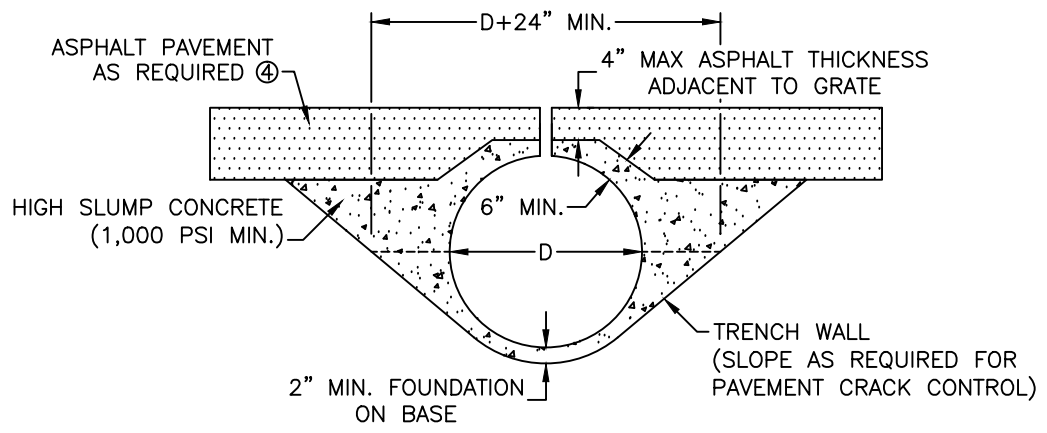


RIGID PAVEMENT

RIGID OR ASPHALT PAVEMENT



ASPHALT PAVEMENT

REQUIREMENTS:

- ① 6" MINIMUM GRATE DEPTH, WITH DOUBLE THE STANDARD WELDING TO PIPE AND ANY PLATE EXTENDERS.
- ② GRATE RECESSED 1/4" MINIMUM BELOW TRAFFIC SOURCE.
- ③ DETAILS APPLY TO AIRCRAFT, OFF HIGHWAY, AND LOADS WHERE TIRE PRESSURES EXCEED 125 PSI. SOME SITE CONDITIONS AND LOADING/DRAIN SIZE COMBINATIONS MAY HAVE ADDITIONAL REQUIREMENTS.
- ④ PAVEMENT AS REQUIRED ELSEWHERE IN THE PROJECT. IF CONCRETE PAVEMENT ELSEWHERE IS REINFORCED, CONTINUE THIS SAME REINFORCEMENT INTO THE SLOTTED DRAIN ZONE. MINIMUM STEEL REINFORCEMENT AS REQUIRED TO MINIMIZE TEMPERATURE CRACKING OF THE CONCRETE IS RECOMMENDED IN THE SLOTTED DRAIN ZONE.

SLOTTED DRAIN INSTALLATION
AIRCRAFT & TYP. OFF ROAD VEHICLES

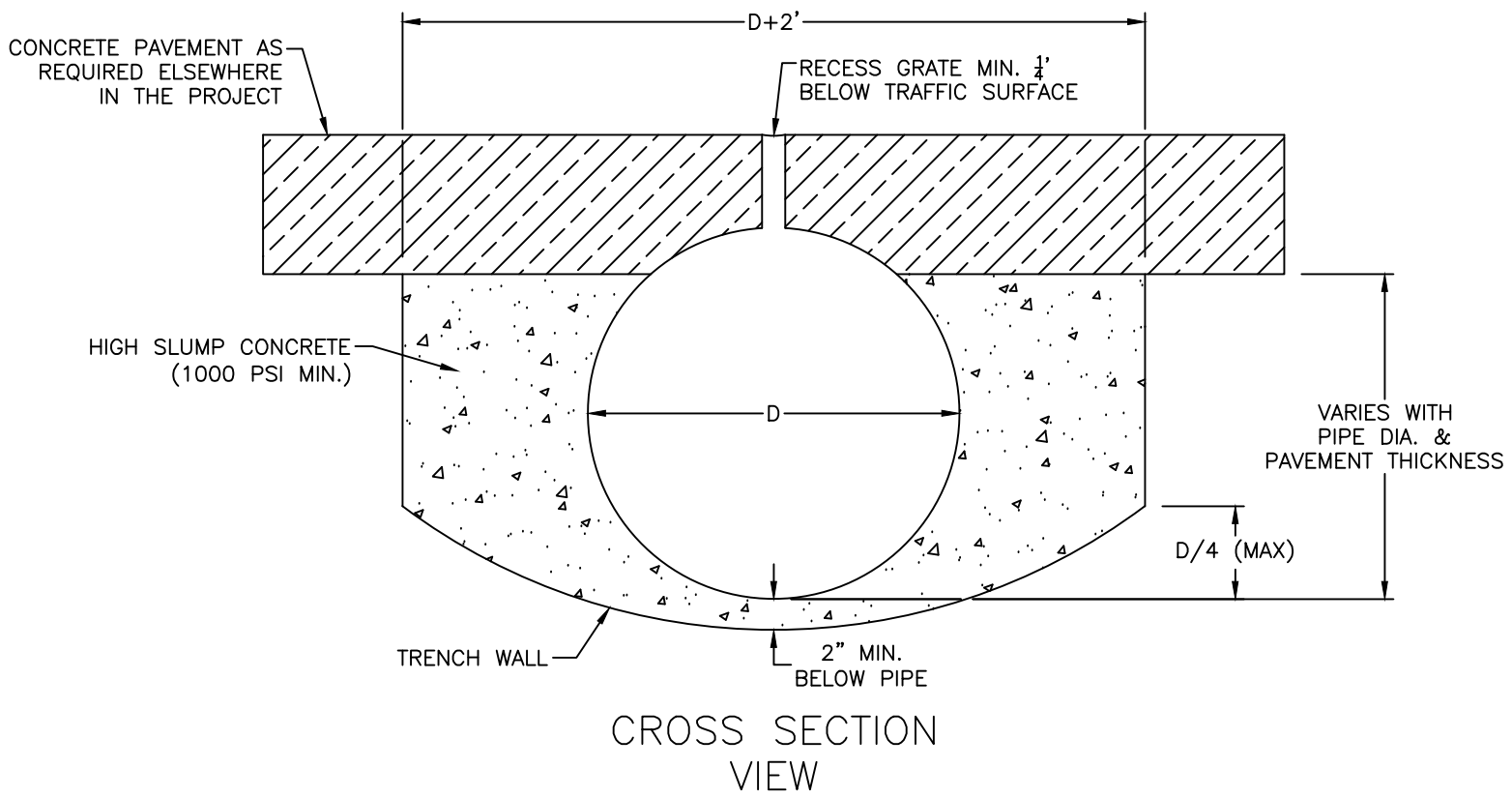
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SLOTTED DRAIN - CSP
AIRPORT - HEAVY WHEEL LOADS
TIRE PRESSURES = OR > 125 PSI

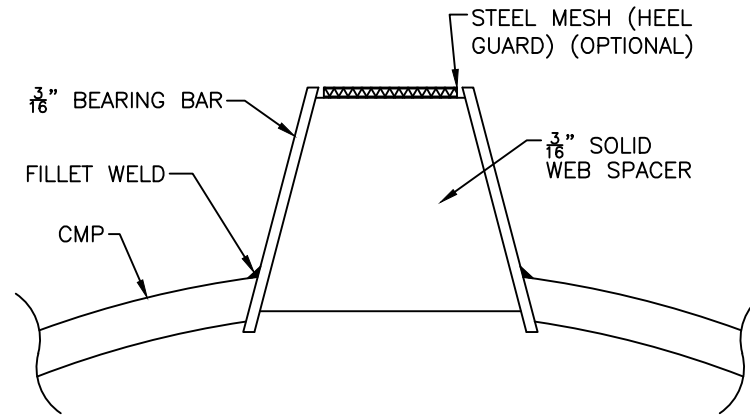
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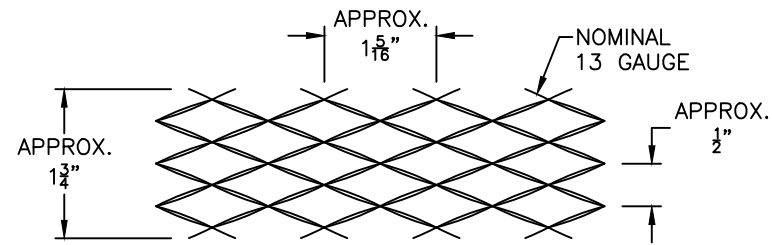
CROSS SECTION VIEW

- ① 6" MINIMUM GRATE DEPTH, WITH DOUBLE THE STANDARD WELDING TO PIPE AND ANY PLATE EXTENDERS.
- ② GRATE RECESSED 1/4" MINIMUM BELOW TRAFFIC SOURCE.
- ③ AIRCRAFT WHEEL LOADS. FIGURE BOEING 747-400 AIRCRAFT AS TYPICAL MAXIMUM LOAD OR TIRE PRESSURES EXCEEDING 125 PSI.
- ④ NO STRUCTURAL REINFORCING STEEL IS SHOWN, HOWEVER, THE USE OF NOMINAL SHRINKAGE (TEMPERATURE) REINFORCEMENT SHOULD BE CONSIDERED IN THE UPPER PORTION OF THE CONCRETE TO REDUCE POTENTIAL FOR SURFACE CRACKS.

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DETAIL WITH MESH



SLOTTED DRAIN MESH DETAIL

SLOTTED DRAIN
MESH DETAIL

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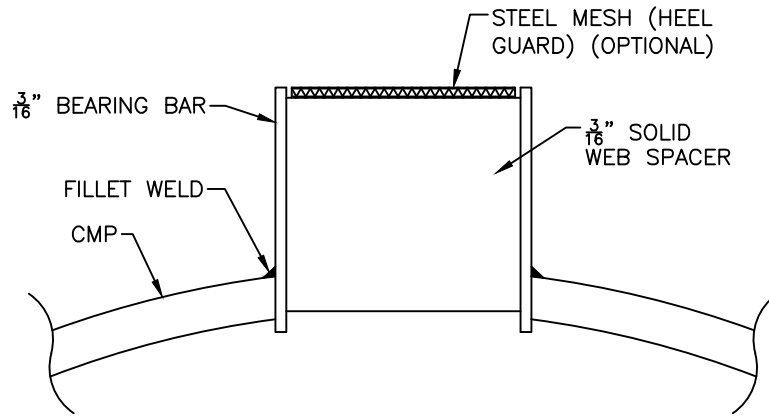
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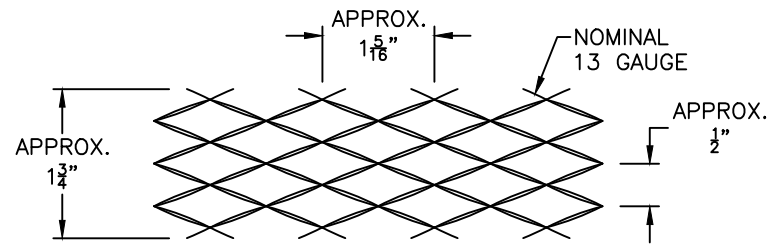
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① ALL DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.



DETAIL WITH MESH



SLOTTED DRAIN MESH DETAIL

SLOTTED DRAIN
MESH DETAIL

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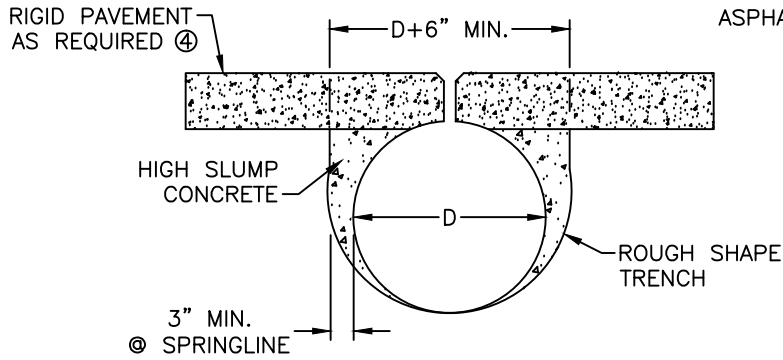
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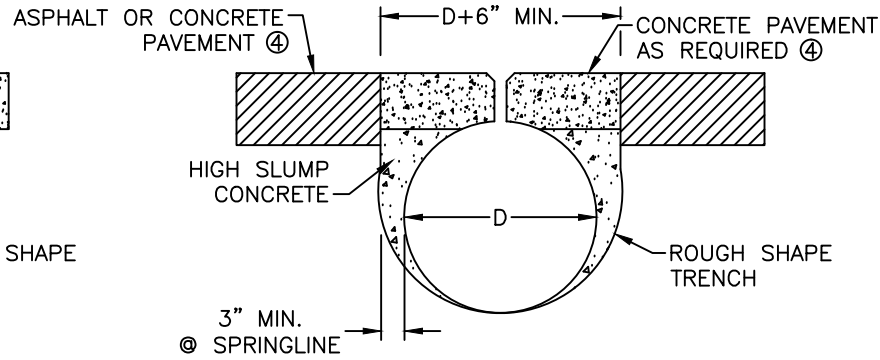
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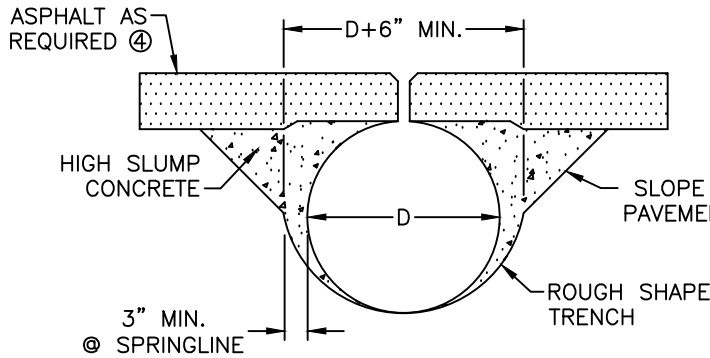
① ALL DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.



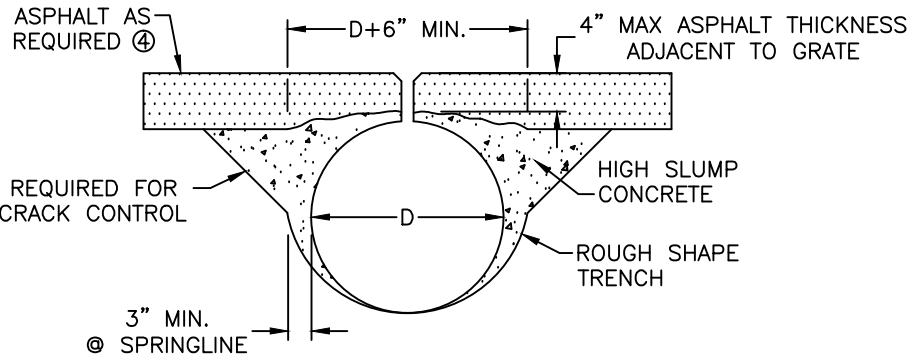
ALL GRATE DEPTHS
RIGID PAVEMENT



$\frac{2\frac{1}{2}}{2}$ " AND DEEPER GRATES
ASPHALT OR RIGID PAVEMENT



$\frac{2\frac{1}{2}}{2}$ " GRATE DEPTH
ASPHALT PAVEMENT



6" AND DEEPER GRATES
ASPHALT PAVEMENT

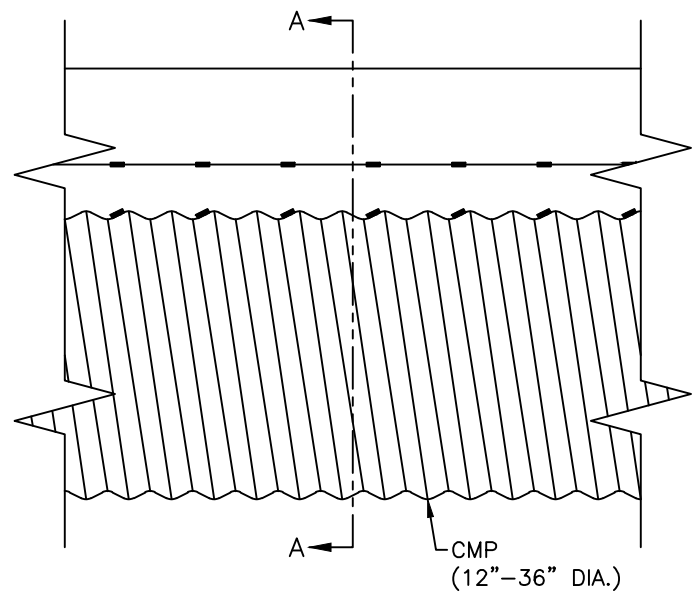
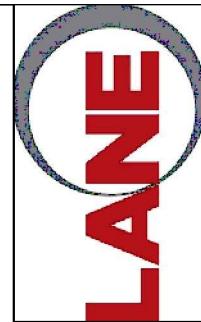
- ① EITHER $2\frac{1}{2}$ " OR 6" DEEP GRATING IS ACCEPTABLE FOR STANDARD HIGHWAY (H10 THROUGH h25) LOADS USING THE GAUGES IN TABLE 1. HIGH SLUMP CONCRETE BACKFILL IS REQUIRED, WITH THE ENVELOPE EXTENDING A MINIMUM OF 3" BEYOND THE SPRINGLINE, AS SHOWN ABOVE. THE SLUMP CONCRETE MUST PROVIDE A MINIMUM 750 PSI COMPRESSIVE STRENGTH.
- ② FOR INSTALLATIONS SUBJECTED TO OCCASIONAL LIGHT VEHICLE (LESS THAN H10) LOADS, SELECT GRANULAR BACKFILL MAY BE USED. HOWEVER, THE DRAIN MUST BE SET IN A TRENCH WIDE ENOUGH TO PROPERLY HAUNCH THE PIPE (TYPICALLY $D + 36$ "). THE GRANULAR BACKFILL MUST BE A CLEAN, NON-PLASTIC, WELL GRADED MATERIAL, COMPACTED TO 95% STANDARD PROCTOR DENSITY.
- ③ DURING INSTALLATION, RECESS THE TOP OF THE GRATE $\frac{1}{4}$ " BELOW THE FINISHED GRADE OF THE PAVEMENT.
- ④ PAVEMENT AS REQUIRED ELSEWHERE IN THE PROJECT. IF CONCRETE PAVEMENT ELSEWHERE IS REINFORCED, CONTINUE THIS SAME REINFORCEMENT INTO THE SLOTTED DRAIN ZONE. MINIMUM STEEL REINFORCEMENT AS REQUIRED TO MINIMIZE TEMPERATURE CRACKING OF THE CONCRETE IS RECOMMENDED IN THE SLOTTED DRAIN ZONE.
- ⑤ HEAVIER WHEEL LOADS DICTATE THE USE OF A MINIMUM 6" DEEP GRATING AND TYPICALLY A LARGER HIGH SLUMP CONCRETE EMBEDMENT ZONE.

SLOTTED DRAIN INSTALLATION
WHIGHWAY WHEEL LOADINGS

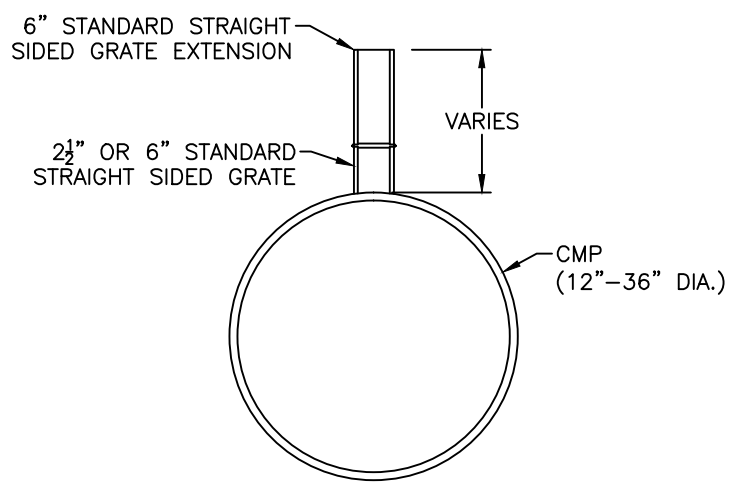
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SIDE VIEW



SECTION A-A

- ① FINISHED ELEVATION IS SET FROM TOP OF GRATE, NOT FROM INVERT OF PIPE.
- ② DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.
- ③ FOR GENERAL REQUIREMENTS, BACKFILL TO THE TOP OF PIPE WITH 1500 PSI GROUT. FOR AIRPORT & HEAVY WHEEL LOADS, 3000 PSI CONCRETE IS REQUIRED.
- ④ ORDER MUST NOTE IF FOR AIRPORT LOADING FOR SPECIAL WELDING & REINFORCEMENT.
- ⑤ ADDITIONAL GRATES MAY BE STACKED FOR INCREASED HEIGHT.

SLOTTED DRAIN STRAIGHT
SLOT GRATE EXTENSION

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TABLE 1 SLOTTED DRAIN
GAUGE REQUIREMENTS FOR
HIGHWAY LOADS

DRAIN DIA. (IN.)	2½" GRATE		6" GRATE	
	ASPHALT PAVEMENT	CONCRETE PAVEMENT	ASPHALT PAVEMENT	CONCRETE PAVEMENT
12	16	16	16	16
15	16	16	16	16
18	14	16	16	16
21	10	12	16	16
24	-	10	16	16
30	②	②	16	16
36	②	②	16	16

- ① INSTALLATION MUST CONFORM TO STANDARD DETAILS USING 750 PSI MINIMUM HIGH SLUMP CONCRETE BACFILL.
- ② REQUIRES REINFORCED CONCRETE PAVEMENT OF A DEEP GRATE.

SLOTTED DRAIN
GAUGE REQUIREMENTS

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