

Designers Risk Assessment

Proposed Traffic Signal Junction

New Brighton Road / Development Access (Interbridges), Hampshire

Aspect of work or description	Significant hazard	Persons affected	Hazard effect	Probability	Risk	Measures incorporated in design to reduce risk and suggested measures contractor could apply	Residual hazard	Residual prob.	Residual risk
Working and activities within and adjacent to live traffic	Injury or Fatality caused by collision	Operatives and members of public	5	3	15	Designer: specification clause included in contract(s) requiring contractor(s) to comply with the recommendations given in chapter 8 of the traffic signs manual, 'Safety at Street Works and Road Works, a code of practice and NRSWA. The design has taken into account which type of traffic management is suitable and with early involvement with the contractor the following is required: - • Lane closures for construction • Temporary lights for Civil Engineering Works, slot cutting and Signal Installation. • All road widths – for entire	5	1	5

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						length of traffic management – identify any issues with narrowing or obstacles to tm and safe working widths. Contractor: Provide and implement traffic management plan to Chap 8, 'Safety at Street Works and Road Works, a code of practice and NRSWA. Traffic Management plan produced or provided prior to works starting by contractor. Workforce to wear high visibility garments			
Working operations to pedestrian routes	Conflict between pedestrians and construction plant/operators	Operatives and members of public	5	3	15	Designer: specification clause included in contract (s) requiring contractor (s) traffic to comply with the recommendations given in chapter 8 of the traffic signs manual, 'Safety at Street Works and Road Works, a code of practice and NRSWA. Contractor: Suitable segregation from operatives, protection/diversion of pedestrian routes to be provided. Traffic Management plan produced or provided prior to	5	1	5

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						works starting by contractor, highlighting any issues relating to pedestrian routes.			
Excavation around underground statutory undertakers' apparatus.	Electrocution, burns, explosions and damage to the existing underground Statutory Undertakers apparatus.	Operatives and members of the public	5	3	15	Designer: Obtain details of apparatus by means of a NRSWA s.84 C2 preliminary enquiry and make details available to the contractor(s). Use Cable Avoidance Tool (CAT) to detect any underground utilities. Include conditions in the contract in respect of safe methods of working in and around apparatus. Particular apparatus received from C2 enquiry that requires due attention as identified by the designer: Any particular need or issue requiring trial holes to be made or specific utilities to be identified by suppliers e.g. BT/Cable Contractor: Comply with special conditions of contract relating to statutory undertakers' apparatus	5	1	5

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						to consult with all Statutory Undertakers prior to commencing excavations on site and carry out safe digging practice in accordance with HSG47.			
Working at heights	Falls of persons or materials	Operatives & or members of public	5	2	10	Designer: Cannot be avoided due to Signal equipment requirements. Safe working areas below heights to be maintained and well barriered. Contractor: Comply with the Work at Height Regulations 2007	5	1	5
Laying pre cast kerbs and paving slabs	Musculo-skeletal disorders if handled manually	Operatives	4	2	8	Contractor: Mechanical lifting techniques MUST be used. OR undertake risk assessment for manual handling if mechanical techniques not reasonably practicable Refer to HSE Construction Information Sheet no 57	4	1	4

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Electrical installation	Erection of equipment adjacent to live carriageways Electrocution	Work-force and members of public	5	2	10	Designer: All equipment designed to have a means of double pole isolation. Contractor: Provide adequate safety zones, safe methods of lifting and installation and competent workforce. Contractor(s) to be NICEIC Registered and to carry out installations to BS7671 and Comply with Electricity at Work Regulations 1989	5	1	5
Movement of plant and vehicles	Collision with persons and/or equipment	Work-force and members of public	5	2	10	Designer: None. Compound/Welfare Unit Location: - Route to compound crosses pedestrian routes and live traffic. Ped routes to be well barriered and signed. Any significant conflicts to be clearly identified. - Compound situated in pedestrian area Contractor: Implement site rule that all reversing movements to be supervised.	5	1	5

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Noise / vibration / dust	Hearing Damage "Vibration White Finger"	Work-force and members of public	3	2	6	Designer: Contract(s) condition specification for contractors to comply with BS5228 and Noise at Work Regulations. Contractor to risk assess to see if acoustic screens are appropriate Time of day for works to be completed and proximity to residential properties. Contractor: Ensure proper use of PPE at all times. Comply with The Control of Vibration at Work Regulations 2005 Manage risks from hand-arm vibration (HAV) – guidance from HSE publications (eg INDG175 rev 2). As a minimum arrange for workforce to have adequate breaks in use of vibrating tools. Workforce to be familiar with HSE leaflet INDG 296 and INDG136(dust)	2	1	2
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Trench excavation	Collapse of sides, falls of persons into excavation	Work-force and members of public	5	2	10	Designer: Designed as shallow as possible. All depths to be indicated on design drawings. Any significant deviations from standard to be clearly marked. Contractor: Provide adequate trench supports and guarding of excavations as appropriate and in accordance with NRSWA.	3	1	3
Mechanical Lifting	Falling materials Collapse of plant	Work-force and or members of public	5	3	15	Designer: Cannot be avoided. Sufficient working space is available where mechanical lifting is required. Contractor: to adopt safe working practices and use competent workforce. All plant used in mechanical lifting to be properly maintained. Ensure lifting plant has proper footings.	3	1	3
Working with hazardous substances	Illness due to inhalation, ingestion, skin damage due to absorption, abrasion burns dermatitis.	Work-force	3	3	9	Designer: None Contractor: Comply with The Control of Substances Hazardous to Health Regulations 2002 and The Control of Substances Hazardous to Health (Amendment) Regulations 2004. In respect of cement, take note of the contents of HSE "Construction	1	3	3

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						Information Sheet No 26 (revision2)".			
Working underneath or close to overhead electric cables.	Possible damage to apparatus and electrocution	Operatives	5	1	5	Designer: Overhead lines to be clearly marked on drawings and identified as part of the design. Method statement from provider to be obtained as required. Contractor: None – Comply with HSE Guidance Note GS6.	5	1	5
Working underneath or close to other overhead cables.	Possible damage to apparatus and electrocution	Operatives	5	1	5	Designer: Overhead lines to be clearly marked on drawings and identified as part of the design. Method statement from provider to be obtained as required. Contractor: None – Comply with HSE Guidance Note GS6.	5	1	5
Working within ditches and pipework possibly contaminated with poorly treated foul water	Illness such as gastroenteritis, leptospirosis (Weil's disease), hepatitis.	Operatives	4	2	8	Designer: None. Contractor: Supply appropriate PPE. Ensure proper washing facilities are available for workforce to use prior to eating, drinking or smoking. Provide changing areas to remove	4	1	4

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						contaminated clothing (separate from eating areas). Make arrangements for contaminated clothing to be cleaned			
Street Lighting or other Apparatus of note	Damage, Injury or Fatality caused by machinery, collision, falling apparatus, electric shock.	Work-force and members of public	5	3	15	Designer: Hand digging will be used for excavation near lighting columns. Contractor: to adopt safe working practices and use competent workforce. Comply with HSE Guidance Note GS6 for overhead risks and HSG47 for Underground Services. Method statement to be provided if lamp columns or other apparatus will be within work scope. Implement site rule that all reversing movements to be supervised and safe areas of work set up to protect apparatus.	5	1	5
Removal of trees or shrubs	Injury or Fatality caused by machinery or other associated removal activities i.e. hit by falling	Work-force and members of public	5	2	10	Designer: The location has been selected to minimise the need for tree and shrub removal or trimming. Contractor: to adopt safe working practices and use competent workforce. All plant	5	1	5

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	objects.					used in cutting/compacting/chipping to be properly maintained. Ensure lifting plant has proper footings. Conduct a daily site assessment to assess the variation in weather conditions and the effect on the activity.			
Traffic Signal Site Commission (Installation)	Damage, Injury or Fatality caused by collision, falling apparatus or electric shock.	Work-force and members of public	5	2	10	Designer: to appoint competent contractor Contractor: to adopt safe working practices and use competent workforce. To supply and work to a decommissioning method statement.	5	1	5
Reduced Stopping Sight Distance (SSD) for traffic signals on New Brighton Road in both directions due to low bridges.	Damage, Injury or Fatality caused by collisions, particularly shunt incidents	Members of Public	5	2	10	Designer: Install a traffic signal ahead warning signs on both approaches (Diagram 543 – TSRGD 2016)	5	1	5

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Change in road layout and introduction of Traffic Signals	Risk of drivers becoming disorientated resulting in damage, injury or fatality due to collisions	Members of public	5	2	10	Designer: Road signs to be installed giving drivers advanced warning of 'new traffic signals ahead' and 'change in road layout' in accordance with TSRGD 2016	5	1	5
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HAZARD EFFECT	PROBABILITY	RISK
This can be represented by five categories:- (i) 5 = Fatality (ii) 4 = Major injury/illness (iii) 3 = More than 3 days off work (iv) 2 = Minor injury (v) 1 = Near miss The values of 1 to 5 are to be entered in the HAZARD EFFECT column.	This can be represented by three categories:- (i) 3 = Very likely to occur (ii) 2 = Likely to occur (iii) 1 = Unlikely to occur The values of 1 to 3 are to be entered in the PROBABILITY column.	This is the product of the two columns. (i.e. value of hazard effect X Score of probability). The risk can be evaluated as follows: 10 to 15 - VERY HIGH RISK: Unacceptable. Measures must be taken to reduce risk. If this is entirely out of the designer's control, the Client must be notified 6 to 9 - HIGH RISK: May be tolerable. Same actions as above. Every effort is to be made to reduce these risks as low as reasonable and practical. 1 to 5 LOW RISK: Acceptable, but risks should be monitored during the life of the Project. Every effort is to be made to reduce these risks as low as reasonable and practical.

Assessed by Dave Richards

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