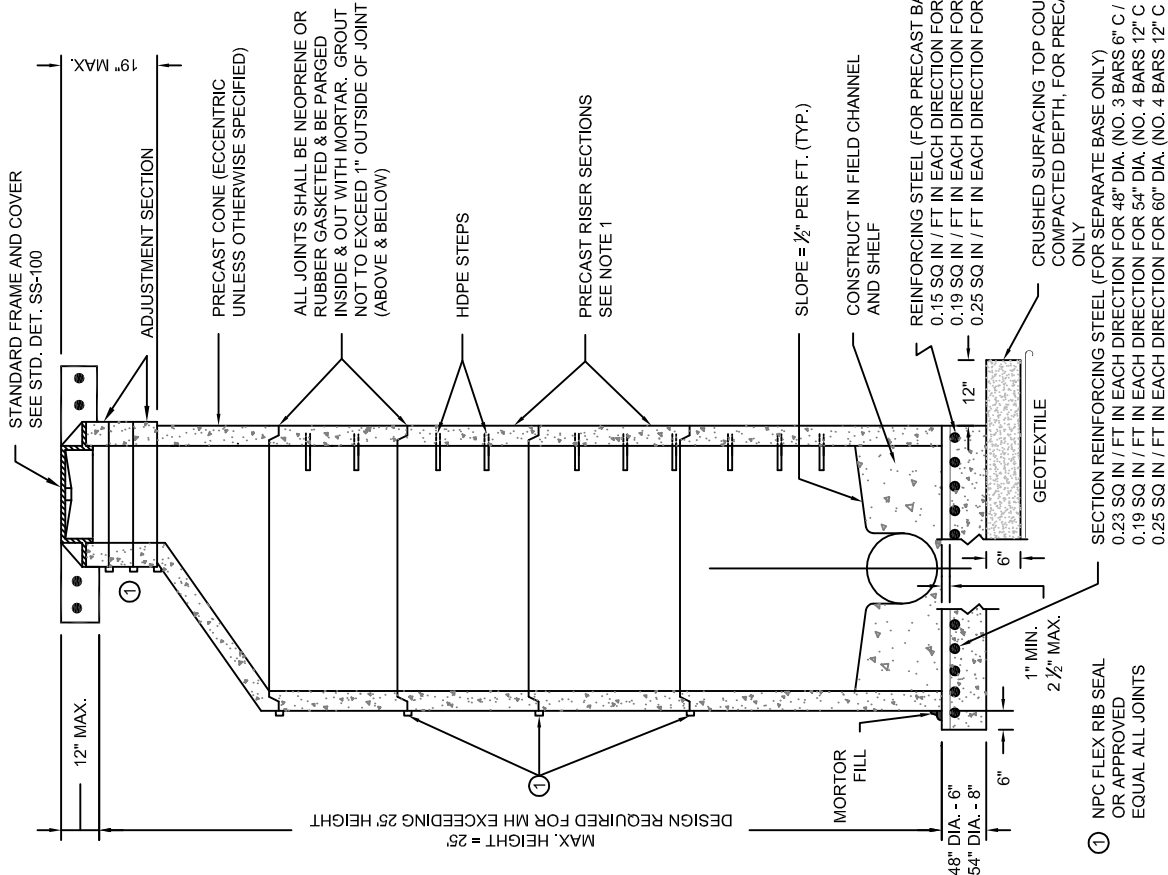


**NOTES:**

1. PRECAST MANHOLES SHALL MEET THE REQUIREMENTS OF ASTM C478. JOINTS SHALL BE NEOPRENE OR RUBBER GASKETED CONFORMING TO ASTM C443. LIFT HOLES SHALL BE GROUTED FROM THE OUTSIDE AND INSIDE OF THE MANHOLE.
2. MANHOLES TO BE CONSTRUCTED IN ACCORDANCE WITH AASHTO M-199 UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN THE STANDARD SPECIFICATIONS.
3. STEPS IN MANHOLE SHALL HAVE 6" MINIMUM CLEARANCE. SEE STANDARD PLAN SS - 140 "MISCELLANEOUS MANHOLE DETAILS".
4. ALL REINFORCED CAST IN PLACE CONCRETE SHALL BE CLASS 4000. NON-REINFORCED CONCRETE IN CHANNEL AND SHELF SHALL BE CLASS 3000. ALL PRECAST CONCRETE SHALL BE CLASS 4000.
5. KOR-N-SEAL ASSEMBLIES OR APPROVED EQUAL REQUIRED FOR ALL CONNECTIONS.
6. MAXIMUM HOLE SIZE IS 38" FOR 48" MANHOLE, 42" FOR 54" MANHOLE. MINIMUM DISTANCE BETWEEN HOLES IS 8".
7. ALL BASE REINFORCING STEEL SHALL HAVE A MINIMUM YIELD STRENGTH OF 60,000 PSI & BE PLACED IN THE UPPER HALF OF THE BASE WITH 1" MINIMUM CLEARANCE.
8. FOR DETAILS SHOWING GRADE RINGS, LADDER, STEPS, HANDHOLDS & TOP SLABS, SEE STANDARD PLAN SS - 140 "MISCELLANEOUS MANHOLE DETAILS".
9. GROUT KOR-N-SEAL BOOTS FLUSH TO MANHOLE.
10. WATER TIGHT MANHOLE INSERT SS - 140 REQUIRED, SEE STANDARD DETAIL SS - 130.
11. ALL JOINTS TO BE GROUTED INSIDE MANHOLE.
12. ALL PIPES TO BE TRIMMED TO A MAXIMUM 1" PENETRATION INTO MANHOLE.
13. FOUNDATION MATERIAL TO BE PLACED AS REQUIRED AND AS DIRECTED BY THE ENGINEER.
14. MANHOLE CASTINGS TO BE WSDOT INSPECTED AND APPROVED.
15. NO STEPS ALLOWED IN CONE SECTION OR ADJUSTMENT SECTION.
16. NO STEPS ALLOWED IN MANHOLES LESS THAN 5' IN DEPTH.
17. GEOTEXTILE SHALL MEET THE REQUIREMENTS OF SECTION 9-33 & AS NOTED IN THE CITY SPECIAL PROVISIONS HEREIN.
18. GROUTING SHALL BE SUFFICIENT TO PREVENT LEAKS BETWEEN THE PRECAST COMPONENTS OF THE COMPLETED STRUCTURE & SHALL BE PERFORMED INSIDE, BETWEEN & OUTSIDE OF ALL RISERS, JOINTS & PIPE PENETRATIONS.

MANHOLE DIMENSION TABLE						
DIA.	WALL THICKNESS	BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS	BASE REINFORCING STEEL in' / ft. IN EACH DIRECTION	
					SEPARATE BASE	INTEGRAL BASE
48"	4"	6"	36"	8"	0.23	0.15
54"	4.5"	8"	42"	8"	0.19	.019
60"	5"	8"	48"	8"	0.25	.025
72"	6"	8"	60"	12"	0.35	0.24
84"	6"	12"	72"	12"	0.39	.029
96"	8"	12"	84"	12"	0.39	0.29



SEPARATE PRECAST BASE  
 CAST IN PLACE BASE WITH INTEGRAL RISER



**SANITARY SEWER MANHOLE**

STANDARD PLAN:  
**SS - 020**  
 DATE: **FEB. 2008**

CITY ENGINEER APPROVAL:  
 Longview: **C.B.**  
 Kelso: **S.Z.**