1. This chain link pipe rail fence meets the requirements for fall protection in accordance with WAC 296-880 and shall not be used for pedestrian applications.

2. This structure has been designed in accordance with the requirements of AASHTO LRFD Bridge Design Specifications 9th Edition 2020, and loading in accordance with WAC 296-880.

3. Supporting structure shall account for the attachments shown here and be designed for fall protection loading in accordance with WAC 296-880 or as specified in the contract.

4. Unless otherwise shown in the plans, concrete cover measured from the face of the concrete to the face of any reinforcing steel shall be 2" (in) min. clearance.

5. Post and Rail elements shall conform to Std. Specifications Section 9-16.1(1)a and shall be schedule 40 (minimum yield strength of 50 KSI). Fittings and hardware shall conform to Std. Specifications Section 9-16.1(1)b. Fittings shall be pressed steel.

6. All steel parts shall be hot dip galvanized in accordance with AASHTO M111, M232 or ASTM F2329 after fabrication, unless noted otherwise.

7. All tubes, pipes, and hardware shall be shop painted or powder coated after galvanizing in accordance with Standard Specifications Section 6-07.3(1). The color of the finish coat, when dry, shall match the color SAE AMS Standard color No. 20045 or as specified in the contract. After installation, any surfaces with paint or powder coating damage shall be repaired in accordance with Standard Specification Section 6-07.3(10)p or Section 6-07.3(11)86, respectively.

8. The chain link pipe rail fence shall be placed outside the roadway design clear zone or shielded by a traffic barrier and placed outside the deflection distance of the traffic barrier. For traffic barrier having no deflection distance, the fence shall be placed a minimum horizontal distance of 3 feet - 6 inches as measured from the top front face of the barrier.

**NOTES**

**KEY NOTES**

- (2’ - 0” min. splice when required) Stagger splice 4’ - 0” horizontal between adjacent rebar.
- Steel sleeve may be omitted if hole is cored. Cored holes shall be 3” (in) diameter and walls roughened. It is structurally acceptable to core through top transverse ties.

**TYPICAL ELEVATION**

(Installed on Reinforced Concrete Structure)

**DETAIL**

1. TYPICAL ELEVATION

2. POST & STRUCTURE

3. BOTTOM RAIL ~ TYPICAL

4. TOP RAIL ~ TYPICAL

5. STEEL CAP ~ TYPICAL

6. DRILL & TAP FOR 1/4” (IN) DIAMETER SET SCREW

7. 1 5/8” (IN) DIAMETER PIPE (SEE DETAIL THIS SHEET)

8. 1/2” (TYP.) DIAMETER HOLE THROUGH RAIL END AND PIPE FOR 3/8” (IN) DIAMETER BOLT (TYPICAL)

9. 3/8” (IN) DIAMETER BOLT (TYPICAL)

10.pees Steel cap exciting to top of structure

11. BACK OF STRUCTURE FINISH GROUND LINE

12. 2’ - 0” MIN.

13. STRUCTURE REINFORCEMENT (SEE NOTE 3)

14. SECTION A

15. POST & STRUCTURE

16. BOTTOM RAIL

17. TOP RAIL

18. 1/4” (IN) DIAMETER DRAIN HOLE

19. TOP OF STRUCTURE

20. FRONT FACE OF STRUCTURE

21. SEE TYPICAL POST AND SLEEVE DETAIL

22. SEE DETAIL THIS SHEET

23. PRESS STEEL RAIL END CAP — TYPICAL

24. PRESS STEEL RAIL END CAP — TYPICAL

25. 2 3/8” (IN) DIAMETER PIPE

26. 2 3/8” (IN) DIAMETER PIPE (SEE DETAIL THIS SHEET)

27. 3/8” (IN) DIAMETER BOLT (TYPICAL)

28. 1/2” (TYP.) DIAMETER HOLE THROUGH RAIL END AND PIPE FOR 3/8” (IN) DIAMETER BOLT (TYPICAL)

29. 1 5/8” (IN) DIAMETER PIPE - TYPICAL

30. STEEL BRACE BANDS (SEE DETAIL THIS SHEET)

31. 1” (IN) MIN. EMBEDMENT OF 1 5/8” (IN) DIAMETER PIPE INTO STEEL RAIL ENDS — TYPICAL

32. 3/8” (IN) DIAMETER BOLT (TYPICAL)

33. 1/2” (TYP.) DIAM. HOLE THROUGH RAIL END AND PIPE FOR 3/8” (IN) DIAMETER BOLT (TYPICAL)

34. 1/2” (TYP.) DIAMETER HOLE FOR 3/8” (IN) DIAMETER BOLT (TYPICAL)

35. 1/8” (IN) x 1” (IN) STEEL STRAP BRACE BAND

36. 2 3/8” (IN) DIAMETER PIPE

37. BRACE BAND DETAIL

38. 1/2” (IN) DIAMETER HOLE FOR 3/8” (IN) DIAMETER BOLT (TYP.)
REINFORCING STEEL BENDING DIAGRAM
SEE STD. SPEC. 9-07.12(2) FOR BENDING DIAM.

135° HOOK - TYPICAL
120°
5"-7-3/4"
135° HOOK

135° HOOK - TYPICAL

120°
7-3/4"
135° HOOK

DETAIL TYPICAL

DETA EL TYPICAL

SEE SHEET 1 FOR RAILING DETAILS NOT SHOWN

5'-0" MAX - TYPICAL
(MEASURED PARALLEL TO TOP OF WALL)

9'-0" MAX - TYPICAL
(VERTICAL CONSTRUCTION JOINT OR END OF FASCIA)

2'-0" MAX - TYPICAL

SEE STANDARD PLAN D-3.10 FOR WALL REINFORCEMENT

2'-0" MIN. LAP SPlice BETWEEN
A. #3 BAR AND WALL REINFORCEMENT - TYPICAL

3" (IN) CLR TO A. #4 AND C. #4 - SPACING @ 1'-0" MAX.
B. #4 TIE - SPACING @ 8" MAX.

TYPICAL ELEVATION
(INSTALLED ON CAST-IN-PLACE PERMANENT GEOSYNTHETIC WALL FASCIA AND FACING PER STANDARD PLAN D-3.10)

1/4" (IN) DIAMETER DRAIN HOLE LOCATE ALONG TOP OF STRUCTURE

SEE STANDARD PLAN D-3.9 AND D-3.10 FOR GEOSYNTHETIC WALL, FASCIA, AND REINFORCEMENT DETAILS

SECTION C

PIPE RAIL
BRIDGE RAILING TYPE
CHAIN LINK

STANDARD PLAN L-5.10-00

SHEET 2 OF 3 SHEETS

APPROVED FOR PUBLICATION
Sep 19, 2022

Mark Gaines (Sep 19, 2022 08:39 PDT)
STATE DESIGN ENGINEER
Washington State Department of Transportation
DETAIL TYPICAL

1 1/4" DIAMETER (1 1/4" (IN) NPS)

2 3/8" DIAMETER (2" (IN) NPS)

SEE SHEET 1 FOR RAILING DETAILS NOT SHOWN

TYPICAL ELEVATION
(INSTALLED IN GROUND)

TOP RAIL (TYPICAL)
BOTTOM RAIL (TYPICAL)
PLUMB (TYPICAL ALL POSTS)

EXISTING GROUND LINE
EXISTING ROCK WALL

TOP OF EXISTING SHOULDER

1/4" DIAMETER DRAIN HOLE

CONCRETE CLASS 3,000 FOR POST BASE = TYPICAL

SECTION B

BRIDGE RAILING TYPE
CHAIN LINK PIPE RAIL
STANDARD PLAN L-5.10-00

SECTION SHEET 3 OF 3 SHEETS
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