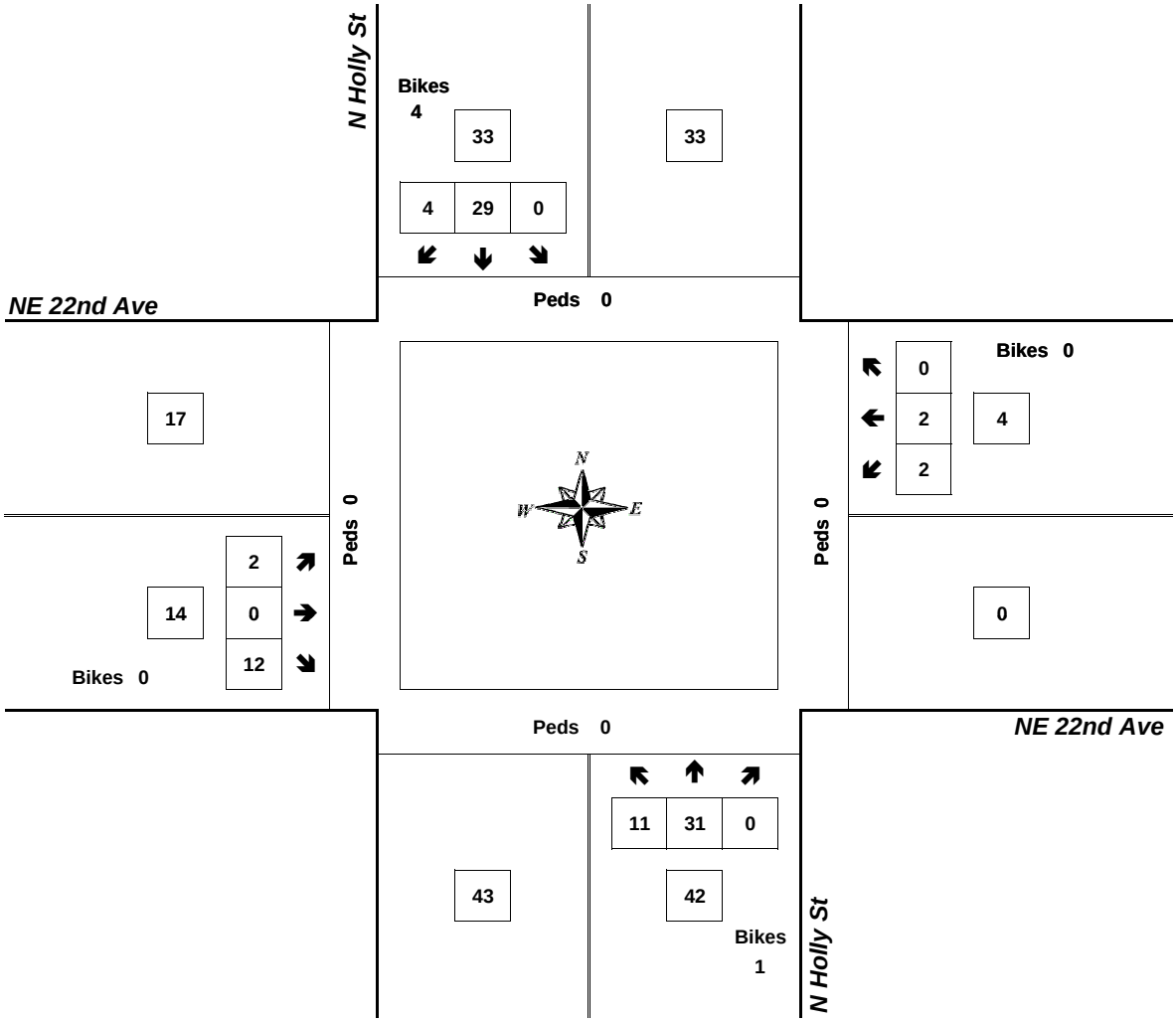
Interval Start Time	Northbound N Holly St				Southbound N Holly St				Eastbound NE 22nd Ave				Westbound NE 22nd Ave				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	1	3	0	4	0	2	0	2	0	0	0	0	0	0	0	0	6
7:15 AM	1	3	0	4	0	2	1	3	0	0	0	0	0	0	0	0	7
7:30 AM	0	2	0	2	0	3	1	4	1	0	0	1	0	0	0	0	7
7:45 AM	0	3	0	3	0	1	1	2	1	0	0	1	0	0	0	0	6
8:00 AM	0	1	0	1	0	1	2	3	1	0	0	1	0	0	0	0	5

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

N Holly St & NE 22nd Ave

8:00 AM to 9:00 AM
Thursday, August 09, 2018

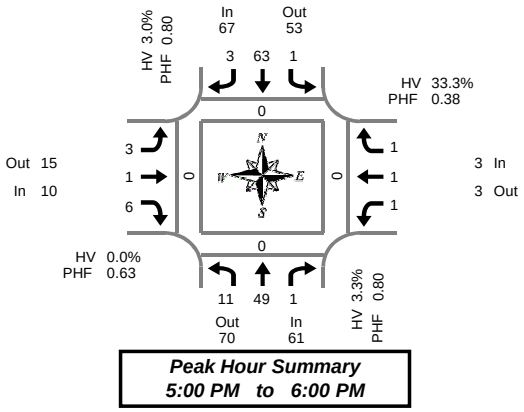


Approach	PHF	HV%	Volume
EB	0.50	7.1%	14
WB	0.50	0.0%	4
NB	0.62	2.4%	42
SB	0.75	9.1%	33
Intersection	0.75	5.4%	93

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
5:00 PM to 6:00 PM

N Holly St & NE 22nd Ave

Thursday, August 09, 2018
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound N Holly St				Southbound N Holly St				Eastbound NE 22nd Ave				Westbound NE 22nd Ave				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	1	0	0	0	3	0	0	0	0	0	1	0	0	0	0	4	0	0	0	0
4:05 PM	0	2	0	0	0	6	0	1	0	0	1	0	1	0	2	0	12	0	0	0	0
4:10 PM	0	4	0	0	0	1	0	0	0	0	1	0	0	1	0	0	7	0	0	0	0
4:15 PM	1	4	0	0	0	2	0	0	0	0	1	0	0	0	0	0	8	0	0	0	0
4:20 PM	3	2	0	0	0	10	0	0	1	0	0	2	0	0	0	0	16	0	0	0	0
4:25 PM	1	1	0	0	0	1	0	0	0	0	1	0	0	1	0	0	5	0	0	0	0
4:30 PM	3	2	0	0	0	5	1	1	0	1	2	0	0	0	0	0	14	0	0	0	2
4:35 PM	3	5	1	0	0	9	0	0	0	1	3	0	0	0	0	0	22	0	0	0	2
4:40 PM	1	0	1	0	0	9	0	0	2	0	2	0	0	0	0	0	15	0	0	0	0
4:45 PM	0	4	0	0	0	7	0	0	1	0	0	0	0	0	0	0	12	0	0	0	0
4:50 PM	1	0	0	0	0	3	0	1	0	0	1	0	0	0	0	0	5	0	0	0	0
4:55 PM	0	2	0	0	0	3	0	0	0	0	0	0	0	1	0	0	6	0	0	0	0
5:00 PM	0	3	0	0	1	5	0	1	1	0	1	0	0	0	0	0	11	0	0	0	0
5:05 PM	1	8	0	0	0	3	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0
5:10 PM	2	3	0	0	0	7	0	0	1	0	0	0	0	0	1	0	14	0	0	0	0
5:15 PM	1	1	0	0	0	2	1	1	0	0	0	0	1	0	0	0	6	0	0	0	0
5:20 PM	0	3	0	0	0	8	0	1	0	0	0	0	0	0	0	0	11	0	0	0	0
5:25 PM	1	4	0	0	0	2	0	0	0	0	0	0	0	1	0	0	8	0	0	0	0
5:30 PM	1	3	1	0	0	6	2	0	0	0	0	0	0	0	0	0	13	0	0	0	0
5:35 PM	0	4	0	0	0	6	0	0	1	0	2	0	0	0	0	0	13	0	0	0	0
5:40 PM	2	4	0	0	0	7	0	1	0	0	1	0	0	0	0	0	14	0	0	0	0
5:45 PM	0	4	0	0	0	7	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0
5:50 PM	1	7	0	0	0	3	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0
5:55 PM	2	5	0	0	0	7	0	0	0	1	2	0	0	0	0	0	17	0	0	0	0
Total Survey	24	76	3	0	1	122	4	7	7	3	18	3	2	4	3	0	267	0	0	0	4

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound N Holly St				Southbound N Holly St				Eastbound NE 22nd Ave				Westbound NE 22nd Ave				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	7	0	0	0	10	0	1	0	0	2	1	1	1	2	0	23	0	0	0	0
4:15 PM	5	7	0	0	0	13	0	0	1	0	2	2	0	1	0	0	29	0	0	0	0
4:30 PM	7	7	2	0	0	23	1	1	2	2	7	0	0	0	0	0	51	0	0	0	4
4:45 PM	1	6	0	0	0	13	0	1	1	0	1	0	0	1	0	0	23	0	0	0	0
5:00 PM	3	14	0	0	1	15	0	1	2	0	1	0	0	0	1	0	37	0	0	0	0
5:15 PM	2	8	0	0	0	12	1	2	0	0	0	0	1	1	0	0	25	0	0	0	0
5:30 PM	3	11	1	0	0	19	2	1	1	0	3	0	0	0	0	0	40	0	0	0	0
5:45 PM	3	16	0	0	0	17	0	0	0	1	2	0	0	0	0	0	39	0	0	0	0
Total Survey	24	76	3	0	1	122	4	7	7	3	18	3	2	4	3	0	267	0	0	0	4

Peak Hour Summary
5:00 PM to 6:00 PM

By Approach	Northbound N Holly St				Southbound N Holly St				Eastbound NE 22nd Ave				Westbound NE 22nd Ave				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	61	70	131	0	67	53	120	4	10	15	25	0	3	3	6	0	141	0	0	0	0
%HV	3.3%				3.0%				0.0%				33.3%				3.5%				
PHF	0.80				0.80				0.63				0.38				0.88				

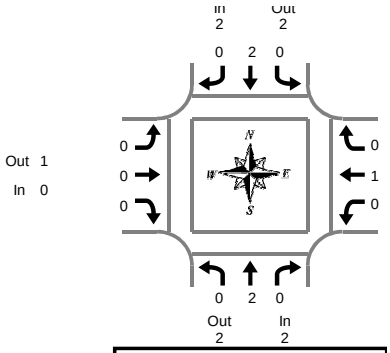
By Movement	Northbound N Holly St				Southbound N Holly St				Eastbound NE 22nd Ave				Westbound NE 22nd Ave				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	11	49	1	61	1	63	3	67	3	1	6	10	1	1	1	3	141
%HV	0.0%	4.1%	0.0%	3.3%	0.0%	3.2%	0.0%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	#####	0.0%	33.3%	3.5%
PHF	0.69	0.77	0.25	0.80	0.25	0.79	0.38	0.80	0.38	0.25	0.50	0.63	0.25	0.25	0.25	0.38	0.88

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound N Holly St				Southbound N Holly St				Eastbound NE 22nd Ave				Westbound NE 22nd Ave				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	13	27	2	0	0	59	1	3	4	2	12	3	1	3	2	0	126	0	0	0	4
4:15 PM	16	34	2	0	1	64	1	3	6	2	11	2	0	2	1	0	140	0	0	0	4
4:30 PM	13	35	2	0	1	63	2	5	5	2	9	0	1	2	1	0	136	0	0	0	4
4:45 PM	9	39	1	0	1	59	3	5	4	0	5	0	1	2	1	0	125	0	0	0	0
5:00 PM	11	49	1	0	1	63	3	4	3	1	6	0	1	1	1	0	141	0	0	0	0

Heavy Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



N Holly St & NE 22nd Ave

Thursday, August 09, 2018
4:00 PM to 6:00 PM

Peak Hour Summary
5:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound N Holly St				Southbound N Holly St				Eastbound NE 22nd Ave				Westbound NE 22nd Ave				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
4:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
4:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:40 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:25 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:35 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:40 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:50 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	2	0	2	0	3	0	3	1	0	0	1	0	1	2	3	9

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound N Holly St				Southbound N Holly St				Eastbound NE 22nd Ave				Westbound NE 22nd Ave				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	1	0	1	1	0	0	1	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	2
5:30 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total Survey	0	2	0	2	0	3	0	3	1	0	0	1	0	1	2	3	9

Heavy Vehicle Peak Hour Summary
5:00 PM to 6:00 PM

By Approach	Northbound N Holly St			Southbound N Holly St			Eastbound NE 22nd Ave			Westbound NE 22nd Ave			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	2	2	4	2	2	4	0	1	1	1	0	1	5
PHF	0.50			0.50			0.00			0.25			0.42

By Movement	Northbound N Holly St				Southbound N Holly St				Eastbound NE 22nd Ave				Westbound NE 22nd Ave				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	2	0	2	0	2	0	2	0	0	0	0	0	1	0	1	5
PHF	0.00	0.50	0.00	0.50	0.00	0.50	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.25	0.42

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

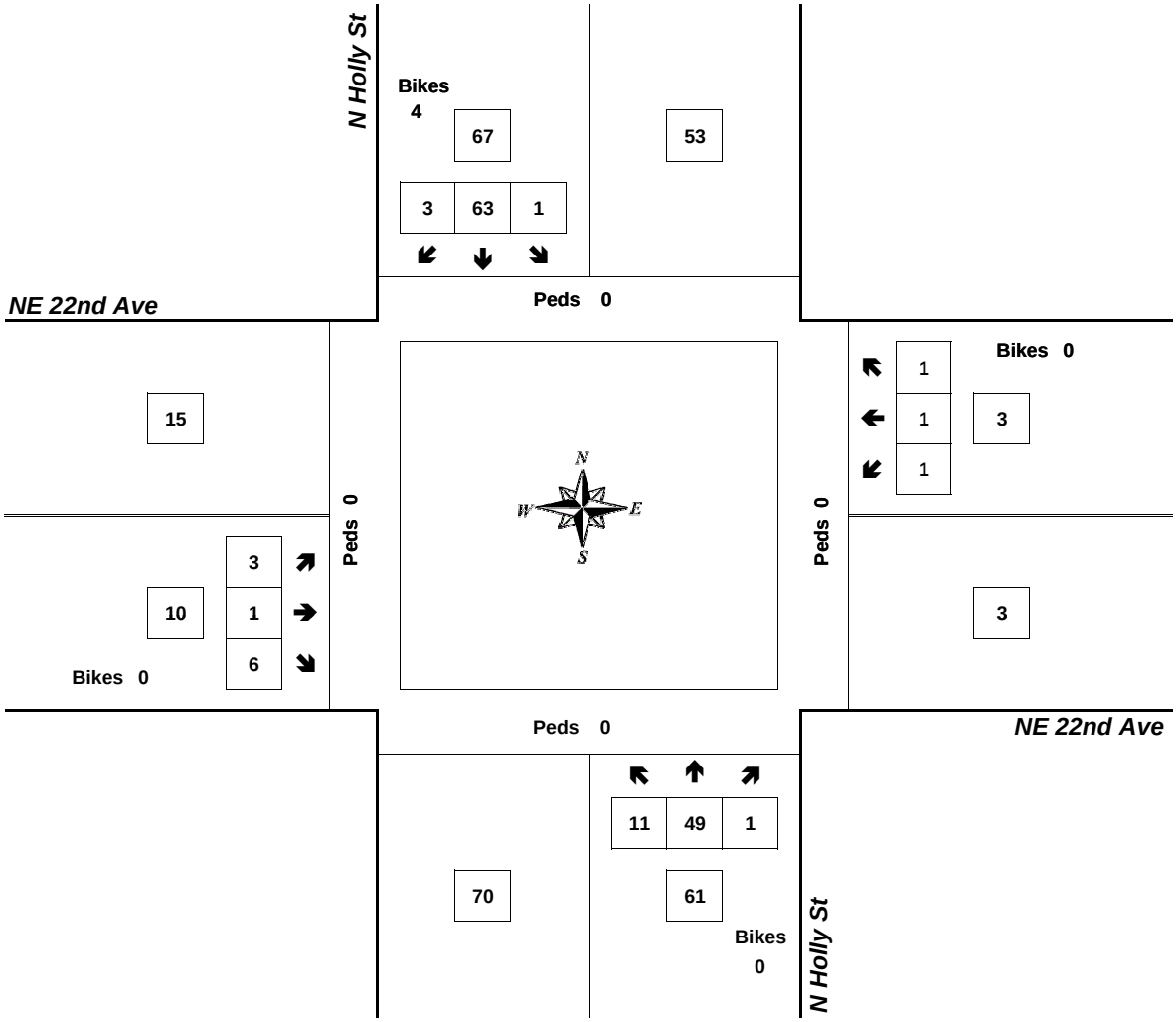
Interval Start Time	Northbound N Holly St				Southbound N Holly St				Eastbound NE 22nd Ave				Westbound NE 22nd Ave				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	1	0	1	1	0	0	1	0	0	2	2	4
4:15 PM	0	0	0	0	0	1	0	1	1	0	0	1	0	0	0	0	2
4:30 PM	0	1	0	1	0	1	0	1	1	0	0	1	0	1	0	1	4
4:45 PM	0	2	0	2	0	1	0	1	0	0	0	0	0	1	0	1	4
5:00 PM	0	2	0	2	0	2	0	2	0	0	0	0	0	1	0	1	5

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

N Holly St & NE 22nd Ave

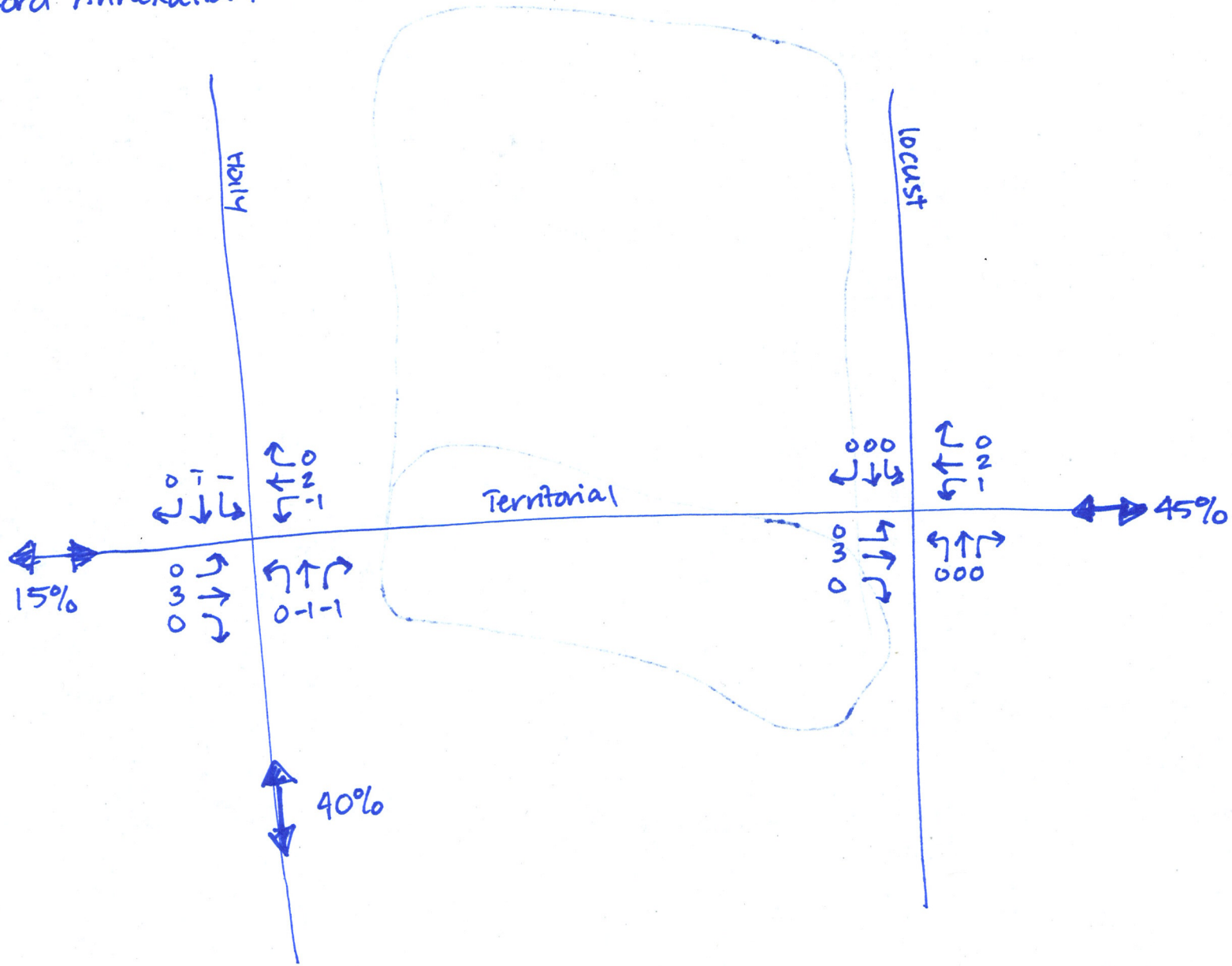
5:00 PM to 6:00 PM
Thursday, August 09, 2018



Approach	PHF	HV%	Volume
EB	0.63	0.0%	10
WB	0.38	33.3%	3
NB	0.80	3.3%	61
SB	0.80	3.0%	67
Intersection	0.88	3.5%	141

Count Period: 4:00 PM to 6:00 PM

School Trips and Trips Distribution from Canby Small Community Tool
Canby Stafford Annexation
DKS, 8/14/18



All Traffic Data
15105 SE 17th St.
Vancouver, WA. 98683
503-833-2740

Site Code: 1
Territorial Rd W-O Locust St

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
08/09/18	0	7	1	0	0	0	0	0	0	0	0	0	0	1	9
01:00	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
02:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	4	1	0	1	0	0	0	0	0	0	0	0	0	6
04:00	0	13	2	0	3	0	0	0	0	0	0	0	0	0	18
05:00	0	23	12	0	5	0	0	0	0	0	0	0	0	0	40
06:00	2	53	17	0	4	1	0	0	0	0	0	0	0	0	77
07:00	2	91	27	0	7	0	0	0	0	0	0	0	0	2	129
08:00	4	81	25	1	9	0	0	0	0	0	0	0	0	8	128
09:00	5	84	32	0	13	1	0	0	0	0	0	0	0	2	137
10:00	4	96	30	0	6	2	0	0	0	0	0	0	0	4	142
11:00	4	100	39	0	20	0	0	0	0	0	0	0	0	1	164
12 PM	2	144	22	2	5	0	0	0	0	0	0	0	0	8	183
13:00	8	139	33	1	12	1	0	1	1	0	0	0	0	8	204
14:00	5	166	32	0	13	2	0	0	0	0	0	0	0	3	221
15:00	3	176	36	0	15	0	0	1	0	0	0	0	0	2	233
16:00	9	202	48	0	15	1	0	0	0	0	0	0	0	6	281
17:00	4	188	36	0	17	1	0	0	0	0	0	0	0	8	254
18:00	4	161	32	0	7	0	0	0	0	0	0	0	0	1	205
19:00	3	105	17	0	5	0	0	0	0	0	0	0	0	1	131
20:00	1	101	11	0	5	0	0	0	0	0	0	0	0	2	120
21:00	2	70	11	0	2	0	0	0	1	0	0	0	0	0	86
22:00	0	38	7	0	3	0	0	0	0	0	0	0	0	0	48
23:00	0	18	0	0	1	0	0	0	0	0	0	0	0	0	19
Total	62	2068	472	4	168	9	0	2	2	0	0	0	0	57	2844
Percent	2.2%	72.7%	16.6%	0.1%	5.9%	0.3%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	2.0%	
AM Peak	09:00	11:00	11:00	08:00	11:00	10:00								08:00	
Vol.	5	100	39	1	20	2								8	
PM Peak	16:00	16:00	16:00	12:00	17:00	14:00		13:00	13:00					12:00	
Vol.	9	202	48	2	17	2		1	1					8	
Grand Total	62	2068	472	4	168	9	0	2	2	0	0	0	0	57	2844
Percent	2.2%	72.7%	16.6%	0.1%	5.9%	0.3%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	2.0%	

All Traffic Data
15105 SE 17th St.
Vancouver, WA. 98683
503-833-2740

Site Code: 1
Territorial Rd W-O Locust St

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
08/09/18	0	7	1	0	0	0	0	0	0	0	0	0	0	0	8
01:00	0	3	2	0	1	0	0	0	0	0	0	0	0	0	6
02:00	0	2	1	0	1	0	0	0	0	0	0	0	0	0	4
03:00	0	8	0	0	1	0	0	0	0	0	0	0	0	0	9
04:00	0	13	4	0	2	0	0	0	0	0	0	0	0	0	19
05:00	4	47	15	0	7	1	0	0	0	0	0	0	0	0	74
06:00	1	83	31	0	14	0	0	0	0	0	0	0	0	0	129
07:00	3	90	25	0	12	1	0	1	0	0	0	0	0	4	136
08:00	0	99	31	1	11	0	0	0	1	0	0	0	0	3	146
09:00	1	128	34	0	22	1	0	0	0	0	0	0	0	4	190
10:00	2	75	43	1	13	2	0	1	0	0	0	0	0	5	142
11:00	5	118	38	0	20	1	0	1	2	0	0	0	0	1	186
12 PM	5	127	30	2	12	0	0	0	0	0	0	0	0	8	184
13:00	3	118	35	2	10	1	0	0	0	0	0	0	0	8	177
14:00	2	164	46	0	14	1	0	1	1	0	0	0	0	9	238
15:00	1	140	39	1	15	0	0	1	0	0	0	0	0	5	202
16:00	6	132	34	0	33	0	0	0	0	0	0	0	0	14	219
17:00	2	141	38	0	10	0	0	0	0	0	0	0	0	11	202
18:00	0	119	34	0	9	0	0	0	0	0	0	0	0	3	165
19:00	1	76	29	0	4	0	0	0	1	0	0	0	0	1	112
20:00	2	70	24	0	5	0	0	0	0	0	0	0	0	2	103
21:00	1	54	9	0	3	0	0	0	0	0	0	0	0	0	67
22:00	0	25	8	0	0	0	0	0	0	0	0	0	0	0	33
23:00	0	24	4	0	2	0	0	0	0	0	0	0	0	0	30
Total	39	1863	555	7	221	8	0	5	5	0	0	0	0	78	2781
Percent	1.4%	67.0%	20.0%	0.3%	7.9%	0.3%	0.0%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	2.8%	
AM Peak	11:00	09:00	10:00	08:00	09:00	10:00		07:00	11:00					10:00	
Vol.	5	128	43	1	22	2		1	2					5	
PM Peak	16:00	14:00	14:00	12:00	16:00	13:00		14:00	14:00					16:00	
Vol.	6	164	46	2	33	1		1	1					14	
Grand Total	39	1863	555	7	221	8	0	5	5	0	0	0	0	78	2781
Percent	1.4%	67.0%	20.0%	0.3%	7.9%	0.3%	0.0%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	2.8%	

All Traffic Data
15105 SE 17th St.
Vancouver, WA. 98683
503-833-2740

Site Code: 1
Territorial Rd W-O Locust St

EB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	85th Percent	95th Percent
08/09/18	1	0	2	5	1	0	0	0	0	0	0	0	0	0	9	29	32
01:00	0	0	0	7	0	0	0	0	0	0	0	0	0	0	7	29	29
02:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	34	34
03:00	0	0	2	3	1	0	0	0	0	0	0	0	0	0	6	30	33
04:00	0	0	0	10	7	1	0	0	0	0	0	0	0	0	18	33	35
05:00	0	0	4	17	17	2	0	0	0	0	0	0	0	0	40	33	35
06:00	0	1	4	28	35	9	0	0	0	0	0	0	0	0	77	34	37
07:00	2	1	12	**76**	34	3	1	0	0	0	0	0	0	0	129	32	34
08:00	**8**	**3**	15	60	30	11	1	0	0	0	0	0	0	0	128	33	37
09:00	2	3	**25**	55	42	8	**2**	0	0	0	0	0	0	0	137	33	36
10:00	5	0	17	71	36	12	1	0	0	0	0	0	0	0	142	33	37
11:00	2	0	17	48	**80**	**16**	1	0	0	0	0	0	0	0	**164**	34	37
12 PM	**9**	2	31	91	44	6	0	0	0	0	0	0	0	0	183	32	34
13:00	8	**4**	**37**	91	56	8	0	0	0	0	0	0	0	0	204	32	34
14:00	3	0	23	**118**	68	9	0	0	0	0	0	0	0	0	221	33	34
15:00	3	0	18	90	95	24	**3**	0	0	0	0	0	0	0	233	34	38
16:00	8	1	15	112	**124**	18	3	0	0	0	0	0	0	0	**281**	34	36
17:00	8	1	14	109	92	**27**	3	0	0	0	0	0	0	0	254	34	38
18:00	2	0	15	84	91	12	1	0	0	0	0	0	0	0	205	34	36
19:00	2	0	24	56	41	4	3	**1**	0	0	0	0	0	0	131	33	36
20:00	3	1	18	68	28	2	0	0	0	0	0	0	0	0	120	32	34
21:00	0	0	10	51	25	0	0	0	0	0	0	0	0	0	86	32	34
22:00	0	0	7	25	12	2	2	0	0	0	0	0	0	0	48	33	39
23:00	0	0	1	13	5	0	0	0	0	0	0	0	0	0	19	32	34
Total	66	17	311	1288	966	174	21	1	0	0	0	0	0	0	2844		
Percent	2.3%	0.6%	10.9%	45.3%	34.0%	6.1%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	09:00	07:00	11:00	11:00	09:00								11:00		
Vol.	8	3	25	76	80	16	2								164		
PM Peak	12:00	13:00	13:00	14:00	16:00	17:00	15:00	19:00							16:00		
Vol.	9	4	37	118	124	27	3	1							281		
Grand Total	66	17	311	1288	966	174	21	1	0	0	0	0	0	0	2844		
Percent	2.3%	0.6%	10.9%	45.3%	34.0%	6.1%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile :	25 MPH
50th Percentile :	28 MPH
85th Percentile :	33 MPH
95th Percentile :	36 MPH

Statistics

10 MPH Pace Speed :	26-35 MPH
Number in Pace :	2254
Percent in Pace :	79.3%
Number of Vehicles > 55 MPH :	0
Percent of Vehicles > 55 MPH :	0.0%
Mean Speed(Average) :	29 MPH

All Traffic Data
15105 SE 17th St.
Vancouver, WA. 98683
503-833-2740

Site Code: 1
Territorial Rd W-O Locust St

WB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	85th Percent	95th Percent
08/09/18	0	0	0	5	3	0	0	0	0	0	0	0	0	0	8	33	34
01:00	0	0	0	3	2	0	1	0	0	0	0	0	0	0	6	40	43
02:00	0	0	0	1	2	1	0	0	0	0	0	0	0	0	4	37	39
03:00	0	0	0	2	6	1	0	0	0	0	0	0	0	0	9	34	37
04:00	0	**1**	2	4	9	2	0	**1**	0	0	0	0	0	0	19	35	45
05:00	0	1	3	20	28	18	3	1	0	0	0	0	0	0	74	38	40
06:00	0	0	4	24	72	27	1	1	0	0	0	0	0	0	129	36	39
07:00	4	1	7	33	67	21	3	0	0	0	0	0	0	0	136	35	39
08:00	3	1	**14**	**55**	61	11	1	0	0	0	0	0	0	0	146	34	37
09:00	4	1	9	55	95	25	1	0	0	0	0	0	0	0	**190**	34	38
10:00	**5**	0	13	39	60	23	1	1	0	0	0	0	0	0	142	35	38
11:00	1	0	11	39	**99**	**30**	**6**	0	0	0	0	0	0	0	186	36	39
12 PM	8	**2**	7	**79**	62	22	4	0	0	0	0	0	0	0	184	34	38
13:00	8	0	**11**	55	77	26	0	0	0	0	0	0	0	0	177	34	38
14:00	9	1	10	68	**128**	19	3	0	0	0	0	0	0	0	**238**	34	37
15:00	5	1	4	51	98	**37**	**5**	0	0	0	**1**	0	0	0	202	36	39
16:00	**16**	1	11	58	109	19	4	1	0	0	0	0	0	0	219	34	38
17:00	11	0	6	56	101	25	1	**2**	0	0	0	0	0	0	202	34	38
18:00	3	0	7	39	87	26	3	0	0	0	0	0	0	0	165	35	38
19:00	1	1	6	38	54	10	2	0	0	0	0	0	0	0	112	34	38
20:00	3	0	7	35	46	9	3	0	0	0	0	0	0	0	103	34	38
21:00	0	1	5	23	21	15	2	0	0	0	0	0	0	0	67	37	39
22:00	0	0	3	14	11	4	1	0	0	0	0	0	0	0	33	35	39
23:00	0	0	1	12	15	0	1	1	0	0	0	0	0	0	30	34	42
Total	81	12	141	808	1313	371	46	8	0	0	1	0	0	0	2781		
Percent	2.9%	0.4%	5.1%	29.1%	47.2%	13.3%	1.7%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	10:00	04:00	08:00	08:00	11:00	11:00	11:00	04:00							09:00		
Vol.	5	1	14	55	99	30	6	1							190		
PM Peak	16:00	12:00	13:00	12:00	14:00	15:00	15:00	17:00			15:00				14:00		
Vol.	16	2	11	79	128	37	5	2			1				238		
Grand Total	81	12	141	808	1313	371	46	8	0	0	1	0	0	0	2781		
Percent	2.9%	0.4%	5.1%	29.1%	47.2%	13.3%	1.7%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile :	26 MPH
50th Percentile :	31 MPH
85th Percentile :	35 MPH
95th Percentile :	38 MPH

Statistics

10 MPH Pace Speed :	26-35 MPH
Number in Pace :	2121
Percent in Pace :	76.3%
Number of Vehicles > 55 MPH :	1
Percent of Vehicles > 55 MPH :	0.0%
Mean Speed(Average) :	31 MPH

1e

TRIP GENERATION CALCULATIONS
Existing Conditions

Land Use: Single-Family Detached Housing
Land Use Code: 210
Setting/Location General Urban/Suburban
Variable: Dwelling Units
Variable Value: 1

AM PEAK HOUR

Trip Rate: 0.74

	Enter	Exit	Total
Directional Distribution	25%	75%	
Trip Ends	**0**	**1**	**1**

PM PEAK HOUR

Trip Rate: 0.99

	Enter	Exit	Total
Directional Distribution	63%	37%	
Trip Ends	**1**	**0**	**1**

WEEKDAY

Trip Rate: 9.44

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**5**	**5**	**10**

SATURDAY

Trip Rate: 9.54

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**5**	**5**	**10**

Source: Trip Generation Manual, Tenth Edition

1e

TRIP GENERATION CALCULATIONS
Proposed Conditions

Land Use: Single-Family Detached Housing
Land Use Code: 210
Setting/Location General Urban/Suburban
Variable: Dwelling Units
Variable Value: 82

AM PEAK HOUR

Trip Rate: 0.74

	Enter	Exit	Total
Directional Distribution	25%	75%	
Trip Ends	**15**	**46**	**61**

PM PEAK HOUR

Trip Rate: 0.99

	Enter	Exit	Total
Directional Distribution	63%	37%	
Trip Ends	**51**	**30**	**81**

WEEKDAY

Trip Rate: 9.44

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**387**	**387**	**774**

SATURDAY

Trip Rate: 9.54

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**391**	**391**	**782**

Source: Trip Generation Manual, Tenth Edition

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

TERRITORIAL RD at HOLLY ST, City of Canby, Clackamas County, 01/01/2013 to 12/31/2017

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2016														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2016 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**
YEAR: 2014														
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	0	1	1	0	0
YEAR 2014 TOTAL	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**1**	**1**	**0**	**0**
YEAR: 2013														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2013 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**
FINAL TOTAL	**0**	**1**	**2**	**3**	**0**	**1**	**0**	**3**	**0**	**2**	**1**	**3**	**0**	**0**

CDS380
06/27/2019

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF CANBY, CLACKAMAS COUNTY

TERRITORIAL RD at HOLLY ST, City of Canby, Clackamas County, 01/01/2013 to 12/31/2017

1 - 3 of 3 Crash records shown.

SER# INVEST RD DPT UNLOC?	S P E E D	A L C	D R U G S	M J I N V	S C H L	W O R K	DATE DAY TIME LAT	CLASS DIST FROM LONG	CITY STREET FIRST STREET SECOND STREET LRS	RD CHAR DIRECT LOCTN	INT-TYPE (MEDIAN) LEGS (#LANES)	INT-REL TRAF- CONTL	OFFRD RNDBT DRVWY	WTHR SURF LIGHT	CRASH COLL SVRTY	V#	SPCL USE TRLR QTY OWNER TYPE	MOVE FROM TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
00788	N	N	N				03/07/2013	16	NW HOLLY ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02
NONE							TH	0	NE TERRITORIAL RD	CN		STOP SIGN	N	DRY	ANGL		PRVTE	SW-NE									015		00
N							7A			01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	62	F	OR-Y		028	026		02
N							45 16 30.9973439	-122 41 49.291656																OR<25					
																02	NONE 0	STRGHT											
																	PRVTE	N -S									015		00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																								OR<25					
00948	N	N	N				03/07/2014	16	NW HOLLY ST	INTER	CROSS	N	N	CLR	BIKE													110	03
CITY							FR	0	NE TERRITORIAL RD	CN		STOP SIGN	N	DRY	TURN			-											
N							5P			02	0		N	DUSK	INJ			STRGHT	01	BIKE	INJB	54	M		I INRD	021	034		03
N							45 16 30.9973439	-122 41 49.291656										S N											
																01	NONE 0	STRGHT											
																	PRVTE	NE-SW									015		00
																	PSNGR CAR		01	DRVR	NONE	49	F	OR-Y		000	000		00
																								OR<25					
00637	N	N	N				02/08/2016	16	NW HOLLY ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 9	STRGHT											02
NO RPT							MO	0	NE TERRITORIAL RD	CN		STOP SIGN	N	DRY	ANGL		N/A	NE-SW									015		00
N							7A			01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N							45 16 31	-122 41 49.29																UNK					
																02	NONE 9	STRGHT											
																	N/A	S -N									015		00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																								UNK					

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

TERRITORIAL RD at LOCUST ST, City of Canby, Clackamas County, 01/01/2013 to 12/31/2017

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
ANGLE	0	1	1	2	0	1	0	1	1	1	1	2	0	0
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2015 TOTAL	**0**	**1**	**2**	**3**	**0**	**1**	**0**	**2**	**1**	**2**	**1**	**3**	**0**	**0**
YEAR: 2013														
ANGLE	0	1	0	1	0	1	0	0	0	1	0	1	0	0
YEAR 2013 TOTAL	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**
FINAL TOTAL	**0**	**2**	**2**	**4**	**0**	**2**	**0**	**2**	**1**	**3**	**1**	**4**	**0**	**0**

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF CANBY, CLACKAMAS COUNTY

TERRITORIAL RD at LOCUST ST, City of Canby, Clackamas County, 01/01/2013 to 12/31/2017

1 - 4 of 4 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	D R A L C	M J U G S	S I N V	W C O H L	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
04931	N	N	N			11/20/2015	16	NE LOCUST ST	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE						FR	0	NE TERRITORIAL RD	NE		UNKNOWN	N	DRY	REAR		PRVTE	NE-SW									000		00
N						3P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	57	F	OR-Y		026	000		29
N						45 16 33.69	-122 41 30.78																OR<25					
															02	NONE 0	STOP											
																PRVTE	NE-SW									011		00
																PSNGR CAR		01	DRVR	NONE	50	F	OR-Y		000	000		00
																							OR<25					
00885	N	N	N			03/16/2013	16	NE LOCUST ST	INTER	CROSS	N	N	UNK	ANGL-OTH	01	NONE 0	STRGHT											02
NONE						SA	0	NE TERRITORIAL RD	CN		STOP SIGN	N	UNK	ANGL		PRVTE	SW-NE									000		00
N						6P			04	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	40	F	OR-Y		000	000		00
N						45 16 33.6930959	-122 41 30.781572																OR<25					
															02	NONE 0	STRGHT											
																PRVTE	S -N									015		00
																PSNGR CAR		01	DRVR	INJC	17	M	OR-Y		028	000		02
																							OR<25					
01814	N	N	N	N	N	05/13/2015	16	NE LOCUST ST	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE 0	STRGHT											02
CITY						WE	0	NE TERRITORIAL RD	CN		STOP SIGN	N	WET	ANGL		PRVTE	S -N									015		00
N						8P			02	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	17	M	OR-Y		028	000		02
N						45 16 33.69	-122 41 30.78																OR<25					
															02	NONE 0	STRGHT											
																PRVTE	NE-SW									000		00
																PSNGR CAR		01	DRVR	INJB	48	M	OR-Y		000	000		00
																							OR<25					
05086	N	N	N	N	N	12/01/2015	16	NE LOCUST ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										082	02
CITY						TU	0	NE TERRITORIAL RD	CN		STOP SIGN	N	DRY	ANGL		PRVTE	N -S									015		00
N						11A			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	84	F	OR-Y		028	000	082	02
N						45 16 33.69	-122 41 30.78																OR<25					
															02	NONE 0	STRGHT											
																PRVTE	W -E									000		00
																PSNGR CAR		01	DRVR	NONE	38	F	OR-Y		000	000		00
																							OR<25					

Left-Turn Lane Warrant Analysis

Project: Dodds Subdivision
Intersection: 2. NE Territorial Road at N Locust Street
Date: 12/5/2019
Scenario: 2022 Buildout Conditions - AM Peak Hour (EB)

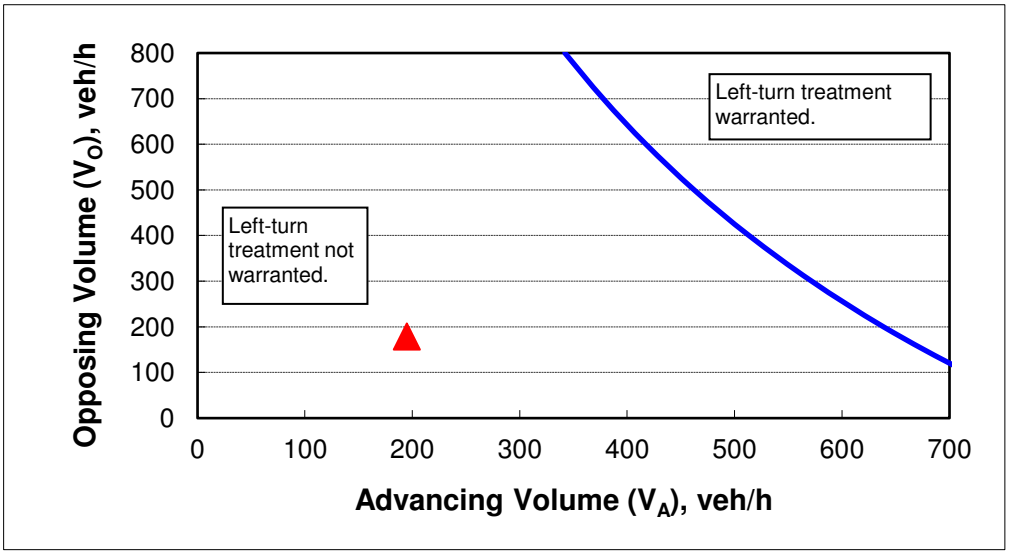
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	30
Percent of left-turns in advancing volume (V_A), %:	6%
Advancing volume (V_A), veh/h:	195
Opposing volume (V_O), veh/h:	179

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	654
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: Dodds Subdivision
Intersection: 2. NE Territorial Road at N Locust Street
Date: 12/5/2019
Scenario: 2022 Buildout Conditions - AM Peak Hour (WB)

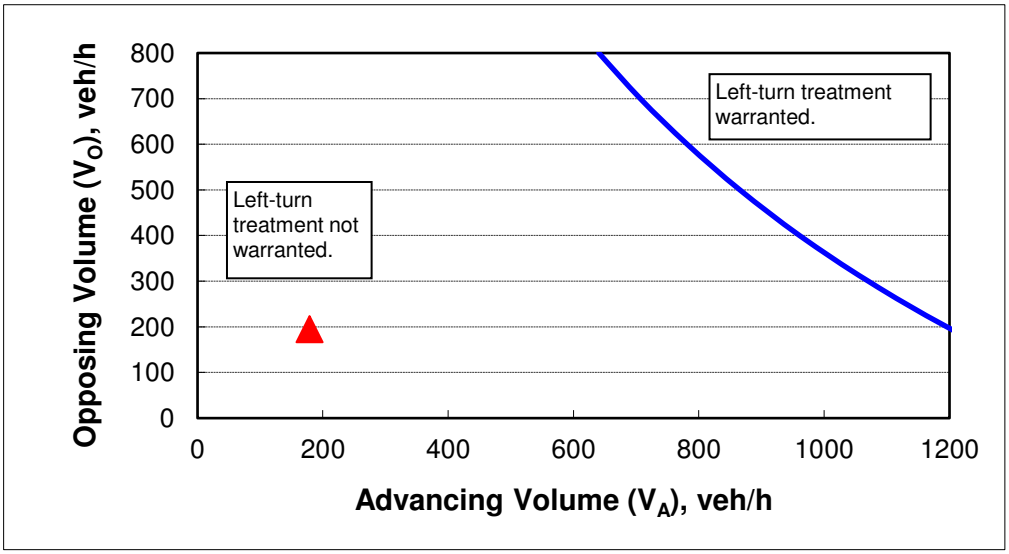
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	30
Percent of left-turns in advancing volume (V_A), %:	2%
Advancing volume (V_A), veh/h:	179
Opposing volume (V_O), veh/h:	195

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	1203
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: Dodds Subdivision
Intersection: 2. NE Territorial Road at N Locust Street
Date: 12/5/2019
Scenario: 2022 Buildout Conditions - PM Peak Hour (EB)

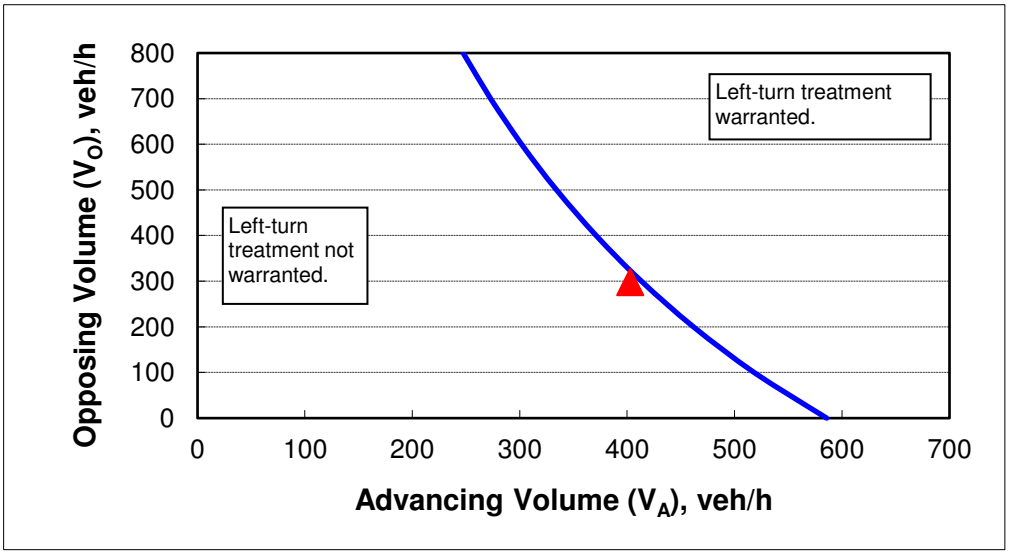
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	30
Percent of left-turns in advancing volume (V_A), %:	13%
Advancing volume (V_A), veh/h:	403
Opposing volume (V_O), veh/h:	298

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	414
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: Dodds Subdivision
Intersection: 2. NE Territorial Road at N Locust Street
Date: 12/5/2019
Scenario: 2022 Buildout Conditions - PM Peak Hour (WB)

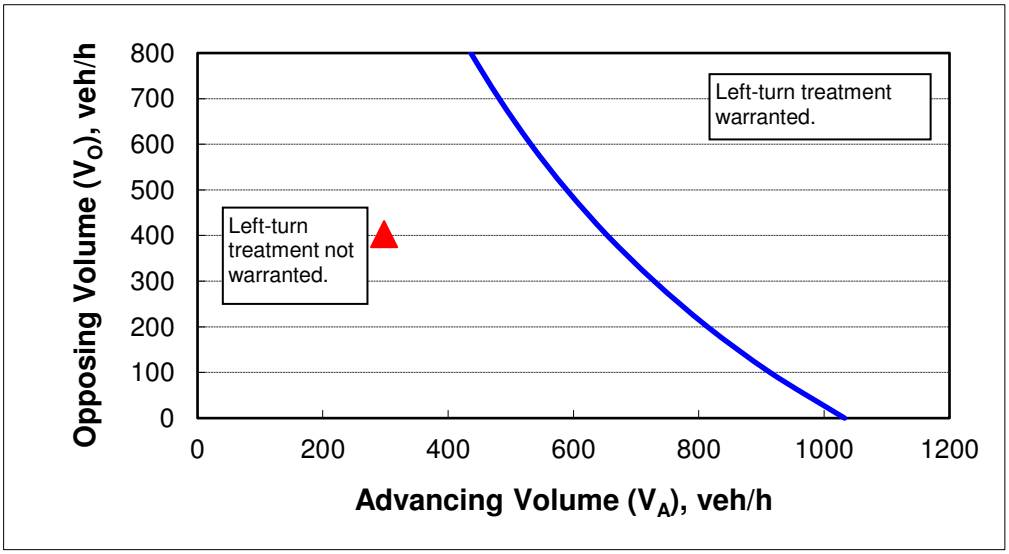
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	30
Percent of left-turns in advancing volume (V_A), %:	4%
Advancing volume (V_A), veh/h:	298
Opposing volume (V_O), veh/h:	403

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	652
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: Dodds Subdivision
Intersection: 3. NE 19th Avenue at N Locust Street
Date: 12/5/2019
Scenario: 2022 Buildout Conditions - AM Peak Hour (NB)

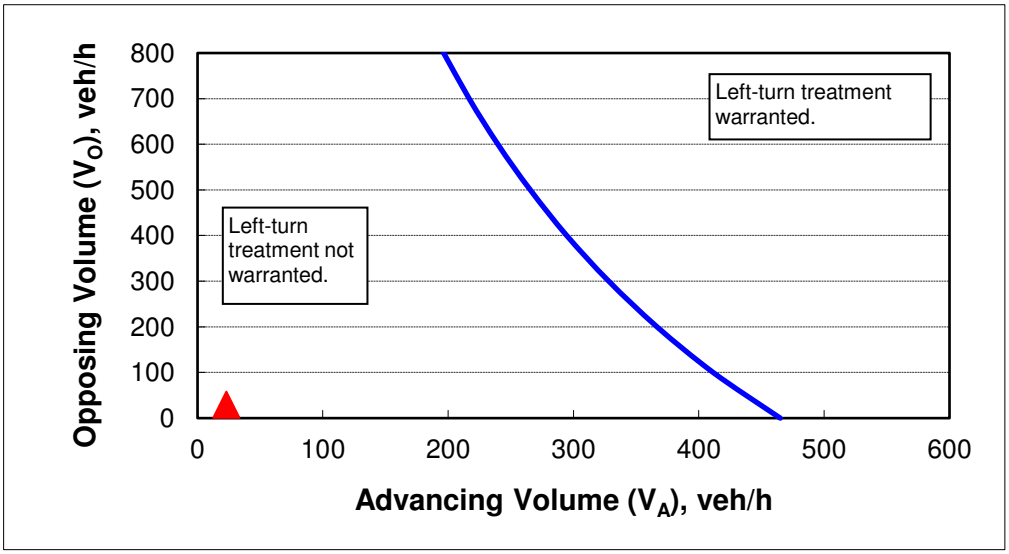
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	25
Percent of left-turns in advancing volume (V_A), %:	26%
Advancing volume (V_A), veh/h:	23
Opposing volume (V_O), veh/h:	29

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	448
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: Dodds Subdivision
Intersection: 3. NE 19th Avenue at N Locust Street
Date: 12/5/2019
Scenario: 2022 Buildout Conditions - AM Peak Hour (SB)

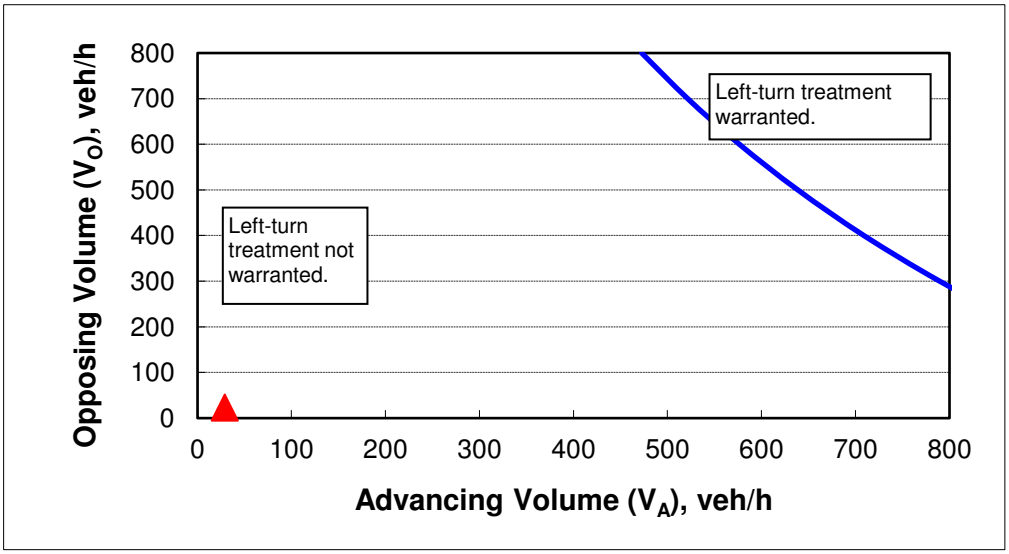
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	25
Percent of left-turns in advancing volume (V_A), %:	3%
Advancing volume (V_A), veh/h:	29
Opposing volume (V_O), veh/h:	23

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	1087
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: Dodds Subdivision
Intersection: 3. NE 19th Avenue at N Locust Street
Date: 12/5/2019
Scenario: 2022 Buildout Conditions - PM Peak Hour (NB)

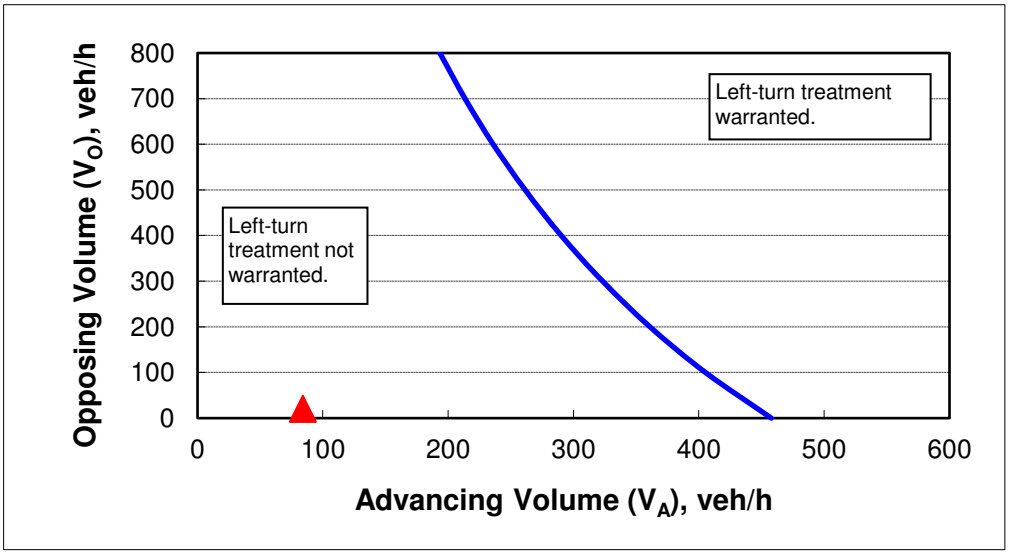
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	25
Percent of left-turns in advancing volume (V_A), %:	27%
Advancing volume (V_A), veh/h:	84
Opposing volume (V_O), veh/h:	20

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	447
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: Dodds Subdivision
Intersection: 3. NE 19th Avenue at N Locust Street
Date: 12/5/2019
Scenario: 2022 Buildout Conditions - PM Peak Hour (SB)

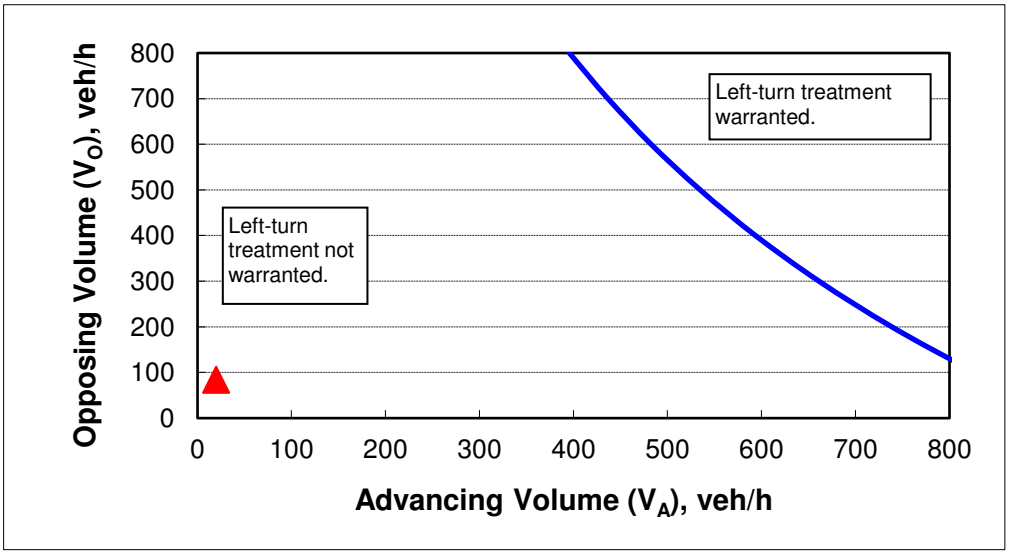
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	25
Percent of left-turns in advancing volume (V_A), %:	5%
Advancing volume (V_A), veh/h:	20
Opposing volume (V_O), veh/h:	84

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	845
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: Dodds Subdivision
Intersection: 4. Site Access at N Locust Street
Date: 12/5/2019
Scenario: 2022 Buildout Conditions - AM Peak Hour (SB)

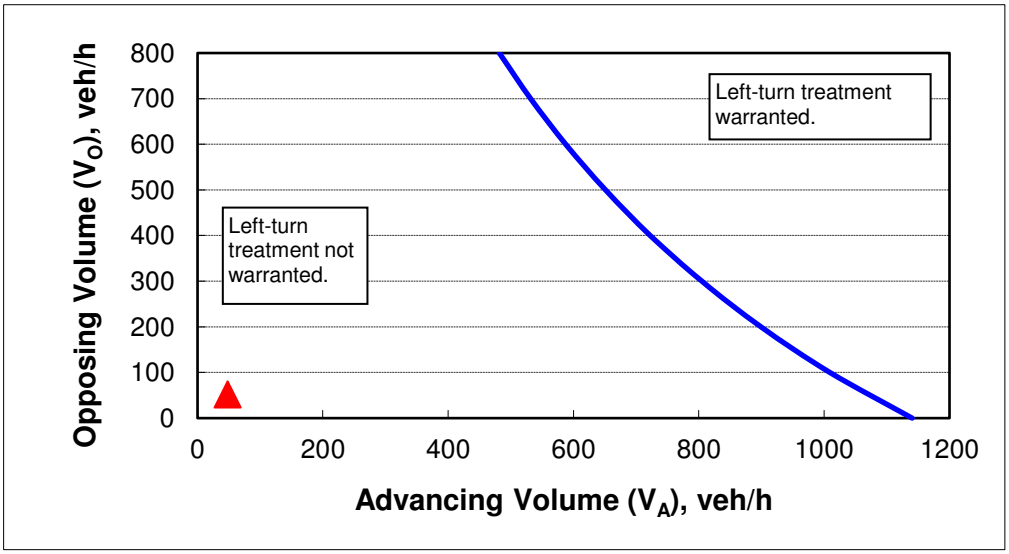
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	2%
Advancing volume (V_A), veh/h:	48
Opposing volume (V_O), veh/h:	52

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	1069
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: Dodds Subdivision
Intersection: 4. Site Access at N Locust Street
Date: 12/5/2019
Scenario: 2022 Buildout Conditions - PM Peak Hour (SB)

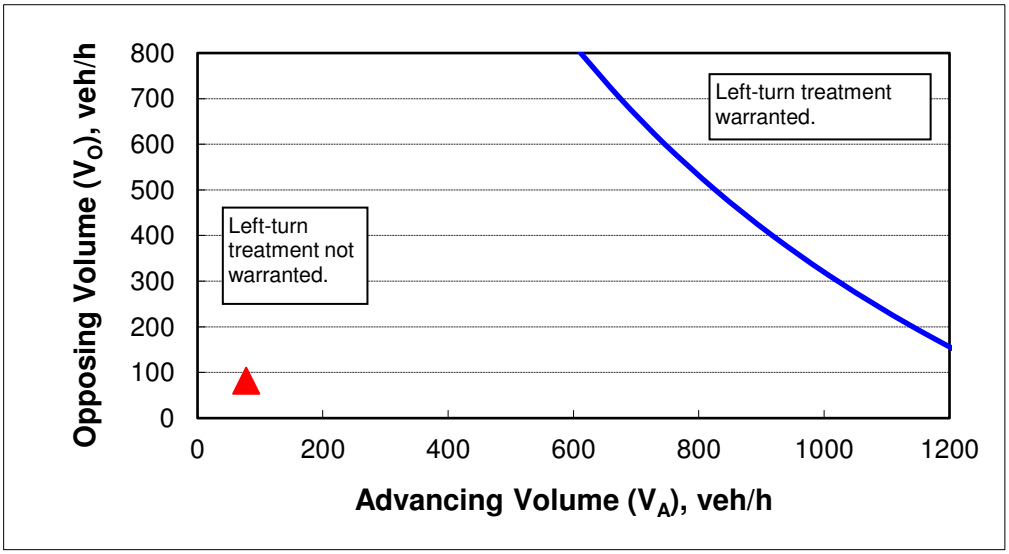
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	1%
Advancing volume (V_A), veh/h:	78
Opposing volume (V_O), veh/h:	82

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	1309
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: Dodds Subdivision
Intersection: 5. Site Access at N Locust Street
Date: 12/5/2019
Scenario: 2022 Buildout Conditions - AM Peak Hour (SB)

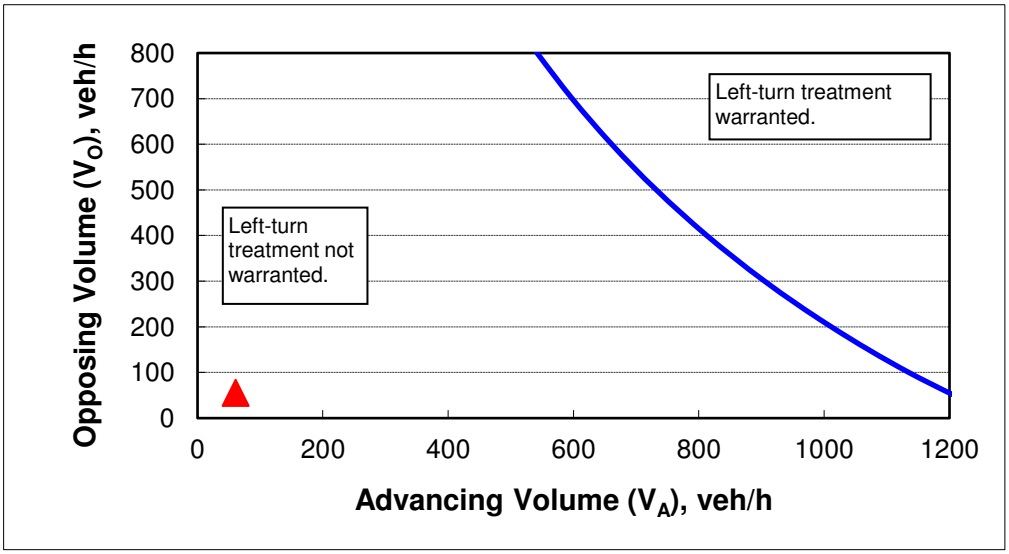
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	2%
Advancing volume (V_A), veh/h:	61
Opposing volume (V_O), veh/h:	55

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	1198
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: Dodds Subdivision
Intersection: 5. Site Access at N Locust Street
Date: 12/5/2019
Scenario: 2022 Buildout Conditions - PM Peak Hour (SB)

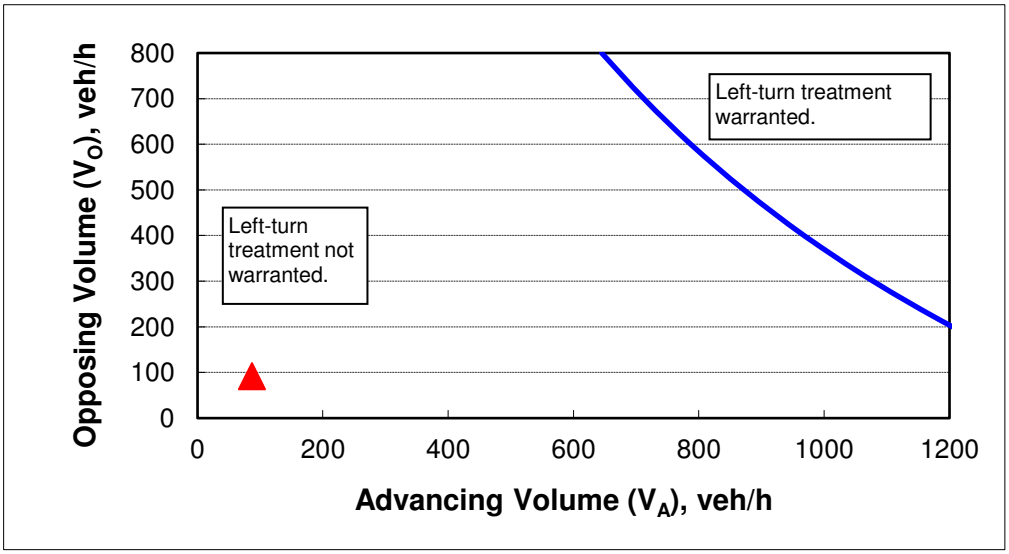
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	1%
Advancing volume (V_A), veh/h:	87
Opposing volume (V_O), veh/h:	92

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	1366
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Traffic Signal Warrant Analysis

Project: Dodds Subdivision
Date: 12/4/2019
Scenario: 2022 Buildout Conditions

Major Street:	NW Territorial Road	Minor Street:	N Holly Street
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	408	PM Peak Hour Volumes:	163

Warrant Used:

X 100 percent of standard warrants used

_____ 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	4,080	8,850	
Minor Street*	1,630	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	4,080	13,300	
Minor Street*	1,630	1,350	**No**
Combination Warrant			
Major Street	4,080	10,640	
Minor Street*	1,630	2,120	**No**

Note: Minor street right-turning traffic volumes reduced by 25%.

Traffic Signal Warrant Analysis

Project: Dodds Subdivision
Date: 12/4/2019
Scenario: 2022 Buildout Conditions

Major Street:	NE Territorial Road	Minor Street:	N Locust Street
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	701	PM Peak Hour Volumes:	44

Warrant Used:

X 100 percent of standard warrants used

_____ 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	7,010	8,850	
Minor Street*	440	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	7,010	13,300	
Minor Street*	440	1,350	**No**
Combination Warrant			
Major Street	7,010	10,640	
Minor Street*	440	2,120	**No**

Note: Minor street right-turning traffic volumes reduced by 25%.

LEVEL OF SERVICE

Level of service is used to describe the quality of traffic flow. Levels of service A to C are considered good, and rural roads are usually designed for level of service C. Urban streets and signalized intersections are typically designed for level of service D. Level of service E is considered to be the limit of acceptable delay. For unsignalized intersections, level of service E is generally considered acceptable. Here is a more complete description of levels of service:

Level of service A: Very low delay at intersections, with all traffic signal cycles clearing and no vehicles waiting through more than one signal cycle. On highways, low volume and high speeds, with speeds not restricted by other vehicles.

Level of service B: Operating speeds beginning to be affected by other traffic; short traffic delays at intersections. Higher average intersection delay than for level of service A resulting from more vehicles stopping.

Level of service C: Operating speeds and maneuverability closely controlled by other traffic; higher delays at intersections than for level of service B due to a significant number of vehicles stopping. Not all signal cycles clear the waiting vehicles. This is the recommended design standard for rural highways.

Level of service D: Tolerable operating speeds; long traffic delays occur at intersections. The influence of congestion is noticeable. At traffic signals many vehicles stop, and the proportion of vehicles not stopping declines. The number of signal cycle failures, for which vehicles must wait through more than one signal cycle, are noticeable. This is typically the design level for urban signalized intersections.

Level of service E: Restricted speeds, very long traffic delays at traffic signals, and traffic volumes near capacity. Flow is unstable so that any interruption, no matter how minor, will cause queues to form and service to deteriorate to level of service F. Traffic signal cycle failures are frequent occurrences. For unsignalized intersections, level of service E or better is generally considered acceptable.

Level of service F: Extreme delays, resulting in long queues which may interfere with other traffic movements. There may be stoppages of long duration, and speeds may drop to zero. There may be frequent signal cycle failures. Level of service F will typically result when vehicle arrival rates are greater than capacity. It is considered unacceptable by most drivers.

1e

LEVEL OF SERVICE CRITERIA
FOR SIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-20
C	20-35
D	35-55
E	55-80
F	>80

LEVEL OF SERVICE CRITERIA
FOR UNSIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-15
C	15-25
D	25-35
E	35-50
F	>50

HCM 6th AWSC
1: Holly Street & Territorial Road

09/07/2018

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	74	2	68	54	16	1	16	50	14	19	10
Future Vol, veh/h	4	74	2	68	54	16	1	16	50	14	19	10
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	0	0	0	2	2	2	4	4	4	5	5	5
Mvmt Flow	5	84	2	77	61	18	1	18	57	16	22	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.9	8.4	7.6	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	5%	49%	33%
Vol Thru, %	24%	93%	39%	44%
Vol Right, %	75%	3%	12%	23%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	67	80	138	43
LT Vol	1	4	68	14
Through Vol	16	74	54	19
RT Vol	50	2	16	10
Lane Flow Rate	76	91	157	49
Geometry Grp	1	1	1	1
Degree of Util (X)	0.088	0.11	0.19	0.062
Departure Headway (Hd)	4.138	4.34	4.353	4.552
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	867	827	830	788
Service Time	2.156	2.357	2.353	2.571
HCM Lane V/C Ratio	0.088	0.11	0.189	0.062
HCM Control Delay	7.6	7.9	8.4	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.4	0.7	0.2

HCM 6th TWSC
2: Locust Street & Territorial Road

09/07/2018

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	156	1	3	148	5	3	2	5	5	1	24
Future Vol, veh/h	7	156	1	3	148	5	3	2	5	5	1	24
Conflicting Peds, #/hr	0	0	8	8	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	1	1	1	10	10	10	3	3	3
Mvmt Flow	8	171	1	3	163	5	3	2	5	5	1	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	168	0	0	180	0	0	381	370	181	364	368	166
Stage 1	-	-	-	-	-	-	196	196	-	172	172	-
Stage 2	-	-	-	-	-	-	185	174	-	192	196	-
Critical Hdwy	4.12	-	-	4.11	-	-	7.2	6.6	6.3	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.2	5.6	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.2	5.6	-	6.13	5.53	-
Follow-up Hdwy	2.218	-	-	2.209	-	-	3.59	4.09	3.39	3.527	4.027	3.327
Pot Cap-1 Maneuver	1410	-	-	1402	-	-	563	547	841	590	559	876
Stage 1	-	-	-	-	-	-	788	724	-	828	755	-
Stage 2	-	-	-	-	-	-	799	740	-	807	737	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1410	-	-	1391	-	-	538	538	834	580	550	876
Mov Cap-2 Maneuver	-	-	-	-	-	-	538	538	-	580	550	-
Stage 1	-	-	-	-	-	-	777	714	-	823	753	-
Stage 2	-	-	-	-	-	-	772	739	-	794	727	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	10.6	9.7
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	654	1410	-	-	1391	-	-	793
HCM Lane V/C Ratio	0.017	0.005	-	-	0.002	-	-	0.042
HCM Control Delay (s)	10.6	7.6	0	-	7.6	0	-	9.7
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	1	8	6	1	24
Future Vol, veh/h	10	1	8	6	1	24
Conflicting Peds, #/hr	0	0	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	13	1	10	8	1	30

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	47	15	0	0	19	0
Stage 1	15	-	-	-	-	-
Stage 2	32	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	968	1070	-	-	1611	-
Stage 1	1013	-	-	-	-	-
Stage 2	996	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	966	1069	-	-	1609	-
Mov Cap-2 Maneuver	966	-	-	-	-	-
Stage 1	1011	-	-	-	-	-
Stage 2	996	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	0.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	975	1609	-
HCM Lane V/C Ratio	-	-	0.014	0.001	-
HCM Control Delay (s)	-	-	8.7	7.2	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

HCM 6th AWSC
1: Holly Street & Territorial Road

09/07/2018

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	130	5	105	87	21	4	27	131	24	42	7
Future Vol, veh/h	4	130	5	105	87	21	4	27	131	24	42	7
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	1	1	1	1	1	1	1	1	1
Mvmt Flow	4	144	6	117	97	23	4	30	146	27	47	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.1	10	8.8	8.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	3%	49%	33%
Vol Thru, %	17%	94%	41%	58%
Vol Right, %	81%	4%	10%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	162	139	213	73
LT Vol	4	4	105	24
Through Vol	27	130	87	42
RT Vol	131	5	21	7
Lane Flow Rate	180	154	237	81
Geometry Grp	1	1	1	1
Degree of Util (X)	0.224	0.205	0.312	0.114
Departure Headway (Hd)	4.475	4.782	4.751	5.079
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	797	746	753	701
Service Time	2.529	2.842	2.808	3.145
HCM Lane V/C Ratio	0.226	0.206	0.315	0.116
HCM Control Delay	8.8	9.1	10	8.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.9	0.8	1.3	0.4

HCM 6th TWSC
2: Locust Street & Territorial Road

09/07/2018

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	32	309	3	10	230	11	5	3	2	10	4	20
Future Vol, veh/h	32	309	3	10	230	11	5	3	2	10	4	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	2	2	2	0	0	0	0	0	0
Mvmt Flow	34	329	3	11	245	12	5	3	2	11	4	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	257	0	0	332	0	0	685	678	331	674	673	251
Stage 1	-	-	-	-	-	-	399	399	-	273	273	-
Stage 2	-	-	-	-	-	-	286	279	-	401	400	-
Critical Hdwy	4.1	-	-	4.12	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.218	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1320	-	-	1227	-	-	365	377	715	371	379	793
Stage 1	-	-	-	-	-	-	631	606	-	737	688	-
Stage 2	-	-	-	-	-	-	726	683	-	630	605	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1320	-	-	1227	-	-	341	361	715	356	363	793
Mov Cap-2 Maneuver	-	-	-	-	-	-	341	361	-	356	363	-
Stage 1	-	-	-	-	-	-	611	587	-	713	681	-
Stage 2	-	-	-	-	-	-	695	676	-	605	586	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.3	14.5	12.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	388	1320	-	-	1227	-	-	529
HCM Lane V/C Ratio	0.027	0.026	-	-	0.009	-	-	0.068
HCM Control Delay (s)	14.5	7.8	0	-	8	0	-	12.3
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	1	28	24	1	17
Future Vol, veh/h	19	1	28	24	1	17
Conflicting Peds, #/hr	0	0	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	23	1	35	30	1	21

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	75	52	0	0	67	0
Stage 1	52	-	-	-	-	-
Stage 2	23	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	933	1021	-	-	1547	-
Stage 1	976	-	-	-	-	-
Stage 2	1005	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	930	1019	-	-	1544	-
Mov Cap-2 Maneuver	930	-	-	-	-	-
Stage 1	973	-	-	-	-	-
Stage 2	1005	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	934	1544	-
HCM Lane V/C Ratio	-	-	0.026	0.001	-
HCM Control Delay (s)	-	-	9	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

HCM 6th AWSC
1: Holly Street & Territorial Road

09/07/2018

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	82	2	75	60	18	1	18	55	16	21	11
Future Vol, veh/h	4	82	2	75	60	18	1	18	55	16	21	11
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	0	0	0	2	2	2	4	4	4	5	5	5
Mvmt Flow	5	93	2	85	68	20	1	20	63	18	24	13
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8	8.6	7.7	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	5%	49%	33%
Vol Thru, %	24%	93%	39%	44%
Vol Right, %	74%	2%	12%	23%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	74	88	153	48
LT Vol	1	4	75	16
Through Vol	18	82	60	21
RT Vol	55	2	18	11
Lane Flow Rate	84	100	174	55
Geometry Grp	1	1	1	1
Degree of Util (X)	0.098	0.122	0.212	0.07
Departure Headway (Hd)	4.211	4.395	4.381	4.63
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	853	817	821	775
Service Time	2.229	2.413	2.398	2.649
HCM Lane V/C Ratio	0.098	0.122	0.212	0.071
HCM Control Delay	7.7	8	8.6	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.4	0.8	0.2

HCM 6th TWSC
2: Locust Street & Territorial Road

09/07/2018

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	173	1	3	164	6	3	2	6	6	1	27
Future Vol, veh/h	8	173	1	3	164	6	3	2	6	6	1	27
Conflicting Peds, #/hr	0	0	8	8	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	1	1	1	10	10	10	3	3	3
Mvmt Flow	9	190	1	3	180	7	3	2	7	7	1	30

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	187	0	0	199	0	0	422	410	200	404	407	184
Stage 1	-	-	-	-	-	-	217	217	-	190	190	-
Stage 2	-	-	-	-	-	-	205	193	-	214	217	-
Critical Hdwy	4.12	-	-	4.11	-	-	7.2	6.6	6.3	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.2	5.6	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.2	5.6	-	6.13	5.53	-
Follow-up Hdwy	2.218	-	-	2.209	-	-	3.59	4.09	3.39	3.527	4.027	3.327
Pot Cap-1 Maneuver	1387	-	-	1379	-	-	528	519	821	555	532	856
Stage 1	-	-	-	-	-	-	767	709	-	809	741	-
Stage 2	-	-	-	-	-	-	779	726	-	786	721	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1387	-	-	1368	-	-	502	510	814	544	523	856
Mov Cap-2 Maneuver	-	-	-	-	-	-	502	510	-	544	523	-
Stage 1	-	-	-	-	-	-	755	698	-	803	740	-
Stage 2	-	-	-	-	-	-	749	725	-	771	710	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	10.8	10
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	637	1387	-	-	1368	-	-	764
HCM Lane V/C Ratio	0.019	0.006	-	-	0.002	-	-	0.049
HCM Control Delay (s)	10.8	7.6	0	-	7.6	0	-	10
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

HCM 6th TWSC
3: Locust Street & 19th Avenue

09/07/2018

Intersection	
Int Delay, s/veh	2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	1	9	7	1	27
Future Vol, veh/h	11	1	9	7	1	27
Conflicting Peds, #/hr	0	0	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	14	1	11	9	1	34

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	53	17	0	0	21	0
Stage 1	17	-	-	-	-	-
Stage 2	36	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	960	1068	-	-	1608	-
Stage 1	1011	-	-	-	-	-
Stage 2	992	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	958	1067	-	-	1606	-
Mov Cap-2 Maneuver	958	-	-	-	-	-
Stage 1	1009	-	-	-	-	-
Stage 2	992	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	966	1606	-
HCM Lane V/C Ratio	-	-	0.016	0.001	-
HCM Control Delay (s)	-	-	8.8	7.2	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

HCM 6th AWSC
1: Holly Street & Territorial Road

09/07/2018

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	144	6	116	96	23	4	30	145	27	47	8
Future Vol, veh/h	4	144	6	116	96	23	4	30	145	27	47	8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	1	1	1	1	1	1	1	1	1
Mvmt Flow	4	160	7	129	107	26	4	33	161	30	52	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.5	10.6	9.3	9.1
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	3%	49%	33%
Vol Thru, %	17%	94%	41%	57%
Vol Right, %	81%	4%	10%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	179	154	235	82
LT Vol	4	4	116	27
Through Vol	30	144	96	47
RT Vol	145	6	23	8
Lane Flow Rate	199	171	261	91
Geometry Grp	1	1	1	1
Degree of Util (X)	0.254	0.233	0.352	0.132
Departure Headway (Hd)	4.603	4.899	4.858	5.226
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	774	726	734	679
Service Time	2.674	2.979	2.932	3.311
HCM Lane V/C Ratio	0.257	0.236	0.356	0.134
HCM Control Delay	9.3	9.5	10.6	9.1
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	1	0.9	1.6	0.5

HCM 6th TWSC
2: Locust Street & Territorial Road

09/07/2018

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	35	343	3	11	255	12	6	3	2	11	4	22
Future Vol, veh/h	35	343	3	11	255	12	6	3	2	11	4	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	2	2	2	0	0	0	0	0	0
Mvmt Flow	37	365	3	12	271	13	6	3	2	12	4	23

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	284	0	0	368	0	0	756	749	367	745	744	278
Stage 1	-	-	-	-	-	-	441	441	-	302	302	-
Stage 2	-	-	-	-	-	-	315	308	-	443	442	-
Critical Hdwy	4.1	-	-	4.12	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.218	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1290	-	-	1191	-	-	327	343	683	333	345	766
Stage 1	-	-	-	-	-	-	599	580	-	712	668	-
Stage 2	-	-	-	-	-	-	700	664	-	598	580	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1290	-	-	1191	-	-	302	327	683	318	328	766
Mov Cap-2 Maneuver	-	-	-	-	-	-	302	327	-	318	328	-
Stage 1	-	-	-	-	-	-	577	559	-	686	660	-
Stage 2	-	-	-	-	-	-	666	656	-	571	559	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.3	15.8	13
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	344	1290	-	-	1191	-	-	490
HCM Lane V/C Ratio	0.034	0.029	-	-	0.01	-	-	0.08
HCM Control Delay (s)	15.8	7.9	0	-	8.1	0	-	13
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	1	31	27	1	19
Future Vol, veh/h	21	1	31	27	1	19
Conflicting Peds, #/hr	0	0	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	26	1	38	33	1	23

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	82	57	0	0	73	0
Stage 1	57	-	-	-	-	-
Stage 2	25	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	925	1015	-	-	1540	-
Stage 1	971	-	-	-	-	-
Stage 2	1003	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	922	1013	-	-	1537	-
Mov Cap-2 Maneuver	922	-	-	-	-	-
Stage 1	968	-	-	-	-	-
Stage 2	1003	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	926	1537	-
HCM Lane V/C Ratio	-	-	0.029	0.001	-
HCM Control Delay (s)	-	-	9	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

HCM 6th AWSC
1: Holly Street & Territorial Road

06/28/2019

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	83	2	82	62	21	1	23	57	25	34	11
Future Vol, veh/h	4	83	2	82	62	21	1	23	57	25	34	11
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	0	0	0	2	2	2	4	4	4	5	5	5
Mvmt Flow	5	94	2	93	70	24	1	26	65	28	39	13
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.2	8.8	7.9	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	4%	50%	36%
Vol Thru, %	28%	93%	38%	49%
Vol Right, %	70%	2%	13%	16%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	81	89	165	70
LT Vol	1	4	82	25
Through Vol	23	83	62	34
RT Vol	57	2	21	11
Lane Flow Rate	92	101	188	80
Geometry Grp	1	1	1	1
Degree of Util (X)	0.11	0.126	0.233	0.105
Departure Headway (Hd)	4.31	4.501	4.466	4.732
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	832	797	804	758
Service Time	2.336	2.527	2.489	2.758
HCM Lane V/C Ratio	0.111	0.127	0.234	0.106
HCM Control Delay	7.9	8.2	8.8	8.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.4	0.9	0.4

HCM 6th TWSC
2: Locust Street & Territorial Road

06/28/2019

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	182	1	3	167	9	3	2	6	15	1	41
Future Vol, veh/h	12	182	1	3	167	9	3	2	6	15	1	41
Conflicting Peds, #/hr	0	0	8	8	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	1	1	1	10	10	10	3	3	3
Mvmt Flow	13	200	1	3	184	10	3	2	7	16	1	45

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	194	0	0	209	0	0	453	435	210	427	430	189
Stage 1	-	-	-	-	-	-	235	235	-	195	195	-
Stage 2	-	-	-	-	-	-	218	200	-	232	235	-
Critical Hdwy	4.12	-	-	4.11	-	-	7.2	6.6	6.3	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.2	5.6	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.2	5.6	-	6.13	5.53	-
Follow-up Hdwy	2.218	-	-	2.209	-	-	3.59	4.09	3.39	3.527	4.027	3.327
Pot Cap-1 Maneuver	1379	-	-	1368	-	-	504	502	810	536	516	850
Stage 1	-	-	-	-	-	-	750	696	-	804	737	-
Stage 2	-	-	-	-	-	-	766	721	-	769	709	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1379	-	-	1358	-	-	468	491	803	524	505	850
Mov Cap-2 Maneuver	-	-	-	-	-	-	468	491	-	524	505	-
Stage 1	-	-	-	-	-	-	736	683	-	795	736	-
Stage 2	-	-	-	-	-	-	723	720	-	751	696	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.1	11	10.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	613	1379	-	-	1358	-	-	723
HCM Lane V/C Ratio	0.02	0.01	-	-	0.002	-	-	0.087
HCM Control Delay (s)	11	7.6	0	-	7.7	0	-	10.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.3

HCM 6th TWSC
3: Locust Street & 19th Avenue

06/28/2019

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	21	11	1	1	6	10	7	1	29	1
Future Vol, veh/h	1	1	21	11	1	1	6	10	7	1	29	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	1	26	14	1	1	8	13	9	1	36	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	74	78	37	87	74	19	37	0	0	23	0	0
Stage 1	39	39	-	35	35	-	-	-	-	-	-	-
Stage 2	35	39	-	52	39	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	916	812	1035	904	820	1065	1587	-	-	1605	-	-
Stage 1	976	862	-	986	870	-	-	-	-	-	-	-
Stage 2	981	862	-	966	866	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	910	806	1035	875	814	1064	1587	-	-	1603	-	-
Mov Cap-2 Maneuver	910	806	-	875	814	-	-	-	-	-	-	-
Stage 1	971	861	-	980	865	-	-	-	-	-	-	-
Stage 2	974	857	-	939	865	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.6	9.2	1.9	0.2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1587	-	-	1016	882	1603	-	-
HCM Lane V/C Ratio	0.005	-	-	0.028	0.018	0.001	-	-
HCM Control Delay (s)	7.3	0	-	8.6	9.2	7.2	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	1	47	5	1	48
Future Vol, veh/h	13	1	47	5	1	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	1	51	5	1	52

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	108	54	0	0	56	0
Stage 1	54	-	-	-	-	-
Stage 2	54	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	889	1013	-	-	1549	-
Stage 1	969	-	-	-	-	-
Stage 2	969	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	888	1013	-	-	1549	-
Mov Cap-2 Maneuver	888	-	-	-	-	-
Stage 1	968	-	-	-	-	-
Stage 2	969	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	896	1549	-
HCM Lane V/C Ratio	-	-	0.017	0.001	-
HCM Control Delay (s)	-	-	9.1	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	1	52	3	1	61
Future Vol, veh/h	9	1	52	3	1	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	1	57	3	1	66

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	127	59	0	0	60	0
Stage 1	59	-	-	-	-	-
Stage 2	68	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	868	1007	-	-	1544	-
Stage 1	964	-	-	-	-	-
Stage 2	955	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	867	1007	-	-	1544	-
Mov Cap-2 Maneuver	867	-	-	-	-	-
Stage 1	963	-	-	-	-	-
Stage 2	955	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	879	1544	-
HCM Lane V/C Ratio	-	-	0.012	0.001	-
HCM Control Delay (s)	-	-	9.1	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

HCM 6th AWSC
1: Holly Street & Territorial Road

12/04/2019

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	147	6	121	97	33	4	44	153	33	56	8
Future Vol, veh/h	4	147	6	121	97	33	4	44	153	33	56	8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	1	1	1	1	1	1	1	1	1
Mvmt Flow	4	163	7	134	108	37	4	49	170	37	62	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.9	11.3	9.9	9.6
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	3%	48%	34%
Vol Thru, %	22%	94%	39%	58%
Vol Right, %	76%	4%	13%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	201	157	251	97
LT Vol	4	4	121	33
Through Vol	44	147	97	56
RT Vol	153	6	33	8
Lane Flow Rate	223	174	279	108
Geometry Grp	1	1	1	1
Degree of Util (X)	0.3	0.25	0.392	0.163
Departure Headway (Hd)	4.831	5.15	5.065	5.455
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	746	698	714	657
Service Time	2.846	3.18	3.079	3.489
HCM Lane V/C Ratio	0.299	0.249	0.391	0.164
HCM Control Delay	9.9	9.9	11.3	9.6
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	1.3	1	1.9	0.6

HCM 6th TWSC
2: Locust Street & Territorial Road

12/04/2019

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	51	349	3	11	265	22	6	3	2	17	4	31
Future Vol, veh/h	51	349	3	11	265	22	6	3	2	17	4	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	2	2	2	0	0	0	0	0	0
Mvmt Flow	54	371	3	12	282	23	6	3	2	18	4	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	305	0	0	374	0	0	817	810	373	801	800	294
Stage 1	-	-	-	-	-	-	481	481	-	318	318	-
Stage 2	-	-	-	-	-	-	336	329	-	483	482	-
Critical Hdwy	4.1	-	-	4.12	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.218	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1267	-	-	1184	-	-	298	316	678	305	320	750
Stage 1	-	-	-	-	-	-	570	557	-	698	657	-
Stage 2	-	-	-	-	-	-	682	650	-	569	557	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1267	-	-	1184	-	-	268	295	678	286	299	750
Mov Cap-2 Maneuver	-	-	-	-	-	-	268	295	-	286	299	-
Stage 1	-	-	-	-	-	-	539	527	-	660	649	-
Stage 2	-	-	-	-	-	-	640	642	-	533	527	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0.3	17.1	14
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	310	1267	-	-	1184	-	-	456
HCM Lane V/C Ratio	0.038	0.043	-	-	0.01	-	-	0.121
HCM Control Delay (s)	17.1	8	0	-	8.1	0	-	14
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	14	21	1	1	23	34	27	1	20	1
Future Vol, veh/h	1	1	14	21	1	1	23	34	27	1	20	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	2	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	1	17	26	1	1	28	42	33	1	25	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	144	161	26	154	145	61	26	0	0	77	0	0
Stage 1	28	28	-	117	117	-	-	-	-	-	-	-
Stage 2	116	133	-	37	28	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	825	731	1050	817	750	1010	1601	-	-	1535	-	-
Stage 1	989	872	-	892	803	-	-	-	-	-	-	-
Stage 2	889	786	-	984	876	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	811	716	1050	789	734	1008	1601	-	-	1532	-	-
Mov Cap-2 Maneuver	811	716	-	789	734	-	-	-	-	-	-	-
Stage 1	971	871	-	874	787	-	-	-	-	-	-	-
Stage 2	871	770	-	965	875	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.7	9.7	2	0.3
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1601	-	-	1002	794	1532	-	-
HCM Lane V/C Ratio	0.018	-	-	0.02	0.036	0.001	-	-
HCM Control Delay (s)	7.3	0	-	8.7	9.7	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	1	68	14	1	78
Future Vol, veh/h	9	1	68	14	1	78
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	1	74	15	1	85

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	169	82	0	0	89	0
Stage 1	82	-	-	-	-	-
Stage 2	87	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	821	978	-	-	1506	-
Stage 1	941	-	-	-	-	-
Stage 2	936	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	820	978	-	-	1506	-
Mov Cap-2 Maneuver	820	-	-	-	-	-
Stage 1	941	-	-	-	-	-
Stage 2	935	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	833	1506	-
HCM Lane V/C Ratio	-	-	0.013	0.001	-
HCM Control Delay (s)	-	-	9.4	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	1	82	10	1	87
Future Vol, veh/h	6	1	82	10	1	87
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	1	89	11	1	95

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	192	95	0	0	100	0
Stage 1	95	-	-	-	-	-
Stage 2	97	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	797	962	-	-	1493	-
Stage 1	929	-	-	-	-	-
Stage 2	927	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	796	962	-	-	1493	-
Mov Cap-2 Maneuver	796	-	-	-	-	-
Stage 1	929	-	-	-	-	-
Stage 2	926	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	816	1493	-
HCM Lane V/C Ratio	-	-	0.009	0.001	-
HCM Control Delay (s)	-	-	9.5	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Shared LT/Th+RT Lane v/c ratio calculations for applicable Major-Street Approaches

Intersection 2: Territorial/Locust															
		EB							WB						
		Volumes			v/c				Volumes			v/c			
		Th (+RT)	PHF	Adjusted Th/RT	1700 PCPH	Th (+RT)	LT	Total v/c	Th (+RT)	PHF	Adjusted Th/RT	1700 PCPH	Th (+RT)	LT	Total v/c	Max v/c
Existing	AM	157	0.91	173	1700	0.102	0.005	0.11	153	0.91	168	1700	0.099	0.002	0.1	0.11
	PM	312	0.94	332	1700	0.195	0.026	0.22	241	0.94	256	1700	0.151	0.009	0.16	0.22
Background	AM	174	0.91	191	1700	0.112	0.006	0.12	170	0.91	187	1700	0.11	0.002	0.11	0.12
	PM	346	0.94	368	1700	0.216	0.029	0.25	267	0.94	284	1700	0.167	0.01	0.18	0.25
Buildout	AM	183	0.91	201	1700	0.118	0.01	0.13	176	0.91	193	1700	0.114	0.002	0.12	0.13
	PM	352	0.94	374	1700	0.22	0.043	0.26	287	0.94	305	1700	0.179	0.01	0.19	0.26

Intersection 3: 19th/Locust															
		SB							NB						
		Volumes			v/c				Volumes			v/c			
		Th (+RT)	PHF	Adjusted Th/RT	1700 PCPH	Th (+RT)	LT	Total v/c	Th (+RT)	PHF	Adjusted Th/RT	1700 PCPH	Th (+RT)	LT	Total v/c	Max v/c
Existing	AM	24	0.8	30	1700	0.018	0.001	0.02	0	0.8	0	1700	0	0	0	0.02
	PM	17	0.81	21	1700	0.012	0.001	0.01	0	0.81	0	1700	0	0	0	0.01
Background	AM	27	0.8	34	1700	0.02	0.001	0.02	0	0.8	0	1700	0	0	0	0.02
	PM	19	0.81	23	1700	0.014	0.001	0.02	0	0.81	0	1700	0	0	0	0.02
Buildout	AM	30	0.8	38	1700	0.022	0.001	0.02	17	0.8	21	1700	0.012	0.005	0.02	0.02
	PM	21	0.81	26	1700	0.015	0.001	0.02	61	0.81	75	1700	0.044	0.018	0.06	0.06

Intersection 4: Access/Holly								
		SB						
		Volumes			v/c			
		Th (+RT)	PHF	Adjusted Th/RT	1700 PCPH	Th (+RT)	LT	Total v/c
Buildout	AM	48	0.92	52	1700	0.031	0.001	0.03
	PM	78	0.92	85	1700	0.05	0.001	0.05

Intersection 5: Access/Holly								
		SB						
		Volumes			v/c			
		Th (+RT)	PHF	Adjusted Th/RT	1700 PCPH	Th (+RT)	LT	Total v/c
Buildout	AM	61	0.92	66	1700	0.039	0.001	0.04
	PM	87	0.92	95	1700	0.056	0.001	0.06

Pre-Application Meeting

Dodd Subdivision
April 23, 2019

Attended by:

Ryan O'Brien, Stafford Development, 503-780-4051
Chris Kittredge, Kittredge Engineering, 503-708-3942
Jonny Gish, Clackamas Co DTD, 503-742-4707
Bryan Brown, Planning, 503-266-0702
Travis Edge, Wave Broadband, 503-899-3267
Doug Erkson, Canby Utility, 503-263-4331
Jeff G Snyder, Parks, 503-266-0732
Jerry Nelzen, Public Works, 503-266-0759
Sandy Freund, Planning, 503-266-0775
Levi Levasa, Stafford Development Co, 503-250-3651

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STAFFORD DEVELOPMENT COMPANY, Levi Levasa

- We are proposing a new subdivision in the N Holly Development concept area and I think most of you are familiar with this. The master plan is for the entire annexation area and we annexed everything between 22nd Avenue, Territorial Road, N Holly and N Locust Streets. We are now just proposing the subdivision for tax lot 400 and prior to subdividing or may be concurrent with we would like to do a property line adjustment with the small tax lot 500. The owner wants to shrink down their parcel size and once this is complete we will doing 83 lots and one of which will be home to an existing cell tower and I think Wave Broadband uses it and there is a very long term lease on the site for the cell tower, which we placed on lot 67.
- We will have a couple of variance with the offsets of the road and I think we are 10 and 11 ft less than standard between A, B, and C Court intersection spacing.
- We have 10% of the lots are less than the minimum lot size between 6,000 to 7,000 sq ft (eight lots) and one lot over 10,000 sq ft the maximum lot size and we can reduce if we want to stay within the 10%.
- One of the other unique situations we talked about early on in the master planning portion is "F" Street's intersection spacing with N Holly Street and it was how we could have access to these lots, which is not allowed on N Holly Street, but we needed to have a road on this side to make the intersection spacing slightly less than standard as well. We will not have any lots accessing off of N Holly Street, but there will be lots accessing off of N Locust Street. You will see in the preliminary plat we showed the future extensions through this property outside the Urban Growth Boundary (UGB) to show how it works. We will probably get rid of it for the application, but we wanted to show what it would look like in the future.

CITY OF CANBY, PLANNING DEPARTMENT, Sandy Freund

- The spacing between the A and C Courts on NE 19th Avenue with the offset standards and in talking with Hassan it does not look like a variance application but would be an exception to the standards. Ryan asked if it was an exception to the Public Works Standards and Sandy said no it is in the Development Code and the is section 16.46.070. I will send you all the information we are discussing today. Bryan said it is located in both the Public Works Design Standards and the Development Code. Sandy said this may require an access management plan that Hassan and us will look at and it may be a condition of approval but we will need to discuss this further. There is also access management guidelines in 16.46.30 you will need to take a look at that as well in the code. Bryan said what we are trying to do is get you out of the variances and into the access managing code.
- The lots abutting the future park site 68, 69, 21, 20, 11, 10 and 1, we are hoping to have some sort of open visibility type fencing, perhaps a black vinyl coated chain link fence 4-1/2 ft high. This would be ideally having eyes on the park for all safety and visibility.
- The flag lots 20, 11 and 10 we know there is an exception to the spacing requirements, but the minimum frontage is 60 ft wide. We are potentially thinking about reducing the 5 ft spacing requirement between the driveways and Levi said we will probably have to do shared driveways. Bryan said the cul-de-sacs are tricky for pedestrian access, flag lots, driveway approaches because there is no room for driveway wings. Levi said we would probably have shared driveways on lots 9 and 10, 11 and 12, 19 and 20 and maybe 21 and 22 and we would show it on the plans. Bryan said that would be useful.
- Sandy said you mentioned to have the street frontage widths be less than 60 ft wide on 10 lots. If you could provide a list of those lot numbers, it would be helpful. Bryan and I were looking at the plan and we counted out the lots we thought were affected by the frontages, we did zero in on lots 60 and 61 as well and if you do a lot line adjustment on tax lot 500 it might have to assist those two lots because they are super narrow. On tax lot 500 you cannot go below 10,000 sq ft. Ryan said it would be up to the owner because of their existing buildings and Bryan said if you did not have the big one because if you go over 10 percent then you have to demonstrate what the public benefit would be for going over and under, but if you get rid of it and Levi stated they would get rid of it and make sure it is 10 percent. Just a note, the Planning Commission has the final decision for the request for frontage reductions on the lots in the cul-de-sacs.
- We would like you to give us the average lot size and the overall density on your application.
- Your neighborhood association would be the NE Canby and potentially Riverside and Levi said yes because they are within the 500 ft. Bryan said our code is a little vague and we are thinking of changing the wordage, but states you are responsible for notifying the chair and they will then notify their membership. Levi said one of them does not have an email address for us to notify them, so only one of them has been notified. We plan on having a neighborhood meeting on Thursday and Sandy asked which neighborhood and Levi could not remember which one did not have the email.
- Are you planning on submitting the subdivision and lot line adjustment application concurrently and Levi said if it works for you, otherwise we would try to get the PLA out of the way now? Bryan said you can do it at the same time and we would process the lot line

sooner than the subdivision and Sandy said you would get a discount on the lesser of the two costs of the applications.

- Ryan said they mentioned at the bottom of their report about exceeding block lengths and Sandy said she saw that and we were talking with Hassan about it and Bryan said there is another provision in the code, if you exceed 600 ft you have to put in a pedestrian path and that is what we have concentrated on in the past and we have not been really concerned with the less than 600 ft. I know we discussed this issue for the Beck Pond Subdivision and Sandy said she thought part of the code was also discussed where the access management guidelines are and discuss the distances of 600 ft or less and how to go about that and I think it may fall under that exception, the standard again. I think this would be your best avenue and it could be a condition of approval on access management and reviewed as such. We are currently working on an application for an exception of the standards, but it is not out yet or approved and we cannot use it. Levi said we could have Lancaster Engineers look at it and Sandy said it stated you will be doing a TIS and the answer was yes.
- What is the acreage, I see 19.45 on a recorded plat and I see 19.32 on a concept plan and Ryan said the survey gave us different sizes and Levi said we do not have a boundary survey and we just hired our second surveyor to do the boundary and topographical surveys and I should have all the line work done by next Wednesday. Ryan said it will change if we end up with a little be more property.
- Ryan asked if the access off the cul-de-sac to the north end of lot 68 are those okay entering into the park. Sandy said she would look and see what the minimum width would be and Jerry asked if they were 15 ft wide and the answer was yes. Bryan said they are normally 10 ft paved and Jerry said he did not have any issues with them unless Jeff does. Jerry said you could run the sweeper down them and Sandy stated you could place bollards on them. Bryan said there is an ordinance provision that deals with pathways and it does not allow a 6 ft tall screening fence on the boundary. If you want that you have to set it back some distance, otherwise you have to do a lower fence with the idea of having the clear vision and Sandy said that would be the same idea of having the black vinyl coated chain link fencing. Levi asked if we did a lower fence on the Pine Meadow Subdivision on the walking pathway to the Logging Bridge Road and Jerry stated it was a lower fence and paved. Bryan concurred and said you need to plan it out so the homeowners do not do the wrong fence and you will have to put in the fencing yourself. The ideal plan is to put it together in your submittal because otherwise, you would have to make it a condition of approval and we would have to work it later. Levi said it might be a good thing to have a condition regardless because when a home builder comes in they all read conditions, not plans normally.
- It looks like everything is meeting the local and collector street standards accordingly and you are proposing parking on both sides of the street from what I can see. Bryan said the cul-de-sacs are the same width as the rest of the streets and other than the turn-around I guess you could have parking on those also.
- You will have to meet whatever fire code is required for radius and access width. Ryan asked if they needed to contact Canby Fire Department and the answer was yes, to make sure you are meeting their requirements.
- Bryan asked Jeff if he was okay with the 4 ft tall chain link fencing around the park. Jeff said it would be fine. Bryan said it would have made it easier if they would have had a street along the edge of the park, but unfortunately, there is not. Jerry asked Jeff if all of his

utilities for the park could be served off of N Locust Street and Jeff stated it was his assumption. Jerry asked if the sewer is already stubbed into the site and Jeff said he did not know if there was anything stubbed into that location yet. Jeff said you addressed my comment on placing removable bollards for the accesses and it will be paved the entire width and Sandy said it would be good for ADA accessibility. Jeff said it would be good because then we do not have to do any landscaping on alleys. Levi said yes they can be paved 10 ft wide and Jerry said we want it paved the full width fence to fence. Jeff said he wanted 11 ft wide paved fence to fence. Bryan said there could be potentially a problem when it comes to whose fence is it when it is actually in the easement rather than on the edge of the easement. Jerry said then leave it out and pave the entire thing and the fence would be on the property side. Sandy said I agree, no landscaping at all on the pathways. Jerry said he thinks it is his responsibility to maintain because it has in the past and I do not want any vegetation in there. Jeff asked then you will maintain the pathway and Jerry said unless dictated and Bryan said it will be maintained by the city. The consensus was to make the fences on the property line for the pathways and pave them the full width with removable bollards.

CITY OF CANBY, PUBLIC WORKS DEPARTMENT, Jerry Nelzen

- We are doing curb and gutter on everything and Levi said okay.
- Do both lifts of asphalt and Levi said yes.
- We talked about the problems with the driveway approaches and sidewalks for the cul-de-sac because we inspect them and it would be best to have a plan for the shared driveway approached. Jerry asked how are you going to do the wings, are you going to wing it up and then down or do a small wing like we have done before with 3 inches of curb exposure. Levi said if you would like and Jerry said it is great to have a defined property line and what would happen since there is a pathway there, what if it was all left down. There will be bollards in front of it and from this section leave it all a driveway approach and Levi said he did not think that would be a problem. Jerry asked Bryan what he thought about it and Bryan said he did not really care on it. Ryan asked if the planter strip would be a problem and Jerry asked if it was going to be 6 ft sidewalks with the 5 ft planter strip because I do not know how you would build it. Sandy said it would be 5 ft landscape strips and 6 ft sidewalks and Bryan said I am sure we have done it before since it is our standard. Discussion ensued. The consensus was the engineer to propose a couple of different scenarios and the city will look at it.
- Are we going to do the same approach on connecting the drywells or what are you proposing? Chris said we are obviously going to go with the drywells and the sump manholes for water quality, we will have to look at tying the pipe together and see what makes sense. Levi said in phase 1 we have 34 lots, phase 2 with N Holly frontage is 25 lots and phase 3 is 24 lots. Jerry asked what is the timing on the phases was and Levi said it will be once a year and Jerry said for right now we are only talking about phase 1 and the answer was yes. Levi said we would like to do final engineering and not resubmit for every phase and have it done all at once and pull permits specific for the phases and do as builts for each phase. Jerry said he did not check, but is there a drywell here on N Locust and Levi said he did not see anything come up on our first surveyor's map, but they were not very detailed and Barkers is out there getting everything. Jerry said we have had issues on the past and GEO Tech will verify it and Levi said yes, just like we did at Beck Pond and we ended up testing

everything once they were installed. Obviously, we want to minimize drywells and we are probably going to be needed at least 3 drywells, one in each phase and tying them together might be a problem because it is so flat and Jerry said he understood, but if we can it works well. Chris said they might need one in N Holly Street and Jerry said that is another issue and N Holly belongs to the county.

- Levi asked if we bring up sanitary sewer on N Holly Street will that be an advanced finance district (AFD) and Bryan said we can explore it because I do not think it is on our capital improvement plan and we would have to amend it to be able to give credits. Jerry said we are just updating our sewer master plan and we are almost complete. Bryan asked if they were going to be going up N Holly Street on this phase and Levi said no, phase 2. Jerry asked if it could be added and Bryan said it is something we can pursue since it is not in the first phase. Jerry said we will need to talk to Curran-McLeod Engineering since they are working on the sewer master plan right now and I did not expect this subdivision to happen so fast. Levi said this is about a year and a half away and Jerry said we would like to know about it now instead of having it amended later.
- I want to clarify on N Locust Street, what are your expectations from the city and Levi asked if we could wait until the county confirms it is theirs and also if the city will take over the road from the county. Jerry said he has been working with Joel Howie and he is sending surveyors for the IGA on S Ivy Street and I do not know if you want to have a conversation with him about it. Jerry said I am doing a project on S Ivy Street from NE 16th Avenue towards Goods Bridge, a development has forced a pump station and we want to take over this section of the roadway and put the pump station in. Jonny asked if it would be done in the next few years and Jerry said no, he is sending surveyors out because the subdivision is on its way. Jonny said he did not know what the budget would be for an overlay and Jerry said we can work through it. Levi said if we cannot get the maintenance transferred to the city we would like to build that section to city standards. Jonny said if it was in the works I would not have a problem with it, but if one of us says no, then it will be built to our standards.
- Is there any drinking water wells in or around the site and the answer was yes. Jerry said the drywells have to be a radius of 267 ft away from any water well.
- Do you have a contractor yet and Levi said it will probably be Canby Excavating.

CLACKAMAS COUNTY, DTD, Jonny Gish

- On page 2, number 2, you are proposing a traffic impact study (TIS) and we would like to take a look at it, we are not going to require one, but if you can submit it to myself and Christian. The emails and contacts are listed on the handout.
- Number 4, this will require a Development Permit through Clackamas County and right now the fees are 8.83% of the engineer's estimate and the minimum cost is $1,600.00. Levi said this is for N Holly and Jonny stated for N Holly and N Locust Streets are our jurisdiction and once you get up to 22nd Avenue it is also the county. Levi said are you going to be taking over N Locust Street since it is annexed into the city and Jerry said he did not know N Locust was a county street. Jonny said on our maps it shows it to be county maintained, if you want to do an Intergovernmental Agreement (IGA) you can have it. Jerry said I think N Locust is built to our standards when they did Auburn Farms. Jonny said yes, this side is and quite often we will tell them to build it to city standards. Jerry said he would be interested in

taking over N Locust, do you have money to pay for the 2 inch overlay this year and Jonny said he did not know. Levi said the rest of N Locust just got annexed in so I guessed the process would be starting soon and I know that is what happened in our last subdivision after we annexed the other half of the street. Jonny said we would probably require having it taken all the way to 22nd Avenue, we would not want to take a half section from here or here. Levi said our traffic study only goings to here and Jonny said he was not talking about full right-of-way improvements, I am talking about city ownership. Jerry said will you let us build it to city standards, I usually send a letter to the county on city letterhead stating if you build it to city standards we will accept the street when we take it over. Jonny asked what the standard for the city's local street and Jerry said we do drywells, catch basins, we do not do the rain gardens and this was the same thing we ran into for the Shakespeare project on S Mulino Road. I talked to several of your engineers and they are letting Shakespeare build it to our standards, but it is still a county road. Jonny said he talked to Tim and if you want to take over maintenance, specifically the drywells and as you know we do not allow drywells in our ROW same thing goes with N Holly Street. I do not know what the budget looks like for a 2 inch overlay across N Locust Street and Jerry said if you can talk to your team and see if we could build it to city standards if I took ownership of maintenance. Jonny said I tried to find your standards, especially for N Holly Street because you have it as a collector and we have it classified as a minor arterial in our Transportation System Plan (TSP).

- Number 5 is an issue we have been running into lately and we are coming out up front in the pre-applications. We reserve the right to require additional paving and road reconstruction on county roadways to accommodate additional trenching caused by construction and this determination will be made during the final phase of construction, but prior to the pre-paving meeting, if there is a pre-paving meeting this additional work will be incurred at no cost to the county.
- We are redoing our standards for trenching and especially if they are close enough laterally or longitudinally then combine the grind and inlay for the "T" cut. Levi said if we are putting in the sanitary or storm pipe through there, it is your guy's system we are building underneath their road and Jerry said we have dealt with it before and we worked with Duffy on it and sometimes they required CDF and they have different standards than the city. Jonny said on our arterial it would be CDF and on collectors and locals it can be granular backfill, but any arterial minor or major is all CDF backfill. Chris asked in regards to N Holly Street and the stormwater and if we captured the stormwater and ran it into the site would that take care of the stormwater issues as far as drywells or are we going to have to coordinate with WES and build it to Canby standards. Jonny said we follow WES standards, but if you want to put a catch basin on the upstream side here and run it in here and Chris said he has not looked at it closely, but it would be a preference if you do not like the idea of drywells in the county's ROW then that would be one way of resolving it. Jerry said I would consider it if you connect the drywells and it would solve that problem. Levi said what is the other option and the answer was swales and the maintenance would your (subdivision's HOA).
- We classify N Holly Street as a minor arterial and we require a 37 ft centerline ROW dedication, 8 ft easement for public utility easement (PUE) for side slopes and sidewalks also on the backside of the ROW. With the two streets coming onto here our roadway standards do not allow local streets connecting with an arterial minor or major. There are two options,

one you can use a design modification per section 170 and it does not cost anything and it is really simple to memo. I do not know if you will get two, it is something we round table and you are better off for one, but there is a possibility. Levi asked if they would ever change the classification of the roadway eventually and Jonny said it probably would not go to a higher classification, it may if there was a bridge to go across the ferry and the likelihood of that will not happen. Ryan asked if the ROW could go down to 35 ft because the extra 2 ft will mess us up because we are down to the wire on our lot sizes. Chris asked if the city would talk to the county in accepting a 35 ft ROW instead of the 37 ft ROW and Jerry asked what advantage would it be for the city and if the county shut down the ferry it might be an option, but we can look at it. Jonny said your best option would be to propose a 6 ft bike lane instead of an 8 ft and do a design modification for it. It would just be a memo you provide, it does not have to be an essay. Half street frontage improvements all along N Holly Street and N Locust Streets. Standard curb and gutter, 25 ft of asphalt, A/C 6 ft median, travel 11 ft and 8 ft bike or you can propose a 6 ft bike lane, 5 ft landscape strip and a 6 ft sidewalk. There is one issue with the sidewalk easement there is a power pole here serving Ms. Stout's property and if you move it we will not allow you to put it back, we do not require underground, but we require if you alter it then it goes underground. The option is to get rid of it because there is a power pole up here and you could bring her power to over there, just an idea. Levi asked if it was PGE at that point and when does it change to Canby Utility and Jonny said she was with Canby Utility. Doug said he would check into it and Jonny said if you can send you us your map. Jonny said the sidewalks have to be ADA compliant and obviously it will not connect down here because there is no sidewalk connection you will have to build ramps where needed. Jerry asked if the county wanted to have the double ramps and Jonny said he personally liked the combo ramps. Jerry said if you guys are planning on doing the stormwater variance on these streets entering in the subdivision you better add the storm to the modification with the ADA ramps to the county. Ryan asked if the city wanted the two accesses off of N Holly Street. Bryan said we would prefer two accesses, but I do not know if there is enough separation. Jonny said it is not the distance, it is the access and Ryan said if the city wanted two accesses what do we do. Jonny said the likelihood would be one, especially if it is not going to connect in here for your future streets because there would be more circulation. You can propose it with one or two options and Levi said we would have to propose two because we are now held to a master plan approved by the city showing these connections. Sandy said in our TSP is showed it as a collector and Jonny said it is a county roadway and Levi asked if it is driven by traffic counts that made this an arterial and if our traffic consultants show it as something different than what you guys have in your TSP, would that help our case and Jonny said absolutely and I would reference it in your design modification and supply the TIS. Jerry said if the storm goes into the subdivision what about the tree planters and who will maintain it and Chris said we will not need planter and Jerry said this is how it is shown. You will have your 11 ft travel, 6 ft center turn lane on the half street, 6 ft bike lane, 5 ft planter strip, 6 ft sidewalk and then the fence. Who will maintain it and the answer was the homeowner's or the HOA and Levi said we were not doing to do an HOA because we do not have any shared space. I do not want to create an HOA and have to pay a management company 90% of the operating costs required. Jerry said this would be a county issue for now and Jonny said I can tell you the county will not maintain it. Chris asked if it could be in the conditions of approval stating for these homes they have to

maintain it. Jerry said what if we did a curb tight sidewalk and then have the fence abut it, but we cannot because it is a county roadway. It looks nice with the street trees and Chris asked if the county would allow a modification. Jonny said it is the same process, section 170 and Chris said what is your thoughts on that. Bryan said whether there is a planter strip before or after the sidewalk and Jonny said it will not be a ROW and Chris said the difference is people assume it is theirs to maintain to the back of sidewalk and when there is a strip between the sidewalk and curb. Levi said another solution would be having gates for these homes to maintain the planter strip.

- The cross section for N Holly Street is 7-1/2 inches of AC, 4 inches of 3/4 inch minus and 10 inches of 1-1/2"-0 aggregate base course, over geotextile fabric.
- If we do allow the design modification for access out here we would need an exhibit showing sight lines for sight distance, I do not think it will be an issue because you will not have a wall there. Chris asked if they needed a sight distance certification or just an exhibit and Jonny said an exhibit.
- N Locust Street is county maintained and if it is different you can disregard all of this. Ryan said it already has curbs on this side and Jonny said they are extruded curb on the other side. Ryan said it has to be popped out and Jonny said correct, we do not allow extruded curbs for anything that conveys water or wheel stops, it has to be standard curb or curb and gutter. Ryan asked about the large power poles and if it fits with the improvements and Jonny said it does and I have it written this document. When I was measuring it last week it looks like it is just the back of the sidewalk or could be right in the middle of the sidewalk and all you have to do is do an eyebrow in sidewalk's backside with a sidewalk easement because you are not going to move the poles and you cannot take it underground. Ryan said we are showing the street standard, but you are requiring it to be in the ROW and Jonny said in this case for an eyebrow for the utility we do allow. Ryan said we show our 50 ROW in the middle of the sidewalk does Clackamas County allow that and Jonny said no our local standards do not allow it, it has to be 27 ft from the centerline. Levi said unless they accept the city's standards and Ryan said we are going to make the proposal for the county to accept the city's standards on N Locust Street. Jonny said our standards for the local street is 54 ft ROW, 27 ft from centerline unless you want to move the centerline over. Levi asked how they did that and Jonny said to have a survey completed, then ground and inlay and move the crown.
- Number 12 will meet the NE 19th connection, but this access by looking at the spacing standards for the future may not work for the county standards if they stay county roads and Levi said he would not anticipate the street will and the plans were based on the city's standards for the roadways.
- The cross sections will be 16 ft of asphalt centerline to curb, 5 ft landscape strip, 6 ft sidewalk and like I said before showing sidewalk easements for the power poles. There will be parking on both sides and there will be ADA ramps at the appropriate areas. Levi asked if they could do a two-way here and get rid of that one since it was 100 ft away. Jonny said it was a possibility and will not require a design modification you can submit it in the plans. Chris asked if they can do asphalt ramps instead of the ADA ramps on the ends of the sidewalks and Jonny said you can if it goes straight, but if it goes perpendicular I do not think you can, but if it goes parallel you might be able to. Put it in the plans and we will review it.
- Twenty foot curb radius on a local to local and a 25 ft curb radius on a local to arterial.

- Cross section, a structural section for N Locust will be 4 inches A/C, 3 inches of 3/4 inch minus and 6 inches of 1-1/2 inch.
- We will need a sight line distance for these areas.
- Curb and gutter here, all type C.
- We will need a traffic control plan for N Holly and N Locust Streets prior to permitting issuance. The county will be additionally insured and Levi said we do not have to bond it if we are not recording until it is done. Jonny said you will be doing the frontage improvement for N Holly Street during phase 1 unless you do separate land use applications. The way our bonds work is if you want building permits or certificates of occupancy you bond the rest of it, we do not do a bond upfront and it will be 125% if less than $10,000 you can do cash if it is over $10,000 it has to be a performance bond. We may allow a bond over there, if it is going to be over a year depending on if you do not touch Holly or any utilities, you will probably have a better chance at it, but if you come through and tear up half of N Holly Street and Levi said we only plan on pulling permits for each of the phases and Jonny said as long as you do not touch Holly Street you will be okay and a reminder the city's and the county's standards are different. Levi said we want to submit everything at once, but only pull permits for the different phases. Bryan said you have to keep in mind the number of lots will need to have two or three access points in and out for each of the phases.
- We have two different utility placement permits, one is a development permit and a utility placement permit, which costs nothing and it is just on work for someone else's utilities in the ROW.
- We will require street lights here and since there is no vehicular access here we will not require street lights, but if Canby requires it, it will be in their jurisdiction. Jerry said if there was a different standard for streets lights or would you follow ours and Jonny said we would probably follow your standards and if you want them they would be yours. Jerry said you would follow what we have on N Locust Street, cobra head style. Chris asked if Jerry wanted street lights on Holly Street and Jerry said yes, we will require street lights on Holly Street and Chris said you want it as part of the subdivision and the answer was yes when you do that phase. Jonny said just put that in the utility placement permit.
- We talked about the utility pole, ZDO2006 requires all new utilities placed underground with the additional ROW dedication and public improvements on Holly and the applicant will need to address the existing power pole on N Holly Street that serves the home on the west side.
- We would like to see the hydrology study drainage report, especially for N Holly and N Locust Streets. Chris asked if we can bring the stormwater into the subdivision and if you would be okay with that and Jonny said yes as long as Canby wants it.
- Following land use approval, plans shall be stamped by a PE with the county land use file number on the plans and it is a Z number for all the frontages on county roads. Chris asked if they could submit the subdivision plans and Jonny said you will need to grayscale them on the index sheet or show a page showing the phases.
- We will need paper as-builts in CAD if you can get them, minimum size 11 x 17.
- All dedications of easements need to be shown on the plat prior to recording.
- No staging in the ROW, no parking, no truck parking, no pipe or storage. Sandy asked if they need to do a haul route and Jonny said these are the majority of your roads. Jerry said they can follow all of our truck routes.

- Chris asked about the 1200c permit and do it for the entire site and Levi said he would not want it done for the entire site, he wanted it done in the phases. Jonny said he would like to see a copy of the "CN" and Chris said yes we will include it with the development application.

CANBY UTILITY, WATER AND ELECTRIC, Doug Erkson

- Doug handed out the pre-application information and this information will help in getting all our utilities to the site.
- As you know when there are dead ends you will need to put in the automatic flushing stations. Once we start the next phases we can move the flushing stations and they will need to be the hydro-guard. I have not seen any drawings for fire hydrants and I do not know what the fire department will want, but I am sure they will want one in each of the cul-de-sacs in phase 1 and if that is the case we will not require a flushing station because we will be able to flush the fire hydrant. If the curbing in the cul-de-sac will be driveways all around we want to make sure the electric is behind the sidewalk and if the water is on the plot line and is accessible to traffic make sure it is a traffic rated box. Levi asked for the stubbed streets is it possible not to stub the water line down here because it is many years out of the way. Doug said it might be possible and you would have to put in a "T" and we would have to put a valve on it. Jerry said he would prefer to have the valve at the intersection and from there have the water pipe to the property line and is a dry line we have done it before. Doug said he will check with Bill and Jim and see if they will allow it.
- Again for the electrical system if you do the mountable curbs in the cul-de-sacs we will not put them on the loops we would put the transformers on the corner lots between lots 14 and 15, 6 and 7 and have one crossing and feed the cul-de-sac with a 50 kVA transformer in each one. Our point of contact will come off of N Locust Street and Levi asked how long would it be for us to get a power design and estimate. Doug said once you submit your engineering drawings and all the requirements on this list, but also have the driveway orientation established for a point of contact because we had a couple in another development and they flopped the house and we had already had an established point of contact and now it is at the back of the house instead of the front of the house were we prefer to have it. Those types of things we want to avoid in the future and Levi said we are a little bit away from that.
- We do ask you to pay half of the estimate and then pay the full actual cost after completion.

WAVE BROADBAND, Travis Edge

- We would like the electric trench design emailed to us and let us know when the trench will be open and send us the construction schedule.

Minutes for N Holly Park Subdivision Community Meeting

Canby United Methodist Church 25 April 2019 6:30 PM

Introduction

Reminder of Purchases/Annexation

Explanation of difference between original map and new Plat

Planning Commission: Approved or Denied Process, Hearing in anticipated in 3 months

More surveys

Preliminary engineering

Q. Why would the planning commission deny us? Have we been denied before?

A. If the planning commissions criteria was not met we could be denied. Our plans are more straight forward than some plans that have been denied. We have not been denied before.

Q. Concerns about 22nd Road brought up.

A. Previous traffic studies don't expect any additional traffic to be using 22nd. Explanation of which roads we will be working on. A new traffic study will be taken in the future.

Q. How will properties on the west side of Holly street be affected?

A.

Q. Will sidewalks and bike lanes be added? Specifically where Holly St and Territorial Road come together.

A. Some upgrades may be made to offset future SDC's.

Q. Irrigation lines that run underneath a new road have been removed in the past. Will the new roads affect my water? Have these irrigation lines been surveyed?

A. We will do our best to preserve existing water lines.

Q. Will we be digging up the Locust Street?

A. Yes, we will be implementing half street improvements.

Q. Locust street has some drainage issues. Will the completed improvements be smooth?

A. The road will be smooth in the areas where we dig it up.

Q. Will the final pave be done before or after homes are built.

A. We will be doing the final pave before homes are finished per the City of Canby.

Q. Will roads be built at once or in phases?

A. Roads will be build in accordance with their respective phase

Q. Do you have dates for when the different phases will begin.

A. Not yet. If everything goes to plan and weather permits we could start in 2020.

Q. Will all construction traffic be going through Locust Street?

A. Yes.

Q. How many house will be built in Phase 1?

A. 34

Q. Who provides power and will the existing overhead lines be moved or put underground?

A. The area exist on a boundary between Portland General Electric and Canby Utility. If the electricity is provided by PGE the line may be moved underground. Some of the existing polls to not fall on to our proposed plan and will not be moved. Some polls on Holly St will be moved by Canby Utility.

Q. Does half road improvement mean paving the entirety of the street.

A. We will only be paving the half of the road we disturb.

Q. I have a well near the corner of Locust St and NE 20th Ave. The irrigation then moves south paralleling Locus St before crossing over Locust St. Will this line stay intact?

A. To be addressed.

Q. When do we hope to move dirt?

A. Hopefully Fall

Q. Will local farmer be given notice in case of loss of water?

A. Notifying neighbors is a high priority. Added anecdote about Mt. Angel. We want win-win situations between us as the developer and neighbors.

Q. Will we be developing the park north of Phase 1?

A. No.

Q. Will there be curb cuts for the park?

A. We will be tapering the curbs, adding ADA ramps to street corners, and gradual transitions will be made to existing curbs.

Q. Will there be a bike lane on Locust St?

A. No. Locust St is the wrong classification of street.

Q. What are tracts A, B, and C going to look like? Will they be enclosed by a fence?

A. These tracts exist for when the SDC's come in and the City of Canby develops the park. These tracts will provide access for the subdivision. There will be a fence, but it must be no more than 4', cyclone fence, or some other type of see through fencing.

Q. Is there anything Stafford can do to convince the city to develop the park?

A. We don't have any leverage. We receive SDC credits in exchange for additional improvements. Our experience is that the City would rather have the cash than our improvements.

Q. Where do SDC funds go?

A. SDC funds go to development rather than maintenance.

Q. Will Stafford be building fences around the boundaries of the subdivision?

A. Maybe. The home builders will be building good neighbor fences.

Q. What will Stafford be doing to protect the properties of surrounding residents?

A. We fill out a 1200 CN DEQ Erosion Control form which can result in severe fines if they are not followed. We pass this information along to our contractors who will bear the fine if they do not follow DEQ's rules. Any erosion control fences we install will be inside our property line and not directly on the property line.

Q. I'm an organic farmer. What kind of airborne protections will you provide from the grass and other plants installed by the home builders?

A. The DEQ's Erosion Control permit is the environmental standard we follow. Good neighbor fences will be build when homes go in. We may build a cedar/pillar fence along Holly St.

Q. Will the different phases be built concurrently or separately?

A. We have built phases together before, but in this case we may be finish phase 1, add some houses, and then begin phase 2.

Q. Who will be building the homes?

A. It depends on who buys the plots.

Q. Does Stafford own the land you are proposing to develop?

A. We don't own the land yet. Typically we close on a property when we have engineered plans we can deliver to a contractor to begin developing immediately.

Q. What's going on with the cell tower lot?

A. The cell tower has its own existing easements which we will be inheriting.

Q. Can Stafford bury the power lines on Locust?

A. The power lines on the east side of Locust St do not lie on the property we will be developing so we can't do anything about them.

Q. When will the project begin?

A. Depending on weather we hope to be starting around Spring 2020.

Minutes for Dodds Subdivision Neighborhood Meeting

Canby United Methodist Church 23 May 2019 7:00 PM

Levi Levasa, Project Manager, Stafford Development LLC.

Introduction

About Us and Projects we've done in Canby

Reminder of Annexation Community Meeting

Annexation passed 1 year ago by the City of Canby

Adoption of Concept Plan

What we will cover tonight

- Explanation of Past and Future Traffic Studies
- Roads
  - We will make half street improvements on Holly & Locust St
  - Only fixing half street on our frontage unless a traffic study says otherwise
- Subdivision
  - There will be 3 phases and 83 lots
  - How quickly these phases are built is dependent on how quickly the lots sell
- Fences
  - There will be a development fence around the park
  - The rest of the fences will be built during home construction
  - There may be walls which may be stone pillars with cedar sections
- Power
  - Power in our development will be underground but ultimately Canby and PGE will decide what to do with existing lines
- Storm Water
  - No swales will be constructed
  - We may build Green Street planter strips
  - These strips will lead to approximately 3 dry wells, but that number is not firm
- Park SDCs
  - Every house pays into a fund to maintain water, sewer, parks, transportation and other infrastructure
  - The City of Canby controls how those funds are spent

Questions

Q. Will there be Holly Street Access?

A. We will be submitting for 2 access streets.

Q. What are the projected values of the houses in the subdivision?

A. Probably in the high $300k's to the $400k and up.

Q. When will work begin?

A. If all goes well, May 2020.

Q. Will there be more streets connecting to Locust?

A. Locust is a local street so the amount of connecting roads is a spacing issue.

Q. Will Locust be a County or City street?

A. Locust will be a City street between Territorial Road and 22nd at the start of construction.

Q. Will you be improving Locust Street?

A. We will only be doing half street improvements on our frontage unless a traffic survey says otherwise.

Q. Has the Concept Plan been adopted?

A. Yes.

Q. Are construction vehicles going to be entering through Locust? Can these vehicles instead enter through Holly?

A. Vehicles will be entering through Locust. Even if we built all three phases at once using Holly St, there is sewer work on Locust which will require access through Locust.

Q. A lot of children use Locust street. Can this be taken into consideration?

A. We will definitely take this into consideration. We are conducting another survey which may allow us to lean on Holly more. If there is no farming on the lot south of the proposed subdivisions, we could move more traffic that way. We may also sell this project before construction begins. For that reason, we cannot make promises on construction.

Q. Can Holly become an arterial?

A. Maybe. If it does it will affect spacing.

Q. Will there be a turning lane improvement where Locust meets Territorial?

A. There will be more details of that to come with the future traffic study.

Land Use Permit process explanation

Levi: We will turn in our permit in about a month's time. There will be a 90-180 comment period. You will be told when this comment period is. From there, it will either be approved or denied by the Planning Commission. Either way, it will go to the City Council. If the Council approves, we then move on to final engineering and then on to construction.

Q. What will the fence heights be for the houses?

A. The fences will be 6’ in the front yard and 4’ in the back yard.

Q. Will there be dirt removal on this project?

A. There may be some during development. We are working on a grading plan now. When we have one, we may end up bringing in more dirt. During home construction there probably will not be any earth removal. When we do move dirt, we will be complying with DEQ and will have a 1200 C and Erosion Control Permit. If you’re looking to take dirt from the site, we can’t allow it. There are hefty fines associated with that practice.

Q. Will irrigation lines in the easement be cut?

A. We will pothole the ground to find the location and lengths of the irrigation lines in the ground.

Q. Are you planning on working areas beyond the Urban Growth Boundary?

A. There are plans in place for areas inside the UGB. If they take place it’ll help to get improvements on Territorial. We, however, will not be taking those projects on.

Q. What’s up with the pump house on the NE corner?

A. We have not talked to the owner. The City of Canby may have plans for it.

CURRAN-McLEOD, INC.
CONSULTING ENGINEERS
6655 S.W. HAMPTON STREET, SUITE 210
PORTLAND, OREGON 97223

February 4, 2020

MEMORANDUM

TO: Public Comments
City of Canby

FROM: Hassan Ibrahim, P.E.
Curran-McLeod, Inc.

RE: **CITY OF CANBY**
DODD'S DEVELOPMENT

We have reviewed the submitted preliminary plans and materials on the above mentioned project and have the following comments:

1. The site is surrounded by two county roadways. N Holly Street (minor arterial) and N Locust Street (local street). These two streets need to be improved to Clackamas County roadway standards. A development permit from the county will be required prior to constructing any of these streets.

2. All interior streets within the subdivision shall be designed to City local street standards with 34-foot paved width, curbs, 4.5-foot wide planter with street trees, 6-foot wide sidewalks, street lights and utilities in conformance with Chapter 2 of the City of Canby Public Works Design Standards, dated June 2012.

3. The proposed cul de sacs shall be improved in conformance with the Oregon Fire Code /Metro Code Committee having a minimum paved radius of 48 feet.

4. Temporary fire truck turnarounds shall be constructed at the phase lines and at the end of the phase lines where the roadway is in excess of 150 feet in length. The geometric turnaround and location shall meet the City of Canby Fire Department requirements.

5. All interior street names and traffic signs shall be installed by the developer as part of this development. The developer's design engineer will be required to submit as part of the construction plans a signing and striping plan. The City may supply the required traffic and street name signs based on a mutually agreed cost.

PHONE: (503) 684-3478 E-MAIL: cmi@curran-mcleod.com FAX: (503) 624-8247

6. As part of the final design, the developer's design engineer shall provide a minimum of 200-foot future centerline street profile design to assure future grades can be met at all the adjoining properties.

7. Street trees shall be selected from the City approved tree list. The street tree ordinance requires the developer to pay the City $500 per tree for installation and two (2) year period maintenance, the property owners will take over all of the responsibilities after that date.

8. A demolition permit will be required from Clackamas County prior to demoing the existing structures on-site.

9. An erosion control permit will be required from the City of Canby prior to any on-site disturbance.

10. Sanitary sewer lines exist on N Locust Street and on NE Territorial Rd. A minimum of 8-inch public sanitary sewer line will be required to extend and serve this development.

11. All private storm drainage discharge shall be disposed on-site, the design methodology shall be in conformance with the City of Canby, June 2012 Public Works Standards.

12. No storm drainage analysis or plans are submitted with this development. The developer's engineer will be required to demonstrate how the storm runoff generated from the new impervious surfaces will be disposed. If drywells (UIC) are used as a means to discharge storm runoff from the private streets, they must meet the following criteria: The UIC structures location shall meet at least one of the two conditions: (1) the vertical separation distance between the UIC and seasonal high groundwater is more than 2.5 feet or (2) the horizontal separation distance between the UIC and any water well is a minimum of 267 feet in accordance of the City of Canby Stormwater Master Plan, Appendix "C", Groundwater Protectiveness Demonstration and Risk Prioritization for Underground Injection Control (UIC) Devices. The storm drainage report shall be in conformance with the requirements as stated in Chapter 4 of the City of Canby Public Works Design Standards dated June 2012.

13. Any existing domestic or irrigation wells shall be abandoned in conformance with OAR 690-220-0030. A copy of Oregon water Rights Department (OWRD) abandonment certificate shall be submitted to the City.

14. Any existing on-site sewage disposal system shall be abandoned in conformance with DEQ and Clackamas County Water Environmental Services (WES) regulations. A copy

of the septic tank removal certificate shall be submitted to the City.

15. Water Services/ Fire Protection shall also be constructed in conformance with Canby Utility and Canby Fire Department requirements.

Should you have any questions or need additional information, please let me know.

CANBY FIRE DISTRICT

Dodd Development -

The builder shall comply with the following reference material and items to be addressed.

References:

Oregon Fire Code 2019

Chapter 33 of the Oregon Fire Code for construction needs to be reviewed prior. - Hydrants installed and fire flow done prior to flammable construction materials on site.

Building Address shall be marked at the beginning of construction with a lot marker if needed for each lot under construction.

Hydrant shall all have Storz quick adapter couplings on the steamer port as required by Canby Utility. A Blue reflector will be in the center of the road to indicate the hydrant is in the vicinity.
https://www.reddit.com/r/todayilearned/comments/cew5p/blue_reflectors_are_for_fire_hydrants/

Landscaping should be low growing vegetation to not block visibility of the Hydrant or addressing in that vicinity.

PDF of approved prints for our Pre-Fire Plan program of the development.

Fire Lanes painted red on curb with – No Parking Fire Lane in white - and signage. These lanes will be determined while on site for any access issues with Canby Fire and the builder.

Fire lane access shall be in accordance with the Oregon Fire Code 2019

Fire access shall always be part of the construction plan for the development.

Refer to the Canby Fire District website if needed.

MEMORANDUM

TO: Sandy Freund City of Canby Planning

FROM: Jonny Gish Traffic Development Engineering

DATE: 2/27/2020

RE: City of Canby
Dodd Subdivision
31E28C 00400

Recommended Conditions of Approval:

1. **Prior to site improvements:** a Development Permit is required from the Engineering Department for review and approval of frontage improvements, erosion control Best Management Practices implemented, sight distances. The permit shall be obtained prior to commencement of site work and recording of the partition plat. To obtain the permit, the applicant shall submit construction plans prepared and stamped by an Engineer registered in the State of Oregon and pay a plan review and inspection fee. The fee will be calculated as a percentage of the construction costs if it exceeds the minimum permit fee. The minimum fee and the percentage will be determined by the current fee structure at the time of the Development Permit Application.

2. **Prior to issuance of County Development Permit:** Submit approvable construction Plans showing all required improvements. All proposed and required improvements shall be designed, constructed, inspected and approved, or financially guaranteed, pursuant to *Clackamas County Roadway Standards*:

   a. Design and construct N Holly St to Figure 5-1b and Standard Drawing C140:
      i. 32 feet of right-of-way dedication from centerline
      ii. 20 feet of pavement from centerline with structural section meeting C100 for minor arterial.
      iii. 6" curb (painted yellow) and gutter per S150 (no parking)
      iv. 6 foot ADA compliant sidewalk per S960
      v. 5 foot planter strip with street trees
      vi. 8 foot wide bike lane
      vii. 8 foot Public utility easement
      viii. Dual ADA curb ramps at NE and SE corners of both NE 17th and 19th Ave and N Holly St.
      ix. Provide ADA ramps at the northern and southern sidewalk terminus.
      x. Design and construct stormwater drainage facilities consistent with Water Environmental Services and Clackamas County Roadway Standards Chapter 4 or

provide Intergovernmental Maintenance Agreement with City of Canby for City approved stormwater facilities

xi. Design curb drainage patterns that work with existing and proposed slopes along N Holly St and show how N Holly St can be constructed to provide drainage facilities for existing and future developments.

xii. Incoming and outgoing asphalt tapers shall be in accordance with Roadway Standards Section 250.6.4

xiii. Where mailboxes, fire hydrant, utility poles, etc. must be located within the limits of the sidewalk, an eyebrow shall be constructed so the full unobstructed width of the sidewalk is provided. Additional easements shall be granted to provide for any sidewalk eyebrows.

xiv. Minimum intersection sight distance for vehicles entering N Holly St shall be 500 feet to the north and south measured 14.5 feet back from edge of travel lane.

xv. Provide no parking signs along entire frontage

b. Design and construct N Locust St to Figure 6-1d and Standard Drawing C110:

i. 27 foot right-of-way dedication from centerline.

ii. 16 feet of pavement from centerline with structural section meeting C100 for local street

iii. 6" curb and gutter per S150

iv. 5 foot ADA compliant sidewalk per S960

v. 5 foot planter strip with street trees

vi. 8 foot Public utility easement

vii. Dual ADA curb ramps at NW and SW corners of NE 19th Ave and N Locust St.

viii. Provide ADA ramps at the northern and southern sidewalk terminus.

ix. Design and construct stormwater drainage facilities consistent with Water Environmental Services and Clackamas County Roadway Standards Chapter 4 or provide Intergovernmental Maintenance Agreement with City of Canby for City approved stormwater facilities

x. Design curb drainage patterns that work with existing and proposed slopes along N Locust St and show how N Locust St can be constructed to provide drainage facilities for existing and future developments.

xi. Incoming and outgoing asphalt tapers along N Locust St shall be in accordance with Roadway Standards Section 250.6.4

xii. Where mailboxes, fire hydrant, utility poles, etc. must be located within the limits of the sidewalk, an eyebrow shall be constructed so the full unobstructed width of the sidewalk is provided. Additional easements shall be granted to provide for any sidewalk eyebrows.

xiii. Minimum intersection sight distance for vehicles entering N Locust St is 280 feet north and south measured 14.5 feet from the edge of travel lane.

3. Provide a traffic control plan for review and approval from Clackamas County's Engineering Office.

4. Provide a certificate of liability insurance, naming Clackamas County as additionally insured.
5. The applicant shall obtain a Utility Placement Permit with the Clackamas County DTD for all utility work within the Right-of-way of N Holly St and N Locust St.
6. All street lighting along N Holly St and N Locust St, if required by the City, shall be metered to City of Canby.

7. The applicant shall submit Stormwater Drainage Report analyzing the difference between pre and post development discharge rates and mitigation of downstream impacts and detention calculations within County right-of-way.

8. **Prior to Pavement Striping:** The applicant shall provide a minimum 48 hours' notice for layout verification and approval of N Holly St and N Locust St by County Traffic Engineering.

9. **Prior to Final Plat Approval:** The plat shall provide a note that lots 69-82 shall not have vehicular access to N Holly St and N Locust St without jurisdictional approval.

10. Applicant shall verify the public right-of-way width and location along the entire site frontage of N Holly St and N Locust St. The right-of-way and width shall be verified by a professional surveyor to the satisfaction of DTD Engineering and Survey Departments.

11. **Prior to Final inspection:** Applicant shall submit, at time of initial paving, paper as-built plans for all improvements showing all construction changes, added and deleted items, location of utilities, etc. A professional engineer, registered in the state of Oregon, shall stamp and sign as-built plans. Any plans for signals, signing and striping require both a paper copy (maximum size 11" x 17") and a .dwg version of the as-builts for our Traffic Engineering section.

Laney Fouse

From: Laney, Sheila L - Canby, OR <Sheila.L.Laney@usps.gov>
Sent: Tuesday, February 11, 2020 10:32 AM
To: Sandy Freund
Subject: RE: RE: Project Review for Comments/Conditions for Dodds 82-lot Subdivision

We would like boxes placed in 3 locations.
The 1st location would be in Phase 1 between lots 15 and 27 it would be 3 CBU's 2- 16 unit and 1- 8 unit, it would deal with lots 1 thru 38.
The 2nd Location would be between lots 61-60 it would be 2 CBU's both 16 units, it would deal with 45 and 46 and 55 thru 82
The 3rd location would be at lot 55 it would be 1 16 unit and would have lots 39 thru 54 minus 45 and 46

The other option is to put all the boxes in one location

If there is anything else you need please let me know.

Sheila L Laney
Postmaster
615 NW 2nd Ave
Canby, Or 97013
503-266-3353 (W)
503-999-3690 (C)

From: Sandy Freund [mailto:FreundS@canbyoregon.gov]
Sent: Wednesday, February 5, 2020 8:55 AM
To: Laney, Sheila L - Canby, OR <Sheila.L.Laney@usps.gov>
Subject: [EXTERNAL] RE: RE: Project Review for Comments/Conditions for Dodds 82-lot Subdivision

Good morning Sheila,

Thank you for the response. If you click the "Ctrl" button to the far left of the space bar, and hold that button down while clicking on the link, it should open.

I've attached a general site plan so you can see the configuration of the subdivision to inform the developer where you would like the mail boxes placed, and I assume they'll be "cluster boxes"?

Hope this is helpful, thank you,

Sandy

Sandy L. Freund, AICP | Senior Planner
City of Canby | Development Services Department
222 NE 2nd Ave. | PO Box 930
Canby, OR 97013
ph: (503) 266-0775
email: freunds@canbyoregon.gov; website: www.canbyoregon.gov
Send applications to: PlanningApps@canbyoregon.gov

DirectLink

Date 2-11-2020

Comments from DirectLink for Dodds Subdivision:

- DirectLink services will be available through the development. We do not charge a development fee.

- DirectLink will follow the power design as much as possible to minimize trenching; however, additional trenches may be required for communication facilities. We will notify you if any extra trenches are needed after we review a copy of the power trenches.

- The Developer/Owner is required to provide 4" Schedule 40 PVC sleeves for all road crossing. DirectLink requires (1) 4" Schedule 40 PVC sleeves per road crossing. Developer is responsible for placement and material for the 4" Schedule 40 PVC sleeves.

- The Developer/Owner is required to provide open trenches for all underground communication facilities from an existing connection point and throughout the development. DirectLink will place and provide all materials for the open trenches.

- Please call 503-266-8242 as soon as you have the utility trenching schedule to be open. DirectLink requires at least a week prior notice before placing material into an open trench.

- If temporary service is required for the construction site, please contact our Customer Care Center to place an order. All temporary service work is bill on a time and material bases.

Contact Information:

Engineering Manager	Eric Kehler	503-266-8223
Construction Inspector	Matt Downs	503-266-8252
DirectLink Engineering	engineering@directlink.coop	
Customer care center		503-266-8111
Open trench hotline		**503-266-8242**

Laney Fouse

From: Jim Stuart <jstuart@canbyutility.org>
Sent: Tuesday, February 25, 2020 1:16 PM
To: Sandy Freund
Subject: RE: Dodds Subdivision Conditions
Attachments: Pre-App Info.pdf

Sandy,

The attachment contains our requirements. Simply put , the developer will submit a drawing for the water lines, using Canby Utility's standards and specifications, to CU for approval. The submittal must meet the requirements of CU's standards as well as the Oregon State requirements.
For electrical design, the developer will need to submit the subdivision layout. Canby Utility will engineer the electrical system.

Thank you

Jim R. Stuart
Operations Manager
Canby Utility
1470 NE Territorial Rd.
Canby, OR 97013
Tel: 503-266-1156
Cell: 971-563-1375

Canby Utility Pre-Application Information

Electric Service:

1) Provide Construction Schedule*.
2) Provide site plan details for electrical design.
3) Provide connected load requirements.
4) Adhere to the Canby Utility Scope of Work Document for Commercial and Industrial Development Electrical Services.

For all electric engineering design inquiries, contact Canby Utility Operations @ (503) 266-1156.

Water Service:

1) Project to provide design drawings per Canby Utility Water Service Policies and Specifications.
2) Provide Construction Schedule*.
3) A Canby Utility Inspector will be present, at the Projects cost, during all waterline installation, testing and commissioning.

Canby Utility Electric Service Policies and Procedure, Water Service Policies and Procedures and the Water System Standard Specifications are available on the Canby Utility website at www.canbyutility.org.

*** All Canby Utility construction and inspections must be scheduled at least 15 days in advance.**

For all Canby Utility construction and inspection scheduling, contact the Operations Field Supervisor @ 503-263-4331.

BEFORE THE PLANNING COMMISSION
OF THE CITY OF CANBY

A REQUEST FOR SUBDIVISION/ AND EXEPTION TO ACCESS STANDARDS	))))	**FINDINGS, CONCLUSION & FINAL ORDER SUB 19-03/EAS 19-01 DODDS SUBDIVISION**

NATURE OF THE APPLICATION

The Applicant has sought approval for a Subdivision and Exception of Access Standards to subdivide a ±19.32-acre parcel into 82 single-family residential tax lots with associated public infrastructure. The project site is located at 1882 N. Holly Street, bounded by N. Locust to the east, and NE Territorial Road to the south and described as Tax Map/Lot 31E28C 00400, Clackamas County, Oregon. The property is zoned R-1, Low Density Residential, under the Canby Municipal Code (CMC).

HEARINGS

The Planning Commission considered application **SUB 19-03/EAS 19-01** after the duly noticed hearing on March 9, 2020 during which the Planning Commission approved **Dodds Subdivision (City File SUB 19-03/EAS 19-01)** by a vote of _/_. These Findings are entered to document the approval.

CRITERIA AND STANDARDS

In judging whether or not the aforementioned application shall be approved, the Planning Commission determines whether criteria from the City of Canby Land Development and Planning Ordinance are met, or can be met by observance of conditions. Applicable code criteria and standards were reviewed in the Staff Report dated February 28, 2020 and presented at the March 9, 2020 meeting of the Canby Planning Commission.

FINDINGS AND REASONS

The Staff Report was presented, and written and oral testimony was received at the public hearing. Staff recommended approval of the Subdivision and Exception to Access Standards applications and applied Conditions of Approval in order to ensure that the proposed project will meet all required City of Canby Land Development and Planning Ordinance approval criteria.

CONCLUSION

In summary, the Planning Commission adopted the findings contained in the Staff Report, concluding at the public hearing and noted herein, that the application met all applicable approval criteria, and recommending that **Dodds Subdivision (City File SUB 19-03/EAS 19-01)** be approved with the Conditions of Approval reflected in the written Order below.

ORDER

The Planning Commission concludes that, with the following conditions, the application meets the requirements for Site and Design Review approval. Therefore, IT IS ORDERED BY THE PLANNING COMMISSION of the City of Canby that **Dodds Subdivision (City File SUB 19-03/EAS 19-01)** is approved, subject to the following conditions:

CONDITIONS OF APPROVAL

A. Public Improvements:

1. Prior to the start of any public improvements work, the applicant shall schedule a pre-construction conference with the City Of Canby and obtain construction plans sign-off from all applicable reviewing agencies. (Canby Planning – SF)
2. All site development shall comply with all applicable City of Canby Public Works Design Standards. (City Engineer – HI/Public Works – JN)

Fees/Assurances:

3. All public improvements are typically installed prior to the recordation of the final plat. If the applicant wishes to forgo construction of any portion of the public improvements until after the recordation of the final plat, then the applicant shall provide the City with appropriate performance security (subdivision performance bond or cash escrow) in the amount of 110% of the cost of the remaining public improvements to be installed. (City Engineer – HI/Public Works – JN/Canby Planning - SF)
4. If the applicant chooses to provide a subdivision performance bond for some or all of the required public improvements, the applicant shall obtain a certificate from the city engineer that states:
    a. The applicant has complied with the requirements for bonding or otherwise assured completion of required public improvements.
    b. The total cost or estimate of the total cost for the development of the subdivision is to accompany a final bid estimate of the subdivider's contractor if a contractor has been engaged to perform the work. The certificate of the total cost estimate shall be approved by the city engineer. (City Engineer – HI)
5. The applicant shall guarantee or warranty all public improvement work with a one (1) year Subdivision Maintenance Bond following written notice of acceptance by the city to the developer in accordance with Section 16.64.070(P) of the *Ordinance.* (Public Works – JN/Canby Planning – SF)

6. The applicant shall pay the city of Canby Master Fee authorized engineering plan review fee equal to 2% of public improvement costs prior to the construction of public improvements (approval of construction plans) as each phase of development occurs. The applicant shall also pay the city of Canby Master Fee authorized Site Plan Development Engineering Plan Review Fee based on the area of the phase of the subdivision being constructed and associated plat filed of record. (Canby Planning – SF)

B. <u>Streets, Easements, Signage & Striping</u>:

7. The applicant shall obtain development permits from Clackamas County Transportation prior to constructing and/or improving N Holly and N Locust Streets, both county roads, which shall be improved to County standards. The County Transportation Engineer, in conjunction with the City Engineer, shall determine compliance with this condition. (County Transportation – JG/City Engineer – HI)
8. All interior streets within the subdivision shall be designed to City local street standards with 34-foot paved width, formed concrete curbs and gutters, 4.5-foot wide planter strip with street trees, 6-foot wide concrete sidewalks, street lights and utilities in conformance with Chapter 2 of the City of Canby Public Works Design Standards, dated February 2020. The City Engineer shall determine compliance with this condition. (City Engineer – HI)
9. The proposed cul-de-sacs shall be improved in conformance with the Oregon Fire Code/Metro Code committee having a minimum paved radius of 48 feet. The City Engineer shall determine compliance with this condition. (City Engineer – HI)
10. All interior street names and traffic signs shall be installed by the developer as part of this development. The developer's design engineer will be required to submit as part of the construction plans, a *signing and striping* plan. The City may supply the required traffic and street name signs based on a mutually agreed cost. (City Engineer – HI)
11. As part of the final design, the developer's design engineer shall provide a minimum of 200-foot future centerline street profile design to assure future grades can be met. The City Engineer shall determine compliance with this condition. (City Engineer – HI)
12. Temporary fire truck turnarounds shall be constructed at the phase lines and at the end of the phase lines where the roadway is in excess of 150 feet in length. The geometric turnaround and location shall meet the City of Canby Fire department requirements. The City Engineer, in conjunction with Canby Fire District, shall determine compliance with this condition. (City Engineer – HI / Canby Fire District – ME)
13. The applicant shall provide, and have approved, a truck haul route, with flaggers if deemed necessary, for all construction activity at said development site. The haul route shall be approved at the time of the pre-construction meeting by the Public Works Department. (County Transportation – JG/Public Works – JN)

C. <u>Grading and Erosion Control/Demolition</u>:

14. The applicant shall obtain an Erosion Control permit from the City of Canby prior to any on-site disturbance. (City Engineer/Canby Public Works – HI)
15. The applicant shall obtain a demolition permit from Clackamas County, (with a release for permit from Canby Planning) prior to demolition of on-site existing structures. (City Engineer – HI/Canby Public Works/Canby Planning – SF)

16. The applicant shall obtain a grading permit from Clackamas County prior to any on-site disturbance and provide the City proof of permit. (Clackamas County/Coordination with City Public Works – JN)

D. Street Trees:

17. The applicant shall be responsible for selecting street trees from the City approved tree list. The developer shall pay the City $250 per street tree installation typically prior to home occupancy with (2) years of city maintenance, prior to final plat recordation. Property owners shall take over all responsibility of said street trees after the two (2) year period lapses. Canby Public Works in conjunction with Canby Planning, shall determine compliance with this condition. (Public Works - JN / Canby Planning - SF)

E. Sewer and Storm Drainage:

18. Sanitary sewer lines exist on N Locust Street and NE Territorial Road. The applicant shall be required to extend and install a minimum 8-inch public sanitary sewer line to serve the development. The City Engineer and Public Works shall determine compliance with this condition. (City Engineer – HI/Public Works - JN)

19. All private storm drainage discharge shall be disposed on-site, design methodology shall be in conformance with the City of Canby Public Works Design Standards, February 2020. The City Engineer and Public Works shall determine compliance with this condition. (City Engineer – HI/Public Works - JN)

20. The applicant shall be required to submit a Storm Drainage Report that provides detailed analysis as part of the storm report. The developer's engineer shall demonstrate how the storm runoff generated from the new impervious surfaces will be disposed of. If drywells (UIC) are used as a means to discharge storm runoff from the private streets, they must meet the following criteria:

    a. The UIC structures location shall meet at least one of two conditions:

        i. The vertical separation distance between the UIC and seasonal high groundwater is more than 2.5 feet or;

        ii. The horizontal separation distance between the UIC and any water well is a minimum of 267 feet in accordance with the City of Canby Stormwater master Plan, Appendix "C", Groundwater Protectiveness Demonstration and Risk Prioritization of Underground Injection Control (UIC) Devices.

    The storm drainage report shall be in conformance with the requirements as stated in Chapter 4 of the City of Canby Public Works Design Standards, dated February 2020. The City Engineer and Public Works shall determine compliance with this condition. (City Engineer – HI/Public Works JN)

21. The applicant shall be responsible for the abandonment of any existing on-site domestic or irrigation wells in conformance with OAR 690—220-0030. A copy of the Oregon Water Rights Department (OWRD) Certificate shall be submitted to the City. The City Engineer and Public Works shall determine compliance with this condition (City Engineer – HI/Public Works - JN)

22. The applicant shall be responsible for the abandonment of any existing on-site sewage disposal system, in conformance with DEQ and Clackamas County Water Environmental Services (WES) regulations. A copy of the septic tank removal certificate shall be submitted to the City. The City Engineer and Public Works shall determine compliance with this condition. (City Engineer – HI/Public Works - JN)

F. Clackamas County Conditions

23. The applicant shall comply with all applicable Clackamas County Traffic and Development conditions of approval as stated in Memorandum, dated February 27, 2020, and attached herein as Exhibit G-3. (Clackamas County – Jonny Gish)

G. Water & Electric Utility Services

24. Water services shall be constructed in conformance with Canby Utility's standards and specifications. Canby Utility, in conjunction with the City Engineer shall determine compliance with this condition. (City Engineer – HI/Canby Utility-JS)
25. The applicant shall submit drawings for all project water lines to Canby Utility for review and approval. Submittal shall meet the requirements of Canby Utility as well as the State of Oregon's requirements. Canby Utility shall determine compliance with this condition. (Canby Utility – JS)
26. Canby Utility, in coordination with the applicant will determine the electrical system layout to serve the subdivision. This shall include required street light placement which shall be represented on a utility service page of the construction plans for the subdivision by the applicant. Canby Utility shall determine compliance with this condition. (Canby Utility – JS)
27. The applicant shall schedule all water and electric utility construction and inspections at least 15-days in advance. Contact Canby Utility Operations Field Supervisor at 503-263-4331.
28. The applicant shall be required to provide 4-inch Schedule 40 PVC sleeves for all road crossings for DirectLink services where applicable. The applicant shall work with DirectLink for coordination of all sleeves and required open trenching scheduling for said communication facilities. DirectLink shall determine compliance with this condition. (Contact DirectLink at 503-266-8242)

H. Fire Protection

29. All fire protection apparatus's such as fire hydrants placement and location shall be placed in accordance with the requirements of the Canby Fire District codes and regulations (Oregon Fire Code 2019, Chapter 33). Canby Fire District shall determine compliance with all fire regulations. (Canby Fire District – ME)
30. The applicant shall contact the Canby Fire District for review and inspection of placement of all fire hydrants, and placement of any and all flammable construction materials on-site, prior to placement of said materials. Canby Fire District shall determine compliance with all fire regulations. (Canby Fire District – ME)
31. Building Address shall be marked at the beginning of construction with a lot marker if needed for each lot under construction. Canby Fire District shall determine compliance with all fire regulations. (Canby Fire District – ME)
32. All fire hydrants shall all have Storz quick adapter couplings on the steamer port as required by Canby Utility. A Blue reflector will be in the center of the road to indicate the hydrant is in the vicinity. Canby Fire District shall determine compliance with all fire regulations. (Canby Fire District – ME)
33. Landscaping shall be low growing vegetation so as not to block visibility of hydrants, or addressing. Canby Fire District shall determine compliance with all fire regulations. (Canby Fire District – ME)

34. The applicant shall provide a PDF of approved prints for the Canby Fire District Pre-Fire Plan program of the development. Canby Fire District shall determine compliance with all fire regulations. (Canby Fire District – ME)

35. All Fire Lanes shall be painted red on curb with – "No Parking Fire Lane" in white - and signage, in accordance with the Oregon Fire Code 2019. Fire Lanes will be determined while on site for any access issues with Canby Fire and the builder. Canby Fire District shall determine compliance with all fire regulations. (Canby Fire District – ME)

36. Fire access shall always be part of the construction plan for the development. Canby Fire District shall determine compliance with all fire regulations. (Canby Fire District – ME)

I. Post Office (mailbox locations)

37. The applicant shall designate on the civil construction plans placement of a community cluster mail boxes to serve:

    a. Lots 1-38 in the following location: between Lots 15 and 27. Said mailbox shall be 3 CBU's 2-16 unit and 1-8 unit.

    b. Lots 45, 46, and 55-82 said box shall be placed between Lots 60 and 61, and would be 2 CBU's both 16 units.

    c. Lots 39 through 54, minus Lots 45 and 46. The box shall be placed at Lot 55, and be a 1-16 unit box.

    The Postmaster shall determine compliance with this condition. (Canby Postmaster Sheila L. Laney, 503-266-3353)

J. Final Plat:

38. All public improvements or submittal of necessary performance security assurances shall be made prior to the signing and release of the final plat for filing of record. Canby Planning shall determine compliance with this condition. (Canby Planning – SF)

39. The applicant shall apply for final plat approval at the City, and pay any applicable city fees associated with final plat review. Prior to the recordation of the final plat at Clackamas County, the plat must be approved by the City. If deemed necessary, the City will distribute the final plat to other applicable local service providers for comment prior to signing off on the final plat. Canby Planning shall determine compliance with this condition. (Canby Planning – SF)

40. The final plat shall conform to the necessary information and requirements of CMC 16.68.030, 16.68.040(B), and 16.68.050. The City Engineer or County Surveyor shall verify that these standards are met prior to the recordation of the subdivision plat. (Canby Planning – SF/City Engineer - HI)

41. All "as-built plans" of City public improvements installed shall be filed with Canby Public Works within sixty (60) days of completion and acceptance of the improvements. (City Engineer – HI/Public Works - JN)

42. Clackamas County Surveying reviews pending subdivision plat documents for Oregon Revised Statutes and county requirements. A subdivision final plat prepared in substantial conformance with the approved tentative plat must be submitted to the City for approval within two years of approval of the tentative plat, or formally request an extension of up to 6-months with a finding of good cause. Canby Planning shall determine compliance with this condition. (Canby Planning – SF)

43. The applicant shall record the final plat at Clackamas County within 6-months of the date of the signature of the Planning Director. Canby Planning shall determine compliance with this condition. (Canby Planning – SF)
44. The applicant shall assure that the City is provided with a copy of the final plat in a timely manner after it is recorded at Clackamas County, including any CC&Rs recorded in conjunction with the final plat. Canby Planning shall determine compliance with this condition. (Canby Planning – SF)
45. The City shall assign addresses for each newly created subdivision lot and distribute those addresses to the developer, and other applicable agencies accordingly prior to home permitting. Canby Planning shall determine compliance with this condition. (Canby Planning – SF)
46. Proposed Lots 7, 9, 10, 11, 12, 30, 31, 32, 33, 45, 53, 81 are permitted to have reduced lot frontages of less than sixty (60) feet. Canby Planning shall determine compliance with this condition. (Canby Planning – SF)

K. Easements

47. All public utility easements traversing the newly created residential lots related to water, sewer, electric, and gas service shall be noted on the final plat. Canby Planning in conjunction with the City Engineer shall determine compliance with this condition. (Canby Planning – SF / City Engineer – HI)

L. Residential Building Permit(s):

48. Construction of all required public improvements and the recordation of the Final Plat shall be completed prior to the issuance of building permits and comply with all applicable City Public Works Design Standards. The City Engineer and Public Works shall determine compliance with this condition. (City Engineer – HI / Public Works – JN/Canby Planning – SF)
49. The homebuilder shall apply for and submit a City of Canby Site Plan Permit application and Clackamas County Building permit for each home, and satisfy the residential design standards of CMC 16.21. Canby Planning shall determine compliance with this condition. (Canby Planning – SF)
50. Home permits for the following Lots: 1, 10, 11, 31, 32, 42, and 43 shall include installation of fencing by the developer and/or homebuilder, using the appropriate materials and dimensions as specified in conditions 56 and 57 below. Canby Planning shall determine compliance with this condition. (Canby Planning – SF)
51. All residential construction shall be in accordance with applicable Public Works Design Standards. Public Works shall determine compliance with this condition. (Public Works – JN)
52. Clackamas County Building Codes division will provide structural, electrical, plumbing, and mechanical plan review and inspection services for all new home construction. The applicable county building permits are required prior to the construction of a new single-family residence. (Canby Planning – SF)
53. Per the Canby Public Works Design Standards, minimum residential driveway widths at the inside edge of the sidewalk shall be 12-feet and the maximum width shall be 24 feet, with an allowed exception of 28 feet for a home with 3 or more garages. Canby Planning shall determine compliance with this condition. (Canby Planning – SF)

54. All usual System Development Charges (SDC) shall be collected with each new home permit within this development. Canby Planning shall determine compliance with this condition. (Canby Planning – SF)

M. Fencing

55. Placement of residential fences along any front or street-adjacent side yard property line are permitted to be a maximum of 3-feet, 6-inches in height, and must not exceed 30-inches in height when within the *Vision Clearance Triangle* for all corner lots, and *Vision Clearance Area* of ten (10) feet from driveways to the street. Perimeter and rear yard fencing is not to exceed six (6) feet in maximum height. Please reference Section 16.08.110 of the Canby Land Development and Planning Ordinance, Chapter 16, of the Municipal Code. (Canby Planning – SF).

56. For the residential lots abutting the future City Park to the north, specifically Lots 1, 10, 11, 31, 32, 42, and 43, rear yard fencing material shall be clear and open in order to ensure visibility and safety. Preferred fencing material shall be black (or similar dark color) vinyl coated chain link or similar, not to exceed six (6) feet in maximum height, or four (4) feet in maximum height if solid fencing. All new fencing shall comply with Section 16.08.110 (G)(2)(a or b). The applicant shall be responsible for the fence installation for the aforementioned lots. Canby Planning shall determine compliance with this condition. (Canby Planning – SF)

57. Pedestrian path fencing between Lots 32 and 31, and 11 and 10, and immediately to the north of Lot 43 (Tract “A”) shall be open, visible fencing so as not to create a “tunnel” effect and safety issues to pedestrians using the path(s). Preferred fencing material shall be black (or similar dark color) vinyl coated chain link or similar, not to exceed six (6) feet in maximum height, or four (4) feet in maximum height if solid fencing. All new fencing shall comply with Section 16.08.110 (G)(2)(a or b). The applicant shall be responsible for the fence installation for the aforementioned lots. Canby Planning shall determine compliance with this condition. (Canby Planning – SF)

**** END OF CONDITIONS ****

I CERTIFY THAT THIS ORDER approving **SUB 19-03/EAS 19-01 DODDS SUBDIVISION**, was presented to and **APPROVED** by the Planning Commission of the City of Canby.
DATED this 9th day of March, 2020.

_____
John Savory
Planning Commission Chair

_____
Bryan Brown
Planning Director

_____
Laney Fouse, Attest
Recording Secretary

ORAL DECISION: March 9, 2020

Name	*Aye*	*No*	*Abstain*	*Absent*
John Savory				
Larry Boatright				
Derrick Mottern				
Jennifer Trundy				
Jeff Mills				
Jason Taylor				
Michael Hutchinson				

WRITTEN DECISION: March 9, 2020

Name	*Aye*	*No*	*Abstain*	*Absent*
John Savory				
Larry Boatright				
Derrick Mottern				
Jennifer Trundy				
Jeff Mills				
Jason Taylor				
Michael Hutchinson				