

IP07-F01: Design Risk Log		Project name: Spaces for People Lanark Road	Project number: Client Number: 12727 Sweco: 65201810	Revision Rev02 18.01.21	Design Element: Detailed Design	Designer/ Originator Alexander McNaughton	Checked by Graham Wilkinson	Technical Authority Approval Chris Fallen	Issue date Construction	SWECO 				
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H&S1	Rosehill Cycle Lane Defender Units	Client Specified Product Design Stage	Locations of Proposed Rosehill Cycle Lane Defender Units	Units Blocking Accesses/Driveways along route	Vehicles striking Units	Members of the Public	N/A	Approximate locations of all driveways along the route have been identified on the drawings. Design shows approximate locations of Units to be installed with gaps at driveway locations. Units have been designed to located 5m either side of dropped kerb accesses.	1	1	MINIMAL	Notes have been added to drawings highlighting the need to ensure driveways are kept clear. Client and Principle Designer to highlight this requirement to Contractor. Locations of units on site with site supervisor	AMcN	18/12/2020
H&S2	Rosehill Cycle Lane Defender Units	Client Specified Product Construction Stage	Installation of Rosehill Cycle Lane Defenders	Manual Handling See H&S5 For Working Next to Live Traffic	Injury from Manual Handling of Units	Operatives	N/A	Client Specified Product. Material is recycled Rubbers with weight 60kg. Data Sheets have been included in Designer Pack	1	1	MINIMAL	Client and Principle Designer to ensure competent Contractor is appointed to conduct construction works. Contractor to have suitable Risk Assessments and Method Statements (RAMS) for the installation works.	AMcN	18/12/2020
H&S3	Rosehill Cycle Lane Defender Units	Client Specified Product Removal/Dismantling Stage	Removal of Rosehill Cycle Lane Defender Units	Manual Handling See H&S5 For Working Next to Live Traffic	Injury from Manual Handling of Units	Operatives	N/A	Client Specified Product. Material is recycled Rubbers with weight 60kg. Data Sheets have been included in Designer Pack	1	1	MINIMAL	Client and Principle Designer to ensure competent Contractor is appointed to conduct construction works. Contractor to have suitable Risk Assessments and Method Statements (RAMS) for the installation/removal works.	AMcN	18/12/2020
H&S4	Rosehill Cycle Lane Defender Units	Client Specified Product	Installation of isolated units and potential of poor visibility to units	Vehicle strikes	Vehicles striking Units	Members of the Public	N/A	The locations of defender units has been to either remove isolated units or 'double up' on units where required. The locations of units at or near potential conflict points has been reviewed to reduce likely hood of strikes. The units will be made more conspicuous at the starts and ends of a run of units with red reflector signplates to the top of wands.	1	1	MINIMAL	Client and Principle Designer to ensure competent Contractor is appointed to conduct construction works. Contractor to have suitable Risk Assessments and Method Statements (RAMS) for the installation/removal works.	AMcN	18/12/2020
H&S5	Rosehill Cycle Lane Defender Units	Client Specified Product	Kerb units near pedestrian crossing points/desire lines	Trips over bases of units	Injuries from trips/falls	Members of the Public	N/A	The design has been conducted to ensure kerb units are not placed within the perceived desire lines of pedestrians at formal crossing points and signalised crossing points.	1	1	MINIMAL	Designer assist in the setting out of cycle lane defender units.	AMcN	18/12/2020
H&S6	Longstone Rd Roundabout Lane Width Reductions	Design Stage	Vehicle manoeuvres at junction with reduced entry, exit and roundabout lanes	Collision with vehicles, cyclists and kerb units	Injury or damage to vehicles or kerbs	Members of the Public	N/A	Swept Path Analysis of Max Length UK HGV Articulated vehicles was conducted at the junction to determine the sizing of the traffic lanes and the position of the temporary bolt down cycle lane defender units.	1	2	MINIMAL	Designer assist in the setting out of roundabout to check dimensions are as expected. CEC to monitor usage and feed back from Lothian Buses on operation.	AMcN	18/12/2020
H&S7	Advisory cycle lanes along layby bus stops	Design Stage Phase 1	Cycling in advisory lane over bus laybys	Sections of cyclelanes that are not mandatory and will have buses moving in and out of cycle lane	Injury of cyclists from bus movements	Members of the Public	N/A	Cycle Lanes have been marked with TSRGD Dia. 1010 markings and Cycle Symbols to highlight their presence. Bus drivers are trained professional drivers, who know how to navigate cycle lanes safely. Lothian Buses to be consulted on design. Use of 1010 markings will highlight to motorised road users of presence of cyclists and relevant infrastructure	1	2	MINIMAL	Ensure enough cycle symbols are placed along bus layby to give reassurance to cyclists of their space and motorists not to enter. Lothian Buses to advise during operation any potential issues	AMcN	18/12/2020
H&S8	Long Advisory Cycle Lane over Bus Stop Layby on Lanark Road, adjacent to Hailes Grove	Design Stage Phase 1	Cyclists using cycle lane	Poor road condition from opening longitudinal joints from utility works	Cyclists moving around road to avoid hazards and entering traffic lane. Risk of injury or conflict between road users	Members of the Public	N/A	Patching works to be carried out within road to remove issue. Cycle lane width widened to provide more space for cyclists to navigate road.	1	1	MINIMAL	CEC to monitor condition of road along route and provide repairs where required.	AMcN	07/01/2021
H&S9	Parking bays on Inglis Green Road	Design Stage Limited road space available	Installation of parking bays, cycle lanes and running lanes within limited road space	narrow widths of cyclists, parked cars and traffic leading to an advisory cycle lane that would have traffic running along it most of the time	risk of conflicts, injuries and frustration	Members of the Public	N/A	The design has been amended to remove a potential westbound advisory cycle lane as it would not be sufficient to provide any protection to cyclists and could lead to dangerous manoeuvres from motorists. This design will reduce the westbound lane to 3.25m to prevent motorists from making unsafe overtaking manoeuvres. This design retains the same parking dimensions as the rest of Longstone Rd/Inglis Green Road. Road speeds have been reduced from 40mph to 30mph & 30mph to 20mph	1	2	MINIMAL	CEC to monitor usage of parking and traffic after change to road speeds and parking layouts.	AMcN	07/01/2021
H&S10	Cycle Movements at Junctions with Parking Bays	Design Stage	Cyclists exiting cycle lane to cross full carriageway width to enter adjacent side road, and vice versa.	Parked vehicles blocking access to and from cycle lane and blocking visibility along carriageway of oncoming vehicles.	Cyclists coming into conflict with parked vehicles and road users. Cyclists edging from cycle lane through parked cars and onto carriageway with no visibility of oncoming vehicles	Members of the Public	N/A	Parking bays at Lanark Road/ Kingsknowe Park junction have been removed and TSRGD Dia 1040 hatching added to emphasize no parking in this area. This provides space and visibility for cyclists when crossing. The hatched boxes have small radii adjacent to cycle lane to aid longer bicycles to manoeuvre more easily.	1	1	MINIMAL		AMcN	18/12/2020
H&S11	Parking Bay Widths	Design Stage	Width of parking bays along route at 2m wide	Parking bay widths resulting in parked vehicles positioning vehicle away from Orcas and into carriageway	Conflict of parked cars and live traffic in lane, vehicle strikes and collisions	Members of the Public	N/A	Suitable car parking bay widths confirmed from CEC at minimum 2.0m, preferred 2.5m, with 0.5m wide buffers to cycle lanes.	1	1	MINIMAL	Recommend continual monitoring of parking usage along route.	AMcN	18/12/2020

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H&S12	Construction Works On Live Road/ Live Traffic	Construction Stage	Main Construction Works	Conflicts and injury from Live Traffic	Conflict between road users and Operatives during construction Phase	Operatives Members of the Public	N/A	Drawings prepared showing detailed layout of design measures to provide contractors with suitable level of detail to safely plan the works.	1	1	MINIMAL	Client and Principle Designer to ensure competent Contractor is appointed to conduct construction works. Contractor to ensure all works carried out are done safely with Temporary Traffic Management (TTM) designed to Traffic Signs Manual Chapter 8 requirements	AMcN	18/12/2020

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H&S13	COVID-19	Construction Stage	Main Construction Works	COVID-19 - Risk of Spreading & Social Distancing requirements	the Spread or contraction of COVID-19	Operatives	N/A		2	2	RESIDUAL	Client and Principle Designer to ensure competent Contractor is appointed to conduct construction works. Contractor to ensure all works can be carried out safely, and that work force are following Contractor RAMS for COVID-19 prevention and control, such as suitable distancing of operatives, Suitable PPE and training where required	AMcN	18/12/2020
H&S14	Cycle Lanes at Junctions	Operation Stage	Operation of Cycle Lanes	Road Users (motorists) exiting junctions and turning into new Cycle Lanes	Vehicle striking cycle lane defenders, Vehicle Hitting Pedestrians, Vehicle hitting Cyclists.	Members of the Public	N/A	Widths of Cycle Lanes have been kept consistent at junctions to show they are less wide than the traffic lanes. Defenders located away from turning points	1	2	MINIMAL	Maintenance of route to ensure any temporary signage along the route is kept in place and visible.	AMcN	18/12/2020
H&S15	Drive Way Access	Operation Stage	Reversing from main road into driveway access.	Reduction in lanes will mean residents will have to stop and reverse into driveways from main traffic lane, previously lane 2 will have been the main flow lane due to parked cars in lane 1.	Traffic may fail to anticipate slowing and stopping vehicles when accessing driveways. This could result in rear end or side on 'shunts'.	Members of the Public	N/A	- Reduction in speed limit from 40mph to 30mph / 30mph to 20mph - Design updated to maximise areas where on street parking will be retained which can also act as nearside lane/space when not occupied - This manoeuvre and risk will already exist along this section when parked vehicles along the kerb 'pushing' vehicles into lane 2 - Positioned kerb units to allow for parking manoeuvres - Highway Code advises that driveways are reversed parked to prevent reversing into main road Manoeuvres	2	2	RESIDUAL	CEC to monitor Comiston Road usage and evaluate risks during operation. Once speed limit change has come into force, re-evaluation of 85%ile may reduce severity resulting in MINIMAL residual risk	AMcN	18/12/2020
H&S16	Longstone Cres Longstone Ave Kingsknowe Rd N Longstone Pk	Design Stage Operation Stage	Visibility from junctions following installation of parking bays	Parking bays leading to a reduction in visibility from the junctions	Increased risk of collisions from reduced visibility	Members of the Public	N/A	Visibility Splay has been checked on OS Data with proposed design and reduction in speed limit from 30mph to 20mph. Junction visibility will be within design standards of Manual for Streets for a 20mph road. 20mph repeater signs will be placed at regular intervals to advise road users the speed limit.	1	1	MINIMAL	Visibility to be checked on site	AMcN	18/12/2020
H&S17	Dovecot Park Hailes Ave Hailes Park	Design Stage Operation Stage	Visibility from junctions following installation of parking bays	Parking bays leading to a reduction in visibility from the junctions	Increased risk of collisions from reduced visibility	Members of the Public	N/A	Visibility Splays at junction have been checked to 40m requirements of Edinburgh Street Design Guidance. These junctions are likely to have less vehicle movements as they are culdesac. Parking bays have splayed hatch zones at junctions to aid in visibility from junction. Traffic on the main road will be positioned near the centre line naturally due to the parking areas further reducing the risk	1	1	MINIMAL	Contractor to implement location of hatched markings, CEC to monitor 85%ile speeds under new 30mph limit	AMcN	18/12/2020
H&S18	Visibility Defenders	Design Stage Operation Stage	Visibility at junctions around Cycle Lane Defenders	Reduced Visibility from the Cycle Lane Defenders	Decreasing visibility	Members of the Public	N/A	The defenders have been spaced at 5m which will reduce any visual impact. The kerbs are low profile at less than 200mm, the poles in the defenders are narrow at 150mm diameter and are approximately 800mm in height. Strategic Decision by CEC to use the lane defender units at 5m spacing	1	1	MINIMAL	CEC to check visibility as installed by contractor.	AMcN	18/12/2020
H&S19	Crossing Cycle Lane	Design Stage Operation Stage	Pedestrians Crossing Cycle Lane	Collisions or conflict between cyclists and pedestrians crossing the cycle lane.	Injury of cyclists and pedestrians	Members of the Public	N/A	The entire route has good forward visibility which provides all users sight of each other. The unidirectional cycle lanes are wide to provide space for cyclists to safely pass pedestrians, most of the route has lane widths between 2-2.5m. Cyclist speeds will be lower than free flowing traffic which is an existing risk under the unaltered design.	1	1	MINIMAL		AMcN	18/12/2020
H&S20	Parked Cars nearer running lanes	Design Stage Operation Stage	Pedestrians accessing parked cars in running lane	Collisions or conflict between pedestrians and traffic in the running lane.	Injury of pedestrians or vehicles	Members of the Public	N/A	The existing layout has parked cars next to live traffic, with the new layout reducing traffic speeds from 40mph down to 30mph / 30mph to 20mph. The route has good forward visibility on all sections, including parking.	1	2	MINIMAL		AMcN	18/12/2020
H&S21	Parallel Parking from live lane	Design Stage Operation Stage	Parallel parking from live lane	Manoeuvre in live lane with free flowing traffic	Risk of shunts or conflict between road users when a vehicle stops to manoeuvre into a space	Members of the Public	N/A	- Reduction in speed limit from 40mph to 30mph - Design updated to maximise areas where on street parking will be retained which can also act as nearside lane/space when not occupied - This manoeuvre and risk will already exist along this section when parked vehicles along the kerb 'pushing' vehicles into lane 2	1	2	MINIMAL		AMcN	18/12/2020

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H&S22	Exiting Minor road onto Major	Design Stage Operation Stage	Turning into and out off minor priority junctions from the major road.	Turning manoeuvres in the road	Risk of shunts or conflict between road users when a vehicle enter or exit a minor road	Members of the Public	N/A	Visibility splays at each junction have been reviewed to ensure adequate visibility of oncoming traffic in both directions. The speed limit of the route has been reduced from 40mph to 30mph. At larger junctions which could have had high entry speeds, these have been reduced with road markings to reduce radii and control traffic more effectively.	1	1	MINIMAL		AMcN	18/12/2020
H&S23	Collision between Buses and other vehicles	Design Stage Operation Stage	Buses travelling north and south along the route	Narrower traffic lanes	risk of buses 'clipping' stationary vehicles or traffic traveling in the opposing direction	Members of the Public	N/A	All lane widths along the route have been reviewed to ensure they are minimum 3.25m to ensure adequate space for passing large vehicles. Lothian buses consulted and highlighted that lane widths must be suitable. All parking bay widths have been increase from 2m where possible up to 2.5m, only one section is 2m. Design of lanes and parking in line with CEC Edinburgh Street Design Guidance. Speed limit has been reduced from 40mph to 30mph.	1	1	MINIMAL		AMcN	18/12/2020
H&S24	Collision between large vehicles traveling in opposing directions	Design Stage Operation Stage	LGVs and HGVs travelling north and south along the route.	Narrower traffic lanes	risk of LGVs & HGVs 'clipping' stationary vehicles or traffic traveling in the opposing direction	Members of the Public	N/A	All lane widths along the route have been reviewed to ensure they are minimum 3.25m to ensure adequate space for passing large vehicles. All parking bay widths have been increase from 2m where possible up to 2.5m, only one section is 2m. Design of lanes and parking in line with CEC Edinburgh Street Design Guidance. Speed limit has been reduced from 40mph to 30mph.	1	2	MINIMAL		AMcN	18/12/2020
H&S25	Cycle Lane locations beside parking	Client Design Requirement	Placement of cycle lane between parked cars and footway	Risk of conflict between cyclists and pedestrians accessing vehicles. 'Dooring' accidents of parked car doors opening into oncoming cyclists	injury of cyclists and pedestrians	Members of the Public	N/A	CEC design decision to place cycle lanes between parked cars and footway, inline with established national design standards. Design incorporates 0.5m wide buffer area for car door openings and has 'soft' segregation in the form of bolt down kerb units with wands. parking bay widths are minimum 2m wide, with most around 2.5m to provide suitable space for parked vehicles.	1	1	MINIMAL	Designer recommends monitoring of cycle lane usage and parking areas.	AMcN	18/12/2020
H&S26	Defender visibility in low light	Design Stage Operation Stage	Driving along the route at night or in low light.	striking unsighted cycle lane defenders	damage to cars and cycle defenders	Members of the Public	N/A	The entire route is lit with street lighting. The poles on the defenders will have reflective markings to provide better visibility to motorists, similar to traffic cones. Starts of runs of defenders will have additional reflectors (red signage).	1	1	MINIMAL		AMcN	18/12/2020
H&S27	snow and ice / weather conditions	Narrow cycle lanes (min 1.5m wide) with cycle lane defenders	Cycling along segregated cycle lanes	skidding, falls	injury from skidding / falls	Members of the Public	N/A	Widths between kerb and inside of kerb units are 1.5m which allows for maintenance vehicles to clear and grit.	1	1	MINIMAL		AMcN	07/01/2021
H&S28	Desktop Design Works	Client Design Requirement	Designing Works to OS Mapping only	Actual dimensions of road space will be different that of OS Mapping	Design may not 'fit' into available road space	Design Delivery	N/A	CEC requirement to design works to OS Mapping, as a desktop exercise only. Designs have been conducted to allow for on site measurements to inform design changes. Designer to be present on site to conduct setting out works with contractor and any changes discussed with CEC for approvals.	1	1	MINIMAL	Designer to act as CDM Site Supervisor Role in assisting in setting out works for road markings and defender units. CEC to approve any design change requirements on site from actual measurements.	AMcN	07/01/2021
H&S29	Road Safety Audits	Client Design Requirement	Road Safety Audits / Reviews	Design specific potential Hazards	Design specific hazards not fully identified or mitigated	Design Delivery Members of the public	DMRB GG119 RSAs Edinburgh City Council Street Design Guidance	CEC in selection and development of scheme have conducted risk workshops and design reviews. Designer conducted designer risk assessment. Sustrans consulted on safety aspects. CEC have conducted Integrated Impact Assessment. Road Safety Audits Stage 1/2 would provide additional scrutiny from people unfamiliar with project.	1	1	MINIMAL	Designer recommends Road Safety Audits conducted to GG119 requirements and any other CEC Street Design Guidance. This allows for 3rd party observers to make comments.	AMcN	07/01/2021
H&S30	Maintenance of cycle lanes	Client Design Requirement	Routine maintenance of narrow cycle lanes with 'soft' segregation in the form of bolt down kerb units, and areas where parked cars line cycle lanes.	Restricted access for road sweepers and parked cars blocking spread of grit to lanes.	Cycle lanes become icy/slippery or difficult to navigate with leaves and litter	Members of the Public	N/A	Cycle lanes have been designed at a minimum 1.5m width to allow for smaller road sweeper units to be able to access these areas. These units can also conduct gritting operations	1	1	MINIMAL	CEC should monitor cycle lanes as part of routine maintenance activities and regularly conduct sweeping operations	AMcN	14/01/2021

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H&S31	Parking and Cycle Lane Layout adjacent to nurseries	Client Design Requirement	Cycle lanes between footway and parked cars adjacent to nurseries	Cyclists and pedestrians, including young children, in the same space when exiting and entering vehicles. Potential for doors to be open wider and for longer at these locations.	Potential for conflict or injury with two user groups sharing the same space	Members of the Public	N/A	CEC design standard to have cycle lane between footway and parked vehicles to reduce potential severity of accidents, as cyclists and pedestrians in this location will not be beside moving traffic. At the locations of parking adjacent to nurseries additional road markings have been added to highlight to cyclists the increase risk with 'Slow' markings and bar markings across the cycle lane to act like a 'rubble strip'. The parking areas have 0.5m wide buffer areas for doors to open into. The two nursery areas on Longstone road have good forward visibility and should have lower cycle speeds due to gradients.	2	1	MINIMAL	The Designer recommends that additional signage be considered on the cycle lane defender units if possible to further highlight the risk. It is recommended that these areas are monitored during operation to see how they perform and consider any/all design changes following these observations/reviews.	AMcN	18/01/2021