WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

City of Woodinville, WA	)	DOCKET NO. TR- 143902 -P
Petitioner,	)	PETITION TO CONSTRUCT OR RECONSTRUCT A HIGHWAY-RAIL GRADE CROSSING AND INSTALL AN INTER-TIE BETWEEN A HIGHWAY SIGNAL AND A RAILROAD CROSSING SIGNAL SYSTEM
vs.	)	
Eastside Community Rail **Ballard Terminal Rail** **Port of Seattle** **WSDOT**	)	
Respondent	)	USDOT CROSSING NO.: ***091797E***

Prior to submitting a Petition to **Construct** a highway-rail grade crossing and install an inter-tie between a Highway Signal and a Railroad Crossing Signal System to the Washington Utilities and Transportation Commission (UTC), State Environmental Protection Act (SEPA) requirements must be met. Washington Administrative Code (WAC) 197-11-865 (2) requires:

> **All actions of the utilities and transportation commission under statutes administered as of December 12, 1975, are exempted, except the following:**
>
> **(2) Authorization of the openings or closing of any highway/railroad grade crossing, or the direction of physical connection of the line of one railroad with that of another;**

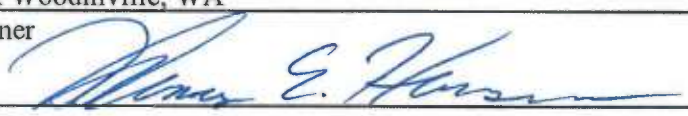
Please attach sufficient documentation to demonstrate that the SEPA requirement has been fulfilled. For additional information on SEPA requirements contact the Department of Ecology.

The Petitioner asks the Washington Utilities and Transportation Commission to approve construction or reconstruction of a highway-rail grade crossing and inter-tie the highway signal with the railroad crossing signal system.

☐ **Construction** X **Reconstruction**

Section 1 – Petitioner's Information

City of Woodinville, WA
Petitioner



Signature

17301 133rd Ave NE
Street Address

Woodinville, WA 98072
City, State and Zip Code

Mailing Address, if different than the street address

Thomas E. Hansen, PE
Contact Person Name

425-877-2291 thomash@ci.woodinville.wa.us
Contact Phone Number and E-mail Address

Section 2 – Respondent's Information

Eastside Community Rail (Freight Easement Owner on the Line)
Respondent

1011 Maple Avenue
Street Address

Snohomish, WA 98290
City, State and Zip Code

Mailing Address, if different than the street address

Doug Engle
Contact Person Name

425-891-4223 Doug.Engle@EsCRail.Org
Contact Phone Number and Email Address

Section 1 – Petitioner's Information

City of Woodinville, WA
Petitioner

Signature

17301 133rd Ave NE
Street Address

Woodinville, WA 98072
City, State and Zip Code

Mailing Address, if different than the street address

Thomas E. Hansen, PE
Contact Person Name

425-877-2291 thomash@ci.woodinville.wa.us
Contact Phone Number and E-mail Address

Section 2 – Respondent's Information

Port of Seattle (Current Landowner)
Respondent

Real Estate Division, Port of Seattle, PO Box 1209
Street Address

Seattle, WA 98111-1209
City, State and Zip Code

Mailing Address, if different than the street address

Sean Sullivan
Contact Person Name

206-787-3199 Sullivan.S@portseattle.org
Contact Phone Number and Email Address

Section 1 – Petitioner's Information

City of Woodinville, WA
Petitioner

Signature

17301 133rd Ave NE
Street Address

Woodinville, WA 98072
City, State and Zip Code

Mailing Address, if different than the street address

Thomas E. Hansen, PE
Contact Person Name

425-877-2291 thomash@ci.woodinville.wa.us
Contact Phone Number and E-mail Address

Section 2 – Respondent's Information

WSDOT (Crossing is of a State Highway)
Respondent

310 Maple Park Ave SE
Street Address

Olympia, WA 98504-7407
City, State and Zip Code

PO Box 47316
Mailing Address, if different than the street address

Ahmer Nizam
Contact Person Name

360-705-7271 nizama@wsdot.wa.gov
Contact Phone Number and Email Address

Section 1 – Petitioner's Information

City of Woodinville, WA
Petitioner

Signature

17301 133rd Ave NE
Street Address

Woodinville, WA 98072
City, State and Zip Code

Mailing Address, if different than the street address

Thomas E. Hansen, PE
Contact Person Name

425-877-2291 thomash@ci.woodinville.wa.us
Contact Phone Number and E-mail Address

Section 2 – Respondent's Information

Ballard Terminal Rail (Freight Operator on the Line)
Respondent

4725 Ballard Ave NW
Street Address

Seattle, WA 98107
City, State and Zip Code

Mailing Address, if different than the street address

Byron Cole
Contact Person Name

206-947-2120 byroncole@comcast.net
Contact Phone Number and Email Address

Section 3 – Proposed or Existing Crossing Location

1. Existing highway/roadway SR 202

2. Existing railroad **Land Owner Port of Seattle; Operator Ballard Terminal Rail; Operating Easement Eastside Community Rail**

3. Location of proposed crossing:

   Located in the SE 1/4 of the NE 1/4 of Sec. 9 , Twp. 26N , Range 5E W.M.

4. GPS location, if known **Latitude: 47.7005000** **Longitude: -122.1810990**

5. Railroad mile post (nearest tenth) **0000.2**

6. City **Woodinville** County **King**

Section 4 – Proposed or Existing Crossing Information

1. Railroad company **Ballard Terminal Rail**

2. Type of railroad at crossing x Common Carrier □ Logging □ Industrial

   □ Passenger □ Excursion

3. Type of tracks at crossing x Main Line □ Siding or Spur

4. Number of tracks at crossing 1

5. Average daily train traffic, freight <1

   Authorized freight train speed 10 Operated freight train speed <10

6. Average daily train traffic, passenger 0

   Authorized passenger train speed <10 MPH Operated passenger train speed <10 MPH

7. Will the proposed crossing eliminate the need for one or more existing crossings?
   Yes ____ No X

8. If so, state the distance and direction from the proposed crossing.

9. Does the petitioner propose to close any existing crossings?
Yes ____ No X

Section 5 – Temporary Crossing

1. Is the crossing proposed to be temporary? Yes ____ No X

2. If so, describe the purpose of the crossing and the estimated time it will be needed

3. Will the petitioner remove the crossing at completion of the activity requiring the temporary crossing? Yes ____ No ____

Approximate date of removal _____

Section 6 – Current Highway Traffic Information

1. Name of roadway/highway SR202

2. Roadway classification **Cityof Woodinville Arterial, WSDOT Urban Minor Arterial**

3. Road authority City of Woodinville/WSDOT

4. Average annual daily traffic (AADT) **17,000**

5. Number of lanes **2**

6. Roadway speed **35**

7. Is the crossing part of an established truck route? Yes **X** No ____

8. If so, trucks are what percent of total daily traffic? **6**

9. Is the crossing part of an established school bus route? Yes **X** No ____

10. If so, how many school buses travel over the crossing each day? **50**

11. Describe any changes to the information in 1 through 7, above, expected within ten years:
AADT expected to increase @ 2% or more per year

Section 7 – Alternatives to the Proposal

1. Does a safer location for a crossing exist within a reasonable distance of the proposed location?
   Yes ____ No X

2. If a safer location exists, explain why the crossing should not be located at that site.

3. Are there any hillsides, embankments, buildings, trees, railroad loading platforms or other barriers in the vicinity which may obstruct a motorist's view of the crossing?
   Yes ____ No X

4. If a barrier exists, describe:
   - ♦ Whether petitioner can relocate the crossing to avoid the obstruction and if not, why not.
   - ♦ How the barrier can be removed.
   - ♦ How the petitioner or another party can mitigate the hazard caused by the barrier.

5. Is it feasible to construct an over-crossing or under-crossing at the proposed location as an alternative to an at-grade crossing?
   Yes ____ No X

6. If an over-crossing or under-crossing is not feasible, explain why.

The crossing is located 115 feet from the SE corner of theSammamish River Bridge and 435' west from the intersection of 131st AVE NE and 175th St NE. Grade separeation for an overpass requires 23'-6" of vertical clearance from top of rail to the underside of the bridge girder. This would require the road surface to be elevated 30' above the tracks. For an approach grade of 5% or less over 600' of approach distance would be required to achieve this vertical clearance and is, therefore, not feasible. Due to the river's proximity, an underpass is not feasible.

7. Does the railway line, at any point in the vicinity of the proposed crossing, pass over a fill area or trestle or through a cut where it is feasible to construct an over-crossing or an under-crossing, even though it may be necessary to relocate a portion of the roadway to reach that point?

Yes ____ No X

8. If such a location exists, state:
   - ♦ The distance and direction from the proposed crossing.
   - ♦ The approximate cost of construction.
   - ♦ Any reasons that exist to prevent locating the crossing at this site.

9. Is there an existing public or private crossing in the vicinity of the proposed crossing?

Yes X No ____

10. If a crossing exists, state:
   - ♦ The distance and direction from the proposed crossing.
   - ♦ Whether it is feasible to divert traffic from the proposed to the existing crossing.

There is a crossing 715' to the west on the same road. This crossing is an industrial spur.

It is feasible to divert rail traffic to this crossing during construction due to proximity of a wye located in the project vicinity. See Exhibit A Vicinity map

Section 8 – Sight Distance

1. Complete the following table, describing the sight distance for motorists when approaching the tracks from either direction.

a. Approaching the crossing from **East**, the current approach provides an unobstructed view as follows: (North, South, East, West)

Direction of sight (left or right)	Number of feet from proposed crossing	Provides an unobstructed view for how many feet
Right	300	**215**
Right	200	**380**
Right	100	**505**
Right	50	**505**
Right	25	**505**
Left	300	**60**
Left	200	**115**
Left	100	**145**
Left	50	**160**
Left	25	**170**

b. Approaching the crossing from **West**, the current approach provides an unobstructed view as follows: (Opposite direction-North, South, East, West)

Direction of sight (left or right)	Number of feet from proposed crossing	Provides an unobstructed view for how many feet
Right	300	**530**
Right	200	**535**
Right	100	**520**
Right	50	**475**
Right	25	**445**
Left	300	**680**
Left	200	**680**
Left	100	**680**
Left	50	**680**
Left	25	**680**

2. Will the new crossing provide a level approach measuring 25 feet from the center of the railway on both approaches to the crossing?

Yes **X** No ____

3. If not, state in feet the length of level grade from the center of the railway on both approaches to the crossing. _____

4. Will the new crossing provide an approach grade of not more than five percent prior to the level grade?

Yes **X** No ____

5. If not, state the percentage of grade prior to the level grade and explain why the grade exceeds five percent.

Section 9 – Illustration of Proposed Crossing Configuration

Attach a detailed diagram, drawing, map or other illustration showing the following:

- ♦ The vicinity of the proposed crossing.
- ♦ Layout of the railway and highway 500 feet adjacent to the crossing in all directions.
- ♦ Percent of grade.
- ♦ Obstructions of view as described in Section 7 or identified in Section 8.
- ♦ Traffic control layout showing the location of the existing and proposed signage.

See Exhibits A -D

Section 10 – Sidewalks

1. Provide the following information:
   a. Provide a description of the type of sidewalks proposed.
   b. Describe who will maintain the sidewalks.
   c. Attach a proposed diagram or design of the crossing including the sidewalks.

A new 5' wide sidewalks will be provided on the north side of the roadway.

A new 8' wide sidewalks will be provided on the south side of the roadway.

The City of Woodinville will maintain sidewalks

Section 11 – Proposed Warning Signals or Devices

1. Explain in detail the number and type of automatic signals or other warning devices planned at the proposed crossing, including a cost estimate for each. If requesting pre-emption include the type of train detection circuitry, sequencing and advanced preemption time, justification for the changes and its effects on current warning devices and warning times for drivers.

EB Approach: Progressive Rail Cantilver with flashers; See Exhibit E

WB Approach: Progressive Rail Cantilver with flashers; See Exhibit E

EB Approach National Electric High Wind Gate 42' See Exhibit F

WB Approach National Electric High Wind Gate 42' See Exhibit F

2. Provide an estimate for maintaining the signals for 12 months. **$1500**

3. Is the petitioner prepared to pay to the respondent railroad company its share of installing the warning devices as provided by law?

Yes **X** No ____

Section 12 – Traffic Signal Preemption

Complete the attached Guide for Determining Time Requirements for Traffic Signal Preemption at Highway-Rail Grade Crossings.

1. Specify simultaneous or advance preemption requested.

See attached preemption worksheet

If advance preemption, what is the preemption time.

See attached preemption worksheet

Section 13 – Additional Information

Provide any additional information supporting the proposal, including information such as the public benefits that would be derived from constructing a new crossing as proposed or modifying an existing crossing. Provide project specific information.

Modifying the grade crossing will allow for the widening of NE 175th (SR202) from 2 lanes to 4 will provide much needed congestion relief for passenger and freight road traffic. The modified crossing will have updated flashers and automatic gate sytem which will provide for higher safety. In addition, safety will be significantly improved by providing preemption to the 131st Ave NE signal which will clear the ques east of the track. Currently traffic backs up over the tracks in the eastbound direction.

Section 14 – Waiver of Hearing by Respondent

Waiver of Hearing

The undersigned represents the Respondent in the petition to construct or reconstruct a highway-railroad grade crossing and inter-tie the highway signal with the railroad crossing signal system.

USDOT Crossing No.: ***091797E***

We have investigated the conditions at the proposed or existing crossing site. We are satisfied the conditions are the same as described by the Petitioner in this docket. We agree that a crossing be installed or reconstructed and the highway signals inter-tied with the railroad crossing signal system and consent to a decision by the commission without a hearing.

Dated at _____ , Washington, on the _____ day of

_____, 20 ____.

_____

Printed name of Respondent

_____

Signature of Respondent's Representative

_____

Title

_____

Name of Company

_____

Phone number and e-mail address

_____

_____

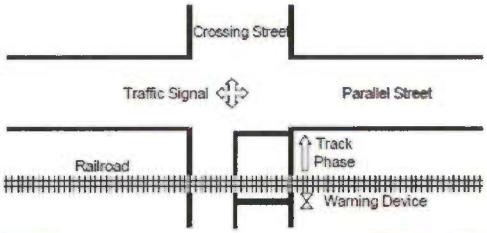
Mailing address

GUIDE FOR DETERMINING TIME REQUIREMENTS FOR TRAFFIC SIGNAL PREEMPTION AT HIGHWAY-RAIL GRADE CROSSINGS

City: Woodinville
County: King
District:

Date:
Completed by:
District Approval:

Show North Arrow



Parallel Street Name: SR202 131st Ave NE
Crossing Street Name: SR202 NE175th

Railroad: Ballard Terminal Rail
Crossing DOT#: 091797E

Railroad Contact: Byron Cole
Phone: (206) 947-2120

SECTION 1: RIGHT-OF-WAY TRANSFER TIME CALCULATION

Preempt verification and response time

			Remarks
1. Preempt delay time (seconds)	1.	0.0	
2. Controller response time to preempt (seconds)	2.	0.0	Controller type: 2070ECL
3. Preempt verification and response time (seconds): add lines 1 and 2	3.	0.0	

Worst-case conflicting vehicle time

			Remarks
4. Worst-case conflicting vehicle phase number	4.	4	
5. Minimum green time during right-of-way transfer (seconds)	5.	5.0	
6. Other green time during right-of-way transfer (seconds)	6.	0.0	
7. Yellow change time (seconds)	7.	4.0	
8. Red clearance time (seconds)	8.	1.0	
9. Worst-case conflicting vehicle time (seconds): add lines 5 through 8	9.	10.0	

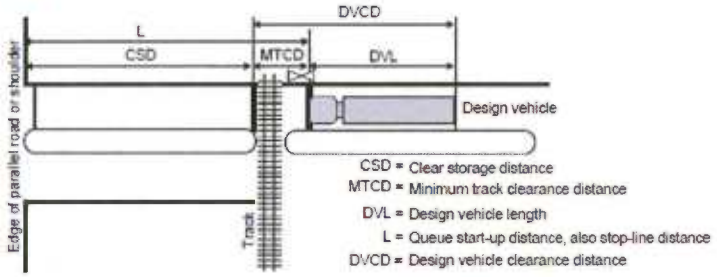
Worst-case conflicting pedestrian time

			Remarks
10. Worst-case conflicting pedestrian phase number	10.	4	
11. Minimum walk time during right-of-way transfer (seconds)	11.	7.0	
12. Pedestrian clearance time during right-of-way transfer (seconds)	12.	28.0	
13. Vehicle yellow change time, if not included on line 12 (seconds)	13.	4.0	
14. Vehicle red clearance time, if not included on line 12 (seconds)	14.	1.0	
15. Worst-case conflicting pedestrian time (seconds): add lines 11 through 14	15.	40.0	

Worst-case conflicting vehicle or pedestrian time

16. Worst-case conflicting vehicle or pedestrian time (seconds): maximum of lines 9 and 15	16.	40.0
17. Right-of-way transfer time (seconds): add lines 3 and 16	17.	40.0

SECTION 2: QUEUE CLEARANCE TIME CALCULATION



			Remarks
18. Clear storage distance (CSD, feet)	18.	340	
19. Minimum track clearance distance (MTCD, feet)	19.	10	
20. Design vehicle length (DVL, feet)	20.	74	Design vehicle type: WB-67
21. Queue start-up distance, L (feet): add lines 18 and 19	21.	350	
22. Time required for design vehicle to start moving (seconds): calculate as 2+(L÷20)	22.	19.5	Remarks
23. Design vehicle clearance distance, DVCD (feet): add lines 19 and 20	23.	84	
24. Time for design vehicle to accelerate through the DVCD (seconds)	24.	14.0	Read from Figure 2 in instructions.
25. **Queue clearance time (seconds): add lines 22 and 24**	25.	33.5	

SECTION 3: MAXIMUM PREEMPTION TIME CALCULATION

			Remarks
26. Right-of-way transfer time (seconds): line 17	26.	40.0	
27. Queue clearance time (seconds): line 25	27.	33.5	
28. Desired minimum separation time (seconds)	28.	4.0	
29. **Maximum preemption time (seconds): add lines 26 through 28**	29.	77.5	

SECTION 4: SUFFICIENT WARNING TIME CHECK

				Remarks
30. Required minimum time, MT (seconds): per regulations	30.	20.0		
31. Clearance time, CT (seconds): get from railroad	31.	32.0		
32. Minimum warning time, MWT (seconds): add lines 30 and 31	32.		52.0	Excludes buffer time (BT)
33. Advance preemption time, APT, if provided (seconds): get from railroad	33.		0.0	
34. Warning time provided by the railroad (seconds): add lines 32 and 33	34.		52.0	
35. **Additional warning time required from railroad (seconds): subtract line 34 from line 29, round up to nearest full second, enter 0 if less than 0**	35.		26	

If the additional warning time required (line 35) is greater than zero, additional warning time has to be requested from the railroad. Alternatively, the maximum preemption time (line 29) may be decreased after performing an engineering study to investigate the possibility of reducing the values on lines 1, 5, 6, 7, 8, 11, 12, 13 and 14.

Remarks: _____

SECTION 5: TRACK CLEARANCE GREEN TIME CALCULATION (OPTIONAL)

Preempt Trap Check

36. Advance preemption time (APT) provided (seconds): ..... 36. 0.0 Line 33 only valid if line 35 is zero.
37. Multiplier for maximum APT due to train handling ..... 37. 0.00 See Instructions for details.
38. Maximum APT (seconds): multiply line 36 and 37 ..... 38. 0.0 **Remarks**
39. Minimum duration for the track clearance green interval (seconds) ..... 39. 15.0 For zero advance preemption time
40. Gates down after start of preemption (seconds): add lines 38 and 39 ..... 40. 15.0
41. Preempt verification and response time (seconds): line 3 ..... 41. 0.0 **Remarks**
42. Best-case conflicting vehicle or pedestrian time (seconds): usually 0..... 42. 0.0
43. Minimum right-of-way transfer time (seconds): add lines 41 and 42 ..... 43. 0.0
44. Minimum track clearance green time (seconds): subtract line 43 from line 40 ..... 44. 15.0

Clearing of Clear Storage Distance

45. Time required for design vehicle to start moving (seconds), line 22 ..... 45. 19.5
46. Design vehicle clearance distance (DVCD, feet), line 23 ..... 46. 84 **Remarks**
47. Portion of CSD to clear during track clearance phase (feet) ... 47. 340 CSD* in Figure 3 in Instructions.
48. Design vehicle relocation distance (DVRD, feet): add lines 46 and 47 ..... 48. 424
49. Time required for design vehicle to accelerate through DVRD (seconds) ..... 49. 26.0 Read from Figure 2 in Instructions.
50. Time to clear portion of clear storage distance (seconds): add lines 45 and 49 ..... 50. 45.5
51. **Track clearance green interval (seconds): maximum of lines 44 and 50, round up to nearest full second** 51. **46**

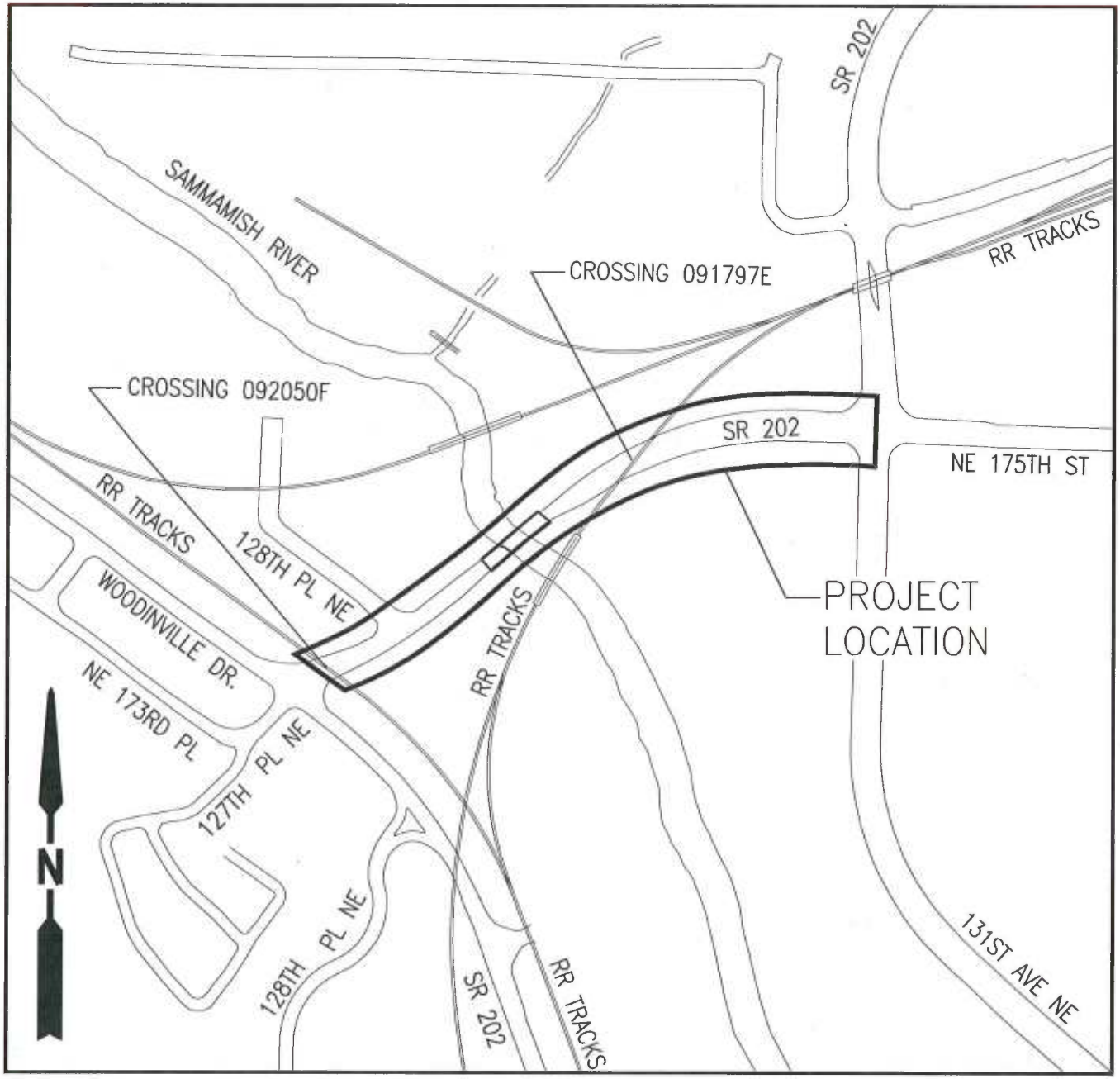
SECTION 6: VEHICLE-GATE INTERACTION CHECK (OPTIONAL)

52. Right-of-way transfer time (seconds): line 17 ..... 52. 40.0
53. Time required for design vehicle to start moving (seconds), line 22 ..... 53. 19.5
54. Time required for design vehicle to accelerate through DVL (on line 20, seconds) ..... 54. 16.0 Read from Table 3 in Instructions.
55. Time required for design vehicle to clear descending gate (seconds): add lines 52 though 54 ..... 55. 75.5
Remarks
56. Duration of flashing lights before gate descent start (seconds): get from railroad 56. 0.0
Remarks
57. Full gate descent time (seconds): get from railroad 57. 7.0
58. Proportion of non-interaction gate descent time ..... 58. 0.40 Read from Figure 5 in Instructions.
59. Non-interaction gate descent time (seconds): multiply lines 57 and 58 ..... 59. 2.8
60. Time available for design vehicle to clear descending gate (seconds): add lines 56 and 59 ..... 60. 2.8
61. **Advance preemption time (APT) required to avoid design vehicle-gate interaction (seconds): subtract line 60 from line 55, round up to nearest full second, enter 0 if less than 0** 61. **73**

EXHIBIT A

GENERAL SITE DESCRIPTION:

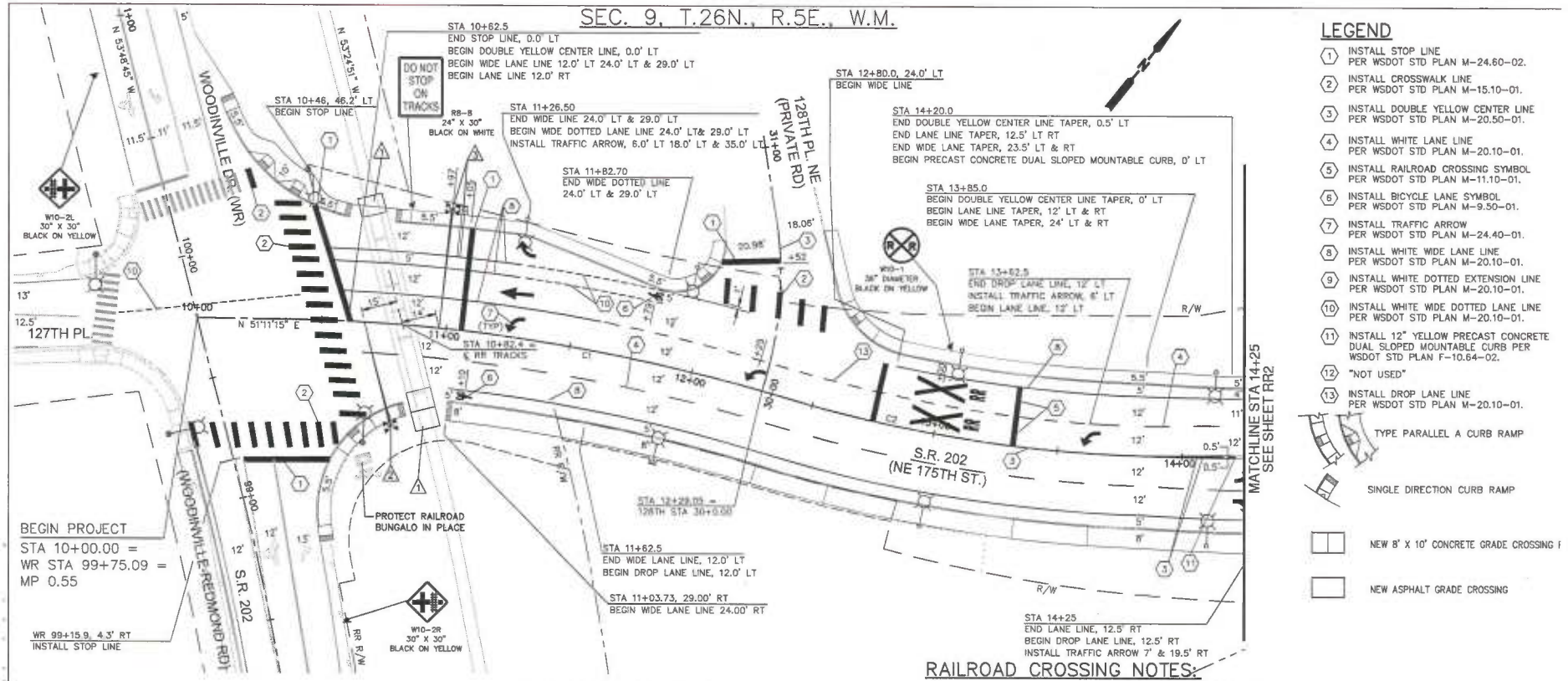
S.E. 1/4 OF SECTION 9, T. 26 N., R 5 E, W. M.



VICINITY MAP

NTS

EXHIBIT B



LEGEND

1. INSTALL STOP LINE PER WSDOT STD PLAN M-24.60-02.
2. INSTALL CROSSWALK LINE PER WSDOT STD PLAN M-15.10-01.
3. INSTALL DOUBLE YELLOW CENTER LINE PER WSDOT STD PLAN M-20.50-01.
4. INSTALL WHITE LANE LINE PER WSDOT STD PLAN M-20.10-01.
5. INSTALL RAILROAD CROSSING SYMBOL PER WSDOT STD PLAN M-11.10-01.
6. INSTALL BICYCLE LANE SYMBOL PER WSDOT STD PLAN M-9.50-01.
7. INSTALL TRAFFIC ARROW PER WSDOT STD PLAN M-24.40-01.
8. INSTALL WHITE WIDE LANE LINE PER WSDOT STD PLAN M-20.10-01.
9. INSTALL WHITE DOTTED EXTENSION LINE PER WSDOT STD PLAN M-20.10-01.
10. INSTALL WHITE WIDE DOTTED LANE LINE PER WSDOT STD PLAN M-20.10-01.
11. INSTALL 12" YELLOW PRECAST CONCRETE DUAL SLOPED MOUNTABLE CURB PER WSDOT STD PLAN F-10.64-02.
12. "NOT USED"
13. INSTALL DROP LANE LINE PER WSDOT STD PLAN M-20.10-01.

TYPE PARALLEL A CURB RAMP

SINGLE DIRECTION CURB RAMP

NEW 8' X 10' CONCRETE GRADE CROSSING

NEW ASPHALT GRADE CROSSING

CURVE TABLE

CURVE NO.	RADIUS	DELTA	LENGTH	PC STA	PI STA	PT STA
C1	700.00'	16°12'58"	198.12'	10+37.46	11+37.19	12+35.58**
C2	560.00'	16°54'35"	185.27'	12+35.58**	13+18.82	14+00.85

** NOTE: STATION IS A PRC.

GENERAL NOTES

1.) ALL DIMENSIONS TO CURB ARE TO FACE OF CURB.

2.) GRADE CROSSING SIGNAGE AND PAVEMENT MARKING SYMBOL SHALL MEET MUTCD 2009 TABLE 2C-4. SEE WSDOT STANDARD PLAN M-11.10-01 FOR GRADE CROSSING SYMBOL DETAIL.

3.) AUTOMATIC GATE AND RAILROAD WARNING DEVICE ASSEMBLIES SHALL BE CONSTRUCTED SO THAT THE CLOSEST POINT OF THE GATE MAST ARM IS 15' FROM THE CENTERLINE OF THE TRACK.

4.) FOR CURB GEOMETRY SEE SHEETS PP1 – PP3.

5.) FOR RIGHT-OF-WAY INFORMATION SEE RIGHT-OF-WAY PLANS.

6.) FOR ASPHALT CONCRETE PAVEMENT SECTION FOR GRADE CROSSING USE FULL DEPTH ASPHALT SECTION SHOWN ON SHEET RS1.

RAILROAD CROSSING NOTES:

1. INSTALL 8' X 10' CONCRETE GRADE CROSSING PANELS. (3 EA)
2. REMOVE EXISTING GATE AND FLASHERS AND INSTALL NEW 2-LANE GATE AND FLASHERS PER SPECIFICATIONS. INSTALL R15-1 RAILROAD CROSSING SIGN AND R15-2P "1" TRACK SIGN BELOW IT.
3. REMOVE EXISTING GATE AND FLASHERS AND INSTALL NEW 3-LANE GATE AND FLASHERS PER SPECIFICATIONS. REMOVE EXISTING CANTILEVER AND INSTALL NEW 3-LANE CANTILEVER PER SPECIFICATIONS. INSTALL R15-1 RAILROAD CROSSING SIGN AND R15-2P "1" TRACK SIGN BELOW IT. MOUNT SIGNS ON CANTILEVER AND FLASHERS POST.
4. REMOVE EXISTING GATE AND FLASHERS AND INSTALL NEW 2-LANE GATE AND FLASHERS PER SPECIFICATIONS. REMOVE EXISTING CANTILEVER AND INSTALL NEW 2-LANE CANTILEVER PER SPECIFICATIONS. INSTALL R15-1 RAILROAD CROSSING SIGN AND R15-2P "1" TRACK SIGN BELOW IT. MOUNT SIGNS ON CANTILEVER AND FLASHERS POST.
5. NOT USED.
6. NOT USED
7. PLACE ASPHALT CONCRETE PAVEMENT BETWEEN RAILS WITHIN THE LIMITS SHOWN, SEE SHEET PP2.

20 0 20 40
SCALE IN FEET

FILE NAME				REGION NO. 10	STATE WASH
TIME				JOB NUMBER	FED.AID PROJ.NO.
DATE				CONTRACT NO.	LOCATION NO.
PLOTTED BY					
DESIGNED BY BJH					
ENTERED BY YD					
CHECKED BY AS					
PROJ. ENGR.					
REGIONAL ADM.	REVISION	DATE	BY		

AECOM
701 5TH AVENUE, SUITE 1100
SEATTLE, WASHINGTON 98104
PHONE: (206) 674-4200
FAX: (206) 674-4242

CITY OF WOODINVILLE
17301 133rd AVE NE
WOODINVILLE, WA 98072
PHONE: (425) 489-2700
FAX: (425)489-2705

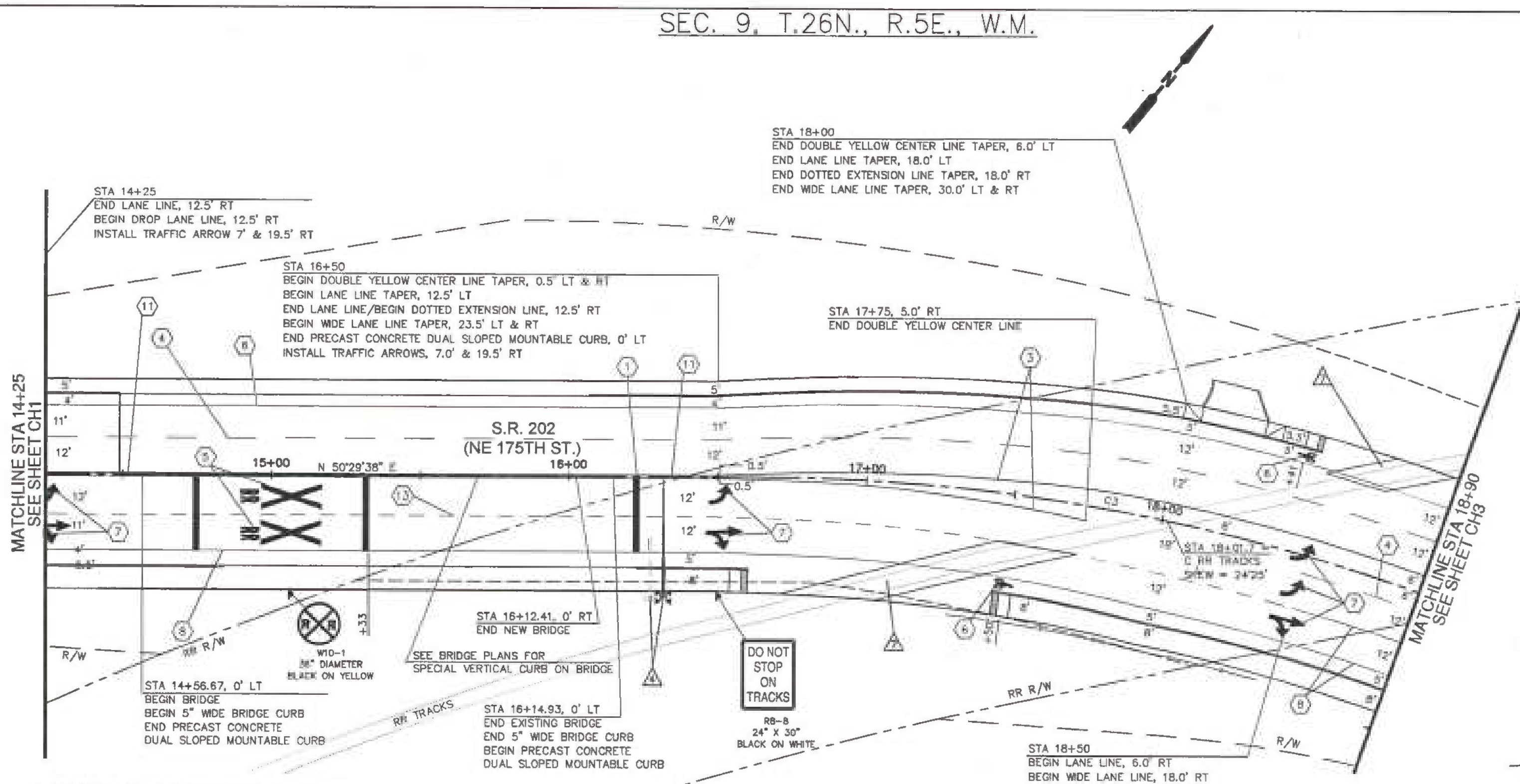
SR 202 MP 0.31 TO MP 0.55

SAMMAMISH BRIDGE REPLACEMENT

WOODINVILLE/KING COUNTY OCTOBER 2012

RAILROAD PLAN

SEC. 9, T.26N., R.5E., W.M.



LEGEND

1. INSTALL STOP LINE PER WSDOT STD PLAN M-24.60-02.
2. INSTALL CROSSWALK LINE PER WSDOT STD PLAN M-15.10-01.
3. INSTALL DOUBLE YELLOW CENTER LINE PER WSDOT STD PLAN M-20.50-01.
4. INSTALL WHITE LANE LINE PER WSDOT STD PLAN M-20.10-01.
5. INSTALL RAILROAD CROSSING SYMBOL PER WSDOT STD PLAN M-11.10-01.
6. INSTALL BICYCLE LANE SYMBOL PER WSDOT STD PLAN M-9.50-01.
7. INSTALL TRAFFIC ARROW PER WSDOT STD PLAN M-24.40-01.
8. INSTALL WHITE WIDE LANE LINE PER WSDOT STD PLAN M-20.10-01.
9. INSTALL WHITE DOTTED EXTENSION LINE PER WSDOT STD PLAN M-20.10-01.
10. INSTALL WHITE WIDE DOTTED LANE LINE PER WSDOT STD PLAN M-20.10-01.
11. INSTALL 12" YELLOW PRECAST CONCRETE DUAL SLOPED MOUNTABLE CURB PER WSDOT STD PLAN F-10.64-02.
12. "NOT USED"
13. INSTALL DROP LANE LINE PER WSDOT STD PLAN M-20.10-01.

TYPE PARALLEL A CURB RAMP

SINGLE DIRECTION CURB RAMP

NEW 8' X 10' CONCRETE GRADE CROSSING PANELS

NEW ASPHALT GRADE CROSSING

RAILROAD CROSSING NOTES:

1. INSTALL 8' X 10' CONCRETE GRADE CROSSING PANELS. (3 EA)
2. REMOVE EXISTING GATE AND FLASHERS AND INSTALL NEW 2-LANE GATE AND FLASHERS PER SPECIFICATIONS. INSTALL R15-1 RAILROAD CROSSING SIGN AND R15-2P "1" TRACK SIGN BELOW IT.
3. REMOVE EXISTING GATE AND FLASHERS AND INSTALL NEW 3-LANE GATE AND FLASHERS PER SPECIFICATIONS. REMOVE EXISTING CANTILEVER AND INSTALL NEW 3-LANE CANTILEVER PER SPECIFICATIONS. INSTALL R15-1 RAILROAD CROSSING SIGN AND R15-2P "1" TRACK SIGN BELOW IT. MOUNT SIGNS ON CANTILEVER AND FLASHERS POST.
4. REMOVE EXISTING GATE AND FLASHERS AND INSTALL NEW 2-LANE GATE AND FLASHERS PER SPECIFICATIONS. REMOVE EXISTING CANTILEVER AND INSTALL NEW 2-LANE CANTILEVER PER SPECIFICATIONS. INSTALL R15-1 RAILROAD CROSSING SIGN AND R15-2P "1" TRACK SIGN BELOW IT. MOUNT SIGNS ON CANTILEVER AND FLASHERS POST.
5. NOT USED.
6. NOT USED
7. PLACE ASPHALT CONCRETE PAVEMENT BETWEEN RAILS WITHIN THE LIMITS SHOWN, SEE SHEET PP2.

GENERAL NOTES

1.) ALL DIMENSIONS TO CURB ARE TO FACE OF CURB.

2.) GRADE CROSSING SIGNAGE AND PAVEMENT MARKING SYMBOL SHALL MEET MUTCD 2009 TABLE 2C-4. SEE WSDOT STANDARD PLAN M-11.10-01 FOR GRADE CROSSING SYMBOL DETAIL.

3.) AUTOMATIC GATE AND RAILROAD WARNING DEVICE ASSEMBLIES SHALL BE CONSTRUCTED SO THAT THE CLOSEST POINT OF THE GATE MAST ARM IS 15' FROM THE CENTERLINE OF THE TRACK.

4.) FOR CURB GEOMETRY SEE SHEETS PP1 - PP3.

5.) FOR RIGHT-OF-WAY INFORMATION SEE RIGHT-OF-WAY PLANS.

6.) FOR ASPHALT CONCRETE PAVEMENT SECTION FOR GRADE CROSSING USE FULL DEPTH ASPHALT SECTION SHOWN ON SHEET RS1.

CURVE TABLE

CURVE NO.	RADIUS	DELTA	LENGTH	PC STA	PI STA	PT STA
C3	660'	41°55'44"	482.99'	16+64.85	19+17.74	21+47.84

20 0 20 40 SCALE IN FEET

FILE NAME		
TIME		
DATE		
PLOTTED BY		
DESIGNED BY	BJH	
ENTERED BY	YD	
CHECKED BY	AS	
PROJ. ENGR.		
REGIONAL ADM.		
	REVISION	DATE	BY

REGION NO. 10 | STATE WASH | FED.AID PROJ.NO. | JOB NUMBER | CONTRACT NO. | LOCATION NO.

AECOM
701 5TH AVENUE, SUITE 1100
SEATTLE, WASHINGTON 98104
PHONE: (206) 674-4200
FAX: (206) 674-4242

CITY OF WOODINVILLE
17301 133rd AVE NE
WOODINVILLE, WA 98072
PHONE: (425) 489-2700
FAX: (425)489-2705

SR 202 — MP 0.31 TO MP 0.55

SAMMAMISH BRIDGE REPLACEMENT

WOODINVILLE/KING COUNTY — OCTOBER 2012

RAILROAD PLAN

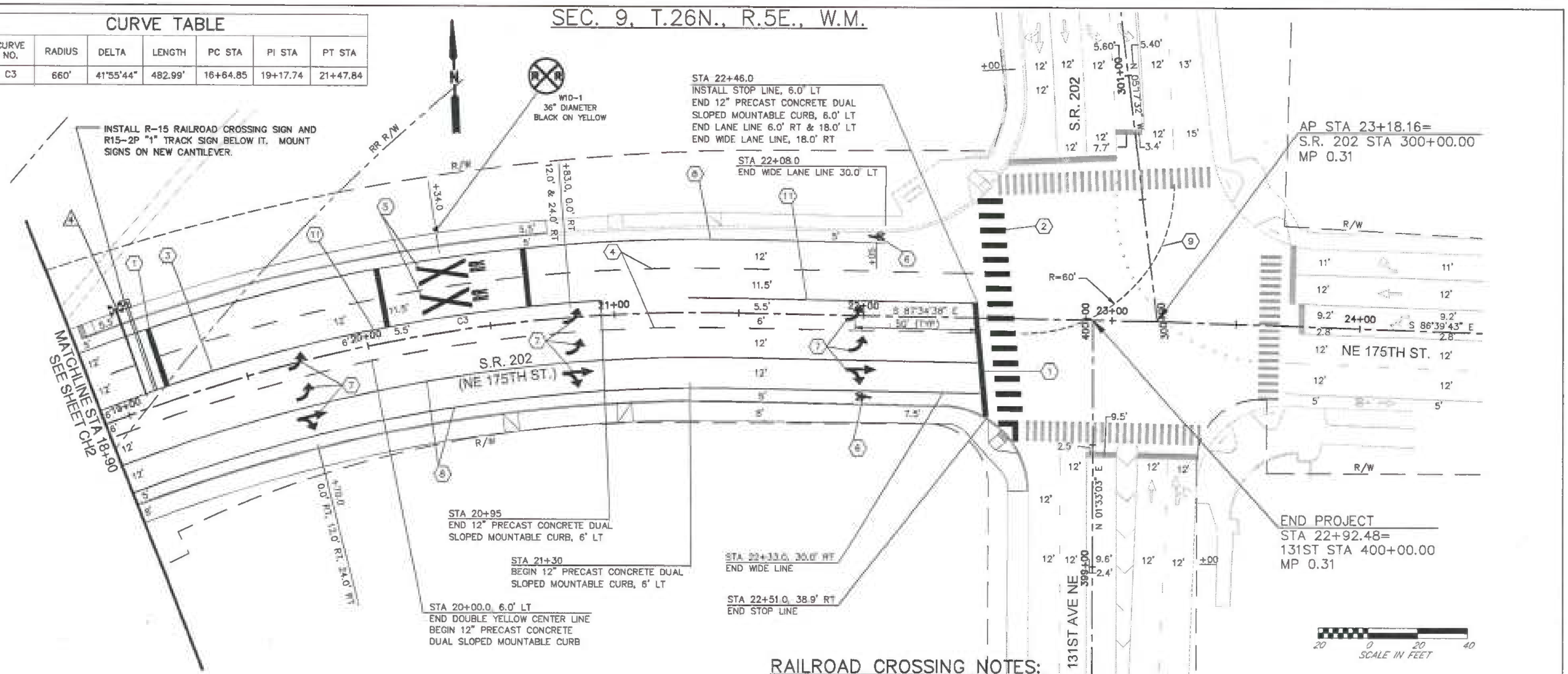
RR2

SHEET 2 OF 3 SHEETS

Jul. 23, 14 - 4:15 PM HuschkaB P:\Trans\60020199 - Sammamish Bridge and Road (SR202) Project\Phase 2\CADD\sheet\RR2 W SIGNS.dwg

CURVE TABLE						
CURVE NO.	RADIUS	DELTA	LENGTH	PC STA	PI STA	PT STA
C3	660'	41°55'44"	482.99'	16+64.85	19+17.74	21+47.84

SEC. 9, T.26N., R.5E., W.M.



RAILROAD CROSSING NOTES:

1. INSTALL 8' X 10' CONCRETE GRADE CROSSING PANELS. (3 EA)
2. REMOVE EXISTING GATE AND FLASHERS AND INSTALL NEW 2-LANE GATE AND FLASHERS PER SPECIFICATIONS. INSTALL R15-1 RAILROAD CROSSING SIGN AND R15-2P "1" TRACK SIGN BELOW IT.
3. REMOVE EXISTING GATE AND FLASHERS AND INSTALL NEW 3-LANE GATE AND FLASHERS PER SPECIFICATIONS. REMOVE EXISTING CANTILEVER AND INSTALL NEW 3-LANE CANTILEVER PER SPECIFICATIONS. INSTALL R15-1 RAILROAD CROSSING SIGN AND R15-2P "1" TRACK SIGN BELOW IT. MOUNT SIGNS ON CANTILEVER AND FLASHERS POST.
4. REMOVE EXISTING GATE AND FLASHERS AND INSTALL NEW 2-LANE GATE AND FLASHERS PER SPECIFICATIONS. REMOVE EXISTING CANTILEVER AND INSTALL NEW 2-LANE CANTILEVER PER SPECIFICATIONS. INSTALL R15-1 RAILROAD CROSSING SIGN AND R15-2P "1" TRACK SIGN BELOW IT. MOUNT SIGNS ON CANTILEVER AND FLASHERS POST.
5. NOT USED.
6. NOT USED
7. PLACE ASPHALT CONCRETE PAVEMENT BETWEEN RAILS WITHIN THE LIMITS SHOWN, SEE SHEET PP2.

GENERAL NOTES

1.) ALL DIMENSIONS TO CURB ARE TO FACE OF CURB.

2.) GRADE CROSSING SIGNAGE AND PAVEMENT MARKING SYMBOL SHALL MEET MUTCD 2009 TABLE 2C-4. SEE WSDOT STANDARD PLAN M-11.10-01 FOR GRADE CROSSING SYMBOL DETAIL.

3.) AUTOMATIC GATE AND RAILROAD WARNING DEVICE ASSEMBLIES SHALL BE CONSTRUCTED SO THAT THE CLOSEST POINT OF THE GATE MAST ARM IS 15' FROM THE CENTERLINE OF THE TRACK.

4.) FOR CURB GEOMETRY SEE SHEETS PP1 – PP3.

5.) FOR RIGHT-OF-WAY INFORMATION SEE RIGHT-OF-WAY PLANS.

6.) FOR ASPHALT CONCRETE PAVEMENT SECTION FOR GRADE CROSSING USE FULL DEPTH ASPHALT SECTION SHOWN ON SHEET RS1.

LEGEND

(1) INSTALL STOP LINE PER WSDOT STD PLAN M-24.60-02.
(2) INSTALL CROSSWALK LINE PER WSDOT STD PLAN M-15.10-01.
(3) INSTALL DOUBLE YELLOW CENTER LINE PER WSDOT STD PLAN M-20.50-01.
(4) INSTALL WHITE LANE LINE PER WSDOT STD PLAN M-20.10-01.
(5) INSTALL RAILROAD CROSSING SYMBOL PER WSDOT STD PLAN M-11.10-01.
(6) INSTALL BICYCLE LANE SYMBOL PER WSDOT STD PLAN M-9.50-01.
(7) INSTALL TRAFFIC ARROW PER WSDOT STD PLAN M-24.40-01.
(8) INSTALL WHITE WIDE LANE LINE PER WSDOT STD PLAN M-20.10-01.
(9) INSTALL WHITE DOTTED EXTENSION LINE PER WSDOT STD PLAN M-20.10-01.
(10) INSTALL WHITE WIDE DOTTED LANE LINE PER WSDOT STD PLAN M-20.10-01.
(11) INSTALL 12" YELLOW PRECAST CONCRETE DUAL SLOPED MOUNTABLE CURB PER WSDOT STD PLAN F-10.64-02.
(12) "NOT USED"
(13) INSTALL DROP LANE LINE PER WSDOT STD PLAN M-20.10-01.

TYPE PARALLEL A CURB RAMP

SINGLE DIRECTION CURB RAMP

NEW 8' X 10' CONCRETE GRADE CROSSING PANELS

NEW ASPHALT GRADE CROSSING

FILE NAME			
TIME			
DATE			
PLOTTED BY			
DESIGNED BY BJH			
ENTERED BY YD			
CHECKED BY AS			
PROJ. ENGR.			
REGIONAL ADM.	REVISION	DATE	BY

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.	LOCATION NO.	

AECOM
701 5TH AVENUE, SUITE 1100
SEATTLE, WASHINGTON 98104
PHONE: (206) 674-4200
FAX: (206) 674-4242

CITY OF WOODINVILLE
17301 133rd AVE NE
WOODINVILLE, WA 98072
PHONE: (425) 489-2700
FAX: (425)489-2705

SR 202 — MP 0.31 TO MP 0.55

SAMMAMISH BRIDGE REPLACEMENT

WOODINVILLE/KING COUNTY — OCTOBER 2012

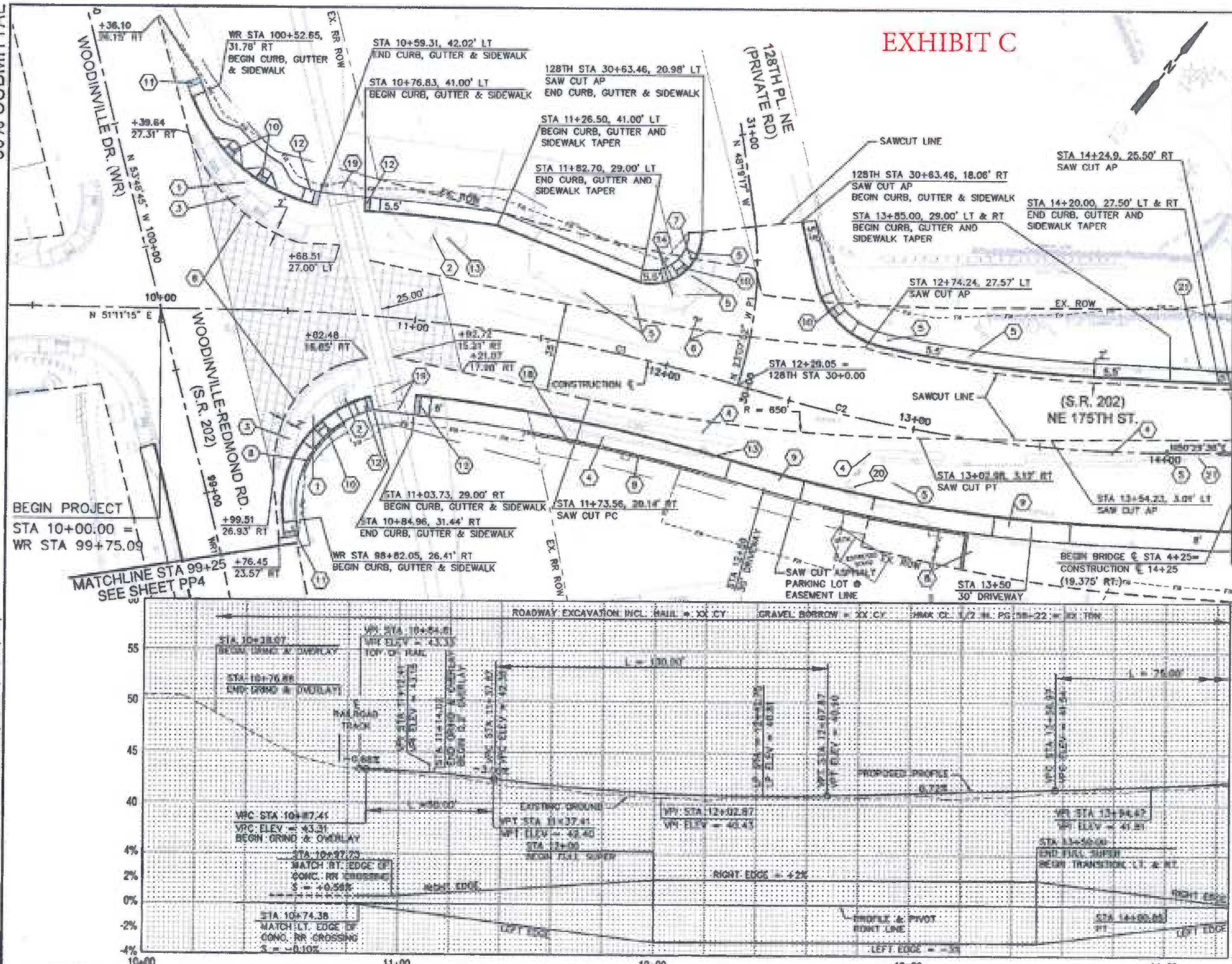
RAILROAD PLAN

RR3 — SHEET 3 OF 3 SHEETS

Jul. 23, 14 - 3:47 PM Huschke8 P:\Trans\60020198 - Sammamish Bridge and Road (SR202) Project\Phase 2\CADD\sheet\RR3 W SIGNS.dwg

60% SUBMITTAL

EXHIBIT C



CONSTRUCTION NOTES

1. RELOCATE SIGNAL POLE & JUNCTION BOXES, SEE SIGNAL PLANS.
2. RELOCATE RAILROAD SIGNAL, SEE SIGNAL PLANS
3. REMOVE CURB, GUTTER & SIDEWALK.
4. REMOVE CONCRETE TRAFFIC ISLAND.
5. RELOCATE/REMOVE TRAFFIC SIGN, SEE SIGNING PLANS.
6. SAWCUT & REMOVE EXISTING PAVEMENT.
7. RELOCATE BUSINESS SIGN (BY OTHERS).
8. INSTALL CONCRETE RETAINING WALL. SEE DETAIL ON SHEET DD1.
9. INSTALL CONCRETE DRIVEWAY TYPE 1 PER CITY OF WOODINVILLE STD. PLAN 322. SEE DRIVEWAY PLAN & PROFILE SHEET FOR ASPHALT APRON AND MISC. DETAILS.
10. INSTALL PARALLEL CURB RAMP TYPE A PER WSDOT STD. PLAN F-40.12-01. SEE SHT IP1 FOR STATION AND SIDEWALL DIMENSIONS.
11. INSTALL ASPHALT CURB RAMP PER DETAIL ON DRAWING NO. DD2.
12. INSTALL SINGLE DIRECTION CURB RAMP TYPE A PER WSDOT STD. PLAN F-40.16-01.
13. RELOCATE STREET LIGHT. SEE ILLUMINATION PLANS.
14. REMOVE BOLLARD.
18. PROTECT BUSINESS SIGN IN PLACE.
19. INSTALL 10' X 8' CONCRETE RAILROAD CROSSING PANELS, 1 EA LT. & 2 EA RT.
20. RELOCATE MAILBOX TO PARKING LOT. ENGINEER TO DETERMINE LOCATION.
21. REMOVE GUARD RAIL.

LEGEND:

GRIND & OVERLAY

CURVE TABLE

CURVE NO.	RADIUS	DELTA	LENGTH	PC STA	PI STA	PT STA
C1	700.00'	16°12'58"	198.12'	10+37.46	11+37.19	12+35.58**
C2	560.00'	16°54'35"	165.27'	12+35.58**	13+18.82	14+00.85
WR1	891.12'	32°44'23"	509.20'	93+90.65	96+52.41	98+99.85
P1	150.00'	25°11'25"	65.95'	30+04.89	30+38.41	30+70.84

** NOTE: STATION IS A PRC.

20 0 20 40
SCALE IN FEET

AECOM

NO.	REVISION	DATE	BY	CK

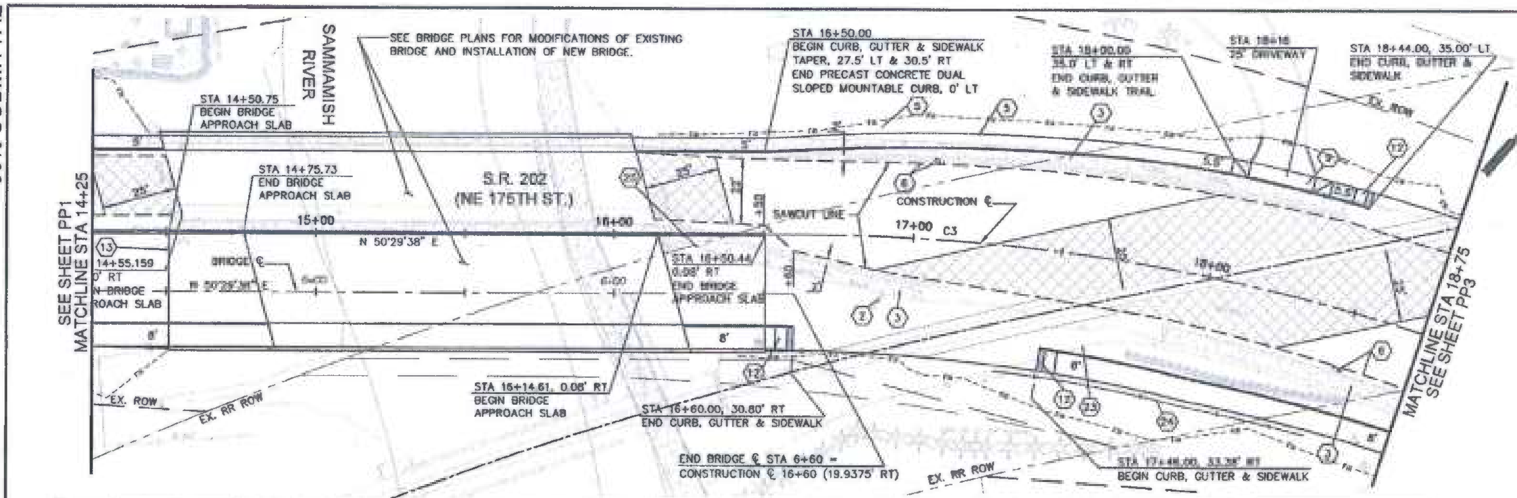
CITY OF WOODINVILLE
17301 133rd AVE NE
WOODINVILLE, WA 98072
PHONE: (425) 489-2700
FAX: (425)489-2705

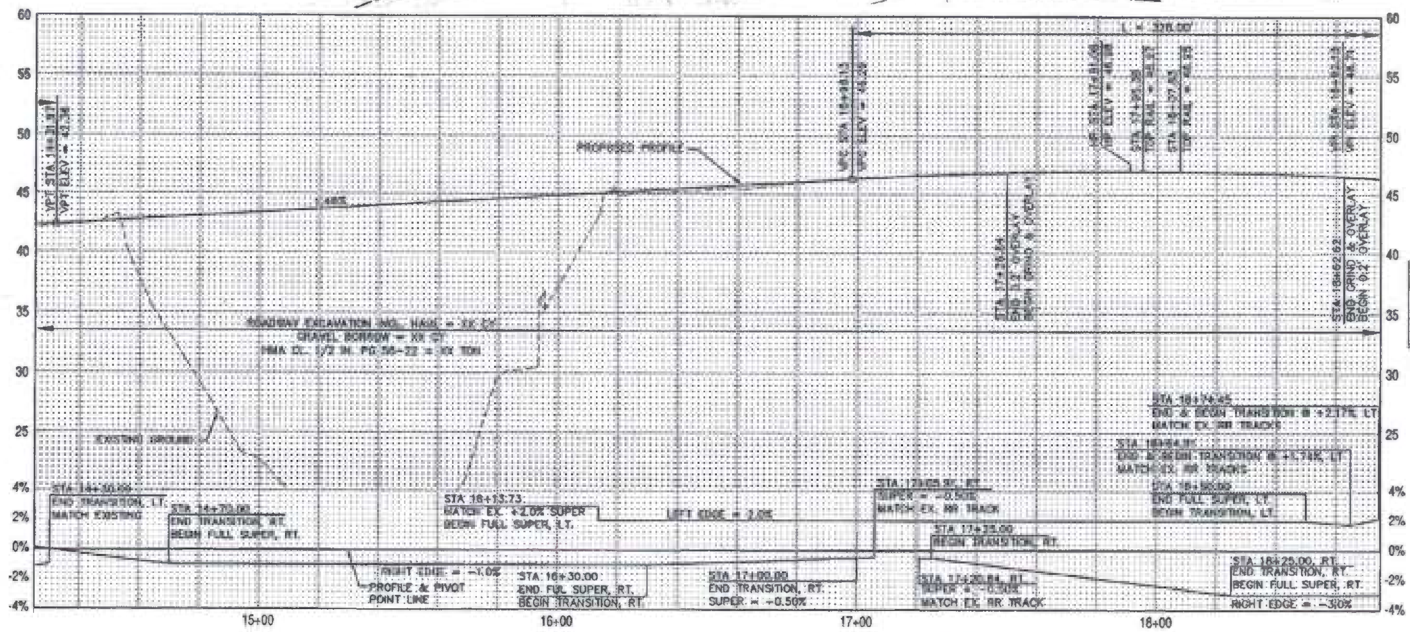
PROJECT INFORMATION: SAMMAMISH BRIDGE (NO. 202/35) REPLACEMENT PROJECT

SHEET TITLE: ROADWAY PLAN & PROFILE

DATE: 12-07-2011 | CHECKED BY: AL
DESIGNED BY: BJH | PROJECT NO.:
DRAWN BY: YD | SCALE: 1"=20'
SHEET OF
DRAWING NO.: PP1

60% SUBMITTAL





CONSTRUCTION NOTES

2. RELOCATE RAILROAD SIGNAL, SEE SIGNAL PLANS.
3. REMOVE CURB, GUTTER & SIDEWALK.
5. RELOCATE/REMOVE TRAFFIC SIGN, SEE SIGNING PLANS.
6. SAWCUT & REMOVE EXISTING PAVEMENT.
9. INSTALL CONCRETE DRIVEWAY TYPE 1 PER CITY OF WOODINVILLE STD. PLAN 322. SEE DRIVEWAY PLAN & PROFILE SHEET FOR ASPHALT APRON AND MISC. DETAILS.
12. INSTALL SINGLE DIRECTION CURB RAMP TYPE A PER WSDOT STD. PLAN F-40.16-01.
13. RELOCATE STREET LIGHT, SEE ILLUMINATION PLANS.
23. REMOVE EXISTING 4' HIGH CHAIN LINK FENCE.
24. STA 17+20 TO 18+45, RT., INSTALL CHAIN LINK FENCE TYPE 4 PER WSDOT STANDARD PLAN L-20.10-01 2' BEHIND SIDEWALK. CONNECT TO EXISTING FENCE TO REMAIN
25. REMOVE EXISTING HAND RAILING.

LEGEND:

GRIND & OVERLAY

CURVE TABLE

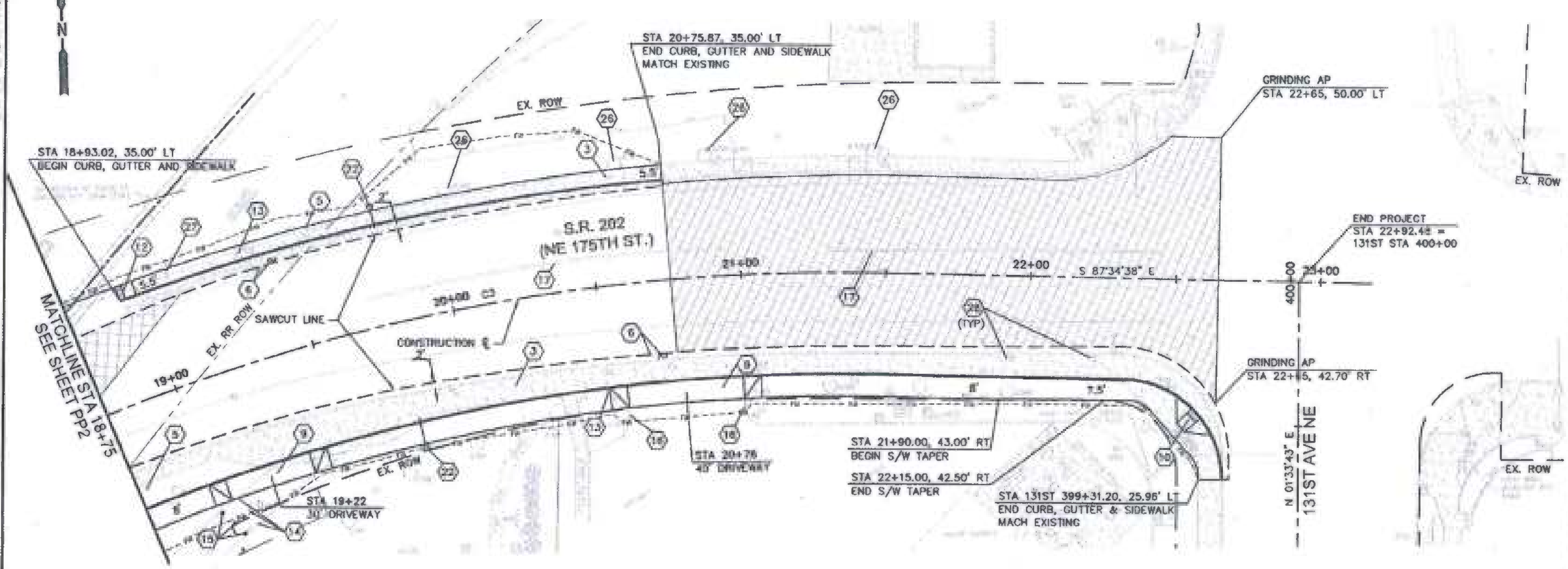
CURVE NO.	RADIUS	DELTA	LENGTH	P.C. STA.	P.I. STA.	P.T. STA.
C3	660'	41°55'44"	482.99'	16+64.85	19+17.74	21+47.84

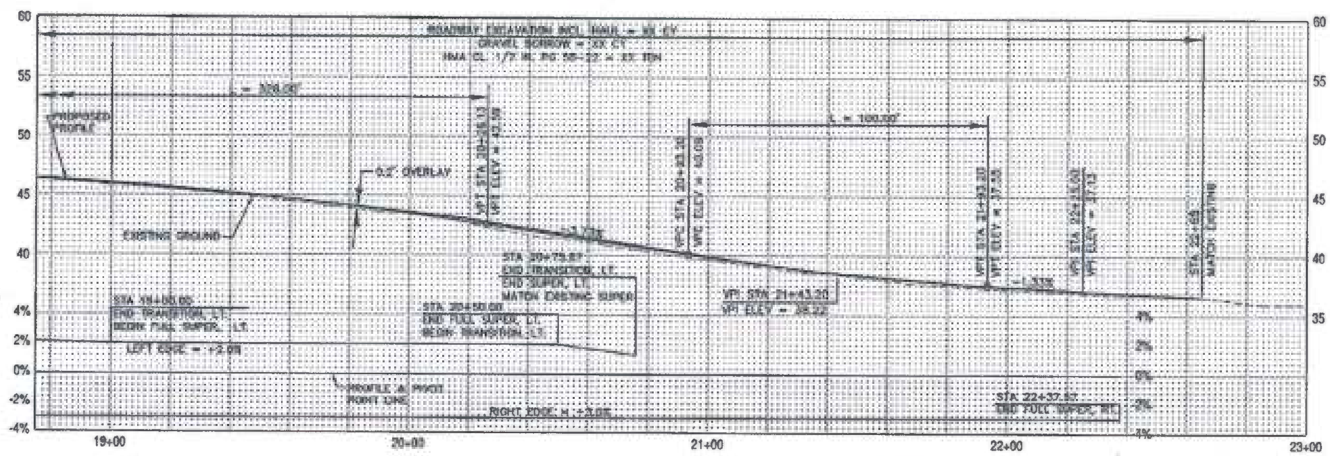
SCALE IN FEET: 20 0 20 40

AECOM 701 5TH AVENUE, SUITE 1100 SEATTLE, WASHINGTON 98104 PHONE: (206) 674-4200 FAX: (206) 674-4242	CITY OF WOODINVILLE 17301 133rd AVE NE WOODINVILLE, WA 98072 PHONE: (425) 489-2700 FAX: (425)489-2705	PROJECT INFORMATION SAMMAMISH BRIDGE (NO. 202/35) REPLACEMENT PROJECT	SHEET TITLE: ROADWAY PLAN & PROFILE	DATE: 12-07-2011 DESIGNED BY: BJH DRAWN BY: YD SHEET OF DRAWING NO.: PP2	CHECKED BY: AL PROJECT NO. SCALE: 1"=20'

Revision block: NO. | REVISION | DATE | BY | CK

60% SUBMITTAL





CONSTRUCTION NOTES

- (3) REMOVE CURB, GUTTER & SIDEWALK.
- (5) RELOCATE/REMOVE TRAFFIC SIGN, SEE SIGNING PLANS.
- (6) SAWCUT & REMOVE EXISTING PAVEMENT.
- (9) INSTALL CONCRETE DRIVEWAY TYPE 1 PER CITY OF WOODINVILLE STD. PLAN 322. SEE DRIVEWAY PLAN & PROFILE SHEET FOR ASPHALT APRON AND MISC. DETAILS.
- (10) INSTALL PARALLEL CURB RAMP TYPE A PER WSDOT STD. PLAN F-40.12-01. SEE SHT IP2 FOR STATION AND SIDEWALK DIMENSIONS.
- (11) INSTALL SINGLE DIRECTION CURB RAMP TYPE A PER WSDOT STD. PLAN F-40.16-01.
- (13) RELOCATE STREET LIGHT, SEE ILLUMINATION PLANS.
- (14) REMOVE BOLLARD.
- (15) INSTALL BOLLARD PER CITY OF WOODINVILLE STD. PLAN345A.
- (16) REMOVE & REPLACE EXTRUDED CURB.
- (17) REMOVE EXISTING TRAFFIC CURB.
- (22) STA 19+80, LT & RT INSTALL BANNER POLE SEE DETAIL ON SHT DO1.
- (26) PROTECT TREE IN PLACE.
- (27) PROTECT RAILROAD SIGNAL IN PLACE. SEE SIGNAL PLANS FOR INTERCONNECT.
- (28) RELOCATE TRAFFIC SIGNAL JUNCTION BOX, SEE SIGNAL PLANS.

LEGEND:

GRIND & OVERLAY

CURVE TABLE

CURVE NO.	RADIUS	DELTA	LENGTH	P.C. STA.	P.I. STA.	P.T. STA.
C3	660'	41°55'44"	482.99'	16+64.86	19+17.74	21+47.84

20 0 20 40
SCALE IN FEET

AECOM

NO.	REVISION	DATE	BY	CK

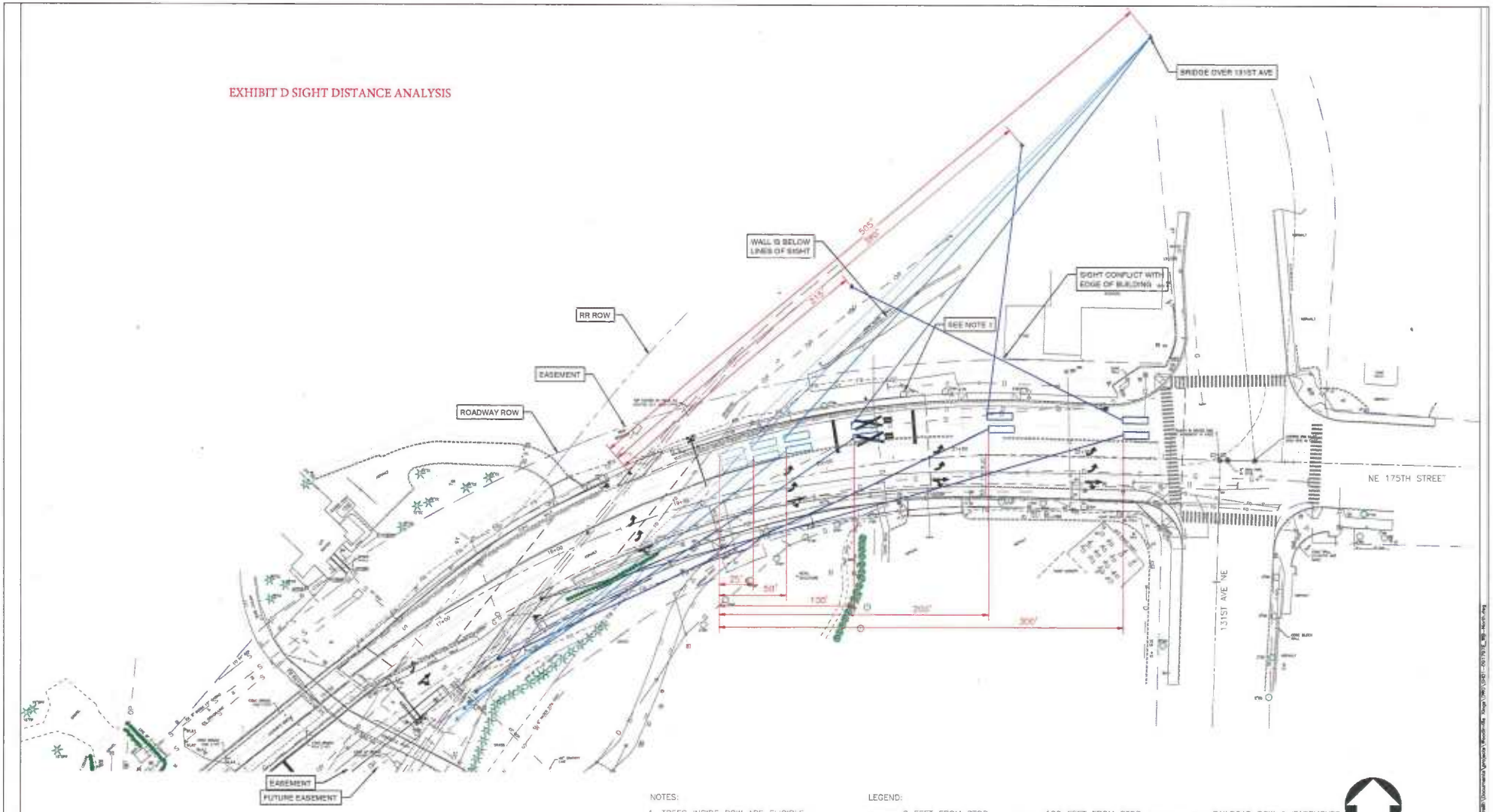
CITY OF WOODINVILLE
17301 133rd AVE NE
WOODINVILLE, WA 98072
PHONE: (425) 489-2700
FAX: (425)489-2705

PROJECT INFORMATION
SAMMAMISH BRIDGE (NO. 202/35) REPLACEMENT PROJECT

SHEET TITLE
ROADWAY PLAN & PROFILE

DATE: 12-07-2011 | CHECKED BY: AL
DESIGNED BY: BJH | PROJECT NO.:
DRAWN BY: YD | SCALE: 1"=20'
SHEET OF
DRAWING NO. PP3

EXHIBIT D SIGHT DISTANCE ANALYSIS



NOTES:

1. TREES INSIDE ROW ARE ELIGIBLE FOR REMOVAL OR REDUCTION TO IMPROVE LINES OF SIGHT.

LEGEND:

- 0 FEET FROM STOP
- 25 FEET FROM STOP
- 50 FEET FROM STOP
- 100 FEET FROM STOP
- 200 FEET FROM STOP
- 300 FEET FROM STOP
- RAILROAD ROW & EASEMENTS
- ROADWAY ROW

CONCEPTUAL DESIGN

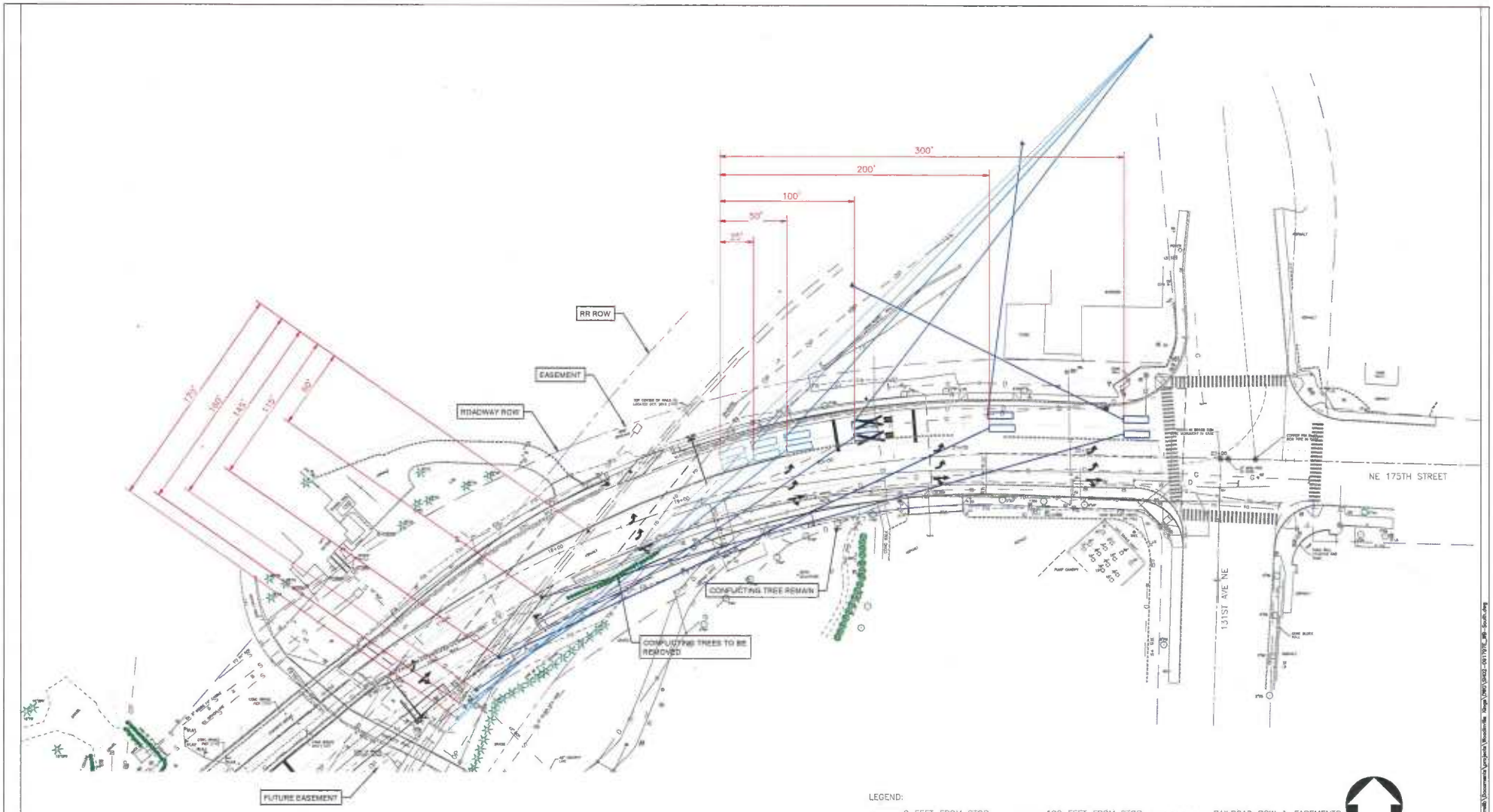
REV	DATE	BY	APP	REG NO	EXPIRES	SEAL HOLDER	DESCRIPTION

DESIGNED BY: L. TERRELL
DRAWN BY: L. TERRELL
CHECKED BY:
IN CHARGE:
DATE: 07/24/14

STV
1055 WEST SEVENTH STREET, SUITE 3150
LOS ANGELES, CA 90017-2556

WOODINVILLE
175TH ST – EAST CROSSING
091797E – WESTBOUND
NORTH LINES OF SIGHT

CONTRACT NO:
DRAWING NO: C-01
REV:
SCALE: NTS
SHEET NO: 1 OF 6



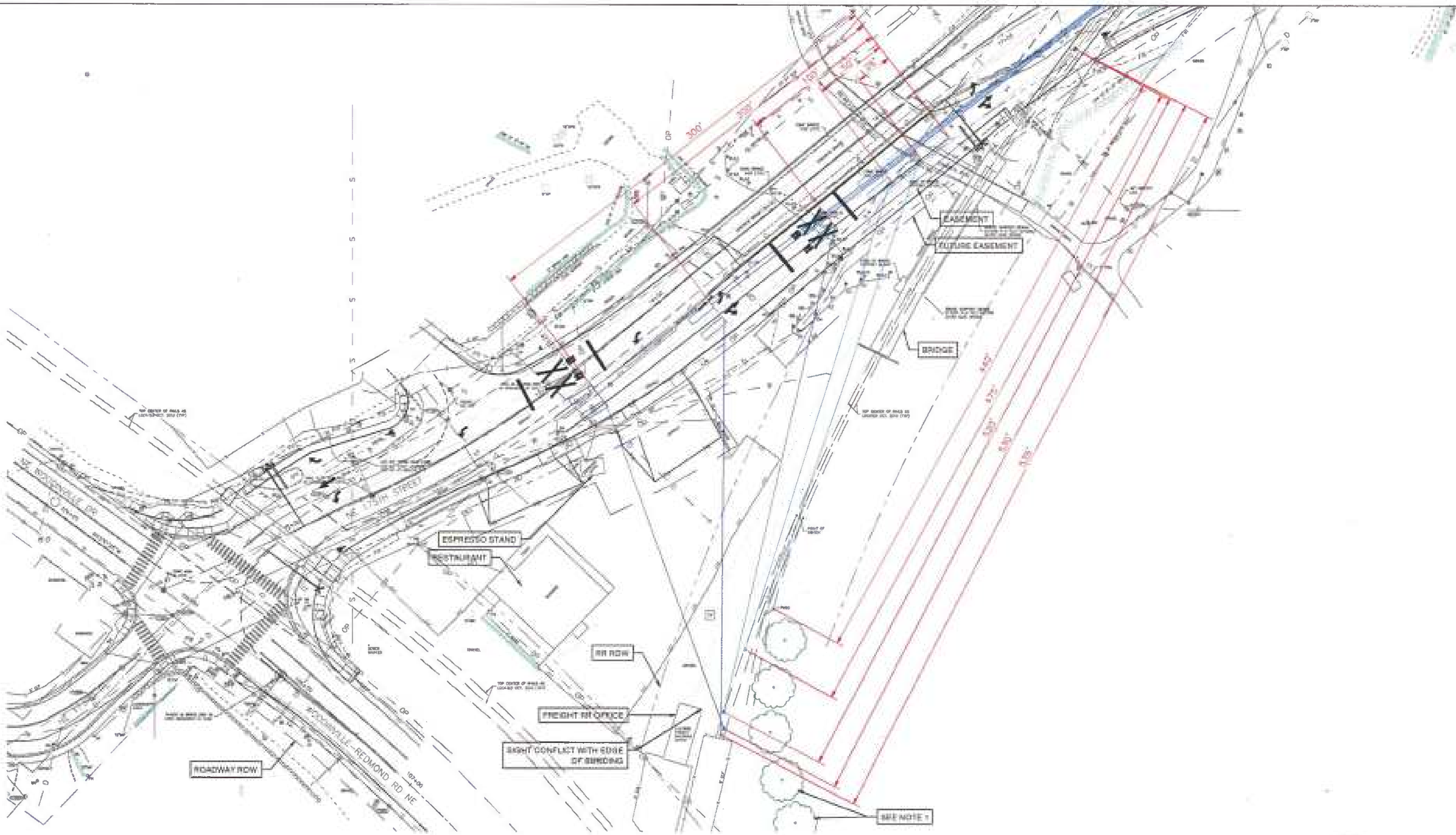
NO	DATE	BY	APP	REG NO	EXPIRES	SEAL HOLDER	DESCRIPTION

DESIGNED BY: L. TERRELL
DRAWN BY: L. TERRELL
CHECKED BY:
IN CHARGE:
DATE: 07/24/14

STV
1055 WEST SEVENTH STREET, SUITE 3150
LOS ANGELES, CA 90017-2556

WOODINVILLE
175TH ST – EAST CROSSING
091797E – WESTBOUND
SOUTH LINES OF SIGHT

CONTRACT NO:
DRAWING NO: C-02
SCALE: NTS
SHEET NO: 2 OF 6



NOTES:

1. APPROXIMATE LOCATION OF VEGETATION (DRAWN, NOT SHOWN ON TOPO)

LEGEND:

- 0 FEET FROM STOP
- 25 FEET FROM STOP
- 50 FEET FROM STOP
- 100 FEET FROM STOP
- 200 FEET FROM STOP
- 300 FEET FROM STOP
- RAILROAD ROW & EASEMENTS
- ROADWAY ROW

CONCEPTUAL DESIGN

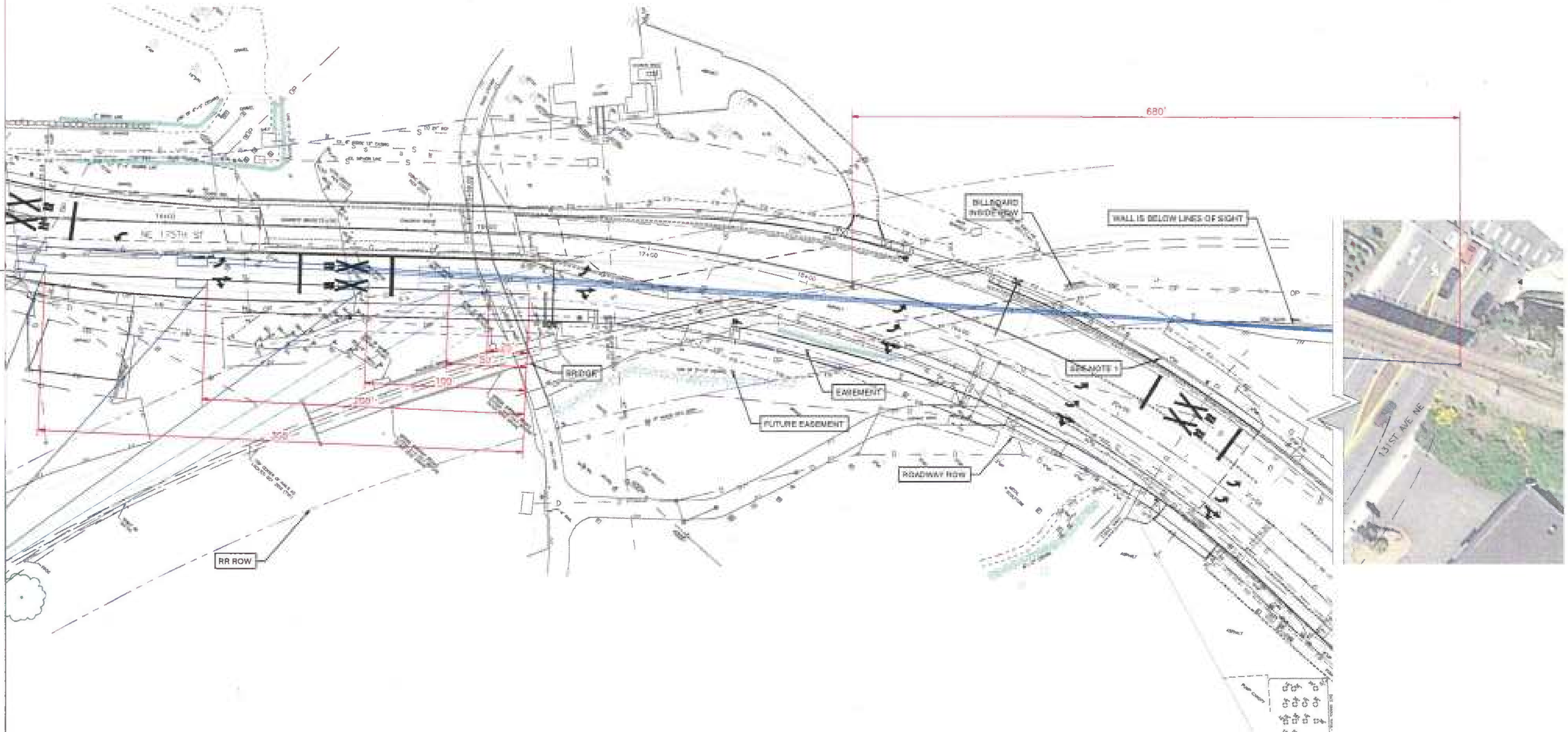
DESIGNED BY L. TERRELL
DRAWN BY L. TERRELL
CHECKED BY
IN CHARGE
DATE 07/24/14

	DATE			REG NO	EXPIRES	SEAL HOLDER	DESCRIPTION

STV 1055 WEST SEVENTH STREET, SUITE 3150 LOS ANGELES, CA 90017-2556

WOODINVILLE
175TH ST – EAST CROSSING
091797E – EASTBOUND
SOUTH LINES OF SIGHT

CONTRACT NO
DRAWING NO C-03
REV
SCALE NTS
SHEET NO 3 OF 6



NOTES:

1. TREES INSIDE ROW ARE ELIGIBLE FOR REMOVAL OR REDUCTION TO IMPROVE LINES OF SIGHT.

LEGEND:

0 FEET FROM STOP	100 FEET FROM STOP	RAILROAD ROW & EASEMENTS
25 FEET FROM STOP	200 FEET FROM STOP	ROADWAY ROW
50 FEET FROM STOP	300 FEET FROM STOP	

CONCEPTUAL DESIGN

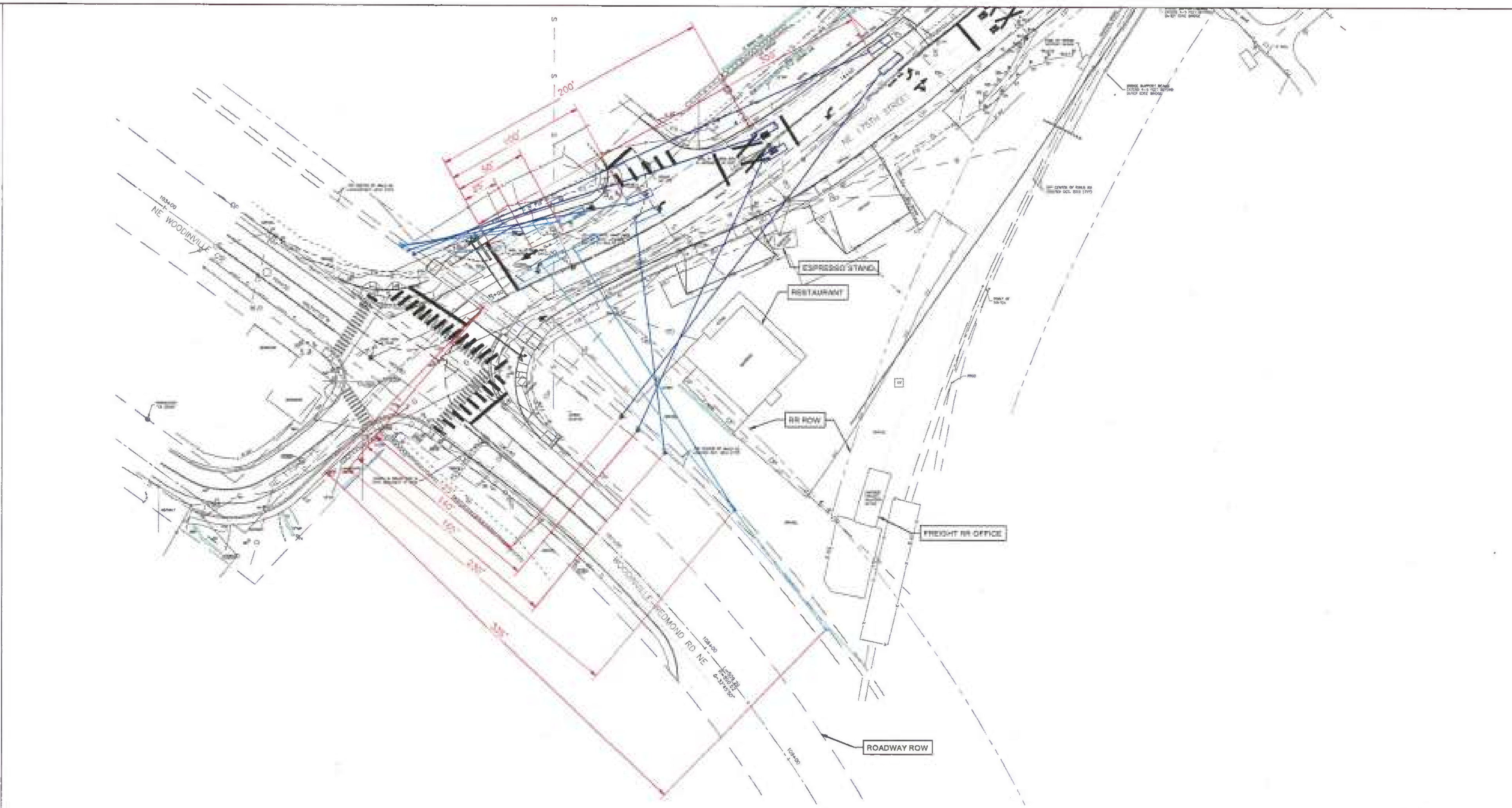
REV	DATE	BY	APP	REG NO	EXPIRES	SEAL HOLDER	DESCRIPTION

DESIGNED BY L. TERRELL
DRAWN BY L. TERRELL
CHECKED BY
IN CHARGE
DATE 07/24/14

STV 1055 WEST SEVENTH STREET, SUITE 3150 LOS ANGELES, CA 90017-2556

WOODINVILLE
175TH ST – EAST CROSSING
091797E – EASTBOUND
NORTH LINES OF SIGHT

CONTRACT NO
DRAWING NO C-04
SCALE NTS
SHEET NO 4 OF 6



LEGEND:

0 FEET FROM STOP	100 FEET FROM STOP
25 FEET FROM STOP	200 FEET FROM STOP
50 FEET FROM STOP	300 FEET FROM STOP
RAILROAD ROW & EASEMENTS	ROADWAY ROW

CONCEPTUAL DESIGN

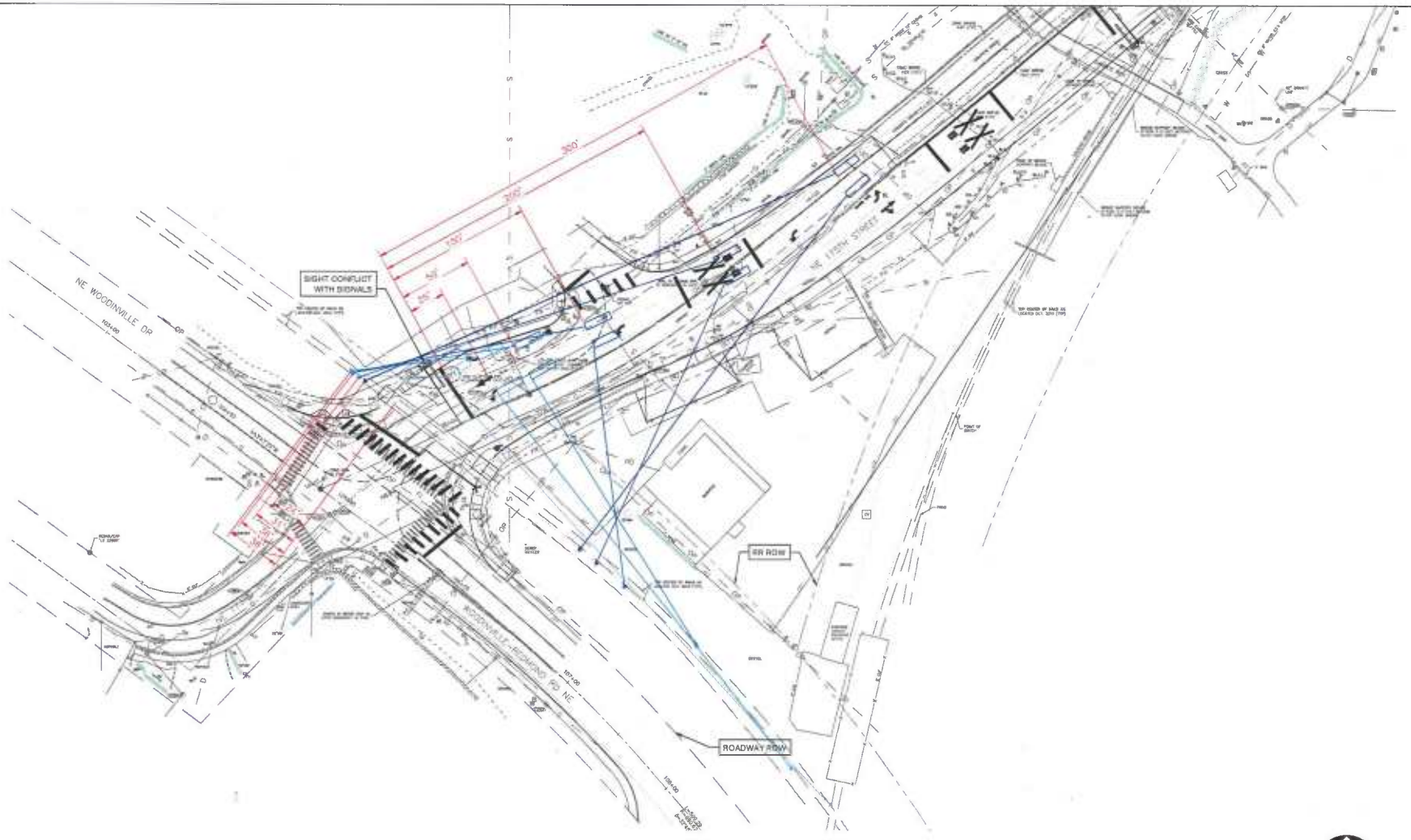
REV	DATE	BY	APP	REG NO	EXPIRES	SEAL HOLDER	DESCRIPTION

DESIGNED BY L. TERRELL
DRAWN BY L. TERRELL
IN CHARGE
DATE 07/24/14

STV 1055 WEST SEVENTH STREET, SUITE 3150 LOS ANGELES, CA 90017-2556

WOODINVILLE
175TH ST – WEST CROSSING
092050F – WESTBOUND
SOUTH LINES OF SIGHT

CONTRACT NO
DRAWING NO C-05
SCALE NTS
SHEET NO 5 OF 6



REV	DATE	BY	APP	REG NO	EXPIRES	SEAL HOLDER	DESCRIPTION

DESIGNED BY: L. TERRELL
DRAWN BY: L. TERRELL
CHECKED BY:
IN CHARGE:
DATE: 07/24/14

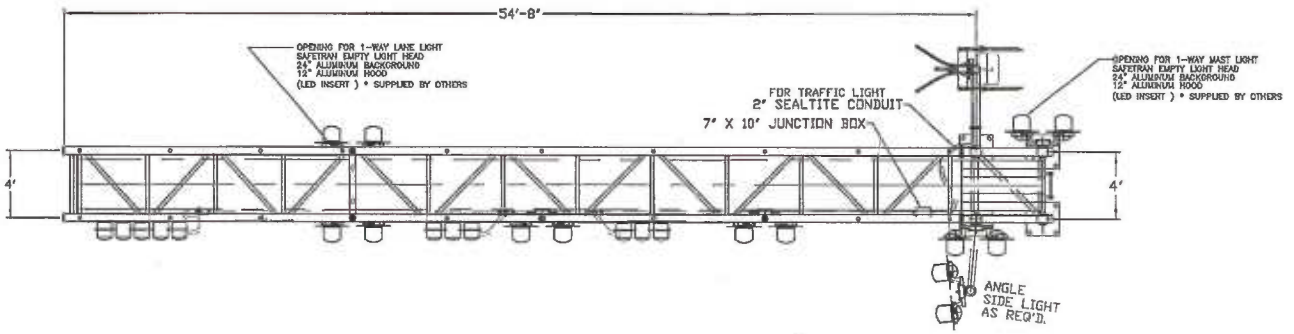
STV
1055 WEST SEVENTH STREET, SUITE 3150
LOS ANGELES, CA 90017-2556

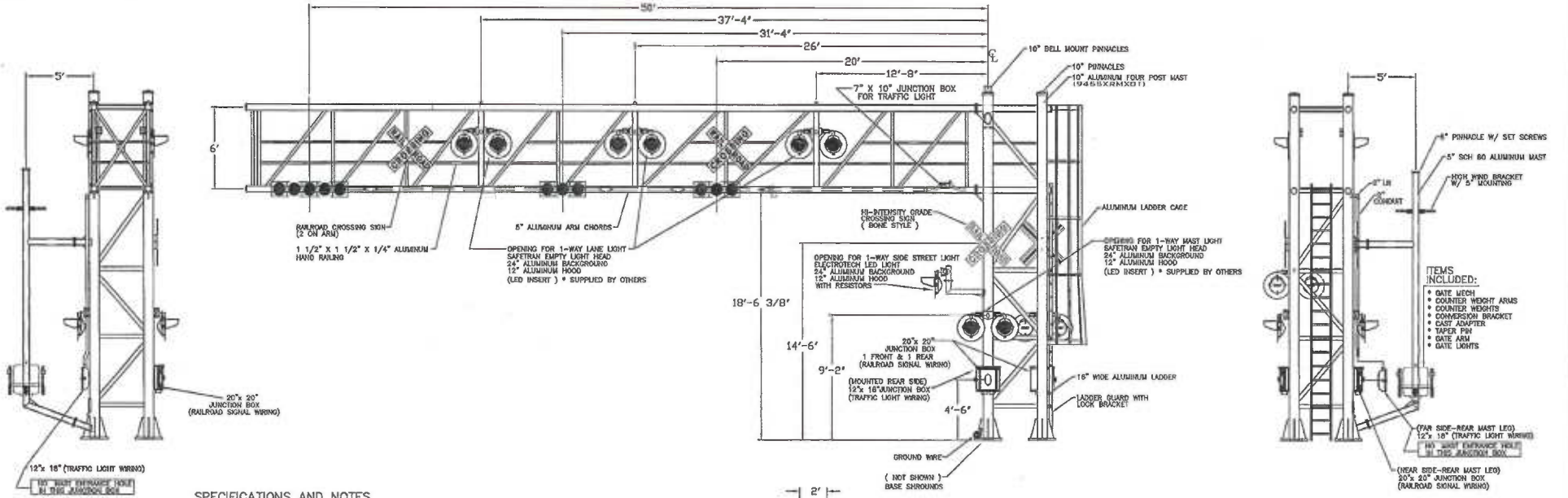
WOODINVILLE
175TH ST – WEST CROSSING
092050F – WESTBOUND
NORTH LINES OF SIGHT

CONTRACT NO:
DRAWING NO: C-06
SCALE: NTS
SHEET NO: 6 OF 6

EXHIBIT E

REVISIONS			
ITEM	DESCRIPTION	BY	DATE
1			



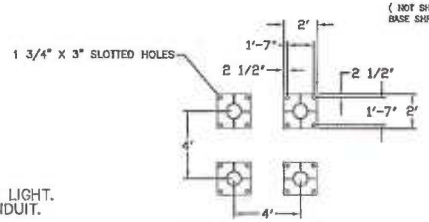


TORQUE VALUES FOR 18-8 S/S HARDWARE WITHOUT ANTI-SEIZE COMPOUND.
1. 3/8"-16 BOLTS: 236 IN. LBS.
2. 1/2"-13 BOLTS: 517 IN. LBS.
3. 5/8"-11 BOLTS: 1110 IN. LBS.
4. 1"-8 BOLTS: 3440 IN. LBS.

TORQUE VALUES FOR 18-8 S/S HARDWARE WITH ANTI-SEIZE COMPOUND.
1. 3/8"-16 BOLTS: 201 IN. LBS.
2. 1/2"-13 BOLTS: 439 IN. LBS.
3. 5/8"-11 BOLTS: 944 IN. LBS.
4. 1"-8 BOLTS: 2924 IN. LBS.

SPECIFICATIONS AND NOTES

1. ALL ALUMINUM CONSTRUCTION UTILIZING 6061-T6
2. STAINLESS STEEL HARDWARE PROVIDED.
3. MEETS OR EXCEEDS ALL A.A.S.H.T.O. AND A.A.R. SPECIFICATIONS.
4. GMAW WELDING PROCESS UTILIZING 5356 ALUMINUM ALLOY FILLER MATERIAL.
5. CABLE IS ROUTED THROUGH MAST PIPE, ARM PIPE, OR FLEXIBLE CONDUIT #10 BLUE OKANITE-4 WIRES PER LIGHT. NOTE! NO WIRING HARNESSES FOR TRAFFIC SIGNAL CONDUIT.
6. ALL THREADED OPENINGS PLUGGED BEFORE SHIPMENT.



BASE PATTERN

Req'd 1 ea.

PROGRESS P/N 9455XR0001

JOB #	PROGRESS SIGNAL DIVISION
THE DRAWING IS PROPRIETARY PROPERTY OF PROGRESS RAIL SERVICES	DATE: 11/04/11 APP'D:
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES DECIMAL .000"± .003"- FRACTIONS ± DO NOT SCALE THIS DRAWING	DRAWN BY: DH SCALE: NONE SHEET: 1 OF 1
	DRAWING FOR XORAIL SW 40TH ST. (BIRD ROAD) MP: SXH- 44.21 54'-0" HIGHWAY FOUR POST CANTILEVER
	DRAWING NUMBER: 9455XR0001