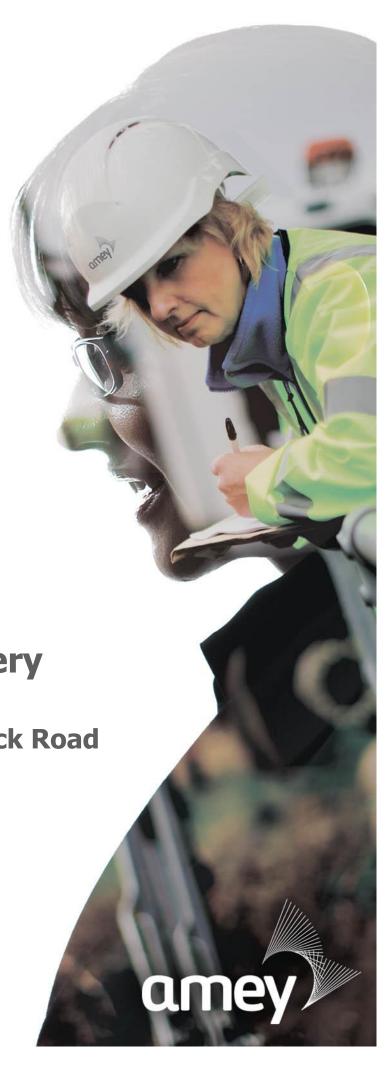




CO401184/04 Revision 04 January 2015





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# **Appendices**

APPENDIX A: NIEA Letter

APPENDIX B: Junction Layout - 401172-SK-019



#### Introduction 1

## 1.1 Background

The Department for Regional Development, Transport Projects Division, commissioned Transport NI (Design and Consultancy) and its partner Amey to undertake a feasibility assessment of the access and egress arrangements at the Belfast City Cemetery, Falls Road, Belfast.

This feasibility assessment will review a number of potential access / egress arrangements for the cemetery and will consider the benefits and/or dis-benefits of each, together with high level costings for comparison purposes.

The following potential access/egress arrangements to the cemetery are being considered in this report;

- Replacement of the existing roundabout with a traffic signal controlled junction, incorporating the current cemetery access (Access 1) into the junction design.
- Conversion of the existing cemetery gateway on the Falls Road (Access 1) to an 'in only' and using the Whiterock Road gateway as an 'egress only'.
- Opening of the Falls Road gateway (Access 2) to accommodate all cemetery traffic movements.
- Opening of the Whiterock Road (Access 3) gateway to accommodate two way cemetery movements.

Amey Consultants met with Belfast City Council (BCC) officials to gain an understanding of cemetery operations, site requirements and cemetery management (see Chapter 2).



# 2 Existing Conditions

### 2.1 Site Description

The Belfast City Cemetery lies within the townland of Ballymurphy in West Belfast and is bounded by the Falls Road and the Whiterock Road.

Figure 2.1 below shows the location of the Belfast City Cemetery and its current gateways.



Figure 2.1: Belfast City Cemetery Location

The Belfast City Cemetery site is enclosed by stone walls and railings and has three High Victorian Gothic gateways.

NIEA have confirmed to BCC (see App A) that the gateways (Accesses 1 and 3), ornate railings and boundary walls fronting the Falls Road are of listed status; the walls and gateway (Access 2) fronting the Whiterock Road are not listed.



### 2.2 Site Entrances / Exits

- Access 1 is the principal entrance/exit to the cemetery and is currently the only open gateway for vehicles and pedestrians. Figure 2.2 below shows this gateway off the Falls Road/ Whiterock Road roundabout. The vehicular gateways is only wide enough (3.45m wide) for one vehicle and priority is generally given to vehicles entering the cemetery.
- Access 2 is a priority junction arrangement, set back from the carriageway in a
  recessed lay-by off the Falls Road. This gateway is currently closed and not accessible
  to the public. No separate pedestrian access/egress is available at this gateway.
  Figure 2.3 shows this gateway on the Falls Road.
- Access 3 is a priority junction arrangement, set back from the carriageway in a
  recessed lay-by on the Whiterock Road, opposite Brittons Parade. This vehicular
  gateway is currently closed and bollards have been erected across the lay-by
  frontage. No separate pedestrian access/egress is available in this location. Figure 2.4
  shows this gateway on the Whiterock Road.

Figure 2.2: Access 1 (Principal entrance/exit at the Falls Road / Whiterock Road Roundabout)









Figure 2.4: Access 3 on the Whiterock Road



### 2.3 Site Operations

A summary of discussions with BCC regarding site operations for the Belfast City Cemetery, are as follows.

- The cemetery is generally open to the public every day from 08:00 to 18:00. However, during certain months of the year the opening hours are extended.
- The cemetery is a designated closed cemetery as there are no new grave plots available. Any burials that currently take place are associated with existing graves.
- The majority of burials take place between 10:00 and 14:30, outside the recognised commuter peak hours.



- The cemetery is currently served via a gateway off the Falls Road/Whiterock Road roundabout and this has been the arrangement for many years.
- All vehicles and pedestrians access/egress the cemetery through the three gated entrance located off the Falls Road/Whiterock Road roundabout. This entrance comprises a vehicular gateway and two pedestrian gateways, one on either side. The vehicular gateway is only wide enough for one vehicle (circa 3.45m) therefore access/egress relies on driver courtesy (to give way to approaching vehicles). BCC has stated that priority is usually given to vehicles entering the cemetery; vehicles exiting the cemetery will usually wait until the gateway is cleared.
- BCC has stated that funerals generally take place in the early afternoon (outside
  of peak rush hour traffic) which often coincides with local school traffic on
  weekdays. In these circumstances the Falls Road and the Falls Road/Whiterock
  Road roundabout junction can be extremely congested.
- All three gated entrances to the cemetery (Accesses 1 to 3) are connected by a network of internal routes for both vehicular and pedestrian traffic.
- Located at the main entrance to the cemetery (Access 1) is the Gate Lodge site
  office which accommodates a reception area, Manager's office and toilet. The
  overall floor size for the site office, etc. is circa 7m x 4m. The entire building is
  larger because it also provides on-site accommodation for a member of the
  Park's Department staff.
- This Gate Lodge is the administration building for the cemetery. It provides for the management of the cemetery, including funeral corteges and servicing of the site, which require a book in/book out system. In addition, stone masons must be managed and are required to book in, pay a fee and book out.

## 2.4 Belfast City Council Requirements

BCC has indicated that it is willing to consider the use of all gateways for access and egress to the cemetery. BCC also indicated the following points need to be considered in the evaluation of the proposals;



- Any new administration facilities must be located close to a cemetery entrance.
   The building must be secure, of robust construction and accommodate the same facilities as the current administration building (i.e. reception area, Manager's office and toilet).
- Management of the cemetery is of paramount importance and therefore it is key that vehicles and pedestrians can be monitored entering and exiting the cemetery.
- Safe pedestrian access must be considered at every entrance to the cemetery.
   No separate pedestrian entrance is available at the existing (closed) accesses on the Falls Road and Whiterock Road. If these accesses are to be reopened provision should be made for pedestrian access. This would require partial demolition of the existing wall to provide pedestrian entrances.
- Any significant change to the access arrangements and monitoring of the cemetery must consider residents of the surrounding areas. Any proposed changes must therefore involve consultation with local residents.



#### **Option Proposals** 3

### 3.1 Overview

As part of the BRT - WWAY scheme it is proposed that the Falls Road / Whiterock Roadroundabout will be upgraded to a signalised junction.

This signalisation proposal will impact on the current access arrangements to the cemetery as all movements through the junction will now be subject to signal control. Therefore the cemetery access/egress must be incorporated into the junction design.

The feasibility study has considered the implications of the following access and egress options;

- 1. Incorporate the current cemetery access into the new signalised junction design and maintain the current access and egress arrangements for vehicular traffic.
- **2.** As for option 1, but changing the existing access (Access 1) to in only, consideration of a one-way route through the cemetery and using the Whiterock Road gateway (Access 3) as 'egress only'.
- 3. Opening of the Falls Road gateway (Access 2) to accommodate all traffic movements. For this two-way option, consideration to be given to closing the existing Falls Road / Whiterock Road roundabout gateway (Access 1).
- **4.** Opening of the Whiterock Road gateway (Access 3) to accommodate all traffic movements. For this two-way option, consideration to be given to closing the existing Falls Road / Whiterock Road roundabout gateway (Access 1).

For each option, consideration has been given to the design impact on the cemetery and preliminary costings have been provided for comparison.



3.2 Option 1: Signalisation of Current Cemetery Access (Access 1)

This option considers the incorporation of the current cemetery access (Access 1) into the proposed new signalised junction design at the Whiterock Road/ Falls Road Junction.

This proposed signalised arrangement might require two-way flow at the current gateway as both access and egress may need to be incorporated into the traffic signal stage arrangement of the junction. The existing gates, pillars and entrance wall may need to be reconfigured to provide intervisibility to the whole junction. Whilst the current crossing facilities at the gateway are uncontrolled the successful operation of this arrangement relies on driver courtesy.

**Benefits:** 

- Current operations to and from the cemetery will remain the same. Vehicular and pedestrian traffic will access and egress the cemetery as they currently do, but controlled by traffic signals.
- There would be no need to relocate the administration building and therefore there would only be minimal disruption to the operation and management of the cemetery.

**Dis-benefits** 

- The signalisation of the cemetery access/egress may require the existing gateway to be widened to facilitate two-way traffic. Whilst maintaining visibility through the junction for all road users, traffic needs to be able to enter the cemetery at the same time as exiting traffic is stopped at the exit stop-line.
- To facilitate signal control at the cemetery access, traffic signal equipment may need to brought inside the grounds of the cemetery.
- Due to the listed status of the gateway arches and walls (fronting onto Falls Road) NIEA consent will be required before any construction or alteration to the gateway can be undertaken.



• Introducing the cemetery access (in/out) in the signalised junction arrangement at the Whiterock Road / Falls Road junction reduces the operational capacity of the junction compared to the signalised junction arrangement that doesn't control the cemetery access. The signalised junction arrangement was modelled using traffic junction modelling software and concluded that the additional signal control at the cemetery access would force the junction over capacity during the AM peak.

### Cost: £50K, which includes the following works:

- Develop new vehicular entrance and pedestrian facilities.
- Works associated with listed building consent for any amendment to the gateway and walls.
- Junction signalisation at the gateway.

### 3.3 Option 2: Separate access and egress arrangements

This option considers retaining the current access (Access 1) as "in only" and opening the Whiterock Road as a gateway (Access 3) "out only" for vehicular traffic. Pedestrian access and egress would be provided at both gateways.

BCC has acknowledged potential benefits of this option. However, they have indicated that for the option to work, measures would need to be implemented to control traffic movements at the Whiterock Road gateway to restrict movements to exit only. Control measures proposed include a CCTV camera at the Whiterock Road gateway, operated from the existing administration building and either an up and over barrier control or surface mounted spring controlled traffic flaps across the gateway.

#### **Benefits:**

- Minor disruption and construction costs associated with the works to the two gateways. However a new pedestrian access will have to be constructed at the Whiterock access.
- Current operations and management of the cemetery can be retained. No changes are required to cemetery administration or the location of the administration building.



• Signalisation of the Whiterock Road/ Falls Road junction can be implemented with minimal disruption to the cemetery access. Vehicular traffic would access the cemetery from this junction via traffic signal controlled movements. Existing pedestrian movements and access/egress would also be retained. The preliminary layout (Drg No- 401172-SK-019) at Appendix B shows the Whiterock Road / Falls Road junction modified to a signal controlled junction and indicates the vehicle swept path of two different vehicle types entering the cemetery gateway: vehicle one is a refuse vehicle which would be required to utilise lane 2 to safely make the left turn manoeuvre and vehicle two is a hearse turning right from Whiterock Road into the cemetery.

### **Dis-benefits:**

 Consultation will be required with local residents and groups in relocating cemetery traffic to the Whiterock Road. Please note that the consultation with residents is not the dis-benefit, it will be the additional tasks involved in preparing for a consultation and its potential impact on time, cost and programme.

### Cost: £29K, which includes the following works:

- Implementation of CCTV at the Whiterock Road gateway (Access 3) operated from the existing administration building.
- Barrier control across gateway.
- Surface mounted spring controlled traffic flaps across the gateway.
- Construction of a new pedestrian gateway in the existing wall at Access 3.

### 3.4 Option 3: Opening of the Falls Road Gateway (Access 2)

This option considers closing the current cemetery access (Access 1) at the roundabout junction and that all vehicular traffic and pedestrians access and egress the cemetery via the Falls Road gateway (Access 2).

This option has not been pursued any further on safety grounds. BCC and Amey agree that, due to limited sight visibility at the gateway the reopening of this gateway to all traffic movements is not a practical solution. In addition, for operational reasons, a new administration building would have to be constructed with only limited building area available close to the gateway.



### 3.5 Option 4: Opening of the Whiterock Road Gateway (Access 3)

This option considered closing the current cemetery access (Access 1) at the Falls Road / Whiterock Road roundabout junction and that all vehicular traffic and pedestrians access and egress the cemetery via the Whiterock Road gateway (Access 3).

The administration building could be relocated and accommodated by;

- 1. The restoration of the burnt out gate lodge building, or by,
- 2. Constructing a separate, stand-alone administration building.

We are aware that BCC had previously reviewed the possibility of refurbishing the gate lodge building for their cemetery, but to date our understanding is that these discussions had not been progressed to any stage that we could include or reference plans in this report.

### **Benefits:**

- Existing sight lines are adequate to allow Cemetery traffic to access and egress from the Whiterock Road.
- The cemetery walls and railings on the Whiterock Road frontage do not have the same listed status as those on the Falls Road frontage. Therefore, it should be easier to undertake the required modifications to the gateway at Access 3.
- The opening of this side of the cemetery may help regenerate this area of the cemetery. Over the years discussions have been ongoing with the local community about redeveloping the gate lodge site.

### **Dis-benefits:**

- Design and Construction costs associated with rebuilding the gate lodge to provide a new administration building may be prohibitive.
- The need to widen the gateway to facilitate two-way traffic flows and also provide safe pedestrian access.
- Consultation will be required with local residents and groups in relocating cemetery traffic and its operations to the Whiterock Road. Again as stated previously, the consultation with residents is not a dis-benefit, it will be the additional tasks involved in preparing for a consultation and its potential impact on time, cost and programme.



### Cost:

### £80k (New Building)

## £120k (Refurbished building)

Both these costs include the following works:

- New modified vehicular entrance for two way traffic.
- New gated pedestrian access.
- Administration building design and construction.



#### Conclusion 4

### 4.1 Summary

On behalf of the Department for Regional Development, Transport Projects Division, Amey undertook an assessment of the options for access and egress arrangements at Belfast City Cemetery on the Falls Road.

This options report considered assessment of the four options for access/egress to Belfast City Cemetery. To help inform the most appropriate options, Amey met with Belfast City Council officials to gain an understanding of the day to day operations and key requirements of the cemetery.

It is concluded that Option 2 is the preferred access/ egress option; this option considers retaining the current access as (Access 1) "in only" and opening the Whiterock Road gateway (Access 3) as "out only" for vehicular traffic. Pedestrians, access and egress would be provided at both gateways.

The key benefits of this option are;

- The option is assessed as cost effective, with estimated construction costs of £29k.
- Minimal disruption and construction associated with the works to the two gateways.
- All operations and management of the cemetery can be retained. No changes are required to the cemetery administration or the location of the administration building.
- Signalisation of the Whiterock Road/ Falls Road junction can be implemented with minimal disruption to the cemetery access.

**Project Name** BRT Falls Road (Whiterock Road to Finaghy Road North)

**Document Title** Options Report – Belfast City Cemetery



**APPENDIX A: NIEA Letter** 

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**Project Name** BRT Falls Road (Whiterock Road to Finaghy Road North)

**Document Title** Options Report – Belfast City Cemetery



APPENDIX B: Junction Layout - 401172-SK-019

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