April 14, 2015

LANCASTER ENGINEERING

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Mark Handris
Icon Construction and Development
1980 Willamette Falls Drive, Suite 200
West Linn, OR 97068

RE: Boulder Run Subdivision, Oregon City
Transportation Analysis Letter

Dear Mark,

We have completed our transportation analysis for the proposed 19-lot residential subdivision for the property at 19371 Pease Road in Oregon City, Oregon. This Transportation Analysis Letter examines the traffic impacts resulting from the construction and occupancy of single-family detached homes on the subject site.

PROJECT & LOCATION DESCRIPTION

The site is an assembly of properties located north of Pease Road. There are currently two single-family homes on the site, one of which is planned to remain, occupying Lot 18. The site will take access via Windmill Drive, which stubs to the site on both the east and west property boundaries. Windmill Drive will be connected through the site. In addition, Hampton Drive will be extended north through the site and stubbed to the northern property line. Lots 1 and 2 have frontage along Pease Road, where direct access is proposed.

Windmill Drive and Hampton Drive are under the jurisdiction of the City of Oregon City and are classified as a local residential streets. They are full-width local 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. They have a statutory residential speed zone of 25 mph. Due to the low volumes and speeds of traffic on local streets, bicyclists can safely share the roadway with motor vehicles.

Pease Road is under the jurisdiction of the City of Oregon City and is classified as a Collector. It is a two-lane roadway with curbs, sidewalk, and planter strips in place adjacent to subdivisions. Frontage along undeveloped properties is generally unimproved. Similarly, bike lanes are in place intermittently, where improved frontages allow.

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 two single-family detached dwellings, one of which will be removed with construction of the proposed subdivision. As such, the 19-lot subdivision will result in the net increase of 18 single-family homes.

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 14 trips during the morning peak hour with 4 trips entering and 10 trips exiting the site. During the evening peak hour, the subdivision is projected to generate a net increase of 18 trips with 11 trip entering and 7 trips exiting. The subdivision is projected to generate a net increase of 172 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 In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Weekday Total
Existing								
Single Family Detached	1 unit	0	1	1	1	0	1	10
Proposed								
Single Family Detached	19 units	4	11	15	12	7	19	182
Net New Trips		**4**	**10**	**14**	**11**	**7**	**18**	**172**

Since the proposed subdivision will generate fewer than 25 trips during the peak hours, site impacts will be minimal and no nearby intersections require a detailed capacity analysis. The traffic impacts resulting from the new homes constructed on the property are projected to be minor, and no mitigations are recommended.

ACCESS SPACING & CONNECTIVITY

Since the proposed subdivision will simply connect two existing local streets, no new public street intersections will be created as part of the project. As such, access spacing standards are not directly applicable. However, the site does provide a connection of Windmill Drive, providing increased connectivity for the neighborhoods to the east and west of the site. The street connection will allow access to either Fisherman's Way to the west or Hampton Drive to the east. Both of these streets connect to Pease Road, offering access to the surrounding transportation system.

SIGHT DISTANCE

As explained above, the site simply connects two existing street stubs, but does not create any new public street intersections. However, two lots are proposed to take direct access to Pease Road. While Pease Road is classified as a Collector, there are many homes along the street that have direct access driveways, from both new subdivisions and properties that have not redeveloped. For example, on the south side of the Pease Road immediately east of the site, individual residential driveways are in place for the Pavilion Park subdivision, which was recently approved and constructed.

Since residents will back out of the proposed residential driveways, it is important to provide sufficient stopping sight distance along Pease Road, so oncoming vehicles can see backing vehicles and slow or stop to avoid a collision. Given the many other direct residential driveways along the roadway, this operation is consistent with existing conditions.

There is no posted speed in the immediate vicinity of the site, although Pease Road is residential in nature and subject to a statutory residential speed zone of 25 mph. Based on this speed, stopping sight distance of 155 feet along Pease Road is required according to *A POLICY ON GEOMETRIC*

DESIGN OF HIGHWAYS AND STREETS, published in 2011 by the American Association of State Highway and Transportation Officials (AASHTO). In the vicinity of the site, Pease Road is tangent and relatively flat. There is a crest vertical curve to the east of the site, but sight distance is available well in excess of the required 155 feet.

CONCLUSIONS

The traffic impacts resulting from the proposed 19-lot Boulder Run subdivision will not cause any significant impact to the nearby transportation system and provides additional connectivity for the existing residential neighborhood by connecting Windmill Drive through the site and extending Hampton Drive to the north. Adequate sight distance is available along Pease Road to allow the two proposed driveways to operate safely. Based on field observations and calculations, the development will not cause any safety issues for road users. No mitigations are required or recommended.

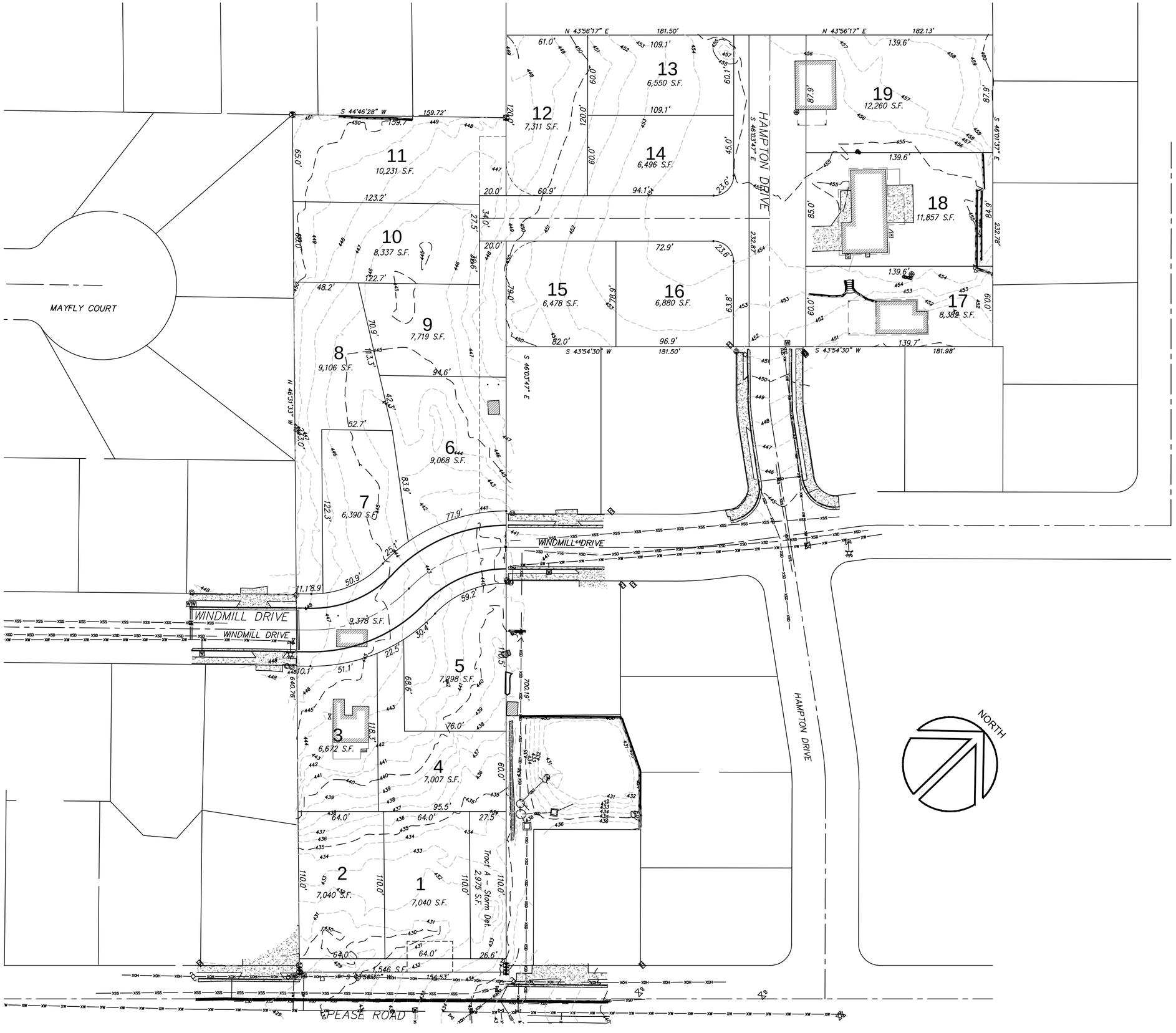
If you have any questions, comments, or concerns regarding this report or if you need any further assistance, please don't hesitate to call.

Sincerely,

Todd E. Mobley, PE, PTOE
Principal

REGISTERED PROFESSIONAL ENGINEER
54853PE
OREGON
JULY 9, 2001
TODD E. MOBLEY
RENEWS: 12/31/2016

TECHNICAL APPENDIX



DESIGNED:	REG			
DRAWN:	REG			
SCALE:	1" = 50'			
DATE:	March 2015			
FILE:	14-ICN-105	DATE	NO.	REVISION

Richard E. Givens, Planning Consultant
18680 Sunblaze Dr.
Oregon City, OR 97045
PH: (503) 479-0097

APPLICANT: Icon Construction & Development LLC
1980 Willamette Falls Drive, Suite 200
West Linn, OR 97068
PH: (503) 657-0406

Boulder Run
Preliminary Plan

SHEET: 1/1

TRIP GENERATION CALCULATIONS

Land Use: Single-Family Detached Housing
Land Use Code: 210
Variable: Dwelling Units
Variable Value: 18

AM PEAK HOUR

Trip Rate: 0.75

	Enter	Exit	Total
Directional Distribution	25%	75%	
Trip Ends	**4**	**10**	**14**

PM PEAK HOUR

Trip Rate: 1.00

	Enter	Exit	Total
Directional Distribution	63%	37%	
Trip Ends	**11**	**7**	**18**

WEEKDAY

Trip Rate: 9.52

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**86**	**86**	**172**

SATURDAY

Trip Rate: 9.91

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**89**	**89**	**178**

Source: TRIP GENERATION, Ninth Edition

June 8, 2015

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Mark Handris
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RE: Boulder Run Subdivision, Oregon City
Transportation Addendum #1

Dear Mark,

This letter serves as an addendum to the original April 14, 2015 Transportation Analysis Letter (TAL). The addendum is written to provide an analysis of the Transportation Planning Rule, since the proposed subdivision includes a zone change from R-10 to R-8.

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 R8 is in conformance with the Comprehensive Plan designation for the side of Low-Density Residential, 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.

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. As demonstrated by the April 14, 2015 TAL, subsection (c) is also not triggered since the intersections surrounding the site are operating favorably and will meet applicable performance standards and the types and levels of travel and access for all roadways are consistent with the respective functional classifications of the roadways.

Under the R-10 zoning designation, a total of 15 homes could be constructed. Under the proposed R-8, a total of 19 homes could be constructed, as proposed. The 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 zone change will not "significantly affect" the transportation system as defined by the TPR and the TPR is satisfied.

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