DEMOLITION • ENVIRONMENTAL • CIVIL • CONTRACTORS

Sydney Modern Project

DEMOLITION CONTROL PLAN

DEMOLITION ENVIRONMENTAL CIVIL CONTRACTORS
ABN 93 118 380 484
DEMOLITION LICENCE (NSW) 205523DE1
30/19 McCAULEY STREET
MATRAVILLE, NSW 2036
P: 02 9003 0684

Prepared by: Brenton Watson

Date: 22/10/19 (Version 2)

Authorised for use by: Frank Lombardi

Date: 22/10/19

DOCUMENT CONTROL

DECC is responsible for:

1. Providing a copy of the Demolition Control Plan (DCP) to the Client before work commences on site for approval by the certifying authority;
2. Preparing the demolition control plan to comply with Australian standard AS2601:2001 – The Demolition of Structures (Standards Australia, 2001);
3. Maintaining an updated version of the DCP using a record of revision:
4. Providing an updated copy of the DCP to the Principal;
5. Maintaining a register of people to whom the DCP is issued using the Distribution List;
6. Issuing a complete copy to all those registered;
7. Ensuring revisions of the DCP are distributed to all registered people;
8. Reviewing the DCP regularly to ensure it is up to date.

RECORD OF REVISION

Version No.	Date Revised	Issued for
1	18/10/2019	CC/Condition B52
2	22/10/2019	CC/Condition B52

DISTRIBUTION LIST

Controlled versions of this Demolition Control Plan have been issued to the persons listed below.

No.	User	Position	Version No
1	Jesse Moss	RCC – Senior Project Engineer	2

1. INTRODUCTION

This Demolition Control Plan (DCP) has been prepared specifically for the demolition works to enable the Sydney Modern Project.

This DCP will be progressively updated during site establishment to further ascertain the demolition methodology and sequencing.

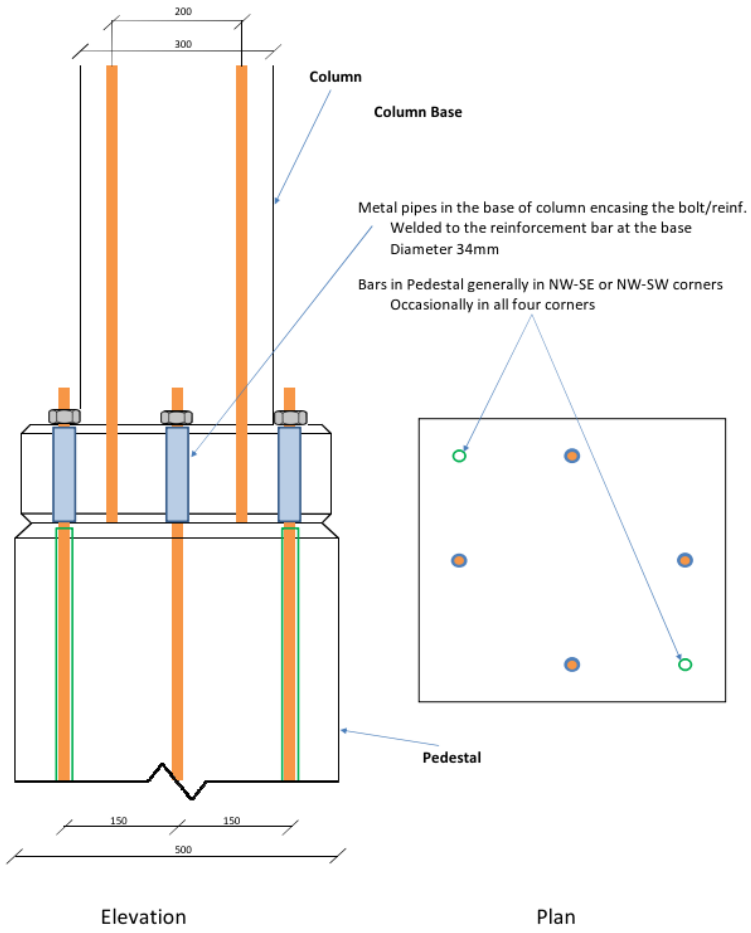
The following documents have been used as background for preparation of this DCP:

- AS2601 – Demolition of Structures (2001);
- WH&S Act 2011, WH&S Regulations 2011;
- The Waste Avoidance and Resource Recovery Act 2011;
- Demolition Work Code of Practice 2015; and
- Site specific SSD Conditions.

Figure 1 - Site Location Plan

Scope of Works	A summary of works include the following 1. Preparation and implementation of WHS/EHS Management Plans; 2. Identification and removal of hazardous materials from site (if encountered); 3. Salvage of some items and materials for resale or use (by others); 4. Site Strip of soil on tank roof; 5. Structural demolition of hardstands as noted on drawing SMP-A-0200X01 Rev 4. (refer to later section for demolition methodology); 6. Structural Demolition of Existing substation and Pump room 7. Structural demolition of the North Tank; 8. Penetration/modifications to the southern Tank;
Site Location	A site locality plan is shown in figure 1. The bulk of the demolition works is bound by Mrs Macquarie Chair Road, Lincoln Crescent and Cowper Wharf Road which passes under the Eastern Distributor.
Site Description	The site also consists of a large open field known as the "Land bridge". Beneath the land bridge is the Eastern distributor. Small scale demolition works occur above the land bridge including demolition of various pathways and stripping top soil. No plant or equipment is permitted on the land bridge without the approval form the Project Consulting engineers. The eastern half of the site consists of 2 redundant inground concrete fuel tanks. These tanks are approximately 50m x 50m in each direction and a total height from their base of approximately 8m. The base of the tanks sits approximately 1.5m below street level with the top of the tanks 6.5m above street level (total height 8m). In order to create room for the art gallery expansion, the whole existing roof and part of the walls of the northern tank are being demolished. The southern tank also has modifications including wall and roof penetrations.
Distance to Boundaries (Closest structures)	N: 0m – 6 Lincoln Crescent (Ausgrid Building) S: 0m – Eastern Distributor from structures adjacent to the south boundary. E: 10m – Wharf Terraces located across road from tank demolition W: <5m – Eastern distributor immediately adjacent the southern tank to be modified

Demolition Duration	10-15 weeks
Overall Height	The base of the tanks sits approximately 1.5m below street level with the top of the tanks 6.5m above street level. – Total Height 8.0m
Existing buildings and structural Support System	Pump Room and Substation: The Pump station is a single storey structure on the eastern site boundary to Lincoln Crescent. It consists of Slab on ground, double brick structural walls and a concrete roof. Based on the visible geology around the site, the footings are assumed to be concrete strip footings founded on sandstone. North and South Tank: The Northern and Southern Tanks are steel reinforced concrete structures. The tank roof consists of a steel reinforced concrete slab that is supported internally by steel reinforced concrete columns (refer figure below). The lateral restraint for the structure is assumed to be provided by the perimeter walls. The perimeter walls are steel reinforced concrete stepped structures. From the information available these walls appear to be up to 3.5m thick at the base and step in to approximately 1m thick at the top. Based on historical photographs and the surrounding Geology which is primarily Class 3 sandstone better, the structure is believed to be founded on streel reinforced concrete pad footings.  Figure 2 - Internal columns supporting tank roof

	 Figure 3 - Column Reinforcement layout
General Site Conditions	DECC have not had the opportunity to enter the tanks. The external of the tanks appear to be in moderate to good conditions considering the age of the structures with no signs of concerning structural defects such as racking or significant concrete cancer. Prior to the commencement of any plant loading on the structure or demolition works, a structural engineer will review the available tank information and also enter the tank to assess its conditions. Allowable plant loads on the structure along with the proposed method of demolition will be reviewed and approved by the structural engineer prior to the commencement of any works. A dilapidation report will be prepared prior to the commencement of any demolition works.
Structures to be retained	North Tank

	The extent of demolition is outlined on the architectural and structural drawings that form part of the SSD submission to the Department of Planning. Approximately ¾ of the Northern Tank perimeter walls are to remain. The slab on ground also remains but is cut up for new columns, cores, footings and services. South Tank Demolition to the south tank is limited to new roof top and wall penetrations to suit the new structure.
Services Information	Service investigations and disconnections will be performed before demolition commences by Richard Crookes Constructions (RCC). They will be disconnected/terminated at the site boundary to allow the demolition of structures. This will include, but not limited to: • Power; • Fibre/Communications; • Gas; • Stormwater; • Sewer; • Fire; • Water. Disconnection of power from the substation adjacent the pump room on Lincoln Crescent cannot be performed until a new kiosk is installed. This work is to be complete by other prior to the demolition of the existing substation. Temporary water will be maintained for dust suppression for demolition purposes. Confirmation of service isolations are to be kept onsite upon disconnection. Physical cuts should be shown to the demolition Site Supervisor. 

	Figure 4 - Pump Station and Sub from Lincoln Crescent
Hazardous Materials	There are currently no hazardous material reports available for the structure. Prior to demolition occurring, a destructive hazardous material report will be performed to investigate the presence of hazardous materials which will be added to the Hazardous Materials Management Plan. These materials shall be removed by a licenced contractor. Clearance certificates from a licensed asbestos assessor will be issued prior to demolition commencing and hard copies kept on site. Daily air monitoring will be implemented as required in accordance with relevant standards and codes. If unexpected hazardous materials are found, they will be dealt with as outlined in the SMP Unexpected Finds Procedure.
Confined Spaces	DECC proposed method of demolition for the tank involves creating a large opening in the northern wall of the tank capable of driving trucks in and out of the site. Once this penetration is created, the tank shall in no way be deemed as a confined space there will be no access restrictions.
Underground Structures	All underground services in the demolition zone will be isolated, disconnected or confirmed as redundant prior to demolition activities.
Aboriginal and Cultural Heritage	During demolition works, any potential Aboriginal or Cultural heritage items shall be reported to the Site Manager and referred to the Heritage Consultant.
Work Hours	Refer to figure below for DA work hours

	Construction Hours C2 Construction, including the delivery of materials to and from the site, may only be carried out between the following hours: a) between 7.00 am and 6.00 pm, Mondays to Fridays inclusive; b) between 8.00 am and 3.30 pm, Saturdays. C3 No construction work may be carried out on Sundays or public holidays C4 Activities may be undertaken outside of these hours if required: a) by the Police or a public authority for the delivery of vehicles, plant or materials; or b) in an emergency to avoid the loss of life, damage to property or to prevent environmental harm. C5 Notification of such activities must be given to affected residents before undertaking the activities or as soon as is practical afterwards. C6 Rock breaking, rock hammering, sheet piling, pile driving and similar activities may only be carried out between the following hours: a) 9.00 am to 12.00 pm, Monday to Friday; b) 2.00 pm to 5.00 pm, Monday to Friday; and c) 9.00 am to 12.00 pm, Saturday. Figure 5 - Hours of Work
Demolition Methodology	Demolition of Pump Room – Refer to Appendix 1 for Staging Plans 1. DECC to notify SafeWork of the work commencing on site and approval from SafeWork prior to commencement of demolition works. 2. Perform destructive hazmat survey. In the event the destructive hazardous materials survey identifies hazmat, removal to be undertaken as further outlined in the hazmat reports, asbestos management plan and SWMS. Air monitoring will be utilised during the work in accordance with relevant Australian standards and codes of practice. 3. A clearance certificate for the hazardous materials will be received from the hygienist prior to further work; 4. Submit stand plant application to council for closure of the existing footpath for the demolition works of the pump room. 5. Review the height of the powerlines above the substation to determine if tiger tails will be necessary to perform demolition works or truck access. 6. The excavator will demolish the structure conventionally top down using a combination of hydraulic hammer and pulveriser attachments. 7. Direction of structural demolition will be at the discretion of the licenced demolition site supervisor/temporary works engineer.

8. As the structure is demolished, the excavator will progressively load out material to a truck on the street. Permits from council will need to be obtained prior.

9. If the SOG in the pump room is lower than the existing footpath level, material from the demolition will be used to build up a rubble ramp.

Strip Tank Roof soil – Refer to Appendix 1 for Staging Plans

1. Following demolition of the pumproom and substation (if disconnected in time), the existing SOG will remain. Some rubble won from the demolition may need to remain onsite to fill the height difference between the RL of the pump station and the existing footpath level.
2. A temporary cross over permit will be obtained from council and a cross over installed as noted in the staging plans.
3. DECC shall apply to council for an exemption to temporarily reverse into site whilst appropriate access is created for trucks to turn around within the site boundary.
4. DECC large excavator (approx. 70 tonne) will sit on a rubble stockpile and commence removing the fill from the top of the tank roof. The material will be loaded into trucks for disposal off site to a licenced facility pending material classification.
5. Once the 70 tonne excavator has reached all the material in its radius, bobcats/positracks will be placed on the tank roof to strip the soil. A sign off from a structural engineer will be obtained to confirm the tank roof is sufficient for these loads.
6. The bobcats will tip the tank soil off the roof onto the solid concrete stepped wall and down onto the old slab of the pump room. If the existing concrete upturn wall (that use to hold the top soil) is not 1m high and sufficient edge/impact protection for a bobcat, a nudge rail will be installed along this elevation where the bobcats are tipping.
7. Soil is never to be stockpiled on the existing tank roof. The speed the bobcats can strip and the time it takes to load trucks will need to be managed to ensure the stockpile never gets so large that it starts to spread onto the tank roof.

Tank Roof Demolition – Refer to Appendix 1 for Staging Plans

1. After all top soil is removed, the bobcats will be removed from the tank roof using the 70 tonne excavator onsite.
2. 2 large excavator approximately 70 tonnes fitted with hydraulic hammers and pulverisers will then demolish the existing northern tank bund wall and progress into demolishing the tank roof.
3. At no time will any plant be on a suspended slab, the large excavators save the reach to demolish the tank roof from the existing SOG.
4. Material will be progressively loaded out.

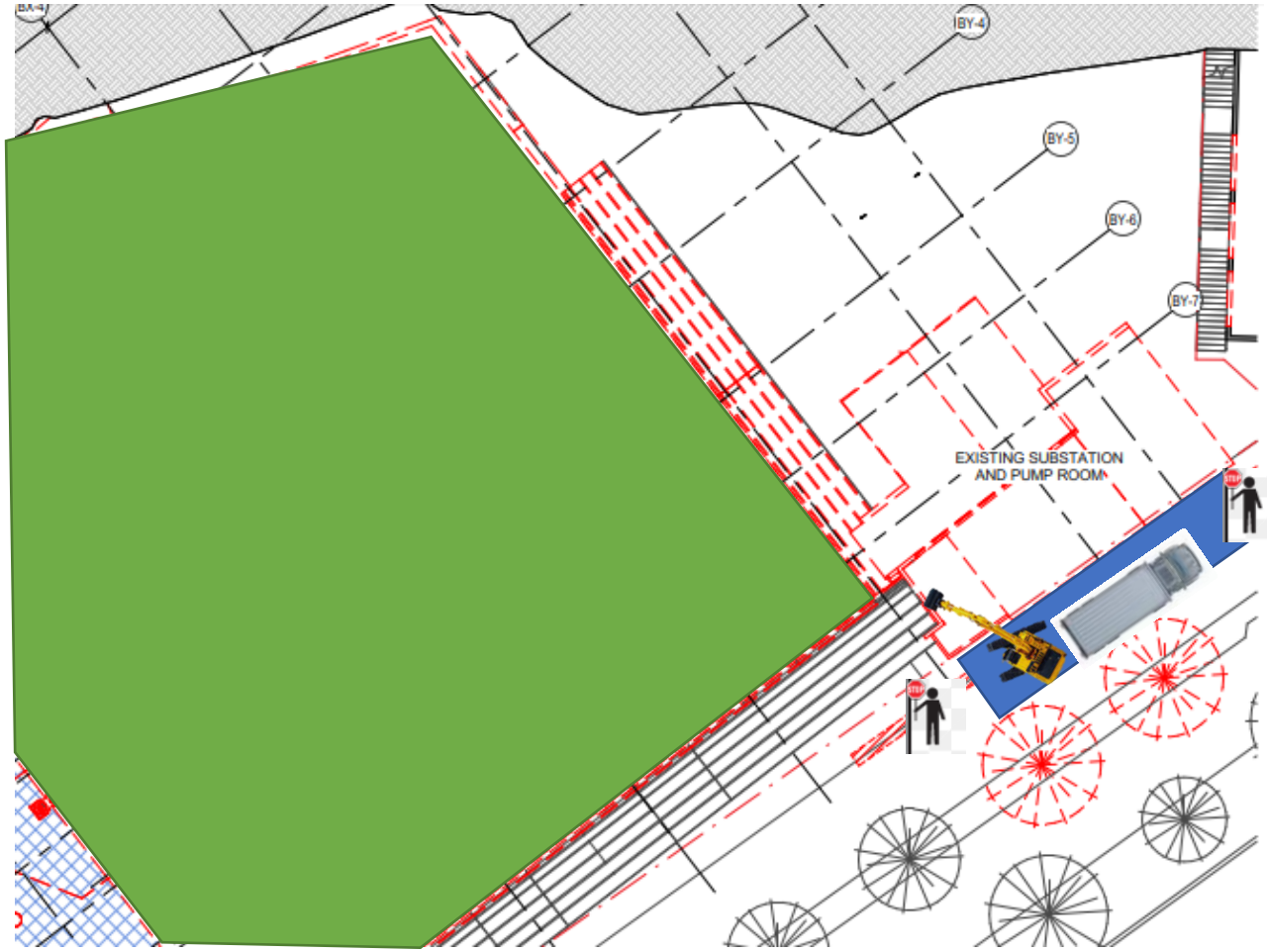
	5. Once sufficient demolition of the roof has progressed, 10 wheeler rigids will be able to drive into and out of the job site and the exemption to reverse into site will no longer be required. 6. The demolition will continue through the tank roof using this same procedure until completion.
Materials Handling	Waste generated from the demolition works will be separated into materials streams, this includes: - Construction and Demolition (General) Wastes: Non-recycled materials to landfill at various EPA approved landfills such as Bingo; - Steel (sent to a recycler) – SIMS or Sell & Parker; - Brick and Concrete (sent to a recycler); - Eco Resources, EBH, Boral and - Asbestos Contaminated Material – Suez Landfill, Kemps Creek.
Plant and Equipment	Intended plant and equipment to be used during demolition work include: - Bobcats 2.5 tonne - Small excavators up to 15T (Pump Room) - Large excavators up to 75T (Tank Demolition)
Protective Measures	- Site hoarding installed by Richard Crookes Constructions to secure the site - A site specific risk assessment will be conducted prior to any works commencing onsite.
Exclusion Zones	Exclusion zones will be formed around the structure being demolished. They will be changed depending on the current demolition activities.
Referenced Documents	AS2601:2001 – The Demolition of structures (Standards Australia, 2001) COP – Demolition Work Safety Management Plan

DEMOLITION CONTROL PLAN INDUCTION

This DCP has been developed through consultation by our employees, has been read, understood and signed by all employees undertaking the works. By signing below, the employee affirms that they have been inducted / trained in this DCP for DECC- Selection and Operation of the nominated plant/equipment. That they have been offered the opportunity to read the document and know they are readily available to them. The employee understands and agrees to comply with the directions in this DCP & associated documentation. If they feel, think or know that they may be exposed to risks to WH&S, they shall stop and liaise with the DECC Site Supervisor and / or the Client site team- to control the risks before resuming work.

NAME	SIGNATURE	DATE

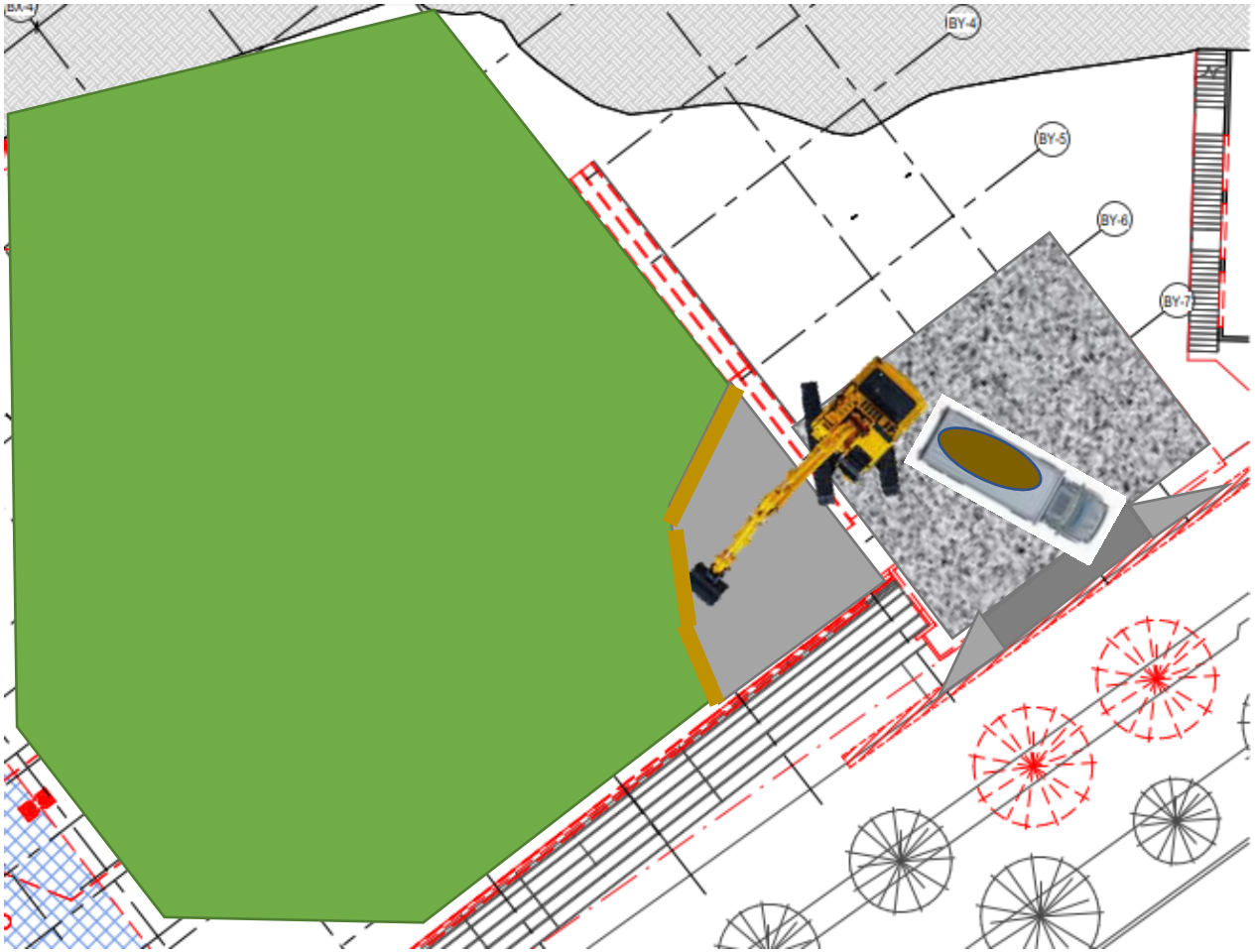
Appendix 1 Staging Plans



Pumproom and Substation Demolition

1. Permit obtained from council for footpath/parking lane closure for demolition works.
2. Footpath protected with steel plates.
3. 5 – 15 tonne excavator to demolish structure from footpath/lane closure.
4. As there is no storage room onsite until access is created, the materials will be progressively loaded out as demolition continues. The materials will be loaded into a truck on the street.
5. Note: The substation may still be live during this process. In the event that it is the location of all incoming and outgoing cables are to be identified and marked out onsite. A toolbox talk shall be held showing the location of these live services.

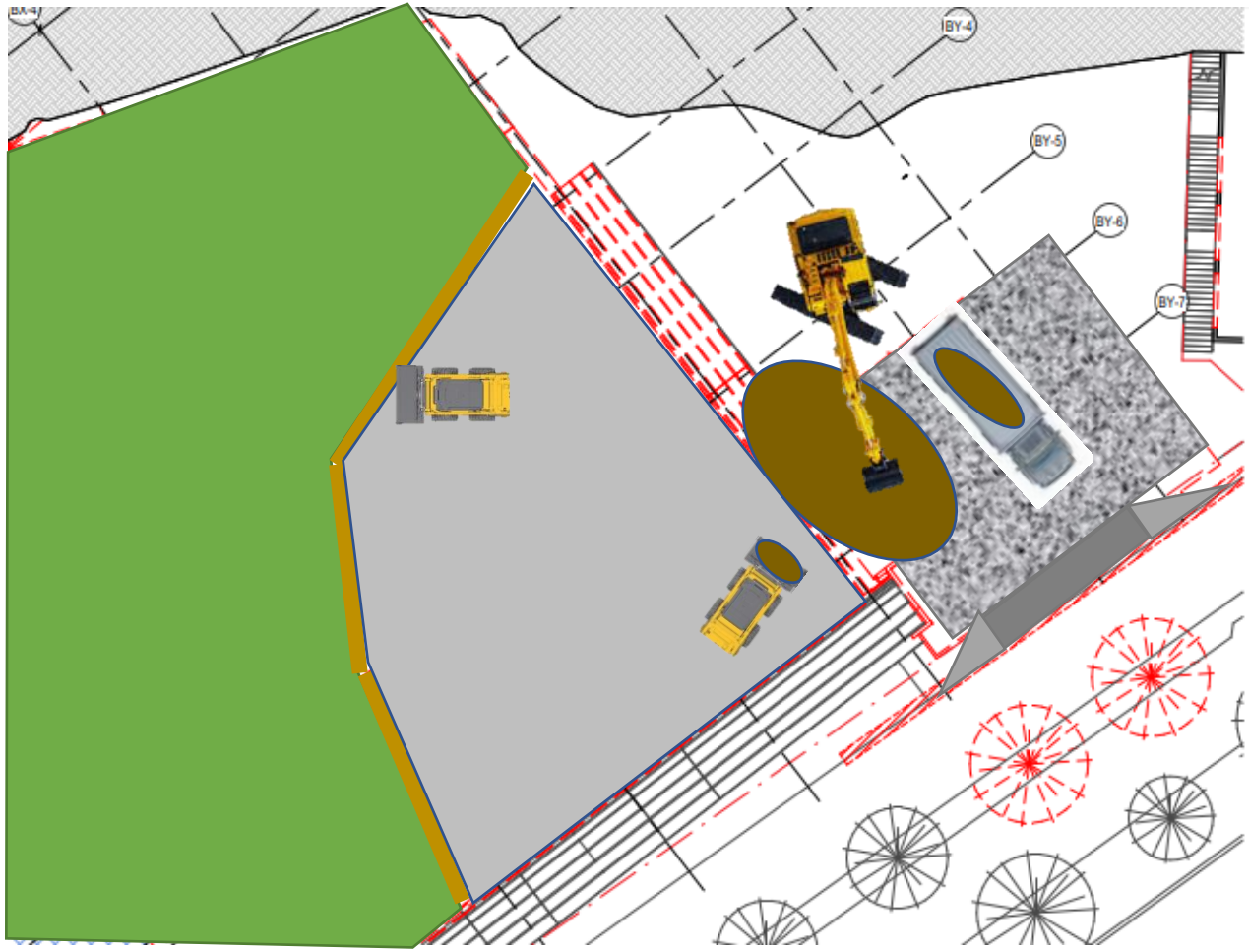
Appendix A - Sydney Modern – Demolition Control Plan



Stripping Tank Roof

1. Following demolition of the pumproom and substation, the existing SOG will remain. Some rubble won from the demolition may need to remain onsite to fill the height difference between the RL of the pump station and the existing footpath level.
2. A temporary cross over permit will be obtained from council and a cross over installed as noted in the figure.
3. DECC shall apply to council for an exemption to temporarily reverse into site whilst appropriate access is created for truck to turn around within the site boundary.
4. DECC large excavator (approx. 70 tonne) will sit on a rubble stockpile and commence removing the fill from the top of the tank roof. The material will be loaded into trucks for disposal off site to a licenced facility pending material classification
5. Once the 70 tonne excavator has reached all the material in its radius, bobcats/positracks will be paced on the tank roof. A sign off from a structural engineer will be obtained to confirm the tank roof is sufficient for these loads.

Appendix A - Sydney Modern – Demolition Control Plan



Stripping Tank Roof – Continued

1. Once the 70 tonne excavator has reached all the material in its radius, bobcats/posi-tracks will be paced on the tank roof to strip all remaining tank soil.
2. A sign off from a structural engineer will be obtained to confirm the tank roof is sufficient for loading of the bobcats.
3. The bobcats will tip the tank soil off the roof onto the solid concrete stepped wall and down onto the old slab of the pump room. If the existing concrete upturn wall (that use to hold the top soil) is not 1m high and sufficient edge/impact protection for a bobcat, a nudge rail will be installed along this elevation where the bobcats are tipping.
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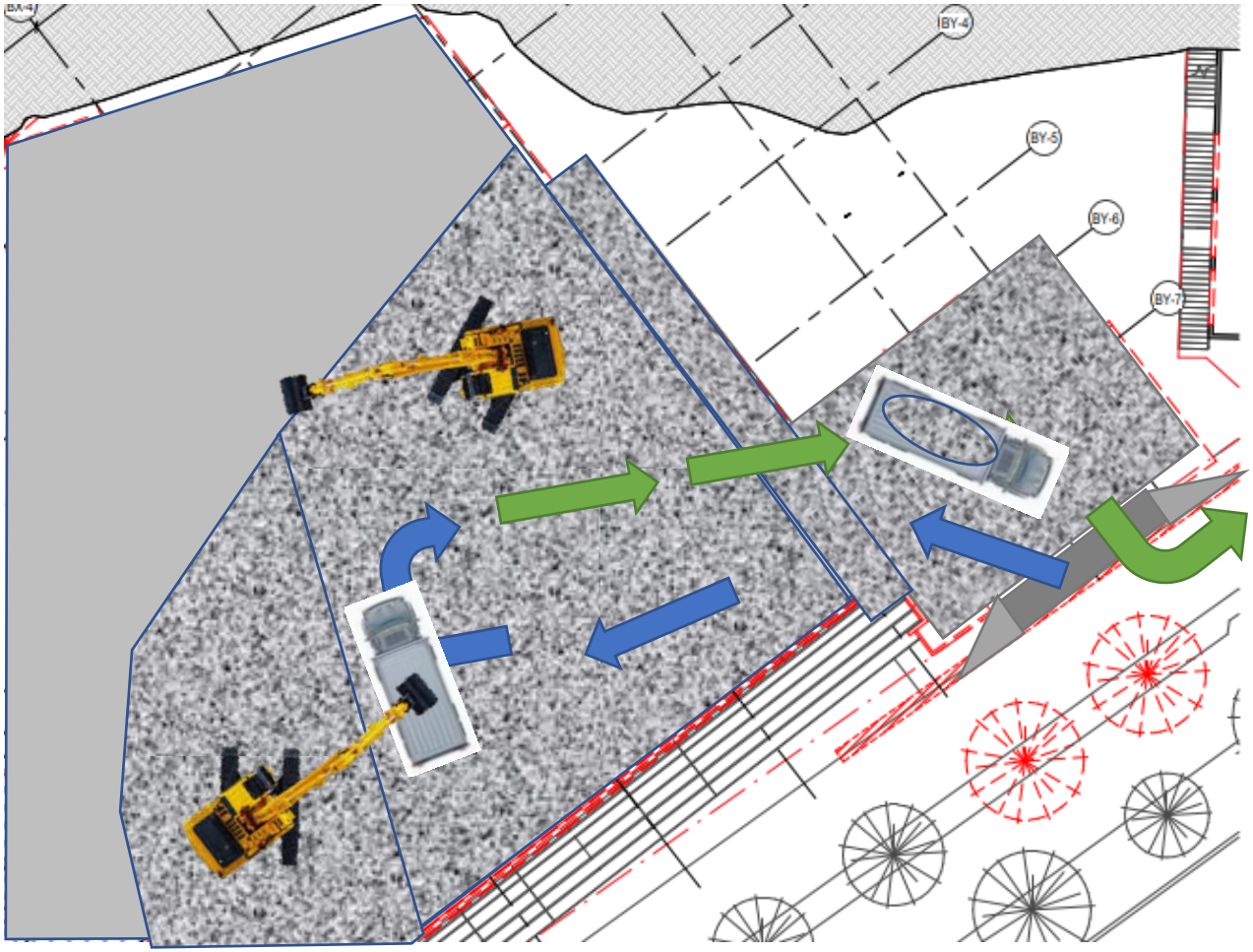

Tank Roof Demolition

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4. Once sufficient demolition of the roof has progressed, 10 wheeler rigids will be able to drive into and out of the job site and the exemption to reverse into site will no longer be required.
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Appendix A - Sydney Modern – Demolition Control Plan