Leeds CITY COUNCIL

Agenda Item:	
Originator:	P A Russell
Tel:	0113 247 6171

Report of the Director of City Development

Scrutiny Board (City Development)

Date: 10 June 2007

Subject: SAVINS MILL GYRATORY, SAFETY SCHEME

Electoral Wards Affected:	**Specific Implications For:**	
Kirkstall	Ethnic minorities	☐
	Women	☐
	Disabled people	☐
	Narrowing the Gap	☐

Executive Summary

Further to the item concerning this scheme considered at the Highways Board meeting of 12 May 2008,this report provides further information about the proposed scheme in terms of the original background, the development of the scheme and the desired outcomes.

1.0 Purpose Of This Report

1.1 This report provides additional information about the Savins Mill Gyratory, Safety Scheme.

1.2 It is important to consider the reasoning behind this scheme, and the fact that these proposals are intended to address the high number of accidents at this *site for concern*. Whilst account has been taken of the local highway network, the object of the scheme is to reduce accidents on the Savins Mill Gyratory. Measures to address other issues on the surrounding highway network are beyond the scope of these proposals.

2.0 Background Information

2.1 The A65 is one of the main arterial routes in and out of Leeds which experiences high volumes of traffic throughout the day and is prone to congestion and delays in the peak hours, especially at junctions.

2.2 In September 1998, committee approval (Highways and Transportation) was granted to implement highway improvement works at the junction of the A65 (Commercial Road / Abbey Road) and the B6157 Bridge Road / Kirkstall Lane. These works also included, a new link road - Savins Mill Way – which was constructed between the A65 Commercial Road and the B6157 Bridge Road, to

facilitate access to the Kirkstall Valley Development Scheme and Morrisons supermarket development forming a new gyratory system. This scheme was opened in May 2000.

2.3 Prior to this, the A65 / Bridge Road / Kirkstall Lane junction already experienced high volumes of traffic, and had a pre-existing accident problem. The above improvement works removed some of the conflicts from the existing junction but accident figures remained significantly high.

2.4 An Accident Study was undertaken for this location in July 2003 which clearly defines the problems and makes recommendations on measures to reduce the level of accidents.

2.5 Since the Accident Study was undertaken in 2003, the accident record at the junction has remained high with 9 accidents recorded in 2007. The accident figures for the last five full years are shown in the table below.

Year	Slight	Serious	Fatal	**Total**
2003	2	0	0	**2**
2004	4	1	0	**5**
2005	3	1	0	**4**
2006	5	0	0	**5**
2007	8	1	0	**9**
Total	**22**	**3**	**0**	**25**

3.0 Main Issues

3.1 The main issues relating to the scheme proposals have been covered by previous approvals given initially in May 2004 when £10,000 was approved for feasibility work, and more recently in December 2006 when the total budget estimate was £283,500.

3.2 The scheme proposals seek to address issues identified in the 2003 Accident Study by implementing the recommendations it makes. The main issues are,

i) Right Turn Conflicts;
ii) Nose-to-tail Collisions; and,
iii) Red Light Violations

3.3 The scheme proposals can be seen on Drawing Number HDC/298732/01/01. This scheme looks to address the issues above in line with the 2003 Accident Study.

3.4 The budget estimate, reported in December 2006 was produced at an early stage of design made up from general rates of similar work. As the detailed design progressed, the true nature of the implications of making these changes has become apparent.

3.5 In order to minimize disruption to the large volumes of traffic which travels through this junction, and also to protect the workforce during construction, it was clear that extensive traffic management and restrictions on working would be required. This was originally underestimated but has had a significant effect on the cost of the works.

3.6 The costs of the traffic signal works has also increased as detailed survey work and site inspection of the existing equipment has shown that assumptions made in December 06 were wrong.

3.7 This has had a significant impact on the December 06 estimate resulting in the May 2008 report requesting approval of the revised sum.

4 Implications For Council Policy And Governance

4.1 This report does not raise any issues for Council policy and governance other than those already considered by the Highways Board at their December 06 meeting.

5 Legal And Resource Implications

5.1 This report raises no specific legal and resource implications.

6 Conclusions

6.1 This report has outlined the reason for the initiation of this scheme which aims to address an existing accident problem, clearly identified in the 2003 Accident Study.

6.2 It has also provided the background context to the scheme development in terms of the initial feasibility and briefly explained the reasons behind the cost increases that arose during the detailed design process.

6.3 Advice from the Accident Studies Section within City Development puts an average cost estimate of £90,000 per accident in Leeds. Simply put, the cost of the accidents at this junction equates to £2,250,000 over a five year period period. It would suggest that this scheme still gives value for money, even at its latest estimated cost of £489,000.

7 Recommendations

7.1 Members are requested to note and comment on the contents of this report.

ACCIDENT STUDY

A65 COMMERCIAL ROAD / ABBEY ROAD

Junction with

B6157 BRIDGE ROAD / KIRKSTALL LANE

July 2003

Leeds City Council
Development Department

Jean Dent
Director

Accident Study

A65 Abbey Road / Commercial Road

Junction with

B6157 Bridge Road / Kirkstall Lane

1.0 INTRODUCTION

1.1 The purpose of this study is to identify the causes of, and if possible make recommendations to alleviate the accident problem at the above-named junction. The site has featured in the annual *Leeds Sites For Concern* listing, for a number of years and will appear this year, ranked at number six. A lack of clarity with regard to vehicular movement and the precise location of several accidents, indicated that an in-depth study would be advisable.

1.2 The study involved an examination of the documentation relating to the 28 personal injury accidents which occurred between 1st January 2000 and 31st December 2002. This analysis included scrutiny of the 24 available police files.

1.3 As is described below, the junction was subject to major improvements in 2000. Thus, 8 of the analysed accidents were recorded when the junction existed in its previous configuration.

1.4 A plan of the junction examined is appended as Figure 1.

2.0 SITE DESCRIPTION

2.1 The junction is a busy Traffic Signal controlled crossroads of modern design, which, in early 2000 underwent significant modification, to accommodate the Kirkstall Valley Development Scheme. This development is sited to the southwestern corner of the junction and is accessed from Bridge Road. The reconfiguration of the layout prohibited the right turn from Abbey Road into Bridge Road and the similar movement from Bridge Road into Commercial Road. Both of these manoeuvres are effected via the signals governing the new development. Pedestrians are catered for by means of extensive crossing facilities and measures to assist cyclists, including a coloured cycle lane are also comprehensive.

3.0 ACCIDENT STATISTICS

3.1 **ACCIDENT RECORD**

YEAR	SLIGHT	SERIOUS	FATAL	TOTAL
2000	8	0	0	8
2001	7	1	0	8
2002	10	2	0	12
TOTAL	25	3	0	28

3.2 Variables such as time of day, day of week, wet road surface, darkness accidents etc., were examined. It was found that the darkness rate was 39%, which is a figure 50% higher than the average expected for a Leeds Urban A Road. All of the remaining individual aspects were well below expected levels.

3.3 Accident types. The 28 recorded accidents were classified as follows:-

Right turn conflicts	10
Nose-to-tail collisions	7
Red Light Violations	7
Other types	4

3.4 Addresses of Drivers. Scrutiny of police files revealed that of the involved drivers who supplied addresses, the majority came either from areas in the vicinity of the junction, or elsewhere in the Leeds district. There was however, a notable number of students, who supplied “term time” Leeds addresses, whilst indicating that their permanent addresses were elsewhere in the UK. None of these though, cited unfamiliarity with the road layout as a reason for the occurrence of an accident.

4.0 ACCIDENT ANALYSIS

4.1 Right Turn Conflicts. Ten right turn conflicts were recorded, with original police data available for 9. Six of this number involved the turn from Kirkstall Lane into Abbey Road, with the remaining 4 being Commercial Road into Kirkstall Hill.

4.1.1 Of the 6 accidents involving the turn from Kirkstall Lane with available Police files, 2 drivers claimed they “Did not see” the car with which they collided. A further 2 also failed to give priority but with no clear reason for the driver error and in the final 2 cases, simple errors of misjudgement of speed and distance of approaching traffic, were cited. Four of these accidents occurred in darkness.

4.1.2 Of the 3 accidents involving the turn from Commercial Road into Kirkstall Lane with available Police files, it would appear that two drivers “lost” the green filter arrow before completing their turns, and that one turned without even noticing a filter aspect. Two of these accidents occurred in darkness.

4.2 Red Light Violations. There were seven accidents in this category, with police files available for 6. Two drivers admitted to “reading through” the signals, from a stationary position on Bridge Road to the lights governing the Pelican crossing immediately to the east of the junction on Kirkstall Hill.

4.3 Of the remaining four red light violations;
one involved an Ambulance struck whilst slowly negotiating the junction on an emergency call;
one was a hit and run occurrence by a driver who abandoned his vehicle immediately after impact and may have had a blood/alcohol level above the legal limit;
one involved a distracted driver who admitted to using his mobile telephone at the time of the accident, and;
one was a wilful act of ignoring a red light by a driver cited by witnesses as being solely to blame for the accident.

4.4 Nose To Tail Collisions. There were 7 nose to tail collisions, with files available for 4. All of these, with the exception of one involving a driver who committed a series of offences in an emotionally unstable state, were of the kind commonly experienced at junctions of this type with attendant levels of traffic and the potential for extensive queuing.

4.5 Other Accidents. Police files were available for all 4 of the remaining accidents. In two cases, pedal cycles were hit by cars which turned left into Kirkstall Lane from Abbey Road across the marked cycle lane. However, in both cases, independent witnesses stated that the respective car drivers behaved correctly in signalling appropriately and that it was the cyclist who was at fault. A third accident also involved a cyclist who was the struck by a car following a negligent lane changing manoeuvre. This accident occurred in heavy rain and before the junction refurbishment was completed; lane discipline being enforced by temporary concrete bollards. The final accident involved a single vehicle loss of control event when a fatigued driver collided with a central island reservation.

4.6 Darkness. Despite the aforementioned high level of accidents occurring in darkness, there was no comment by any involved drivers that darkness or poor streetlighting was a contributory factor in any of the accidents.

5.0 SITE OBSERVATION

5.1 A site visit, conducted in June 2003 revealed that drivers wishing to make the permitted but problematic right turn manoeuvres commonly displayed a hesitancy with regard to the correct way to complete their respective turns.

5.2 Kirkstall Lane into Abbey Road. The right turn filter assisting drivers to make this turn, appeared to be illuminated most commonly when either the right turners in any given cycle had cleared the junction, or none were poised to begin their manoeuvre. There has clearly been modification to the timing sequence at this location, as an ad-hoc sign bearing the legend "Signal Priorities Changed" has been fastened to an adjacent lighting column. This sign is not repeated and could easily be masked to drivers. Traffic effecting this turn is also indirectly hindered by vehicles which turn left from the opposite, nearside lane of Bridge Road. Immediately after clearing the signals, these left turners are forced to Give Way. As they do so, they mask any vehicles proceeding straight through the signals in the outside lane, making the "straight ahead" Bridge Road into Kirkstall Lane movement. The effect of this for a right turner from Kirkstall Lane is of a vehicle "appearing from nowhere," and presenting the possibility of a collision. Two drivers provided statements in which they claimed "not to have seen" the vehicle which hit them and it is likely that in other cases where a misjudgement of speed and distance was cited, the above scenario was also repeated. Figure 2 shows traffic queuing to turn left from Bridge Road, with the "Ahead Only" lane clear. Vehicles travelling in this lane are frequently confronted with another turning right into Abbey Road.

5.3 Commercial Road into Kirkstall Lane. The filter aspect governing this turn operates on an "early start" facility. However, the time afforded to right turners would appear to be approximately four seconds for each cycle. This results in the third or fourth vehicle in any queue of traffic having to either dash across the path of oncoming traffic which begins upon removal of the green filter, or, wait until the oncoming traffic halts and then clear the junction before Bridge Road / Kirkstall Lane traffic sets off. This reflects a situation identified in at least two driver's statements, who claimed to have "turned slowly" on a green arrow, but failed to complete their turn before they were hit by traffic oncoming from Abbey Road. The problems experienced by drivers at this point is illustrated by Figure 3, which shows a car "stranded;" the driver having initiated the turn on a green filter and then having to wait due to "losing" the filter and subsequently, the green signal completely.

6.0 DISCUSSION

6.1 There is clearly scope at this location to reduce accident levels by improving conditions for right turning traffic. There were no allegations regarding inconspicuity or malfunctioning signalling equipment or road layout in any of the other types of accidents, save for the “read-through” signal violations.

7.0 RECOMMENDATIONS

7.1 Right turn conflicts at Kirkstall Lane / Abbey Road. It is recommended that capacity be identified within the current set up to provide adequately for the separate signalling of the right turn manoeuvre from Kirkstall Lane into Abbey Road.

7.2 Right turn conflicts at Commercial Road / Kirkstall Lane. It is recommended that this turn be prohibited and that drivers wishing to access Kirkstall Lane be directed there via Savins Mill Way, turning right onto Bridge Road where the signals are to be amended to accommodate this move.

7.3 Red light violations. The problems associated with the “read through” red light violations can best be addressed by the complete removal of the signal heads pertaining to oncoming vehicles and the removal of the corresponding Stop line. These signals provide a suitable red/green man facility for pedestrians, but are never used to control traffic movement and their removal will prevent drivers from becoming confused.

Road Accident Unit.
Leeds (0113) 2476328
File MJC/ASU/264/21
July 2003

Commercial Road / Abbey Road j/w Kirkstall Lane / Bridge Road, Kirkstall

Ref No. : **LSC013** ***Rank this year :*** **22** ***(last) :*** **23** ***Grid Ref:*** ***426287 / 435583***

Description of Site

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Accident Record

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Accident Analysis

The principal accident types are turning conflicts [12], signal violations [6] and nose to tail collisions [3]. Of note is the fact that there has been only 1 pedestrian accident.

Recommendations

An accident reduction scheme involving the prohibiting of turning movements and reconfiguration of lane markings is awaiting implementation. Following introduction, close monitoring should ensue.

APPENDIX – JUNE 2008

In the five full years (2003 -2007,) that have elapsed since the above study was undertaken, twenty five accidents have been recorded. By type, these accidents are as follows;

Right turn conflicts – 13

Red Light Violations – 3

Nose to tail collisions – 3

Other turning conflicts – 2

Disparate types – 4

Right turn conflicts – According to the computer-held data, four of these involved the prohibited turn from Abbey Road into Bridge Road and a further 3 involved the similarly prohibited turn from Bridge Road into Commercial Road.
Four involved the right turn from Commercial Road into Kirkstall Lane, with the final two being the Kirkstall Lane into Abbey Road manoeuvre.

Red light violations – Two of the red light violations were “west/east versus south/north” manoeuvres and the third involved an “east/west versus south/north” manoeuvre. In none of these cases was the offending vehicle positively recorded.

Remaining accident types – There was no significant directional pattern to any of the remaining 2 turning conflicts, or 4 disparate types.

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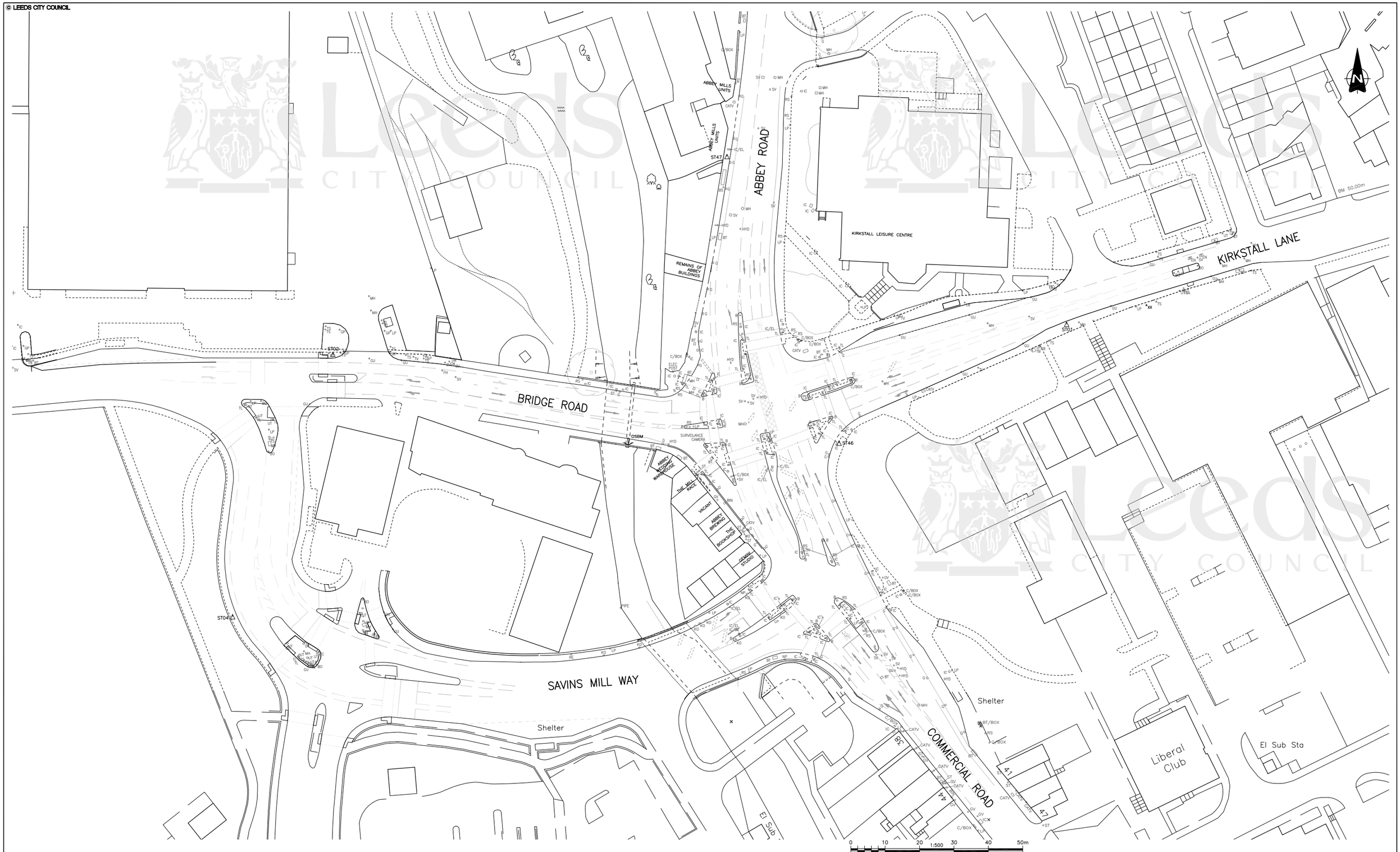

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SAVINS MILL WAY GYRATORY IMPROVEMENT
EXISTING ROAD LAYOUT

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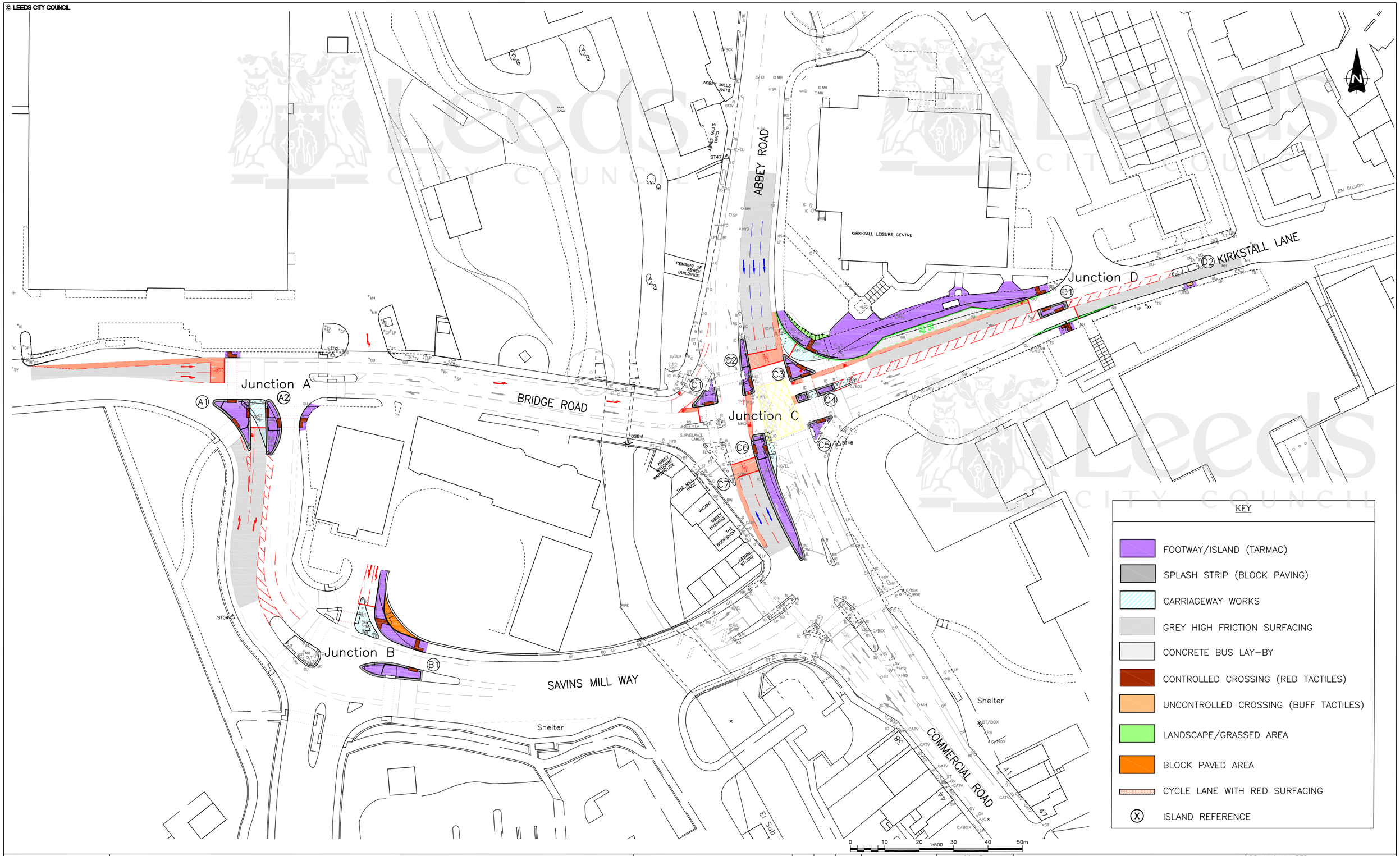

KEY

- FOOTWAY/ISLAND (TARMAC)
- SPLASH STRIP (BLOCK PAVING)
- CARRIAGEWAY WORKS
- GREY HIGH FRICTION SURFACING
- CONCRETE BUS LAY-BY
- CONTROLLED CROSSING (RED TACTILES)
- UNCONTROLLED CROSSING (BUFF TACTILES)
- LANDSCAPE/GRASSED AREA
- BLOCK PAVED AREA
- CYCLE LANE WITH RED SURFACING
- (X) ISLAND REFERENCE

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SAVINS MILL WAY GYRATORY IMPROVEMENT

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