



Adco Constructions Pty Ltd

North Kellyville New Primary School Traffic and Transport Assessment

September 2018

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1. Introduction

1.1 Overview

GHD have been commissioned by ADCO Constructions Pty Ltd to provide Transport Planning and Traffic Engineering advice to support the construction of the proposed North Kellyville New Primary School (referred to henceforth as NKPS).

GHD previously completed the NKPS Traffic Impact Assessment on behalf of the Department of Education (DOE).

The scope of works is to address comments/conditions issued by the Department of Planning and Environment (DPE) with respect to the proposed school's traffic and transport facilities, as detailed in Table 1-1.

Table 1-1 NKPS Conditions

Condition No.	Condition
D14	The Applicant must investigate suitable bus access routes to service the school in the interim and longer term in consultation and agreement with Council and TfNSW / RMS having regard to existing and future road network configurations prior to the commencement of school operations. Options to be considered in consultation and agreement with Council and TfNSW / RMS may include, but not be limited to, the use of reduced length buses where appropriate swept paths and manoeuvring cannot be achieved in the interim. Details of consultations undertaken and any agreement obtained, as well as the any interim and final bus route must be submitted to the Secretary.
D19	A Parking Management Strategy (PMS) must be prepared by a suitability qualified traffic consultant and submitted to the satisfaction of the Secretary prior to occupation. The Strategy must be prepared in consultation with Council and other relevant stakeholders and must include, but not be limited to, identification of measures to manage parking behaviours generated by the development and address any road safety and any congestion impacts, including monitoring arrangements of the student pick-up/drop-off area.
D22	An assessment must be undertaken of the drop-off/pick-up area and bus layby design along Hezlett Road, in consultation with Transport for New South Wales, and any recommendations of the RSA must be implemented into the final drop-off/pick-up and bus layby design. The Applicant must submit the RSA to the approval of the Certifying Authority prior to building works commencing prior to Occupation a Road Safety Audit (RSA), prepared by a suitably qualified consultant,
D30	The Green Travel Plan (GTP), prepared by GHD Woodhead dated 7 August 2017, must be amended by a suitably qualified traffic consultant and submitted to the satisfaction of the Certifying Authority prior to occupation. The GTP must address, but not limited to, the following:

Condition No.	Condition
	<p>a) objectives and modes share targets (i.e. site and land use specific, measurable and achievable and timeframes for implementation) to define the direction and purpose of the GTP;</p> <p>b) specific tools and actions to help achieve the objectives and mode share targets;</p> <p>c) measures to promote and support the implementation of the plan, including financial and human resource requirements, roles and responsibilities for relevant employees involved in the implementation of the GTP;</p> <p>Details regarding the methodology and monitoring/review program to measure the effectiveness of the objectives and mode share targets of the GTP, including the frequency of monitoring and the requirement for travel surveys to identify travel behaviours of students and staff to and from both schools at appropriate times throughout the academic year.</p>

As part of this assessment, GHD has undertaken communications with the Hills Shire Council and TfNSW to discuss the parking and bus services for NKPS. Emails detailing these communications are described in this report and included in Appendix A.

1.2 Background Data

1.2.1 Proposed Kellyville North New Primary School

The NKPS is proposed to consist of:

- A new two storey building which will house an 'innovative learning precinct' comprising of workrooms, learning zones and ancillary areas such as resource rooms, performance rooms, storage rooms and staff rooms.
- Sports facilities including a soccer field and netball/basketball courts.
- Playgrounds and a covered outdoor learning area (COLA) within a central courtyard.

The capacity of the school is expected to be approximately 1,000 students, 40 teachers and 30 additional support staff. The school is expected to be completed by term 1 2019 and to have a population of approximately 500 students upon opening.

A summary of the proposed access arrangement for NKPS is as follow:

- The main pedestrian access will be provided from Hezlett Road, with a secondary pedestrian access provided to the west of the school (south of the netball court).
- Access to the internal parking area (12 spaces) will be provided from Hezlett Road.
- The pick-up and drop-off facilities and bus zone will be provided on Hezlett Road.
- A service vehicle entry will be provided from Thorogood Boulevard.
- An extension of Mossop Way will be constructed (at the end of the existing cul-de-sac) to provide access between Curtis Road and Hezlett Road.
- A separate pick up/drop off facility for students with special needs will be provided on the new Mossop Way extension.

The layout of the proposed NKPS is displayed in Figure 1-1.

The proposed layout of Hezlett Road including the pick up/drop off zone and bus zone (for the 'interim solution' (including an indented pick up and drop off/bus zone) as indicated by HSC (prior to the proposed road widening described in Section 1.2.4) is displayed Figure 1-2.

It was initially intended to locate the bus zone to the south of the pedestrian crossing and the pick up/drop off to the north of the pedestrian crossing. Based upon a request by HSC, the zones were swapped, in order to minimise the possibility of cars queuing across the pedestrian crossing.

Figure 1-1 – Proposed NKPS

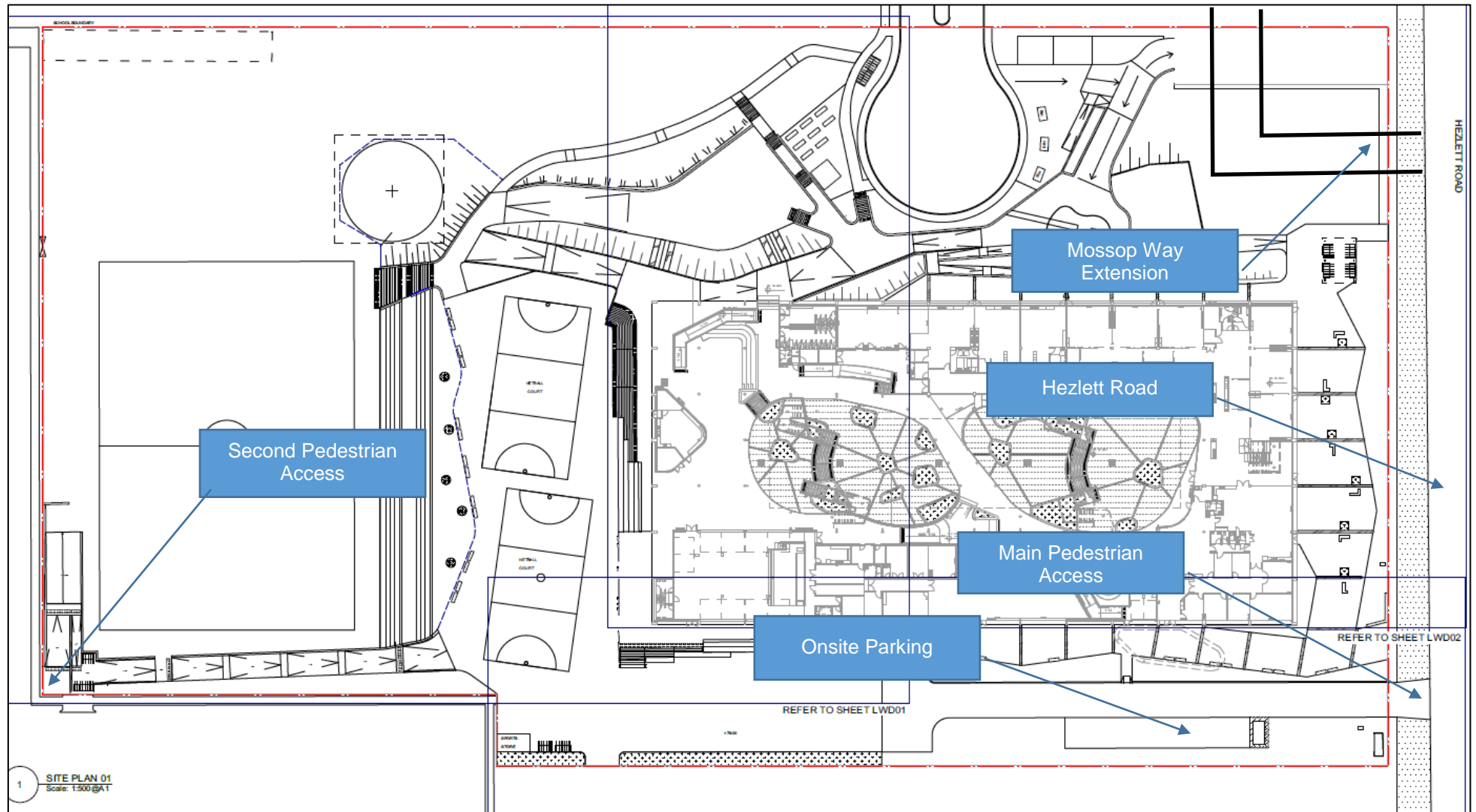
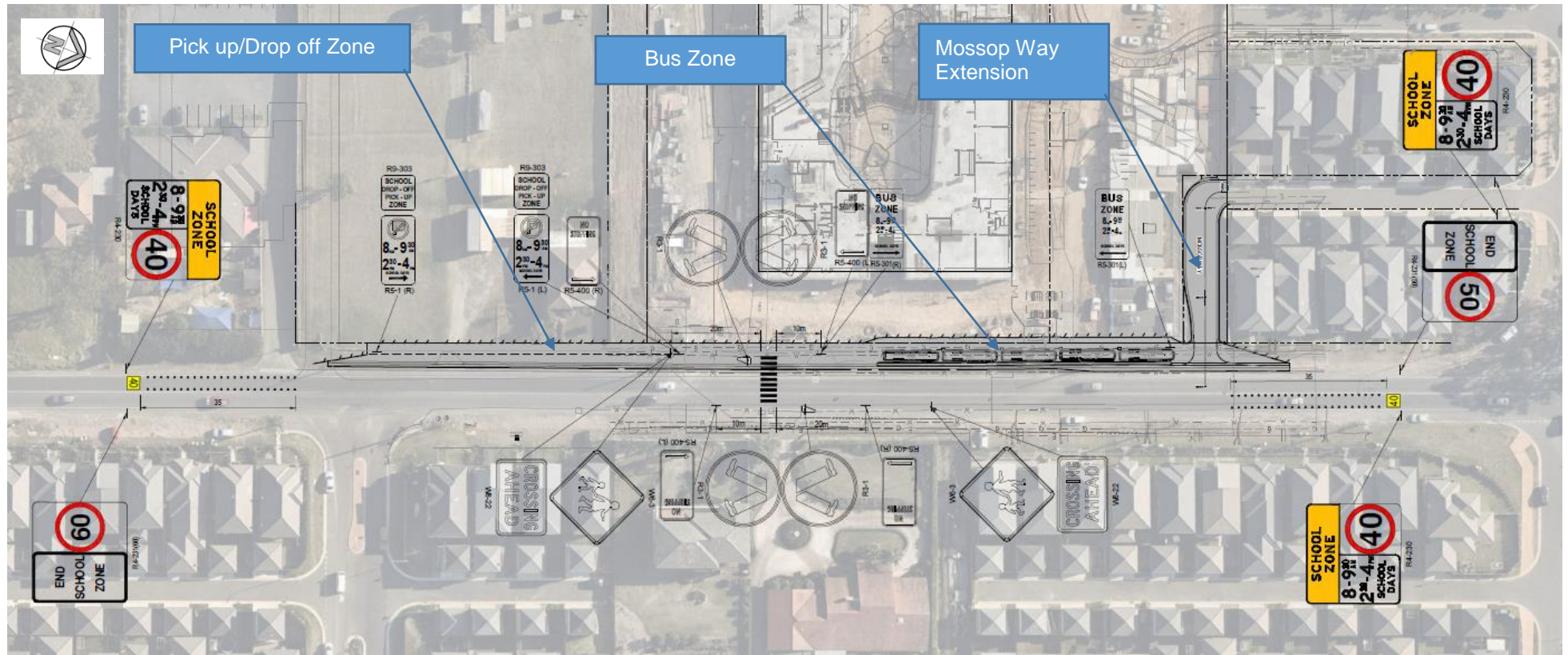


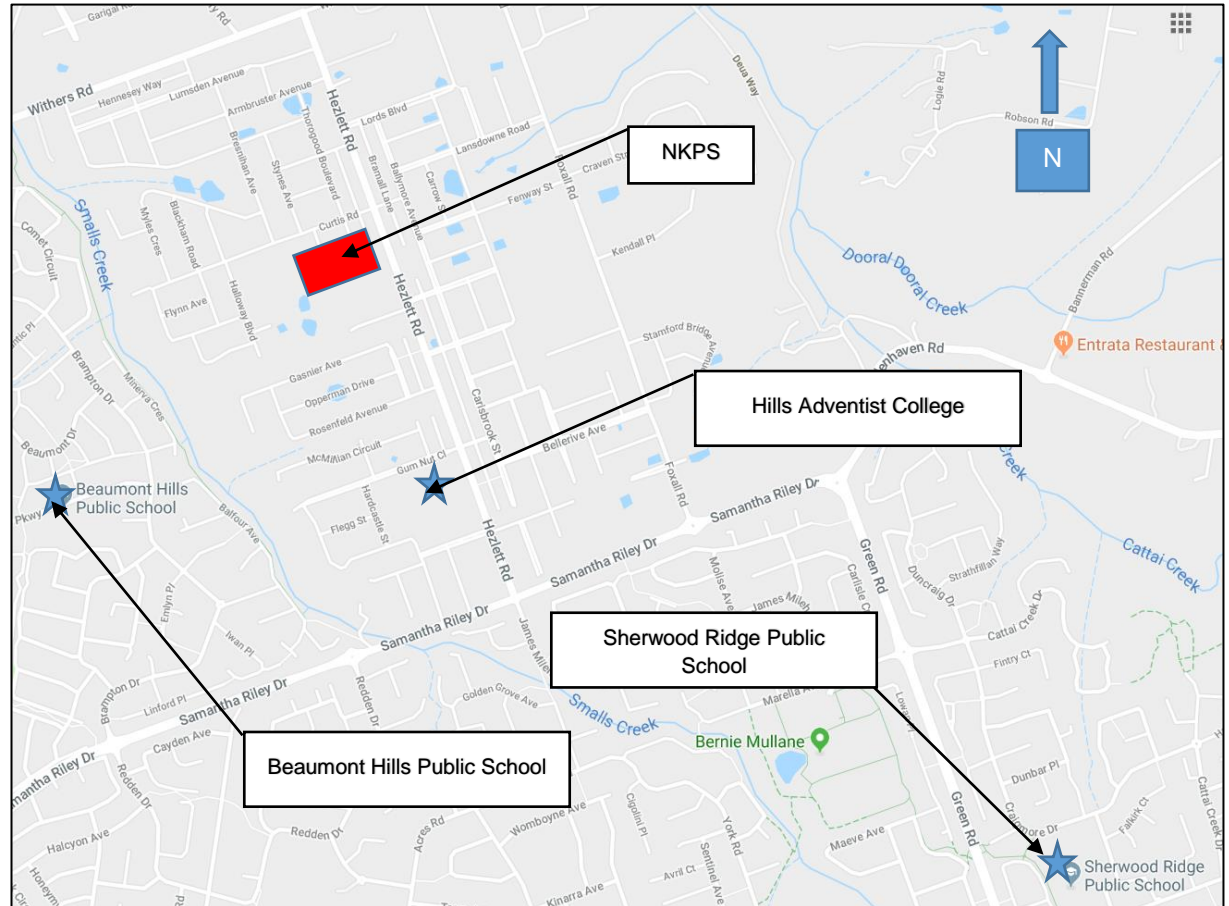
Figure 1-2 – Hezlett Road at School Frontage (Line Marking and Signposting Plan) Interim Solution



1.2.2 Subject Site

The proposed NKPS is located at 120 Hezlett Road, approximately 150 m south of the intersection of Hezlett Road, Curtis Road and Camrose Street, as displayed below in Figure 1-3.

Figure 1-3 – Subject Site Location



With respect to other schools in the area, it is noted that

- Beaumont Hills Public School is located approximately one kilometre (straight line distance) to the south west of the NKPS subject site, it has a population of approximately 650 students.
- Sherwood Ridge Public School is located approximately 2.5 km south of the NKPS subject site, it has a population of approximately 930 students.
- Hills Adventist College (a private school) is located on Hezlett Road, approximately 550 m south of NKP.

Hezlett Road

Hezlett Road is a 1.7 km (approximately) sub-arterial road located in the upper northwest of Sydney. The road links Kellyville (in the south) with Rouse Hill (in the north). Hezlett Road will provide the primary access route to NKPS whilst also serving as a connection to a low density residential dwellings and the nearby retail and commercial developments.

In proximity to the subject site, Hezlett Road has the following characteristics:

- A sealed undivided carriageway with a width of approximately nine metres.

- A single travel lane in either direction, with the provision of turning lanes at key intersections.
- Currently, no dedicated pedestrian facilities are provided along Hezlett Road.

1.2.3 North Kellyville Precinct Plan

The proposed NKPS is located in the North West Growth Corridor of Sydney and part of the North Kellyville Precinct Plan. Jackson Teece was engaged by the DPE to undertake the planning for North Kellyville, with an indicative layout of the precinct displayed in Figure 1-4.

Figure 1-4 – North Kellyville Precinct Plan



The precinct is located within the area bounded by Smalls Creek, Cattai Creek and Samantha Riley Drive. Within the precinct, the only road link to adjoining areas is provided on Withers Road.

The plan shows the indicative layout for residential housing highlighted in brown, commercial and town centres highlighted in blue and the school location highlighted in purple. The NKPS was originally intended to be located south of Withers Road but has been relocated to Hezlett Road (as displayed in Figure 1-3).

As specified in the North Kellyville Growth Centre Precinct Development Control Plan (DCP), the precinct is targeted to provide 4,500 new dwellings. The proposed NKPS is intended to accommodate the expected additional educational demand associated with increases in population within the precinct. Particularly as the existing public schools (Beaumont Hills and Sherwood Ridge) accommodate the existing demand.

1.2.4 Proposed Road Upgrades

The DCP designates Hezlett Road as a Sub- Arterial Road with a single travel lane and parking lane in either direction, as displayed in Figure 1-5.

Figure 1-5 – Proposed Layout of Hezlett Street



Based upon discussions with the Hills Shire Council (Council) it is understood that the:

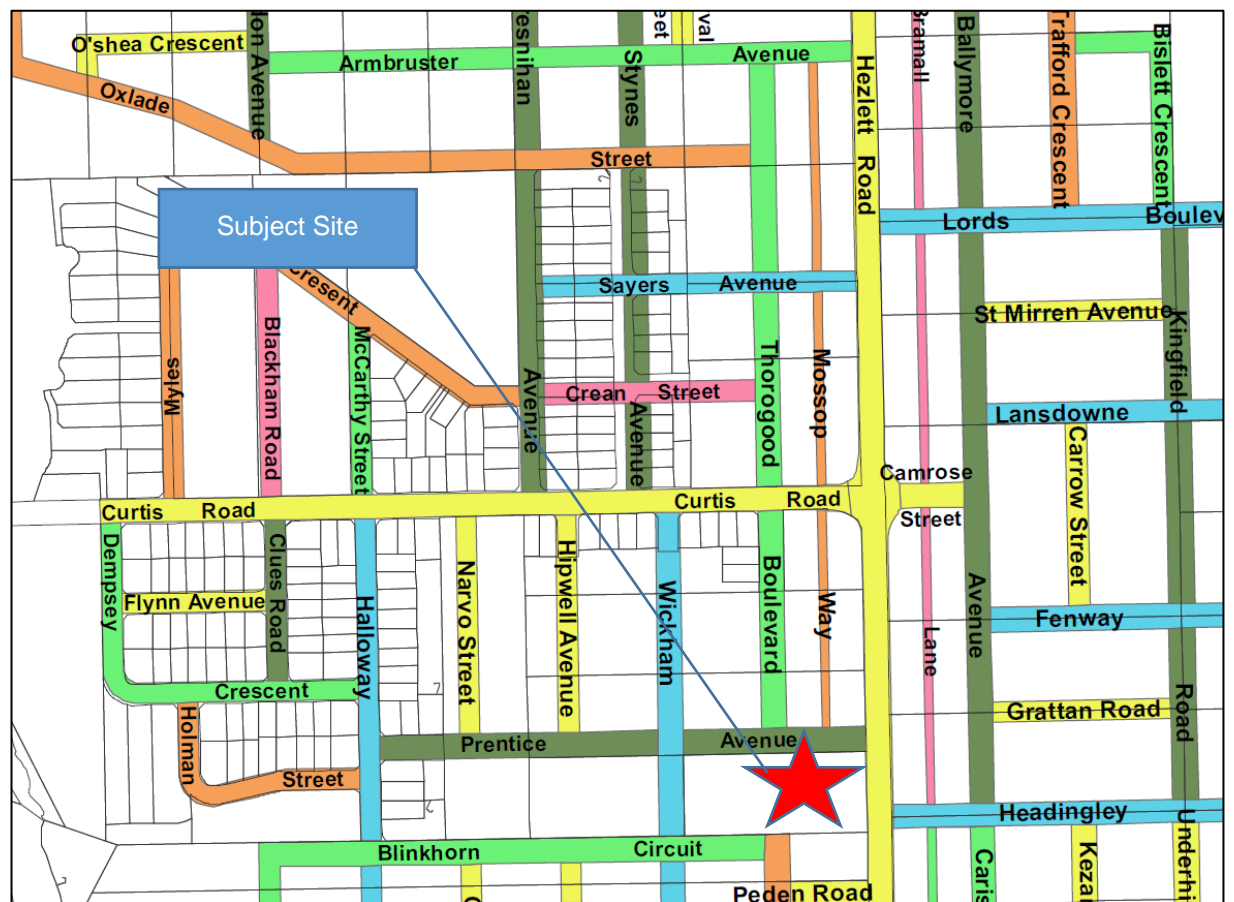
- Hezlett Road will be widened in accordance with DCP specifications, with a 13 m carriageway.
- Council is proposing to provide two travel lanes in each direction and subsequent to its widening, no parking will be provided on Hezlett Road.
- Detailed designs are currently being prepared for the widening of Hezlett Road.
- The widening of Hezlett Road is programmed for completion in mid-2019.

- At this stage without a completed design or contractor, Council cannot commit to having construction adjoining the school completed by Term 1 2019.
- The widening of Hezlett Road is intended to incorporate a bus zone and pick up/drop off facility in proximity to the school. In the period between the school opening and the widening of Hezlett Road an 'interim' option (see Figure 1-2) is proposed on Hezlett Road.
- To council's knowledge, there has been no final decision between TfNSW and Hillbus re future additional bus services on Hezlett Road and other roads within the North Kellyville Precinct.

The proposed carriageway width of 13 m will enable the provision of a 3.5 m lane in either direction, suitable for accommodating bus services.

The existing and proposed road network in proximity to the school is displayed in Figure 1-6.

Figure 1-6 – Existing and Proposed Road Network.



Planned roads in proximity to the school include Hipwell Avenue and Prentice Avenue. As part of the school expansion it is proposed to provide “community parking” on both these roads.

2. D14: Bus Route Investigation

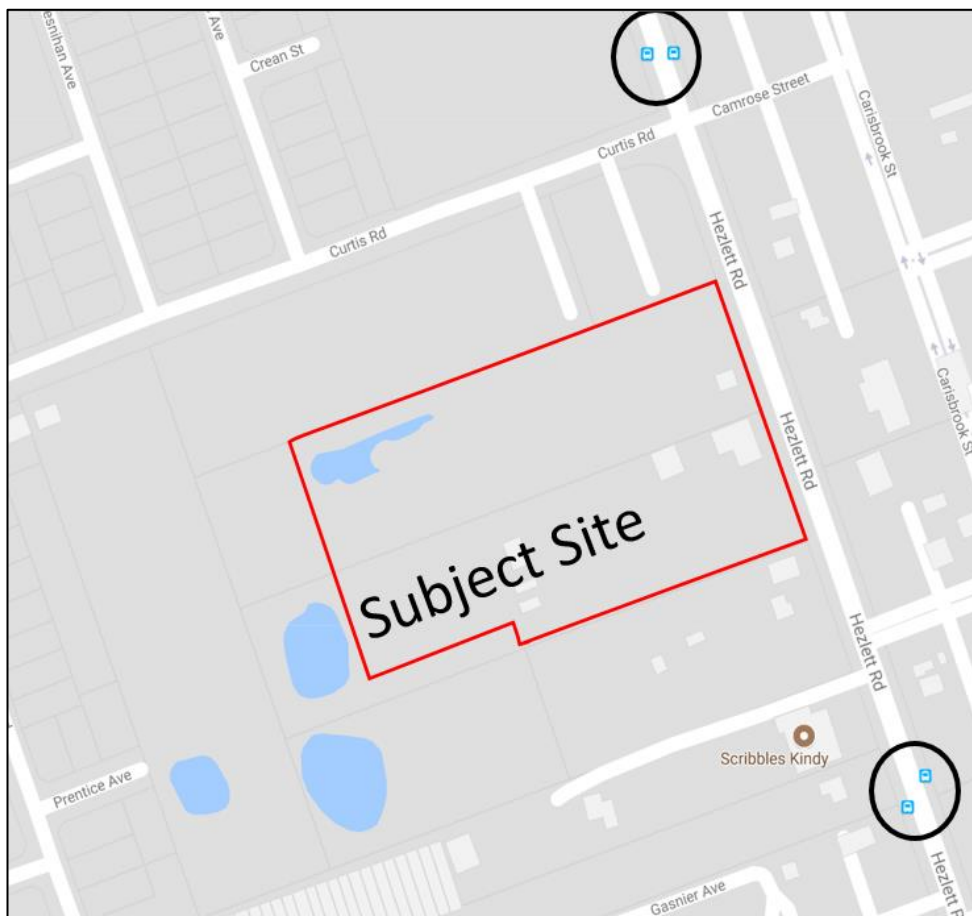
2.1 Public Transport

2.1.1 Current

Bus Services

The nearest public bus stops in proximity to the subject site are located on both sides of Hezlett Road within 200 m of the school, as shown in Figure 2-1.

Figure 2-1 – Bus stop in proximity to Kellyville North New Primary School



A summary of the bus routes operating from these bus stops and their approximate frequency is provided in Table 2-1.

Table 2-1 – Bus Routes and Frequencies

Bus Route	Origin – Destination	Frequency (minutes)	
		Peak	Off-peak
603	Rouse Hill Town Centre to Parramatta Interchange	30	60
615X	North Kellyville to Sydney CBD	Up to 10 minutes	Up to 30 minutes

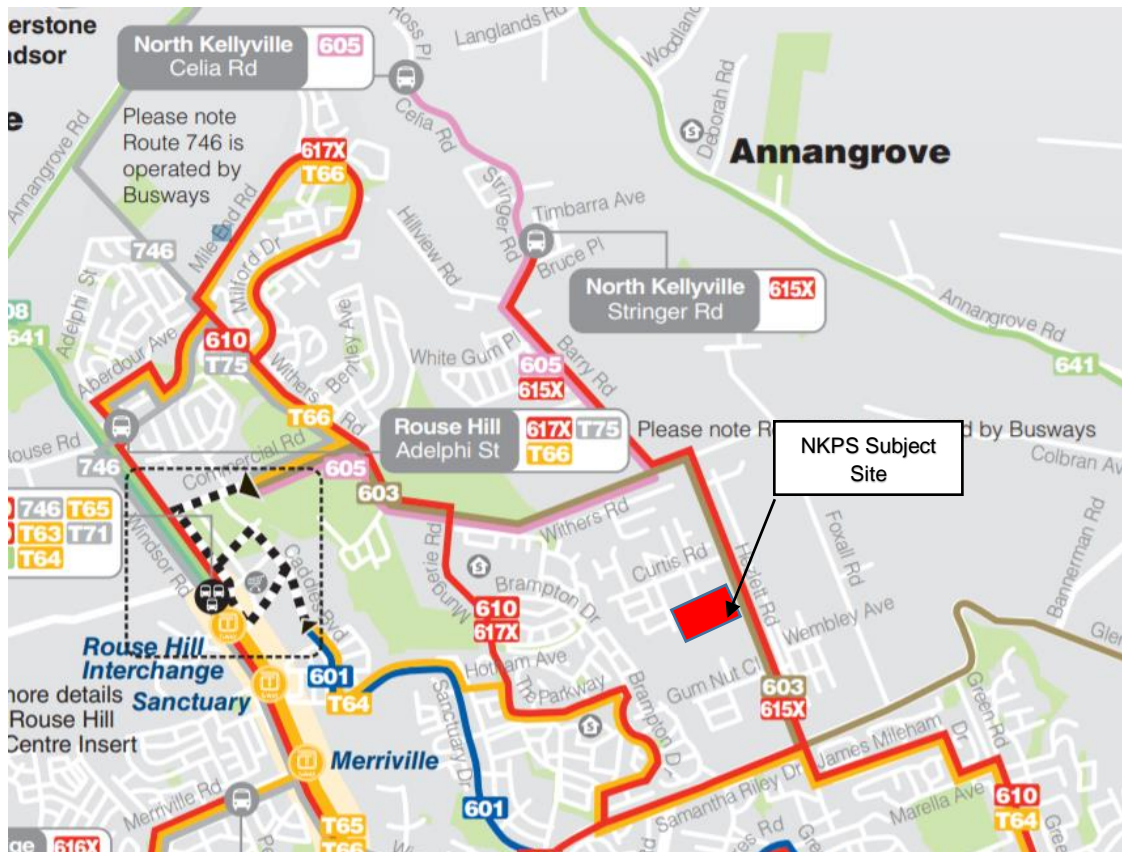
The 615X operates towards the Sydney CBD (only) between 5:00 am – 8:30 am and towards North Kellyville (only) between 3:25 pm – 8:50 pm. The journey time between the Sydney CBD and North Kellyville is approximately 70 minutes. The journey time between North Kellyville and Parramatta is approximately 60 minutes.

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A third bus service, 605 North Kellyville to Rouse Hill Town Centre, operates within the precinct (to the north of the school) with 60 minute frequencies.

The bus routes operating within North Kellyville Precinct and its surrounds are displayed in Figure 2-2.

Figure 2-2 – Current Bus Services in Proximity to NKPS Subject Site



It is noted that within the precinct:

- The 603 operates on Samantha Riley Drive, Hezlett Road and Withers Road.
- The 615X operates on Samantha Riley Drive Hezlett Road, Withers Road, Barry Road and Stringer Road.
- The 605 operates on Withers Road, Barry Road and Stringer Road.

To the south of the NKPS, the Hills Adventist College is serviced by the following bus services:

- T64 Rouse Hill to Parramatta via Kellyville.
- 610 Rouse Hill to Sydney CBD.
- 610X Rouse Hill to Sydney CBD via Land Cove Tunnel.

These are not school services and typically operate south of the school on Samantha Riley Drive. However, on weekdays, during morning and afternoon peak periods of school activity, a single bus service diverts from its typical route(onto Hezlett Road and Gum Nut Close) to include the college. Thus 'regular' bus services also function as school services.

The college is serviced by a single 'school only' service (3627 Hills Adventist College to William Clarke College via Marian College), which operate with a single service in the afternoon peak.

2.1.2 Future

Sydney Metro Northwest

As part of State Government's initiative to expand public transport services to Western Sydney, an \$8.3 billion Northwest Rail Link is under construction and will open in the first half of 2019 as Stage 1 of the Sydney Metro Northwest Project. It is proposed to operate as a 'turn up and go' service with a peak frequency of 12 services per hour per direction. The travel time between Kellyville Station and Wynyard Station is expected to be 53 minutes.

Kellyville Station will be located at the corner of Old Windsor Road and Samantha Riley Drive. Kellyville Station will be located approximately 3.8 km south-west of NKPS and is therefore is considered outside of an acceptable walking distance based on NSW Planning Guidelines for Walking and Cycling (2004) which outlines a recommended walkable distance of 400 m to 800 m to public transport and other local amenities.

Bus Services

Information has been requested by GHD from TfNSW regarding planned changes to the bus services within and in proximity to the North Kellyville Precinct. It is noted that:

- TfNSW is currently investigating options and planning changes to bus services in the North Kellyville area, in preparation for the opening of the Sydney Metro North West in 2019. It is expected that local 'feeder' bus services will be provided to and from Kellyville Station.
- Current bus planning work is being reviewed for Hezlett Road, Foxall Road, Withers Road and Samantha Riley Drive with regard to potential future/changed bus services, however this work has not yet been completed and details are not yet available.
- Details regarding the expected changes to bus services within North Kellyville will be publicly announced at a later date (currently unspecified).

It has been noted that bus trips from longer distances would be primarily used by teachers and staff at the school, as the majority of students are likely to be drawn from an undefined catchment (within the Kellyville North Precinct) in walking distance of the school.

2.2 Bus Guidelines

2.2.1 Bus Infrastructure Guide

As it is currently expected that the bus zone on Hezlett Road will be used for school routes and for school excursions. It is recommended bus zone restrictions should be limited to periods of school activity (as displayed in Figure 1-2).

Information included in the *State Transit Bus Infrastructure Guide* indicates that a bus zone for a 'long rigid bus' should be 35 m, consisting of:

- A bus length of 14.5 m.
- A draw out length of 6.5 m.
- A draw in length of 14 m.

It is noted that a 14.5 m bus (with a capacity of 80 passengers) is consistent with the largest rigid buses operated by Sydney Buses.

A review of the signage and line marking plan (see Figure 1-2) indicates that the proposed bus zone on Hezlett Road (proposed as part of the interim option) has a length of 80 m. In accordance with the *State Transit Bus Infrastructure Guide* this is sufficient to accommodate up to two buses which will be able to operate independently of each other.

The guide also specifies that:

- As a traffic lane, a minimum width of 3.2 m is required to accommodate buses, but a width of 3.5 m is preferred.
- As a parking lane (kerb side), a minimum width of 3 m is required for bus stops.

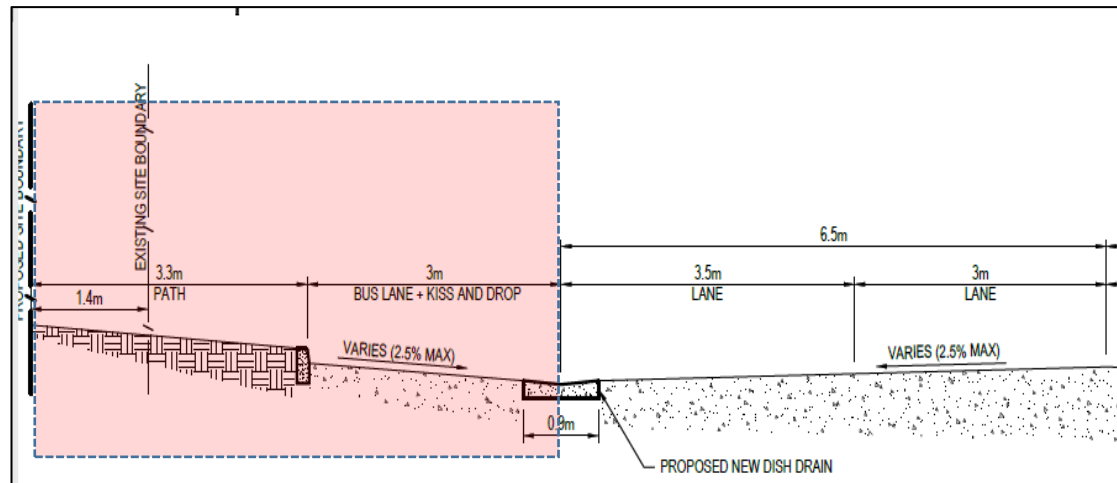
The current plans for the proposed bus zone for the interim option (prior to the widening of Hezlett Road) and the final option (post widening) indicates that it will be designated layby facility and have a width of 3 m. Additionally, it is proposed to widen Hezlett Road to provide 3.5 m travel lane.

Accordingly, the proposed layout complies with the *State Transit Bus Infrastructure Guide*.

The implementation of a school bus zone on Hezlett Road at the NKPS frontage and access to/from the bus stop to the pedestrian entrance must be designed in accordance with the relevant disability access standards, DCP and TfNSW Guidelines.

The typical cross section on Hezlett Road at the frontage to the school (final option) is displayed in Figure 2-3 and includes a 3.3 m wide footway adjacent to the indented bus zone and pick up/drop off facility.

Figure 2-3 – Hezlett Road Cross Section, Final Option



The interim option includes a minimum 2.5 m wide footway adjacent to the indented bus zone and pick up/drop off facility.

The Austroads *Guide to Road Design Part 6A: Paths for Walking and Cycling* – (Table 5.1 *Width requirements for pedestrian paths*), pedestrian paths with high volumes should have a minimum width of 2.4 m and a minimum width of 1.8 m is required to allow two wheelchairs to comfortably pass each other.

Both the interim and final options comply with these specifications.

2.2.2 Sydney Metropolitan Area Integrated Public Transport Service Planning Guidelines

The TfNSW *Sydney Metropolitan Area Integrated Public Transport Service Planning Guidelines*, outlines the following recommendations with respect to the provision of school bus services.

- Dedicated school services should be kept to a minimum in order to maximise the frequency and availability of regular services.
- School locations and the number of students travelling by public transport are to be considered in determining the need for dedicated school services.

- Dedicated school services could be justified when:
 - Placing students on regular services would exceed bus capacities.
 - Schools are not located on regular routes.

2.2.3 North Kellyville Growth Centres Precinct DCP

The DCP specifies that:

- Bus stops should generally be provided in accordance with Figure 2-4, with the final locations of bus stops to be determined by the local traffic committee.
- Typically bus stops should be provided on-street and not within indented bays¹.
- Bus shelters should be provided (by Council) at key stops.

The proposed public transport networks specified in the DCP (Bus Route A and Bus Route B) are displayed in Figure 2-4. In addition to Hezlett Road, the networks include Stringer Road, Barry Road, Withers Road, Foxall Road, all of which are designated as collector roads within the road hierarchy.

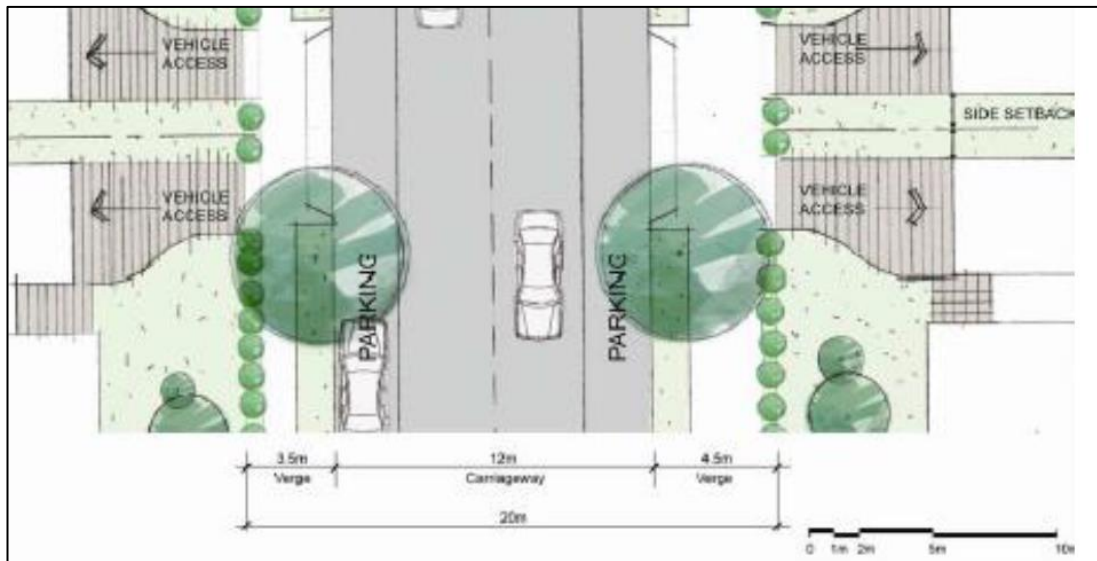
Figure 2-4 – Proposed Transport Services



The collector road carriageway widths (as detailed on the North Kellyville DCP) are displayed in Figure 2-5. They include 3.5 m travel lanes which is suitable to accommodate bus services.

¹ To facilitate the safety of students it is proposed to provide an indented bus zone on Hezlett Road at the frontage to NKPS

Figure 2-5 – Collector Road Carriageway



2.2.4 Student Eligibility

The following is noted with respect to student eligibility to free public transport to school:

- Kindergarten to Year 2 – No minimum walking applies to these students.
- Year 3 to Year 6 – The straight line distance from their home address to school is more than 1.6 km.
- Year 7 to Year 12 - The straight line from their home address to school is more than 2 km.

An image showing the 'catchments' associated with these distances in the context of the North Kellyville Precinct is displayed in Figure 2-6.

Figure 2-6 – Student Travel Pass Eligibility Catchment

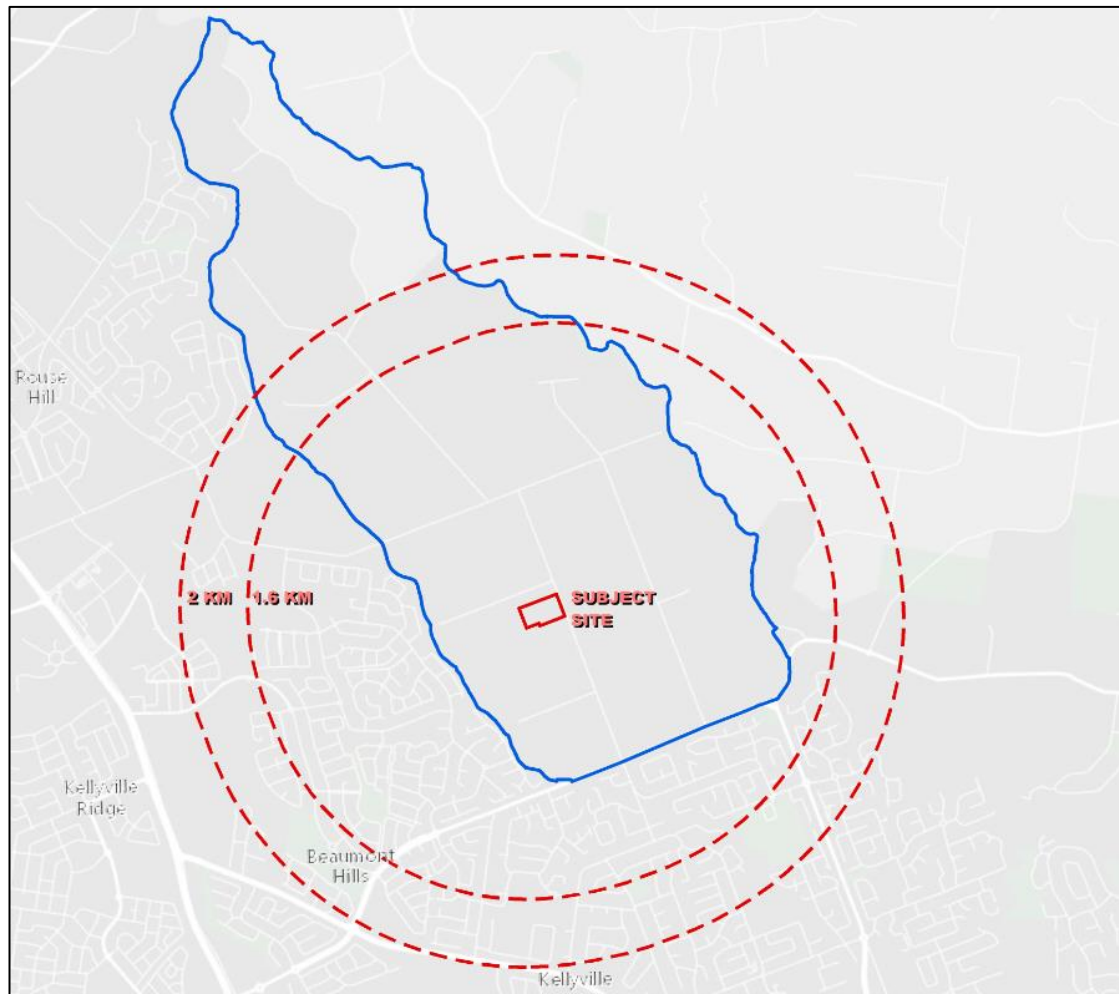


Figure 2-6 indicates that the majority of the North Kellyville Precinct is included in the area where students will not be eligible for free travel passes, due to their proximity to the school.

2.3 Summary and Recommendations

As part of the work by GHD for the Traffic Impact Assessment, manual travel mode surveys were undertaken at Beaumont Hills Public School, as a proxy data source for the proposed NKPS. The surveys indicated that five percent of students use buses to access the school in the AM peak and 14 percent of students use buses to egress the school in the PM peak.

Beaumont Hills Public School is not served by a school only bus service, but a number of regular services (610, 610X, 617X and T64) operate on The Parkway (at the frontage to the school). An indented bus zone area is provided at the front of the school to accommodate these services.

NKPS will cater to a population of 500 students upon opening with a capacity of 1,000 students. Based on the outputs of the Beaumont Hill Public School surveys:

- In the AM peak 25 – 50 students are expected to use buses to access the NKPS.
- In the PM peak 70 – 140 students are expected to use buses to egress the NKPS.

Based upon this level of demand/patronage and TfNSW Guidelines, it is not recommended that dedicated school bus services be provided at NKPS upon its opening (2019). Particularly in the context of the extensive bus network currently operating in proximity to the NKPS (see Figure 2-2).

However, there may be opportunities (as per the arrangement at the Hills Adventist College) for regular bus services to stop at the frontage of the school (on Hezlett Road) during peak periods of school activity.

As per the proposed arrangement (for both the interim and final option), for safety reasons the bus zone will be provided in an indented lay-by to separate student's boarding and alighting activity from the adjoining travel lanes.

The stops that buses divert to in order to provide access to the Hills Adventists College are located approximately 550 m south of the NKPS on Hezlett Road (within an 800 m catchment). The Hills Adventist College bus services could offer significant utility to the future student population of NKPS, as this is a relatively short walking distance.

It is noted that TfNSW continually monitors bus services in the area, and future changes to bus services can be made over time, where necessary in response to changes to passenger demand etc. As stated previously, TfNSW are currently reviewing bus operations in the North Kellyville area.

The local bus operator CDC Hillsbus is also responsible for investigating the need for, and feasibility of, school special services in its contract area.

As the school population expands, as per DCP specifications (see Figure 2-4) any 'school only' bus services (if required, as per Integrated Public Transport Service Planning Guidelines) should be provided on the precinct's sub-arterial and collector road network (Hezlett Road, Stringer Road, Barry Road, Withers Road and Foxall Road), as these road:

- Are proposed to be widened to provide 3.5 m travel lanes.
- Are currently being used for bus services.
- Based on discussions with TfNSW current bus planning work is looking at, Hezlett Road, Foxall Road and Withers Road.
- Will provide a 400 m walking catchment that will include the majority of the precinct.

In summary:

- It is not recommended that any school bus services be assigned to NKPS for its opening year. Though current bus services could potentially undertake minor diversions (as per the arrangement at Hills Adventist College) to pick up /drop off students at the proposed bus zone on Hezlett Road.
- TfNSW are currently reviewing the bus services in North Kellyville.
- Additional bus services could be allocated to the North Kellyville Precinct and NKPS as demand increases.

3. D19: Parking Management Strategy

3.1 Current Parking

There is currently no parking restrictions on Hezlett Road and vehicles currently park on an unsealed shoulder. Unrestricted parking is typically provided on the other residential streets in proximity to the school subject site.

The DCP indicates that Hezlett Road will be widened to provide a single travel lane and parking lane in either direction. However Council is proposing to provide two travel lanes in each direction and subsequent to its widening, no parking will be provided on Hezlett Road.

3.2 Proposed Parking

3.2.1 Proposed Supply

Onsite Parking

It is proposed to provide 12 designed parking spaces on site designated for senior staff, short term teacher parking and school deliveries. The location of the proposed onsite parking bays is displayed in Figure 1-1.

The DoE provides a set of guidelines with respect to the provision of parking at schools in the Educational Facilities Standards and Guidelines (PS610.17 Service Zone), that states the following:

In order to ensure that the available site area for teaching, learning and play is maximised, to enable community use and to encourage sustainable means of transport to and from school, on school parking should be kept to a minimum.

As such, the proposed parking provision of 12 designated onsite parking spaces is consistent with the DoE Guidelines.

'Community' Parking

It is also proposed to provide 75 ninety degree 'community' parking spaces as per the Heads of Agreement between the Hill Shire Council (HSC) and the DoE which indicates that:

- *DoE will move their originally proposed western site boundary (Hipwell Avenue eastern alignment) by 6 m to the east for the full width of that portion of the site (117.625 m), and the DoE will develop the extension of Hipwell Avenue and the 90 degree parking in parallel with the delivery of the school to ensure that these facilities will be available for school commencement. Providing parking provision for 46 spaces at 2.4 m wide.*
- *HSC agrees to match the DoE 90-degree parking proposal along the western boundary of the park site (Lot 201 of DP 1168306) – this will provide an additional 29 parking spaces 2.4 m wide (not using the Prentice Ave reserve frontage).*

Based on discussions with Council the following is noted:

- The provision of on-street parking on Hezlett Road will not be supported (once road works have commenced) as it would be inconsistent with its sub-arterial functionality.
- The application of time restrictions to publically available on-street parking i.e. the community parking bays, will not be supported.

3.2.2 Expected Utilisation

As the 12 onsite spaces will not be available to the majority of teachers, they will be required to park elsewhere or use alternative modes of transport (active and/or public transport) to access NKPS.

It is proposed that the 75 'community' parking spaces will be available to the general public including the teaching staff of the NKPS.

As discussed in Section 2.1, the proposed Sydney Metro Northwest and the existing/proposed bus services will provide a viable alternative to private vehicle for teachers to access/egress the school. Further, it is anticipated that some teachers will live within walking/cycling distance from the school.

At capacity the NKPS will have a teaching staff of approximately 40 persons. Thus the 75 community parking bays are expected to provide sufficient capacity to accommodate the expected demand.

3.3 Recommendations

3.3.1 Onsite Parking

The 12 internal parking spaces, are not intended to be used for general parking, rather they are intended to be used by senior staff, visitors, the mobility impaired and for short term parking by teachers. As such:

- No time restrictions should apply to the mobility impaired parking bays.
- No time restriction should apply to the other 10 bays. This will enable their use by visitors or short term teacher parking, but they must be clearly identified for their designated use.
- Any bays allocated to senior staff should be marked as such.

As the proposed NKPS car park is private, council officers will not be responsible for monitoring/enforcing its utilisation.

As teachers typically arrive before students, schools often gate close the gate to parking areas to prevent utilisation by parents/visitors during peak periods on activity. However, as the car park is proposed to be available for students with special needs, this may not be appropriate for NKPS.

3.3.2 Community Parking

The community parking will be open to the public and will be available for teachers, residents and visitors to park. In accordance with Council's instructions and the proposed 'long stay' parking associated with teachers, it is recommended that no time restrictions be applied to these parking spaces.

3.4 Pick up and Drop off

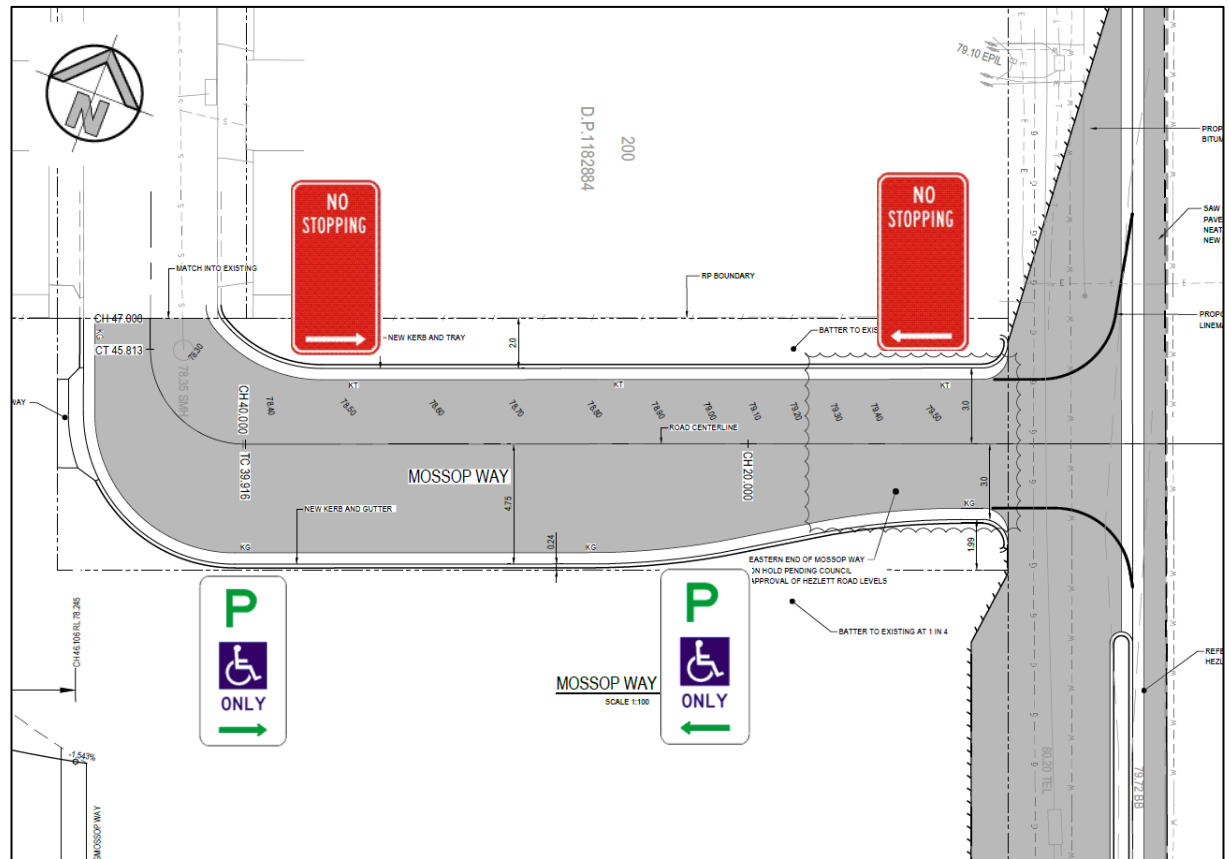
3.4.1 Special Needs Students, Pick Up/Drop Off (Mossop Way)

As stated previously, it is proposed to extend Mossop Way to provide access between Curtis Road and Hezlett Road. The extension will be one way eastbound and vehicles will only be able to turn left onto Hezlett Road.

A separate pick up/drop off facility will be provided on the Mossop Way extension for students with special needs. This facility will provide a direct access to the school for these students.

The proposed extension of Mossop Way is displayed in Figure 3-1.

Figure 3-1 – Proposed Mossop Way Extension*



* Signage locations are indicative only

As described in Section 3.4.2, the main pick up/drop off facility for NKPS will be provided on Hezlett Road. To minimise the impacts of vehicles on the adjoining collector and local road networks, parents without special needs children should be discouraged from utilising the Mossop Way extension.

Accordingly, it is recommended:

- No Stopping signage be implemented on the northern side of the Mossop Way extension.
- Parking with disability user limitations be implemented on the southern side of the Mossop Way extension.

It is noted that it is illegal (and carries heavy fines) for vehicles to park in No Stopping zones and for unauthorised vehicles to park in bays with disability user limitations

3.4.2 Hezlett Road

As displayed in Figure 1-2 as part of the interim option, it is proposed to provide the pick up/drop off facility on Hezlett Road at the frontage to the school, within an indented lay-by with a length of approximately 70 m.

The final option includes an indented lay-by adjacent to the proposed two northbound traffic lanes, with a length of approximately 77 m.

The proposed indented lay-by will be able to accommodate approximately 13 vehicles.

The lay-by is proposed to designated as 'No Parking' zone as vehicles are not permitted to park for more than two minutes and drivers must remain within 3 metres of their vehicle. This will facilitate improved turnover and efficiency of operation during pick-up and drop-off periods as vehicles should be left unattended.

Regulatory signage will need to be provided for the 'No Parking' (R5-40) and 'No Stopping' (R5-400) restrictions. Additional signage could be implemented on Hezlett Road to clarify and promote the lay-by facility's pick-up and drop-off operation.

Figure 3-2 – Example of Supplementary Signage



It is recognised that vehicle demand at pick up and drop off facilities can be high (particularly in the afternoon) due to short periods of peak school activity.

It is noted that the operation of the pick-up/drop-off facility will cause some friction with the adjoining travel lanes if the queue exceeds the lay-by facility, however:

- Peak periods of pick-up/drop-off activity typically occur within a 20 – 30 minute period, so its impacts will occur for short periods of time.
- The provision of two travel lanes on Hezlett Road will support the through movement of vehicles.
- It is assumed that a 40 km/h School Zone will be implemented on Hezlett Road to facilitate a slow speed environment (as displayed in Figure 1-5).

The functional capacity of the proposed pick-up and drop-off will be dependent on a management plan for this facility, which would be developed by the school. This may include:

- Designated pick-up times, with parents/guardians not to arrive before this period;
- Students to be grouped into designated pick-up zones.
- Parents/guardians to identify the student names on the front of cars (to assist teachers with identifying the approaching cars).

It is noted that it is illegal for cars to queue across bus zones, pedestrian crossings and double-park and it carries heavy fines. Enforcement of this will quickly stop this behaviour and the school can work with council if it becomes an issue.²

As the new school supports the proposed development within the Kellyville North Precinct, it is anticipated that there would be more local trips to the school made by walking and cycling. This is likely to lower the demand for the pick-up and drop-off facility. Further to this, the proposed implementation of Travel Demand Measures, such as implementing a Green Travel Plan (see Section 5 D30: Green Travel Plan), will also reduce the demand for the pick-up and drop-off

² The Hills Shire Council have a 'request a school zone patrol' facility to monitor and control traffic and parking issues.
<https://epathway.thehills.nsw.gov.au/ePathway/Production/Web/mobility/Citywatch/index.html?Module=ECRREQT&Type=PA03>

facility. The measures in the Green Travel Plan will seek to encourage teachers and students to travel by public transport, active transport or car share.

Notwithstanding the above, as the school is yet to be constructed, it is recommended that the school and Council monitor the operation of the proposed pick-up and drop-off facility once the school is constructed and in operation.

Some councils have produced brochures identifying measures parents and teachers can facilitate the safety and efficiency parking and pick up/drop off facility (an example is provided in Appendix B).

It is recommended that a similar brochure is prepared and distributed to parents with children at NKPS.

4. **D22: Road Safety Audit**

A road safety audit (RSA) has been completed by TTPP Transport Planning for the proposed pick up/drop off facility on Hezlett Road (based in the line marking and signposting plan displayed in Figure 1-2) and is included in Appendix C.

In summary the RSA indicates that:

TO BE FILLED IN UPON RECEIPT OF THE RSA

5. **D30: Green Travel Plan**

The purpose of a Green Travel Plan (GTP) is to encourage parents, students and staff at the NKPS to use walking, cycling and public transport as their usual transport modes to school.

A GTP has been completed by GHD for NKPS and is included in Appendix D.

The implementation of a GTP for NKPS School is intended to be part of a suite of responses to ensure that sustainable travel behaviours are encouraged for parents, students and staff from the time of the school opening.

The information in this GTP can be provided to students and their parents in student enrolment packs, newsletters and school assemblies, and to staff in employment information packs and staff communiques.

Some of the actions included in the GTP are:

- Consider obtaining car sharing membership to reduce car use.
- Establish a car pooling system to reduce single occupancy – priority parking for ‘sharers’.
- Consider provision of Opal Cards as part of salary package.
- Provide bicycle parking, showers, lockers and change rooms.
- Running a bike skills course as part of the curriculum.

6. Summary and Conclusion

6.1 Background

GHD have been commissioned by ADCO Constructions Pty Ltd to provide Transport Planning and Traffic Engineering advice to support the construction of the proposed NKPS.

The scope of works is to address comments/conditions issued by the Department of Planning and Environment (DPE) with respect to the proposed school's traffic and transport facilities, as follows:

- D14 – Identification of suitable bus routes.
- D19 – Parking management strategy
- D22 – Road safety audit, Hezlett Road
- D30 – Green Travel Plan.

6.2 Proposed Development

The NKPS is proposed to consist of:

- A new two storey building which will house an 'innovative learning precinct' comprising of workrooms, learning zones and ancillary areas such as resource rooms, performance rooms, storage rooms and staff rooms.
- Sports facilities including a soccer field and netball/basketball courts.
- Playgrounds and a covered outdoor learning area (COLA) within a central courtyard.

6.3 Proposed Access Arrangements

A summary of the proposed access arrangement for NKPS is as follow:

- The main pedestrian access will be provided from Hezlett Road, with a secondary pedestrian access provided to the west of the school (south of the netball court).
- Access to the internal parking area (12 spaces) will be provided from Hezlett Road.
- The pick-up and drop-off facilities and bus zone will be provided on Hezlett Road.
- A service vehicle entry will be provided from Thorogood Boulevard.
- An extension of Mossop Way will be constructed (at the end of the existing cul-de-sac) to provide access between Curtis Road and Hezlett Road.
- A separate pick up/drop off facility for students with special needs will be provided on the new Mossop Way extension.

6.4 D14 Bus Route Investigation

In summary:

- It is not recommended that any dedicated school bus services be assigned to NKPS for its opening year. Though current bus services could potentially undertake minor diversions (as per the arrangement at Hills Adventist College) to pick up/drop off students at the proposed bus zone on Hezlett Road.
- TfNSW are currently reviewing the bus services in North Kellyville.

- Additional bus services could be allocated to the North Kellyville Precinct and NKPS as demand increases.

6.5 D19 Parking Management Strategy

6.5.1 Parking

It is proposed to provide 12 designed parking spaces on site designated for senior staff, short term teacher parking and school deliveries.

It is also proposed to provide 75 ninety degree 'community' parking spaces (as per the Heads of Agreement between the HSC and the DoE on roads adjacent to the school..

It is recommended that:

- No parking restrictions should be applied to the onsite parking bays but they should be clearly identified for their designated use
- The community parking will be open to the public and will be available for teachers, residents and visitors to park. In accordance with Council's instructions and the proposed 'long stay' parking associated with teachers, it is recommended that no time restrictions be applied to these parking spaces.

6.5.2 Pick up and Drop Off

Special Needs

A separate pick up/drop off facility will be provided on the Mossop Way extension for students with special needs. This facility will provide a direct access to the school for these students.

In order to discourage parents without special needs children from using this facility, it is recommended that:

- No Stopping signage be implemented on the northern side of the Mossop Way extension.
- Parking with disability user limitations be implemented on the southern side of the Mossop Way extension.

Hezlett Road

It is proposed to provide the main pick up/drop off facility on Hezlett Road at the frontage to the school, within an indented lay-by with a length of approximately 70 m.

The lay-by is proposed to designated as 'No Parking' zone as vehicles are not permitted to park for more than two minutes and drivers must remain within 3 metres of their vehicle. This will facilitate improved turnover and efficiency of operation during pick-up and drop-off periods as vehicles should be left unattended.

It is recommended that the school and Council monitor the operation of the proposed pick-up and drop-off facility once the school is constructed and in operation.

The functional capacity of the proposed pick-up and drop-off will be dependent on a management plan for this facility, which would be developed by the school. This may include:

- Designated pick-up times, with parents/guardians not to arrive before this period;
- Students to be grouped into designated pick-up zones.
- Parents/guardians to identify the student names on the front of cars (to assist teachers with identifying the approaching cars).

Council will need to assist in the management of parking once the school is operational, considering the volume of people accessing the school.

6.6 D22 Road Safety Audit

TO BE FILLED IN UPON RECEIPT OF THE RSA

6.7 D30 Green Travel Plan

The purpose of a Green Travel Plan (GTP) is to encourage parents, students and staff at the NKPS to use walking, cycling and public transport as their usual transport modes to school.

A GTP has been completed by GHD for NKPS and is included in Appendix C.

Appendices

Appendix A – Emails with Hills Shire Council and TfNSW

Appendix B – School Parking Safety Brochure

Appendix C – Road Safety Audit

Appendix D – Green Travel Plan

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