NAJD FERTILIZERS · SOHAR INDUSTRIAL CITY · DRAWING NF-SP-001 REV A

Preliminary site plan — notes sheet

PRELIMINARY · FOR REVIEW

This sheet explains the site plan: what each zone holds and why it sits where it does, the basis for each design decision, what remains to be confirmed and by whom, and what the drawing does not claim. It is written to be read beside the drawing, and to be handed to a draftsman, an environmental consultant or an authority without further explanation.

1 · Zone schedule

Seven zones along the material flow, people at the upwind end, hazards at the far end.

ZONE	NAME	CONTAINS	PLACEMENT RULE
A	**Gate & administration** البوابة والإدارة	Security gatehouse, inbound weighbridge, parking, Admin, QC laboratory, muster point M1	At the estate road and upwind of everything else. People arrive, are weighed in and are controlled before anything else happens.
B	**Receiving & raw materials** الاستلام والمواد الخام	Inbound receiving canopy, raw material warehouse with segregated bays	Adjacent to Gate 1 and kept clear of the dispatch route. Bay segregation follows a compatibility matrix built from the safety data sheets.
C	**Production** الإنتاج	Liquid NPK plant, NPK blending plant, dust extraction, micronutrient prep, packing & filling	Centre of the site, between receiving and dispatch, so material flows one way and never doubles back.
D	**Finished goods & dispatch** المنتج النهائي والشحن	Finished goods warehouse, dispatch and loading dock, outbound weighbridge	At the opposite end from receiving, served by Gate 2, so loaded and unloaded traffic never conflict.
E	**Organic line** الخط العضوي	Organic feedstock yard, covered compost unit with impermeable base and leachate sump	Downwind, and separated from the finished goods warehouse so raw organic material cannot contaminate packed product.
F	**Hazardous & fuel** المواد الخطرة والوقود	Hazardous materials store and diesel store, both bunded, in a separately fenced compound	Maximum practical distance from every occupied building, with its own gate so chemical loads never cross the site.
G	**Utilities & emergency** المرافق والطوارئ	Firewater tank and pump house, utilities and power, water treatment, wash bay, waste storage	Firewater upwind and clear of Zone F; the rest reachable from the ring road without entering production.

2 · Design decisions

Each numbered flag on the drawing, and the basis for it.

NO.	DECISION	BASIS
1	**Isolated hazardous materials compound**	The hazardous materials store and diesel store sit in a separately fenced compound at the far south-east, with their own chemical gate so hazardous loads never cross the site. Straight-line distance to the Admin building is roughly 145 m; the binding separation distance is set by Civil Defence according to what is stored and in what quantity.
2	**Two muster points at opposite corners**	M1 sits inside Gate 1 serving Admin, Security, the laboratory and visitors; M2 sits at the north-east with its own escape gate, serving production and dispatch. Placing them at opposite corners means whichever is upwind on the day can be used, and neither evacuation route passes through the production area.
3	**Firewater tank and pump house**	Placed at the north-west, upwind and remote from the hazardous compound, feeding a hydrant ring main that covers every storage and production block. Tank volume, flow rate and duration are set by Civil Defence, and this footprint will change accordingly.
4	**Three gates — two independent egress routes**	Gate 1 is the main personnel and receiving entrance, Gate 2 the dispatch exit, and Gate 3 an east-side chemical gate. Gates 1 and 2 give two independent evacuation routes and two approaches for fire appliances, so nobody is trapped inside if an incident blocks one of them.
5	**Weighbridges in and out**	One weighbridge inbound and one outbound, with queuing space inside the fence. They serve the mass balance the environmental study requires, the batch traceability the company offers, and keeping trucks off the Madayn estate road.
6	**Receiving route separated from dispatch**	Raw materials are received at the west end and finished goods dispatched at the east end, with one-way circulation on the ring road and no reversing on the main route, so inbound and outbound traffic never conflict and raw material never mixes with packed product.
7	**QC laboratory beside Admin**	The laboratory sits directly below the Admin building and is reached from Admin without crossing the production floor. It also needs its own reagent store, local extraction, and an emergency shower and eyewash, to be specified at detailed design.
8	**Covered compost unit with leachate sump**	The unit is covered, on an impermeable graded base with a perimeter channel and a leachate collection sump, and sits downwind of Admin. Odour is a symptom of anaerobic conditions, so the primary control is process management — carbon-to-nitrogen ratio, moisture and turning — with covering as a secondary control.
9	**Secondary containment bunds**	Secondary containment is hatched on the drawing at the liquid NPK plant, micronutrient prep, hazardous store and diesel store. Bund volume is sized to the largest vessel plus a margin, at detailed design.

NO.	DECISION	BASIS
10	**Dedicated dust extraction plant**	Dust from tipping, blending and bagging is the site's principal air emission, so the extraction and filter plant is drawn as its own block serving the blending and packing lines. Collected dust returns to the blend — it is saleable product, which puts the environmental control and the commercial interest in the same direction.
11	**Environmental monitoring points**	Three groundwater monitoring wells, two ambient air stations and four boundary noise points. They give a baseline before construction that establishes the existing condition, and periodic monitoring once operating. Well roles depend on groundwater flow direction, which is not yet established.
12	**Perimeter green belt**	A 4 m planted strip on all boundaries, acting as a dust screen and visual buffer, and contributing to the buffer-distance expectations in the Environment Authority's environmental planning guidance.
13	**Drainage segregated into three systems**	Three systems that must not mix: clean stormwater, stormwater from operational and storage areas, and process effluent. Fertilizer is highly soluble, so the principal groundwater risk is leaching. No effluent may be discharged without a licence from the Environment Authority.
14	**Safety stations at every handling point**	Emergency showers, eyewash stations and spill kits at every chemical handling point, with impermeable floors graded to collection traps. Locations are fixed at detailed design.

3 · Circulation and access

- **One-way internal ring road.** Gate 1 → weighbridge in → receiving → around the production block → dispatch → weighbridge out → Gate 2. No reversing on the main route; turning circles sized for the largest vehicle at detailed design.
- **Gate 3 is chemicals only.** Hazardous deliveries enter from the east directly into the Zone F compound and never cross the site.
- **Fire appliance access** to every block from the ring road, with two independent approaches to the site.
- **Pedestrian routes** from Admin to M1 and from production to M2 do not cross the truck route at any point.

4 · Open items

Seven facts fix the rest of this drawing. Until they are settled, every dimension is provisional.

ITEM	WHO SETTLES IT	WHAT IT DECIDES
Plot dimensions	Madayn	The plan is drawn to an indicative 192 m × 130 m. Every block position scales with the real allocation.

ITEM	WHO SETTLES IT	WHAT IT DECIDES
Site wind rose	Directorate General of Meteorology	Decides where the compost unit and the dusty operations can sit. The environmental consultant needs it for dispersion modelling anyway.
Separation distances	Civil Defence	Zone F's distance to occupied buildings is set by what is stored and in what quantity, under the GCC preventive requirements for hazardous materials.
Firewater flow and duration	Civil Defence	Determines tank volume and pump house size — both large enough to change the layout.
Ammonium nitrate: handled or not	Najd, then Civil Defence	If any formulation uses it, Zone F needs isolated non-combustible construction and separation from all organic material and fuel. Settle this before anything else in Zone F is drawn.
Activity classification A / B / C	Environment Authority	Drives the scope and cost of the environmental impact study.
Groundwater flow direction	Environmental consultant	Fixes which monitoring well is upgradient and which are downgradient.

> **Settle the ammonium nitrate question first.** It is the only open item that could invalidate the whole of Zone F, and it is a question about your own formulations rather than one that needs an authority to answer.

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5 · What this drawing is not

- It is not a detailed design. Block sizes are indicative and will change once equipment is selected and the plot is allocated.
- It does not certify compliance with any standard. It is prepared *with reference to* the GCC hazardous materials requirements and to Environment Authority and Civil Defence requirements, and remains subject to their review.
- It is not a fire strategy. The hydrant ring is shown to reserve the space; sizing belongs to Civil Defence.
- It is not a drainage design. The three-stream separation is a requirement stated here, not a scheme drawn here.
- It does not fix separation distances. The dashed envelope around Zone F marks that a distance is required, not what it is.

> **On the basis of preparation.** The title block states that the drawing is prepared with reference to the GCC preventive requirements for hazardous materials and to Environment Authority and Civil Defence requirements, and is subject to their review. That wording is deliberate: the drawing claims

> compliance with no standard, because compliance is certified by the competent authority and not by the drawing itself.
