



FLAT GRATE FRAME AND COVER
OPSD 400.100/400.110

COLOUR CODED HDPE SHIMS
LOCATIONS (MIN. 8 SHIMS)

SIDE INLET FRAME AND COVER
OPSD 400.082

NOTES

1. THIS DRAWING MUST BE USED IN CONJUNCTION WITH STANDARD DRAWING 5-2-12A AND 5-2-12B
2. MAXIMUM 75mm DEVIATION FROM CENTRELIN IN MODULOC ADJUSTMENT UNITS IS ALLOWED
3. ALL LOW POINT FRAME AND COVERS WITHIN THE ROADWAY SHALL BE OPSD 400.110. ALL COLLECTOR FRAME AND COVERS WITHIN THE BOULEVARD SHALL BE OPSD 400.082 AND WITHIN THE ROADWAY OPSD 400.100
4. MORTAR SHALL NOT BE USED INSIDE OR OUTSIDE OF THE ADJUSTMENT UNITS
5. ADJUSTMENTS OF STRUCTURES, INCLUDING PLACEMENT OF FRAME AND LIDS, ARE TO BE, AS FOLLOWS:
 - A. ADJUSTMENTS UP TO 300mm:
 ADJUSTMENT UNITS (MODULOCs) AND HDPE SHIMS SHALL BE PLACED TO ADJUST TO FINISHED GRADE. NUMBER OF ADJUSTMENT UNITS SHALL NOT EXCEED THREE
 - B. ADJUSTMENTS GREATER THAN 300mm TO 450mm:
 300mm PRE-CAST COLLAR, ADJUSTMENT UNITS (MODULOCs) AND HDPE SHIMS SHALL BE PLACED TO ADJUST TO FINISHED GRADE NUMBER OF ADJUSTMENT UNITS SHALL NOT EXCEED THREE.
 - C. ADJUSTMENTS GREATER THAN 450mm:
 THE TOP SECTION OF THE EXISTING STRUCTURE SHALL BE REMOVED AND REPLACED WITH PRE-CAST 300mm CONCRETE RISER SECTIONS/COLLARS. ADJUSTMENT UNITS (MODULOCs) AND HDPE SHIMS SHALL BE PLACED TO ADJUST TO FINISHED GRADE. NUMBER OF ADJUSTMENT UNITS SHALL NOT EXCEED THREE
6. ACCEPTABLE TOLERANCE FOR THE ADJUSTMENT OF STRUCTURES IS +/- 5mm OF FINISHED GRADE
7. MINIMUM OF 2 ROWS OF CONTINUOUS STRIP OF BUTYL TAPE SHALL BE LAID AND APPLIED TO THE TOP SURFACE OF STRUCTURE AND EACH CONSECUTIVE ADJUSTMENT UNIT
8. MINIMUM OF 8 COLOUR CODED 47mm x 47mm HDPE SHIMS, VARYING FROM 3.0mm TO 25.2mm SHALL BE USED TO ADJUST HEIGHT OF FRAMES AND GRATES AND BE PLACED AS PER TOP VIEW LOCATIONS DETAIL. SHIMS SHALL BE MANUFACTURED BY KEN TAYLOR INDUSTRIES (KTI), OR AN APPROVED EQUIVALENT
9. NON SHRINK GROUT SHALL BE APPLIED BETWEEN THE LAST MODULOC ADJUSTMENT UNIT AND THE BOTTOM OF FRAME AND COVER AFTER FRAME AND COVER HAS BEEN LEVELED AND SHIMMED. THE GROUT SHALL BE CAREFULLY TROWELLED IN BETWEEN THE SPACE ENSURING CONTINUOUS COVERAGE AND THAT THE FRAME AND COVER REMAINS PROPERLY CENTRED AND LEVELED OVER THE STRUCTURE OPENING
10. FIRST CIRCULAR HOLLOW ALUMINUM MAINTENANCE HOLE STEP SHALL BE INSTALLED WITHIN 380mm FROM TOP OF THE FRAME AND COVER. IF FIRST STEP IS IN ADJUSTMENT UNIT, THE ADJUSTMENT UNIT SHALL BE OF THE TYPE MANUFACTURED WITH A STEP IN PLACE. ALL ALUMINUM COMPONENTS SHALL BE 6000 SERIES STRUCTURAL ALUMINUM
11. ON ALL ROADS WHERE GRADES ARE GREATER THAN 5%, ALL MAINTENANCE HOLES AND VALVE CHAMBERS SHALL INCLUDE BOLT DOWN FRAMES AND COVERS

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.