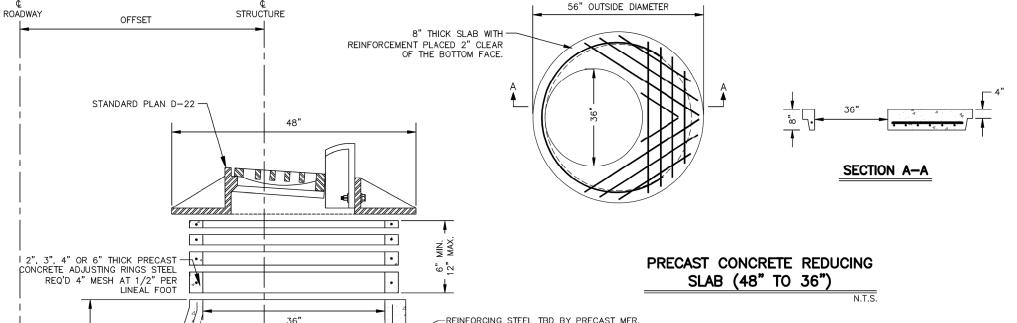


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## MANHOLE STEP NOTES:

- 1. MEET CURRENT OSHA STANDARDS FOR STEPS AND ACCESS OPENINGS
- 2. PLACE STEPS 12" O.C. ON AN UNOBSTRUCTED SIDE OF THE STRUCTURE. 18" MAXIMUM FROM MANHOLE BASE. IF UNOBSTRUCTED SIDE NOT AVAILABLE, PLACE BOTTOM STEP 6" OVER SMALLEST PIPE. WHEN USING A CONE, FIRST LADDER RUNG IS 8" MAXIMUM FROM TOP OF CONE. WHEN USING A FLAT LID, FIRST LADDER RUNG IS 4" MAXIMUM FROM TOP
- 3. PROVIDE INJECTION MOLDED POLYPROPYLENE COVERED GRADE 60 STEEL STEPS TIGHTLY IMBEDDED AT LEAST 3" INTO CONCRETE.
- 4. INSTALL STEPS TO RESIST A PULLOUT FORCE OF 1500 LB.
- 5. THE MINIMUM DIAMETER OF CLEAR ACCESS TO STEPS IS 24".
- 6. THE CONTRACTOR SHALL TAKE SPECIAL CARE FOR ANY MANHOLE THAT FALLS IN A CURB LINE TO SEE THAT WHEN MANHOLE IS OFFSET DURING INSTALLATION THAT THE STEPS FALL UNDER THE CURB INLET.

## **REDUCING SLAB NOTES:**

- SPACE ALL REBAR AT 6" CENTERS UNLESS OTHERWISE NOTED.
- 2. MAINTAIN A MINIMUM OF 1 1/2" OF CONCRETE COVER OVER ALL REBAR.
- REINFORCING STEEL SHOWN IS A MINIMUM PER ASTM C478. PRECAST MFR TO COMPLETE AND SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR ENGINEER'S REVIEW.

## **GENERAL NOTES:**

- 1. THESE DRAWINGS ARE FOR PRECAST REINFORCED CONCRETE FOR HIGHWAY USE. CAST IN PLACE STRUCTURES MAY BE USED AS APPROVED BY THE ENGINEER.
- 2. MEET THE REQUIREMENTS OF ASTM C-478 FOR ALL DRAINAGE STRUCTURES AND APPURTENANCES.
- 3. MINIMUM STEEL REQUIRED FOR BARREL AS PER ASTM C-478 SHALL BE IMBEDDED IN BASE SO THAT THE FIRST BARREL SECTION IS CONNECTED TO THE BASE BY CONTINUOUS STEEL. PROVIDE REINFORCING STEEL TYPE AND GRADE PER DOT&PF STANDARD SPECIFICATIONS.
- 4. USE CLASS A OR CLASS B CONCRETE PER DOT&PF STANDARD SPECIFICATIONS.
- 5. SEAL RISER JOINTS WITH FLEXIBLE PLASTIC JOINT SEALERS.
- 6. PROVIDE NON-SHRINK GROUT. PROTECT GROUT DURING CURE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED METHOD.
- FORM ALL BLOCK—OUTS.
- 8. MANHOLE SHALL HAVE A MINIMUM OF ONE 6" GRADE RING.
- 9. ALL STORM DRAIN MANHOLES AND INLETS SHALL HAVE 18" MINIMUM SUMPS. MANHOLES WITH PETROLEUM SEPARATORS SHALL HAVE 24" MINIMUM SUMPS.
- 10. OFFSET IS MEASURED TO CENTERLINE OF STRUCTURE.
- 11. EXTEND PIPE 2" INTO MANHOLE. SEAL PIPE PENETRATIONS WITH NON-SHRINKABLE GROUT MIXED WITH POTABLE WATER PER MANUFACTURER'S RECOMMENDATIONS.
- 12. CATCH BASIN LEADS SHALL ENTER THE MANHOLE AT LEAST ONE PRIMARY LEAD DIAMETER ABOVE THE TOP OF THE PRIMARY LEAD UNLESS MINIMUM PIPE SLOPES CANNOT BE ACHIEVED.
- 13. MAXIMUM PIPE DIAMETER SHALL NOT EXCEED HALF OF THE STRUCTURE DIAMETER. PRIMARY LEADS MUST BE A MINIMUM OF 135 DEGREES APART.
- 14. USE 72" STORM DRAIN MANHOLE OR LARGER WHEN BOTH CATCH BASIN AND ACCESS FUNCTIONS ARE REQUIRED.
- 15. LIVE LOAD FOR DESIGN OF THE MANHOLE BARRELS, RISERS AND REDUCING SLABS IS AASHTO HL-93 (HS20 AND DESIGN TANDEM AXLE/WHEEL LOADS).
- 16. A FLAT LID WITH A SMALLER OPENING MAY ALSO BE USED IF CALLED FOR IN THE PLANS.

State of Alaska DOT&PF ALASKA STANDARD PLAN

48" STORM DRAIN MANHOLE (PRECAST CONCRETE)

TYPE I MANHOLE

Adopted as an Alaska Standard Plan by:

> Lauren Little, P.E. Interim Chief Engineer

Adoption Date: 01/29/2024

Last Code and Stds. Review By: BMM Date: 12/13/2023

Next Code and Standards Review Date: 12/13/2033

