Nicholas Konen
Project Engineer
Northwest Division

BNSF Railway Company
2454 Occidental Ave. S. #2D
Seattle, WA 98134
Telephone 206-625-6337
Fax 206-625-6256
Nicholas.Konen@bnsf.com

December 22, 2014

Kathy Hunter
Deputy Assistant Director, Trans. Safety
WUTC
1300 S Evergreen Park Dr. SW
PO Box 47250
Olympia, WA 98504-7250

Re: Docket No. TR-140479, Revised Petition for Construction/Reconstruction with Inter-Tie of Grandview Rd. (084841X) at Ferndale in Whatcom Co., WA

Dear Ms. Hunter,

This letter is in support of the aforementioned WUTC petition on behalf of BNSF Railway Company for highway-rail grade crossing upgrades at Grandview Road (DOT# 084841X) in Whatcom Co., WA. The following is supplemental information as provided in Section 12 of the petition for proposed reconstruction.

While in discussion, WSDOT and BNSF engineering came to the agreement that the original proposed advanced warning stand-alone flashing light pole, should be removed. WSDOT and BNSF have determined that the preemption modification, along with the presences of a "No right turn" blank out sign will stop any right turn movements from Portal Way when trains approach or occupy the crossing.

Please review the attached petition and feel free to contact me with any questions.

Sincerely,
Nicholas Konen

Attachments:
UTC Petition Docket No. TR-140479 (USDOT Crossing No. 084841X)

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

BNSF Railway Petitioner, vs. Washington State Department of Transportation Respondent	)	DOCKET NO. TR-140479 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 USDOT CROSSING NO.: 084841X

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** ■ **Reconstruction**

Section 1 – Petitioner's Information

BNSF Railway Company
Petitioner

Signature

2454 Occidental Avenue South, Suite 2D
Street Address

Seattle, Washington 98134
City, State and Zip Code

Same as above
Mailing Address, if different than the street address

Richard Wagner
Contact Person Name

(206) 625-6152 Richard.Wagner@BNSF.com
Contact Phone Number and E-mail Address

Section 2 – Respondent's Information

Washington State Department of Transportation
Respondent

310 Maple Park Ave. SE
Street Address

Olympia, WA 98504
City, State and Zip Code

P.O. Box 47329
Mailing Address, if different than the street address

Ahmer Nizam (Manager – Utilities/Railroad/Agreements)
Contact Person Name

(360) 705-7271 nizama@wsdot.wa.gov
Contact Phone Number and E-mail Address

Section 3 – Proposed or Existing Crossing Location

1. Existing highway/roadway Grandview Road

2. Existing railroad BNSF Railway (Bellingham Subdivision)

3. Location of proposed crossing:
   Located in the SW 1/4 of the SE 1/4 of Sec. 006 , Twp. 23N , Range 2E W.M.

4. GPS location, if known 48.8920572, -122.6029834

5. Railroad mile post (nearest tenth) 109.32

6. City Ferndale County Whatcom

Section 4 – Proposed or Existing Crossing Information

1. Railroad company BNSF Railway Company

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

   ■ Passenger □ Excursion

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

4. Number of tracks at crossing One (1)

5. Average daily train traffic, freight Seventeen (17) trains/day

   Authorized freight train speed 60 mph Operated freight train speed 0-60 mph

6. Average daily train traffic, passenger Four (4) trains/day

   Authorized passenger train speed 79 mph Operated passenger train speed 0-79 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.
   N/A

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
N/A

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

Approximate date of removal N/A

Section 6 – Current Highway Traffic Information

1. Name of roadway/highway Grandview Road/State Route 548

2. Roadway classification Rural Major Collector

3. Road authority Washington State Department of Transportation

4. Average annual daily traffic (AADT) 10,296 (AADT Year: 2014)

5. Number of lanes Two (2)

6. Roadway speed 35 mph

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

8. If so, trucks are what percent of total daily traffic? 13% (2014)

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? 10 (4/10/14), 4 WTA busses

11. Describe any changes to the information in 1 through 7, above, expected within ten years:

None

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.
   N/A

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.

   Signal bungalow in southwest quadrant of crossing located at standard crossing bungalow location (shown on crossing plan page). Installed per BNSF standard

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.

   Limited distance between railroad track(s) and intersection of Portal Way/Grandview

   Road on the east side of existing BNSF Railway mainline for a grade separated approach

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.

N/A

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.

As a part of the BNSF Railway project, two public crossings and one private crossing in or around the City of Ferndale, WA will be revised or reconstructed. The closest existing public crossing to Grandview Road is Brown Road (DOT# 084839W). It is located approximately 0.72 miles to the south of the existing Grandview Road crossing. It is feasible to divert traffic to Brown Road during the revision/reconstruction of Grandview Road.

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	N/A Portal Way Intersection
Right	200	N/A Portal Way Intersection
Right	100	N/A Portal Way Intersection
Right	50	690'
Right	25	2,100'
Left	300	N/A Portal Way Intersection
Left	200	N/A Portal Way Intersection
Left	100	N/A Portal Way Intersection
Left	50	3,500'
Left	25	3,500'

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	30'
Right	200	70'
Right	100	1,400'
Right	50	3,500'
Right	25	3,500'
Left	300	110'
Left	200	210'
Left	100	535'
Left	50	1,400'
Left	25	1,400'

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 ____ No X

3. If not, state in feet the length of level grade from the center of the railway on both approaches to the crossing. 10'

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.

N/A

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.

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.

N/A

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.

Crossing will have the following items at the completion of the project:

Signs – Advanced Warning Signs, Stop Lines, RR Xing Symbols, 2 Tracks Signs

Train-Activated Devices – Two (2) gates, Two (2) Mast-Mounted Flashing Lights w/bells

Track will be equipped with (Constant Warning) Train Detection Circuitry

"No Right Turn" Blank-out Sign for Southbound Portal Way Traffic

2. Provide an estimate for maintaining the signals for 12 months. N/A

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

Yes ____ No X

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.

Advance

If advance preemption, what is the preemption time.

22 seconds (Previously 21 seconds)

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.

Advanced preemption time will be increased from 21 seconds to 22 seconds.

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.: 084841X

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 Olympia, Washington, on the 12Th day of December, 2014.

Ahmer Nizam

Printed name of Respondent

Signature of Respondent's Representative

Manager – Utilities/Railroad/Agreements

Title

Washington State Department of Transportation

Name of Company

(360) 705-7271 nizama@wsdot.wa.gov

Phone number and e-mail address

P.O. Box 47329

Olympia, WA 98504

Mailing address

Version 4-27-2006

Minnesota Department of Transportation

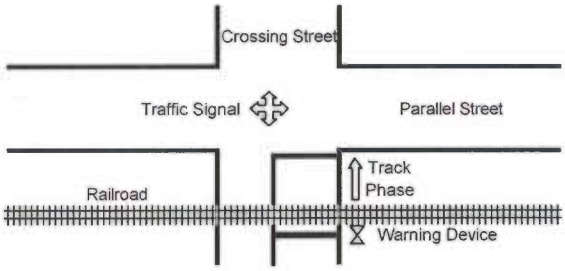
GUIDE FOR DETERMINING TIME REQUIREMENTS FOR TRAFFIC SIGNAL PREEMPTION AT HIGHWAY-RAIL GRADE CROSSINGS

City _____ Date 03/04/14

County Whatcom WA Completed by Alex Zhang

District _____ District Approval _____

Show North Arrow



Parallel Street Name: Portal Way

Crossing Street Name: SR548 (Grandview Rd)

Railroad BNSF Railroad Contact _____

Crossing DOT# 084841X Phone _____

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.	1.0	Controller type: 2070
3. Preempt verification and response time (seconds): add lines 1 and 2	3.	1.0	

Worst-case conflicting vehicle time

			Remarks
4. Worst-case conflicting vehicle phase number	4.	2	
5. Minimum green time during right-of-way transfer (seconds)	5.	7.0	
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.	12.0	

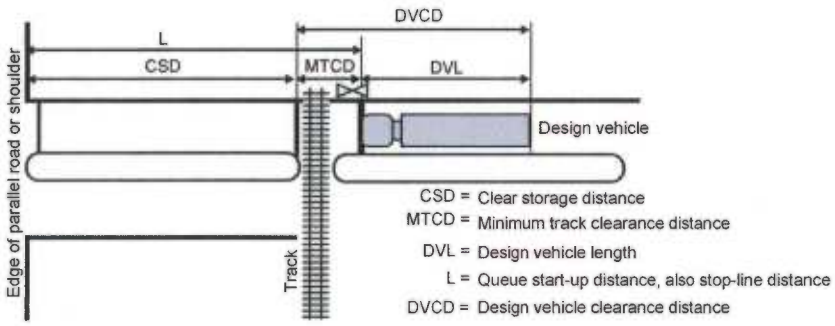
Worst-case conflicting pedestrian time

			Remarks
10. Worst-case conflicting pedestrian phase number	10.	3	
11. Minimum walk time during right-of-way transfer (seconds)	11.	0.0	
12. Pedestrian clearance time during right-of-way transfer (seconds)	12.	10.0	55ft/3.5ft/s=15.7-4.7-1
13. Vehicle yellow change time, if not included on line 12 (seconds)	13.	4.7	
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.	15.7	

Worst-case conflicting vehicle or pedestrian time

16. Worst-case conflicting vehicle or pedestrian time (seconds): maximum of lines 9 and 15	16.	15.7
17. Right-of-way transfer time (seconds): add lines 3 and 16	17.	16.7

SECTION 2: QUEUE CLEARANCE TIME CALCULATION



			Remarks
18. Clear storage distance (CSD, feet)	18.	45	
19. Minimum track clearance distance (MTCD, feet)	19.	52	Line 20 need to be checked.
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.	97	
22. Time required for design vehicle to start moving (seconds): calculate as 2+(L÷20)	22.	6.9	Remarks
23. Design vehicle clearance distance, DVCD (feet): add lines 19 and 20	23.	126	
24. Time for design vehicle to accelerate through the DVCD (seconds)	24.	16.0	Read from Figure 2 in Instructions.
25. Queue clearance time (seconds): add lines 22 and 24	**25.**	22.9	

SECTION 3: MAXIMUM PREEMPTION TIME CALCULATION

			Remarks
26. Right-of-way transfer time (seconds): line 17	26.	16.7	
27. Queue clearance time (seconds): line 25	27.	22.9	
28. Desired minimum separation time (seconds)	28.	4.0	
29. Maximum preemption time (seconds): add lines 26 through 28	**29.**	43.6	

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.	2.0	
32. Minimum warning time, MWT (seconds): add lines 30 and 31	32.	22.0	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.	22.0	
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.**	22	

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

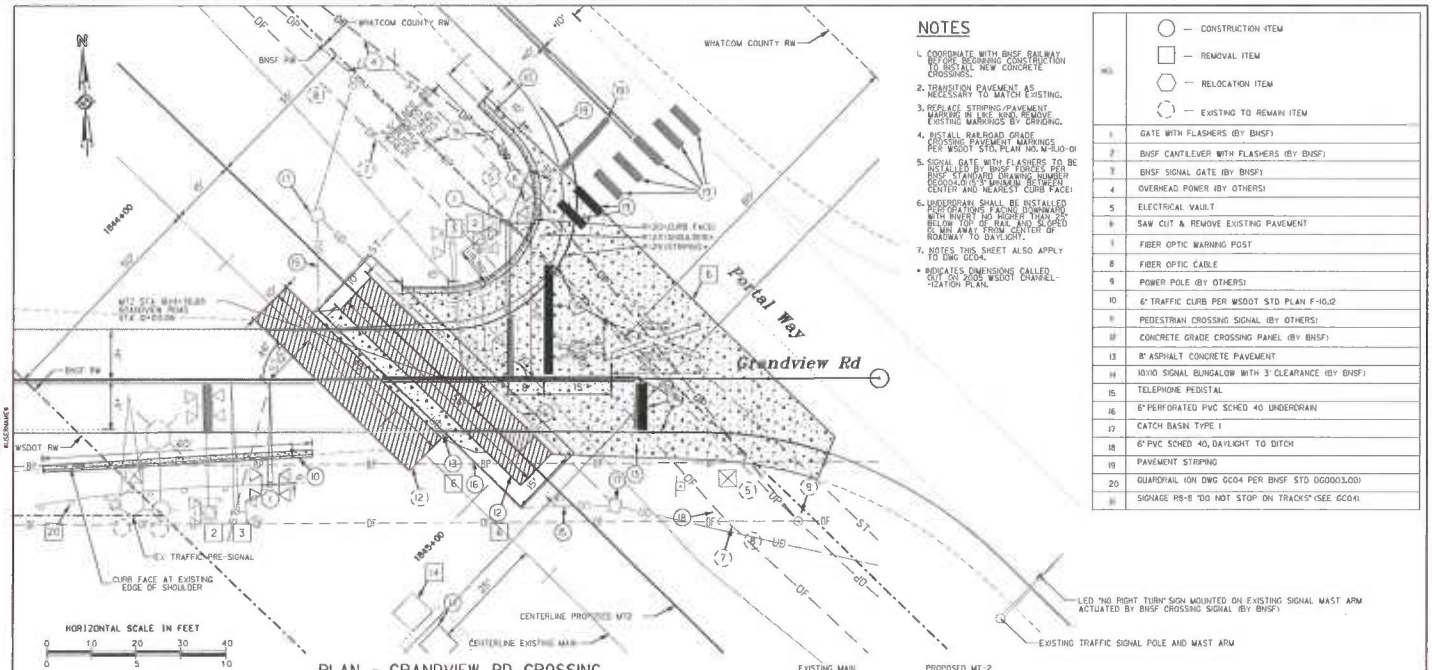
36. Advance preemption time (APT) provided (seconds): ..... **36.** 23.0 — Line 33 only valid if line 35 is zero.
37. Multiplier for maximum APT due to train handling ..... **37.** 1.25 — See Instructions for details.
38. Maximum APT (seconds): multiply line 36 and 37 ..... **38.** 28.8 — **Remarks**
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.** 43.8
41. Preempt verification and response time (seconds): line 3 ..... **41.** 1.0 — **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.** 1.0
44. Minimum track clearance green time (seconds): subtract line 43 from line 40 ..... **44.** 42.8

Clearing of Clear Storage Distance

45. Time required for design vehicle to start moving (seconds), line 22 ..... **45.** 6.9
46. Design vehicle clearance distance (DVCD, feet), line 23 ..... **46.** 126 — **Remarks**
47. Portion of CSD to clear during track clearance phase (feet) ... **47.** — CSD* in Figure 3 in Instructions.
48. Design vehicle relocation distance (DVRD, feet): add lines 46 and 47 ..... **48.** 126
49. Time required for design vehicle to accelerate through DVRD (seconds) ..... **49.** — Read from Figure 2 in Instructions.
50. Time to clear portion of clear storage distance (seconds): add lines 45 and 49 ..... **50.** 6.9
51. **Track clearance green interval (seconds): maximum of lines 44 and 50, round up to nearest full second ....** **51.** 43

SECTION 6: VEHICLE-GATE INTERACTION CHECK (OPTIONAL)

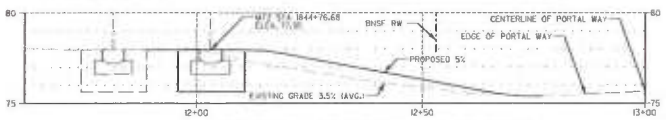
52. Right-of-way transfer time (seconds): line 17 ..... **52.** 16.7
53. Time required for design vehicle to start moving (seconds), line 22 ..... **53.** 6.9
54. Time required for design vehicle to accelerate through DVL (on line 20, seconds) ..... **54.** 12.0 — Read from Table 3 in Instructions.
55. Time required for design vehicle to clear descending gate (seconds): add lines 52 through 54 ..... **55.** 35.6
56. Duration of flashing lights before gate descent start (seconds): get from railroad ..... **56.** 3.0 — **Remarks**
57. Full gate descent time (seconds): get from railroad ..... **57.** 12.0 — **Remarks** 14ft is used for Fig 5.
58. Proportion of non-interaction gate descent time ..... **58.** 0.45 — Read from Figure 5 in Instructions.
59. Non-interaction gate descent time (seconds): multiply lines 57 and 58 ..... **59.** 5.4
60. Time available for design vehicle to clear descending gate (seconds): add lines 56 and 59 ..... **60.** 8.4
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.** 28



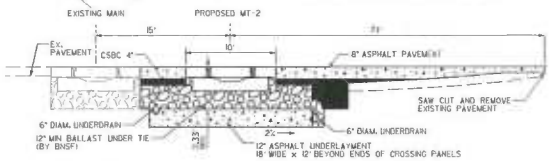
HORIZONTAL SCALE IN FEET
0 10 20 30 40
0 5 10

PLAN - GRANDVIEW RD CROSSING

VERTICAL SCALE IN FEET



PROFILE - GRANDVIEW RD CROSSING



TYPICAL SECTION - GRANDVIEW ROAD CROSSING

NTS

NOTES

1. COORDINATE WITH BNSF RAILWAY BY DPE BEGINNING CONSTRUCTION TO INSTALL NEW CONCRETE CROSSINGS.
2. TRANSITION PAVEMENT AS NECESSARY TO MATCH EXISTING.
3. REPLACE STRIPING/PAVEMENT MARKING IN LIKE KIND. REMOVE EXISTING MARKINGS BY GRINDING.
4. INSTALL RAILROAD GRADE CROSSING PAVEMENT MARKINGS PER WSDOT STD. PLAN NO. M-8.10-01
5. SIGNAL GATE WITH FLASHERS TO BE INSTALLED BY BNSF FORCES PER BNSF STANDARD DRAWING NUMBER 0G0004.01 (5' MINIMUM BETWEEN CENTER AND NEAREST CURB FACE)
6. UNDERDRAIN SHALL BE INSTALLED PERFORATIONS FACING DOWNWARD WITH INVERT NO HIGHER THAN 24" BELOW TOP OF RAIL AND SLOPED 2% MIN. AWAY FROM CENTER OF ROADWAY TO DAYLIGHT.
7. NOTES THIS SHEET ALSO APPLY TO DWG GC04.

* INDICATES DIMENSIONS CALLED OUT ON 2005 WSDOT CHANNELIZATION PLAN.

	○ — CONSTRUCTION ITEM □ — REMOVAL ITEM ⬡ — RELOCATION ITEM ◌ — EXISTING TO REMAIN ITEM
1	GATE WITH FLASHERS (BY BNSF)
2	BNSF CANTILEVER WITH FLASHERS (BY BNSF)
3	BNSF SIGNAL GATE (BY BNSF)
4	OVERHEAD POWER (BY OTHERS)
5	ELECTRICAL VAULT
6	SAW CUT & REMOVE EXISTING PAVEMENT
7	FIBER OPTIC WARNING POST
8	FIBER OPTIC CABLE
9	POWER POLE (BY OTHERS)
10	6" TRAFFIC CURB PER WSDOT STD PLAN F-10.12
11	PEDESTRIAN CROSSING SIGNAL (BY OTHERS)
12	CONCRETE GRADE CROSSING PANEL (BY BNSF)
13	8" ASPHALT CONCRETE PAVEMENT
14	10X10 SIGNAL BUNGALOW WITH 3' CLEARANCE (BY BNSF)
15	TELEPHONE PEDISTAL
16	6" PERFORATED PVC SCHED 40 UNDERDRAIN
17	CATCH BASIN TYPE 1
18	6" PVC SCHED 40, DAYLIGHT TO DITCH
19	PAVEMENT STRIPING
20	GUARDRAIL (ON DWG GC04 PER BNSF STD 0G0003.00)
21	SIGNAGE R8-8 "DO NOT STOP ON TRACKS" (SEE GC04)

CONCEPT REVIEW SUBMITTAL - NOT FOR BID OR CONSTRUCTION

CONSULTANT	DATE
DESIGNED BY J B BRENDEN	12-8-14
ENTERED BY J B BRENDEN	12-8-14
CHECKED BY G K ROE	
PROJ. MGR. J B BRENDEN	

ISSUE				BNSF APPROVALS		
NO.	DATE	BY	DESCRIPTION	DEPARTMENT	SIGNATURE	DATE

HNTB Corporation
600 108th Avenue NE, Suite 500
Bellevue, Washington 98004
Tel (425) 455-3100 Fax (425) 455-8411

BNSF RAILWAY

FINAL DESIGN FOR
CUSTER TO FERNDALE
DOUBLE TRACK PROJECT
CUSTER, WA

GRANDVIEW ROAD (STA 1844+76.68)

DWG NO GC02
SHEET 36 OF 51 SHEETS

Google Earth Pro

feet 1000
meters 400