ENGINEERING GRAPHICS AND DESIGN

GUIDELINES FOR THE
CIVIL DESIGN PRACTICAL ASSESSMENT TASK (PAT)
GRADE 11
2024

The practical assessment task (PAT) is a compulsory component of the final promotion mark of 25% for all EGD candidates in grade 11. The PAT is implemented across THREE terms of the school year.
The primary purpose of the EGD PAT is to assess subjective content and concept topics which are not assessed in the examination papers. These are:

- The formulation of a design brief.
- The application of quality and neat free-hand drawings
- Presenting of instrumental skills and/or CAD drawing skills
- The management of time and information.

Summary of year mark		
Formal and informal assessment	100	January - October
PAT (Practical Assessment Task)	100	March – June
End year Paper 1	100	November
End year Paper 2	100	November
Final promotion mark	**400**	**November**

The EGD PAT consists of TWO parts:

- **Part A**: The design processes.
- **Part B**: Required working and pictorial drawings.

Part A of this PAT requires that the learner demonstrates a clear understanding of, and can apply, the design process. As part of the design process, the learner must be able to do the following:

- Identify the problem(s) and formulate a design brief with specifications and constraints.
- Conduct and use appropriate external research.
- Generate several own ideas, concepts, and solutions analytically and graphically through comprehensive freehand drawings.
- Select a final solution(s) that demonstrates a clear understanding of the design brief.
- Provide clear evidence of continuous self-evaluation during the development of the PAT.

Part B of the PAT requires that the learner demonstrates and provides evidence of a high level of knowledge and understanding of the concepts and content of Engineering Graphics and Design through the presentation of orthographic drawings and pictorial drawings.

The PAT must therefore be completed in the following phases during term one & term two:
Phase 1: Design process includes the following.
7 March 2024:

1. A design brief indicating the specifications, constraints, and management plan.
2. Preparation of the drawing paper layout.

3 April 2024:

1. Research

7-10 May 2024

1. Possible solution one
2. Possible solution two
3. Selection of the final solution

Phase 2: Presentation drawings includes the following:

24 May 2024 (EGD, PAT (P3, June exam, 4-hour paper) 08:00 – 13:00 (unless some of the drawings have already been completed during term 2).

1. Presentation of the floor plan
2. Presentation of the two elevation drawings
3. Presentation sectional view
4. Presentation of the Two-Point-Perspective drawing

Phase 3: Completion of PAT (before the start of the July holidays)

Complete the PAT file by filing all the documents and drawings in the following sequence:

1. A complete cover page that includes your school's name, your initials and surname, WRITTEN IN PEN, your grade and class group, your teacher's initials and surname, and a copy of your own two-point perspective drawing of this task.
2. A complete index (table of contents).
3. The 2024 Summative Assessment Sheet (see page 10).
4. The completed Declaration of Authenticity (see page 9).
5. ALL the design brief requirements.
6. Evidence of ALL the resource material used for this PAT.
7. The TWO freehand drawings of the possible design solutions
8. ALL the evidence of the selection of the best solution
9. ALL the working drawings in the sequence of floor plan, two elevations, sectioned view, site plan, and two-point perspective drawing.
10. The completed Assessment Criteria with the self-completed checklist (pages 7 and 8 of this PAT) completed.
11. Complete the index page according to the numbered pages in your PAT.

Note the following:

- Since the PAT is forming part of a third exam, this PAT can also be an exam paper allocated for specific days at school. Non-compliance to any of these, and afore-mentioned instructions, will be deemed a serious examination irregularity.
- The PAT must be completed individually.
- ALL the presentation requirements of the selected PAT must be adhered to and, except for the research, be completed at school, under the guidance and supervision of your EGD teacher.
- The PAT must be completed in phases and within the given time frame of your teacher's PAT work schedule/pace setter/management plan.
- ALL freehand drawings and instrument drawings must be prepared in pencil. Only the learner's name and surname, must be completed in pen.
- The PAT must be of an appropriate higher-order Grade 11 complexity.
- Untidy and messy work, as well as the late submission of presentation requirements, will be penalised.

- When learners prepare drawings in CAD, the following must be adhered to:
    - The school must provide the facilities, including the CAD software and computers.
    - The school must hold the licenses of ALL the CAD software used by the learners, and NO other software may be used by any of the learners.
    - ALL CAD drawings must be prepared at school under the supervision of the teacher.
    - The opportunity to be trained using a CAD software must be made available to ALL learners, regardless of whether they use it or not.
    - As the teacher remains responsible for assessing both the competence displayed in using a CAD software and the layout and correctness of the drawing presentations, he/she must have sufficient knowledge of and skills in the CAD software used.
    - Electronic and hard copy evidence of the history of the stage-by-stage development of each learner's CAD drawings must be retained at the school for a period as stipulated by the Department of Basic Education (DBE).
    - During the moderation process learners will be requested to explain the functions and principles of operating the CAD software, and to demonstrate drawing skills through performing capability tasks.

Scenario

Your school regularly holds sports matches on your sports field. The need for more dressing room facilities for the teams arose as the popularity around matches increased. Next to your school's sports field is the old disused bus shelter. The governing body of your school has decided to convert the bus shelter into changing room facility for sports teams. They approached you to come up with a solution to this problem.

The total area of the bus shelters is 300m^2. The entire space must be used, and the existing roller door must be removed. The area must make provision to accommodate four sports teams, in separate changing rooms, at the same time (four changing rooms in total). Two changing rooms must be accessible on the left side of a 1.8 m wide corridor and two changing rooms must be accessible on the right side of the same 1.8 m wide corridor. The corridor must provide access to the changing rooms from the outside with double wooden doors. Each of the four dressing rooms may not exceed an area of 25m^2. Each changing room must have 9m^2, private (separate) shower and toilet facilities. The private shower/toilet facilities for each dressing room include the following:

- Two of the changing rooms' separate private facilities must each have two toilets (each with its own door and enclosure) two showers (each with its own door and enclosure) and a wash basin.
- The other two changing rooms' separate private facilities must have one toilet (with its own door and enclosure) two showers (each with its own door and enclosure), one wall-mounted urinal and one wash basin.

One changing room for referees and one first aid room should be added. These two rooms must each be no more than 10m^2 and must be accessible from the outside. The dressing room of the referees must have an additional private room that will not exceed 5m^2. Inside the room must be a toilet, a shower, and a wash basin. The first aid room must only have a wash basin in it and must also be provided with an electricity socket outlet.

Two toilet facilities for supporters must also be set up. These facilities must be entered from the outside. The two toilet facilities may not exceed 25m^2 per unit. The men's toilet facilities must have two toilets two toilets (each with its own door and enclosure) in them as well as a stall-type urinal and three wash basins. The women's facilities must have four

toilets two toilets (each with its own door and enclosure) with four wash basins. The remaining space of the bus shelter must be used for a storage room for sports equipment. The storage room must also be accessible from the outside.

All rooms (including the corridor and storage room) must have sufficient illumination. The placement of the switches must be placed at each room's entrance door, which gives access to the room. Windows should provide adequate ventilation, while the choice about the size and placement of windows will consider the privacy of the people using the facility.

All safety and drawing specifications must adhere to the SANS 10143 conventions.

PHASE 1: PRESENTATION REQUIREMENTS

1 Analyse the given scenario and formulate a design brief in two paragraphs:

- The first paragraph must, in your own words, include a brief background to the project, as well as a detailed and comprehensive description of what must be designed.
- The second paragraph must, in your own words, give a clear overview of your role in the project, as well as the design process that you are going to follow to arrive at a proposed solution.

From the scenario and your teacher's management plan, include the following as part of the design brief:

- Identify and list all the specifications.
- List a minimum of FIVE possible constraints. (Constraints are areas named in the PAT which is unknown to your current EGD content knowledge).
- A management plan, which specifies target dates for the completion of each presentation requirement.

2 During the research, it is expected from you to do your own research on the following:

- The correct conventional SANS 10143 civil drawing symbols of bathroom, windows, and doors, civil symbols of all electrical features, sewer lines.
- The mathematical knowledge and skills on how to determine the floor area of a building.
- The mathematical knowledge and skills on how to reduce features with a scale.
- How to indicate a reduced scale on a drawing.
- Possible designs of sports change room facilities.
- Include a list of ALL references used. (Bibliography)

NOTE

- The research must be relevant and should therefore be primarily in the form of pictures and/or illustrations rather than words, sentences, and paragraphs.
- Evidence of all the required research material must be included in the PAT portfolio.
- The presentation of the research material should be aesthetically presented and may not exceed four A4 or two A3 pages per topic.
- There must be clear evidence that the research has been used in your proposed design solution.
- If the research is not completed or available during the next phase, the candidate will not be able to continue with the rest of the PAT. He/she will therefore forfeit the rest of the PAT marks for the rest of the year.

Possible websites to visit for research:

- SANS 10143 civil symbols for grade 11: (Consult your textbook)
- http://e-learn.gc.co.za/moodle/course/index.php?categoryid=38

3 Prepare neat detailed freehand drawings of the layout (floor plan), of TWO possible design solutions for the proposed new houses. Each freehand drawing must show the correct presentation of ALL the building features, the permanent fixtures, the roof lines as well as the primary dimensions and labels. The calculation of the total area of the existing facilities as well as the new proposed buildings, must be shown clearly in a table on the drawing sheet of each freehand drawing.

NOTE:

- Grid/Graph paper must be used to assist with the preparation of the freehand drawings so that ALL features and fixtures are drawn to proportion. The grid/graph paper used must be included in the PAT file/portfolio.
- ALL aspects of the freehand drawing, including dimensions, tables, labels, and possible information blocks must be prepared using a pencil ONLY. The use of any other drawing instruments, e.g. a ruler or compass, will be penalised.
- The drawings may be prepared on either A4 or A3 drawing sheets.
- NO borders or title panels are required for the freehand drawing sheets.
- Electrical fittings and the waste-water disposal systems are required on the freehand drawings.
- ALL the freehand drawings must comply with the guidelines and graphical symbols contained in the SANS 10143.
- The drawings must provide clear evidence that a high level of competency has been attained in the freehand drawing method.

4 Select the best solution, which demonstrates an in-depth understanding of the scenario within the context of the design brief, specifications, and constraints.
On a separate page, evaluate and compare the TWO freehand solutions by:

- Creating a table with a minimum of FIVE descriptive criteria.
- Creating and applying a simple rating scale to score each solution against each criterion.
- Justifying each score by describing the positive and/or negative aspects of each solution against each criterion.

Complete the process by writing a comprehensive summary giving reasons for the selected freehand solution. The summary must also include whether there were any late changes made to the selected freehand solution or not.

PHASE 2: PRESENTATION REQUIREMENTS

5 Present the selected solution as a set of working drawings and a pictorial drawing (5.1, 5.2 and 5.3) that meet the following criteria:

- All the working drawings must be presented on appropriately sized drawing sheets, set up with correct borders. Only one working drawing's drawing sheet, must be set up with a complete civil title panel.

NOTE:

- Working drawing (the floor plan, two elevations, the sectioned view and the two-point perspective drawing) must be prepared using drawing instruments while one drawing using a CAD software if learners are equipped with the necessary skills.
- The title panel and ALL the working drawings must comply with the SANS 10143 guidelines.

4.1 Draw detailed layout drawings of the selected freehand solution, clearly showing all the required building features.

4.1.1 The **FLOOR PLAN** (use a scale of at least 1 : 50 or 1 : 75).

4.1.2 **TWO ELEVATIONS**, showing the north-facing side or south-facing side and either the west- or the east-facing side of the sports change room facilities (whatever shows the sewer detail). Use the same scale as for the floor plan.

4.1.3 A **SECTIONAL ELEVATION**, showing the detail of a door, a window (Use a scale of at least 1 : 20).

Include the following on ALL relevant views:

- ALL permanent fixtures
- ALL electrical fittings and the wiring detail
- Waste-water disposal systems (sewerage)
- Titles, labels, and notes
- Scale(s)
- Detailed dimensioning
- Cutting plane(s)
- All hatching detail
- North point

5.2 Draw a detailed human eye view (horizon line (HL) must be ±1,8 m above the ground line (GL)) TWO-POINT PERSPECTIVE DRAWING of one of the sports change room facilities. Only the base of the water tanks need to be shown and not the water tanks.
Evidence of the following must be included:

- All views used to produce the perspective drawing.
- The construction lines used to produce the perspective drawing.

NOTE:
Use a copy of the perspective drawing, as the picture for the cover page of the PAT portfolio.

PHASE 3: PRESENTATION REQUIREMENTS

Complete the PAT file/portfolio by filing all the documents and drawings in the following sequence:

- A complete cover page that includes your school's name, your initials and surname, WRITTEN IN PEN, your grade and class group, your teacher's initials and surname, and a copy of your own two-point perspective drawing of this task.
- A complete index (table of contents).
- The 2024 Summative Assessment Sheet (see page 10).
- The completed Declaration of Authenticity (see page 9).
- ALL the design brief requirements.

- Evidence of ALL the resource material used for the required research.
- The TWO freehand drawings of the possible design solutions
- ALL the evidence of the selection of the best solution
- ALL the working drawings in the sequence of floor plan, two elevations, sectioned view, and two-point perspective drawing.
- The completed Assessment Criteria with the self-completed checklist (pages 7 and 8 of this PAT) completed.
- Complete the index page according to the numbered pages in your PAT.
- Your name and surname (written in pen) must appear on each page of your PAT.

Use the table below and complete the date column to manage your time when completing this PAT.

education
Department of Education
FREE STATE PROVINCE

ASSESSMENT CRITERIA AND CHECKLIST FOR THE 2024 EGD GRADE 11 CIVIL PAT

NAME OF SCHOOL	
INITIALS AND SURNAME OF LEARNER:	
NAME AND SURNAME OF TEACHER	
NAME AND SURNAME OF MODERATOR	

1 mark level descriptive	0	**Requirement not met or presented incorrectly**
	1	**Requirement has been met and/or presented correctly**
2 mark level descriptive	0	**Requirement not met, or less than 30% evidence of knowledge shown (poor)**
	1	**Requirement included and at least 30%+ evidence of knowledge shown (avg.)**
	2	**Presentation shows at least 80% or more evidence of knowledge (very good)**

			Due date for completion	Date completed	Own marks/ notes/comments	Suggested mark allocation	Moderated mark	
1	**Design Brief**							
	1.1	1st paragraph: background and comprehensive description of what to design				2		
	1.2	2nd paragraph: your role and the design process that you are going to follow				2		
	1.3	A list ALL the given specifications from the scenario				2		
	1.4	A list of FIVE possible constraints (content unknown to your field of EGD gr 11 content knowledge)				2		
	1.5	A management plan with target dates for ALL the presentation requirements				2		
		TOTAL				**10**		
2	**Research (This should be restricted to a maximum of FOUR A4 or TWO A3 pages per topic.)**							
	Relevant and usable **research** on:	2.1 The correct SANS 10143 **bathroom features**				2		
		2.2 The correct SANS 10143 symbol for **electrical features** for civil drawings				2		
		2.3 The correct **calculations** on floor **areas** and **scales** of drawings				2		
	Clear evidence that the research has been used in your proposed design solutions					2		
	A list of ALL references (Bibliography)					2		
		TOTAL				**10**		

3	**Freehand drawings of TWO possible design solutions**					**SOLUTION No:**	**1**	**2**
	Assess each freehand solution as follows:	ALL the building features.				2		
		Correct **presentation of all building features (Load & Non loadbearing walls)**				2		
		ALL fixtures included (doors windows bathroom fixtures)				2		
		Correct **presentation** of all **fixtures according to SANS 10143**				2		
		Relative **size/proportion** of features to each other				1		
		Primary **labels(1)** + primary **dimensions(2)** (1 + 2 = 3)				2		
		Area calculation clearly shown & within constraints				2		
		Design: **Functionality** and effective **utilisation of space**				2		
		Subtotal = 15 ÷ 1,5 = TOTAL	**10**	**SOLUTION TOTAL**				
(1 = 1 ; 2 = 1 ; 3 = 2 ; 4 = 3 ; 5 = 3 ; 6 = 4 ; 7 = 5 ; 8 = 5 ; 9 = 6 ; 10 = 7 ; 11 = 7 ; 12 = 8 ; 13 = 9 ; 14 = 9 ; 15 = 10)								
4	**Selecting the best freehand solution (This must be a separate presentation)**							
	4.1	**Table created** for an easily understandable presentation of the selection process				2		
	4.2	Minimum of **FIVE descriptive criteria** to evaluate and compare				2		
	4.3	Simple **rating scale** created and used to score each solution against each criterion				2		
	4.4	Each score justified by describing the **positive** or **negative** aspects of each criterion				2		
	4.5	Comprehensive **summary** giving reasons for the **selected** freehand **solution**				2		
		TOTAL				**10**		
5	**Layout drawings and a pictorial drawing of selected solution**							
5.1	**Drawing sheet preparation**							
	Appropriately sized **drawing sheets**					1		
	Correct borders on all the drawing sheets of all the working drawings					2		
	Complete **SANS 10143 civil title panel** on first working drawing's drawing sheet					7		
	NOTE**:** Use the 7 mark simplified rubric on page 45 of the EGD CAPS		**TOTAL**			**10**		
Detailed **layout drawings** of the **selected proposed solutions**								
5.2	**Floor plan** showing:							
	Correlation with **selected freehand solution** and the selection process summary					1		
	ALL **internal** and **external walls**, incl. ALL **hatching** detail					2		
	ALL **doors** and **windows**					2		
	ALL **permanent fixtures**					2		
	Detailed **layout** of the **required facility** inside the existing structure					2		
	ALL electrical fittings and the wiring detail					2		
	Waste-water disposal systems (sewerage)					2		
	Title, labels and notes (2) + detailed dimensioning (2) (2 + 2 = 4)					4		
	Suitable scale selected & correctly indicated (1) + cutting plane (1) + north point (1)					3		
		Subtotal = 20 ÷ 2 = TOTAL				**10**		
5.3	**NORTH ELEVATION or SOUTH ELEVATION and EAST ELECATION or WEST ELEVATION**							
	Appropriate views selected					2		
	External walls and ALL other external **features**					2		
	Door and **window** detail					2		
	Waste-water disposal system **(sewerage)**					2		
	Elevation drawn to **same scale as** the **floor** plan **and** scale **indicated**					2		
		TOTAL				**10**		
(1 = 1 ; 2 = 1 ; 3 = 2 ; 4 = 3 ; 5 = 3 ; 6 = 4 ; 7 = 5 ; 8 = 5 ; 9 = 6 ; 10 = 7 ; 11 = 7 ; 12 = 8 ; 13 = 9 ; 14 = 9 ; 15 = 10)								

5.4	**SECTIONAL ELEVATION showing:**					
	Section correct **according** to the indicated **cutting plane**(s)				2	
	Foundation, slab and **wall detail**				2	
	Door(s) and **window(s)** detail				2	
	Dimensions at **FFL, lintels** and **roof level indicated** correct				2	
	Labels and **notes**				2	
	Enlarged **scale** selected and **indicated** correctly				1	
	Detailed dimensioning				2	
	ALL **hatching** detail				2	
	Subtotal = 15 ÷ 1.5 = TOTAL				**10**	
5.5	**Detailed perspective drawing showing the front of the new building**					
	Evidence of views/drawings and construction/**method used** for the drawing				1	
	Correct orientation showing the front (1) and the correct HL high for a **human eye view** (1)				2	
	Perspective drawing/answer (Use the 7-point-rubrickk on p. 45 of the EGD CAPS document)				7	
	TOTAL				**10**	
6	**Continuous self-evaluation** and the **meeting of deadlines**					
	Checklist completed as evidence of continuous **self-evaluation** (mark out of 10 ÷ 2)				5	
	The meeting of ALL the **deadlines** during the development (mark out of 10 ÷ 2)				5	
	TOTAL				**10**	
7	**Presentation** of the **complete PAT file/portfolio**					
	Complete **cover page**				1	
	Index with page references per topic(s) on each page				1	
	Summative assessment sheet and **declaration**				1	
	Correct **sequencing** of ALL presentation requirements				1	
	Name and **numbering** on ALL the presentation **requirements**				1	
	General impression of file/portfolio. (mark out of 10 ÷ 2)				5	
	TOTAL				**10**	
Assessment of drawing methods, drawing skills and presentation						
8	**Freehand drawings**					
	Freehand drawing methods and skills (See ANNEXURE A on page 24)				10	
	Neatness, line quality and **printing** (See ANNEXURE A on page 24)				10	
	TOTAL				**20**	
9	**Instrument drawings**					
	Use of **drawing instruments**, **drawing methods** and **skills** (See ANNEXURE A on page 24)				10	
	Neatness, line work/**line quality** and **printing** (See ANNEXURE A on page 24)				10	
	TOTAL				**20**	
10	**CAD** drawings					
	Competence displayed in using a **CAD** program (see rubric grade 12 PAT – page 24).				10	
	Layout and **correctness** of the drawings presentation (see rubric grade 12 PAT – page 24).				10	
	TOTAL				**20**	
Learner total without CAD						**/100**
Learner total with CAD						**/100**

DECLARATION OF AUTHENTICITY

NAME OF THE SCHOOL: _____

INITIALS AND SURNAME OF LEARNER: _____

GRADE: 11 _

Learner information:
I hereby declare that all the contents of the practical assessment task submitted by myself for assessment is my own original work and has not been plagiarised, copied from someone else or previously submitted for assessment.

By signing this page, you as learner commit yourself to the responsibilities and your cooperation to submit the 2024, grade 11 PAT as part of your (2024) year mark. By failing to submit this PAT before the date of moderation (October 2024), it will be an exam irregularity resulting a zero (0) mark for EGD (despite all exam and SBA efforts committed) during your grade 11 year for 2024.

_____ _____
SIGNATURE OF CANDIDATE DATE

Teacher information:
By signing this page, you as the teacher of above-mentioned learner, indicate that all the information was given to the learner during term 1 of 2024 and that the terms and conditions as well as the consequences of no submission of the 2024, grade 11 PAT was explained to the learner.

_____ _____
SIGNATURE OF TEACHER DATE

SCHOOL STAMP

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PRACTICAL ASSESSMENT TASK (2024)
SUMMATIVE ASSESSMENT SHEET

NAME OF SCHOOL	
NAME & SURNAME OF LEARNER:	
NAME & SURNAME OF TEACHER	
NAME & SURNAME OF MODERATOR	

PART A: Design process

CRITERIA			MARK
1	A design brief demonstrating a clear understanding of the scenario and the specifications, constraints and a management plan		/10
2	Evidence of relevant and usable research with the inclusion of a bibliography		/10
3	TWO detailed freehand drawings of possible solutions	1st Solution	/10
		2nd Solution	/10
4	Selecting the best solution which demonstrates a clear understanding of the design brief		/10
6	Clear evidence of self evaluation and meeting the of all the requirements		/10
7	The presentation of the complete PAT file/portfolio		/10
SUB TOTAL			
CALCULATION			/70
Teacher`s TOTAL			
TOTAL: A			/25

PART B: Working and pictorial drawings

CRITERIA					MARK
5.1	All drawing sheets are appropriately set up with a border and an appropriate title block/panel.				/10
Orthographic drawings	Assess each view`s accuracy and correctness according to the selected solution, the stipulated requirements and EGD drawing principles	5.2	View 1	Floor Plan	/10
		5.3	View 2	Two Elevation drawings	/10
		5.4	View 3	Section Elevation	/10
Pictorial drawing		5.5	Two-Point-Perspective drawing		/10
SUB TOTAL					
CALCULATION					/50
Teacher`s TOTAL					
TOTAL: B					/50

Drawing competency and skill

CRITERIA			MARK
8 Freehand drawings	METHOD	The drawing display correct freehand drawing method and skills and the method used to ensure proportion and size	/10
	The final drawing presentation is neat and there is consistency of line work/line quality, printing and dimensioning		
9 Instrument drawings:	METHOD	The drawings display the correct use of drawing instruments, drawing methods and skills	/10
	The final drawing presentation is neat and there is consistency of line work line quality, printing and dimensioning		/10
10 CAD drawings	METHOD	The level of competence displayed in using a CAD system	/10
	The layout of the final drawing is correct and the line work, printing and dimensioning is compliant and consistent		/10
NO CAD drawings			/40
WITH CAD drawings			/60
CALCULATIOIN without CAD			
CALCULATION with CAD			
Teacher`s TOTAL			
TOTAL: C	Without CAD		
	With CAD		/25

TEACHER`S TOTAL:	A+B+C WITHOUT CAD =	/100	A+B+C WITH CAD /100

Moderated TOTAL	Moderated TOTAL		Moderated TOTAL
TOTAL: A /25	TOTAL: B	/50	TOTAL: C Without CAD / With CAD /25
MODERATED TOTAL:	A+B+C WITHOUT CAD =	/100	A+B+C WITH CAD /100

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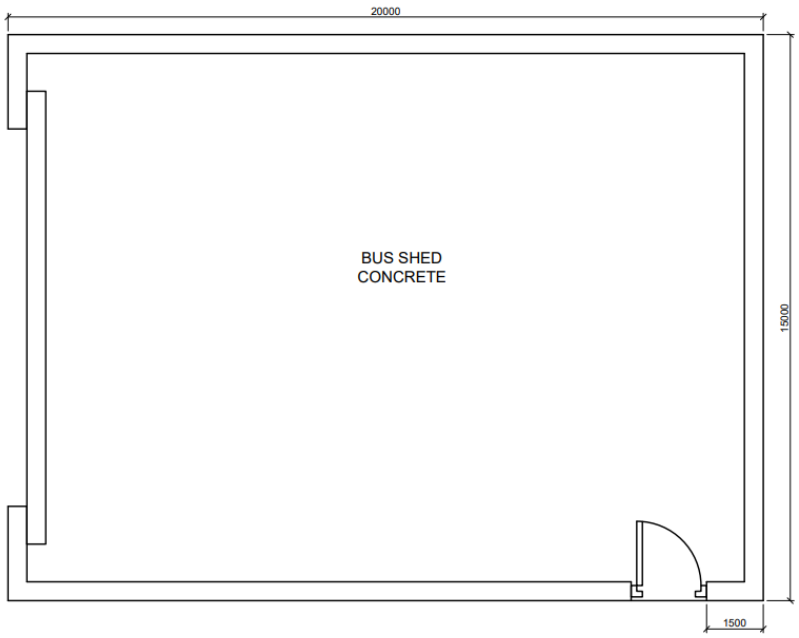
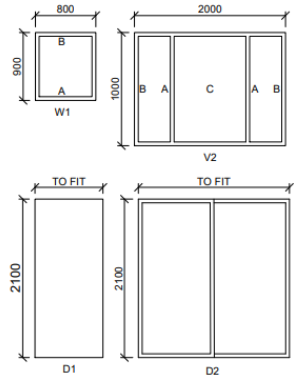
FREE HAND SKETCH AND SIDE NOTES OF EXISTING BUILDING - NTS

EXISTING SEWER LINE 1:40

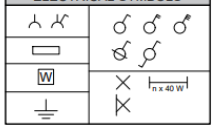


DOOR AND WINDOW SCHEDULES



- WINDOW NOTES
- A = OPENING SIDE
- B = HINGED SIDE
- C = FIXED PANEL
- 150 x 20mm FIBER CEMENT WINDOW SILL (30°) BELOW EACH WINDOW.
- 200 x 75 LINTEL ABOVE ALL DOORS AND WINDOWS
- DOOR AND WINDOW LINTELS ARE INSTALLED AT THE SAME HEIGHT
- ALL DOOR FRAMES ARE 50mm THICK

ELECTRICAL SYMBOLS



FIXTURES