



DUNDEE WEST PARK & RIDE

BRIEFING NOTE

November 2011

This Briefing note provides information on progress in identifying, designing and developing a business case for a Park & Ride facility at West Dundee.

1. Background

Regional Transport Strategy and Sub-strategies

- 1.1 Tactran's Regional Transport Strategy sets out a vision for improving the region's transport infrastructure, services and other facilities over the period to 2023.
- 1.2 The Vision is to deliver:

"a transport system, shaped by engagement with its citizens, which helps deliver prosperity and connects communities across the region and beyond, which is socially inclusive and environmentally sustainable and which promotes the health and well-being of all."
- 1.3 To support this Vision, Objectives have been defined under six broad themes: Economy, Accessibility, Equity and Social Inclusion; Environment; Health and Well-being; Safety and Security; and Integration.
- 1.4 The Strategy seeks to build on existing good practice and develop new measures and projects to ensure the Vision and Objectives are achieved. This includes a commitment to develop and implement 4 sub-strategies: Buses; Park & Ride; Travel Information; and Walking and Cycling.
- 1.5 The Park & Ride sub-strategy includes proposals to bring forward bus based Park & Ride facilities at Stirling, Perth and Dundee. The proposals for Dundee include development of facilities on the South, West, North and East approaches to the city centre, with the South and West facilities being a higher priority.

Strategic Transport Projects Review

- 1.6 Transport Scotland's Strategic Transport Projects Review (STPR) (Project 8) has also identified Park & Ride site on approaches to Dundee, including the

west of Dundee as a transport investment of national significance and one with potential to contribute to identified node and corridor objectives.

Steering Group

- 1.7 The work undertaken to date on Dundee West Park & Ride has been undertaken through an objective-led process in line with Scottish Transport Appraisal Guidelines (STAG) and was guided by a Steering Group comprising Tactran, Dundee City Council and Transport Scotland as has been outlined above, in addition to the proposal for a Park & Ride Site at A90 Dundee West being a high priority in the Regional Park & Ride Strategy, it is also identified in STPR Project 8 (Strategic Park & Ride/Park & Choose).

2. Initial Appraisal

Study Planning Objectives

- 2.1 The objectives developed for the study are as follows:
- Improve the public transport accessibility to employment, health, leisure and recreational locations in the west of Dundee and the City Centre
 - Encourage a shift toward sustainable and healthier modes of transport
 - Reduce traffic congestion for longer distance trips in the west of Dundee
 - Contribute to national and local air quality targets and reducing the impact on climate change
 - Minimise the impacts of the scheme upon the natural and built environment
- 2.2 A long list of locations was considered for a Park & Ride facility to the west of Dundee:
- 1 A, B, C - in the vicinity of Longforgan (with and without bus lane on A90)
 - 2 A, B, C - midway between Longforgan and Swallow Roundabout
 - 3 - northwest of Swallow Roundabout (with access from Swallow Roundabout and/or slip road from A90)
 - 4 - south of A90 west of Invergowrie
 - 5 – north of Swallow Roundabout (with access from Swallow Roundabout)
 - 6 A, B, C – east of Swallow Roundabout (with access onto local road network)
 - 7 – west of Invergowrie near rail line and associated with discontinued rail station proposal.
- 2.3 Three of these locations – Sites 3, 4 and 7 originated from the Tactran Park & Ride Strategy, with the remaining locations identified by the study Steering Group.
- 2.4 Appendix A shows the indicative locations of all the sites considered.
- 2.5 Through the objective-led STAG process, from the long list of sites, it was concluded that 2 should be taken forward for further development:

- Site 3i– northwest of the Swallow Roundabout
- Site 6B – Riverside Drive via Wright Avenue

3. Detailed Appraisal

- 3.1 Following the identification of the two sites, further detailed work was undertaken to better understand the costs and risks associated with each site. While both sites meet the study objectives, they have different strengths and weaknesses, and further work was required to assist in making the decision regarding which site should be taken forward for implementation.
- 3.2 The scope of detailed appraisal was to develop a reference design for each site, of a sufficient standard to provide a greater degree of confidence in the capital element of the Park & Ride facilities and to update the business case accordingly. This took the form of a Technical Report and Business Case Report both of which are available on the Tactran website (www.tactran.gov.uk) and summarised below.

Technical Report

- 3.3 The Technical Report provided a final scheme design and detailed cost for both sites based on a 400 space car park, including detailed consideration of car, bus, walking and cycling access; materials specification; ground conditions; topographical and environmental surveys and land acquisition costs. This included consultation with bus operators (and Landmark Hotel for Site 3i). As a result of this work the Technical Report has identified base Capital costs for each site estimated as £4.65m for Site 3i and £2.73m for Site 6b (2011 prices) including 15% contingencies and land acquisition costs. A plan of the layout of both sites is given in Appendix B.

Business Case Report

- 3.4 The Business Case report undertook an economic evaluation based on the updated Capital cost for each site, including a risk assessment and review of optimism bias, and also based on updated bus operating costs following further consultation with bus operators.

Bus Service Provision

- 3.5 Two alternative dedicated bus service options were considered for each site, one serving the city centre and one serving both the city centre and Ninewells.
- 3.6 From consultation with bus operators the number of buses required to provide a 12 minute service frequency were determined together with an estimate of the annual bus operating costs for such a service:

Table 1: Bus Numbers and Operating Costs

	Site 3i		Site 6b	
	No of Buses	Annual Operating Cost (£,000)	No of Buses	Annual Operating Cost (£,000)
City Centre Only	3	421	2	268
City Centre & Ninewells	4	549	4	499

Based on 2011 prices

- 3.7 The demand forecast for each site was taken from the initial study to estimate the bus patronage that could be expected at 2012 (theoretical year of opening) and 2022. This bus patronage was estimated as shown in Table 2.

Table 2: Bus Patronage Forecasts (persons)

	Site 3i		Site 6b	
	2012	2022	2012	2022
City Centre Only	176	266 - 293	192	289 - 319
City Centre & Ninewells	254	344 - 381	262	359 - 397

Revenue Costs

- 3.8 From the bus patronage forecast, the annual revenue income from bus fares was calculated and this provided an estimate of the annual subsidy that would be required for each bus service option. Table 3 shows the estimated subsidy required at year of opening.

Table 3 – Annual Bus Service Subsidy

	Site 3i		Site 6B	
	City Centre Only	City Centre & Ninewells	City Centre Only	City Centre & Ninewells
	(£'000)	(£'000)	(£'000)	(£'000)
Bus Operating Costs	421	549	268	499
Fare Income	103	127	112	134
Bus Subsidy	318	421	156	365

- 3.9 It can be seen that for Site 3i the annual bus service subsidy required is estimated at £421,000 for a city centre & Ninewells bus service and £318,000 for the city centre only service. For Site 6b the annual bus service subsidy is lower at £365,000 for a city centre & Ninewells bus service and significantly lower at £156,000 for the city centre only service.
- 3.10 This subsidy required would be expected to reduce as patronage increases in line with patronage forecasts and, for example by 2022, the annual bus subsidy required for Site 6b city centre only service is estimated to be £99,000.
- 3.11 In addition to operating costs for the bus service there are annual site operational costs of £38,000 and, for the purposes of economic appraisal, a maintenance cost of 5% of construction costs has been assumed.

Capital Cost and Optimism Bias

- 3.12 The business case analysis undertook a rigorous risk assessment and review of optimism bias in line with HM Treasury guidelines. This resulted in an optimism bias of 13.7% for Site 3i and 12.8% for Site 6b being added to the base Capital cost, bringing the total Capital costs to £5.18m and £3.03m for Sites 3i and 6b respectively.

Non User Benefits

- 3.13 Non user benefits are those benefits that accrue to travellers who are not actually using the proposed Park & Ride facility. This mainly occurs by the fact that as Park & Ride removes traffic from the road network, there is a reduction in congestion for those who continue to drive.
- 3.14 Both Site 3i and Site 6b remove traffic and reduce congestion on the approach to and within central Dundee, providing non user benefits. However, by providing a slip road from the A90 to Site 3i, the Park & Ride traffic is removed from the Swallow Roundabout, reducing congestion and therefore reducing the journey times of general traffic passing Swallow Roundabout, particularly in the morning peak period. This results in significantly improved non user benefits for Site 3i in comparison to Site 6b.

Economic Appraisal

- 3.15 Based on the above, the Benefit to Cost Ratio (BCR) for Site 3i varies between 1.5 for the city centre only service and 1.4 for the city centre & Ninewells service. The BCR for Site 6b varies between 1.5 and 1.1 depending upon the bus service scenario considered. It can therefore be seen that both sites have a positive BCR.
- 3.16 The economic costs and benefits for both sites can be summarised as:
- Site 3i has a higher Capital cost and bus operating cost than Site 6b, but has higher benefits mainly due to non user benefits at Swallow Roundabout during the morning peak.
 - Site 6b has a lower Capital cost and lower bus operating costs, significantly lower for the city centre only service, but has lower non user benefits as it removes traffic on approach to and within the city centre only.

Appraisal against Objectives

- 3.17 A sense check shows that both sites continue to perform well against the Planning Objectives. In addition the Business Case analysis also includes an appraisal of the sites against STPR objectives. This demonstrates that both sites have a good fit with both the specific STPR Strategic Park & Ride project objectives and the STPR national objectives in general.
- 3.18 STPR Project 8's stated contribution to the Scottish Government's purpose is to help to keep city centres moving by reducing congestion in the peak periods; assisting in maintaining the labour catchment and reducing emissions. Both Site 3i and Site 6b would contribute positively towards this purpose, with Site 6b forecast to remove slightly more traffic from central Dundee than Site 3i.

Sensitivity Test

- 3.19 A sensitivity test was undertaken using a “hybrid” bus service, rather than dedicated, which would be made up of existing scheduled buses supplemented by dedicated services. At site 3i this would mean using 2 buses to extend the existing Number 5 service from Ninewells Hospital to the Park & Ride site. At Site 6b this would mean using 1 additional bus and diverting existing passing services or those currently using the Perth Road into the Park & Ride site.
- 3.20 The sensitivity test for Site 3i resulted in a reduced BCR of 1.2 and an annual subsidy at 2012 of £147,000. This was mainly due to the fact that, although bus operating costs would be lower, the demand forecast for the Park & Ride reduces significantly because the bus journey time increases significantly by following the Number 5 route.
- 3.21 The sensitivity test for Site 6b resulted in an increased BCR of 2.0 and an annual subsidy at 2012 of £22,000. This is due to reduced bus operating cost, while retaining a direct bus service to the city centre.
- 3.22 Although both these services have been discussed with the bus operators there is no commitment to either extend or divert existing services and, as such, they are included only as a sensitivity test to demonstrate there may be other options for the bus service worth exploring.

Other Considerations

- 3.23 Both site options are calculated to have positive carbon dioxide emission savings.
- 3.24 Site 6b has the potential to serve a multi-purpose role – car parking for a wildlife centre adjacent to the site; airport shuttle car parking service; potential synergy with TERS proposal for a relocated Invergowrie Rail Station, and Dundee Green Circular cycle/walking links adjacent to site.
- 3.25 Depending upon the timing of its construction, there may be an opportunity for the Park & Ride facility to be available for the opening of the V&A @ Dundee in 2014/15 and for it to be considered as a V&A car park. No allowance has been made for this or the significant potential for additional patronage within the economic appraisal.
- 3.26 Both sites indicate a better BCR and lower operating costs for the city centre only service, significantly so in the case of Site 6b, rather than a service serving both the city centre and Ninewells Hospital. However, there may be an opportunity for NHS Tayside to consider providing a minibus shuttle service to/from the site.
- 3.27 Site 3i is north west of the A90 Trunk Road and, although this provides the opportunity to remove traffic from the A90, the bus operators have expressed concern that crossing the A90 may affect journey time reliability for bus services.
- 3.28 The bus services for both sites would also interact with Dundee’s existing urban bus priority system, which is being improved as part of an overall upgrade to Dundee’s Urban Traffic Management & Control system in financial year 2011/12.

Conclusions

3.29 Both sites 3i and 6b meet the study Planning Objectives and contribute positively to the STPR objectives. Both sites also have a positive BCR, but offer different strengths and weaknesses :

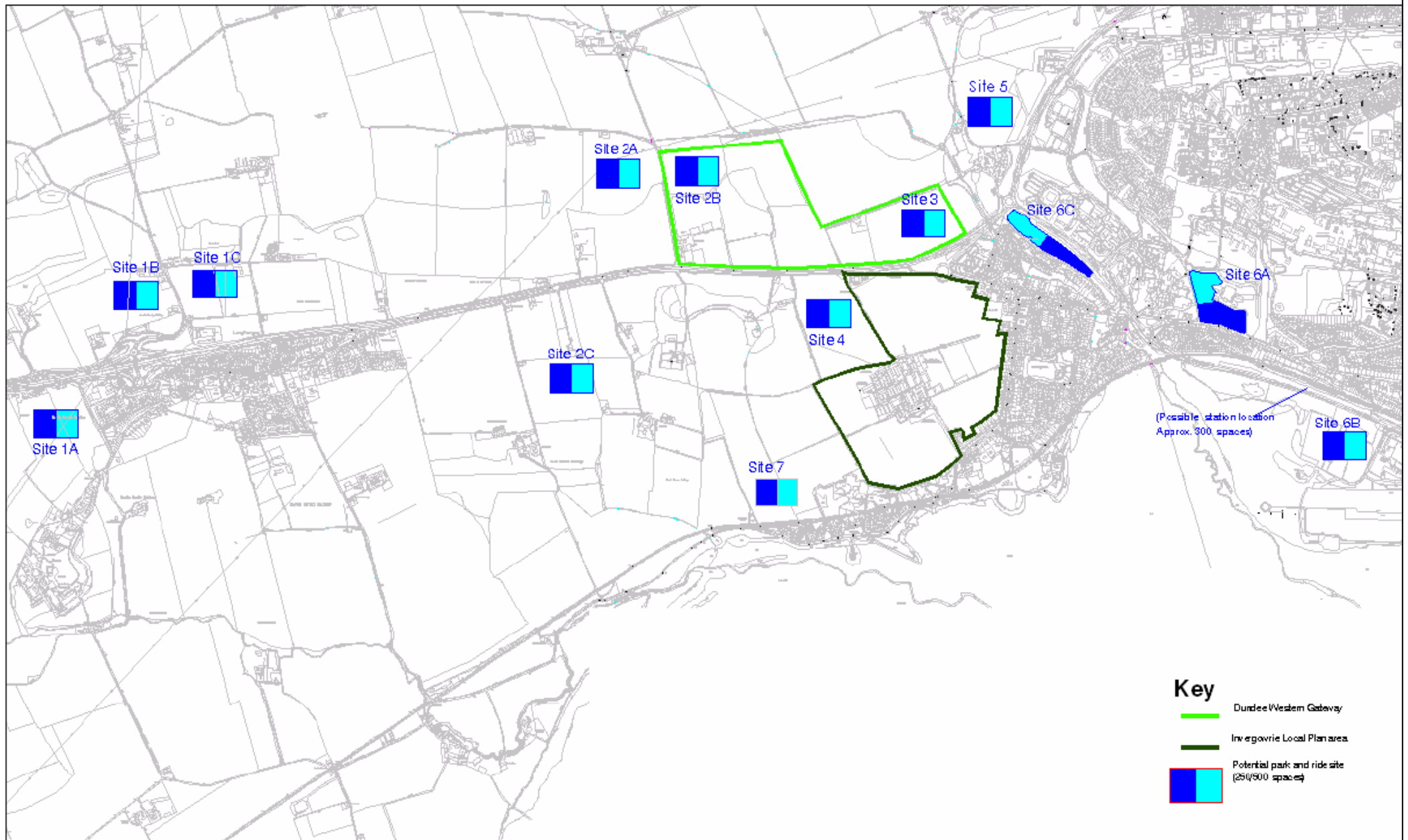
- Site 6b has a lower Capital cost than Site 3i - £3.03m in comparison to £5.18m;
- For the city centre only bus service option, Site 6b has a significantly lower annual bus operating cost than Site 3i - £156k in comparison to £318k;
- Site 6b may have potential to reduce the annual bus subsidy cost, by utilising existing bus services;
- Both Site 3i and Site 6b will reduce congestion on approach to and within central Dundee, however only Site 3i has the potential to reduce congestion at A90 Swallow Roundabout;
- Both sites contribute positively towards the Scottish Government's STPR Project 8 purpose by helping to keep the city centre moving by reducing congestion in the peak period. Site 6b is forecast to remove slightly more traffic from central Dundee than Site 3i.

4. Next Steps

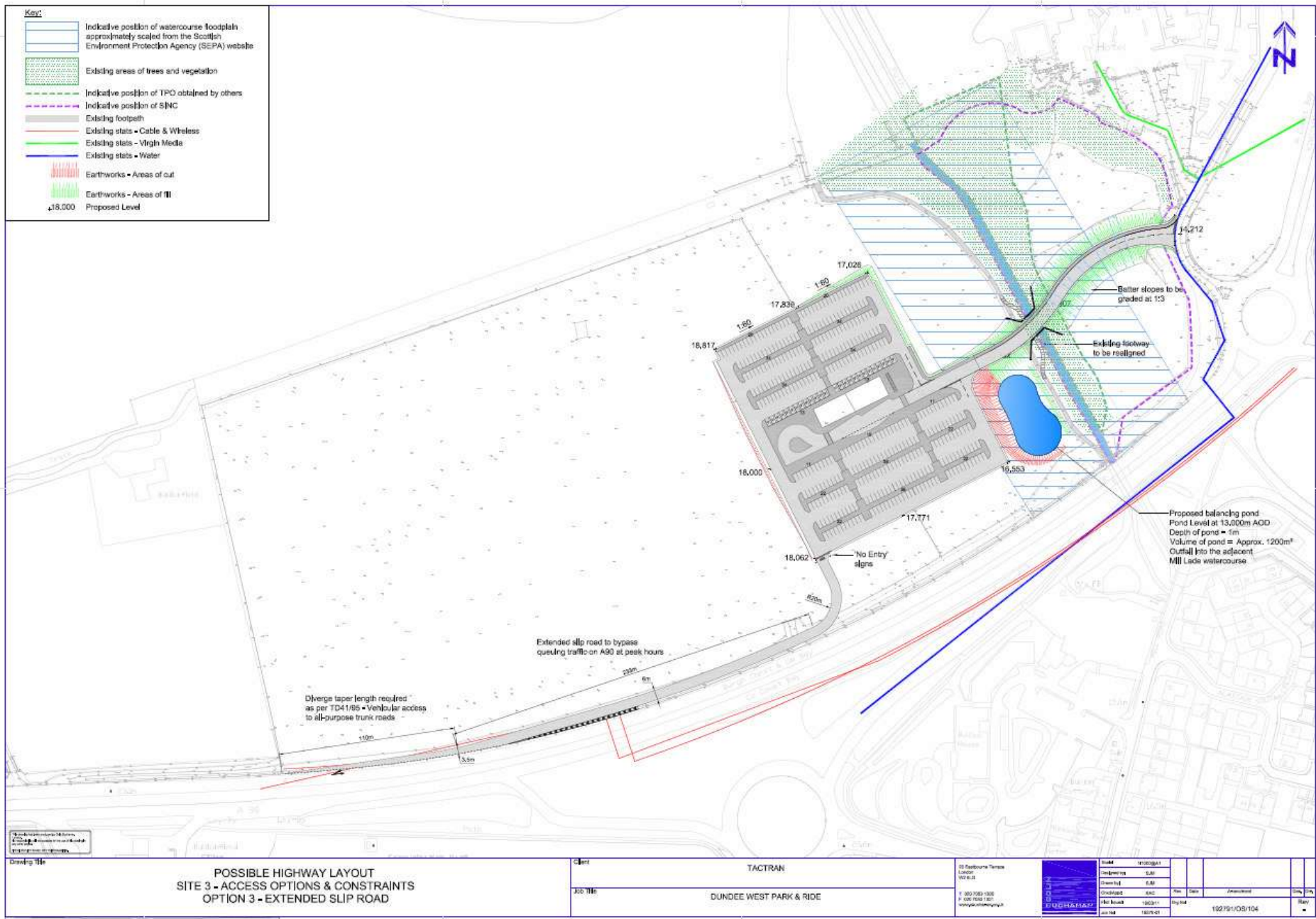
4.1 At its meeting on 21st June 2011 the Tactran Partnership approved the findings of the Dundee West Park & Ride Technical and Business Case reports and remitted officers to further explore the findings of the Technical and Business Case reports with Stakeholders with a view to reaching agreement on funding and implementation of a Park & Ride facility at Dundee West.

Background papers (All available from Tactran website www.tactran.gov.uk):

- Report to Partnership RTP/10/25, Park & Ride Strategy, 14 September 2010
- Report to Partnership RTP/11/17, Regional Park & Ride Strategy, 21 June 2010
- West of Dundee Park & Ride Study, Final STAG Report, July 2010
- Dundee West Park & Ride Detailed Design and Appraisal, Technical Report, June 2011
- Dundee West Park & Ride Detailed Design and Appraisal, Business Case Report, June 2011



Location of All Potential Sites Considered



Site 3i – North West of Swallow Roundabout



Site 6b – Riverside Drive at Wright Avenue