TR-151714-P

Washington State Department of Transportation

Lynn Peterson
Secretary of Transportation

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August 17, 2015

Mr. Bob Boston
Washington State Utilities and Transportation Commission
Rail Carrier Specialist
1300 S. Evergreen Park Dr. SW
PO Box 47250
Olympia, WA 98504-7250

Re: Side clearance waiver from WAC 480-60-050 (3) for proposed platforms at King Street Station and Freighthouse Square Station

Dear Mr. Boston:

The Washington State Department of Transportation (WSDOT) was awarded an American Recovery and Reinvestment Act grant from the Federal Railroad Administration (FRA) to construct approximately 17 passenger rail improvements along the Pacific Northwest Rail Corridor (PNWRC). Two (2) of these projects, King Street Station Tracks Upgrades and the Tacoma – Point Defiance Bypass, include improvements to the existing tracks and passenger rail platforms at King Street Station in Seattle, WA and Freighthouse Square Station in Tacoma, WA.

The improvements at King Street Station include the construction of a new passenger rail platform adjacent to the existing track 9 within the station. This project also makes improvements to the tracks entering the station by installing new turnouts, lead tracks, signalization, and extension of platform tracks to improve efficient moves in and out of the station. Please see Exhibit A for an overview of the improvements at King Street Station. The improvements at Freighthouse Square Station include the construction a new passenger rail platform adjacent to Mainline 1, extension of the existing passenger rail platform adjacent to Mainline 2, and the installation of an intertrack fence between Mainline 1 and 2 to accommodate the Amtrak long distance service, the Coast Starlight. This platform extension will primarily be an elevated platform, constructed as part of the Sound Transit Tacoma Trestle Replacement project. The Freighthouse Square Station improvements also include constructing a new passenger rail station within a location in Freighthouse Square, track reconstruction, new turnout installation, and upgrades to the signaling system. Please see Exhibit B for an overview of the improvements at Freighthouse Square.

FRA and WSDOT have entered into a cooperative agreement for the implementation of the PNWRC program. This cooperative agreement requires the funds allocated to be utilized in a manner consistent with the requirements of the Americans with Disabilities Act (ADA). In support of this requirement, FRA determined the projects requiring passenger rail platform improvements shall be governed by the Code of Federal Regulation (CFR) 49, Parts 37 and 38. More specifically, this CFR states that

"individuals with disabilities, including individuals who use wheelchairs, must have access to all accessible cars available to passengers without disabilities in each train using the station". Accomplishing this requirement entails the height of platform and the door height of the passenger car be aligned so that a passenger using a wheelchair can seamlessly move from one to the other. In the case of both stations, multiple train consists of different car geometry will be utilizing the platforms. 49 CFR Parts 37 and 38 acknowledge this scenario and states that level boarding requirements still exist. For this situation, the proposed platforms would be constructed to the passenger train consist with the lowest floor elevation. In the case of the PNWRC program, the Coast Starlight has the lowest floor elevation at 15" above top of rail (ATR). Offset of the platform face from centerline of track is also governed by 49 CFR Parts 37 and 38. It states that "level-entry boarding means a boarding platform design in which the horizontal gap between a car at rest and the platform is no more than 10 inches on tangent track and 13 inches on curves…". Please see Exhibit C for the complete narrative of 49 CFR Parts 37 and 38. The design guidelines from BNSF, Sound Transit, and Amtrak all include an offset of the face of platform from the centerline of track at 5'-4", which would all result in a horizontal gap of less than 10" on tangent track and less than 13" on curved track.

Washington Administrative Code (WAC) 480-60-050(3) states that a passenger rail platform constructed between 8" and 4'-0" ATR must have a minimum face of platform constructed at 7'-3" from centerline of track. If a passenger rail platform were to be constructed at 15" ATR and 7'-3" from centerline of track, meeting the requirements of the WAC, the result would be an approximate 2' horizontal gap between the platform and door of a passenger rail consist. Please see Exhibit D for an illustration of the Amtrak Coast Starlight Superliner consist that demonstrates the differences between CFR 49 and WAC 480-60. Please see Exhibit E for the complete narrative on WAC 480-60-050 Side Clearances. The Freighthouse Square Station will also install an intertrack fence between Mainline 1 and Mainline 2 at a distance of 7'-1" from centerline of track. This intertrack fence is to deter pedestrians from accessing the mainline platforms other than from those locations identified as a pedestrian crossing. The railroad mainlines at this location could be reconstructed to allow for a intertrack fence constructed at 8'-6" per WAC 480-60-050; however, both the Freighthouse Square improvements and the Sound Transit Tacoma Trestle Replacement improvements would experience significant delays to redesign based on a new rail alignment. Furthermore, additional right of way funds would be necessary to acquire property to construct the improvements. All of which would greatly increase the risk of the PNWRC Program not completing the projects within the allowable funding and schedule as required in the FRA/WSDOT cooperative agreement.

The Tacoma – Point Defiance Bypass alignment does support existing freight services provided by both BNSF Railway and Tacoma Rail. BNSF Railway currently services Joint Base Lewis-McChord (JBLM) on an as needed basis, accessing and departing from the military base through Nisqually, WA. WSDOT requested BNSF Railway evaluate the effect of a military train movement through the Freighthouse Square Station tracks in the event a military train would need to access JBLM through Tacoma, WA. BNSF Railway completed this effort by utilizing the Department of Defense MIL-STD-1366E standard plate. Please see the attached Exhibit F for details on the dimensions for this piece of rolling stock. Exhibit G illustrates the analysis BNSF Railway completed by imposing the MIL-STD-1366E standard

plate on a platform of 8" ATR and 15" ATR with both having a face of platform at 5'-4" from centerline of track. In both scenario's, this piece of military rolling stock would be able to pass by the platform. BNSF also provided analysis of their typical rolling stock and maintenance of way equipment. Exhibit H provides illustration of the various BNSF consists and their relation to a 15" ATR with face of platform at 5'-4". Additionally, Tacoma Rail utilizes this portion of the Tacoma – Point Defiance Bypass alignment designated as their Mountain Division. The Mountain Division has approximately 14 customers, most of which reside in the Fredrickson, WA vicinity. Tacoma Rail was also requested to evaluate their typical freight and maintenance of way consists against a passenger rail platform constructed at 15" ATR with a face of platform offset of 5'-4" from centerline of track. Both BNSF Railway and Tacoma Rail have provided their concurrence to the proposed platform design of 15" ATR and a 5'-4" face of platform offset. Their respective concurrence emails are included in Exhibit I. The improvements to the King Street Station tracks only pertain to passenger train consists. No freight movements will occur through the stations existing or proposed passenger rail platforms.

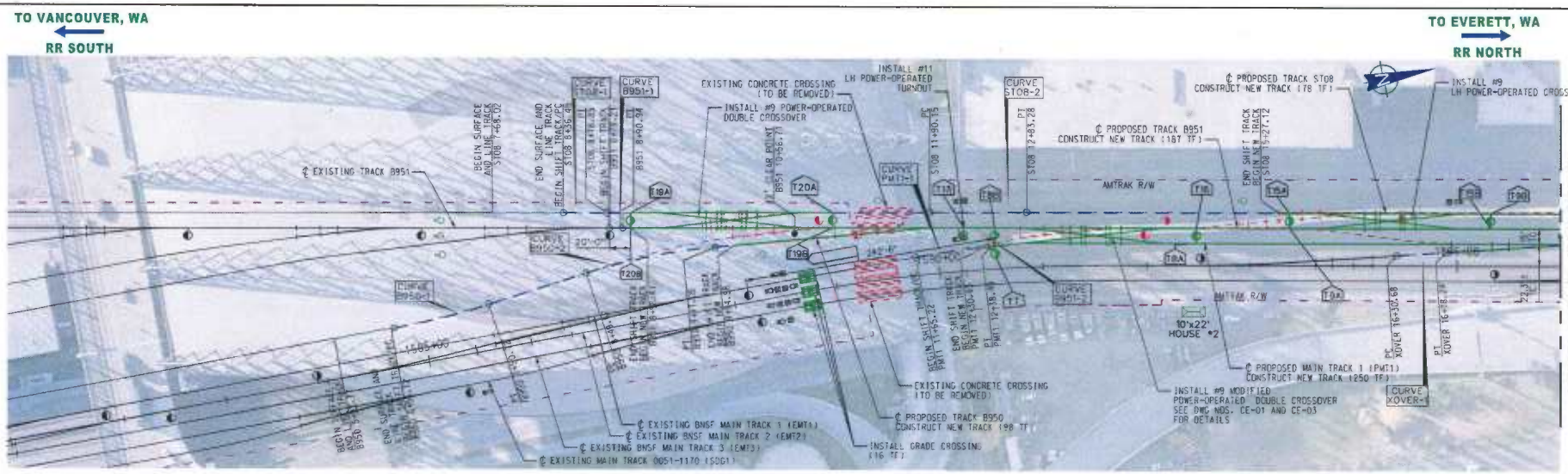
In addition to the freight railroad operators on the corridor, the alignment currently supports the Sound Transit Sounder service and will support the Amtrak Cascades and Coast Starlight services. WSDOT requested both Sound Transit and Amtrak to evaluate the proposed platform design of 15" ATR and a 5'-4" face of platform offset. Both of the aforementioned stakeholders provided their concurrence to the proposed platform design and their concurrence memorandums are included in Exhibit J.

WSDOT respectfully submits to the WUTC this waiver to WAC 480-60-050(3) for consideration and approval of new passenger rail platforms constructed at 15" ATR with a face of platform at 5'-4" from centerline of track to support the passenger rail consists that will dwell at both King Street Station and Freighthouse Square Station and a intertrack fence constructed at Freighthouse Square Station 7'-1" from centerline of track. Constructing the proposed platforms to the aforementioned design criteria will place WSDOT in compliance with 49 CFR Parts 37 and 38 and within the guidelines of ADA.

Thank you for your consideration and please feel free to contact me at (360)905-1578 or Tom Slimak at (360)705-7339 with any questions.

Respectfully,

Casey Liles, MSCE, PE
WSDOT Rail Division
Point Defiance Bypass Project Manager



PLAN

LEGEND:

- EXISTING TRACK
- PROPOSED TRACK
- SHIFT TRACK (EXISTING LOCATION)
- SHIFTED TRACK (PROPOSED LOCATION)
- REMOVE TRACK
- SURFACE AND LINE TRACK
- EXISTING STATION PLATFORM
- PROPOSED STATION PLATFORM

50' 0 50' 100'
GRAPHIC SCALE: HORIZ. 1" = 50'

NOTES:

1. REMOVE AND REPLACE EXISTING CROSSOVER WITH NEW TURNOUTS T20A AND T20B. SHIFT EXISTING TRACK TO JOIN NEW CROSSOVER LOCATION.
2. SIGNAL LOCATIONS SHOWN ARE APPROXIMATE. SEE SIGNAL DRAWINGS FOR SIGNAL LAYOUT.

AMTRAK KING STREET STATION TURNOUT TABLE

Turnout Designation	TO Number	TO Direction	Northing	Easting	PS Stationing	PITO Stationing
T19A	#9	RH	219424.66	1270942.89	STO8 9+01.25	STO8 9+31.42
T20B	#9	LH	219421.62	1270957.58	B951 8+58.47	B951 9+28.64
T19B	#9	RH	219612.50	1270997.03	B951 10+93.38	B951 10+63.22
T20A	#9	LH	219615.54	1270982.34	STO8 10+96.17	STO8 10+66.00
T17	#11	LH	219736.47	1271022.66	B951 12+19.93 = B950 12+17.60	B951 11+88.72 = B950 11+86.34
T8B	#9	RH	219765.76	1271028.78	B951 12+49.90	B951 12+80.06
T7	#9	RH	219762.16	1271046.76	PMT1 12+42.49	PMT1 12+72.66
T15A	#9	RH	220047.64	1271072.91	STO8 15+37.66	STO8 15+67.83
T8A	#9	RH	219953.38	1271083.69	PMT1 14+37.41	PMT1 14+07.24
T16	#9	LH	219956.48	1271069.01	B951 14+44.81	B951 14+14.64
T9A	#9	LH	220044.54	1271087.59	B951 15+34.81	B951 15+64.98
T15B	#9	RH	220235.26	1271127.82	B951 17+29.73	B951 16+99.56
T9B	#9	LH	220238.36	1271113.14	STO8 17+32.57	STO8 17+02.41

AMTRAK KING STREET STATION CURVE TABLE

Curve Number	Degree of Curve	Delta	Radius (Feet)	Tangent (Feet)	Length (Feet)	E_a (Inches)	E_u (Inches)	E_d (Inches)	V (mph)
B950-1	8°00'00"	7°31'11"	716.78	47.1	94	1.26	0	1.26	15
B950-2	10°00'00"	12°44'33"	573.69	64.06	127.42	1.57	0	1.57	15
B951-1	0°25'00"	0°03'11"	13751.02	6.37	12.73	0.07	0	0.07	15
B951-2	0°50'00"	0°13'58"	6875.55	13.97	27.94	0.13	0	0.13	15
PMT1-1	6°00'00"	4°23'38"	955.37	36.65	73.23	0.94	0	0.94	15
STO8-1	0°15'00"	0°06'21"	22918.33	21.18	42.37	0.04	0	0.04	15
STO8-2	0°15'00"	0°13'58"	22918.33	46.57	93.13	0.04	0	0.04	15
X-OVER	0°15'00"	0°07'08"	22918.33	23.78	47.56	0.04	0	0.04	15

90% SUBMITTAL
NOT FOR BID OR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	SUB	APP

DESIGNED BY MTO
DRAWN BY MTO
CHECKED BY MAC
APPROVED BY CEB
DATE MAY 26, 2015

Amtrak®
PATTERSON & ASSOCIATES, INC. 725 TOWN & COUNTRY RD SUITE 300 ORANGE, CA 92868
WSDOT
BNSF RAILWAY

NATIONAL RAILROAD PASSENGER CORPORATION
SEATTLE SUBDIVISION MP 2.3X TO SCENIC SUBDIVISION MP 1.7 NORTH OF NORTH PORTAL
KING STREET STATION TRACK IMPROVEMENTS
TRACK PLAN - SHEET 1 OF 2
EMT2 1586+20.77 TO EMT2 1596+00

CONTRACT NO.
DRAWING NO. RP-01
REVISION
SHEET NO.
SCALE AS SHOWN

PROJECT NUMBER | COST ELEMENT | LINE ITEM | CONTRACT DESIGNATION | PHYSICAL ENTITY | WORK ELEMENT
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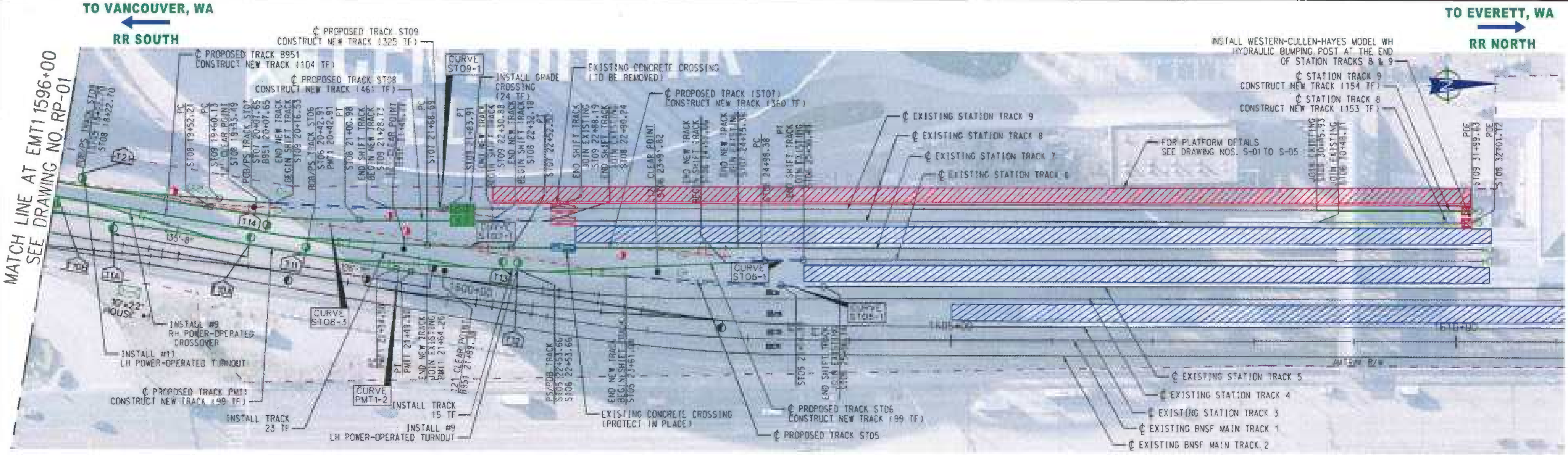

PLAN

GRAPHIC SCALE 50' 0 50' 100' HORIZ. 1" = 50'

LEGEND:

- EXISTING TRACK
- PROPOSED TRACK
- SHIFT TRACK (EXISTING LOCATION)
- SHIFTED TRACK (PROPOSED LOCATION)
- REMOVE TRACK
- SURFACE AND LINE TRACK
- EXISTING STATION PLATFORM
- PROPOSED STATION PLATFORM

NOTES:

1. SIGNAL LOCATIONS SHOWN ARE APPROXIMATE. SEE SIGNAL DRAWINGS FOR SIGNAL LAYOUT.

AMTRAK KING STREET STATION TURNOUT TABLE

Turnout Designation	TO Number	TO Direction	PS Northing	PS Easting	PS Stationing	PITO Stationing
T1A	#15	LH	220358.08	1271169.06	PMT1 18+51.01	PMT1 18+11.04
T21	#11	LH	220326.54	1271131.74	ST09 18+22.70= ST08 18+22.70	ST09 18+53.95= ST08 18+53.95
T10B	#9	RH	220303.19	1271142.15	B951 17+99.15	B951 18+29.32
T10A	#9	RH	220490.81	1271197.05	PMT1 19+86.66	PMT1 19+56.50
T14	#9	LH	220507.20	1271185.18	ST07 20+07.65= B951 20+06.13	ST07 20+37.82= B951 20+36.30
T11	#9	LH	220545.85	1271208.67	ST06 20+42.91= PMT1 20+42.91	ST06 20+73.08= PMT1 20+73.08
T13	#9	RH	220740.17	1271230.91	ST06 22+38.66	ST06 22+08.49
T12	#9	LH	220755.10	1271232.36	ST05 22+53.66= ST06 22+53.66	ST05 22+83.83= ST06 22+83.83

AMTRAK KING STREET STATION CURVE TABLE

Curve Number	Degree of Curve	Delta	Radius (Feet)	Tangent (Feet)	Length (Feet)	E_e (Inches)	E_a (Inches)	E_u (Inches)	V (mph)
ST05-1	8°00'00"	3°20'50"	716.78	20.94	41.84	1.26	0	1.26	15
ST06-1	8°00'00"	3°02'56"	716.78	19.08	38.11	1.26	0	1.26	15
ST07-1	4°00'00"	3°21'12"	1432.69	41.94	83.83	0.63	0	0.63	15
ST08-3	6°30'25"	9°40'49"	881.00	74.60	148.77	1.02	0	1.02	15
ST09-1	2°00'00"	4°28'32"	2864.93	111.95	223.78	0.32	0	0.32	15
PMT1-2	0°57'03"	0°08'33"	6025.57	7.50	15.00	0.15	0	0.15	15

90% SUBMITTAL

NOT FOR BID OR CONSTRUCTION

RP-01

REV	DATE	DESCRIPTION	BY	SUB	APP

Information confidential: all plans, drawings, specifications, and/or information furnished herewith shall remain the property of Amtrak and shall be held confidential and shall not be used for any purpose not provided for in agreements with Amtrak.

DESIGNED BY	MTO
DRAWN BY	MTO
CHECKED BY	MAC
APPROVED BY	CEB
DATE	MAY 28, 2015

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WSDOT

BNSF RAILWAY

PATTERSON & ASSOCIATES, INC. 725 TOWN & COUNTRY RD SUITE 300 ORANGE, CA 92868

NATIONAL RAILROAD PASSENGER CORPORATION
SEATTLE SUBDIVISION MP 2.3X TO SCENIC SUBDIVISION MP 1.7 NORTH OF NORTH PORTAL
KING STREET STATION TRACK IMPROVEMENTS
TRACK PLAN - SHEET 2 OF 2
EMT2 1596+00 TO EMT2 1610+15

CONTRACT NO.	
DRAWING NO.	RP-02
REVISION	SHEET NO.
SCALE	AS SHOWN

PROJECT NUMBER	COST ELEMENT	LINE ITEM	CONTRACT DESIGNATOR	PHYSICAL ENTITY	WORK ELEMENT

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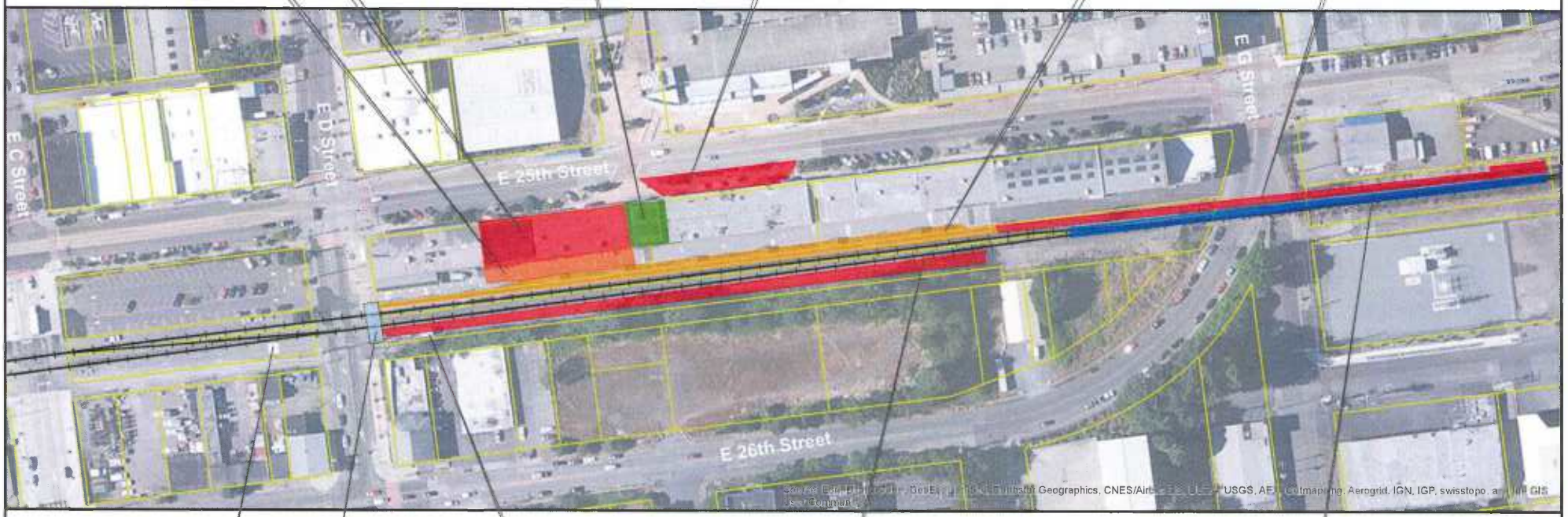

Washington State Department of Transportation

Pacific Northwest High Speed Rail Program - Point Defiance Bypass

Freighthouse Square Right of Way Ownership Map

September 26, 2014

Data Source: Primary Datasources are ArcGIS and Pierce County GIS.

Disclaimer: Information illustrated on this exhibit is approximate and is for discussion purposes only. Not for construction.

Washington State Department of Transportation

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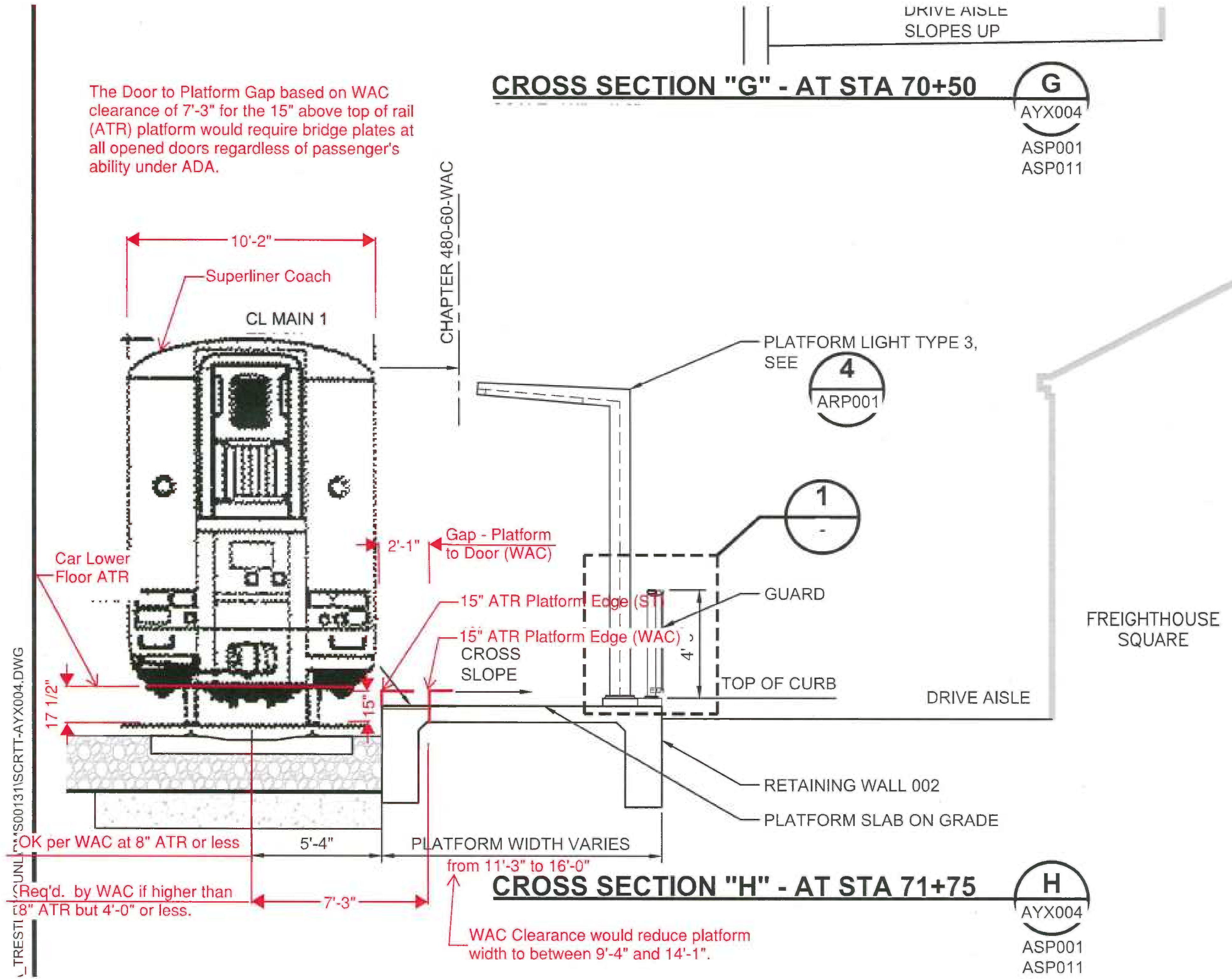


DRIVE AISLE
SLOPES UP
CROSS SECTION "G" - AT STA 70+50
G
AYX004
ASP001
ASP011
The Door to Platform Gap based on WAC clearance of 7'-3" for the 15" above top of rail (ATR) platform would require bridge plates at all opened doors regardless of passenger's ability under ADA.
CHAPTER 480-60-WAC
10'-2"
Superliner Coach
CL MAIN 1
PLATFORM LIGHT TYPE 3, SEE
4
ARP001
1
-
2'-1"
Gap - Platform to Door (WAC)
Car Lower Floor ATR
15" ATR Platform Edge (ST)
15" ATR Platform Edge (WAC)
CROSS SLOPE
GUARD
4'
TOP OF CURB
FREIGHTHOUSE SQUARE
DRIVE AISLE
17 1/2"
15"
RETAINING WALL 002
PLATFORM SLAB ON GRADE
OK per WAC at 8" ATR or less
5'-4"
PLATFORM WIDTH VARIES
from 11'-3" to 16'-0"
Req'd. by WAC if higher than 8" ATR but 4'-0" or less.
7'-3"
CROSS SECTION "H" - AT STA 71+75
H
AYX004
ASP001
ASP011
WAC Clearance would reduce platform width to between 9'-4" and 14'-1".
TRESTL...S00131\SCRTT-AYX004.DWG

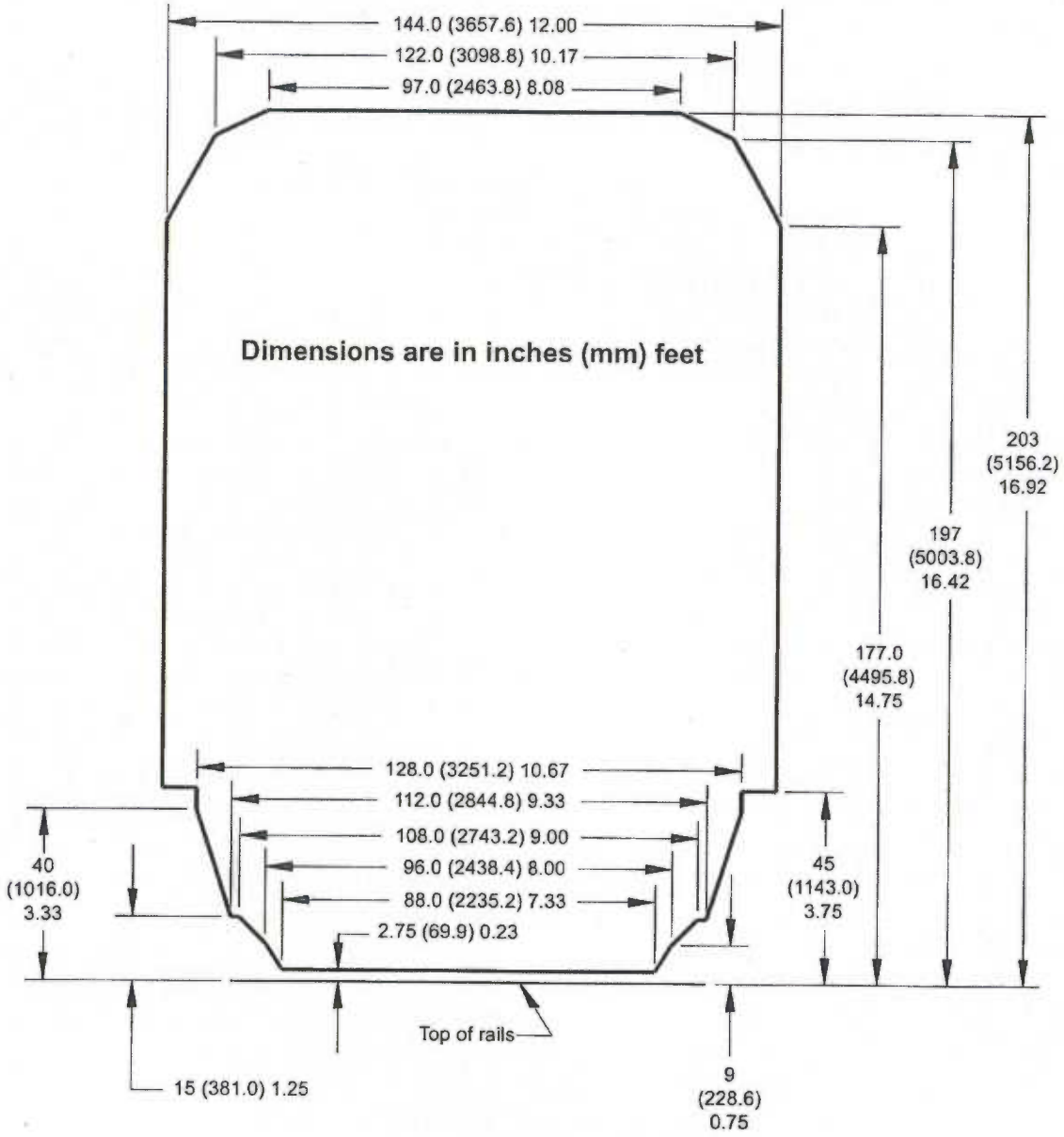
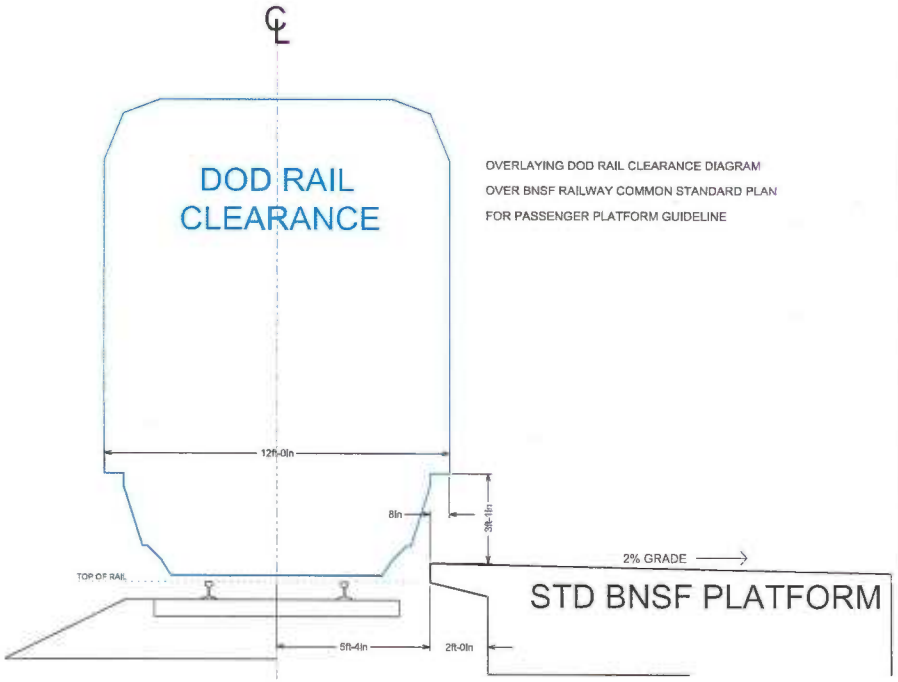
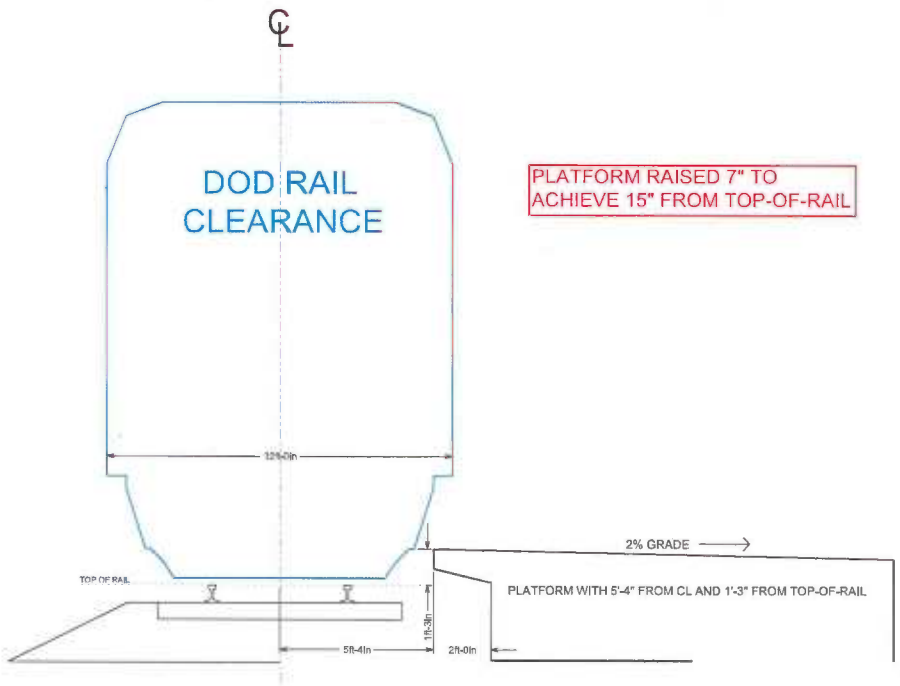


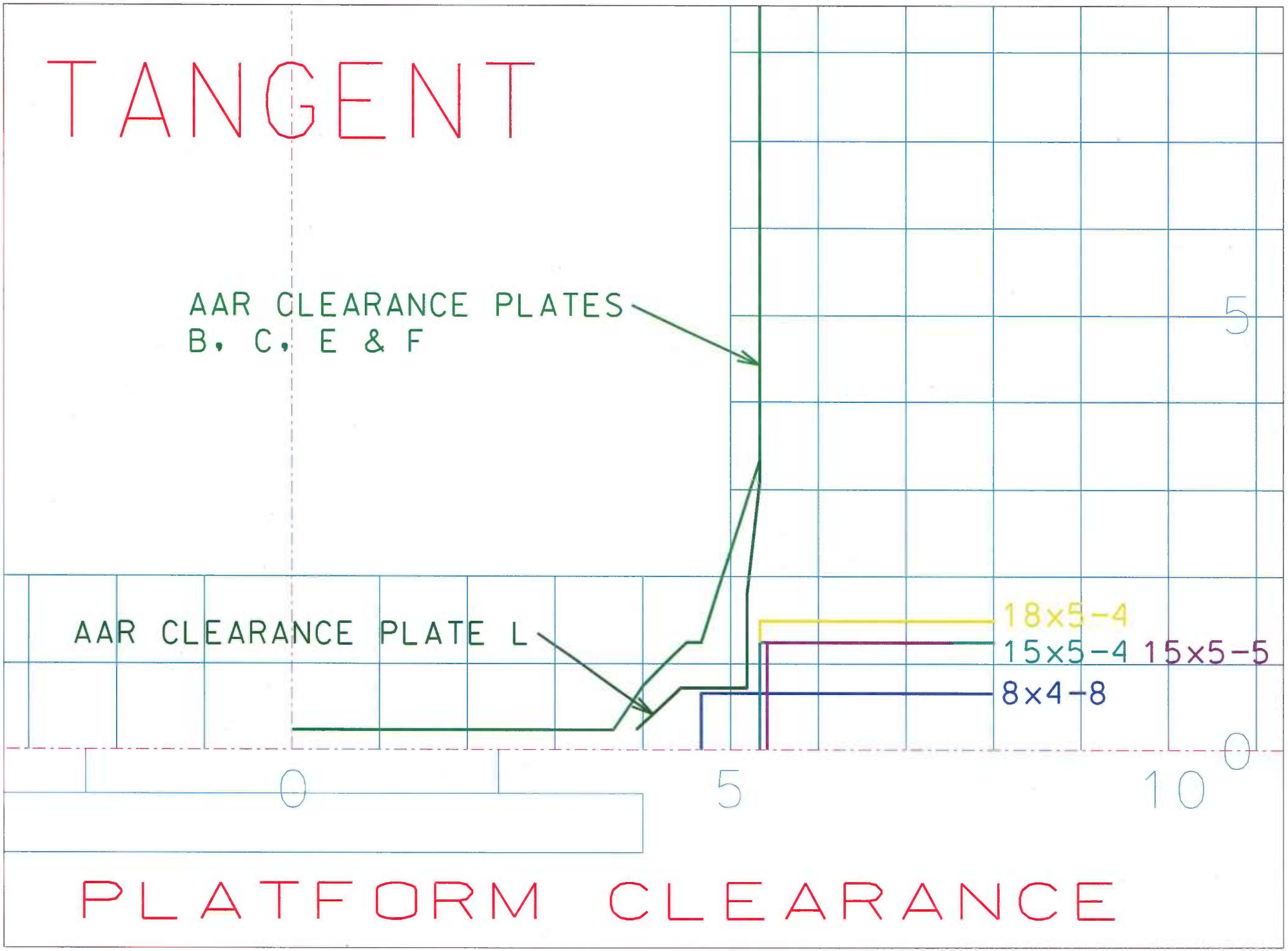
Figure 3. DOD rail clearance diagram.

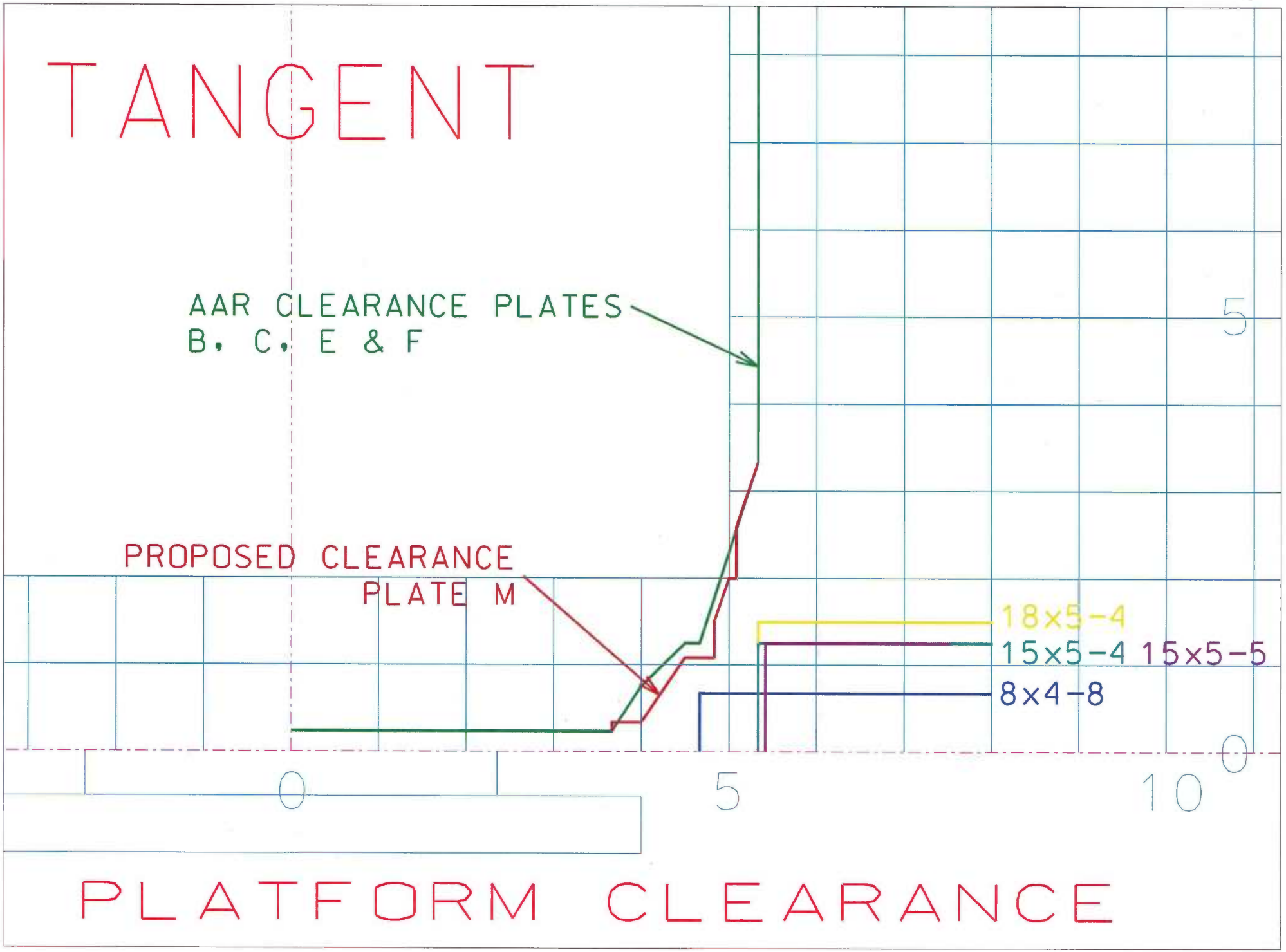


OVERLAYING DOD RAIL CLEARANCE DIAGRAM
OVER BNSF RAILWAY COMMON STANDARD PLAN
FOR PASSENGER PLATFORM GUIDELINE



PLATFORM RAISED 7" TO
ACHIEVE 15" FROM TOP-OF-RAIL


TANGENT
AAR CLEARANCE PLATES
B, C, E & F
AAR CLEARANCE PLATE L
18x5-4
15x5-4
15x5-5
8x4-8
5
0
0
5
10
PLATFORM CLEARANCE


TANGENT
AAR CLEARANCE PLATES
B, C, E & F
PROPOSED CLEARANCE
PLATE M
18x5-4
15x5-4 15x5-5
8x4-8
5
0
0
5
10
PLATFORM CLEARANCE