

# Technical Memorandum

September 9, 2021

Project# 26798

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## Cambia LPGA Portland Classic Traffic Management Plan

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This technical memorandum provides a detailed traffic management plan (TMP) for the upcoming LPGA<sup>1</sup> Cambia Portland Classic to be held September 16 through September 19, 2021 at the Oregon Golf Club in West Linn, Oregon. A recommended TMP is provided herein.

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### Tournament Background

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The proposed tournament site, Oregon Golf Club, is located along the Willamette River approximately one mile south of downtown West Linn at 25700 SW Petes Mountain Road. The golf course facility covers approximately 320 acres and includes a golf course, tennis courts, fitness facilities, dining accommodations and pool amenities. The Golf Club has approximately 400 on-site surface parking spaces which will be used for players, VIPs, and tournament staff parking only. Application has been made to Clackamas County to utilize nearby farm acreage at the Oregon Equestrian Center to accommodate patron parking. Figure 1 shows the site vicinity map and signing plan.

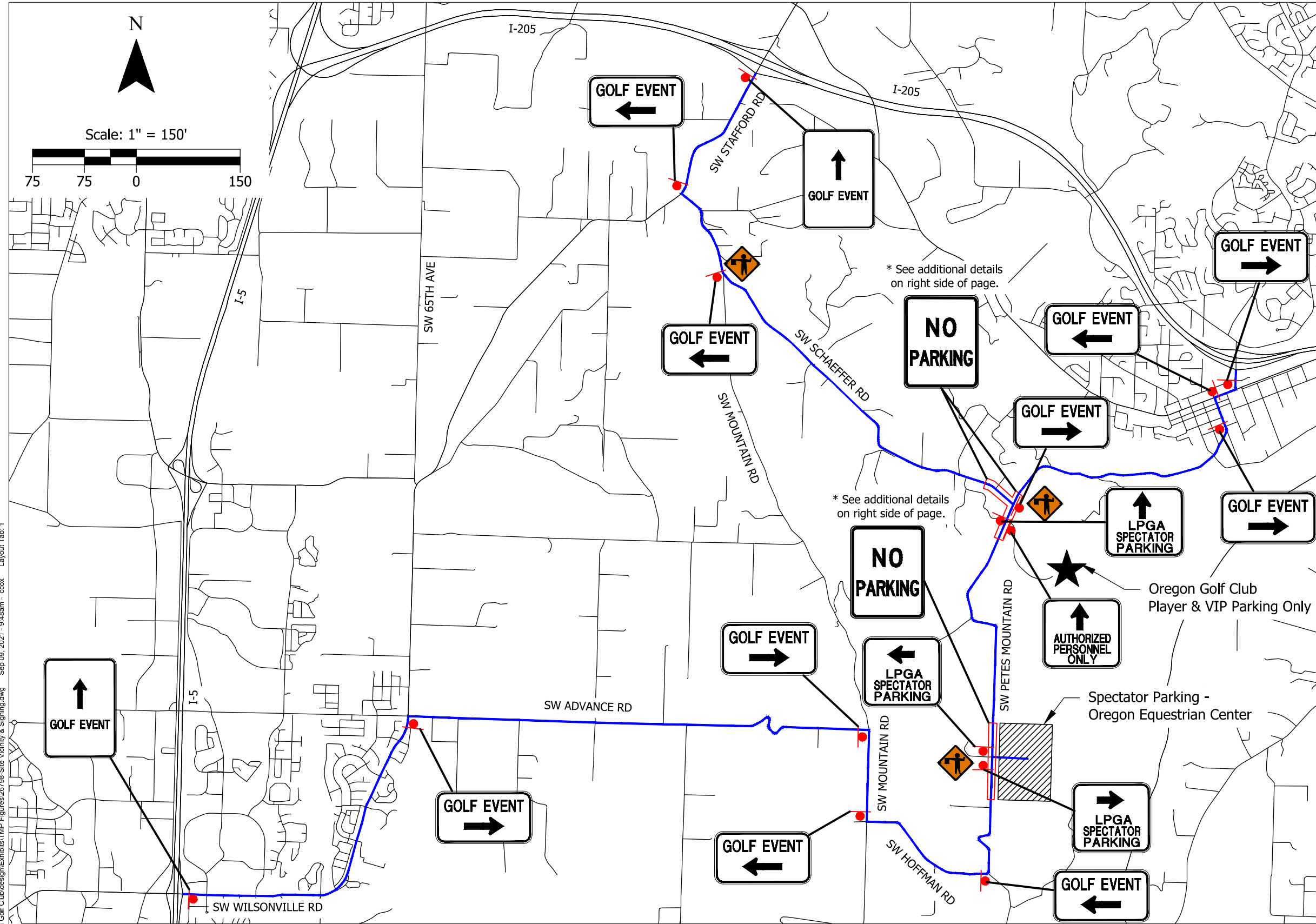
### **PARKING AREAS & FORECAST PATRON ATTENDANCE**

Under the proposed tournament format, tournament play is scheduled Thursday through Sunday (September 16 through 19). The event will involve numerous volunteers, participants, and media with overall spectator attendance in the range of 2,000 to 4,000. This attendance estimate is based on past Portland Classic tournaments (confirmed by Etzel Agency) and current ticket sale estimates. Further, Etzel Agency has verified with tournament owners that past Portland Classic events held at the Columbia Edgewater golf course in Portland have generated a peak spectator parking demand of approximately 600 vehicles on-site during peak visitor hours. As detailed in the remainder of this traffic management plan, event organizers are preparing to provide parking supply that is nearly triple the peak demand observed at past tournaments.

Parking will be provided on-site for players, VIPs, and tournament staff, which is expected to occupy all 400 on-site parking spaces at the Oregon Golf Club. Spectator parking will be provided off-site with regular shuttle service to the golf course (dropping off passengers at the clubhouse) – the proposed off-site parking area is located approximately 1.5 miles south of the Oregon Golf Club entrance road along SW Petes Mountain Road at the Oregon Equestrian Center. The travel time along SW Petes Mountain Road between the Oregon Golf Club entrance road and the Equestrian Center is estimated to be approximately two-to-four minutes.

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<sup>1</sup> LPGA: Ladies Professional Golf Association



### GENERAL NOTES

1. All wayfinding messages shall be mounted on sandwich board style signs except where otherwise noted. See example below.
2. Signs shown on this plan are conceptual. The actual signs used should convey messaging that is clear, concise, and consistent with this plan.
3. Signs shall be placed on the shoulder of the roadways and shall not obstruct sight distance or the natural path of travel for vehicles.
4. Signs shall be in place from 9/16/2021 through 9/19/2021 and shall be managed and maintained by the LPGA event organizers.

### \*NO PARKING SIGNS

18" X 24" NO PARKING (R8-3) signs shall be MUTCD compliant and mounted on Type II barricades per ODOT Standard Drawing TM820 and placed on both sides of the road no more than 200' apart. Signs shall be inspected every morning to ensure they are accounted for and displayed properly.

The limits of NO PARKING sign placement is as follows:

- Petes Mountain Rd from 1,200' south of Schaeffer Rd to 400' north of Schaeffer
- Schaeffer Rd from Petes Mountain Rd to 1,600' west of Petes Mountain Rd
- Petes Mountain Rd along frontage of Oregon Equestrian Center.

### LEGEND

- Preferred Driving Route
- Oregon Golf Club (Player & VIP Parking Only)
- Oregon Equestrian Center (Spectator Parking With Regular Shuttle Service to the Golf Course)
- Proposed Sandwich Board Style Wayfinding Sign
- \*Limits of NO PARKING signs
- Flagers to be placed at intersection during the following hours: Thurs. & Fri. 9:00am-12:00am & 4:00pm-6:00pm and Sat. & Sun. 10:00am-6:00pm.



Site Vicinity & Signing  
Clackamas County, OR

Figure  
01

H:\26\26798 - LPGA Oregon Golf Club\design\Exhibits\TMP Figures\26798-Site Vicinity & Signing.dwg Sep 09, 2021 - 9:48am - ccox Layout Tab: 1

The Oregon Equestrian Center has been optimized to park up to 1,850 vehicles on site, if needed. As shown in Figure 2 (presented later in this memorandum), the number of on-site parking spaces is based on 16-acres of available parking fields, with spaces dimensioned 9 feet by 20 feet. Recognizing potential inefficiencies in parking circulation and spacing, the actual parking supply anticipated could be up to 10-15 percent lower than 1,850 spaces. As such, this document relies on an effective parking supply of 1,500 to address demand.

## SPECTATOR ARRIVALS AND DEPARTURES

Tournament tee-times begin at 7:00 AM, and volunteers are expected to arrive as early as 5:30 AM. Based on information provided by Etzel Agency, spectators are expected to occupy 2-3 persons per private vehicle. For the purposes of this TMP, we have assumed a 2.5 person/vehicle occupancy per private vehicle.

## THURSDAY AND FRIDAY

During the weekdays (Thursday and Friday), play continues until 7:00 PM and spectator attendance is estimated up to 2,000 spectators per day. The peak arrival period is estimated to occur between 9:00 AM and 12:00 PM, and peak departure is expected between 3:00 PM and 5:00 PM. At 2.5 persons per vehicle, the tournament is expecting up to 800 vehicles throughout the day. An estimated hourly trip profile for vehicles on the adjacent roadways is shown in Exhibit 1 below:

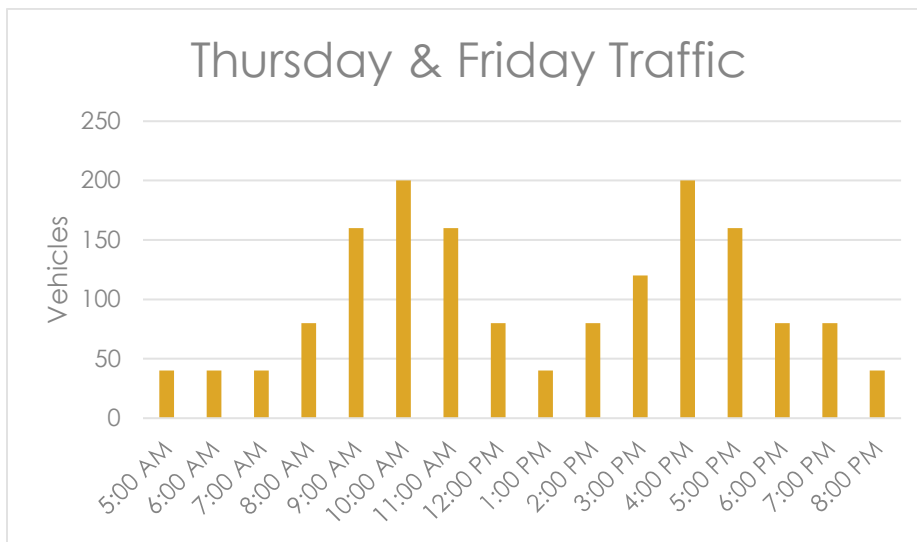


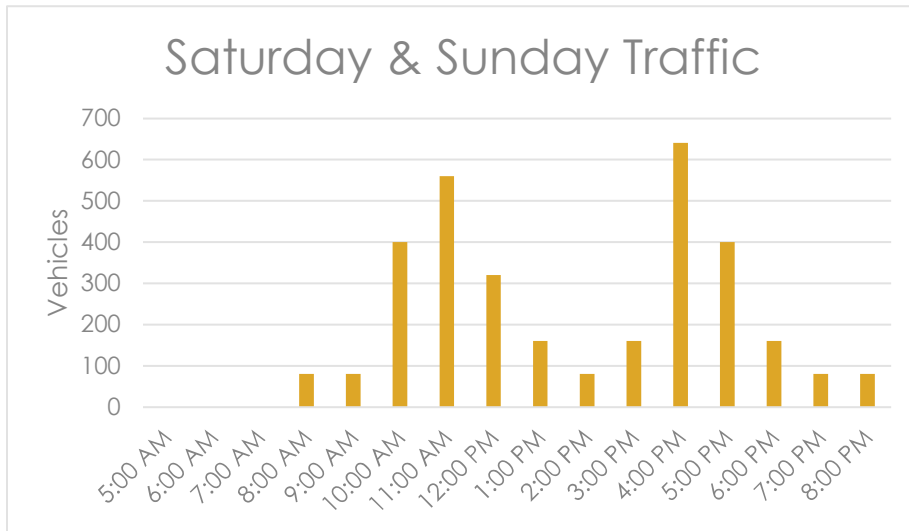
Exhibit 1. Thursday & Friday estimated trip distribution representing total vehicles on the road network.

## SATURDAY AND SUNDAY

During the weekend (Saturday and Sunday), the tournament competition is narrowed from 144 competitors to approximately 70 and play is expected to be complete by 3:00 PM. Spectator attendance is estimated up to 4,000 spectators per day. Peak arrivals for the weekend are estimated to occur between 11:00 AM and 12:00 PM, and peak departure is expected between 2:00 PM and 5:00 PM. At 2.5 persons per vehicle, the tournament is planning for up to 1,600 vehicles throughout the day. An estimated hourly trip profile for vehicles on the roadway network is shown in Exhibit 2 below.

The tournament is not anticipating all 4,000 spectators on the grounds at the same time; rather this represents the total number of spectators throughout the day. Thus the provided effective parking supply is anticipated

to meet the peak weekend parking demand. At the time of preparation of this TMP, no contingency parking lots have been identified to be needed.



**Exhibit 2. Saturday & Sunday estimated trip distribution representing total vehicles on the road network.**

## Shuttle Service

Shuttle service will be provided to transport spectators between the Equestrian Center Parking Area and the Oregon Golf Club. Bus pick-up and drop-off will occur on-site at the Equestrian Center as shown in Figure 4. Additionally, buses loading and unloading at the Oregon Golf Club will do so at the clubhouse inside the golf course gates so that traffic is not delayed on SW Petes Mountain Road. Buses are anticipated to require up to ten minutes to load and unload passengers (total of 20 minutes) and up to 5 minutes traveling between the Oregon Golf Club and the Equestrian Center. As such, one bus is estimated to have a round-trip duration of 25 minutes.

Based on anticipated spectator attendance, Etzel Agency plans to have up to 12 buses in active circulation during peak arrival and departure hours. Each bus has capacity for up to 50 spectators, and, with a round-trip time of approximately 25 minutes, pick-up/drop-off service will be provided approximately every 2-3 minutes during the peak arrival and departure times noted above (25 minutes divided by 12 buses). Bus frequency will decrease during non-peak times as determined by the tournament organizers. Table 1 below illustrates the anticipated bus schedule for the event.

**Table 1. LPGA tournament shuttle bus circulation**

Hour	Number of Buses in Circulation			
	9/16 THU	9/17 FRI	9/18 SAT	9/19 SUN
<b>ADA BUS (16 HR / BUS)</b>	2	2	2	2
<b>5:00 AM - 6:00 AM</b>	2	2	2	2
<b>6:00 AM - 7:00 AM</b>	2	2	2	2
<b>7:00 AM - 8:00 AM</b>	4	4	6	6
<b>8:00 AM - 9:00 AM</b>	6	6	8	8
<b>9:00 AM - 10:00 AM</b>	6	6	10	10
<b>10:00 AM - 11:00 AM</b>	6	6	10	10
<b>11:00 AM - 12:00 PM</b>	6	6	10	10
<b>12:00 PM - 1:00 PM</b>	6	6	10	10
<b>1:00 PM - 2:00 PM</b>	6	6	12	12
<b>2:00 PM - 3:00 PM</b>	6	6	12	12
<b>3:00 PM - 4:00 PM</b>	6	6	12	12
<b>4:00 PM - 5:00 PM</b>	6	6	12	12
<b>5:00 PM - 6:00 PM</b>	4	4	12	12
<b>6:00 PM - 7:00 PM</b>	4	4	4	4
<b>7:00 PM - 8:00 PM</b>	2	2	4	4
<b>8:00 PM - 9:00 PM</b>	2	2	-	-

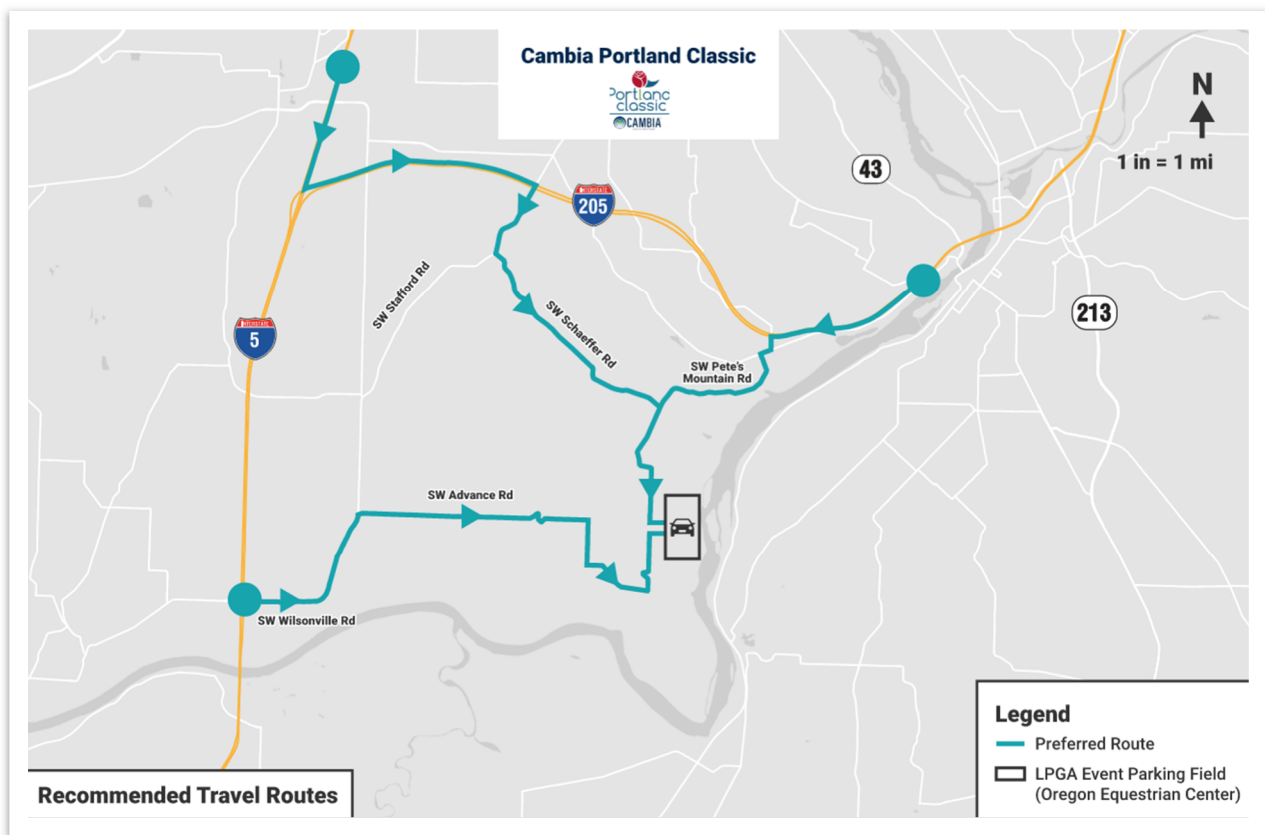
Additional details of the parking and circulation traffic management considerations are identified in the following sections and in the provided graphics.

# Traffic Management Plan

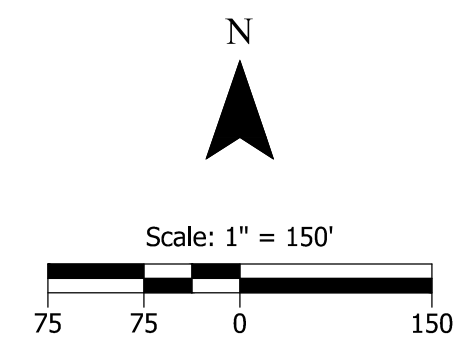
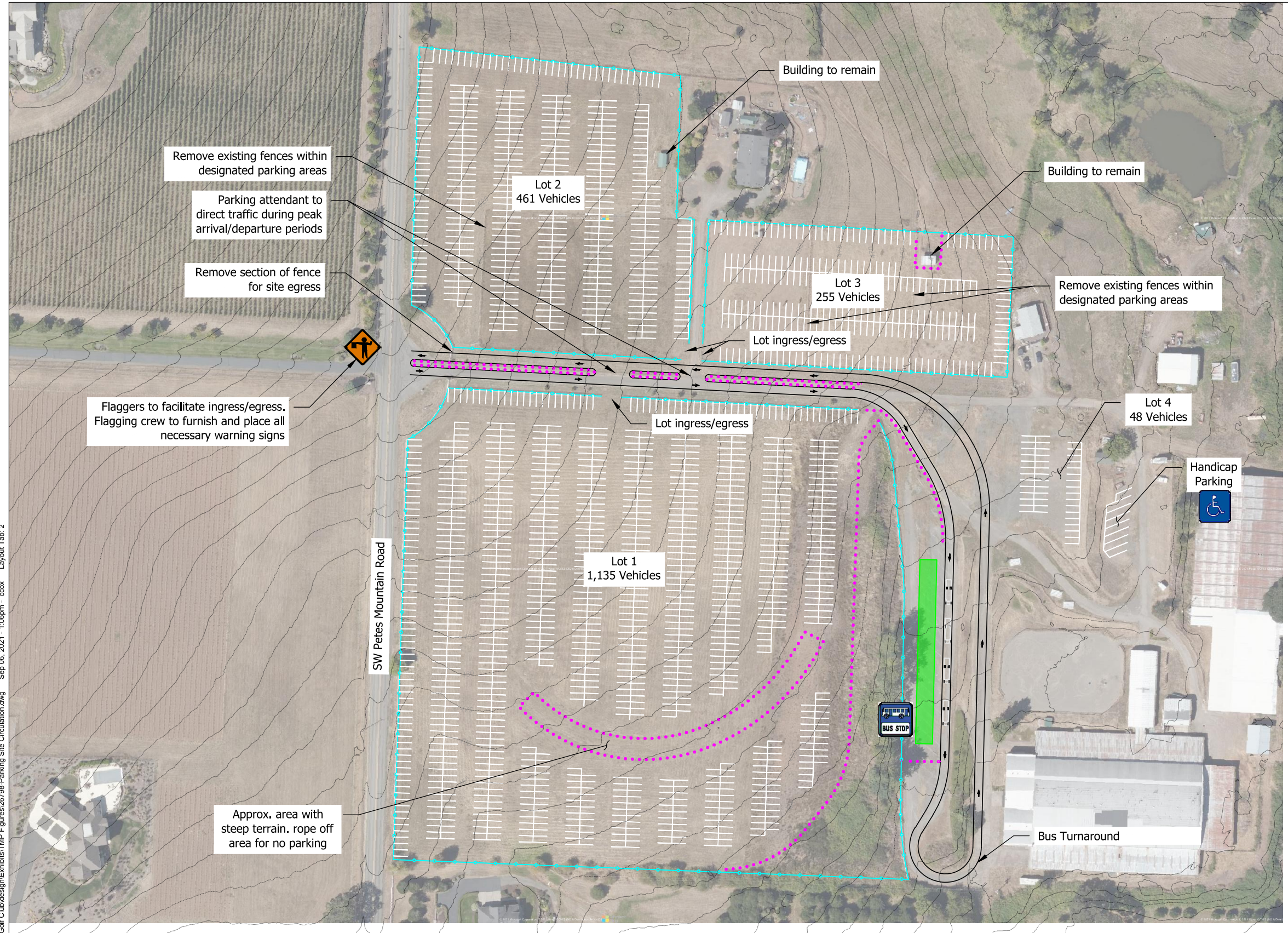
## PARKING AND CIRCULATION

The entrance road to the golf course will be reserved for exclusive use to the tournament participants, VIPs/sponsors, and media staff. All other vehicles (volunteers and spectators) will be directed to the Equestrian Center parking area identified in Figure 1. The primary routes to the spectator parking area are SW Schaeffer Road and SW Petes Mountain Road from I-205 and SW Advance Rd from I-5. Exhibit 3 shows the proposed parking location, the surrounding street network, and preferred arrival routes.

**Exhibit 3 Preferred Travel Routes**



Spectator vehicles will be directed to enter the Equestrian Center parking field via Petes Mountain Road as shown in Exhibit 1. Tournament volunteers and staff on-site will direct vehicles to park in rows, spacing vehicles approximately 3 feet apart from each other to maximize the parking field efficiency. The parking rows and drive aisles will be measured in advance and marked with cones or stakes to assist parking attendants in directing vehicles. Signage will direct pedestrians to the bus pick-up/drop off areas. The detailed on-site parking and circulation plan is shown in Figure 2. Figure 2 also identifies location of bus pick-up/drop-off and designated drive aisles.



**GENERAL NOTES**

1. All drive aisles shall maintain a minimum 26' width between parked cars for 2-way vehicle access.
2. Parking stalls are shown as 9' wide x 20' long. Parking attendants should work to maintain these dimensions to make efficient use of the parking areas. Maintain no more than 3 feet between parked vehicles.
3. Parking rows and drive aisles should be measured and marked with stakes or traffic cones in advance to guide parking attendants.
4. Parking attendants shall be present during the peak arrival & departure times each day (8:00 AM - 12:00 PM & 2:00 PM - 5:00 PM) to direct traffic and ensure organized rows and adequate drive aisle widths.
5. A minimum of four parking attendants shall be present in each designated lot to direct vehicles from the lot entrance, through the field, and to the correct row and parking stall.
6. Recommended parking circulation - park vehicles furthest away from the entrance first, filling one row at a time. For example, Lot 1 could be parked starting on the SW corner and filling rows to the entrance drive aisle. Once Lot 1 is full, parking can shift to Lot 2, then Lot 3 as needed.

**LEGEND**

- ⋯ Roped off areas
- Existing Fence to remain in place
- Bus loading/unloading zone

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Parking & Site Circulation  
Clackamas County, OR

Figure  
02

## SIGNING PLACEMENT AND LOCATION

As part of the TMP, designated routes were established for arriving tournament spectators that informs the location of wayfinding signage. Table 2 indicates the type, location, and mounting method for the temporary tournament route signing.

**Table 2  
 Sign Location and Mounting Method**

Type	Location	Mounting Method
Wayfinding <sup>2</sup>	I-5 Off-ramp & SW Wilsonville Rd	Temporary <sup>1</sup>
Wayfinding <sup>2</sup>	SW Wilsonville Rd & SW Advance Rd	Temporary <sup>1</sup>
Wayfinding <sup>2</sup>	SW Advance Rd & SW Mountain Rd	Temporary <sup>1</sup>
Wayfinding <sup>2</sup>	SW Mountain Rd & SW Hoffman Rd	Temporary <sup>1</sup>
Wayfinding <sup>2</sup>	SW Hoffman Rd & SW Petes Mountain Rd	Temporary <sup>1</sup>
Wayfinding <sup>2</sup>	SW Stafford Rd & SW Schaeffer Rd	Temporary <sup>1</sup>
Wayfinding <sup>2</sup>	I-205 Offramp & SW Stafford Road	Temporary <sup>1</sup>
Wayfinding <sup>2</sup>	SW Schaeffer Rd & SW Mountain Rd	Temporary <sup>1</sup>
Wayfinding <sup>2</sup>	SW Schaeffer Rd & SW Petes Mountain Rd	Temporary <sup>1</sup>
Wayfinding <sup>2</sup>	SW Petes Mountain Rd & Oregon Golf Club Driveway (2 signs)	Temporary <sup>1</sup>
Wayfinding <sup>2</sup>	SW Petes Mountain Rd & Oregon Equestrian Center Driveway (2 signs)	Temporary <sup>1</sup>
Wayfinding <sup>2</sup>	10 <sup>th</sup> St & Willamette Falls Dr.	Temporary <sup>1</sup>
Wayfinding <sup>2</sup>	Willamette Falls Dr & 12 <sup>th</sup> St	Temporary <sup>1</sup>
Wayfinding <sup>2</sup>	12 <sup>th</sup> St & Tualatin Ave	Temporary <sup>1</sup>
NO PARKING (R8-3) <sup>2</sup>	SW Schaeffer & SW Petes Mountain Rd (approximately 32 signs)	Type II Barricade
NO PARKING (R8-3) <sup>2</sup>	SW Petes Mountain Rd & Oregon Equestrian Center (approximately 22 signs)	Type II Barricade

<sup>1</sup> May include temporary posts, sandwich board style signage, or other non-permanent fixtures.

<sup>2</sup> See Figure 1 – Site Vicinity & Signing for specific location and messaging required for each sign.

## ADDITIONAL TRAFFIC CONSIDERATIONS

At the request of Clackamas County, a sight distance assessment was prepared for the spectator parking driveway entrance at the Oregon Equestrian Center.

For the analysis, intersection sight distance measurements were obtained in the field from a viewpoint 14.5 feet behind the edge of the traveled way and from a height of 3.5 feet above the ground, looking toward an object that is 3.5 feet above the ground, consistent with current AASHTO2 recommendations. Stopping sight distance measurements were obtained in the field from a viewpoint 3.5 feet above the ground looking toward an object that is 2.0 feet above the ground, consistent with AASHTO methodologies. The field measurements are summarized below in Table 3.

2 AASHTO: Association of State Highway and Transportation Officials



**Table 3. Field Measured Sight Distance at the Equestrian Center Driveway**

Direction of Travel	Field Measured Available Sight Distance at the Driveway	
	Intersection Sight Distance	Stopping Sight Distance
Northbound (facing south from driveway)	>500 feet	>500 feet
Southbound (facing north from driveway)	480 feet	>480 feet

These field measurements summarized in Table 3 are compared against minimum AASHTO design guidelines.

One of the primary inputs in determining sight distance metrics according to AASHTO guidelines is the design speed of the respective roadway. Petes Mountain Road does not have a posted speed and various advisory speed signs were observed between 20 and 35 miles per hour. While no speed data were collected for this analysis, a 45-MPH design speed was assumed based on observed vehicle speeds and roadway geometry.

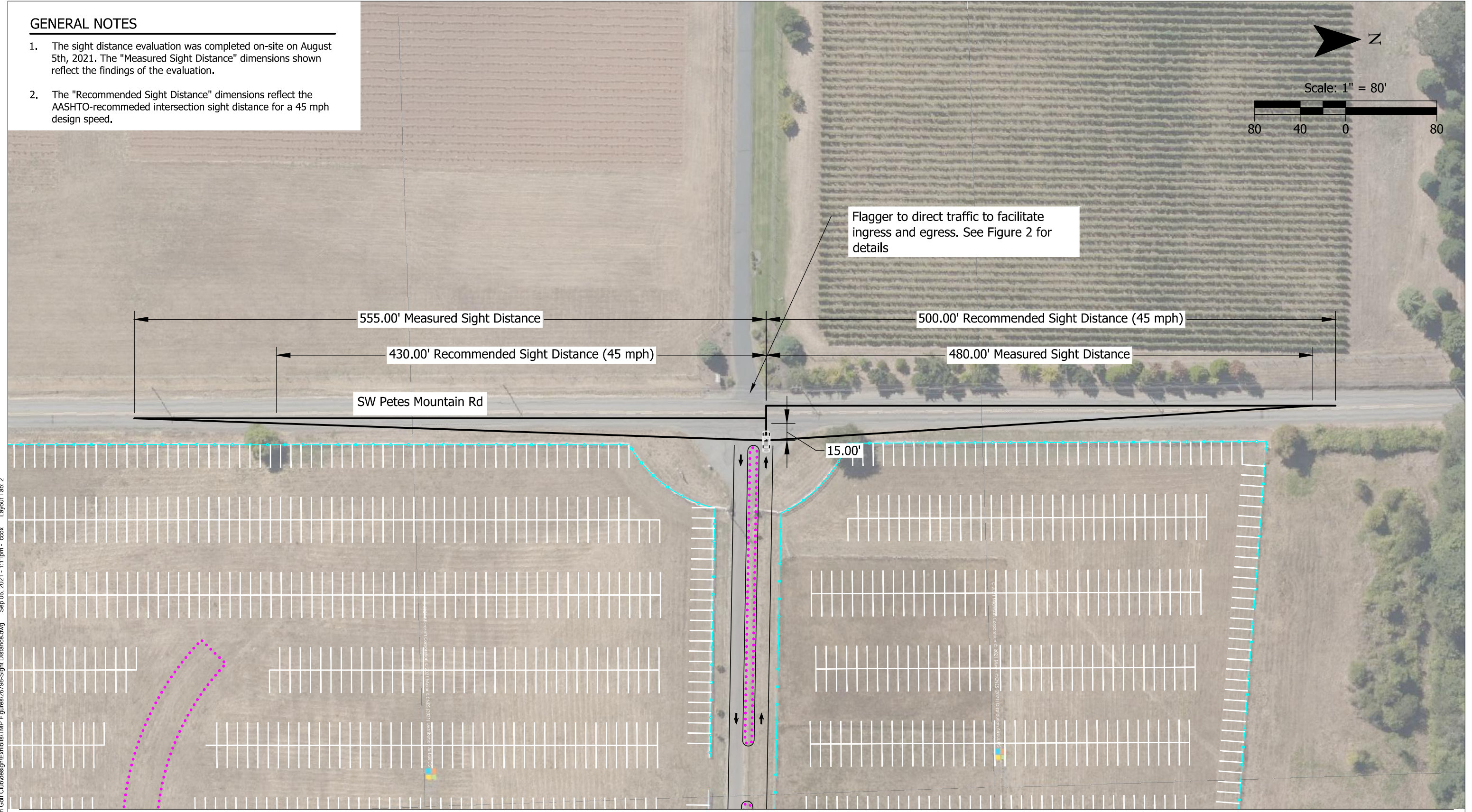
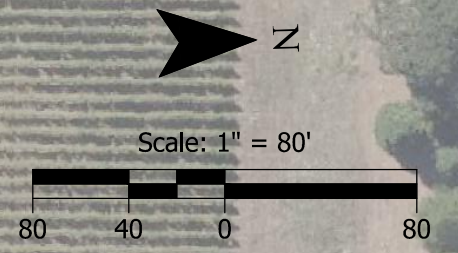
The AASHTO-recommended intersection sight distance for 45 MPH is 430 feet for a right-turn from stop and 500 feet for a left-turn from stop. As such, the driveway meets intersection sight distance and stopping sight distance in the northbound direction (facing south from existing driveway). In the southbound direction, (facing north from the existing driveway), there is some sight distance restriction due to the crest vertical curve located approximately 480 feet from the driveway. As such, intersection sight distance is not met by approximately 20 feet for the observed design speed of 45 MPH.

In accordance with the signing plan in Figure 1, flaggers will be located at the Oregon Equestrian Center Driveway and accompanied by the appropriate flagger warning signs to the north and south of the driveway to help with potential sight distance issues.

Figure 3 illustrates the field measured sight distance and indicates the AASHTO-recommended distances.

**GENERAL NOTES**

1. The sight distance evaluation was completed on-site on August 5th, 2021. The "Measured Sight Distance" dimensions shown reflect the findings of the evaluation.
2. The "Recommended Sight Distance" dimensions reflect the AASHTO-recommended intersection sight distance for a 45 mph design speed.



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Intersection Sight Distance  
Clackamas County, OR

Figure  
03

## TRAFFIC MANAGEMENT PLAN ELEMENTS

The following Traffic Management Plan recommendations were developed to ensure the smooth operation of traffic in the surrounding area during the 2021 LPGA Cambia Portland Classic.

- Advertising of Tournament – Etzel Agency, the event promoter, is planning to advertise the event and advise the public that routes from I-5 and I-205 as shown in Exhibit 1 are the most efficient and effective way to the event parking areas.
- Traffic Control and Monitoring by Clackamas County Sheriff Deputies and Cadets - based on the tournament attendance projections, Etzel Agency has plans in-place to retain the traffic control officers and squad cars every day during the event if warranted. The officers will work in conjunction with the Kittelson & Associates, Inc. and Etzel Agency traffic control team to ensure safe traffic operations from the golf course to regional facilities.
- Traffic control and flagging at key intersections noted in this plan by hired traffic control contractors.
- Event Routing and Signing - The primary purpose of the temporary signing is to ensure that the participants, volunteers, and spectators are directed to the proper parking lot to avoid additional congestion during peak arrival and departure times near the golf course. Figure 1, Exhibit 1, and Figure 2 show the signing plan, designated routes, and parking management.
- Kittelson & Associates, Inc. On-site Overview - Kittelson & Associates, Inc. will monitor the event and participate in public meetings, as needed.

## ADDITIONAL SAFETY CONSIDERATIONS

The safety of local residents, tournament players, and spectators is a key consideration in the development of this traffic management plan. While this plan primarily addresses traffic issues related to the tournament, there are several additional measures being implemented by Etzel Agency. Some of those measures include:

- Coordination with Tualatin Valley Fire & Rescue to inspect the field parking areas for potential fire hazards prior to the tournament. The field will be mowed, no piles of debris or vegetation present, no smoking on-site, and have water-type extinguishers on-site.
- Event staffing provided through a combination of the Clackamas County Police Cadet program and a contracted parking services company.
- Advanced communication to tournament spectators that encourages carpooling and provides wayfinding guidance to the designated parking areas.
- Parking payments to be processed on-site after vehicles have parked to avoid traffic backing up at the OEC entrance on SW Petes Mountain Rd.
- No free alcohol will be provided to the public at the tournament to reduce the risk of having impaired drivers on the road.
- Tournament organizers will supply a phone number for residents to call for incident response.

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## Next Steps

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We recommend that Clackamas County staff, Kittelson & Associates, Inc., and Etzel Agency meet one week prior to the event to review ticket sales and determine whether all of the TMP measures are warranted based on the latest anticipated attendance numbers.

We trust this memorandum adequately documents the recommended transportation management plan elements to provide efficient circulation and parking for the LPGA Cambia Portland Classic golf tournament.