5 The Shredded Wheat Factory

Setting of the Shredded Wheat Factory within Welwyn Garden City

Introduction

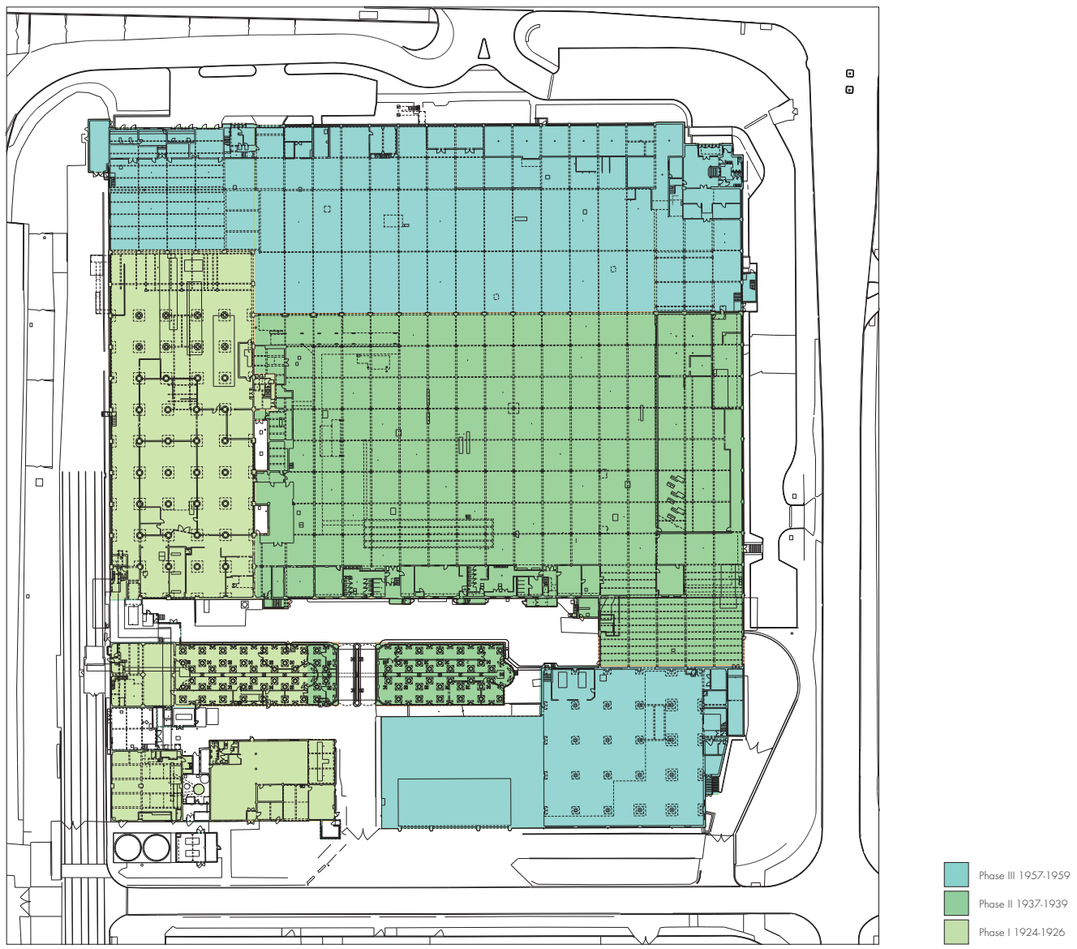
The process of shredding wheat was discovered in the 1890's by an American, Henry Perky. He first produced the product in 1892, beginning commercial production in 1901. By 1908 he was exporting to the UK and by the early 1920's there was sufficient demand to justify the construction of the first purpose built factory within the UK. Construction on Welwyn Garden City was begun in 1920 and the city, with its flat green field site, proximity to the railway and vision of rural harmony, offered a perfect opportunity to establish the new factory. The architect of the original city, Louis de Soissons was chosen to design the factory in partnership with George W. Kenyon, although the layout and disposition of the factory buildings was largely predetermined by the factory production line planners back in America.

The site for the new factory was chosen for its location next to the main East Coast railway running north from London, the company building its own branch sidings to feed the plant with raw materials of grain imported from America and coal to power the cooking processes. The main production facility buildings were all initially located in a linear fashion alongside the railway lines creating a strong impression on the approach by train from London.

Image shown on cereal packaging up to 1960

5.1 Historical Development of the Site

The Shredded Wheat Factory development took place over a prolonged period, its construction falling into three distinct phases:
Phase I of 1924-1926
Phase II of 1937-1939
Phase III of 1957-1959



Factory plan showing all three phases of development

Aerial photograph of the Shredded Wheat Factory

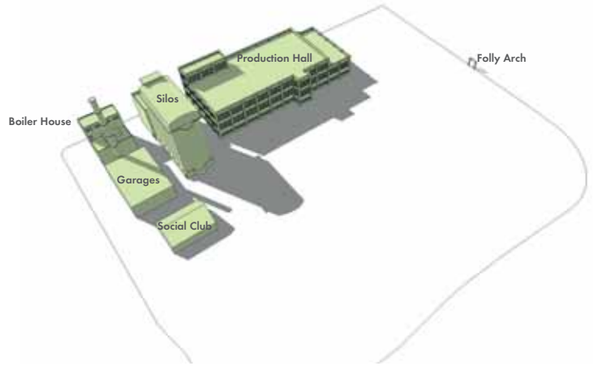
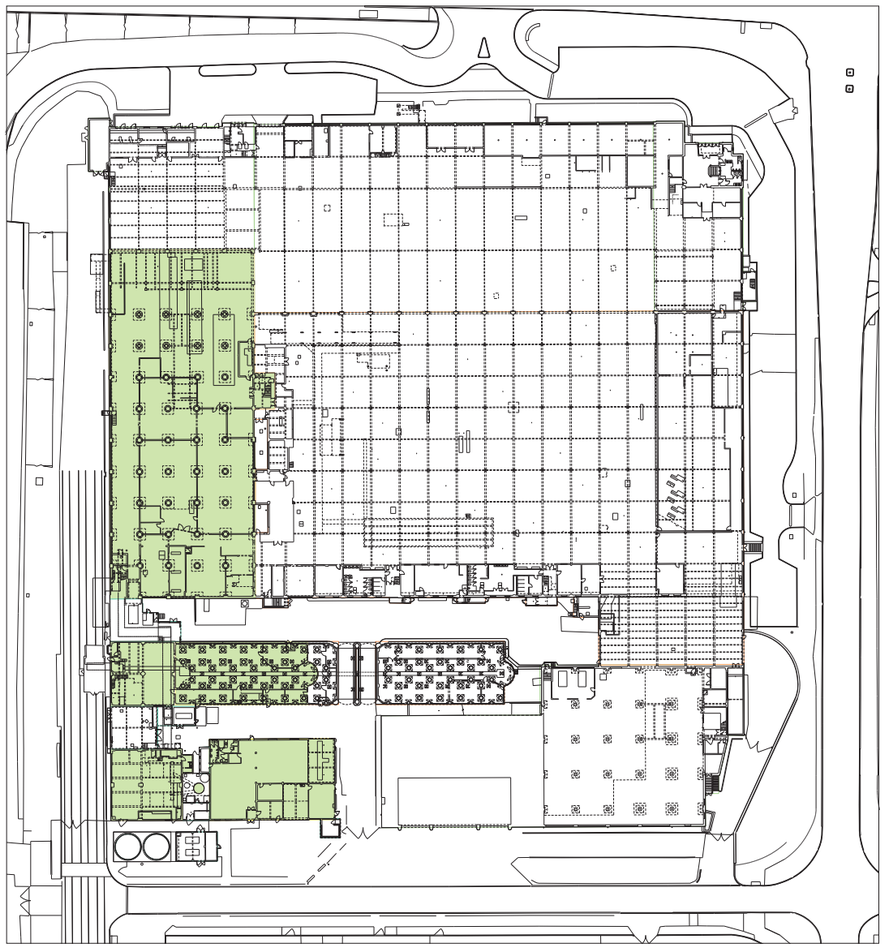


Diagram of the first phase



Factory Plan with the first phase highlighted

Phase 1 1924-1926

The construction of the first buildings began in May 1924 and was complete by March 1926. This consisted of three buildings: the multi-storey production hall to the north, the grain house in the centre and the boiler house at the southern end. Later in 1926 the first range of eighteen silos was built onto the east side of the grain house and in 1927 the single storey garage block was built to the east of the boiler house and an extension to the second floor of the production hall and a single storey social centre were built completing the initial building phase. The remainder of the current site was left as an undeveloped recreation ground with tennis courts and playing fields. An entrance arch placed on the present Bridge Road side announced this as 'The Home of Shredded Wheat'.

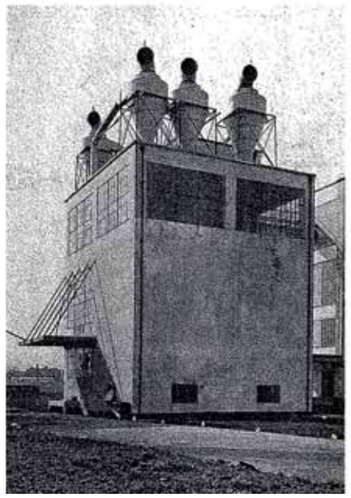
Early photographs show that the original production hall was composed of four floors of accommodation subdivided into eleven bays running north-south and five bays east-west. All facades were composed of a repeated rhythm of what appears as stacked boxes. On the east and west sides the upper two floors were stepped back from the lower two; the second by four bays and the third by four bays again. The southern façade was more homogeneous; the whole five bayed elevation rising up to third floor level with only the top-most floor being set back as a small pavilion.

The production hall elevations were in a stripped down semi-classical style with the vertical bays being separated by columns with widened bases and what looks from the photographs like flat embossed mouldings near to third floor level. Subdividing the bays horizontally flat spandrels were set back from the plane of the columns to give a more vertical emphasis to the elevation. Between the spandrels large almost floor to ceiling windows were subdivided into multi-pane units with typically six centre pivoting opening lights per window. A continuous moulding at first floor level establishes the first floor as a sort of piano nobile with the lower ground having thickened column widths and smaller window openings. To the east side a three storey projecting bay signals the main formal entrance with a grand flight of steps leading to a canopied front door.

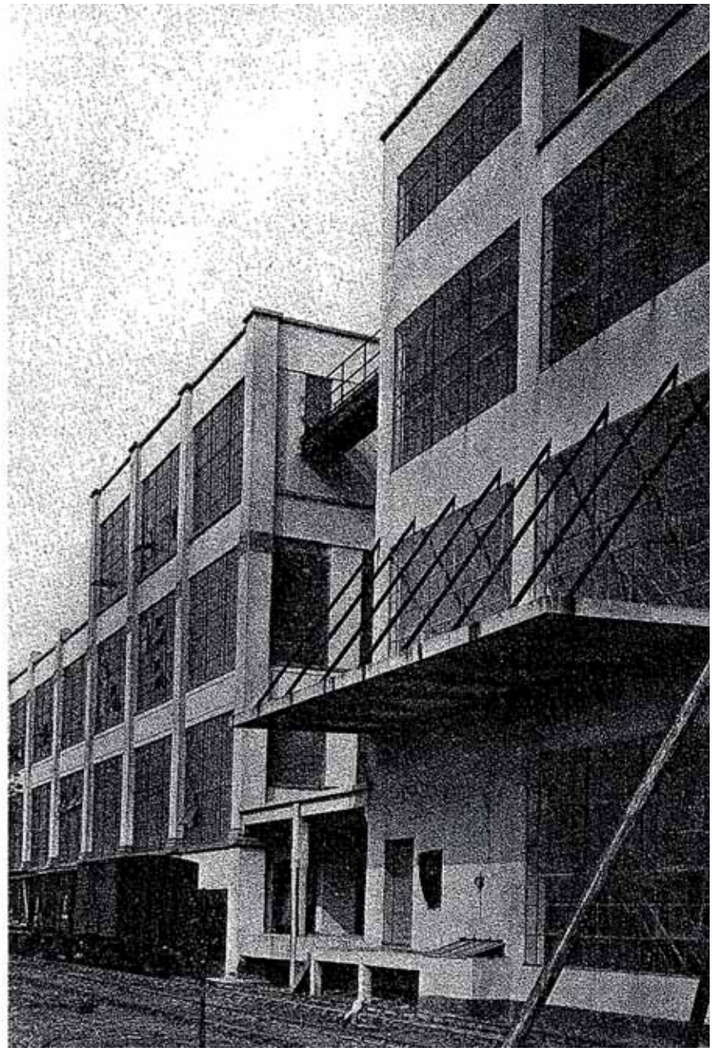
Internally the concrete floor plates of the production hall were open plan, a rhythm of concrete mushroom headed columns allowing the floor slabs to read without interruption of beams; a structural system which allowed the maximum natural daylight to penetrate deep into the space – an important consideration to the early factory designers.

View through the Folly Arch

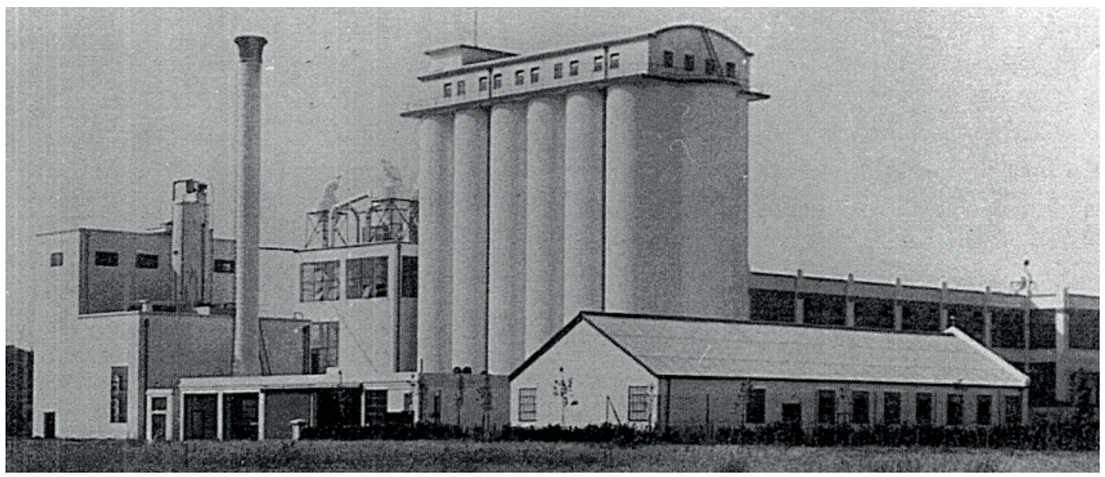
Entrance to the production hall



East side of the grain house



The production hall and grain house



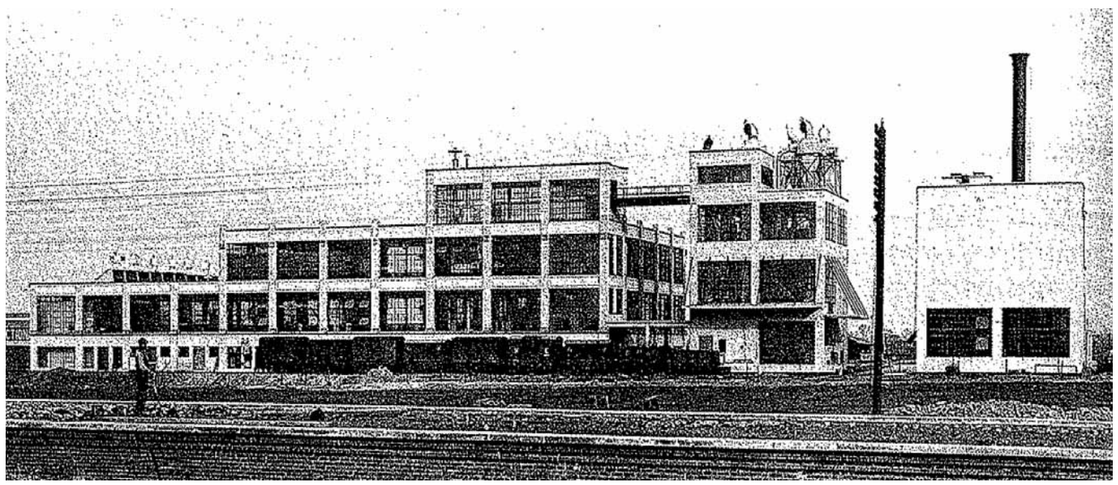
View from the south- east

Next to the production hall the grain house occupied a square proportion on plan and rose to four floors in height, the uppermost level being set back on two sides. Grain hopper structures and cowlings occupied the flat roofs. The grain house elevations were more in the modern style than the production hall being devoid of any mouldings or classical references. The windows had similar proportions and a multi-pane articulation like those of the production hall, creating strong rectilinear patterns by the simple external expression of columns and beams. To the west and south large canopies, hung from supporting structural ties, over sailed the loading areas. The gap between production hall and grain house was bridged by two minor structures: a steel bridge at third floor level and a canopied platform at ground level.

At the southern end of the site the last building of this first phase was the boiler house, again occupying a square footprint on plan but rising to three storeys on its west side and two storeys on the east. The boiler house was also modern in style and presented an even more austere face to the passing railway traffic with a massive bare wall punctuated by only two symmetrical windows at ground level.

Attached to the east side of the grain house the silos building was composed of eighteen concrete tubes sitting on a slightly widened base building with a flat slab top. Above this was a single storey utilitarian building with small windows and an arched roof. At the west end the silos are partly masked by a stair tower rising above the whole assembly.

To the south of the silos and east of the boiler house the garage building was a single storey flat roofed structure and further east the social centre was single storey with pitched roofs.



Production hall, Grain house, Boiler house from the railway

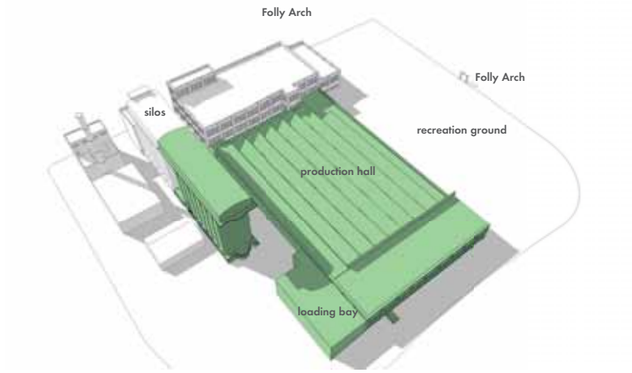
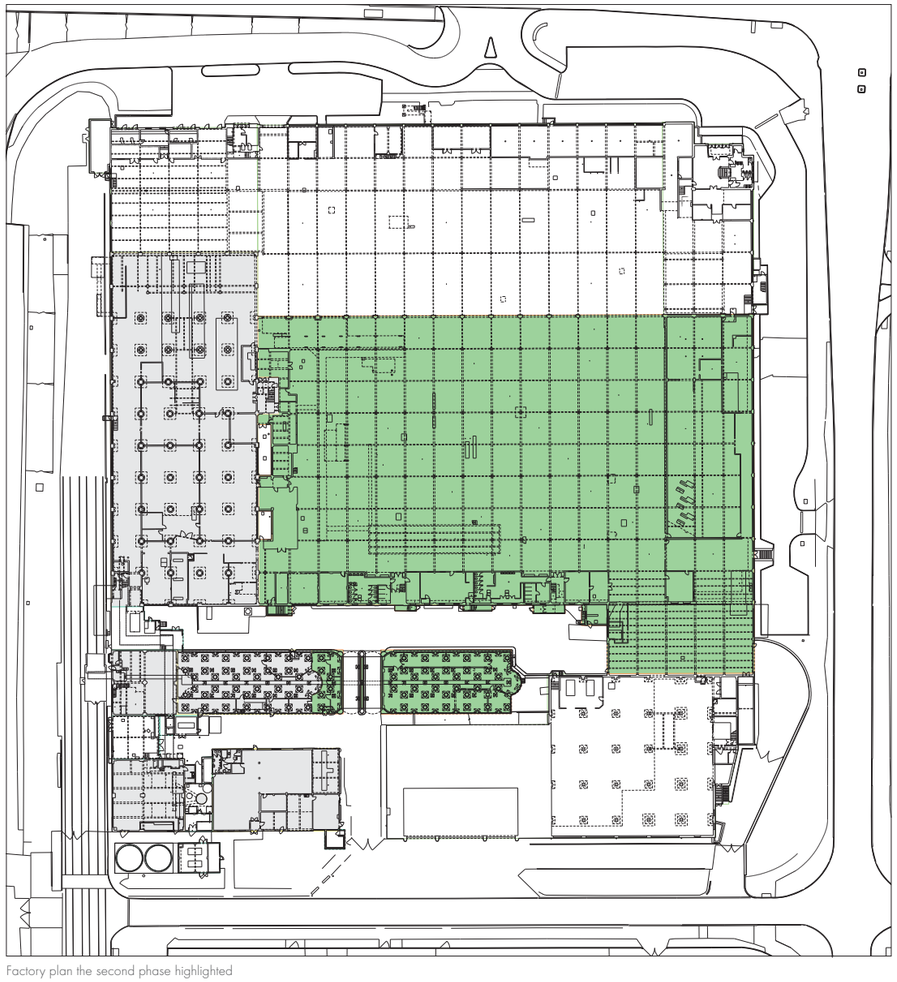


Diagram of the second phase



Factory plan the second phase highlighted

Phase 2 1937-1939

Continuing demand for Shredded Wheat products and technical developments in the processes of manufacturing them prompted the factory to embark on a second phase of construction from 1937-39. This resulted in two buildings: a new production facility and an extension to the grain silos bringing the total number up to forty five.

An increasingly mechanized approach to the movement of materials shifted the preference from multi storey production buildings to single storey production lines with conveyor belt handling. This led to a radical shift in the building forms that housed them: from a multi-storey vertical process to a single storey horizontal one.

The new production hall was built directly adjoining the old at the lower ground level on part of the recreation ground to the east. Consisting of a single volume internally the building roof was composed of eight repetitive bays of saw-toothed roof lights aligned in an east-west direction supported by a simple steel post and beam structure below. The saw tooth section allowed the even introduction of natural daylight throughout the factory floor through continuous north facing roof lights.

The external walls of the new production hall took the factory complex close to the edge of Broadwater Road on the east and halfway across the recreation ground towards Bridge Road on the north. From contemporary photographs the two elevations appear to have been undifferentiated and were composed of repetitive bays with large windows and expressed columns articulating the structural grid within.

The extension enveloped the previous grand entrance and a new entrance was expressed as an oval shape on plan at the corner junction between the old and new production halls. To the south east the new building was extended part way around the east end of the silos to house a new dispatch facility.

Early Photograph of 1930's Production Hall

The new production hall from the north east

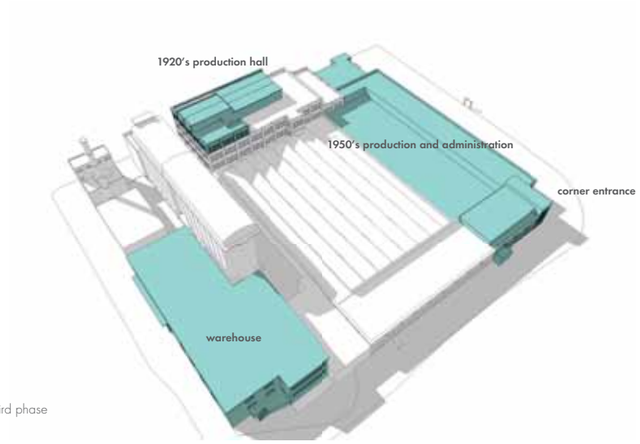
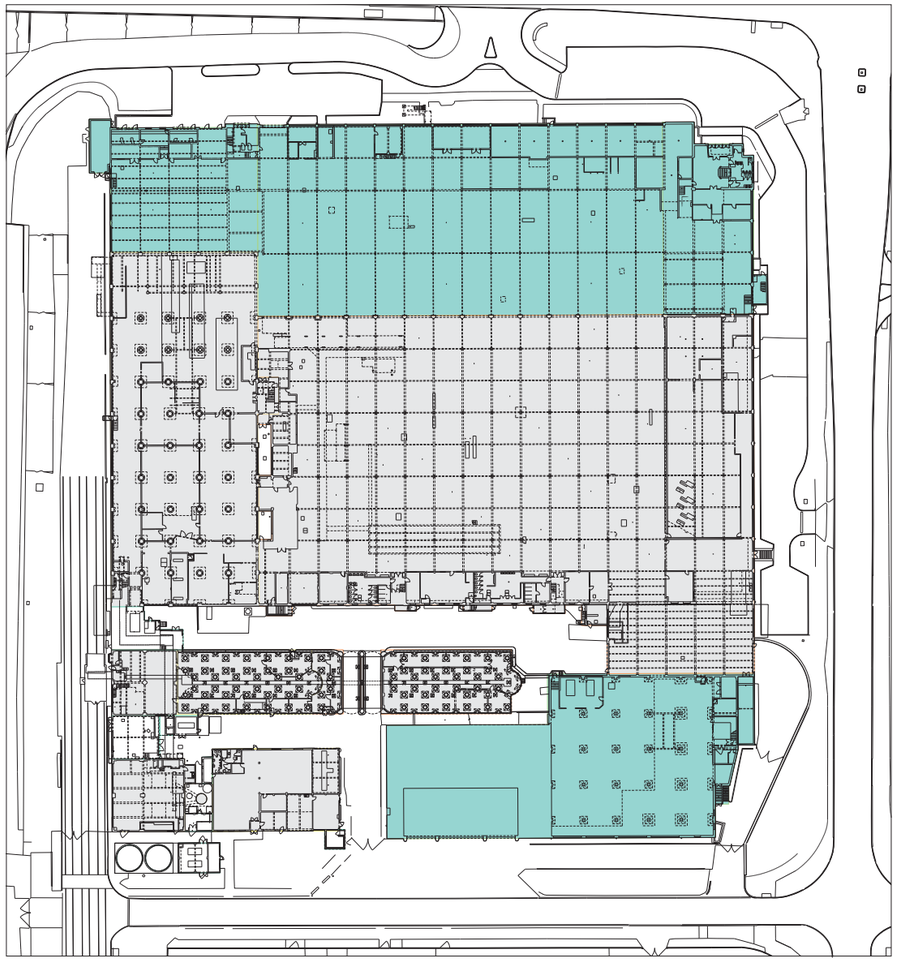


Diagram of the third phase



Factory plan showing the third phase

Phase 3 1957-1959

By the 1950's further increases in demand for the products led to a further extension of the single storey production hall and the addition of administrative offices to the north and a large warehouse building to the south, all built from 1957-59.

The production hall extension was structured in a similar manner to the 1930's production hall although the roof lights and saw tooth profile were omitted, natural light being presumably less important to the production process due to increased use of mechanised packing techniques.

The extensions to the north had now completely covered the old recreation ground and entrance folly and new architectural means to announce the corporate pride and status of the company gave expression to the double storey entrance and staircase pavilion on the corner junction of Bridge Road and Broadwater Road. This structure clad in stone with a further stone 'pavilion' to the west, bookends the two storey office building between. The offices are elevated as fourteen repetitive bays of glass and greenish ceramic faced bricks subdivided by rendered flat columns.

To the south occupying the site of the old social club, the new warehouse building continues the process of enveloping the silos begun in the 1930's and wraps the eastern silos range along the Hyde Way flank. The two storey building has rendered elevations with large areas of solid wall punctuated by small, largely horizontal windows.

The 1950s Warehouse building

The 1950s administration building

1 The grain house building

2 Conveyor which discharges the grain into the silos

3 Silos discharge the grain into an underground conveyor-belt system

4 Main production area

5 The boiler house burned coke to provide hot water and steam for cooking and cleaning processes that took place inside the factory.

The early production process

1. Railway wagons discharged the grain into a pit outside the grain house.

2. The grain was drawn up by screws to the cyclones on top of the grain house building, gravity-fed through a series of machines on the lower floors.

3. It was then then taken by conveyor up to the chamber running along the top of the silos and discharged into one of them.

4. The silos in turn discharged the grain into an underground conveyor-belt system which transported it upward into the production building.

5. The first floor of the production building seems to have been the main production area with a U-shaped flow around the well-lit perimeter and storage space situated in the centre.The smaller second floor seems to have been used for cooking and for storing cases of the finished product.

6. The boiler house to the south end of the site burned coke to provide hot water and steam for cooking and cleaning processes that took place inside the factory. Coke was delivered by rail, taken by elevator to the top of the building and stored in concrete hoppers which discharged their contents to the boiler below.

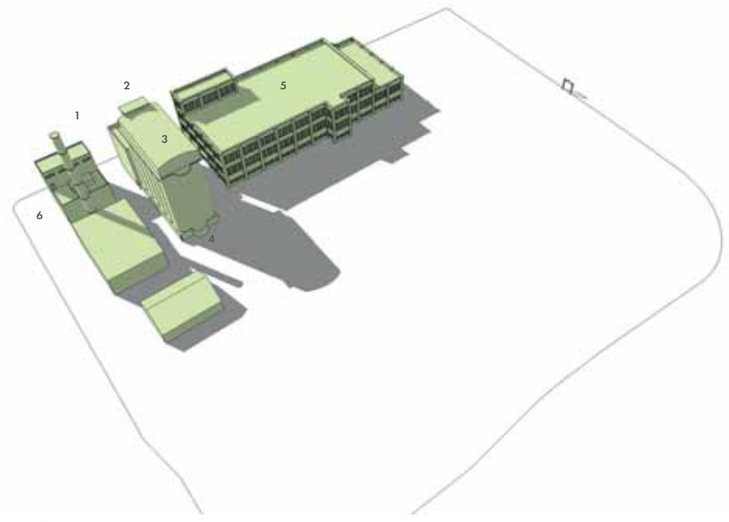


Diagram of the first phase

1920s building complex

5.2 **Listing**

The Shredded Wheat Factory was grade II listed on 16th January 1981. The listing citation has the following description:

'Two concrete ranges, at right angles with links. Southern range consists of giant range of cylindrical concrete drums 15 bays long with flat oversailing capping with railings right over the whole top. Behind this is a plain attic storey with 28 plain windows with plain capping over. On one end elevation is a 3 bay projecting tower rising just above the main roof level. At the west end of the range is a 2 bay wing with large windows, the southern bay of 3 storeys and the northern of 4. Flatroofs. Adjacent is a 7 bay, 4 storey block, with large windows divided by narrow piers and small scale structural divisions between the storeys, making it almost wholly glass. Flat oversailing capping at roof level.'

The listing covers all of the buildings forming part of the Shredded Wheat Factory, although only the silos, the grain house and part of the original production building are described in the list entry. The other later buildings and extensions that are attached to it are listed by virtue of their attachment rather than as a result of their own architectural or historic value.

View of the Shredded Wheat Factory from the railway bridge

1920s boiler house

1920s grain house

1950s warehouse

1950s administration building

1930s production hall roof

1920s production hall

5.3 **The Shredded Wheat Factory today**

The factory as it stands today is largely the same as it was at the end of the 1950's. There have however been a number of minor changes and alterations which have significantly altered its appearance.

A refurbishment of the exterior of the 1920's buildings took place towards the latter part of the 20th century. This has resulted in some unfortunate alterations which adversely affect the appearance particularly of the production hall: green metal panelling was added to the spandrel panel areas; the windows were replaced with metal framed windows with irregular vertical bar spacing; the first floor window sills were raised to standardize all of the upper window sizes; external stairs were added; many of the east and south facing windows were removed and the holes bricked in. At the same time the single storey structure on the top of the silos was painted green to match the new cladding.

There were also a number of building additions and extensions which have taken place over time which, although minor, have gradually eroded the distinct form of the early factory buildings: between the grain house and the production hall the gap has been filled with infill buildings and a lift tower. Similarly between the grain house and the boiler house the gap has been filled with further extensions. The result is that the once separated structures now form a continuous wall of building.

To the south a pair of water tanks has been added adjacent to the boiler house and some minor single storey buildings have accumulated around the garages structure.

Internally the early factory buildings remain intact: the production hall still has its floor slabs with supporting mushroom headed columns as has the silo building ground floor. A number of walls have been added within the floor plates. The boiler house and grain house too have survived largely as they were.

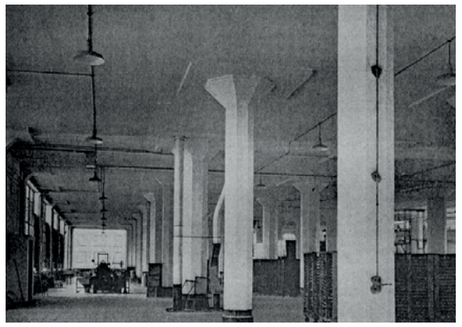
The 1950's warehouse has survived without alterations as has the offices building to the north. To the east the 1930's production hall has had many of its large windows bricked in and covered with render.

The site to the west of the factory currently lies unused. A security fence has been erected from the southern end of the boiler house running west across the old railway tracks and then meeting further fences running north and south. Further fences and barriers have been added to the north and the east of the warehouse.

The previous owners of the building moved out in 2008. Most of the internal machinery was removed at that time. Since that date the building has remained unoccupied. A planning application for a new security fence to protect the listed buildings from vandalism was submitted earlier this year.

1 The silo structures are an established landmark of the factory and the town and form an integral part of the listed complex.

2 A major loss to the integrity of the listed building complex was the covering-over of the recreation ground which provided the green Garden City setting for the original factory buildings.



3 The advantage of basing the design of the factory on a mushroom system was the elimination of beams projecting below the ceiling and thus to enable maximum glazing of the external walls and an even distribution of natural light.

4 The internal structure is designed to support the weight of the original equipment. All the columns and foundations were also designed to provide for future addition of two storeys above the roof.

5 The external elevations do not differ very much from the traditional type of factory building having plain facades with the largest possible window openings set between vertical piers and horizontal transoms.

6 Original 1920s entrance staircase

5.4 Statement of Significance

1924-1926

The 1920's factory and its ancillary buildings are important early works of Louis de Soissons at Welwyn Garden City. The factory buildings are '....significant for the early and, for Louis de Soissons and Welwyn Garden City, unusual introduction of a strictly modern style which emphasized the functions of the various storage, service, and production building elements. This significance is integral to the structure of the building: it does not reside so much in the façade as in the way that the internal structure is articulated to support the weight of the original equipment and to enable maximum glazing of the external walls and an even distribution of natural light.' (Quoted from "The Shredded Wheat Factory: Historical Development, Analysis of Significance and Proposed Conservation Policies" by Giles Quarme and Harvey Van Sickl for Cereal Partners UK).

Production Hall

The multi-storey production hall is part of the original factory complex. It is of significance as an example of a building built to house early 20th century mechanized food production. It is not of exceptional aesthetic merit in itself but does have a striking presence when viewed from the west. Its west facade is typical of many of the multistorey industrial buildings of the day but is unusual perhaps in its composition in a 'stacked box' structure which decreases towards its northern end.

Internally the mushroom headed columns and high flat ceilings are important features of the early factory building and the need to provide good even day-lighting deep within the floor plates. They are designed to allow the early production process to flow smoothly through the space and to support the load of the heavy ovens and shredding rollers. A potential additional two storeys were calculated into the structural design. The original staircase still exists and is of significance as evidence of the grandeur of the original factory entrance.

Grain house and boiler house

The grain house and boiler house are both of significance as an integral part of the original de Soissons design and like the production hall they have significance as good examples of an early 20th century factory production complex.

Externally the grain house has lost some of its interesting early features; notably the projecting concrete canopies and the silos on the roof. Later additions to the west and in the spaces between have eroded their integrity as separate buildings.
Internally there are no significant structural or decorative features of note. There is some significance to some of the early machinery that remains in the grain house: the channel and screw in the ground floor are evidence of the early production process.
The chimney to the east of the boiler house is of significance as a part of the original factory complex and for its strong visual presence in the surrounding area.

Silos building

The silos have significance as a part of the original Louis de Soissons factory complex and as evidence of the production processes of early 20th mechanized food production. They are also an established and prominent landmark visible from around the town of Welwyn and beyond. Their solid unarticulated form has remained intact from the time of their construction. As highly sculptural buildings there is a marked contrast between the vertical cylinder forms and the single storey horizontal building at the top.

Garages building

The garages do have significance as a part of the original ensemble of factory buildings. They had a very minor role in the production process and have no distinguishing features.

1937-1939

The single storey production hall extension was not part of the original de Soissons design and is a largely functional building designed by the little known architect Louis Wirsching Jr. Its primary significance lies in its physical expression of the changes to mechanized food production at the time but is not significant as an early example of this transition or a particularly good example of this building type

Externally the building has unremarkable facades typical of the period. Those to the east and south have been partly bricked in. The roof has a distinctive saw-toothed form and the north facing roof lights are evidence of the significance of natural light to the production process of the day.

Internally, the building has a vast and un-partitioned space. It consists of a regular grid of steel columns supporting steel beams and is of little interest architecturally.

1 The single-storey production shed extension is largely a functional structure and not a significant architectural work in its own right. Its sole interest lies in its illustration of the change from vertical to horizontal production handling processes.

2 North roof lights reflect the importance of natural lighting.

3 The facade of the 1930s production hall is not a significant architectural work.

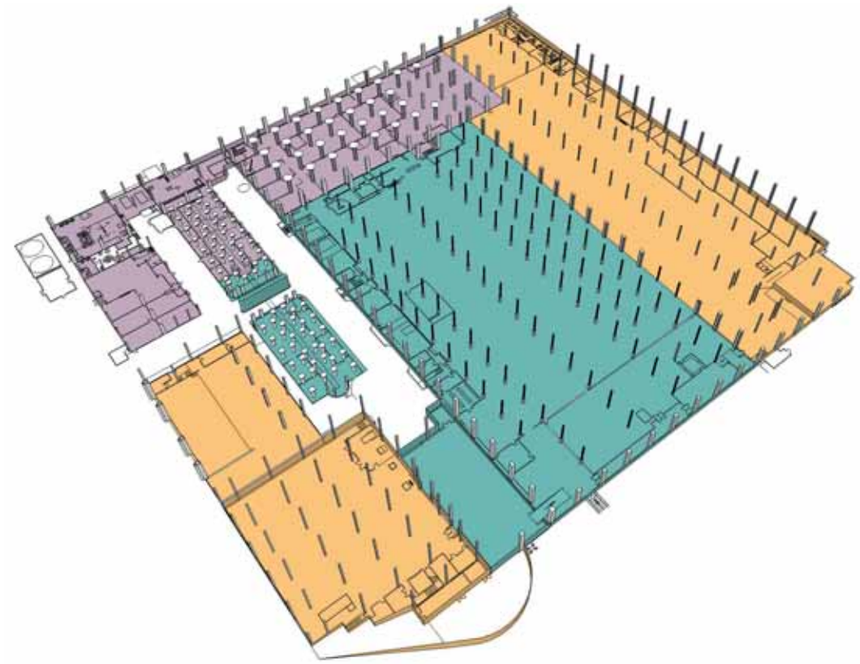
1957-1959

The production hall extension and administration building of 1957-59 is also a largely unremarkable and functional structure. Its significance lies in its evidence of the continuing development of the factory complex. The exterior does not relate to the white rendered exterior of the original factory complex and introduces a new palate of materials: green glazed bricks, stone and hardwood window and door frames. The entrance pavilion on the junction of Bridge Road and Broadwater Road acts as a strong visual anchor to that corner and is of some significance locally as the main entrance to the factory for the last twenty years of its life and aesthetically for its art deco style windows, stonework and decorative door frames. Internally the office entrance has an interesting staircase and wood panelled lobby.

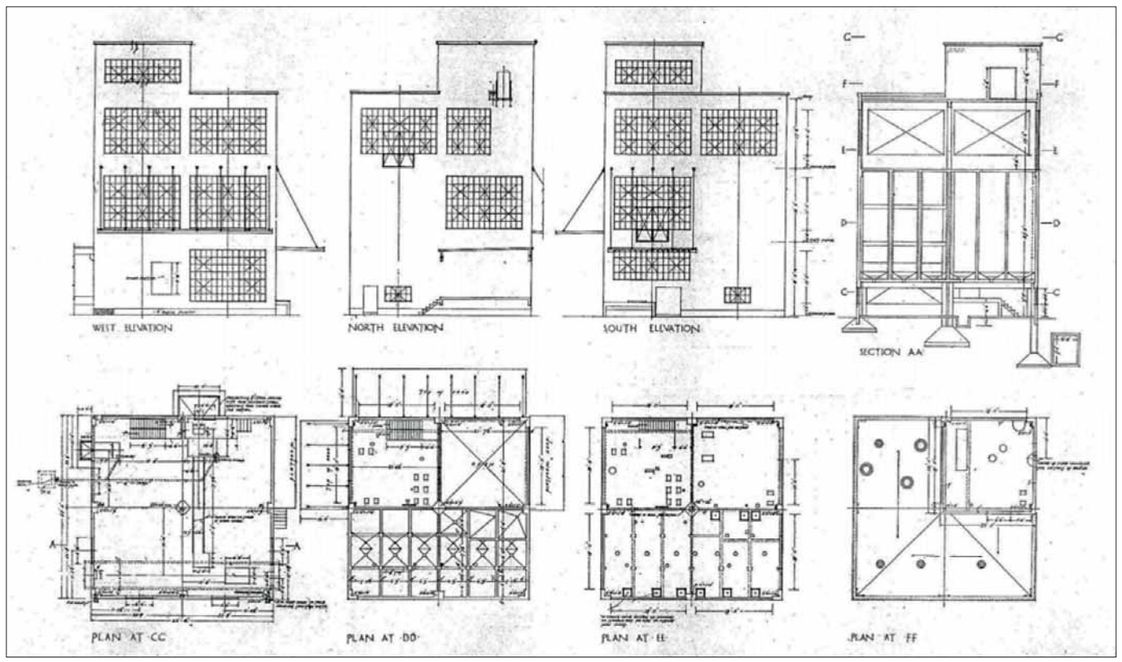
The warehouse building to the south is of evidential significance as part of the development of the factory complex. A largely functional building, there are no aesthetic features of note externally or internally. It does not relate to the buildings of the factory group other than by its white painted render finish.

1 The north extension of the production shed and office and administration range are also largely unremarkable and functional structures.

2 The entrance block at the corner of Bridge and Broadwater Rd acts as a visual anchor and obvious entrance to the site from Bridge Road.



1924-1926
1937- 1939
1957- 1959



Original Plans for the Grain House

5.5 Structural Analysis and proposals to reuse

1920's production hall

The production hall building has four floors of varying floor to floor heights: the lower ground floor is 4350mm, the first floor is 5550mm, the second 5250mm and the third is approximately 5100mm. The floor plans also vary in size; the lower ground, first and second floors all measure 30 metres in width; the lower two being 74 metres in length. The second floor is 61 metres long and the third floor size varies.

Within each floor there is a regular grid of columns spaced at 6.1 x 6.7 metre intervals. The columns are hexagonally shaped 0.8 metres in width with characteristic mushroom headed capitals and rectangular bearing plates to the slab above. All the floors are of in situ concrete construction as are the columns. The structure was originally designed to take an additional two floors above the present roof line.

Originally designed as a well lit working environment, the structure and dimensions of this building lend themselves to reuse as office or small business type accommodation. The floor to ceiling heights are high as are the windows giving a light and spacious feel to the internal space. The width of the building at thirty metres and its sub-division into five equal bays divides the floor plates naturally into good perimeter naturally lit space and a central bay for support space, circulation, storage etc. The columnar subdivision along the length of the building promotes the subdivision of the larger space into smaller units if tenants require.

Inserting vertical cores within the existing structure is possible although the spreading capitals restrict the layouts.

1920's grain house

The grain house has four floors; the ground and second occupying the whole of the building's 13.5 metre square footprint, the first occupying exactly half and the top a quarter. On the first floor grain silos occupy the other half of the plan. The ground, first and second floors have more or less equal ceiling heights of around 5.3 metres, although the ground has a reduced height of 2.6 metres for its eastern half where the silos sit above. The top floor has a ceiling height of 3.6 metres.

The structural system consists of a simple frame of concrete columns, one on each corner and one in the centre of each wall. A single 800mm wide column occupies the exact centre of the plan reducing to 400mm on the upper floors. The floor plates are in situ concrete slabs with down-stand beams linking the columns.

Having abundant natural light and mostly tall ceiling heights the building has a wide variety of potential reuses. Its robust structure is ideal for accommodating historical archives or heavy exhibits and open plan rooms make good spaces for public exhibitions.

1920's boiler house

The boiler house plan, a square form of 15 x 15 metres, encloses a single volume rising to a ceiling some nine metres high. A smaller rectangular form of 15 x 6.7 metres sits above partly interrupting the ceiling and enclosing the coal silos near the top of the building.
Similar to the grain house, the structure consists of concrete columns at each corner of the building and at the centre of each wall framing the volume and linking to a single column close to the middle of the space. The columns and floor slabs are again in situ concrete. A free-standing metal chimney stands to the east of the building.

The building was purpose made to house the boiler plant for the factory's heating and cooking and, despite the changes in technology, the building's form and structure are ideally suited to reuse as the energy centre for the Redevelopment.

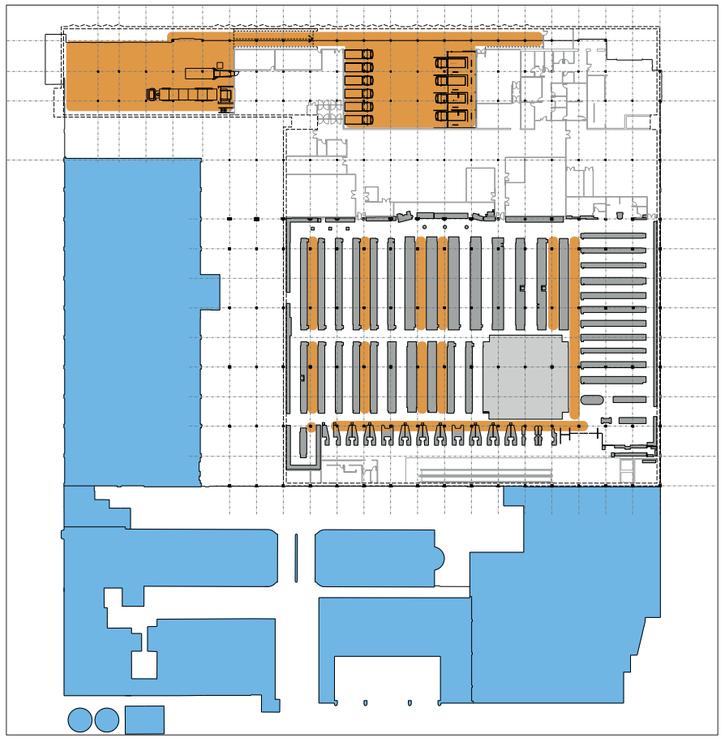
1920's and 1930's Silos

Adjoining the grain house the silos building is composed of three parts; a single storey base, the silos themselves and a single storey top floor. The geometry of the silos determines the structure of the building. Composed of 45 vertical concrete tubes each of five metres diameter, the tubes are arranged in three rows and interlocked into a hexagonal arrangement. The curved surface of the outer tubes is exposed on the face of the group. Supporting the silos mushroom headed concrete columns are arranged in a hexagonal grid on the ground floor. The external walls between the columns are non-load bearing. Towards the middle of the ground floor a gap is formed with cross walls and increased headroom. At the top of the building the single storey structure spans the length and breadth of the silos below.

The cellular nature and room-like scale of the silos plan would suggest that suitable reuse could be found for the building such as a hotel or small apartments. However any such inhabitable conversion would necessitate punching windows into the silo walls as well as the insertion of cores and services into the interior. Such intervention if treated with care could result in an interesting alteration of the facades however the effect would inevitably compromise the integrity of the industrial aesthetic. We feel that this lessening of the building's strength would be unacceptable.

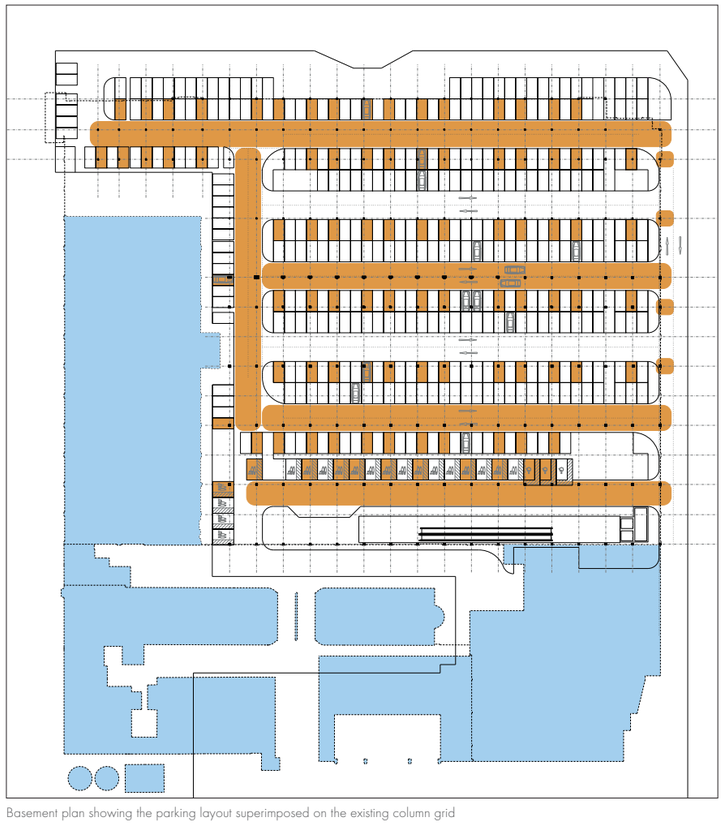
The single storey pavilion building on the top of the silos suggests a variety of reuses. We have examined the possibility of installing a restaurant. The space would be well suited to such public uses with its spectacular outlook and proximity to the town centre. The drawbacks are all related to the height of the building and the need to service and provide access to a public facility 27 metres above the ground. A restaurant would require two lifts, one public and one goods as well as three staircases and such expenditure would render the proposal uneconomic.

The ground floor space below the silos has a ceiling height of almost three metres and although it is crowded with structural columns its proximity to the proposed civic square and the new store encourage its reuse for public use. We have proposed cafe usage in our scheme and with some minor interventions to the windows the space could become an interesting and unusual town centre venue.



shelves
existing buildings
clashes between columns and circulation/ parking spaces

Ground floor plan showing a supermarket superimposed on the existing column grid



existing buildings above
clashes between columns and circulation/ parking spaces

Basement plan showing the parking layout superimposed on the existing column grid

1930's and 1950's production hall

The production hall is a single storey building covering a rectangular footprint of some 100 x 60 metres. The floor is lower than the typical surrounding landscape by about 1.2 metres. The ceiling height is 6 metres. The structure is a steel frame based on a regular grid of columns with 13.4 metre spacing in the north-south direction and 6.1 metres in the east-west. The columns support a rectangular lattice of 600 x 300 mm steel beams running north-south and 380 x 180 mm beams running east-west. The lattice supports the saw-tooth roof profile with its north facing roof lights. The soffit is finished in timber boarding with asphalt waterproofing above. There is no insulation.

The original purpose of the building was to house the machinery and working processes in the manufacture of Shredded Wheat products. As such its main qualities are its expansive and tall space all on one level with abundant and even natural lighting; all qualities which would suit it to reuse as a supermarket. On the negative side however there are three problems which make conversion unfeasible:

- The floor level does not align with the external ground level
- The structural column grid is too close
- There is no basement below

The first difficulty is not insurmountable: stairs and escalators could take customers down to the lowered ground floor. However, this would make access for disabled users more difficult, would be unusual operationally and would make more accessible stores locally more attractive to potential customers reducing the long term viability of operations. The second creates major difficulties with the layout of the store as the existing relatively dense arrangement of columns would interfere with the efficient planning of the access aisles and shelving: the typical grid of a modern store is 16.1 x 15 metre compared to the 13.4 x 6.1 metre grid of the existing building. The third problem makes conversion fundamentally unfeasible because the supermarket requires direct access to a car park (in a store of this size over 400 parking spaces are required). Constructing a new basement below the existing production hall would be technically possible, but the cost of excavation while retaining the structure above would be unviable financially and would result in an inefficient parking layout.

1950's administration block

The administration block is a two-storey building arranged in an L-shape on plan with its entrance and a grand staircase at the corner of the form. The offices are arranged at first floor level with the ground floor being given over to plant rooms and partly to production space. The plan extends to 100 metres along the northern range and to 34 metres along the eastern. The building is approximately 14 metres wide. The first floor is 6.2 metres above the ground with a ceiling height of 2.86 metres. The building is approximately 14 metres wide. The first floor office windows look north and south over the lower roof of the production hall.

Reuse of the first floor this building for office use would be feasible with some minor work necessary to insert modern service facilities and a lift although the area is too large for the requirements of the store. The ground level could be reused as plant space and support space. However, as stated in the PPS5 Statement attached to this application, its architectural character is at odds with the Modernist aesthetic of the rest of the key listed buildings that will be retained, and it would be an isolated form at the corner of the proposed supermarket. Its demolition will allow the silos and production hall to become more visible above the horizontal roof datum set by the proposed supermarket.

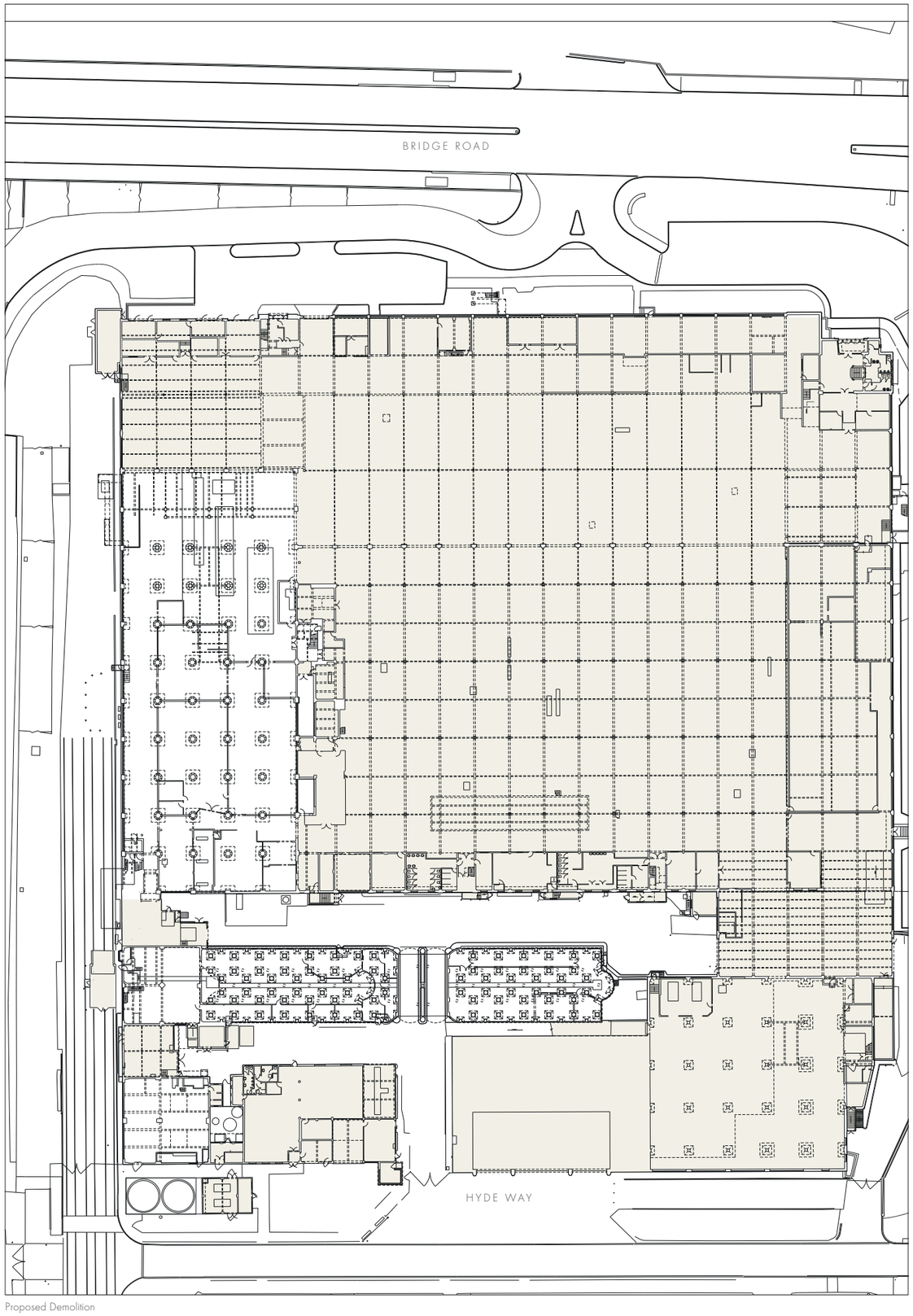
1950's warehouse

This purely functional building was originally designed to store finished Shredded Wheat products and facilitate their loading onto lorries. The building is a two and three-storey structure with a rectilinear form in two conjoined parts: the western is 24 x 34 metres in plan; the eastern is 34 x 35 metres. The southern facades align along Hyde Way.

In section the western part comprises two floors the ground being 7.7 metres high and the first 6.1 metres high. A 1.6 metre raised loading bay occupies the northern part of the ground floor. Lorries were able to drive along Hyde Way and reverse into the docks with their decks level to the floor. The eastern block comprises of three floors; a raised ground and first floor of 6.1 metres high and a lower ground level of 4.5 metres.

The structure of the lower two floors of the eastern block is in situ concrete columns with mushroom heads and spreading plates arranged in a 6.8 x 7.5 metre grid. The upper floor has simple square columns supporting continuous spreading plates. The structure of the western block has a similar columnar grid although the first floor slab is supported by a rectilinear network of in situ beams above the loading bays. The elevations are largely unrelieved areas of solid rendered wall with small windows of horizontal proportions.

The reuse of this building as offices is problematic in a number of ways: the windows are too high in relation to the floor levels; their sills being above 1.8 metres on the upper floor and 2.6 metres on the first floor. The floor to ceiling height at 5.9 metres is tall for office use; it could be subdivided by introducing a mezzanine floor but this would require new windows. The floor plate sizes would make good office floor plates but the distribution and sizes of most of the existing windows would be insufficient for office use. Again it would be possible to create new windows but with considerable alteration to the facades.



Proposed Demolition

5.6 Proposed Demolition

Proposed Demolitions

The proposed demolition plans show the removal of the buildings which are largely later than, and in our view compromise the integrity of, the original 1920's factory by de Soissons. These consist of the 1950's offices, warehouse and production hall; the 1930's production hall and dispatch building; the 1920's garages block and also the connecting links between the 1920's grain house and both the production hall and boiler house. Within each of the buildings that will remain there are further detailed demolition proposals which are outlined as follows:

Production hall demolitions

It is proposed to use the production hall as future accommodation for small business or starter workshop uses. The present planning application does not propose an internal fit out for the building and is only concerned with the refurbishment of the external shell and leaving the interior as a clear shell in anticipation of its future internal works. Internally therefore the general approach is to demolish and remove the non-structural elements leaving the floor plates as clear as possible. Thus all internal partitions and doors are to be removed (except the original ones enclosing the staircases). Plinths on the floors are to be removed as are the ramps and steps. Steel frames spanning between concrete columns (and not part of the load bearing structure) are to be removed (except for the top floor where the roof is to be removed). All of the structural mushroom headed columns are to remain intact as are the concrete floors.

On the third floor the original 1920's building extended to no more than three bays on the west façade and one bay on the south occupying the far southwest corner of the building. The present third floor occupies most of the available floor plate but it would seem from photographs that this extension was not built until after at least 1940. Examination of the existing roof plan indicates that there may have been three or four separate extensions. Our approach is therefore to demolish most of what is presently there but to leave the external walls intact if possible and clear the way for a completely new roof.

For the facades our approach is to clear the building of its accumulated objects; the pipes, ducts and staircases, some of the results of earlier external refurbishments; the green metal panelling and the metal framed windows, and to reopen or enlarge what were originally holes for windows but have subsequently been bricked in.

Grain House demolitions

The intention is that this building is to house the local heritage centre in the future. We are not proposing a detailed layout of the interior of the heritage centre but have indicated how it might possibly be fitted out. Our approach to demolition is therefore to clear away as much as possible the interior of the building removing all the pipes, ducts and their supporting structures, trunking, fixtures and fittings but leaving the external masonry shell, internal structure, the metal staircases and floor plates intact. The recessed channel and corkscrew in the ground floor which was part of the original process of conveying grain is of some interest historically and is to be retained.

Externally the approach is to again clear the building of the accumulation of ducts, light fittings and pipe work. The existing windows and sills are to be removed and some of the (non-structural) masonry openings enlarged to accommodate new metal framed windows. The single storey building to the west is to be demolished as is the small projecting bay window on the west façade. The condition of existing handrails will be checked and any in poor condition will be removed for future replacement.

All the buildings canopies and structures lying between the grain house and the production hall are proposed to be demolished opening up the ground floor to public use in the new scheme. On the roof the vent outlets and steel frames are to be removed.

Boiler House demolitions

The boiler house is to become the energy centre for the Redevelopment and will house the site wide CHP units and the boilers. Demolition for this building is again focused on removing as much of the internal elements and fittings as possible leaving the building masonry shell and structure intact and opening up the floor plate to accommodate the new plant machinery. Thus the steel framing and structure along with all the pipes, ducting, fittings and support structures are all to be removed. Low level plinths and walls are to be demolished.

Externally a similar approach as for the grain house and production hall is proposed: staircases, pipe work, ducting, trunking and light fittings are all to be removed. Windows are to be removed and some minor new openings made to the north elevation for a door and louvre. At roof level the small later additions to the lower roof, the two plant boxes and the raised plinth, are to be removed. The balustrades will be examined for structural integrity and replaced if necessary. New holes are to be formed for proposed ladder access to the lower and upper roofs.

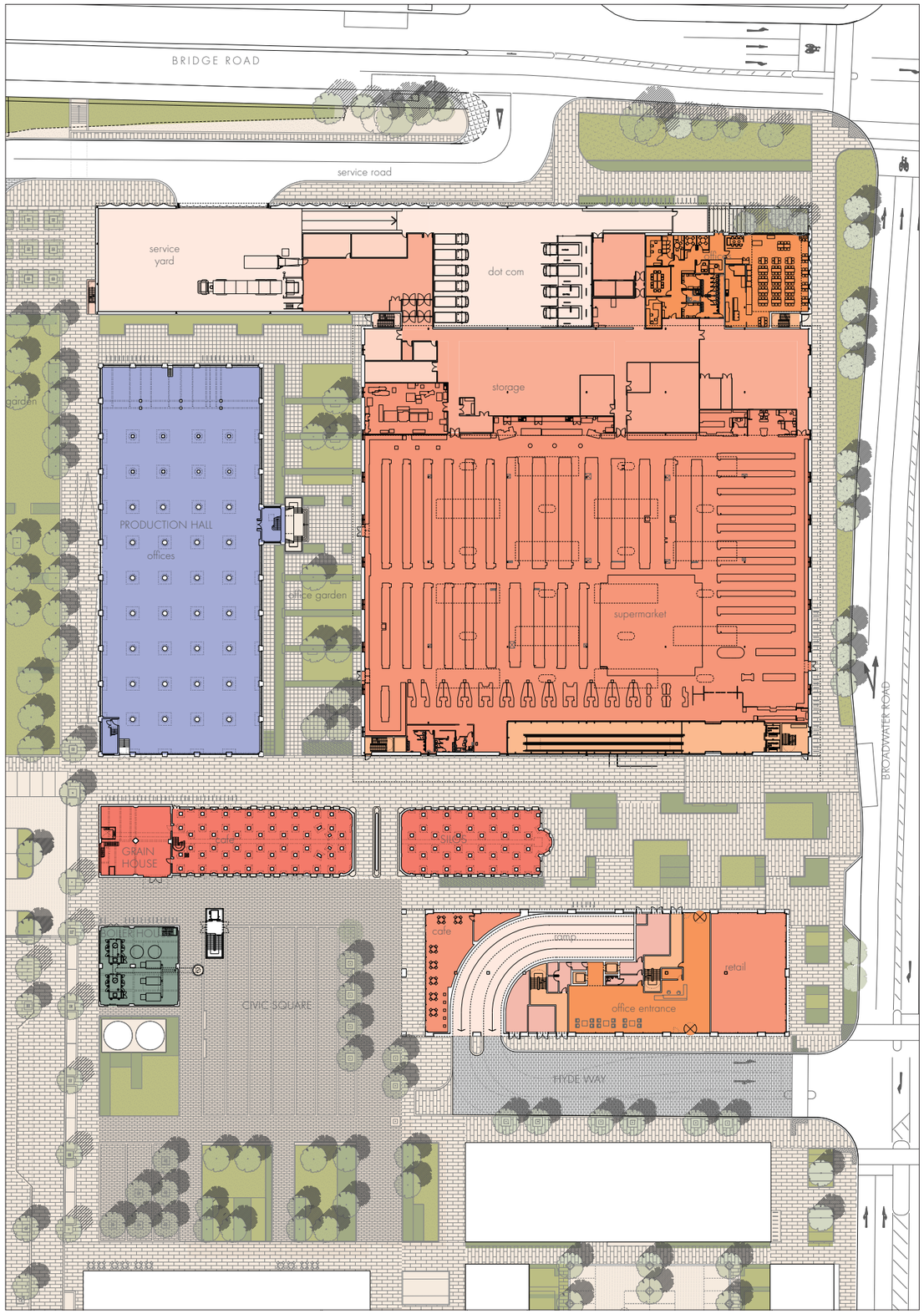
To the east side of the building the small extension box is to be demolished and all the buildings and walls presently filling in the gap between the boiler house and the grain house are proposed to be demolished opening up the ground level to public use in the new scheme.

Silos demolitions

The Redevelopment proposes to use the ground floor spaces below the silos as cafes and our approach to demolition is to clear away as much of the internal non-structural elements as possible leaving the interior as an empty shell for future fitting out. The internal partitions and doors are to be removed as are the silo hoppers, ducting, trunking, fixtures and fittings.

At the west end of the silos the stair tower houses a steep metal staircase and assorted ducts all of which are to be removed to allow the erection of a new maintenance access stair. The windows to the stair tower are to be examined for signs of deterioration and replaced by replica windows as necessary.

At the top of the silos the single storey building is to be stripped of internal fixtures and fittings. The exterior windows and doors will be examined and any that are beyond repair will be removed to allow replicas to be installed. The external railing will be examined for structural integrity and replaced as necessary.



Proposed Layout

5.7 Proposed scheme - the Redevelopment

After demolition the structures remaining will be the core factory buildings originally designed by de Soissons namely the 1920's production hall, the grain house, boiler house and chimney and the silos. The only non 1920's buildings will be the 1930's silos extension retained for its contribution as an iconic sculptural form and the later water tanks to the south of the boiler house adjacent to the new public square. The three western factory buildings, originally organised as separate structures and arranged in a linear fashion alongside the railway, will be separated once again.

The existing factory buildings which remain are to be refurbished and, in the case of the production hall, slightly enlarged. Our proposal is that two new buildings, the Tesco store and office building 'F', be built in the spaces left by the demolition of the factory buildings. This will create a new ensemble of five distinct buildings; each separate from the others. In the gaps between new spaces will emerge, both public and private and a new permeability will be created from the previously impermeable factory complex.

Geometries and alignment

The geometry of the retained factory buildings forms the geometric structure for the arrangement of the new buildings on the Site. The gaps between the grain house and boiler house and grain house and production hall are maintained across the old factory site in an east-west direction forming two new public walkways from the Spine Road to Broadwater Road. The north-south route through the centre of the silos base establishes the eastern edge of the new public square to the south, and to the north, south, east and west the edges of the old factory complex establish, more or less, the perimeter boundaries of the new buildings.

New public and private spaces

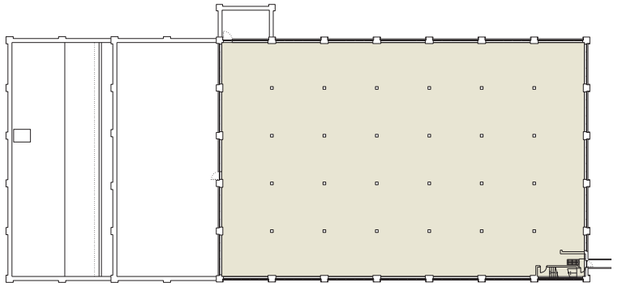
To the south the demolition of the garages block opens up the opportunity for the creation of a new public square. This major urban space will have as its northern backdrop the newly revealed southern flank wall of the silos range, bringing this iconic building into a direct relationship with the public space. To the east the refurbished boiler house with its chimney and water silos forms a highly sculptural presence partly enclosing the square from the Spine Road, and to the west the other flank of the square is enclosed by the west facade of the new office building 'F'.

To the east of the retained silos the demolition of the 1930's dispatch building and 1950's warehouse building, and the omission of any new building on that space, opens up a direct visual and spatial connection between the silos and Broadwater Road. A new public square is created in the space formed by the southern entrance facade of the Tesco store and the northern facade of the office building 'F'.

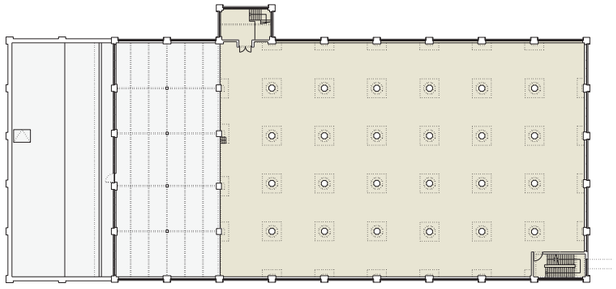
Between the refurbished production hall and the western edge of the store a new garden is created where the 1930's production hall once stood. This space, some eighteen metres wide and enclosed by hedges and railings is for use by the occupants of the production hall building. It allows the reintroduction of the grand staircase to the bottom of the production hall entrance bay and re-establishes once more a garden setting for the east side of that building.

To the west of the production hall the present open space is maintained and the scheme proposes its transformation into a new public recreation ground. This garden, with lawns and rows of trees provides a new public setting for the west face of the refurbished factory complex.

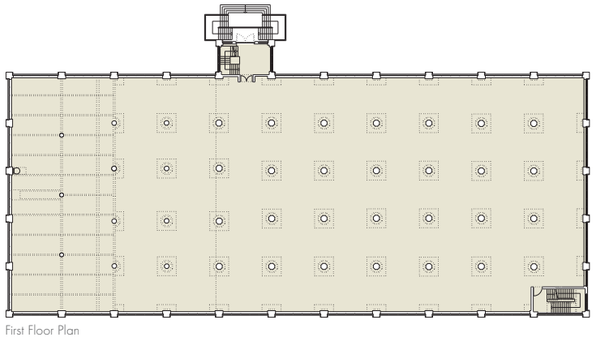
View Square



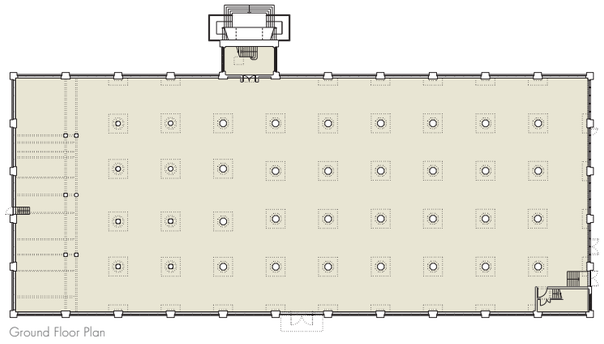
Third Floor Plan



Second Floor Plan



First Floor Plan



Ground Floor Plan

5.8 **The Production Hall (Building C)**

Plans

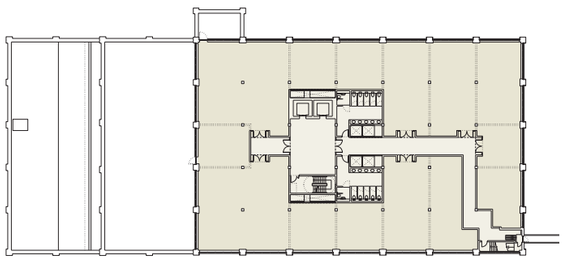
The plans for the original production hall show the building arranged on four floors; the two lowest occupying the full extent of the building's footprint, the second being recessed by two bays from the north, and the third recessed by two further bays. On the fourth (roof) level a small plant space is enclosed by walls set back from all sides. On the east side a three storied projecting bay protrudes from the otherwise continuous rectilinear form. Attached to the east face of this bay an external staircase is proposed in a symmetrical form closely adhering to the original design. The building plans show a simple rectilinear external wall enclosing a grid of circular columns arranged in rows. The columns decrease in diameter towards the northern most three bays.

The old main entrance to the building was originally from the east side via the recreation ground to the first floor of the projecting stair bay. The Redevelopment recreates this bay entrance but the proximity of the proposed store building means this space has become more enclosed.

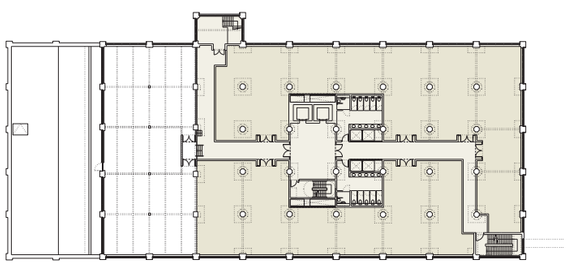
The other (west) side, originally for deliveries of grain and coal, becomes the more public face of the building and a new front entrance is therefore proposed facing the recreation ground and close to the new Spine Road. Here a ramp descends some 1.2 metres along the edge of the park to the lower ground level which will become the primary entrance level.

The projecting bay to the east side of the building still contains the original internal staircase and our proposal is to keep this stair intact and to renovate it to its original state removing internal partitions and toilets.

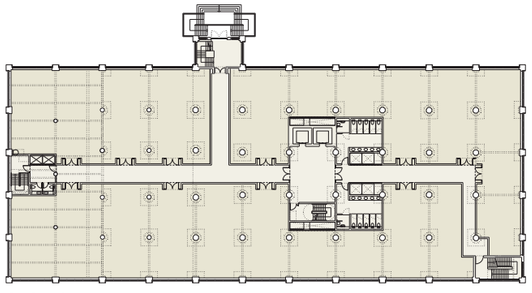
View of the office garden looking south



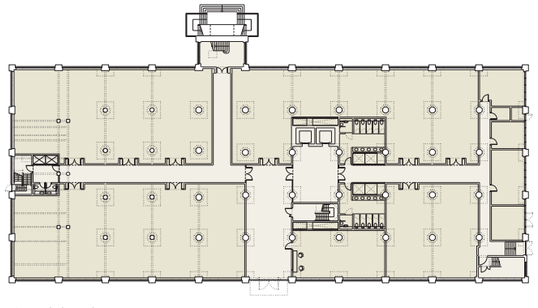
Third Floor Plan



Second Floor Plan



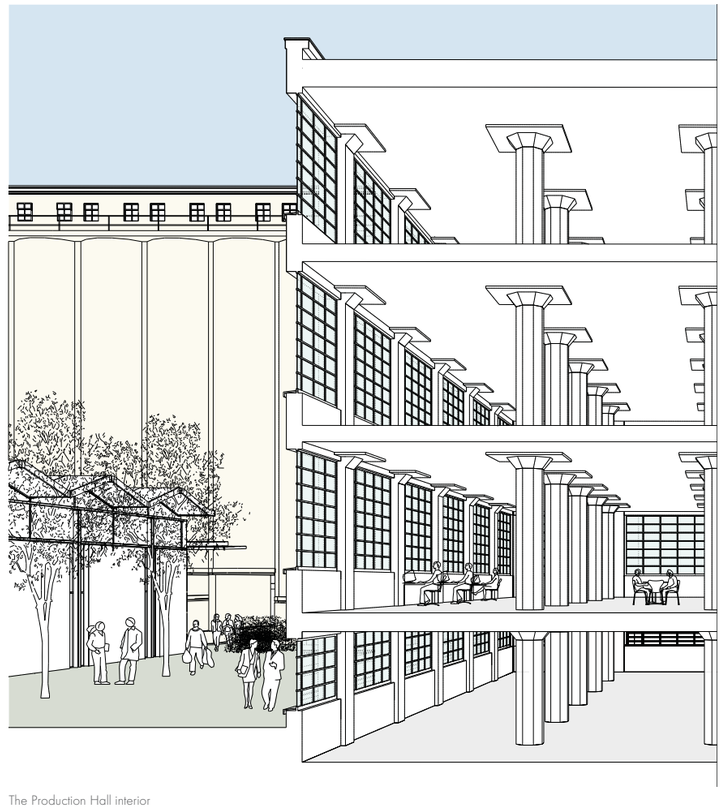
First Floor Plan



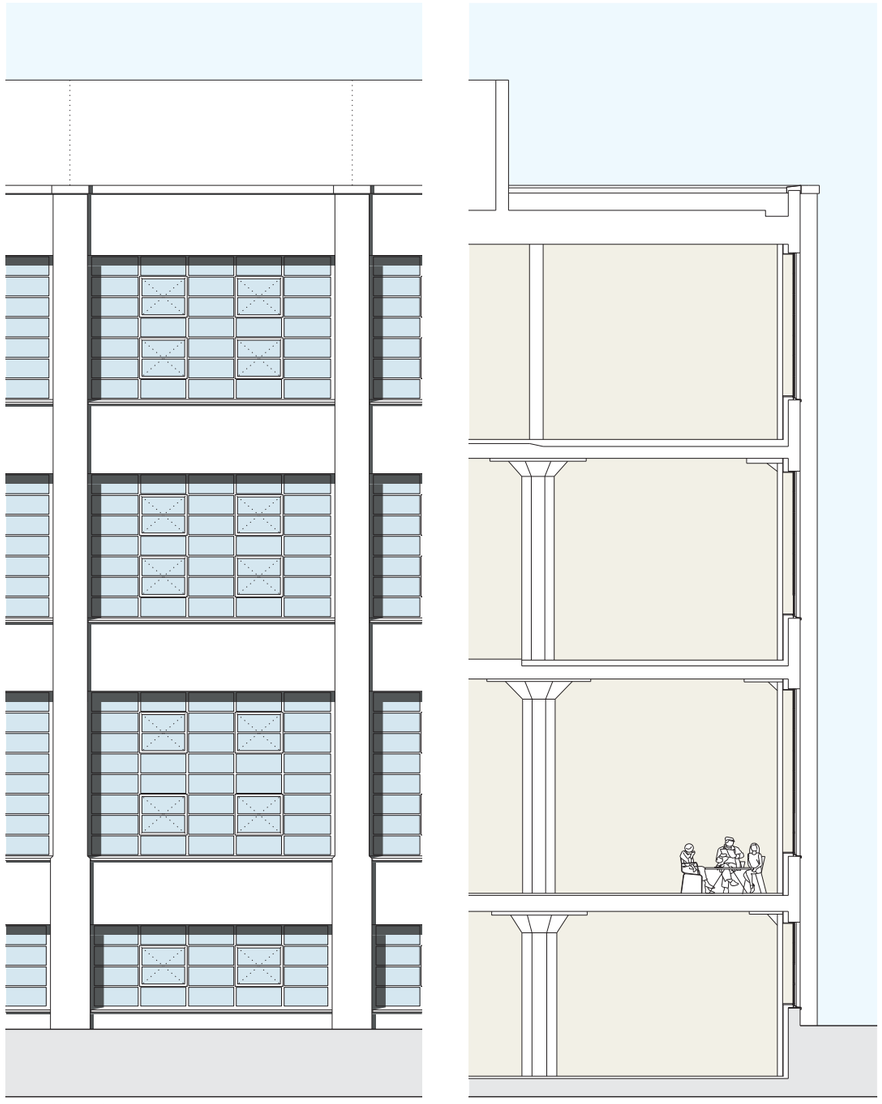
Ground Floor Plan

Indicative fit out

The production hall is intended to be used in the future as a business centre which will attract a variety of smaller companies by its city centre location, proximity to good transport links and historic associations with Welwyn's industrial past. The planning and listed building application proposes works to the refurbished external shell of the building leaving the interiors as empty spaces which will then be the subject of a future application to establish the nature of the fit out; the cores and the layouts of the partitions. The potential for such a reuse has, however, been tested and we show some indicative layouts of how the plans might work. A central core containing lifts, stairs and toilets and a sub core at the north end allow access throughout the building. From the cores generous corridors gain access to the individual units which can be arranged in a variety of differing sizes depending on the tenants' wishes.



The Production Hall interior



Proposed bay study

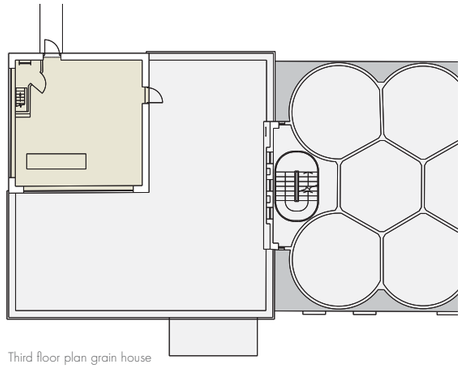
Elevations

The Redevelopment proposes that all of the production hall windows be replaced by new windows and where old windows have been bricked in new openings will be made. This gives us the opportunity to recover some of the original building proportions since lost in the present structure. Early photographs show the de Soissons' design had its first floor windows taller than the upper ones. This has been lost in the present building and the Redevelopment proposes to recreate this relationship. This will establish sill levels at consistent heights for each of the three upper floors. Our proposed ground floor windows also have a taller proportion than the existing which is again closer to de Soissons design and introduces more light to the lower ground floor.

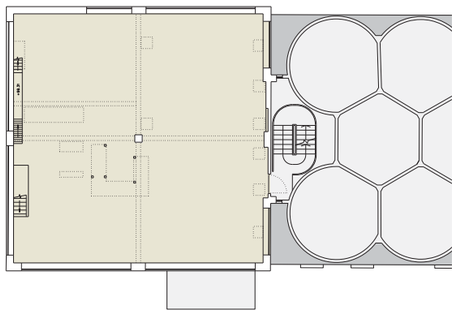
The vertical piers of the existing building are all retained as they form part of the main structural frame to the building. Our proposals intend to improve the thermal efficiency of the building's fabric by adding a layer of insulation to the interior of the masonry and replacing the present single glazed windows with double glazed. The internal surface of the insulation will be covered with plasterboard finish and painted white. The external rendered surface of the masonry will be repaired and repainted white to match the other factory buildings. The coping at the top is to be replaced by a new simple metal coping.

Between the vertical piers the existing single glazed windows will be replaced by double glazed. The proposed metal frames are chosen to match as closely as possible the early 'W20' type sections but adapted to take the increased thickness of the glazing. The original de Soissons' windows with their more delicate frames appear from photographs to be subdivided into seven equal horizontal rows and thirteen vertical. Each window had six horizontally pivoting windows set within. The present windows have the same horizontal divisions but only five vertical divisions and with mullions of irregular spacing. Our intention is to recover the more even gridded feel of the de Soissons' windows but to keep the horizontal proportions of the existing windows more appropriate to the modern frame sizes. We therefore maintain the seven by five grids but with an equal vertical spacing. Within each window ventilation is provided by centre pivoting windows, typically four per window. At the first floor the taller windows have eight horizontal divisions rather than seven.

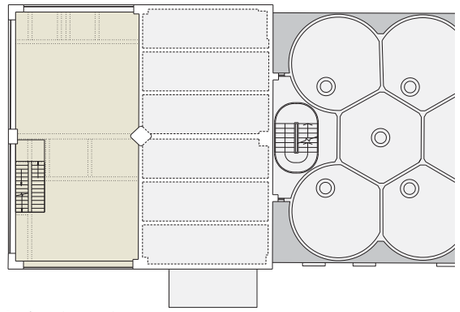
Proposed east elevation



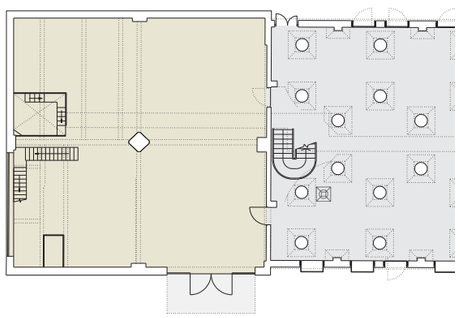
Third floor plan grain house



Second floor plan grain house



First floor plan grain house



Ground floor plan grain house

5.9 **The Grain House**

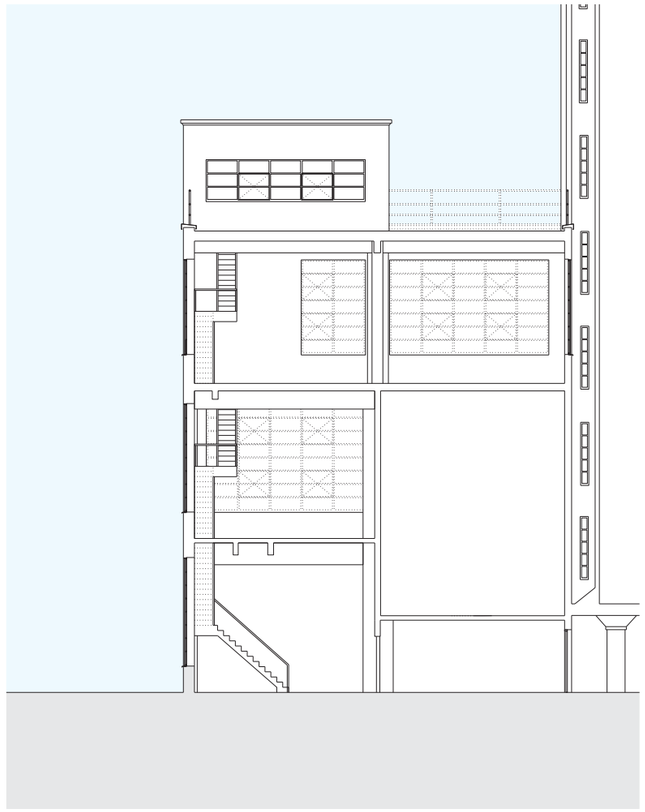
Plans

The grain house lies between the production house and the boiler house. A square shaped building on plan it comprises of 4 floors of varying heights the uppermost being recessed from the south and the east. Internally the building is structured by a single central concrete column from which beams subdivide the square plan into four equal quarters.

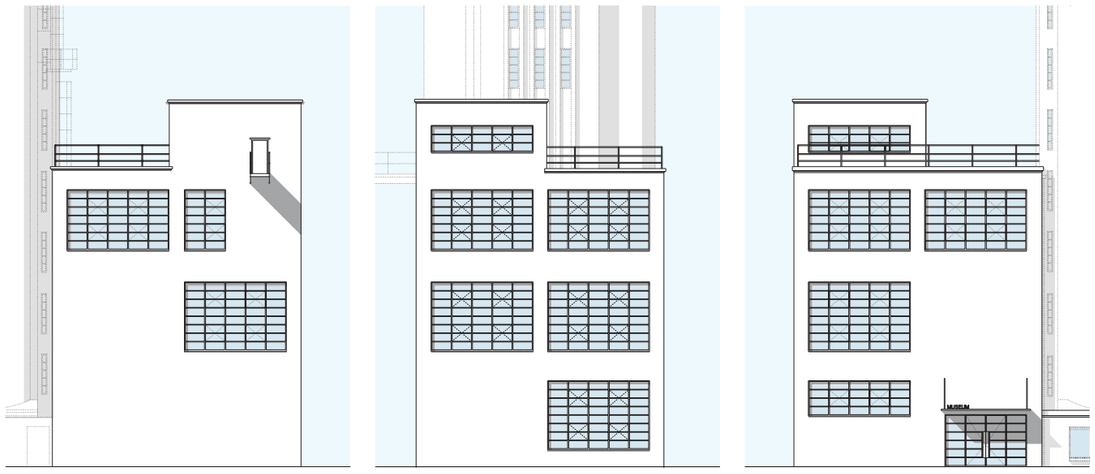
The ground floor is a more or less open plan space. The floor is roughly bisected by a channel leading eastwards from an underground chamber to the adjoining silos. Adjacent to the chamber a raised and partitioned room has a small projecting bay window on the west elevation. Next to the chamber a steel stair allows access to the first floor. Here the square plan is bisected by a central wall running north-south splitting off non-accessible grain silos on the east side from the accessible space on the west. The staircase continues up to the second floor which is again an open plan space. To the east side holes open in the floor allowing access to the grain silos below. A small stair gains access to the stair tower of the main silo structure immediately east of the grain house. To the north-west another stair continues up to the top floor.

Indicative fit out

The Redevelopment is concerned with renovating the external shell of the building whilst leaving the interior as open as possible to allow for the building's future occupation as a local history centre. We have shown an indicative fitting out of the building in the current application to illustrate how it might be used. The entrance leads directly into the ground floor space which would contain the reception and a small toilet and plant room. From the entrance it would be possible to gain access to part of the silos building to view one of the hoppers which has been left intact. Stairs and a lift gain access from the ground floor to the upper floors of the building.



Proposed section



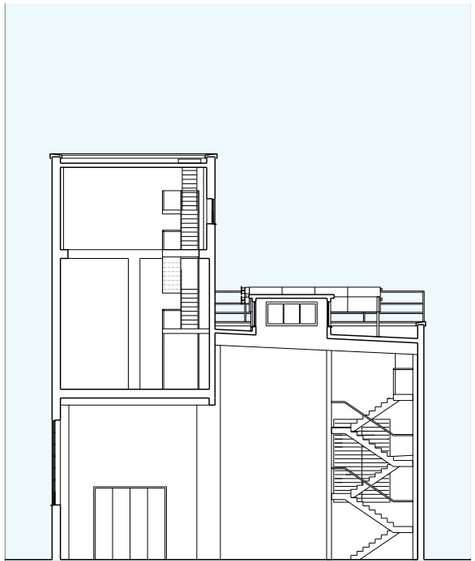
Proposed elevations

Elevations

The external elevations to this building are treated in a similar fashion to those of the production hall. The masonry areas are retained and their thermal efficiency upgraded by the application of insulation to the interior. The internal surface is then finished with plasterboard and the finish painted. The external render surface is again repaired and repainted. The windows are similar in size to those of the production hall and their replacements will be similar to that building's. Only minor alterations are proposed: the ground level west facing window is enlarged by lowering the sill to regain the proportions of the de Soissons' design. On the south side at ground level we propose to open up a new entrance for the heritage centre adjacent to the new public square; a metal and glass canopy provides shelter above.

The Grain House from the west

5.10 **The Boiler House**



Section

Plans

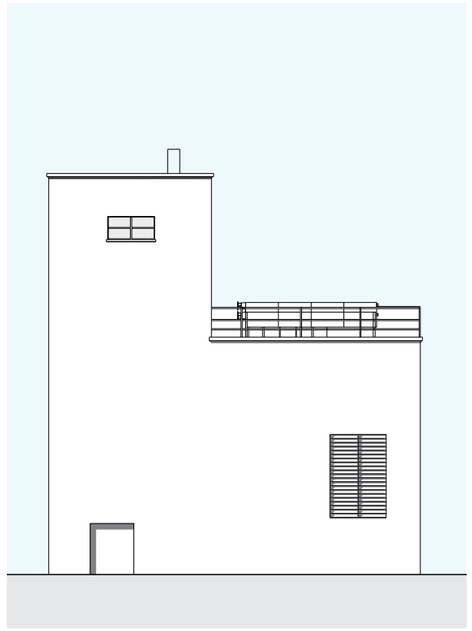
The boiler house, the southernmost of the original factory buildings, is proposed to house the energy centre. Its form is again square on plan although slightly larger than the grain house. It too has a single concrete structural column but placed slightly off centre.

Within, the building is a single lofty open plan space. Silos, originally housing the coal, occupy the west side at a higher level and an external roof terrace is introduced where the building form steps back. Two raised roof lights occupy the flat roof terrace.

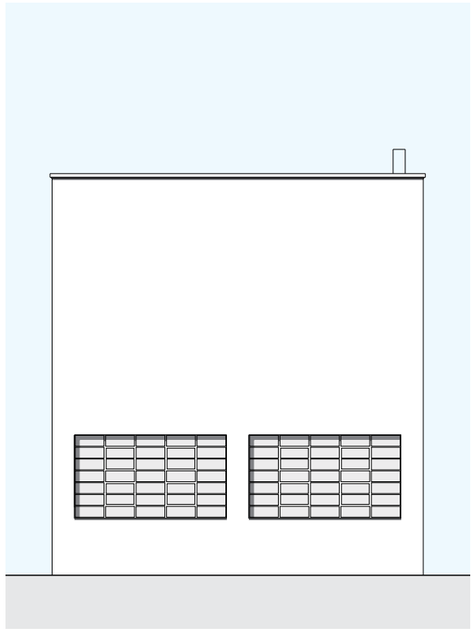
The Redevelopment houses the CHP plant and boilers on the ground level of this building. The flues are routed to the existing chimney outside. A new metal stair is proposed which gains access to the roof terrace above. From here a door leads to a chamber next to the former coal silos and another stair leads up to the upper roof. Heat rejection units are accommodated on the lower roof and a small flue emerges through the upper roof.

Elevations

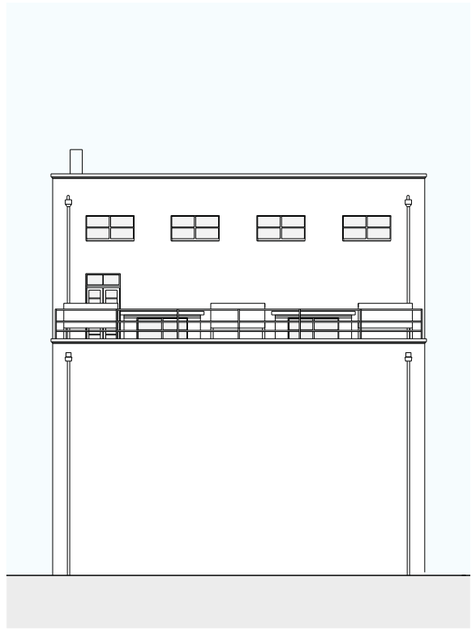
Externally the masonry will be repaired and re-rendered and painted white to match the other factory buildings. The windows are to be replaced by new single glazed windows with metal 'W20' type glazing bars. Two large symmetrical windows on the west elevation are of similar proportions to those of the production hall and grain house and the proposal is for them to have similar grid proportions. Ground level access to the building is gained by means of a newly opened doorway in the north side. Two external louvres are proposed to the north and south elevations to ventilate the space; their locations being originally occupied by windows in the de Soissons design. The small sliding door to the south elevation is original and will be retained and renovated. New railings are to be installed around the lower roof and the upper roof railings will be replaced if unsound.



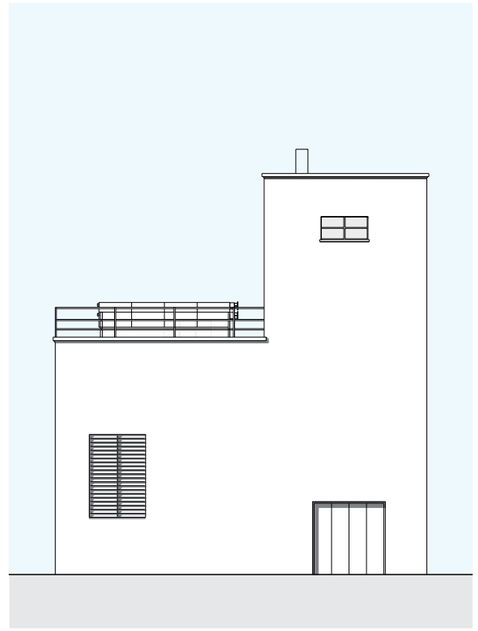
South elevation



West elevation

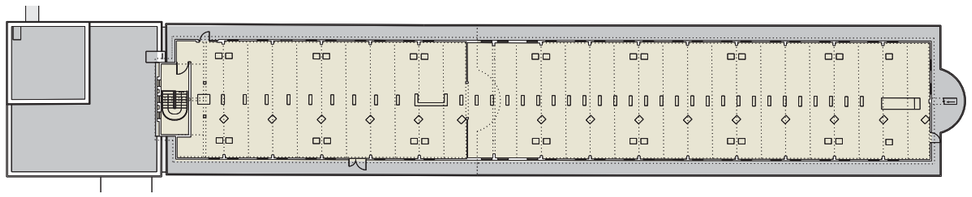


East elevation



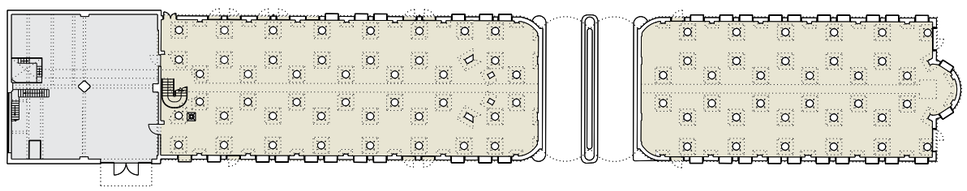
North elevation

5.11 **The Silos**

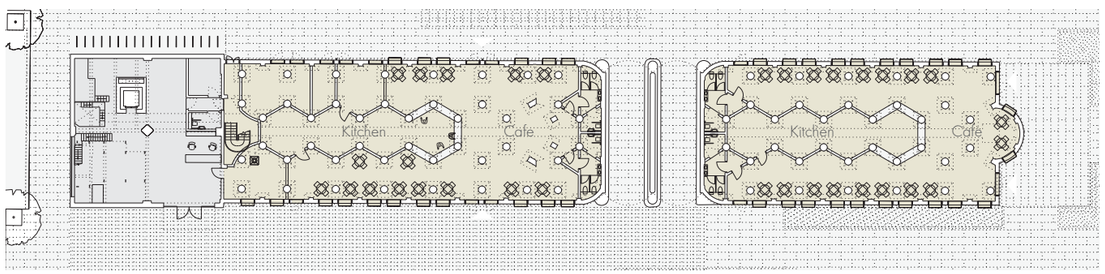


Top floor plan Silos

First floor plan Silos



Ground floor plan Silos



Fit out ground floor plan Silos

Plans

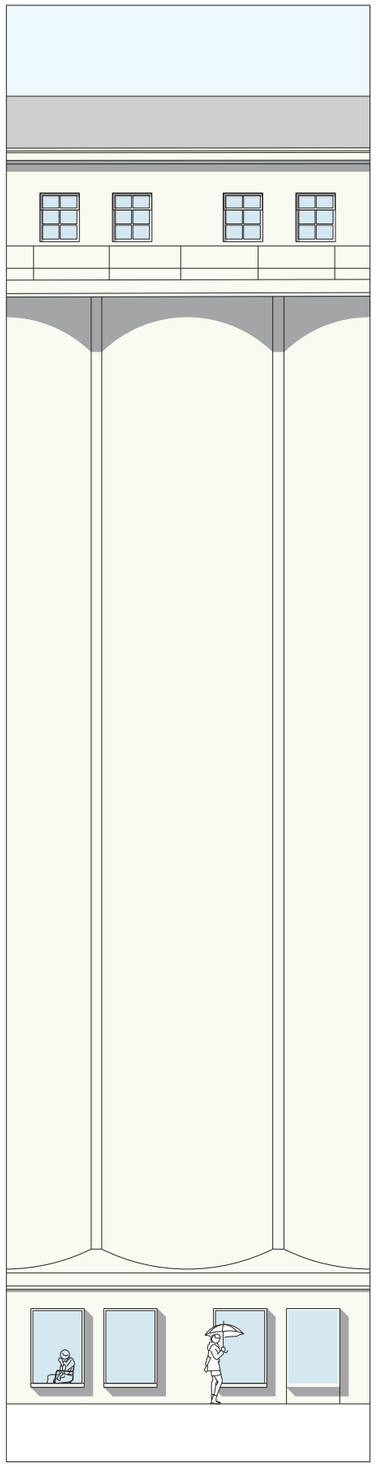
The silos branch off in a westerly direction from the north-south sequence of factory buildings. Directly attached to the east side of the grain house and extending towards Broadwater Road, they are composed of three distinct parts in section: a rectilinear single storey base, the vertical silo tubes above, and another rectilinear single storey building on top. There are forty five silos each an identical concrete tube approximately five metres in diameter. They are honeycombed together into three rows of fifteen each running in an east-west direction. A gap occurs part way along separating the 1920's silos from the later ones. The geometry of the silos determines the arrangement of the massive structural columns within the ground floor building there being six columns per silo, each forming a sequence of interlocking hexagonal groups. The linear top floor space originally housed the conveyor belt used to feed the silos with grain. It has a series of concrete plinths for the support of the conveyor machinery and a sequence of holes in the floor where the grain passed into the silos. In section the space has an arched roof with steel tie rods.
A continuous walkway encloses the building on three sides. At the far western end a rectangular stair tower rises above the arched roof.
To introduce activity to the surrounding public realm – the square and the street to the north – we propose that cafes occupy the ground floor spaces. The silos base is divided into two roughly equal parts by the existing passageway and each side is proposed for café use. New entrances are proposed to the cafes: the western part has two entrances; one to the south from the main public square and one to the north from the adjacent path. The eastern part opens out to the east towards the smaller square adjacent to Broadwater Road.

Our proposals for the silos do not propose any reuse for the upper parts of the building. The silo structures are continuous concrete tubes and any conversion would involve considerable work to the external fabric which would be inappropriate to the listed status of this building. We have considered reuse of the top floor space and have concluded that the infrastructure works, the lifts and access stairs, would be prohibitively expensive. The current proposal is therefore to maintain the top floor and the silos as they stand, making the external envelope fully weatherproof, renovating and painting the rendered surfaces, the windows and repairing the roof.

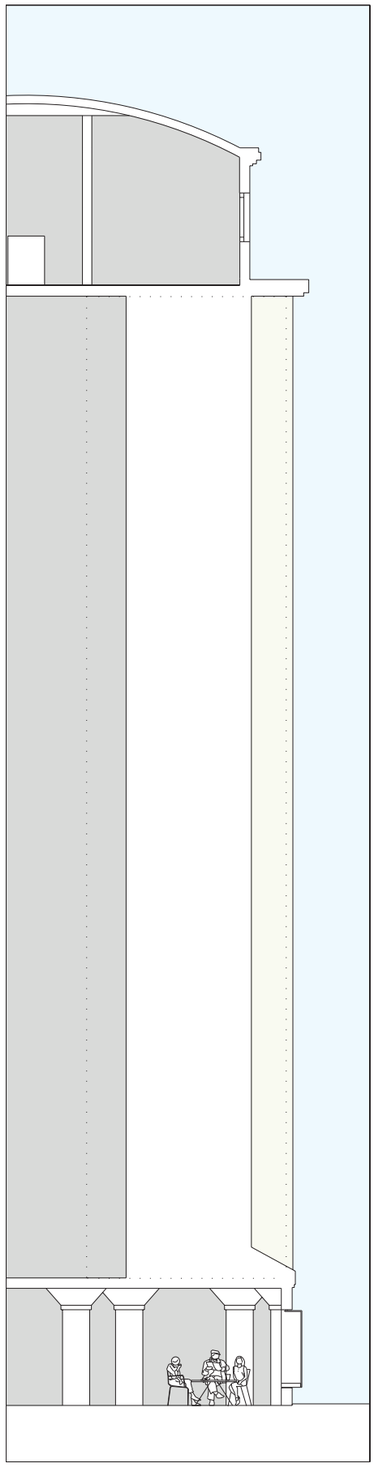
Indicative fit out

The interior of the silos ground floor is proposed to remain as a shell in the present application with the structural columns intact. Café interior plans have been developed and are presented here as an indicative scheme to test the idea. In the plans the servery areas are organized as islands within the centre of the space freeing up most of the external walls with their bay windows for use by the customers. Toilet and washroom facilities are located towards the blank walls of the passageway. Other plant and refuse rooms are placed discretely to the northwest end of the plan.

View of the silo structures looking up



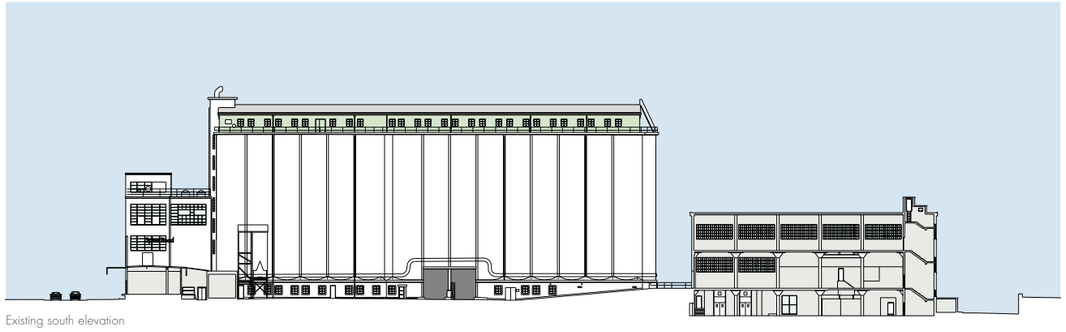
Elevation



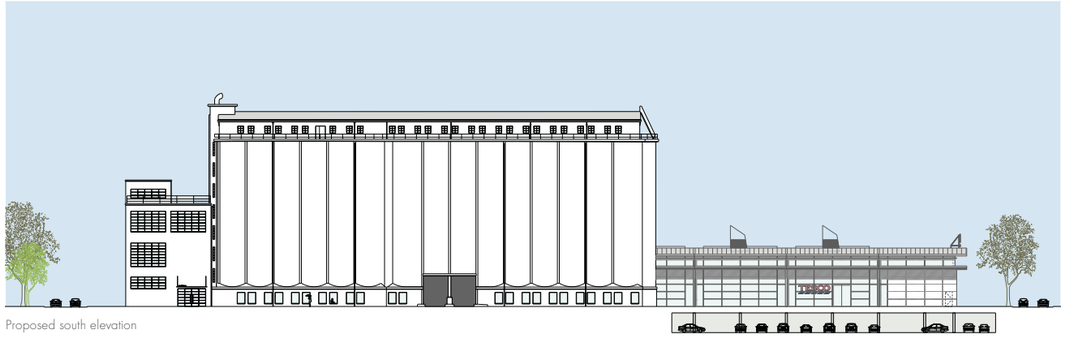
Section

Elevations

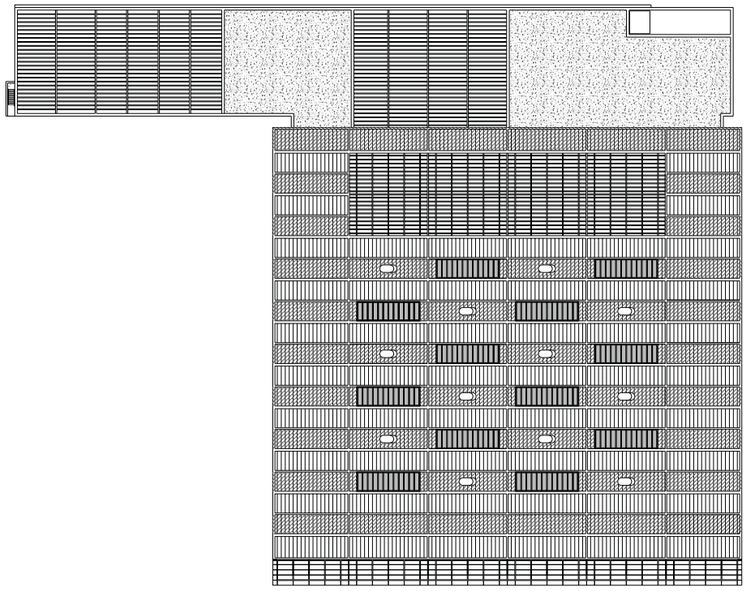
Along the northern and southern facades new windows are proposed to the ground floor undercroft space which project forward of the masonry surface forming window seats for the cafes. The rhythm of windows is defined by the rhythm of the silo structure above, each silo corresponding with two windows. The masonry parts of the ground floor will be upgraded by the addition of an insulation layer to the internal surface. A plasterboard lining is applied and painted. Externally all the masonry will be repaired and painted white to match the other factory buildings. A metal rail is proposed to the upper cornice allowing a suspended cradle to be attached for the future maintenance of the silos.



Existing south elevation



Proposed south elevation



Roof plan

5.12 **The Store**

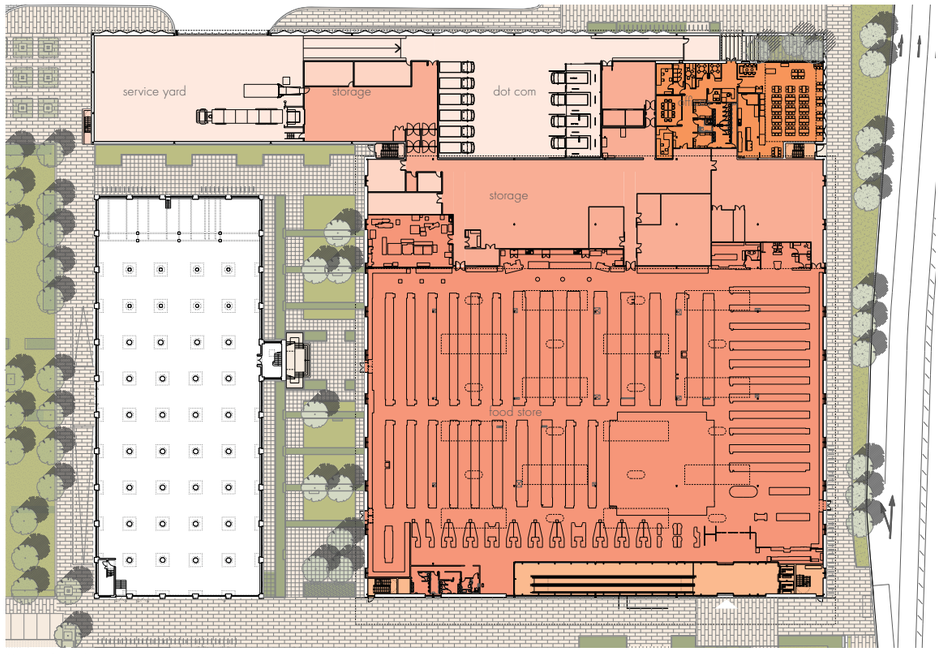
The supermarket occupies the site of the single storey addition to the original production hall and the later 1950's offices. The layout of the building is similar in some respects to that of the existing: the administrational entrance is located in the prominent north-east corner, deliveries and loading are accessed from the Bridge Road entrance to the Site, and the building itself is also, like the production hall, a largely single storey steel framed shed. There are however important differences: the new building has its ground level at the level of the external pavements so that easy public access is achieved, and more important for the functioning of the supermarket, it sits above a basement which houses the customers car park.

Plans

The plans of the supermarket comprise of two differing forms linked by a continuous enclosing brick wall: a long low block to the north and a taller square shaped block to the south.

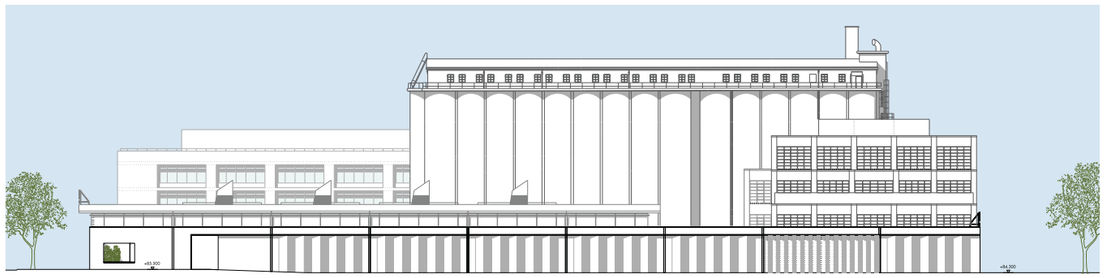
The taller block contains the public shopping and main storage areas and is organised with its public entrance on the south facade and escalator and lift access from the basement parking. The space within is a simple volume open to the roof above and internally ordered by steel columns reflecting the 16.1m x 15m grid of the car park below. The roof follows the structural logic of the columns and is characterised by its folded form which references the section of the original factory saw tooth roof. Twelve roof lights and twelve ventilation cowlings punctuate the skyline above allowing natural light and fresh air to the store interior.

The low building to the north contains the service areas for the working of the store and the administration. At its west end an enclosed service yard is accessed by vehicles from the Bridge Road entrance. Adjacent the unloading and holding areas receive the goods entering the building. A ramp leads past to the dot com loading bays and their associated holding stores. At the other end of the block, and accessed like the old factory administration from the north-east corner, the offices are arranged with their staff room adjacent to Broadwater Road. Visitors and staff will enjoy the intimacy of a small garden contained by the enclosing brick wall on the corner.

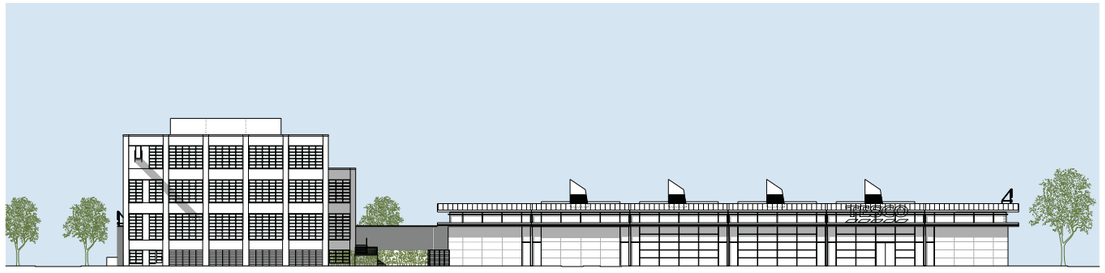


Ground floor plan

View from Broadwater Road



North Elevation



South Elevation

East Elevation

Elevations

The elevations are designed to satisfy the practical needs of the building interior, as well as the technical requirements of modifying the external environment whilst complementing the neighbouring listed buildings. The particular constraints of the supermarket impose special problems when it comes to articulating the facades: these are primarily the need to have largely blank windowless flank walls allowing maximum flexibility with shelving locations, and windowless, blank walls shielding the service areas from view. These issues are compounded by the location of these usually featureless walls adjacent to the principal public highways: Broadwater Road and Bridge Road. Our approach to this has been twofold: firstly to introduce as much glazing as possible above the line of the shelving units allowing views into the store, and secondly to break down the scale by articulating the walls rhythmically and sculpturally. At the same time we have sought to unify the whole building with a single material: brick.

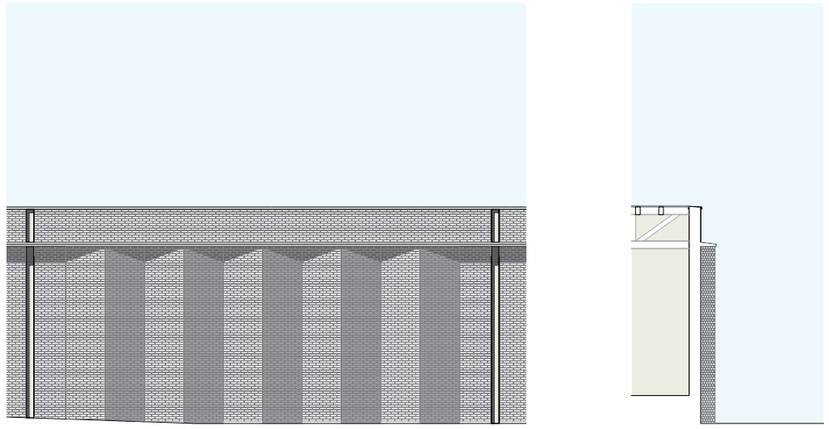
To the east and west the store facades are articulated by the rhythm of the structural grid and by the shape of the folded roof as it meets the walls. These facades, facing Broadwater Road to the east and the garden to the west, are framed by steel columns forming bays some eight metres wide; within each bay a brick wall is placed with glazing to the sides and at high level above.

The wall is further articulated into panels by recessing some of the brick courses. Above, the folded roof cantilevers over the wall shading it from the sun.

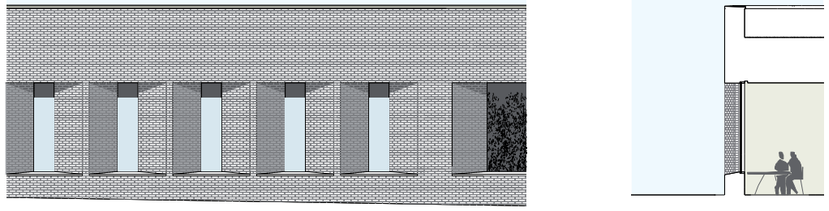
The main entrance to the store is located off the public square to the south. Here the elevation is characterised by its increased use of glass and by the fact that the roof junction is side on to the folds. Like the other facades it is articulated into bays by the structural rhythm of the columns. Within each bay the glazing is further subdivided into a regular grid by the pattern of mullions and transoms. A metal framed glass canopy cantilevers some five metres and covers the whole width of the facade.

The facades to the service block, although enclosing largely functional accommodation, are characterised by a sculptural play of folding brickwork echoing the form of the store roof; to the north the brick walls fold outwards creating an impermeable screen, whilst to the east the brick wall folds inwards and opens to reveal tall slot windows to the staff room. At the northeast corner two large openings allow the public glimpses into the internal world of the garden contained by the wall. The south and west walls continue at the same height but are without sculptural articulation reflecting their lesser significance.

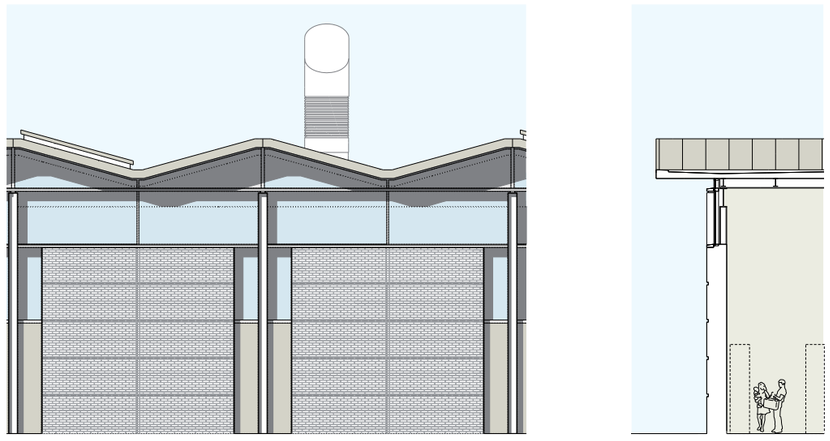
View from the north east



North bay study



East office bay study



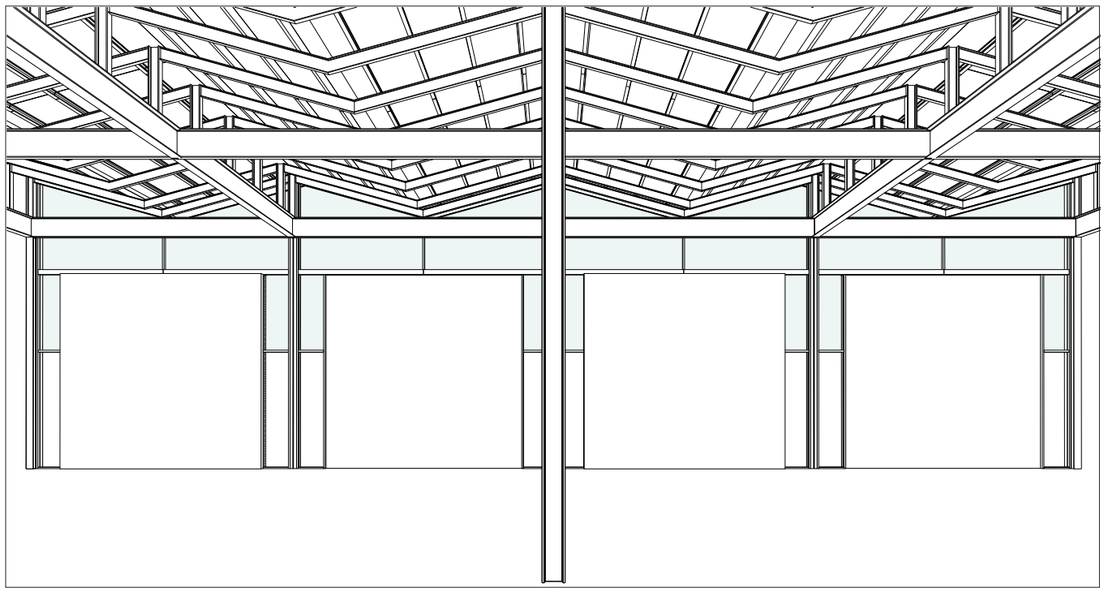
East store bay study

Bay studies

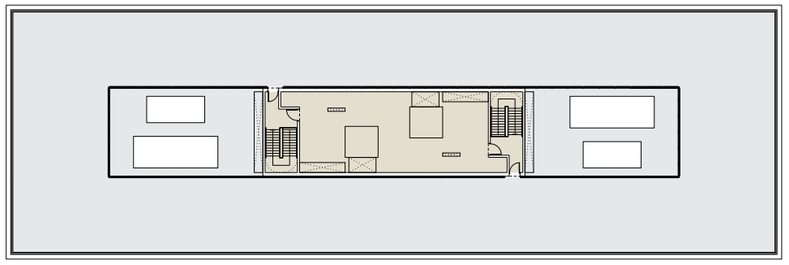
The new store occupies a small part of what is currently the Shredded Wheat factory complex and our approach has been to choose materials which resonate with those of both the existing retained buildings but also the demolished ones too.

The predominant material of the existing factory buildings and especially the earliest ones is white painted render. The later buildings used a varying palette of pale blue and white glazed bricks, and in small quantities pale stone. Windows were typically metal framed and in the later buildings of horizontal proportions.

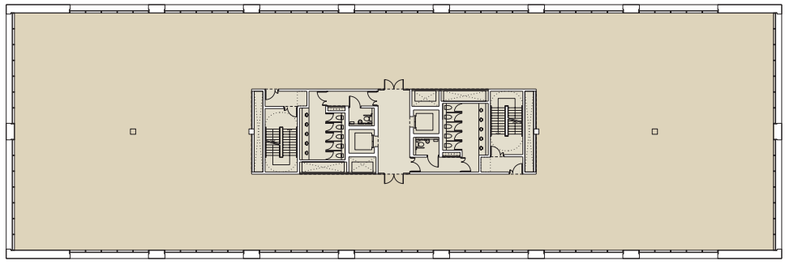
Our proposal is to use a white brick for the masonry elements of the store. The intention is that the new building will evoke the memory of the old factory complex whilst at the same time distinguishing itself by its texture and surface. Metal is chosen for the window frames and also for the framing elements of the facades giving the brickwork a more purposeful and structured feel. Metal is also proposed for the roof emphasising perhaps the more utilitarian aspects of this element.



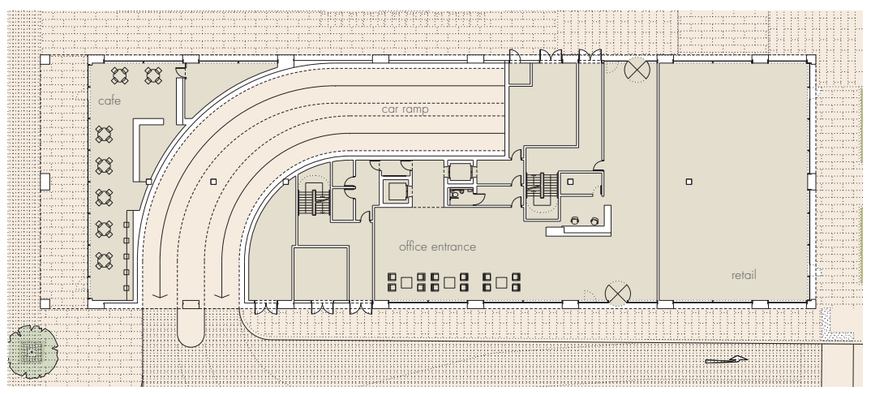
Store interior



Fourth floor plan



Typical floor plan



Ground floor plan

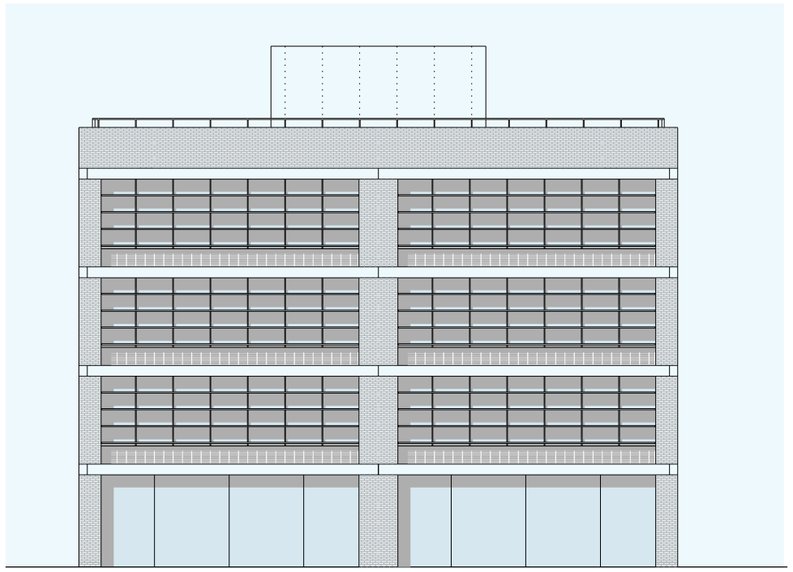
5.13 **The Office Building (Building F)**

Occupying the site of the 1950's warehouse southeast of the silos the proposed office building has a prominent location both to Broadwater Road to the east and to the new public square to the west. The office footprint is similar to the building it replaces; the new building however is located further south by four metres opening up the gap with the silos to some six metres. The proposed building is also less bulky to the north and, where the warehouse previously wrapped around the silos, the new building opens up views from Broadwater Road to the end of that building.

Plans

A simple rectangular form on plan, the building contains four floors of accommodation; three office floor plates above a ground floor. Each floor provides some 1400 square metres net of office space. Office entrances and ancillary spaces are located at ground level as are the cafe and retail space one at each end. Towards the west end a ramp provides vehicular access to the basement parking. Within the building a compact central core contains two lifts, two stairs and toilet facilities for each floor. At fourth floor level an enclosed plant room is located with two further screened and open plant areas all set well back from the parapet.

The office waiting area is located at ground level to the south of the core and, connected to a passage running north-south, allows entrances from both Hyde Way and the public square to the north. To the west the cafe is recessed from the face of the building forming an open public loggia attracting people across the main square to the smaller square and store entrance beyond.

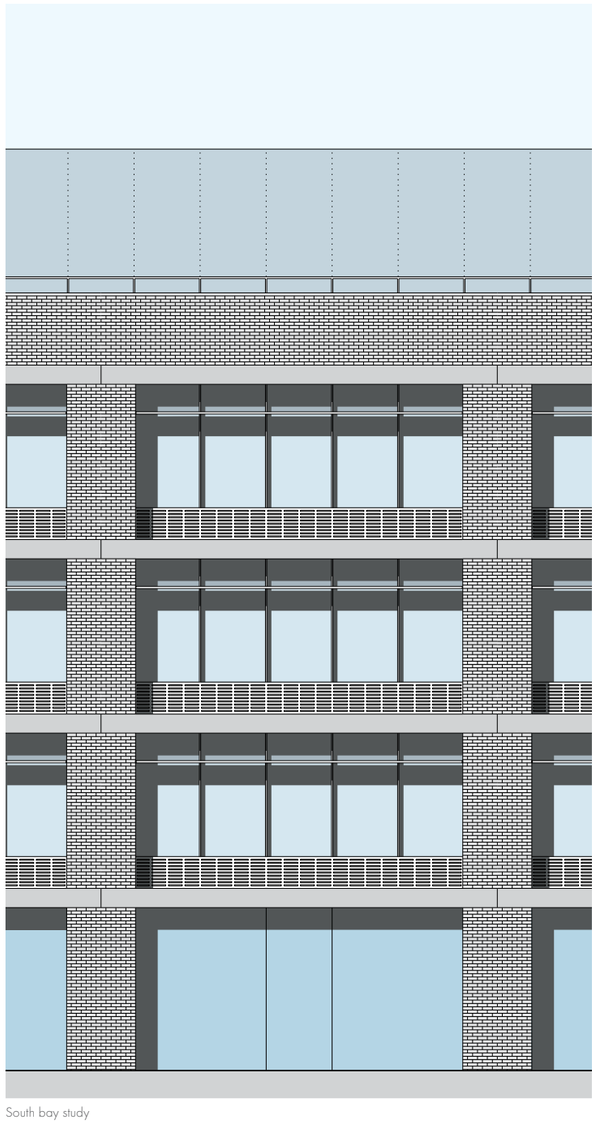


East elevation

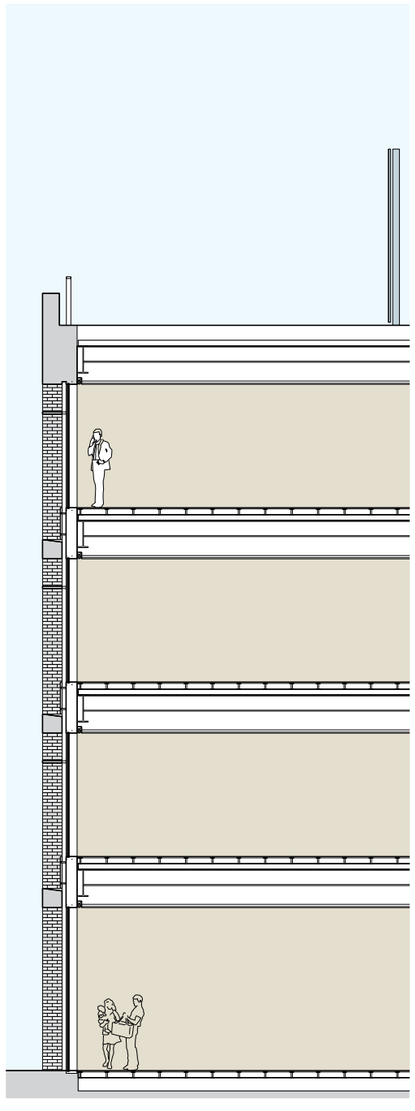
Elevations

The north and south elevations are subdivided into a series of seven regular nine metre bays. Between each bay rectangular brick piers articulate the structural rhythm of the building and are linked horizontally by slender reconstituted stone beams. A taller beam caps the top of the piers and forms a parapet to the roof. Deeply set within each of these masonry bays the office windows are further subdivided into 1.5 metre units. Below the windows patterned metal panelling masks the floor zone and at high level horizontal louvres provide solar control. At ground floor level the retail units have simple glazed windows aligned with the office windows above. The east and west facades continue the design of the north and south but the piers are more widely spaced and the louvre density increased providing more shade from the sun.

South elevation



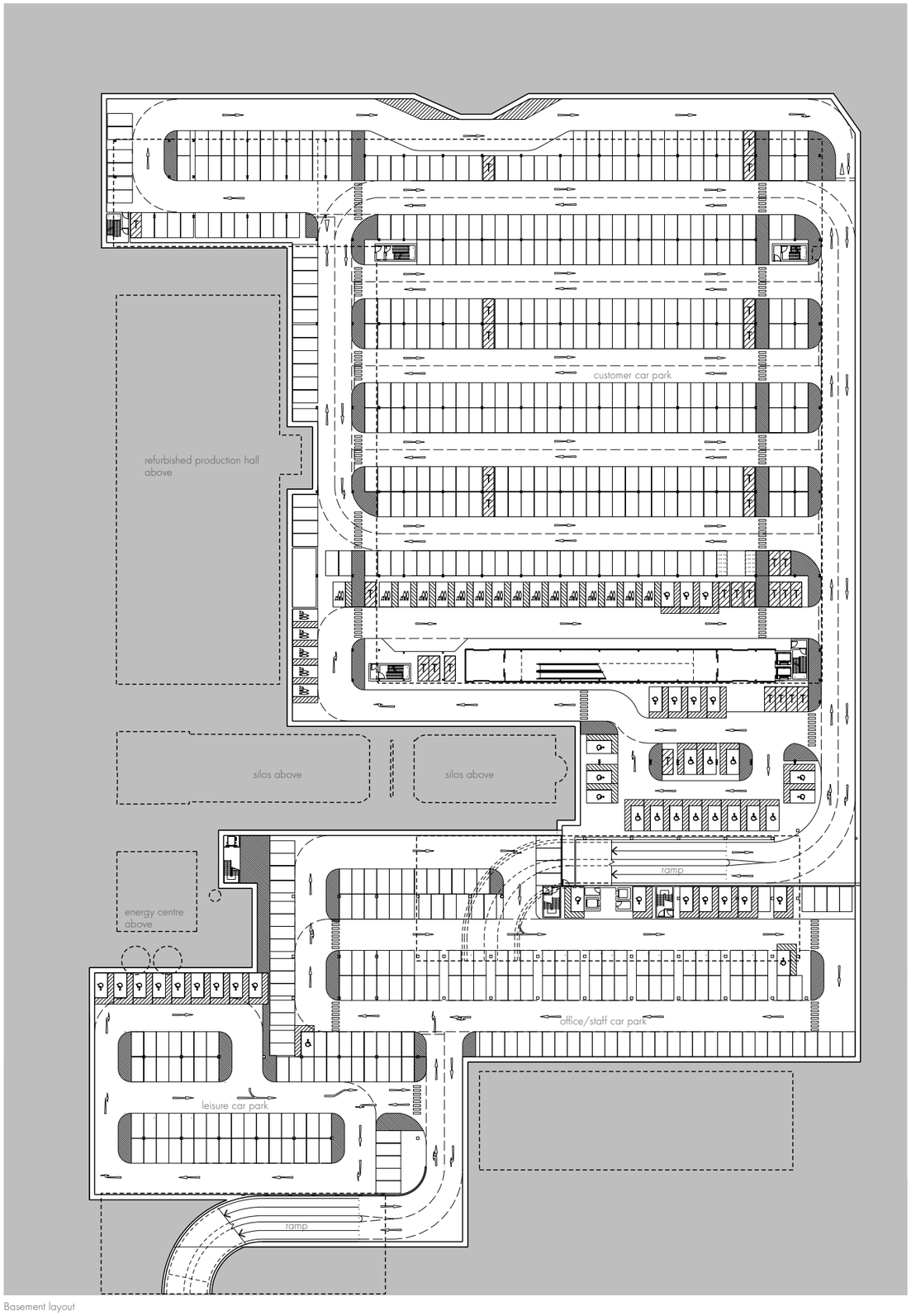
South bay study



Bay Studies

Like the store building the office occupies part of the site of the former Shredded Wheat factory complex and we have applied a similar logic to our choice of materials. Again white bricks are specified for their colour reference to the original buildings and the differentiation of the new building from the remaining factory buildings. A pale reconstituted stone is specified for the horizontal components which unify the facade and create the impression of a thick outer masonry shell enclosing the more delicate glass and metal surfaces within. The windows have metal frames and the spandrel panelling below is a patterned metal as is the plant screen at roof level.

Miller Hare view of building J,F and D on Broadwater Road looking north



Basement layout

5.14 **The Basement**

The proposed Redevelopment provides for parking at basement level for the store customers and staff, and the users of office buildings C and F.

The parking splits into two separate parts each with their own access: the northern section lies beneath the store building and the small square to the south as well as the garden to the west; the southern section lies beneath office building F, the main public square and Hyde Way. The northern car park contains a total of 427 spaces, 21 of which are designated for parent and child, 23 for disabled and 383 are standard. In addition there are 12 motorbike spaces. The southern car park contains 225 spaces, of which 18 are disabled.

Access to the northern car park is via a two way ramp leading off Hyde Way under office building F. This leads to a perimeter route giving access to the parking aisles typically arranged east-west. On the southern side a glazed atrium contains the escalators and lifts leading the customer directly into the store above. Disabled and parent and child spaces are grouped in close proximity to this.

Access to the southern car park is from a two way ramp located within the residential building K at the south side of the main square. The car park is then split into two sections: a southern area which accommodates 73 spaces for the leisure building, and a northern part with 120 spaces for the offices and 32 spaces for the store staff. The northern section has lifts and staircases which lead directly into the reception of the office building F above. An additional lift and stair are located to the west and lead directly to the main square and Internal Spine Road above.