6.3 SCALE, HEIGHT AND MASSING

6.3.1 SCALE OF EXISTING AND PROPOSED

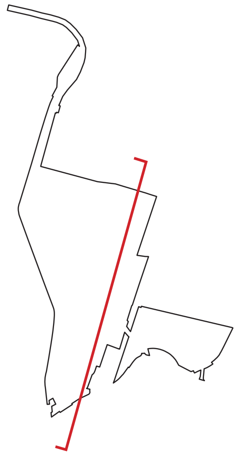
The existing EfW facility is the main structure currently on the Edmonton EcoPark. Its turbine hall and tipping hall are approximately 37m tall, screening the lower facilities to the north of the Edmonton EcoPark. These include an IVC facility, BWRF, FPP and IBA Recycling Facility. The existing landscaped areas to the east and south of the existing EfW facility provide a buffer between the existing operational facilities and the surrounding area.

The existing stack is located at the centre of the Edmonton EcoPark and, at 100m, is the tallest element and can be seen from relatively long distances. Along with the 'Coca-Cola' building and residential blocks on Cameron Close, the stack is one of the dominant features of the local skyline.

The visual impact of the Project was a fundamental consideration from the outset of the design process, particularly with regard to mitigating effects upon the LVRP, residential receptors and exposed areas to the south of the Application Site.

Locating the proposed ERF to the north of the Edmonton EcoPark would place the largest structure away from the A406 North Circular Road and future Meridian Water Masterplan proposals. The smaller RRF, located to the south, mediates the change in scale across the Edmonton EcoPark.

The east west orientation of the proposed ERF places the highest elements (stack and boiler and process hall) towards the west, facing the Eley Industrial Estate. To the east, the height of the proposed ERF reduces towards the LVRP.



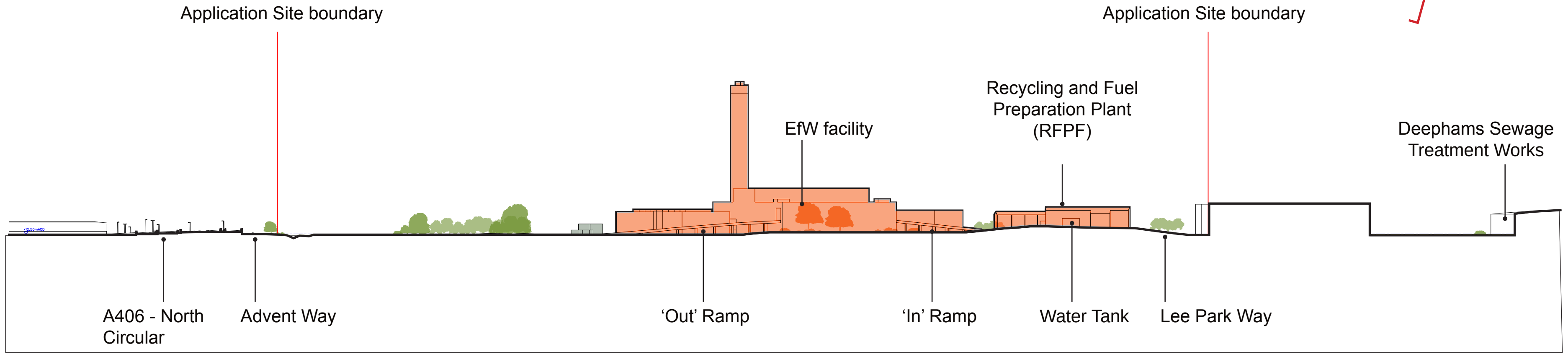


Figure 6.28: Illustrative long section of existing Edmonton EcoPark

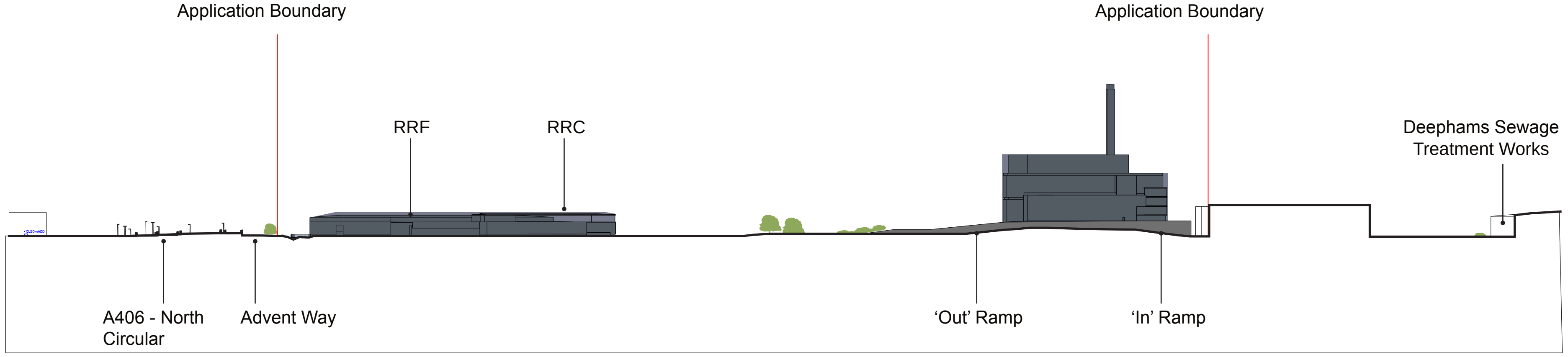


Figure 6.29: Illustrative long section of proposed Edmonton EcoPark

6.3 SCALE, HEIGHT AND MASSING

COMPARISON OF EXISTING AND PROPOSED

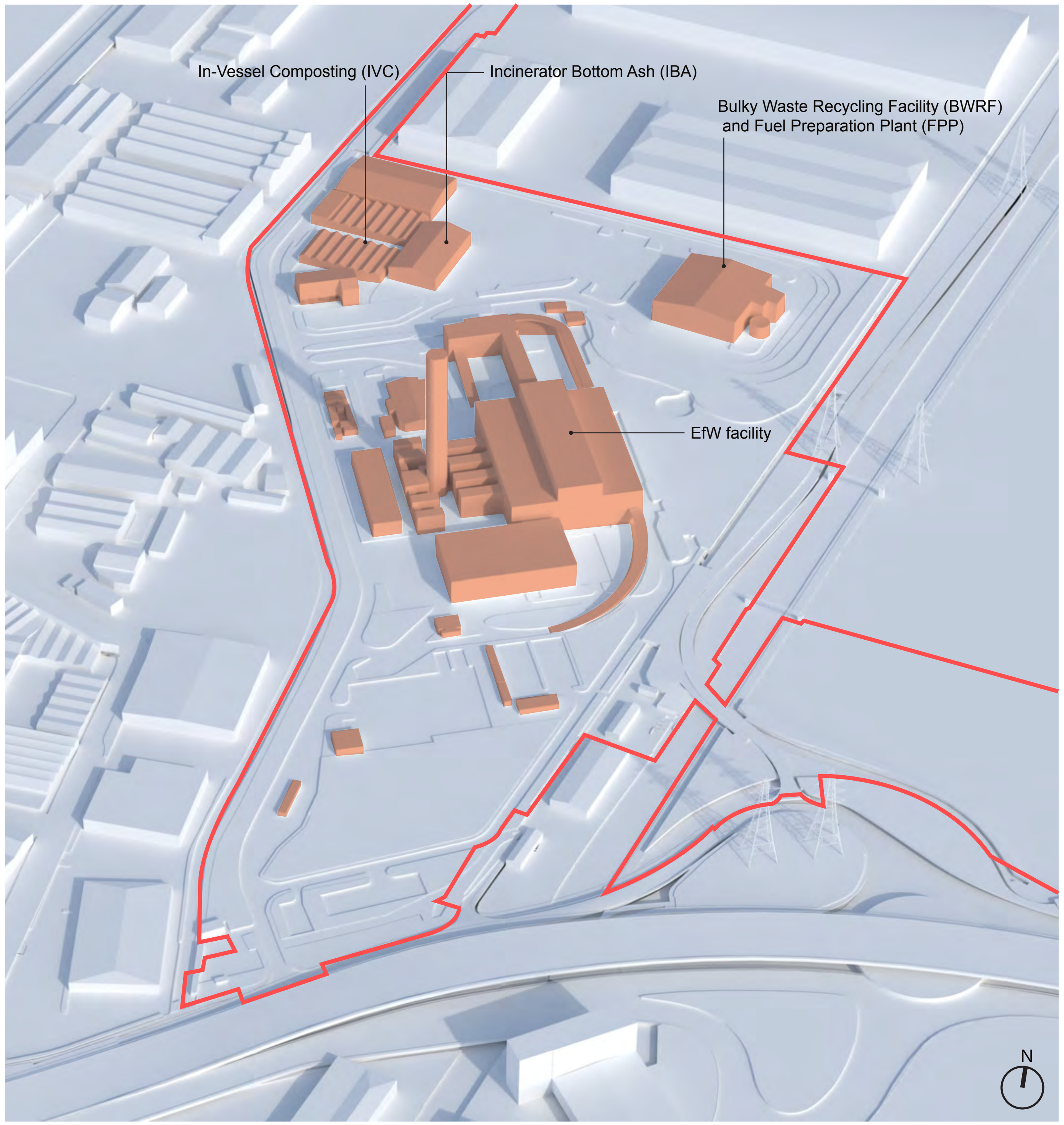


Figure 6.30: Illustrative birds-eye view of existing Edmonton EcoPark massing

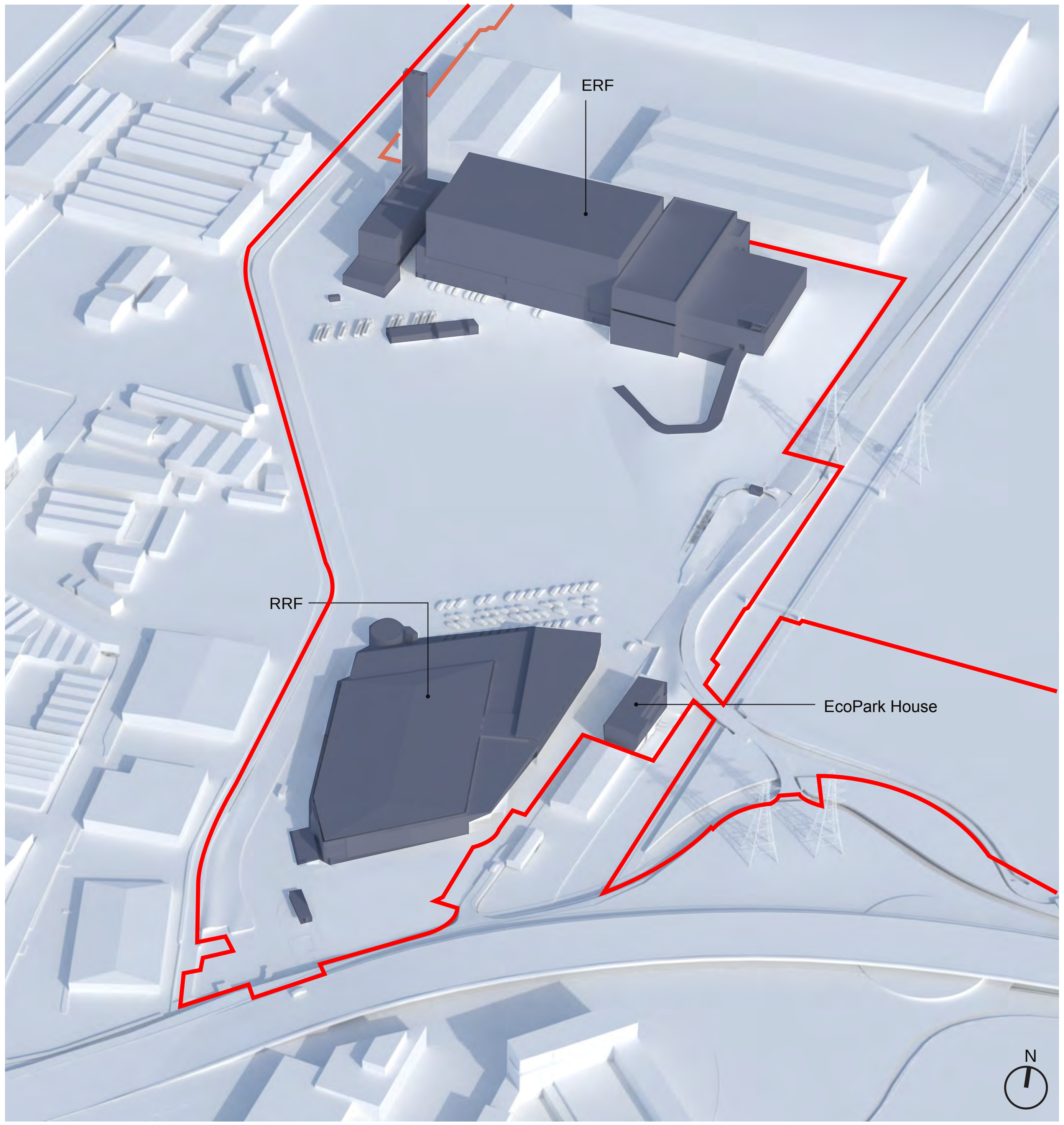


Figure 6.31: Illustrative birds-eye view of proposed Edmonton EcoPark massing

6.3.2 ENERGY RECOVERY FACILITY

The footprint and height of the proposed ERF has been determined by the size requirements for the operational activities and plant technology internal to the building (see Figure 6.33).

The scale of the plant required means that the proposed ERF building would be taller than the existing EfW facility, by up to 20m, but the new stack would be about the same height as the existing one.

As illustrated in Figure 6.32, the scale of the proposed ERF would be comparable to other notable buildings in London, namely Bankside (Tate Modern Art Gallery) or Battersea Power Station.

The new facility would be visible from a range of viewpoints around the Application Site. The form and massing proposals seek to reduce the visual effect of the ERF massing, reflect its location and address the different surrounding uses and receptors appropriately.

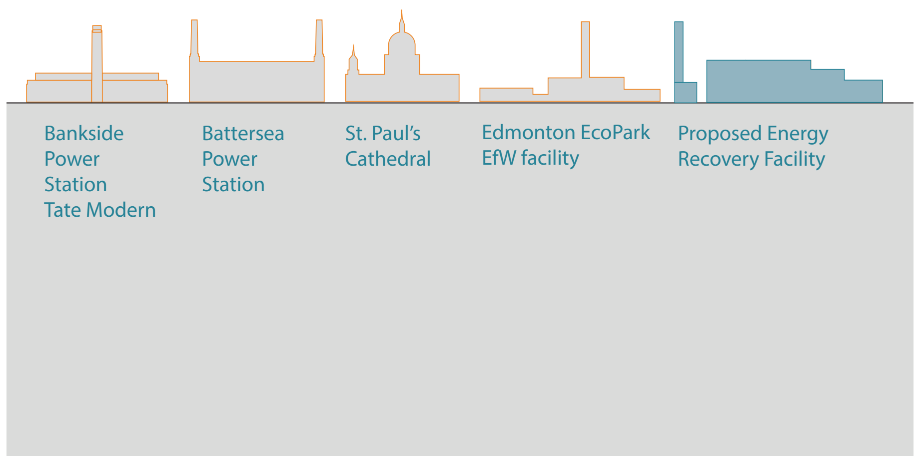


Figure 6.32: Comparison of ERF scale with some London landmarks

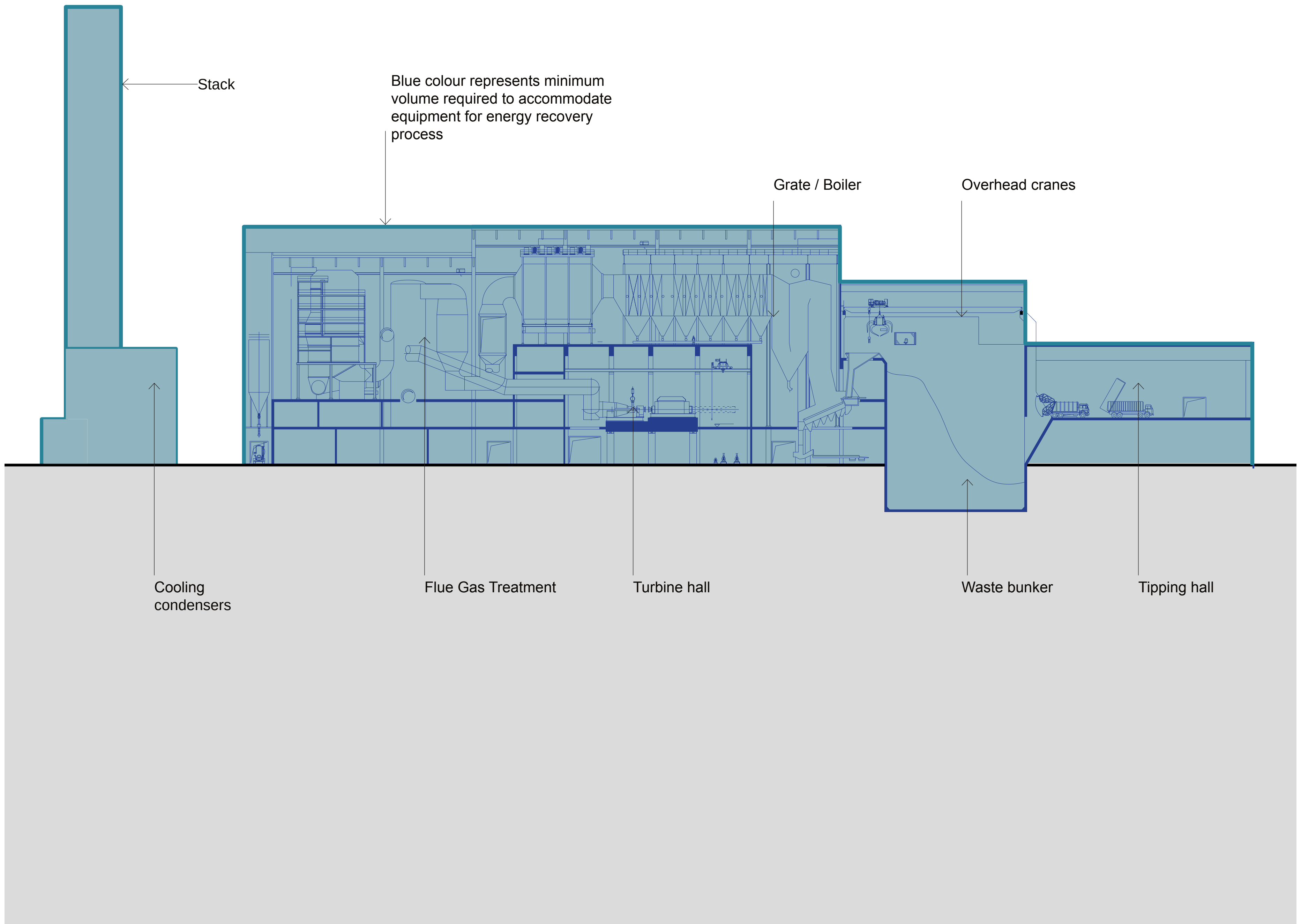


Figure 6.33: The technical components inform the buildings minimum outline

6.3 SCALE, HEIGHT AND MASSING

Massing

The massing (size) and form (shape) of the proposed ERF building influences its visual impact. Three different building forms and their consequential visual impact were considered:

a. single enclosure: a building form that consolidates all of its components in a single entity;

b. expressive volume: a building form that gives a distinguished form to the plant components; and

c. minimum outline: a building form that reduces the volume and expresses the profile of the operational activities within.

Massing studies done during design development demonstrate that both the single enclosure and expressive shape building forms would produce a dominant, monolithic structure which does not successfully integrate with the Application Site's context. This is a result of the building form being inflated beyond the minimum plant requirements to deliver a particular shape, rather than breaking down the perceived massing of the building to express its different components. These forms would also create larger buildings with more expansive and prominent roof areas which would increase the visual extent of the built form.

By comparison the minimum outline massing approach would:

a. reduce the visual impact of the building, as the stepped roof profile ensures that the building would be as low as possible;

b. combines the reduced scale of the stepped roof profile with an orientation that locates the lowest parts of the building facing the LVRP;

c. have a less dominant roof profile, especially from views from the LVRP to north-east of the Application Site; and

d. provide opportunities to create a more articulated building form, using materials, shadows and landscape features, which would help to reduce the perceived building scale.

The results demonstrate that the minimum outline massing and form illustrated in Figure 6.34 would reduce the visual impact on the surrounding context.

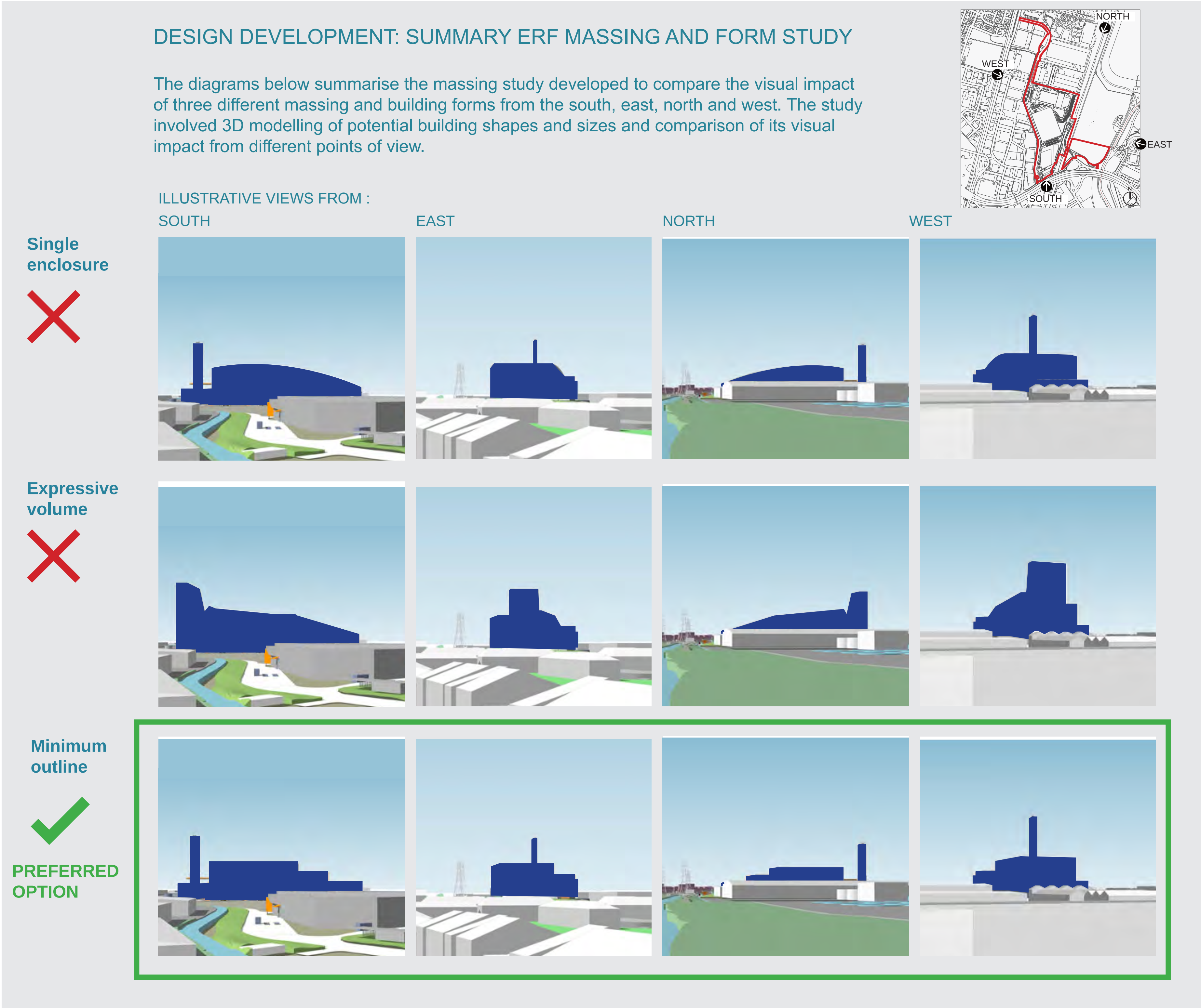


Figure 6.34: Massing and form study - illustrative views of the ERF

Utilising the minimum outline approach a maximum building envelope has been developed to provide flexibility in the development of the detail design. The ERF building envelope would be up to 56.5m tall with a stepped roof profile, with the lowest part of the building situated facing the LVRP. Landscaping would be provided to the east of the ERF facing the LVRP to further reduce the visual impact of the building. Landscaping is discussed in more detail in Section 6.5.

The footprint of the ERF building envelope would be an elongated rectangle. There would be two ramps providing access to, and egress from, the ERF tipping hall that would be integrated in the raised landscape area to the east of the ERF. Further information on access and circulation is provided in Section 6.2.

A series of detached components associated with the ERF would be consolidated to the west of the ERF. These include the stack, cooling condensers, electric connection upgrade, fire water ranks,pre-treatment plant, fuelling area, fuel storage area and gas compound. The larger elements of these would be the stack (up to 105m tall) and cooling condensers.

Other, smaller, components would surround the ERF. These would include the vehicle wash, transport offices and staff facilities and toilets for drivers. The majority of these structures would be single storey.

Figure 6.35: Illustrative view of ERF from the south

Figure 6.36: Illustrative view of ERF from Lee Park Way

6.3 SCALE, HEIGHT AND MASSING

6.3.3 STACK

Technical studies have been undertaken to inform the height of the proposed ERF stack and ensure it complies with regulations associated air quality. At up to 105m high the stack would be the tallest element at the Edmonton EcoPark. Similar to the existing stack, the proposed stack would be visible from short and long distance views. However, the chosen location and form would mitigate some of the adverse impacts of this visibility compared to the existing situation.

Unlike the existing stack, which is almost twice the height of the EfW facility, the proposed stack would be less visually prominent since the proposed ERF would be taller than the existing EfW facility building. Aligning the ERF stack with the footprint of the ERF building would ensure that long distances views of the stack would be obscured by the ERF building, particularly views from the east, while from the west the two structures would visually merge. The stack would also be partially screened by the buildings surrounding the Edmonton EcoPark.

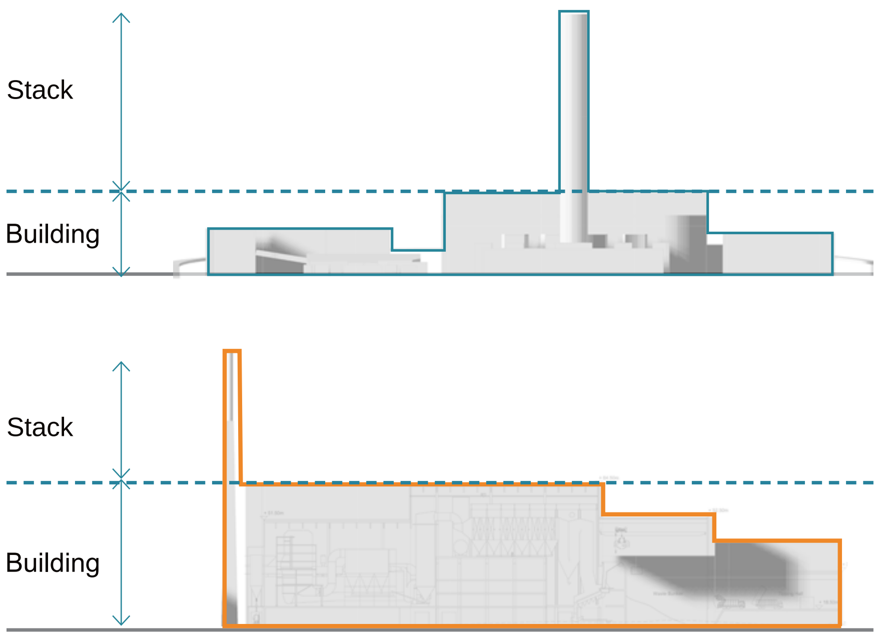


Figure 6.37: Ratio between stack and building height: EfW (up) and ERF

Location

Options for the stack location and form were informed by an understanding the existing visual context described in Section 4.10 of this DAS and consultation feedback. Two alternative stack locations were considered as shown in Figure 6.38, integrated or separated ('stand-alone') from the ERF building.

The stack has been separated from the ERF building, as this approach:

a. assists in reducing the perceived scale of both the ERF stack and ERF building (in terms of length and height); and

b. reduces the clutter of the arrangement by locating the stack together with ancillary ERF facilities to the west of the ERF such as cooling condensers, electricity connection upgrade and gas compound.

DESIGN DEVELOPMENT: STACK ARRANGEMENT STUDIES

The diagrams below summarise the study developed to compare the visual impact of either an integrated or 'stand-alone' stack. The study involved the 3D modelling of options and comparing its visual impact from different points of view.

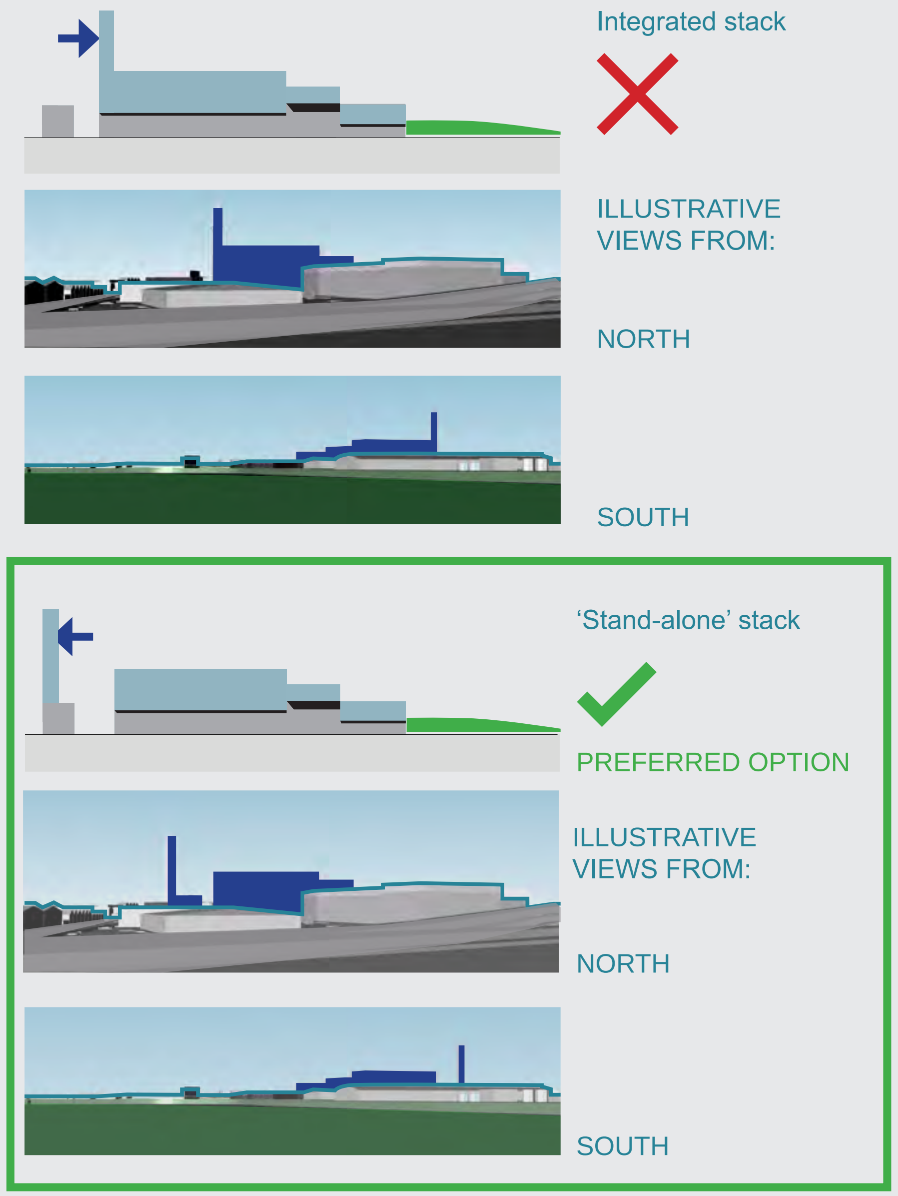


Figure 6.38: Stack massing arrangement studies

Form

The stack will contain the two flues required for the Project. This present different opportunities to develop the appearance of the stack and consequently, how the stack would be perceived and relate to the surrounding context. Three approaches were considered:

a. twin flues;
b. single circular shield; and
c. rectangular clad structure.

A massing study was developed to assess how the options of the stack would be perceived from the west and the south so that surrounding receptors could be considered:

a. twin flues would have the smallest possible presence on the skyline. However they would have a distinctive industrial character and offer few opportunities for architectural enhancement;
b. the single circular shield would have the same width/form from every angle and would not respond to the views from different surrounding uses. Its visual impact would be similar to the existing stack; and
c. a rectangular clad structure would address the surrounding uses, i.e. a rectangular form would allow different widths to be perceived from different angles, therefore altering the visual impact depending on the point from which the stack is observed.

The proposed approach is a rectangular clad structure around the flues, as this is the most sensitive approach to the surrounding context, with a reduced minimal visual impact from residential areas to the east and west. Orientating the wider parts of the structure to the north and south would help to reduce the industrial appearance of the stack and would allow for an enhanced architectural treatment and materials. This approach would also allow for maintenance access to be from within the clad structure.

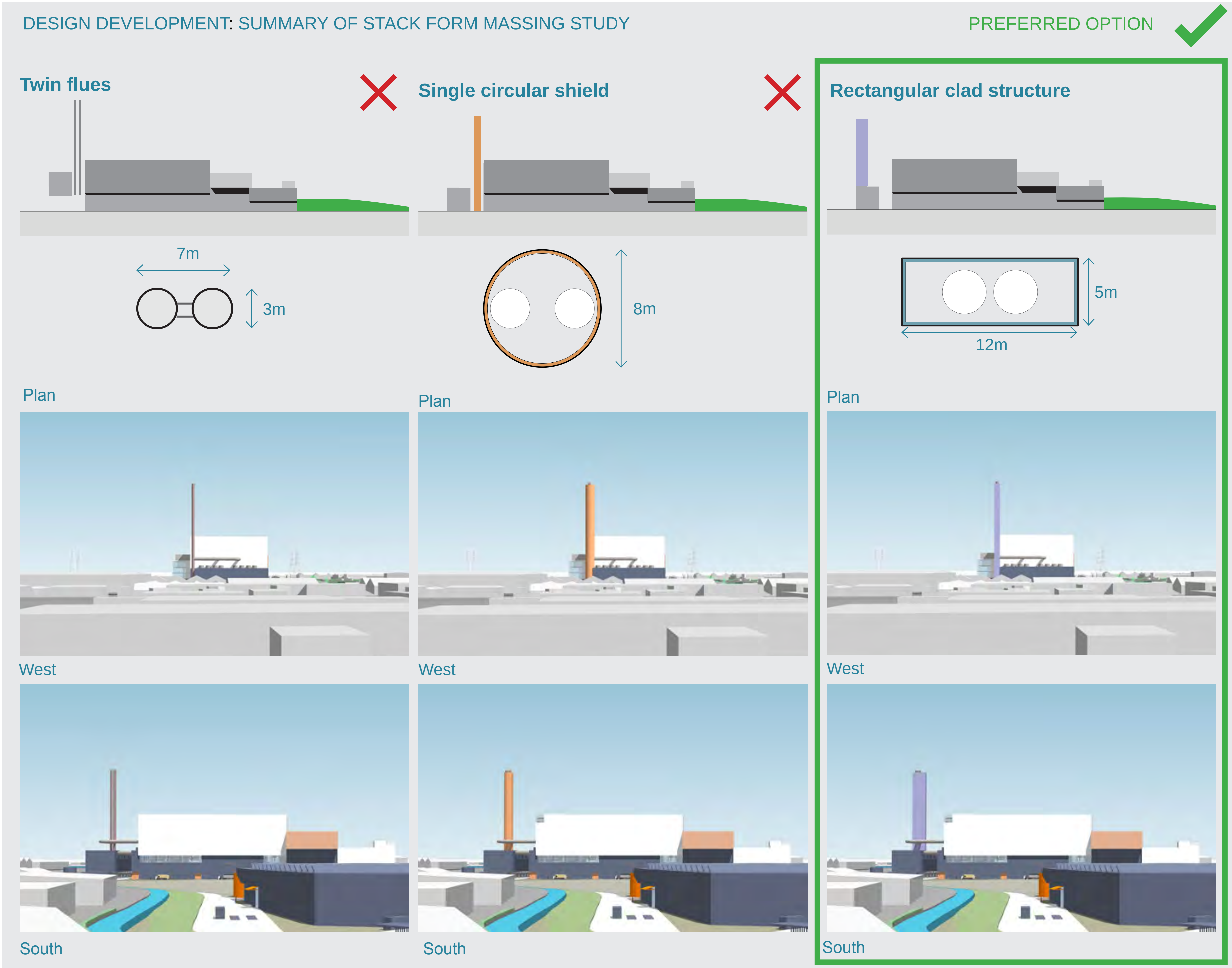


Figure 6.39: Summary of stack form massing study

6.3 SCALE, HEIGHT AND MASSING

6.3.4 RESOURCE RECOVERY FACILITY

The footprint of the RRF was determined by the requirements to circulate around and within the building and the need to provide sufficient space for operational activities. The height of the RRF was determined by the requirement for a minimum clearance height for the operational activities and the need for column free areas.

The design of the RRF allows the main functional components to be clearly identified; the RFPF to the west and the RRC, a publicly accessible area, to the east. The design provides for these two components to be connected by a covered tipping apron for the delivery and collection of waste and an office area with views over both facilities.

The design of the RRF reduces the visual impact by expressing the two distinct functions of the RRF separately, therefore reducing the perceived massing of the building. The design breaks up these two smaller volumes, providing for a more lightweight approach to the central circulation zone between the RFPF and the RRC. In this way, the design of the RRF responds to key views from the A406 North Circular Road and views from Lee Park Way on the approach to the Edmonton EcoPark.

The design of the RRC provides for a covered space, where operational activities would be screened from wind and rain while allowing for natural light and ventilation. The roof of the RRC would be appropriate to the use of the building and reflect the public function of the facility. A feature roof, with a lightweight expression, would assist in reducing the visual impact of the RRC when viewed from the LVRP.

Figure 6.40: RRF massing development against key view points

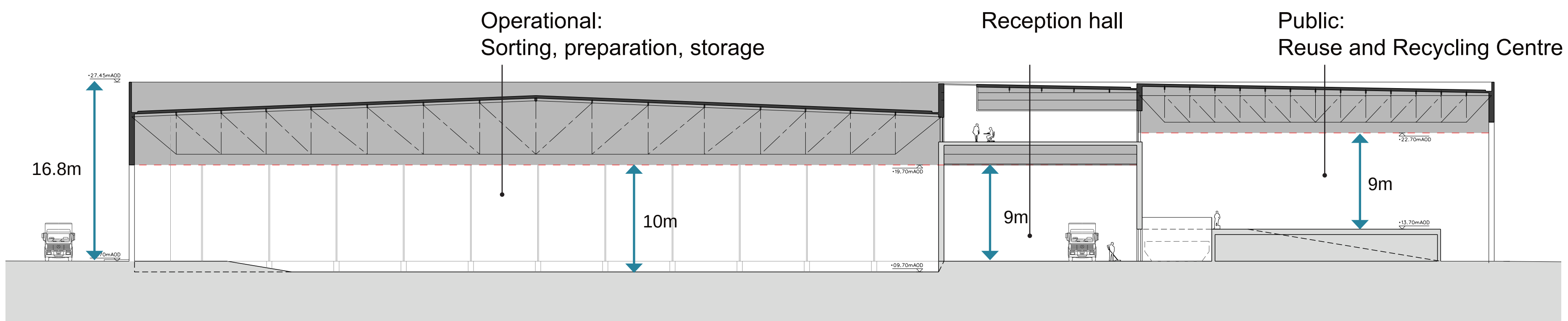


Figure 6.42: RRF section

Figure 6.41: Illustrative view of RRF facility from the South; the A406 North Circular road in the foreground, ERF in the background

6.3 SCALE, HEIGHT AND MASSING

6.3.5 ECOPARK HOUSE

The scale and massing of EcoPark House has been informed by the need to respond to the surrounding context, particularly the landscape setting to the east, and to provide an engaging experience for visitors. Due to its proposed location on the wharf, EcoPark House would be visible from the River Lee Navigation towpath and Lee Park Way. Both routes are fully accessible to the public, presenting the need for a sensitive design approach.

In order to reduce the visual impact of the building, EcoPark House would be up to two storeys in height. This would respond to the scale of surrounding buildings and structures as shown in Figure 6.44. The space would accommodate the proposed uses and ensure that a flexible space that serves the requirements of all identified future users would be created.

The design allows for the upper storey to be stepped back to further reduce the perceived scale of the building and building on the language of traditional boat house typology. This upper floor would allow for views into the Edmonton EcoPark and LVRP as shown in Figure 6.44.

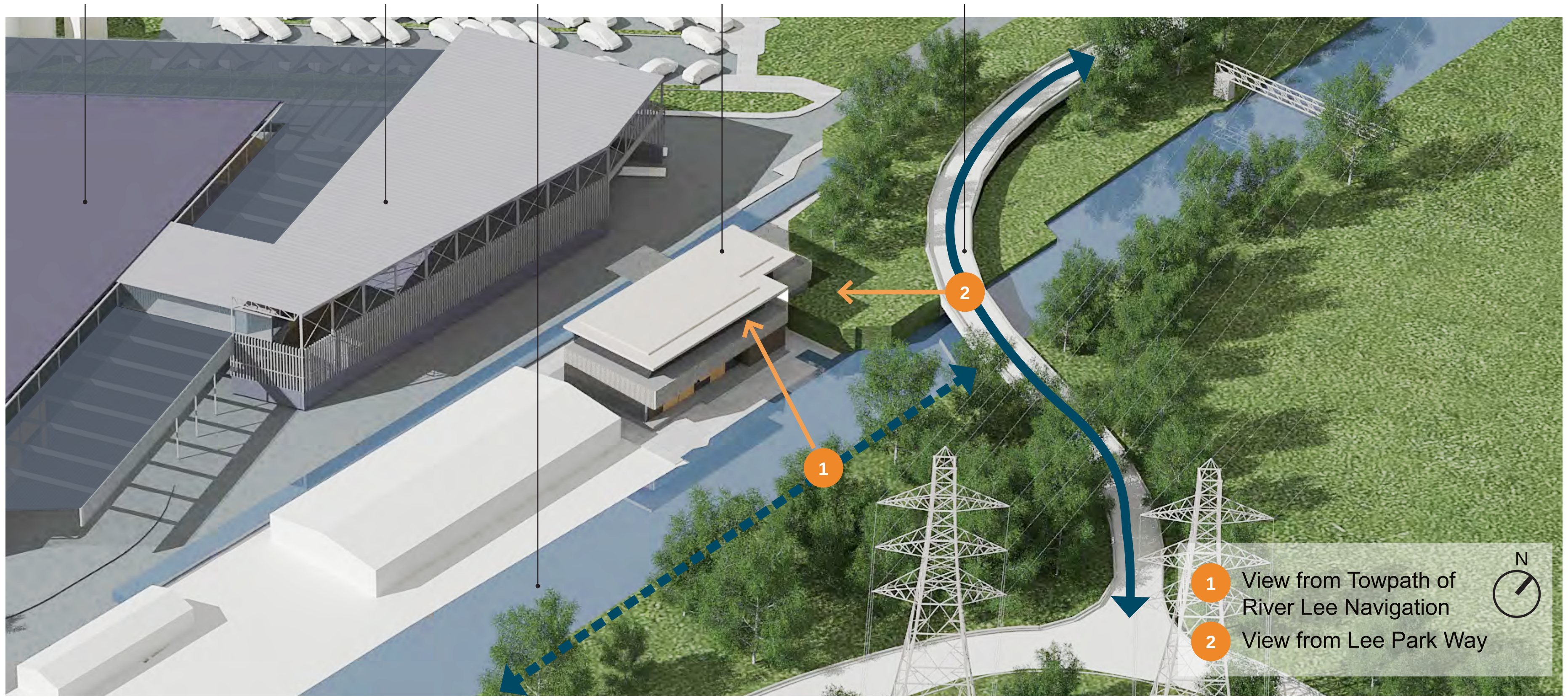
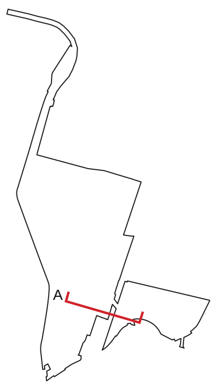


Figure 6.43: Illustrative axonometric view of EcoPark House in its context



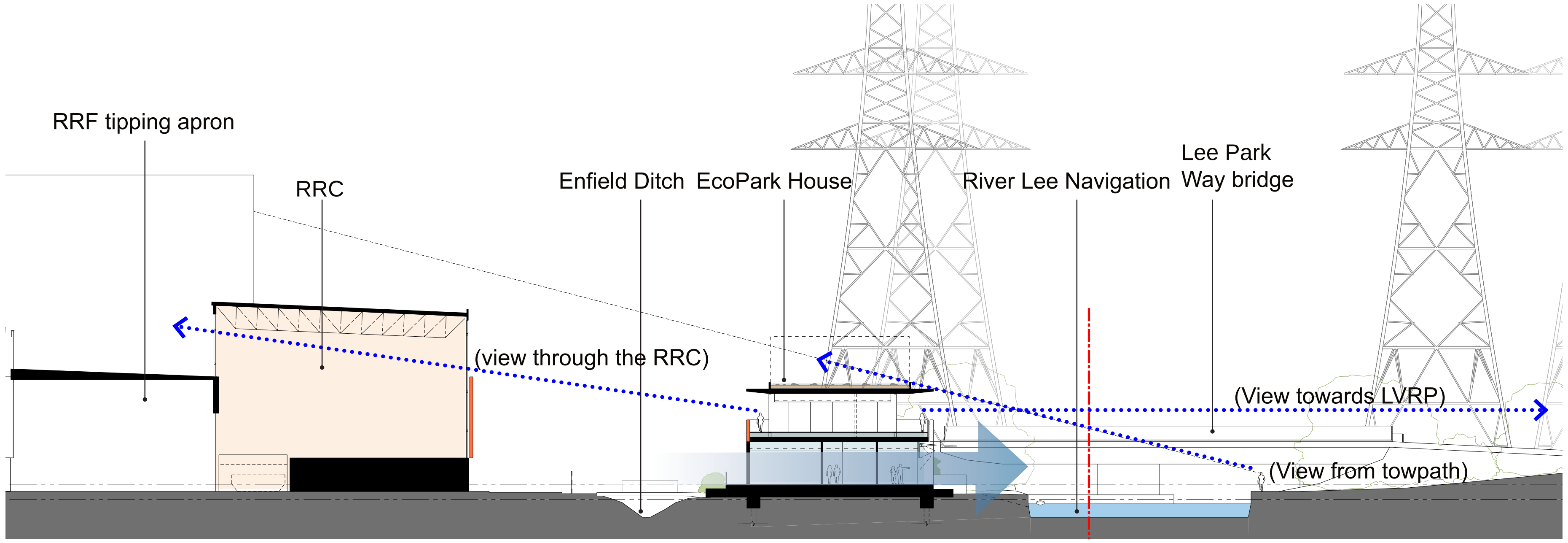


Figure 6.44: Illustrative EcoPark House cross section

6.4 APPEARANCE AND MATERIALS

6.4.1 APPROACH

This section describes the considerations made as part of the design development for the Project. A consistency of materials across the Edmonton EcoPark is proposed through the design approach to the ERF, RRF and EcoPark House. The Design Code Principles (AD02.02) establish the framework for appearance and materials that would be applied during detailed design.

The approach to appearance and materials has been developed in response to the objectives:

a. buildings and public open spaces should be of a high quality of architectural design;
b. designs should respond to the surrounding context;
c. compositions, façade articulations and the use of materials should be explored in order to reduce the perceived scale of the proposed structures;
d. materials should be appropriate to the function of the building. That is, materials should be durable and long lasting in operational areas and use a lighter, more engaging palette in areas of public access. Materials should also be easy to maintain, replace and clean;
e. colours and materials should be used consistently and coherently throughout the Edmonton EcoPark. This includes the use of accent colours or materials to assist wayfinding;
f. depth, rhythm and texture should be introduced to enhance visual appearance of buildings; and
g. a standard of environmental sustainability which is energy efficient and reduces carbon emissions should be adopted.

6.4.2 MATERIAL AND COLOUR PALETTES

The proposed buildings and structures should comprise legible forms which reflect their use and communicate the Edmonton EcoPark's identity. Material and colour palettes for the Project have been developed as part of the Design Code Principles (AD02.02). These palettes would establish a common identity across the Edmonton EcoPark while allowing flexibility for materials and colours to reflect the different function of buildings and structures. The palettes respond to the surrounding context as described in Section 6.4.3 and materials have been selected to meet performance requirements and the design objectives outlined in 6.4.1.

6.4.3 COLOUR CONTEXT

The existing predominant tones of the areas surrounding the Application Site have been investigated to inform the Project colour palette so that the Project references and integrates with its surrounding context. This has specifically included the landscape areas of LVRP to the east and the urban setting of the industrial areas and highways to the west. The colour pallette is described in the Design Code Principles (AD02.02) and would be used to inform the:

a. finish and colour of materials used in building façades;
b. location and extent of colours, hues and light and dark areas;
c. colour of signage and potentially branding and identity; and
d. other colour elements within the Edmonton EcoPark.

ERF RRF ECOPARK HOUSE

Figure 6.45: Illustrative Edmonton EcoPark buildings would be unified by a common palette of materials and colours.

6.4 APPEARANCE AND MATERIALS

6.4.4 ENERGY RECOVERY FACILITY

The ERF would be the predominant structure within the Edmonton EcoPark and, due to its scale, would be a building that is visible from a number of viewpoints. The design approach to the ERF building aims to respond to the following three key considerations:

a. scale: reduce the perceived scale of the ERF facility and reduce its visual impact;

b. context: respond appropriately to the surrounding site context from which the ERF would be seen; and

c. identity: create a design that defines the identity of the Edmonton EcoPark and NLWA.

ERF Composition

In addition to the minimum outline approach to massing described in Section 6.3, the composition of the ERF would further reduce the perceived scale of the building by articulating the functions within the building rather than expressing one unified volume.

Options for the composition of the ERF were considered (as shown in Figure 6.46). The preferred composition of the ERF would be to divide the facade horizontally to reduce its perceived scale. The design allows for an identifiable break to be articulated between the building's lower level and upper elements which correspond to the functions within the building:

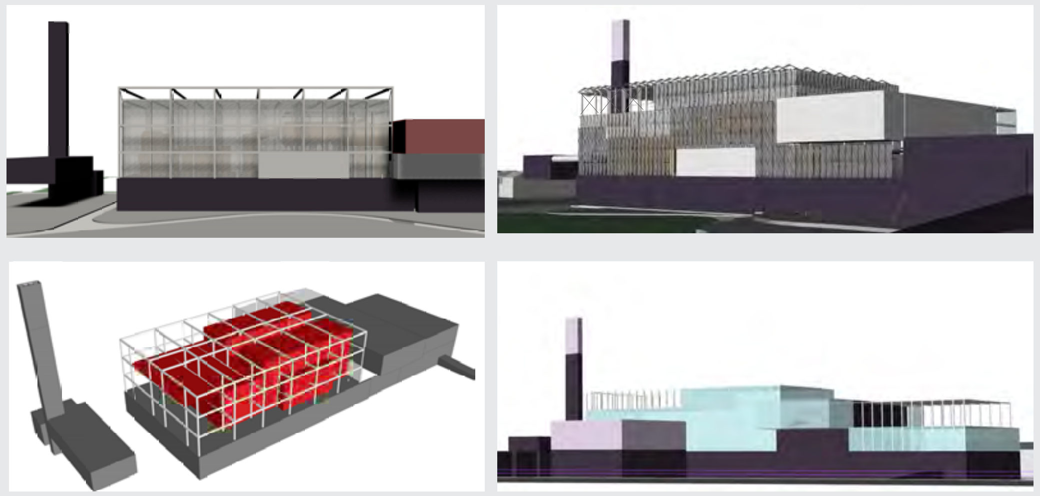
a. the 'plinth' (a solid lower level to the building incorporating a robust base) which would correspond to the turbine hall, workshops, stores, etc.; and

b. the 'upper elements' which would correspond to the different volumes made up of the tipping hall, crane hall, process hall and stack.

The Design Code Principles (AD02.02) set out the framework in which this preferred composition is to be controlled including how the differentiation of the plinth and the upper elements should be articulated through the detailed design, for example through the facade system, material or colour.

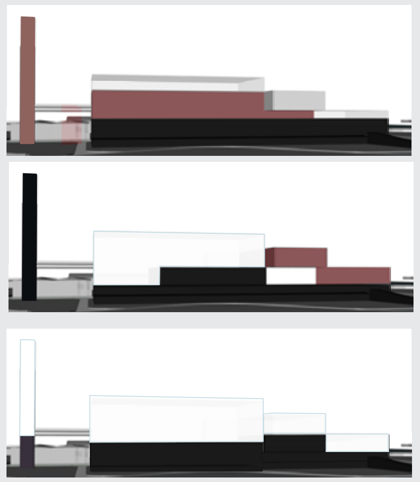
COMPOSITION STUDIES

Studies were undertaken in order to understand the visual impact of different compositions including conceptual studies for fully-clad and exposed-frame options, cladding options and compositional arrangements.

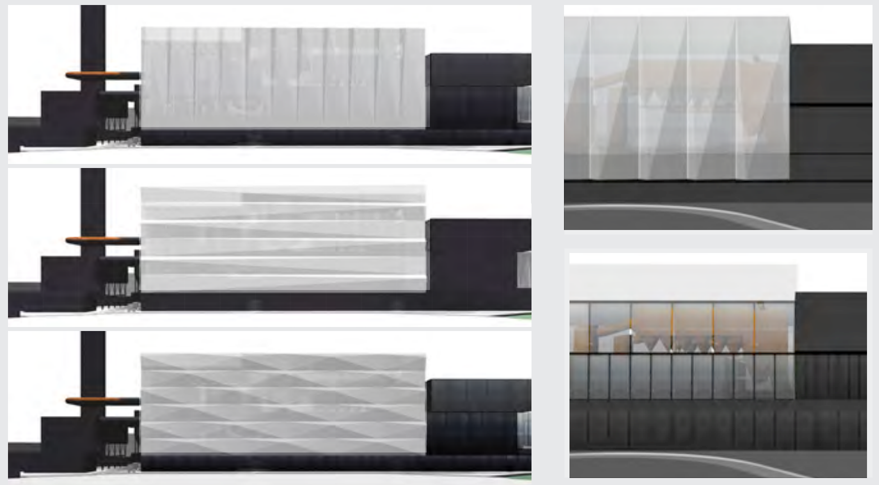


Conceptual Studies

Initial precedent images



Composition Studies



Cladding Studies

Figure 6.46: Design Composition studies

ERF - use of materials

Figure 6.47 illustrates the different façade systems that have been tested during design development to differentiate between the plinth and the upper elements of the ERF and to reduce the perceived scale of the ERF.

The materials that would be suitable for the plinth would have darker tones in order to establish the horizontal division in the facade compositions and reference the qualities of the surrounding landscape and urban environment. A darker material is considered appropriate for the plinth since low level activities would be screened by vegetation to the east and existing off-site industrial buildings to the west and north of the Edmonton EcoPark.

Materials suitable for the upper elements would have lighter colours to reduce the contrast against the skyline and therefore to reduce the visual impact of the ERF. Developing the design with these different facade systems would allow only the lighter façade of the upper elements to be seen from outside the Edmonton EcoPark where possible, again reducing the visual impact of the ERF.

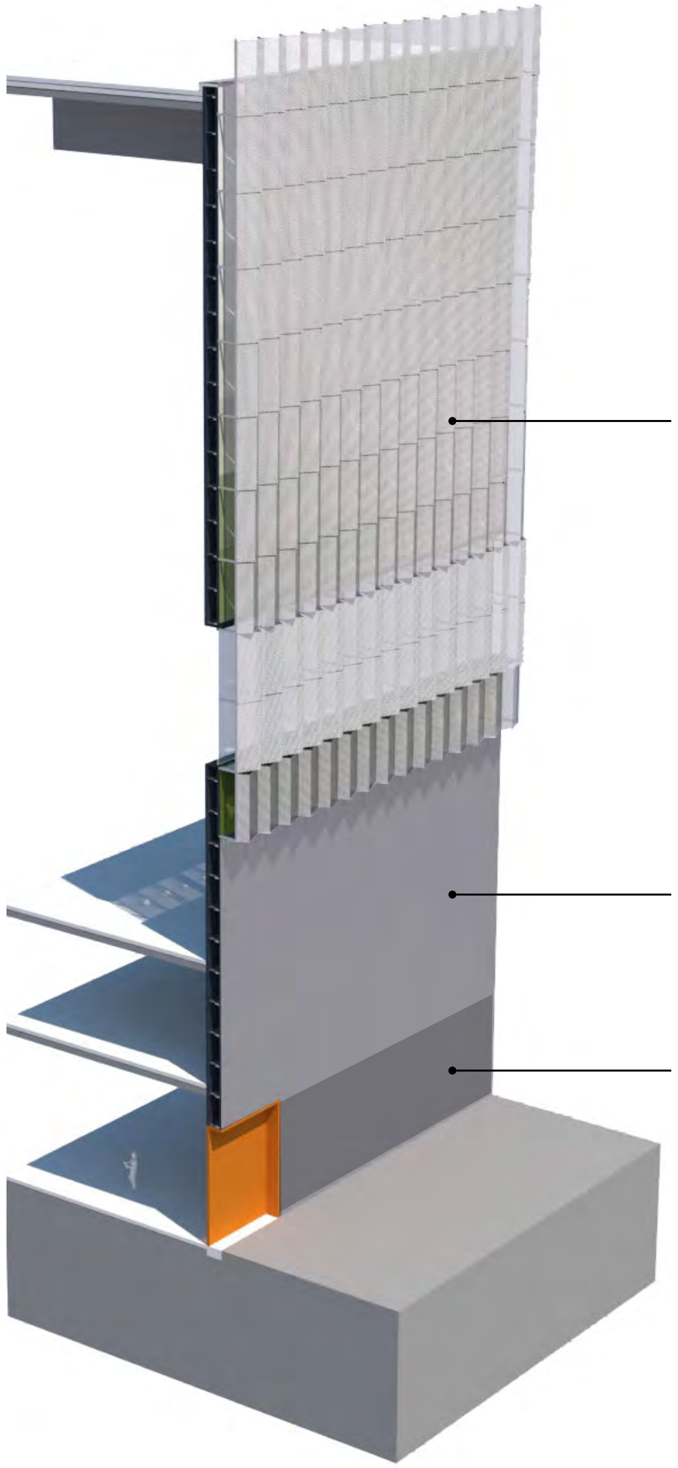


Figure 6.47: Illustrative ERF envelope section, identifying facade zones

ERF - plinth

The primary objective for the plinth materials is that they should respond to functional requirements and be resilient to the lower level operational activities taking place in and around the ERF. The façade systems that would be appropriate for the plinth would make use of robust materials so that they would be highly durable and require only minimal maintenance.

Materials that are considered to be appropriate are hard-wearing, low maintenance and easily assembled and replaced. Metal sheet cladding (flat or profiled) or similar would be appropriate for the plinth of the ERF. The incorporation of a robust base would address the operational activities and movements taking place at ground level around the ERF. Materials, such as precast concrete, are considered to be suitable up to a height that relates to operational entrances of the ERF. An illustration examples of material examples is shown in Figure 6.48.

Figure 6.48: Existing examples of materials suitable for the plinth

6.4 APPEARANCE AND MATERIALS

ERF - upper elements

The articulation of different functional components that form the ERF upper elements have been considered in terms of appropriate façade systems and materials.

Since the upper elements would be located away from heavy traffic and operational activities, materials would be less prone to associated physical damage or dirt. A lightweight approach would therefore be suitable which would also contrast with the plinth materials and reduce the perceived scale of buildings and structures. The use of accent colours for particular focus elements of the upper elements has also been considered, which would strengthen composition and further break up the distinct functional components. Focus elements are explained further in Section 6.4.8.

Due to the size of the upper element façades, it is important to visually enhance the cladding by introducing interest and variation from short and long distance views from different orientations. To address views from the surrounding area the design could accommodate facade systems that introduce interest in the following ways (see Figure 6.49).

a. horizontally, to address observers travelling along the A406 North Circular Road and through the LVRP;

b. vertically, to soften the ERF outline against the sky and reduced the perceived scale of the building.

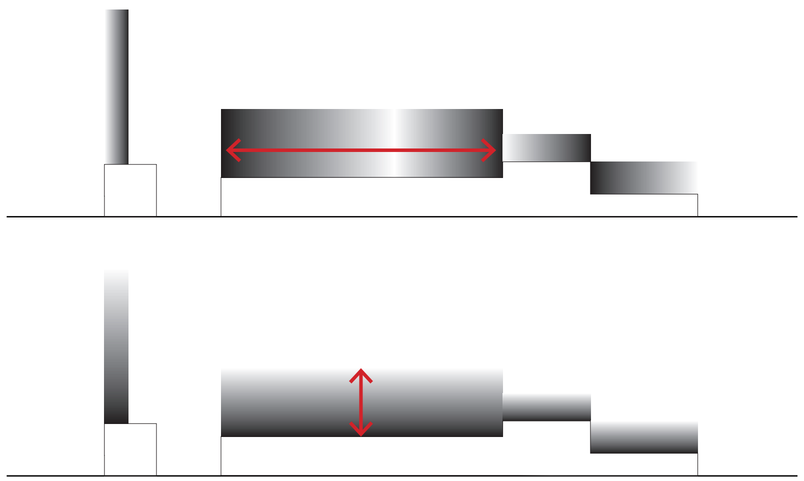


Figure 6.49: Illustration of strategy for enhancing visual interest of the ERF Facade - vertical and horizontal gradation

Two main cladding systems were considered in design development as shown in Figure 6.50; a single skin cladding or two-layered system.

A single skin cladding comprises a basic cladding which would require performance and visual quality requirements to be met through the choice of material. Single skin cladding would be a straightforward and cost-effective solution however, it would be more restrictive and limit design control.

A two-layered system comprises two layers which function differently. The inner skin would provide a sealed envelope to meet performance requirements (such as waterproofing, insulation and ventilation). This inner skin would be sufficiently flexible to respond to the need for solidity, screening or natural light in different parts of the ERF and to accommodate ventilation louvres or other openings. The outer skin would provide an aesthetic envelope and create visual interest with the potential to introduce rhythm, variation, shadow and translucency or transparency. The two-layered system is considered to be most appropriate for the upper elements since it provides both the performance and visual qualities required to meet the design objectives.

The Design Code Principles (AD02.02) provide the mechanism for the detailed design of the façade and cladding of the upper elements to be controlled.

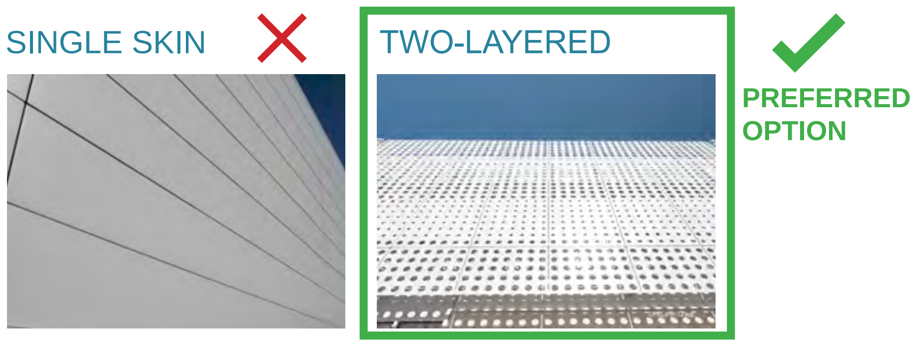


Figure 6.50: Single skin cladding vs. a two-layered façade system

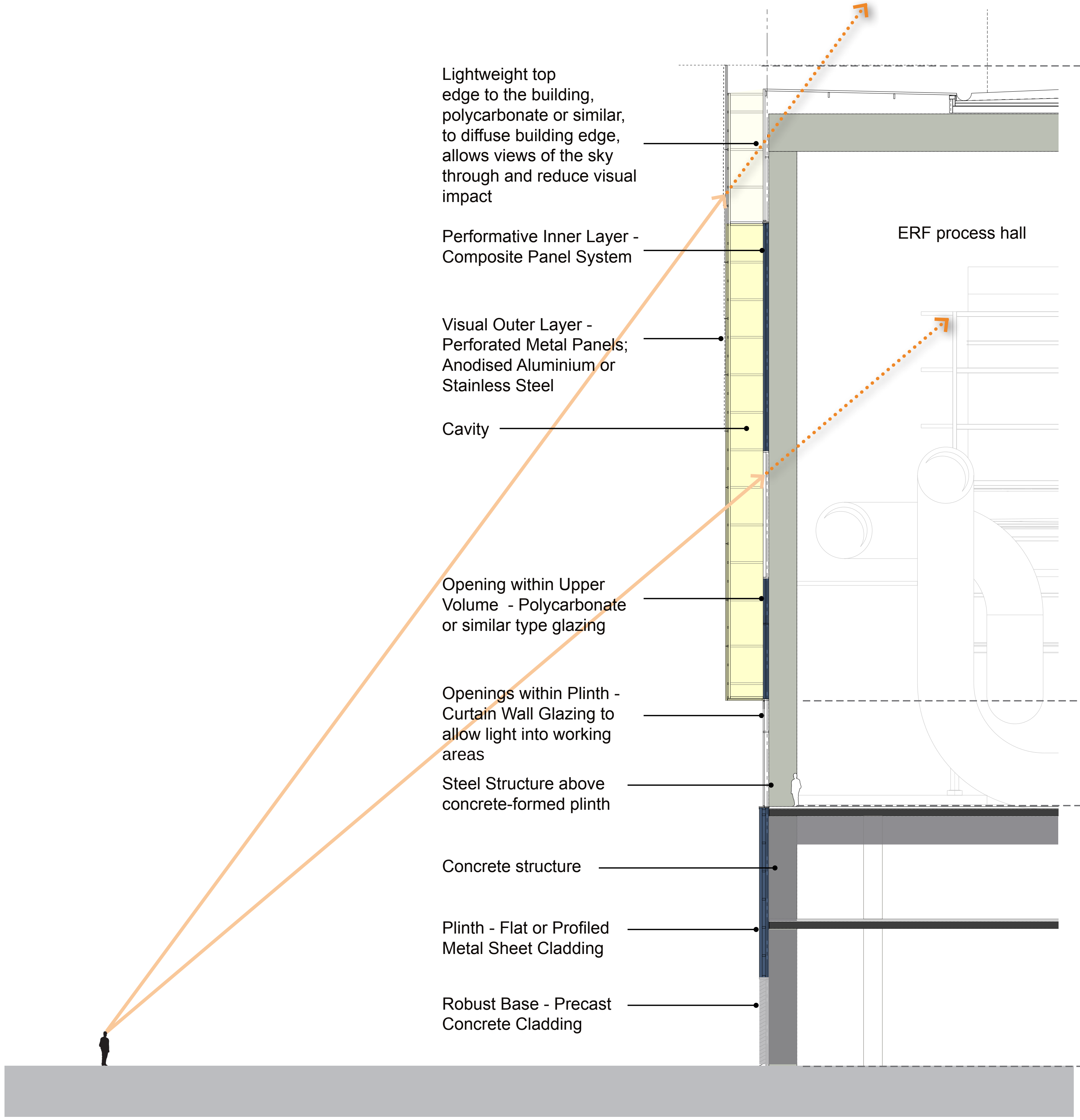


Figure 6.51: Illustrative typical cross section through ERF double-layer facade.

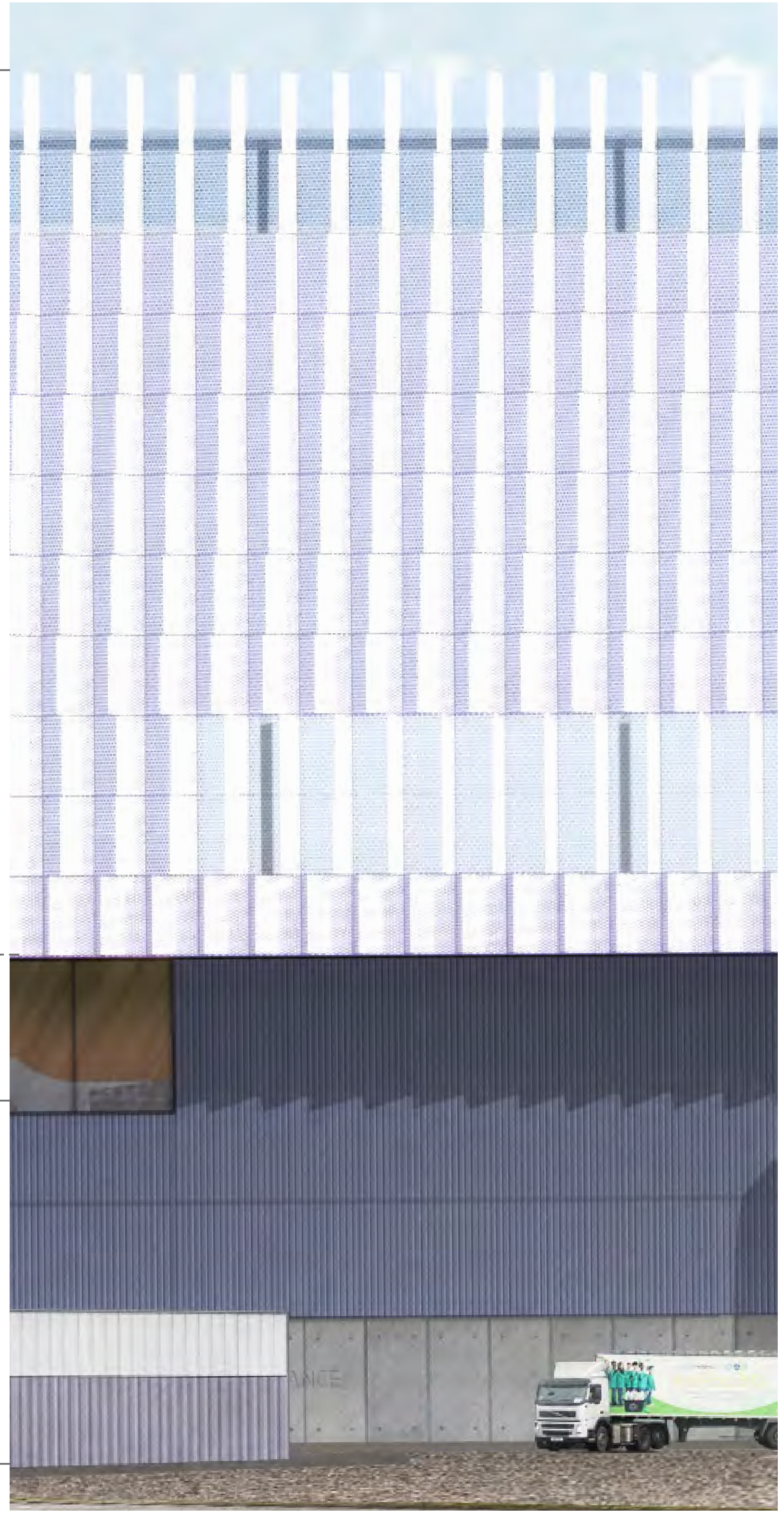


Figure 6.52: ERF illustrative facade - lighter articulation to upper elements to reduce visual impact

6.4 APPEARANCE AND MATERIALS

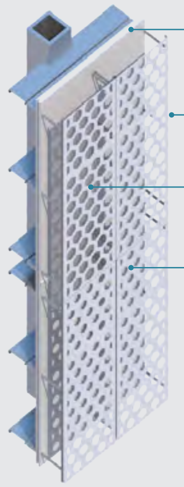
ERF - Façade development
Three options for the visible outer layer were explored as part of design development as illustrated in Figure 6.53. The options explored are:

a. perforated panels;
b. vertical fins; and
c. three dimensional panel

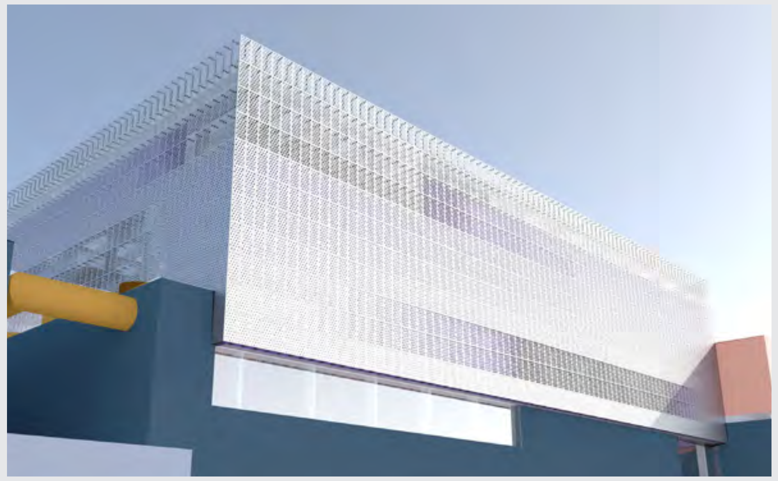
Each option assumed a lightweight material as the outer cladding, such as single sheet or composite metal panels. Examples where these façade systems have been proposed in other developments are illustrated in Figure 6.54 to Figure 6.56. The façade cladding approach would be developed at the detailed design stage in line with the Design Code Principles (AD02.02).

FACADE STUDIES

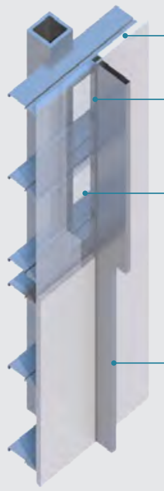
a. Perforated panels
This option incorporates a variation of perforations with a relatively simple geometry to provide depth and rhythm to the facade. This can be done with single sheet or composite aluminium panels



A. PERFORATED PANELS

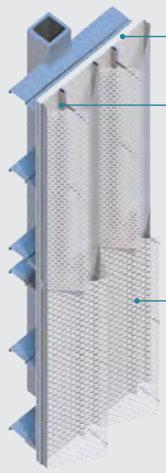


b. Vertical fins
In this option, variation is achieved by changing the length and depth of the vertical fins. The inner layer can be opaque, with the outer layer being formed from either single sheet or composite aluminium panels.



B. VERTICAL FINS

c. Three dimensional panel
With a three-dimensional panel, variation can be achieved through a range of modules, each of different 3-dimensional depth, creating a rhythm of depth and shadows across the facade.



C. THREE DIMENSIONAL PANEL

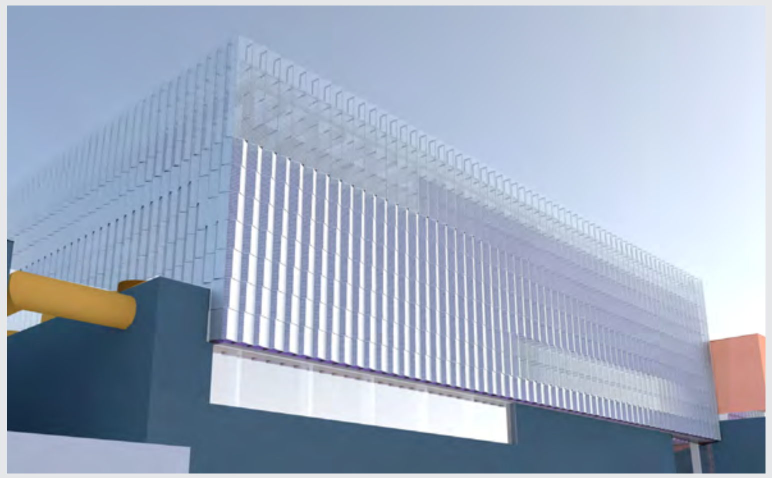


Figure 6.53: Facade studies for upper elements

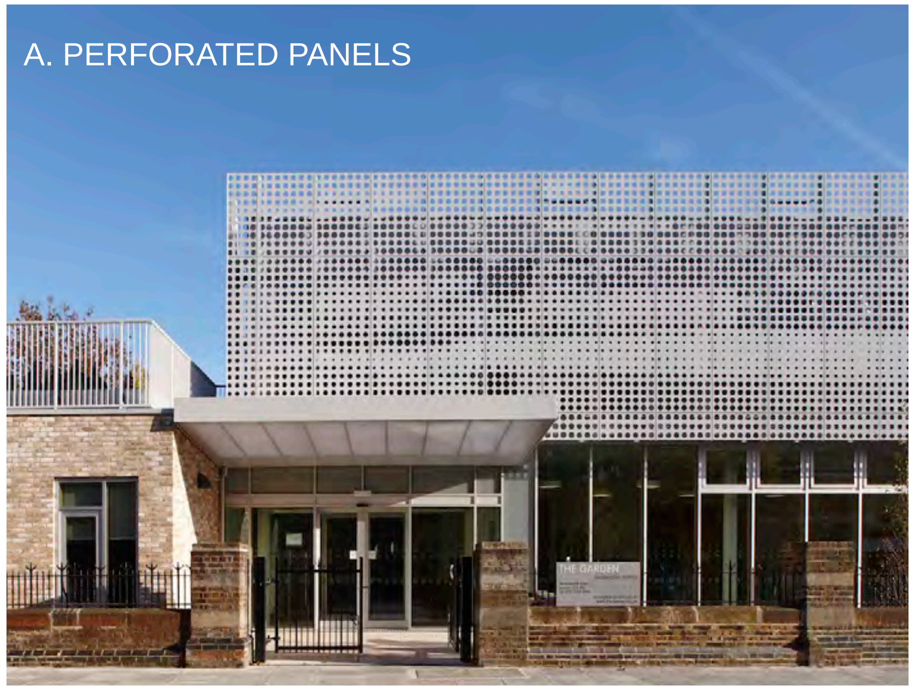


Figure 6.54: Existing example of perforated panels: Garden SEN School, Hackney, UK

Figure 6.55: Existing example of vertical fins: United States Courthouse, USA

Figure 6.56: Existing example of three dimensional panels: Adidas Parkhaus, Germany

6.4 APPEARANCE AND MATERIALS

ERF offices
The ERF offices and other site-wide support and staff facilities would be consolidated in the ERF offices, illustrated in Figure 6.58.

The design provides for the ERF offices to form part of the upper elements, located below the crane hall service deck. Since the space would require natural light for work spaces and areas for observation of internal ERF operations, the ERF offices provide an opportunity for large areas of glazing which the design of the ERF would accommodate. The largest part of the ERF offices façade would be orientated north reducing the potential for heat generated through sunlight passing through the windows.

The appearance of the ERF offices could enhance the composition of the upper elements by adding further degrees of texture and tone. This type of façade would also ensure an active frontage on the three façades, which is especially relevant for those facing the east, where the ERF would be seen from the LVRP and the River Lee Navigation towpath.

Figure 6.57: ERF offices - Curtain walling example

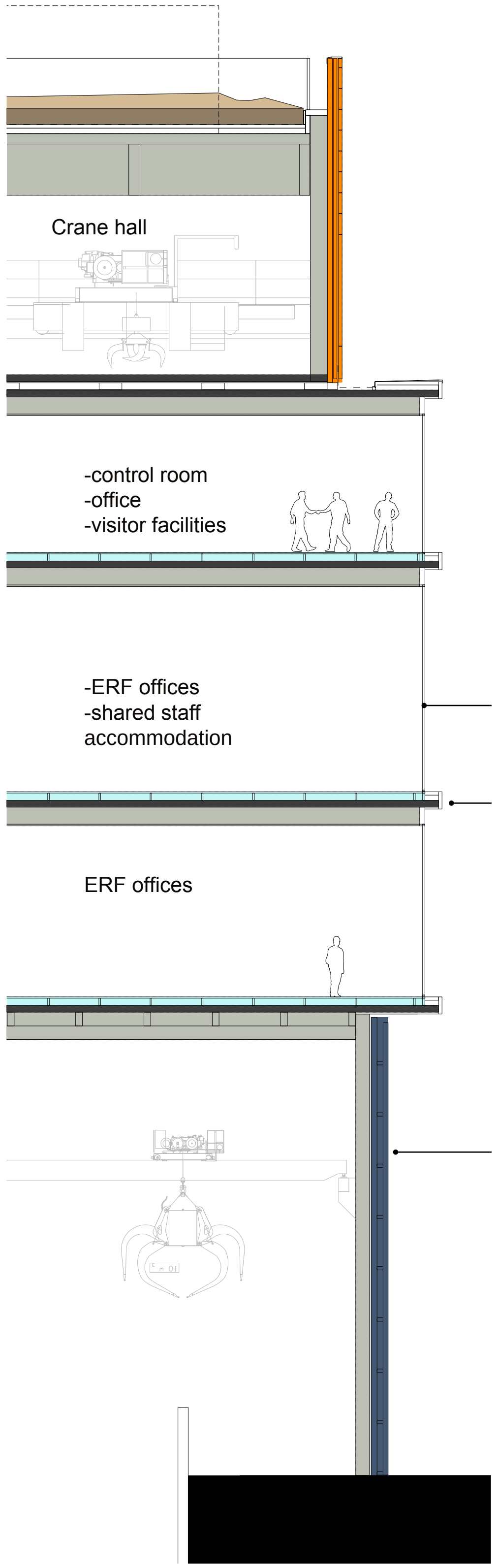


Figure 6.58: Illustrative cross section through ERF offices

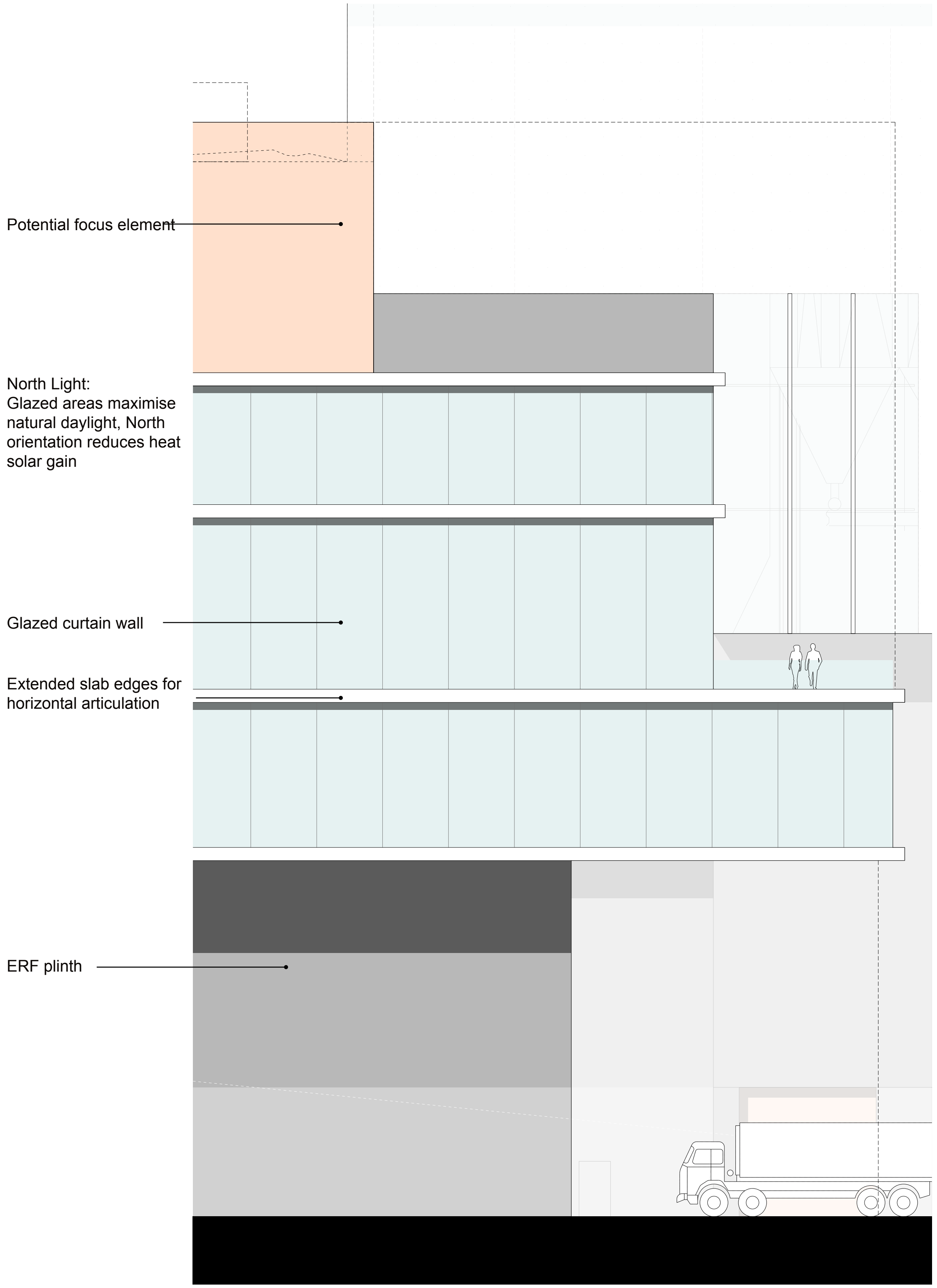


Figure 6.59: Detail of illustrative north elevation of the ERF offices

ERF - green and brown roofs
The roof would be a key element of the architectural treatment of the ERF

The roof above the tipping hall would be accessible for visitors and a green roof would be installed to help merge the building with the LVRP. The accessible roof would be used by visitors as part of the ERF tour and provide views of the Edmonton EcoPark, Lee Valley and towards central London.

Provision is made for an observation platform to be installed as a focus element of the green roof above the tipping hall which would provide views of the Lee Valley and the green roof setting.

Provision has been made in the design for installation of a brown roof above the crane hall to support ecological enhancement and water attenuation. This would not be accessible to visitors to the Edmonton EcoPark. The combination of the green and brown roofs would provide a connection and continuation of the landscaped area on its eastern side.

Figure 6.61: Illustrative examples of green and brown roofs

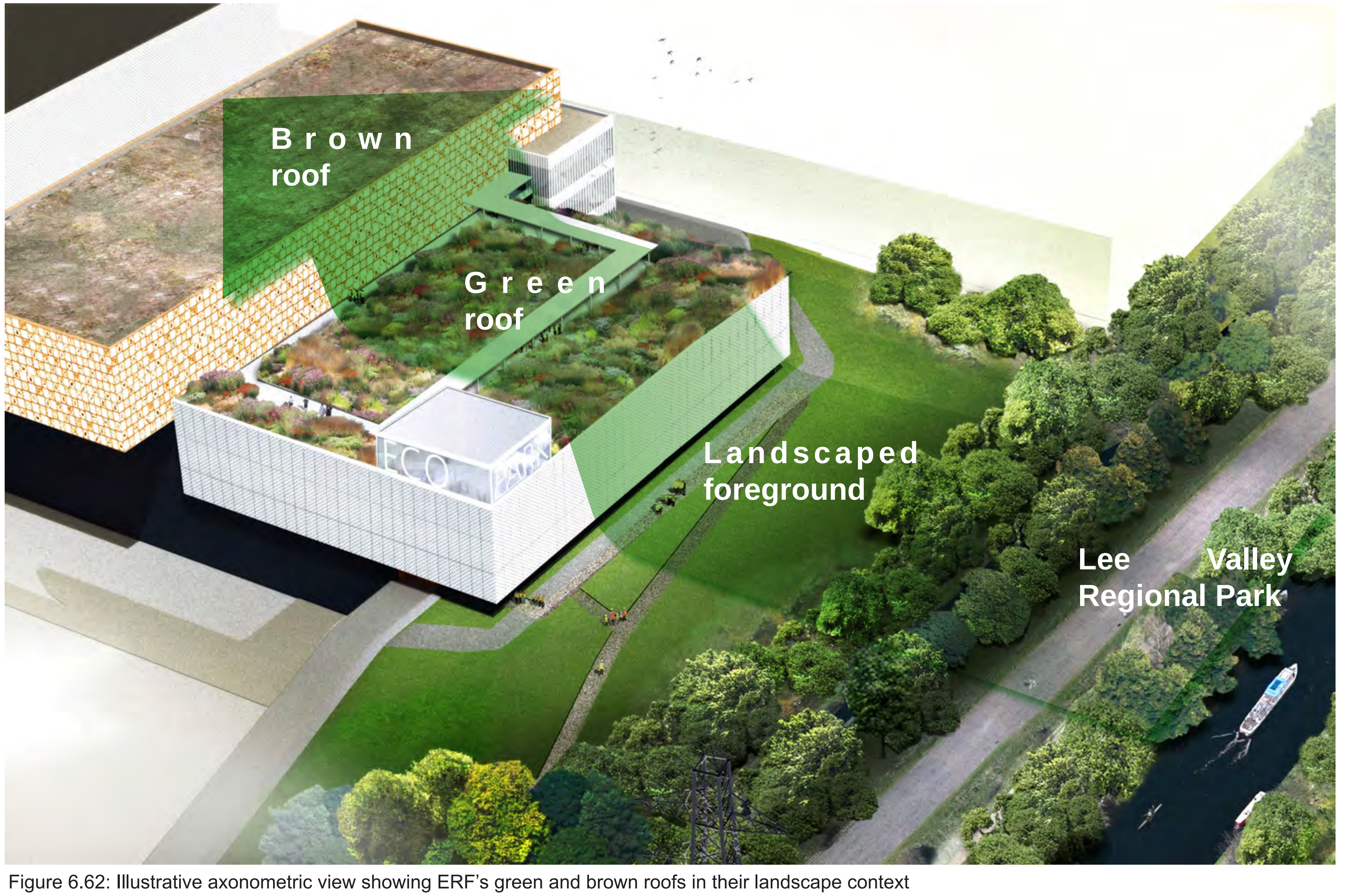


Figure 6.62: Illustrative axonometric view showing ERF's green and brown roofs in their landscape context

Figure 6.60: ERF - Illustrative view from River Lee Navigation towpath.

6.4 APPEARANCE AND MATERIALS

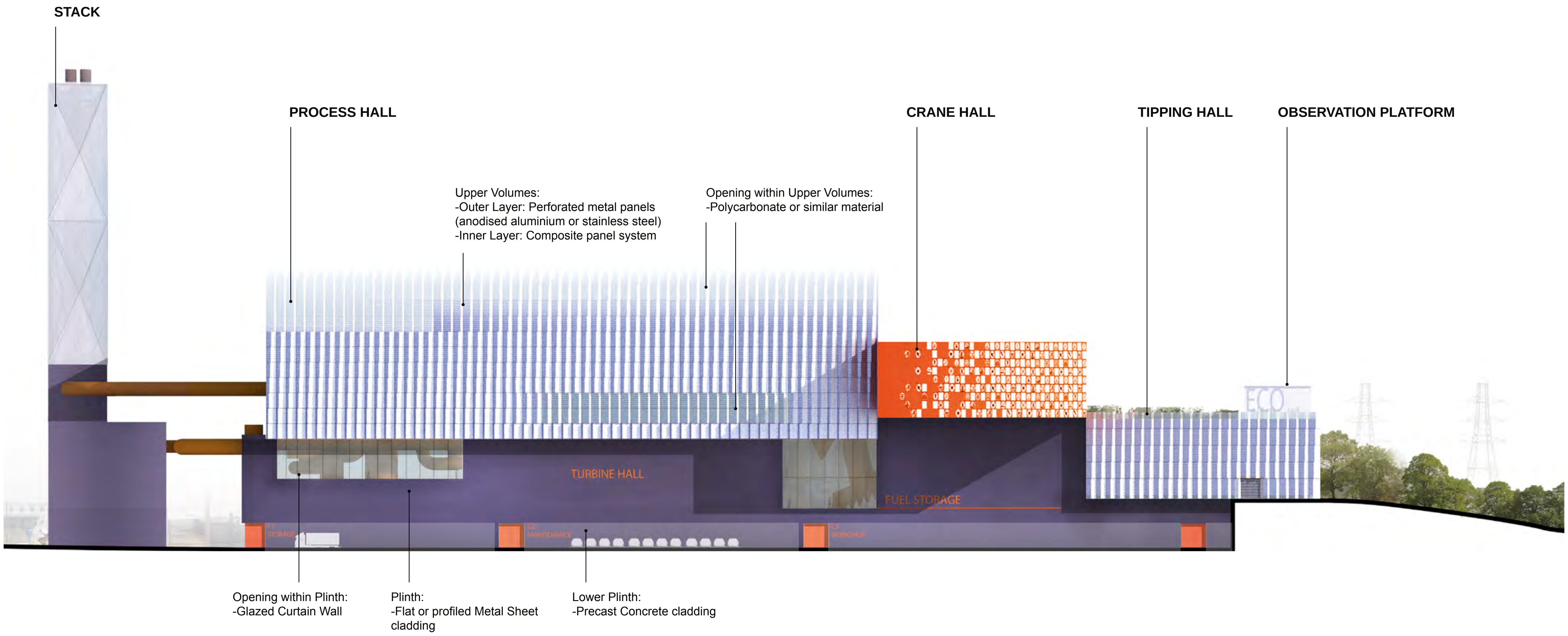


Figure 6.63: Illustrative south elevation of the proposed ERF

ERF - stack

The design approach to the stack responds to the following three key principles:

a. the stack should be detached from the ERF. The rational behind this design decision is that by isolating the stack (primarily a vertical element) from the rest of the ERF volumes, the horizontal nature of the composition is maintained. A detached stack also allows for the massing of the facility to be further broken down. All this results in reducing the visual impact the building and increasing its legibility;
b. its design should respond to the differing view points and the Edmonton EcoPark's context should inform the shape and geometry of the stack; and
c. the architectural expression of the stack should relate to the upper volumes of the ERF.

Following the principles above, the stack would be an independent structure but would have an architectural treatment similar to the rest of the ERF including a plinth and lighter upper elements to reduce the perceived height of the structure.

The justification for this strategy is two-fold:

a. the structure of the stack is composed of a wider base to support a more slender stack; and
b. the upper section of the stack is the final stage of the flue gas treatment process. Having a similar architectural expression to other parts of the building helps to communicate the internal energy recovery process.

The lower section would use a robust material similar to the ERF plinth. This zone would also allow for the integration of the ducts connecting to the flue gas treatment hall.

The upper section of the stack would replicate the visual effect of the tipping and process halls. The cladding would be supported by the primary structure which holds-up the flues.
The cladding would screen the flues and structure behind, while minimising the wind loads on the structure. The percentage of openings would be explored and developed so as to ensure sufficient air flow is achieved while also successfully screening the contents behind.

The design objective would be to create a translucent effect helping to blend the stack into the skyline.

A similar material palette to the ERF upper elements has been considered, i.e. either a single-sheet or composite metal panel, which is light in appearance as well as being durable and highly resistant against corrosion and fading.

Further geometric articulation is proposed to break down the monolithic appearance of the stack. The façade could be divided in several triangular elements which reflect light in different ways and subtly change throughout the day. The level of perforation can also be varied across the stack.

The stack would also incorporate functional elements which are necessary to meet both operational and safety requirements, including:

a. aviation warning light: provision would be made for an aviation warning lighting to be fitted to the stack following consultation with the Civil Aviation Authority. Any additional lighting requirements or safety markings would be developed during the detailed design stage;
b. air dispersion at the top of the flue: the cladding and steel structure would stop before the full height of the flues to allow the appropriate air dispersion from the flues. The distance from the top of the flues to the cladding would be between 3m and 6m, to be confirmed at the detailed design stage. The total height of the flues would be unchanged; and
c. ducting to the flues: the location of the stack allows for a straight run for the ducting from the ERF into the flues with access through the southern elevation of the stack. The overlapping arrangement of the two ducts would allow the development of an efficient support structure to span across the western maintenance road.

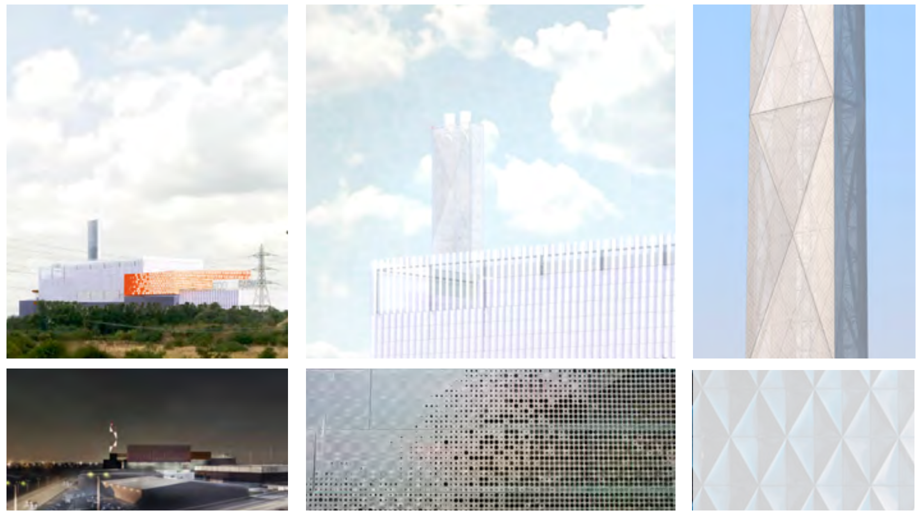


Figure 6.64: Illustrative images summarising the approach towards the appearance and materials of the stack cladding

6.4 APPEARANCE AND MATERIALS

Below are illustrated other stacks of similar facilities. They have been arranged according to:

a. the complexity of its architectural expression, from the simplest approach to a more expressive and feature-like design; and
b. the integration of its design with the rest of the facility.

As set out the design approach to the stack seeks that it is detached from the ERF building but that it has a direct architectural relationship. In keeping with the general design approach a feature approach is not felt to be suitable in this context.

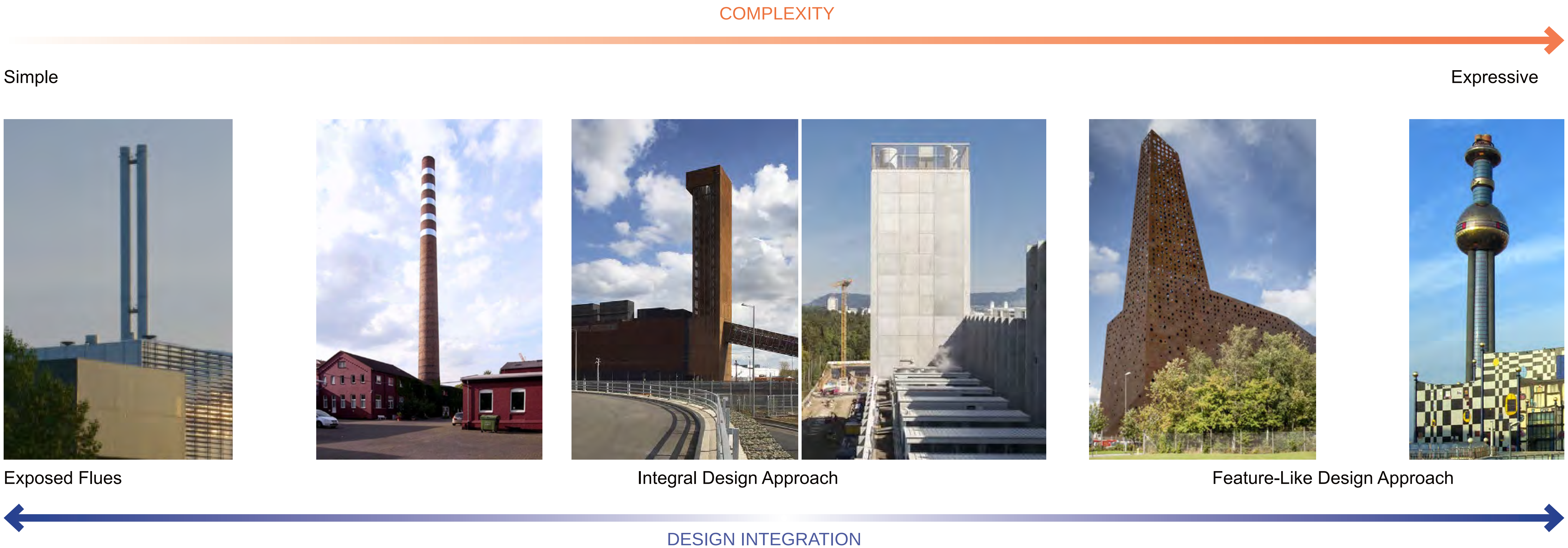


Figure 6.65: Illustrative images summarising approach to stack integration

STACK STUDIES

The diagrams below show a summary of the study developed to compare the visual impact of the three different stack forms: a simple approach of exposing the flues, an intermediate options of a simple cladding solution, and an expressive form. The diagrams show how the different forms would appear from the close-up approach along the Lee Park Way as well as from distance towards the east.

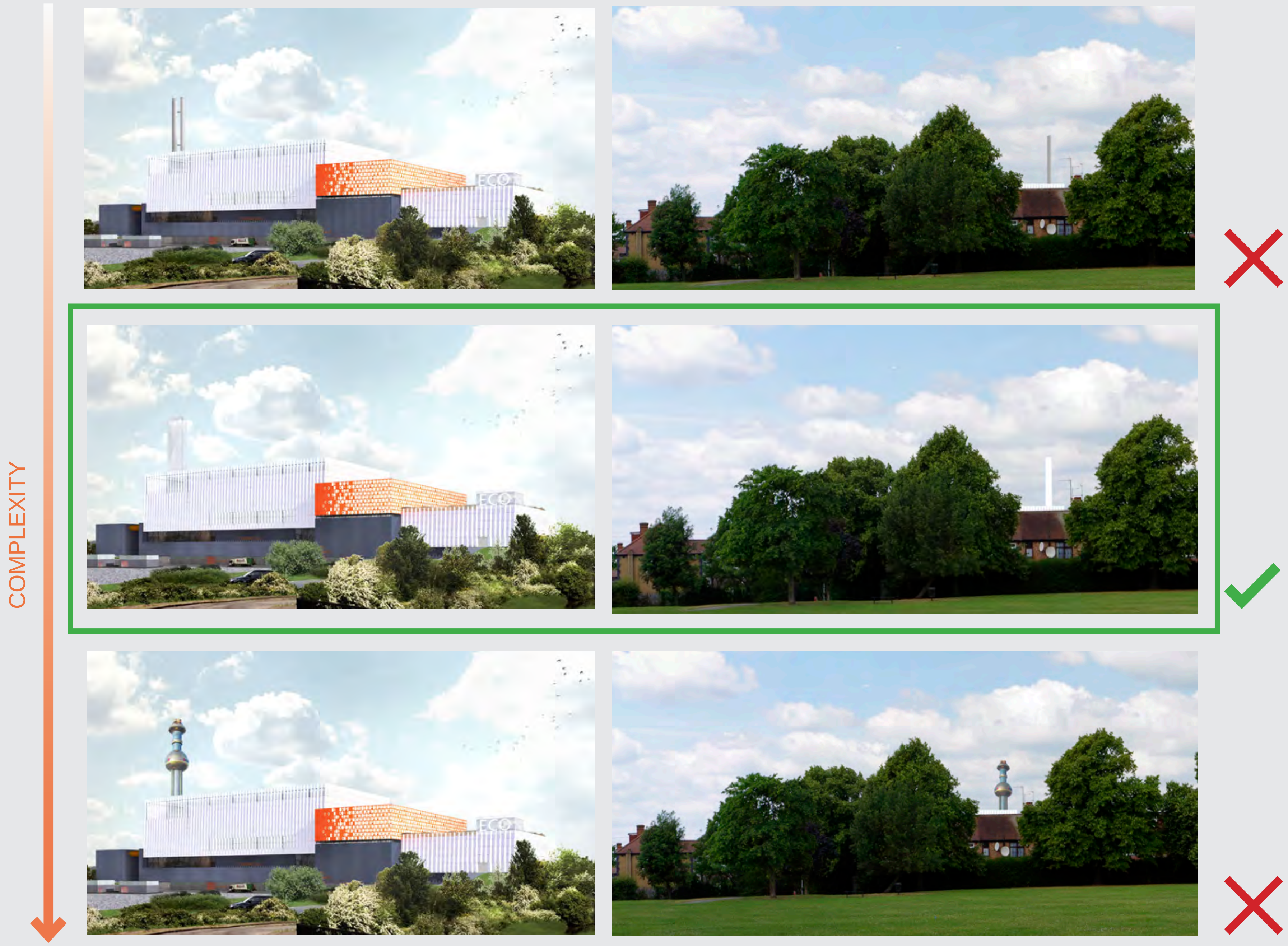


Figure 6.66: Stack - Form complexity studies

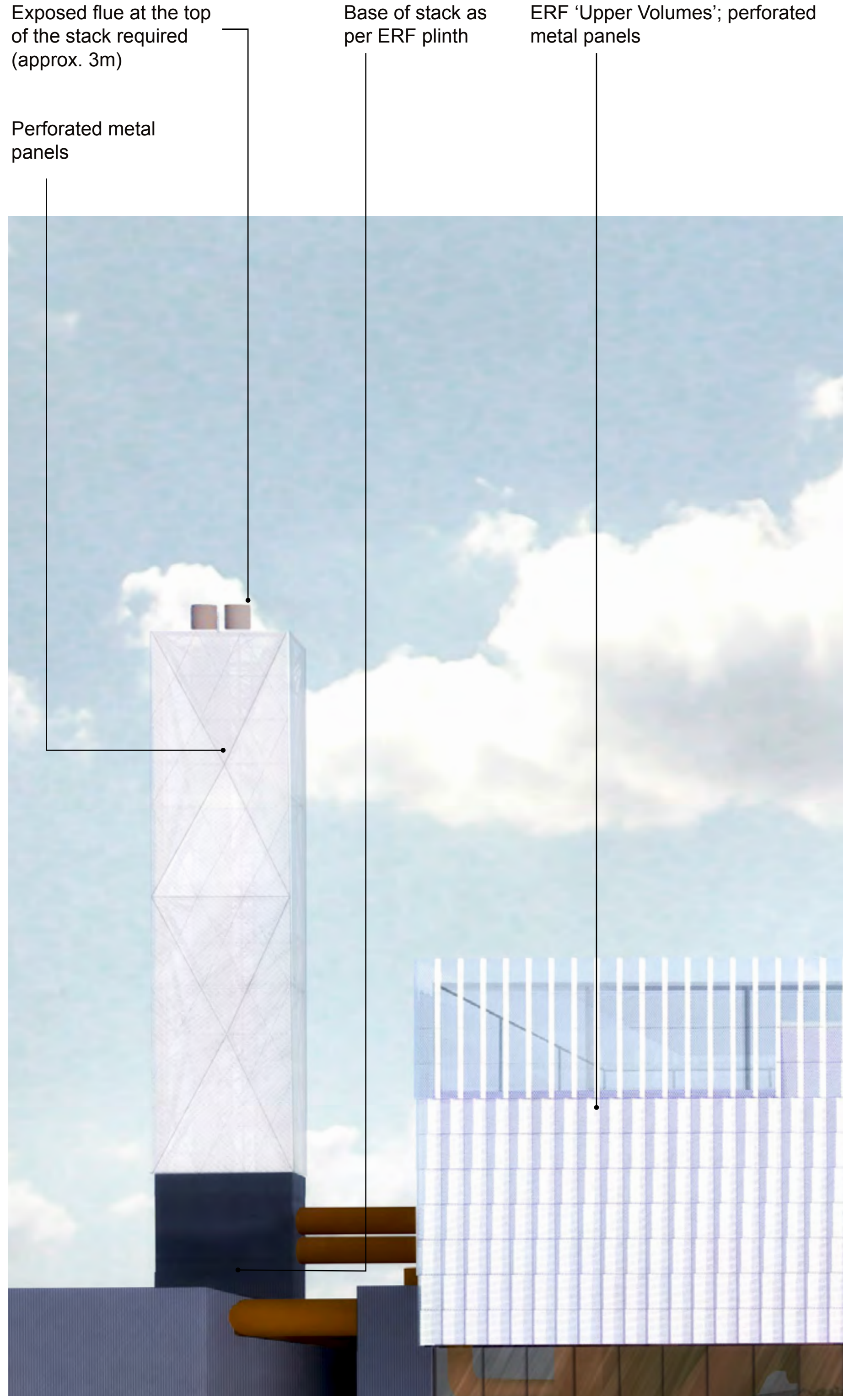


Figure 6.67: Stack - ERF illustrative south elevation

6.4 APPEARANCE AND MATERIALS

The images below illustrate a simple stack form at night both with subtle feature lighting and without. Lighting can be provided with the ability to control colour, direction and intensity to limit exposure to the more sensitive surroundings. With the exception of the Aviation Warning Light, the stack can also remain unlit and provide a minimal visual impact on its surroundings.

Figure 6.68: Stack - Illustrative night-time view from A406

Figure 6.69: Stack - Precedent night-time images

Figure 6.70 and Figure 6.71 illustrate the visual effect of a light cladding material for the stack against the surrounding context. The height and form are illustrative only.


Figure 6.70: Illustrative view from the west; upper part of the stack of lighter material above the ‘plinth’ datum line


Figure 6.71: Illustrative view of the stack from the residential and recreational areas to the east

6.4 APPEARANCE AND MATERIALS

6.4.5 RESOURCE RECOVERY FACILITY

The design considerations for the external appearance of the RRF have aimed to convey a simple industrial character. Appropriate materials would reflect both the operational and public functions of the RRF as illustrated in Figure 6.75.

The composition of the RRF should be horizontally divided to identify a plinth and robust base that contrast from the lighter upper elements.

The operational side of the RRF would be composed of an enclosed hall for the sorting and storage of waste. Vehicles would circulate around this hall to tip incoming waste. Similar to the proposed ERF, the RRF plinth should be clad in a robust and hard-wearing material in darker colours to address the proximity to heavy traffic and operational activities.

The upper elements should employ lighter materials and colours, these elements could include glazing, architectural screens or feature roofs.

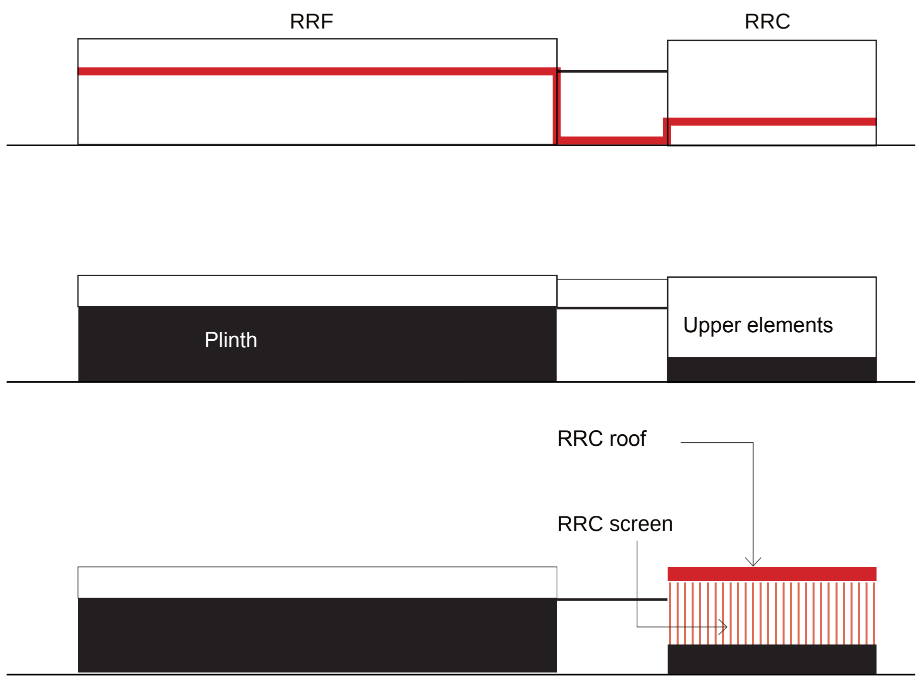


Figure 6.72: RRF Composition diagram

The RRC would be a covered space, screened from wind and rain while allowing for natural light and ventilation. The facility would approached from the north via the new access off Lee Park Way. The design should provide a clear public facing side of the building to ease navigation of the facility by visiting members of the public.

The building massing for the RRC would be lighter and more engaging than the operational area. An architectural screen should be used on the façade of the RRC, which provides shelter and containment of dust and waste. Vertical fins or perforated panels could be used to create a lighter, more permeable expression and allow views into the facility whilst providing shelter. Its design should reference and be related to other public facilities within the Edmonton EcoPark such as EcoPark House.

An elevated light roof should denote the public zone and mirror the pavilion-like language of the adjacent EcoPark House. The soffit of the roof should use the Edmonton EcoPark's accent colour to help with wayfinding.

The building would be connected by a series of canopies that extend out to define and cover the vehicle tipping areas and link the operational area to the RRC. These principles are illustrated in Figure 6.75.

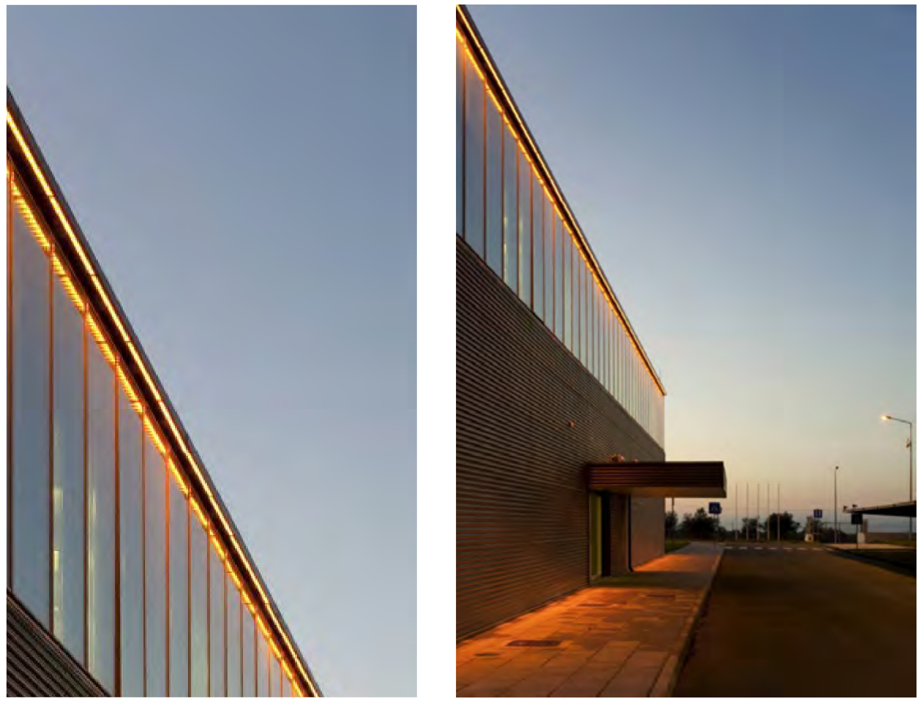


Figure 6.73: Existing examples of industrial character

Figure 6.74: RRF - Illustrative view from above A406 North Circular Road

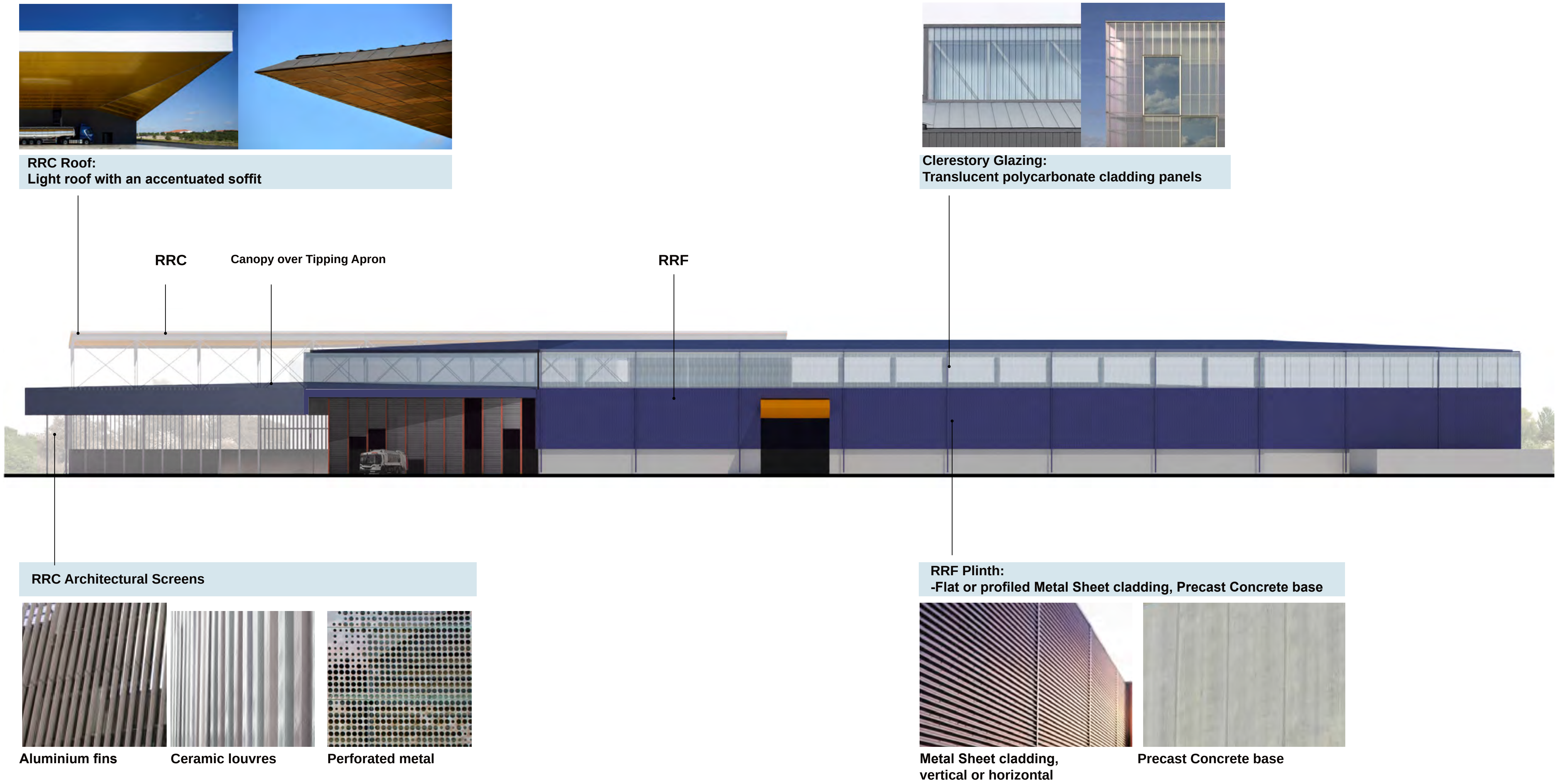


Figure 6.75: Illustrative RRF West Elevation

6.4 APPEARANCE AND MATERIALS

RRF Offices
The RRF offices would be located in a mezzanine level, above the canopy that covers the RRF tipping apron, and would house some of the main RRF staff facilities. The mezzanine would extend into the RRC hall, as shown in Figure 6.76.

The east façade of the office mezzanine could be transparent to allow views into the RRC for visitors and staff. In order to bring natural light to the internal spaces not attached to the façade, some glazed horizontal rooflights could be introduced

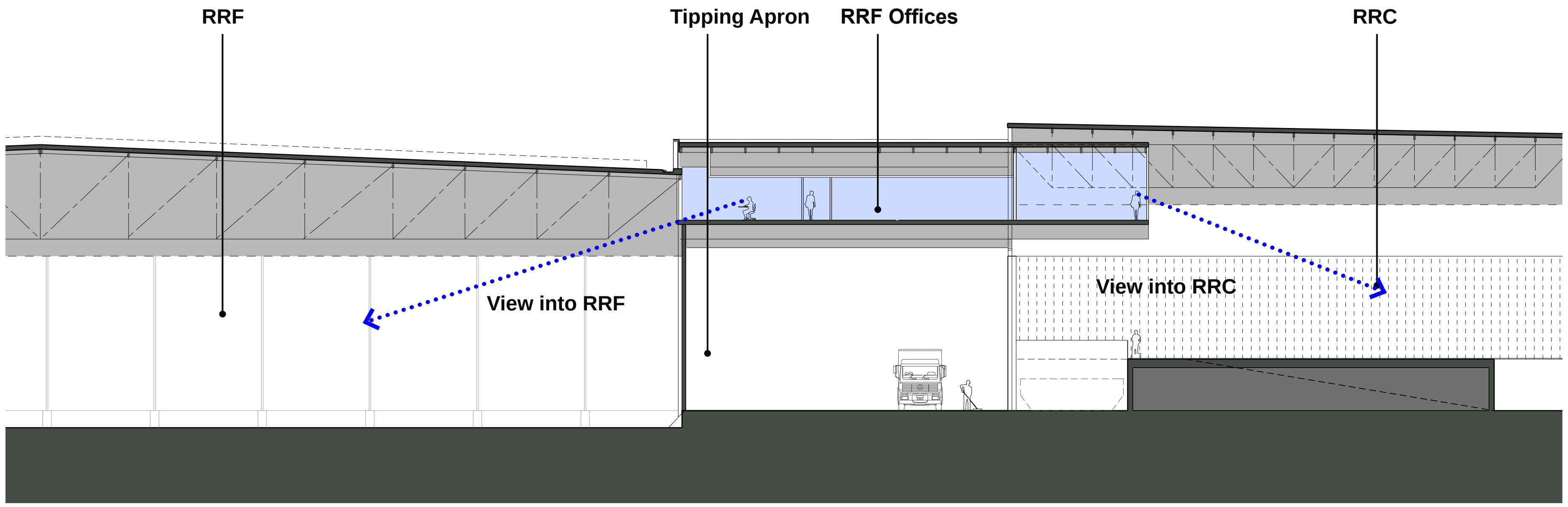
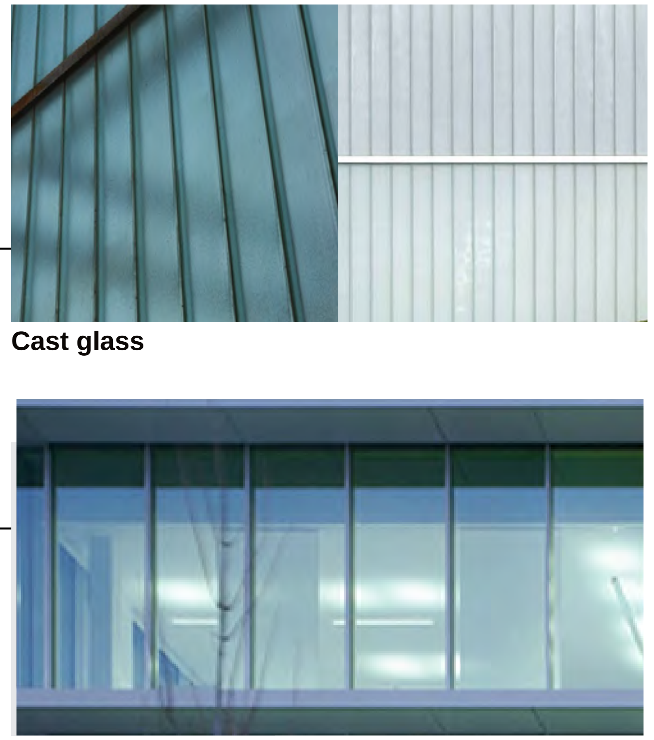


Figure 6.76: Illustrative section through RRF offices

Figure 6.77: RRF offices - Illustrative view from RRC



Cast glass

Curtain walling

Figure 6.78: RRF offices glazing - material examples

Figure 6.79: Illustrative views of RRF buildings as they are approached from the north

6.4 APPEARANCE AND MATERIALS

6.4.6 ECOPARK HOUSE

Situated along the eastern landscape corridor, EcoPark House needs to integrate with its immediate landscape surroundings whilst relating to the overall identity of the Edmonton EcoPark. Its location, adjacent to the River Lee Navigation, and its use, hosting facilities for visitors and the Edmonton Sea Cadets, calls for a structure which is more engaging and of a different scale to its industrial neighbours.

The design for EcoPark House has aimed to provide a gateway for visitors to the Edmonton EcoPark that would:

a. be clearly recognisable as a publicly accessible building;

b. provide an active frontage where possible; and

c. promote the activities within the Edmonton EcoPark.

The proposals are inspired by the expression of pavilions in the landscape and traditional boat-house structures. This is combined with the underlying industrial heritage of the Lee Valley and function of the Edmonton EcoPark.

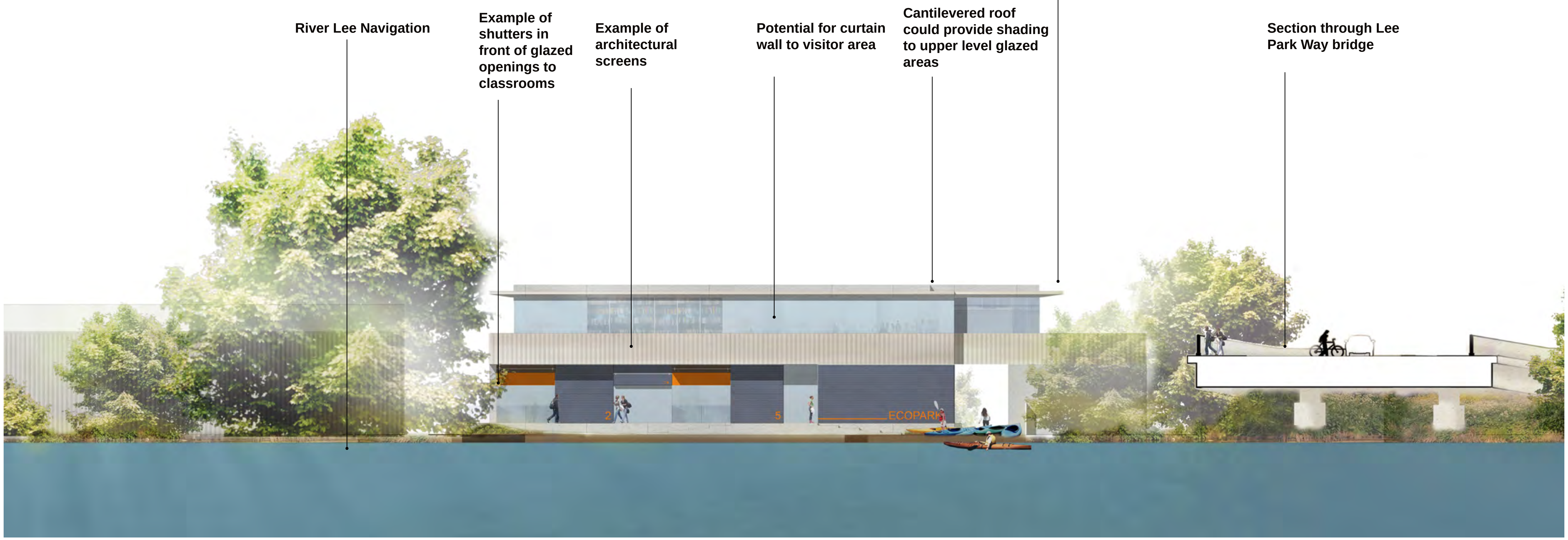
EcoPark House acts as a gateway to the Edmonton EcoPark for visiting members of the public and it therefore requires an architectural expression suitable for public interface. The building's envelope is articulated to reflect the community, education and Edmonton Sea Cadet uses for example provision of a direct connection with the wharf.

A green or brown roof would be considered in order to provide ecological enhancement and aid in the integration of the Edmonton EcoPark into the LVRP to the east.

Figure 6.80: EcoPark House - boat-house and pavilion character references

Figure 6.81: EcoPark House - Illustrative view from River Lee Navigation

Cantilevered ‘Feature Roof’ examples



EcoPark House - Illustrative south-east elevation

6.4 APPEARANCE AND MATERIALS

6.4.7 FOCUS ELEMENTS

The design would accommodate a series of focus elements to be articulated through consistent lighting, accent colour and materials to provide a common language between buildings, enhance the sense of place and Edmonton EcoPark identity, and help wayfinding inside and outside the Edmonton EcoPark.

Subtle and coherent use of lighting would contribute to highlighting feature elements such as roof soffits and canopies for example as part of the RRC or the stack.

Accent colours would contribute to communicating a common design language across buildings and to aid wayfinding and strengthen identity. The common use of materials would create a familiar language across the buildings, while allowing materials to be used differently to suit their function.

Signage would be integrated with the architectural design of buildings and structures in terms of location, materiality and graphic design. The design of these elements would ensure legibility of text and symbols and assist in successfully communicating the identity of the Edmonton EcoPark.

These elements and their influence can broadly be divided into three categories:

a. long distance: identity. elements such as the stack, observation point and crane hall would be visible from a longer distance. They provide the opportunity to create a clear and legible identity for the Edmonton EcoPark;
b. medium distance: way-finding and orientation. A common accent or feature would help to create a connection between the buildings and establish an understandable sense of place to help people to navigate the Edmonton EcoPark; and
c. close-up: experience. elements accessible to the public, such as gatehouses and landscape features, provide the opportunity to communicate the activities at the Edmonton EcoPark.

Figure 6.82: ERF - Illustrative views from LVRP, north

Figure 6.83: Illustrative view from A406 North Circular Road, east. Accent colour on crane hall provides contrast between process hall and tipping hall volumes.