



## forestry, fisheries & the environment

Department:  
Forestry, Fisheries and the Environment  
REPUBLIC OF SOUTH AFRICA

### RISK MANAGEMENT PLAN IN TERMS OF REGULATION 10 OF THE WASTE EXCLUSION REGULATIONS

	(For official use only)
File Reference Number:	12/9/11
NEAS Reference Number:	
Date Received:	

Risk Assessment for an application for exclusion of waste stream or portion of waste stream in terms of the National Environmental Management: Waste Act, 2008(Act No.59 of 2008), as amended.

#### Kindly note that:

1. This form is current as of 01 April 2021. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority.
2. The information must be typed within the spaces provided in the form. The sizes of the spaces provided are not necessarily indicative of the amount of information to be provided. Spaces are provided in tabular format and will extend automatically when each space is filled with typing.
3. Incomplete forms (including information as required in the application form may be returned to the applicant for revision and the inclusion of additional information.
4. Unless protected by law, all information filled in on this application will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this application on request, during any stage of the application process.

BACKGROUND INFORMATION	
APPLICANT	Hot Dip Galvanizers Association of Southern Africa (HDGASA)
CONTACT PERSON	Robin Clarke Executive Director; Hot Dip Galvanizers Association Southern Africa
NAME	Robin Clarke
ADDRESS	Bedfordview Office Park, Building 1, 3 Riley Road Bedfordview
E-MAIL ADDRESS	robin@hdgasa.org.za
TELEPHONE	011 456 7960
CELL PHONE	082 902 5119

WASTE FACILITY OR FACILITIES		
SOURCE (S) OF WASTE	Hot Dip Galvanizing Baths	
WASTE TO BE BENEFICIATED	Zinc Ash, and Zinc Dross	
GPS CO-ORDINATES AT CORNERS OF WASTE GENERATING FACILITY OR FACILITIES	LATITUDE	LONGITUDE
	<i>Please refer Appendix A for facilities GPS co-ordinates</i>	
BENEFICIAL USE/S	<p>Manufacturing of Zn commodities – zinc oxide (ZnO) and zinc sulphate (ZnSO<sub>4</sub>).</p> <p>Zinc Dross and Zinc Ash are waste products derived from the hot dip galvanizing process and are valuable input materials for the manufacturing of metallic Zn (Rudnik, 2020).</p>	

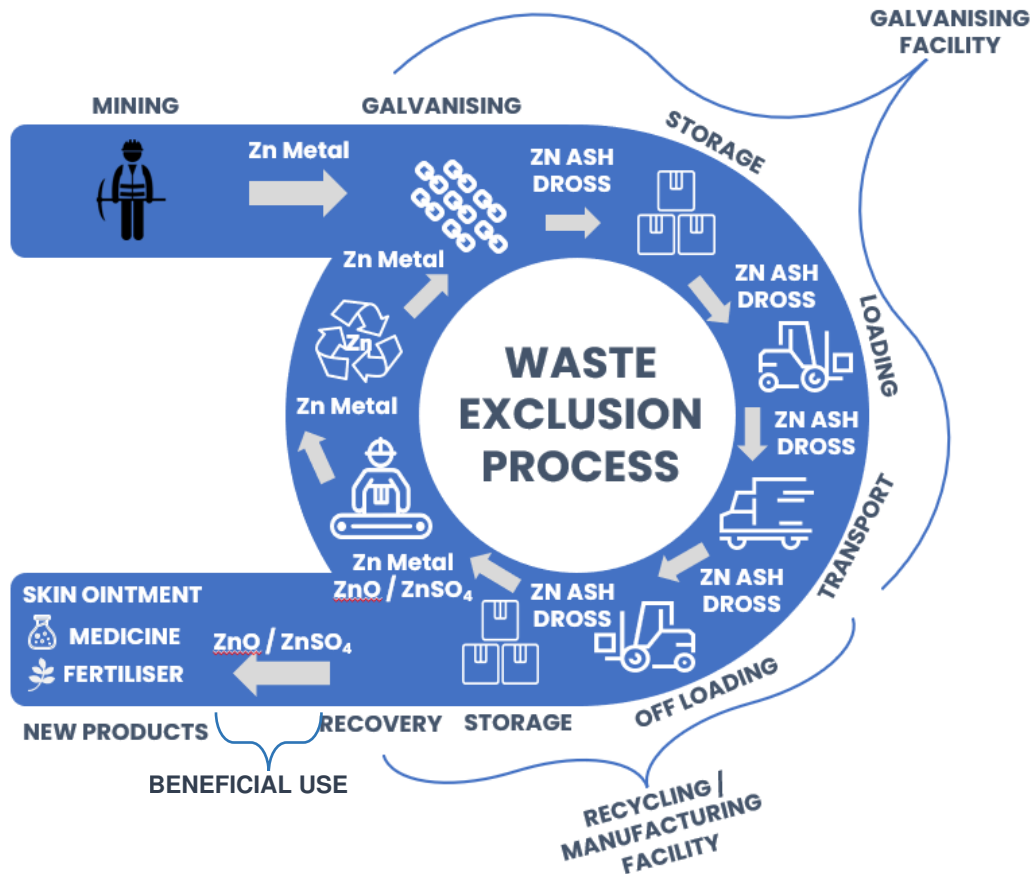
WASTE GENERATING PROCESS		
MSDS ATTACHED IF HAZARDOUS	<del>YES</del>	NO
WASTE GENERATING FACILITY	<del>HAZARDOUS</del>	GENERAL



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## WASTE RECYCLING PROCESS



## RISK MANAGEMENT PLAN

#	Activity	Risk Description	Action(s) to minimise/manage the risk	Responsibility (Who is responsible to carry out the action(s))
1	Zinc Galvanizing (Galvanizing baths) at generating facility	Emissions	Ensure air emission licence in place and audited annually Emissions adhere to legal standards Pollution control measures maintained and in good working condition	Galvanising facility
2	Storing Zinc Ash and Zinc Dross at generating facility	Spillages onto soil if not contained and stored correctly.	Store in a dedicated container that is protected from external corrosion. Ensure that storage containers are not overfilled. Maintained bunded and demarcated storage area. Clean-up any spillage that occur.	Galvanising facility
3	Storing Zinc Ash and Zinc Dross at generating facility	Spillages potentially contaminating run-off or storm water. The solid is insoluble in water	Clean-up any spillage that occur. Ensure spills are cleaned prior to rainfall events. Arrange for personnel to be trained on the spillage clean-up.	Galvanising facility
4	Storing Zinc Ash and Zinc Dross at generating facility	Dust - employee exposure	Ensure adequate signage and training because material (zinc ash) may be flammable when exposed to moist air at elevated temperatures	Galvanising facility
5	Storing Zinc Ash at generating facility	Ash catches fire spontaneously if exposed to moist air at elevated temperatures	Clean up spills immediately. Wear Protective Equipment. Sweep up or absorb material, then place into a suitable clean, dry, dedicated closed container for disposal. Avoid generating dusty conditions. Remove open ignition sources Use a spark-proof tool. Provide ventilation. Do not expose spill to water.	Galvanising facility

6	Loading Zinc ash and dross at the generating facility	Dust - employee exposure	All material handled and stored in containers. Employee training in the handling and loading of Dross / Ash. Correct PPE use during loading.	Galvanising facility & Transport contractor
7	Loading Zinc ash and dross at the generating facility	Dust - soil contamination	Employees use the correct PPE Employee trained in the safe handling of Zinc ash and dross. Clean contaminated areas.	Galvanising facility & Transport contractor
8	Loading Zinc ash and dross at the generating facility	Dust - surface water runoff contamination	Ensure that all contaminated runoff water is contained and managed and not discharged to any stormwater system, as it can be very toxic to aquatic life with long lasting effects	Galvanising facility & Transport contractor
9	Loading Zinc ash and dross at the generating facility	Ash catches fire spontaneously if exposed to moist air at elevated temperatures	Store ash in suitable clean, dry, closed containers Avoid any contact with water during loading	Galvanising facility & Transport contractor
10	Transportation of Zinc ash and dross to the manufacturing facility	Ash catches fire spontaneously if exposed to moist air at elevated temperatures	Ensure compliance with dangerous goods transportation regulations. Store ash in suitable clean, dry, closed containers Avoid any contact with water	Transport contractor
11	Transportation of Zinc ash and dross to the manufacturing facility	Vehicle emissions and dust emissions if not transported correctly	Material stored and handled in closed containers. Ensure that vehicles are in good working condition and serviced regularly in line with service agreements.	Transport contractor
12	Transportation of Zinc ash and dross to the manufacturing facility	Dust and waste spillages if not transported correctly impacting on air quality	Implement spillage procedure. Ensure spill kits are easily assessable. Arrange for personnel to be trained on the spillage procedure.	Transport contractor
13	Transportation of Zinc ash and dross to the manufacturing facility	Dust and waste spillages if not transported correctly impacting on water quality	Implement spillage procedure. Ensure spill kits are easily assessable. Arrange for personnel to be trained on the spillage procedure. Ensure that all dust or waste spillages that could contaminated runoff water is contained and managed and not discharged to any stormwater system, as it can be very toxic to aquatic life with long lasting effects	Transport contractor

14	Transportation of Zinc ash and dross to the manufacturing facility	Accidents, dust, or waste spillage not cleaned after vehicle accident	Implement spillage procedure. Ensure spill kits are easily assessable. Arrange for personnel to be trained on the spillage procedure.	Transport contractor
15	Transportation of Zinc ash and dross to the manufacturing facility	Accidents, spillage not cleaned after vehicle accident, resulting in run-off water contamination The solid is insoluble in water	Implement spillage procedure. Ensure spill kits are easily assessable. Arrange for personnel to be trained on the spillage procedure. Ensure that all dust or waste spillages that could contaminated runoff water is contained and managed and not discharged to any stormwater system, as it can be very toxic to aquatic life with long lasting effects	Transport contractor
16	Storage of Zinc Dross and Zinc Ash at production site	Incorrect storage of dross and ash at the production site. The solid is insoluble in water	Store in a dedicated container that is protected from external corrosion. Ensure that storage containers are not overfilled. Maintained bunded and demarcated storage area. Clean-up any spillage that occur.	Receiving facility
17	Zinc products manufacturing process - crushing	Dust from crushing if not controlled can increase employee exposure	Emission extraction and air pollution control measures and equipment maintained in good working condition. Employee training in the correct handling of material during crushing. Ensure adequate signage and training because material (zinc ash) may be flammable when exposed to moist air at elevated temperatures. Use of correct PPE.	Receiving facility
18	Storing Zinc Ash and Zinc Dross at manufacturing facility	Ash catches fire spontaneously if exposed to moist air at elevated temperatures	Clean up spills immediately. Wear Protective Equipment. Sweep up or absorb material, then place into a suitable clean, dry, dedicated closed container for disposal. Avoid generating dusty conditions. Remove open ignition sources. Use a spark-proof tool.	Receiving facility

			Provide ventilation. Do not expose spill to water.	
19	Storing Zinc Ash and Zinc Dross at manufacturing facility	Spillages (waste) if not contained and stored correctly. Solid is insoluble in water. Soil contamination and runoff water contamination	Storage in dedicated containers. Clean-up any spillage that occur. Ensure spills are cleaned prior to rainfall events. Arrange for personnel to be trained on the spillage clean-up.	Receiving facility
20	Zinc product manufacturing	Spillages and leaks from leaching tanks	Tank's integrity checked on annual basis Bunds maintained in good condition Daily site inspections Implement spillage procedure. Ensure spill kits are easily assessable. Arrange for personnel to be trained on the spillage procedure.	Receiving facility
21	Zinc products manufacturing process - acid leach	Inadequate bunding for leach tanks	Tank's integrity checked on annual basis Bunds maintained in good condition Daily site inspections Implement spillage procedure. Ensure spill kits are easily assessable. Arrange for personnel to be trained on the spillage procedure.	Receiving facility
22	Zinc product manufacturing	Emissions and vapours released from leach tanks	Ensure air emission licence in place and audited annually Emissions adhere to legal standards Pollution control measures maintained and in good working condition	Receiving facility
23	Zinc products manufacturing process - furnace	Emission control measures not adequate or not in good working condition	Emission extraction and air pollution control measures. Ensure pollution control equipment maintained in good working condition. Compliance with air emission legal standards.	Receiving facility
24	Zinc product manufacturing	Resource consumption	All equipment and machines maintained in good working condition monitor consumption	Receiving facility

25	Zinc product manufacturing	Employee exposure	Employee training in terms of operational procedures Employee medicals occupational hygiene risk assessments and surveys in place as required by the OHSA Use of correct PPE	Receiving facility
26	Zinc Dross / Ash disposed to landfill (not reused by zinc product manufacturers)	Zinc and heavy metals leach	Reuse Zinc Dross / Ash to prevent disposal to landfill	Landfill facility



X I, ROBIN JOHN CLARKE (the Applicant) hereby declare that I have read the completed Risk Management Plan form and hereby confirm that the information is, to the best of my knowledge, true and correct

Furthermore, I declare that I am fully aware of my responsibilities in terms of the Waste Exclusion Regulations, and that failure to comply with these Regulations may constitute an offence in terms of the National Environmental Management: Waste Act, 2008 (Act 59 of 2008).

X R. J. Clarke.

Signature of the applicant<sup>1</sup>/ Signature on behalf of the applicant:

X ROBIN JOHN CLARKE

Name of Applicant:

X EXECUTIVE DIRECTOR - HDGASA.

Designation

X 4 JULY 2023

Date:

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<sup>1</sup> If the applicant is a juristic person, a signature on behalf of the applicant is required as well as proof of such authority.

**APPENDIX A**

Coordinates of Waste Generating Facilities

**Appendix A: Waste Generating Facilities:**

No.	Galvanising Facility	Area and Province	Address
1	Transvaal Galvanisers (Pty)	Nigel, Gauteng	3 3rd Ave, Vosterkroon, Nigel
2	Armco Superlite	Kempton Park, Gauteng	131 Anvil Road, Isando, Kempton Park
3	Armco Superlite (Randfontein)	Randfontein, Gauteng	23 Fiat Street, Aureus, Randfontein, 1759
4	Silverton Engineering	Pretoria, Gauteng	318 Derdepoort Road, Silverton 0184
5	SMT Group	Benoni, Gauteng	5 Lincoln Road, Benoni South, Benoni, 1501
6	Galferro Galvanisers	Springs, Gauteng	Corner Radon and Neon Road, Fulcrum, Springs, 1559
7	Lianru Galvanisers	Nigel, Gauteng	14 5 <sup>th</sup> Avenue, Nigel,1491
8	Pro-Tech Galvanizers (Pty) Ltd	Nigel, Gauteng	12 Fabriek Crescent, Vosterkroon, Nigel
9	Agrico	Lichtenburg, North West	29 Kalkweg Way, M.C Van Niekerkpark, Lichtenburg, 2740
10	Galvanising Techniques (Metalman Pty Ltd)	Port Elizabeth, Eastern Cape	52 Burman Road, Deal Party, PE, 6001
11	Sable Sands t/a Morhot Galvanizers	Mdantsane, Eastern Cape	4 Indwe Road, Fort Jackson Industrial, Mdantsane
12	Pinetown Galvanizing	Pinetown, Kwazulu Natal	38 Hillclimb Road, Westmead Ext1, Pinetown, 3610
13	Durban Galvanizing Plant 'A'	Durban, Kwazulu Natal	64 Marseilles Crescent, Briardene, Durban, 4016
14	Durban Galvanizing Plant 'B'	Durban, Kwazulu Natal	274 Aderdare drive, Phoenix Industrial, Durban, 4068
15	KZN Galvanizers	Pietermaritzburg, Kwazulu Natal	174 Ohrtmann Road, Willowton, Pietermaritzburg, 3201
16	Bay Galvanisers	Richards Bay, Kwazulu Natal	110 Alumina Alee Street, Richards Bay, 3900
17	Advanced Galvanising (Pty) Ltd	Cape Town, Western Cape	Dorbyl Street, Sacks Circle, Bellville, Cape Town, 7530
18	South Cape Galvanizing (Pty) Ltd	George, Western Cape	11 Ring Road, George Industrial, George

**Appendix B: GPS Coordinates:**

**GAUTENG**

1. Transvaal Galvanisers (Pty) Ltd

Site Address: 3, 3rd Ave, Vosterkroon, Nigel, 1490.



**Hot Dip Galvanizing Facilities GPS Co-ordinates (DMS Format)**

Batch HDG Plant Corner	Latitude	Longitude
1	26°23'59.8524" S	28°28'48.4140" E
2	26°24'1.6380" S	28°28'51.5172" E
3	26°24'3.7116" S	28°28'50.0376" E
4	26°24'1.9188" S	28°28'46.9020" E
Dragline HDG Plant Corner	Latitude	Longitude
1	26°24'2.8944" S	28°28'51.6648" E
2	26°24'5.7960" S	28°28'55.9092" E
3	26°24'6.4764" S	28°28'55.4340" E
4	26°24'3.7620" S	28°28'50.9268" E

## 2. Armco Superlite Isando

Site Address: 131 Anvil Road, Isando, Kempton Park, 1600



**Hot Dip Galvanizing Facilities GPS Co-ordinates (DMS Format)**

Corner	Latitude	Longitude
1	26° 8'8.3256" S	28°12'36.7092" E
2	26° 8'11.2668" S	28°12'36.6120" E
3	26° 8'11.2920" S	28°12'36.0216" E
4	26° 8'8.2968" S	28°12'36.0900" E

3. Armco Superlite (Randfontein)

Address: 23 Fiat Street, Aureus, Randfontein, 1759



Hot Dip Galvanizing Facilities GPS Co-ordinates (DMS Format)

Corner	Latitude	Longitude
1	26°11'54.5856" S	27°41'43.5084" E
2	26°11'55.2120" S	27°41'44.8296" E
3	26°11'55.6080" S	27°41'44.5740" E
4	26°11'54.9924" S	27°41'43.2888" E

4. Silverton Engineering

Address: 318 Derdepoort Road, Silverton 0184



Hot Dip Galvanizing Facilities GPS Co-ordinates (DMS Format)

Corner	Latitude	Longitude
1	25°43'26.4972" S	28°17'53.1168" E
2	25°43'28.6716" S	28°17'53.8116" E
3	25°43'28.7256" S	28°17'53.0916" E
4	25°43'26.6520" S	28°17'52.4724" E



5. SMT Group

Address: 9 Lincoln Road, Benoni South, Benoni, 1501



Corner	Latitude	Longitude
1	26°12'18.06" S	28°18'07.55" E
2	26°12'17.77" S	28°18'08.05" E
3	26°12'18.14" S	28°18'08.37" E
4	26°12'18.44" S	28°18'07.80" E



6. Galferro Galvanisers

Address: Corner Radon and Neon Road, Fulcrum, Springs, 1559



Corner	Latitude	Longitude
1	26°16'29.42" S	28°23'53.89" E
2	26°16'25.85" S	28°23'54.42" E
3	26°16'26.02" S	28°23'55.95" E
4	26°16'29.52" S	28°23'55.41" E

7. Lianru Galvanisers

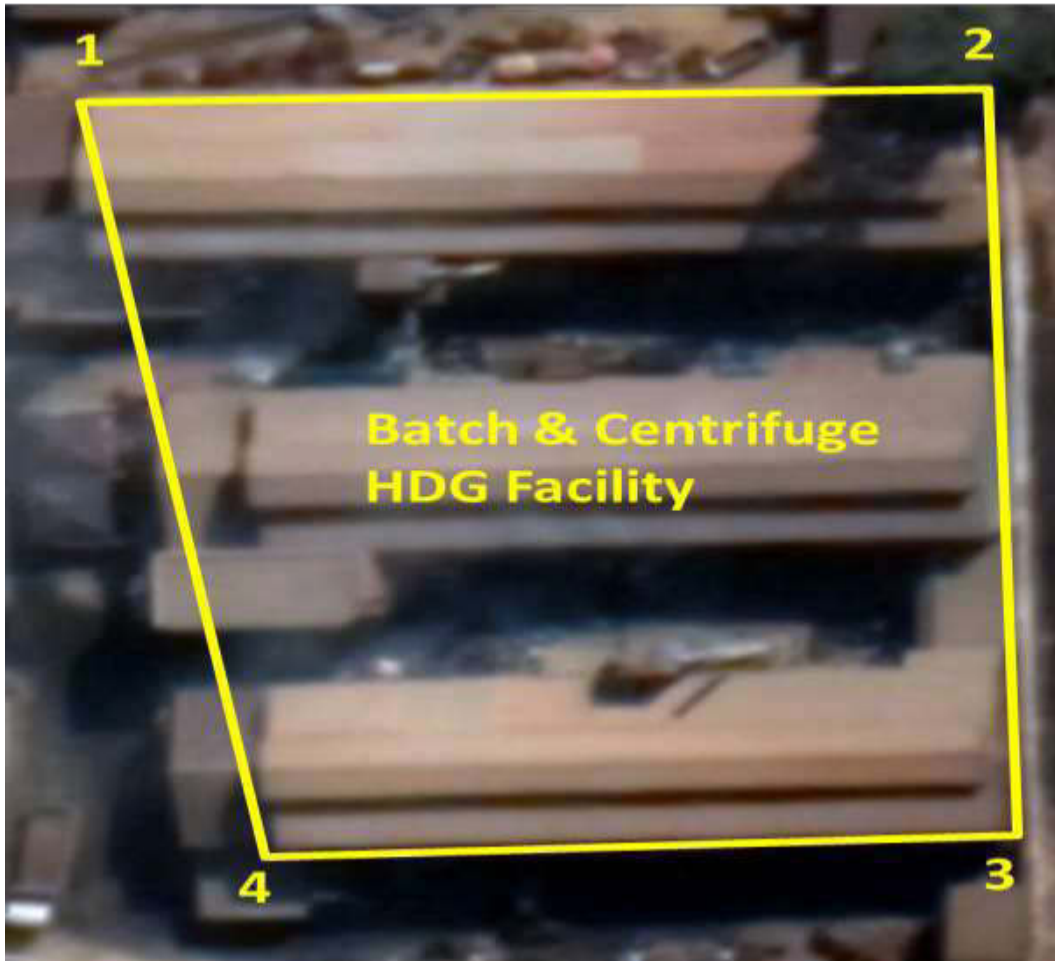
14, 5<sup>th</sup> Avenue, Nigel, 1491



Corner	Latitude	Longitude
1	26°24'04.10" S	28°28'30.22" E
2	26°24'05.35" S	28°28'32.40" E
3	26°24'06.76" S	28°28'31.41" E
4	26°24'05.51" S	28°28'29.20" E

8. Pro-Tech Galvanizers (Pty) Ltd

Address: 12 Fabriek Crescent, Vosterkroon, Nigel

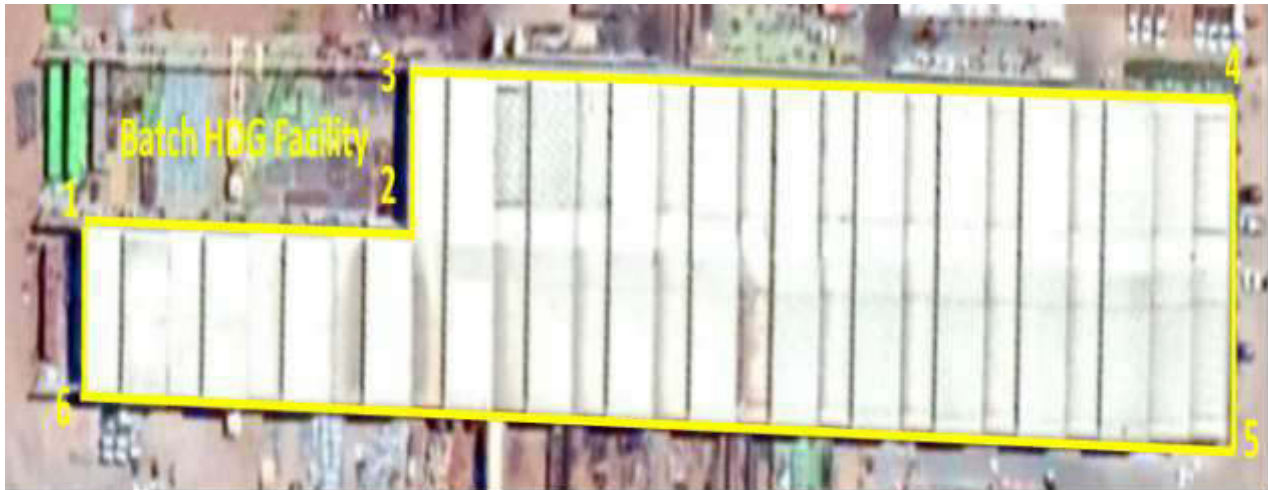


Corner	Latitude	Longitude
1	26°23'47.81" S	28°28'27.01" E
2	26°23'47.56" S	28°28'44.09" E
3	26°23'49.40" S	28°28'44.47" E
4	26°23'49.61" S	28°28'43.01" E

**NORTH WEST**

9. Agrico

29 Kalkweg Way, M.C Van Niekerkpark, Lichtenburg, 2740



Corner	Latitude	Longitude
1	26°10'33.23" S	26°09'51.74" E
2	26°10'33.97" S	26°09'53.86" E
3	26°10'33.41" S	26°09'54.10" E
4	26°10'35.30" S	26°09'59.44" E
5	26°10'36.41" S	26°09'58.96" E
6	26°10'33.79" S	26°09'51.47" E

**EASTERN CAPE**

10. Galvanising Techniques (Metalman Pty Ltd)

52 Burman Road, Deal Party, PE, 6001



Corner	Latitude	Longitude
1	33°54'15.61" S	25°36'49.89" E
2	33°54'15.13" S	25°36'47.12" E
3	33°54'13.58" S	25°36'47.50" E
4	33°54'14.04" S	25°36'50.27" E

11. Sable Sands t/a Morhot Galvanizers

4 Indwe Road, Fort Jackson Industrial, Mdantsane



Corner	Latitude	Longitude
1	32°55'20.54" S	27°41'45.89" E
2	32°55'20.29" S	27°41'50.67" E
3	32°55'20.85" S	27°41'50.75" E
4	32°55'21.27" S	27°41'45.94" E

**KWAZULU NATAL**

12. Pinetown Galvanizing

38 Hillclimb Road, Westmead Ext1, Pinetown, 3610



Corner	Latitude	Longitude
1	29°48'56.75" S	30°49'19.19" E
2	29°48'58.29" S	30°49'19.12" E
3	29°48'58.09" S	30°49'17.77" E
4	29°48'56.47" S	30°49'18.72" E

### 13. Durban Galvanizing - Plant 'A'

64 Marseilles Crescent, Briardene, Durban, 4016



Corner	Latitude	Longitude
1	29°47'48.03" S	30°00'38.23" E
2	29°47'49.73" S	30°00'40.72" E
3	29°47'50.23" S	30°00'40.22" E
4	29°47'48.56" S	30°00'37.77" E



14. Durban Galvanizing - Plant 'B'

274 Aberdare drive, Phoenix Industrial, Durban, 4068



Corner	Latitude	Longitude
1	29°43'10.28" S	31°00'00.13" E
2	29°43'06.72" S	31°00'04.02" E
3	29°43'07.18" S	31°00'04.52" E
4	29°43'10.69" S	31°00'00.66" E

15. KZN Galvanizers

174 Ohrtmann Road, Willowton, Pietermaritzburg, 3201



Corner	Latitude	Longitude
1	29°35'35.62" S	30°24'45.75" E
2	29°35'36.70" S	30°24'45.86" E
3	29°35'36.77" S	30°24'45.54" E
4	29°35'35.74" S	30°24'45.19" E

16. Bay Galvanisers

110 Alumina Alee Street, Richards Bay, 3900



Corner	Latitude	Longitude
1	28°44'36.20" S	32°02'07.17" E
2	28°44'35.15" S	32°02'07.75" E
3	28°44'35.34" S	32°02'08.20" E
4	28°44'36.38" S	32°02'07.63" E

**WESTERN CAPE**

17. Advanced Galvanising (Pty) Ltd,  
Dorbyl Street, Sacks Circle, Bellville, Cape Town, 7530



Corner	Latitude	Longitude
1	33°55'29.59" S	18°38'11.37" E
2	33°55'29.63" S	18°38'13.89" E
3	33°55'31.11" S	18°38'13.96" E
4	33°55'31.12" S	18°38'11.39" E

18. South Cape Galvanizing (Pty) Ltd  
11 Ring Road, George Industrial, George



Corner	Latitude	Longitude
1	33°58'46.29" S	22°27'10.13" E
2	33°58'46.37" S	22°27'12.16" E
3	33°58'47.05" S	22°27'12.12" E
4	33°58'46.97" S	22°27'10.06" E