

Our Ref: 11-2932

Date: 10 November 2025

MARS CARE & TREATS, BIRSTALL – SILO PROJECT

Technical Note: The Coal Authority – Statement of Risk

INTRODUCTION

This technical note has been prepared to support the planning application submitted to Kirklees Council for the proposed erection of three new silos at the existing factory site.

It is acknowledged that the site lies within a designated high-risk coal area. This note provides contextual information to assist with validation of the application and to demonstrate that the risks associated with historic coal mining activity have been appropriately considered.

The applicant has addressed similar issues in previous developments and is familiar with the processes required to assess and mitigate risks from former mine workings. This note outlines the known conditions at the site and explains how the proposed works will be designed to ensure that any residual risks are appropriately managed.

Most recently, this matter was addressed in planning application ref. no. 2025/92205, which related to the installation of new plant and supporting engineering works at a nearby location on the same site. Supporting evidence from previous applications was accepted by the Coal Authority and the Local Planning Authority, confirming that a full Coal Mining Risk Assessment (CMRA) was not required. This note similarly demonstrates that, based on existing knowledge, site history, and appropriate engineering measures, a CMRA is not necessary for the current proposal.

RECENT DEVELOPMENT HISTORY

The existing bulk silos at the Mars Birstall site, installed in 1987, are now beyond their service life and show significant corrosion, posing safety and food safety risks. To ensure long-term operational resilience and supply continuity, the proposal is to install three new aluminium silos adjacent to the current facility. These modern silos will offer improved performance, easier maintenance, and allow construction to proceed without disrupting ongoing operations. Further detail is provided in DT Architects' Design and Access Statement (ref. [to be confirmed]).

The new installation will be located on the east elevation of the main factory, approximately 40 metres south of the existing Process Building Extension (constructed in 2011), and around 80 metres north of the Site Security Building (constructed in 2016). In both cases, DT Architects acted as Architect and Peter Dann Ltd as Civil and Structural Engineers.

As part of the planning submission for the Process Building Extension, a Non-Residential Coal and Brine Report was obtained from The Coal Authority (ref. 10008120-11, dated 19 January 2011). The report is appended to this Technical Note. Planning permission (ref. 2011/62/90489/E1) was granted on 19 July 2011, with no conditions relating to coal or mine workings attached.

The Site Security Building project drew upon the knowledge gained during the Process Building Extension works and adopted similar processes to address potential coal mining risks beneath the structure.

GROUTING WORKS FOR THE PROCESS BUILDING EXTENSION

During the initial excavation works for the new extensions, uncontrolled mine workings (adits) were uncovered on site. Works were suspended and additional geological investigation was undertaken to establish the extent of the mine workings. Subsequently, grouting works were recommended, designed, and implemented in the areas designated for the extensions.

Specialist contractors were engaged, and upon completion of the grouting works by Sirius Drilling Services Ltd, a drawing was produced to record the extent of the areas grouted. The drawing numbered 10-3302-550!R1! – Site Grouting Location Plan, was prepared by Peter Dann Ltd and is appended to this Note.

Construction works commenced following completion of the grouting. Foundations to the Process Building extension were then constructed on ground with a safe bearing pressure of 400kN/m². External hardstandings to the immediate east of the Process Building were also constructed over an area which benefitted from the grouting works. This was necessary to accommodate the main crane supporting lifting operations for the extension.

LOCATION OF PREVIOUS GROUTING WORK IN RELATION TO THE PROPOSAL

Figure 1 on the following page is an extract from the grouting works record drawing, showing the extent of grouting undertaken beneath the Process Building Extension (Area 2, shown in blue) and the New Concrete Hardstanding (Area 9, shown in green). The positions of the existing silos and the proposed new installation are shown toward the bottom of the image.

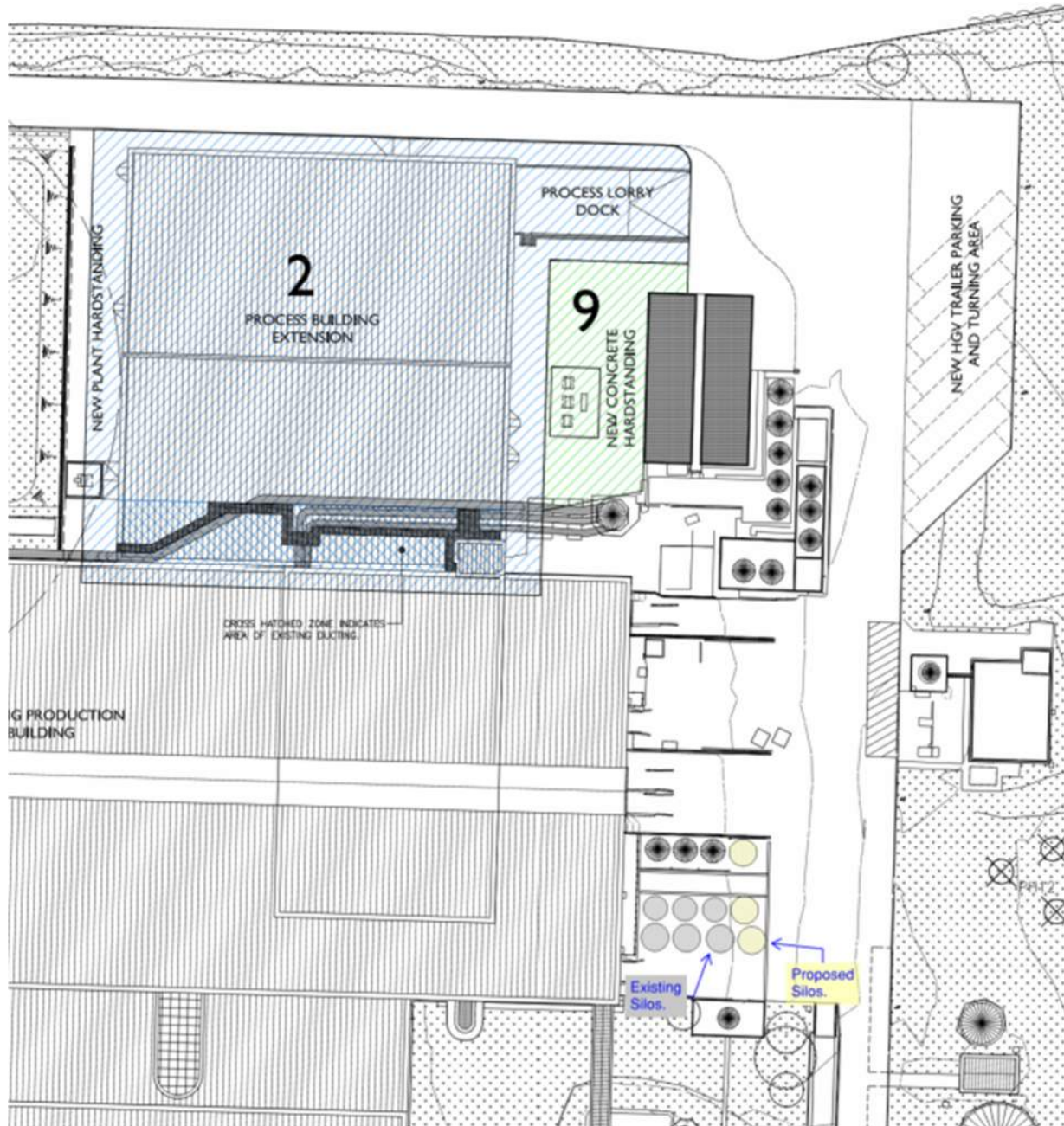


Figure 1.

Extent of Grouting Works Beneath the Process Building Extension Carried Out in 2011

In developing the grouting solution for the Process Building Extension, extensive site investigation was carried out to establish geological conditions across the works area. This included ground-penetrating radar (GPR) surveys, which informed a targeted programme of remedial grouting to treat remnant mine workings beneath the development footprint.

A similar approach was adopted for the Site Security Building, constructed approximately 120m south of the Process Building Extension five years later. Prior to construction, exploratory investigation was undertaken

to assess the presence of mine workings beneath the proposed footprint. Following this, remedial grouting was identified as necessary and was completed before foundation works commenced.

NEW SILO PROPOSALS

Proposed Loadings

The last silos installed in this area measured 4.0m in diameter and 19m in height, requiring a minimum ground bearing pressure of 100kN/m² to ensure safe support. The proposed new silos comprise one unit of 4.2m diameter by 19m high and two units of 4.0m diameter by 19m high. Accordingly, the anticipated loads on the formation will be comparable to those of the existing silos.

As noted earlier in this note, the treated ground beneath the Process Building Extension was verified to provide a safe bearing capacity of 400kN/m², significantly exceeding the requirements for the proposed silo bases.

Assessment of Risk and Grouting

It is understood that no mine workings were encountered during the construction of the existing silo bases in the area where the new silos are to be located. However, given the geological context of the site and the unpredictable nature of historic mine workings, the Client and Design Team recognise that this prior experience alone cannot be relied upon.

Precautionary investigations will be undertaken to confirm the presence or absence of mine workings beneath the proposed silo locations. Should any workings be identified, appropriate specialist input will be sought to design and implement remedial measures.

Mars proposes to engage a specialist site investigation contractor to carry out the necessary geological investigations. Sirius Drilling Services Ltd, who designed and implemented the remedial grouting works for both previous projects referenced in this note, would be re-engaged if remedial grouting is required.

All investigative and remedial works will be supported by appropriate risk assessments and method statements, prepared in accordance with relevant health, safety, and environmental standards. These documents will ensure that all activities are carried out safely, effectively, and with full consideration of site-specific conditions.

To support the design of the new silo bases, the silo manufacturers will provide verified load data for each unit. This information will be used to calculate applied bearing pressures and inform the design of any required remedial works. All foundation and ground treatment design will be undertaken under the supervision of Peter Dann Ltd, ensuring consistency with previous successful projects on the site.

SUMMARY

The proposed silo installation will be located within an area of the site that has previously undergone geological investigation and ground treatment in connection with earlier developments. While the specific footprint of the new silos is not confirmed to lie directly over previously remediated ground, the Client and Design Team have extensive experience of the site's geological conditions and the processes required to assess and mitigate risks associated with historic coal mining activity.

The proposed silo loads are comparable to those of existing installations, and verified load data from the silo manufacturers will be used to inform the design of the new bases and assess applied bearing pressures. All investigations and any necessary remedial works will be carried out under the supervision of Peter Dann Ltd, ensuring consistency of approach with previous successful projects.

Appropriate risk assessments and method statements will be prepared to support all investigative and construction activities, ensuring safe and effective delivery of the works. Based on the known site history, previous ground treatment, and the proactive approach outlined in this note, it is considered that the risks associated with historic coal mining activity can be appropriately managed without the need for a full Coal Mining Risk Assessment.

APPENDIX A

Non-Residential Coal and Brine Report ref. 10008120-11, dated 19 January 2011

Prepared for the Process Building Extension, Mars Care and Treats, Oakwell Way, Birstall, Batley WF17 9LU

Issued by:

The Coal Authority, Mining Reports Office, 200 Lichfield Lane, Berry Hill, Mansfield, Nottinghamshire NG18 4RG
ON-Line Service: www.groundstability.com - Phone: 0845 762 6848 - DX 716176 MANSFIELD 5

GARETH SHAW,
RSK,
COVENTRY UNIVERSITY ENTERPRISE
CENTRE,
PUMA WAY,
COVENTRY,
WARWICKSHIRE,
CV1 2TX

Person dealing with this matter:	Darren Moody
Our reference:	10008120-11
Your reference:	251252
Electronic Ref:	EME_00015264500001_005
RRUID:	005.00015264500001
Date of your enquiry:	19 January 2011
Date we received your enquiry:	19 January 2011
Date of issue:	20 January 2011

This report is for the property described in the address below and the attached plan.

Non-Residential Coal and Brine Report

Mars Complimentary Petcare, Oakwell Way, Birstall, Batley, WF17 9LU

This report is based on and limited to the records held by, the Coal Authority, and the Cheshire Brine Subsidence Compensation Board's records, at the time we answer the search.

Coal mining	Yes
Brine Compensation District	No

Information from the Coal Authority

Underground Coal Mining

Past

The property is in the likely zone of influence from workings in 5 seams of coal at shallow to 250m depth, and last worked in 1932.

Present

The property is not in the likely zone of influence of any present underground coal workings.

Future

The property is not in an area for which the Coal Authority is determining whether to grant a licence to remove coal using underground methods.

The property is not in an area for which a licence has been granted to remove coal using underground methods.

The property is not in an area that is likely to be affected at the surface from any planned future workings.

However reserves of coal exist in the local area which could be worked at some time in the future.

No notice of the risk of the land being affected by subsidence has been given under section 46 of the Coal Mining Subsidence Act 1991.

Mine entries

Within, or within 20 metres of, the boundary of the property there is 1 mine entry, the approximate position of which is shown on the attached plan.

There is no record of what steps, if any, have been taken to treat the mine entry.

Records may be incomplete. Consequently, there may exist in the local area mine entries of which the Coal Authority has no knowledge.

Coal-mining geology

The Authority is not aware of any evidence of damage arising due to geological faults or other lines of weakness that have been affected by coal mining.

Opencast Coal Mining

Past

The property is within the boundary of an opencast site from which coal has been removed by opencast methods.

Present

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

Future

The property is not within 800 metres of the boundary of an opencast site for which the Coal Authority is determining whether to grant a licence to remove coal by opencast methods.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

Coal-mining subsidence

The Coal Authority has not received a damage notice or claim for the property since 1 January 1984. There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

Mine gas

There is no record of a mine gas emission requiring action by the Coal Authority within the boundary of the property.

Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Authority, under its Emergency Surface Hazard Call Out procedures.

Withdrawal of Support

The property is not in an area for which a notice of entitlement to withdraw support has been published.

The property is not in an area for which a notice has been given under section 41 of the Coal Industry Act 1994, revoking the entitlement to withdraw support.

Working Facilities Orders

The property is not in an area for which an Order has been made under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

Payments to Owners of Former Copyhold Land

The property is not in an area for which a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Comments on Coal Authority information

In view of the mining circumstances a prudent developer would seek appropriate technical advice before any works are undertaken.

Therefore if development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply good engineering practice developed for mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or mines of coal without the permission of the Coal Authority. Developers should be aware that the investigation of coal seams/ former mines of coal may have the potential to generate and/or displace underground gases and these risks both under and adjacent to the development should be fully considered in developing any proposals. The need for effective measures to prevent gases entering into public properties either during investigation or after development also needs to be assessed and properly addressed. This is necessary due to the public safety implications of any development in these circumstances.

The attached plan shows the approximate location of the disused mine entry/entries referred to in this report. For reasons of clarity, mine entry symbols may not be drawn to the same scale as the plan. Property owners have the benefit of statutory protection (under the Coal Mining Subsidence act 1991*). This contains provision for the making good, to the reasonable satisfaction of the owner, of physical damage from disused coal mine workings including disused coal mine entries. A leaflet setting out the rights and the obligations of either the Coal Authority or other responsible persons under the 1991 Act can be obtained by telephoning 0845 762 6848 or online at www.coal.gov.uk/services/subsidence. If you wish to discuss the relevance of any of the information contained in this report you should seek the advice of a qualified mining engineer or surveyor. If you or your adviser wish to examine the source plans from which the information has been taken these are normally available at our Mansfield office, free of charge, by prior appointment, telephone 01623 637233. Should you or your adviser wish to carry out any physical investigations that may enter, disturb or interfere with any disused mine entry the prior permission of the owner must be sought. For coal mine entries the owner will normally be the Coal Authority.

The Coal Authority, regardless of responsibility and in conjunction with other public bodies, provide an emergency call out facility in coalfield areas to assess the public safety implications of mining features (including disused mine entries). Our emergency telephone number at all times is 01623 646333.

*Note, this Act does not apply where coal was worked or gotten by virtue of the grant of a gale in the Forest of Dean, or any other part of the Hundred of St. Briavels in the county of Gloucester.

Information from the Cheshire Brine Subsidence Compensation Board

The property lies outside the Cheshire Brine Compensation District.

Additional remarks

This report is prepared in accordance with the Law Society's Guidance Notes 2006, the User Guide 2006 and the Coal Authority and Cheshire Brine Board's Terms and Conditions 2006. The report is compliant with Home Information Pack requirements.

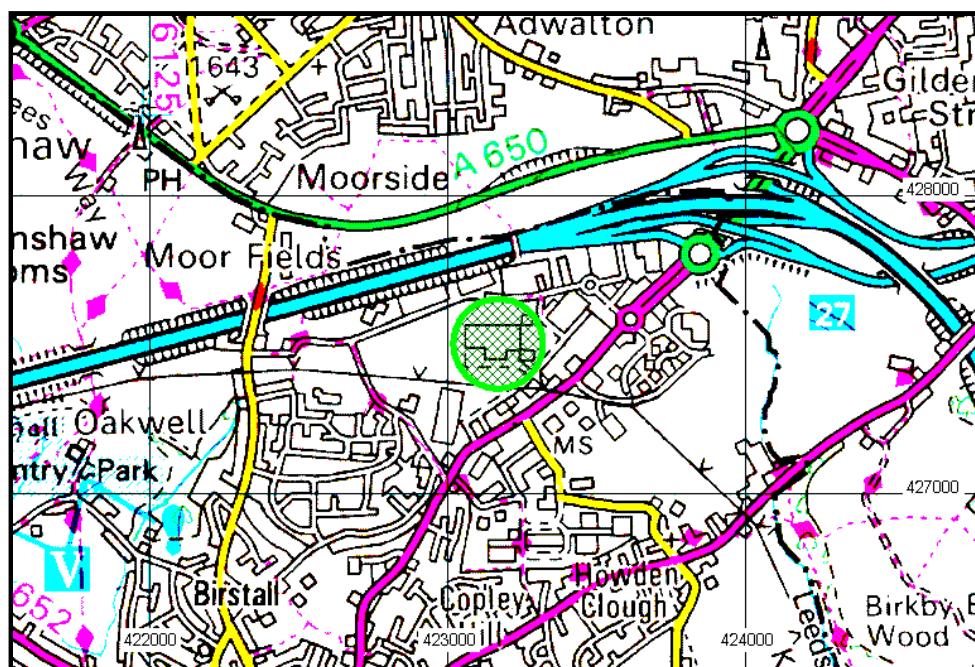
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Issued by:	The Coal Authority, 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG
Date:	20 Jan 2011
Coal and Brine Report at:	Mars Complimentary Petcare, Oakwell Way, Birstall, Batley, WF17 9LU
Reference number:	10008120-11
Cost:	£64.00
Plus VAT:	£12.80
Total received:	£76.80
VAT registration number:	598 5850 68

Location map



Approximate
position
of property



Enquiry boundary

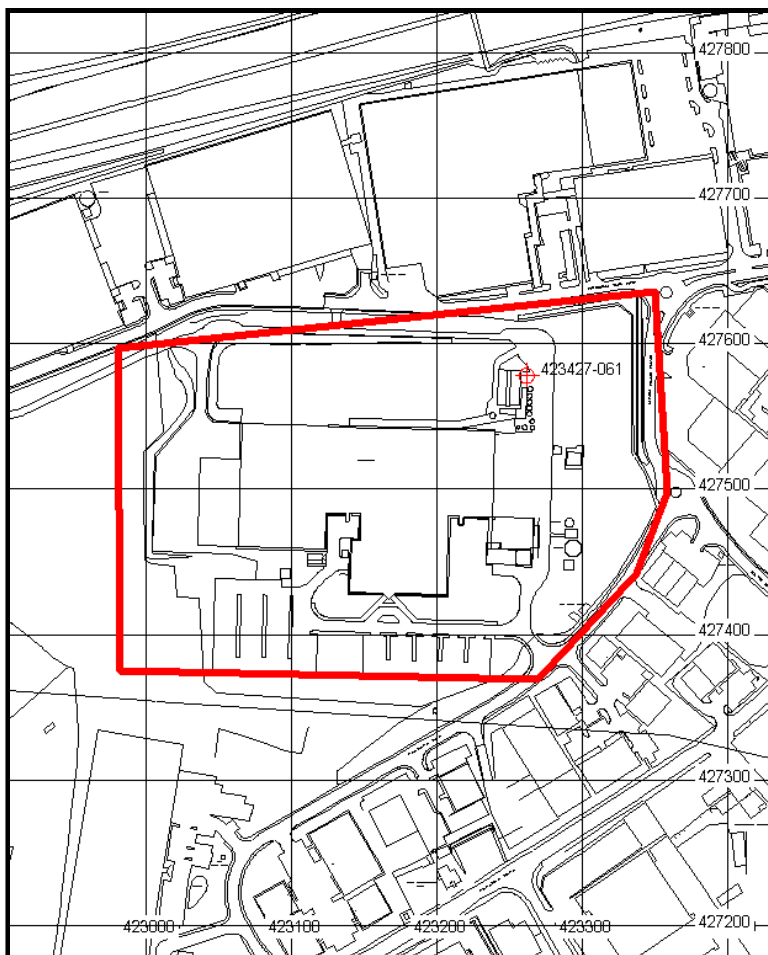
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Key

Approximate position of enquiry boundary shown



Disused Adit or Mineshaft



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APPENDIX B

Site Grouting Location Plan for Process Building Extension

Drawing No. 10-3302-550!R1!Site Grouting Location Plan

NOTES
1. DO NOT SCALE - IF IN DOUBT ASK
2. THIS DRAWING IS TO BE READ WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS

APPROVED AREAS FOR GROUTING OF MINE WORKS

1

PACKING BUILDING EXTENSION AND LORRY DOCK
APPROX AREA 7840m²

2

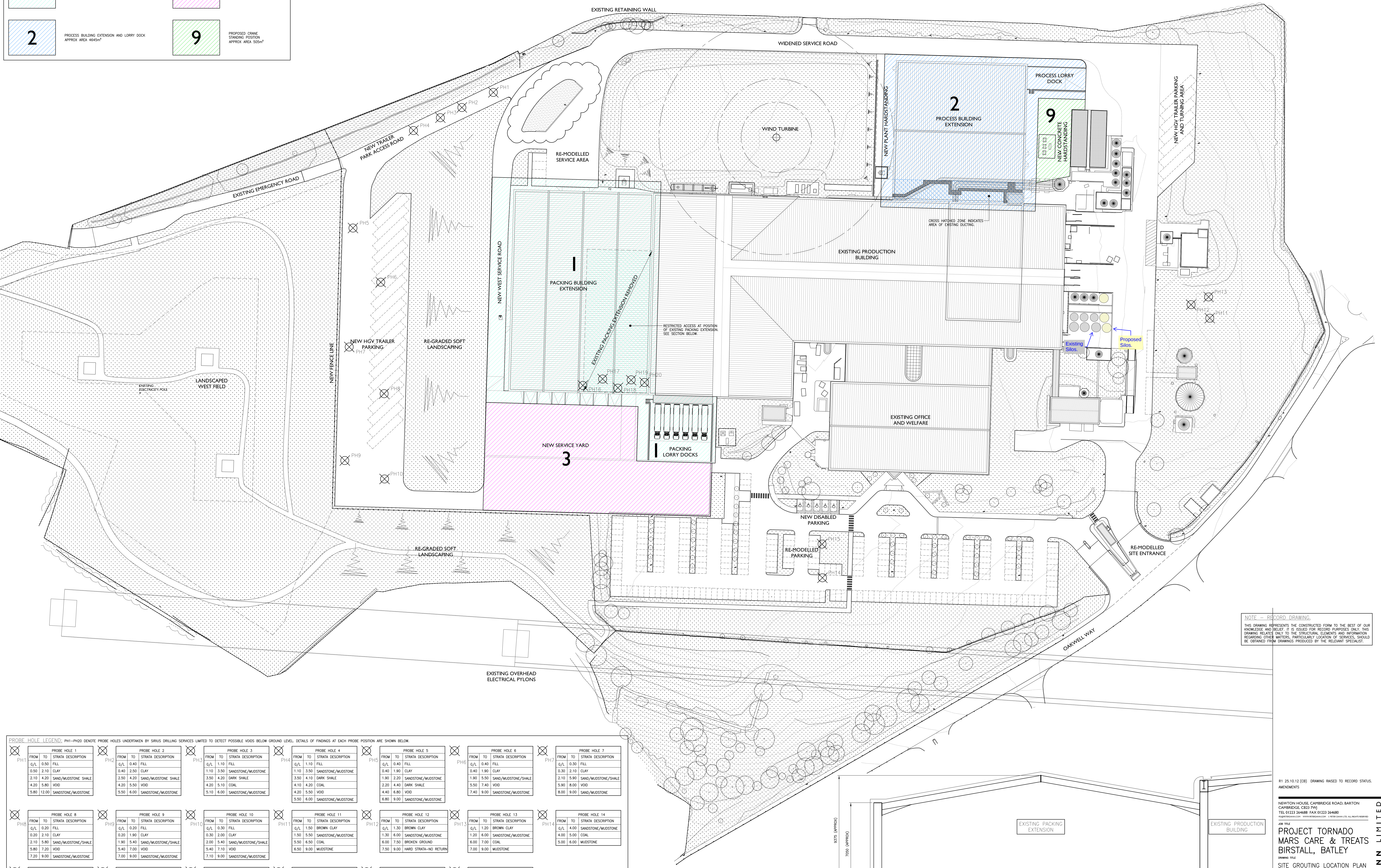
PROCESS BUILDING EXTENSION AND LORRY DOCK
APPROX AREA 4645m²

3

PACKING BUILDING SERVICE YARD
APPROX AREA 3720m²

9

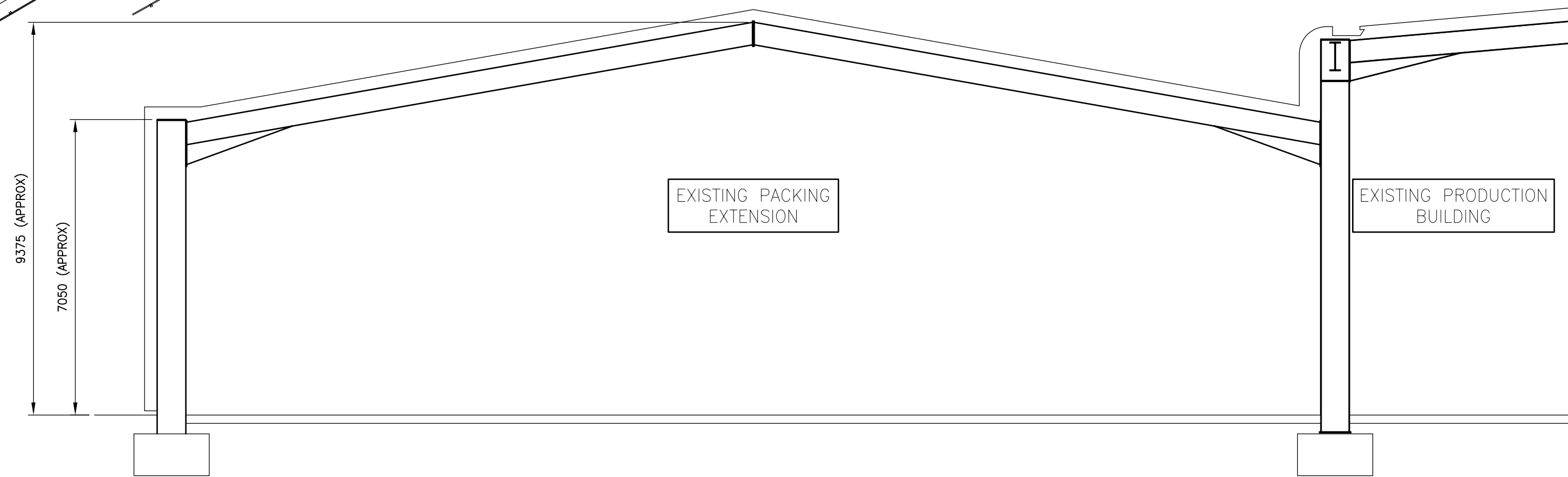
PROPOSED CRANE
STANDING POSITION
APPROX AREA 505m²



NOTE - RECORD DRAWING.
THIS DRAWING REPRESENTS THE CONSTRUCTED FORM TO THE BEST OF OUR KNOWLEDGE AND BELIEF. IT IS ISSUED FOR RECORD PURPOSES ONLY. THIS DRAWING RELATES ONLY TO THE STRUCTURAL ELEMENTS AND INFORMATION REGARDING OTHER MATTERS, PARTICULARLY LOCATION OF SERVICES, SHOULD BE OBTAINED FROM DRAWINGS PRODUCED BY THE RELEVANT SPECIALIST.

PROBE HOLE LEGEND: PH1-PH20 DENOTE PROBE HOLES UNDERTAKEN BY SIRIUS DRILLING SERVICES LIMITED TO DETECT POSSIBLE VOIDS BELOW GROUND LEVEL. DETAILS OF FINDINGS AT EACH PROBE POSITION ARE SHOWN BELOW.

PH1 <table><tr><td>FROM</td><td>TO</td><td>STRATA DESCRIPTION</td></tr><tr><td>G/L</td><td>0.50</td><td>FILL</td></tr><tr><td>0.50</td><td>2.10</td><td>CLAY</td></tr><tr><td>2.10</td><td>4.20</td><td>SAND/MUDSTONE/SHALE</td></tr><tr><td>4.20</td><td>5.80</td><td>VOID</td></tr><tr><td>5.80</td><td>12.00</td><td>SANDSTONE/MUDSTONE</td></tr></table>	FROM	TO	STRATA DESCRIPTION	G/L	0.50	FILL	0.50	2.10	CLAY	2.10	4.20	SAND/MUDSTONE/SHALE	4.20	5.80	VOID	5.80	12.00	SANDSTONE/MUDSTONE	PH2 <table><tr><td>FROM</td><td>TO</td><td>STRATA DESCRIPTION</td></tr><tr><td>G/L</td><td>0.40</td><td>FILL</td></tr><tr><td>0.40</td><td>2.50</td><td>CLAY</td></tr><tr><td>2.50</td><td>4.20</td><td>SAND/MUDSTONE/SHALE</td></tr><tr><td>4.20</td><td>5.50</td><td>VOID</td></tr><tr><td>5.50</td><td>6.00</td><td>SANDSTONE/MUDSTONE</td></tr></table>	FROM	TO	STRATA DESCRIPTION	G/L	0.40	FILL	0.40	2.50	CLAY	2.50	4.20	SAND/MUDSTONE/SHALE	4.20	5.50	VOID	5.50	6.00	SANDSTONE/MUDSTONE	PH3 <table><tr><td>FROM</td><td>TO</td><td>STRATA DESCRIPTION</td></tr><tr><td>G/L</td><td>1.10</td><td>FILL</td></tr><tr><td>1.10</td><td>3.50</td><td>SANDSTONE/MUDSTONE</td></tr><tr><td>3.50</td><td>4.20</td><td>DARK SHALE</td></tr><tr><td>4.20</td><td>5.10</td><td>COAL</td></tr><tr><td>5.10</td><td>6.00</td><td>SANDSTONE/MUDSTONE</td></tr></table>	FROM	TO	STRATA DESCRIPTION	G/L	1.10	FILL	1.10	3.50	SANDSTONE/MUDSTONE	3.50	4.20	DARK SHALE	4.20	5.10	COAL	5.10	6.00	SANDSTONE/MUDSTONE	PH4 <table><tr><td>FROM</td><td>TO</td><td>STRATA DESCRIPTION</td></tr><tr><td>G/L</td><td>1.10</td><td>FILL</td></tr><tr><td>1.10</td><td>3.50</td><td>SANDSTONE/MUDSTONE</td></tr><tr><td>3.50</td><td>4.10</td><td>DARK SHALE</td></tr><tr><td>4.10</td><td>4.20</td><td>COAL</td></tr><tr><td>4.20</td><td>5.50</td><td>VOID</td></tr><tr><td>5.50</td><td>6.00</td><td>SANDSTONE/MUDSTONE</td></tr></table>	FROM	TO	STRATA DESCRIPTION	G/L	1.10	FILL	1.10	3.50	SANDSTONE/MUDSTONE	3.50	4.10	DARK SHALE	4.10	4.20	COAL	4.20	5.50	VOID	5.50	6.00	SANDSTONE/MUDSTONE	PH5 <table><tr><td>FROM</td><td>TO</td><td>STRATA DESCRIPTION</td></tr><tr><td>G/L</td><td>0.40</td><td>FILL</td></tr><tr><td>0.40</td><td>1.90</td><td>CLAY</td></tr><tr><td>1.90</td><td>5.50</td><td>SAND/MUDSTONE/SHALE</td></tr><tr><td>5.50</td><td>7.40</td><td>VOID</td></tr><tr><td>7.40</td><td>9.00</td><td>SANDSTONE/MUDSTONE</td></tr></table>	FROM	TO	STRATA DESCRIPTION	G/L	0.40	FILL	0.40	1.90	CLAY	1.90	5.50	SAND/MUDSTONE/SHALE	5.50	7.40	VOID	7.40	9.00	SANDSTONE/MUDSTONE	PH6 <table><tr><td>FROM</td><td>TO</td><td>STRATA DESCRIPTION</td></tr><tr><td>G/L</td><td>0.40</td><td>FILL</td></tr><tr><td>0.40</td><td>1.90</td><td>CLAY</td></tr><tr><td>1.90</td><td>5.50</td><td>SAND/MUDSTONE/SHALE</td></tr><tr><td>5.50</td><td>7.40</td><td>VOID</td></tr><tr><td>7.40</td><td>9.00</td><td>SANDSTONE/MUDSTONE</td></tr></table>	FROM	TO	STRATA DESCRIPTION	G/L	0.40	FILL	0.40	1.90	CLAY	1.90	5.50	SAND/MUDSTONE/SHALE	5.50	7.40	VOID	7.40	9.00	SANDSTONE/MUDSTONE	PH7 <table><tr><td>FROM</td><td>TO</td><td>STRATA DESCRIPTION</td></tr><tr><td>G/L</td><td>0.30</td><td>FILL</td></tr><tr><td>0.30</td><td>2.10</td><td>CLAY</td></tr><tr><td>2.10</td><td>5.90</td><td>SAND/MUDSTONE/SHALE</td></tr><tr><td>5.90</td><td>8.00</td><td>VOID</td></tr><tr><td>8.00</td><td>9.00</td><td>SAND/MUDSTONE</td></tr></table>	FROM	TO	STRATA DESCRIPTION	G/L	0.30	FILL	0.30	2.10	CLAY	2.10	5.90	SAND/MUDSTONE/SHALE	5.90	8.00	VOID	8.00	9.00	SAND/MUDSTONE
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SECTION THROUGH EXISTING PACKING EXTENSION (1:100)

R1 25.10.12 (08) DRAWING RAISED TO RECORD STATUS.
AMENDMENTS

NEWTON HOUSE, CAMBRIDGE ROAD, BARTON
CAMBRIDGE CB23 7WJ
TEL 01223 244680 FAX 01223 244680
info@peterdann.co.uk www.peterdann.co.uk © PETER DANN LTD ALL RIGHTS RESERVED

JOB TITLE
PROJECT TORNADO
MARS CARE & TREATS
BIRSTALL, BATLEY
DRAWING TITLE
SITE GROUTING LOCATION PLAN

DATE
AUG '11 MD
DRAWING STATUS
RECORD
JOB/DESG NO.
10-3302/550 R1

SCALE
1:500 @A0

REV

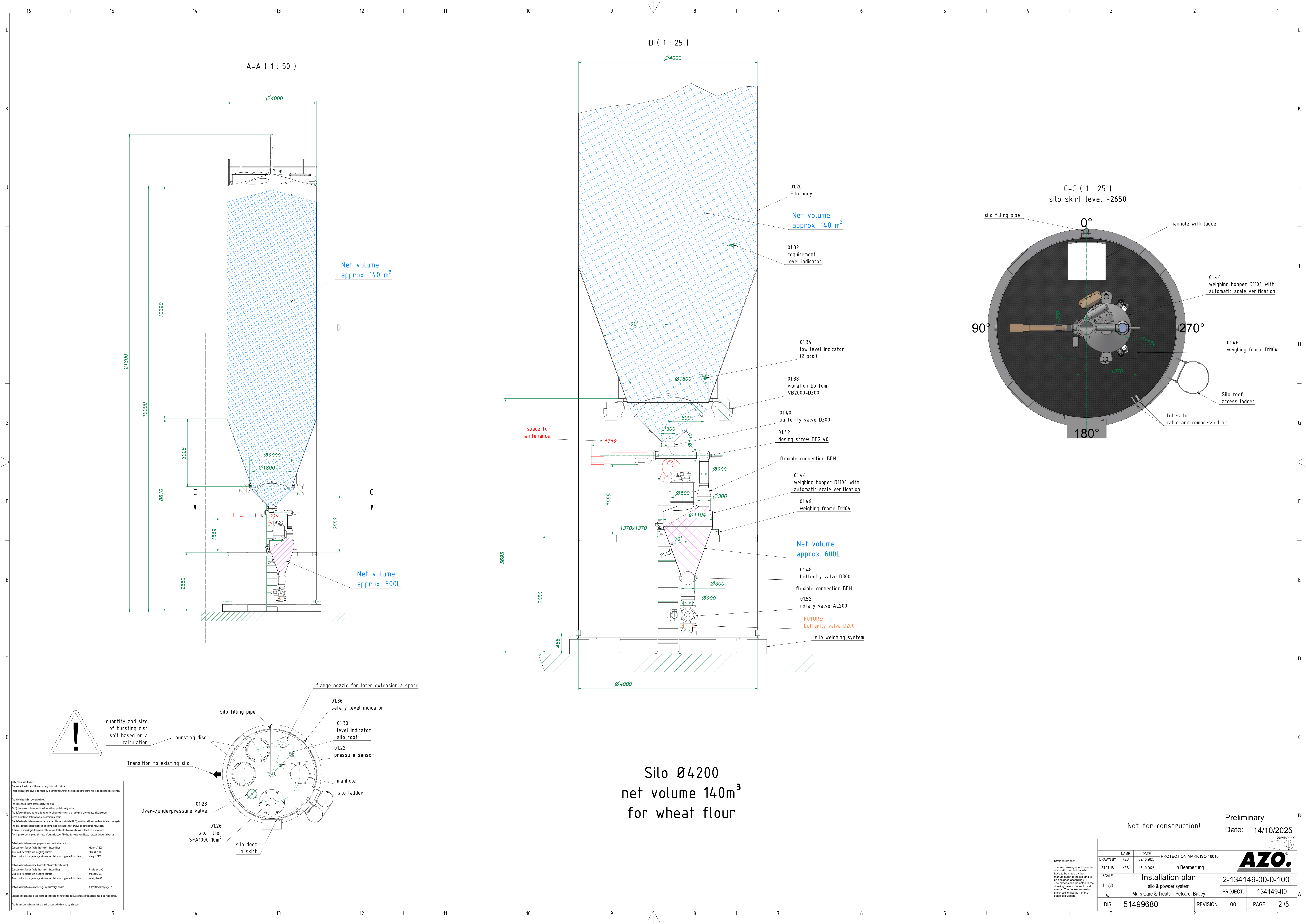
PETER DANN LIMITED

APPENDIX C

New Silo Proposals

AZO Drawing No. 51499680 Rev 00 Page 1 to 5 inc.

00	PAGE	1 / 5
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DISCLAIMER (Notes)

The frame drawing is not based on any static calculations. These calculations have to be made by the manufacturer of the frame and the frame has to be designed accordingly.

The following limits have to be kept:

The silo must be in the acceptable limit state (SLS), that means characteristic value without partial safety factor.

The deflection has to be considered on the disposal system and not on the unbalanced initial system, hence the deflection information of the individual frame.

The deflection limitation does not replace the ultimate limit state (ULS), which must be carried out for stress analysis.

The local deflection restrictions (in or on the steel structure) must always be considered individually.

Sufficient bearing (rigid design) must be ensured. The steel construction must be free of vibrations. This is particularly important in cases of dynamic loads (wind load, vibration bottom, mixer...)

Deflection limitation (max. perpendicular / vertical deflection):

Component frame weighing scale (steel silo):

Height: 1300

Steel work for scales with weighing frame:

Height: 600

Steel construction in general, maintenance platforms, hopper substitution...:

Height: 400

Deflection limitation (max. horizontal / horizontal deflection):

Component frame weighing scale (steel silo):

Height: 1300

Steel work for scales with weighing frame:

Height: 600

Steel construction in general, maintenance platforms, hopper substitution...:

Height: 400

Deflection limitation (vertical / vertical deflection):

Height: 175

Location and distance of the sealing openings in the reference point, as well as the access have to be maintained.

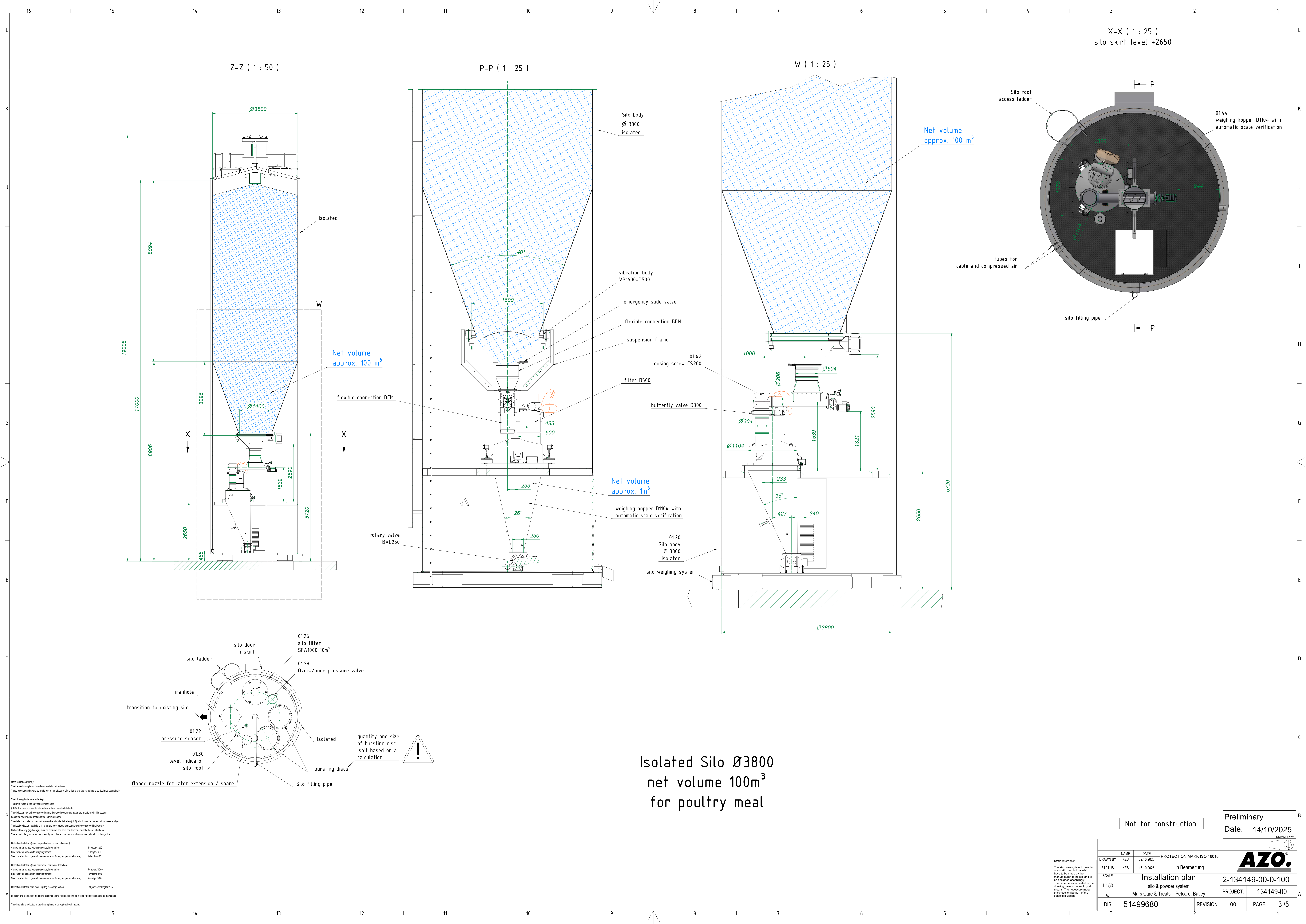
The dimensions indicated in the drawing have to be kept up by all means.

STATUS		NAME	DATE	PROTECTION MARK ISO 18016	
DRAWN BY		KES	02.10.2025	In Bearbeitung	
SCALE		KES	16.10.2025	2-134149-00-0-100	
1 : 50		Installation plan		PROJECT: 134149-00	
AD		silo & powder system		PAGE 2 / 5	
DIS		Mars Care & Treats - Petcare; Batley		REVISION 00	
51499680		REVISION		00	

Preliminary
Date: 14/10/2025

Not for construction!

AZO.



ISO 15926-1:2018
The frame drawing is not based on any static calculations.
These calculations have to be made by the manufacturer of the frame and the frame has to be designed accordingly.
The following limits have to be kept:
The silo must be designed for the maximum limit state (SLS), that means characteristic value without partial safety factor.
The deflection has to be considered on the displacement system and not on the displacement limit system.
The deflection limitation does not replace the ultimate limit state (ULS), which must be carried out for stress analysis.
The total deflection limitation (in or on the steel structure) must always be considered continuously.
Sufficient bearing rigid design must be ensured. The steel construction must be free of vibrations.
This is particularly important in case of dynamic loads (horizontal loads, wind load, vibration, etc.).

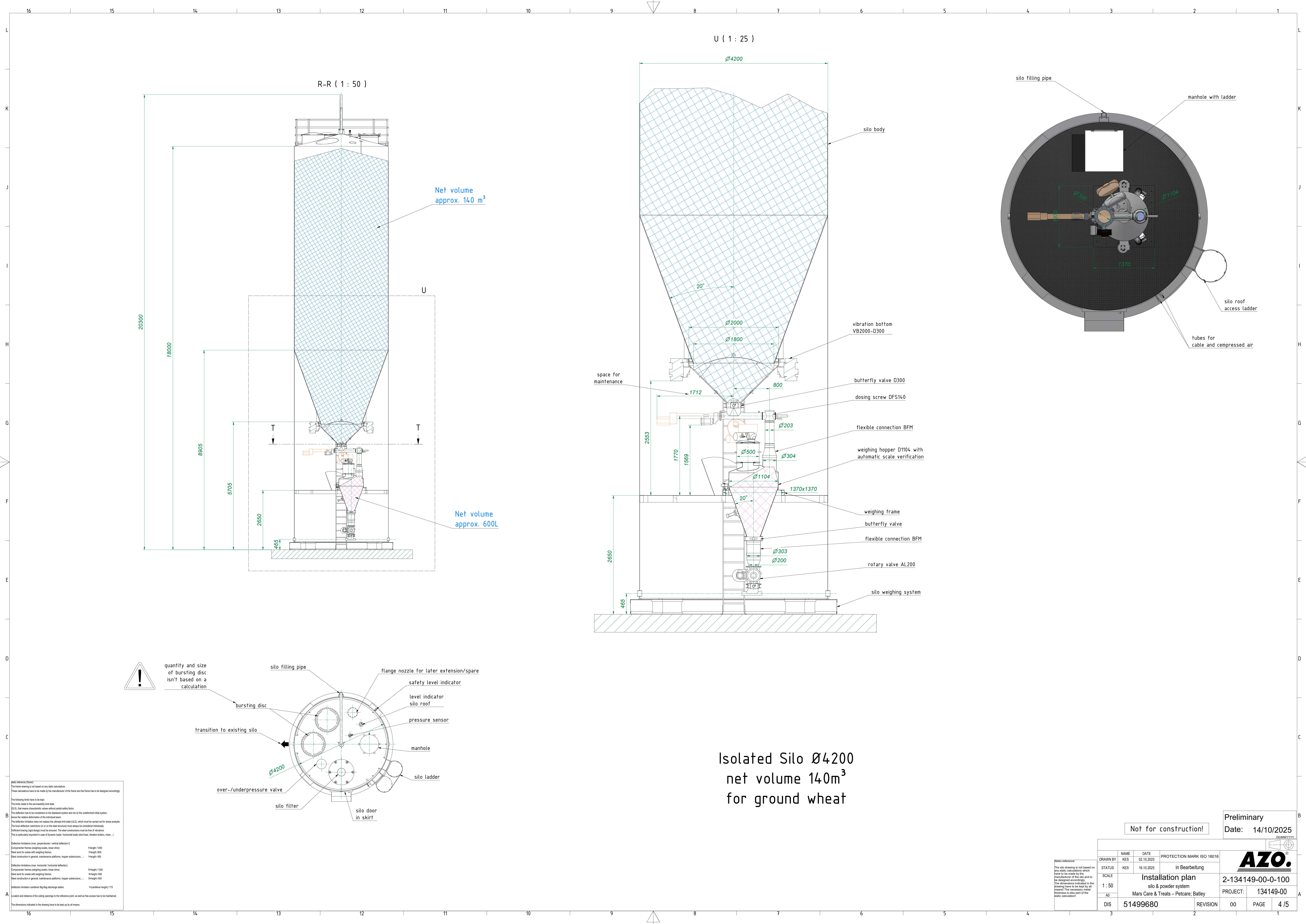
Deflection limitation (max. perpendicular / vertical deflection) H-length: 1/200
Compositional frame (designing scales, linear drive) H-length: 1/500
Steel work for scales with weighing frames H-length: 1/400
Steel construction in general, maintenance platforms, hopper substructure, ... H-length: 1/400
Deflection limitation (max. horizontal / horizontal deflection) H-length: 1/200
Compositional frame (designing scales, linear drive) H-length: 1/500
Steel work for scales with weighing frames H-length: 1/400
Steel construction in general, maintenance platforms, hopper substructure, ... H-length: 1/400
Deflection limitation (vertical) H-length: 1/175
Location and distance of the outlet springs to the reference point, as well as the access has to be maintained.
The dimensions indicated in the drawing have to be kept up to all means.

Isolated Silo Ø3800
net volume 100m³
for poultry meal

Not for construction!

Preliminary
Date: 14/10/2025

							
		NAME	DATE	PROTECTION MARK ISO 15016			
DRAWN BY		KES	02.10.2025				
STATUS		KES	16.10.2025	in Bearbeitung			
SCALE		Installation plan					
1 : 50		silo & powder system					
AD		Mars Care & Treats - Petcare; Batley				PROJECT: 134149-00-0-100	
DIS		51499680		REVISION		00	PAGE 3/5



ISO reference frame:
The frame drawing is not based on any static calculations.
These calculations have to be made by the manufacturer of the frame and the frame has to be designed accordingly.

The following limits have to be kept:
The silo must be in accordance with the limits (SL) that means characteristic values without partial safety factor.
The deflection limit does not replace the ultimate limit state (ULS), which must be carried out for stress analysis.
The total deflection restrictions (in or on the other direction) must always be considered individually.
Sufficient bracing (rigid design) must be ensured. The steel constructions must be free of vibrations.
This is particularly important in case of dynamic loads (horizontal loads, wind load, vibration bottom, mixer, ...)

Deflection limitations (max. perpendicular / vertical deflection)
Component frame weighing scale, linear drive
Height: 1200
Steel work for scales with weighing frames
Height: 800
Steel construction in general, maintenance platforms, hopper substructure, ...
Height: 400

Deflection limitations (max. horizontal / horizontal deflection)
Component frame weighing scale, linear drive
Height: 1200
Steel work for scales with weighing frames
Height: 800
Steel construction in general, maintenance platforms, hopper substructure, ...
Height: 400

Deflection limitation carrier Big Bag discharge station
Height: 1175

A Location and distance of the cooling springs to the reference point, as well as the access has to be maintained.
The dimensions indicated in the drawing have to be kept up to all times.

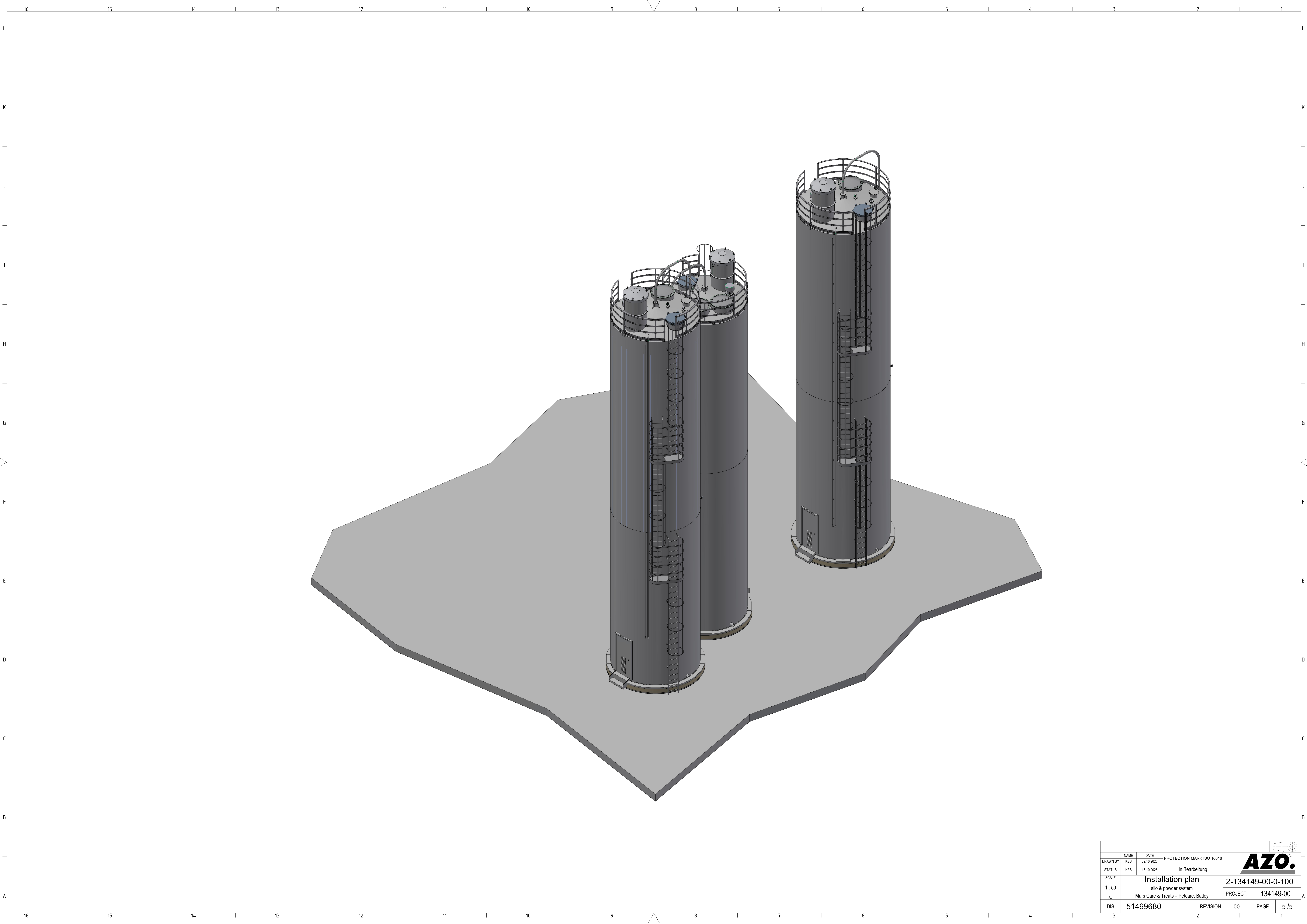
Isolated Silo Ø4200
net volume 140m³
for ground wheat

Preliminary
Date: 14/10/2025

Not for construction!

DRAWN BY		NAME	DATE	PROTECTION MARK ISO 18016	
STATUS		KES	02.10.2025	In Bearbeitung	
SCALE		KES	16.10.2025	2-134149-00-0-100	
1 : 50		Installation plan		PROJECT: 134149-00	
AD		silo & powder system		PAGE 4 / 5	
DIS		Mars Care & Treats – Petcare; Batley		REVISION 00	
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DRAWN BY		NAME	DATE	PROTECTION MARK ISO 16016			
STATUS		KES	02.10.2025	In Bearbeitung			
SCALE		KES	16.10.2025			PROJECT: 134149-00	
1 : 50		Installation plan silo & powder system					
AD		Mars Care & Treats – Petcare; Batley				134149-00	
DIS		51499680		REVISION	00	PAGE	5 / 5