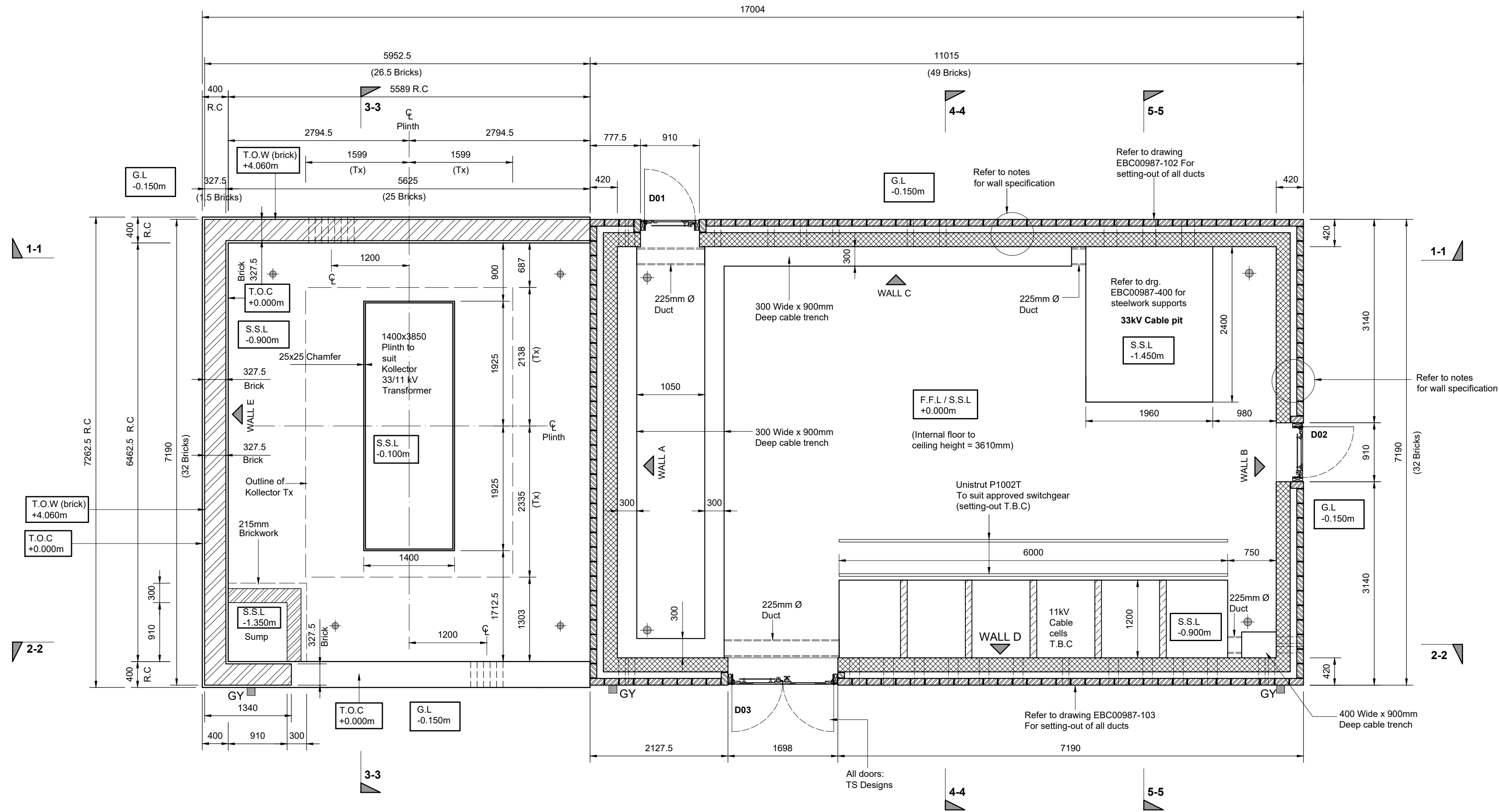




General Arrangement Plan
(Scale 1:50)

- GENERAL NOTES**
1. ALL CABLE PIPES TO BE RIDGIDUCT TYPE & TO PROJECT BEYOND EXTERNAL FACE BY 300mm Min. UNLESS STATED OTHERWISE.
 2. THE INTERNAL END OF ALL CABLE PIPES ARE TO BE TEMPORARY SEALED WITH PROPRIETARY DRAIN STOPS.
 3. TEMPORARY PLY COVERS ARE REQUIRED FOR CABLE CELLS, TRENCHES & PITS.
 4. FLOOR FINISH IS CRITICAL. TO BE LAID FLAT, LEVEL & TRUE WITH A SMOOTH POWER OR STEEL FLOAT FINISH DEVOID OF TROWEL MARKS TO +3mm IN 3m AND 1mm IN 1m EXPRESSED AS A MAX. PERMISSABLE DEVIATION UNDER A STRAIGHT EDGE PLACED ANYWHERE ON THE SURFACE.
 5. 2No COATS OF NON SLIP CONCRETE FLOOR PAINT TO BE APPLIED TO FLOOR IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS. COLOUR GREY.
 6. PREPARE AND APPLY 2No COATS OF VINYL SILK EMULSION TO WALLS COLOUR MAGNOLIA & CEILING COLOUR WHITE INTERNALLY.
 7. ALL DUCTS BUILT THROUGH RC WALLS (BUILDING & BUND) MUST INCORPORATE HYDROPHYLIC SEALS AT MID POINT (CIRCUMFERENCE) e.g. RAWSEAL WATERSTOP.
 8. AFTER THE SUBSTATION IS COMMISSIONED, THE CONSTRUCTOR SHALL RETURN TO FILL THE 11kV CABLE CELLS WITH CLEAN DRY SAND TO A LEVEL 50mm BELOW F.F.L. & FINISH WITH 1No LAYER OF VISQUEEN 1200T & 50mm THICK TOPPING OF SAND/CEMENT SCREENED 3:1 LEVEL WITH ADJACENT FLOOR SURFACE. THE 33kV CABLE TRENCH TO BE FILLED IN THE SAME MANNER BUT AT A LEVEL 50mm BELOW F.F.L. FLOWGRIP COVERS TO COMPLETE AT FLOOR LEVEL SEE DETAIL.
 9. AFTER THE SUBSTATION IS COMMISSIONED THE CONSTRUCTOR SHALL RETURN FOR 20mm LIMESTONE CHIPPING SURFACING IN TRANSFORMER COMPOUNDS TO BE CARRIED OUT.
 10. ON COMPLETION OF ALL CABLING & EARTHING THE CONSTRUCTOR SHALL SEAL ALL CABLE & EARTHING PIPES WITHIN THE BUILDING & BUNDED AREAS WITH DENSYL MASTIC PACKED INTO PIPE FULLY FOR 100mm.
 11. SUMP PUMP AND CONTROL UNIT TO BE AQUA SENTRY BUND WATER CONTROL MK. AVAILABLE FROM AQUA SENTRY LEADS TEL: 01422-370938 OR SIMILAR APPROVED INCLUDING CONNECTION TO TELEMETRY.
 12. GRP MULTICORE TRENCH COVERS ADAPTED FROM FLOWGRIP PLANK FLOORING AVAILABLE FROM "REDMAN FISHER ENG. LTD" TEL: 01902-880880. SOLID ANTI SLIP, COLOUR GREY.
 13. GRP FACED ALUMINIUM DOORS AVAILABLE FROM "TS DESIGNS LTD" TEL: 01477-571357.
 14. ALL STEELWORK TO BE HOT DIPPED GALVANISED BEFORE ASSEMBLY & ANY DAMAGE DURING ASSEMBLY TO BE WIRE BRUSHED & TREATED WITH AN APPROVED ZINC RICH PAINT.
 15. UNLESS OTHERWISE STATED ALL BOLT SYSTEMS TO BE GALV. HIGH TENSILE GRADE 8.8 WITH GRADE 10 NUTS.
 16. ALL WORK MUST COMPLY WITH "GENERAL SPECIFICATION FOR THE CIVIL ENGINEERING AND BUILDING DESIGN & CONSTRUCTION OF PRIMARY SUBSTATIONS SUB-03-025".

- SPECIFIC BUNDED AREA NOTES**
1. CONCRETE SPECIFICATION:-
CONTRACTOR'S CIVIL DESIGN. CONCRETE SHALL BE A DESIGNED MIX C32/40 (40Nmm² CUBE STRENGTH) TO BS EN 206-1 & BS 8500-1. 20mm MAX AGGREGATE 325KG/m³ min. CEMENT CONTENT & 0.55 max WATER:CEMENT RATIO.
 2. REINFORCED CONCRETE DESIGN TO BUNDS TO BE IN ACCORDANCE WITH BS 8007 (i.e. RETAINING AQUEOUS LIQUIDS).
 3. OIL CONTAINMENT SHALL BE DESIGNED TO SAFELY CONTAIN A MINIMUM OF 115% INCLUDING SPILLAGE FLOOR THE EVENT OF MALICIOUS OR DISRUPTIVE FAILURE OF TOTAL OIL CONTENT AND SHALL SATISFY ALL RELEVANT ENVIRONMENT AGENCY GUIDELINES. AT 132kV & ABOVE DESIGN MUST ADDITIONALLY INCORPORATE 250mm FREEBOARD @ 100% WHEREVER PRACTICABLE THE INNER FACE SHALL BE 1m CLEAR (ON PLAN) OF OIL CONTAINING PARTS.
 4. OIL CONTAINMENT DESIGN SHALL BE SUCH THAT 'PERSONNEL' ACCESSING COMPLETED BUND STRUCTURES DO NOT COMPROMISE CLEARANCES TO EXPOSED LIVE CONDUCTORS (3.2m AT 33kV/3.8m AT 132kV) AND/OR INSULATORS (2.4m).
 5. OIL CONTAINMENT BUNDS SHALL BE DESIGNED SUCH THAT BUILD UP OF RAINWATER DOES NOT COMPROMISE DESIGN CAPACITY. BUND WATER CONTROL (INTELLIGENT PUMP) SYSTEMS SHALL BE 'NATIONAL GRID' TYPE APPROVED PROVIDING DISCHARGE TO AN OILY WATER OR MAINS FOUL WATER DRAINAGE SYSTEM AND SHALL INCORPORATE A POINT OF ISOLATION LOCAL TO THE CONTROL UNIT WITH ALARMS CONNECTED AND COMMISSIONED TO THE SUBSTATION LOCAL ALARM AND SCADA SYSTEM. INTERNAL SUMP FLAT DIMENSIONS SHALL NOT BE LESS THAN 900x900mm AND THE SUMP DOWNSTAND SHALL NOT BE LESS THAN 450mm.
 6. OIL CONTAINMENT BUNDS SHALL BE WATER TESTED ON COMPLETION; WATER TESTS SHALL BE WITNESSED BY ENERGY NETWORKS AS FOLLOWS:
i) TEMPORARILY REMOVE THE BUND WATER CONTROL SYSTEM. FILL BUND WITH CLEAN WATER AS HIGH AS PERMITTED BY ENERGY NETWORKS BUT NOT LESS THAN TRANSFORMER PLINTH LEVEL. RECORD THIS LEVEL AS DATUM.
ii) MONITOR AND RECORD THE LEVEL OF WATER OVER SUCCESSIVE PERIODS OF NOT LESS THAN 20 HOURS UNTIL THE FALL IN LEVEL OVER A 20 HOUR PERIOD IS LESS THAN 3mm, ALLOWING FOR RAINFALL AND EVAPORATION.
iii) AT ANY POINT WHERE THE AGGREGATE NET FALL EXCEEDS 75mm THE LEVEL OF WATER SHALL BE TOPPED BACK UP TO THE DATUM LEVEL BEFORE RESUMING THE TEST.
iv) ALLOW FOR RAINFALL / EVAPORATION BY MONITORING WATER LEVELS IN A SUITABLE WATERTIGHT CONTROL CONTAINER OF NOT LESS THAN 200 LITRES CAPACITY, FILLED TO APPROX 50%
v) OIL CONTAINMENT BUNDS SHALL BE DEEMED TO HAVE FAILED THE TEST IF THE SPECIFIED WATER RETENTION HAS NOT BEEN ACHIEVED WITHIN 7 DAYS. IN THE EVENT OF FAILURE, REMEDIAL WORKS SHALL BE CARRIED OUT AS NECESSARY TO ADEQUATELY SEAL THE BUND AT THE CONTRACTOR'S EXPENSE.
vi) REMOVE ALL TEST MATERIALS FROM SITE ON COMPLETION OF SUCCESSFUL TESTING, INCLUDING ENVIRONMENTALLY CONTROLLED RECOVERY OR DISPOSAL OF WATER FROM WITHIN THE BUND.
 7. BENTONITE SYSTEMS TO BE PREHYDRATED HEAVY DUTY RAWELL OR EQUAL APPROVED.

LEGEND

-  FACING BRICKS TO ENGINEERS / PLANNERS APPROVAL. COMPRESSIVE STRENGTH 30N/mm². WATER ABSORPTION - N.E. 12% BELOW DPC / GROUND LEVEL. BRICKWORK NONE TO BE SHOWN ON OUTER FACE. COMPRESSIVE STRENGTH GREATER THAN 75N/mm² WATER ABSORPTION N.E. 7%.
-  215mm THICK FAIR FACED SOLID CONCRETE BRICKS. COMPRESSIVE STRENGTH 20N/mm².
-  APPROX. POSITION OF FLEXIBLE EARTH CONNECTION TO FABRIC REINFORCEMENT AT FLOOR LEVEL. POSITION TO BE AS CLOSE AS PRACTICAL TO CORNER/WALL. SEE REINFORCEMENT DETAILS.

Refer to drawing EBC00987-301 for sections 1-1 to 5-5, EBC00987-302 for building elevations, EBC00987-100 onwards for dimensions of reinforced concrete

P1	11.04.22	First Issue - For Comment	Preliminary	KL
Rev.	Date	Description	Status	Rev. by



Project	Halewood South, Finch Lane (Redrow)		
Title	General Arrangement Plan (Setting Out) For 33kV Switchroom		
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Drawn by K.L.	Checked by P.D.	Client FCE Projects Ltd	
Scale 1:50 @ A1	Date April 2022	Drawing Number EBC00987 - 300	Rev. P1