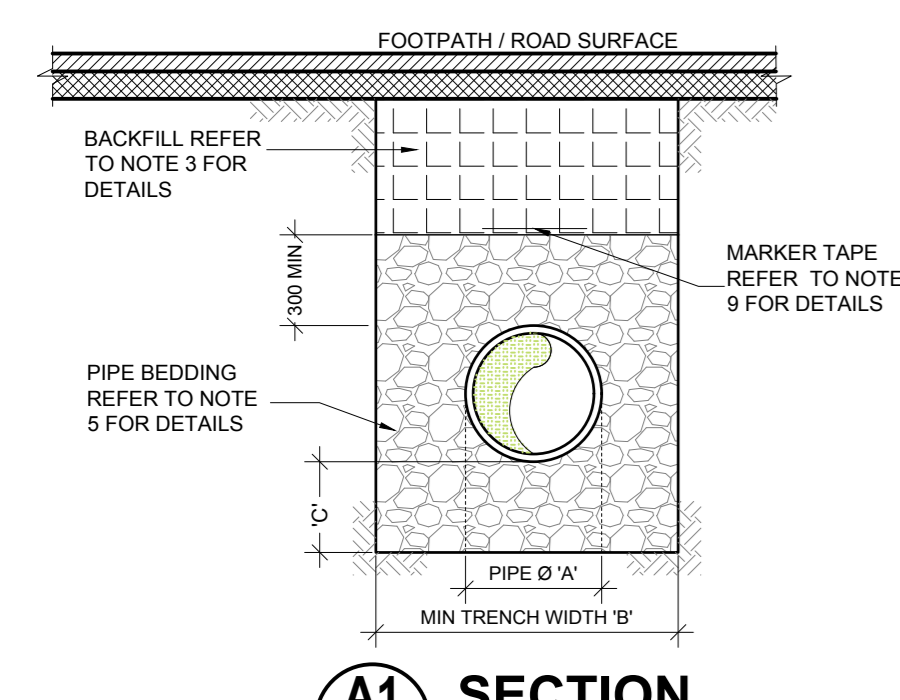
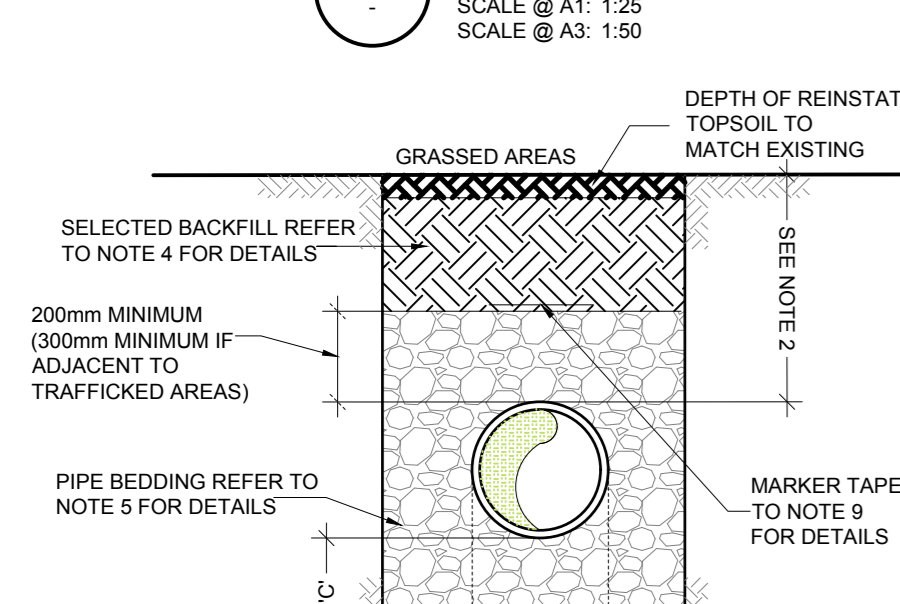


- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL ENGINEERS & ARCHITECTS DRAWINGS FIGURED DIMENSIONS ONLY (NOT SCALING) TO BE USED. WHERE A CONFLICT OF INFORMATION EXISTS CRP IF ANY DOUBT - ASK.
- CONSULTANTS TO BE INFORMED IMMEDIATELY OF ANY DISCREPANCIES BEFORE WORK PROCEEDS.



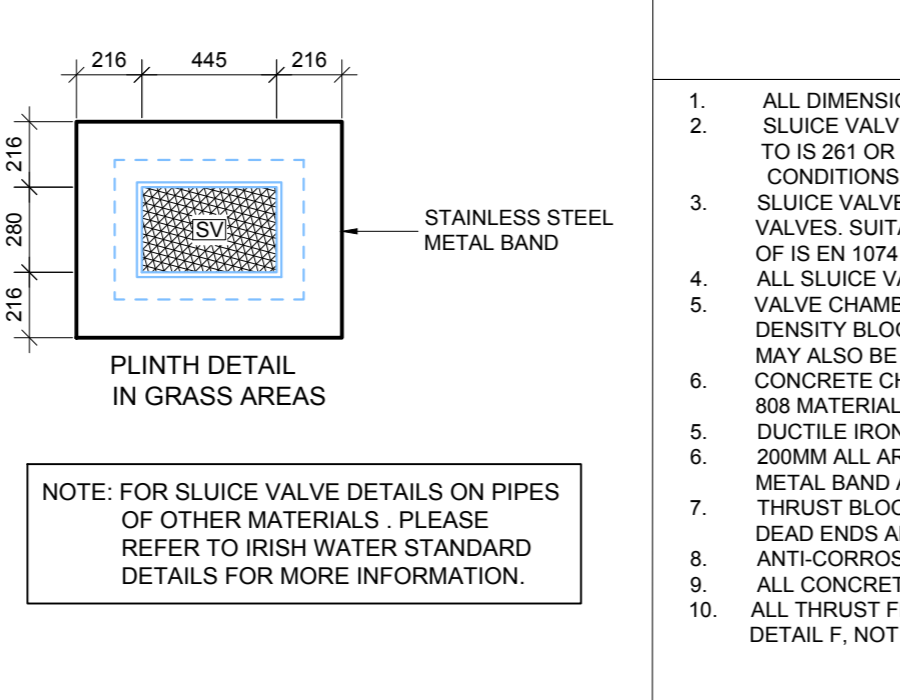
- NOTES**
- ALL DIMENSIONS ARE IN MILLIMETERS (MM) UNLESS NOTED OTHERWISE.
  - THE MINIMUM DEPTH OF COVER FROM THE FINISHED GROUND LEVEL TO THE EXTERNAL CROWN OF THE PIPE SHALL BE 750mm FOR SERVICE CONNECTIONS, 800mm FOR WATER MAINS, GREATER DEPTHS OF COVER AND / OR PIPE STRENGTH AND / OR A HIGHER CLASS OF BEDDING MATERIAL MAY BE REQUIRED WHERE HIGH TRAFFIC LOADING IS ANTICIPATED. THE MAXIMUM COVER SHOULD NOT EXCEED 1200mm WHERE PRACTICABLE.
  - CLASS B88 MATERIAL IN ACCORDANCE WITH THE T1 SPECIFICATION FOR ROAD WORKS IS TO BE USED AS BACKFILL MATERIAL WHERE THE WATER MAIN IS LOCATED IN ROADS FOOTPATHS OR WHEN THE NEAREST PARTY OF THE TRENCH IS WITHIN 1m OF THE PAVED EDGE OF THE ROADWAY. CLASS B88 IS TO BE COMPACTED AS PER CLAUSE 802 OF THE T1 SPECIFICATION FOR ROAD WORKS.
  - SELECTED EXCAVATED MATERIAL MAY BE USED IN GREEN-FIELD AREAS ABOVE GRANULAR PIPE SURROUND MATERIAL SUBJECT TO THE APPROVAL OF THE IRISH WATER STANDARD DETAILS.
  - PIPE BEDDING SHALL COMPLY WITH WIS 4-88 AND IEN 4-08-01 GRANULAR MATERIAL SHALL BE 14mm TO 5mm GRADUATED AGGREGATE OR 10mm SINGLE SIZED AGGREGATE TO IS EN 1242.
  - IN SOFT GROUND CONDITIONS (CGR < 1) THE MATERIAL SHOULD BE EXCAVATED OUT AND DISPOSED OF IN ACCORDANCE WITH THE WASTE MANAGEMENT ACT AND CLASS B88 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS SHALL REPLACE THE EXCAVATED MATERIAL WRAPPED IN GEO-TEXTILE WRAPPING. ALTERNATIVELY, SPECIAL PIPE SUPPORT ARRANGEMENTS INCLUDING PILING ETC. MAY BE REQUIRED WHERE THE DEPTH OF SOFT MATERIAL IS EXCESSIVE. SUCH ARRANGEMENTS SHALL BE SUBJECT TO ASSESSMENT BY EMPLOYER REPRESENTATIVE BEFORE ADVANCING WITH THE WORK.
  - PIPES SHALL NOT BE SUPPORTED ON STONES OR ROCKS. ON ANY HARD OBJECT AT ANY POINT ALONG THE TRENCH, ROCK SHALL BE EXCAVATED TO A DEPTH OF 150mm BELOW THE ACTUAL DEPTH OF THE TRENCH WITH THE VOID FILLED WITH CLASS B88 MATERIAL IN ACCORDANCE WITH THE T1 SPECIFICATION FOR ROAD WORKS. THE GRANULAR MATERIAL SHALL BE LAID OVER THIS VOID BACKFILL MATERIAL.
  - SHOULDER MINIMUM COVER NOT BE ACHIEVABLE, CONCRETE GRADE C8/10 SHALL BE USED AS BACKFILL MATERIAL IN ACCORDANCE WITH THE T1 SPECIFICATION FOR ROAD WORKS.
  - MARKER TAPE TO BE 400mm WIDE BLUE POLYETHYLENE MATERIAL IN ACCORDANCE WITH IEN 1762. PLASTIC PIPES SHALL HAVE WRAPPING TAPE INCORPORATED A REINFORCED BAND BRACING WIRE. SERVICE PIPES SHALL HAVE 200mm WIDE MESH TAPE. MARKER TAPE TO BE LAID AT 4M OF PIPE BEDDING LAYER.
  - TRENCH WIDTHS FOR PIPE SIZES <math>400\text{mm}</math> MAY BE <math>500\text{mm}</math> SUBJECT TO CONSIDERATION BEING GIVEN TO THE TRENCH DEPTH, HEALTH & SAFETY & CONSTRUCTION ACCESS REQUIREMENTS.



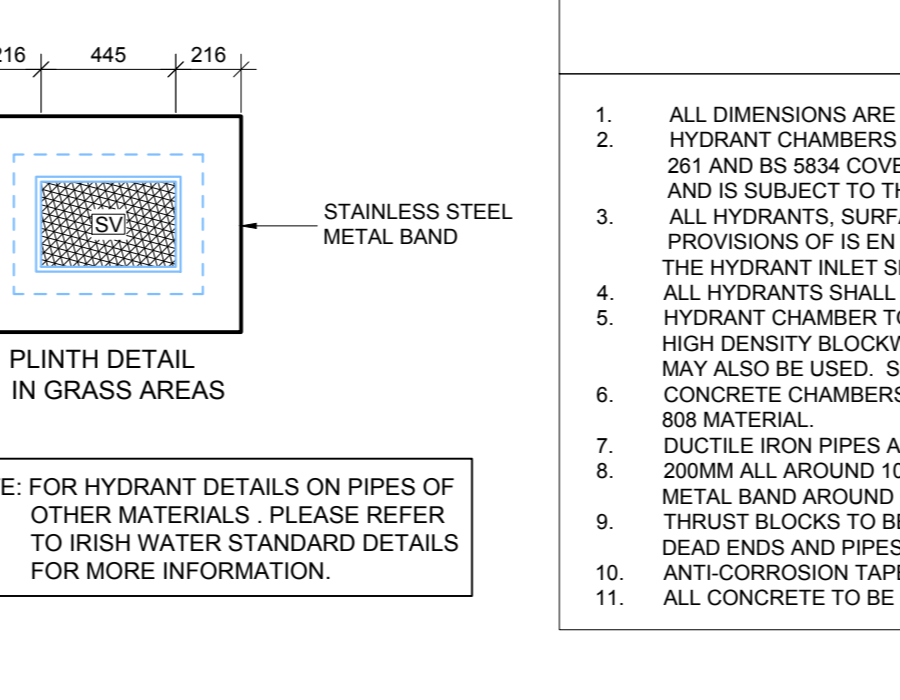
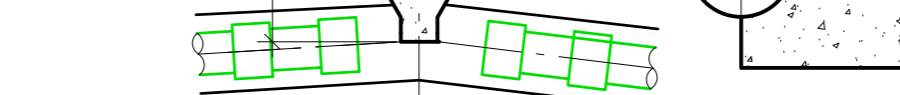
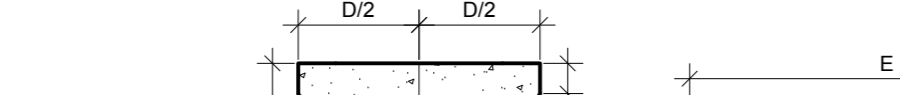
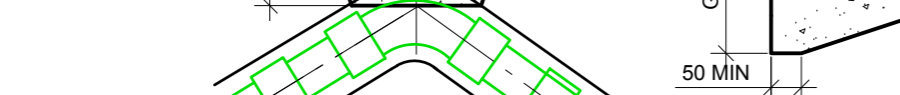
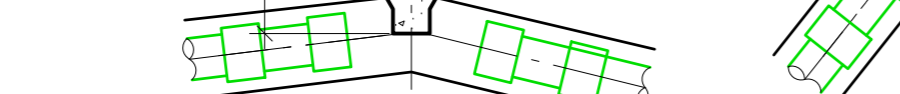
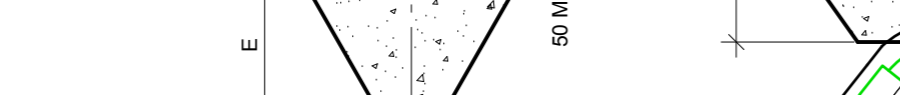
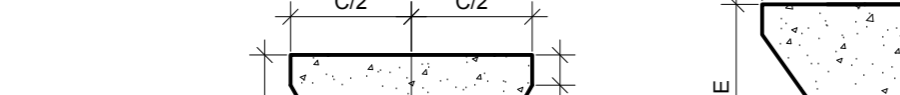
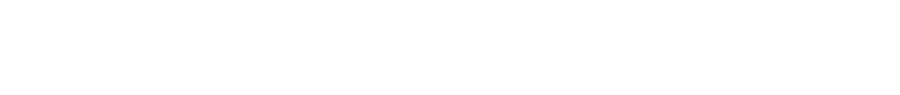
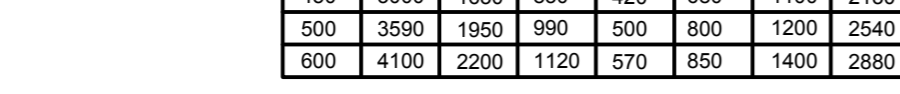
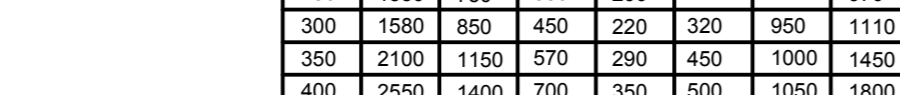
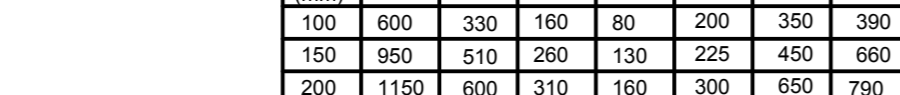
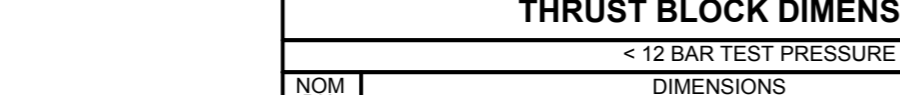
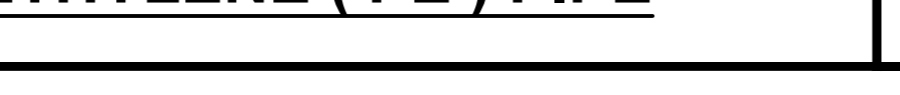
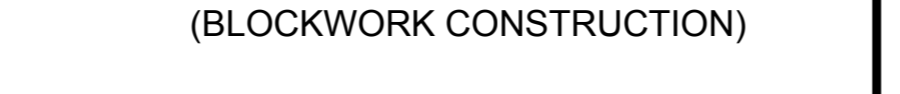
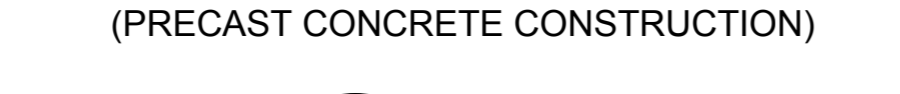
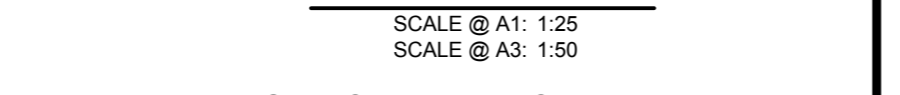
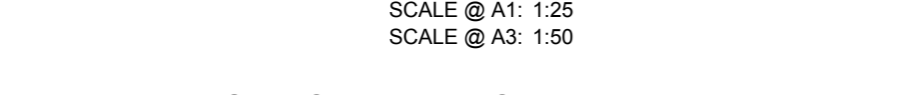
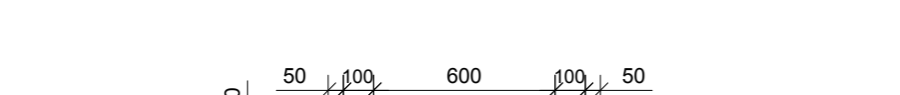
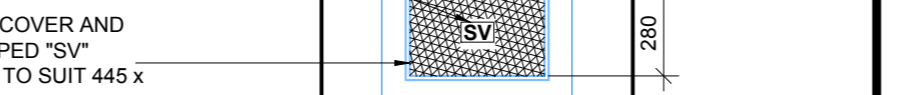
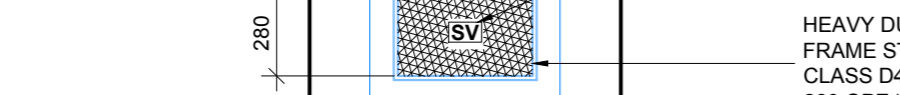
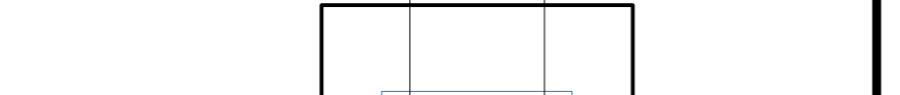
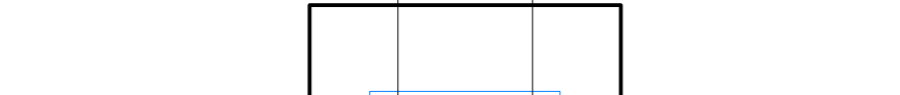
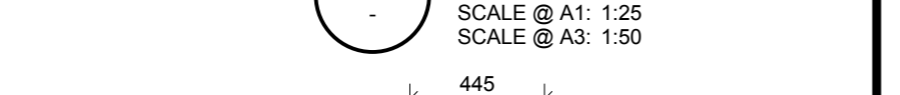
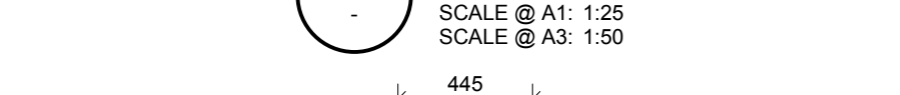
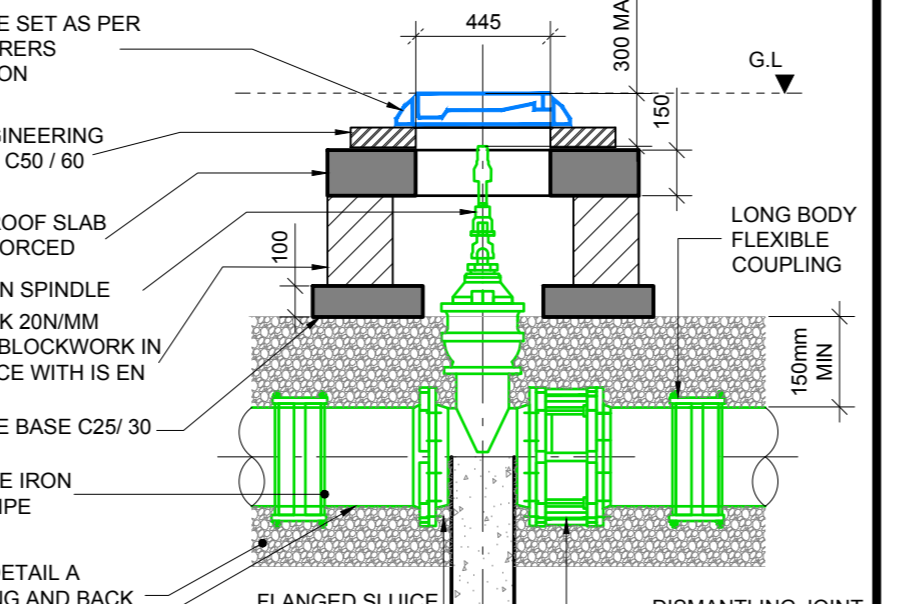
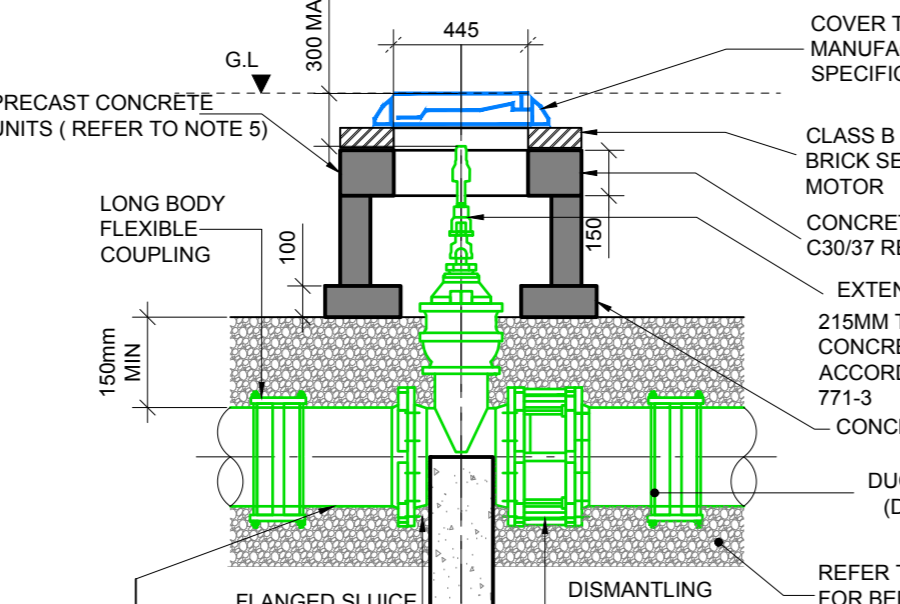
**TABLE A**

PIPE DIAMETER 'A' (mm)	WIDTH OF TRENCH 'B' (mm)	PIPE DIAMETER 'A' (mm)	DEPTH OF BEDDING 'C' (mm)
<math>200</math>	SEE NOTE 10	<math>200</math>	150
300		> 200	200
400			
500			
600			
750			
900			
1050			
1200			
1350			
1500			

**A TYPICAL TRENCH BACKFILL & BEDDING DETAILS**



- NOTES**
- ALL DIMENSIONS ARE IN MILLIMETERS (MM) UNLESS NOTED OTHERWISE.
  - SUICE VALVE CHAMBERS SHALL BE COVERED WITH APPROVED HEAVY DUTY METAL COVERS TO IS 261 OR IS 824. COVER AND FRAME SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS AND IS SUBJECT TO THE APPROVAL OF EMPLOYER REPRESENTATIVE.
  - VALVE CHAMBERS SHALL BE DOUBLE FLANGED WITH DUCTILE IRON SEAL-GATE VALVES SUITABLE FOR USE IN WATER MAINS THEY SHALL COMPLY WITH THE REQUIREMENTS OF IS EN 10424. IS EN 10424 & IS 824. FIRE HYDRANTS SHALL BE TYPE 2.
  - ALL SUICE VALVES SHALL BE ANTI-CLOCKWISE CLOSING.
  - VALVE CHAMBERS SHALL BE CONSTRUCTED OF PRECAST CONCRETE UNITS OR HIGH DENSITY BLOCKWORK. ALTERNATIVELY PROPRIETARY PREFABRICATED CHAMBER UNITS MAY ALSO BE USED. SUBJECT TO APPROVAL FROM THE EMPLOYER REPRESENTATIVE. CONCRETE CHAMBERS SHALL BE SURROUNDED BY A MINIMUM OF 150mm COMPACTED CLAUSE B88 MATERIAL.
  - DUCTILE IRON PIPES AND FITTINGS TO BE IN ACCORDANCE WITH IS EN 545.
  - 200MM ALL AROUND 150MM DEEP CONCRETE PLINTH WITH PROTECTIVE STAINLESS STEEL METAL BAND AROUND COVERS IN GREEN AREAS.
  - THRUST BLOCKS TO BE PROVIDED AS PER DETAIL F AT ALL TEES, BENDS, TAPERS, DEAD ENDS AND PIPES AT STEEP SLOPES.
  - ANTI-CORROSION TAPE TO BE PROVIDED AROUND BURIED FLANGES.
  - ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206.
  - ALL THRUST FLANGES TO BE ADEQUATELY RESTRAINED BY THRUST BLOCKS AS PER DETAIL F, NOT SHOWN FOR CLARITY.



- NOTES**
- ALL DIMENSIONS ARE IN MILLIMETERS (MM) UNLESS NOTED OTHERWISE.
  - HYDRANT CHAMBERS SHALL BE COVERED WITH APPROVED HEAVY DUTY METAL COVERS TO IS 261 AND IS 824. COVER AND FRAME SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS AND IS SUBJECT TO THE APPROVAL OF EMPLOYER REPRESENTATIVE.
  - ALL HYDRANTS SURFACE BOX FRAMES & COVERS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF IS EN 14333, IS EN 1074 & IS 824. FIRE HYDRANTS SHALL BE TYPE 2.
  - HYDRANT CHAMBER TO BE CONSTRUCTED OF PRECAST CONCRETE UNITS OR HIGH DENSITY BLOCKWORK. ALTERNATIVELY PROPRIETARY PREFABRICATED CHAMBER UNITS MAY ALSO BE USED. SUBJECT TO APPROVAL FROM THE EMPLOYER REPRESENTATIVE. CONCRETE CHAMBERS SHALL BE SURROUNDED BY A MINIMUM OF 150mm COMPACTED CLAUSE B88 MATERIAL.
  - DUCTILE IRON PIPES AND FITTINGS TO BE IN ACCORDANCE WITH IS EN 545.
  - 200MM ALL AROUND 150MM DEEP CONCRETE PLINTH WITH PROTECTIVE STAINLESS STEEL METAL BAND AROUND COVERS IN GREEN AREAS.
  - THRUST BLOCKS TO BE PROVIDED AS PER DETAIL F AT ALL TEES, BENDS, TAPERS, DEAD ENDS AND PIPES AT STEEP SLOPES.
  - ANTI-CORROSION TAPE TO BE PROVIDED AROUND BURIED FLANGES.
  - ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206.
  - ALL THRUST FLANGES TO BE ADEQUATELY RESTRAINED BY THRUST BLOCKS AS PER DETAIL F, NOT SHOWN FOR CLARITY.

