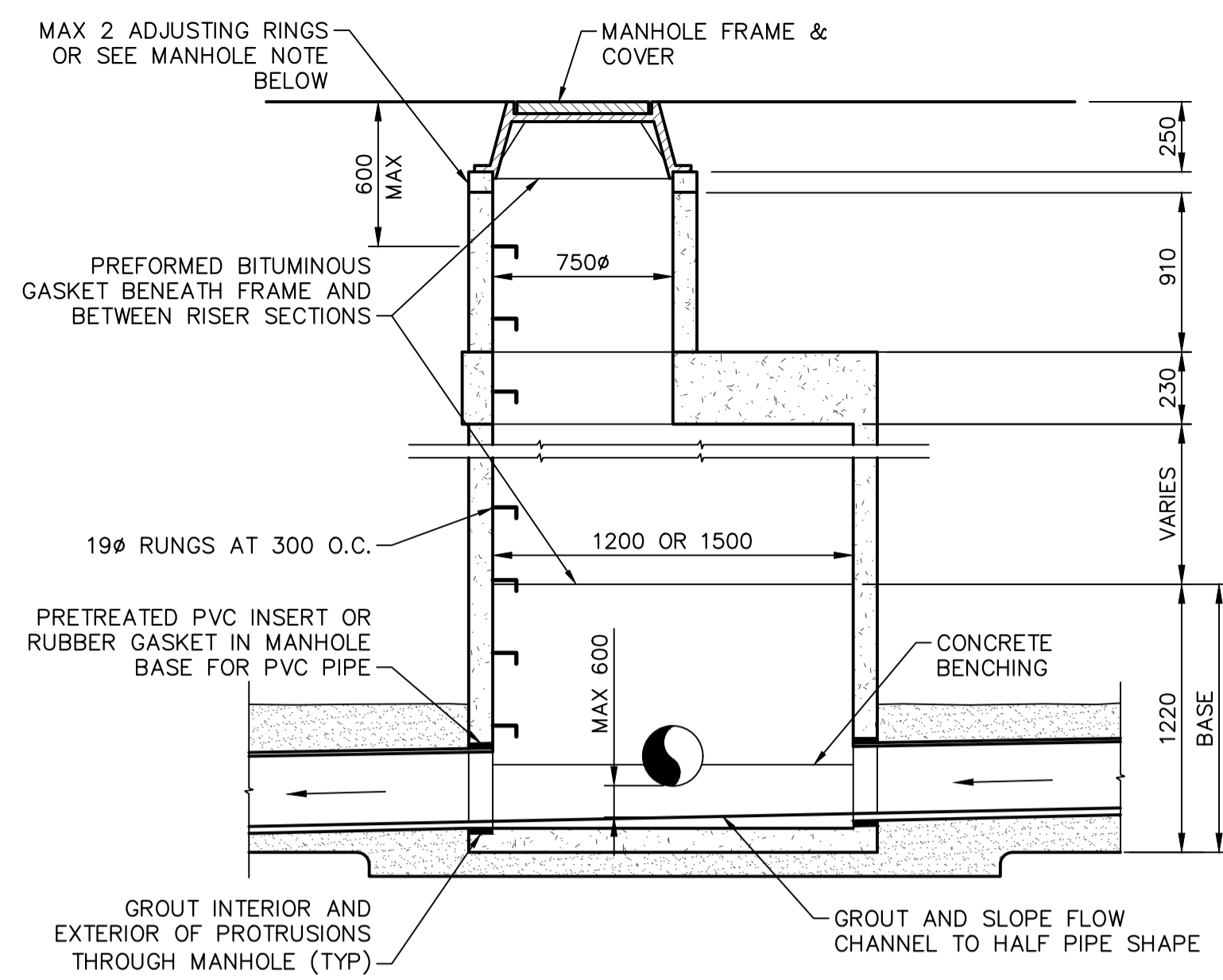


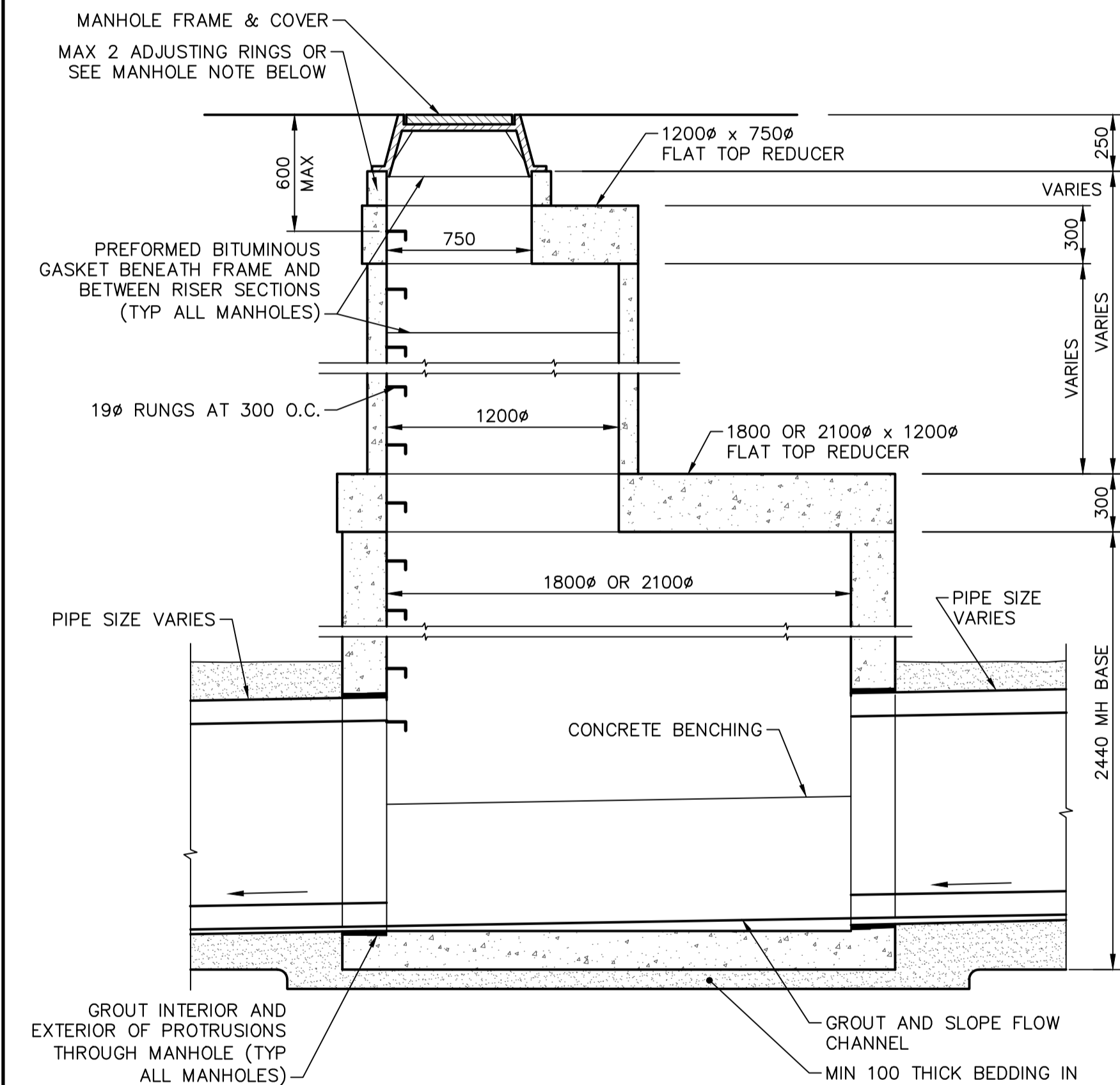
STANDARD MANHOLE DETAIL (1200 & 1500)

SCALE 1:25



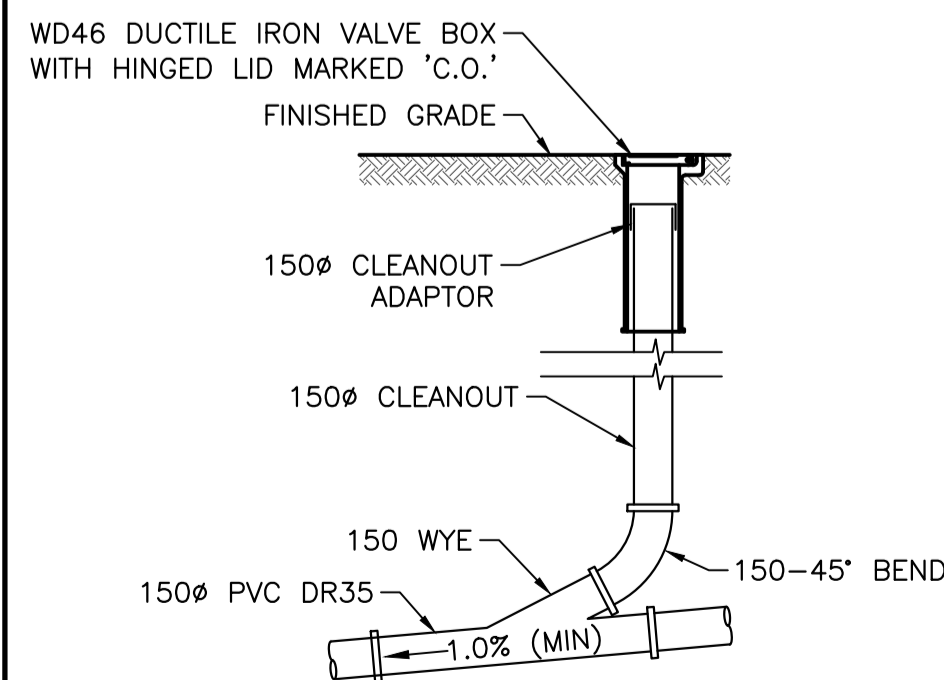
MODIFIED MANHOLE DETAIL (1200 & 1500)

SCALE 1:25



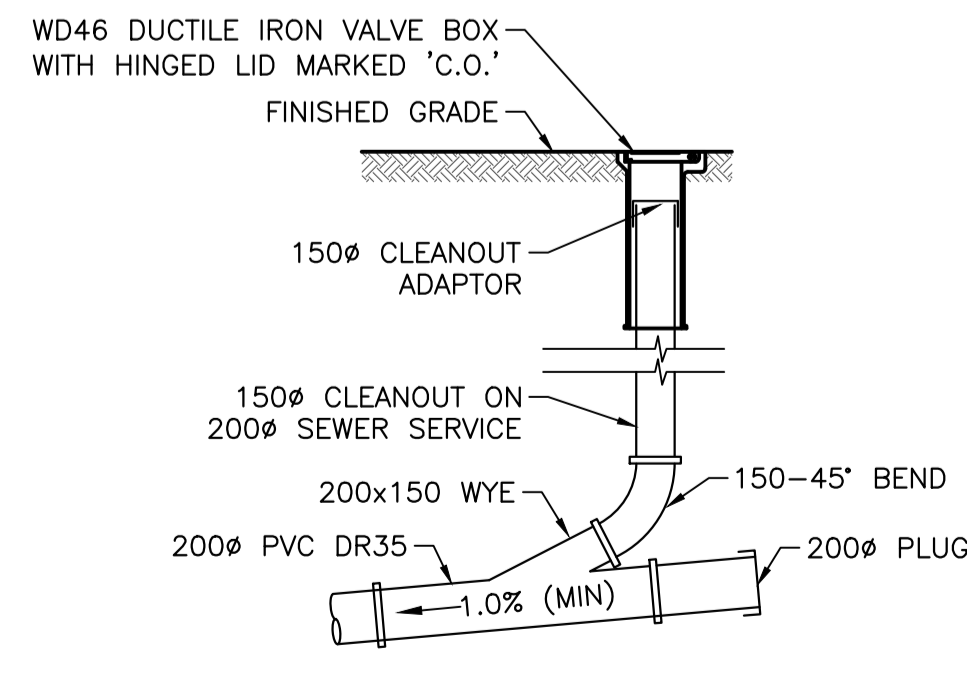
TYPICAL LARGE MANHOLE DETAIL

SCALE 1:25



150 SEWER CLEANOUT DETAIL

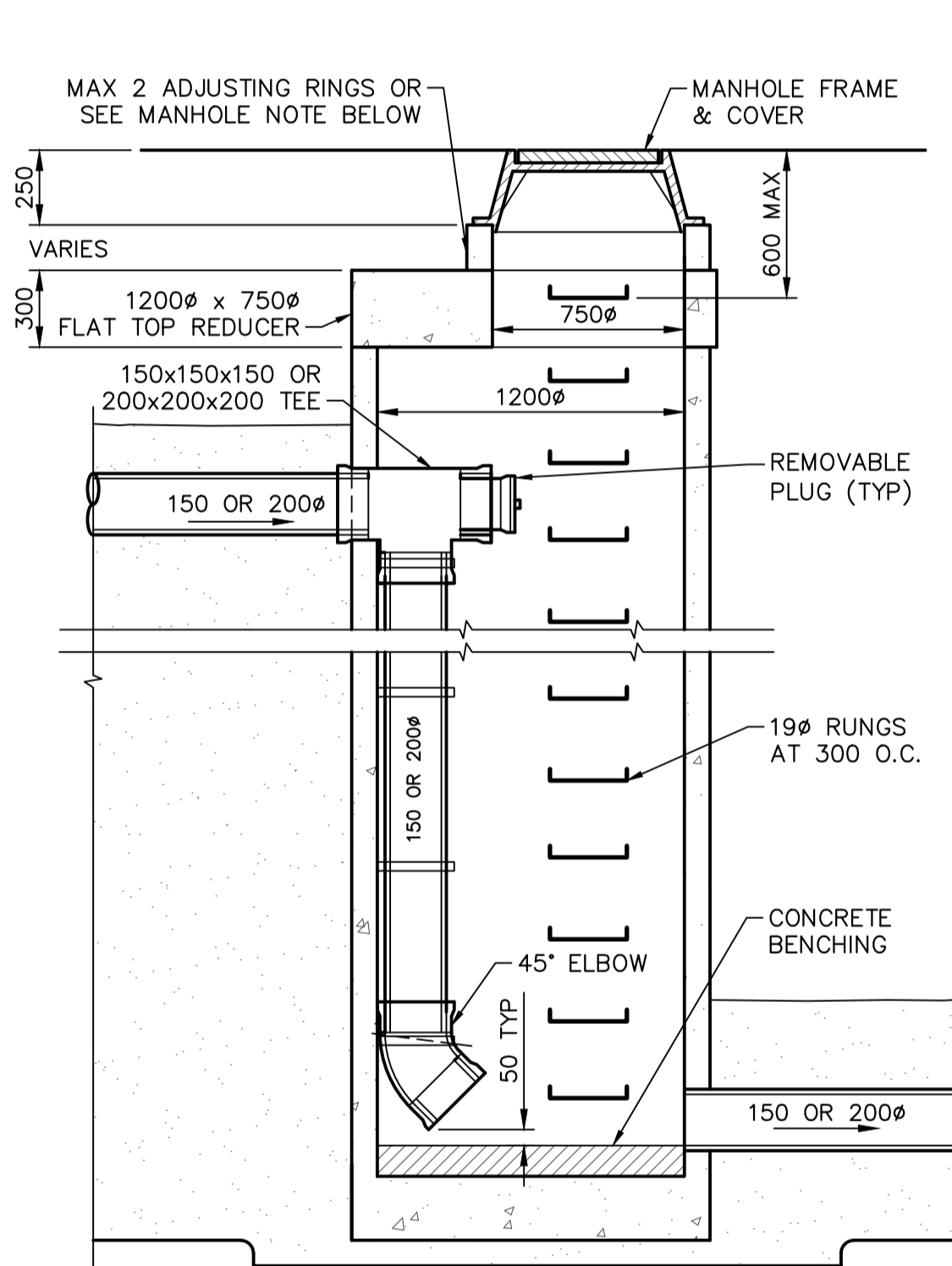
SCALE N.T.S.



200 SEWER CLEANOUT DETAIL

SCALE N.T.S.

FOR INDEX PAGE
SEE DWG 13643

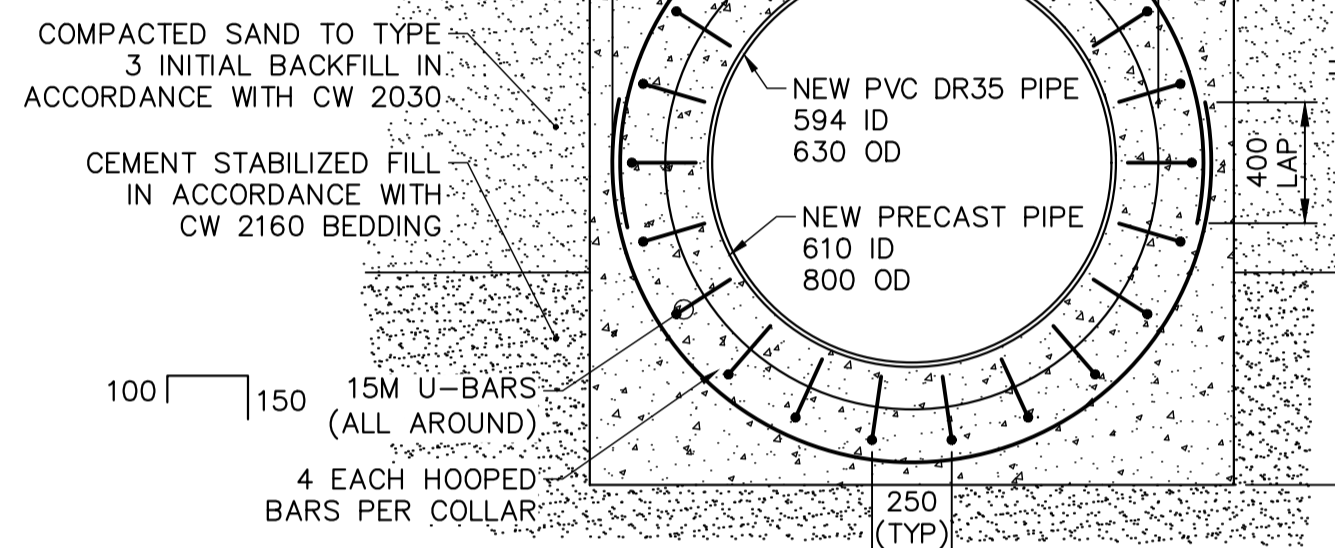
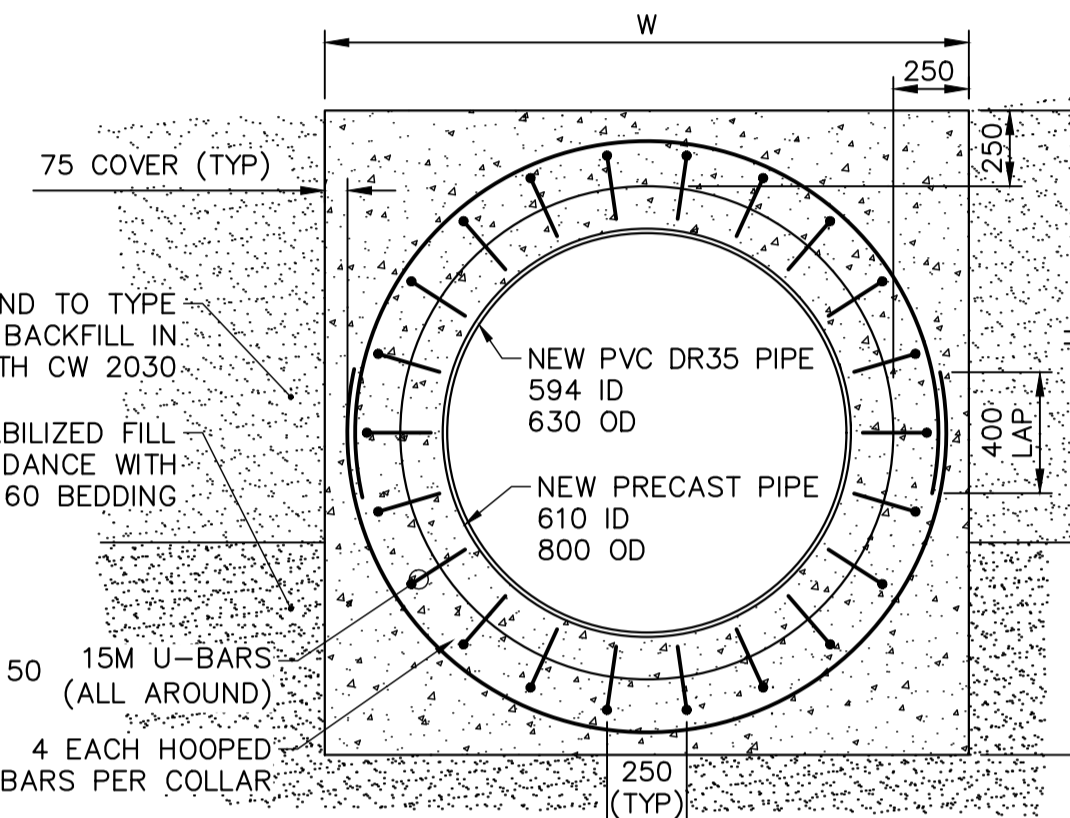
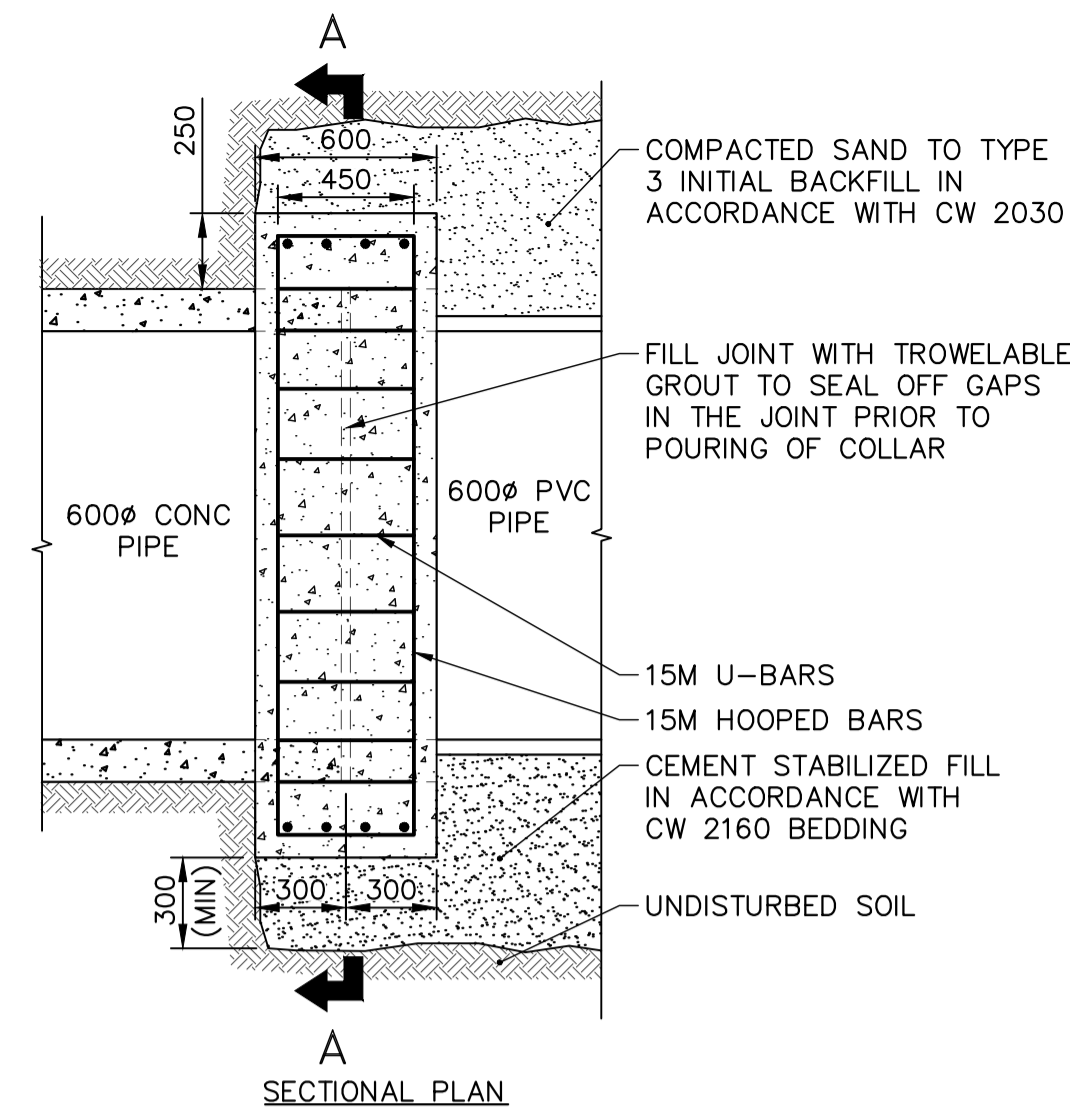


1200 INTERNAL DROP MANHOLE
MH 1-11 & MH 1-32

SCALE 1:25

MANHOLE NOTE:

ALL MANHOLES WITHIN THE PLANNED ROAD RENEWAL ON LEILA AVENUE AND MCGREGOR STREET SHALL HAVE 300mm HIGH 750 DIA. MANHOLE BARREL SECTION AND A 50mm ADJUSTING RING UNDER THE FRAME TO ALLOW FOR RIM ADJUSTMENTS DURING ROAD RENEWAL



DIMENSIONS:
H=LARGER PIPE OD+500
W=LARGER PIPE OD+500

600 CONCRETE COLLAR DETAIL

SCALE N.T.S.

CONCRETE:

1. CONCRETE MATERIALS AND WORKMANSHIP TO BE IN ACCORDANCE WITH CSA A23.1-19. SEE BELOW FOR MIX REQUIREMENTS.
2. ADMIXTURES ARE NOT TO BE USED UNLESS SPECIFIED HEREIN OR APPROVED BY THE DESIGN ENGINEER. CALCIUM CHLORIDE NOT TO BE USED.
3. MIX WATER TO BE POTABLE.
4. DESIGN, FABRICATE AND ERECT FORMWORK/SHORING IN ACCORDANCE WITH CAN/CSA-S269.1-16. ALLOW SUFFICIENT CONCRETE CURING TIME PRIOR TO REMOVAL.
5. CONCRETE FINISHING TO MEET THE REQUIREMENTS OF CSA A23.1-19.
6. FORM RELEASE AGENT TO BE BIODEGRADABLE, NON-STAINING AND NON-VOLATILE.
7. PROVIDE ADEQUATE COLD/HOT WEATHER PROTECTION AS REQUIRED DURING CURING PERIOD.
8. THE CONCRETE SUPPLIER MUST BE CERTIFIED TO MEET THE REQUIREMENTS OF CSA A23.1-19.
9. THE CONCRETE SUPPLIER MUST SUBMIT CONCRETE MIX DATA SUBMISSION FORMS FOR EACH TYPE OF CONCRETE SPECIFIED FOR REVIEW PRIOR TO BATCHING ANY CONCRETE.

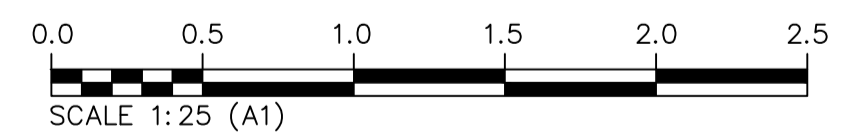
REINFORCING STEEL:

1. REINFORCING STEEL TO BE NEW DEFORMED BILLET STEEL BARS CONFORMING TO CSA G30.18-09 (R2014), GRADE IS 400 MPa.
2. REINFORCING STEEL TO BE CLEAN, FREE OF RUST, DIRT, LOOSE SCALE, OIL, GREASE OR ANY OTHER MATERIAL WHICH WOULD REDUCE BOND WITH THE CONCRETE.
3. SUBMIT SHOP DRAWINGS WHICH CLEARLY INDICATED BAR SIZES, SPACINGS, LOCATIONS & QUANTITIES OF REINFORCING STEEL, BENDING & CUTTING SCHEDULES, SUPPORTING & SPACING DEVICES, ETC. FOR REVIEW PRIOR TO FABRICATION. DETAIL, FABRICATE AND PLACE REINFORCING IN ACCORDANCE WITH CSA A23.1-19, CSA A23.3-19 AND ACI SP-66 (2004) UNLESS NOTED. STEEL TO BE LAPPED 36 BAR DIAMETERS (MINIMUM) UNLESS NOTED.
4. BEND ALL HORIZONTAL REINFORCING 305mm AROUND CORNERS OR PROVIDE ADDITIONAL 610mm X 610mm ANGLE BARS.
5. TIE, SUPPORT AND SPACE ALL REINFORCING STEEL WITH PROPER APPROVED DEVICES DESIGNED FOR USE IN REINFORCED CONCRETE, TO PREVENT DISPLACEMENT OF REINFORCING AND ENSURE SPECIFIED CONCRETE COVER.
6. PROVIDE MINIMUM 75mm CONCRETE COVER FOR REINFORCING STEEL.

CONCRETE MIX DESIGNS:

CONCRETE MIX DESIGN TO BE PROPORTIONED TO MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:

| | |
|----------------------------|--------|
| EXPOSURE CLASS | S-2 |
| MIN. 28 DAY COMP. STRENGTH | 30 MPa |
| MIN. 56 DAY COMP. STRENGTH | 32 MPa |
| CEMENT TYPE | HS |
| MAX. W/C RATIO | 0.45 |
| MAX. AGGREGATE SIZE | 20mm |
| ENTRAINED AIR CONTENT | 4%-7% |



METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

| | | | |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|-----|
| LOCATION APPROVED UNDERGROUND STRUCTURES | | VERTICAL DATUM: CGVD28 (HT2.0 Geoid) | |
| SUPV. U/G STRUCTURES COMMITTEE | | HORIZONTAL DATUM: NAD83 (June 1990), Zone 14 | |
| DATE | | | |
| NOTE: | LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION. | | |
| NO. | ISSUED FOR CONSTRUCTION | DATE | BY |
| 0 | ISSUED FOR CONSTRUCTION | 2026/03/10 | MID |
| | REVISIONS | DATE | BY |

| | | | |
|----------------------------|------|---------------------------|------|
| DESIGNED BY: MID | | CHECKED BY: TLE | |
| DRAWN BY: GEL | | APPROVED BY: RBO | |
| SCALE: HORIZONTAL AS NOTED | | RELEASED FOR CONSTRUCTION | |
| VERTICAL AS NOTED | | DUANE BAKER | |
| DATE | DATE | DATE | DATE |
| | | 2026/03/12 | |

| |
|------------------------------------------------------------|
| ENGINEER'S SEAL |
| ORIGINAL DRAWING SEALED BY: M.A. IANKOVA-DEDOVA 2026/03/11 |
| CONSULTANT DRAWING NUMBER: C1-44 |

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENGINEERING SERVICES DIVISION

ARMSTRONG SEWER RELIEF WORKS
CONTRACT 1
MISCELLANEOUS DETAILS

SHEET 41 OF 46
CITY DRAWING NUMBER 13685