

Public Document Pack



EXECUTIVE

9 FEBRUARY 2022

SUPPLEMENTARY AGENDA

PART I

7. RAILWAY STATION MULTI-STOREY CAR PARK - BUSINESS CASE

To consider a Business Case in respect of the proposed Railway Station Multi-Storey Car Park.
Pages 3 - 42

Supplementary Agenda Published 1 February 2022

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Part I – Public



Meeting Executive
Portfolio Area Regeneration
Date 9th February 2022



CONSTRUCTION OF A NEW STATION NORTH MULTI-STOREY CAR PARK (MSCP) AND CYCLE HUB AS PART OF SUSTAINABLE TRANSPORT INTERCHANGE

KEY DECISION

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1 PURPOSE

- 1.1 This report follows the item previously approved by Executive in December 2021, relating to the construction of a new Multi-Storey Car Park & Cycle hub (MSCP) which noted the cost of the scheme, funding mechanism and design progress, and approved the funding for the project, subject to confirmation of the cost to the Council.
- 1.2 This report provides further financial information relating to the cost to the Council of delivering the project, including the short-term impact during construction. It also provides an overview of mitigation actions linked to the temporary closure of the Railway North car park during construction of the new MSCP, proposes the principles of a communications plan showing a proactive attitude toward promotion of existing car parks and provides an update on the decision taken by the Planning and Development Committee.

2 RECOMMENDATIONS

2.1 That Executive note:

2.1.1. that discussions with Huber (proposed Contractor) as well as with Officers in the Council's Finance and Parking Departments have continued since December 2021 Executive to progress the project;

2.1.2. the successful outcome of the planning application process, with the new MSCP including cycle hub being approved on 11th January 2022.

2.2 That Executive:

2.2.1. Approve borrowing of up to £2.05m to fund the cost of the MSCP not funded through Towns Fund and identified capital receipts

2.2.2. Delegate authority to Strategic Director (TP) to enter into a construction contract with Huber up to £9.5M and to agree any value increases to the existing Pre-Construction Services Agreement in order to protect the overall contract price.

2.2.3. Agree the following mitigation strategy principles:

- Customers to be encouraged, using an improved communications strategy, to use St George's car park as the preferred option for long term parking when using the station and other car parks within the town centre.
- Customers have a further choice to use Primett Road car park and walk to the station - a "park and stride" option.
- Utilisation of the Income Equalisation Reserve in the event that car parking income losses during construction of the MSCP are higher than included in the 2022/23 budget.

2.2.4. Delegate authority to Assistant Director (Planning & Regulation) to procure an operator(s) and operational plan for the new MSCP electric vehicle charging points and cycle hub, following consultation with the Portfolio Holders for Resources, Environment and Regeneration, and Economy and Transport.

3 BACKGROUND

3.1 On 8th December 2021, Executive approved the construction of a new MSCP and cycle hub, as part of a Sustainable Transport Hub, subject to carrying out further financial consideration of the cost of match funding. The previous report sets out all of the background the project, the procurement and design process, and the benefits that will be realised through the delivery of the project, as well as the principal project risks and funding strategy. Final agreement for the Council match funding is required to be able to enter into the construction contract with the contractor, Huber.

3.2 Since the December Executive meeting, further financial analysis of the cost of meeting the match-funding required as part of the total project budget has

been completed, and the financial implications are set out in paragraph 5.1 onwards. The outstanding funding requirement is that a borrowing level of up to £2.05m is required. In addition while the MSCP is being constructed a calculation has been completed regarding potential loss of income and based on this, the cost to the General Fund is forecast within an acceptable range, however this is based on modelling and there is always the risk that this could be higher.

- 3.3 Further progress has also been made in relation to securing planning permission. At the January Planning & Development Committee, Members resolved to grant planning permission. Some minor amendments have been made to the design to take into account points raised at the planning committee, including locating more of the disabled parking spaces inside the building.
- 3.4 Officers have also met to progress discussions regarding interim mitigation measures during the construction period. This included input from Finance and Parking services in relation to how to maximise capacity in other car parks during construction, provide options that are as convenient as possible, and mitigate temporary income loss.
- 3.5 Should Executive agree to the recommendations within this report, the Project Team will need to meet very tight deadlines in order to secure the contract price provided by Huber; this is illustrated in the graphic below.



4 REASONS FOR RECOMMENDED COURSE OF ACTION AND OTHER OPTIONS

- 4.1 The justification for proceeding with the project was set out in previous Executive reports, notably 8th December 2021. The project is a key element of the regeneration strategy, enabling a number of low-density surface level car parks, some of which have already been committed to redevelopment, to be utilised to deliver a large-scale transformation of the town centre. A summary table of the key reasons for agreeing the final funding position and proceeding to construction now are listed below:

Funding	The majority of funding for this project has been approved at Executive Committee in December 2021.
Parking Occupancy	From the start of the 2023/24 year, the General Fund MTFS assumes a return to pre-Covid levels of car parking income / demand. The new MSCP (if approved), can be constructed and opened before that point. The rationale for building more commuter parking is that this is identified as area of parking pressure and risk to income as commuter/long stay parking close to the station capacity has been reduced due to the redevelopments that have already been committed.
Construction Contract Price Secured	The MSCP construction price is only valid until the middle of March 2022 and meaning that if a contract with Huber cannot be signed by end of February 2022 there is a significant risk that the cost for this project will increase substantially reflecting supply chain and inflation pressures.
Planning	The project was successfully approved at Planning Committee on 11 th January, allowing more certainty in the design process and programme.

Car Parks Income - Mitigation Strategy Actions

- 4.2 During the construction of the proposed MSCP, Railway North (RN) car park will need to be closed for the duration of works. Based on the current construction programme, the temporary closure with Huber will result in a loss of income from this car park for a period of 40-50 weeks.
- 4.3 It is challenging to predict car parking occupancy levels in the future, but the assumption is that most car park users will move to other car parks within the town centre, provided that the temporary inconvenience of travelling a further distance to the station can be overcome. In order to mitigate the loss of customers, and loss of income as a consequence, it is recommended to undertake a proactive approach, based on the following principles:
- Prepare a detailed communications plan to promote available car parking options, by: highlighting available spaces in existing facilities in real time, and promoting the improvements that have been made to St George's Way MSCP, including increased CCTV and cleaning;
 - Temporarily redirecting customers to St George's MSCP which currently has enough capacity to accommodate for Railway North car park users. St George's Multi Storey will be promoted as the easy and convenient alternative car park for all day parking for station users, and offers a reduced rate to off-set the additional distance. The MSCP has already been refurbished in some areas but further discussions on more improvements are taking place with internal teams to improve customer experience even further;
 - Ensure that any refurbishment works to the remaining car parks minimise loss of parking capacity during the construction of the MSCP

- Minimise the use of remaining car parks for use as construction compounds;
- An alternative option would be to consider increasing charges on Railway South (RS) car park. As people would move to park in cheaper car parks, the increased charge for Railway South spaces could reduce the gap of lost income, however this car park has only 123 spaces compared to Railway North's 339 spaces and therefore not likely to recover the income gap;
- Utilise "park & stride" option on Primett Road

Communications plan

4.4 A Communications plan will be prepared detailing the available options for mitigating any loss to parking capacity and income during MSCP construction phase including (but not limited to):

- "Park & stride" at alternative sites;
- Utilisation of existing capacity in other car parks;
- Enhanced maintenance in St George's Way Multi-Storey Car Park;
- Review of parking concession deals and where their parking is located;
- Promotional campaign relating to the other parking facilities, improvements made and the range of options available.

4.5 A communication and marketing campaign will help support any mitigation reference to loss of parking and income generation, and to raise awareness of alternative car parks that can be used. This activity will include:

- Noticeboard frames
- Notice at pay machines
- Section on both SBC and SEB website on Sustainable Travel Hub and alternative car parking arrangements
- Social media posts including a Twitter campaign
- Parking updates referenced in the Sustainable Travel Hub article in the Chronicle
- Close cooperation with station management to help raise awareness of the new plans for the MSCP and the other available parking options.

Other options considered but not recommended

4.6 In terms of income and customer loss mitigation activities, a provision of a shuttle bus was explored. This option would result in significant additional cost to the scheme. Depending on duration of the construction of the MSCP, which could be between 40-50 weeks, the cost that the Council would need to cover for such a service could be approximately between £126,000-£168,000 (40 week programme) or £157,000-£210,000 (50 week programme). This would have a significant impact on the viability of the project and would be a General Fund revenue cost.

4.7 Other options with regards to construction of the new MSCP:

- Repeating the tender process to see if a reduced price could be achieved:

Advice from external experts is that currently the construction market is very volatile – both in terms of price and material availability, which could result in a further significant cost increase.

- Delay the start of construction on site:

It is anticipated that costs would have risen by this point as Huber would not be able to hold their price beyond March 2022. There is a risk that new developments in the town centre could have impact on the car parking capacity.

- Not to build a MSCP:

Commuters could possibly move to other towns when parking is more convenient. This option would result in an insufficient number of car parking spaces and consequential impacts on parking across the town.

5 IMPLICATIONS

5.1 Financial Implications

5.1.1 The current project cost estimate is £9.75M taking into account assumptions detailed in previous Executive reports.

5.1.2 Pre-Covid, the Council had the following spaces available that were predominately used by commuters:

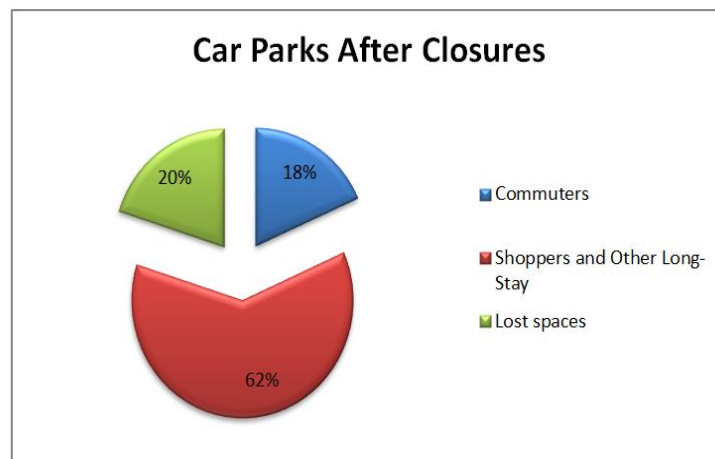
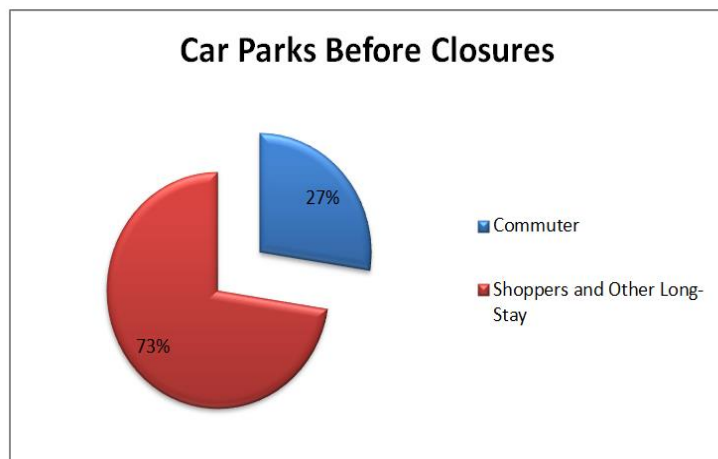
- Commuter and Rail car parks - 802
- Other Town Centre car parks and long-stay car parks – 2,117

Demand for the commuter spaces (in close proximity to the train station) was very high and evidence shows that the majority of these spaces were taken by 9am on most mornings on a Monday-Thursday basis. Friday usage was slightly lower but still saw high usage at these car parks.

The following car parks have been/are going to be closed:

- Danesgate and Leisure Centre (166 commuter spaces) - closed
- Swingate South (89 spaces used by commuters) - closed
- Southgate (211 spaces) – reserved site for school (long stay parking) potentially which could close in early 2023
- Marshgate (156 spaces) - closed; 46 spaces to be handed back to SBC in 2023 (available as shopper parking)

5.1.3 Due to the number of spaces at St George's MSCP (966 spaces) the timing and management of any refurbishment works for repairs, maintenance or other issues would cause a significant impact on the availability of spaces in the town centre needs to be carefully managed.



5.1.4 Key Assumptions:

The General Fund budget for 2022/23 assumes Covid-related car park income loss of £695k, this is a reduction on the £1.5Million assumed for 2021/22, but does reflect some loss of both commuter and shopper parking.

From 2023/24 year, the General Fund MTFS assumes a return to pre-Covid levels of car parking income/demand.

This would mean potentially over 200 customers per day will not be able to park in a car park as close to the train station (as pre-Covid) and would need to park in a cheaper car park or elsewhere.

Modelling of potential scenarios are summarised in the following table:

Choices for customers if no commuter spaces available	Cost to the Council (annually)	Assumption
<i>Find alternative parking in another SBC Car Park (e.g. St Georges) and paying a lower tariff (£2 per day less)</i>	£75,000	200 people parking 5 days a week for 45 weeks a year transfer to lower tariff car park
<i>Finding alternative parking outside Stevenage/using a different train station/car sharing/other ways of travelling into Stevenage</i>		
If 10 people (5%) a day did this (and 190 parked for £2/day less)	£86,250	Assumes parking 5 days a week for 45 weeks a year and paying the going rate for a commuter car park (£8 a day)
If 20 people (10%) a day did this (and 180 parked for £2/day less)	£97,500	
If 30 people (15%) a day did this (and 170 parked for £2/day less)	£108,750	
If 40 people (20%) a day did this (and 160 parked for £2/day less)	£120,000	

- 5.1.5 The table models income losses the Council could suffer from 2023/24 due to the reduced number of spaces available considered close to the Train station, with the redevelopment of the Danesgate and Leisure Centre car parks, and to a lesser extent Swingate South. The cost to the Council (in terms of reduced income), could be anywhere between an estimated £75k and £120k per year, if no further commuter parking provision (a new MSCP) was made available and people could only continue to use the 339 spaces at an undeveloped Railway North car park.
- 5.1.6 The above estimated loss is only projected to be a one-year impact. If the build of the MSCP takes place in 2022/23, the impact would be less severe in future years given the 2022/23 General Fund assumption that £695k of car park losses (compared to pre-Covid) are built into the budget, with 2023/24 income levels projected to be Pre-Covid levels.
- 5.1.7 Should the Railway North car park be closed for a full year or longer, the financial impact for that period of that time would be greater than the one presented in the table above. The additional losses would be up between £137,000 - £210,000 for that period of time.

The range of losses is based on the assumption that all Railway North customers either transfer to cheaper car parks in Stevenage (£137,000) or only 80% transfer to cheaper alternatives and 20% finding different options/parking outside Stevenage (£210,000).

- 5.1.8 Should Railway North car park close for the duration of construction of the new MSCP, there would be a larger number of customers who will need to find parking spaces in the existing car parks in addition to those presented in the table above. The lack of spaces available would be related to the type of spaces (commuter car parks) available rather than the overall capacity. Members should note there is estimated spare capacity in the St Georges Way MSCP (potentially around 500 spaces on a daily basis) which could be used by both long-stay and short-stay customers but all of the above factors would soon see those spaces filled. This use of Primett Road car park also would need to be considered as a further alternative option to which customers could be redirected. However, this may not meet customers' expectations around convenience.

Building a new MSCP option

- 5.1.9 To mitigate the loss of these commuter spaces and to support the regeneration programme, a new MSCP should be built on the site of the existing Railway North Surface car park. This would take 40 weeks according to the suggested build time, with to 50 weeks the worst case scenario. It would mean that for that year (2022/23) the Council would lose those 339 spaces currently available at the existing Railway North car park.
- 5.1.10 Construction of the new MSCP would provide a total of 622 spaces on site (i.e. a further 283 spaces compared to the current Railway North Car Park). This would reduce the impact of the lost spaces referred to above and also allow capacity for additional demand which is expected to be generated due to the improved service at the train station following changes such as the installation of the 5th platform. Additional demand is also expected to be generated by a state of the art new car park offering EV charging facilities amongst other benefits.

- 5.1.11 The recommended prudential borrowing required is estimated to be between £1.85m to £2.05M would cover the remaining project costs. Given the assumption that demand levels for car parks return to pre-Covid levels in the proposed opening year (2023/24), the potential net effect on the General Fund has been modelled between -£13,087 (positive impact) and +£11,404 (negative impact) on-going impact. The projections shows that it would be unlikely that there would be any additional material cost to the General Fund by building the new car park. The cost of borrowing has been mitigated by the saving of business rates on closed car parks and the potential increase in premium parking income. Clearly running costs such as NNDR are subject to government policy changes, but modelling has been based on costs as they currently are.
- 5.1.12 The risk of not increasing parking capacity by 2023/24 is likely to have a much larger financial impact based on the charts shown in paragraph 5.1.3, even if the net cost to the Council were to increase above that modelling the table above. The utilisation of Towns Fund to build a modern parking facility with EV charging and cycle hub has reduced the residual cost to the General Fund.

Impact of Building Railway MSCP	2023/24		
Scenario Assumption	Best Case	Middle Case	Worst Case
Total Running Costs of new MSCP (incl. Interest and MRP)	£399,903	£380,860	£361,817
Savings from Closed Car Parks (NDR and other direct costs)	(£225,257)	(£225,257)	(£225,257)
Net Running costs of new MSCP	£174,646	£155,603	£136,560
% moving from cheaper car park to convenient MSCP (based on 325 customers from closed car parks)	90%	75%	60%
Increase in Railway North premium parking	(£137,109)	(£114,258)	(£91,406)
Estimated new income	(£50,625)	(£42,188)	(£33,750)
Net cost/(reduction) to General Fund	(£13,087)	(£842)	£11,404

5.2 Legal Implications

- 5.2.1 The contractor has been procured as outlined in the 8th December Executive report. The Council has extended the current Pre-Construction Services Agreement with Huber to cover the technical construction design stage. This means that Huber were able to produce the technical drawings necessary before the project progresses to delivery phase to give greater cost certainty.
- 5.2.2 HCC shared legal services are engaged to advise on the detail of the construction contract.

Risk Implications

5.3 In addition to the risks presented in the previous Executive Report the following Risks should be taken into account:

NO.	RISK	MITIGATION ACTION
1	Contract price secured until mid-March 2022 due to material prices uncertainty cause by pandemic and Brexit. If a contract is not signed the cost of the project is likely to increase significantly.	<p>Due to the requirement for this project to obtain further approval for remaining funding, signing of the contract will be slightly delayed.</p> <p>Discussions with Huber have already taken place to clarify the Council's position. Huber negotiating with suppliers to extend contract signing deadline until end of March 2022 to avoid significant cost increases.</p> <p>JCT contract documents to be signed imminently after a final decision following Scrutiny and Overview meeting. Majority of proposed contract amendments have already been approved by SBC Legal and Huber.</p>
2	Uncontested planning consent.	<p>There is a risk that the expiry of the judicial review challenge period could impact on the overall programme. The application was discussed thoroughly at the planning committee, and the risk is considered low, but any expenditure prior to the challenge period expiring must be carefully controlled.</p>
3	Cycle hub cost may increase once more detailed plans are available.	<p>Huber have carried out site surveys for the entire MSCP site and they have provided a cycle hub suggested layout.</p> <p>An updated estimate to be obtained from cycle hub providers. The provider will work closely with Huber as the Principal Contractor and the costs of designing the hub are contained within the budget overall. The cost of fitting out the cycle hub will be included within the Town Fund 'Cycling and Connectivity' Business Case, anticipated to be recommended to the Executive in March 2022.</p>
4	Possibility to commit to placing orders without signed JCT contract.	<p>In order to enable Huber to place orders as soon as possible after Executive and Overview and Scrutiny meeting in February, the Council will be looking to move efficiently to entering in to a construction contract with Huber, but it may take some time to arrange for an execution of such a contract.</p> <p>The Council could issue a Change Order to add order placing for certain materials prior to signing a JCT contract. The Council would work with Legal</p>

		in order to possibly add a clause to the PSCA to protect the Council from the risk of purchasing materials while awaiting JCT contract execution.
5	Towns Fund conditions are not met.	<p>Delegation of authority for procurement of EV chargers and a cycle hub provider to Transport and Planning AD. The facility could be provided and managed directly by the operator but the Council could also manage the facilities in-house (EV chargers). A full options appraisal will be conducted to inform the procurement, and consultation with the Portfolio Holders for Resources, Environment and Regeneration and Economy and Transport.</p> <p>The project cost includes costs for the delivery of 25% of the EV charging points, with enabling works for a further 50% of spaces. Activation of those additional spaces would require a further business case to be developed by the Council to evaluate further capital input vs operating costs and benefits.</p>

Planning Implications

5.4 Planning Committee granted permission for the scheme with the following amendments:

- Consultation with the Police must be carried out (completed)
- Disabled parking spaces layout on the ground floor needs to be amended so that more of these bays are under cover (completed)

5.5 The Police have been engaged and they are supportive of the proposed plans for the new MSCP. Comments include advice on the security of the MSCP building and Secured by Design guidance on security for the cycle hub. They encourage the use of Park Mark scheme proposed for this project as it demonstrates the commitment to Public Safety.

5.6 The layout of disabled spaces has been amended (see **Appendix B**) to reflect the requirement for more disabled parking spaces to be within the MSCP building.

Environmental Implications

5.7 Draft of embodied carbon report has been prepared for the new asset as requested by Members. This is to be reviewed and discussed with Huber, who advised that such reports are typically produced to compare a building with an

existing building. SBC does not have such reports available on St George's car park, which could be used as a comparison to the new MSCP modular car park. Therefore the current draft report can only provide information about the new MSCP with no comparison. Please see the draft attached as **Appendix C**.

Climate Change Implications

- 5.8 Huber's EV charging points specialist consultant confirmed that the battery storage and solar panels option will help to support the demand for energy use by EV (the remaining power would come from the grid) or could cover lighting, lift operation and any other small power.

Staffing and Accommodation Implications

- 5.9 Car park staffing numbers may need to be reviewed in order to have the right amount of staff available to run the car park especially when offering additional services (i.e. space hire, potential to offer the space for different uses etc.).
- 5.10 The cycle hub will be provided within the car park's footprint by an external provider who can manage the facility on behalf of SBC. This is the most common management model for cycle hubs.
- 5.11 A provider of EV charging points to be appointed to manage and maintain EV points. There will be no income to the Council but also no need for additional cost to staff who would have to manage it.

Equalities and Diversity Implications

- 5.12 All implications apply as per previous reports. Also station lift has been improved to ensure it is reliable and provides disabled users with easy access to/from the station.

Service Delivery Implications

- 5.13 Cleaning regime is being discussed in more details with SBC's Parking team and Direct Services team who have already given initial comments on this and provided an estimated cost for the maintenance of the new MSCP. The estimate is approx. £11,500 per annum. Proposed Maintenance Schedule:

Mechanical Sweep – Once per week

Litter Pick – Daily (Mon-Fri)

Grass – 10 cuts per season

- 5.14 Landscaping team has been consulted on the soft landscaping required in front of the MSCP. The advice was to choose a grass option due to the cost and ease of maintenance of a relatively small area. Also the MSCP design itself is quite expressive therefore a toned landscaping would suit the overall image of the MSCP.

Community Safety Implications

- 5.15 In addition to the previous report, the Police have now provided guidance on how to build a secured cycle storage and are happy with use of Park Mark scheme, which Huber have experience with.

Other Corporate Implications

- 5.16 The new asset will provide opportunity for Commercial team to potentially bring some income from advertising internally within the car park. Initial discussions have taken place and there could be areas designated for advertising within the car park, i.e. by paying machines where the biggest footfall is.
- 5.17 The new MSCP will provide improved sustainable transport options in Stevenage. There is an insignificant number of EV charging bays available in the town centre and none are provided around the railway station.

APPENDICES

- A New Station MSCP with Cycle Hub Proposal 20211221
- B 19102 Proposed Site Plan updated 20220114
- C LCA report - Carbon Footprint 20211201

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1. Background

Stevenage SG1 plans are moving at pace meaning the town centre car park provisions are reducing quickly by redevelopments taking the space to bring new residential, office and retail units to the town. With the reducing number of available car parking spaces and the naturally created by the new redevelopments increased footfall in the nearest future, an opportunity has arose for a new multi-storey car park (MSCP) to be built on the current at-grade Station North car park. The area for the new MSCP has been earmarked within Area Action Plan (AAP) and the Local Plan 2031.

This opportunity has given The Council (SBC) a chance to focus the design of the car park not only around replacing the number of the lost car parking spaces in the town centre, but also to improve the offer to encourage residents and visitors to use different transport modes. The main feature right next to EV (electric vehicle) charging points is a provision of a secure cycle storage currently not available anywhere in Stevenage.

2. Cycle Hub Proposal

The cycle hub would be a complimentary facility to the already existing cycle racks by the drop-off point next to the Station North car park. At the moment the only available cycle storage at the railway station is standard bicycle racks which are usually always full (approx. 200). The station management has a lot of reports of theft due to the bikes being easily accessible to anyone and lack of any security measures, which deters a lot of people from using this facility.

The new cycle hub which would be part of the new MSCP will be located on the north side of the MSCP, next to Blue Badge parking bays.

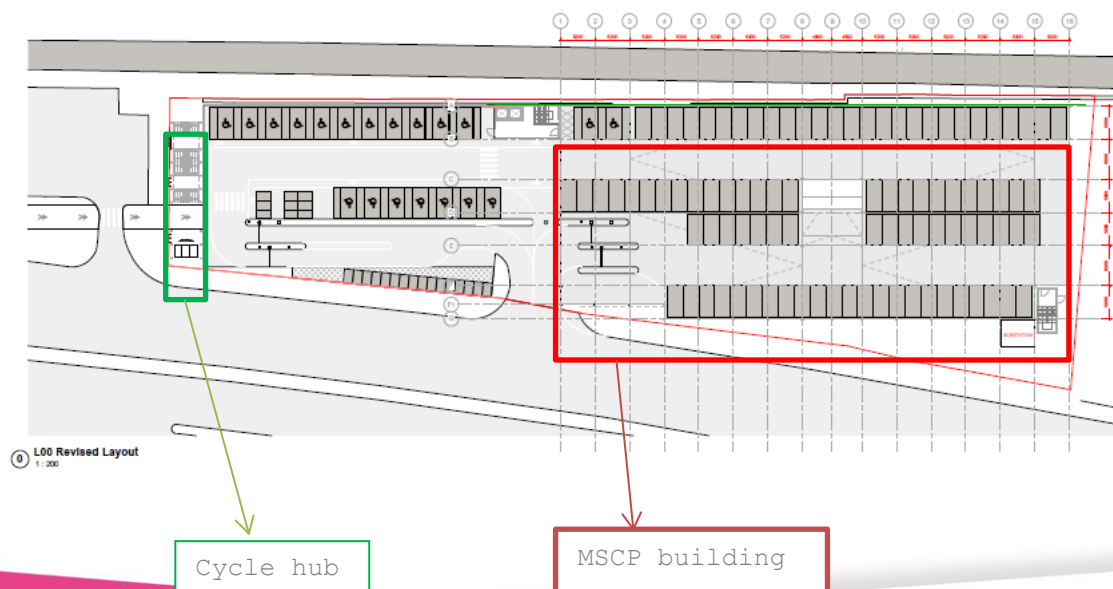


Figure 1. MSCP layout and location of the cycle hub.

The aim for the cycle hub is to be a standalone glass structure which can provide clear visibility. The cycle hub structure will be separated from the main building of the car park as a deliberate decision to improve natural surveillance and activity around the bike store and essentially to deter criminals and make cycle and MSCP users feel safe.

The location of the cycle hub away from the vehicle traffic will enable users a safe and easy access without the need to mix with vehicle traffic. Cyclist will not have to cross the Disabled parking bays, which are also located outside the MSCP building, and will be in the closest proximity to the station and this is where the entrance and exit doors would be located. This will make the facility even more use friendly and time saving to those arriving on bicycles.

Due to the site's irregular shape and the site being narrow on the north of the site, having cycle hub outside the building is also the best practice from a cost and efficiency perspective.

Please see Proposed Bike Hub drawing attached.

3. Cycle Hub Details

Spaces are available on a first come first served basis. During peak times the Cycle Hub may be full. That means even if you are a member but the spaces are full, you will not be able to use the facility despite paying for membership.

Income goes directly to the provider but it could be possible to arrange an agreement for the Council to have a share of profits. It all depends on the demand for secure cycle parking. Usually providers take all the profit as local authorities aim is to provide the public with such facility and the decision is not income driven. The Council become the owner of the facility and in most of the cases does not get any financial benefits from it.

Membership price vary from town to town I.e. Enfield is £25 per annum per space. Only one space per member. However some landlords choose to subsidise the membership fee, reducing the cost for the Members for a fixed term.

Deposit is payable at the start of the Membership for the card key. It is returned when a Member terminates their agreement.

Information provided is based on details sent by Cyclehoop company who are one of a few companies specializing in a provision of various cycle storage solutions.

Cost

The cost is based on a high level estimate and does not take into account any ground studies or surveys which could increase the cost of this project. The

cost for a Cycle Hub for up to 80 bicycles and 3 accessibility bikes is estimated at circa £200,000 (includes product and installation) but the final cost will also depend on the layout of the hub.

The features would include:

- Cycle Hubs provide 24 hour 7 days a week secure access for members to park their cycles.
- Members are provided Key Cards to access the facilities.
- Automated sliding doors for ease of access
- Parking is provided using cycle stands and two-tier racks.
- Ground anchors are provided for non-standard cycles such as cargo bikes, recumbents and tricycles.
- The facility is covered by CCTV and lit at night.
- Free bike pumps and repair tools are provided.

The facility is managed and maintained by the provider, who provide and install Cycle Hubs.



Figure 2. Visual from the station - South façade

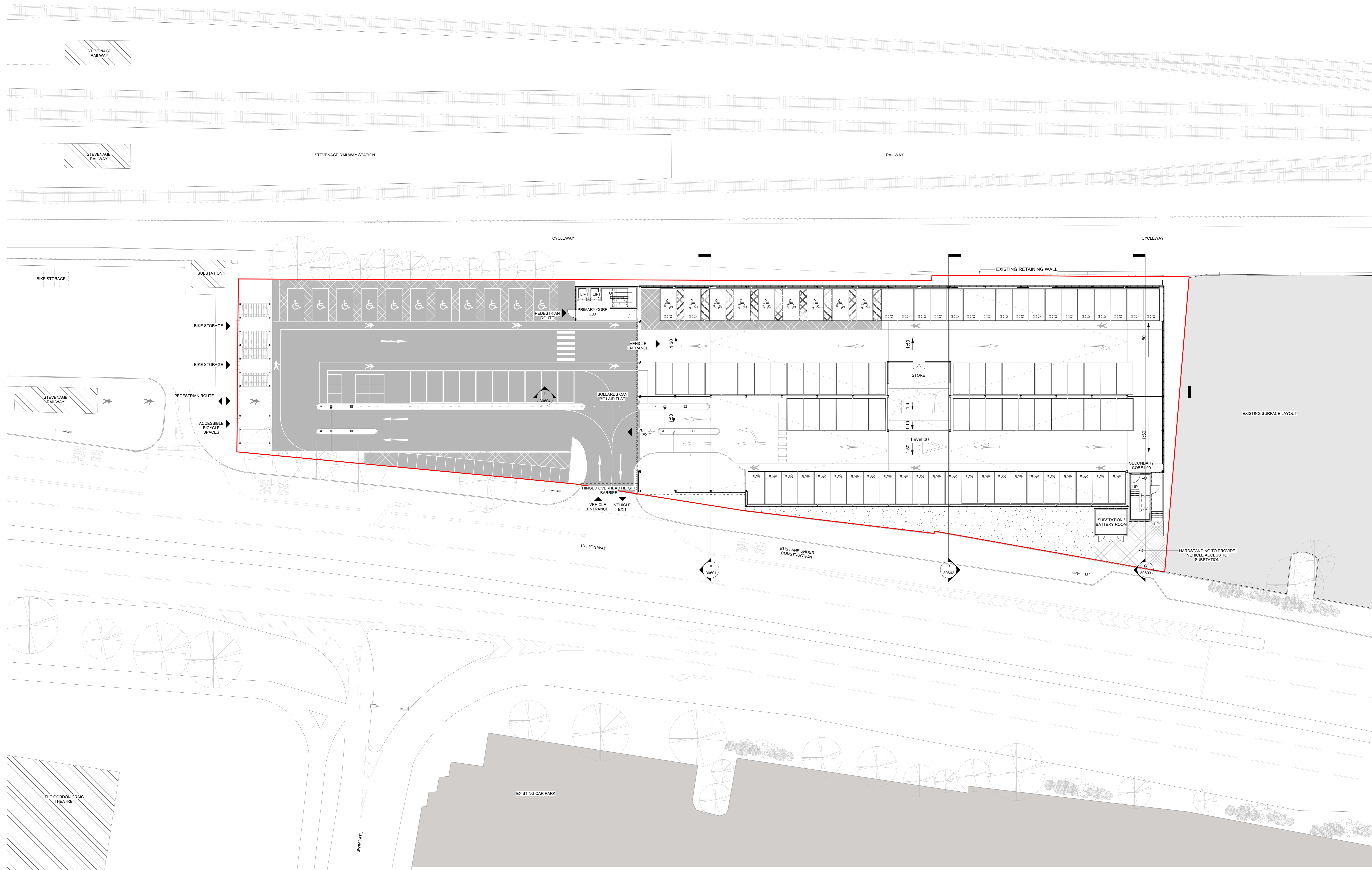
The images below present examples of how bicycle hub designs.





Figure 4. Example of a cycle hub interior

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 Clarify any discrepancies or queries with Fatkin.
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KEY:

- Site Boundary
- Proposed surface carpark
- Existing surface carpark
- Hardstanding to provide vehicle access
- Proposed soft landscaping

CAPACITY TABLE

Level	Disabled	Non Disabled	Total - Cars	Total - Motorcycle
L05	2	100	102	-
L04	2	100	102	-
L03	2	100	102	-
L02	2	100	102	-
L01	2	100	102	-
L00	9	82	91	-
External	11	10	21	27
Total			622	27

P5	Planning	13/01/2022
P4	Planning	10/01/2022
P3	Planning	25/11/2021
P2	Planning	02/11/2021
P1	Planning	18/10/2021
Rev	Description	Date



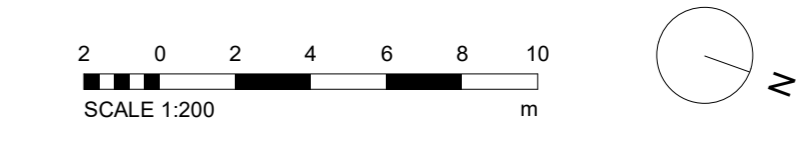
020 8563 7711 studio@fatkin-design.com

Stevenage MSCP

Proposed Site Plan

ISSUED: 13/01/22
 SCALE: 1 : 200 @ A0
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Results for building life cycle assessment
according to EN 15978



MSCP Stevenage Station

Address: SG1 1LZ, Stevenage UK

Assessor: Huber car park systems UK Ltd.

Client for assessment: Stevenage Borough Council

Date: 17.11.21

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1. Purpose of the study and description of the building

Assessment basic information:

Purpose of the study: Embodied carbon calculation / life-cycle-assessment
Project type: New construction
Assessment method: EN 15978:2011

Assessed building, general information:

Building type: Multi storey car park (transport buildings)
Construction year: 2022
Building area: 4660m²
Extent of use: 622 parking bays in total
General service life: 50 years
Assessment period: 60 years

Building function(s) and service(s): Multi storey car park

Relevant technical and functional requirements:

The building is located next to Stevenage station and serves as multi storey car park for residents, commuters and visitors of Stevenage and proximity. It substitutes the existing surface car park and increases the number of parking bays significantly. 25% of these parking bays will be equipped with EV-chargers, with the possibility to increase this proportion to 75% in the future. The car park is open sided and naturally ventilated. Any mechanical ventilation is therefore not necessary. The structure is a free standing VCM with 6 storeys, including the ground floor. The building is served with two pre-cast stair cores at each end. Water supply is only required for regular cleaning purposes. A photovoltaic system will be installed on top of each stair core and the central ramp. This power will be used to accommodate the basic demand of the car park such as lighting, lift operation and any other small power. A battery storage facility will possibly support the power supply and contributes to the general self-supporting and sustainability of the building. The building is equipped with motion detectors and dimmable LEDs which reduces unnecessary lighting and light pollution during both night- and daytime. The structure largely consists of steel and mostly prefabricated items, which reduces operation time and waste on site. Because of the lightweight structure foundations can be

designed smaller and require less concrete and reinforcement. Any transports coming to site are loaded as efficiently and optimally as possible to reduce the amount of transport movements.

2. Life cycle impact assessment result summary

“Embodied carbon benchmarks are calculated for a fixed 60 year assessment period for all building materials, and do consider the given quantities of material, materials transports [...] and material replacements required during the building assessment period as well as the end of life processing.” (LCA, online)

5 309 Tons CO₂e [Ⓢ]

6.02 kg CO₂e / m² / year [Ⓢ]

265 452 £ Social cost of carbon [Ⓢ]

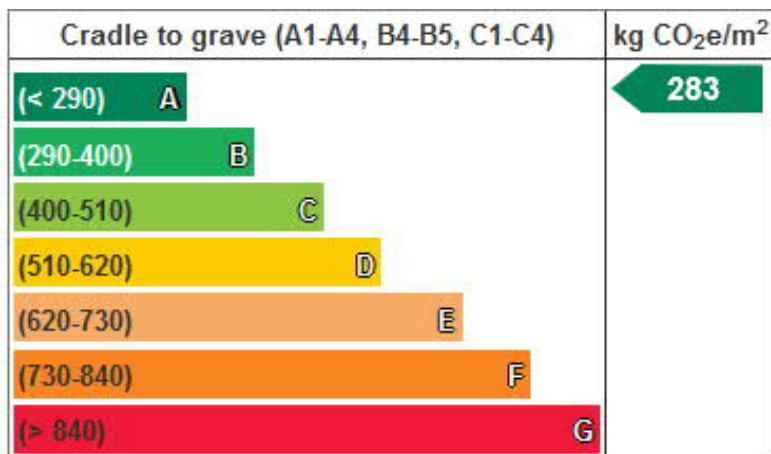


Figure 1: Embodied carbon benchmark (One click LCA, online)

The total carbon dioxide equivalent emissions are 5309 tons CO₂e. This equals 6.02 kg CO₂e per year and per building square meter. Taking an exemplary average price of 50 £/tCO₂e into account this leads to a social cost of 265 452£ for the whole building life cycle.

The life cycle assessment is calculated using One Click LCA. The results are summarized in the following table. The results represent the total life cycle impact during 60-year service life.

Impact category	Unit	Results
Global warming potential (greenhouse gases)	kgCO ₂ eq	5 309 042.49
Acidification potential	kgSO ₂ eq	22 108.26
Eutrophication potential	kgPO ₄ -eq	4 056.78
Ozone depletion potential	kgCFC ₁₁ eq	0.38
Formation of ozone of lower atmosphere	kgC ₂ H ₄ eq	2 078.31
Non-hazardous waste disposed	kg	1 367 374.74
Biogenic carbon storage	kg CO ₂ eq	3 941.42

Table 1: Life-cycle assessment results for BREEAM UK according to EN 15978 (One click LCA, online)

3. The life cycle assessment scope and system boundaries

In the assessment following life cycle stages according to EN 15804:2012 are included:

Product Stage			Constructi on Process Stage		Use Stage							End-of-Life Stage				Benefits and loads beyond the system boundary		
Raw material supply	Transport	Manufacturing	Transport to building site	Installation into building	Use/application	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/demolitio	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	D	D
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Table 2: Cradle to cradle (One click LCA)

Description of the life cycle stages and analysis scope are provided in the table below:

A1-A3 Construction Materials	Raw material supply (A1) includes emissions generated when raw materials are taken from nature, transported to industrial units for processing and processed. Loss of raw material and energy are also taken into account. Transport impacts (A2) include exhaust emissions resulting from the transport of all raw materials from suppliers to the manufacturer’s production plant as well as impacts of production of fuels. Production impacts (A3) cover the manufacturing of the production materials and fuels used by machines, as well as handling of waste formed in the production processes at the manufacturer’s production plants until end-of-waste state.
A4 Transportation to site	A4 includes exhaust emissions resulting from the transport of building products from manufacturer’s production plant to building site as well as the environmental impacts of production of the used fuel.
A5 Construction/installation process	A5 covers the exhaust emissions resulting from using energy during the site operations, the environmental impacts of production processes of fuel and energy and water as well as handling of waste until the end-of-waste state.

B1-B5 Maintenance and material replacement	The environmental impacts of maintenance and material replacements (B1-B5) include environmental impacts from replacing building products after they reach the end of their service life. The emissions cover impacts from raw material supply, transportation and production of the replacing new material as well as the impacts from manufacturing the replacing material as well as handling of waste until the end-of-waste state.
B6 Energy use	The considered use phase energy consumption (B6) impacts include exhaust emissions from any building level energy production as well as the environmental impacts of production processes of fuel and externally produced energy. Energy transmission losses are also taken into account.
B7 Water use	The considered use phase water consumption (B7) impacts include the environmental impacts of production processes of fresh water and the impacts from waste water treatment.
C1-C4 Deconstruction	The impacts of deconstruction include impacts for processing recyclable construction waste flows for recycling (C3) until the end-of-waste stage or the impacts of pre-processing and landfilling for waste streams that cannot be recycled (C4) based on type of material. Additionally deconstruction impacts includes emissions caused by waste energy recovery.
D External impacts/end-of-life benefits	The external benefits include emission benefits from recycling recyclable building waste. Benefits for re-used or recycled material types include positive impact of replacing virgin based material with recycled material and benefits for materials that can be recovered for energy cover positive impact for replacing other energy streams based on average impacts of energy production.

Table 3: Description life cycle stages (One click LCA)

4. Assessed impact categories

Impact category	Unit	Description
Global warming potential (greenhouse gases)	kgCO ₂ eq	Describes changes in local, regional, or global surface temperatures caused by an increased concentration of greenhouse gases in the atmosphere. Greenhouse gas emissions from fossil fuel burning has been strongly correlated with two other impact categories: acidification and smog. Often called “carbon footprint”.
Acidification potential	kgSO ₂ eq	Describes the acidifying effect of substances in the environment. Substances such as carbon dioxide dissolve

		readily in water, increasing the acidity, which contributes to global phenomena such as ocean acidification (IPCC 2014).
Eutrophication potential	kgPO ₄ -eq	Describes the effect of adding mineral nutrients to soil or water, which causes certain species to dominate an ecosystem, compromising the survival of other species and sometimes resulting in die-off of populations.
Ozone depletion potential	kgCFC ₁₁ eq	Describes the effect of substances in the atmosphere to degrade the ozone layer, which absorbs and prevents harmful solar UV rays from reaching Earth's surface.
Formation of ozone of lower atmosphere	kgC ₂ H ₄ eq	Describes the effect of substances in the atmosphere to create photochemical smog. Also known as summer smog.
Non-hazardous waste disposed	kg	The amount of waste disposed that is arising from product raw material extraction, manufacturing and supply processes as well as end of life-processing
Biogenic carbon storage	kg CO ₂ eq	Biogenic carbon sequestered materials (in case of A1-A3) or in growing vegetation (in case of B1), expressed as CO ₂ -equivalent. This biogenic carbon may or may not be preserved after the asset lifetime depending on the end of life process for said materials. This impact category is separate from accounting the fossil GWP.

Table 4: Assessed impact categories (One click LCA)

5. Analysis material scope

The LCA analysis included following building elements:

Element	Included	Comments
SUPERSTRUCTURE		
Frame	Yes	
Upper floors	Yes	
Roof	Yes	
Stairs	Yes	
External Walls	Yes	
Windows & External doors	Yes	
Internal Walls and Partitions	Yes	
Internal Doors	No	Only external doors
INTERNAL FINISHES		
Wall Finishes	No	N/A
Floor Finishes	Yes	

Ceiling Finishes	Yes	
BUILDING FITTINGS & FURNISHINGS		
Fixed fittings and equipment	Yes	
SERVICES		
Sanitary Fittings	No	N/A
Services Equipment	Yes	
Disposal Installations	No	N/A
Water Installations	Yes	
Heat Source	No	N/A
Space Heating and Air Treatment	No	N/A
Ventilation Systems	No	N/A
Electrical Installations	Yes	
Gas Installations	No	N/A
Lift Installations	Yes	
Protective Installations, inc. internal CCTV	Yes	
Communication Installations	Yes	
Specialist Installations	Yes	
EXTERNAL WORKS		
Site works	Yes	
Drainage	Yes	
External services	Yes	

Table 5: Material scope

6. Environmental data sources

One Click LCA LCA EN-15978 tool is used in the assessment. The tool supports CML (2002 - November 2012 or newer) methodology and all assessed impact categories. All of the datasets in the tool follow EN 15804 standard. A complete list of data sources is presented in attachment 1.

7. Project data sources and assumptions

The proposed building is calculated in One Click LCA based on design data from RIBA stage 3 and calculations.

Area of analysis	Data sources
Material quantities (A1-A3)	Project brief, architectural drawings and calculations
Building material transport distances (A4)	The case specific transport distances are used when available. Other transport distances are estimated based on typical average transport distances based on material type provided by calculation tool.

Construction and installation process (A5)	Calculation tool average construction process emissions based on project size are used in the analysis.
Material service life (B1-B5)	The service life information for each material is checked and project specific values are used when available. Otherwise default values from One Click LCA database are used.
Building use phase energy consumption (B6)	Energy consumption is based on project specific calculations.
Building use phase energy consumption (B7)	Water consumption is based on typical water consumption for car parks.

Table 6: Data sources and assumptions

Other assumptions:

It is assumed that the steel being used has no recycled content, which is a very conservative assumption and reflects a worst-case scenario. However, due to the unknown actual proportion of recycled material this seems to be reasonable. Taking this into account it can be assumed that the actual carbon emission of the whole car park is even less than calculated.

The energy consumption is calculated based on 75% EV-chargers with a diversity of 30%.

8. Detailed assessment results

Result summary

Section	Result category	Global warming kg CO2e	Acidification kg SO2e	Eutrophication kg PO4e	Ozone depletion potential kg CFC11e	Formation of ozone of lower atmosphere kg Ethenee	Non hazardous waste disposed kg	Biogenic carbon storage kg CO2e bio
A1-A3	Construction Materials	3,60E+06	1,13E+04	2,10E+03	1,40E-01	1,43E+03	8,72E+05	3,94E+03
A4	Transportation to site	9,30E+04	4,09E+02	8,90E+01	1,80E-02	5,89E+00	2,98E+02	
A5	Construction/installa tion process	1,45E+05	5,17E+02	3,11E+02	2,10E-02	1,79E+01	3,75E+04	
A5a	Site operations & site waste handling	1,45E+05	5,17E+02	3,11E+02	2,10E-02	1,79E+01	3,75E+04	
B4-B5	Material replacement and	4,94E+05	1,57E+03	3,23E+02	6,30E-03	1,98E+02	3,20E+05	
B4-B5a	Material replacement -	4,82E+05	1,54E+03	3,19E+02	5,80E-03	1,96E+02	1,31E+05	
B4-B5b	Material replacement -	2,55E+03	1,03E+01	2,22E+00	4,90E-04	2,10E-01	7,58E+00	
B4-B5c	Material replacement - waste	9,17E+03	1,69E+01	2,35E+00	3,00E-06	1,55E+00	1,89E+05	
B6	Energy use	8,95E+05	8,15E+03	1,20E+03	1,90E-01	4,17E+02	5,63E+04	
B7	Water use	2,16E+02	1,17E+00	5,90E-01	2,40E-05	5,30E-02	3,02E+01	
C1-C4	End of life	8,25E+04	1,47E+02	2,85E+01	1,70E-03	1,14E+01	8,16E+04	
C1-C4	Deconstruction	8,25E+04	1,47E+02	2,85E+01	1,70E-03	1,14E+01	8,16E+04	
D	External impacts (not included in	-1,56E+06	-7,81E+03	-1,84E+03	-1,10E-01	-9,61E+02	-4,59E+04	
D	Installed Materials - benefit	-1,26E+06	-5,27E+03	-1,48E+03	-5,80E-02	-8,25E+02	-4,44E+04	
B4-B5-benefit	Material replacement -	-3,55E+04	-1,89E+02	-1,51E+01	-1,00E-06	-1,45E+01	1,47E+04	
D2	Exported energy (not included in	-2,59E+05	-2,35E+03	-3,47E+02	-5,60E-02	-1,21E+02	-1,63E+04	

Figure 2: Results summary (One click LCA, online)

Global warming potential (GWP), kgCO2 eq

Describes changes in local, regional, or global surface temperatures caused by an increased concentration of greenhouse gases in the atmosphere. Greenhouse gas emissions from fossil fuel burning has been strongly correlated with two other impact categories: acidification and smog. Often called “carbon footprint”.

Acidification potential (ADP), kgSO2 eq

Describes the acidifying effect of substances in the environment. Substances such as carbon dioxide dissolve readily in water, increasing the acidity, which contributes to global phenomena such as ocean acidification (IPCC 2014).

Eutrophication potential (EP) kgPO4-eq

Describes the effect of adding mineral nutrients to soil or water, which causes certain species to dominate an ecosystem, compromising the survival of other species and sometimes resulting in die-off of populations.

Ozone depletion potential (ODP), kgCFC11eq

Describes the effect of substances in the atmosphere to degrade the ozone layer, which absorbs and prevents harmful solar UV rays from reaching Earth's surface.

Formation of ozone of lower atmosphere (POCP), kgC2H4eq

Describes the effect of substances in the atmosphere to create photochemical smog. Also known as summer smog.

The major contributors for global warming potential emissions are A1-A3 materials followed by B6 Energy. This is reasonable due to the relatively low site operations in terms of demolitions and the high amount of material and energy used during construction and operation. Steel has the largest proportion in the A1-A3 material classification.

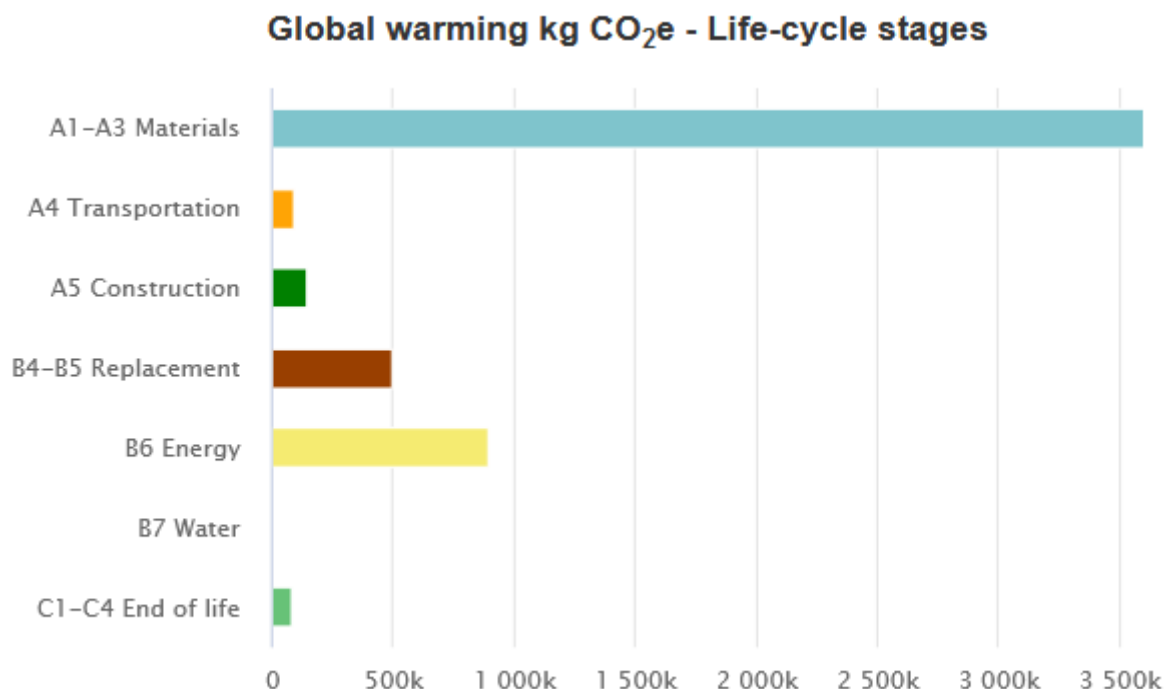


Figure 3: Global warming potential - Life cycle stages (One click LCA, online)

Global warming kg CO₂e - Classifications

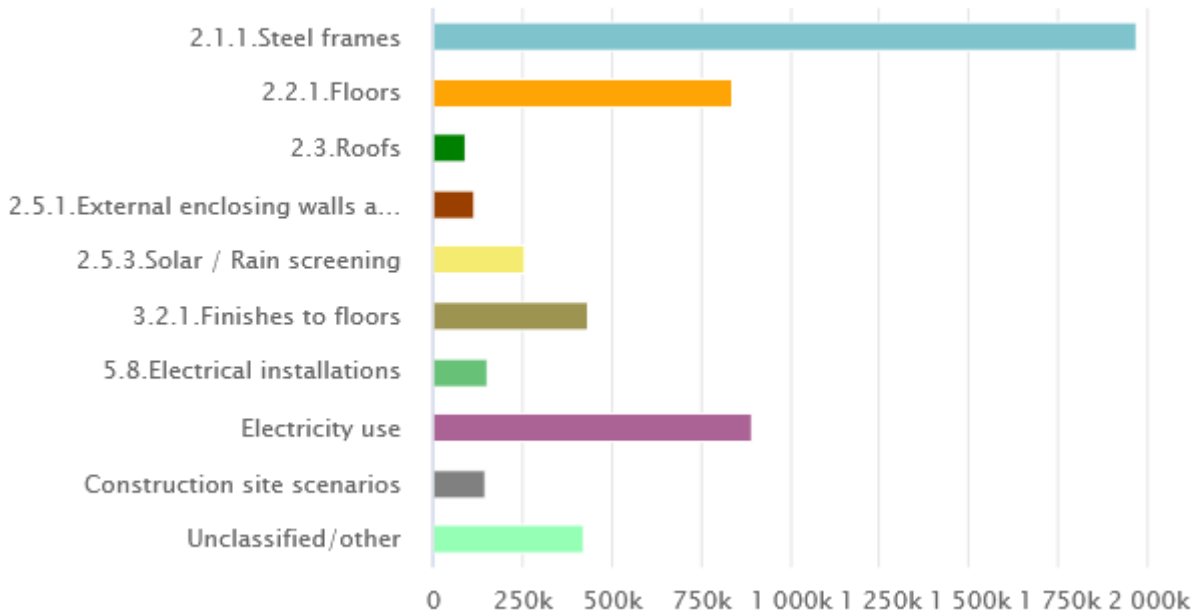


Figure 4: Global warming potential - Classifications (One click LCA, online)

Mass kg - Classifications

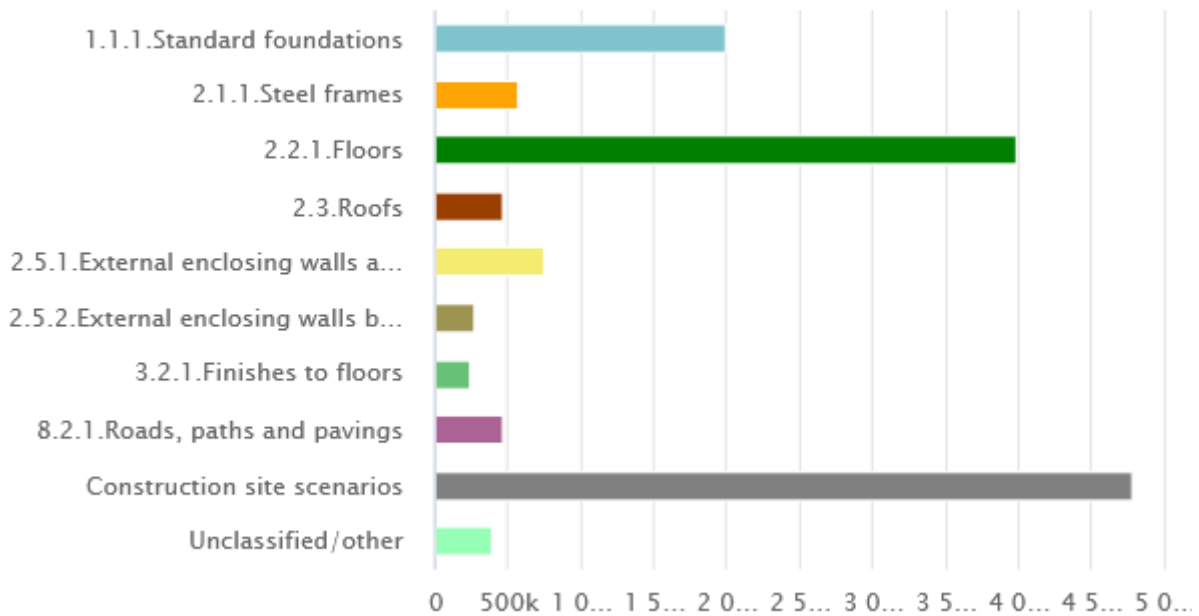


Figure 5: Mass kg - Classifications (One click LCA, online)

Global warming kg CO₂e - Resource types

This is a drilldown chart. Click on the chart to view details

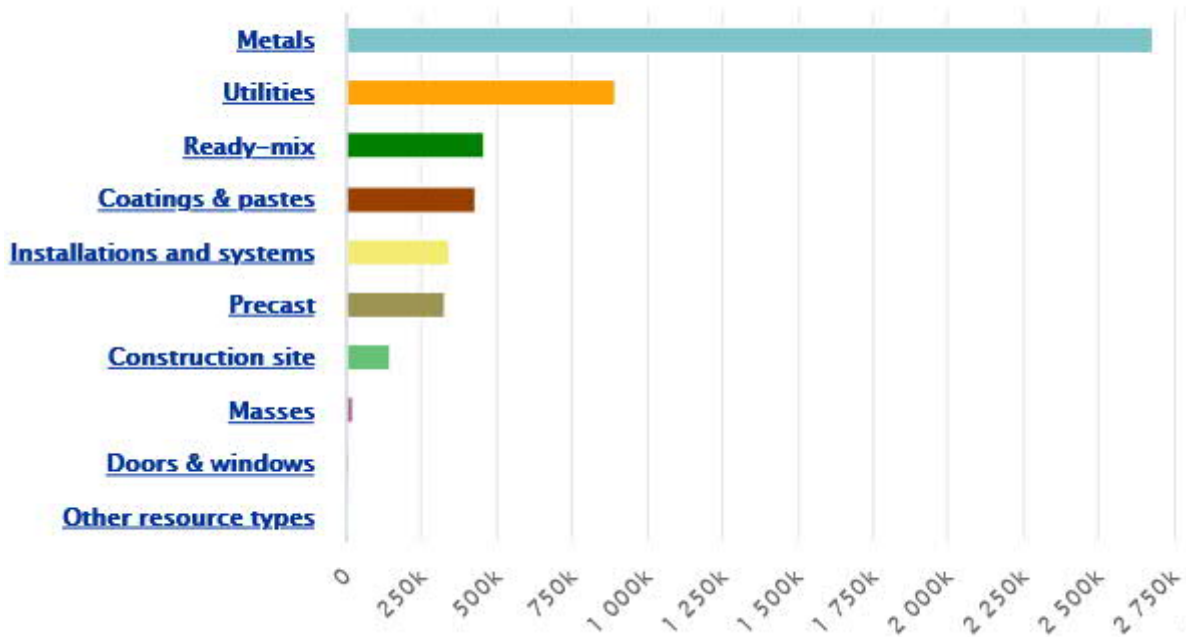


Figure 6: Global warming potential - Resource types (One click LCA, online)

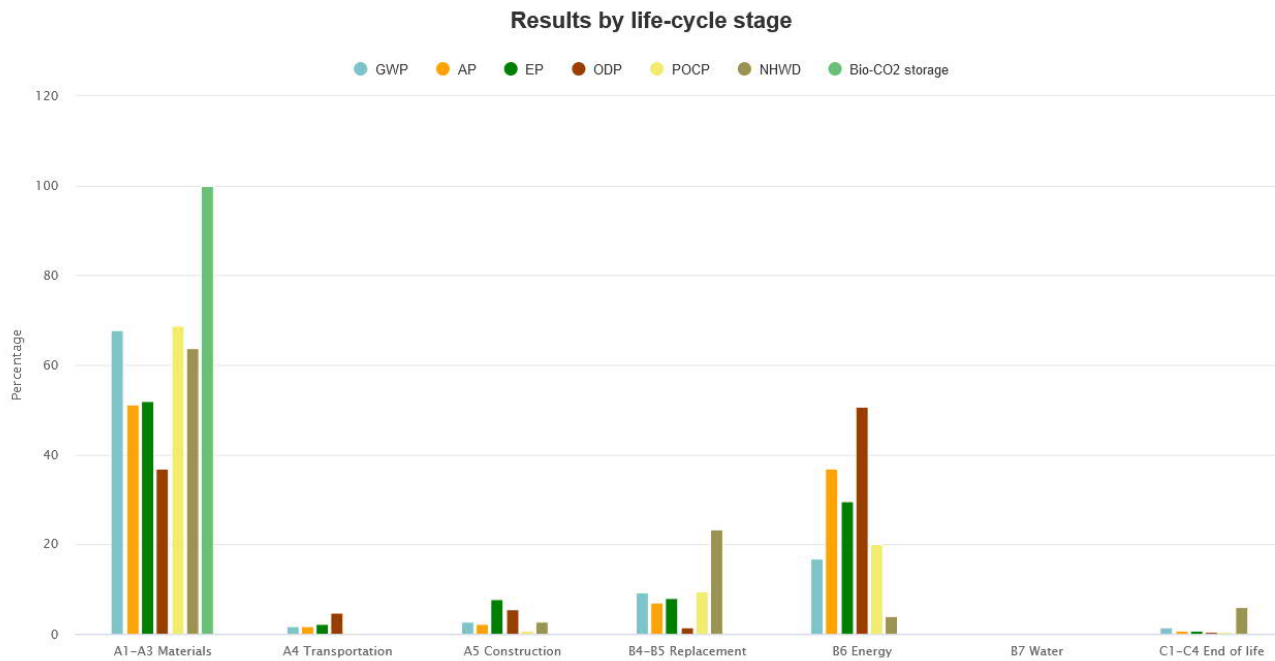


Figure 7: Results by life-cycle stage (One click LCA, online)

9. Description of One Click LCA calculation tool

The calculations are performed with One Click LCA calculation tool. The software is fully compliant with EN 15978 standard. One Click LCA has been third party verified by ITB for compliancy with the following LCA standards: EN 15978, ISO 21931–1 and ISO 21929, and data requirements of ISO 14040 and EN 15804. You can find the official letters of compliancy here: <https://www.oneclicklca.com/wp-content/uploads/2016/11/360optimi-verification-ITB-Certificate-scanned-1.pdf>.

ITB is a certification organization and a Notified Body (EC registration nr. 1488) to the European Commission designated for construction product certification. Polish Accreditation Board assures the independence and impartiality of ITB services (Accreditation Certificates are: AB 023, AC 020, AC 072, AP 113). ITB activities are conducted in accordance to the requirements of the following assurance standards: ISO 9001, ISO/IEC 27001, ISO/IEC 17025, EN 45011, and ISO/IEC 17021.

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Attachment 1 - Sources

Resource name	Date	Environment Data Source	Standard	EPD program	PCR	Notes about PCR	Upstream DB	Verification
Aluminium window system, triple glazed, per unit	2018	EPD Schüco AWS 75.SI+ W x H: 1836 mm x 3730 mm for project: S7 III - Item: TP-03 Schüco International KG	EN15804+A1	IBU	PCR Windows and doors, 11/2015	Only with EN15804	GaBi	Third-party verified (as per ISO 14025)
Cable trunking/channels, aluminium	2016	PEP	PEP	INIES	EN15804+A1	-	ecoinvent	Third-party verified (as per ISO 14025)
Cement mortar	2020	Oekobau.dat 2020-II	EN15804+A1	OKOBAUDA T	EN15804+A1	-	GaBi	Third-party verified (as per ISO 14025)
Circuit breaker	2016	PEP	PEP	INIES	EN15804+A1	-	ecoinvent	Third-party verified (as per ISO 14025)
Cold formed steel sheet piles	2019	EPD Cold formed steel sheet piles ArcelorMittal	EN15804+A1	IBU	PCR Structural steels, 07.2014	Only with EN15804	GaBi	Third-party verified (as per ISO 14025)
Electricity cabling, room area m2	2013	One Click LCA	ISO14040	One Click LCA	-	Only with EN15804	ecoinvent	Internally verified
Electricity, United Kingdom	2015	SAP 10.0 / One Click LCA		One Click LCA			ecoinvent	Internally verified
Elevator, 630 kg capacity, for passenger use	2020	KONE MonoSpace® 500 DX	EN15804+A1	RTS	RTS PCR 14.6.2018 RTS PCR protocol: EPDs published by the Building Information Foundation RTS sr. PT 18 RT EPD Committee.	Only with EN15804	ecoinvent	Third-party verified (as per ISO 14025)

					(English version)			
Footing foundations for hard soils (sand, gravel, silt or clay) per GFA		One Click LCA generic construction definitions		One Click LCA			Ecoinvent	
Geotextile, generic	2018	One Click LCA	EN15804+A1	One Click LCA	EN15804+A1	-	ecoinvent	Internally verified
Granular surfacing ø 8...20 mm, 35 kg/m²	2016	LCA of crushed stone, OneClickLCA 2016	ISO14040	One Click LCA	-	Only with EN15804	ecoinvent	Internally verified
Hot dip galvanized steel	2020	Oekobau.dat 2020-II	EN15804+A1	OKOBAUDA T	EN15804+A1	-	GaBi	Third-party verified (as per ISO 14025)
Hot-dip galvanized structural steel	2013	Oekobau.dat 2017-I, EPD Feuerverzinkte Baustähle: Offene Walzprofile und Grobbleche bauforumstahl e.V. & Industrieverband Feuerverzinken e.V.	EN15804+A1	IBU	PCR Baustähle, 07/2012	-	GaBi	Third-party verified (as per ISO 14025)