

GEZEIRA STATE COLD CHAIN STORE COVER SHEET

ARCHITECTURAL

| DRAWING NO. | DRAWING NAME       | REVISION |
|-------------|--------------------|----------|
| A-PL-GZ-01  | GROUND FLOOR PLAN  |          |
| A-PL-GZ-02  | FIRST FLOOR PLAN   |          |
| A-PL-GZ-03  | SITE PLAN          |          |
| A-EL-GZ-01  | ELEVATIONS SHEET A |          |
| A-EL-GZ-02  | ELEVATIONS SHEET 2 |          |
| A-SE-GZ-01  | SECTION            |          |

STRUCTURAL

| DRAWING NO. | DRAWING NAME                                 | REVISION |
|-------------|--|----------|
| S-PL-GZ-01  | FOUNDATION PLAN                              |          |
| S-DT-GZ-02  | FOUNDATION & COLUMN DETAILS                  |          |
| S-DT-GZ-03  | GRADE BEAM DETAILS                           |          |
| S-PL-GZ-04  | SUSPENDED SLAB BOTTOM REINFORCEMENT          |          |
| S-PL-GZ-05  | SUSPENDED SLAB TOP REINFORCEMENT             |          |
| S-PL-GZ-06  | GROUND FLOOR COVER SLAB BOTTOM REINFORCEMENT |          |
| S-PL-GZ-07  | GROUND FLOOR COVER SLAB TOP REINFORCEMENT    |          |
| S-PL-GZ-08  | FIRST FLOOR COVER SLAB BOTTOM REINFORCEMENT  |          |
| S-PL-GZ-09  | FIRST FLOOR COVER SLAB TOP REINFORCEMENT     |          |
| S-DT-GZ-10  | BEAM PLAN DETAILS                            |          |
| S-SE-GZ-11  | SLAB SECTION                                 |          |
| S-DT-GZ-12  | STAIRCASE DETAILS                            |          |
| S-PL-GZ-13  | FENCE FOUNDATION PLAN                        |          |

ELECTRICAL

| DRAWING NO. | DRAWING NAME                    | REVISION |
|-------------|---------------------------------|----------|
| E-DT-GZ-01  | SINGLE LINE DIAGRAM             |          |
| E-PL-GZ-02  | GROUND FLOOR LIGHTING PLAN      |          |
| E-PL-GZ-03  | GROUND FLOOR POWER PLAN         |          |
| E-PL-GZ-04  | GROUND FLOOR AC PLAN            |          |
| E-PL-GZ-05  | GROUND FLOOR FIRE FIGHTING PLAN |          |
| E-PL-GZ-06  | GROUNDING & LIGHTNING PLAN      |          |
| E-PL-GZ-07  | FLOOR FLOOR LIGHTING PLAN       |          |
| E-PL-GZ-08  | FIRST FLOOR POWER PLAN          |          |
| E-PL-GZ-09  | FIRST FLOOR AC PLAN             |          |
| E-PL-GZ-10  | FIRST FLOOR FIRE FIGHTING PLAN  |          |
| E-SH-GZ-11  | ELECTRICAL SCHEDULE             |          |



| Rev. | Description | Date |
|------|-------------|------|
|------|-------------|------|

CLIENT :  
UNICEF SUDAN

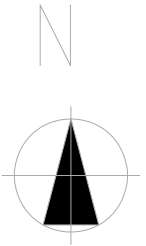
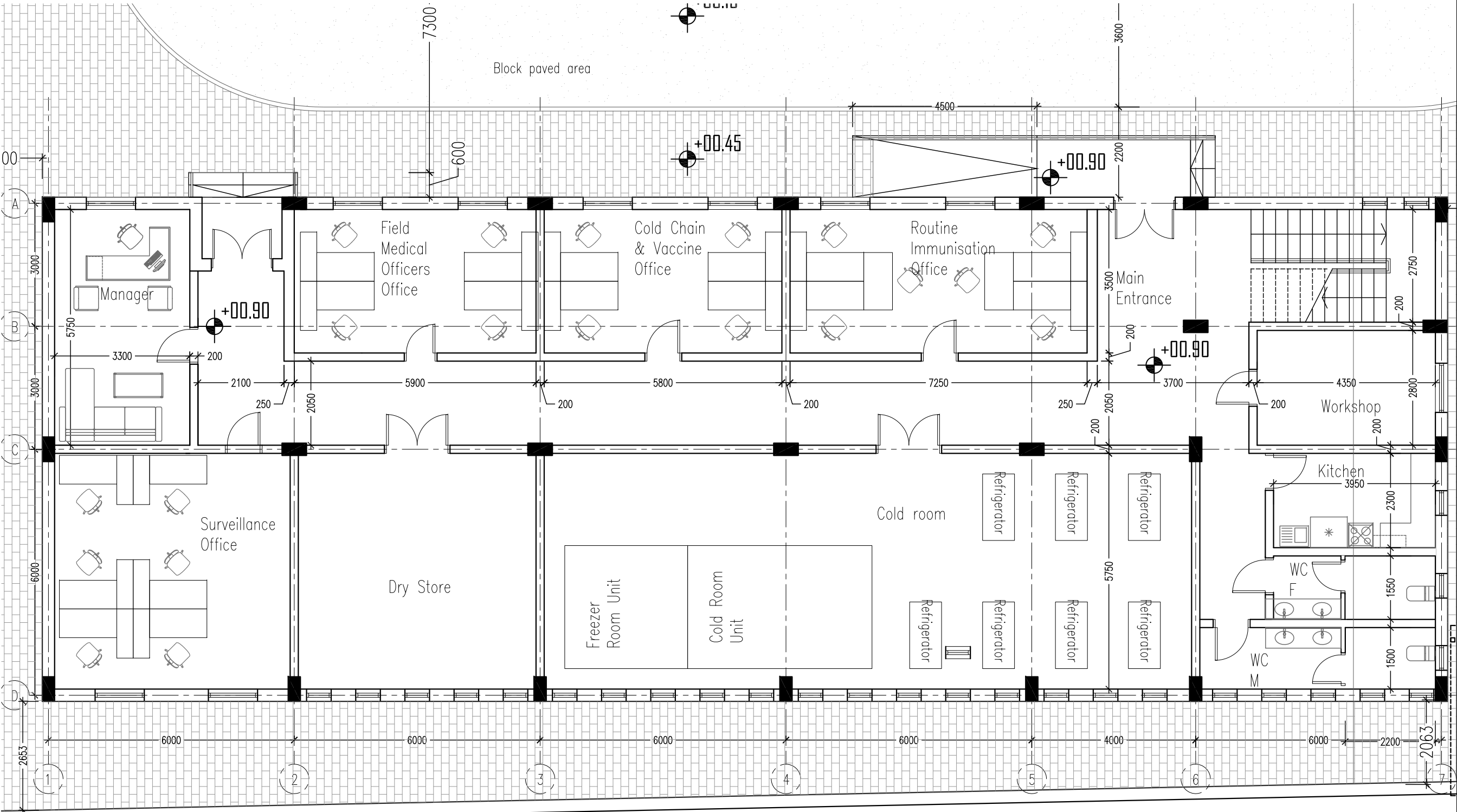
LOCATION :  
GEZEIRA STATE

Project  
COLD CHAIN WAREHOUSE

Drawing :  
COVER SHEET

|           |           |  |
|-----------|-----------|--|
| Drawn by: | Checked : |  |
|-----------|-----------|--|

|                           |               |                    |
|---------------------------|---------------|--------------------|
| Drawing N.<br>00-00-GZ-00 | Revision<br>- | Scale :<br>N/A     |
|                           |               | Date :<br>03/11/22 |



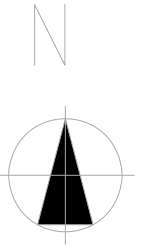
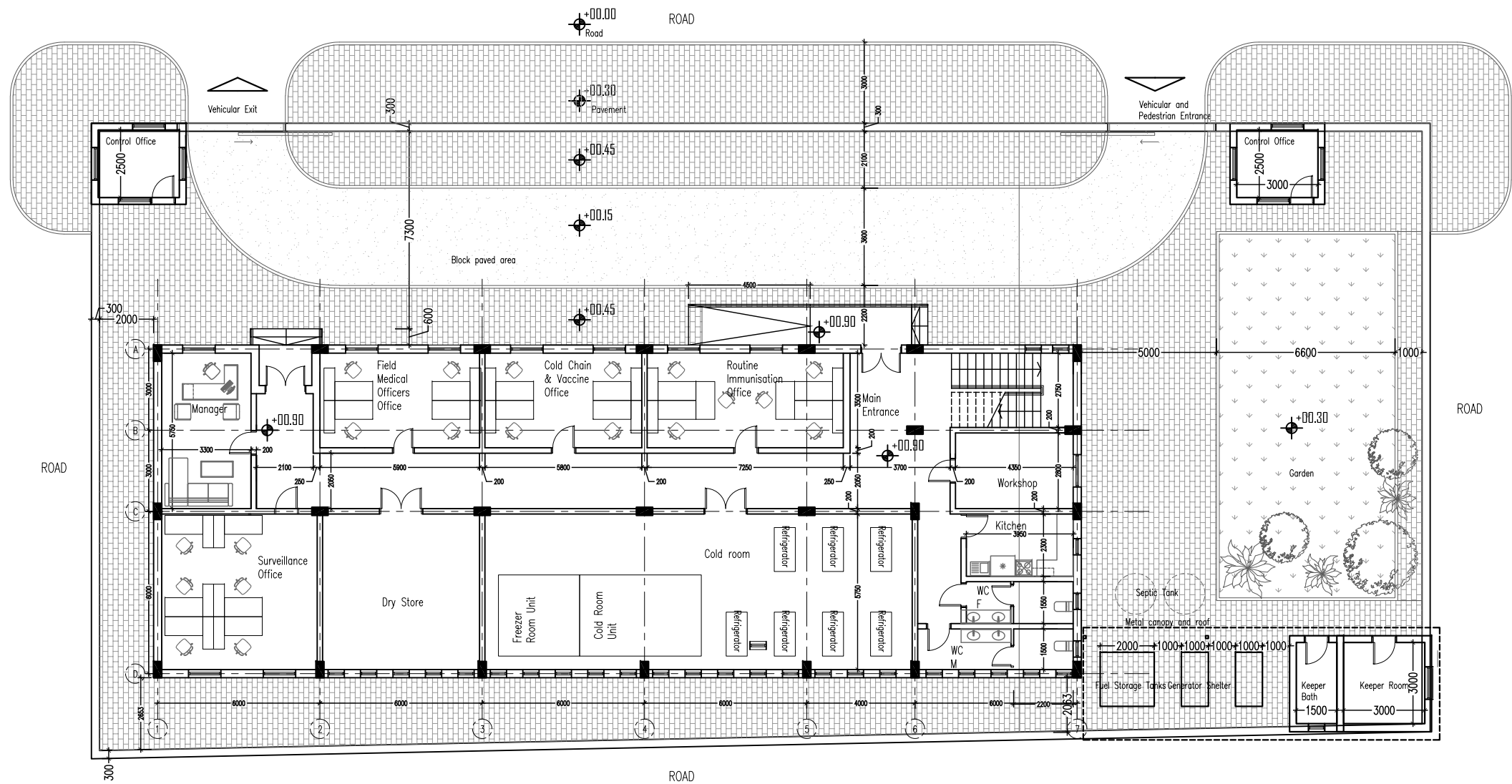
| Rev.                            | Description      | Date   |
|---------------------------------|------------------|--|
| CLIENT :<br>UNICEF SUDAN        |                  |  |
| LOCATION :<br>GEZEIRA STATE     |                  |  |
| Project<br>COLD CHAIN WAREHOUSE |                  |  |
| Drawing :<br>GROUND FLOOR PLAN  |                  |  |
| Drawn by:<br>MGA                | Checked :<br>HAA |  |
| Drawing N.<br>A-PL-GZ-01        |                  | Revision<br>-<br>Scale :<br>1:100 @ A3<br>Date :<br>03/11/22 |

GROUND FLOOR PLAN - GEZEIRA STATE



|   |                                |                                     |
|---|--------------------------------|-------------------------------------|
| Rev.  | Description                    | Date                                |
| <b>CLIENT :</b><br><b>UNICEF SUDAN</b>        |                                |                                     |
| <b>LOCATION :</b><br><b>GEZEIRA STATE</b>     |                                |                                     |
| <b>Project</b><br><b>COLD CHAIN WAREHOUSE</b> |                                |                                     |
| <b>Drawing :</b><br><b>FIRST FLOOR PLAN</b>   |                                |                                     |
| <b>Drawn by:</b><br><b>MGA</b>                | <b>Checked :</b><br><b>HAA</b> |                                     |
| <b>Drawing N.</b><br><b>A-PL-GZ-02</b>        | <b>Revision</b><br><b>-</b>    | <b>Scale :</b><br><b>1:100 @ A3</b> |
|   |                                | <b>Date :</b><br><b>03/11/22</b>    |

SITE PLAN - GEZEIRA



| Rev. | Description | Date |
|------|-------------|------|
|------|-------------|------|

CLIENT :  
UNICEF SUDAN

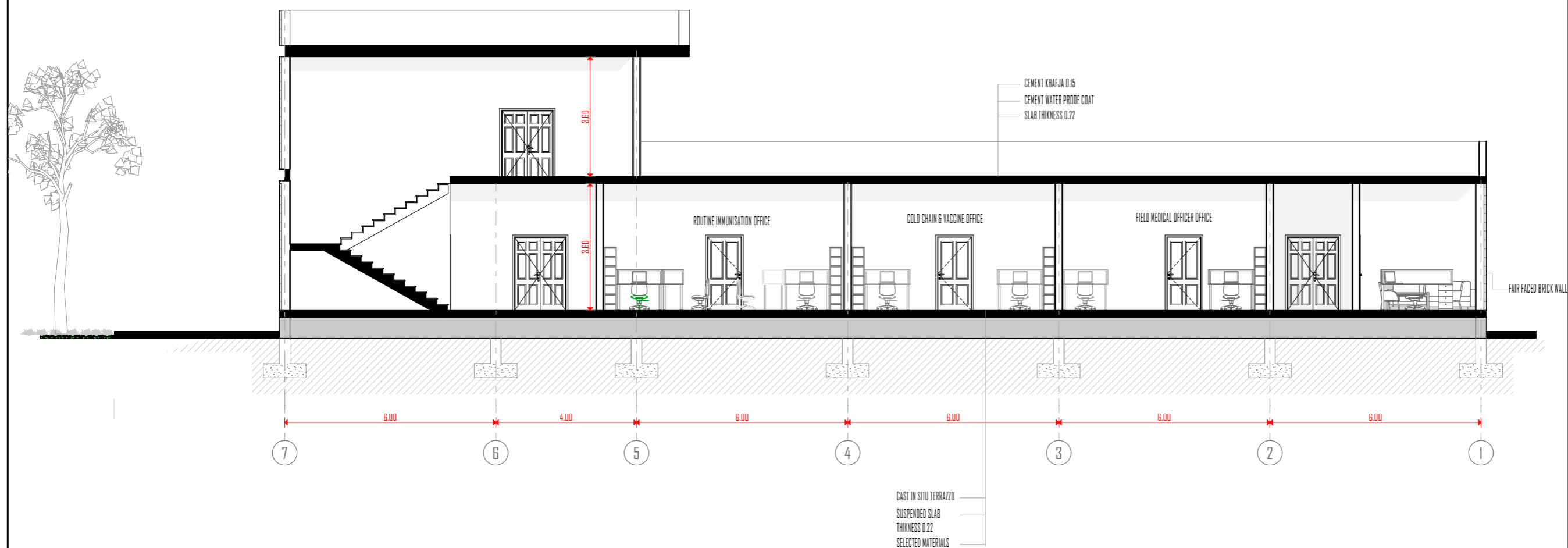
LOCATION :  
WAD MEDANI - GEZEIRA STATE

Project  
COLD CHAIN WAREHOUSE

Drawing :  
SITE PLAN

|                  |                  |  |
|------------------|------------------|--|
| Drawn by:<br>MGA | Checked :<br>HAA |  |
|------------------|------------------|--|

|                          |               |   |
|--------------------------|---------------|---|
| Drawing N.<br>A-PL-GZ-03 | Revision<br>- | Scale :<br>1:200 @ A3<br>Date :<br>03/11/2022 |
|--------------------------|---------------|---|



| Rev. | Description | Date |
|------|-------------|------|
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CLIENT :  
**UNICEF SUDAN**

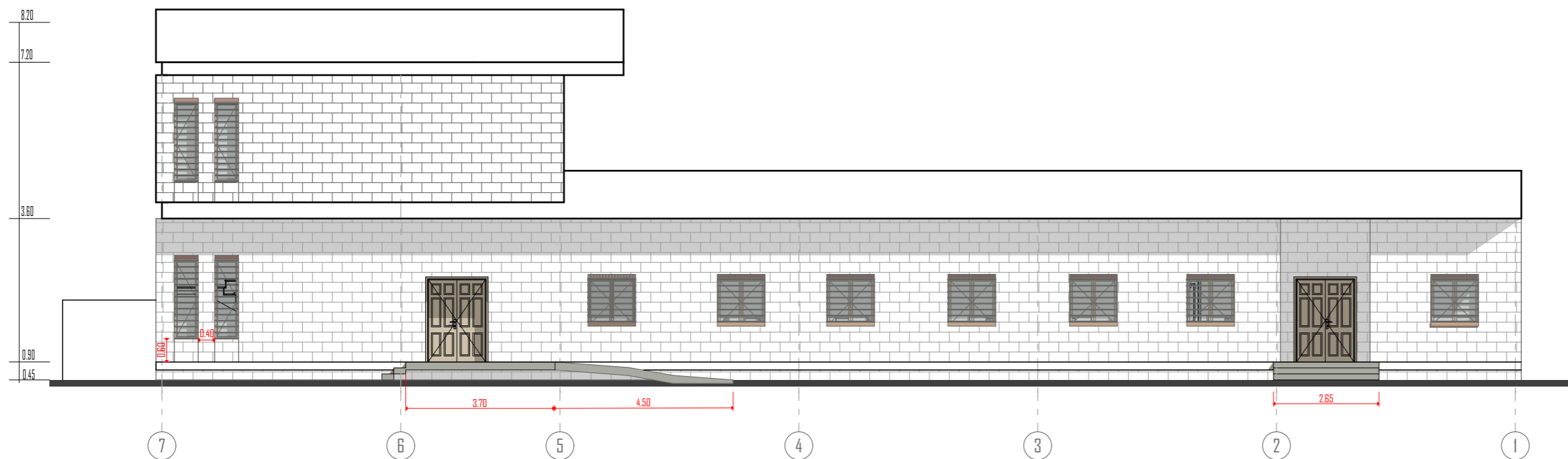
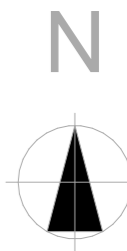
LOCATION :  
**WAD MEDANI - GEZEIRA STATE**

Project  
**COLD CHAIN WAREHOUSE**

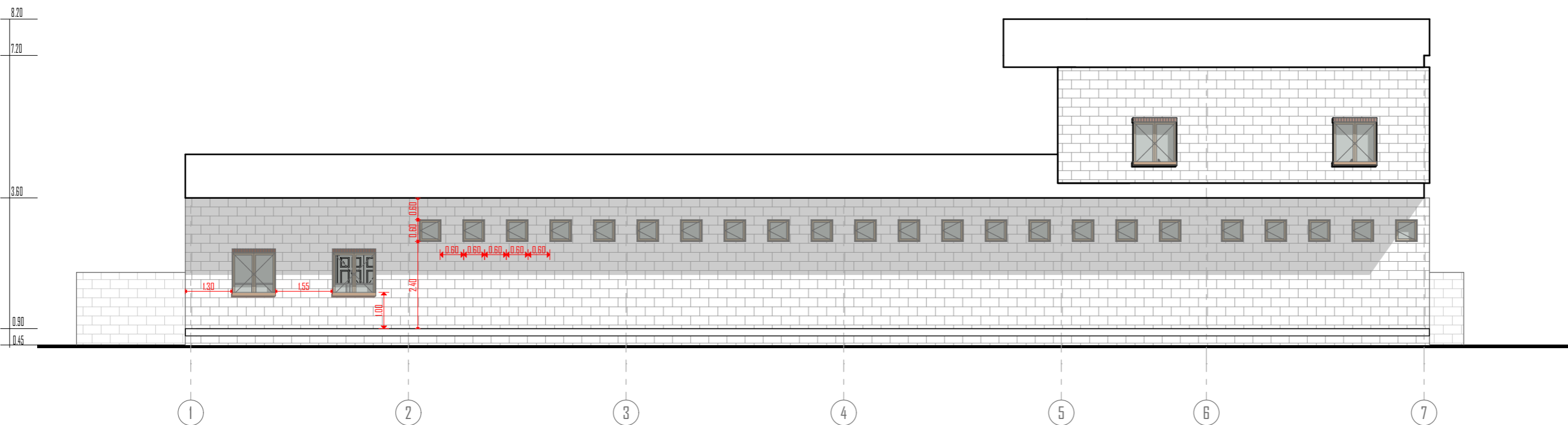
Drawing :  
**SECTION**

|                           |                                  |
|---------------------------|----------------------------------|
| Drawn by:<br><b>FARIS</b> | DESIGN AND CHECK :<br><b>HAA</b> |
|---------------------------|----------------------------------|

|                                 |                      |   |
|---------------------------------|----------------------|---|
| Drawing N.<br><b>A-SE-GZ-01</b> | Revision<br><b>-</b> | Scale :<br><b>1:125 @ A3</b><br>Date :<br><b>24/10/2022</b> |
|---------------------------------|----------------------|---|



NORTH ELEVATION

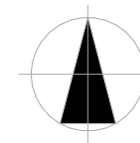


SOUTH ELEVATION



| Rev.                                     | Description               | Date  |
|--|---------------------------|---|
| CLIENT :<br>UNICEF SUDAN                 |                           |   |
| LOCATION :<br>WAD MEDANI - GEZEIRA STATE |                           |   |
| Project<br>COLD CHAIN WAREHOUSE          |                           |   |
| Drawing :<br>ELEVATION                   |                           |   |
| Drawn by:<br>FARIS                       | DESIGN AND CHECK :<br>HAA |   |
| Drawing N.<br>A-EL-GZ-01                 |                           | Scale :<br>1:125 @ A3<br>Date :<br>24/10/2022 |

N



| Rev. | Description | Date |
|------|-------------|------|
|------|-------------|------|

**CLIENT :**  
**UNICEF SUDAN**

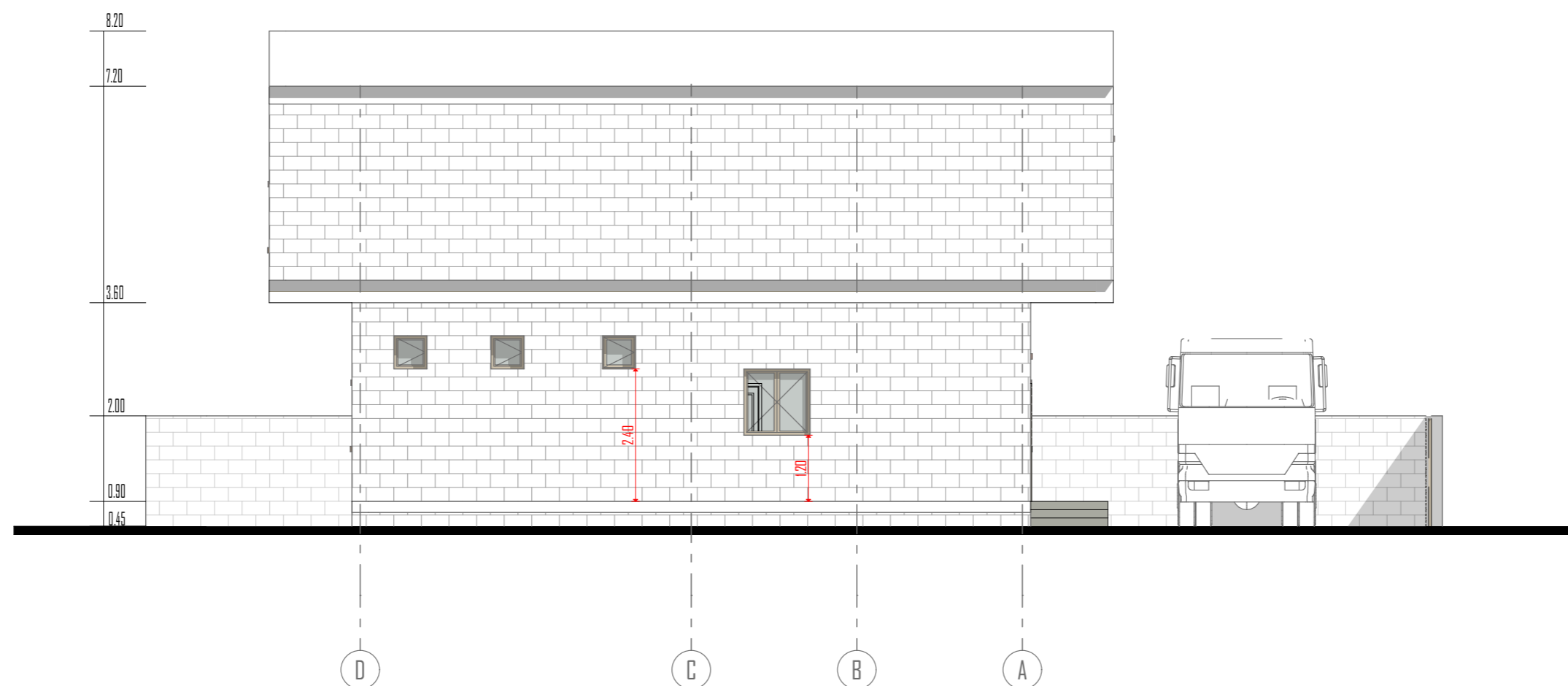
**LOCATION :**  
**WAD MEDANI - GEZEIRA STATE**

**Project**  
**COLD CHAIN WAREHOUSE**

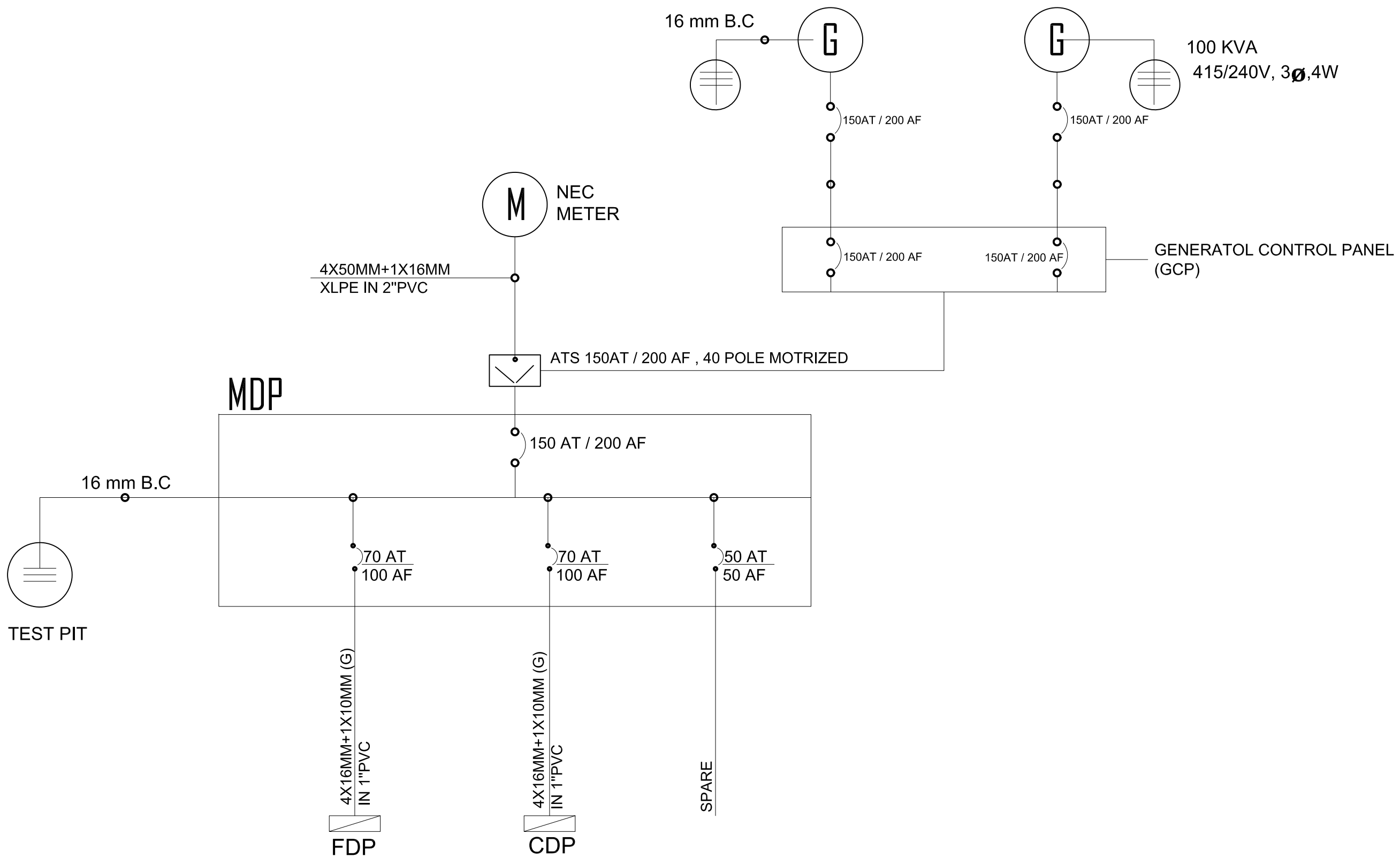
**Drawing :**  
**ELEVATION**

|                           |                                  |  |
|---------------------------|----------------------------------|--|
| Drawn by:<br><b>FARIS</b> | DESIGN AND CHECK :<br><b>HAA</b> |  |
|---------------------------|----------------------------------|--|

|                                 |                      |   |
|---------------------------------|----------------------|---|
| Drawing N.<br><b>A-EL-GZ-02</b> | Revision<br><b>-</b> | Scale :<br><b>1:125 @ A3</b><br>Date :<br><b>24/10/2022</b> |
|---------------------------------|----------------------|---|



**WESTRN ELEVATION**



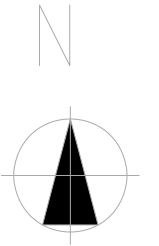
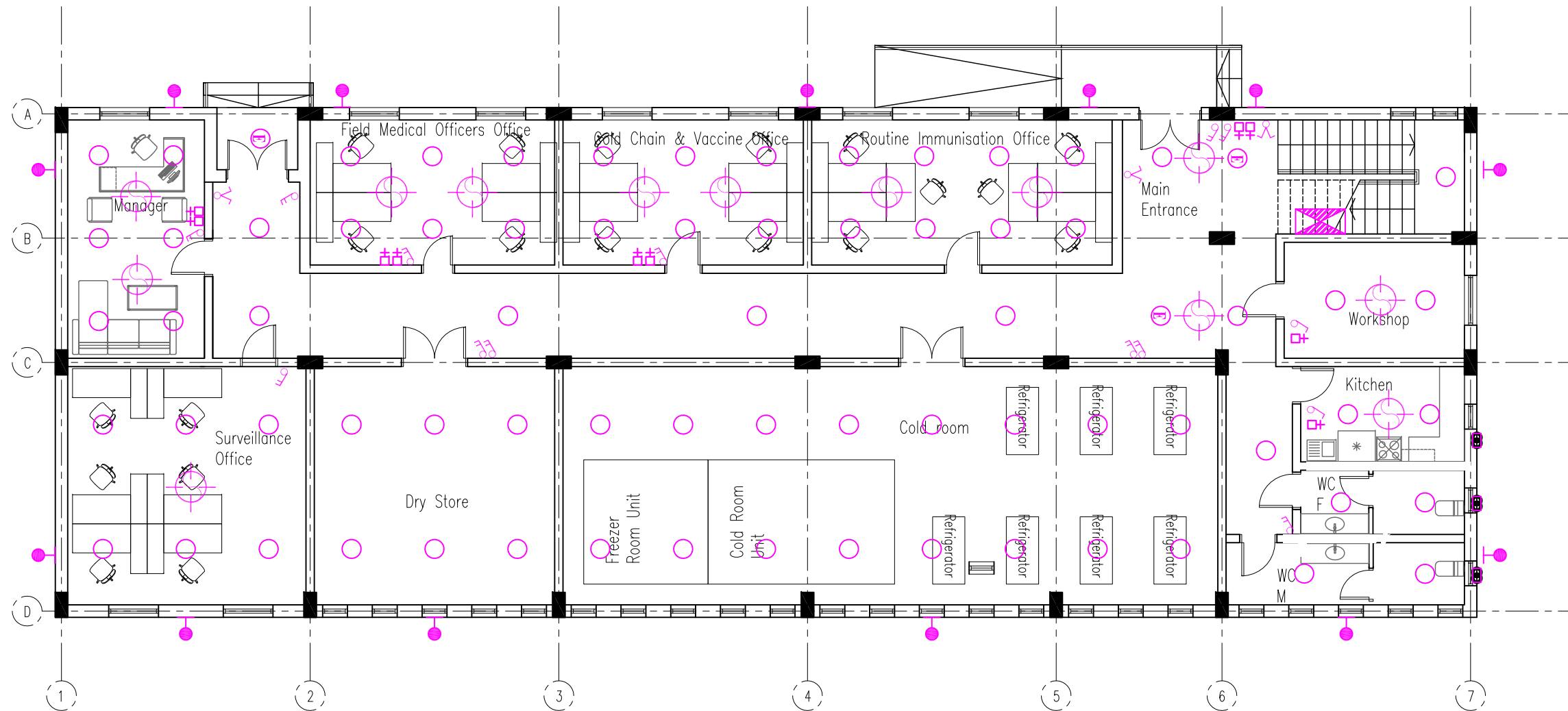
NOTE :

- \* GENERATOR CONTROL PANEL .
- \* ONE GENERATOR WILL WORK AT A TIME PROVIDE MEAN .
- \* PROVIDE MEANS THAT ONLY ONE WILL WORK
- \* MECHANICALLY & ELECTRICALLY.

SINGLE LINE DIAGRAM - GEZEIRA STATE



| Rev.                             | Description      | Date  |
|----------------------------------|------------------|---|
| CLIENT :<br>UNICEF SUDAN         |                  |   |
| LOCATION :<br>GEZEIRA STATE      |                  |   |
| Project<br>COLD CHAIN WAREHOUSE  |                  |   |
| Drawing :<br>SINGLE LINE DIAGRAM |                  |   |
| Drawn by:<br>YOUSTINA            | Checked :<br>HAA |   |
| Drawing N.<br>E-DT-GZ-01         | Revision<br>-    | Scale :<br>N/A @ A3<br>Date :<br>06/11/2022 |

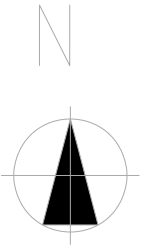
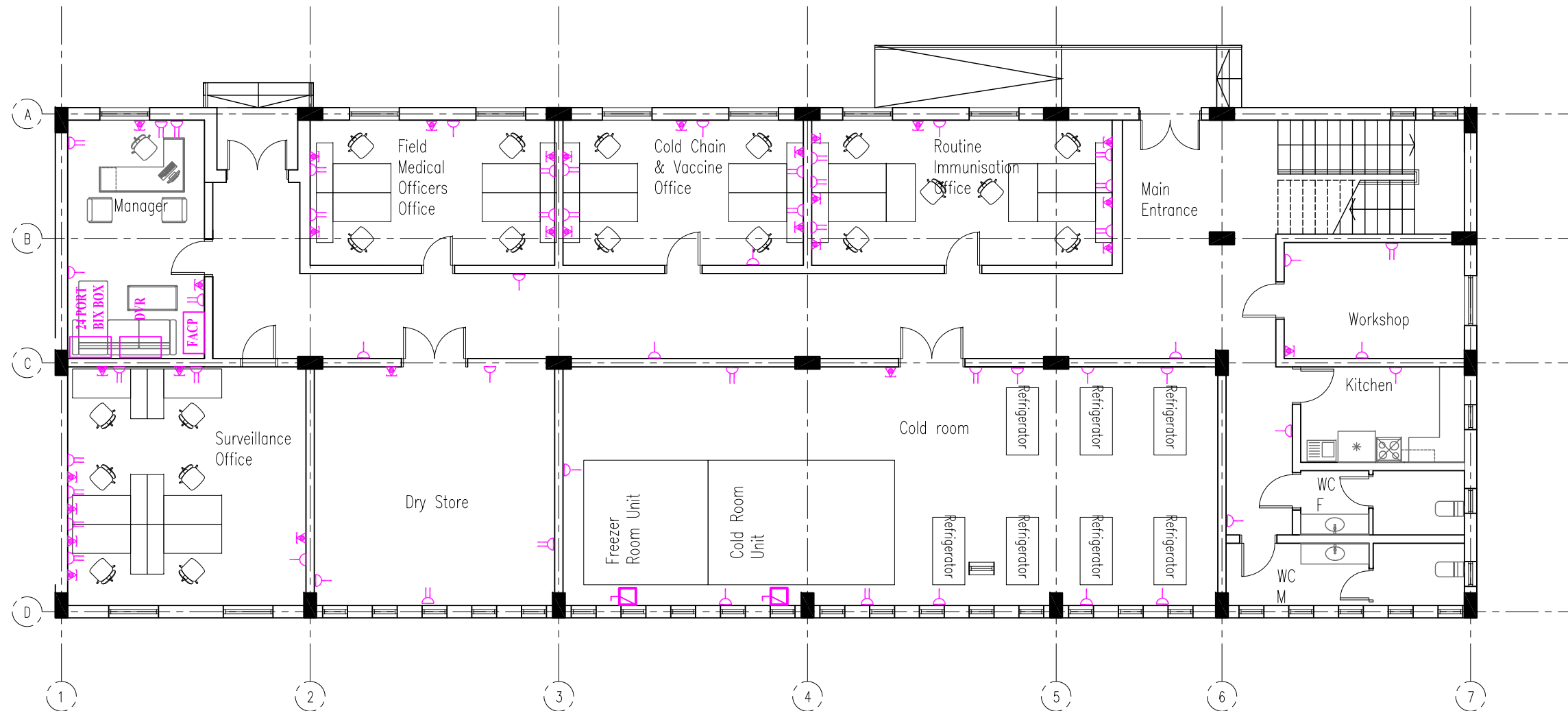


| SYMBOL | DESCRIPTION  |
|--------|--|
|        | 23w LED CYLINDRICAL SURFACE MOUNTING LIGHT LUMINAIRE                                       |
|        | 1 x 50 W LED FLOOD LIGHT MOUNTED IN BOUNDARY OR MOUNTED IN THE WALL                        |
|        | 10 INCH Exhaust Fan  |
|        | FAN REGULATOR  |
|        | CEILING FAN  |
|        | 1Gang - 1Way Switch 10A,250V   |
|        | 2Gang - 1Way Switch 10A,250V   |
|        | 1Gang - 2Way Switch 10A,250V   |
|        | 13 AMP Single Socket 2P,3W   |
|        | 13 AMP Double Socket 250V  |
|        | 24000 UNIT SPLIT UNIT  |
|        | 18000 UNIT SPLIT UNIT  |
|        | 30A A/C switch 2 TON   |
|        | 20A A/C switch 1.5 TON   |
|        | IT & Telephone Point c/w 1-4 PAIR CAT 6 Typical for all to RACK at IT Room c/w 2-RJ45 JACK |
|        | 10 A , 415V / 3ø , 4W  |
|        | MAIN Distribution Board  |
|        | Emergency Lamp   |
|        | Floor box c/w data point c/w 2-RJ45 Jack 4-pair CAT 6                                      |



| Rev.                                    | Description      | Date  |
|---|------------------|---|
| CLIENT :<br>UNICEF SUDAN                |                  |   |
| LOCATION :<br>GEZEIRA STATE             |                  |   |
| Project<br>COLD CHAIN WAREHOUSE         |                  |   |
| Drawing :<br>GROUND FLOOR LIGHTING PLAN |                  |   |
| Drawn by:<br>MGA                        | Checked :<br>HAA |   |
| Drawing N.<br>E-PL-GZ-02                | Revision<br>-    | Scale :<br>1:125 @ A3<br>Date :<br>06/11/2022 |

GROUND FLOOR LIGHTING PLAN - GEZEIRA STATE

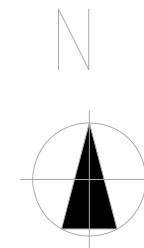
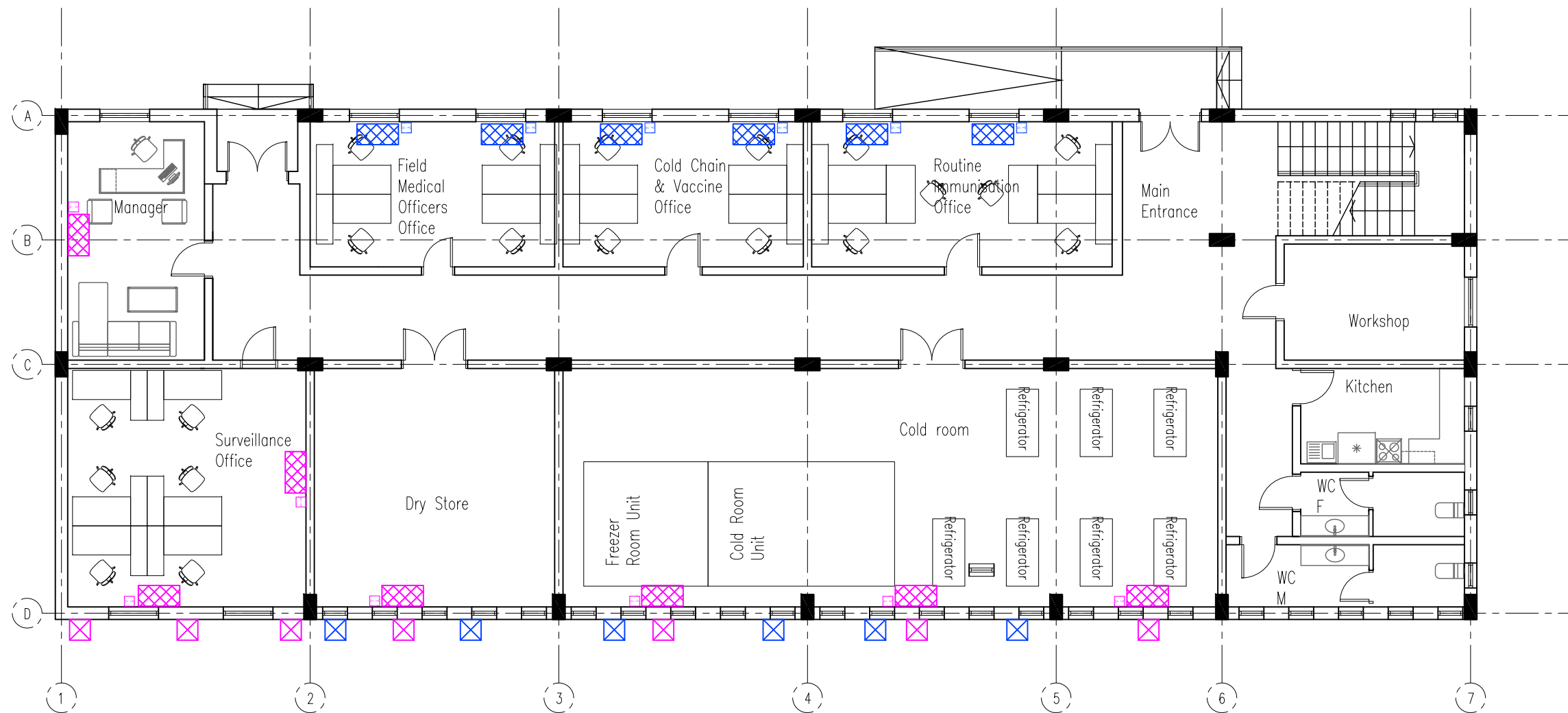


| SYMBOL | DESCRIPTION  |
|--------|--|
|        | 23w LED CYLINDRICAL SURFACE MOUNTING LIGHT LUMINAIRE                                       |
|        | 1 x 50 W LED FLOOD LIGHT MOUNTED IN BOUNDARY OR MOUNTED IN THE WALL                        |
|        | 10 INCH Exhaust Fan  |
|        | FAN REGULATOR  |
|        | CEILING FAN  |
|        | 1Gang - 1Way Switch 10A,250V   |
|        | 2Gang - 1Way Switch 10A,250V   |
|        | 1Gang - 2Way Switch 10A,250V   |
|        | 13 AMP Single Socket 2P,3W   |
|        | 13 AMP Double Socket 250V  |
|        | 24000 UNIT SPLIT UNIT  |
|        | 18000 UNIT SPLIT UNIT  |
|        | 30A A/C switch 2 TON   |
|        | 20A A/C switch 1.5 TON   |
|        | IT & Telephone Point c/w 1-4 PAIR CAT 6 Typical for all to RACK at IT Room c/w 2-RJ45 JACK |
|        | 10 A , 415V / 3ø , 4W  |
|        | MAIN Distribution Board  |
|        | Emergency Lamp   |
|        | Floor box c/w data point c/w 2-RJ45 Jack 4-pair CAT 6                                      |



| Rev.   | Description             | Date  |
|--|-------------------------|---|
| <b>CLIENT :</b><br><b>UNICEF SUDAN</b>             |                         |   |
| <b>LOCATION :</b><br><b>GEZEIRA STATE</b>          |                         |   |
| <b>Project</b><br><b>COLD CHAIN WAREHOUSE</b>      |                         |   |
| <b>Drawing :</b><br><b>GROUND FLOOR POWER PLAN</b> |                         |   |
| Drawn by:<br><b>MGA</b>                            | Checked :<br><b>HAA</b> |   |
| Drawing N.<br><b>E-PL-GZ-03</b>                    | Revision<br>-           | Scale :<br><b>1:125 @ A3</b><br>Date :<br><b>06/11/2022</b> |

**GROUND FLOOR POWER PLAN - GEZEIRA STATE**



| SYMBOL | DESCRIPTION  |
|--------|--|
|        | 23w LED CYLINDRICAL SURFACE MOUNTING LIGHT LUMINAIRE                                       |
|        | 1 x 50 W LED FLOOD LIGHT MOUNTED IN BOUNDARY OR MOUNTED IN THE WALL                        |
|        | 10 INCH Exhaust Fan  |
|        | FAN REGULATOR  |
|        | CEILING FAN  |
|        | 1Gang - 1Way Switch 10A,250V   |
|        | 2Gang - 1Way Switch 10A,250V   |
|        | 1Gang - 2Way Switch 10A,250V   |
|        | 13 AMP Single Socket 2P,3W   |
|        | 13 AMP Double Socket 250V  |
|        | 24000 UNIT SPLIT UNIT  |
|        | 18000 UNIT SPLIT UNIT  |
|        | 30A A/C switch 2 TON   |
|        | 20A A/C switch 1.5 TON   |
|        | IT & Telephone Point c/w 1-4 PAIR CAT 6 Typical for all to RACK at IT Room c/w 2-RJ45 JACK |
|        | 10 A , 415V / 3ø , 4W  |
|        | MAIN Distribution Board  |
|        | Emergency Lamp   |
|        | Floor box c/w data point c/w 2-RJ45 Jack 4-pair CAT 6                                      |



| Rev. | Description | Date |
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**CLIENT :**  
**UNICEF SUDAN**

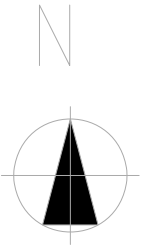
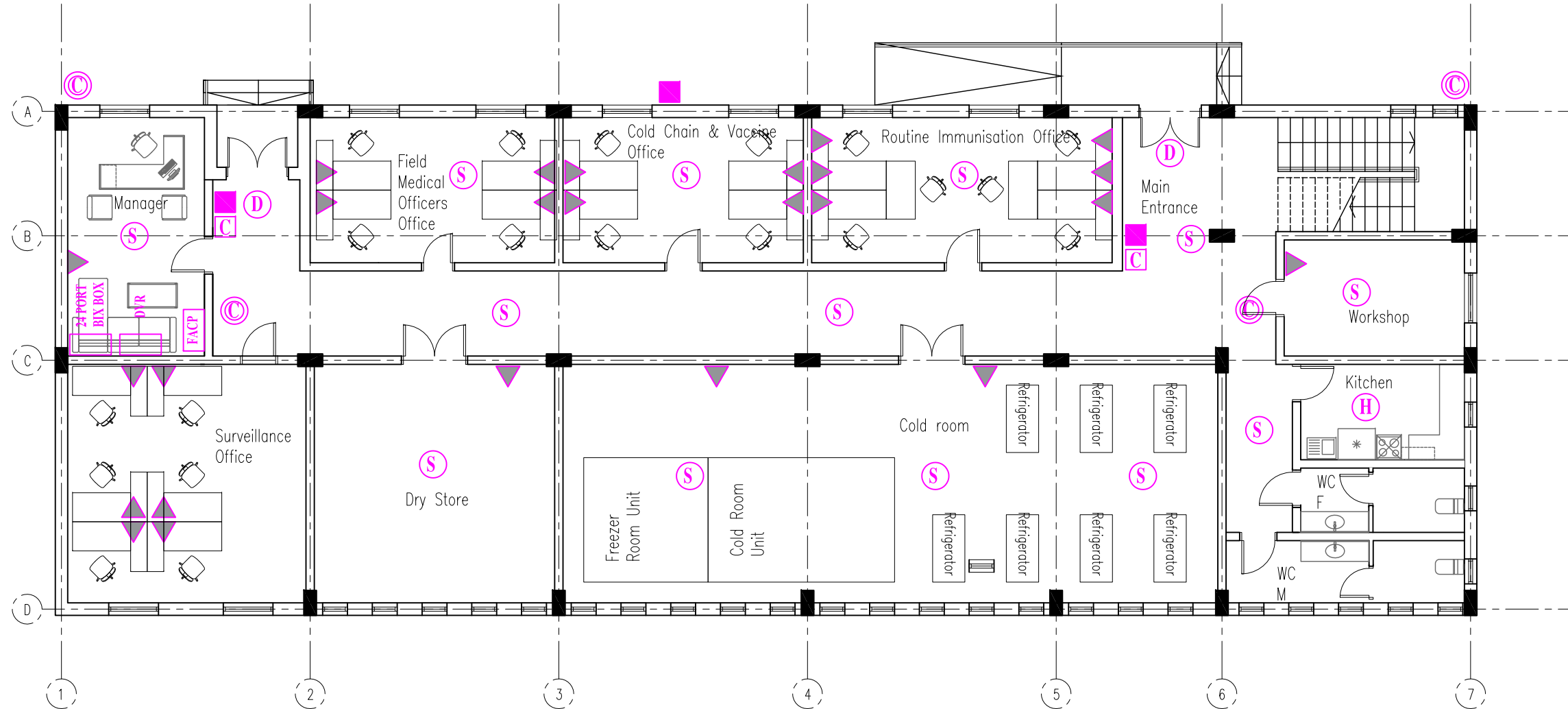
**LOCATION :**  
**GEZEIRA STATE**

**Project**  
**COLD CHAIN WAREHOUSE**

**Drawing :**  
**GROUND FLOOR AC PLAN**

|                                 |                         |   |
|---------------------------------|-------------------------|---|
| Drawn by:<br><b>MGA</b>         | Checked :<br><b>HAA</b> |   |
| Drawing N.<br><b>E-PL-GZ-04</b> | Revision<br><b>-</b>    | Scale :<br><b>1:125 @ A3</b><br>Date :<br><b>06/11/2022</b> |

**GROUND FLOOR AC PLAN - GEZEIRA STATE**



| SYMBOL      | DESCRIPTION                                    |
|-------------|--|
| <b>CCTV</b> | CCTV CONTROL PANEL 36HR BACKUP TIME C/W 17" TV |
| <b>D</b>    | COM CAMERA 360°                                |
| <b>C</b>    | FIXED CAMERA                                   |
| <b>—</b>    | CAT 5 WIRE                                     |
| <b>▲</b>    | DATA WIRE C/W 2 RJ4S & 4 PAIR CAT 6            |
| <b>FACP</b> | FIRE ALARM CONTROL PANEL 4 ZONE                |
| <b>S</b>    | SMOKE DETECTOR                                 |
| <b>H</b>    | HEAT DETECTOR                                  |
| <b>C</b>    | CALL POINT                                     |
| <b>S</b>    | SIREN  |
| <b>—▲</b>   | END OF LINE RESIST                             |

NOTES:  
 \*The cable for CCTV use CAT 5 in 1" PVC  
 \*\*For fire alarm use 2x1.5mm 105°C solid copper type Bulden



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**LOCATION :**  
**GEZEIRA STATE**

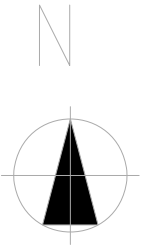
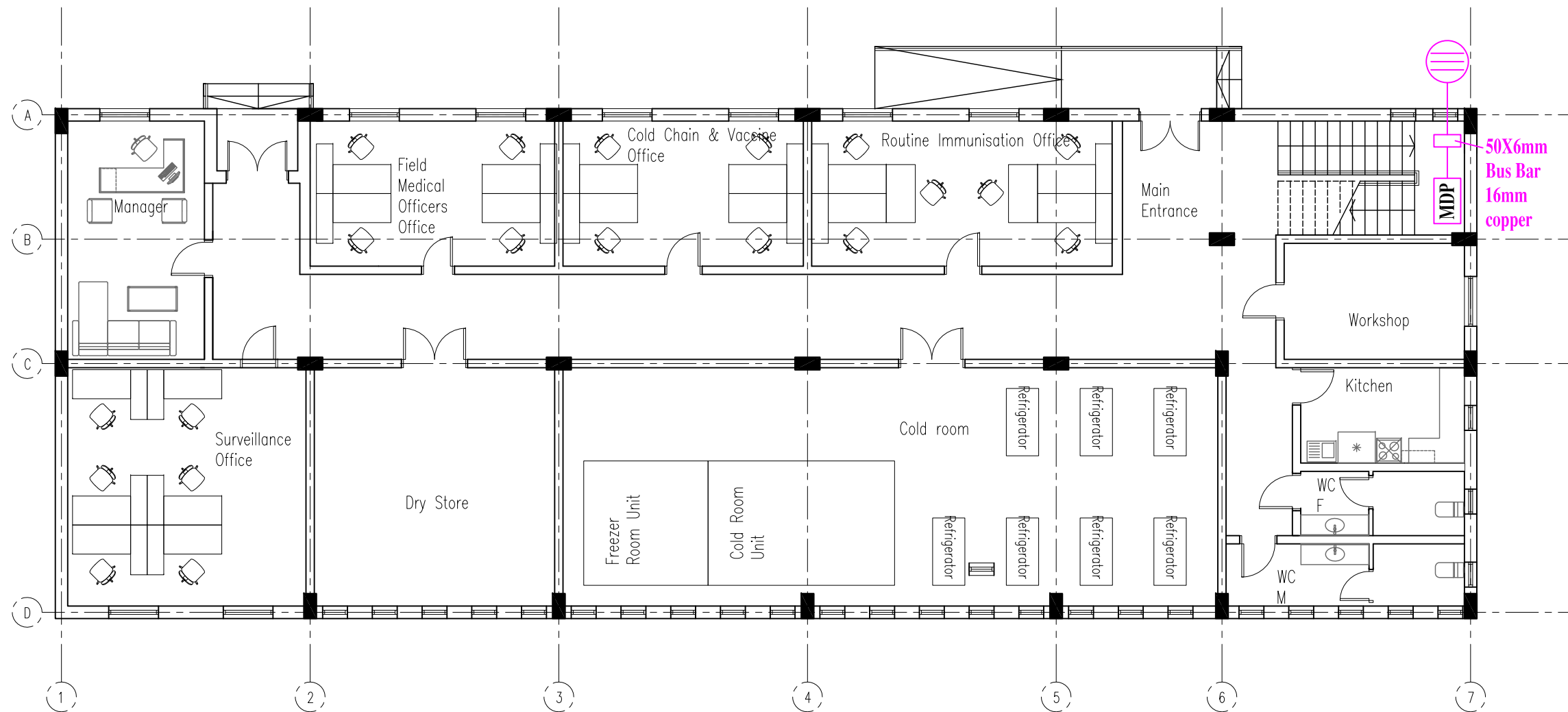
**Project**  
**COLD CHAIN WAREHOUSE**

**Drawing :**  
**GROUND FLOOR FIRE FIGHTING PLAN**

|                         |                         |  |
|-------------------------|-------------------------|--|
| Drawn by:<br><b>MGA</b> | Checked :<br><b>HAA</b> |  |
|-------------------------|-------------------------|--|

|                                 |               |   |
|---------------------------------|---------------|---|
| Drawing N.<br><b>E-PL-GZ-05</b> | Revision<br>- | Scale :<br><b>1:125 @ A3</b><br>Date :<br><b>06/11/2022</b> |
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**GROUND FLOOR FIRE FIGHTING PLAN - GEZEIRA STATE**



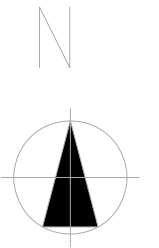
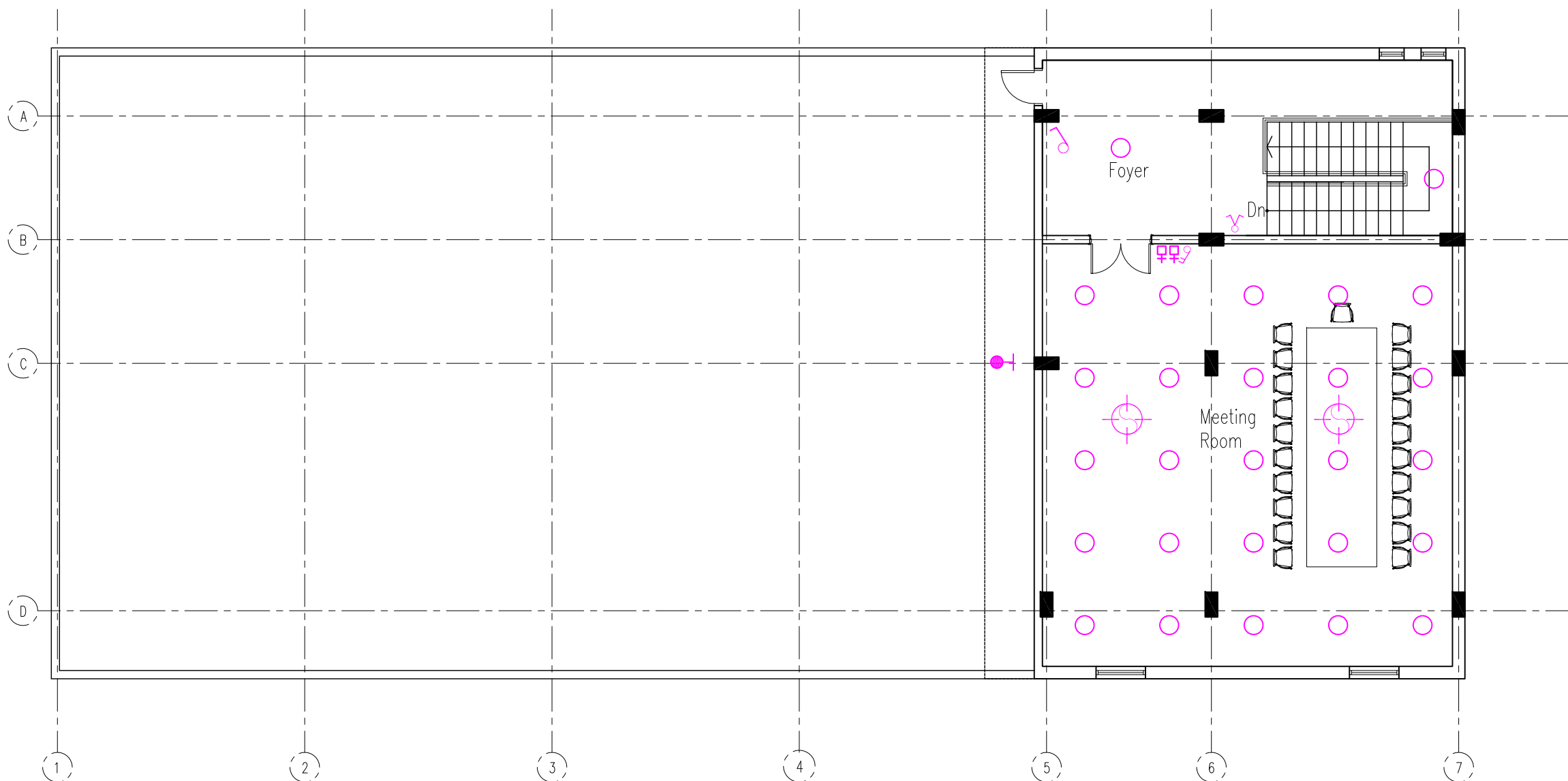
| SYMBOL | DESCRIPTION                               |
|--------|---|
|        | Test pit c/w 8" D (10') (2.4m) Ground Rod |

- Notes:
1. Use NEC BS or IEC
  2. Single line diagram, drawing and specification complete each other
  3. Cable should be XLPE copper
  4. Swire minimum size 2.5mm strand copper 70°/85°C
  5. Conduit minimum size of 3/4" PVC SCHI 40
  6. Ground rod should be copper 10' (2.4m)
  7. Grounding resist. should be 5 Ohm
  8. Connect neutral & earth together in MDP
  9. Use 50x6mm Bus in electrical room for earthing



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| <b>CLIENT :</b><br><b>UNICEF SUDAN</b>                    |                         |   |
| <b>LOCATION :</b><br><b>GEZEIRA STATE</b>                 |                         |   |
| <b>Project</b><br><b>COLD CHAIN WAREHOUSE</b>             |                         |   |
| <b>Drawing :</b><br><b>GROUNDING &amp; LIGHTNING PLAN</b> |                         |   |
| Drawn by:<br><b>MGA</b>                                   | Checked :<br><b>HAA</b> |   |
| Drawing N.<br><b>E-PL-GZ-06</b>                           | Revision<br>-           | Scale :<br><b>1:125 @ A3</b><br>Date :<br><b>06/11/2022</b> |

**GROUNDING PLAN - GEZEIRA STATE**



| SYMBOL | DESCRIPTION  |
|--------|--|
|        | 23w LED CYLINDRICAL SURFACE MOUNTING LIGHT LUMINAIRE                                     |
|        | 1 x 50 W LED FLOOD LIGHT MOUNTED IN BOUNDARY OR MOUNTED IN THE WALL                      |
|        | 10 INCH Exhaust Fan  |
|        | FAN REGULATOR  |
|        | CEILING FAN  |
|        | 1Gang - 1Way Switch 10A,250V   |
|        | 2Gang - 1Way Switch 10A,250V   |
|        | 1Gang - 2Way Switch 10A,250V   |
|        | 13 AMP Single Socket 2P,3W   |
|        | 13 AMP Double Socket 250V  |
|        | 24000 UNIT SPLIT UNIT  |
|        | 18000 UNIT SPLIT UNIT  |
|        | 30A A/C switch 2 TON   |
|        | 20A A/C switch 1.5 TON   |
|        | IT&Telephone Point c/w 1-4 PAIR CAT 6 Typical for all to RACK at IT Room c/w 2-RJ45 JACK |
|        | 10 A , 415V / 3ø , 4W  |
|        | MAIN Distribution Board  |
|        | Emergency Lamp   |
|        | Floor box c/w data point c/w 2-RJ45 Jack 4-pair CAT 6                                    |



| Rev. | Description | Date |
|------|-------------|------|
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**CLIENT :**  
**UNICEF SUDAN**

**LOCATION :**  
**GEZEIRA STATE**

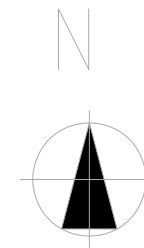
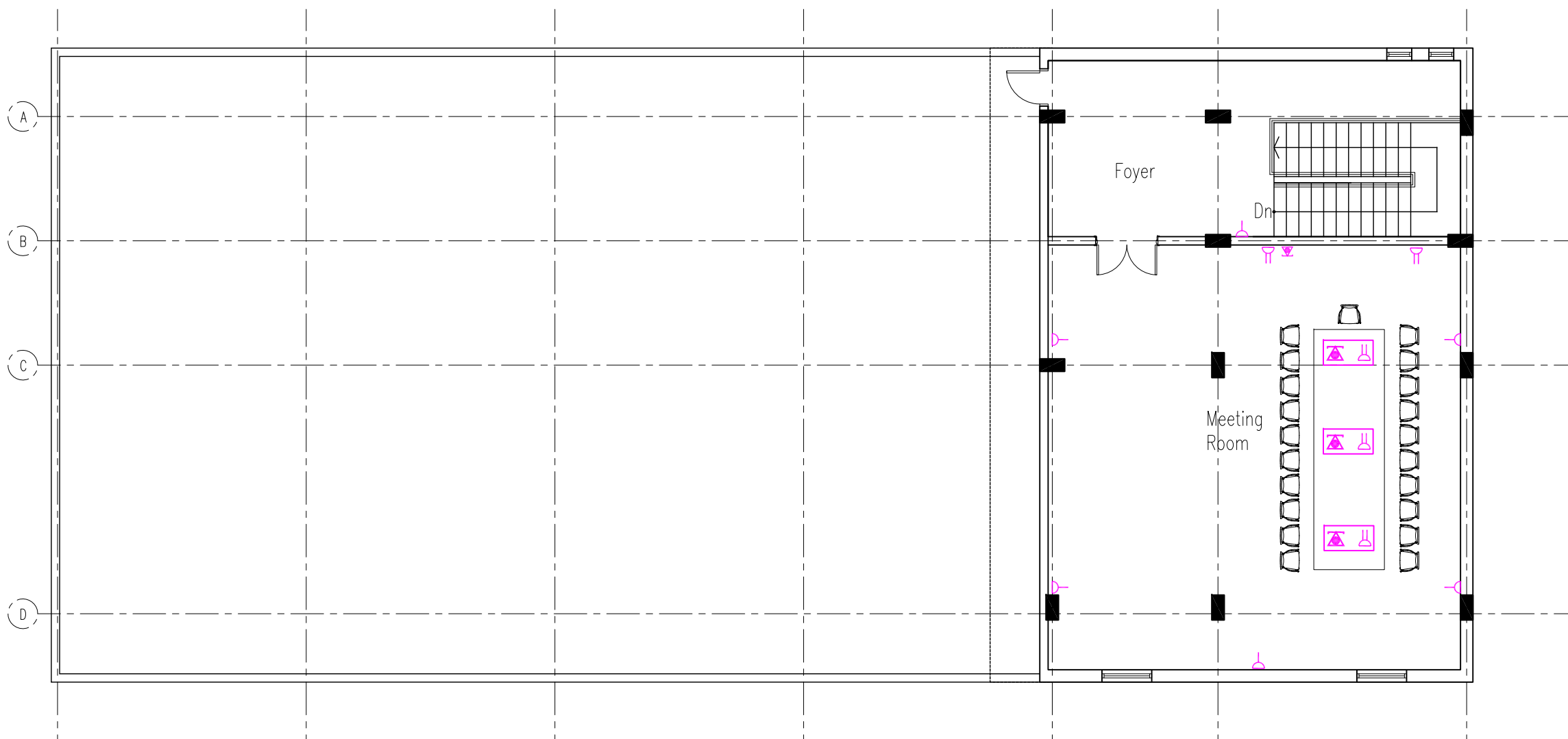
**Project**  
**COLD CHAIN WAREHOUSE**

**Drawing :**  
**FIRST FLOOR LIGHTING PLAN**

|                         |                         |  |
|-------------------------|-------------------------|--|
| Drawn by:<br><b>MGA</b> | Checked :<br><b>HAA</b> |  |
|-------------------------|-------------------------|--|

|                                 |                      |                              |
|---------------------------------|----------------------|------------------------------|
| Drawing N.<br><b>E-PL-GZ-07</b> | Revision<br><b>-</b> | Scale :<br><b>1:125 @ A3</b> |
|                                 |                      | Date :<br><b>06/11/2022</b>  |

**FIRST FLOOR LIGHTING PLAN - GEZEIRA STATE**

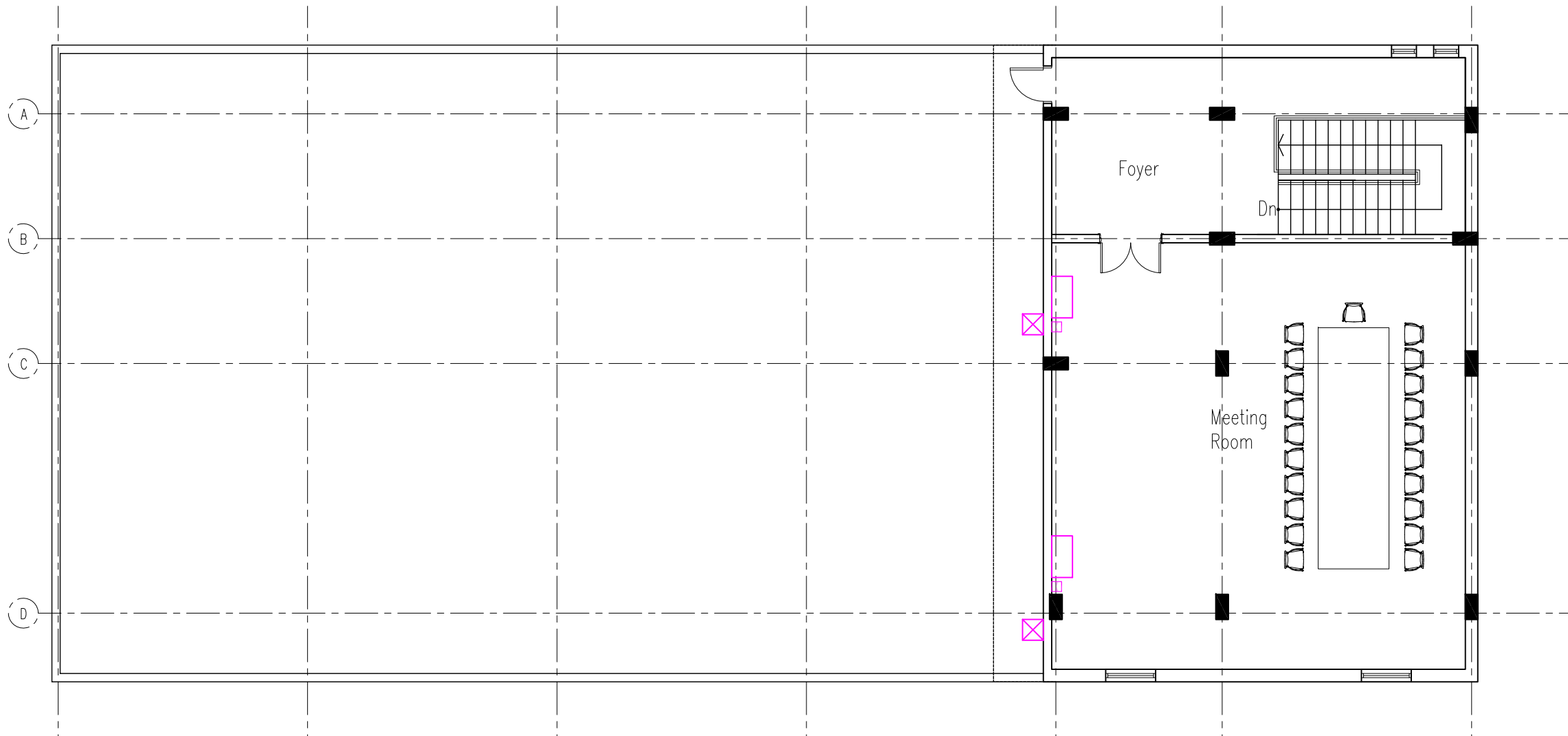


| SYMBOL | DESCRIPTION  |
|--------|--|
|        | 23w LED CYLINDRICAL SURFACE MOUNTING LIGHT LUMINAIRE                                       |
|        | 1 x 50 W LED FLOOD LIGHT MOUNTED IN BOUNDARY OR MOUNTED IN THE WALL                        |
|        | 10 INCH Exhaust Fan  |
|        | FAN REGULATOR  |
|        | CEILING FAN  |
|        | 1Gang - 1Way Switch 10A,250V   |
|        | 2Gang - 1Way Switch 10A,250V   |
|        | 1Gang - 2Way Switch 10A,250V   |
|        | 13 AMP Single Socket 2P,3W   |
|        | 13 AMP Double Socket 250V  |
|        | 24000 UNIT SPLIT UNIT  |
|        | 18000 UNIT SPLIT UNIT  |
|        | 30A A/C switch 2 TON   |
|        | 20A A/C switch 1.5 TON   |
|        | IT & Telephone Point c/w 1-4 PAIR CAT 6 Typical for all to RACK at IT Room c/w 2-RJ45 JACK |
|        | 10 A , 415V / 3ø , 4W  |
|        | MAIN Distribution Board  |
|        | Emergency Lamp   |
|        | Floor box c/w data point c/w 2-RJ45 Jack 4-pair CAT 6                                      |

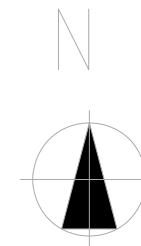


| Rev.                                | Description      | Date  |
|-------------------------------------|------------------|---|
| CLIENT :<br>UNICEF SUDAN            |                  |   |
| LOCATION :<br>GEZEIRA STATE         |                  |   |
| Project<br>COLD CHAIN WAREHOUSE     |                  |   |
| Drawing :<br>FIRST FLOOR POWER PLAN |                  |   |
| Drawn by:<br>MGA                    | Checked :<br>HAA |   |
| Drawing N.<br>E-PL-GZ-08            | Revision<br>-    | Scale :<br>1:125 @ A3<br>Date :<br>06/11/2022 |

FIRST FLOOR POWER PLAN - GEZEIRA STATE



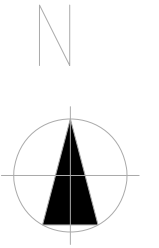
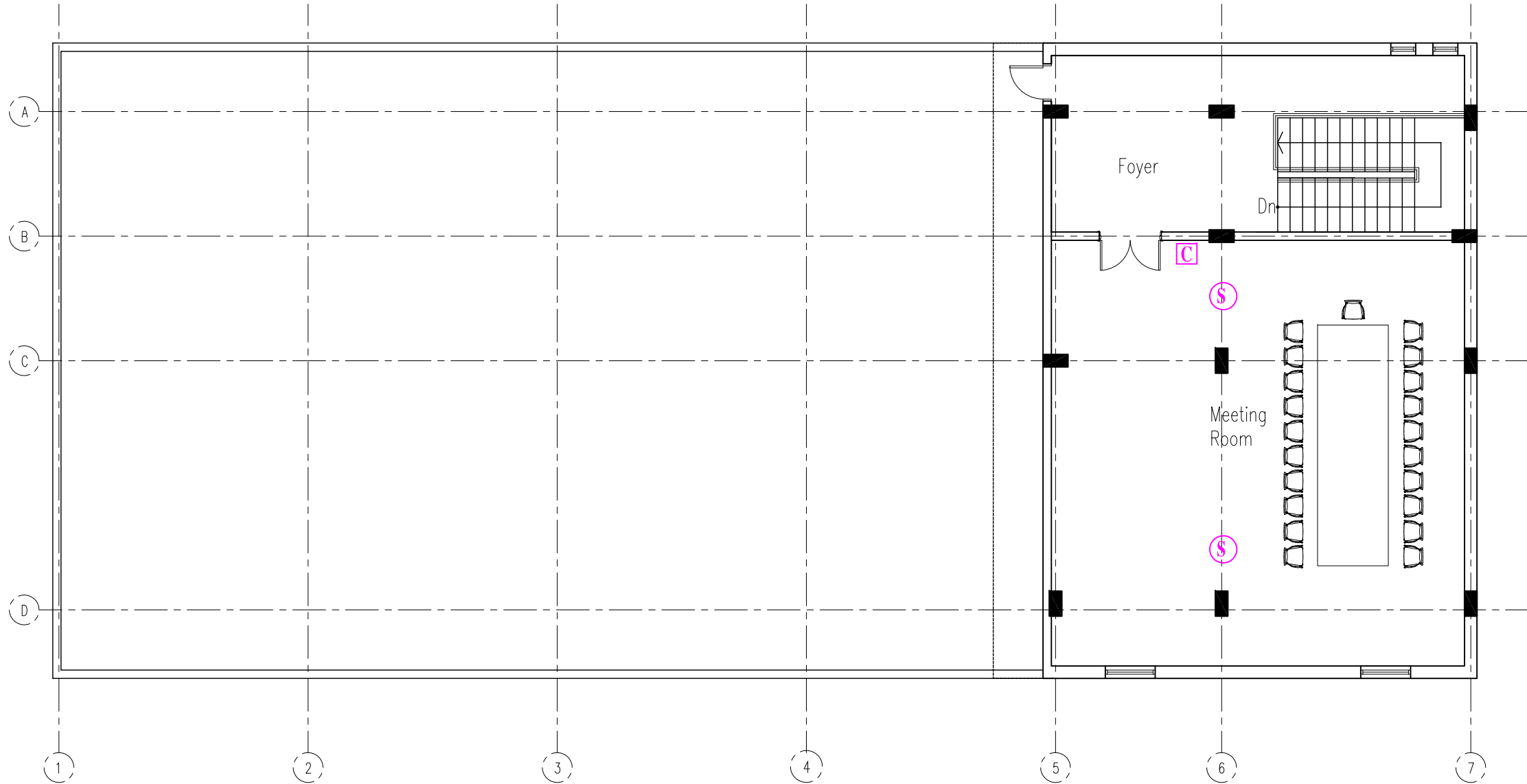
FIRST FLOOR AC PLAN - GEZEIRA STATE



| SYMBOL | DESCRIPTION  |
|--------|--|
|        | 23w LED CYLINDRICAL SURFACE MOUNTING LIGHT LUMINAIRE                                       |
|        | 1 x 50 W LED FLOOD LIGHT MOUNTED IN BOUNDARY OR MOUNTED IN THE WALL                        |
|        | 10 INCH Exhaust Fan  |
|        | FAN REGULATOR  |
|        | CEILING FAN  |
|        | 1Gang - 1Way Switch 10A,250V   |
|        | 2Gang - 1Way Switch 10A,250V   |
|        | 1Gang - 2Way Switch 10A,250V   |
|        | 13 AMP Single Socket 2P,3W   |
|        | 13 AMP Double Socket 250V  |
|        | 24000 UNIT SPLIT UNIT  |
|        | 18000 UNIT SPLIT UNIT  |
|        | 30A A/C switch 2 TON   |
|        | 20A A/C switch 1.5 TON   |
|        | IT & Telephone Point c/w 1-4 PAIR CAT 6 Typical for all to RACK at IT Room c/w 2-RJ45 JACK |
|        | 10 A , 415V / 30 , 4W  |
|        | MAIN Distribution Board  |
|        | Emergency Lamp   |
|        | Floor box c/w data point c/w 2-RJ45 Jack 4-pair CAT 6                                      |



| Rev.                             | Description      | Date  |
|----------------------------------|------------------|---|
| CLIENT :<br>UNICEF SUDAN         |                  |   |
| LOCATION :<br>GEZEIRA STATE      |                  |   |
| Project<br>COLD CHAIN WAREHOUSE  |                  |   |
| Drawing :<br>FIRST FLOOR AC PLAN |                  |   |
| Drawn by:<br>MGA                 | Checked :<br>HAA |   |
| Drawing N.<br>E-PL-GZ-09         | Revision<br>-    | Scale :<br>1:125 @ A3<br>Date :<br>06/11/2022 |



| SYMBOL      | DESCRIPTION                                    |
|-------------|--|
| <b>CCTV</b> | CCTV CONTROL PANEL 36HR BACKUP TIME C/W 17" TV |
| <b>D</b>    | COM CAMERA 360°                                |
| <b>C</b>    | FIXED CAMERA                                   |
| <b>—</b>    | CAT 5 WIRE                                     |
| <b>▲</b>    | DATA WIRE C/W 2 RJ4S & 4 PAIR CAT 6            |
| <b>FACP</b> | FIRE ALARM CONTROL PANEL 4 ZONE                |
| <b>S</b>    | SMOKE DETECTOR                                 |
| <b>H</b>    | HEAT DETECTOR                                  |
| <b>C</b>    | CALL POINT                                     |
| <b>S</b>    | SIREN  |
| <b>—</b>    | END OF LINE RESIST                             |

NOTES:  
 \*The cable for CCTV use CAT 5 in 1" PVC  
 \*\*For fire alarm use 2x1.5mm 105°C solid copper type Bulden



| Rev. | Description | Date |
|------|-------------|------|
|------|-------------|------|

**CLIENT :**  
**UNICEF SUDAN**

**LOCATION :**  
**GEZEIRA STATE**

**Project**  
**COLD CHAIN WAREHOUSE**

**Drawing :**  
**FIRST FLOOR FIRE FIGHTING PLAN**

|                                 |                         |   |
|---------------------------------|-------------------------|---|
| Drawn by:<br><b>MGA</b>         | Checked :<br><b>HAA</b> |   |
| Drawing N.<br><b>E-PL-GZ-10</b> | Revision<br><b>-</b>    | Scale :<br><b>1:125 @ A3</b><br>Date :<br><b>06/11/2022</b> |

**FIRST FLOOR FIRE FIGHTING PLAN - GEZEIRA STATE**

| WLP                           |      |     |                 |                                    |                |      |      |                   |                |      |      |                             |        |       |     |                 |  |
|-------------------------------|------|-----|-----------------|------------------------------------|----------------|------|------|-------------------|----------------|------|------|-----------------------------|--------|-------|-----|-----------------|--|
| LIGHTING                      |      |     |                 | 415/240 VOLTS, 3 PHASE, 5 WIRES    |                |      |      |                   |                |      |      | Main Breaker: 70A MCCB      |        |       |     |                 |  |
| LOCATION: WORKSHOP            |      |     |                 | Main Cable: 4*16MM+1*10MM IN 1"PVC |                |      |      |                   |                |      |      |                             |        |       |     |                 |  |
| CKT No                        | MCB  |     | Wire Size (mm2) | LOAD DISCRIBTION & LOCATION        | Phase load (w) |      |      | Phase             | Phase load (w) |      |      | LOAD DISCRIBTION & LOCATION | CKT No | MCB   |     | Wire Size (mm2) |  |
|                               | POLE | AMP |                 |                                    | R              | Y    | B    |                   | R              | Y    | B    |                             |        | POLE  | AMP |                 |  |
| 1                             | 1    | 20  | 4               | FREEZER                            | 3000           |      |      | R                 | 3000           |      |      | FREEZER                     |        | 1     | 20  | 4               |  |
| 3                             | 1    | 20  | 4               | FREEZER                            |                | 3000 |      | Y                 |                | 3000 |      | FREEZER                     |        | 1     | 20  | 4               |  |
| 5                             | 1    | 20  | 4               | FREEZER                            |                |      | 3000 | B                 |                |      | 3000 | FREEZER                     |        | 1     | 20  | 4               |  |
| 7                             | 1    | 20  | 4               | 3FRE                               | 3000           |      |      | R                 | 3000           |      |      | 3FRE                        |        | 1     | 20  | 4               |  |
| 9                             | 1    | 20  | 4               | 3FRE                               |                | 3000 |      | Y                 |                |      |      | 3FRE                        |        | 1     | 20  | 4               |  |
| 11                            | 1    | 30  | 6               | A/C 2 TON                          |                |      | 3400 | B                 |                | 3400 |      | A/C 2 TON                   |        | 1     | 30  | 6               |  |
| 13                            | 1    | 20  |                 | a/c 2 TON C.R 00W                  | 3400           |      |      | R                 |                |      | 3400 | a/c 2 TON C.R 00W           |        | 1     | 20  |                 |  |
| 15                            |      |     |                 |                                    |                |      |      | Y                 |                |      |      |                             |        |       |     |                 |  |
| 17                            |      |     |                 |                                    |                |      |      | B                 |                |      |      |                             |        |       |     |                 |  |
| 19                            |      |     |                 |                                    |                |      |      | R                 |                |      |      |                             |        |       |     |                 |  |
| 21                            |      |     |                 |                                    |                |      |      | Y                 |                |      |      |                             |        |       |     |                 |  |
| 23                            |      |     |                 |                                    |                |      |      | B                 |                |      |      |                             |        |       |     |                 |  |
| 25                            |      |     |                 |                                    |                |      |      | R                 |                |      |      |                             |        |       |     |                 |  |
| 27                            |      |     |                 |                                    |                |      |      | Y                 |                |      |      |                             |        |       |     |                 |  |
| 29                            |      |     |                 |                                    |                |      |      | B                 |                |      |      |                             |        |       |     |                 |  |
| SUBTOTAL                      |      |     |                 |                                    | 9400           | 6000 | 6400 |                   | 6000           | 6400 | 6400 | SUBTOTAL                    |        |       |     |                 |  |
|                               |      |     |                 |                                    |                |      |      |                   |                |      |      |                             |        |       |     |                 |  |
| Project: COLD CHAIN WAREHOUSE |      |     |                 |                                    |                |      |      | Phase load (w)    |                | DF   |      |                             |        |       |     |                 |  |
| Contractor:                   |      |     |                 |                                    |                |      |      | 15400 12400 12800 |                | 0.7  |      | LOAD                        |        | KW    |     | Amp             |  |
| Date:                         |      |     |                 |                                    |                |      |      | Phase load (A)    |                |      |      | TOTAL ACTUAL LOAD           |        | 40.6  |     | 62.83           |  |
|                               |      |     |                 |                                    |                |      |      | 71.30 57.41 59.26 |                |      |      | TOTAL DEMAND LOAD           |        | 28.42 |     | 43.98           |  |
|                               |      |     |                 |                                    |                |      |      |                   |                |      |      | TOTAL DEMAND LOAD + 20%     |        | 34.1  |     | 52.8            |  |

| WLP                           |      |     |                 |                                    |                |      |                   |       |                |      |      |                             |        |                         |     |                 |       |
|-------------------------------|------|-----|-----------------|------------------------------------|----------------|------|-------------------|-------|----------------|------|------|-----------------------------|--------|-------------------------|-----|-----------------|-------|
| LIGHTING                      |      |     |                 | 415/240 VOLTS, 3 PHASE, 5 WIRES    |                |      |                   |       |                |      |      | Main Breaker: 70A MCCB      |        |                         |     |                 |       |
| LOCATION: WORKSHOP            |      |     |                 | Main Cable: 4*16MM+1*10MM IN 1"PVC |                |      |                   |       |                |      |      |                             |        |                         |     |                 |       |
| CKT No                        | MCB  |     | Wire Size (mm2) | LOAD DISCRIBTION & LOCATION        | Phase load (w) |      |                   | Phase | Phase load (w) |      |      | LOAD DISCRIBTION & LOCATION | CKT No | MCB                     |     | Wire Size (mm2) |       |
|                               | POLE | AMP |                 |                                    | R              | Y    | B                 |       | R              | Y    | B    |                             |        | POLE                    | AMP |                 |       |
| 1                             | 1    | 20  | 4               | FREEZER                            | 3000           |      |                   | R     | 3000           |      |      | FREEZER                     |        | 1                       | 20  | 4               |       |
| 3                             | 1    | 20  | 4               | FREEZER                            |                | 3000 |                   | Y     |                | 3000 |      | FREEZER                     |        | 1                       | 20  | 4               |       |
| 5                             | 1    | 20  | 4               | FREEZER                            |                |      | 3000              | B     |                |      | 3000 | FREEZER                     |        | 1                       | 20  | 4               |       |
| 7                             | 1    | 20  | 4               | 3FRE                               | 3000           |      |                   | R     | 3000           |      |      | 3FRE                        |        | 1                       | 20  | 4               |       |
| 9                             | 1    | 20  | 4               | 3FRE                               |                | 3000 |                   | Y     |                |      |      | 3FRE                        |        | 1                       | 20  | 4               |       |
| 11                            | 1    | 30  | 6               | A/C 2 TON                          |                |      | 3400              | B     |                | 3400 |      | A/C 2 TON                   |        | 1                       | 30  | 6               |       |
| 13                            | 1    | 20  |                 | a/c 2 TON C.R 00W                  | 3400           |      |                   | R     |                |      | 3400 | a/c 2 TON C.R 00W           |        | 1                       | 20  |                 |       |
| 15                            |      |     |                 |                                    |                |      |                   | Y     |                |      |      |                             |        |                         |     |                 |       |
| 17                            |      |     |                 |                                    |                |      |                   | B     |                |      |      |                             |        |                         |     |                 |       |
| 19                            |      |     |                 |                                    |                |      |                   | R     |                |      |      |                             |        |                         |     |                 |       |
| 21                            |      |     |                 |                                    |                |      |                   | Y     |                |      |      |                             |        |                         |     |                 |       |
| 23                            |      |     |                 |                                    |                |      |                   | B     |                |      |      |                             |        |                         |     |                 |       |
| 25                            |      |     |                 |                                    |                |      |                   | R     |                |      |      |                             |        |                         |     |                 |       |
| 27                            |      |     |                 |                                    |                |      |                   | Y     |                |      |      |                             |        |                         |     |                 |       |
| 29                            |      |     |                 |                                    |                |      |                   | B     |                |      |      |                             |        |                         |     |                 |       |
| SUBTOTAL                      |      |     |                 |                                    | 9400           | 6000 | 6400              |       | 6000           | 6400 | 6400 | SUBTOTAL                    |        |                         |     |                 |       |
|                               |      |     |                 |                                    |                |      |                   |       |                |      |      |                             |        |                         |     |                 |       |
| Project: COLD CHAIN WAREHOUSE |      |     |                 |                                    |                |      | Phase load (w)    |       | DF             |      |      |                             |        | LOAD                    |     | KW              | Amp   |
| Contractor:                   |      |     |                 |                                    |                |      | 15400 12400 12800 |       | 0.7            |      |      |                             |        | TOTAL ACTUAL LOAD       |     | 40.6            | 62.83 |
| Date:                         |      |     |                 |                                    |                |      | Phase load (A)    |       |                |      |      |                             |        | TOTAL DEMAND LOAD       |     | 28.42           | 43.98 |
|                               |      |     |                 |                                    |                |      | 71.30 57.41 59.26 |       |                |      |      |                             |        | TOTAL DEMAND LOAD + 20% |     | 34.1            | 52.8  |



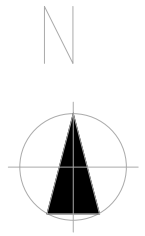
| Rev. | Description | Date |
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|                          |
|--------------------------|
| CLIENT :<br>UNICEF SUDAN |
|--------------------------|

|                             |
|-----------------------------|
| LOCATION :<br>GEZEIRA STATE |
|-----------------------------|

|                                  |
|----------------------------------|
| Project<br>COLD CHAIN WAREHOUSE  |
| Drawing :<br>ELECTRICAL SCHEDULE |

|                          |                  |  |
|--------------------------|------------------|--|
| Drawn by:<br>MGA         | Checked :<br>HAA |  |
| Drawing N.<br>E-SH-GZ-II | Revision<br>-    | Scale :<br>N/S<br>Date :<br>06/11/2022 |



| Rev. | Description | Date |
|------|-------------|------|
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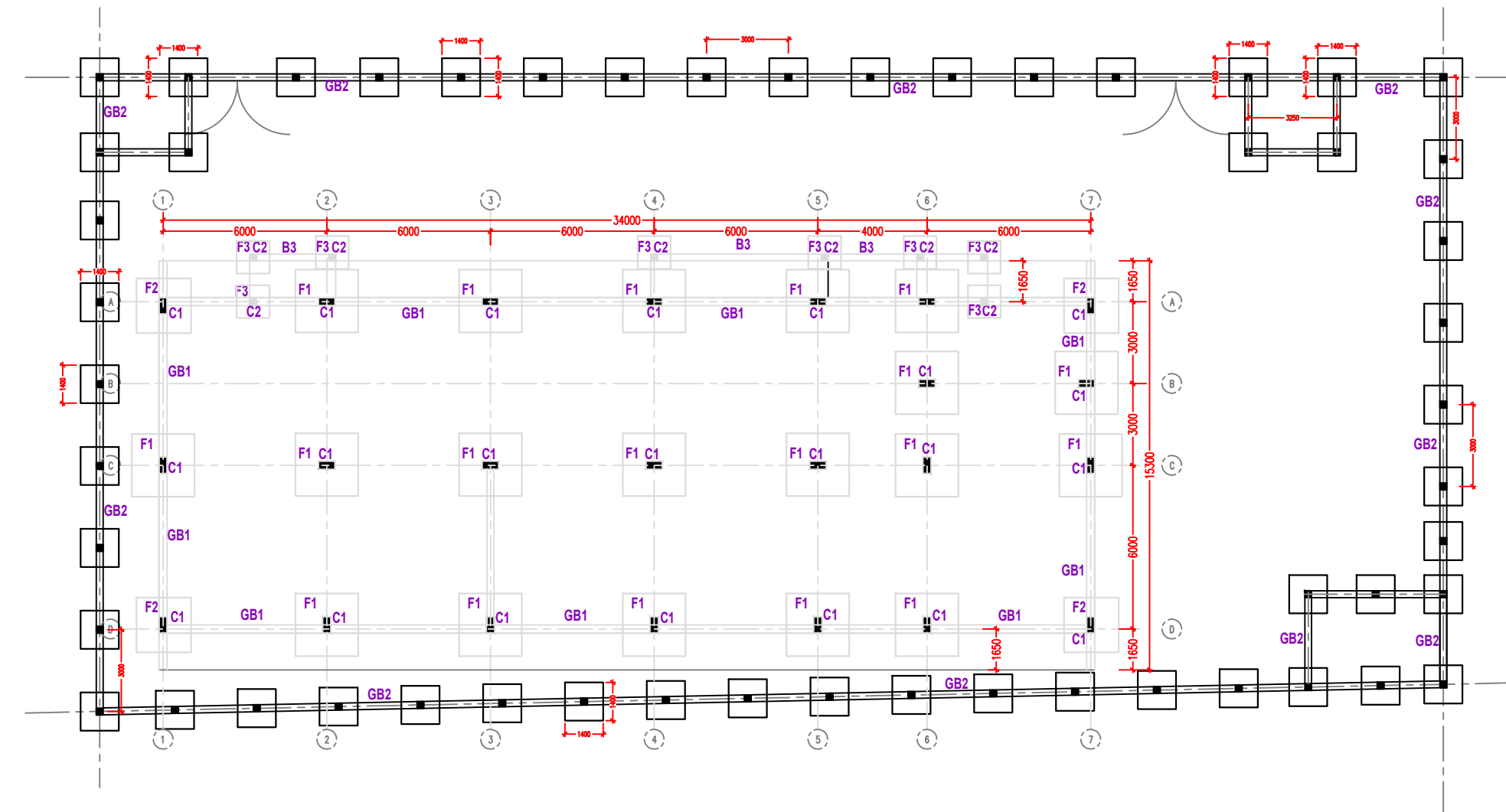
**CLIENT :**  
**UNICEF SUDAN**

**LOCATION :**  
**GEZEIRA STATE**

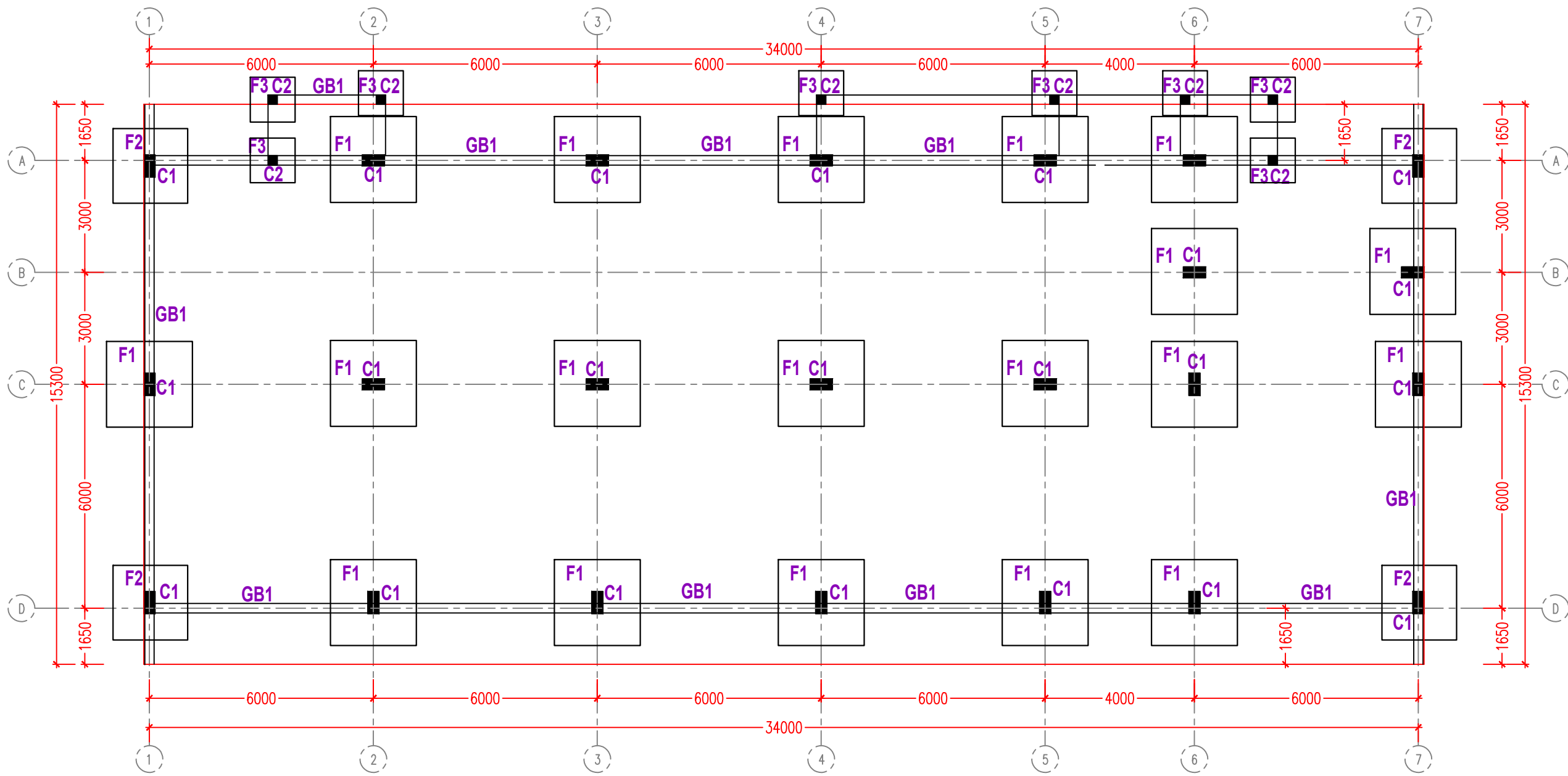
**Project**  
**COLD CHAIN WAREHOUSE**

**Drawing :**  
**FENCE FOUNDATION PLAN**

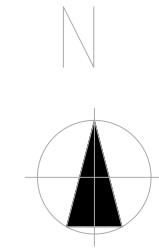
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| Drawn by:<br><b>YOUSTINA</b>    | Checked :<br><b>HAA</b> |   |
| Drawing N.<br><b>S-PL-GZ-13</b> | Revision<br>-           | Scale :<br><b>1:125 @ A3</b><br>Date :<br><b>03/11/22</b> |



**FENCE FOUNDATION PLAN - GEZEIRA STATE**



FOUNDATION PLAN - GEZEIRA STATE

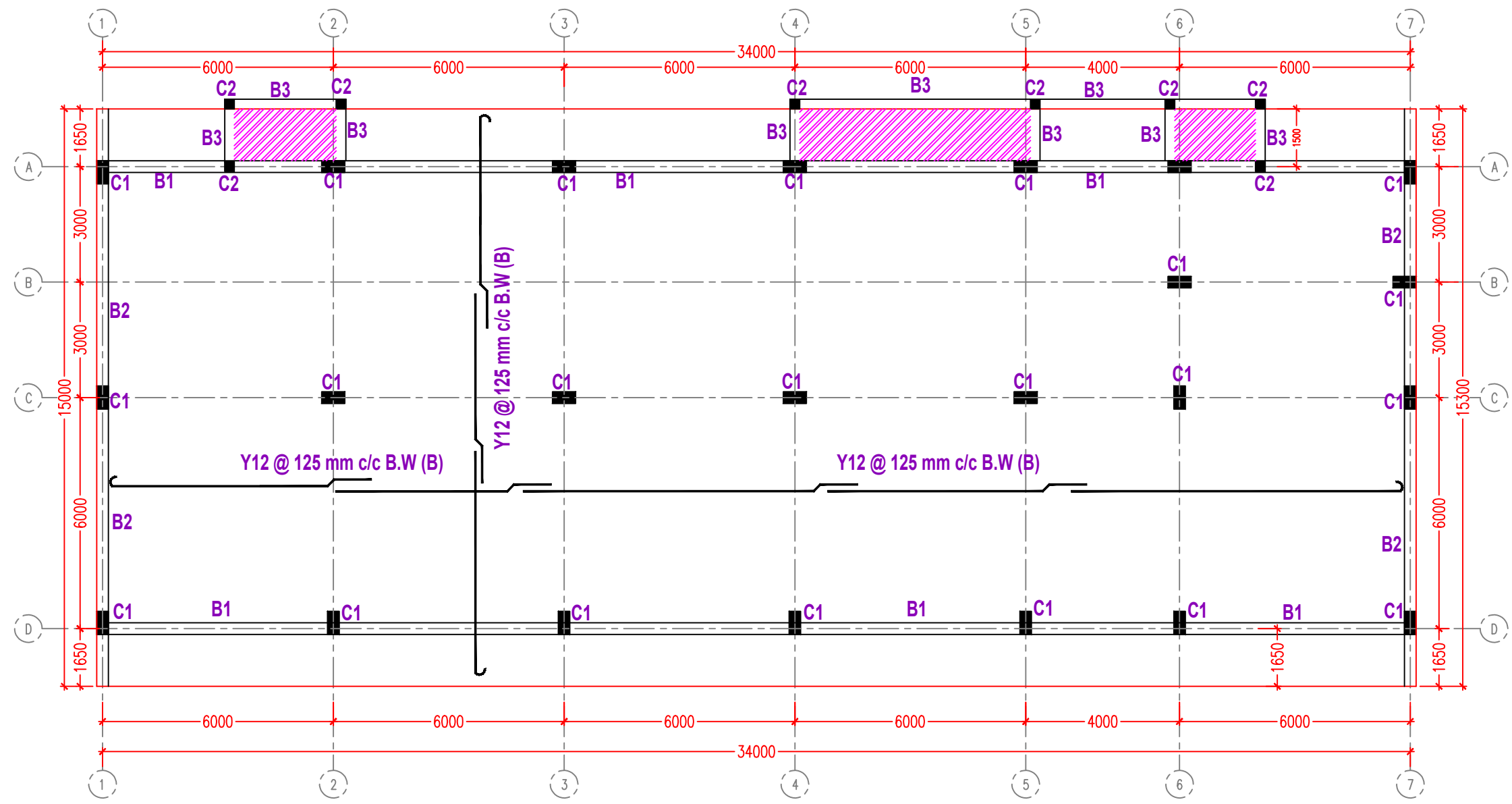


NOTES :

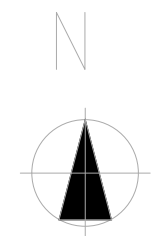
- \* Bearing Capacity 180 KN/m<sup>2</sup>
- \* Y(steel strength) =460N/mm<sup>2</sup>
- \* Concrete MIX= 25 kn/mm<sup>2</sup>



| Rev.                            | Description      | Date  |
|---------------------------------|------------------|---|
| CLIENT :<br>UNICEF SUDAN        |                  |   |
| LOCATION :<br>GEZEIRA STATE     |                  |   |
| Project<br>COLD CHAIN WAREHOUSE |                  |   |
| Drawing :<br>FOUNDATION PLAN    |                  |   |
| Drawn by:<br>YOUSTINA           | Checked :<br>HAA |   |
| Drawing N.<br>S-PL-GZ-01        | Revision<br>-    | Scale :<br>1:125 @ A3<br>Date :<br>03/11/22 |



SUSPENDED SLAB - GEZEIRA STATE  
BOTTOM REINFORCEMENT



NOTES :

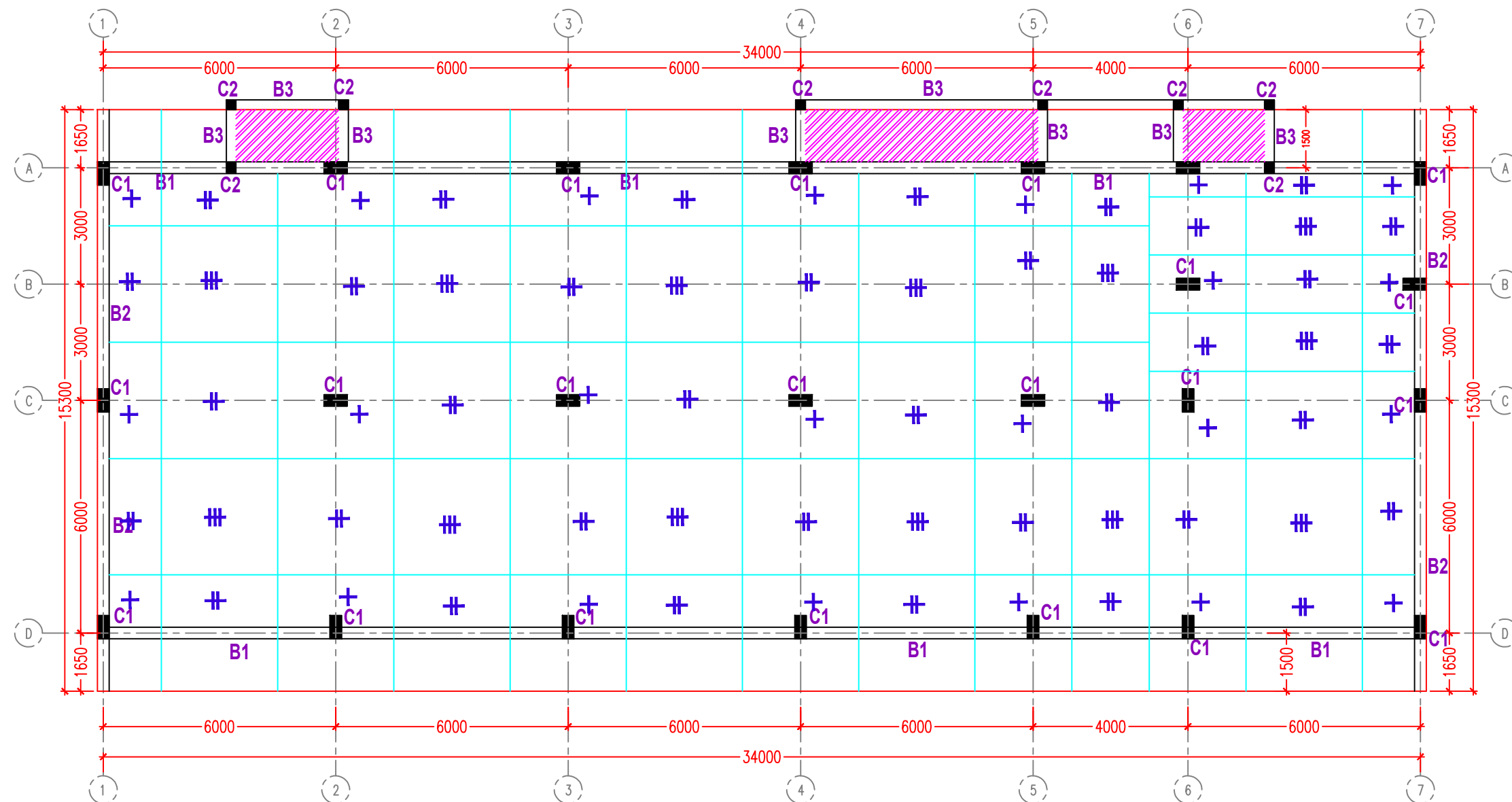
- \* Bearing Capacity 180 KN/m<sup>2</sup>
- \* Y(steel strength) = 460N/mm<sup>2</sup>
- \* Concrete MIX = 25 kn/mm<sup>2</sup>

NOTE (2) :-

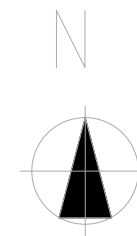
- Y 12 @ 125 c/c B.W. (B)
- \* DEPTH OF SLAB : 22 cm.



| Rev.  | Description      | Date  |
|---|------------------|---|
| CLIENT :<br>UNICEF SUDAN                            |                  |   |
| LOCATION :<br>GEZEIRA STATE                         |                  |   |
| Project<br>COLD CHAIN WAREHOUSE                     |                  |   |
| Drawing :<br>SUSPENDED SLAB BOTTOM<br>REINFORCEMENT |                  |   |
| Drawn by:<br>YOUSTINA                               | Checked :<br>HAA |   |
| Drawing N.<br>S-PL-GZ-04                            | Revision<br>-    | Scale :<br>1:125 @ A3<br>Date :<br>03/11/22 |



SUSPENDED SLAB - GEZEIRA STATE  
TOP REINFORCEMENT



NOTES :

- \* Bearing Capacity 180 KN/m<sup>2</sup>
- \* Y(steel strength) = 460N/mm<sup>2</sup>
- \* Concrete MIX= 25 kn/mm<sup>2</sup>

NOTE (2) :-

- + Y 16 @ 100 c/c B.W. (T)
- ++ Y12 @ 125 c/c & Y16 @ 300 c/c (T)
- ### Y12 @ 250 c/c B.W. (T)
- \* DEPTH OF SLAB : 22 cm.

 Dropped slab



| Rev. | Description | Date |
|------|-------------|------|
|------|-------------|------|

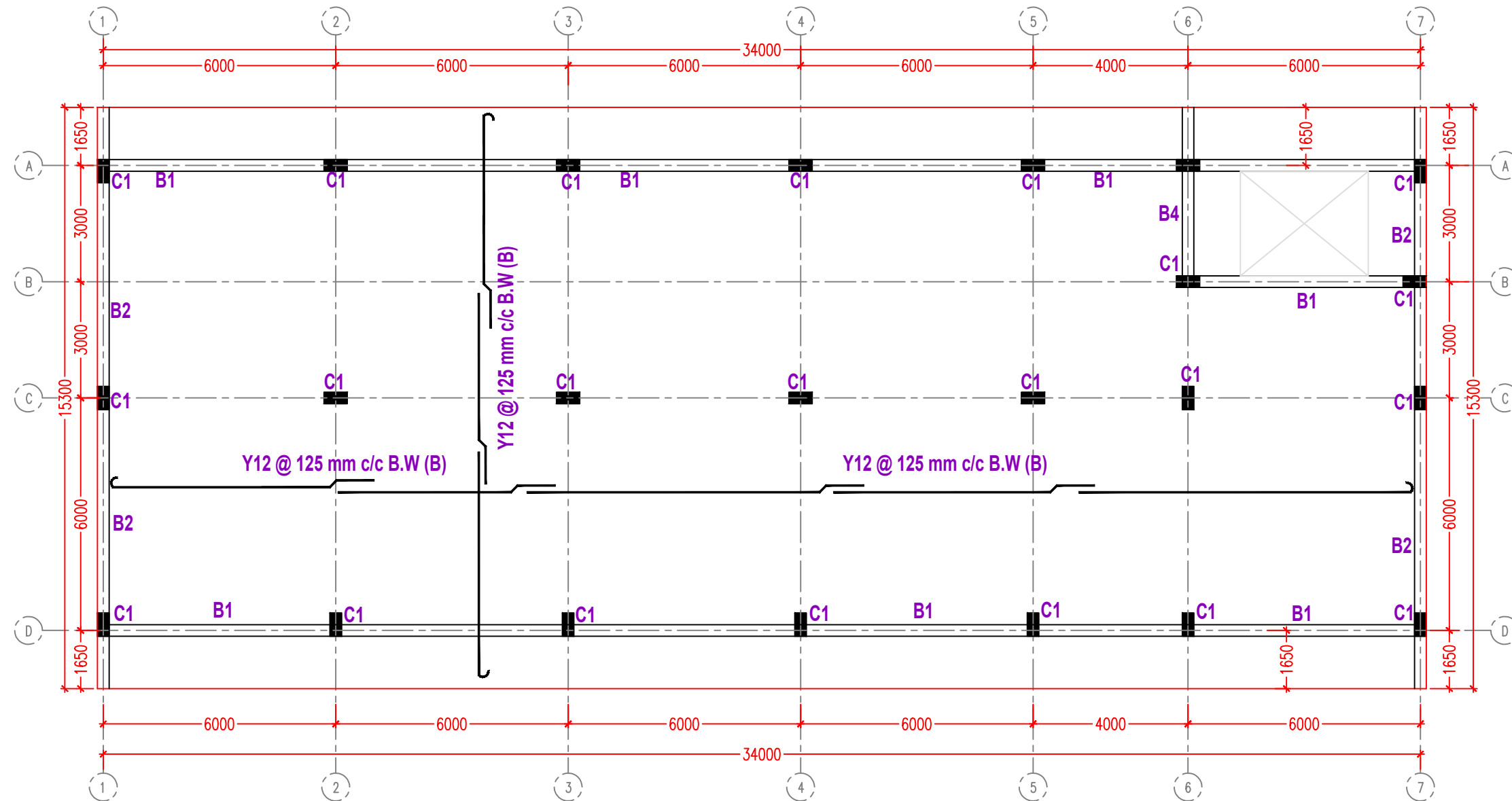
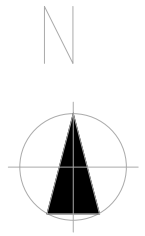
CLIENT :  
UNICEF SUDAN

LOCATION :  
GEZEIRA STATE

Project  
COLD CHAIN WAREHOUSE

Drawing :  
SUSPENDED SLAB TOP  
REINFORCEMENT

|                          |                  |   |
|--------------------------|------------------|---|
| Drawn by:<br>YOUSTINA    | Checked :<br>HAA |   |
| Drawing N.<br>S-PL-GZ-05 | Revision<br>-    | Scale :<br>1:125 @ A3<br>Date :<br>03/11/22 |



GROUND FLOOR COVER SLAB - GEZEIRA STATE  
BOTTOM REINFORCEMENT

**NOTES :**

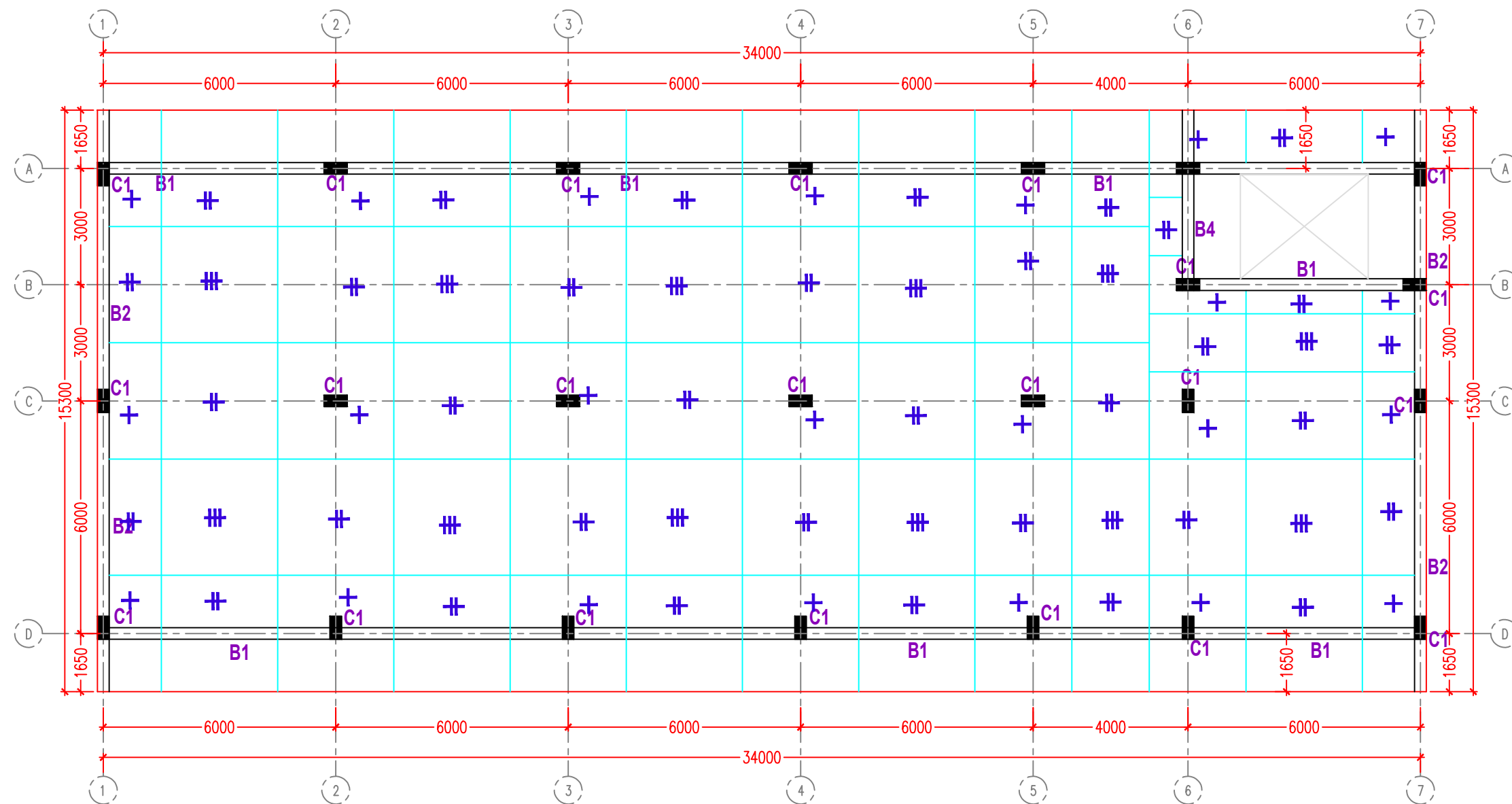
- \* Bearing Capacity 180 KN/m<sup>2</sup>
- \* Y(steel strength) = 460N/mm<sup>2</sup>
- \* Concrete MIX = 25 kn/mm<sup>2</sup>

**NOTE (2) :-**

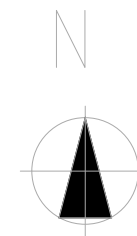
- Y 12 @ 125 c/c B.W. (B)
- \* DEPTH OF SLAB : 22 cm.



| Rev.  | Description             | Date  |
|---|-------------------------|---|
| <b>CLIENT :</b><br><b>UNICEF SUDAN</b>  |                         |   |
| <b>LOCATION :</b><br><b>GEZEIRA STATE</b>   |                         |   |
| <b>Project</b><br><b>COLD CHAIN WAREHOUSE</b>                                     |                         |   |
| <b>Drawing :</b><br><b>GROUND FLOOR COVER SLAB</b><br><b>BOTTOM REINFORCEMENT</b> |                         |   |
| Drawn by:<br><b>YOUSINA</b>   | Checked :<br><b>HAA</b> |   |
| Drawing N.<br><b>S-PL-GZ-06</b>   | Revision<br>-           | Scale :<br><b>1:125 @ A3</b><br>Date :<br><b>03/11/22</b> |



GROUND FLOOR COVER SLAB - GEZEIRA STATE  
TOP REINFORCEMENT



**NOTES :**

- \* Bearing Capacity 180 KN/m<sup>2</sup>
- \* Y (steel strength) = 460 N/mm<sup>2</sup>
- \* Concrete MIX = 25 kn/mm<sup>2</sup>

**NOTE (2) :-**

- + Y 16 @ 100 c/c B.W. (T)
- + Y 12 @ 125 c/c & Y 16 @ 300 c/c (T)
- + Y 12 @ 250 c/c B. W. (T)
- \* DEPTH OF SLAB : 22 cm.



| Rev. | Description | Date |
|------|-------------|------|
|------|-------------|------|

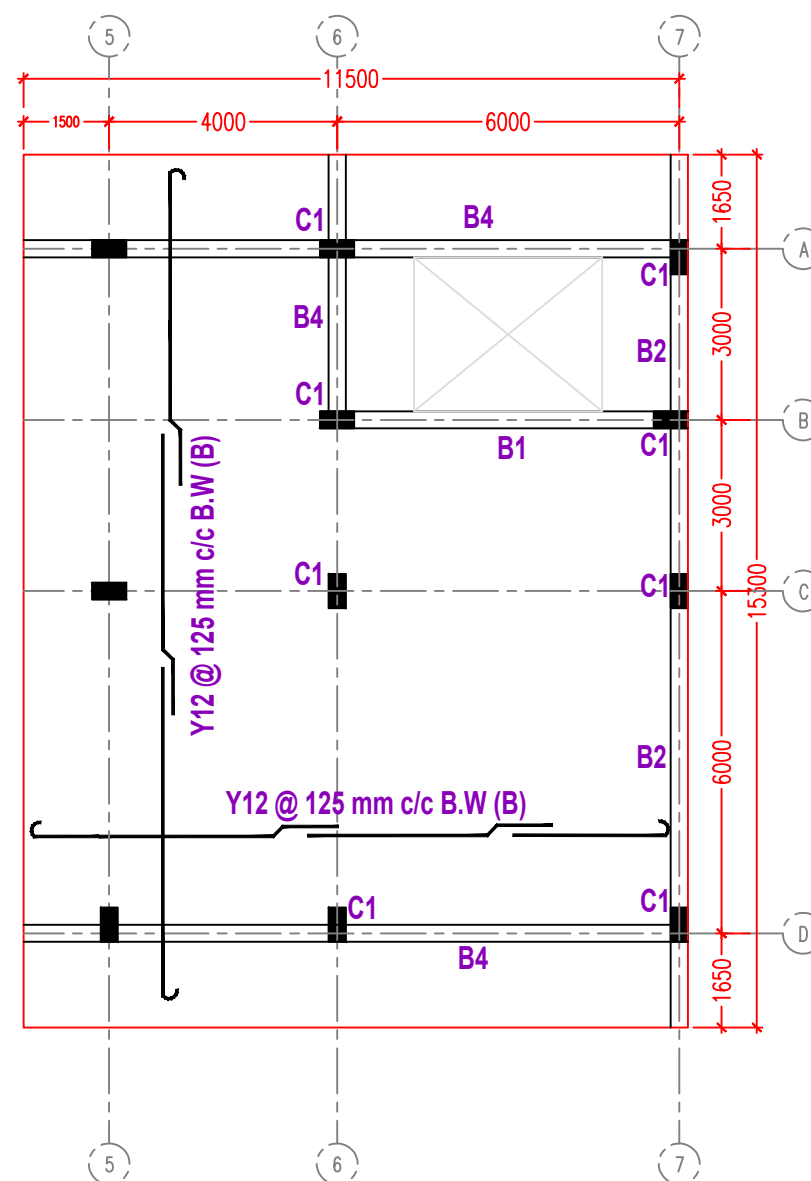
**CLIENT :**  
**UNICEF SUDAN**

**LOCATION :**  
**GEZEIRA STATE**

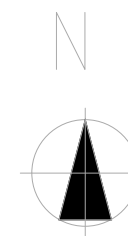
**Project**  
**COLD CHAIN WAREHOUSE**

**Drawing :**  
**GROUND FLOOR COVER SLAB**  
**TOP REINFORCEMENT**

|                                 |                         |   |
|---------------------------------|-------------------------|---|
| Drawn by:<br><b>YOUSTINA</b>    | Checked :<br><b>HAA</b> |   |
| Drawing N.<br><b>S-PL-GZ-07</b> | Revision<br><b>-</b>    | Scale :<br><b>1:125 @ A3</b><br>Date :<br><b>03/11/22</b> |



FIRST FLOOR COVER SLAB - GEZEIRA STATE  
BOTTOM REINFORCEMENT



**NOTES :**

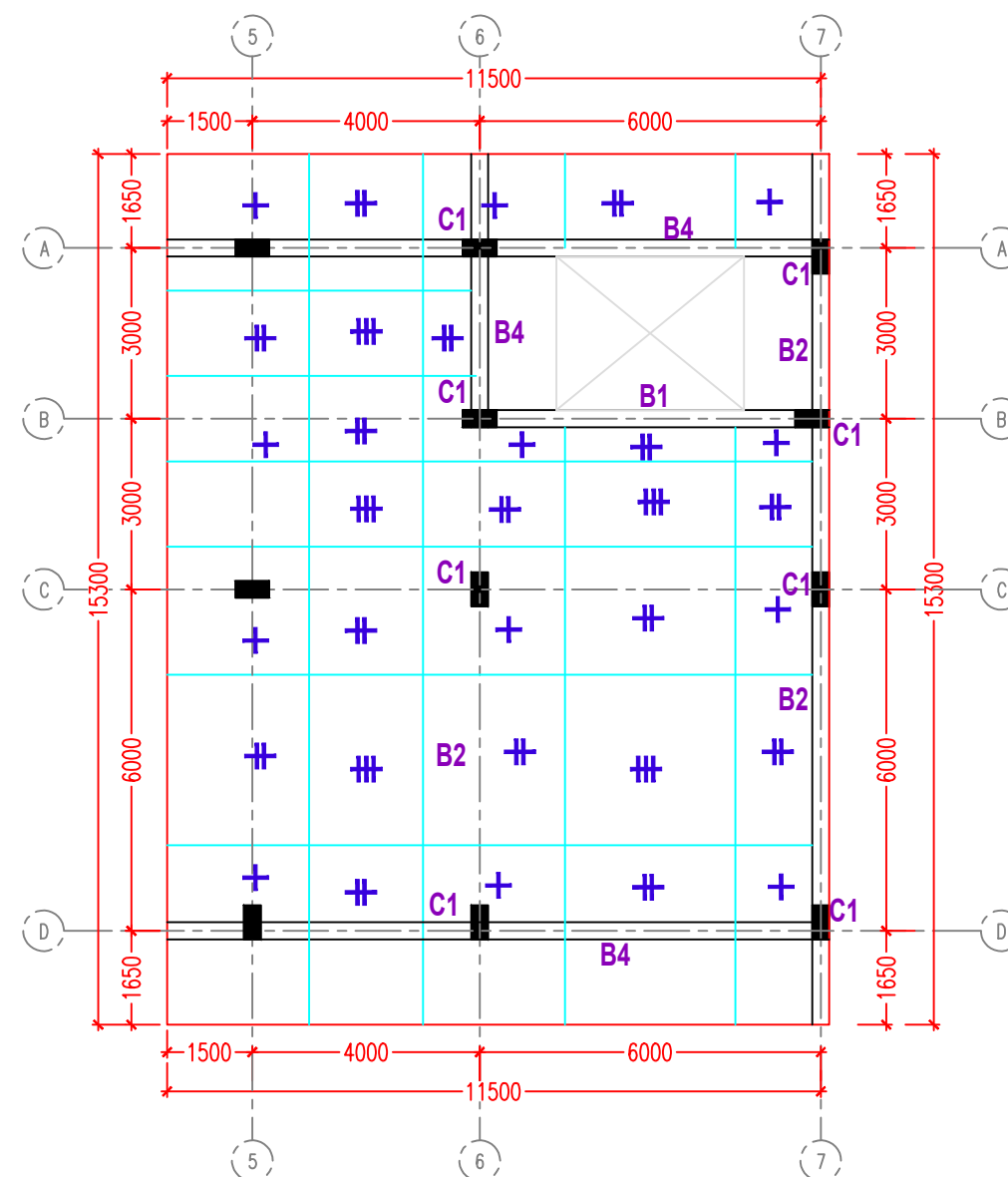
- \* Bearing Capacity 180 KN/m<sup>2</sup>
- \* Y (steel strength) = 460 N/mm<sup>2</sup>
- \* Concrete MIX = 25 kn/mm<sup>2</sup>

**NOTE (2) :-**

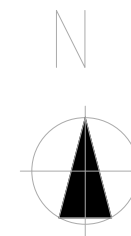
- Y 12 @ 125 c/c B.W. (B)
- \* DEPTH OF SLAB : 22 cm.



| Rev.   | Description                    | Date  |
|--|--------------------------------|---|
| <b>CLIENT :</b><br><b>UNICEF SUDAN</b>   |                                |   |
| <b>LOCATION :</b><br><b>GEZEIRA STATE</b>  |                                |   |
| <b>Project</b><br><b>COLD CHAIN WAREHOUSE</b>                                    |                                |   |
| <b>Drawing :</b><br><b>FIRST FLOOR COVER SLAB</b><br><b>BOTTOM REINFORCEMENT</b> |                                |   |
| <b>Drawn by:</b><br><b>YOUSTINA</b>  | <b>Checked :</b><br><b>HAA</b> |   |
| <b>Drawing N.</b><br><b>S-PL-GZ-08</b>   | <b>Revision</b><br><b>-</b>    | <b>Scale :</b><br><b>1:125 @ A3</b><br><b>Date :</b><br><b>03/11/22</b> |



FIRST FLOOR COVER SLAB - GEZEIRA STATE  
TOP REINFORCEMENT



NOTES :

- \* Bearing Capacity 180 KN/m<sup>2</sup>
- \* Y (steel strength) = 460 N/mm<sup>2</sup>
- \* Concrete MIX = 25 kn/mm<sup>2</sup>

NOTE (2) :-

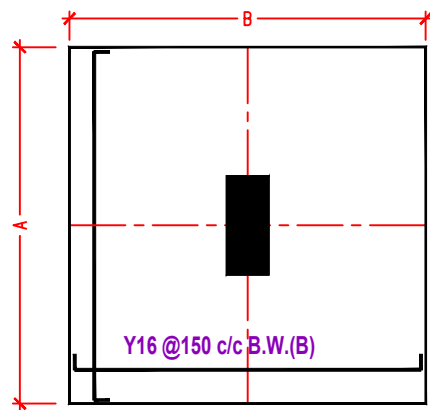
- + Y 16 @ 100 c/c B.W. (T)
- + Y 12 @ 125 c/c & Y 16 @ 300 c/c (T)
- + Y 12 @ 250 c/c B. W. (T)
- \* DEPTH OF SLAB : 22 cm.



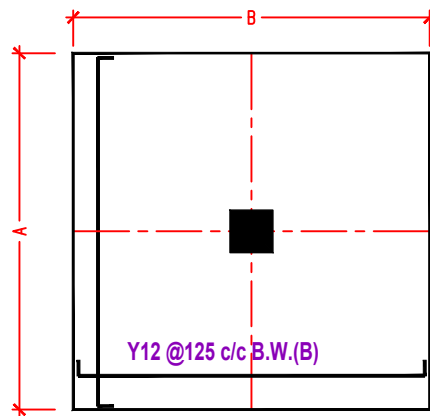
| Rev.   | Description      | Date  |
|--|------------------|---|
| CLIENT :<br>UNICEF SUDAN                                 |                  |   |
| LOCATION :<br>GEZEIRA STATE                              |                  |   |
| Project<br>COLD CHAIN WAREHOUSE                          |                  |   |
| Drawing :<br>FIRST FLOOR COVER SLAB<br>TOP REINFORCEMENT |                  |   |
| Drawn by:<br>YOUSTINA                                    | Checked :<br>HAA |   |
| Drawing N.<br>S-PL-GZ-09                                 | Revision<br>-    | Scale :<br>1:125 @ A3<br>Date :<br>03/11/22 |

NOTES :

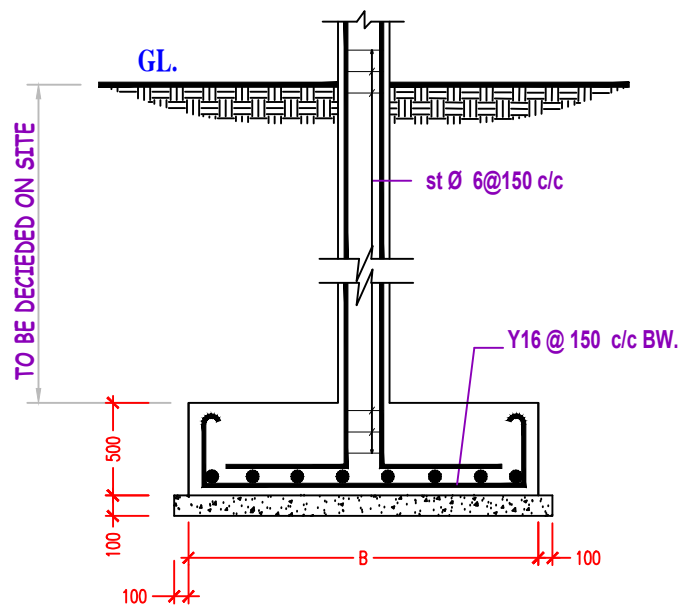
- \* Y(steel) =460N/mm2
- \* Concrete=25kn/mm



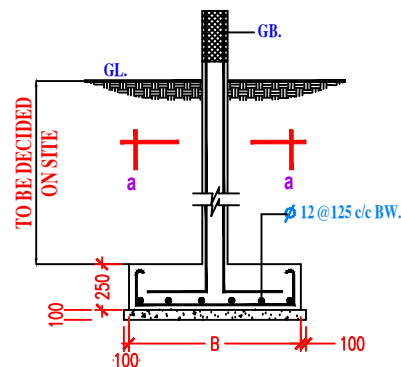
F1 & F2 PLAN



F3& F4 PLAN



F1 & F2 SECTION

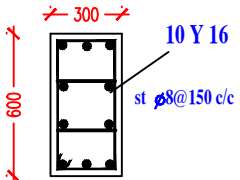
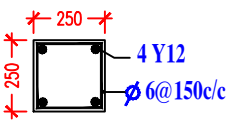


F3 & F4 SECTION

FOOTINGS

| TYPE | SIZE A x B x C     |
|------|--------------------|
| F1   | 2.30 x 2.30 x 0.50 |
| F2   | 2.00 x 2.00 x 0.50 |
| F3   | 1.20 x 1.20 x 0.25 |
| F4   | 1.40 x 1.40 x 0.25 |

COLUMNS:

| LOC. | Under G.B & Ground Floor & Roof Floor   |
|------|---|
| TYPE |   |
| C1   |  |
| C2   |  |



| Rev. | Description | Date |
|------|-------------|------|
|------|-------------|------|

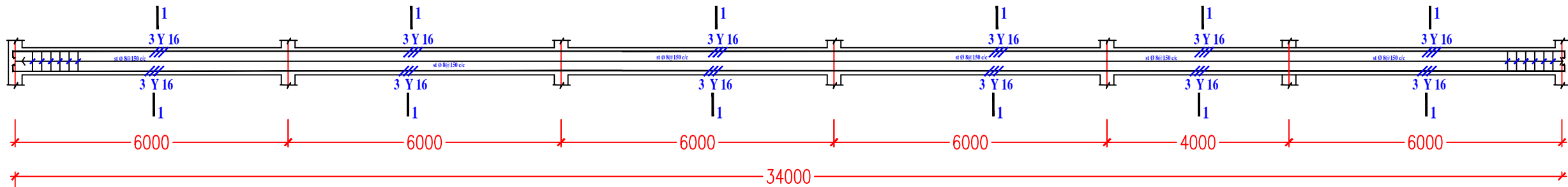
CLIENT :  
UNICEF SUDAN

LOCATION :  
GEZEIRA STATE

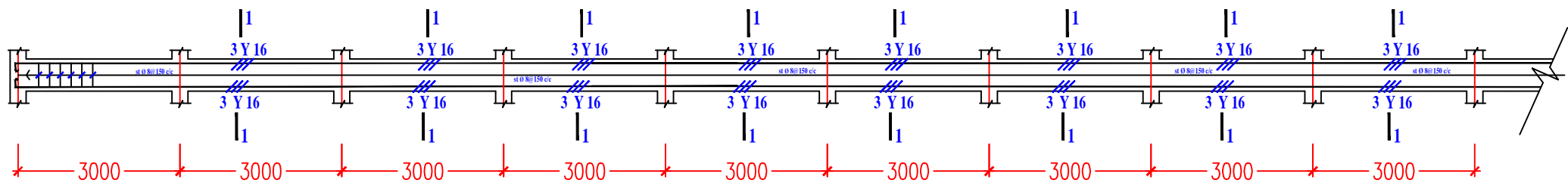
Project  
COLD CHAIN WAREHOUSE

Drawing :  
FOUNDATION & COLUMN DETAILS

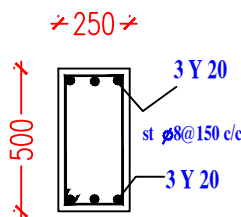
|                          |                     |                                     |
|--------------------------|---------------------|-------------------------------------|
| Drawn by:<br>YOUSTINA    | Checked :<br>HAA    |                                     |
| Drawing N.<br>S-DT-GZ-02 | Revision<br>as shwn | Scale :<br>A3<br>Date :<br>03/11/22 |



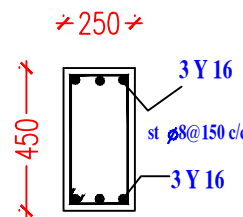
GB1



GB2



GB1  
SECTION (1-1)  
SCALE 1 : 25



GB2  
SECTION (1-1)  
SCALE 1 : 25

GRADE BEAM DETAILS - GEZEIRA STATE



| Rev. | Description | Date |
|------|-------------|------|
|------|-------------|------|

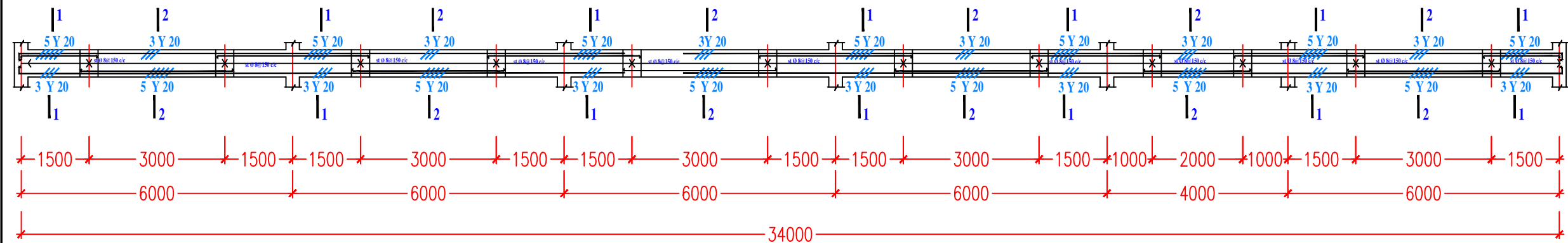
CLIENT :  
UNICEF SUDAN

LOCATION :  
GEZEIRA STATE

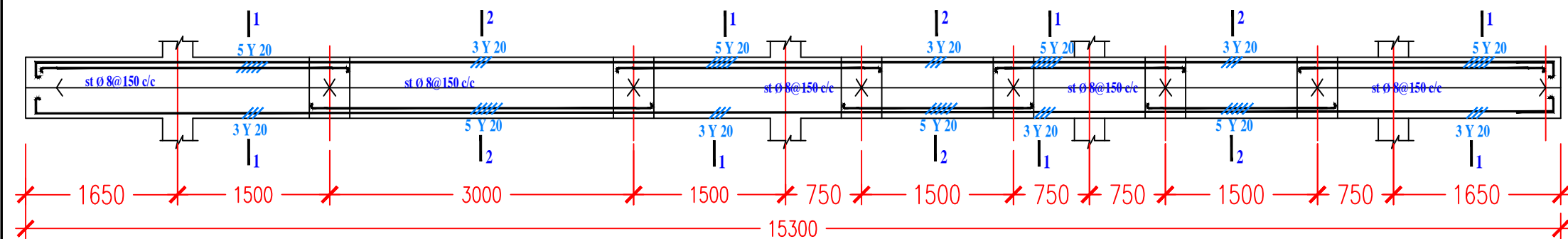
Project  
COLD CHAIN WAREHOUSE

Drawing :  
GRADE BEAM DETAILS

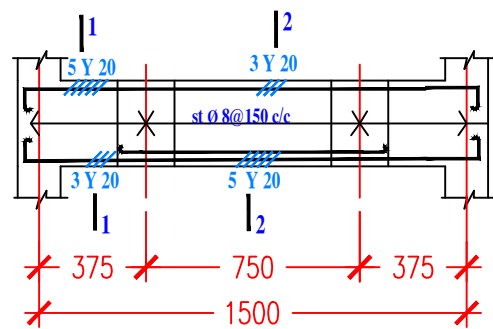
|                          |                  |   |
|--------------------------|------------------|---|
| Drawn by:<br>YOUSINA     | Checked :<br>HAA |   |
| Drawing N.<br>S-DT-GZ-03 | Revision<br>-    | Scale :<br>as shwn@A3<br>Date :<br>03/11/22 |



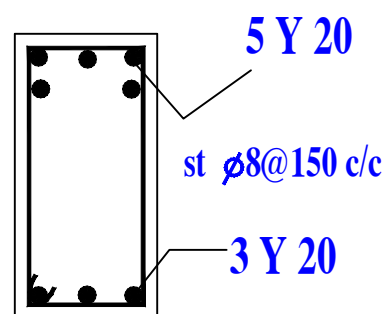
B 1



B 2



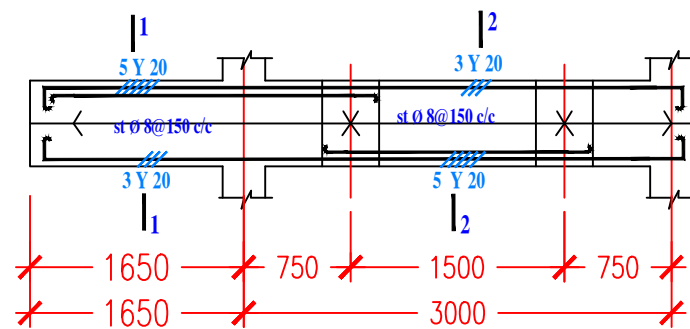
B 3



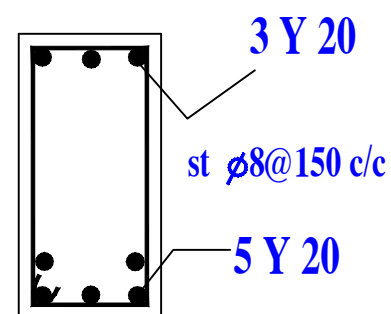
SECTION (1-1)

SCALE 1 : 25

BEAM DETAILS - GEZEIRA STATE



B 4

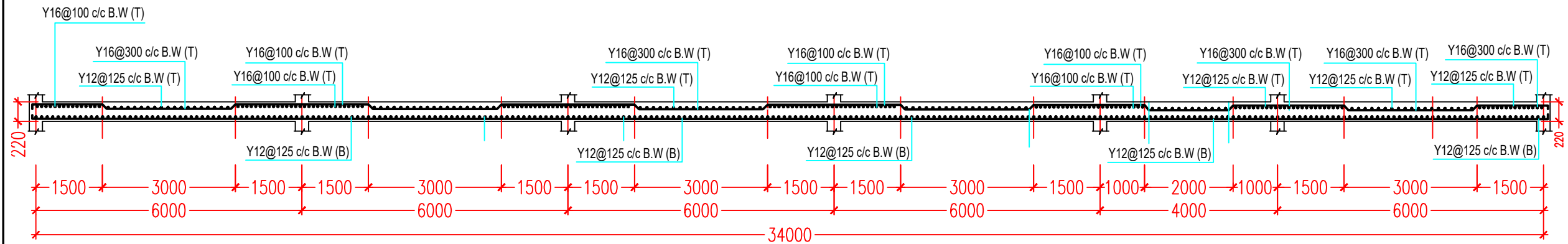


SECTION (2-2)

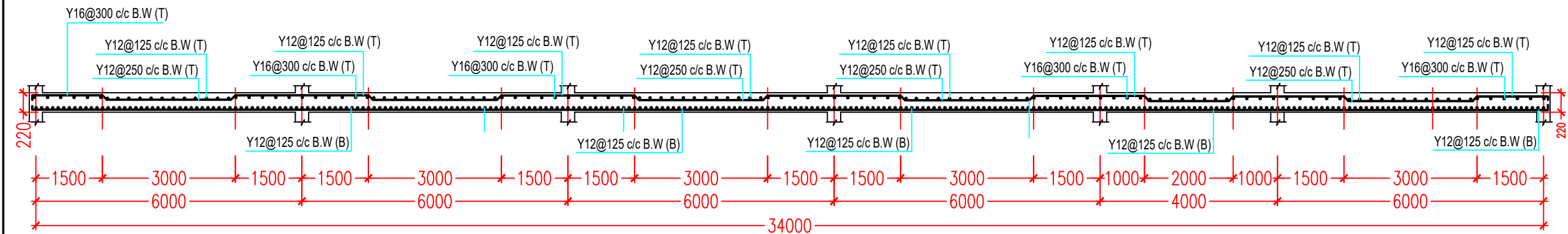
SCALE 1 : 25



| Rev.                            | Description      | Date  |
|---------------------------------|------------------|---|
| CLIENT :<br>UNICEF SUDAN        |                  |   |
| LOCATION :<br>GEZEIRA STATE     |                  |   |
| Project<br>COLD CHAIN WAREHOUSE |                  |   |
| Drawing :<br>BEAM DETAILS       |                  |   |
| Drawn by:<br>YOUSTINA           | Checked :<br>HAA |   |
| Drawing N.<br>S-DT-GZ-10        | Revision<br>-    | Scale :<br>as shwn@A3<br>Date :<br>03/11/22 |



Section X-X

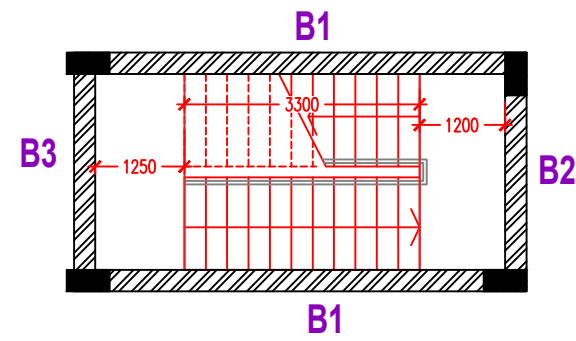


Section Y-Y

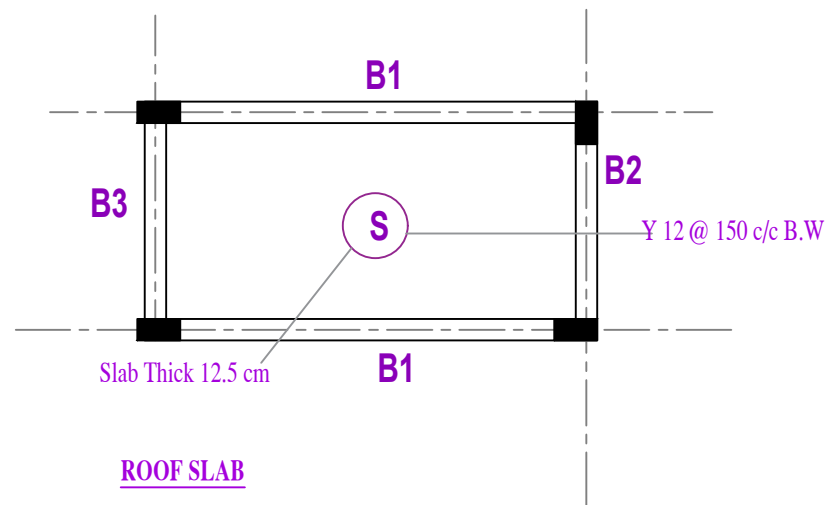
SLAB SECTION - GEZEIRA STATE



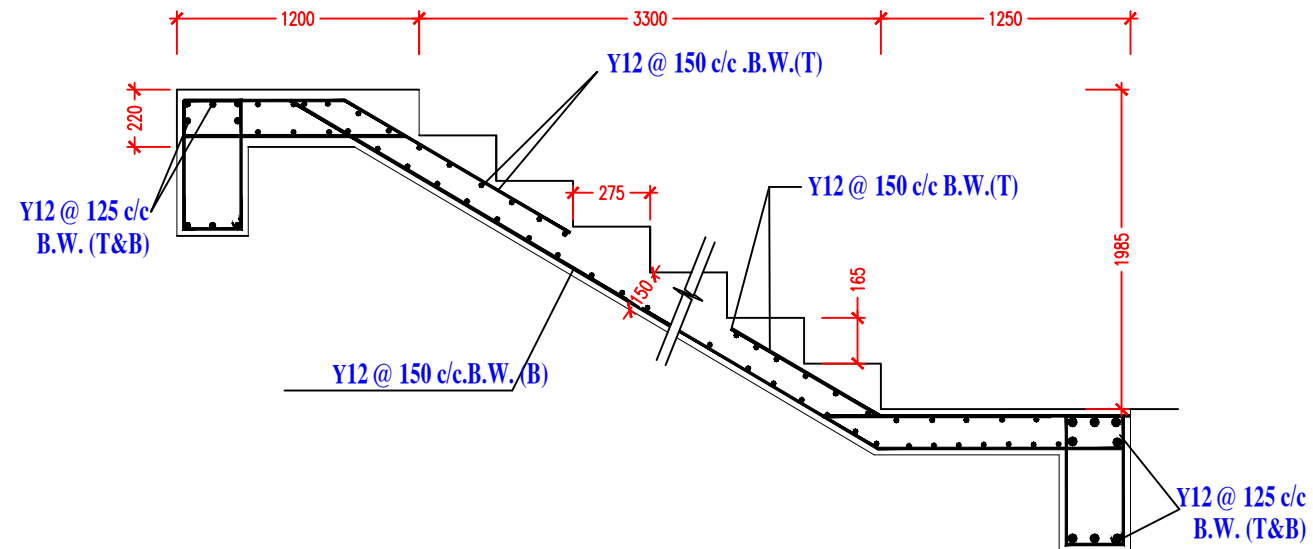
| Rev.                            | Description      | Date                                      |
|---------------------------------|------------------|---|
| CLIENT :<br>UNICEF SUDAN        |                  |   |
| LOCATION :<br>GEZEIRA STATE     |                  |   |
| Project<br>COLD CHAIN WAREHOUSE |                  |   |
| Drawing :<br>SLAB SECTION       |                  |   |
| Drawn by:<br>YOUSTINA           | Checked :<br>HAA |   |
| Drawing N.<br>S-SE-GZ-II        | Revision<br>-    | Scale :<br>1:100@A3<br>Date :<br>03/11/22 |



STAIR PLAN  
SCALE 1:100



ROOF SLAB  
SCALE 1:100



STAIR SECTION  
SCALE 1:25

STAIR DETAILS - GEZEIRA STATE



| Rev.                            | Description      | Date  |
|---------------------------------|------------------|---|
| CLIENT :<br>UNICEF SUDAN        |                  |   |
| LOCATION :<br>GEZEIRA STATE     |                  |   |
| Project<br>COLD CHAIN WAREHOUSE |                  |   |
| Drawing :<br>STAIR DETAILS      |                  |   |
| Drawn by:<br>YOUSSTINA          | Checked :<br>HAA |   |
| Drawing N.<br>S-DT-GZ-12        | Revision<br>-    | Scale :<br>as shwn@A3<br>Date :<br>03/11/22 |

## New Cold Chain Centers in GEZEIRA

| Item         | Description  | Unit | Quantity | Rate SDG | Amount SDG |
|--------------|--|------|----------|----------|------------|
| <b>1</b>     | <b>Site Works :</b>  |      |          |          |            |
| <b>1.1</b>   | <b>Site Clearance :</b>  |      |          |          |            |
|              | Clear up completely the existing obstacles and remove existing natural and site surface and cart away all demolished artificial materials exposed at the commencing site surface and cart away all demolished materials ( if any) from site to dumping locations as directed by local authorities.   | Job  | 1.00     |          |            |
| <b>1.2</b>   | <b>Demolition :</b>  |      |          |          |            |
|              | Demolish completely the existing buildings and cart away all demolished materials from site to dumping locations as directed by local authorities.   | Job  | 1.00     |          |            |
| <b>1.3</b>   | <b>Mobilization :</b>  |      |          |          |            |
|              | The contractor should provide and lay all the necessary equipment and plants needed to be used during construction.Safety and good function of the equipment and plants must be up to the required standard - operation, maintenance and repair as well as removal of equipment after completion should be done by experienced, trained and skilled labourors.   | Job  | 1.00     |          |            |
| <b>1.4</b>   | <b>Project Sign Boards:</b>  |      |          |          |            |
|              | The Contractor shall fabricate and install at his expense two Signboards at the work site, showing in English and Arabic, the names of the Project, Employer, Consultant and Contractor and contract start and completion dates printed in the colours approved by the Engineer  | Job  | 1.00     |          |            |
|              | <b>Carry to Summary</b>  |      |          |          |            |
| <b>2</b>     | <b>Excavation &amp; Trenshing Works:</b>   |      |          |          |            |
|              | Refer to the relevant clauses of the attached specifications Rates shall include excavation in any kind of soil , setting out, digging out , supporting the sides if any, disposing water if any, carting away all surplus Excavated materials to be locationed as directed by the engineer.Levelling and clearing the bottom of the excavations to receive plain concrete.taking into account quantities will be measured net .bidders have to quote their rates including reasonable working space , As follows :  |      |          |          |            |
| <b>2.1</b>   | Excavate foundation for columns base not exceeding 2.50 depth, any extra depth to be dealt with on site as per condition of contract.  | M3   | 320.40   |          |            |
|              | <b>Carry to Summary</b>  |      |          |          |            |
| <b>3</b>     | <b>Back filling Works:</b>   |      |          |          |            |
| <b>3.1</b>   | Provide and lay backfilling from the same excavated material around foundations.   | M3   | 235.00   |          |            |
|              | <b>Carry to Summary</b>  |      |          |          |            |
| <b>4</b>     | <b>Concrete Works:</b>   |      |          |          |            |
|              | Rates shall include the price of formwork for all concrete and for all threading fillets ...etc. All exposed concrete surfaces in columns, beams,slabs shutterings must be used and it must be approved by the Engineer before .formworks must be fairface and of first class standard being fixed in position to be roughened to receive plaster and before concrete is casted .steel reinforcement to be cut and bent to shape of different sizes as specified in the drawings, cost to include waste and left over-minimum yield strength of bar reinforcement 460N/mm2.As follows: |      |          |          |            |
| <b>4.1</b>   | <b>Plain concrete Works:</b>   |      |          |          |            |
| <b>4.1.1</b> | Provide and lay plain concrete 10cm thickness (1:3:6) for foundation base  | M3   | 15.00    |          |            |
| <b>4.2</b>   | <b>Reinforced Concrete Works:</b>  |      |          |          |            |
|              | The contractor should provide for approval concrete mixes to fulfill the following requirements:-  |      |          |          |            |
|              | a- Concrete for foundations 25 N/mm2.  |      |          |          |            |
|              | b- Ditto but for columns 30 N/mm2  |      |          |          |            |
|              | c- Ditto but for grade beams & beams 25 N/mm2  |      |          |          |            |
|              | d- Ditto but for slabs 25 N/mm2  |      |          |          |            |
|              | e- Ditto but for staircase 25 N/mm2  |      |          |          |            |
|              | f- Ditto but for walls 30N/mm2   |      |          |          |            |
|              | Each mix design should be supported by an approved certificate satisfying the above mentioned strengthes.  |      |          |          |            |
|              | Rates should include formwork , reinforcement, cement, sand , gravels, labour and plants , As follows :  |      |          |          |            |

| Item   | Description   | Unit | Quantity | Rate SGD | Amount SGD |
|--------|---|------|----------|----------|------------|
| 4.2.1  | Provide & Cast reinforced concrete in columns base Mix (1:2:4) as per specification & drawings  | M3   | 71.00    |          |            |
|        | 19/F1 : 2.30 X 2.30 X 0.50 m  |      |          |          |            |
|        | 4/F2 : 2.00 X 2.00 X 0.50 m   |      |          |          |            |
|        | 11/F3 : 1.20 X 1.20 X 0.25m   |      |          |          |            |
| 4.2.2  | Ditto but for short columns   | M3   | 16.00    |          |            |
| 4.2.3  | Ditto but for suspended slab  | M3   | 105.00   |          |            |
| 4.2.4  | Ditto but for Ground floor columns  | M3   | 17.00    |          |            |
|        | 23 / C1 : 0.30 X 0.60 X 3.60 m  |      |          |          |            |
| 4.2.5  | Ditto but for lintels   | M3   | 12.00    |          |            |
| 4.2.6  | Ditto but for Staircase   | M3   | 2.35     |          |            |
| 4.2.7  | Ditto but for Ground beams  | M3   | 23.00    |          |            |
| 4.2.8  | Ditto but for Ground floor cover slab   | M3   | 105.00   |          |            |
| 4.2.9  | Ditto but for First floor columns   | M3   | 8.00     |          |            |
|        | 11 / C1 : 0.30 X 0.60 X 3.60 m  |      |          |          |            |
| 4.2.10 | Ditto but for First floor cover slab  | M3   | 42.00    |          |            |
| 4.2.11 | Ditto but for Ramp  | M3   | 1.66     |          |            |
| 4.2.12 | Ditto but for Ground entrance steps   | M3   | 0.32     |          |            |
|        | <b>Carry to Summary</b>   |      |          |          |            |
| 5      | <b>Bricks &amp; Masonry Works :</b>   |      |          |          |            |
|        | Provide and build brick walls of first class ordinary burnt red clay bricks size (230 x 110x x60 mm.) in (1:6) cement /sand mortar.   |      |          |          |            |
|        | The rates should include all scaffolding, all cutting to form bond, opening holes, chasses and all required material and labours.   |      |          |          |            |
|        | Rates shall allow for required openings for air coolers, air conditions, ducts ,etc.and shall include D.P.C. under all brick walls as directed by the Engineer.   |      |          |          |            |
|        | All types of bricks must be approved by the Engineer before using.As follows:   |      |          |          |            |
| 5.1    | Provide and build one brick for Ground floor external walls   | M2   | 365.00   |          |            |
| 5.2    | Ditto but one brick wall for Ground floor internal walls  | M2   | 430.45   |          |            |
| 5.3    | Ditto but one brick wall around suspended slab  | M2   | 92.00    |          |            |
| 5.4    | Ditto but one brick wall for Entrance Mastaba   | ML   | 13.00    |          |            |
| 5.5    | Ditto but one brick wall for external & internal wall and staircase wall on the first floor   | M2   | 246.00   |          |            |
| 5.6    | Ditto but one brick wall for parapet on the First floor   | M2   | 70.00    |          |            |
| 5.7    | Provide materials and lay in 1:6 cement sand mortar Selected half brick wall fair face cladding (Sidaba) for external walls including Z Shape reinforcing bars 6mms dia every 0.7m horizontally and 5 courses height. (Spaglion) of 1cm thick should be used for horizontal alignment to each Course.As follows : |      |          |          |            |
| 5.7.1  | Ditto but for Ground floor external walls   | M2   | 365.00   |          |            |
| 5.7.2  | Ditto but for First floor external walls  | M2   | 274.00   |          |            |
| 5.7.3  | Ditto but for Entrance Mastaba  | ML   | 13.00    |          |            |
|        | <b>Carry to Summary</b>   |      |          |          |            |
| 6      | <b>Plastering Works:</b>  |      |          |          |            |
|        | Rate shall include fixing of metal lath before plaster where concrete is flush with brick walls as per attached specifications and As follows:  |      |          |          |            |
| 6.1    | Provide & apply cement/ sand plaster(1:6) mix with 25 mm thick for internal walls and columns in Ground floor.  | M2   | 1,135.00 |          |            |
| 6.2    | Ditto but for ceiling   | M2   | 449.00   |          |            |
| 6.3    | Ditto but for First floor walls (internal)  | M2   | 271.00   |          |            |
| 6.4    | Ditto but for ceiling - First floor cover slab  | M2   | 194.00   |          |            |
| 6.5    | Ditto but for parapet walls (internal) on the First Floor   | M2   | 70.00    |          |            |
|        | <b>Carry to summary</b>   |      |          |          |            |
| 7      | <b>Painting Works:</b>  |      |          |          |            |
|        | Rates shall include all preparatory works , internal and external angles and narrow width. Samples should be submitted to the Engineer for review and approval before work is commenced on site, As follows :   |      |          |          |            |
| 7.1    | Provide and apply Pomastic , it should be two coats stucco /one coat primer / sealer and 2 coats of Pomastic , As follows:  |      |          |          |            |
| 7.1.1  | Ditto but for Ground Floor internal walls , columns and narrow width  | M2   | 1,135.00 |          |            |
| 7.1.2  | Ditto but for ceiling   | M2   | 449.00   |          |            |
| 7.1.3  | Ditto but for First floor walls (internal)  | M2   | 271.00   |          |            |
| 7.1.4  | Ditto but for ceiling - First floor cover slab  | M2   | 194.00   |          |            |
| 7.1.5  | Ditto but for parapet walls (internal) on the First Floor   | M2   | 70.00    |          |            |
| 7.2    | Provide and apply Oil paint , it should be two coats stucco /one coat primer / sealer and 2 coats of Pomastic , for WC intenal walls at the ground floor.   | M2   | 61.00    |          |            |
|        | <b>Carry to summary</b>   |      |          |          |            |

| Item   | Description  | Unit | Quantity | Rate SGD | Amount SGD |
|--------|--|------|----------|----------|------------|
|        |  |      |          |          |            |
| 8      | <b>Cladding &amp; Tiling Works :</b>   |      |          |          |            |
|        | Rates shall include straight cutting holes, waste, ...etc samples shall be submitted for approval by the Engineer before commencing work on site. Pavior should be hard wearing, anti-slip, chemical resistant, hygienic, decorative, free maintenance and resist penetration from objects and heavy equipments.   |      |          |          |            |
| 8.1    | <b>Terrazzo</b>  |      |          |          |            |
| 8.1.1  | Provide and fix 30x150x2cm Terrazo tiles hamoginious composition and colors of the best types fixed to floors ( outdoor step )with rich c/s mortar   | NO   | 2.00     |          |            |
| 8.1.2  | Provide and fix 15x150x2cm Terrazo tiles hamoginious composition and colors of the best types fixed to Risers ( outdoor step )with rich c/s mortar   | NO   | 2.00     |          |            |
| 8.1.3  | Provide and fix 375x150x2cm Terrazo tiles hamoginious composition and colors of the best types fixed to Enterance landing ( outdoor step )with rich c/s mortar   | NO   | 1.00     |          |            |
| 8.1.4  | Provide and fix 30x265x2cm Terrazo tiles hamoginious composition and colors of the best types fixed to floors ( outdoor step )with rich c/s mortar   | NO   | 2.00     |          |            |
| 8.1.5  | Provide and fix 15x265x2cm Terrazo tiles hamoginious composition and colors of the best types fixed to Risers ( outdoor step )with rich c/s mortar   | NO   | 2.00     |          |            |
| 8.1.6  | Provide and fix 30x120x2cm Terrazo tiles hamoginious composition and colors of the best types fixed to Stair case Step with rich c/s mortar  | NO   | 20.00    |          |            |
| 8.1.7  | Provide and fix 15x150x2cm Terrazo tiles hamoginious composition and colors of the best types fixed to stair case risers with rich c/s mortar  | NO   | 19.00    |          |            |
|        |  |      |          |          |            |
| 8.2    | <b>Cast in situ Terrazzo</b>   |      |          |          |            |
| 8.2.1  | Provide and lay cast in situ Terrazo tiles hamoginious composition and colors of the best types fixed to ground floor with rich c/s mortar   | M2   | 449.00   |          |            |
| 8.2.2  | Provide and lay cast in situ Terrazo tiles hamoginious composition and colors of the best types fixed to first floor with rich c/s mortar  | M2   | 194.00   |          |            |
|        |  |      |          |          |            |
| 8.3    | <b>Cement Tiles</b>  |      |          |          |            |
|        | Provide and fix 40x40 cm first class Cement tiles for first floor out door area  | M2   | 236.00   |          |            |
|        | <b>Carry to summary</b>  |      |          |          |            |
|        |  |      |          |          |            |
| 9      | <b>Aluminum Work:</b>  |      |          |          |            |
|        | Aluminum should be first class , high order type, coating ofaluminum should be verified and approved by the Engineer,Double glass should be first class 6 mm thick each and should be approved by the Engineer - complete with architraves to sides , flush with walls as per drawings and specifications ( rectangular steel pipes sub-frames should be provided for all windows),As follows: |      |          |          |            |
| 9.1    | Provide & Fix Window size (60w x 60h) cm powder coated ,fixed window   | NO   | 23.00    |          |            |
| 9.2    | Provide & Fix Window size (60w x 60h) cm powder coated ,top hinged window  | NO   | 4.00     |          |            |
| 9.3    | Provide & Fix Window size (60w x 200h) cm powder coated ,fixed window  | NO   | 4.00     |          |            |
| 9.4    | Provide & Fix Window size (120w x 120h) cm powder coated , side hinged, 2 leaf window  | NO   | 15.00    |          |            |
|        |  |      |          |          |            |
| 10     | <b>Steel Work:</b>   |      |          |          |            |
| 10.1   | Provide and fix steel door for external doors. 50mm thick steel leaf both sides with internal steel stiffeners as per drawings and Engineer's approval ,As follows :   |      |          |          |            |
| 10.1.1 | Provide & Fix external Door for enterances size (350w x 200h) cm powder coated ,Sliding  | NO   | 2.00     |          |            |
| 10.1.2 | Provide & Fix external Door size (160w x 220h) cm powder coated ,double leaf   | NO   | 2.00     |          |            |
| 10.1.3 | Provide & Fix internal Door size (160w x 220h) cm powder coated ,double leaf   | NO   | 2.00     |          |            |
| 10.1.4 | Provide & Fix internal Door size (90w x 220h) cm powder coated   | NO   | 12.00    |          |            |
| 10.1.5 | Provide & Fix internal Door size (80w x 220h) cm powder coated   | NO   | 2.00     |          |            |
|        |  |      |          |          |            |
| 10.2   | Steel grill security lock as per drawing and specifiation,As follows :   |      |          |          |            |
| 10.2.1 | Ditto but for Door size (160w x220h) cm  | M2   | 8.00     |          |            |
| 10.2.2 | Ditto but for Window size (120w x120h) cm  | M2   | 22.00    |          |            |
| 10.2.3 | Ditto but for Window size (60w x60h) cm.   | M2   | 10.00    |          |            |
|        | Ditto but for Window size (60w x200h) cm.  | M2   | 5.00     |          |            |
|        | <b>Carry to summary</b>  |      |          |          |            |

| Item          | Description  | Unit | Quantity | Rate SGD | Amount SGD |
|---------------|--|------|----------|----------|------------|
| <b>11</b>     | <b>Roof Treatment :</b>  |      |          |          |            |
| <b>11.1</b>   | Provide and lay khafgi as directed by Engineer and as per drawings & specification (5cm - 10 cm)   | M2   | 236.00   |          |            |
| <b>11.2</b>   | Provide and lay 3 coats of hot bituminous material   | M2   | 236.00   |          |            |
| <b>11.3</b>   | Provide and lay 2 cm thick sand/cement screed mix(1:6)   | M2   | 236.00   |          |            |
|               | <b>Carry to summary</b>  |      |          |          |            |
| <b>12</b>     | <b>External Work:</b>  |      |          |          |            |
| <b>12.1</b>   | <b>Fence:</b>  |      |          |          |            |
| <b>12.1.1</b> | <b>Excavation and Backfill</b>   |      |          |          |            |
|               | Refer to the relevant clauses of the attached specifications Rates shall include excavation in any kind of soil , setting out, digging out , supporting the sides if any, disposing water if any, carting away all surplus Excavated materials to be located as directed by the engineer. Levelling and clearing the bottom of the excavations to receive plain concrete. taking into account quantities will be measured net .bidders have to quote their rates including reasonable working space , As follows : |      |          |          |            |
| <b>1</b>      | Excavate Fence foundation for columns base not exceeding 2.50 depth, any extra depth to be dealt with on site as per condition of contract.  | M3   | 286.00   |          |            |
| <b>2</b>      | Provide and lay backfilling from the same excavated material around foundations.   | M3   | 245.00   |          |            |
| <b>12.1.2</b> | <b>Concrete Works</b>  |      |          |          |            |
| <b>1</b>      | Provide and lay plain concrete 10cm thickness (1:3:6) for foundation base  | M3   | 12.00    |          |            |
| <b>2</b>      | Provide & Cast reinforced concrete in columns base Mix (1:2:4) as per specification & drawings   | M3   | 23.00    |          |            |
| <b>3</b>      | Ditto but for short columns  | M3   | 8.00     |          |            |
| <b>4</b>      | Ditto but for fence beams  | M3   | 19.00    |          |            |
| <b>5</b>      | Ditto but for Guards' rooms cover slab   | M3   | 8.00     |          |            |
| <b>12.1.3</b> | <b>Brick Works</b>   |      |          |          |            |
|               | Provide and build brick walls of first class ordinary burnt red clay bricks size (230 x 110x x60 mm.) in (1:6) cement /sand mortar.  |      |          |          |            |
|               | The rates should include all scaffolding, all cutting to form bond, opening holes, chases and all required material and labours.   |      |          |          |            |
|               | Rates shall allow for required openings for air coolers, air conditions, ducts ,etc.and shall include D.P.C. under all brick walls as directed by the Engineer, As follows:  |      |          |          |            |
| <b>1</b>      | Provide and build one brick for Fence external walls   | M2   | 322.00   |          |            |
| <b>2</b>      | Provide and build one brick for Guards walls   | M2   | 55.00    |          |            |
| <b>12.1.4</b> | Provide materials and lay in 1:6 cement sand mortar Selected half brick wall fair face cladding (Sidaba) for external walls including Z Shape reinforcing bars 6mms dia every 0.7m horizontally and 5 courses height. (Spaglion) of 1cm thick should be used for horizontal alignment to each Course. As follows:  |      |          |          |            |
| <b>1</b>      | Ditto but for fence internal and external sides  | M2   | 643.00   |          |            |
| <b>2</b>      | Ditto but for Guards' walls external sides   | M2   | 48.00    |          |            |
| <b>12.2</b>   | <b>Land scape:</b>   |      |          |          |            |
| <b>12.1.1</b> | <b>Backfill</b>  |      |          |          |            |
|               | Provide and lay approved selected fill watered and well compacted to 95 % as measured by proctor test and all necessary requirements to complete the work as per engineer satisfaction ,As follows :   |      |          |          |            |
| <b>1</b>      | Ditto but for Pavement   | M3   | 52.00    |          |            |
| <b>2</b>      | Ditto but for external yard  | M3   | 179.00   |          |            |
| <b>3</b>      | Ditto but for internal road  | M3   | 24.00    |          |            |
| <b>4</b>      | Ditto for garden area by GORERA soil   | M3   | 27.00    |          |            |
| <b>12.2.2</b> | <b>Finishes</b>  |      |          |          |            |
| <b>12.2.2</b> | Provide and lay 6 cm thick heavy duty Interlock for Pavement   | M2   | 171.00   |          |            |
| <b>12.2.3</b> | Provide and lay 6 cm thick heavy duty Interlock for External yard  | M2   | 437.00   |          |            |
| <b>12.2.4</b> | Provide and lay 8 cm thick heavy duty Interlock for internal road  | M2   | 155.00   |          |            |
| <b>12.2.5</b> | Provide and plant Garden area  | M2   | 97.00    |          |            |
| <b>12.2.6</b> | Provide and lay 15 cm thick heavy duty Curb stone for External yard and pavement   | ML   | 219.00   |          |            |
|               | <b>Carry to summary</b>  |      |          |          |            |
| <b>13</b>     | <b>Plumbing Work:</b>  |      |          |          |            |
|               | Supplying and install in position as indicated on the drawings, approved manufactures are Villoroy&Boch , Twyford England, Ideal standard italian, American standard, or approved equal. Complete with all accessories as follows:   |      |          |          |            |

| Item                    | Description   | Unit | Quantity | Rate SDG | Amount SDG |
|-------------------------|---|------|----------|----------|------------|
| 13.1                    | (E.W.C.)Eurbian water closet , approved manufactures , complete with seat , flush tank with (P.Trap) and w/c connector, valve, Spray Combination consisting of hand spray with tigger control , wall holder ,hose , angle valve ,with all necessary fittings, support, and all accessories ....etc.for complete work as specification drawings and engineer approval  | NO   | 2.00     |          |            |
| 13.2                    | <b>Wash hand basin</b> (Counter type/2 sinks in one counter), approved manufactures from over flow , minimum bowl (530x430mm.) complete with fitting ,(Chromium plated single-lever basin mixer,pop-up waste set, rapid installation system,protected against backflow, (GROHE) or approved equal), isolating valves, supports and all necessary fittings. for complete work as specification , drawings and engineer approval  | NO   | 2.00     |          |            |
| 13.3                    | <b>Kitchen sink</b> shall be complete with sink , chromium plated , mixing tap with swivel joint, metallic supports,PVC bottle trap isolating valves and all necessary fittings. for completed work as specification, Sink (1 bowl 1 wing)  | NO   | 1.00     |          |            |
| 13.4                    | Provide and install the complete rain water pipes shall be U.P.V.C.(Heavy duty) class 3(6 bar) to BS 4660 laid complete with all necessary fittings , bends , junction ,accessories supports and the like ...etc .for complete work as specification ,drawings and engineer approval , As follows :   |      |          |          |            |
| 13.4.1                  | Dia 100 mm (4")rain water pipe  | ML   | 107.00   |          |            |
| 13.5                    | Provide and cast R.C. concrete (1:2:4)Manholes size 60x60 cm  | No   | 5.00     |          |            |
| 13.6                    | Ditto but for gully trap size 30x30cm   | No   | 2.00     |          |            |
| 13.7                    | Provide and install the complete drainage pipes shall be U.P.V.C. (Heavy duty) class 3 to BS 4515 (6 bar) lay with all fittings including all bends, junction, accessories, support ... etc. for complete work & according to the consultant requirements and the approved sample ,As follows:  |      |          |          |            |
| 13.7.1                  | Ditto but for Dia 100 mm (6")   | ML   | 30       |          |            |
| 13.7.2                  | Ditto but for Dia 100 mm (4")   | ML   | 10.00    |          |            |
| 13.7.3                  | Ditto but for Dia 50 mm (2")  | ML   | 26.00    |          |            |
| 13.9                    | Floor drain for toilets , ablation and kitchen should be trap type 50 mm .with 2 screw type joint having water seal 27 mm inlet 2" inch and out let 2& half inch .with all necessary fittings for completed work as specification,  | No   | 3.00     |          |            |
| 13.10                   | Provide and cast R.C. concrete (1:2:4)Septic Tank size 500x250x300 cm, with concrete walls 15cm thickness with all fittings including all bends, junction, accessories, support ... etc. for complete work & according to the consultant requirement and the approved drawings  | JOB  | 1.00     |          |            |
| 13.11                   | Drill well of internal dia. 2.5m(net)with min. depth 15m, with one brick wall c/s 1:6, carry out pumping test for well, with all fittings including all bends, junction, accessories, support ... etc. for complete work & according to the consultant requirements and the approved Drawings   | JOB  | 1.00     |          |            |
| 13.12                   | Providing and fixing of approved quality tank panel of capacity 3000 liters. On roof with all fittings including all bends, junction, accessories, support ... etc. for complete work & according to the consultant requirements and the approved drawings  | No   | 1.00     |          |            |
| 13.13                   | Supply, install and commissioning 1 set of cold water pumps, (two horses)pressure type, automatically operated (for roof tank & building ), this set consist of two pump each one shall be capable to provide 5-10 m3/h Against 45 m head , pump suitable for electric supply (415v, 50Hz, 1PH ), The price shall cover material piping, fittings,electric work, automatic control panel switch, working with elec. floating valve for roof tank, foot valve, gate valve, non-return valve , flexible connection,presure gauge, regulator (electronic controller) and all associated fittings for complete work ... etc. for complete work as specification. Work should be approved by engineer. | Set  | 1        |          |            |
| 13.14                   | Cold water supply pipes shall be heavy duty PP-R pipes type 3 pipe work to DIN 8077 and 8078, (PIN 20 min.) , complete with hangers, supports,pipe marking, flushing and disinfection, and all necessary fittings , valves for all services, kitchens and toilets and all general services as detailed in specifications as shown in the drawings, As Follows:  |      |          |          |            |
| 13.14.1                 | Ditto but .Dia 25mm (1")  | ML   | 136.00   |          |            |
| 13.14.2                 | Ditto but .Dia 20mm (3/4")  | ML   | 32.00    |          |            |
| 13.14.3                 | Ditto but .Dia 12mm (1/2")  | ML   | 27.00    |          |            |
| <b>Carry to summary</b> |   |      |          |          |            |

| Item           | Description   | Unit | Quantity | Rate SGD | Amount SGD |
|----------------|---|------|----------|----------|------------|
| <b>14</b>      | <b>Electrical Work:</b>   |      |          |          |            |
|                | Supply ,install test commission and hand over in good working conditions complete the electrical system as shown on drawings , specifications IEE wiring regulations & as required by local electrical authorities (NEC) for the complete project All up to the satisfaction of the engineer .  |      |          |          |            |
| <b>14.1</b>    | <b>Main&amp; Final Distribution boards</b>  |      |          |          |            |
|                | Supply ,install and connect distribution boards including all main and branch circuit protective devices mccb circuit breakers, integral metering ,selector switches , indicator lights etc..as per drawings ,As follows :  |      |          |          |            |
| <b>14.1.1</b>  | Supply, install, fix and connect MDB 150 A,3Ø, main C.Breaker,MCCB Branch CCT(2No 70 A,3Ø MCCB ,1No 50 A,3Ø MCCB).wall mounted panel board main and final distribution boards as specified and shown on the Drawings of Legrand or equivalent :   | No   | 1.00     |          |            |
| <b>14.1.2</b>  | Ditto but for Final Distribution Board 415/240 v, 3Ø,30 way C/W main circuit breaker (70A,3Ø MCCB) branch (2 No-20A,3Ø MCB)&(6 No-30A,1Ø MCB)&(8 No-20A,1Ø MCB) AND (10 No-15A,1Ø MCB)  | No   | 2.00     |          |            |
| <b>14.2</b>    | Supply, install, fix and connect 150 A ATS, 4 pole motorized European type  | No   | 1.00     |          |            |
|                |   |      |          |          |            |
| <b>14.3</b>    | <b>Small Power</b><br>Providing all materials ,accessories and labor for wiring with PVC conduit and accessories for the sockets quoted below using PVC insulated strand copper conductor wires drawn through rigid PVC conduit junction boxes ,G.I fish wire etc..<br>The wiring cost shall include cost of wires ,conduit and its accessories and earth wire .The G.I outlet box and the socket shall also be included in the cost .As follows:<br><br>Supply, install, fix and connect 13A Socket including conduits of Decoduct or equivalent and wires(3x4mm2+1x2.5 mm2) of Al Sharq make or , equivalent in 3/4" pvc pipe and socket(Legrand)or equivalent), As follows : |      |          |          |            |
| <b>14.3.1</b>  | 13 Amp single socket 2 P,3W   | No   | 32.00    |          |            |
| <b>14.3.2</b>  | 13 Amp double socket 2 P,3W   | No   | 36.00    |          |            |
| <b>14.3.3</b>  | 10 Amp single socket 415 V,3Ø,4W  | No   | 2.00     |          |            |
| <b>14.4</b>    | Supply, install, fix and connect Floor Box including Double power out let and Data out let with 2 RJ45 and 4 pair Cat 6   | No   | 4.00     |          |            |
| <b>14.5</b>    | Supply, install, fix and connect ceiling fan including conduits of Decoduct or equivalent and wires(3x2.5mm2+1x2.5 mm2) of Al Sharq make or equivalent in 3/4" pvc pipe and ceiling fan (Orient) or equivalent  | No   | 17.00    |          |            |
| <b>14.6</b>    | Supply, install, fix and connect 10 inch exhaust fan including conduits of Decoduct or equivalent and wires(3x2.5mm2+1x2.5 mm2) of Al Sharq make or equivalent in 3/4" pvc pipe and exahust fan KDK or equivalent   | No   | 4.00     |          |            |
| <b>14.7</b>    | <b>Data Work</b>  |      |          |          |            |
| <b>14.7.1</b>  | Supply, install, fix and connect Data RACK C/W wires ,conduits and termination ,type American or European   | No   | 1        |          |            |
| <b>14.7.2</b>  | Supply, install, fix and connect Data out lets C/W 2RJ45 and 4 pair Cat 6 in 1" pvc / trunk ,type American or European  | No   | 33       |          |            |
| <b>14.8</b>    | <b>CCTV System</b>  |      |          |          |            |
|                | Providing all materials ,accessories and labor for Piping , wiring and connecting of the CCTV system.The wiring cost shall include cost of wires ,conduit and its accessories and earth wire .consist of Dom camera , fixed CAWER DVR - 36 HR Storage and 17" TV C/W Cat 5.   | Job  | 1        |          |            |
| <b>14.9</b>    | <b>Air-Condition Unites 24000 BTU</b><br>Supply, install, fix and connect 24000 BTU split unit including conduits of Decoduct or equivalent and wires(3x6mm2) of Al Sharq make or equivalent in 3/4" pvc pipe, including DP Switch 32 A(Legrand) and O general split unit or equivalent   | No   | 7.00     |          |            |
| <b>14.10</b>   | <b>Air-Condition Unites 18000 BTU</b><br>Supply, install, fix and connect 18000 BTU split unit including conduits of Decoduct or equivalent and wires(3x4mm2) of Al Sharq make or equivalent in 3/4" pvc pipe, including DP Switch 30 A(Legrand) and O general split unit or equivalent   | No   | 6.00     |          |            |
| <b>14.11</b>   | <b>Luminaires:</b><br>Supply, install, fix and connect luminaires including switches as specified and shown on the Drawings of Philips make or equivalent ,including conduits and wiring (use 3 x 2.5 mm2 ,wires) , As follows :  |      |          |          |            |
| <b>14.11.1</b> | 23w LED circular surface mounting light   | No   | 109.00   |          |            |
| <b>14.11.2</b> | 1X200W LED Flood light Mounted in Boundary including pipes and supporting system  | No   | 16.00    |          |            |
|                | <b>Cables:</b>  |      |          |          |            |

| Item    | Description  | Unit | Quantity | Rate SDG | Amount SDG |
|---------|--|------|----------|----------|------------|
| 14.12   | Supply, install, fix and connect cables as specified and shown on the Drawings <sup>2)</sup> of Al Sharq make or equivalent including trench , conduit and cable tray (steel), As follows :  |      |          |          |            |
| 14.12.1 | 4C x 50 mm+1x16mm(E) <sup>2</sup> XLPE/CU/PVC. In 2" pvc   | ML   | 20.00    |          |            |
| 14.12.2 | 4C x 16 mm+1x16mm(E) <sup>2</sup> XLPE/CU/PVC. In 2" pvc   | ML   | 30.00    |          |            |
|         | <b>Emergency System</b>  |      |          |          |            |
| 14.13   | Supply, Install and Connect Diesel Generator Set, Including Main Circuit Breaker, Engine Instruments, Daily Fuel Tank, Exhaust Pipe, Silencer, RC Base, necessary civil works and Generator Annunciator Panel with its Wiring and Conduits .all per technical specifications , engineer's instructions and manufacturer recommendations, As follows:   |      |          |          |            |
|         | 415/240V, 50HZ, 100KVA, Generator Set C/W 4X 50 mm +1 X 16 mm (G) in 2" pvc  | No   | 2.00     |          |            |
| 14.14   | <b>Lightening System :</b>   |      |          |          |            |
|         | Supply and install the lightening system shown on drawing consisting of : roof conductors ,down comers ,air terminals ,earth rods,TEST pits and connection accessories and connected to Grounding System and connect any metal parts to the system , FURSE Type as per Approved Drawings and Engineer Instructions.  | JOB  | 1.00     |          |            |
| 14.15   | <b>Earthing and Grounding System :</b>   |      |          |          |            |
|         | Supply ,install and connect a complete system grounding network including grounding pits , grounding bars , connection to neutral of transformer 16mm to Test Pit with 2.4m Copper Rode, switch board and MDB and Final DBs connected to 50x6x100mm BUSBAR and then to Test Pit with 16 B.C cable and finally connected to Lightning Test Pit by 35mm B.C , Furse type as per Approved drawings and Engineer Instructions. | JOB  | 1.00     |          |            |
|         | <b>Carry to summary</b>  |      |          |          |            |
| 15      | <b>Fire Fighting Work :</b>  |      |          |          |            |
| 15.1    | Supply, Install and Connect fire fighting system .all as per drawings , technical specifications , engineer's instructions and manufacturer recommendations, As follows:   |      |          |          |            |
| 15.1.1  | Exit Sign / Arabic & English C/W 3HR Backup  | No   | 4.00     |          |            |
| 15.1.2  | Emergency light C/W 3HR Backup   | No   | 2.00     |          |            |
| 15.1.3  | Portable Fire Extinguisher 6 Kg(Dry Chemical Powder)   | No   | 4.00     |          |            |
| 15.1.4  | Portable Fire Extinguisher 2 Kg CO2  | No   | 2.00     |          |            |
| 15.2    | <b>Fire Alarm System :</b>   | No   |          |          |            |
|         | Supply, Install and Connect fire alarm system .all as per drawings , technical specifications , engineer's instructions and manufacturer recommendations,wire(2x1.5mm solid copper 105°C Build In type), As follows:   |      |          |          |            |
| 15.2.1  | smoke detectors  | No   | 17.00    |          |            |
| 15.2.2  | Heat detectors   | No   | 1.00     |          |            |
| 15.2.3  | Fire alarm Control panel (FACP) 4 Zone   | No   | 1.00     |          |            |
| 15.2.4  | Call points  | No   | 3.00     |          |            |
| 15.2.5  | 6" bell / SIREN  | No   | 3.00     |          |            |
|         | <b>Carry to summary</b>  |      |          |          |            |

### New Cold Chain Centers in GEZEIRA

| Summary of Works   |                                    | SDG |
|--------------------|------------------------------------|-----|
| 1-                 | Total Site Work                    |     |
| 2-                 | Total Excavation & Trenching Works |     |
| 3-                 | Total Back filling Works           |     |
| 4-                 | Total Concrete Works               |     |
| 5-                 | Total Bricks & Masonary Works      |     |
| 6-                 | Total Plastering Works             |     |
| 7-                 | Total Painting Works               |     |
| 8-                 | Total Cladding & Tiling Works      |     |
| 9-                 | Total Aluminum Work                |     |
| 10-                | Total Steel Work                   |     |
| 11-                | Total Roof Treatment               |     |
| 12-                | Total External Work                |     |
| 13-                | Total Plumbing Work                |     |
| 14-                | Total Electrical Work              |     |
| 15-                | Total Fire Fighting Work           |     |
| <b>GRAND TOTAL</b> |                                    |     |