

## TECHNICAL MEMORANDUM

**DATE:** April 14, 2015  
**TO:** Gina Auld  
**FROM:** Yammie Ho  
**SUBJECT:** Supplemental Response to City's Comment on 206th Ave SE Stop Control  
**CC:**  
**PROJECT NUMBER:** 554-1521-075  
**PROJECT NAME:** East Lake Sammamish Trail - South Sammamish Segment A

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This memorandum supplements the November 2014 and January 2015 memorandums written in response to comments regarding the right of way assignment for the Driveway #4 (206<sup>th</sup> Avenue SE) intersection.

The City's request to maintain stop control on the trail and free movement on 206<sup>th</sup> Avenue SE does not follow the design guidelines established for priority assignment for trail crossings based on the American Association of State Highway and Transportation Officials (AASHTO) for Development of Bicycle Facilities. The first of the previous memorandums, dated November 2014, provides a detailed explanation for the rationale of putting stop signs on the driveway approaches instead of the trail approaches. In summary, right of way is assigned to the trail approaches because the potential volume of the trail will exceed the vehicular volumes of driveways.

As explained in the January 2015 memorandum, the sight distance triangles would need to be adjusted to reflect this change of priority assignment to 206<sup>th</sup> Avenue SE. The stopped approaches (minor approach or trail) would be 10-feet from the edge of the traveled way (per City of Sammamish Public Works Standards, Figure 02-30, dated March 15, 2000) and the major approaches would need 145 feet (design speed of 15 mph for 206<sup>th</sup>), according to Table 9-8 from AASHTO 2011.

Sight triangles are shown on the attached figure, as a reference. There is currently only 6-feet between the existing curb and the edge of an existing brick wall that forms the entrance to the neighborhood. This only provides 55-feet of intersection sight distance towards the west for trail users heading northbound, which falls well short of the 145-feet to meet guidelines for a 15 mph design speed on 206<sup>th</sup> Avenue SE. To maintain the stop condition on the reconstructed trail and also meet design guidelines, the existing decorative brick wall, built-in light, and vegetation on the southeast corner of the intersection would need to be removed or relocated outside the minimum sight distance triangle. The current priority assignment (stop signs on 206<sup>th</sup> Ave SE) as shown on 95% plans, does not require removal of the brick wall and landscaping southeast of the intersection.

If the right of way assignment were to be changed and these sight obstructions were to remain, a design justification with an engineer's stamp would be needed. The justification would need to consider the following:

1. The rationale of assigning the right of way to the approaches with less volumes, which is not recommended in the AASHTO guideline.
2. Accident history between vehicles and non-motorized users at this intersection and whether limited intersection sight distance between northbound trail users and eastbound vehicles was a factor.

3. Analyze whether additional mitigation is needed for the limited intersection sight distance. This could include speed bumps on 206<sup>th</sup> to force vehicles to slow down before the intersection, flashing signal, and a mirror on the north side of the intersection so vehicle and trail users can see each other prior to the intersection.

#### Recommendation

Based on the guidance in the AASHTO and safety consideration, Parametrix does not find adequate justification for switching the right of way assignment even if the sight obstructions were to be removed.

Table 9-8. Design Intersection Sight Distance—Case B2, Right Turn from Stop, and Case B3, Crossing Maneuver

Metric				U.S. Customary			
Design Speed (km/h)	Stopping Sight Distance (m)	Intersection Sight Distance for Passenger Cars		Design Speed (mph)	Stopping Sight Distance (ft)	Intersection Sight Distance for Passenger Cars	
		Calculated (m)	Design (m)			Calculated (ft)	Design (ft)
20	20	36.1	40	15	80	143.3	145
30	35	54.2	55	20	115	191.1	195
40	50	72.3	75	25	155	238.9	240
50	65	90.4	95	30	200	286.7	290
60	85	108.4	110	35	250	334.4	335
70	105	126.5	130	40	305	382.2	385
80	130	144.6	145	45	360	430.0	430
90	160	162.6	165	50	425	477.8	480
100	185	180.7	185	55	495	525.5	530
110	220	198.8	200	60	570	573.3	575
120	250	216.8	220	65	645	621.1	625
130	285	234.9	235	70	730	668.9	670
—	—	—	—	75	820	716.6	720
—	—	—	—	80	910	764.4	765

Note: Intersection sight distance shown is for a stopped passenger car to turn right onto or to cross a two-lane highway with no median and with grades of 3 percent or less. For other conditions, the time gap should be adjusted and the sight distance recalculated.

**EXHIBIT 10: SITE PREPARATION NOTES:**

- 1 REMOVE AND SALVAGE CHAIN LINK FENCE.
- 2 REMOVE AND SALVAGE SIGN.
- 3 REMOVE AND SALVAGE SPLIT RAIL FENCE.
- 4 REMOVAL OF STRUCTURE AND OBSTRUCTION.
- 5 REMOVE AND SALVAGE WOOD GUARDRAILS.
- 6 REMOVE AND SALVAGE CHAIN LINK GATE.
- 7 REMOVE AND SALVAGE TRASH BAG DISPENSER. SEE PS SHEETS.
- 8 RELOCATE TRASH CAN. SEE PS SHEETS.
- 9 PRUNE TREE FOR 10' VERTICAL CLEARANCE PER ARBORISTS' ASSESSMENT. TREE SHALL BE FLAGGED PRIOR TO PRUNING.
- 10 REMOVE TREE WITHIN CLEARING AND GRUBBING LIMITS.
- 11 REMOVE TREE OUTSIDE OF CLEARING AND GRUBBING LIMITS PER ARBORISTS' ASSESSMENT. TREE SHALL BE FLAGGED PRIOR TO REMOVAL.
- 12 RETAIN TREE WITHIN CLEARING AND GRUBBING LIMITS PER ARBORISTS' ASSESSMENT.
- 13 PRUNE TREE ROOT PER ARBORISTS' ASSESSMENT. TREE SHALL BE FLAGGED PRIOR TO PRUNING.
- 14 REMOVE DEAD STEM.
- 15 PRESERVE AND MONITOR TREE, BY ARBORISTS. IF THERE IS NEED TO REMOVE TREE, TREE REMOVAL SHALL BE APPROVED BY PROJECT REPRESENTATIVE AND ARBORIST PRIOR TO REMOVAL.
- 16 INSTALL TEMPORARY SAFETY FENCE. SEE SPECIAL PROVISIONS.
- 17 REMOVE ALL BRANCHES AND LEAVE 18" TALL TRUNK AS HABITAT SNAG.
- 18 ADJUST WATER VALVE TO FINISHED GRADE.
- 19 ADJUST WATER LINES.
- 20 RELOCATE SIGN. SEE PS SHEETS FOR NEW LOCATION.
- 21 ADJUST WATER METER TO FINISHED GRADE.
- 22 ADJUST CATCH BASIN TO FINISHED GRADE.
- 23 PRESERVE EXISTING WOOD BOARD FENCE.

**TESC NOTES:**

- 1 CHECK DAMS ON CHANNELS, PER WSDOT STANDARD DETAIL I-50.20-01. USE BIODEGRADABLE CHECK DAMS.
- 2 HIGH VISIBILITY SILT FENCE (WITH BACKUP SUPPORT) PER WSDOT STANDARD DETAIL I-30.16-00.
- 3 HIGH VISIBILITY FENCE PER WSDOT STANDARD DETAIL I-10.10-01.
- 4 STORM DRAIN INLET PROTECTION, PER WSDOT STANDARD DETAIL I-40.20-00.
- 5 SANDBAG DAM.
- 6 STABILIZED CONSTRUCTION ENTRANCE, PER WSDOT STANDARD DETAIL I-80.10-01.
- 7 TEMPORARILY BYPASS & DEWATER JURISDICTIONAL DITCH DURING VAULT CONSTRUCTION.

**LEGEND:**

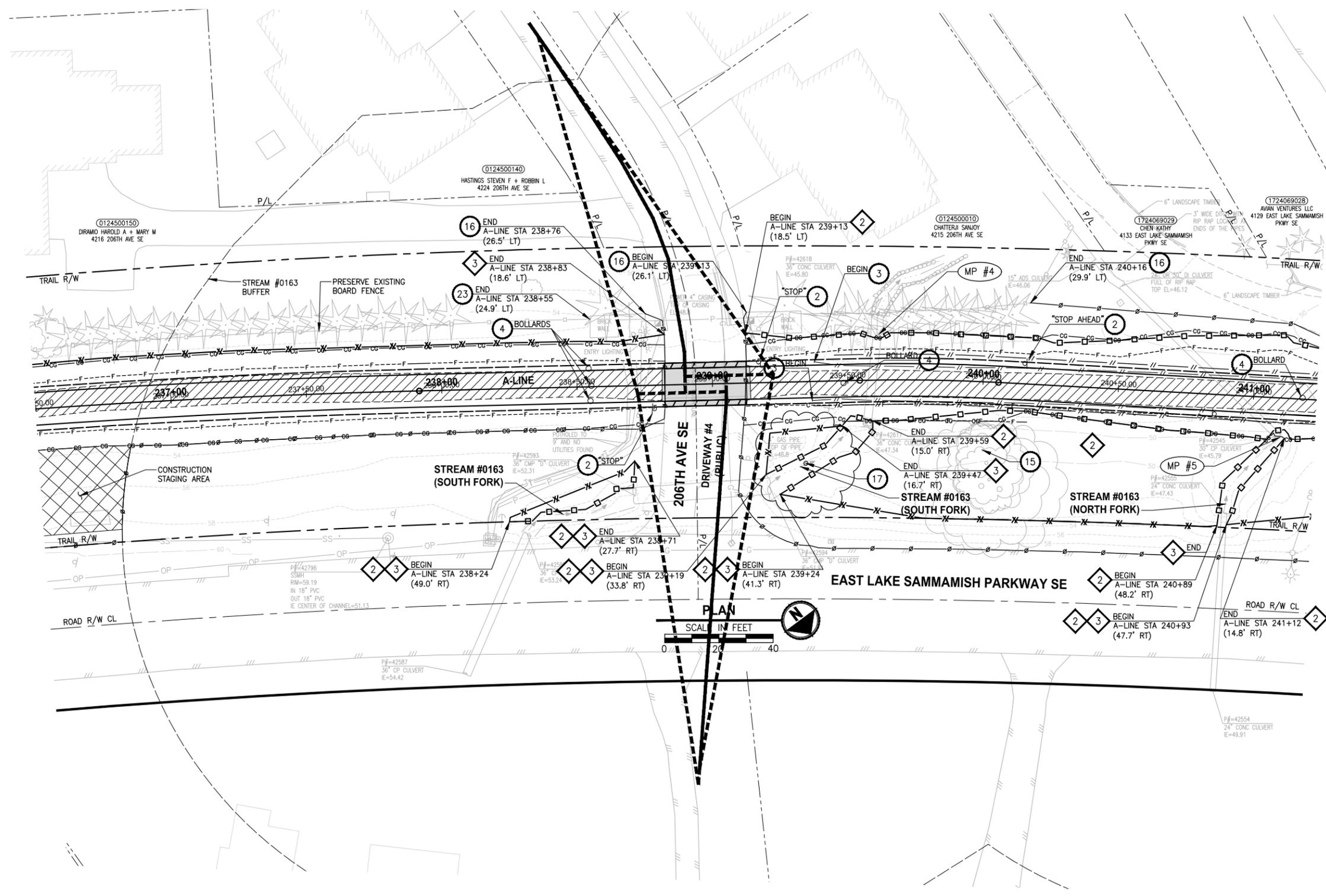
- REMOVE EXISTING GRAVEL SURFACE
- REMOVE ASPHALT PAVEMENT
- INLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- NPDES CONSTRUCTION STORMWATER DISCHARGE MONITORING POINT

CITY OF SAMMAMISH APPROVAL	
City Engineer _____	Date _____
Community Development _____	Date _____

**GENERAL NOTE:**

1. NO STAGING OR STOCKPILING WITHIN CRITICAL AREA BUFFERS, OR WITHIN THE VICINITY OF BALD EAGLE BREEDING AREA FROM STA 216+50 TO STA 226+75.

**95% REVIEW SUBMITTAL  
NOT FOR CONSTRUCTION**



LAYOUT: SP3  
 PATH: U:\PSO\Projects\Clients\1521-KingCo\554-1521-075-ELSA\99Secs\CADD\Phase 20\Task 03\Eng\Austria  
 PLOTTED BY: jmkas DATE: Friday, April 10, 2015 10:57:07 AM

REVISIONS	DATE	BY	DESIGNED
			J. JUN / C. BUITRAGO
			B. PURGANAN
			Y. HO

**ONE INCH AT FULL SCALE,  
IF NOT, SCALE ACCORDINGLY**  
 FILE NAME: SP-01 temp SDT  
 JOB No.: 554-1521-075 P20T03  
 DATE: DECEMBER 2014



**Parametrix**  
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PROJECT NAME  
**EAST LAKE SAMMAMISH  
MASTER PLAN TRAIL  
SOUTH SAMMAMISH SEGMENT A**  
 SAMMAMISH, WA

**SITE PREPARATION AND  
TESC PLAN**

SHEET NO.  
19 OF 79  
**SP3**



