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# **SDAR Field Rehabilitation Project**

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**SDARA & Persatuan Alumni SDAR LIONS ("PASL")**

**Report Date: 5 July 2025**



## 1. Project Overview

The SDAR Field Rehabilitation Project was initiated to restore and enhance the school's playing field to ensure that it meets safety, usability, and performance standards. This included infrastructure improvements, planting of new turf, drainage upgrades, and irrigation system installation. The project also emphasized on the involvement of various parties among school's staff, students, SDARA and parents. The approach was made in such a manner with the aim of long-term sustainability, cultivating a sense of belonging, and creating a legacy to be embraced by future generations under the spirit of "**Berilmu Untuk Berjasa**".

## 2. Objectives

- i) Improve field drainage and surface conditions;
- ii) Plant new grass turf for sports and recreational activities;
- iii) Install an efficient irrigation system;
- iv) Engage the school and SDARA community in the execution process; and
- v) Ensure sustainability through proper fertilization and compost application.

## 3. Timeline & Milestones

The duration of the project was initially planned for one **(1)** year, from **27/12/2025 to 27/1/2026**. However, in consideration of the school's sporting events and activities, and upon the request from the school administration, the committee had decided on an early handover of six months before the initial date. The date of the handover had therefore been moved to **5 July 2025**.

Throughout the project, the field was only closed for use for two months and was opened for use in stages as follows:

- Phase 1/2: **30 Apr 2025**
- Phase 2/2: **14 May 2025**



Details of work carried out for this project is divided by stages:

- Stage 1 - **Kick-off & Site Preparation**: 25 Dec 2024 – 08 Jan 2025
- Stage 2 - **Subsoil piping, cambering & cleaning**: 08 – 22 Jan 2025
- Stage 3 - **Grass laying & irrigation works**: 05 – 19 Feb 2025
- Stage 4 - **Field growth monitoring & maintenance**: 05 Mar – 25 Jun 2025
- Stage 5 - **Top Dressing & Aeration**: 02 Apr – 11 Jun 2025
- Stage 6 - **Finishing and Field Handover**: 5 July 2025

#### 4. Financial Summary

The total cost of the project of **RM 148,534.07** was 100% funded by **SDARA** and Persatuan Alumni SDAR Lions (**PASL**), through a crowd funding drive among SDARA communities and corporate entities. The crowd funding effort that was carried out for a month and managed to raise a total of **RM 141,222.00**. The balance of expenses for project completion amounting to **RM 7,312.07** was funded internally by **PASL**, in its capacity as the Project Owner.



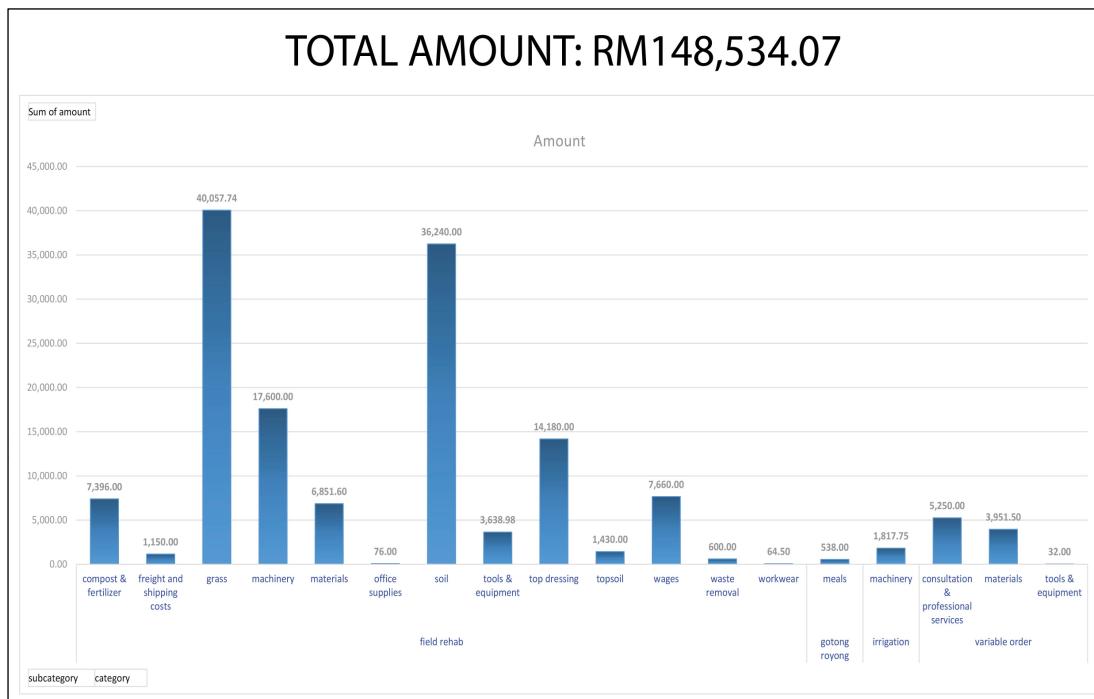


Fund mainly came from few generations of SDAR alumni from 1960's batches to 2023. The support shown was the main motivation for SDARA & PASL to commit and materialize this noble project.

The Project total cost is RM 148, 534.07 with the following top three (3) expenditure types:

- i) Materials: RM 56,941.60 (38%)
- ii) Grass: RM 40,057.74 (27%)
- iii) Machinery: RM 15,600.00 (11%)

Further breakdown of the total project cost is per the following diagram:



Materials consist of top soil, crusher run, coarse sand and fine sand. As for machineries, the cost was due to massive usage of excavator, and back pusher tractor.



Details of expenses are as follows:

| subcategory    | category                             | Sum of amount |
|----------------|--------------------------------------|---------------|
| field rehab    | compost & fertilizer                 | 7,396.00      |
| field rehab    | freight and shipping costs           | 1,150.00      |
| field rehab    | grass                                | 40,057.74     |
| field rehab    | machinery                            | 17,600.00     |
| field rehab    | materials                            | 6,851.60      |
| field rehab    | office supplies                      | 76.00         |
| field rehab    | soil                                 | 36,240.00     |
| field rehab    | tools & equipment                    | 3,638.98      |
| field rehab    | top dressing                         | 14,180.00     |
| field rehab    | topsoil                              | 1,430.00      |
| field rehab    | wages                                | 7,660.00      |
| field rehab    | waste removal                        | 600.00        |
| field rehab    | workwear                             | 64.50         |
| gotong royong  | meals                                | 538.00        |
| irrigation     | machinery                            | 1,817.75      |
| variable order | consultation & professional services | 5,250.00      |
| variable order | materials                            | 3,951.50      |
| variable order | tools & equipment                    | 32.00         |
|                |                                      | 148,534.07    |

Expenses distribution:

| Subcategory     | Key Expenses                        | Amount (RM) |
|-----------------|-------------------------------------|-------------|
| Field Rehab     | Grass, materials, machinery, wages  | 134,611.59  |
| Gotong-Royong   | Meals                               | 538.00      |
| Irrigation      | Machinery                           | 1,817.75    |
| Variable Orders | Consultancy, tools, extra materials | 7,474.25    |

For variable orders (VOs), the cost includes the building of ramp for the heavy machineries to enter the site area.

#### Total cost summary:

Total Expenses : RM 148,534.07  
Fund raised : RM 141,222.00  
Funded by PASL : RM 7,312.07



## 5. Methodology

The approach of project execution was planned in such a manner so that everybody can participate and contribute. Prior to project kick-off, the committee held discussions with a professional consultant with the aim to validate the action plan as well as to gain professional advice and insights. The outcome was a project guideline in the form of a step-by-step approach, as follows:

- i) Removal of bad soil that effect the turf health and growth;
- ii) Improve cambering to avoid water residue during rainy season;
- iii) Improve water drainage by installing subsoil piping drainage system;
- iv) Replanting of new cow grass to replace the existing turf in order to achieve sustainable and healthy turf;
- v) Setting up of an effective irrigation system for turf maintenance; and
- vi) Establish and conduct maintenance works for further improvement of turf condition

Based on the above guidelines, the project was planned and executed throughout a specific time frame, to achieve its target.

## 6. Key Activities

Base on methodology finalized, the project was conducted as per planning which included the following key activities:

### i) Field plotting and water level measurement.

Purpose: To identify the lowest and highest point of the field contour for crowning.

Crowning was the main approach of this project in order to improve surface drainage. By raising the center of the field, water is naturally directed towards the edges, where it can be channeled away.

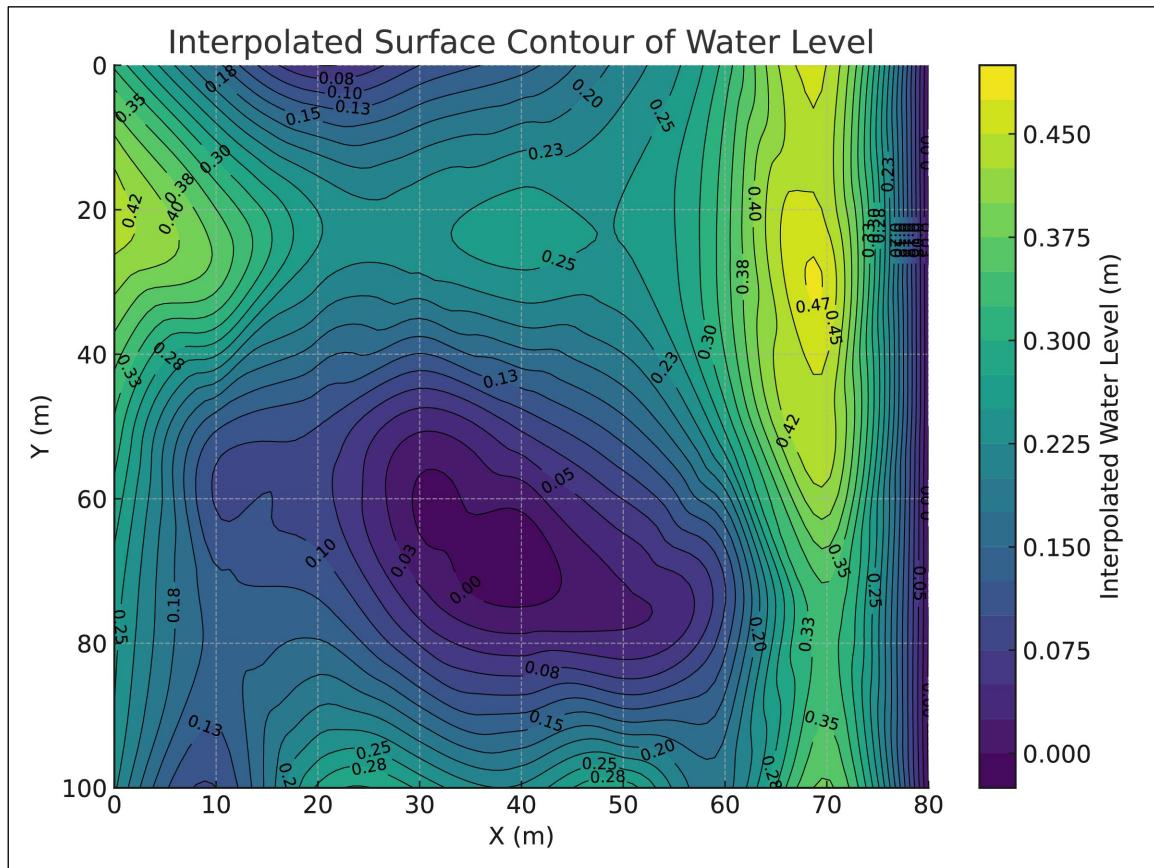


At this stage it was identified that the official site for this project is **13,660** square metres/ **147,036** square feet. The details of the area are as follows:

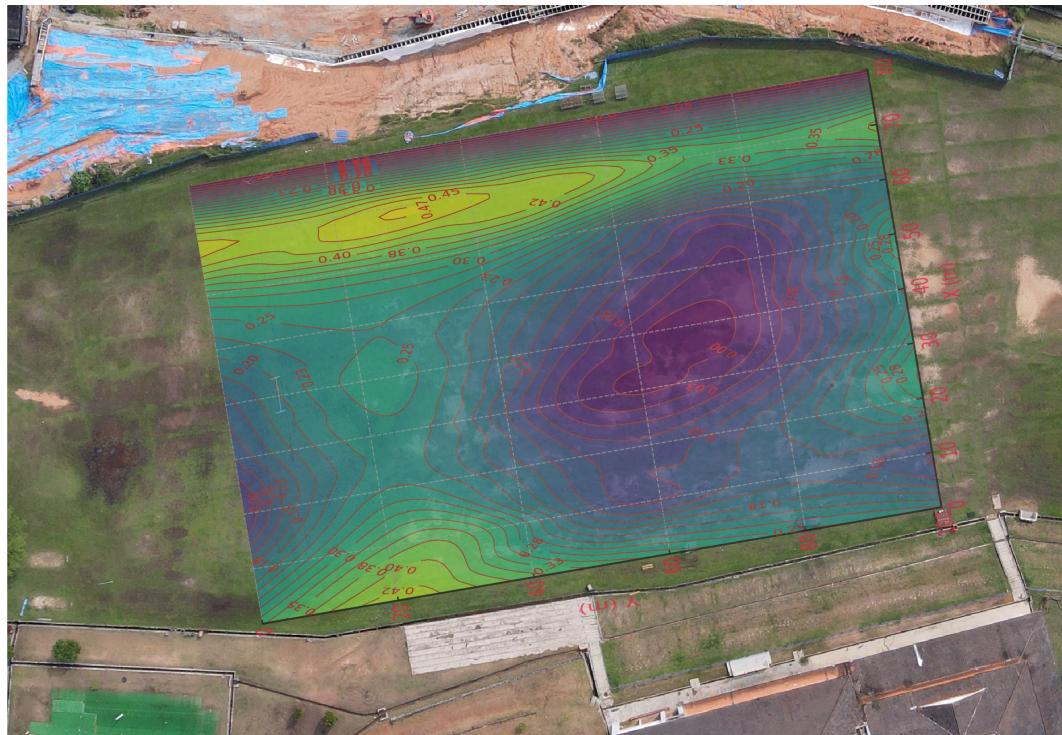
1.     Rugby field : **120 m X 68 m** (8,160 square metres/87,834 square feet)
2.     Football field :**100 m x 55 m** (5,500 square metres/59,202 square feet)



During the process, it was discovered that several points in the middle area were lower than the areas surrounding it, explaining the water residue in the middle of the field which resulted in surface damage in the long run. This was the main cause of the damaged turf and formation of puddles and muddy patches especially during the rainy season.



From the data obtained , the correction for water level had been calculated at respective points and marked based on the crowning slope that had been decided. During the process, the amount of top soil needed to backfill all the low surface was estimated as well.

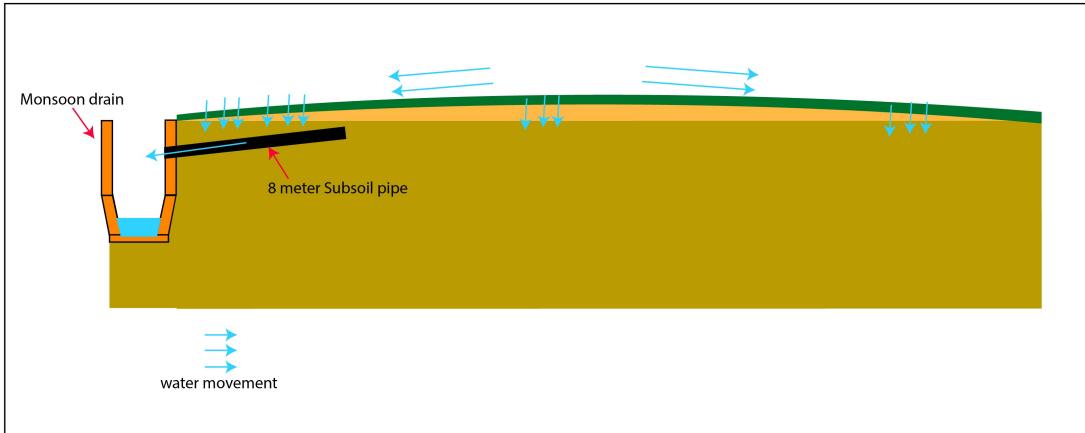


### ii) Subsoil pipe drainage installation.

Purpose: To remove excess water from the field to be channeled to the existing monsoon drain.

A total of 23 HDPE subsoil perforated pipes were installed along the field, connecting to the monsoon drain as below:

- i) 21 lines of 6" x 8 metre-run.
- ii) 2 lines of 6" x 30 metre-run.



Layers of different materials were used for smooth water removal by gravity, crusher run gravel was used as the bedding as well as first layer, followed by washed sand as backfill material. This sand acts as a filter, allowing water to pass through while preventing soil particles from clogging the drainage system.





### iii) Surface levelling.

Purpose: To achieve the surface curvature of the field as per design specification according to the water level points data which was obtained from actual measurement.



Initially, all the bad soil in the areas that had been identified during initial stage of the project was removed. During this stage, a large amount of topsoil was used as backfill material to fill up the area. Then, another layer of topsoil was used to raise the surface to the required height at the designated points.

### iv) Turf grass planting.

Purpose: To replace old unhealthy grass and to cover the area with new turf after the crowning stage.



The type of grass selected is cow grass which is commonly used due to its durability, low maintenance requirements and aesthetic appeal. A total of almost 45,000 square feet of cow grass in sod was planted, covering almost 60 % of the field surface. During this stage, a series of gotong-royong programme was carried out involving volunteers among alumni, school staff, parents and students.



#### v) Irrigation and turf growth monitoring.

Purpose: To ensure sufficient water supply in the planted area in order to foster the grass growth.

After the planting stage, the most challenging task was to ensure that the grass planted had sufficient and steady supply of water due to the dry season. A few lines of poly pipes with sprinkler system, along with a water pump and tanks were installed to provide enough pressure head for that purpose. In addition, manual watering had to be carried out for critical spots.



#### vi) Top dressing and soil aeration.

Purpose: To improve the playing surface by leveling it, enhancing drainage, and promoting healthy grass growth.

There were 2 stages of top dressing involved. All uneven areas were identified and fine sand was manually applied to the affected areas right after the first grass cutting. The first stage of this process was a very labour-intensive one. The next stage was done by machines for the application of a very thin layer of fine sand. It was carried out right after soil aeration was done and once completed, it was spread evenly by using dragmat.



### vii) Compost and fertilizer applications (multiple rounds).

Purpose: To ensure sustainable healthy growth of cow grass planted

During the early stage, compost was applied before planting to act as planting medium and improves soil health by adding organic matter, enhancing water retention and nutrient availability over time. After 3 months, when the turf growth were stable, fertilizer was applied to provide concentrated nutrients for the turf. The application of compost and fertilizer is recommended to be done every 3 months as part of maintenance for long run.



## 7. Community Involvement

The gotong-royong effort saw a notable community involvement from among the SDARA, students and parents in site cleaning and initial preparation. This engagement helped to instill shared ownership and pride and reinforce the sense of belonging in the newly rehabilitated field.





## 8. Challenges Encountered

- i) Managing the timing of field irrigation to ensure turf health;
- ii) Coordination across multiple stakeholders for delivery and site work;
- iii) Unforeseen minor delays due to weather and manual works/ labor-intensive task;
- iv) Heat wave during turf planting, longer dry spell; and
- v) Unable to implement total closure for the field to allow for healthy grass growth due to school's activities throughout the project, especially after the top-dressing work. It is recommended that it should be closed totally for the grass root to spread right after the process for at least 2 weeks.

## 9. Recommendations & Future Work

1. Continue scheduled maintenance and irrigation to preserve and sustain turf health:
  - i) Regular grass cutting to strengthen root structure and encourage denser turf and avoid weed from spreading- to be carried out bimonthly;
  - ii) Monitor subsoil drainage performance during heavy rains;
  - iii) Regular top dressing and aeration to maintain soil structure and turf health- to be carried out minimum yearly;
  - iv) Improve irrigation system to maintain turf condition especially during dry season;
  - v) Regular fertilizer/compost application for sustainable turf condition-to carry out every three months (to check weather condition); and
  - vi) To acquire basic field maintenance equipment such as grass cutter (24"- manually operated is highly recommended) and drag-mat for manual top dressing.
2. Plan for Phase 2 upgrades, which may include a covered pavilion.



## 10. Conclusion

The SDAR Field Rehabilitation Project was **successfully completed** with strong collaboration between SDARA, PASL and the School's Administration. The total **cost of the project was kept at a very minimum** (approximately RM11/square metre or RM1/square foot, as compared to the normal market cost of between RM15 to 30/square metre or RM1.40 to RM2.80/square foot). It was achieved through the **strong support and commitment from every party involved**.

This project, initiated by SDARIANS for SDARIANS, is a portrayal of their unconditional love for the school. It also reflects the true spirit of "**BERILMU UNTUK BERJASA**", as the rehabilitated field is now offers a safer, greener, and more functional space for the students.

**ONCE A SDARIAN, ALWAYS A SDARIAN**