

April 14, 2015

Mark Handris
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*RE: 19371 Pease Road Subdivision, Oregon City
Transportation Analysis Letter*

Dear Mark,

We have completed our transportation analysis for the proposed 25-lot residential subdivision for the property at 19588 McCord Road in Oregon City, Oregon. In 2014, Lancaster Engineering conducted a Transportation Analysis Letter (TAL) for this site, associated with its annexation into the City of Oregon City, which was subsequently approved. This TAL augments the 2014 analysis and examines the traffic impacts resulting from the currently proposed change in zoning and resulting subdivision.

PROJECT & LOCATION DESCRIPTION

The site is located on the north side of Leland Road and the east side of McCord Road. On the north and east sides of the site, it is bordered by subdivisions that were constructed within the last 10 years. The site is currently occupied by one single-family home and a small Christmas tree farm. The existing home and farm operation will be removed with construction of the proposed subdivision.

In 2014, the site was brought into the City of Oregon City with a residential zoning district of R10. The TAL conducted in 2014 examined the impact of 21 single family homes, which could be constructed under the R10 zone. The current proposal is to change the zoning to R6 and construct a total of 25 homes. The change to R6 is consistent with the Comprehensive Plan.

The site will take access to the surrounding street system in six locations. Along the north and east boundaries of the site, street stubs for Anita Place, Pelican Lake Place, Joseph Way, and Villard Place will all be extended into the site. These streets are all local residential streets. Villard Place is proposed to be extended through the site to form a new intersection with McCord Road. Lastly, Lot 16 is proposed to take direct access to Leland Road.

Anita Place, Pelican Lake Place, Joseph Way, and Villard Place are all under the jurisdiction of the City of Oregon City and classified as a local residential streets. They are currently full-width streets with curbs, sidewalks, and planter strips in place on both sides of the street. Also, on-street parking is permitted on both sides of the street. All are subject to a statutory residential speed zone of 25 mph.



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Due to the low volumes and speeds of traffic on local streets, bicyclists can safely share the roadway with motor vehicles.

McCord Road is under the jurisdiction of the City of Oregon City and is classified as a Collector. Between Pease Road and Leland Road, it is an unimproved two-lane roadway. There are no curbs, sidewalks, or bike lanes.

Leland Road is also under the jurisdiction of the City of Oregon City and is classified as a Minor Arterial. Curbs, sidewalks, and planter strips are in place adjacent to recent subdivisions where frontage improvements were made. Similarly, on-street parking and/or bike lanes are in place where sufficient width is available. A short distance west of the site, Leland Road makes a 90-degree curve, with McCord Road intersecting from the west.

An aerial view of the site and nearby vicinity is shown on the following page (image from Google Earth).



TRIP GENERATION ANALYSIS

The site currently contains one single-family detached dwelling, which will be removed with construction of the proposed subdivision. As such, the 25-lot subdivision will result in the net increase of 24 single-family homes over current conditions. As mentioned previously, a TAL was prepared last year that considered the impacts of construction of 21 homes on the subject site.



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To estimate the trip generation of the new homes, trip rates from the manual *TRIP GENERATION*, Ninth Edition, published by the Institute of Transportation Engineers (ITE), were used. Trip rates for land-use code 210, *Single-Family Detached Housing*, based on the number of dwelling units, were used to calculate the expected trip generation.

The calculations show that the proposed subdivision will generate a net increase of 18 trips during the morning peak hour with 5 trips entering and 13 trips exiting the site. During the evening peak hour, the subdivision is projected to generate a net increase of 24 trips with 15 trips entering and 9 trips exiting. The subdivision is projected to generate a net increase of 228 total daily trips with half entering the site and half exiting.

The following table offers a summary of the trip generation calculations. Detailed trip generation calculations are included in the technical appendix.

TRIP GENERATION SUMMARY								
	Size	AM Peak Hour			PM Peak Hour			Weekday
		In	Out	Total	In	Out	Total	Total
Existing								
Single Family Detached	1 unit	0	1	1	1	0	1	10
Proposed								
Single Family Detached	9 units	5	14	19	16	9	25	238
Net New Trips		5	13	18	15	9	24	228

Since the proposed land division will lead to an increase of less than 25 trips during the peak hours, and particularly since the site will take access in a total of six locations, thereby dispersing traffic, site impacts will be minimal and no nearby intersections require a detailed capacity analysis.

ACCESS SPACING & CONNECTIVITY

The street pattern within the subdivision is largely dictated by the existing streets that stub to the site on the north and east boundaries. The spacing of streets and intersections within the site are determined by these existing streets, which provide a logical and well-connected grid.

Construction of the proposed subdivision will provide increased connectivity for the neighborhoods to the north and east of the site. Site trips will use the local streets in these adjacent neighborhoods, but the new streets within the site will also be used by existing residents. The benefit of this increased connectivity is to provide multiple routes for ingress and egress and to disperse traffic impacts rather than concentrate traffic on a smaller number of access points.



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SIGHT DISTANCE

Intersection sight distance requirements were taken from *A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS*, published in 2011 by the American Association of State Highway and Transportation Officials (AASHTO). Sight distance requirements are based on an approaching driver's eye height of 3.5 feet above the road and an eye height of 3.5 feet with the driver's eye 15 feet behind the edge of the near-side travel lane.

Sight distance was measured at the new intersection of McCord Road and Villard Place. While there is no posted speed on McCord Road, it is residential in nature and subject to a statutory 25 mph speed zone. Speeds observed in the field, but not measured directly, were likely somewhat in excess of 25 mph. Still, adequate sight lines are available. Looking north from the access location, sight distance is continuous through a sag vertical curve on McCord Road, with the line of sight exceeding 600 feet. Looking south from the access, the 90-degree curve in McCord Road is visible, which is approximately 500 feet away. Based on these measurements, sight distance would be adequate for speeds up to 45 mph, which is significantly faster than what was observed in the field. Sight distance at this location is adequate.

As mentioned previously, access to Lot 16 is proposed directly to Leland Road. Since Leland Road is a Minor Arterial, direct access is typically discouraged. However, with the configuration of the site and the narrow width of frontage along Leland Road, no other opportunities for access are available. To improve operation, Lot 16 is proposed with an on-site turnaround, so vehicles can enter Leland Road in a forward fashion and avoid backing into the roadway. The posted speed on Leland Road is 35 mph, requiring 390 feet of intersection sight distance. However, there is a 90-degree curve in Leland Road approximately 175 feet west of Lot 16. This curve effectively lowers eastbound traffic approaching the driveway to 15 mph, reducing the intersection sight distance requirement to 170 feet in this direction. The curve is posted with an advisory speed of 10 mph.

Looking west from the proposed driveway to Lot 16, sight distance is approximately 175 feet, limited by trees and landscaping on the inside of the 90-degree corner. Still, with the reduced speed necessary to navigate the corner, sight distance is adequate. Looking to the east, line of sight is limited to 325 feet by trees along the front of the property two houses east of Lot 16. While these trees are within the public right-of-way, they are used as landscaping and screening by the adjacent property owner and will be removed at some time in the future when the property is redeveloped and frontage improvements along Leland Road are constructed. Safe stopping sight distance for a speed of 35 mph is 250 feet according to AASHTO. While intersection sight distance is not available, line of sight is adequate for stopping sight distance, ensuring that the driveway can operate safely.

TRANSPORTATION PLANNING RULE

The Transportation Planning Rule (TPR) is in place to ensure that the transportation system is capable of supporting possible increases in traffic intensity that could result from changes to adopted plans and land use regulations. While the change in zoning from R10 to R6 is in conformance with the Comprehensive Plan, the change in zoning triggers the need to address the TPR. The applicable elements of the TPR are quoted in *italics* below, with a response directly following.



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660-012-0060

- (1) *If an amendment to a functional plan, an acknowledged comprehensive plan, or a land use regulation (including a zoning map) would significantly affect an existing or planned transportation facility, then the local government must put in place measures as provided in section (2) of this rule, unless the amendment is allowed under section (3), (9) or (10) of this rule. A plan or land use regulation amendment significantly affects a transportation facility if it would:*
- (a) *Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);*
 - (b) *Change standards implementing a functional classification system; or*
 - (c) *Result in any of the effects listed in paragraphs (A) through (C) of this subsection based on projected conditions measured at the end of the planning period identified in the adopted TSP. As part of evaluating projected conditions, the amount of traffic projected to be generated within the area of the amendment may be reduced if the amendment includes an enforceable, ongoing requirement that would demonstrably limit traffic generation, including, but not limited to, transportation demand management. This reduction may diminish or completely eliminate the significant effect of the amendment.*
 - (A) *Types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;*
 - (B) *Degrade the performance of an existing or planned transportation facility such that it would not meet the performance standards identified in the TSP or comprehensive plan; or*
 - (C) *Degrade the performance of an existing or planned transportation facility that is otherwise projected to not meet the performance standards identified in the TSP or comprehensive plan.*

For the proposed development, subsections (a) and (b) are not triggered, as no change in functional classification or standards are proposed or necessitated by the proposed zone change and subsequent development. Subsection (c) is also not triggered since the intersections surrounding the site are operating favorably and will meet applicable performance standards throughout the planning horizon and the types and levels of travel and access for all roadways are consistent with the respective functional classifications of the roadways.

The proposed change in zoning results in a net increase of only four homes, which is not sufficient to alter the near or long-term operation of the surrounding transportation system. As such, the proposed

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zone change will not “significantly affect” the transportation system as defined by the TPR and the TPR is satisfied.

SUMMARY & CONCLUSIONS

The proposed change in zoning from R10 to R6 and the resulting 25-lot residential subdivision is not expected to have a significant impact on the surrounding street system. The streets within the subdivision provide a logical extension of the existing residential local street pattern in the area and are consistent with the City’s Transportation System Plan. The change in zoning will result in a net increase of only four single-family homes. No mitigations are required or recommended.

If you have any questions, comments, or concerns regarding this report or if you need any further assistance, please don’t hesitate to call.

Sincerely,

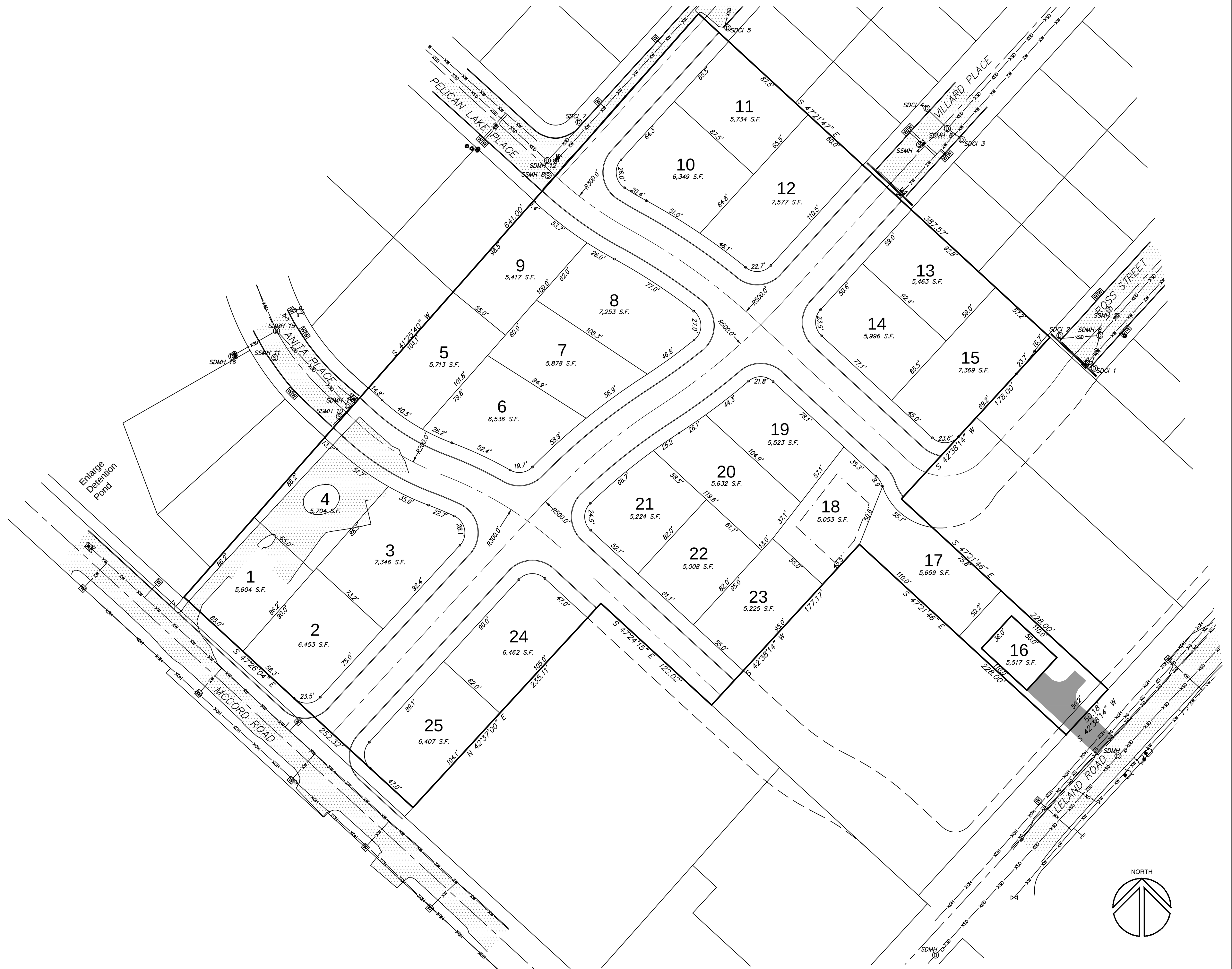


Todd E. Mobley, PE, PTOE
Principal





TECHNICAL APPENDIX



DESIGNED:	REG			
DRAWN:	REG			
SCALE:	1" = 50'			
DATE:	February 2015			
FILE:	14-ICN-108	DATE	NO.	REVISION

Richard E. Givens, Planning Consultant
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APPLICANT: Icon Construction & Development LLC
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Pavilion Park 3 Preliminary Plan

SHEET:
1/1



TRIP GENERATION CALCULATIONS

Land Use: Single-Family Detached Housing
Land Use Code: 210
Variable: Dwelling Units
Variable Value: 24

AM PEAK HOUR

Trip Rate: 0.75

	Enter	Exit	Total
Directional Distribution	25%	75%	
Trip Ends	5	13	18

PM PEAK HOUR

Trip Rate: 1.00

	Enter	Exit	Total
Directional Distribution	63%	37%	
Trip Ends	15	9	24

WEEKDAY

Trip Rate: 9.52

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	114	114	228

SATURDAY

Trip Rate: 9.91

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	119	119	238

Source: TRIP GENERATION, Ninth Edition