



Metro North-West Joint Development Assessment Panel Agenda

Meeting Date and Time: 10 December 2015; 11:30am
Meeting Number: MNWJDAP/111
Meeting Venue: City of Joondalup
90 Boas Avenue, Joondalup

Attendance

DAP Members

Ms Karen Hyde (Presiding Member)
Mr Paul Drechsler (Deputy Presiding Member)
Mr Fred Zuideveld (Specialist Member)
Cr John Chester (Local Government Member, City of Joondalup)
Cr Philippa Taylor (Local Government Member, City of Joondalup)

Officers in attendance

Mr Jas Lapinski (Department of Planning)

Local Government Minute Secretary

Mr John Byrne (City of Joondalup)

Applicant and Submitters

Mr Roy Sivadason (Public Transport Authority)
Mr Ben Amrom (Public Transport Authority)
Mr Shane Brennan (Georgiou Group)
Mr Aaron Lohman (Rowe Group)

Members of the Public

Nil

1. Declaration of Opening

The Presiding Member declares the meeting open and acknowledges the past and present traditional owners and custodians of the land on which the meeting is being held.

2. Apologies

Nil

3. Members on Leave of Absence

Nil



4. Noting of Minutes

Note the Minutes of the Metro North-West JDAP meeting No.108 held on 20 November 2015, meeting No.109 held on 23 November 2015, and meeting No.110 held on 26 November 2015.

5. Declarations of Due Consideration

Any member who is not familiar with the substance of any report or other information provided for consideration at the DAP meeting must declare that fact before the meeting considers the matter.

6. Disclosure of Interests

Nil

7. Deputations and Presentations

Nil

8. Form 1 - Responsible Authority Reports – DAP Application

8.1	Property Location:	Lot 2 George Grey Place; Lot 1 Joondalup Drive (land subject to taking order); Lot 13218 (Drainage Reserve 45701) Portion Mitchell Freeway Road Reserve George Grey Place Road Reserve
	Application Details:	Development of a multi storey car park and associated access and drainage.
	Applicant:	Rowe Group
	Owner:	Public Transport Authority, State of Western Australia
	Responsible authority:	Department of Planning
	DoP File No:	DAP/15/00901

9. Form 2 – Responsible Authority Reports - Amending or cancelling DAP development approval

Nil

10. Appeals to the State Administrative Tribunal

The following State Administrative Tribunal Applications have been received:

- City of Joondalup - Major Expansion of Westfield Whitford City Shopping Centre - Lot 501 (470) Whitfords Avenue, Hillarys
- City of Wanneroo - Foreshore Development - Lots 9014, 3052 & 15450 (1K) Vitrinella Avenue, Jindalee
- City of Stirling - Four Storey Office Development - Lot 2 (17) Chesterfield Road, Mirrabooka
- City of Stirling - Four Storey Aged Care Facility - Lot 26 (27) Prisk Street, Karrinyup

11. General Business / Meeting Closure



Minutes of the Metro North-West Joint Development Assessment Panel

Meeting Date and Time: 20 November 2015; 11am
Meeting Number: MNWJDAP/108
Meeting Venue: City of Wanneroo
23 Dundobar Road, Wanneroo
(Lechenaultia Room)

Attendance

DAP Members

Ms Karen Hyde (Presiding Member)
Mr Ian Birch (A/Deputy Presiding Member)
Mr Fred Zuideveld (Specialist Member)
Cr Frank Cvitan (Local Government Member, City of Wanneroo)
Cr Russell Driver (Local Government Member, City of Wanneroo)

Officers in attendance

Mr Jeremy Thompson (City of Wanneroo)
Mr Eddie O'Connell (City of Wanneroo)

Local Government Minute Secretary

Ms Grace Babudri

Applicant and Submitters

Mr Sinisa Stikic (T & Z Architects)
Mr Scott Vincent (Planning Solutions)
Mr Chris Dwyer (MJA Studio)
Mr Chris Parlane (BPS Holdings)

Members of the Public

Nil

1. Declaration of Opening

The Presiding Member, Ms Karen Hyde declared the meeting open at 11.02am on 20 November 2015 and acknowledged the past and present traditional owners and custodians of the land on which the meeting was being held.

The Presiding Member announced the meeting would be run in accordance with the *Development Assessment Panel Standing Orders 2012* under the *Planning and Development (Development Assessment Panels) Regulations 2011*.



2. Apologies

Mr Paul Drechsler (Deputy Presiding Member)

3. Members on Leave of absence

Mr Paul Drechsler (Deputy Presiding Member)

4. Noting of minutes

Minutes of the Metro North-West meeting No.106 held on 29 October 2015 and No.107 held on 5 November 2015 were noted by DAP members.

5. Declaration of Due Consideration

All members declared that they had duly considered the documents.

6. Disclosure of interests

Nil

7. Deputations and presentations

7.1 Mr Scott Vincent (Planning Solutions) addressed the DAP for the application at Item 10.1.

8. Form 1 - Responsible Authority Reports – DAP Application

8.1 Property Location:	Lot 8019 (40) Joseph Banks Boulevard, Banksia Grove
Application Details:	Construction of a High School Extension
Applicant:	T & Z Architects
Owner:	Department of Education
Responsible authority:	Department of Planning
DoP File No:	DAP/15/00897

REPORT RECOMMENDATION / PRIMARY MOTION

Moved by: Cr Frank Cvitan

Seconded by: Cr Russell Driver

That the Metro North West Joint Development Assessment Panel resolves to:

Approve Development Assessment Panel Application reference DAP/15/00897 and accompanying plans prepared by T & Z Architects (A1.101F), (A1.102D), (A1.103D), (A1.104E), (A1.105B), (A2.201G), (A2.501G), (A3.201G), (A3.501G), (A4.201F), (A4.601F), (A5.201E), (A5.501D), (A6.201J), (A6.501E), (A6.602D), (C-01B) and (C-02B), date stamped by the Department of Planning on 28 October 2015, in accordance with the provisions of the Metropolitan Region Scheme, subject to the following conditions:



Conditions

1. A minimum of 59 bays shall be provided on site as part of the Stage 2 works.
2. The existing bus bays on Splendens Avenue shall be converted to six (6) street embayments at the cost of the applicant.
3. The existing cycle lanes on Splendens Avenue and Joseph Banks Boulevard shall be painted with bicycle pavement symbols in order to clearly delineate use of the shoulders for cyclists, as outlined in the Shawmac Transport Assessment dated 28 October 2015.
4. The car parking bays, driveways and points of ingress and egress shall be designed in accordance with the requirements of the Australian Standard for Off-street Car Parking (AS 2890). Such areas are to be constructed, drained and marked prior to the practical completion of the development and thereafter maintained to the specification of the City of Wanneroo and to the satisfaction of the Western Australian Planning Commission.
5. Car parking areas shall be provided as follows:
 - (a) with appropriate traffic management devices and pedestrian crossings in accordance with AS 2890.1: 2004 (Section 2.3.3) and AustRoads Guidelines;
 - (b) disabled car parking bays in accordance with the National Construction Code and with AS 2890.6 – 2009; and
 - (c) on street parking bays in accordance with AS 2890.5:1993.
6. Points of access/egress shall be appropriately marked and signed to the specification of the City of Wanneroo and to the satisfaction of the Western Australian Planning Commission.
7. The proposed crossovers are to be constructed of concrete to commercial specifications, and shall have a 2% positive gradient and a minimum 6.0m radius.
8. All parking bays and crossovers shall be located a minimum distance of 1m from any side entry pits, pram ramps and electrical poles.
9. Prior to the practical completion of the proposed development, all footpaths on the adjoining verges of the proposed development site shall be provided and appropriately connected to the development site, to the specification of the City of Wanneroo and to the satisfaction of the Western Australian Planning Commission.
10. Detailed landscaping plans for the site (incorporating vegetation species, pavement areas and reticulation details) to be lodged with and approved by the City of Wanneroo prior to the commencement of development. Landscaping



and reticulation shall be established in accordance with the approved plans prior to the occupancy of the development and shall thereafter be maintained to the specification of the City of Wanneroo and to the satisfaction of the Western Australian Planning Commission.

11. An on-site stormwater drainage system with the capacity to contain a 1:100 year storm event of 24 hours duration is to be provided prior to the development first being occupied and thereafter maintained to the specification of the City of Wanneroo and to the satisfaction of the Western Australian Planning Commission.
12. All site works shall be contained on site to the specifications of the City of Wanneroo and to the satisfaction of the Western Australian Planning Commission.
13. Any damage or removal of a City of Wanneroo asset within the road reserve or the adjacent open space to the north shall be remedied at the cost of the applicant/landowner.

Advice Notes

1. All development must comply with the provisions of the Health Regulations, Building Code of Australia, Public Building Regulations and all other relevant Acts, Regulations and Local Laws. This includes the provision of access and facilities for people with disabilities in accordance with the Building Codes of Australia.
2. The Department of Education and its contractors shall be responsible for dust and sand drift control on site in accordance with Department of Environmental Protection Guidelines. Disturbed areas shall be stabilised on completion and thereafter maintained.
3. The car parking and associated vehicle access areas shown on the approved plans shall be available for vehicles, and shall not be used for the purpose of storage in any way without prior approval from the City of Wanneroo.

AMENDING MOTION

Moved by: Mr Fred Zuideveld

Seconded by: Mr Ian Birch

That a new Condition No.14 be inserted as follows;

14. A construction management plan shall be submitted by the proponent prior to the commencement of any works on site to the specification of the City of Wanneroo and satisfaction of Western Australian Planning Commission.

REASON: To ensure safety and amenity around the site during construction.

The Amending Motion was put and CARRIED UNANIMOUSLY.



AMENDING MOTION

Moved by: Mr Fred Zuideveld

Seconded by: Ms Karen Hyde

That Condition No.1 be amended to insert the word 'car parking' to read as follows;

1. A minimum of 59 car parking bays shall be provided on site as part of the Stage 2 works.

That Condition No.2 & No.3 be amended to include the words 'to the satisfaction of the Western Australian Planning Commission and in consultation with the City of Wanneroo', to read as follows;

2. The existing bus bays on Splendens Avenue shall be converted to six (6) street embayments at the cost of the applicant to the satisfaction of the Western Australian Planning Commission and in consultation with the City of Wanneroo.
3. The existing cycle lanes on Splendens Avenue and Joseph Banks Boulevard shall be painted with bicycle pavement symbols in order to clearly delineate use of the shoulders for cyclists, as outlined in the Shawmac Transport Assessment dated 28 October 2015 to the satisfaction of the Western Australian Planning Commission and in consultation with the City of Wanneroo.

That Condition No.7 be amended to insert the words 'the City's' and delete the word 'of concrete' to read as follows;

7. The proposed crossovers are to be constructed to the City's commercial specifications, and shall have a 2% positive gradient and a minimum 6.0m radius.

REASON: To provide clarity to the applicant in order to satisfy the Conditions.

The Amending Motion was put and CARRIED UNANIMOUSLY.

PRIMARY MOTION (AS AMENDED)

That the Metro North West Joint Development Assessment Panel resolves to:

Approve Development Assessment Panel Application reference DAP/15/00897 and accompanying plans prepared by T & Z Architects (A1.101F), (A1.102D), (A1.103D), (A1.104E), (A1.105B), (A2.201G), (A2.501G), (A3.201G), (A3.501G), (A4.201F), (A4.601F), (A5.201E), (A5.501D), (A6.201J), (A6.501E), (A6.602D), (C-01B) and (C-02B), date stamped by the Department of Planning on 28 October 2015, in accordance with the provisions of the Metropolitan Region Scheme, subject to the following conditions:



Conditions

1. A minimum of 59 car parking bays shall be provided on site as part of the Stage 2 works.
2. The existing bus bays on Splendens Avenue shall be converted to six (6) street embayments at the cost of the applicant to the satisfaction of the Western Australian Planning Commission and in consultation with the City of Wanneroo.
3. The existing cycle lanes on Splendens Avenue and Joseph Banks Boulevard shall be painted with bicycle pavement symbols in order to clearly delineate use of the shoulders for cyclists, as outlined in the Shawmac Transport Assessment dated 28 October 2015 to the satisfaction of the Western Australian Planning Commission and in consultation with the City of Wanneroo.
4. The car parking bays, driveways and points of ingress and egress shall be designed in accordance with the requirements of the Australian Standard for Off-street Car Parking (AS 2890). Such areas are to be constructed, drained and marked prior to the practical completion of the development and thereafter maintained to the specification of the City of Wanneroo and to the satisfaction of the Western Australian Planning Commission.
5. Car parking areas shall be provided as follows:
 - (a) with appropriate traffic management devices and pedestrian crossings in accordance with AS 2890.1: 2004 (Section 2.3.3) and AustRoads Guidelines;
 - (b) disabled car parking bays in accordance with the National Construction Code and with AS 2890.6 – 2009; and
 - (c) on street parking bays in accordance with AS 2890.5:1993.
6. Points of access/egress shall be appropriately marked and signed to the specification of the City of Wanneroo and to the satisfaction of the Western Australian Planning Commission.
7. The proposed crossovers are to be constructed to the City's commercial specifications, and shall have a 2% positive gradient and a minimum 6.0m radius.
8. Prior to the practical completion of the proposed development, all footpaths on the adjoining verges of the proposed development site shall be provided and appropriately connected to the development site, to the specification of the City of Wanneroo and to the satisfaction of the Western Australian Planning Commission.
9. Detailed landscaping plans for the site (incorporating vegetation species, pavement areas and reticulation details) to be lodged with and approved by the City of Wanneroo prior to the commencement of development. Landscaping



and reticulation shall be established in accordance with the approved plans prior to the occupancy of the development and shall thereafter be maintained to the specification of the City of Wanneroo and to the satisfaction of the Western Australian Planning Commission.

10. An on-site stormwater drainage system with the capacity to contain a 1:100 year storm event of 24 hours duration is to be provided prior to the development first being occupied and thereafter maintained to the specification of the City of Wanneroo and to the satisfaction of the Western Australian Planning Commission.
11. All site works shall be contained on site to the specifications of the City of Wanneroo and to the satisfaction of the Western Australian Planning Commission.
12. Any damage or removal of a City of Wanneroo asset within the road reserve or the adjacent open space to the north shall be remedied at the cost of the applicant/landowner.
14. A construction management plan shall be submitted by the proponent prior to the commencement of any works on site to the specification of the City of Wanneroo and satisfaction of Western Australian Planning Commission.

Advice Notes

1. All development must comply with the provisions of the Health Regulations, Building Code of Australia, Public Building Regulations and all other relevant Acts, Regulations and Local Laws. This includes the provision of access and facilities for people with disabilities in accordance with the Building Codes of Australia.
2. The Department of Education and its contractors shall be responsible for dust and sand drift control on site in accordance with Department of Environmental Protection Guidelines. Disturbed areas shall be stabilised on completion and thereafter maintained.
3. The car parking and associated vehicle access areas shown on the approved plans shall be available for vehicles, and shall not be used for the purpose of storage in any way without prior approval from the City of Wanneroo.

The Primary Motion (as amended) was put and CARRIED UNANIMOUSLY.

9. **Form 2 – Responsible Authority Reports - Amending or cancelling DAP development approval**

Nil



10. Appeals to the State Administrative Tribunal

10.1 Property Location:	Lot 9000 (78) Boranup Avenue, Clarkson
Application Details:	65 Multiple Dwellings, 25 Grouped Dwellings and 3 Commercial Tenancies
Applicant:	Planning Solutions Urban and Regional Planners
Owner:	BPS Holdings No 21 Pty Ltd
Responsible authority:	City of Wanneroo
DoP File No:	DAP/15/00790

REPORT RECOMMENDATION / PRIMARY MOTION

Moved by: Ms Karen Hyde

Seconded by: Cr Russell Driver

That the Metro North West Joint Development Assessment Panel, pursuant to section 31 of the *State Administrative Tribunal Act 2004* in respect of SAT application DR 258 of 2015, resolves to **reconsider** its decision dated 28 July 2015 and **Approve** DAP Application reference DAP/15/00790 and accompanying plans (**Attachment 2** including survey plan P.00 Rev G, Site plans P.01 Rev L, P.02 Rev L, P.03 Rev K, P.04 Rev H, Typical Floor Plans P.05 Rev E, P.06 Rev C and Elevations P.07 Rev F, P.08 Rev H) in accordance with the provisions of the City of Wanneroo District Planning Scheme No. 2, subject to the following conditions being met to the satisfaction of the Manager, Planning Implementation

1. This decision constitutes planning approval only and is valid for a period of two (2) years from the date of approval. If the subject development is not substantially commenced within the two year period, the approval shall lapse and be of no further effect. Where an approval has so lapsed, no development shall be carried out without further approval of the City having first been sought and obtained.
2. The proposed area identified as 'PAW to vest' on P.00 Rev G is to be constructed and drained as a laneway at the landowner/applicants cost in accordance with the City of Wanneroo Design Specifications. This area is to be ceded to the crown as a road prior to the occupation of the occupation of the development.
3. The proposed awning located in front of the 43m² commercial tenancy is to be increased in height to a minimum of 3m from the natural ground level at all locations and be a minimum width of 2m.
4. The bedroom windows for Unit 45, 46 and 65, and lot 1 & 25, on level 3 or 4 that face the public access way are to be amended to major openings with a sill height of no more than 1m from the finished floor level.
5. A Landscape plan shall be submitted to the satisfaction of the City. Planting and Landscaping shall be carried out in accordance with the plans as submitted prior to the occupation of the building and thereafter maintained to the satisfaction of the Manager Land Development.
6. Parking areas, driveways, crossovers and points of ingress and egress shall be designed and constructed in accordance with the Australian Standard for



Offstreet Carparking (AS2890) as amended and the City of Wanneroo Technical Standards, and shall be drained, sealed and marked.

7. The parking areas and associated access indicated on the approved plans shall not be used for the purpose of storage or obstructed in any way at any time, without the prior approval of the City.
8. An onsite stormwater drainage system, sufficient to contain a 1:100 year storm event (over 24 hours) must be provided. Plans illustrating the system proposed shall be submitted for approval when application is made for a building licence and the system shall be installed during the construction of the development.
9. The applicant shall undertake adequate measures to minimise any impacts of dust and sand drift from the site.
10. All refuse shall be stored within the designated bin enclosure/s and shall be collected from the site by a private contractor at the cost of the applicant/owner.
11. A dual use path shall be constructed in the road reserve(s) adjacent to the development as illustrated on plan P.01 of Attachment 2.
12. All fencing indicated as 'semi permeable' on the approved elevation plans shall be 'visually permeable' in accordance with the definition prescribed under State Planning Policy 3.1 - Residential Design Codes.
13. Lighting shall be installed in all car-parking and communal areas. Any lighting is to be designed in accordance with Australian Standards for the "Control of Obtrusive Effects of Outdoor Lighting" (AS4282) and shall, where possible, be directed internally so as not to overspill into nearby lots.
14. A construction management plan shall be submitted by the proponent and approved by the City prior to the commencement of any works on site. This plan is to detail how construction will be managed to minimise disruption in the area and shall include:
 - The delivery of and delivery times for materials and equipment to the site;
 - Storage of materials and equipment on site;
 - Parking arrangements for contractors and sub-contractors;
 - The impact on traffic movement;
 - Impacts on any City or public assets; and
 - Any other matters required by the City.
15. A notification is to be placed on the certificates of title of the proposed lots advising prospective purchasers of the proximity of the development to the Clarkson Youth Centre prior to occupation of the dwellings. The notification is to identify that the site may be affected by noise.
16. The commercial/retail tenancies indicated on the approved plans may be used for the following uses as defined in the City of Wanneroo District Planning Scheme No.2:
 - Bakery
 - Beauty Parlour



- Consulting Room
- Convenience Store
- Hairdresser
- Lunch Bar
- Medical Centre
- Office
- Pharmacy
- Restaurant
- Shop

A change of use from that outlined above will require the approval of the City. For the Commercial/retail tenancies, no application is required for change between uses.

17. An acoustic report shall be submitted prior to the development of the commercial/retail tenancies to ensure that the proposed use will meet the requirements of the Environmental Health (Noise) Regulations. Any modifications required to be undertaken as a result of the acoustic report is to ensure compliance with the Environmental Health (Noise) Regulations shall be undertaken at the owner's expense.
18. A visitor parking management plan, including how visitors should gain access to the sites should be provided to the City for approval prior to the commencement of any works.
19. All multiple dwellings are to be provided with clothes drying facilities which are to be screened from view from the street.

Advice Notes

1. The City does not undertake to ascertain the validity of signatures nor the authority of the persons nominated as owners.
2. This is a planning approval only and is issued under the City of Wanneroo's District Planning Scheme No. 2 and the Metropolitan Region Scheme. It is the proponent's responsibility to comply with all other applicable legislation and obtain all required approvals, licences and permits prior to commencement of this development.
3. This planning approval does not take into account any restrictive covenants. It is the proponent's responsibility to ensure that the development will not result in a conflict of contractual obligations.
4. Application must be made for, and a licence to erect a sign obtained from the City, before any sign is erected.
5. This approval should not be construed that the City will support a survey strata or green title subdivision application for the development. A subdivision application for Survey Strata without common property or green title subdivision will need to meet the minimum and average site areas for the dwelling types, as prescribed in the Residential Design Codes.



6. Adequate measures to minimise any impacts of dust and sand drift from the site include all requirements as stipulated within the Department of Environmental Regulation's 'A guideline for managing the impacts of dust and associated contaminants from land development sites, contaminated site remediation and other related activities'.
7. The visitor parking plan may require the relocation of internal fencing within the car parking areas to allow additional car parking to be located outside of secured areas.

AMENDING MOTION

Moved by: Mr Ian Birch

Seconded by: Cr Frank Cvitan

That Condition No.4 be amended to read as follows;

4. The bedroom windows for Units 41, 42 and 65, and upper storey bedroom windows for Townhouses proposed on survey-strata lots 1 & 25, that face the public access way are to be amended to major openings with a sill height of no more than 1m from the finished floor level.

REASON: To correct the Unit numbers referenced and for general clarity.

The Amending Motion was put and CARRIED UNANIMOUSLY.

AMENDING MOTION

Moved by: Mr Fred Zuideveld

Seconded by: Mr Ian Birch

That Condition No.18 and associated Advice Note No.7 be deleted in its entirety and renumbering of Conditions.

REASON: To be consistent with Agreed Structure Plan 2 – Clarkson Activity Centre (ASP2)

The Amending Motion was put and CARRIED UNANIMOUSLY.

AMENDING MOTION

Moved by: Mr Fred Zuideveld

Seconded by: Cr Russell Driver

That Condition No.19 be amended to include the words 'or alternatively be provided with mechanical clothes dryers prior to occupation' to read as follows;

19. All multiple dwellings are to be provided with clothes drying facilities which are to be screened from view from the street or alternatively be provided with mechanical clothes dryers prior to occupation.

REASON: Often impractical to provide enough of external drying space.

The Amending Motion was put and CARRIED UNANIMOUSLY.



PRIMARY MOTION (AS AMENDED)

That the Metro North West Joint Development Assessment Panel, pursuant to section 31 of the *State Administrative Tribunal Act 2004* in respect of SAT application DR 258 of 2015, resolves to **reconsider** its decision dated 28 July 2015 and **Approve** DAP Application reference DAP/15/00790 and accompanying plans (**Attachment 2** including survey plan P.00 Rev G, Site plans P.01 Rev L, P.02 Rev L, P.03 Rev K, P.04 Rev H, Typical Floor Plans P.05 Rev E, P.06 Rev C and Elevations P.07 Rev F, P.08 Rev H) in accordance with the provisions of the City of Wanneroo District Planning Scheme No. 2, subject to the following conditions being met to the satisfaction of the Manager, Planning Implementation

1. This decision constitutes planning approval only and is valid for a period of two (2) years from the date of approval. If the subject development is not substantially commenced within the two year period, the approval shall lapse and be of no further effect. Where an approval has so lapsed, no development shall be carried out without further approval of the City having first been sought and obtained.
2. The proposed area identified as 'PAW to vest' on P.00 Rev G is to be constructed and drained as a laneway at the landowner/applicants cost in accordance with the City of Wanneroo Design Specifications. This area is to be ceded to the crown as a road prior to the occupation of the occupation of the development.
3. The proposed awning located in front of the 43m² commercial tenancy is to be increased in height to a minimum of 3m from the natural ground level at all locations and be a minimum width of 2m.
4. The bedroom windows for Units 41, 42 and 65, and upper storey bedroom windows for Townhouses proposed on survey-strata lots 1 & 25, that face the public access way are to be amended to major openings with a sill height of no more than 1m from the finished floor level.
5. A Landscape plan shall be submitted to the satisfaction of the City. Planting and Landscaping shall be carried out in accordance with the plans as submitted prior to the occupation of the building and thereafter maintained to the satisfaction of the Manager Land Development.
6. Parking areas, driveways, crossovers and points of ingress and egress shall be designed and constructed in accordance with the Australian Standard for Offstreet Carparking (AS2890) as amended and the City of Wanneroo Technical Standards, and shall be drained, sealed and marked.
7. The parking areas and associated access indicated on the approved plans shall not be used for the purpose of storage or obstructed in any way at any time, without the prior approval of the City.
8. An onsite stormwater drainage system, sufficient to contain a 1:100 year storm event (over 24 hours) must be provided. Plans illustrating the system proposed shall be submitted for approval when application is made for a building licence and the system shall be installed during the construction of the development.



9. The applicant shall undertake adequate measures to minimise any impacts of dust and sand drift from the site.
10. All refuse shall be stored within the designated bin enclosure/s and shall be collected from the site by a private contractor at the cost of the applicant/owner.
11. A dual use path shall be constructed in the road reserve(s) adjacent to the development as illustrated on plan P.01 of Attachment 2.
12. All fencing indicated as 'semi permeable' on the approved elevation plans shall be 'visually permeable' in accordance with the definition prescribed under State Planning Policy 3.1 - Residential Design Codes.
13. Lighting shall be installed in all car-parking and communal areas. Any lighting is to be designed in accordance with Australian Standards for the "Control of Obtrusive Effects of Outdoor Lighting" (AS4282) and shall, where possible, be directed internally so as not to overspill into nearby lots.
14. A construction management plan shall be submitted by the proponent and approved by the City prior to the commencement of any works on site. This plan is to detail how construction will be managed to minimise disruption in the area and shall include:
 - The delivery of and delivery times for materials and equipment to the site;
 - Storage of materials and equipment on site;
 - Parking arrangements for contractors and sub-contractors;
 - The impact on traffic movement;
 - Impacts on any City or public assets; and
 - Any other matters required by the City.
15. A notification is to be placed on the certificates of title of the proposed lots advising prospective purchasers of the proximity of the development to the Clarkson Youth Centre prior to occupation of the dwellings. The notification is to identify that the site may be affected by noise.
16. The commercial/retail tenancies indicated on the approved plans may be used for the following uses as defined in the City of Wanneroo District Planning Scheme No.2:
 - Bakery
 - Beauty Parlour
 - Consulting Room
 - Convenience Store
 - Hairdresser
 - Lunch Bar
 - Medical Centre
 - Office
 - Pharmacy
 - Restaurant
 - Shop

A change of use from that outlined above will require the approval of the City. For the Commercial/retail tenancies, no application is required for change between uses.



17. An acoustic report shall be submitted prior to the development of the commercial/retail tenancies to ensure that the proposed use will meet the requirements of the Environmental Health (Noise) Regulations. Any modifications required to be undertaken as a result of the acoustic report is to ensure compliance with the Environmental Health (Noise) Regulations shall be undertaken at the owner's expense.
18. All multiple dwellings are to be provided with clothes drying facilities which are to be screened from view from the street or alternatively be provided with mechanical clothes dryers prior to occupation.

Advice Notes

1. The City does not undertake to ascertain the validity of signatures nor the authority of the persons nominated as owners.
2. This is a planning approval only and is issued under the City of Wanneroo's District Planning Scheme No. 2 and the Metropolitan Region Scheme. It is the proponent's responsibility to comply with all other applicable legislation and obtain all required approvals, licences and permits prior to commencement of this development.
3. This planning approval does not take into account any restrictive covenants. It is the proponent's responsibility to ensure that the development will not result in a conflict of contractual obligations.
4. Application must be made for, and a licence to erect a sign obtained from the City, before any sign is erected.
5. This approval should not be construed that the City will support a survey strata or green title subdivision application for the development. A subdivision application for Survey Strata without common property or green title subdivision will need to meet the minimum and average site areas for the dwelling types, as prescribed in the Residential Design Codes.
6. Adequate measures to minimise any impacts of dust and sand drift from the site include all requirements as stipulated within the Department of Environmental Regulation's *'A guideline for managing the impacts of dust and associated contaminants from land development sites, contaminated site remediation and other related activities'*.

The Primary Motion (as amended) was put and CARRIED UNANIMOUSLY.

The following State Administrative Tribunal Applications have been received:

- City of Joondalup - Major Expansion of Westfield Whitford City Shopping Centre - Lot 501 (470) Whitfords Avenue, Hillarys
- City of Wanneroo - Foreshore Development - Lots 9014, 3052 & 15450 (1K) Vitrinella Avenue, Jindalee
- City of Stirling - Four Storey Office Development - Lot 2 (17) Chesterfield Road, Mirrabooka
- City of Stirling - Four Storey Aged Care Facility - Lot 26 (27) Prisk Street, Karrinyup



11. General Business / Meeting Close

The Presiding Member reminded the meeting that in accordance with Standing Order 7.3 only the Presiding Member may publicly comment on the operations or determinations of a DAP and other DAP members should not be approached to make comment.

There being no further business, the presiding member declared the meeting closed at 11.50am.



Minutes of the Metro North-West Joint Development Assessment Panel

Meeting Date and Time: 23 November 2015; 11:30am
Meeting Number: MNWJDAP/109
Meeting Venue: Department of Planning
140 William Street, Perth

Attendance

DAP Members

Ms Karen Hyde (Presiding Member)
Mr Paul Drechsler (Deputy Presiding Member)
Mr Fred Zuideveld (Specialist Member)
Cr John Chester (Local Government Member, City of Joondalup)
Cr Philippa Taylor (Local Government Member, City of Joondalup)

Officers in attendance

Mr Andrew Cook (Department of Planning)
Mr John Corbellini (City of Joondalup)
Mr Max Bindon (City of Joondalup)
Mr Stephen Ferguson (Department of Planning)

Department of Planning Minute Secretary

Ms Jess Leitão

Applicant and Submitters

Mr Colin Brandis (VenuesWest)
Mr Des Ward (Department of Finance)
Mr David Karotkin (Sandover Pinder Architects)

Members of the Public

Ms Tyler Brown (Community News)

1. Declaration of Opening

The Presiding Member, Ms Karen Hyde declared the meeting open at 11:32am on 23 November 2015 and acknowledged the past and present traditional owners and custodians of the land on which the meeting was being held.

The Presiding Member advised that the meeting is being audio recorded in accordance with Section 5.16 of the Standing Orders 2012; No Recording of Meeting, which states: *'A person must not use any electronic, visual or audio recording device or instrument to record the proceedings of the DAP meeting unless the Presiding Member has given permission to do so.'* The Presiding Member granted permission for the minute taker to record proceedings for the purpose of the minutes only.



2. Apologies

Cr Liam Gobbert (City of Joondalup)

3. Members on Leave of absence

Nil

4. Noting of minutes

Minutes of the Metro North-West JDAP meeting no.108 held on 20 November 2015 were not available for noting at the time of meeting.

5. Declaration of Due Consideration

All members declared that they had duly considered the documents.

6. Disclosure of interests

Nil

7. Deputations and presentations

7.1 Mr Colin Brandis (VenuesWest), Mr David Karotkin (Sandover Pinder Architects) and Mr John Corbellini (City of Joondalup) answered questions from the panel.

8. Form 1 - Responsible Authority Reports – DAP Application

8.1	Property Location:	Lot 101 (25) Kennedya Drive, Joondalup
	Application Details:	New build for basketball and football facilities and refurbishment of existing facilities and upgrade of site services
	Applicant:	Western Australian Sports Centre Trust (VenuesWest)
	Owner:	Western Australian Sports Centre Trust (VenuesWest)
	Responsible authority:	City of Joondalup
	DoP File No:	DAP/15/00898

REPORT RECOMMENDATION / PRIMARY MOTION

Moved by: Cr John Chester

Seconded by: Cr Philippa Taylor

That the Metro North West JDAP resolves to:

Approve DAP Application reference DAP/15/00898 and accompanying plans date stamped 'Department of Planning 13 November 2015' A1.1 4, A1.3 4, DA.2.1 2, DA.2.2 1, DA.2.3 1, DA.2.4 1, A3.2 3, DA.3.2 3, DA.3.3 2 and DA.3.4 2 prepared by Sandover Pinder Architects, in accordance with Clause 30 (1) of the Metropolitan Region Scheme, subject to the following conditions:



Conditions

1. The decision constitutes planning approval only and is valid for a period of two years from the date of approval. If the subject development is not substantially commenced within the two year period, the approval shall lapse and be of no further effect.
2. A Scheduling, Parking and Traffic Management Plan shall be submitted to, and approved by the City of Joondalup prior to the commencement of development. The Scheduling, Parking and Traffic Management Plan shall detail how events are managed and address:
 - issues associated with car parking capacity and demand;
 - directing patrons to available parking bays or overflow areas;
 - vehicle traffic and congestion;
 - pedestrian movement and safety;
 - use of external car parking and/or alternative modes of transport; and
 - maintenance of overflow and grass car parking areas

All sports and events shall be scheduled and managed in accordance with the approved Scheduling, Parking and Traffic Management Plan.

3. Plans demonstrating vehicle movement and circulation within the car park areas, and pedestrian accessibility to the site and within the car park areas to the facilities shall be submitted to, and approved by the City of Joondalup prior to the commencement of development. Works shall be undertaken in accordance with the approved plans.
4. A Construction Management Plan shall be submitted to and approved by the City of Joondalup prior to the commencement of development. The management plan shall detail how it is proposed to manage:
 - all forward works for the site;
 - the delivery of materials and equipment to the site;
 - the storage of materials and equipment on the site;
 - the parking arrangements for the contractors and subcontractors;
 - the management of dust during the construction process; and
 - other matters likely to impact on the surrounding properties.

Works shall be undertaken in accordance with the approved Construction Management Plan.

5. Detailed landscaping plans shall be submitted to, and approved by the City of Joondalup prior to the commencement of development. The landscaping plans are to indicate the proposed landscaping treatment(s) of the subject site, and shall:
 - be drawn at an appropriate scale of either 1:100, 1:200 or 1:500;
 - provide all details relating to paving and tree planting in the car park;
 - ensure adequate provision of landscaping to provide shade to 'Car Park #3' and 'Car Park #4';
 - show spot levels and/or contours of the site;



- indicate any natural vegetation to be retained and the proposed manner in which this will be managed;
- be based on water sensitive urban design principles to the specifications of the City;
- be based on Designing out Crime principles to the specifications of the City; and
- show all irrigation design details.

Landscaping and reticulation shall be established in accordance with the approved landscaping plans, Australian Standards and best trade practice prior to the development first being occupied and thereafter maintained to the specifications of the City of Joondalup.

6. The entrance statement of the Main Entry Plaza shall be further articulated to create greater visual interest and assist in way finding, to the specifications of the City of Joondalup. All details relating to the articulation of the entrance statement are to be submitted to, and approved by the City of Joondalup, prior to the commencement of development. Development shall be undertaken in accordance with the approved plan.
7. A full schedule of colours and materials for all exterior parts to the building is to be submitted to, and approved by the City of Joondalup prior to the commencement of development. Development shall be in accordance with the approved schedule and all external materials and finishes shall be maintained to a high standard to the specifications of the City of Joondalup.
8. Details of the fire pumps and tanks, and methods of screening shall be submitted to, and approved by the City of Joondalup prior to the commencement of development. The proposed fire pumps and tanks shall be screened from view from surrounding streets in accordance with the plans approved by the City. Development shall be undertaken in accordance with the approved details.
9. Plans showing the proposed stormwater drainage system are to be submitted to, and approved by the City of Joondalup prior to the commencement of development. An on-site stormwater drainage system, with the capacity to contain a 1:100 year storm of 24-hour duration, is to be provided prior to the development first being occupied, and thereafter maintained to the specifications of the City. Development shall be undertaken in accordance with the approved plan.
10. Bicycle parking facilities shall be provided in accordance with the Australian Standard for Offstreet Carparking - Bicycles (AS2890.3-1993 as amended) prior to the development first being occupied. Details of bicycle parking area(s) shall be provided to, and approved by the City of Joondalup prior to the commencement of development. Development shall be undertaken in accordance with the approved details.
11. A minimum of 150 additional sealed car parking bays shall be provided in 'Car Park #4' and a minimum of 42 sealed car parking bays on the south western edge of 'Car Park #3', as indicated on the approved plans. With the exception of the grass parking bays shown in white in 'Car Park #3', car parking areas and access points, including exit and entry ways shown to 'Car Park #3', shall



be designed, constructed, drained and marked in accordance with the Australian Standard for Off-street Car Parking (AS/NZS2890.1 2004), Off-street Parking for People with Disabilities (AS/NZS2890.6 2009) and Off-street Commercial Vehicle Facilities (AS2890.2:2002), prior to the occupation of the development. These bays are to be thereafter maintained to the specifications of the City of Joondalup.

12. A minimum of 164 grass car parking bays shall be provided within 'Car Park #3'. These bays shall be marked and maintained to the specifications of the City of Joondalup.

Advice Notes

1. With respect to the Scheduling, Parking and Traffic Management Plan, an event would include West Perth Football Club games, and any event(s) that would result in the maximum number of persons on the site at any given time exceeding 2,390.
2. This approval does not include the Moore Drive car park options as outlined in the Traffic Management and Parking Review Report November 2014.
3. The Health (Public Building) Regulations 1992 limit the occupancy of a room with a single exit to 50 persons. In this regard, the maximum occupancy permitted in function room one, function room two and the clubroom may be restricted to 50 persons based on the available exits. The modification to exit arrangements to the existing building may impact the maximum occupancy of the building.
4. The patron entry gates to the main oval are required to open in the direction of egress.
5. All kitchen and bar areas are required to comply with the Food Act 2008.
6. Any signage shall be subject to a separate development application.

PROCEDURAL MOTION

Moved by: Ms Karen Hyde

Seconded by: Mr Paul Drechsler

That the JDAP adjourn the meeting for 10 minutes to receive legal advice.

The Procedural Motion was put and CARRIED UNANIMOUSLY.

Meeting adjourned at 11:55am

Meeting resumed at 12:04pm



AMENDING MOTION

Moved by: Ms Karen Hyde

Seconded by: Mr Paul Drechsler

To amend conditions 2, 3, 4, 5, 6, 7, 8, 9, and 10 as follows -

2. A Scheduling, Parking and Traffic Management Plan shall be submitted to, and approved by the **WAPC on the advice of the** City of Joondalup prior to the commencement of development. The Scheduling, Parking and Traffic Management Plan shall detail how events are managed and address:

- issues associated with car parking capacity and demand;
- directing patrons to available parking bays or overflow areas;
- vehicle traffic and congestion;
- pedestrian movement and safety;
- use of external car parking and/or alternative modes of transport; and
- maintenance of overflow and grass car parking areas

All sports and events shall be scheduled and managed in accordance with the approved Scheduling, Parking and Traffic Management Plan.

3. Plans demonstrating vehicle movement and circulation within the car park areas, and pedestrian accessibility to the site and within the car park areas to the facilities shall be submitted to, and approved by the **WAPC on the advice of the** City of Joondalup prior to the commencement of development. Works shall be undertaken in accordance with the approved plans.

4. A Construction Management Plan shall be submitted to and approved by the **WAPC on the advice of the** City of Joondalup prior to the commencement of development. The management plan shall detail how it is proposed to manage:

- all forward works for the site;
- the delivery of materials and equipment to the site;
- the storage of materials and equipment on the site;
- the parking arrangements for the contractors and subcontractors;
- the management of dust during the construction process; and
- other matters likely to impact on the surrounding properties.

Works shall be undertaken in accordance with the approved Construction Management Plan.

5. Detailed landscaping plans shall be submitted to, and approved by the **WAPC on the advice of the** City of Joondalup prior to the commencement of development. The landscaping plans are to indicate the proposed landscaping treatment(s) of the subject site, and shall:

- be drawn at an appropriate scale of either 1:100, 1:200 or 1:500;
- provide all details relating to paving and tree planting in the car park;
- ensure adequate provision of landscaping to provide shade to 'Car Park #3' and 'Car Park #4';
- show spot levels and/or contours of the site;



- indicate any natural vegetation to be retained and the proposed manner in which this will be managed;
- be based on water sensitive urban design principles to the specifications of the City;
- be based on Designing out Crime principles to the specifications of the City; and
- show all irrigation design details.

Landscaping and reticulation shall be established in accordance with the approved landscaping plans, Australian Standards and best trade practice prior to the development first being occupied and thereafter maintained to the specifications of the City of Joondalup.

6. The entrance statement of the Main Entry Plaza shall be further articulated to create greater visual interest and assist in way finding. ~~to the specifications of the City of Joondalup.~~ All details relating to the articulation of the entrance statement are to be submitted to, and approved by the **WAPC on the advice of the** City of Joondalup, prior to the commencement of development. Development shall be undertaken in accordance with the approved plan.
7. A full schedule of colours and materials for all exterior parts to the building is to be submitted to, and approved by the **WAPC on the advice of the** City of Joondalup prior to the commencement of development. Development shall be in accordance with the approved schedule and all external materials and finishes shall be maintained to a high standard to the specifications of the City of Joondalup.
8. Details of the fire pumps and tanks, and methods of screening shall be submitted to, and approved by the **WAPC on the advice of the** City of Joondalup prior to the commencement of development. The proposed fire pumps and tanks shall be screened from view from surrounding streets in accordance with the plans approved by the City. Development shall be undertaken in accordance with the approved details.
9. Plans showing the proposed stormwater drainage system are to be submitted to, and approved by the **WAPC on the advice of the** City of Joondalup prior to the commencement of development. An on-site stormwater drainage system, with the capacity to contain a 1:100 year storm of 24-hour duration, is to be provided prior to the development first being occupied, and thereafter maintained to the specifications of the City. Development shall be undertaken in accordance with the approved plan.
10. Bicycle parking facilities shall be provided in accordance with the Australian Standard for Offstreet Carparking - Bicycles (AS2890.3-1993 as amended) prior to the development first being occupied. Details of bicycle parking area(s) shall be provided to, and approved by the **WAPC on the advice of the** City of Joondalup prior to the commencement of development. Development shall be undertaken in accordance with the approved details.

REASON: To provide appropriate course of action for approving and clearing conditions.

The Amending Motion was put and CARRIED UNANIMOUSLY.



AMENDING MOTION

Moved by: Mr Paul Drechsler

Seconded by: Mr Fred Zuideveld

Condition 5, bullet point 3 - insert reference to Car Park #1 and Car Park #2, and insert the words 'at a minimum standard of 1 tree per 4 car bays'.

REASON: Ensures there is adequate landscaping and amenity provided in the nexus between the new development and the existing car park

The Amending Motion was put and CARRIED UNANIMOUSLY.

AMENDING MOTION

Moved by: Cr John Chester

Seconded by: Ms Karen Hyde

Condition 10 – insert the words 'A minimum of 30' at the beginning of the condition and replace the word 'facilities' with 'bays'.

REASON: To ensure bicycle parking for the facility.

The Amending Motion was put and CARRIED UNANIMOUSLY.

AMENDING MOTION

Moved by: Ms Karen Hyde

Seconded by: Cr John Chester

Delete Advice Note 3 and renumber subsequent Advice Notes.

REASON: Development plans have changed since the recommendation was written and this Advice Note is no longer relevant.

The Amending Motion was put and CARRIED UNANIMOUSLY.

PRIMARY MOTION (AS AMENDED)

That the Metro North West JDAP resolves to:

Approve DAP Application reference DAP/15/00898 and accompanying plans date stamped 'Department of Planning 13 November 2015' A1.1 4, A1.3 4, DA.2.1 2, DA.2.2 1, DA.2.3 1, DA.2.4 1, A3.2 3, DA.3.2 3, DA.3.3 2 and DA.3.4 2 prepared by Sandover Pinder Architects, in accordance with Clause 30 (1) of the Metropolitan Region Scheme, subject to the following conditions:

Conditions

1. The decision constitutes planning approval only and is valid for a period of two years from the date of approval. If the subject development is not substantially commenced within the two year period, the approval shall lapse and be of no further effect.



2. A Scheduling, Parking and Traffic Management Plan shall be submitted to, and approved by the WAPC on the advice of the City of Joondalup prior to the commencement of development. The Scheduling, Parking and Traffic Management Plan shall detail how events are managed and address:

- issues associated with car parking capacity and demand;
- directing patrons to available parking bays or overflow areas;
- vehicle traffic and congestion;
- pedestrian movement and safety;
- use of external car parking and/or alternative modes of transport; and
- maintenance of overflow and grass car parking areas

All sports and events shall be scheduled and managed in accordance with the approved Scheduling, Parking and Traffic Management Plan.

3. Plans demonstrating vehicle movement and circulation within the car park areas, and pedestrian accessibility to the site and within the car park areas to the facilities shall be submitted to, and approved by the WAPC on the advice of the City of Joondalup prior to the commencement of development. Works shall be undertaken in accordance with the approved plans.

4. A Construction Management Plan shall be submitted to and approved by the WAPC on the advice of the City of Joondalup prior to the commencement of development. The management plan shall detail how it is proposed to manage:

- all forward works for the site;
- the delivery of materials and equipment to the site;
- the storage of materials and equipment on the site;
- the parking arrangements for the contractors and subcontractors;
- the management of dust during the construction process; and
- other matters likely to impact on the surrounding properties.

Works shall be undertaken in accordance with the approved Construction Management Plan.

5. Detailed landscaping plans shall be submitted to, and approved by the WAPC on the advice of the City of Joondalup prior to the commencement of development. The landscaping plans are to indicate the proposed landscaping treatment(s) of the subject site, and shall:

- be drawn at an appropriate scale of either 1:100, 1:200 or 1:500;
- provide all details relating to paving and tree planting in the car park;
- ensure adequate provision of landscaping to provide shade to 'Car Park #1', 'Car Park #2', 'Car Park #3' and 'Car Park #4' at a minimum standard of 1 tree per 4 car bays;
- show spot levels and/or contours of the site;
- indicate any natural vegetation to be retained and the proposed manner in which this will be managed;
- be based on water sensitive urban design principles to the specifications of the City;
- be based on Designing out Crime principles to the specifications of the City; and



- show all irrigation design details.

Landscaping and reticulation shall be established in accordance with the approved landscaping plans, Australian Standards and best trade practice prior to the development first being occupied and thereafter maintained to the specifications of the City of Joondalup.

6. The entrance statement of the Main Entry Plaza shall be further articulated to create greater visual interest and assist in way finding. All details relating to the articulation of the entrance statement are to be submitted to, and approved by the WAPC on the advice of the City of Joondalup, prior to the commencement of development. Development shall be undertaken in accordance with the approved plan.
7. A full schedule of colours and materials for all exterior parts to the building is to be submitted to, and approved by the WAPC on the advice of the City of Joondalup prior to the commencement of development. Development shall be in accordance with the approved schedule and all external materials and finishes shall be maintained to a high standard to the specifications of the City of Joondalup.
8. Details of the fire pumps and tanks, and methods of screening shall be submitted to, and approved by the WAPC on the advice of the City of Joondalup prior to the commencement of development. The proposed fire pumps and tanks shall be screened from view from surrounding streets in accordance with the plans approved by the City. Development shall be undertaken in accordance with the approved details.
9. Plans showing the proposed stormwater drainage system are to be submitted to, and approved by the WAPC on the advice of the City of Joondalup prior to the commencement of development. An on-site stormwater drainage system, with the capacity to contain a 1:100 year storm of 24-hour duration, is to be provided prior to the development first being occupied, and thereafter maintained to the specifications of the City. Development shall be undertaken in accordance with the approved plan.
10. A minimum of 30 bicycle parking bays shall be provided in accordance with the Australian Standard for Offstreet Carparking - Bicycles (AS2890.3-1993 as amended) prior to the development first being occupied. Details of bicycle parking area(s) shall be provided to, and approved by the WAPC on the advice of the City of Joondalup prior to the commencement of development. Development shall be undertaken in accordance with the approved details.
11. A minimum of 150 additional sealed car parking bays shall be provided in 'Car Park #4' and a minimum of 42 sealed car parking bays on the south western edge of 'Car Park #3', as indicated on the approved plans. With the exception of the grass parking bays shown in white in 'Car Park #3', car parking areas and access points, including exit and entry ways shown to 'Car Park #3', shall be designed, constructed, drained and marked in accordance with the Australian Standard for Off-street Car Parking (AS/NZS2890.1 2004), Off-street Parking for People with Disabilities (AS/NZS2890.6 2009) and Off-street Commercial Vehicle Facilities (AS2890.2:2002), prior to the occupation of the



development. These bays are to be thereafter maintained to the specifications of the City of Joondalup.

12. A minimum of 164 grass car parking bays shall be provided within 'Car Park #3'. These bays shall be marked and maintained to the specifications of the City of Joondalup.

Advice Notes

1. With respect to the Scheduling, Parking and Traffic Management Plan, an event would include West Perth Football Club games, and any event(s) that would result in the maximum number of persons on the site at any given time exceeding 2,390.
2. This approval does not include the Moore Drive car park options as outlined in the Traffic Management and Parking Review Report November 2014.
3. The patron entry gates to the main oval are required to open in the direction of egress.
4. All kitchen and bar areas are required to comply with the Food Act 2008.
5. Any signage shall be subject to a separate development application.

The Primary Motion (as amended) was put and CARRIED UNANIMOUSLY.

9. **Form 2 – Responsible Authority Reports - Amending or cancelling DAP development approval**

Nil

10. **Appeals to the State Administrative Tribunal**

Nil

11. **General Business / Meeting Close**

The Presiding Member reminded the meeting that in accordance with Standing Order 7.3 only the Presiding Member may publicly comment on the operations or determinations of a DAP and other DAP members should not be approached to make comment.

There being no further business, the Presiding Member declared the meeting closed at 12:14pm.



Minutes of the Metro North-West Joint Development Assessment Panel

Meeting Date and Time: 26 November 2015, 10:30am
Meeting Number: MNWJDAP/110
Meeting Venue: City of Joondalup
90 Boas Avenue,
Joondalup

Attendance

DAP Members

Mr Paul Drechsler (A/Presiding Member)
Mr Clayton Higham (A/Deputy Presiding Member)
Mr Fred Zuideveld (Specialist Member)
Cr John Chester (Local Government Member, City of Joondalup)
Cr Philippa Taylor (Local Government Member, City of Joondalup)

Officers in attendance

Mr Sean O'Connor (Department of Planning)
Ms Dale Page (City of Joondalup)
Mr John Corbellini (City of Joondalup)
Ms Lydia Dwyer (City of Joondalup)
Mr John Byrne (City of Joondalup)

Local Government Minute Secretary

Ms Rose Garlick (City of Joondalup)

Applicants and Submitters

Mr David O'Brien (Taylor Robinson)
Mr Jeremy Hofland (Rowe Group)
Mr Greg Rowe (Rowe Group)

Members of the Public

There was one member of the public in attendance.

1. Declaration of Opening

The Acting Presiding Member, Mr Paul Drechsler declared the meeting open at 10:30am on 26 November 2015 and acknowledged the past and present traditional owners and custodians of the land on which the meeting was being held.

The Acting Presiding Member announced the meeting would be run in accordance with the *Development Assessment Panel Standing Orders 2012* under the *Planning and Development (Development Assessment Panels) Regulations 2011*.



The Acting Presiding Member advised that the meeting is being audio recorded in accordance with Section 5.16 of the Standing Orders 2012; No Recording of Meeting, which states: '*A person must not use any electronic, visual or audio recording device or instrument to record the proceedings of the DAP meeting unless the Acting Presiding Member has given permission to do so.*' The Acting Presiding Member granted permission for the minute taker to record proceedings for the purpose of the minutes only.

2. Apologies

Ms Karen Hyde (Presiding Member)

3. Members on Leave of absence

Nil

4. Noting of minutes

Minutes of the Metro North-West JDAP Meeting No. 108 held on 20 November 2015 and Meeting No. 109 held on 23 November 2015 were not available for noting at the time of the meeting.

5. Declaration of Due Consideration

All members declared that they had duly considered the documents.

6. Disclosure of interests

Nil

PROCEDURAL MOTION

Moved by: Mr Clayton Higham

Seconded by: Mr Paul Drechsler

That the application at Item 9.1 be heard prior to the application at Item 8.1.

The Procedural Motion was put and CARRIED UNANIMOUSLY.

7. Deputations and presentations

7.1 Mr Jeremy Hofland (Rowe Group) addressed the DAP for the application at Item 8.1. The presentation supported the application and recommended that the proposal be deferred.

The presentation at Item 7.1 was heard prior to the application at Item 8.1.



8. Form 1 - Responsible Authority Reports – DAP Application

8.1 Property Location: Lot 9 (937) Whitfords Avenue, Woodvale
Application Details: Proposed three storey mixed use development
Applicant: Rowe Group
Owner: Citypride Holdings Pty Ltd
Responsible authority: City of Joondalup
DoP File No: DAP/15/00832

REPORT RECOMMENDATION / PRIMARY MOTION

Moved by: Cr John Chester

Seconded by: Cr Philippa Taylor

That the Metro North-West JDAP resolves to:

Refuse DAP Application reference (DAP/15/00832) and accompanying plans (Job 8118 pages 1-10 of 10 Rev Ci) in accordance with regulation 17 of the *Planning and Development (Development Assessment Panels) Regulations 2011*, for the following reasons:

Reasons:

1. Having due regard to the matters set out in subclauses 67 (m), (n), (p), (y) and (za) of Schedule 2 of the *Planning and Development (Local Planning Schemes) Regulations 2015* the proposed development is considered to be incompatible with the existing Woodvale district centre and the amenity of the area as it does not present an attractive façade to the surrounding commercial centre due to the prominence of the basement extract fan stack, excessive bulk due to large areas of blank wall, without glazing or other articulation, on the eastern and western elevations of the development and a lack of landscaping.
2. Having due regard to the matters set out in subclauses 67 (s), (y) and (za) of Schedule 2 of the *Planning and Development (Local Planning Schemes) Regulations 2015* the proposed development is not considered to provide adequate access or egress to the development as no rights of access exist to the proposed basement car park and the design of the basement access does not adequately address sightlines and associated safety concerns.
3. Having due regard to the matters set out in of clauses 67 (s), (v), (w), (y) and (za) of Schedule 2 of the *Planning and Development (Local Planning Schemes) Regulations 2015* the proposed development is not considered to appropriately accommodate the required access arrangements for the Woodvale district centre as the proposal will remove access to adjoining sites from Whitfords Avenue both during and after the construction of the development.
4. The proposed development does not meet the requirements of the *City of Joondalup District Planning Scheme No. 2* in relation to the amount of on-site car parking required, being 70 bays in lieu of 134 bays. It is considered that the number of on-site car parking bays is not sufficient to cater for the demand of the proposed development.



PROCEDURAL MOTION

Moved by: Mr Clayton Higham

Seconded by: Mr Fred Zuideveld

That the application be deferred for a period of three months to enable the applicant to:

1. Give further consideration to the building setbacks and building bulk;
2. To provide perspective drawings to show all facades of the proposal for each stage of the development;
3. To provide further information in relation to how the parking requirements of the City can be met at each stage of the development.

The Procedural Motion was put and CARRIED UNANIMOUSLY.

9. Form 2 – Responsible Authority Reports - Amending or cancelling DAP development approval

9.1	Property Location:	Lot 40 (6) and Lot 201 (8) Packard Street, Joondalup
	Application Details:	Amendments to approved additions to existing warehouse and new warehouse, showroom and lunch bar development
	Applicant:	Taylor Robinson
	Owner:	Gypsy Hill Pty Ltd
	Responsible authority:	City of Joondalup
	DoP File No:	DAP/15/00786

REPORT RECOMMENDATION / PRIMARY MOTION

Moved by: Cr John Chester

Seconded by: Cr Philippa Taylor

That the Metro North-West Joint Development Assessment Panel resolves to:

1. **Accept** that the DAP Application reference DAP/15/00786 as detailed on the DAP Form 2 dated 21 September 2015 is appropriate for consideration in accordance with regulation 17 of the *Planning and Development (Development Assessment Panels) Regulations 2011*;
2. **Approve** the DAP Application reference DAP/15/00786 as detailed on the DAP Form 2 dated 21 September 2015 and accompanying plans DA1 (revision D), DA1.1 (revision D), DA2 (revision D), DA3 (revision D) and DA4 (revision D) in accordance with the provisions of Clause 68(2) of the *Planning and Development (Local Planning Scheme) Regulations 2015* Schedule 2 and the Metropolitan Region Scheme, for the amendments to the approved additions to existing warehouse and new warehouse, showroom and lunch bar development at Lot 40 (6) and Lot 201 (8) Packard Street, Joondalup, subject to:



Removal of Condition

Condition 13 of the existing approval dated 6 July 2015 is removed.

Additional Conditions

1. Bin store 4 on Lot 201 (8) Packard Street, Joondalup shall be constructed so as to be wholly enclosed and appear to be integrated into the design of the existing power sub-station. Detailed plans and schedule of finishes shall be submitted to and approved by the City prior to the commencement of development. Works shall be in accordance with the approved details and finishes shall be maintained to a high standard, including being free of vandalism, to the satisfaction of the City.
2. The extension to the existing warehouse on Lot 201 (8) Packard Street, Joondalup shall be further articulated through the use of colours and/or materials. Details shall be submitted to and approved by the City prior to the commencement of development. Works shall be undertaken in accordance with these approved details.

Advice Notes

1. All other conditions and requirements detailed on the previous approval dated 6 July 2015 shall remain unless altered by this application.

The Report Recommendation/Primary Motion was put and CARRIED UNANIMOUSLY.

10. Appeals to the State Administrative Tribunal

The following State Administrative Tribunal Applications have been received:

- City of Joondalup - Major Expansion of Westfield Whitford City Shopping Centre - Lot 501 (470) Whitfords Avenue, Hillarys
- City of Wanneroo - Foreshore Development - Lots 9014, 3052 & 15450 (1K) Vitrinella Avenue, Jindalee
- City of Stirling - Four Storey Office Development - Lot 2 (17) Chesterfield Road, Mirrabooka
- City of Stirling - Four Storey Aged Care Facility - Lot 26 (27) Prisk Street, Karrinyup

11. General Business / Meeting Close

The Acting Presiding Member reminded the meeting that in accordance with Standing Order 7.3 only the Acting Presiding Member may publicly comment on the operations or determinations of a DAP and other DAP members should not be approached to make comment.

There being no further business, the presiding member declared the meeting closed at 11.16am.



Form 1 - Responsible Authority Report

(Regulation 12)

Property Location:	<u>Joondalup:</u> Lot 2 George Grey Place; Lot 1 Joondalup Drive (land subject to taking order); Lot 13218 (Drainage Reserve 45701) Portion Mitchell Freeway Road Reserve George Grey Place Road Reserve
Application Details:	Development of a multi storey car park and associated access and drainage.
DAP Name:	Metro North West JDAP
Applicant:	Rowe Group
Owner:	Public Transport Authority, State of Western Australia
LG Reference:	DA15/1156
Responsible Authority:	Department of Planning
Authorising Officer:	Director Metropolitan Northwest, Department of Planning
Department of Planning File No:	34-50145-2
Report Date:	1 December 2015
Application Receipt Date:	27 October 2015
Application Process Days:	36 days
Attachment(s):	<ol style="list-style-type: none">1. Aerial Photograph2. Region Scheme Zoning3. Development Plans

Officer Recommendation:

That the Metro North West Joint Development Assessment Panel resolves to approve Development Assessment Panel Application reference DAP/15/00910 in accordance with the submitted plans (PTA Drawing Numbers: 02-A-55-AR0028 to 31 and 40, 45, 70, 71, 26; 02-A-55-CI0007, 14, 19, 26; 02-A-55-LA0001 to 4; 02-A-55-EC0005 to 19) pursuant to the Metropolitan Region Scheme, subject to the following conditions and advice notes:

Conditions

- (a) The preparation and implementation of a Construction Management Plan to the specification of the City of Joondalup and the satisfaction of the Commission prior to the commencement of development. The Management Plan shall detail how it is proposed to manage:
- (a) all forward works for the site;
 - (b) the delivery of materials and equipment to the site;
 - (c) the storage of materials and equipment on the site;
 - (d) the parking arrangements for the contractors and subcontractors;
 - (e) the management of sand and dust during the construction process;

- (f) the management of noise during the construction process; and
- (g) other matters likely to impact on the surrounding properties;

Works shall be undertaken in accordance with the approved plan prior to occupation of the development.

- (b) An on-site stormwater drainage system, with the capacity to contain a 1:100 year storm of 24-hour duration, is to be provided prior to the development first being occupied, and thereafter maintained to the specification of the City of Joondalup and the satisfaction of the Commission. Plans showing the proposed stormwater drainage system are to be submitted to the specification of the City and satisfaction of the Commission prior to the commencement of development. Works shall be undertaken in accordance with the approved plans prior to occupation of the development.
- (c) The parking bays, driveways and access points to be designed in accordance with the Australian Standard for Off-street Car Parking (AS/NZS2890.1 2004) and Off-street Parking for People with Disabilities (AS/NZS2890.6 2009). Such areas are to be constructed, drained and marked prior to the development first being occupied, and thereafter maintained, to the specification of the City and the satisfaction of the Commission.
- (d) The northern exit lanes\merge point and southern ground floor access point to the car park shall be modified to minimise all conflict points and ensure that clear direction is given to vehicles. Plans showing the required modifications are to be provided to the specification of the City of Joondalup and the satisfaction of the Commission, prior to the commencement of development. Works shall be undertaken in accordance with the approved plan prior to the occupation of the development.
- (e) Final detailed landscaping plans shall be submitted to the specification of the City of Joondalup and the satisfaction of the Commission, prior to the commencement of development. These landscaping plans are to indicate the proposed landscaping treatment(s) of the subject site and shall:
 - (a) Be drawn at an appropriate scale of either 1:100, 1:200 or 1:500;
 - (b) Provide all details relating to paving, treatment of verges and tree planting in the car park;
 - (c) Show spot levels and/or contours of the site;
 - (d) Be based on water sensitive urban design principles to the satisfaction of the City;
 - (e) Be based on Designing out Crime principles to the satisfaction of the City; and
 - (f) Show all irrigation design details.
- (f) Landscaping and reticulation shall be established in accordance with the approved landscaping plans prior to the development first being occupied and thereafter maintained to the specification of the City of Joondalup and the satisfaction of the Commission.

- (g) Any proposed external building plant, including air conditioning units, piping, ducting and water tanks, being located so as to minimise any visual and noise impact on surrounding landowners, and screened from view from the street, and where practicable from adjoining buildings, with details of the location of such plant being submitted to the specifications of the City Joondalup and the satisfaction of the Commission, prior to the commencement of development. Works shall be undertaken in accordance with the approved plan prior to the occupation of the development.**
- (h) Lighting shall be installed along all car parking areas, communal open space areas, pedestrian pathways and in all common service areas prior to the development first being occupied, to the specification of the City and the satisfaction of the Commission. A lighting plan shall be submitted for approval to the specification of the City and satisfaction of the Commission prior to the commencement of development. Works shall be undertaken in accordance with the approved plans prior to the occupation of the development.**
- (i) The submission of a full schedule of colours and materials for all exterior parts to the building, including the barrier to the transformer, to the specification of the City and the satisfaction of the Commission, prior to the commencement of development. Development shall be in accordance with the approved schedule and all external materials and finishes shall be maintained to a high standard, including being free of vandalism, to the specification of the City and the satisfaction of the Commission.**
- (j) Engineering drawings for the pipe drainage network are to be submitted to the specification of the City and the satisfaction of the Commission, and works undertaken in accordance with the approved drawings, prior to the occupation of the development.**
- (k) Engineering drawings for the drainage sump and any associated structural elements are to be submitted to the specification of the City and the satisfaction of the Commission, and works undertaken in accordance with the approved drawings, prior to the occupation of the development. Calculations and assessment of the drainage sump capacity pre-and post construction are to be submitted to the specification of the City and satisfaction of the WAPC and approved prior to the development of these detailed drawings.**
- (l) An assessment of the slope stability of the drainage sump shall be submitted certifying that the proposal is structurally sound and identifying any remedial treatment required to be undertaken to ensure its long term stability. The assessment shall include:**

 - (a) structural engineering and certification that the structure (including adjoining structures) is structurally sound and durable with respect to the sump and any potential for flooding, erosion, corrosion or other factors that may be detrimental to the long term durability of the structure, adjoining structures and sump.**

- (b) a review of possible flooding, erosion or maintenance activity that may affect the structural integrity or durability of the adjoining structures during the expected lifespan of the development.

The assessment shall be submitted to the specifications of the City and satisfaction of the Commission prior to the commencement of development. Works shall be undertaken in accordance with the approved assessment prior to the occupation of the development.

- (n) A management plan outlining the maintenance of the drainage sump (including landscaping and erosion protection) is to be provided to the specifications of the City and the satisfaction of the Commission, prior to the occupation of development. Maintenance shall be undertaken in accordance with the approved management plan for period of 12 months following practical completion.
- (o) The registration of an approved easement over the pipe network and existing sump, to the specification of the City and satisfaction of the Commission, prior to the occupation of the development. All costs associated with the preparation of the amendment to the easements over the pipe network and existing sump shall be at the expense of the applicant.
- (p) George Grey Place being upgraded in accordance with the approved plans. This upgrade, including design, review, approval and construction costs, shall be carried out by the applicant/landowner to the specification of the City and Main Roads WA and the satisfaction of the Commission, prior to the development first being occupied.
- (q) Arrangements being made for the Joondalup Drive and Ocean Reef Road intersection to be upgraded to the satisfaction of the Commission, prior to the development first being occupied.
- (r) The ground levels on the Mitchell Freeway reserve are to be maintained as existing.
- (s) No stormwater drainage shall be discharged into the Mitchell Freeway road reserve.
- (t) No direct vehicle access to the construction site will be permitted to or from the Mitchell Freeway reserve.
- (u) The provision of easements for existing or planned future water, sewerage and/or drainage infrastructure as may be required by the Water Corporation being granted free of cost to that body.

Advice notes:

- (a) In relation to conditions (e), (h) and (i) detailed plans are to be in accordance with the approved development plans.

- (b) In regard to condition (k), engineering drawings for the pipe drainage network are to include details relating to the realignment of the existing drainage pipes and the adjustment of the easement over the pipe network and existing sump.
- (c) Further to condition (l), the assessment is to include 10 year and 100 year flood review pre-and post-development.
- (d) In relation to condition (q), any arrangement must recognise that the car park generates only a portion of the overall traffic using the intersection and any contribution would need to be proportional to the traffic generated by the development.
- (e) Car park ventilation to comply with the Building Code of Australia and Australian Standards 1668.2.
- (f) This approval relates to the proposed multiple storey car park only, as indicated on the approved plans and does not relate to any other development on the subject lots.
- (g) Western Power recommends that an Earth Potential Rise (EPR) assessment be carried out to ensure that structures outside the easement in proximity to the JDP-MUL 81 transmission line (including the proposed fire pump and tank enclosure) comply with the Overhead Line Design Standard AS/NZS 7000 – 2010 (section 3.14.2).

Background:

IProperty Address:	Joondalup; Lot 2 George Grey Place; Lot 1 Joondalup Drive (land subject to taking order); Lot 13218 (Drainage Reserve 45701) Portion Mitchell Freeway Road Reserve George Grey Place Road Reserve	
Zoning	MRS:	Urban
	TPS:	Business
Use Class:	Car Park: 'P' Permitted	
Strategy Policy:	Metropolitan Region Scheme	
Development Scheme:	None applicable	
Lot Size:	Lot 2 Drainage Reserve 45701	2.8ha 1736m ²
Existing Land Use:	Car Park	
Value of Development:	\$17,500,000.00	

The Edgewater Park and Ride currently contains 871 at grade car parking bays (**Attachment 1 – Aerial Photograph**). The Public Transport Authority (PTA) has identified a growing demand for parking on the Joondalup railway line and has selected the Edgewater Station as a suitable location for a multi storey car park.

The subject land is located approximately 450m from the Joondalup Drive/Ocean Reef Road intersection and is accessed from Joondalup Drive via George Grey Place. The land is zoned Urban under the Metropolitan Region Scheme (MRS) and abuts the Mitchell Freeway Primary Regional Roads reserve and is zoned Business under the City of Joondalup District Planning Scheme No. 2 (DPS No. 2) (**Attachment 2 – Location and Zoning Plan**).

The application requires approval under Clause 30 of the MRS. Normally the responsible authority would be delegated to the Local Government under the WAPC Instrument of Delegation DEL 2011/02, however this delegation does not extend to applications for Public Works on zoned land and the responsible authority remains the Western Australian Planning Commission (WAPC).

The proposal does not require approval under DPS No. 2 as public works are exempt from approval pursuant to Part 6 of the *Planning and Development Act 2005*.

An application was previously received (WAPC Ref 34-50145-1) on 8 January 2014, however land tenure arrangements relating to drainage and access were unresolved and the application was withdrawn. The PTA has now formalised these arrangements and a new application has been lodged for approval from the Metropolitan North-West Joint Development Assessment Panel (JDAP).

Details

Attachment 3 shows the full set of proposed development plans and elevations.

The application proposes a multi storey car park comprising ground level plus two upper levels with no roof proposed on the upper level. A total of 1047 car parking bays are proposed, bringing the total number of available bays on the site to 1370. The upper levels are accessed via a ramp on the southern side of the structure accessed from George Grey Place.

Due to existing overhead power lines, car parking will remain at grade at the northern part of the site. Minor modifications are proposed to this car park to facilitate access arrangements to the multi storey car park.

The proposed development also proposes an additional left turn pocket and right turn lane from George Grey Place onto Joondalup Drive. This will necessitate changes to the signals at this intersection.

Additionally the proposed development requires the re-contouring and landscaping of the drainage basin within reserve 45701.

Legislation & policy:

Planning and Development (Development Assessment Panels) Regulations 2011

The abovementioned works have an approximate cost of \$17,500,000. In accordance with Regulation 5 (c) of the *Planning and Development (DAPs) Regulations 2011* requires mandatory determination by the Metropolitan Northwest JDAP.

State Government Policies

Development Control Policy 1.6 Transit Oriented Development.

Development Control Policy 1.2 Development Control – General Principles.

Consultation:

Public Consultation

The application is to be determined under the provisions of the MRS, which does not require public consultation to occur in respect of the application.

Consultation with other Agencies or Consultants

The City of Joondalup (City) supports the proposal subject to conditions.

The Water Corporation provides advice relating to infrastructure which may be affected by the development and recommends a condition for easements.

Western Power makes no objection and provides advice to the applicant regarding safety in proximity to the electricity transmission lines running through the site.

Main Roads supports the proposal subject to conditions.

The Department of Environment Regulation makes no objection to the proposal.

Planning assessment:

Metropolitan Region Scheme

The proposed development is considered to be consistent with Clause 30 of the MRS.

Clause 30 of the MRS requires the WAPC to have regard to the following factors when determining a development application:

- the purpose for which the land is zoned or reserved under the Scheme;
- the orderly and proper planning of the locality; and
- the preservation of the amenities of the locality.

The purpose for which the land is zoned or reserved under the Scheme

The proposed development is consistent with the Urban zoning of the site in that it will provide parking for commuter and general transit use.

The orderly and proper planning of the locality

The proposal accords with the relevant planning framework established for the area under the City of Joondalup District Planning Scheme No. 2.

The preservation of the amenities of the locality

The development plans include architectural features and landscaping that will improve the amenity of the area.

Zoning and Land Use

The proposal is consistent with the Business zoning of the site under DPS 2, which allows for a 'Car Park' as a permitted use.

The City, through the Draft Joondalup City Centre Structure Plan, has identified land around the Edgewater Railway Station as an area suitable for future mixed use development that promotes transit use. Although the detailed planning to facilitate this has not been formalised at this stage, the proposal is considered to be broadly in line with the WAPC Development Control Policy 1.6 *Planning to Support Transit Use and Transit Oriented Development* (DC 1.6). The proposed car park is consistent with DC 1.6 on the basis that it would promote and facilitate the use of public transport.

The future redevelopment of the area as a mixed use, transit oriented destination is not prejudiced by the proposed development for the following reasons:

- The multi-level design minimises and rationalises the development footprint of parking areas;
- A strong pedestrian connection is maintained to George Grey Place;
- Land remains available to redevelop the 'at grade' car park for other uses including residential;
- Other large sites in the vicinity of the station are available for redevelopment with more intensive uses.

Tenure

Although most of the proposed development is located on Lot 2 George Grey Place, the proposal also involves works on George Grey Place itself, Drainage Reserve 45701 and encroachments into the Mitchell Freeway reserve.

A section of the access road is proposed on an area currently part of Lot 1 Joondalup Drive which is privately owned. The Department of Lands on 15 July 2015 issued a taking order in accordance with the *Land Administration Act 1997* for land within Lot 1 Joondalup Drive, in order to formalise public access to the car park. This allows transit patrons unencumbered access to and from the car park.

The City has supported the use of the Drainage Reserve 45701 to assist in the drainage of the site and works are proposed to the drainage basin to facilitate this.

Main Roads supports the use of the Mitchell Freeway reserve and notes that the existing car park currently encroaches into the reserve. In this regard, Main Roads recommends conditions to ensure that the Freeway is not affected by any drainage, level changes or construction traffic.

Traffic

Joondalup Drive and Ocean Reef Road intersection

The City has recommended a condition to ensure that the intersection of Joondalup Drive and Ocean Reef Road is upgraded prior to the development first being occupied. In this respect the State Government announced in July 2015 that it would contribute funding for the upgrading of the intersection to improve to signalisation, vehicle turning lanes and pedestrian crossings. The City of Joondalup has subsequently incorporated this project into its Capital Works Program for 2015/2016 and 2016/2017. The road upgrades are estimated to take two years to complete.

It is likely that this arrangement will be carried out prior to the use of the car park. However, in the event that arrangement does not proceed, intersection upgrades will need to be undertaken to accommodate the increase in vehicle movements generated by car park, which include:

- *Northern Approach:* Conversion of the existing give way controlled left turn pocket to dual lanes with signalised control;
- *Eastern Approach:* Extension of the existing dual right turn pockets from 100m to 400m;
- *Western Approach:* Conversion of the existing single left turn pocket to dual left turn pockets.

While the car park would increase the traffic burden on the intersection, this is only a portion of the overall traffic using that intersection, therefore the PTA has requested that they not be required to fund the full scope of works associated with the upgrades. Accordingly it is recommended that a condition be imposed to ensure that arrangements are made with the City for the intersection to be upgraded prior to the occupation of the development. This will allow for a proportional funding arrangement to be agreed in the unlikely event that the City's Capital Works Program is not implemented.

George Grey Place and Joondalup Drive

The development proposes to upgrade George Grey Place to convert the existing single right turn lane onto Joondalup Drive to dual right turn lanes. Further detailed engineering design is required prior to construction including design work for the

relocation of traffic signals. This detailed engineering would need to be in accordance with the layout depicted on the Site Plan (Drawing Number 02-A-55-C10007). The City has requested a condition to ensure that such works are carried out at the cost of the applicant and it is recommended that this condition be imposed.

Internal Access

The City has identified minor deficiencies on the northern and southern entry point. Minor modifications to the plan are required to minimise vehicle conflict through line markings and raised areas and a condition is recommended accordingly.

Servicing Infrastructure

The subject site contains significant infrastructure including water, sewer, electricity and drainage. Easements currently protecting these assets will remain and the development is designed to ensure appropriate separation and access to these assets. The exception to this is an underground electricity easement which currently exists where the multi storey structure is proposed. The applicant has made arrangements with Western Power to relocate this infrastructure and easement so as to not conflict with the structure.

Drainage

The City recommends a condition for the preparation of a management plan for the drainage sump. This is considered reasonable given the development proposes modifications to and will utilise the sump on an ongoing basis. The applicant objects to the ongoing maintenance of the sump and has confirmed that maintenance would be undertaken for a period of 12 months following practical completion as part of an agreed maintenance and defects period. It is recommended the condition specify this 12 month maintenance period.

Landscaping

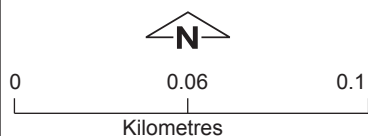
The City has requested a condition requiring landscaping of the northern car park. Landscaping of the northern car park does not form part of the development application and the development is not considered to generate a nexus for the landscaping of that area. Accordingly this condition is not recommended.

Conclusion:

The proposed development of a multi storey car park is consistent with the zoning of the land and the planning framework for the area. It will provide for additional patronage of the Joondalup line and will facilitate the upgrading of the local road network to accommodate this. The proposed development does not prejudice the future development of the area into a transit oriented development. Accordingly it is recommended that the proposed development be approved subject to conditions.



PlanViewWA Map

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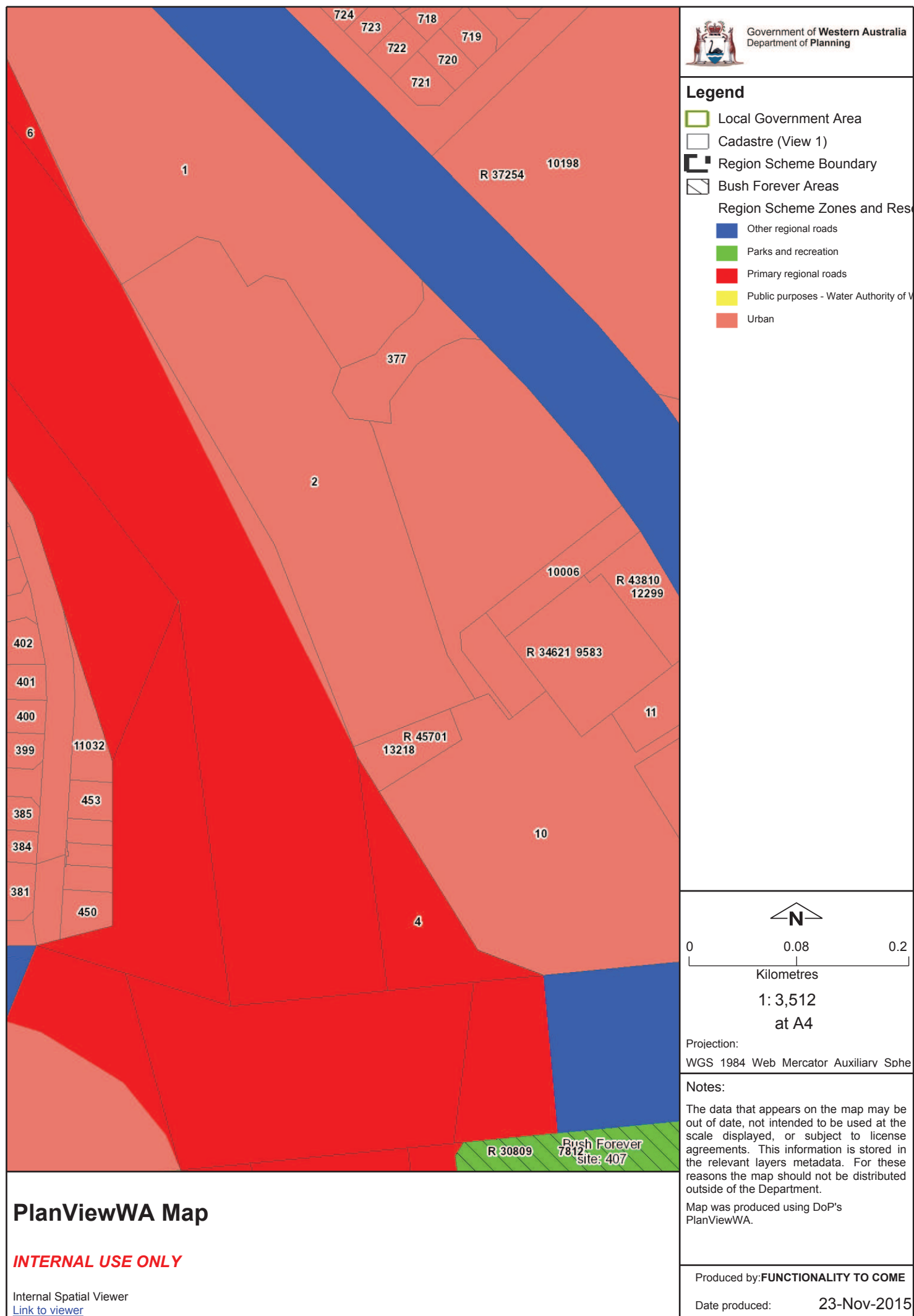
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Notes:

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Map produced using PlanViewWA.


 Government of Western Australia
 Department of Planning
Produced by: **FUNCTIONALITY TO COME**Date produced: **23-Nov-2015**

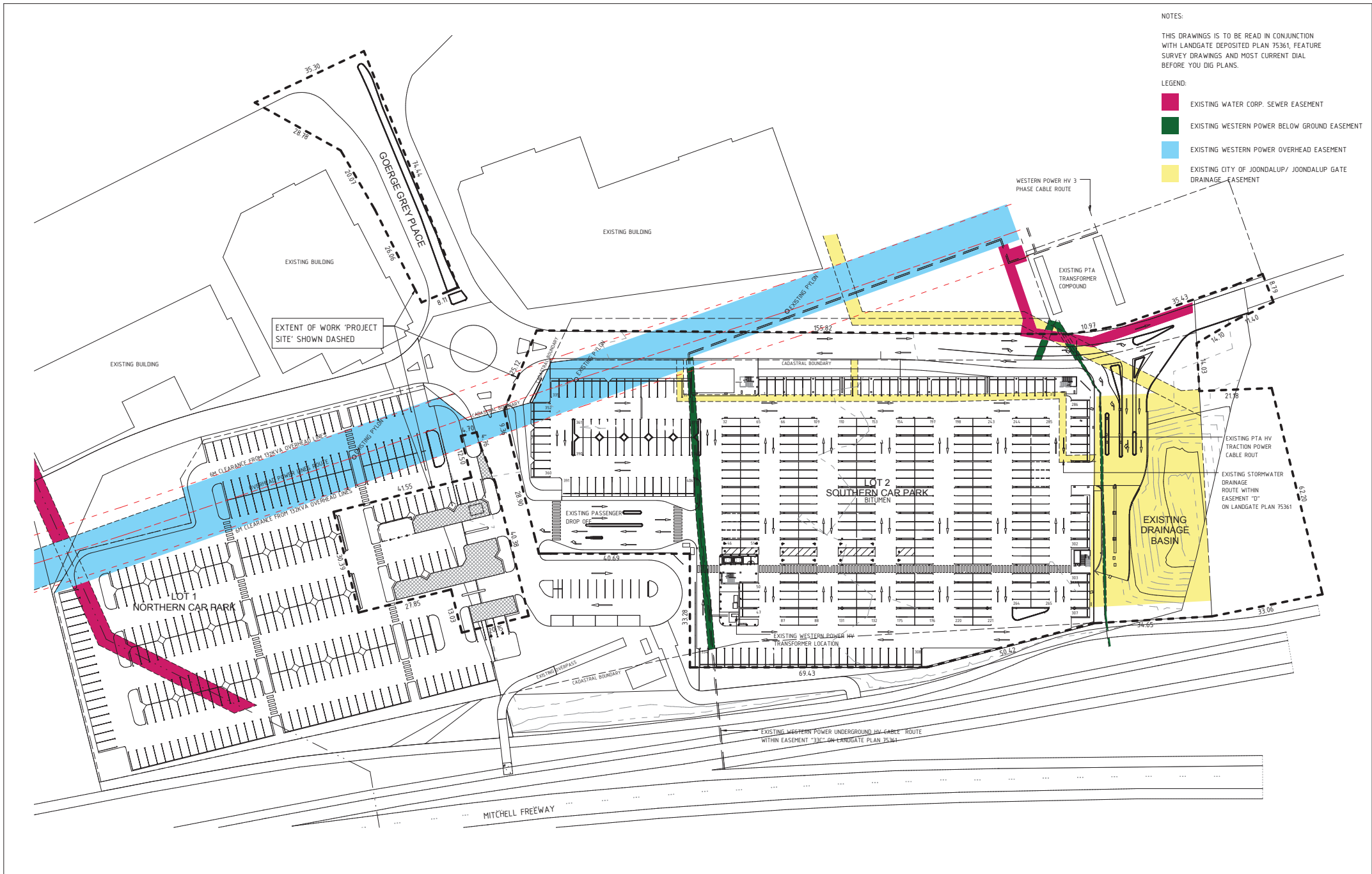


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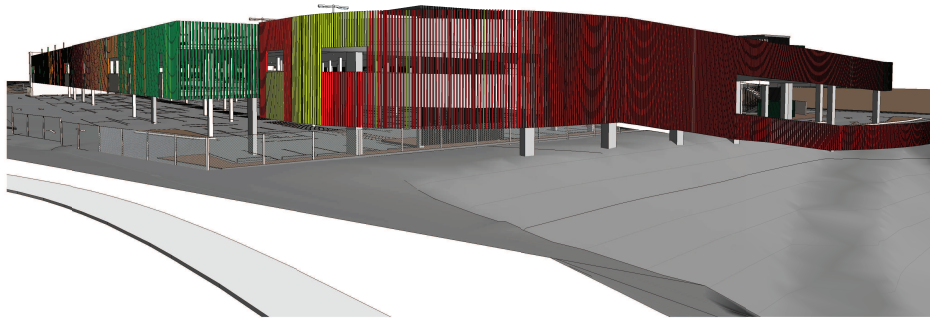
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LEGEND:

- EXISTING WATER CORP. SEWER EASEMENT
- EXISTING WESTERN POWER BELOW GROUND EASEMENT
- EXISTING WESTERN POWER OVERHEAD EASEMENT
- EXISTING CITY OF JOONDALUP/ JOONDALUP GATE DRAINAGE EASEMENT



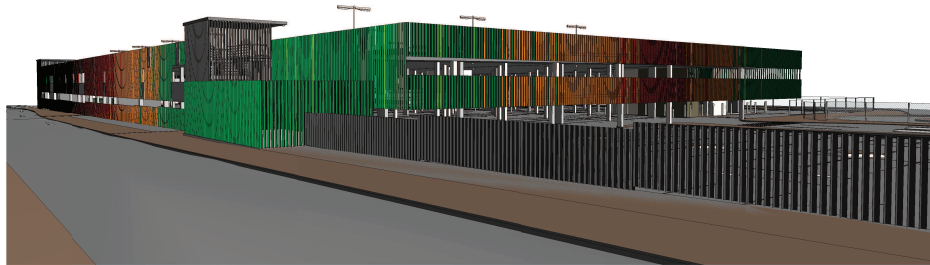
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1 south west





2 south east

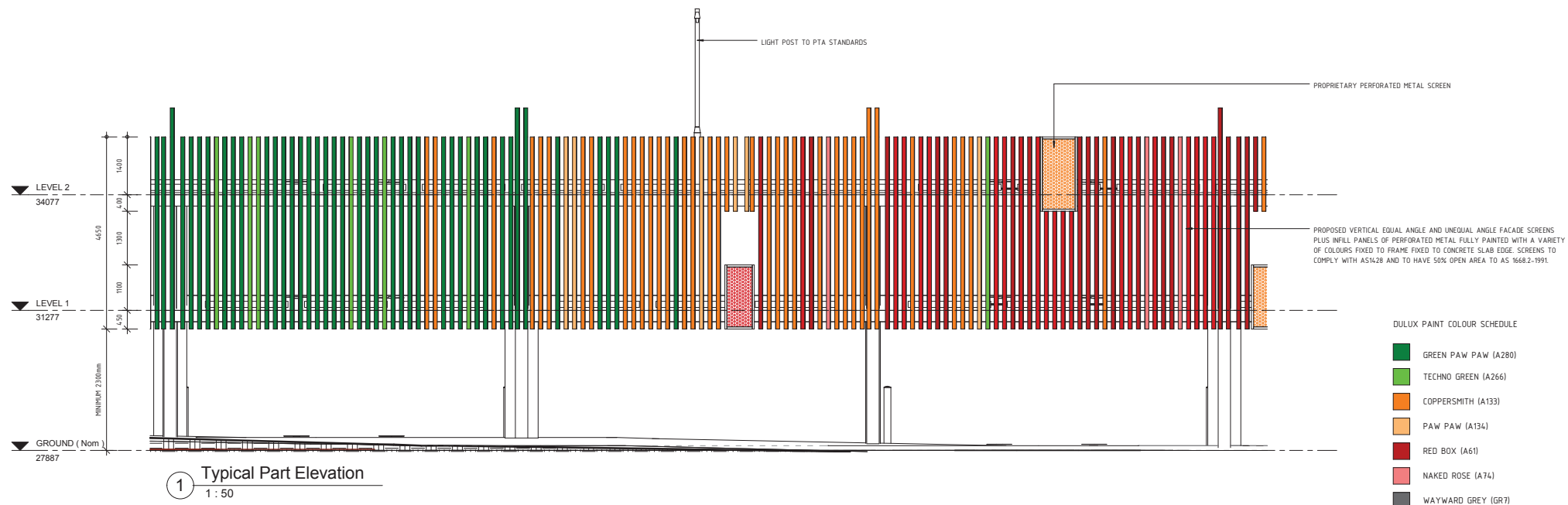


3 north east

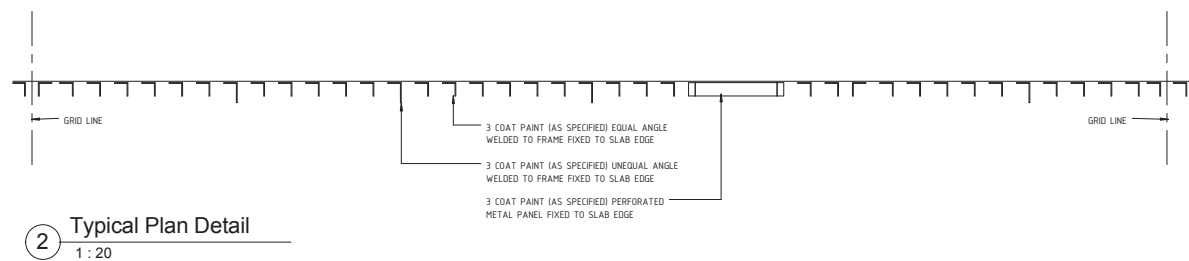


4 north west

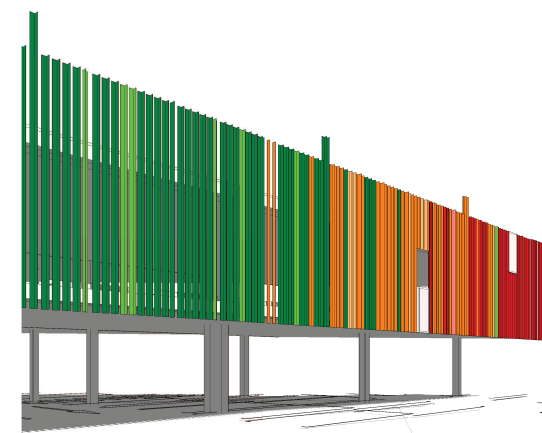
								NORTH		ACCEPTED BY PTA		SCALE : (@A1)		MAJOR PROJECTS UNIT			 EDGEWATER MULTI-STOREY CAR PARK			
E	05.10.15	ISSUED FOR DEVELOPMENT APPLICATION		SP	PVN	NG	68 Hasler Road, Osborne Park, WA, 6017 Tel: (08) 9200 2500 www.georgiou.com.au peter hunt architect 8 Colin Grove, West Perth, WA, 6005 Tel: (08) 9322 6033 www.peterhunt.com.au		GENERAL MANAGER Network & Infrastructure Date		GENERAL MANAGER Transperth Train Operations Date		DATUM: HORIZONTAL: N/A VERTICAL: N/A DRAWING STATUS		DESIGNED RE		APPROVED FOR ISSUE		PERSPECTIVE VIEWS 	



1 Typical Part Elevation
1 : 50

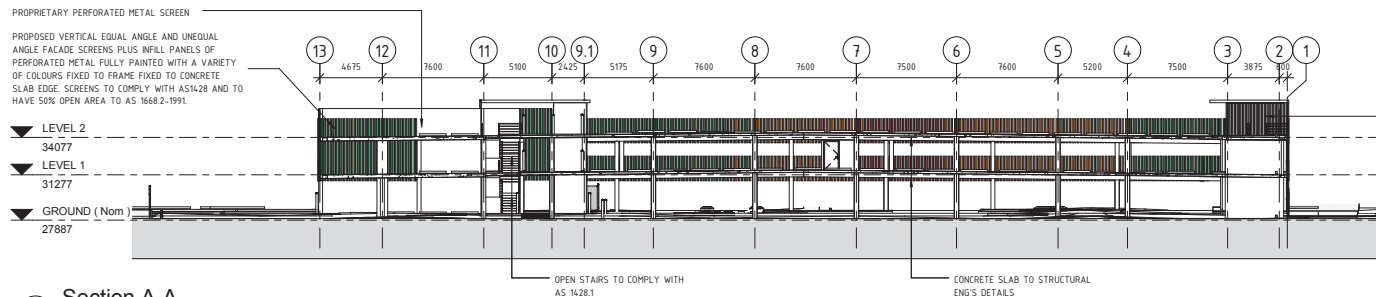


2 Typical Plan Detail
1 : 20



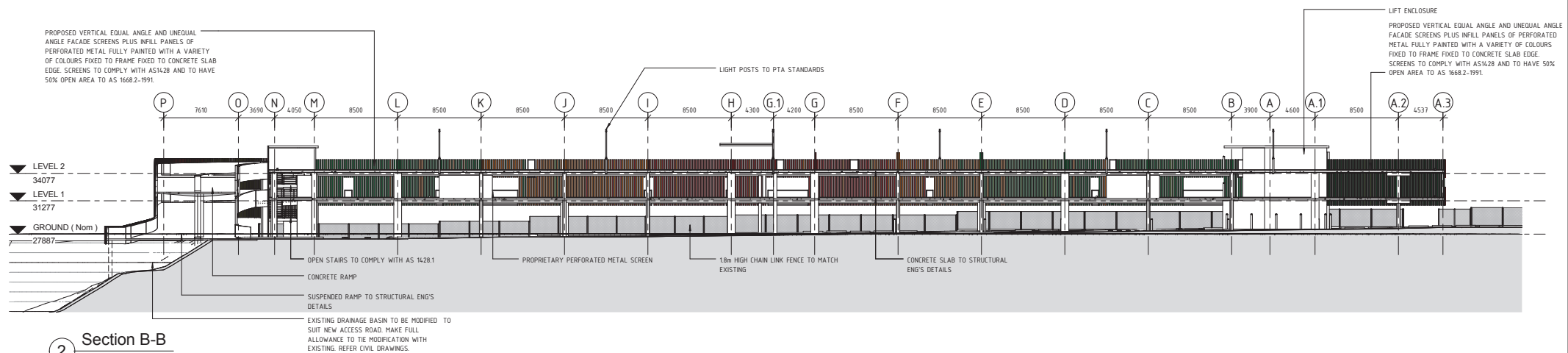
3 Perspective 1

[illegible]



PROPOSED VERTICAL EQUAL ANGLE AND UNEQUAL ANGLE FACADE SCREENS PLUS INFILL PANELS OF PERFORATED METAL FULLY PAINTED WITH A VARIETY OF COLOURS FIXED TO FRAME FIXED TO CONCRETE SLAB EDGE. SCREENS TO COMPLY WITH AS1428 AND TO HAVE 50% OPEN AREA TO AS 1668.2-1991.

1 Section A-A
1 : 200



2 Section B-B
1 : 200

REV	DATE	AMENDMENT	DRN	CHKD	APP
F	05.10.15	ISSUED FOR DEVELOPMENT APPLICATION	SP	PVN	NG
E	25.09.15	50% DESIGN ISSUE	SP	PVN	NG
D	02.09.15	ISSUED FOR DEVELOPMENT APPLICATION	SP	PVN	NG
C	31.08.15	ISSUED FOR DEVELOPMENT APPLICATION	SP	PVN	NG
B	20.08.15	ISSUED FOR DEVELOPMENT APPLICATION	SP	PVN	NG
A	06.08.15	15% SCHEMATIC DESIGN REVIEW	SP	PVN	NG
REV	DATE	AMENDMENT	DRN	CHKD	APP
A1		CAD DRAWING PATHNAME Z:\Revit Local Files\1554_Edgewater Car Park\1554_EDGEWATER CARPARK_stuart.prvt			

Georgiou
peter hunt architect
8 Colin Grove, West Perth, WA, 6005 Tel: (08) 9322 6033
www.peterhunt.com.au

ACCEPTED BY PTA	
GENERAL MANAGER Network & Infrastructure Date	GENERAL MANAGER Transperth Train Operations Date

SCALE : 1 : 200 (@A1)	MAJOR PROJECTS UNIT
DATUM : HORIZONTAL: N/A VERTICAL: N/A DRAWING STATUS PRELIMINARY	DESIGNED RE DRAWN SP CHECKED PVN Date
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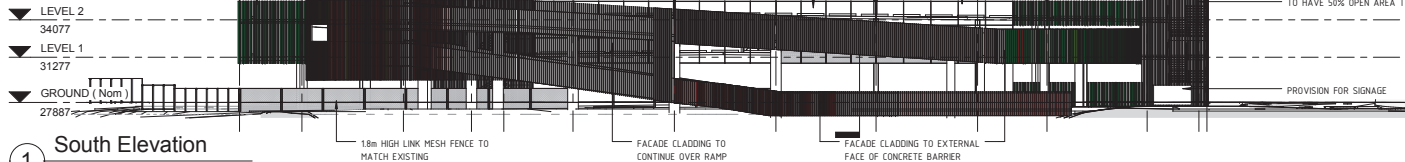
Government of Western Australia
Public Transport Authority
EDGEWATER MULTI-STOREY CAR PARK

SECTIONS

PTA Drawing No: 02-A-55-AR0045

REV : F

PROPOSED VERTICAL EQUAL ANGLE AND UNEQUAL ANGLE FACADE SCREENS PLUS INFILL PANELS OF PERFORATED METAL FULLY PAINTED WITH A VARIETY OF COLOURS FIXED TO FRAME FIXED TO CONCRETE SLAB EDGE. SCREENS TO COMPLY WITH AS1428 AND TO HAVE 50% OPEN AREA TO AS 1668.2-1991.

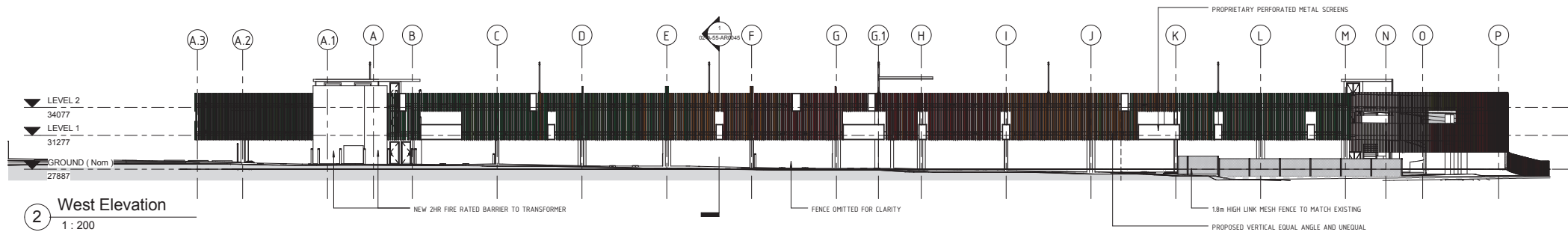


1 South Elevation
1 : 200

PROPOSED VERTICAL EQUAL ANGLE AND UNEQUAL ANGLE FACADE SCREENS PLUS INFILL PANELS OF PERFORATED METAL FULLY PAINTED WITH A VARIETY OF COLOURS FIXED TO FRAME FIXED TO CONCRETE SLAB EDGE. SCREENS TO COMPLY WITH AS1428 AND TO HAVE 50% OPEN AREA TO AS 1668.2-1991.

DULUX PAINT COLOUR SCHEDULE

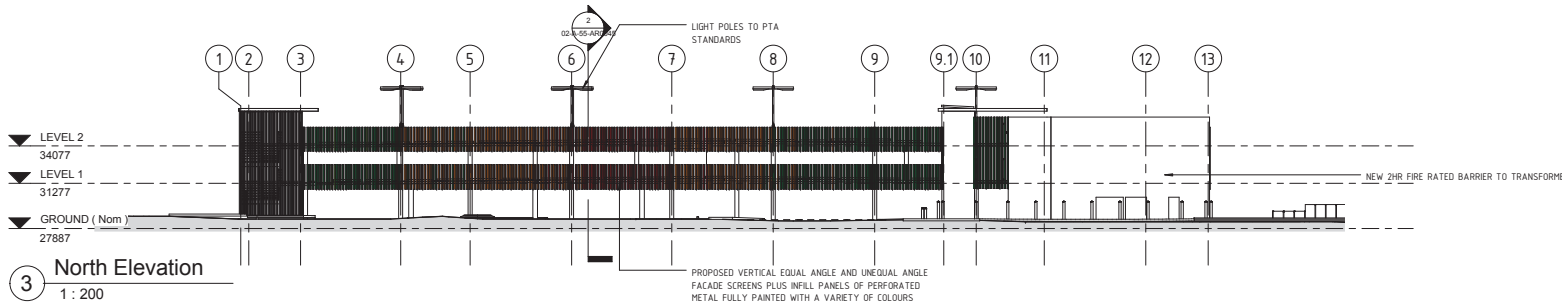
- GREEN PAW PAW (A280)
- TECHNO GREEN (A266)
- COPPERSMITH (A133)
- PAW PAW (A134)
- RED BOX (A61)
- NAKED ROSE (A74)
- WAYWARD GREY (GR7)



2 West Elevation
1 : 200

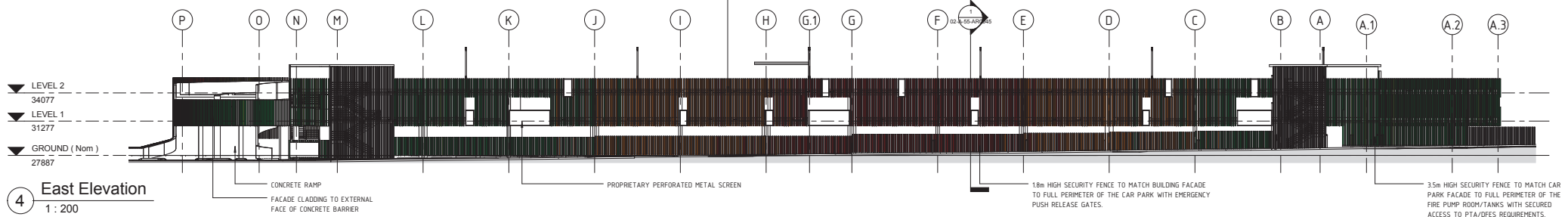
PROPRIETARY PERFORATED METAL SCREENS

PROPOSED VERTICAL EQUAL ANGLE AND UNEQUAL ANGLE FACADE SCREENS PLUS INFILL PANELS OF PERFORATED METAL FULLY PAINTED WITH A VARIETY OF COLOURS FIXED TO FRAME FIXED TO CONCRETE SLAB EDGE. SCREENS TO COMPLY WITH AS1428 AND TO HAVE 50% OPEN AREA TO AS 1668.2-1991.



3 North Elevation
1 : 200

PROPOSED VERTICAL EQUAL ANGLE AND UNEQUAL ANGLE FACADE SCREENS PLUS INFILL PANELS OF PERFORATED METAL FULLY PAINTED WITH A VARIETY OF COLOURS FIXED TO FRAME FIXED TO CONCRETE SLAB EDGE. SCREENS TO COMPLY WITH AS1428 AND TO HAVE 50% OPEN AREA TO AS 1668.2-1991.



4 East Elevation
1 : 200

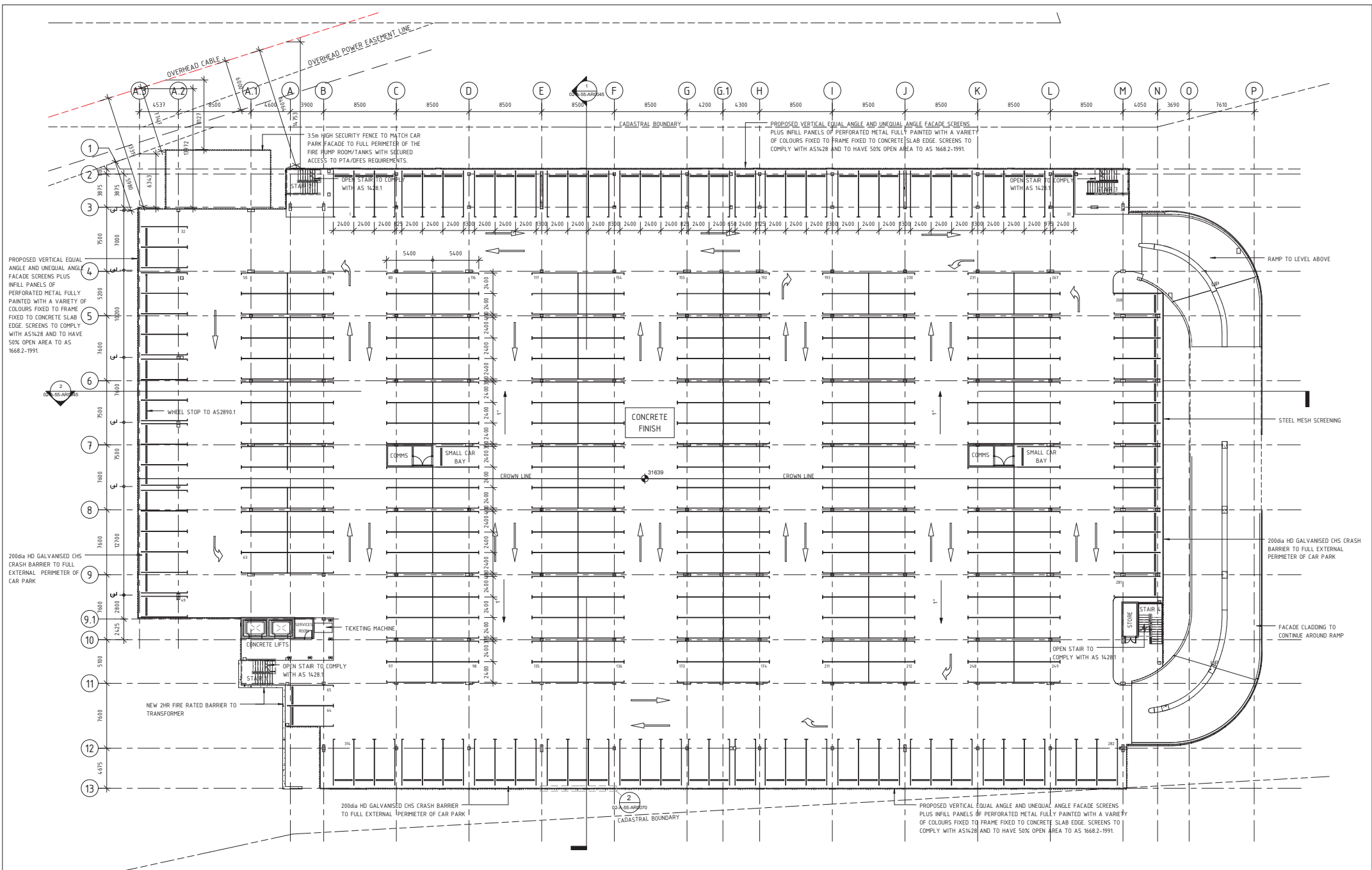
REV	DATE	AMENDMENT	DRN	CHKD	APP
F	05.10.15	ISSUED FOR DEVELOPMENT APPLICATION	SP	PVN	NG
E	25.09.15	50% DESIGN ISSUE	SP	PVN	NG
D	02.09.15	ISSUED FOR DEVELOPMENT APPLICATION	SP	PVN	NG
C	31.08.15	ISSUED FOR DEVELOPMENT APPLICATION	SP	PVN	NG
B	20.08.15	ISSUED FOR DEVELOPMENT APPLICATION	SP	PVN	NG
A	06.08.15	15% SCHEMATIC DESIGN REVIEW	SP	PVN	NG
ORIGINAL SIZE		CAD DRAWING PATHNAME			
A1		Z:\Revit Local Files\154_Edgewater Car Park\154_Edgewater CARPARK_stuarprvt			

Georgiou
peter hunt architect
68 Hasler Road, Osborne Park, WA, 6017 Tel: (08) 9200 2500
www.georgiou.com.au
8 Colin Grove, West Perth, WA, 6005 Tel: (08) 9322 6033
www.peterhunt.com.au

NORTH	ACCEPTED BY PTA
GENERAL MANAGER Network & Infrastructure Date	GENERAL MANAGER Transperth Train Operations Date

SCALE : As (@A1) HORIZONTAL: N/A VERTICAL: N/A DRAWING STATUS PRELIMINARY	MAJOR PROJECTS UNIT DESIGNED RE DRAWN SP CHECKED PVN Date
0 10 20 30 40 50 100mm	This document must not be copied without PTA's written permission, and the contents thereof must not be reported to a third party nor be used for any unauthorised purpose.

Government of Western Australia Public Transport Authority	EDGEWATER MULTI-STOREY CAR PARK
ELEVATIONS	PTA Drawing No: 02-A-55-AR0040
REV : F	



REV	DATE	AMENDMENT	DRN	CHKD	APP
E	05.10.15	ISSUED FOR DEVELOPMENT APPLICATION	SP	PVN	NG
D	25.09.15	50% DESIGN ISSUE	SP	PVN	NG
C	31.08.15	ISSUED FOR DEVELOPMENT APPLICATION	SP	PVN	NG
B	20.08.15	ISSUED FOR DEVELOPMENT APPLICATION	SP	PVN	NG
A	06.08.15	15% SCHEMATIC DESIGN REVIEW	SP	PVN	NG
ORIGINAL SIZE		CAD DRAWING PATHNAME			
A1		Z:\Revit Local Files\154_Edgewater Car Park\154_Edgewater CARPARK_stuarprvt			

Georgiou
peter hunt architect

68 Hasler Road, Osborne Park, WA, 6017 Tel: (08) 9200 2500
www.georgiou.com.au

8 Colin Grove, West Perth, WA, 6005 Tel: (08) 9322 6033
www.peterhunt.com.au

ACCEPTED BY PTA	
GENERAL MANAGER Network & Infrastructure Date	GENERAL MANAGER Transperth Train Operations Date

SCALE : 1 : 200 (@A1)	MAJOR PROJECTS UNIT	
DATUM : HORIZONTAL: N/A VERTICAL: N/A DRAWING STATUS PRELIMINARY	DESIGNED RE	APPROVED FOR ISSUE
	DRAWN SP	Date
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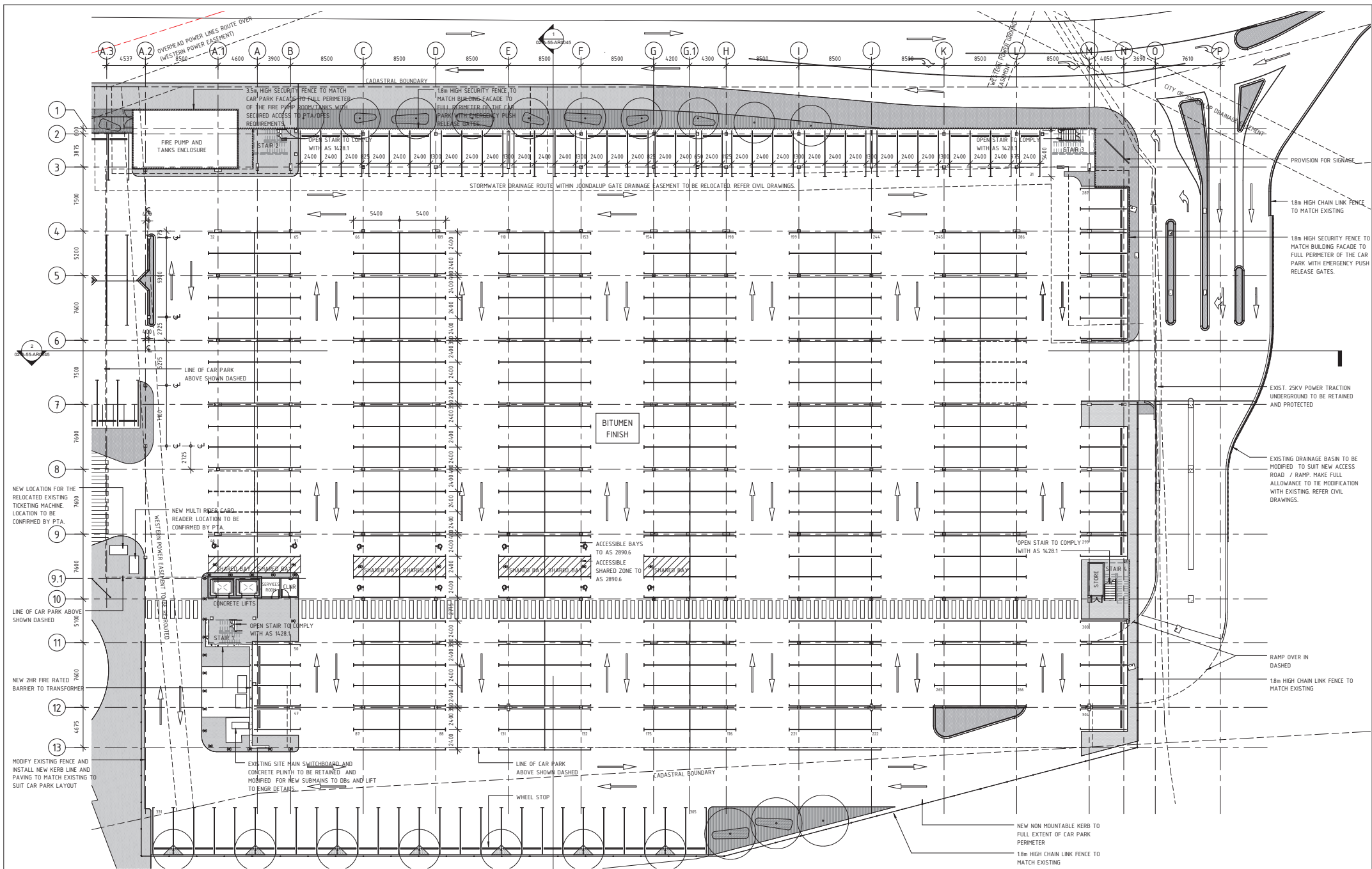
Government of Western Australia
Public Transport Authority

EDGEWATER MULTI-STOREY CAR PARK

LEVEL 1 FLOOR PLAN

PTA Drawing No: 02-A-55-AR0030

REV : E



F	05.10.15	ISSUED FOR DEVELOPMENT APPLICATION	SP	PVN	NG
E	25.09.15	50% DESIGN ISSUE	SP	PVN	NG
D	02.09.15	ISSUED FOR DEVELOPMENT APPLICATION	SP	PVN	NG
C	31.08.15	ISSUED FOR DEVELOPMENT APPLICATION	SP	PVN	NG
B	20.08.15	ISSUED FOR DEVELOPMENT APPLICATION	SP	PVN	NG
A	06.08.15	15% SCHEMATIC DESIGN REVIEW	SP	PVN	NG
REV	DATE	AMENDMENT	DRN	CHKD	APP
ORIGINAL SIZE	CAD DRAWING PATHNAME				
A1	Z:\Revit Local Files\154_Edgewater Car Park\1545 EDGEGWATER CARPARK_stuartprvt				

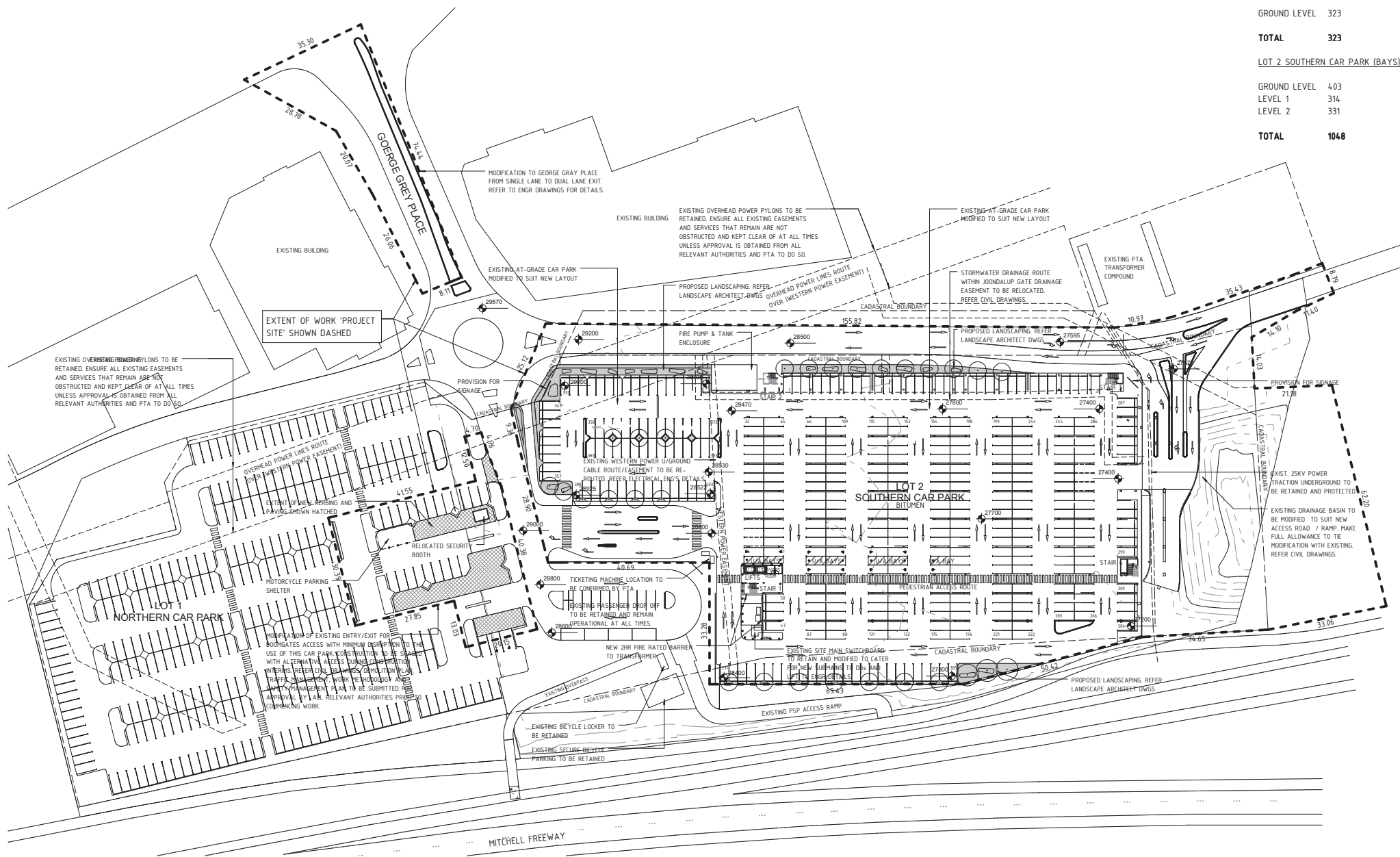
Georgiou
peter hunt architect
8 Colin Grove, West Perth, WA, 6005 Tel: (08) 9322 6033
www.peterhunt.com.au

ACCEPTED BY PTA	
GENERAL MANAGER Network & Infrastructure Date	GENERAL MANAGER Transperth Train Operations Date

SCALE : 1 : 200 (@A1)	MAJOR PROJECTS UNIT	
DATUM : HORIZONTAL : N/A VERTICAL : N/A DRAWING STATUS PRELIMINARY	DESIGNED RE	APPROVED FOR ISSUE
	DRAWN SP	
	CHECKED PVN	Date
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Government of Western Australia Public Transport Authority	EDGEWATER MULTI-STOREY CAR PARK
GROUND FLOOR PLAN	
PTA Drawing No: 02-A-55-AR0029	REV : F

TOTAL	1048
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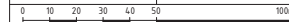
F	05/10/15	ISSUED FOR DEVELOPMENT APPLICATION		SP	PVN	NG
E	22/01/15	50% DESIGN ISSUE		SP	PVN	NG
D	02/09/15	ISSUED FOR DEVELOPMENT APPLICATION		SP	PVN	NG
C	31/08/15	ISSUED FOR DEVELOPMENT APPLICATION		SP	PVN	NG
B	21/08/15	ISSUED FOR DEVELOPMENT APPLICATION		SP	PVN	NG
A	05/08/15	15% SCHEMATIC DESIGN REVIEW		SP	PVN	NG
REV	DATE	AMENDMENT		DRN	CHKD	APP
ORIGINAL SIZE	CAD DRAWING PATHNAME					
A1	Z:\Revit Local Files\1454_Edgewater Car Park\1454_EDGewater CARPARK_schartprt					



GENERAL MANAGER
Network & Infrastructure
Date

GENERAL MANAGER
Transperth Train Operations
ate

PRELIMINARY



100

Date _____

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PTA Drawing No: 02-A-55-AR0028

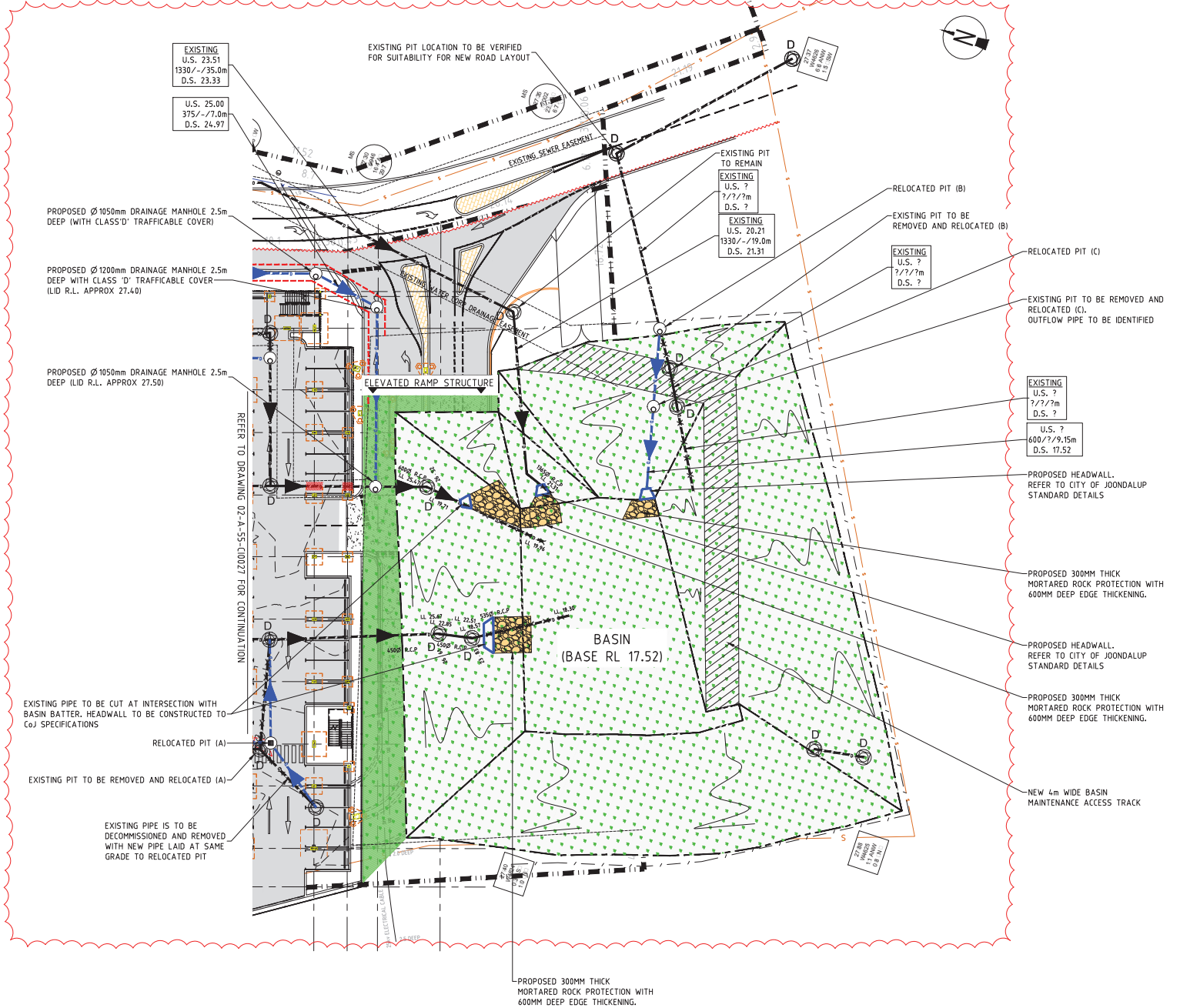
REV : F

NOTES:

- ALL EXISTING DRAINAGE SHALL BE SURVEYED TO IDENTIFY ANY DEFECTS WITHIN THE SYSTEM, AND THEREFORE CONFIRM WHETHER OR NOT THE EXISTING SYSTEM IS SUITABLE FOR RE-USE. ONCE COMPLETED, EXISTING CAR PARK DRAINAGE INVERTS, PIPE TYPE AND PIT DIAMETER WILL BE CONFIRMED.
- EXISTING CAR PARK LEVELS ARE TO BE RETAINED WHERE POSSIBLE. EXISTING PAVEMENT TO BE REMOVED, AND RESURFACED TO NEW PAVEMENT DESIGN.
- CALCULATIONS SHOW THAT THE ORIGINAL VOLUME OF THE BASIN IS 15912m³ WITH THE VOLUME OF THE BASIN INCREASING TO 16901m³ BY RE-GRADING THE BASIN TO THE LAYOUT SHOWN ON THIS DRAWING. ALL BASIN BATTERS ARE DESIGNED AT A GRADE OF 1 : 1.5.
- PIT IS TO BE REMOVED WITH A PIECE-UP PIPE TO ALLOW CONTINUOUS FLOW. THE PIPE DIAMETER IS TO MATCH EXISTING AND SEALED AS PER AS 3500. BACKFILLING MATERIAL IS TO BE IN ACCORDANCE WITH EARTHWORKS SPECIFICATIONS.
- PIPES SET ADJACENT TO PROPOSED STRUCTURAL FOUNDATIONS ARE TO BE ENCASED IN CONCRETE. REFER TO STRUCTURAL SPECIFICATIONS.
- AREAS LABELLED * ARE TO BE CONFIRMED AS BEING ADJACENT TO STRUCTURAL FOUNDATIONS. IF DEEMED ADJACENT, REFER TO NOTE 6.
- UPPER LEVEL SYPHONIC DRAINAGE IS TO CONNECT DIRECTLY INTO EASTERN-MOST PROPOSED DRAINAGE RUNS. AT THIS STAGE (50%) NO HYDRAULIC CLARIFICATION IS AVAILABLE AND WILL BE CONFIRMED IN THE NEXT STAGE.

LEGEND:

EXISTING OVERHEAD ELECTRIC	OH
EXISTING UNDERGROUND ELECTRICITY	UG
EXISTING SEWER	S
EXISTING WATER MAIN	W
EXISTING STORMWATER PIPE	ST
EXISTING STORMWATER PIT	SP
EXISTING CONTOUR	—
EXISTING CAR PARK CONTOUR (MINOR)	—
EXISTING CAR PARK CONTOUR (MAJOR)	—
EXISTING DRAINAGE EASEMENT	—
CADASTRAL BOUNDARY	—
PROPOSED ASPHALT PAVEMENT	—
PROPOSED CONCRETE SLAB	—
PROPOSED BRICK PAVING	—
PROPOSED LANDSCAPING	—
PROPOSED FOOTING	—
SAW CUT LINE	—
PROPOSED DRAINAGE EASEMENT	—
PROPOSED DRAINAGE PIPE (MIN 1:200 GRADE)	—
PROPOSED DRAINAGE PIT	—
EXISTING PIPE TO BE DECOMMISSIONED	—
UPSTREAM INVERT LEVEL	U.S. 17.64 600/100/11.7m D.S. 17.52
DIAMETER/GRADE/LENGTH	
DOWNSTREAM INVERT LEVEL	



REV	DATE	AMENDMENT	DRN	CHKD	APP
E	06/10/15	PRECINCT DRIVE ACCESS AMENDED			
D	25/09/15	ISSUED FOR 50%	MAB	IB	IB
C	15/09/15	RE-ISSUED FOR 15%	MAB	IB	IB
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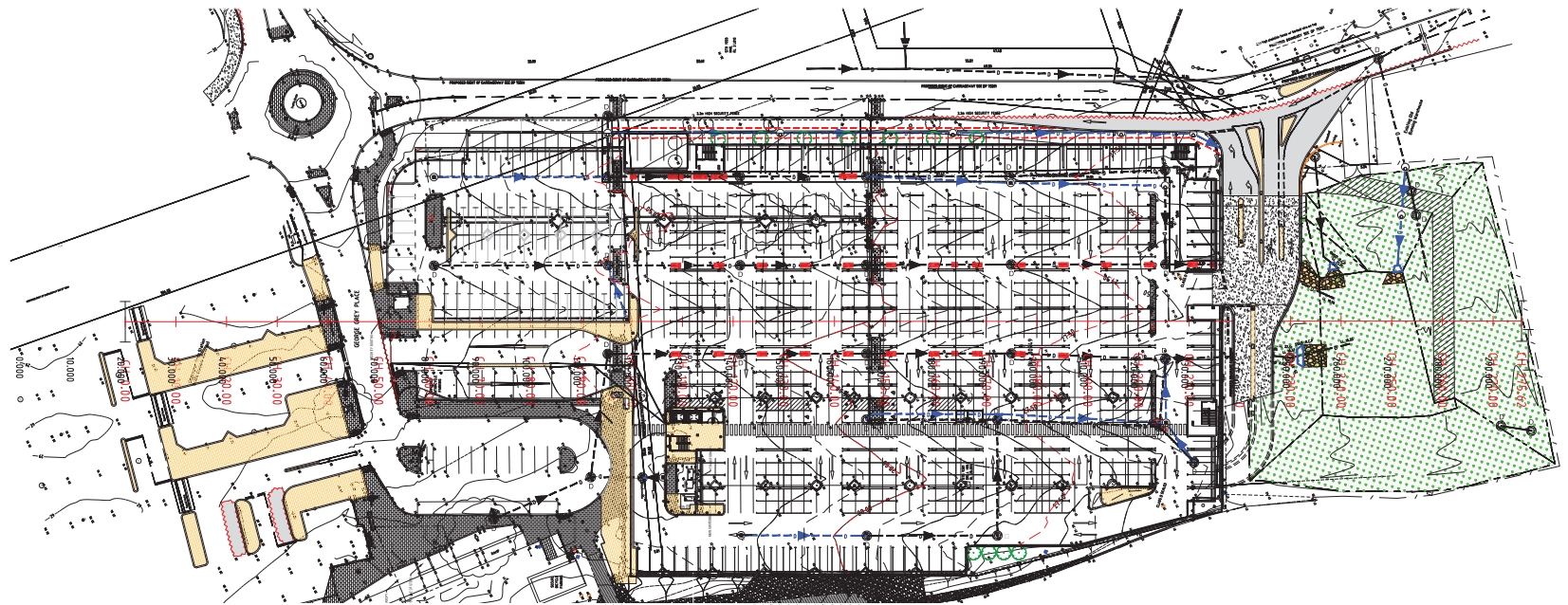
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POSITION TITLE	POSITION TITLE
Eng. ELECTRICAL ENGINEERING MANAGER	PTA DIVISION
Date	Date
POSITION TITLE	POSITION TITLE
PTA DIVISION	PTA DIVISION
Date	Date

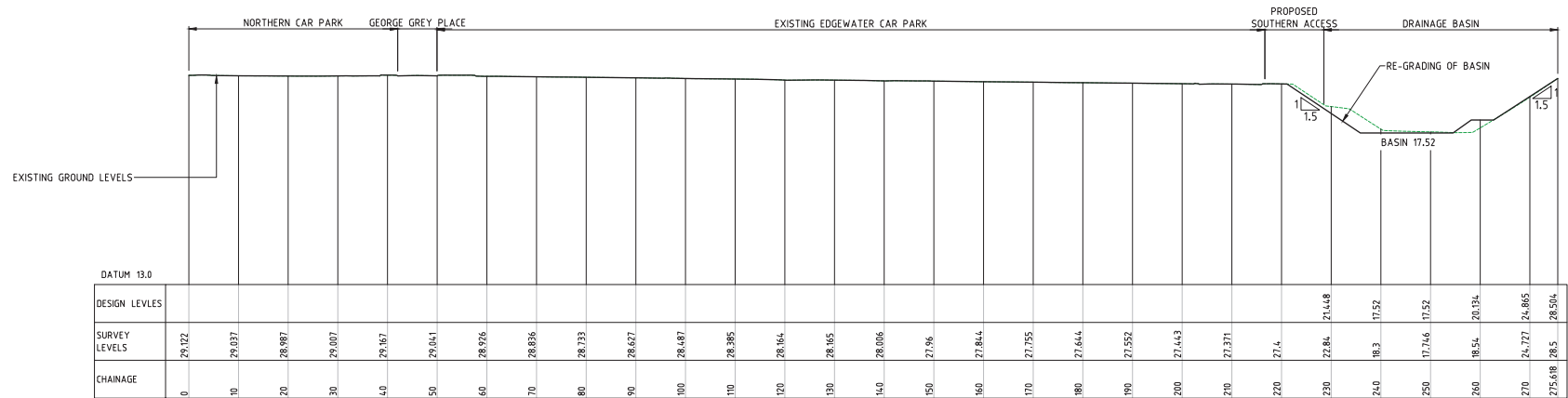
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INFRASTRUCTURE PLANNING & LAND SERVICES	
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Government of Western Australia Public Transport Authority	EDGEWATER MULTISTOREY CARPARK DRAINAGE SHEET 1 OF 3 PTA Drawing No: 02-A-55-C10026 REV : E
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SITE PLAN
SCALE 1:500



LONGITUDINAL SECTION
SCALE H = 1:500
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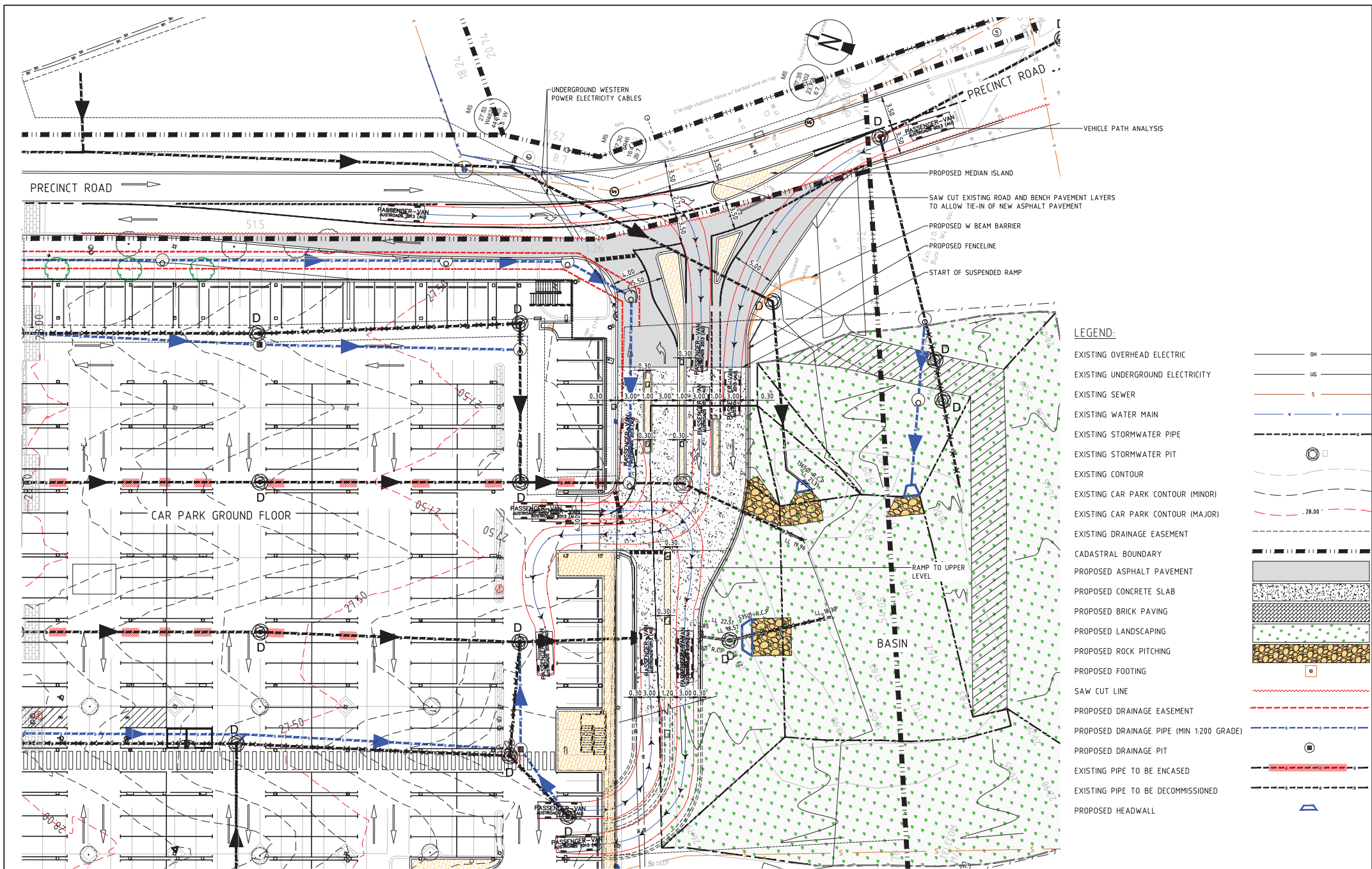
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EDGEWATER MULTISTOREY CARPARK	
TYPICAL SECTIONS	
SHEET 2 OF 6	
PTA Drawing No: 02-A-55-CI0019	
REV : E	



LEGEND:

EXISTING OVERHEAD ELECTRIC	OH
EXISTING UNDERGROUND ELECTRICITY	UG
EXISTING SEWER	S
EXISTING WATER MAIN	W
EXISTING STORMWATER PIPE	SWP
EXISTING STORMWATER PIT	SWPIT
EXISTING CONTOUR	CONTOUR
EXISTING CAR PARK CONTOUR (MINOR)	CONTOUR
EXISTING CAR PARK CONTOUR (MAJOR)	CONTOUR
EXISTING DRAINAGE EASEMENT	DRAINAGE EASEMENT
CADASTRAL BOUNDARY	CADASTRAL BOUNDARY
PROPOSED ASPHALT PAVEMENT	ASPHALT PAVEMENT
PROPOSED CONCRETE SLAB	CONCRETE SLAB
PROPOSED BRICK PAVING	BRICK PAVING
PROPOSED LANDSCAPING	LANDSCAPING
PROPOSED ROCK PITCHING	ROCK PITCHING
PROPOSED FOOTING	FOOTING
SAW CUT LINE	SAW CUT LINE
PROPOSED DRAINAGE EASEMENT	DRAINAGE EASEMENT
PROPOSED DRAINAGE PIPE (MIN 1:200 GRADE)	DRAINAGE PIPE
PROPOSED DRAINAGE PIT	DRAINAGE PIT
EXISTING PIPE TO BE ENCASED	PIPE TO BE ENCASED
EXISTING PIPE TO BE DECOMMISSIONED	PIPE TO BE DECOMMISSIONED
PROPOSED HEADWALL	HEADWALL

REV	DATE	AMENDMENT	DRN	CHKD	APP
E	06/10/15	PRECINCT DRIVE ACCESS AMENDED	MAB	IB	IB
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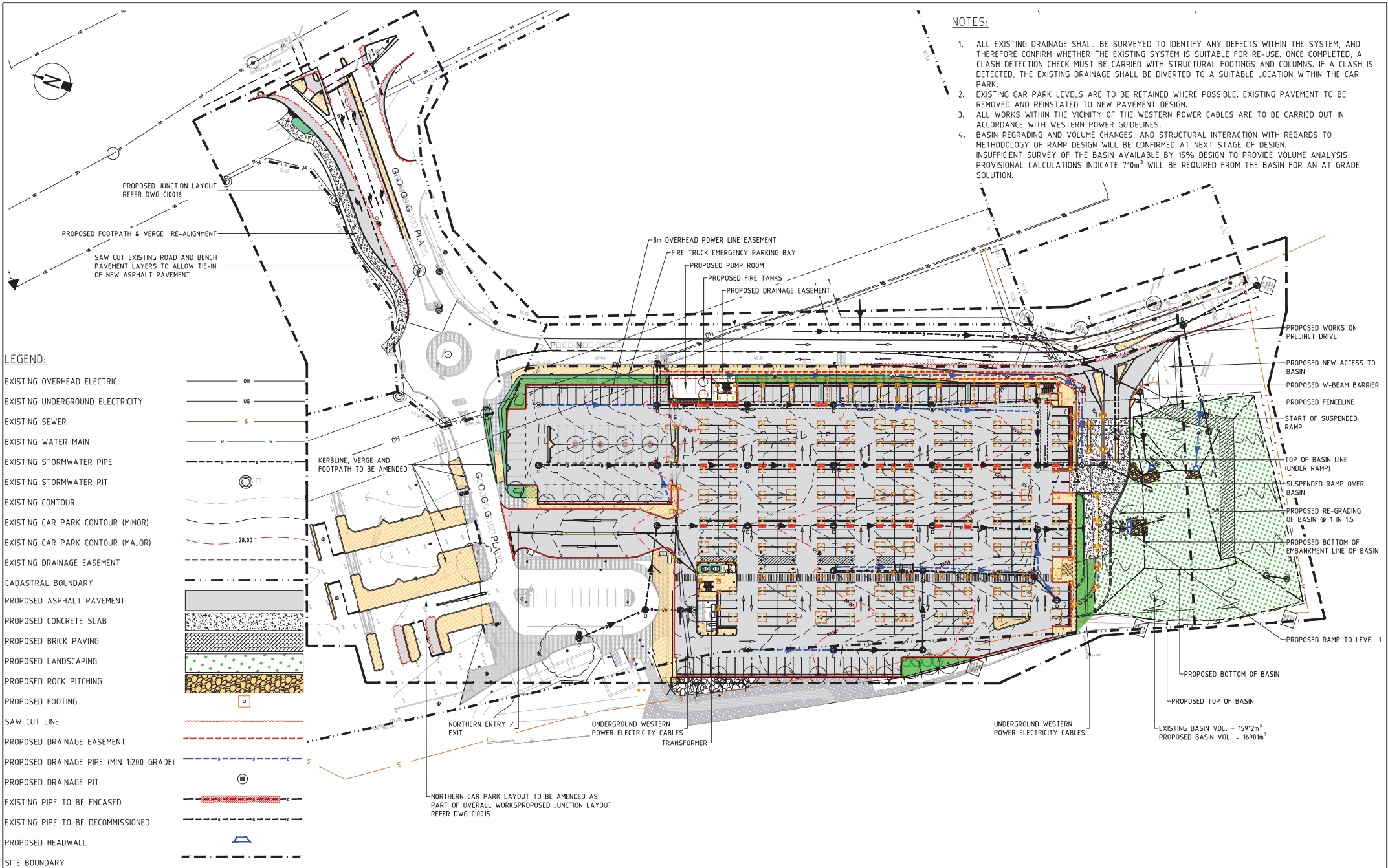


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POSITION TITLE PTA DIVISION Date	POSITION TITLE PTA DIVISION Date

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NOTES:

1. ALL EXISTING DRAINAGE SHALL BE SURVEYED TO IDENTIFY ANY DEFECTS WITHIN THE SYSTEM, AND THEREFORE CONFIRM WHETHER THE EXISTING SYSTEM IS SUITABLE FOR RE-USE. ONCE COMPLETED, A CLASH DETECTION CHECK MUST BE CARRIED WITH STRUCTURAL FOOTINGS AND COLUMNS. IF A CLASH IS DETECTED, THE EXISTING DRAINAGE SHALL BE DIVERTED TO A SUITABLE LOCATION WITHIN THE CAR PARK.
2. EXISTING CAR PARK LEVELS ARE TO BE RETAINED WHERE POSSIBLE. EXISTING PAVEMENT TO BE REMOVED AND REINSTATED TO NEW PAVEMENT DESIGN.
3. ALL WORKS WITHIN THE VICINITY OF THE WESTERN POWER CABLES ARE TO BE CARRIED OUT IN ACCORDANCE WITH WESTERN POWER GUIDELINES.
4. BASIN REGRADING AND VOLUME CHANGES, AND STRUCTURAL INTERACTION WITH REGARDS TO METHODOLOGY OF RAMP DESIGN WILL BE CONFIRMED AT NEXT STAGE OF DESIGN. INSUFFICIENT SURVEY OF THE BASIN AVAILABLE BY 15% DESIGN TO PROVIDE VOLUME ANALYSIS, PROVISIONAL CALCULATIONS INDICATE 710m³ WILL BE REQUIRED FROM THE BASIN FOR AN AT-GRADE SOLUTION.

LEGEND:

- EXISTING OVERHEAD ELECTRIC
EXISTING UNDERGROUND ELECTRICITY
EXISTING SEWER
EXISTING WATER MAIN
EXISTING STORMWATER PIPE
EXISTING STORMWATER PIT
EXISTING CONTOUR
EXISTING CAR PARK CONTOUR (MINOR)
EXISTING CAR PARK CONTOUR (MAJOR)
EXISTING DRAINAGE EASEMENT
CADASTRAL BOUNDARY
PROPOSED ASPHALT PAVEMENT
PROPOSED CONCRETE SLAB
PROPOSED BRICK PAVING
PROPOSED LANDSCAPING
PROPOSED ROCK PITCHING
PROPOSED FOOTING
SAW CUT LINE
PROPOSED DRAINAGE EASEMENT
PROPOSED DRAINAGE PIPE (MIN 1:200 GRADE)
PROPOSED DRAINAGE PIT
EXISTING PIPE TO BE ENCASED
EXISTING PIPE TO BE DECOMMISSIONED
PROPOSED HEADWALL
SITE BOUNDARY

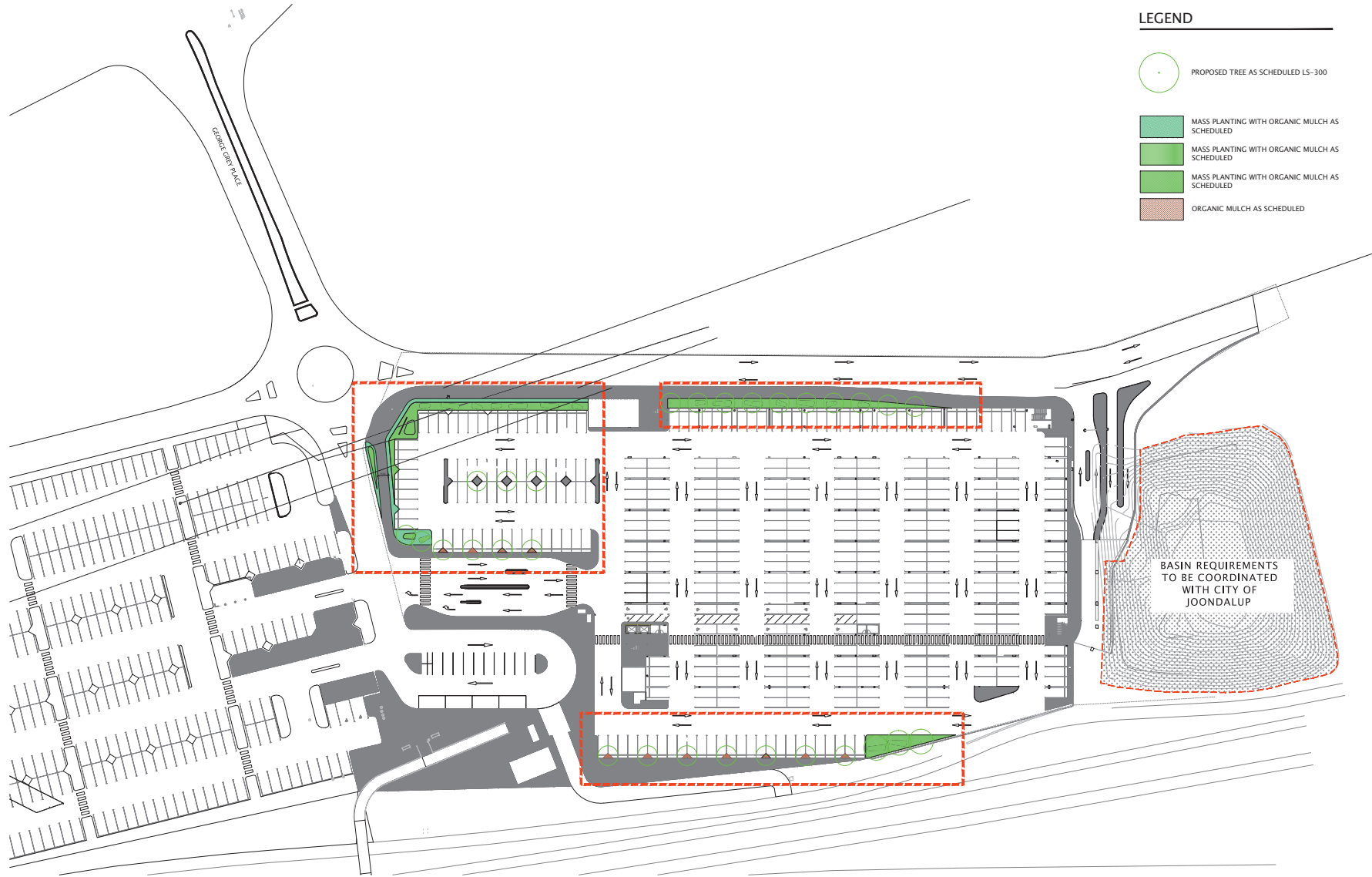
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Date	Date
POSITION TITLE	POSITION TITLE
PTA DIVISION	PTA DIVISION
Date	Date

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Public Transport Authority
EDGEWATER MULTISTOREY CARPARK
SITE PLAN
PTA Drawing No: 02-A-55-C10007 REV : E



LEGEND

- PROPOSED TREE AS SCHEDULED LS-300
- MASS PLANTING WITH ORGANIC MULCH AS SCHEDULED
- MASS PLANTING WITH ORGANIC MULCH AS SCHEDULED
- MASS PLANTING WITH ORGANIC MULCH AS SCHEDULED
- ORGANIC MULCH AS SCHEDULED

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C	11.09.15	FOR INFORMATION		TL	TL	MH	TD
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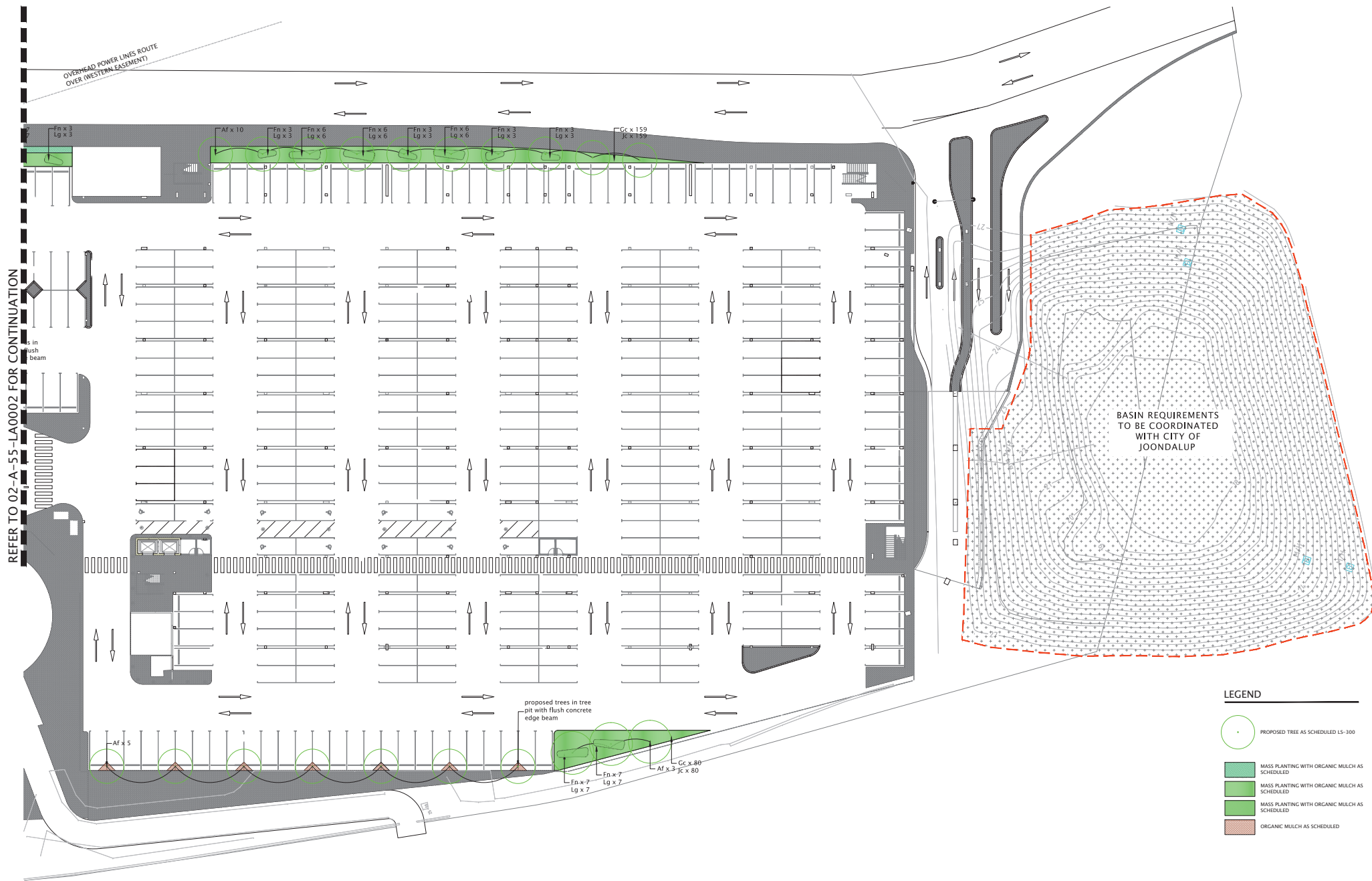
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APPROVED	TD	DIRECTOR
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EDGEWATER CAR PARK
LANDSCAPING PLAN
SHEET 1 OF 4

PTA Drawing No: 02-A-55-LA0001 REV : D

REFER TO 02-A-55-LA0002 FOR CONTINUATION



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EDGEWATER CAR PARK
LANDSCAPING PLAN
SHEET 1 OF 3

PTA Drawing No: 02-A-55-LA0003

REV : D

SPECIES IMAGES

TREES



Agonis flexuosa

SHRUBS & GROUND COVERS



Eremophila glabra



Ficinia nodosa



Grevillea crithmifolia



Juniperus conferta



Lepidosperma gladiatum



Lomandra tanika

Preliminary species selection

Trees					
Key	Species	Common Name	Planting Centres	Pot Size	Size HxW
AF	Agonis flexuosa	Swan River Peppermint	As Shown	45litre	8 x 6m
Shrubs & Ground Covers					
Key	Species	Common Name	Planting Centres	Pot Size	
Eg	Eremophila glabra	Kalbarri Carpet	600-750mm	140mm	0.5 x 1m
Fn	Ficinia nodosa	Knotted club rush	600-750mm	140mm	1.5 x 1.5m
Gc	Grevillea crithmifolia	Green Carpet Flower	600-750mm	140mm	1.5 x 2m
Jc	Juniperus conferta	Japanese Shore Juniper	600-750mm	140mm	1 x 2m
Lt	Lomandra tanika	none	600-750mm	140mm	1.5 x 1.5m
Lg	Lepidosperma gladiatum	Coastal Sword Sedge	600-750mm	140mm	1.5 x 1.5m

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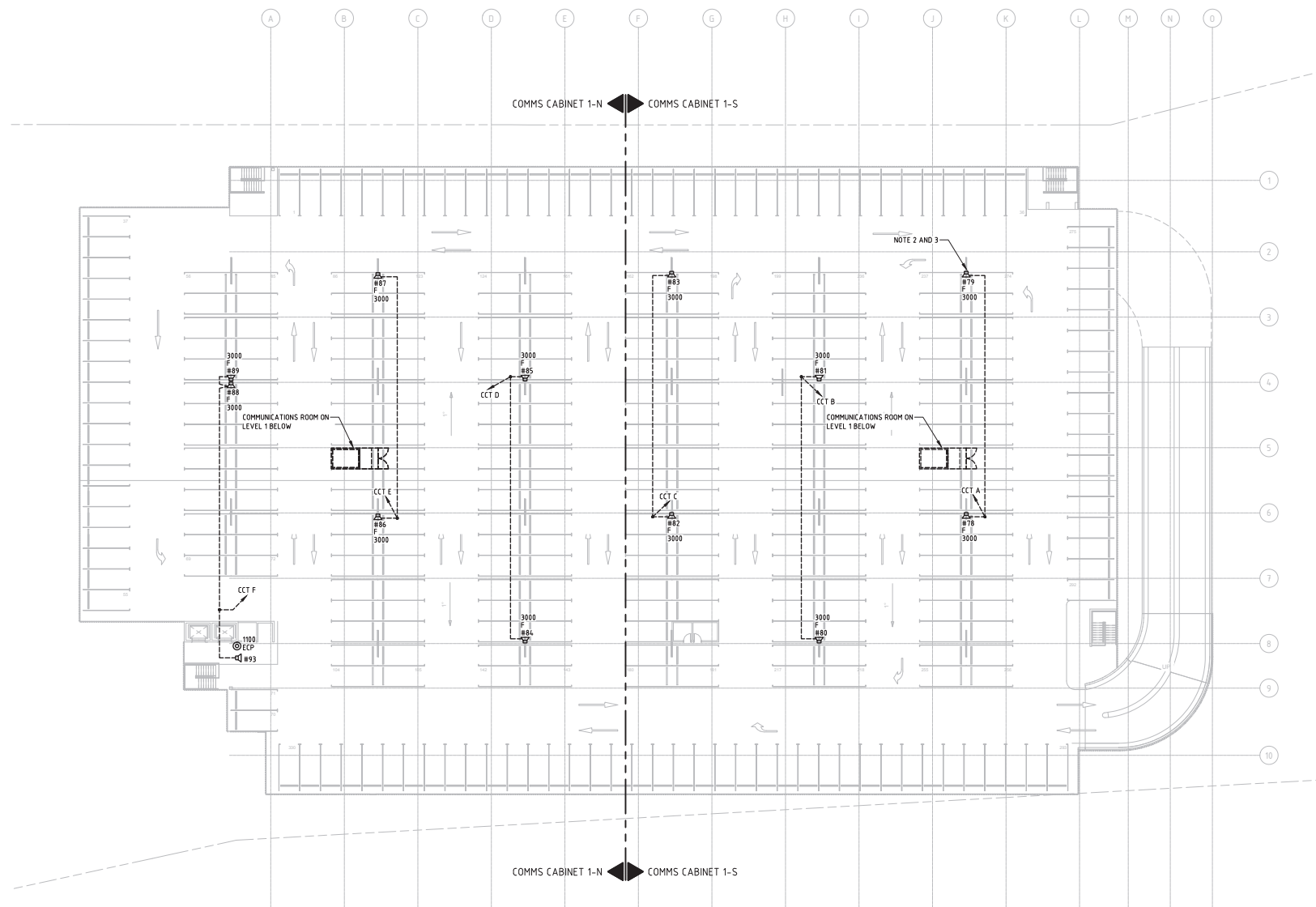
EDGEWATER CAR PARK
LANDSCAPING PLAN
SHEET 1 OF 4

PTA Drawing No: 02-A-55-LA0004

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3. ALL EXTERNAL SPEAKERS SHALL BE MOUNTED UPON LIGHTING POLES. FINAL LOCATIONS SHALL BE COORDINATED WITH LIGHT POLES ON SITE.



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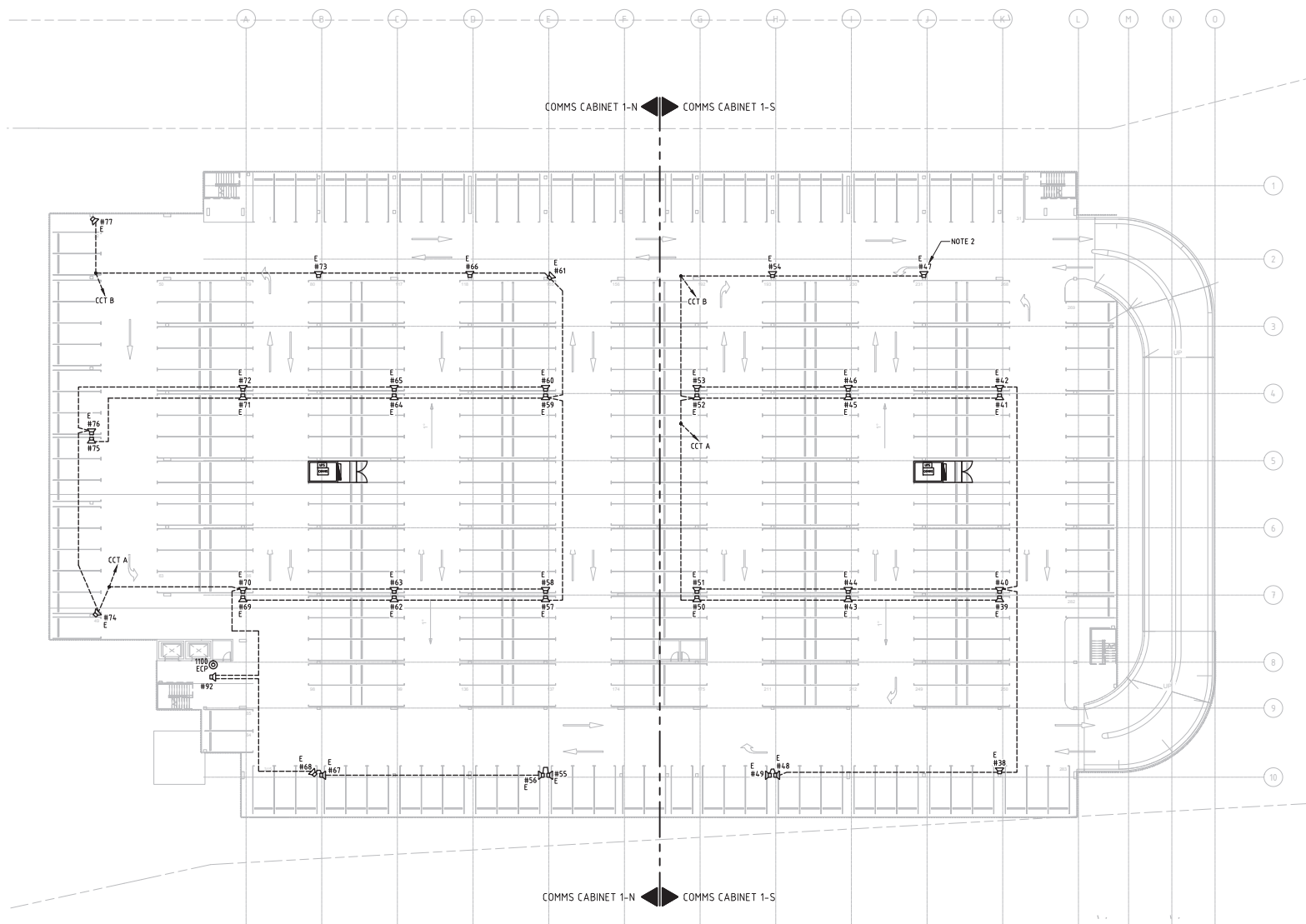
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	Date

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EDGEWATER STATION LEVEL 2 CAR PARK	
ELECTRICAL SERVICES	
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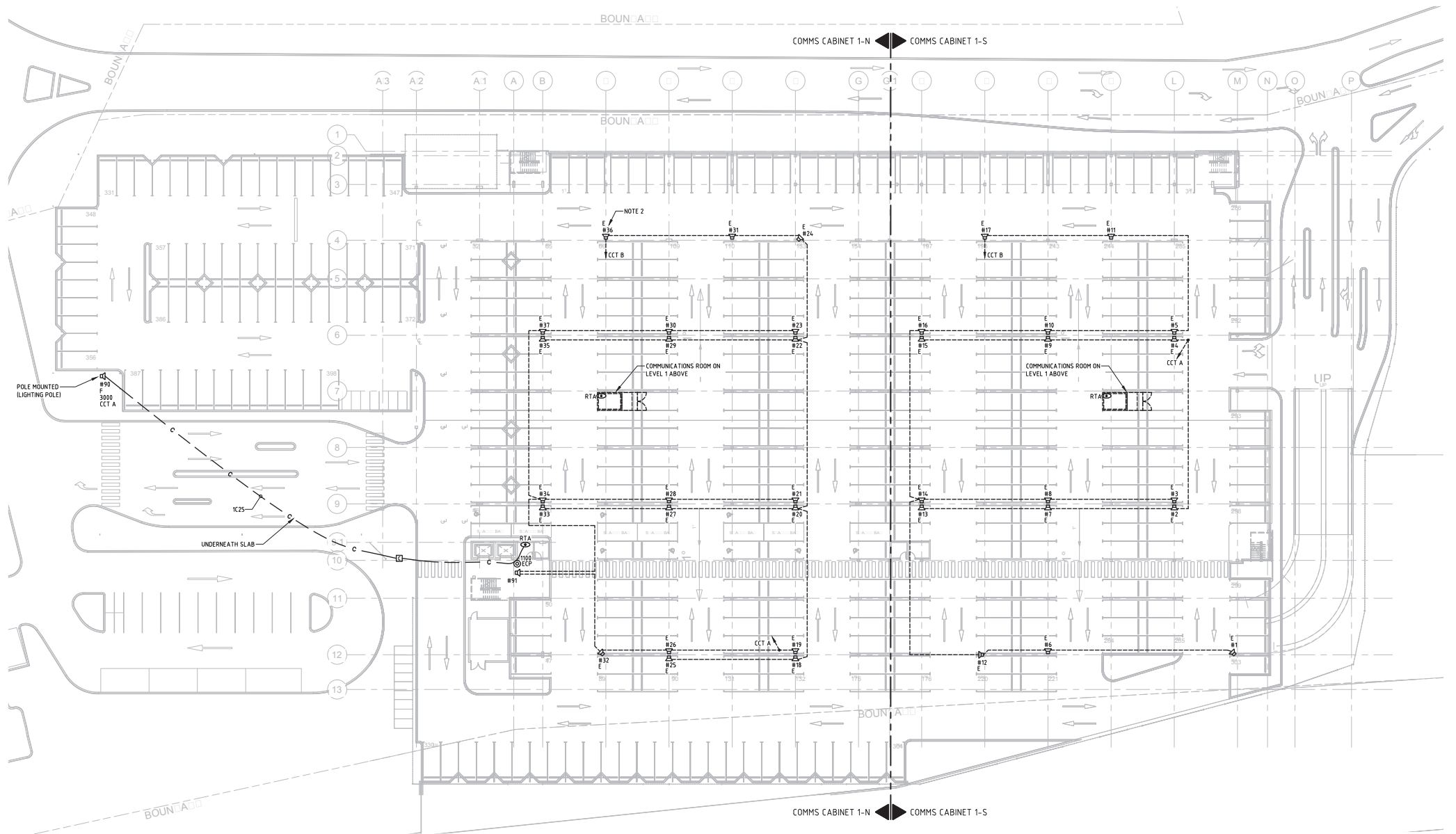
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Date	Date

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EDGEWATER STATION LEVEL 1 CAR PARK	
ELECTRICAL SERVICES	
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PTA Drawing No: 02-A-55-EG0017	REV : B



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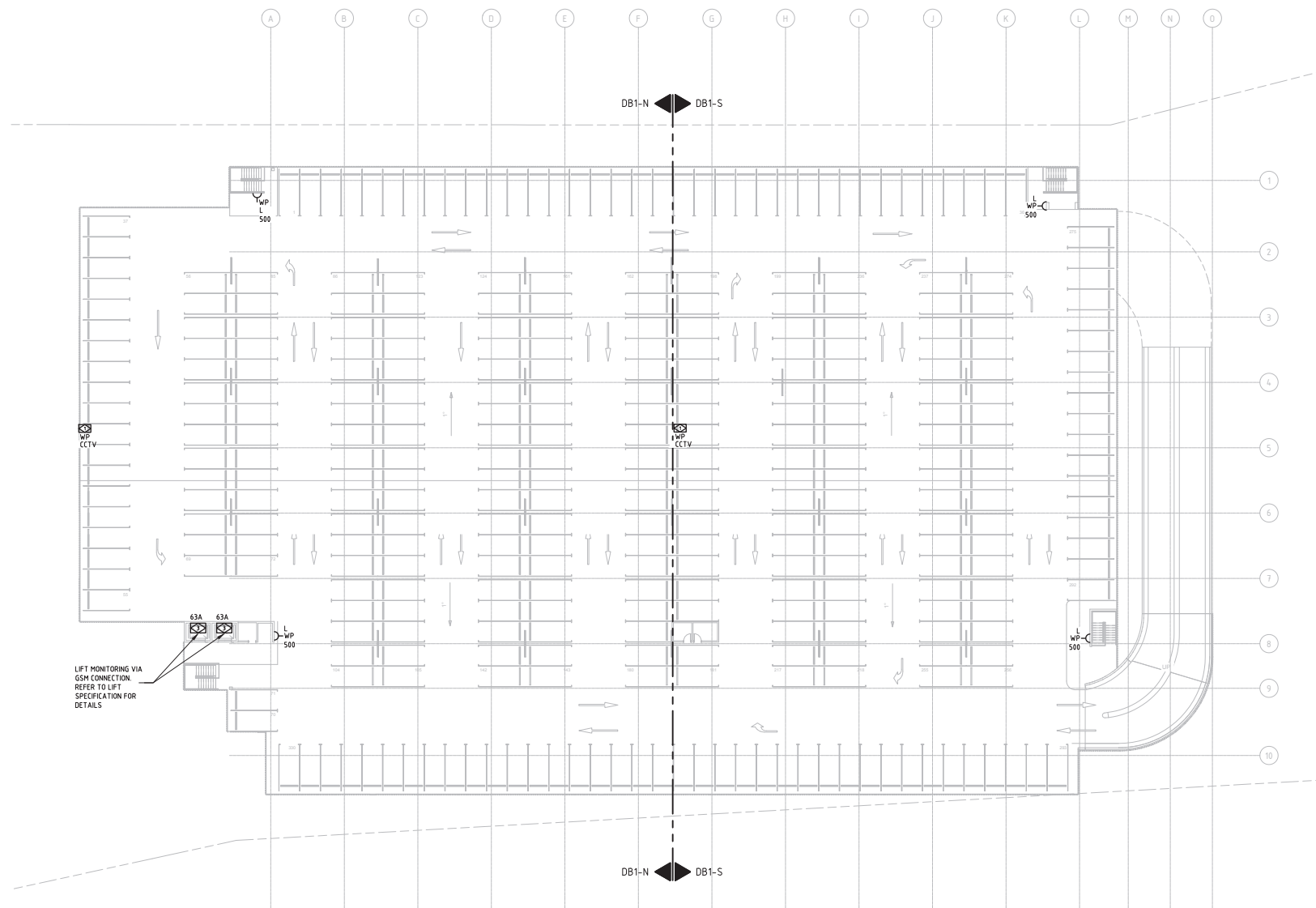
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GOVERNMENT OF WESTERN AUSTRALIA Public Transport Authority	EDGEWATER STN CAR PARK
EDGEWATER STATION GROUND FLOOR CAR PARK	
ELECTRICAL SERVICES	
PUBLIC ADDRESS LAYOUT	
PTA Drawing No: 02-A-55-EG0016	REV: B

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Date	Date

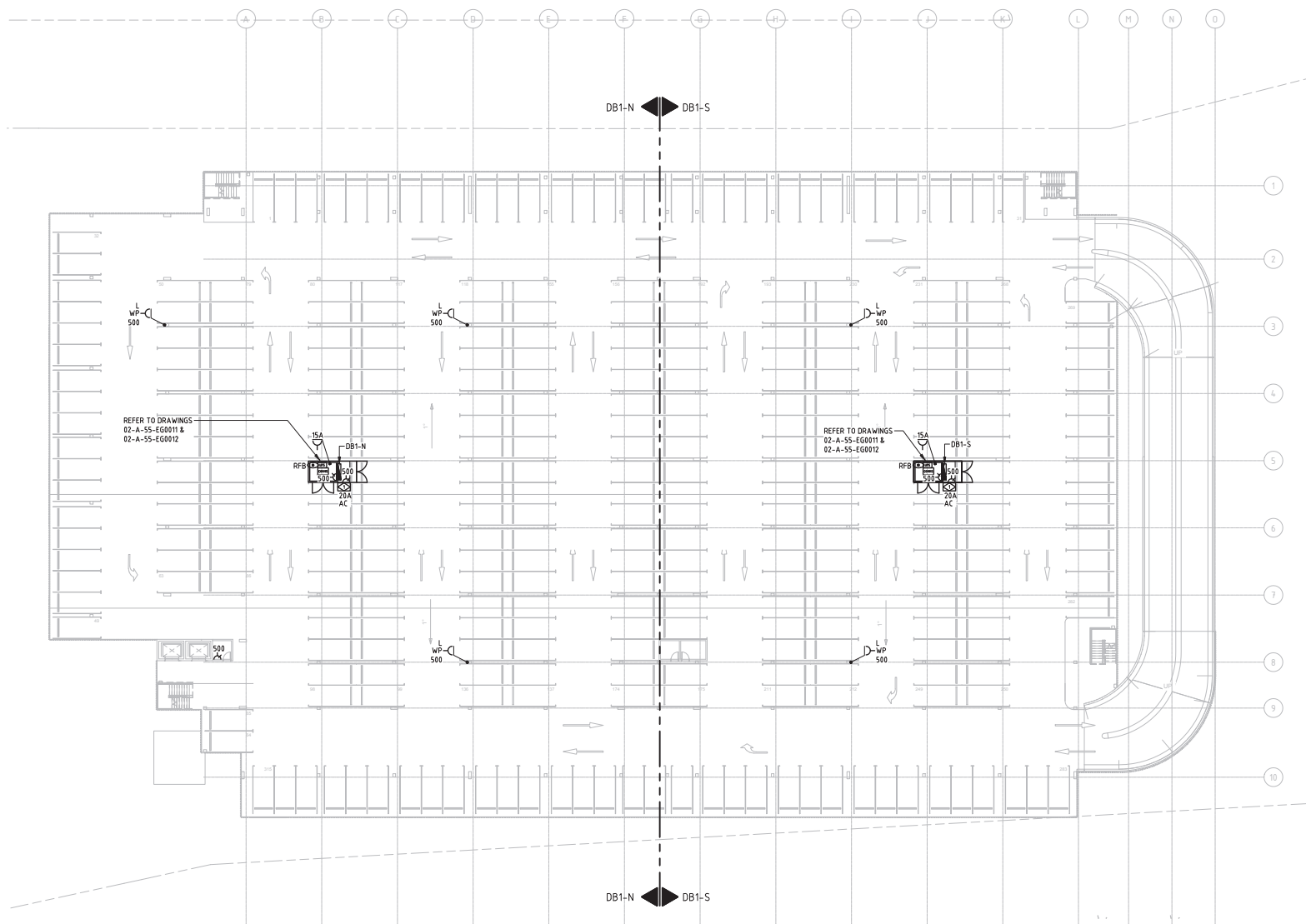
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EDGEWATER STATION LEVEL 2 CAR PARK	
ELECTRICAL SERVICES	
POWER LAYOUT	
PTA Drawing No:	02-A-55-EG0015
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PRELIMINARY ISSUE
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Georgiou
peter hunt architect

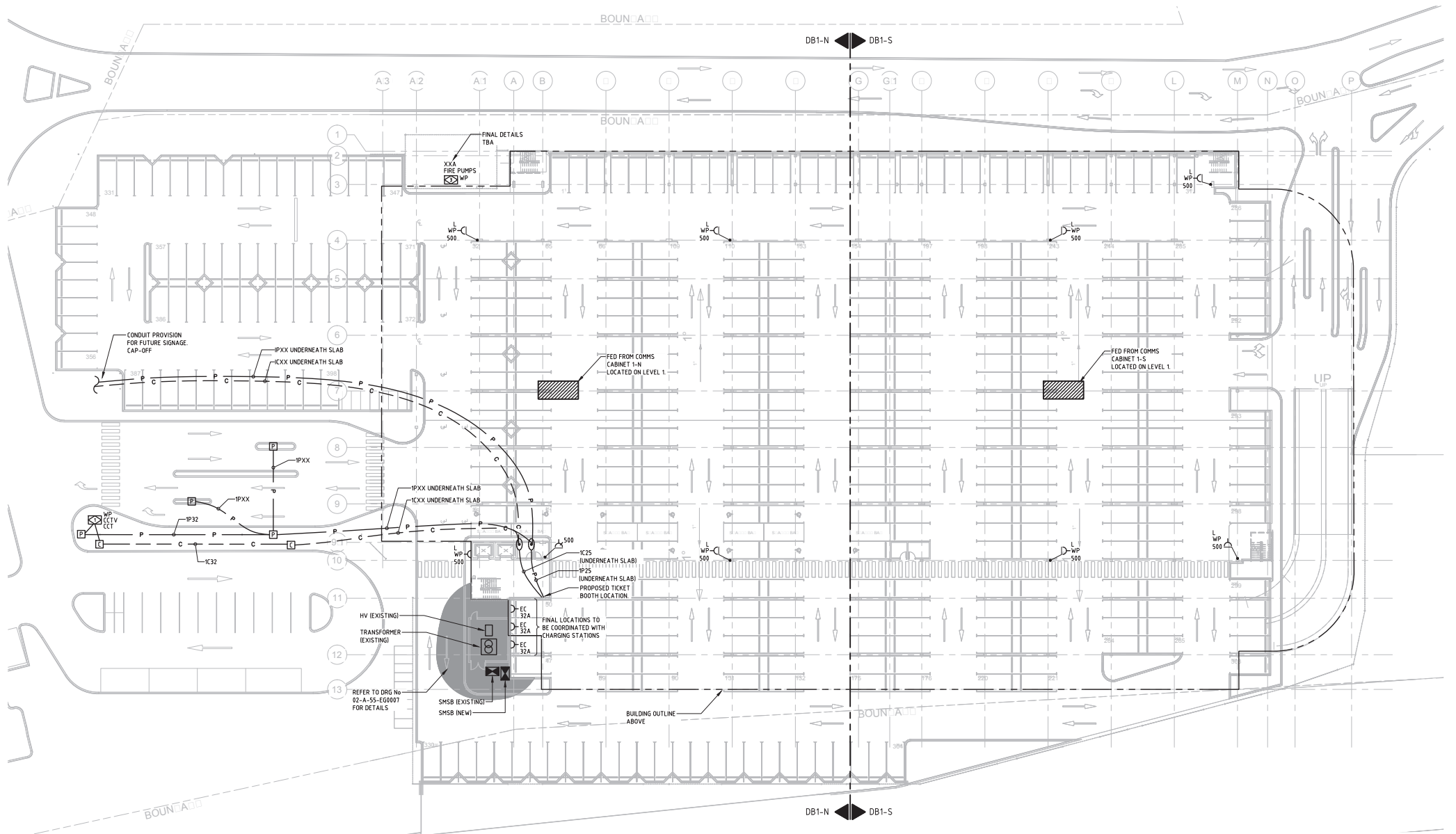
BEST Consultants
BUILDING ENGINEERING SERVICES + TECHNOLOGY
100 ROBERTSON STREET, WEST PERTH, WA 6150
08 9447 8888
www.bestconsultants.com.au

BEST PROJECT NO: 1415.319

POSITION TITLE (eg. ELECTRICAL ENGINEERING MANAGER)	POSITION TITLE PTA DIVISION
Date	Date
POSITION TITLE PTA DIVISION	POSITION TITLE PTA DIVISION
Date	Date

SCALE :	MAJOR PROJECTS UNIT
1:200 (@ A1)	DESIGNED S. COOK
DATUM :	DRAWN S. MAINALI
HORIZONTAL: N/A	CHECKED A. HOEHN
VERTICAL: N/A	Date
0 2.5 5 7.5 10 12.5 25m	This document must not be copied without PTA's written permission, and the contents thereof must not be reported to a third party nor be used for any unauthorised purpose.

Government of Western Australia Public Transport Authority	EDGEWATER STN CAR PARK
EDGEWATER STATION LEVEL 1 CAR PARK	
ELECTRICAL SERVICES	
POWER LAYOUT	
PTA Drawing No:	02-A-55-EG0014
REV :	B



NOTES

- ALL CONDUITS ARE RUN IN SLAB ABOVE UNLESS OTHERWISE NOTED. CONDUIT ROUTES INDICATED ARE INDICATIVE ONLY. FINAL ROUTES TO BE COORDINATED ON SITE TO SUIT SERVICES & STRUCTURAL REQUIREMENTS.

REV	DATE	DESCRIPTION	APP	CHKD	DRN	TM	SC	AH
B	29.09.15	50% DESIGN ISSUE						
A	25.09.15	50% DESIGN ISSUE						
ORIG SIZE								
A1		S:\BEST Consultants\14\15\14.5319 Edgewater Multi Storey Car Park\Drawings\Electrical\02-A-55-EG0013.dwg						

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peter hunt architect

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BUILDING ENGINEERING SERVICES + TECHNOLOGY

BEST PROJECT NO: 14.5319

POSITION TITLE (eg. ELECTRICAL ENGINEERING MANAGER)	POSITION TITLE PTA DIVISION
Date	Date
POSITION TITLE PTA DIVISION	POSITION TITLE PTA DIVISION
Date	Date

SCALE:	1:250 (@ A1)
DATUM:	
HORIZONTAL:	N/A
VERTICAL:	N/A
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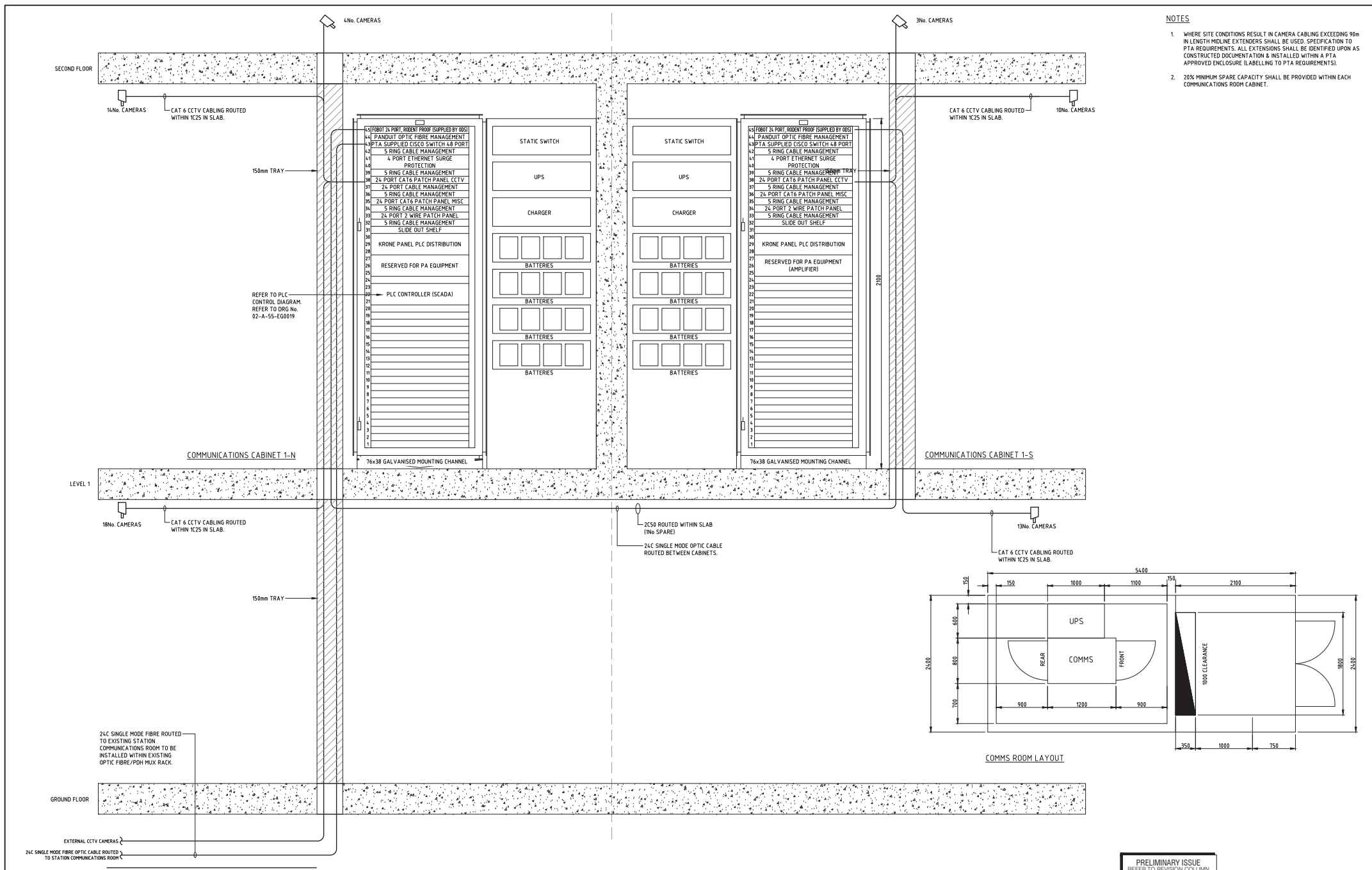
MAJOR PROJECTS UNIT		APPROVED FOR ISSUE
DESIGNED	S. COOK	EXECUTIVE DIRECTOR Major Projects Unit
DRAWN	S. MAINALI	Date
CHECKED	A. HOEHN	

Government of Western Australia Public Transport Authority	EDGEWATER STN CAR PARK
EDGEWATER STATION GROUND FLOOR CAR PARK	
ELECTRICAL SERVICES	
POWER LAYOUT	
PTA Drawing No:	02-A-55-EG0013
REV:	B



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C	29.09.15	50% DESIGN ISSUE	TM	SC	AH
B	25.09.15	50% DESIGN ISSUE	TM	SC	AH
A	07.08.15	ISSUED FOR SCHEMATIC DESIGN	CM	SC	AH
ORIG SIZE	CAD DRAWING PATHNAME				
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Georgiou peter hunt architect

BEST Consultants

BEST PROJECT N° 14.319

APPROVED ON BEHALF OF PTA	
POSITION TITLE (eg. ELECTRICAL ENGINEERING MANAGER)	POSITION TITLE PTA DIVISION
Date	Date
POSITION TITLE PTA DIVISION	POSITION TITLE PTA DIVISION
Date	Date

SCALE : N.T.S. (@ A1)	MAJOR PROJECTS UNIT	
DATUM :	DESIGNED S. COOK	APPROVED FOR ISSUE
HORIZONTAL: N/A	DRAWN S. MAINALI	EXECUTIVE DIRECTOR Major Projects Unit
VERTICAL: N/A	CHECKED A. HOEHN	Date
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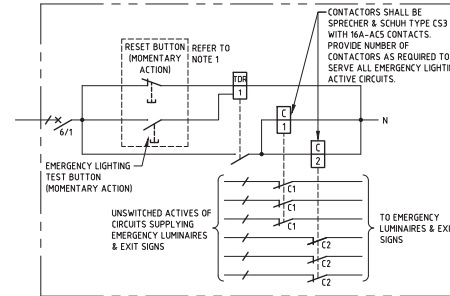
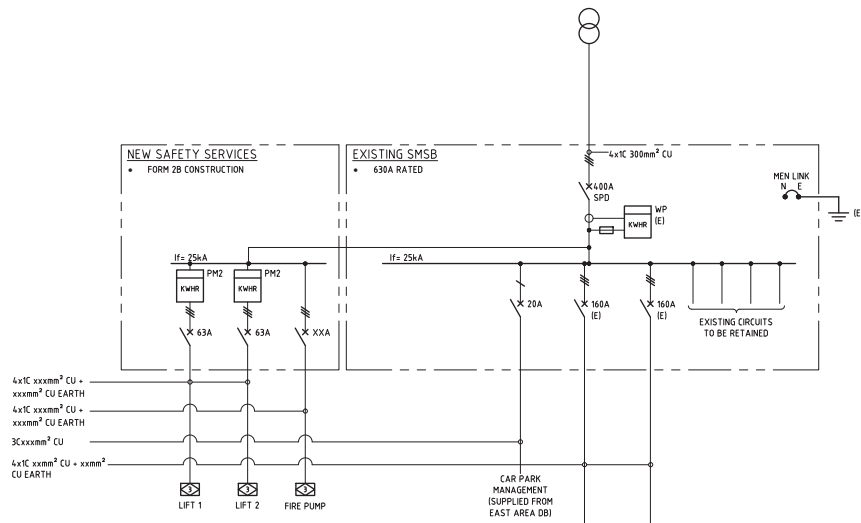
Government of Western Australia **EDGEWATER STN CAR PARK**

EDGEWATER MULTI STOREY CAR PARK

ELECTRICAL SERVICES

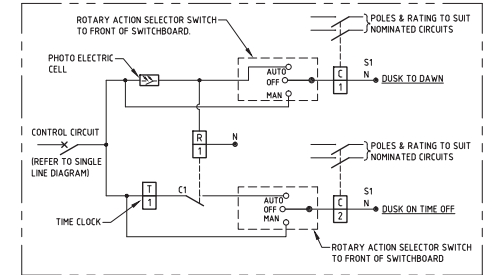
DETAILS

PTA Drawing No: **02-A-55-EG0012** REV: **C**

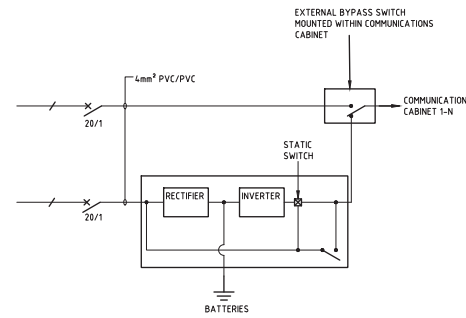
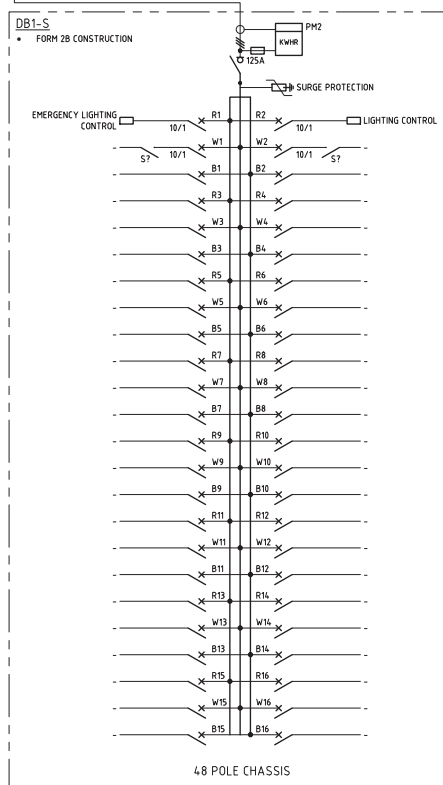
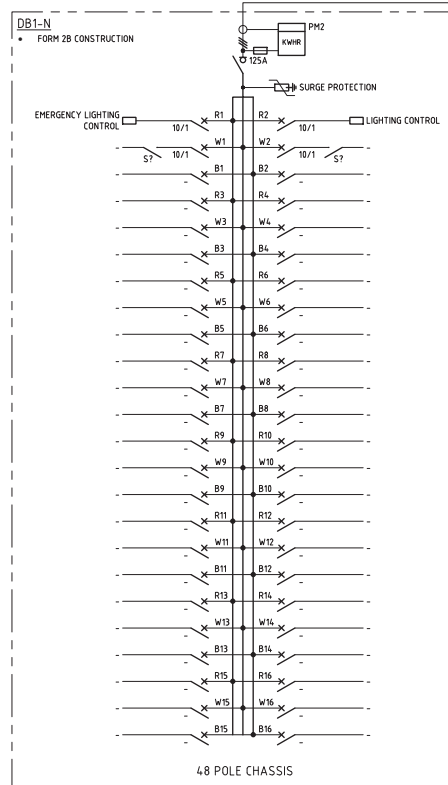


TYPICAL EMERGENCY & EXIT LIGHTING TEST FACILITY SCHEMATIC
NOTES

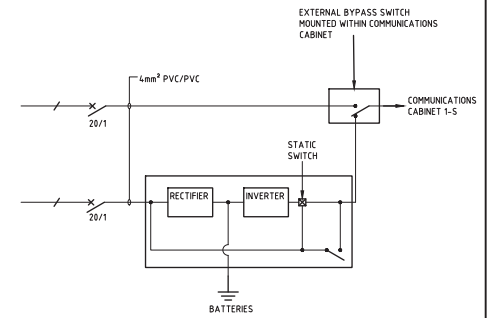
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TYPICAL SECURITY LIGHTING CONTROL DIAGRAM FOR DISTRIBUTION BOARDS



UPS DETAIL - COMMS NORTH



UPS DETAIL - COMMS SOUTH

LIGHTING CONTROL SCHEDULE	
S1	TIME CLOCK + PHOTOCELL CONTROL (EXTERNAL AREAS)
S2	PRESET TIME ON/OFF CONTROL (INTERNAL AREAS)
S3	PRESET TIME ON/OFF CONTROL (INTERNAL AREAS)
S4	PRESET TIME ON/OFF CONTROL (ENTRANCE AREAS)
S5	PRESET TIME ON/OFF CONTROL (ENTRANCE AREAS)

PRELIMINARY ISSUE
REFER TO REVISION COLUMN

REV	DATE	AMENDMENT	DRN	CHKD	APP
C	29.09.15	50% DESIGN ISSUE			
B	25.09.15	50% DESIGN ISSUE			
A	07.08.15	ISSUED FOR SCHEMATIC DESIGN			
ORIG SIZE	CAD DRAWING PATHNAME				
A1	S:\BEST Consultants\14\15\14\5.319 Edgewater Multi Storey Car Park\Drawings\Electrical\02-A-55-EG0011.dwg				

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peter hunt architect

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BUILDING ENGINEERING SERVICES + TECHNOLOGY
140/142 GERRARD STREET EAST, 5TH FLOOR, TORONTO, ONTARIO M5H 2B4
TEL: 416-593-8888 FAX: 416-593-8889
WWW.BESTCONSULTANTS.COM

BEST PROJECT NO. 145319

APPROVED ON BEHALF OF PTA	
POSITION TITLE (eg. ELECTRICAL ENGINEERING MANAGER)	POSITION TITLE PTA DIVISION
Date	Date
POSITION TITLE PTA DIVISION	POSITION TITLE PTA DIVISION
Date	Date

SCALE : N.T.S. (@ A1)		MAJOR PROJECTS UNIT	
DATUM : HORIZONTAL: N/A VERTICAL: N/A		DESIGNED S.COOK	APPROVED FOR ISSUE
		DRAWN S.MAINALI	EXECUTIVE DIRECTOR Major Projects Unit
		CHECKED A.HOEHN	
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Government of Western Australia
Public Transport Authority


EDGEWATER STN CAR PARK

EDGEWATER MULTI STOREY CAR PARK
ELECTRICAL SERVICES
SINGLE LINE DIAGRAM

PTA Drawing No: 02-A-55-EG0011 REV: C

LEVEL 2 OPEN DECK CARPARK- PARKING
SPACES AND AISLES:
AVERAGE ILLUMINANCE $\geq 14\text{LUX}$
POINT HORIZONTAL $\geq 3\text{LUX}$



 Government of Western Australia Public Transport Authority	EDGEWATER STN CAR PARK	
EDGEWATER STATION LEVEL 2 CAR PARK		
ELECTRICAL SERVICES		
LIGHTING LAYOUT		
PTA Drawing No:	02-A-55-EG0010	REV : C

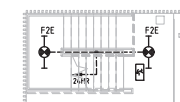
ENTRANCE DURING DAYTIME:
REQUIRED ILLUMINANCE PROVIDED BY
DAYLIGHT- DISTANCE TWICE THE
HEIGHT OF ENTRANCE

ENTRANCE- DURING DAYTIME FIRST 15m
MAINTAINED ILLUMINANCE $\geq 800\text{LUX}$

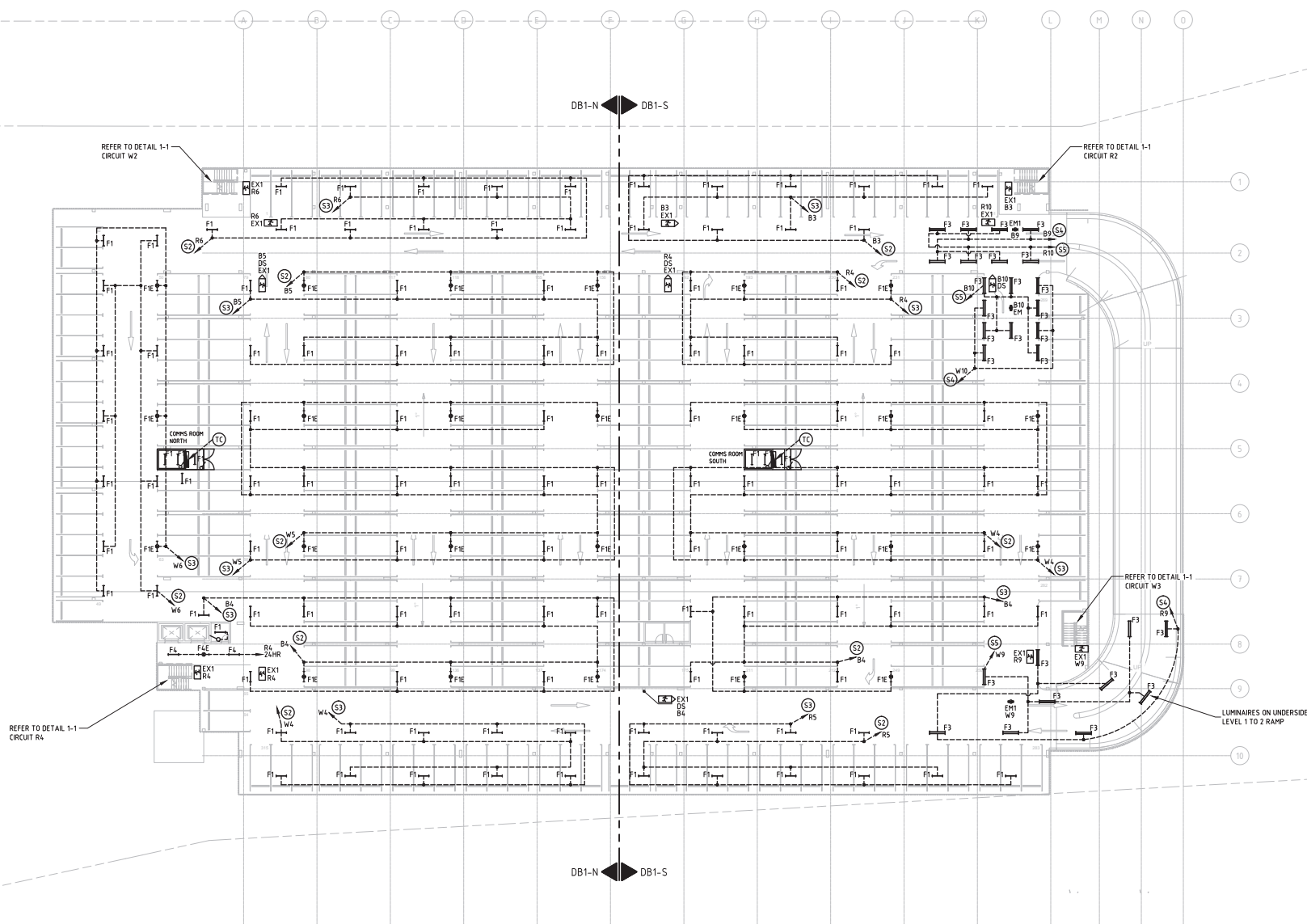
PAYBOOTH & ENTRANCE (DURING DAY
TIME 4m AFTER THE FIRST 15m &
DURING NIGHT TIME WHOLE ENTRANCE):
MAINTAINED ILLUMINANCE $\geq 160\text{LUX}$

AISLES, RAMPS, CIRCULATING ROADS,
PEDESTRIAN CROSSINGS, NORMAL
PARKING SPACES, PARKING SPACES FOR
DISABLED, EXTERNAL STAIRS:
MAINTAINED ILLUMINANCE ≥ 40 LUX

EXTERNAL RAMP CONNECTING LEVEL 1
AND LEVEL 2:
AVERAGE ILLUMINANCE ≥ 14 LUX
POINT HORIZONTAL ≥ 3 LUX




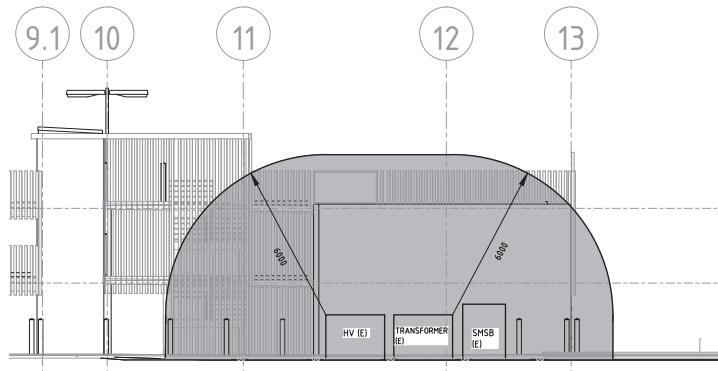
DETAIL 1-1
SCALE 1:100

PRELIMINARY ISSUE
REFER TO REVISION COLUMN[illegible]

A P O N B A L O P A	
POSITION TITLE (eg. ELECTRICAL ENGINEERING MANAGER)	POSITION TITLE PTA DIVISION
Date	Date
POSITION TITLE PTA DIVISION	POSITION TITLE PTA DIVISION
Date	Date

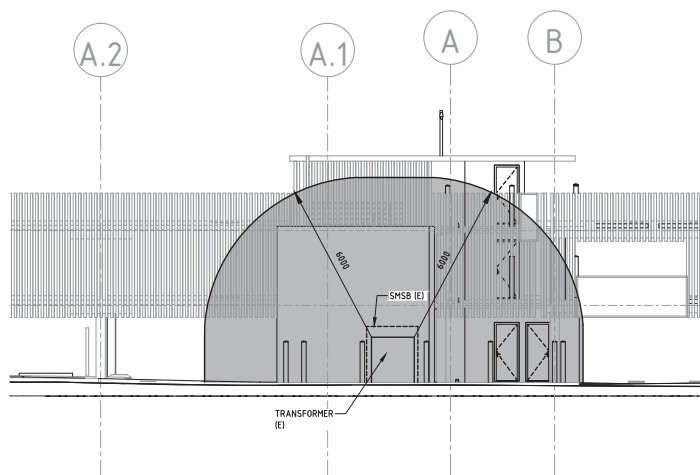
SCALE :		1:250 (@ A1)		MAJOR PROJECTS UNIT	
DATUM :		DESIGNED	S. COOK	APPROVED FOR ISSUE	
HORIZONTAL :		N/A	DRAWN S. MAINALI	EXECUTIVE DIRECTOR Major Projects Unit	
VERTICAL :		N/A	CHECKED A. HOEHN	Date	
0 2.5 5 7.5 10 12.5				25m	

 Government of Western Australia Public Transport Authority	EDGEWATER STN CAR PARK	
	EDGEWATER STATION LEVEL 1 CAR PARK	
	ELECTRICAL SERVICES	
	LIGHTING LAYOUT	
PTA Drawing No:	02-A-55-EG0009	REV : C



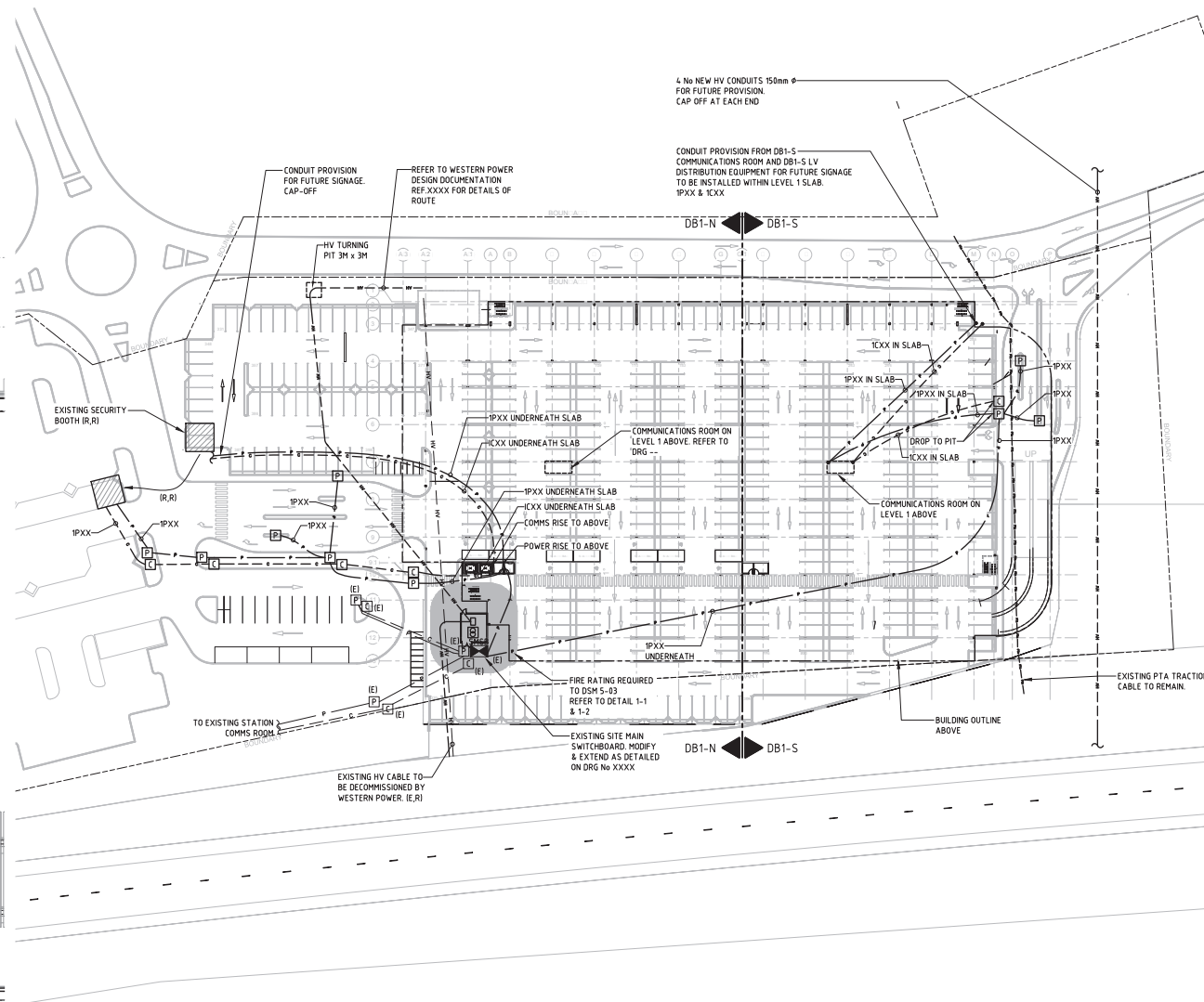
SUBSTATION CLEARANCE DETAIL 1-1 - NORTH ELEVATION
SCALE 1:100

NOTE
1 EXTENT OF 2HD FIRE RATING CLEARANCE REQUIRED IN ACCORDANCE WITH WESTERN POWER DSM-5-03



SUBSTATION CLEARANCE DETAIL 1-2 - WEST ELEVATION
SCALE 1:100

NOTE
1 EXTENT OF 2HD FIRE RATING CLEARANCE REQUIRED IN ACCORDANCE WITH WESTERN POWER DSM-5-03



PRELIMINARY ISSUE
REFER TO REVISION COLUMN

REV	DATE	AMENDMENT	TH	SC	AH	DRN	CHKD	APP
C	29.09.15	50% DESIGN ISSUE						
B	25.09.15	50% DESIGN ISSUE	GL	SC	AH			
A	07.08.15	ISSUED FOR SCHEMATIC DESIGN	CM	SC	AH			
ORIG SIZE		CAD DRAWING PATHNAME						
A1		S:\BEST Consultants\14\15\14\15.319 Edgewater Multi Storey Car Park\Drawings\Electrical\02-A-55-EG0007.dwg						

Georgiou
peter hunt architect

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BUILDING ENGINEERING SERVICES + TECHNOLOGY
14/15.319 Edgewater Multi Storey Car Park
BEST PROJECT N° 14/15.319

POSITION TITLE (eg. ELECTRICAL ENGINEERING MANAGER)	POSITION TITLE PTA DIVISION
Date	Date
POSITION TITLE PTA DIVISION	POSITION TITLE PTA DIVISION
Date	Date

SCALE :	MAJOR PROJECTS UNIT
1:500 (@ A1)	DESIGNED S. COOK
DATUM :	DRAWN S. MAINALI
HORIZONTAL: N/A	CHECKED A. HOEHN
VERTICAL: N/A	
0 2.5 5 7.5 10 12.5 25m	

Government of Western Australia
Public Transport Authority

EDGEWATER STN CAR PARK

EDGEWATER STATION CARPARK SITE
ELECTRICAL SERVICES
SITE PLAN

PTA Drawing No: 02-A-55-EG0007 REV: C

CCTV SCHEDULE

Bosch Flexidome 2xday/night IP camera NDN-48V03				Bosch Dinion HD 1080P NBN-832V-P			
Drawing label	Camera ID	Duty	Location	Object Distance	Horizontal FOV	Focal Length	PIXs/M
EDG001		FG	Grnd C/P North West	115M	30M	18.1	24.7
EDG002		FG	Grnd C/P West	74M	60M	5.7mm	12.5
EDG003		FG	Grnd Fir stairs Nth	4M	Wide view		
EDG004		FG	Ground floor Lift lobby	7M	Wide view		
EDG005		FG	Ground floor Lift	internal	Wide view		
EDG008		FID	Exit North	20M	6M	15.2	125
EDG009		FID	Entry North	20M	6M	15.2	274
EDG010	EDG603	FG/PTZ	Entry/Exit North		PTZ		
EDG011		FG/PTZ	Entry/Exit North	60M	360 deg		
EDG014		FG	Grnd C/P Nth East	115M	30M	18.1	24.7
EDG015		FG	Grnd C/P East				
EDG016		FID	Grnd Fir stairs Nth/East.				
EDG017		FG	Grnd C/P East	74M	42.5M	8.4mm	18.8
EDG018		FG	Grnd C/P East	74M	42.5M	8.4mm	18.8
EDG019		FG	Grnd C/P East	74M	42.5M	8.4mm	18.8
EDG020		FG	Grnd C/P East	74M	42.5M	8.4mm	18.8
EDG021		FG	Grnd C/P East	74M	42.5M	8.4mm	18.8
EDG022		FG	Grnd C/P 5th East	115M	30M	18.1	24.7
EDG023		FG	Grnd C/P East	74M	42.5M	8.4mm	18.8
EDG024		FG	Grnd Fir stairs 5th/East.	4M	Wide view		
EDG025		FID					
EDG026		FID					
EDG027		FG	C/P Entry South.	25M	7M	20.6	274
EDG028		FG	Grnd Fir stairs 5th	4M	Wide view		
EDG029		FG	Grnd C/P West	74M	42.5M	8.4mm	18.8
EDG030		FG	Grnd C/P	115M	30M	18.1	24.7
EDG031		FG	Grnd C/P West	74M	42.5M	8.4mm	18.8
EDG032		FG	Grnd C/P West	74M	42.5M	8.4mm	18.8
EDG033		FG	Grnd C/P West	74M	42.5M	8.4mm	18.8
EDG034		FG	Grnd C/P West	74M	42.5M	8.4mm	18.8
EDG035		FG	Grnd C/P West	74M	42.5M	8.4mm	18.8
EDG036		FG	1st Fir North East	100M	20M	22mm	34.3
EDG037		FG	1st Fir North	45M	25M	8.7	30.3
EDG038		FG	Level 1 North East stairwell	4M	Wide view		
EDG039		FG	Level 1 East	65M	40	7.8	18.8
EDG040		FG	Level 1 East	65M	40	7.8	18.8
EDG041		FG	Level 1 East	65M	40	7.8	18.8
EDG042		FG	Level 1 East	65M	40	7.8	18.8
EDG043		FG	Level 1 East	65M	40	7.8	18.8
EDG044		FG	Level 1 South East stairwell	4M	Wide view		
EDG045		FG	Level 1 North	65M	40	7.8	18.8
EDG047		FG	Level 1 South East	100M	20M	22mm	34.3
EDG048		FG	Level 1 South West stairwell	4M	Wide view		
EDG049		FG	Level 1 South West	95M	20M	21.1	34.3
EDG051		FG	Level 1 West	65M	40	7.8	18.8
EDG052		FG	Level 1 West	65M	40	7.8	18.8
EDG053		FG	Level 1 West	65M	40	7.8	18.8
EDG054		FG	Level 1 West	65M	40	7.8	18.8
EDG055		FG	Level 1 West	65M	40	7.8	18.8
EDG056		FG	Level 1 West	65M	40	7.8	18.8
EDG057		FG	Level 1 North West	95M	20M	21.1	34.3
EDG058		FG	Level 1 North West stairwell	4M	Wide view		
EDG059		FG	Level 1 Lift	internal	Wide view		
EDG060		FG	Level 1 Lift lobby	7M	Wide view		
EDG061		FG	Level 1 West	45M	25M	8.7	30.3
EDG062		FG	Level 1 North	20	10	9.6	75.2
EDG063		FG	Level 2 North West stairwell	4M	Wide view		
EDG064		FG	Level 2 Lift lobby	7M	Wide view		
EDG066		FG	Level 2 Lift	internal	Wide view		
EDG067	FG/PTZ	FG	Level 2 Middle	60M	360 deg		
EDG068	FG/PTZ	FG	Level 2 Middle	60M	PTZ		
EDG070	FG	FG	Level 2 North West stairwell	4M	Wide view		
EDG081	FG	FG	Level 2 North West stairwell	4M	Wide view		
EDG086	FG	FG	Level 2 North West stairwell	4M	Wide view		

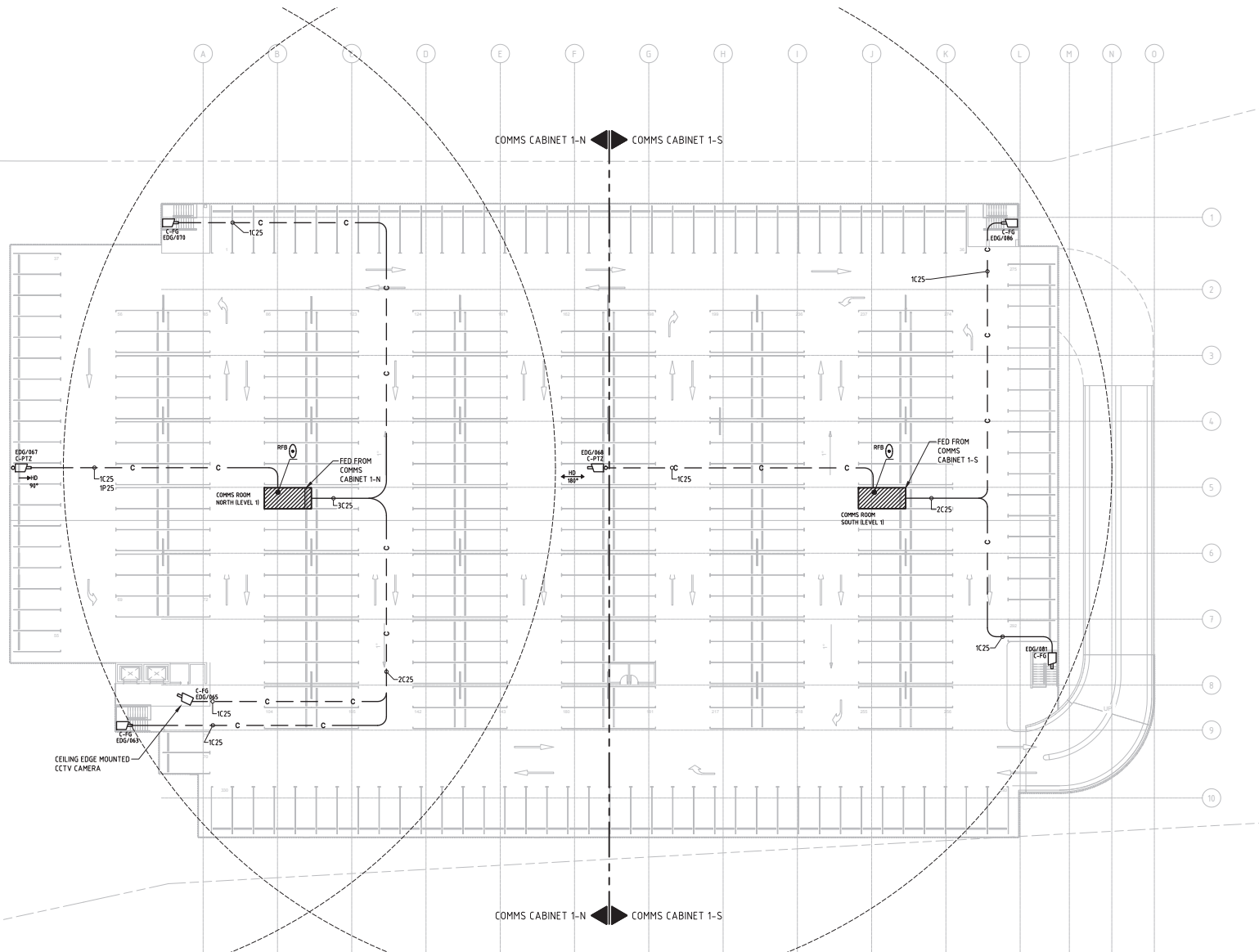
DENOTES TIME CLOCK + PHOTOCCELL CONTROL (EXTERNAL AREAS)
 DENOTES PRESET TIME ON/OFF CONTROL (INTERNAL AREAS)
 DENOTES PRESET TIME ON/OFF CONTROL (INTERNAL AREAS)
 DENOTES PRESET TIME ON/OFF CONTROL (ENTRANCE AREAS)
 DENOTES PRESET TIME ON/OFF CONTROL (ENTRANCE AREAS)
 24HR LIGHTING ON
 WEATHERPROOF DEVICE IP56 RATED

PTA Drawing No.	02-A-55-ED0000	REV:	0
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EDGEWATER STN CAR PARK
GREY CAR PARK

-A-55-EG0006	REV : 0
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- NOTES
- ALL CONDUITS ARE RUN IN LEVEL 2 SLAB. CONDUIT ROUTES INDICATED ARE INDICATIVE ONLY. FINAL ROUTES TO BE COORDINATED ON SITE TO SUIT SERVICES & STRUCTURAL REQUIREMENTS AND BE NO GREATER THAN 90m IN LENGTH.



PRELIMINARY ISSUE
REFER TO REVISION COLUMN

REV	DATE	AMENDMENT	TH	SC	AH	DRN	CHKD	APP
C	29.09.15	50% DESIGN ISSUE	TM	SC	AH			
B	25.09.15	50% DESIGN ISSUE	TM	SC	AH			
A	07.08.15	ISSUED FOR SCHEMATIC DESIGN	CM	SC	AH			
ORIG SIZE	A1							

Georgiou
peter hunt architect

BEST Consultants
BUILDING ENGINEERING SERVICES + TECHNOLOGY
100/1000 STATION ST, WEST PERTH, WA 6150
P: 08 9447 0000
E: info@bestconsultants.com.au
WWW.BESTCONSULTANTS.COM.AU
BEST PROJECT NO: 1415319

APPROVED ON BEHALF OF PTA	
POSITION TITLE (eg. ELECTRICAL ENGINEERING MANAGER)	POSITION TITLE PTA DIVISION
Date	Date
POSITION TITLE PTA DIVISION	POSITION TITLE PTA DIVISION
Date	Date

SCALE : 1:250 (@ A1)	MAJOR PROJECTS UNIT	
DATUM :	DESIGNED S. COOK	APPROVED FOR ISSUE
HORIZONTAL: N/A	DRAWN S. MAINALI	EXECUTIVE DIRECTOR Major Projects Unit
VERTICAL: N/A	CHECKED A. HOEHN	Date
0 2.5 5 7.5 10 12.5 25m		

Government of Western Australia
Public Transport Authority

EDGEWATER STN CAR PARK

EDGEWATER STATION LEVEL 2 CAR PARK

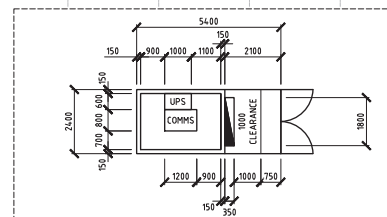
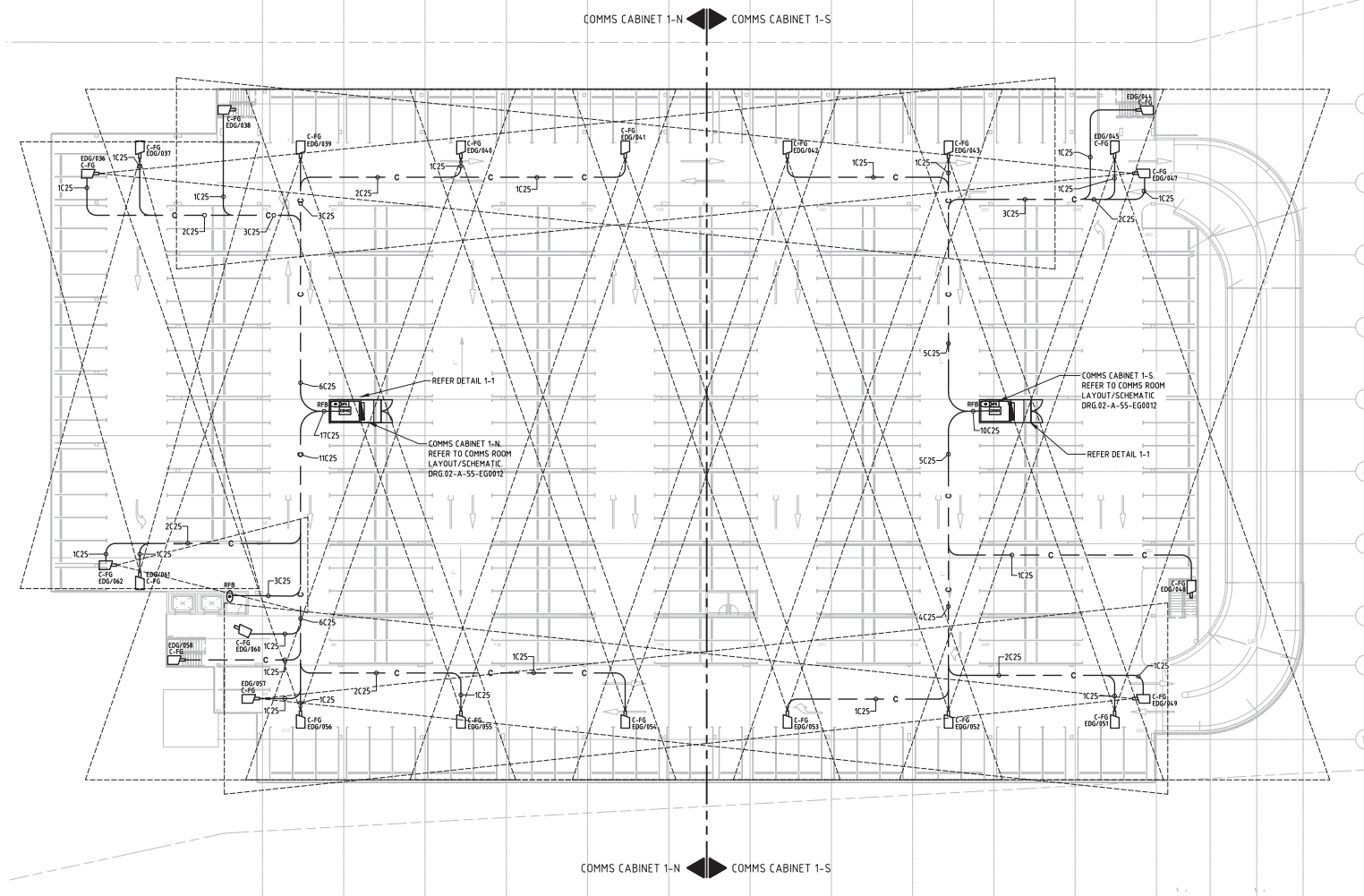
ELECTRICAL SERVICES

COMMS, CCTV LAYOUT

PTA Drawing No: **02-A-55-EC0007** REV: **C**

NOTES

- ALL CONDUITS ARE RUN IN SLAB ABOVE UNLESS OTHERWISE NOTED. CONDUIT ROUTES INDICATED ARE INDICATIVE ONLY. FINAL ROUTES TO BE COORDINATED ON SITE TO SUIT SERVICES & STRUCTURAL REQUIREMENTS AND BE NO GREATER THAN 90m IN LENGTH.



DETAIL 1-1 COMMUNICATIONS ROOM
SCALE 1:100



PRELIMINARY ISSUE
REFER TO REVISION COLUMN

REV	DATE	AMENDMENT	DRN	CHKD	APP
C	29.09.15	50% DESIGN ISSUE	TM	SC	AH
B	25.09.15	50% DESIGN ISSUE	TM	SC	AH
A	07.08.15	ISSUED FOR SCHEMATIC DESIGN	CM	SC	AH
ORIG SIZE	CAD DRAWING PATHNAME				
A1	S:\BEST Consultants\14\15\14.319 Edgewater Multi Storey Car Park\Drawings\Electrical\02-A-55-EC0006.dwg				

Georgiou
peter hunt architect

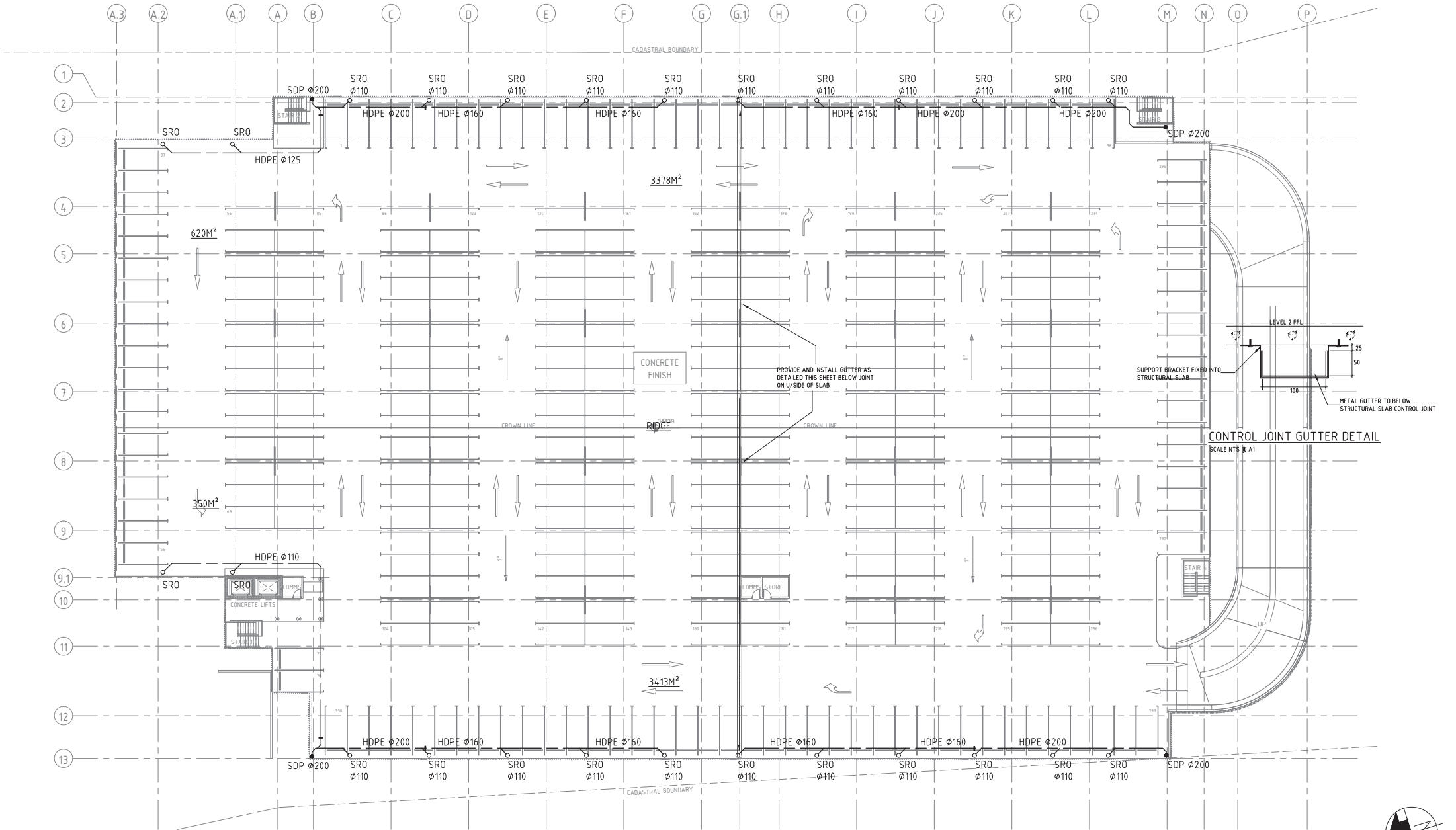
BEST Consultants
BUILDING ENGINEERING SERVICES + TECHNOLOGY
11-12 ROYAL OAK
www.bestconsultants.com.au
BEST PROJECT NO 1415319

POSITION TITLE (eg. ELECTRICAL ENGINEERING MANAGER)	POSITION TITLE PTA DIVISION
Date	Date
POSITION TITLE PTA DIVISION	POSITION TITLE PTA DIVISION
Date	Date



SCALE :	1:200 (@ A1)
DATUM :	
HORIZONTAL :	N/A
VERTICAL :	N/A
0 2.5 5 7.5 10 12.5 25m	

MAJOR PROJECTS UNIT	
DESIGNED	S. COOK
DRAWN	S. MAINALI
CHECKED	A. HOEHN
APPROVED FOR ISSUE	
EXECUTIVE DIRECTOR Major Projects Unit	
Date	
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Government of Western Australia Public Transport Authority	EDGEWATER STN CAR PARK
EDGEWATER STATION LEVEL 1 CAR PARK	
ELECTRICAL SERVICES	
COMMS, CCTV LAYOUT	
PTA Drawing No: 02-A-55-EC0006	REV : C

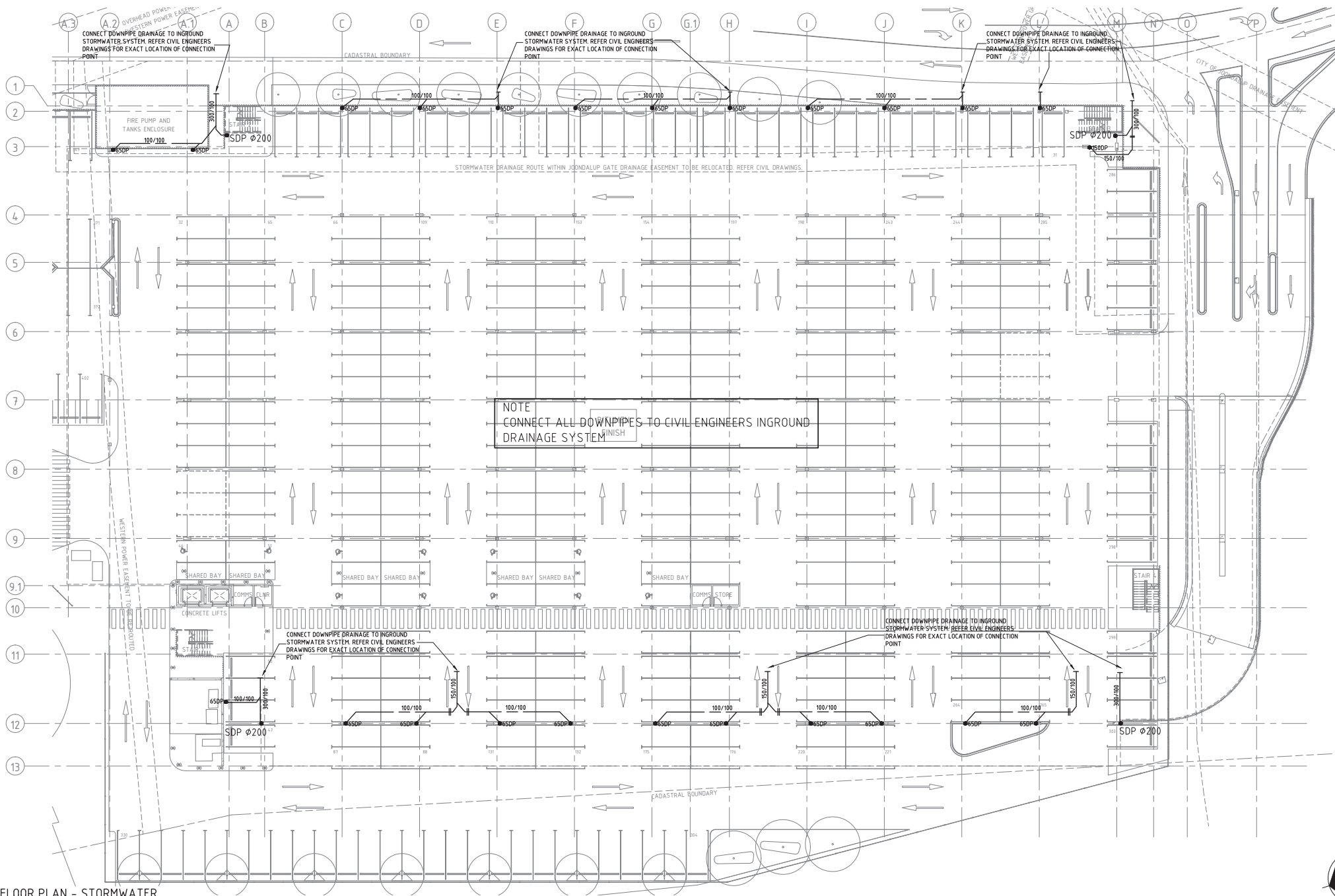


LEVEL 2 FLOOR PLAN - STORMWATER
SCALE: 1:200 @ A1

						 CONSTRUCTION HYDRAULIC DESIGN Suite 10, 455 Newcastle St, Leederville 6007, Australia PO Box 358, North Perth, WA 6006 T 9206 2700 F 9206 2800 www.chdwa.com.au			VALIDATION		REFERENCE DRGS		SCALE : 1:200 (© A1)		DESIGNED <i>PMW</i>		 EDgewater MULTI-STOREY CAR PARK
									Signature				DRAWN <i>PMW</i>		LEVEL 2 FLOOR PLAN		
									Date				CHECKED <i>BK</i>		HYDRAULIC SERVICES		
									DATE APPROVED				APPROVED		STORMWATER		
													EXECUTIVE DIRECTOR Major Projects Unit		PTA Drawing No: 02-A-55-PL0011		
													DATE		REV : C		
REV DATE AMENDMENT			DSN DRN CHKD APP										DOC REVIEW NOTE No A1494964				
ORIG SIZE A1			0 10 20 30 40 50 100m			ORIGINAL PLOT SIZE											



 Government of Western Australia Public Transport Authority	EDGEWATER MULTI-STOREY CAR PARK	
	LEVEL 1 FLOOR PLAN HYDRAULIC SERVICES STORMWATER	
PTA Drawing No: 02-A-55-PL0010	REV : C	



GROUND FLOOR PLAN - STORMWATER

SCALE 1:200 @ A1

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	CHECKED	APPROVED
C	24.08.15	50% DESIGN DEVELOPMENT ISSUE	PMW	BK	PMW	
B	28.08.15	REISSUED FOR 15% SCHEMATIC DESIGN APPROVAL	PMW	BK	PMW	
A	07.08.15	15% SCHEMATIC DESIGN ISSUE	PMW	BK	PMW	
REV	DATE	DESCRIPTION	DESIGNED	DRAWN	CHECKED	APPROVED
ORIG	SIZE	AMENDMENT	DSN	DRN	CHKD	APP
A1						



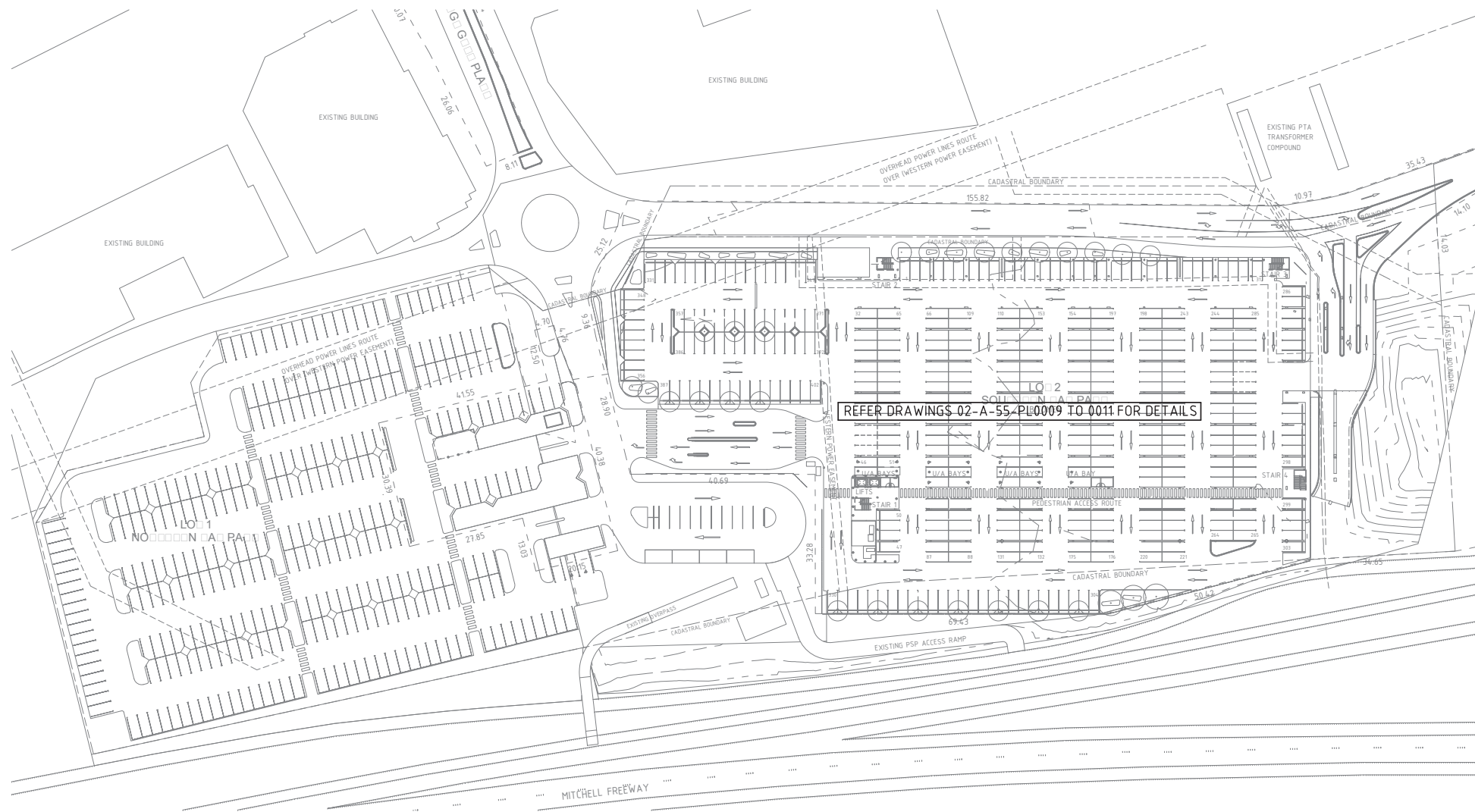
CONSTRUCTION HYDRAULIC DESIGN
Suite 10, 465 Newlands St,
Leedsville 6007, Australia
PO Box 350, North Perth, WA 6006
T 9206 2700 F 9206 2800
www.chdwa.com.au

VALIDATION	REFERENCE DRGS	SCALE : 1:200 (© A1)	DESIGNED DRAWN CHECKED APPROVED DATE	DESIGNED DRAWN CHECKED APPROVED DATE
Signature		DATUM : HORIZONTAL: N/A VERTICAL: N/A DRAWING STATUS PRELIMINARY	PMW PMW BK BK	PMW PMW BK BK
Date		DOC REVIEW NOTE NO A1494964		
DATE APPROVED				

EDGEMORE MULTI-STOREY CAR PARK

GROUND FLOOR PLAN
HYDRAULIC SERVICES
STORMWATER

PTA Drawing No: 02-A-55-PL0009 | REV : C



SITE PLAN/GROUND FLOOR PLAN - STORMWATER

REV	DATE	AMENDMENT	DSN	DRN	CHKD	APP
C	24.09.15	50% DESIGN DEVELOPMENT ISSUE	PMW	BK	PMW	
B	28.08.15	RESSUED FOR 15% SCHEMATIC DESIGN APPROVAL	PMW	BK	PMW	
A	07.08.15	15% SCHEMATIC DESIGN ISSUE	PMW	BK	PMW	



CONSTRUCTION HYDRAULIC DESIGN
Suite 8a, 663 Newcastle St,
Leederville 6007, Australia
PO Box 358, North Perth, WA 6906
T 9206 2700 | F 9206 2800
www.chdwa.com.au


VALIDATION	
Signature	
Date	
DATE APPROVED	

REFERENCE DRGS	
5	

SCALE :	DESIGNED	CAA
1:500 (@ A1)	DRAWN	BK
DATUM :	CHECKED	CAA
HORIZONTAL: N/A	APPROVED	
VERTICAL: N/A	EXECUTIVE DIRECTOR Major Projects Unit	
DRAWING STATUS	DATE	
PRELIMINARY		

DOC REVIEW NOTE No. _____

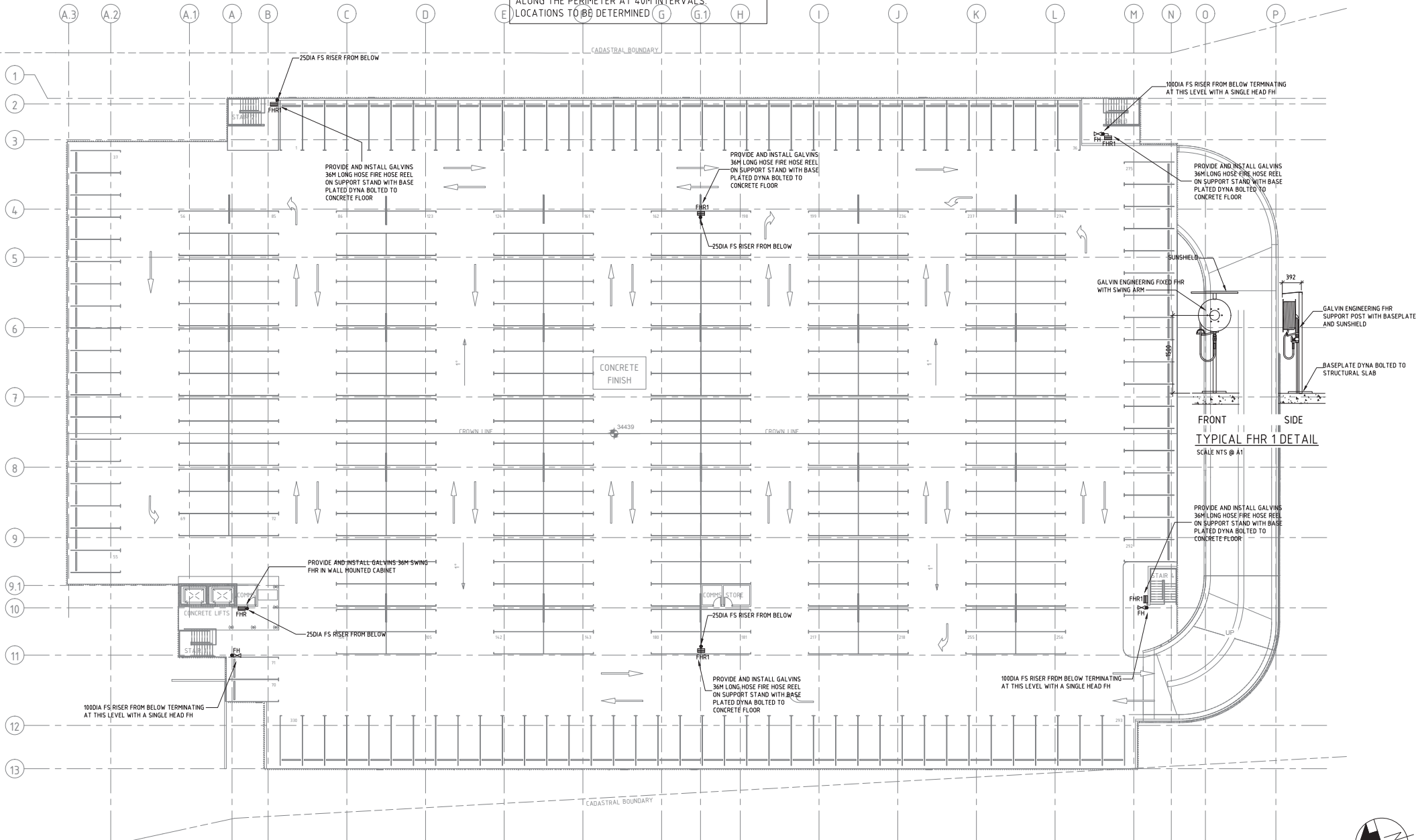
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 <p>Government of Western Australia Public Transport Authority</p>	<p>EDGEWATER MULTI-STOREY CAR PARK</p>
---	--

GENERAL NOTE

1. HOSE COCKS WILL BE PROVIDED AT STAIRWELLS AND ALONG THE PERIMETER AT 40M INTERVALS. LOCATIONS TO BE DETERMINED

CADASTRAL BOUNDARY



LEVEL 2 FLOOR PLAN - FIRE AND DOMESTIC WATER SERVICES

SCALE: 1:200 @ A1

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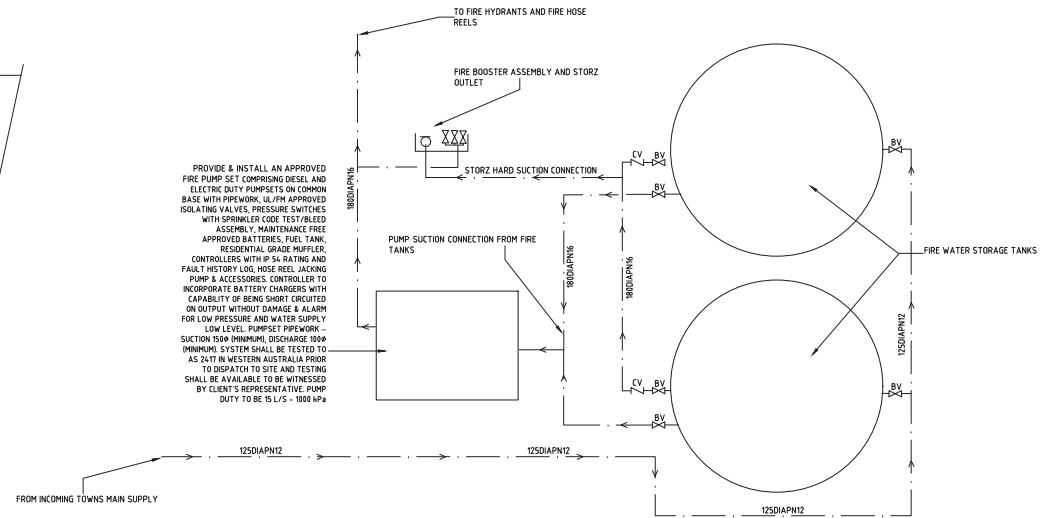


CONSTRUCTION HYDRAULIC DESIGN
Suite 10, 455 Newcastle St.
Leedsville 6007, Australia
PO Box 358, North Perth, WA 6006
T 8206 2700 F 8206 2800
www.chdwa.com.au

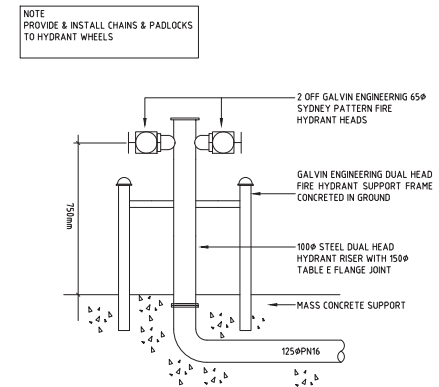
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Signature	
Date	
DATE APPROVED	

SCALE : 1:200 (@ A1)	DESIGNED PMW
DATUM : HORIZONTAL: N/A VERTICAL: N/A	DRAWN PMW
DRAWING STATUS PRELIMINARY	CHECKED BK
DOC REVIEW NOTE No A1494964	APPROVED DATE

Government of Western Australia Public Transport Authority	EDGEWATER MULTI-STORY CAR PARK
LEVEL 2 FLOOR PLAN HYDRAULIC SERVICES FIRE AND DOMESTIC WATER SERVICES	
PTA Drawing No: 02-A-55-PL0007 REV : C	



FIRE TANKS & PUMP SET LAYOUT - GENERAL ARRANGEMENT
NOT TO SCALE



TYPICAL EXTERNAL DUAL HEAD FIRE HYDRANT DETAIL
NTS



NOTE
PURCHASING CONTRACTOR SHALL ALLOW FOR AND ENGAGE LICENSED ELECTRICIAN TO PROVIDE AND INSTALL THE FOLLOWING:
1. PYRO CABLING FROM FIRE PUMPSET CONTROL PANEL TO BOOSTER CABINET
2. PUMP RUN/FAULT LIGHT IN BOOSTER CABINET
3. REMOTE PUMP START SWITCH WITH LED READ OUT IN BOOSTER CABINET
4. CONDUITS FOR WIRING

NOTE
PROVIDE & INSTALL SIGNAGE TO TANKS & VALVES IN ACCORDANCE WITH AS2149


NOTE
ALLOW TO CLEAN OUT ALL DEBRIS, DIRT, MATERIAL PARTICLES ETC COMPLETELY FROM TANK PRIOR TO FILLING THE TANK. FLUSH ALL FIRE SERVICE LINES PRIOR TO INSTALLATION OF PUMP SET

NOTE
SECTION DETAIL PUMPWORK SHOWN FOR INFORMATION PURPOSES ONLY. REFER TOP VIEW & PLAN VIEW FOR CORRECT ORIENTATION & CONFIGURATION

NOTE
PROVIDE & INSTALL VALVED & CAPPED TANK MANHOLES TO EACH FIRE TANK COMPARTMENT FOR MAINTENANCE PURPOSES

[illegible]

CONSTRUCTION HYDRAULIC DESIGN
Suite 8a, 663 Newcastle St,
Leederville 6007, Australia
PO Box 358, North Perth, WA 6906
T 9206 2700 | F 9206 2800
www.chdwa.com.au

VALIDATION	REFERENCE DRGS	SCALE : AS SHOWN @ A1)	DESIGNED <i>PMW</i>	 Government of Western Australia Public Transport Authority	EDGEWATER MULTI-STORY CAR PARK	
Signature		DATUM : HORIZONTAL: N/A VERTICAL: N/A	DRAWN <i>PMW</i>		GENERAL INFORMATION & DETAILS HYDRAULIC SERVICES	
Date		DRAWING STATUS PRELIMINARY	CHECKED <i>BK</i>			
DATE APPROVED		DOC REVIEW NOTE NO A1494964	APPROVED EXECUTIVE DIRECTOR Major Projects Unit			
			DATE	PTA Drawing No: 02-A-55-PL0003 REV : C		

PROPOSED MULTI STOREY CARPARK
EDGEWATER TRAIN STATION, EDGEWATER WA
HYDRAULIC SERVICES



LEGEND

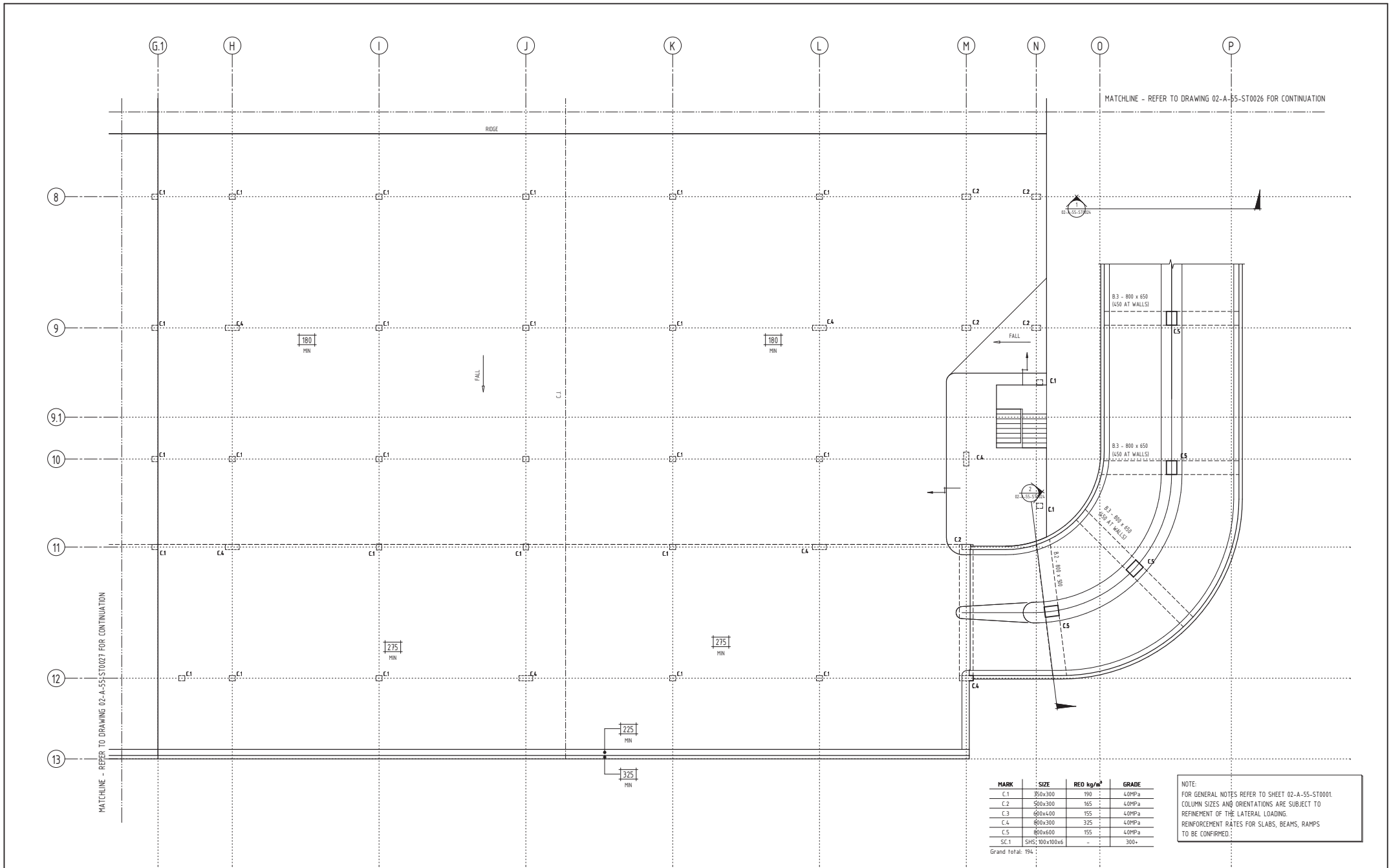
	NATURAL GAS SERVICE
	FIRE SERVICE
	SOIL DRAIN
	DOMESTIC COLD WATER SERVICE
	DOMESTIC HOT WATER SERVICE
	EXISTING / PROPOSED MINISTERS SEWER
	TRADE / GREASE WASTE
	STORMWATER DRAIN
	RIISING PRESSURE MAIN
	GM
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	FBC
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	FH
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	CO
	IP
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	IWSP
	AG
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	RS
	ISRS
	ISSOB
	SS
	WS
	EVP
	RV
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	SRO
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	C
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	90R

- PREFIX 'I' DENOTES EXISTING SERVICE OR ITEM
- DASHED DENOTES REDUNDANT SERVICE OR ITEM

GENERAL NOTES

- CO-ORDINATE THE INSTALLATION OF THE HYDRAULIC SERVICES WITH ALL OTHER SERVICES TO ENSURE ALL NEW CONNECTIONS CAN BE ACHIEVED AND CLASHING OF SERVICES IS AVOIDED.
- THESE HYDRAULIC SERVICES DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE HYDRAULIC SERVICES SPECIFICATION AND ALL OTHER RELEVANT ARCHITECTURAL, STRUCTURAL, CIVIL, FIRE, ELECTRICAL, MECHANICAL, GEOTECHNICAL & ACOUSTIC DOCUMENTATION.
- THE INSTALLATION OF THE HYDRAULIC SERVICES IS TO COMPLY WITH ALL RELEVANT REQUIREMENTS OF THE WATER CORPORATION, AS/NZS 3500, AS/NZS 2419, AS/NZS 2441, AS 5601, LOCAL AUTHORITY REQUIREMENTS, PUBLIC HEALTH DEPARTMENT REQUIREMENTS & THE CURRENT BUILDING CODE OF AUSTRALIA.
- ALLOW FOR GENERAL EXCAVATION & HARD EXCAVATION TO ENABLE THE INSTALLATION OF THE HYDRAULIC SERVICES.
- ALLOW FOR 100mm SAND BEDDING OF ALL SERVICES & CLEAN SAND BACKFILL.
- ALL EXISTING SERVICE SHOW ASSUMED SIZE, DEPTH, LOCATION, MATERIAL TYPE & DIRECTION OF FLOW. EXACT SIZE, DEPTH, LOCATION, MATERIAL TYPE & DIRECTION OF FLOW TO BE PHYSICALLY DETERMINED ON SITE PRIOR TO THE COMMENCEMENT OF ANY WORKS TO ENSURE ALL CONNECTIONS CAN BE ACHIEVED.
- ALL SERVICE PENETRATIONS THROUGH SLABS & FIRE WALLS TO BE FITTED WITH APPROVED TYPE FIRE STOP COLLARS IN ACCORDANCE WITH THE NATIONAL CONSTRUCTION CODE OF AUSTRALIA. FIRE RESISTANCE LEVEL & RATING TO BE EQUIVALENT TO THAT OF THE STRUCTURAL MEMBER THE SERVICE PENETRATION IS PASSING THROUGH.
- REFER ARCHITECTURAL DRAWINGS FOR ALL ROOF DRAINAGE DETAILS - EXACT QUANTITY, SIZE & LOCATION OF DOWNPIPES, SURFACE GRADIENTS, LEVELS ETC.
- CO-ORDINATE THE INSTALLATION OF ALL PIPEWORK WITH STRUCTURAL ENGINEER'S DRAWINGS - PAD FOOTING, RING BEAMS, STRIP FOOTING LOCATIONS ETC.
- ALL SET OUT DIMENSIONS SHALL BE TAKEN FROM THE ARCHITECTURAL DRAWINGS ONLY. THE HYDRAULIC SERVICES DRAWINGS ARE DIAGRAMMATIC ONLY & SHALL NOT BE USED FOR SET OUT PURPOSES.
- MAINTAIN ALL REQUIRED HEADROOM CLEARANCES IN CARPARK AREAS. ENSURE NO PIPEWORK PROTRUDES INTO HEADROOM ZONE. REFER ARCHITECTURAL DWGS FOR REQUIRED HEADROOM CLEARANCES. ADVISE OF ANY DISCREPENCIES WHICH MAY ARISE ON SITE.
- REFER CIVIL ENGINEER'S DRAWINGS FOR ALL IN GROUND DRAINAGE WORKS.
- ALL PIPEWORK SIZING DENOTES NOMINAL BORE.
- ALLOW FOR CONCRETE / BITUMEN CUTTING, REMOVAL & RE-INSTATEMENT TO ENABLE THE INSTALLATION OF THE HYDRAULIC SERVICES.

																				VALIDATION										REFERENCE DRGS										SCALE : AS SHOWN @ A1)										DESIGNED PMW										 EDgewater Multi-Storey Car Park																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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REV	DATE	ORIG SIZE	AMENDMENT	DRN	CHKD	APP
C	25.09.15		ISSUE FOR 50%			
B	06.09.15		RE-ISSUE FOR 15% SCHEMATIC DESIGN	TH	PH	
A	07.08.15		ISSUE FOR 15%	TH	PH	
DRAWING PATHNAME						
C:\Autodesk\ADGSTR_17626 EDGEWATER_CENTRAL_V5_tmorrisson.rvt						
A1						

ADG
Perth Office
51 Forrest St.
Subiaco, Western Australia 6008, Australia
PO Box 443, Subiaco, Western Australia 6104
T 1300 657 402 F +617 3871 2266
E info@adgpc.com W www.adgpc.com
BRIISBANE / SYDNEY / MELBOURNE / GOLD COAST / SUNSHINE COAST / DARWIN

ACCEPTED ON BEHALF OF PTA	
Date	Date
Date	Date

SCALE: As indicated (@ A1)

DATUM:
HORIZONTAL: PCG94
VERTICAL: AHD

PTA DIVISION

DESIGNED	P.M.
DRAWN	T.M.
CHECKED	K.Y.

APPROVED FOR ISSUE
PRELIMINARY
NOT FOR CONSTRUCTION

Date

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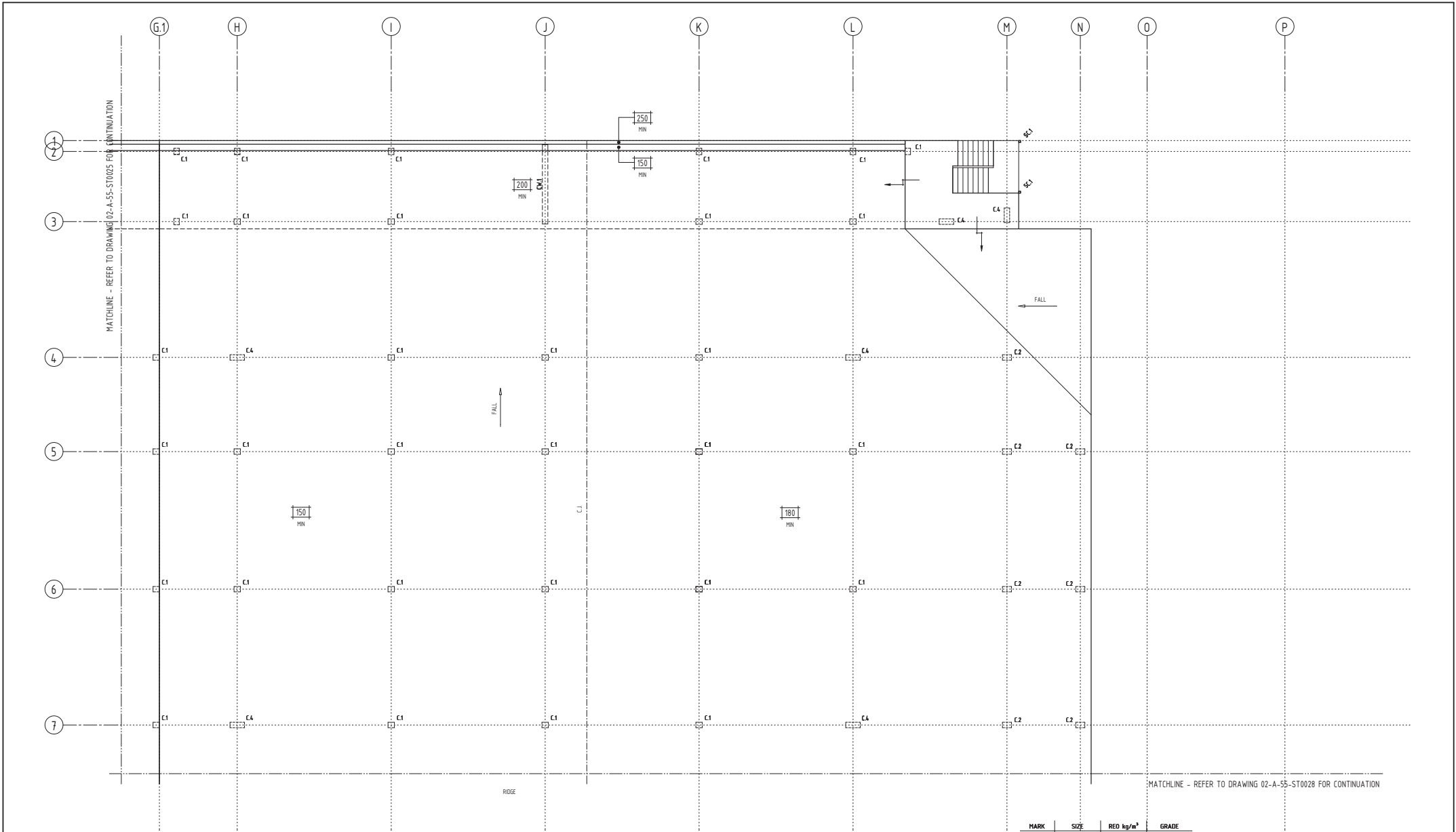
Government of Western Australia
Public Transport Authority

Edgewater Carpark

LEVEL 2
GENERAL ARRANGEMENT AND
BOTTOM REINFORCEMENT PLAN SHEET 4

PTA Drawing No:02-A-55-ST0028

REV: C



MARK	SIZE	REQ kg/m ³	GRADE
C.1	350x300	190	40MPa
C.2	500x300	165	40MPa
C.3	600x400	155	40MPa
C.4	800x300	325	40MPa
C.5	800x600	155	40MPa
SC.1	SHS 100x100x6	-	300+

Grand total: 194

NOTE:
FOR GENERAL NOTES REFER TO SHEET 02-A-55-ST0001.
COLUMN SIZES AND ORIENTATIONS ARE SUBJECT TO
REFINEMENT OF THE LATERAL LOADING.
REINFORCEMENT RATES FOR SLABS, BEAMS, RAMPS
TO BE CONFIRMED.

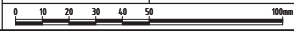
REV	DATE	ORIG SIZE	AMENDMENT	DRN	CHKD	APP
C	25.09.15		ISSUE FOR 50%			
B	04.09.15		RE-ISSUE FOR 15% SCHEMATIC DESIGN			
A	07.08.15		ISSUE FOR 15%			
DRAWING PATHNAME						
C:\Autodesk\ADGSTR_17626\EDGEWATER_CENTRAL_V5_1.morrison.rvt						

ADG
Perth Office
51 Forrest St.
Subiaco, Western Australia 6008, Australia
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E info@adgpc.com W www.adgpc.com
BRISBANE / SYDNEY / MELBOURNE / GOLD COAST / SUNSHINE COAST / DARWIN

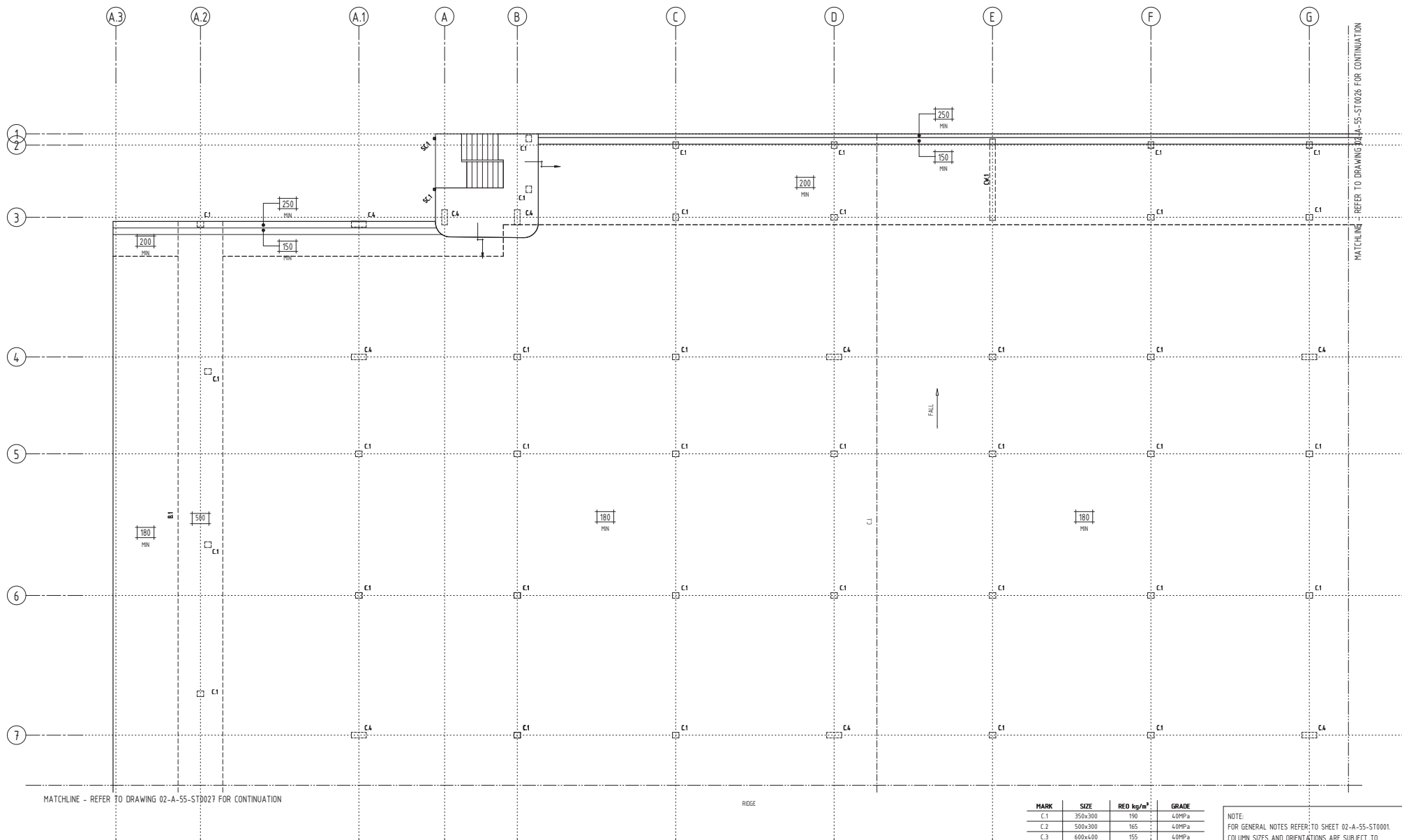
ACCEPTED ON BEHALF OF PTA	
Date	Date
Date	Date

SCALE: As indicated
(@ A1)
DATUM:
HORIZONTAL: PCG94
VERTICAL: AHD

PTA DIVISION	
DESIGNED	P.M.
DRAWN	T.M.
CHECKED	K.Y.
APPROVED FOR ISSUE PRELIMINARY NOT FOR CONSTRUCTION	
Date	



Government of Western Australia
Public Transport Authority
Edgewater Carpark
LEVEL 2
GENERAL ARRANGEMENT AND
BOTTOM REINFORCEMENT PLAN SHEET 2
PTA Drawing No:02-A-55-ST0026
REV: C



MARK	SIZE	REQ kg/m ³	GRADE
C.1	350x300	190	40MPa
C.2	500x300	165	40MPa
C.3	600x400	155	40MPa
C.4	800x300	325	40MPa
C.5	800x600	155	40MPa
SC.1	SHS 100x100x6	-	300+

Grand total: 194

NOTE:
FOR GENERAL NOTES REFER TO SHEET 02-A-55-ST0001.
COLUMN SIZES AND ORIENTATIONS ARE SUBJECT TO
REFINEMENT OF THE LATERAL LOADING.
REINFORCEMENT RATES FOR SLABS, BEAMS, RAMPS
TO BE CONFIRMED.

REV	DATE	ORIG SIZE	AMENDMENT	DRN	CHKD	APP
C	25.09.15		ISSUE FOR 50%			
B	06.09.15		RE-ISSUE FOR 15% SCHEMATIC DESIGN			
A	07.08.15		ISSUE FOR 15%			
A1						

ADG
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51 Forrest St.
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PO Box 443, Subiaco, Western Australia 6004
T 1300 657 402 F +617 3871 2266
E info@adgpc.com W www.adgpc.com
BRISBANE / SYDNEY / MELBOURNE / GOLD COAST / SUNSHINE COAST / DARWIN

ACCEPTED ON BEHALF OF PTA	
Date	Date
Date	Date

SCALE: As indicated
(@ A1)
DATUM:
HORIZONTAL: PCG94
VERTICAL: AHD

PTA DIVISION	
DESIGNED P.M.	APPROVED FOR ISSUE PRELIMINARY NOT FOR CONSTRUCTION
DRAWN T.M.	Date
CHECKED K.Y.	This document must not be copied without PTA's written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorized purpose.

Government of Western Australia Public Transport Authority	Edgewater Carpark
LEVEL 2 GENERAL ARRANGEMENT AND BOTTOM REINFORCEMENT PLAN SHEET 1	
PTA Drawing No:02-A-55-ST0025	REV: C



FOR SLAB THICKNESS REFER TO PLANS

[illegible]


ADG

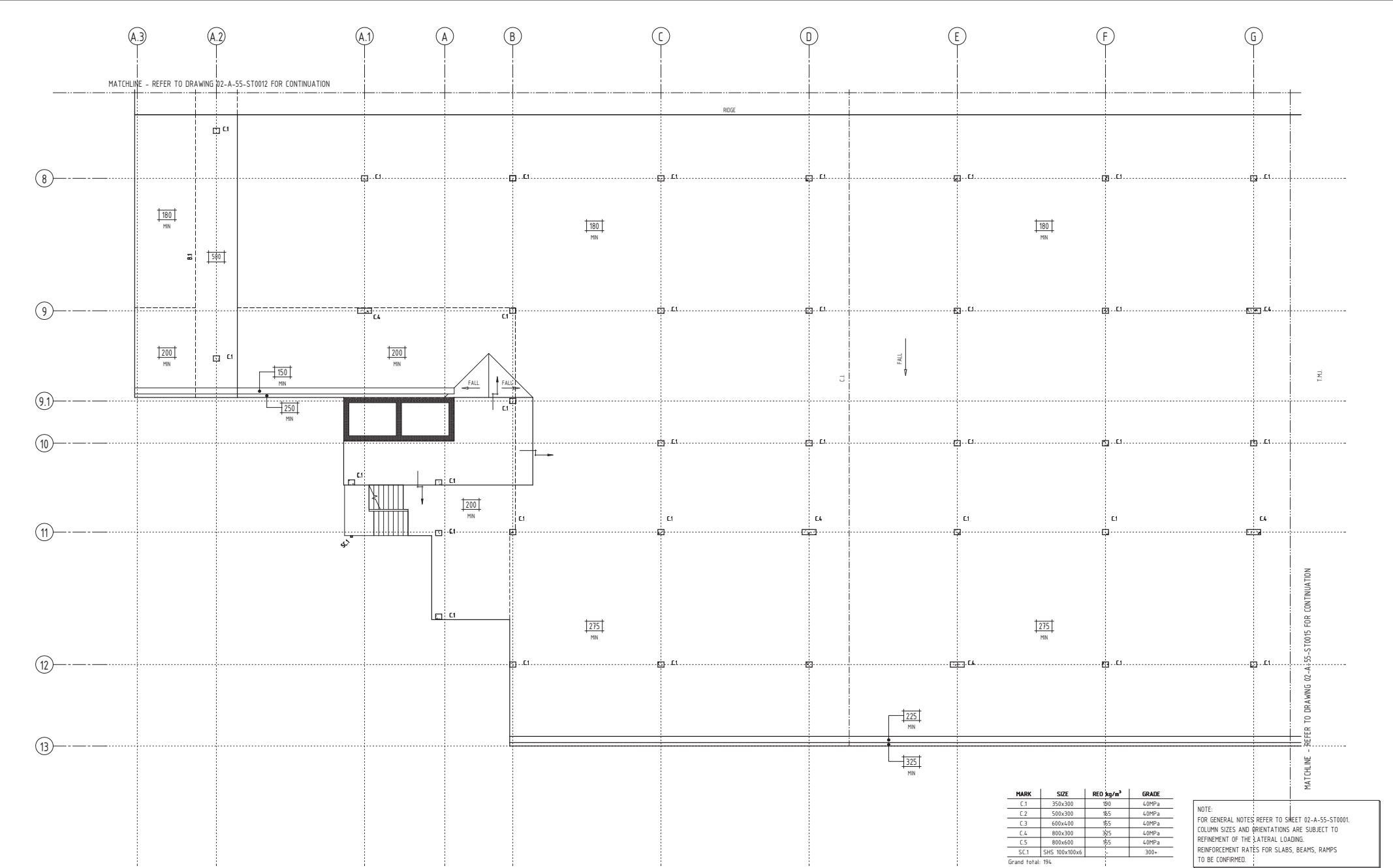
Perth Office
51 Forrest St,
Subiaco, Western Australia 6008, Australia
PO Box 443, Subiaco, Western Australia 6904
T 1300 657 402 F +617 3871 2266
E info@adgco.com W www.adgco.com

BRISBANE / SYDNEY / MELBOURNE / GOLD COAST / SUNSHINE COAST / DARWIN

ACCEPTED ON BEHALF OF PTA	
Date	Date
Date	Date

SCALE: 1 : 20		PTA DIVISION	
(@ A1)		DESIGNED P.M.	APPROVED FOR ISSUE PRELIMINARY NOT FOR CONSTRUCTION
DATUM:		DRAWN T.M.	
HORIZONTAL: PCG94		CHECKED K.Y.	Date
VERTICAL: AHD			
0 10 20 30 40 50		100mm	

 Government of Western Australia Public Transport Authority		Edgewater Carpark
LEVEL 1 CONCRETE AND RAMP SECTIONS		
PTA Drawing No:02-A-55-ST0024		REV: C



MARK	SIZE	REQ kg/m ²	GRADE
C.1	350x300	150	40MPa
C.2	500x300	165	40MPa
C.3	600x400	185	40MPa
C.4	800x300	325	40MPa
C.5	800x600	185	40MPa
SC.1	SHS 100x100x6	-	300+

Grand total: 194

NOTE:
FOR GENERAL NOTES REFER TO SHEET 02-A-55-ST0001.
COLUMN SIZES AND ORIENTATIONS ARE SUBJECT TO
REFINEMENT OF THE LATERAL LOADING.
REINFORCEMENT RATES FOR SLABS, BEAMS, RAMPS
TO BE CONFIRMED.

REV	DATE	ORIG SIZE	AMENDMENT	DRN	CHKD	APP
C	25.09.15		ISSUE FOR 50%			
B	04.09.15		RE-ISSUE FOR 15% SCHEMATIC DESIGN	TH	PM	
A	07.08.15		ISSUE FOR 15%	TH	PM	
A1						

ADG
Perth Office
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Subiaco, Western Australia 6008, Australia
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Date	Date

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(@ A1)

DATUM:
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PTA DIVISION

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CHECKED	K.Y.

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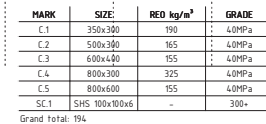
Government of Western Australia
Public Transport Authority

Edgewater Carpark

LEVEL 1
GENERAL ARRANGEMENT AND
BOTTOM REINFORCEMENT PLAN SHEET 3

PTA Drawing No:02-A-55-ST0014

REV: C



NOTE:
FOR GENERAL NOTES REFER TO SHEET 02-A-55-ST0001.
COLUMN SIZES AND ORIENTATIONS ARE SUBJECT TO
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REINFORCEMENT RATES FOR SLABS, BEAMS, RAMPS
TO BE CONFIRMED.

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VERTICAL: AHD

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DESIGNED	F.H.

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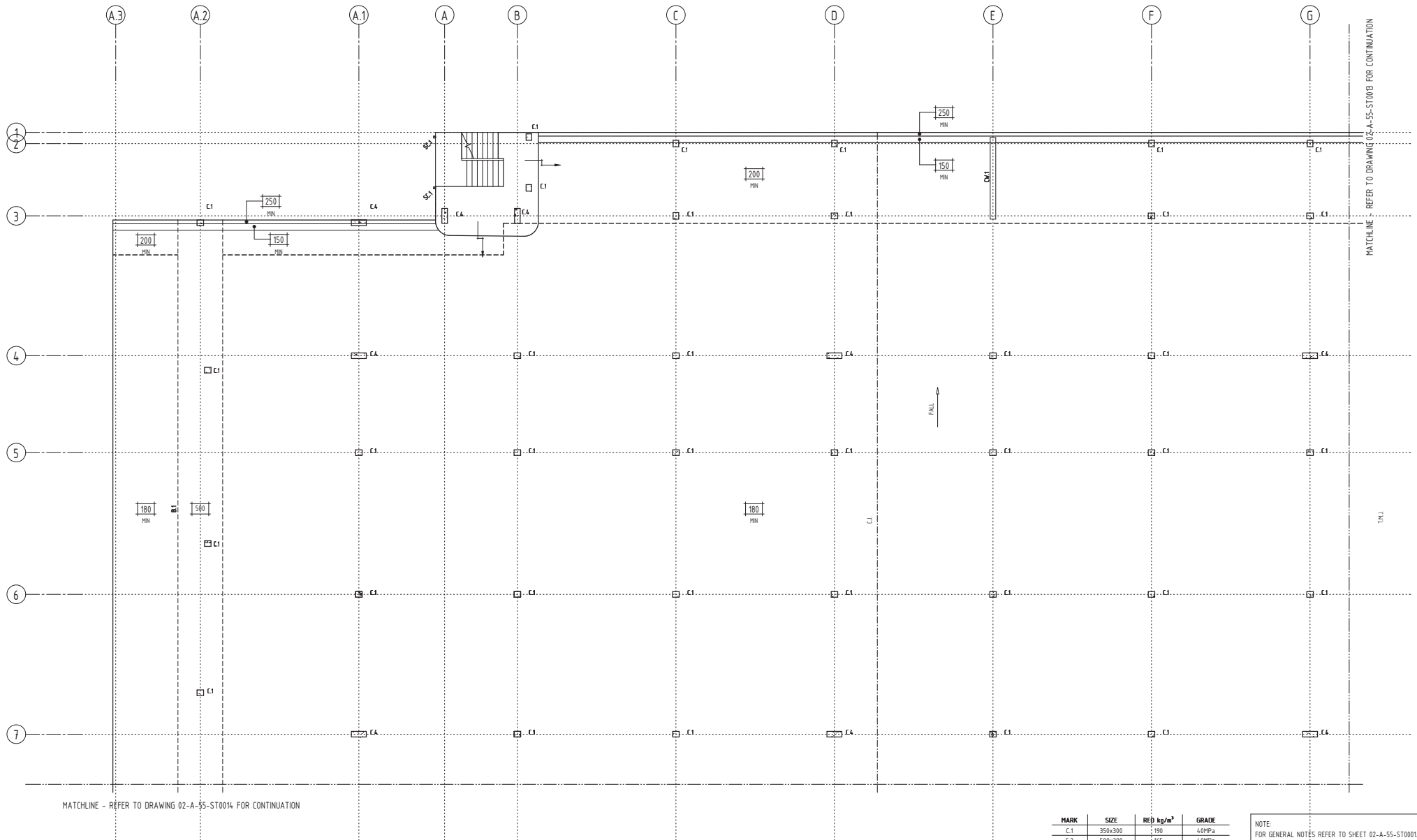
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LEVEL 1
GENERAL ARRANGEMENT AND
BOTTOM REINFORCEMENT PLAN SHEET 2

PTA Drawing No:02-A-55-ST0013

REV: (



MARK	SIZE	REQ kg/m²	GRADE
C.1	350x300	190	40MPa
C.2	500x300	165	40MPa
C.3	600x400	155	40MPa
C.4	800x300	325	40MPa
C.5	800x600	155	40MPa
SC.1	SHS 100x100x6	-	300+

Grand total: 194

NOTE:
FOR GENERAL NOTES REFER TO SHEET 02-A-55-ST0001.
COLUMN SIZES AND ORIENTATIONS ARE SUBJECT TO
REFINEMENT OF THE LATERAL LOADING.
REINFORCEMENT RATES FOR SLABS, BEAMS, RAMPS
TO BE CONFIRMED.

REV	DATE	ORIG SIZE	AMENDMENT	DRN	CHKD	APP
C	25.09.15		ISSUE FOR 50%		TH	PM
B	06.09.15		RE-ISSUE FOR 15% SCHEMATIC DESIGN		TH	PM
A	07.08.15		ISSUE FOR 15%		TH	PM
A1						

DRAWING PATHNAME
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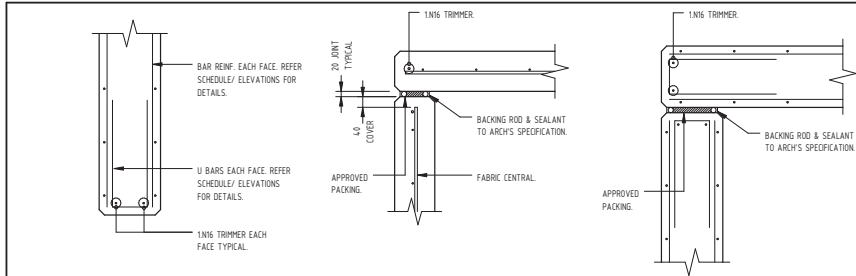
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ACCEPTED ON BEHALF OF PTA	
Date	Date
Date	Date

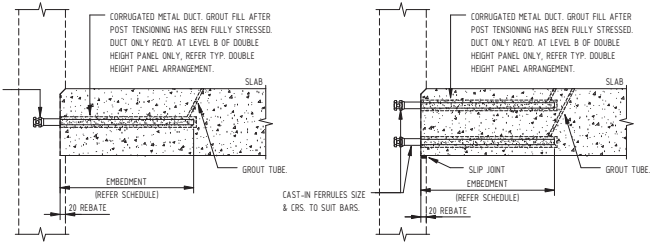
SCALE: As indicated (@ A1)	PTA DIVISION
DATUM: HORIZONTAL: PCG94 VERTICAL: AHD	DESIGNED P.M. DRAWN T.M. CHECKED K.Y.
0 10 20 30 40 50 100mm	Date

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Government of Western Australia Public Transport Authority	Edgewater Carpark
LEVEL 1 GENERAL ARRANGEMENT AND BOTTOM REINFORCEMENT PLAN SHEET 1	
PTA Drawing No:02-A-55-ST0012	REV: C



TYPICAL PANEL SECTION
SCALE 1:10



- PRECAST FIXING NOTES:**
- CAS-IN GROUT SLEEVE INDICATES 50 DIA PVC SLEEVE CAST INTO SLAB LOCATED CENTRALLY OVER PANEL FIXING. GROUT FILL WITH 50 MPa NON SHRINK GROUT. AFTER SLAB PROPPING HAS BEEN REMOVED. TYPICAL UND. ON DETAIL.
 - CORRUGATED METAL DUCT INDICATE 50mm DIA. CORRUGATED METAL DUCT GROUT TUBE. GROUT INJECT WITH 50 MPa NON SHRINK GROUT. ONCE SLAB BACK PROPPING HAS BEEN REMOVED. TYPICAL UND. ON DETAIL.
 - FULLY GROUTED BED INDICATES 20mm PANEL BED GROUTED WITH 50 MPa NON SHRINK GROUT. NON METALLIC PACKERS TO BE USED DURING PANEL INSTALLATION AS REQD. TYPICAL UND. ON DETAIL.

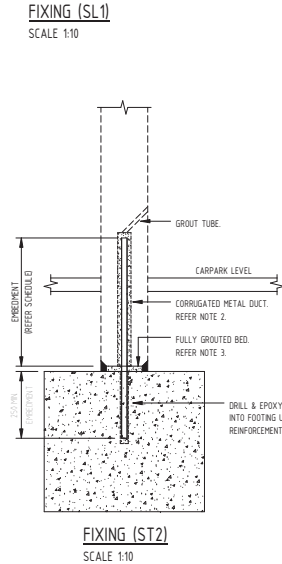
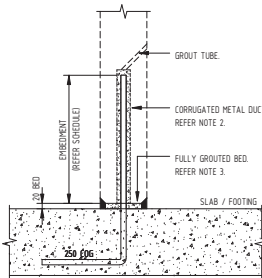
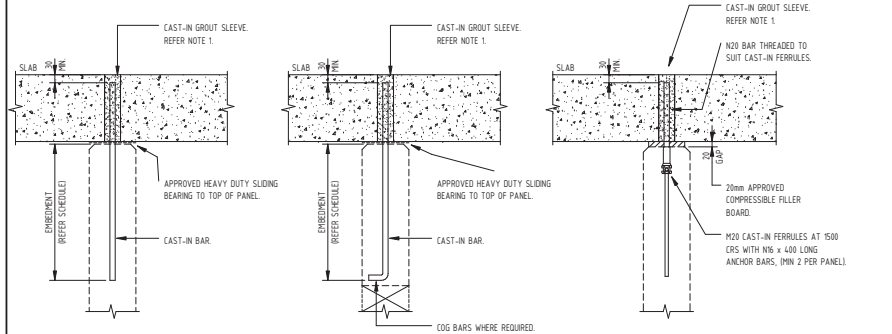
FIXING TYPE DENOTATION:
ST7...STARTER CONNECTION
T7...TERMINATING CONNECTION
P/P?...PANEL JOINT CONNECTION
P/S?...PANEL SPLICE CONNECTION
SL?...SLAB CONNECTION
CP?...CAST-IN PLATE CONNECTION

FIXING NOTATION:
ST/N2/S50/C55/PFF
ST1 - DENOTES FIXING TYPE
N20 - DENOTES FIXING BAR SIZE
S50 - DENOTES FIXING CENTRES
C - DENOTES FIXING IS CENTRAL OR EACH FACE/FAR FACE)
REFER PRECAST ELEVATIONS FOR FIXINGS, TYPICAL.

NOTE:
ALL PANELS ARE TO HAVE A MINIMUM OF 2 FIXINGS PER FLOOR LEVEL, U.N.O.

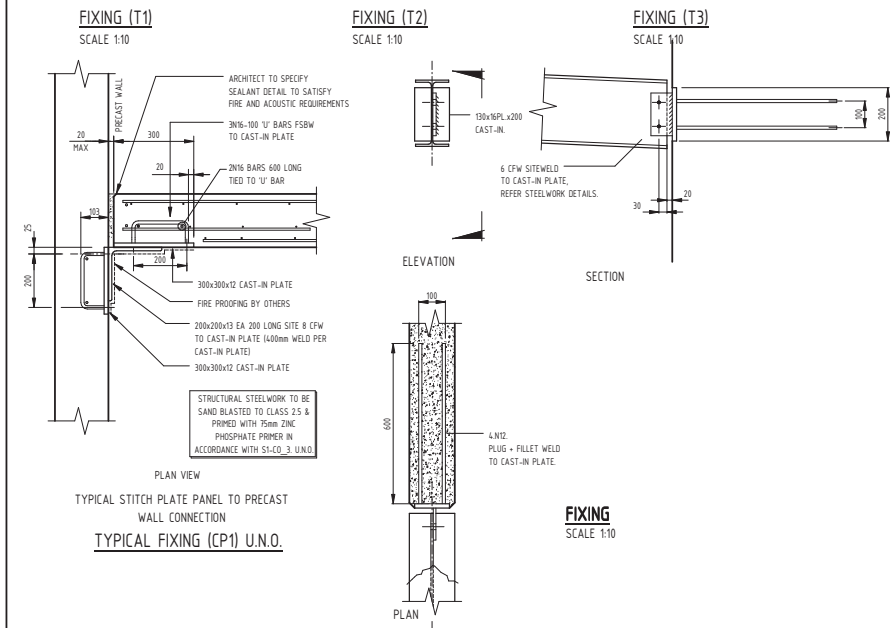
TYPICAL BAR LENGTH SCHEDULE

BAR SIZE	EMBEDMENT LENGTH
N12	450mm
N16	600mm
N20	800mm
N24	960mm
N28	1200mm
N32	1280mm



TYPICAL BAR LENGTH SCHEDULE

BAR SIZE	EMBEDMENT LENGTH
N12	450mm
N16	600mm
N20	800mm
N24	960mm
N28	1200mm
N32	1280mm



REV	DATE	ORIG SIZE	AMENDMENT	DRN	CHKD	APP
C	25.09.15		ISSUE FOR 50%	TH	PM	
B	04.09.15		REV-ISSUE FOR 15% SCHEMATIC DESIGN	TH	PM	
A	07.08.15		ISSUE FOR 15%	TH	PM	

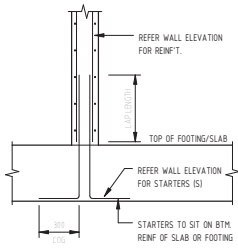
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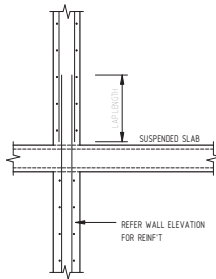
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SCALE: 1 : 10	PTA DIVISION
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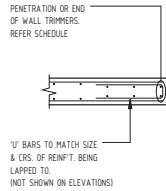
Government of Western Australia Public Transport Authority	Edgewater Carpark
PRECAST WALL DETAILS	
PTA Drawing No:02-A-55-ST0011	REV: C



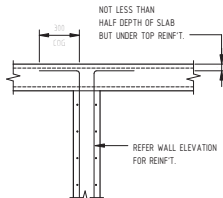
SECTION
WALL STARTER DETAIL
SCALE 1:20



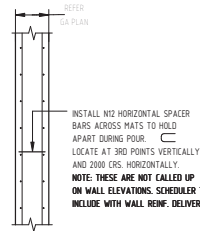
SECTION
WALL SPLICE DETAIL
AT SUSPENDED SLAB
SCALE 1:20



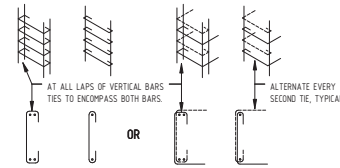
END OF WALL DETAIL
SCALE 1:20



UNDERSIDE OF SLAB
TOP OF WALL DETAILS
SCALE 1:20



WALL SPACER DETAIL
SCALE 1:20

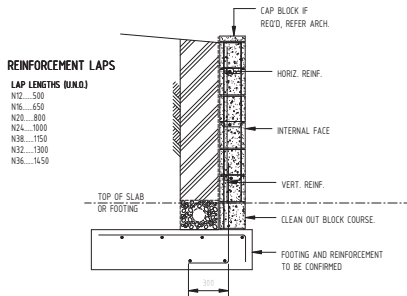


- NOTE:**
- DENOTES WALL TIES.
 - WHERE VERTICAL BAR IS LESS THAN OR EQUAL TO 150 CTRS. PROVIDE WALL TIES TO EVERY SECOND VERTICAL BAR AT HORIZONTAL REINFORCEMENT CRS.
 - WHERE VERTICAL BAR IS GREATER THAN 150 CTRS. PROVIDE WALL TIES TO EVERY VERTICAL BAR AT HORIZONTAL REINFORCEMENT CRS.

WALL TIE DETAIL
SCALE 1:20

WALL TIE SCHEDULE:

VERTICAL BAR	WALL TIE (55 MPa MAX.)	WALL TIE (OVER 55 MPa)
N12	R6	N10
N16	R6	N10
N20	R6	N10
N24	R10	N12
N28	R10	N12
N32	R10	N12
N36	R10	N12



TYPICAL BLOCKWORK RETAINING DETAILS
SCALE 1:20

WALL NOTES

- FOR GENERAL AND CONSTRUCTION NOTES REFER TO DRAWING No. **S_W0_0001**
- FOR DETAILS OF R/L'S, DIMENSIONS AND SETOUT ETC. REFER TO LATEST ARCHITECT'S DRAWING. ANY VARIATION TO THAT SHOWN ON ENGINEERS DRAWINGS TO BE NOTIFIED TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF ANY WORKS.
- WALLS ARE VIEWED FROM SIDE WHERE WALL TAGS ARE NOTED ON PLAN UNDO.
LEGEND:
■ DENOTES VARIATIONS IN TYPICAL WALL THICKNESS STATED. REFER TO ARCHITECTS DETAILS AND STRUCTURAL WALL DETAILS.
■ DENOTES SPECIFIC VARIATION IN TYPICAL WALL THICKNESS STATED.
■ DENOTES NEAR FACE LOCATIONS OF SLAB OR STAIR LANDING REBATES AND STARTER BARS CAST INTO WALL. FOR REBATE AND REINFORCEMENT DETAILS REFER TO RELEVANT WALL SECTION AND DETAILS DRAWINGS AND STAIR DRAWINGS.
■ DENOTES FAR FACE LOCATIONS OF SLAB OR STAIR LANDING REBATES AND STARTER BARS CAST INTO WALL. FOR REBATE AND REINFORCEMENT DETAILS REFER TO RELEVANT WALL SECTION AND DETAILS DRAWINGS AND STAIR DRAWINGS.
■ DENOTES VERTICAL ELEMENTS (COLUMNS OR WALL). FOR PRECAST WALL REFER DHS. SERIES S_W0_0076. FOR COLUMNS REFER DHS. SERIES S_W0_0075.

CONCRETE WALL REFERENCING NOTATION

- CW3** CONCRETE WALL
3 WALL NUMBER

WALL REINFORCEMENT NOTES

- FOR GENERAL AND CONSTRUCTION NOTES REFER TO DRAWING No. **S_W0_0001**
- STARTER BARS "B" TO BE THE SAME SIZE AND NUMBER OF AS COLUMN REINFORCEMENT THEY LAP WITH BUNDO. STARTER BAR CRS TO BE TIED TO BOTTOM REINFORCEMENT OF STRUCTURAL ELEMENT THEY ARE CAST INTO.
- SLAB CONCRETE COVER TO REINFORCEMENT:**
INTERNAL WALLS - 25mm
EXTERNAL WALLS - 40mm
- MINIMUM WALL REINFORCEMENT LAP LENGTHS**
N12 - 450mm N20 - 800mm N28 - 1000mm N36 - 1000mm
N16 - 700mm N24 - 1000mm N32 - 1000mm N40 - 2000mm
- CSG ALL WALL BARS 300mm UNDO WHERE SHOWN ON SCHEDULE.
- FIRST HORIZONTAL BAR IN ALL WALL LIFTS TO BE LOCATED 50mm ABOVE SLAB. LAST HORIZONTAL BAR TO BE LOCATED 50mm BELOW UNDERSIDE OF SLAB OR TOP OF WALL WHERE APPLICABLE. TYPICAL ALL WALL LIFTS.
- WALLS ARE VIEWED FROM SIDE WHERE WALL TAGS ARE NOTED ON PLAN UNDO.
- FOR ADDITIONAL BARS NOT NOTED ON ELEVATIONS AND SPECIAL DETAILS, REFER TO RELEVANT WALL SECTION DETAIL DRAWINGS.
- FOR EXTENTS AND PROFILES OF LEIGATURES AND TIES NOTED ON ELEVATIONS, REFER TO RELEVANT WALL SECTION DETAIL DRAWINGS.
- FOR DETAILS OF WALL THICKNESS, CONCRETE GRADE, REBATES ETC REFER TO RELEVANT CONCRETE WALL ELEVATION DRAWINGS.
- ALL VERTICAL BARS CURTLING AT SLAB LEVEL OVER TO EXTEND TO UNDERSIDE OF TOP REINFORCEMENT IN SLAB OR NO LESS THAN HALF SLAB DEPTH.

ABBREVIATIONS

- INDICATES WALL TIES WHEN NOTED ON ELEVATIONS. REFER TO WALL TIE SCHEDULE FOR DETAILS TYPICAL.
- EF** EXACT FACE
NF NEAR FACE
FF FAR FACE
- DENOTES LOCATION OF CHANGE IN SHAPE OR LENGTH OF BARS WITHIN BAR DROP.
- X** DENOTES 1200 EF TRIMMER BARS TO PENETRATIONS
- BL1** DENOTES BLOCKWORK UNTEL. REFER TO BL1 ON S_W0_0001 FOR DETAILS

LIGATURES & TIES

- L1** DENOTES CLOSED LEIGATURE
L1' DENOTES OPEN TIE
L1-T DENOTES COMPRESSION TIES - L1 DENOTES LOCAL TO T1-4 AND TIE TYPE 1 WITHIN T1-4
FOR "L1" TYPE/DIAMETER AND VERTICAL SPACING REFER TO WALL ELEVATIONS.
FOR "L1" NUMBER OFF AND LOCATIONS REFER TO WALL SECTION DETAILS.

VERTICAL SPACING OF ALL CORNER AND END BARS TO BE AS HORIZONTAL BARS UNLESS LAPPED WITH

CORNER - END VERTICAL BARS

- L1** DENOTES GROUPS OF BARS AT END OF WALLS OR AT CHANGE IN WALL THICKNESS.
PROFILE OF BAR TO MATCH VERTICAL MAIN BAR IN WALL.
FOR EXACT BAR POSITION WITHIN WALL, REFER TO RELEVANT WALL SECTION DETAIL DRAWINGS.

BLOCKWORK NOTES:

- PROVIDE 1 No. VERTICAL BAR EACH SIDE OF OPENINGS & AT ENDS OF WALLS, PROVIDE MIN. 1x12 HORIZ. IN ALL BLOCK SILLS, TYPICAL UNLESS NOTED OTHERWISE.
- WHERE LOAD BEARING BLOCK WALLS ARE LESS THAN 1000 LONG, PROVIDE 1 No. VERTICAL BAR (VERTICAL REINF. AS NOTED IN SCHEDULE ABOVE) IN EACH COURSE.
- ALL RETAINING WALLS ARE TO BE REMAIN PROPPED IF BACKFILLING IS COMMENCED WITHIN 7 DAYS OF POURING SLAB OVER.
- ALL BLOCKWORK TO BE FULLY CORE FILLED (NOV GROUT) UNLESS NOTED OTHERWISE.
- ALL CORE FILLED NON-LOAD BEARING WALLS SHALL BE REINFORCED WITH 1x12 VERTICAL EACH SIDE OF OPENINGS, AT ENDS OF WALLS, AT T JUNCTIONS WITH OTHER WALLS & AT 1000 MAX. CTRS. IN BETWEEN - PROVIDE 1x12 HORIZ. BOND BEAM AT TOP OF WALL, TYPICAL UNDO.

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C	25.09.15		ISSUE FOR 50%	TH	PM	
B	26.09.15		REV. ISSUE FOR 15% SCHEMATIC DESIGN	TH	PM	
A	07.08.15		ISSUE FOR 15%	TH	PM	
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A1			C:\Autodesk\ADGSTR_17626 EDgewater CENTRAL_V5_tmorriso.rvt			

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Edgewater Carpark

TYPICAL INSITU AND BLOCKWORK WALL DETAILS

SHEET 1

PTA Drawing No:02-A-55-ST0009

REV: C



PAD FOOTING SCHEDULE



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SCALE: 1 : 20

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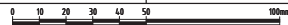
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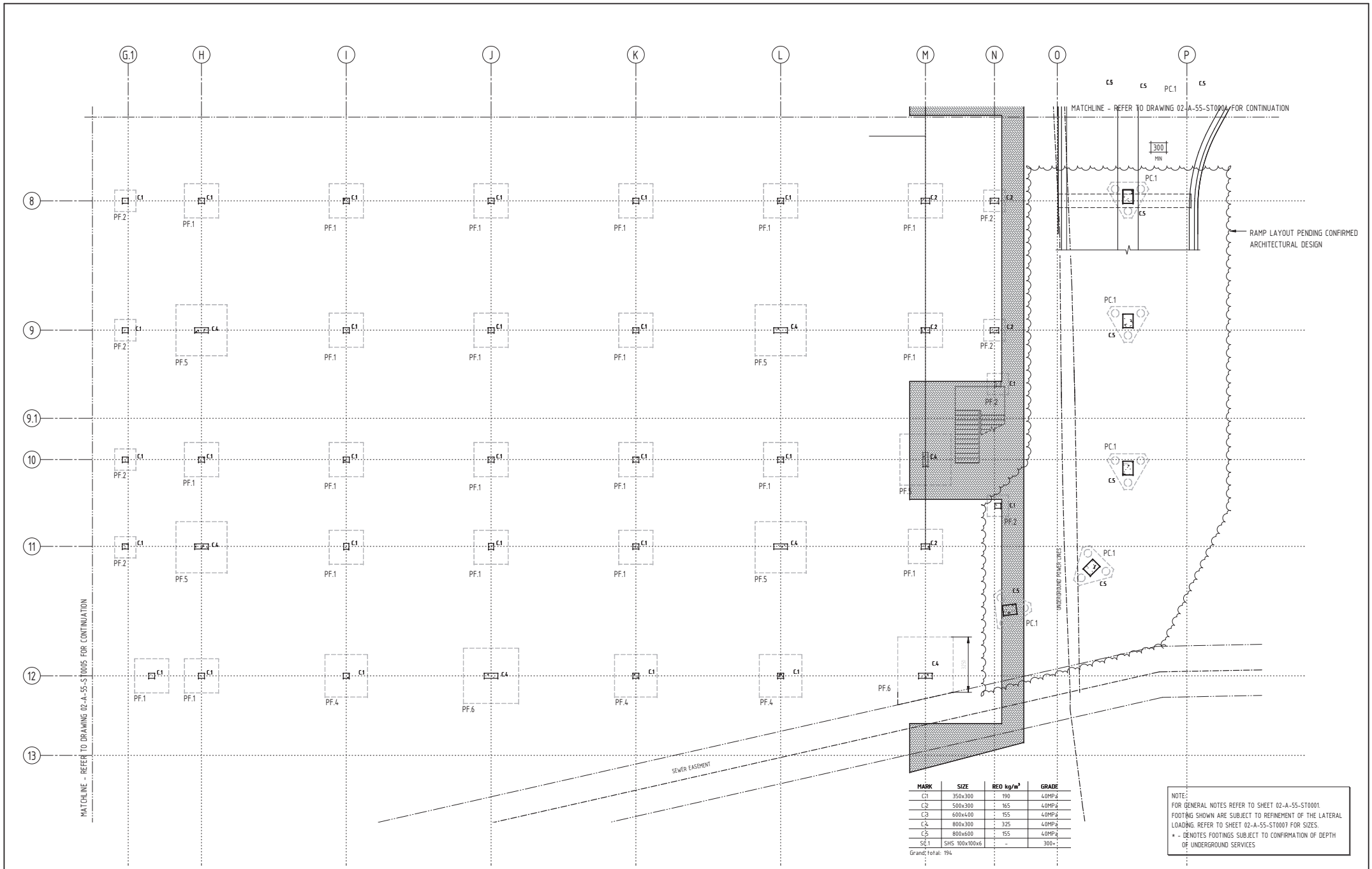
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FOOTING
DETAILS

PTA Drawing No:02-A-55-ST0007

REV: E





E	25.09.15	ISSUE FOR 50%		TH	PM
D	04.09.15	RE-ISSUE FOR 15% SCHEMATIC DESIGN		TH	PM
C	07.08.15	ISSUE FOR 15%		TH	PM
B	22.07.15	ISSUE FOR INFORMATION		TH	PM
A	16.07.15	ISSUE FOR INFORMATION		TH	PM
REV	DATE	AMENDMENT	DRN	CHKD	APP
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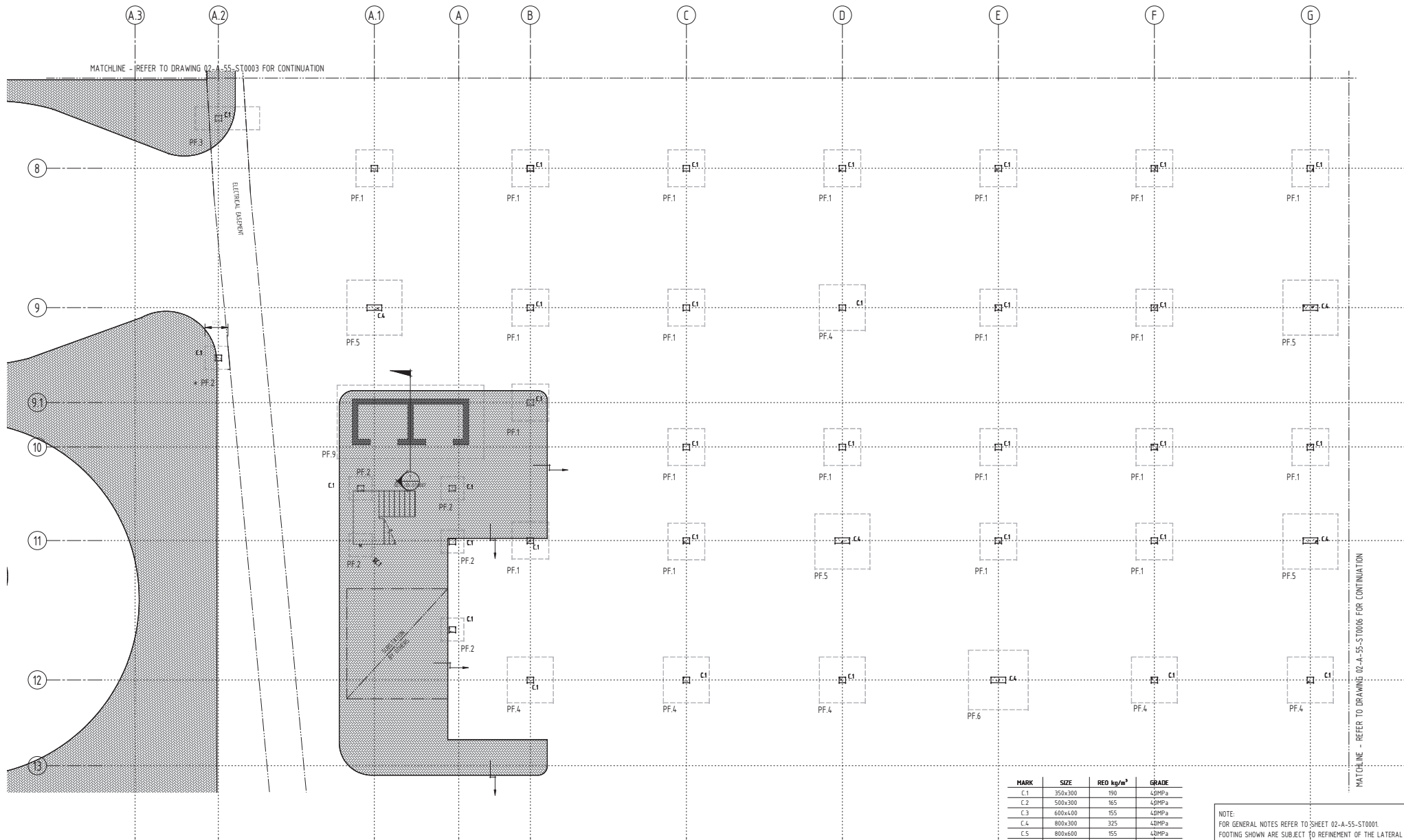
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Edgewater Carpark

FOUNDATIONS
GENERAL ARRANGEMENT
SHEET 4

PTA Drawing No:02-A-55-ST0006

REV: E



MARK	SIZE	REQ kg/m ³	GRADE
C1	350x300	190	40MPa
C2	500x300	155	40MPa
C3	600x400	155	40MPa
C4	800x300	325	40MPa
C5	800x600	155	40MPa
SC1	SHS 100x100x6	-	300+
Grand total: 194			

REV	DATE	ORIG SIZE	AMENDMENT	DRN	CHKD	APP
E	25.09.15		ISSUE FOR 50%			
D	04.09.15		RE-ISSUE FOR 15% SCHEMATIC DESIGN			
C	07.08.15		ISSUE FOR 15%			
B	22.07.15		ISSUE FOR INFORMATION			
A	16.07.15		ISSUE FOR INFORMATION			
AMENDMENT						
DRAWING PATHNAME						
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A1						

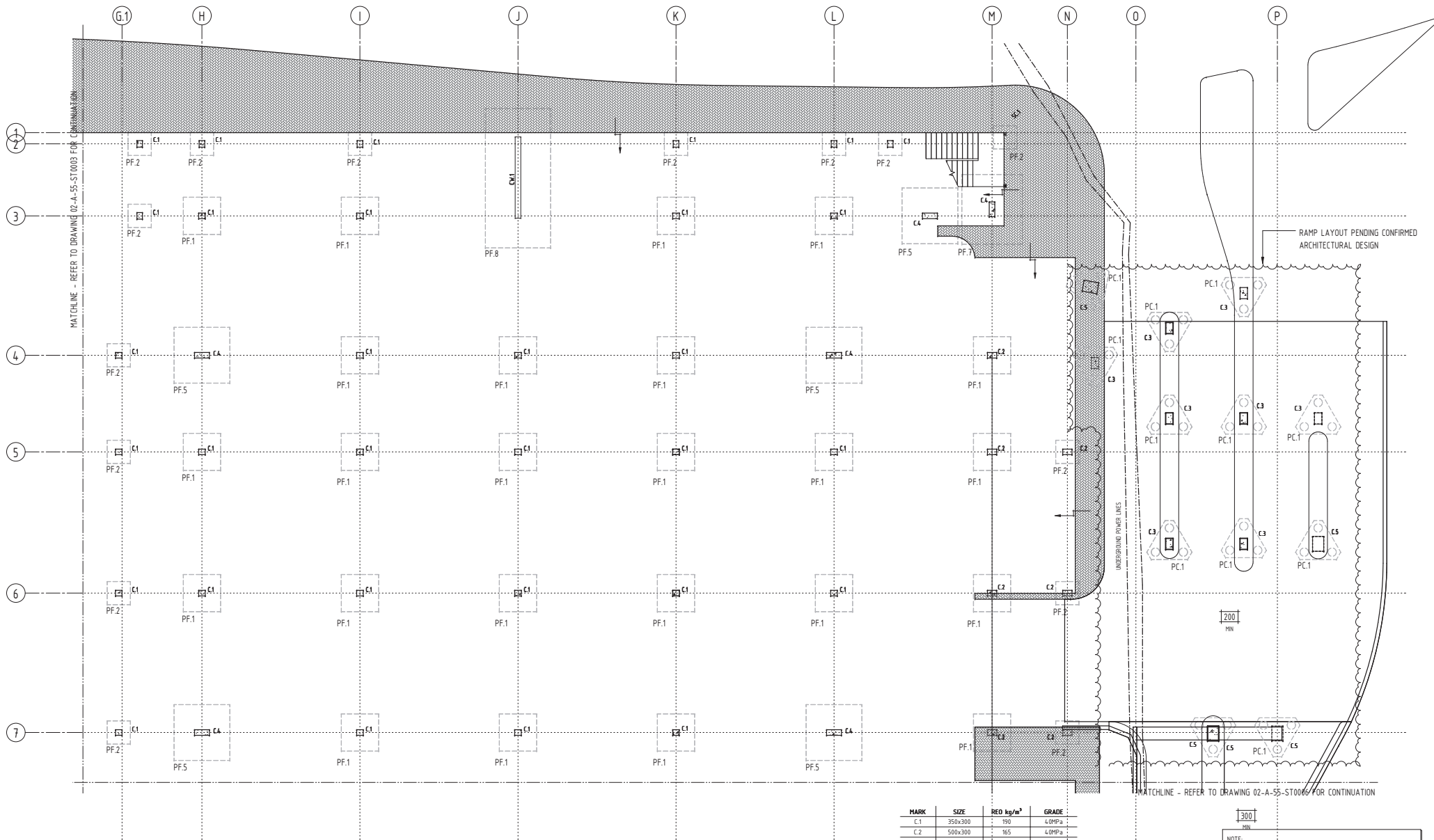
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Date	

Government of Western Australia
Public Transport Authority
Edgewater Carpark
FOUNDATIONS
GENERAL ARRANGEMENT
SHEET 3
PTA Drawing No:02-A-55-ST0005
REV: E



MARK	SIZE	REQ kg/m ²	GRADE
C1	350x300	190	4.0MPa
C2	500x300	165	4.0MPa
C3	600x400	155	4.0MPa
C4	800x300	325	4.0MPa
C5	800x600	155	4.0MPa
SC1	SHS 100x100x6	-	300+
Grand total: 194			

NOTE:
FOR GENERAL NOTES REFER TO SHEET 02-A-55-ST0001.
FOOTING SHOWN ARE SUBJECT TO REFINEMENT OF THE LATERAL
LOADING. REFER TO SHEET 02-A-55-ST0007 FOR SIZES.
* - DENOTES FOOTINGS SUBJECT TO CONFIRMATION OF DEPTH
OF UNDERGROUND SERVICES

REV	DATE	ORIG SIZE	AMENDMENT	DRN	CHKD	APP
E	25.09.15		ISSUE FOR 50%			
D	04.09.15		RE-ISSUE FOR 15% SCHEMATIC DESIGN			
C	07.08.15		ISSUE FOR 15%			
B	22.07.15		ISSUE FOR INFORMATION			
A	16.07.15		ISSUE FOR INFORMATION			
REV DATE ORIG SIZE AMENDMENT DRN CHKD APP						
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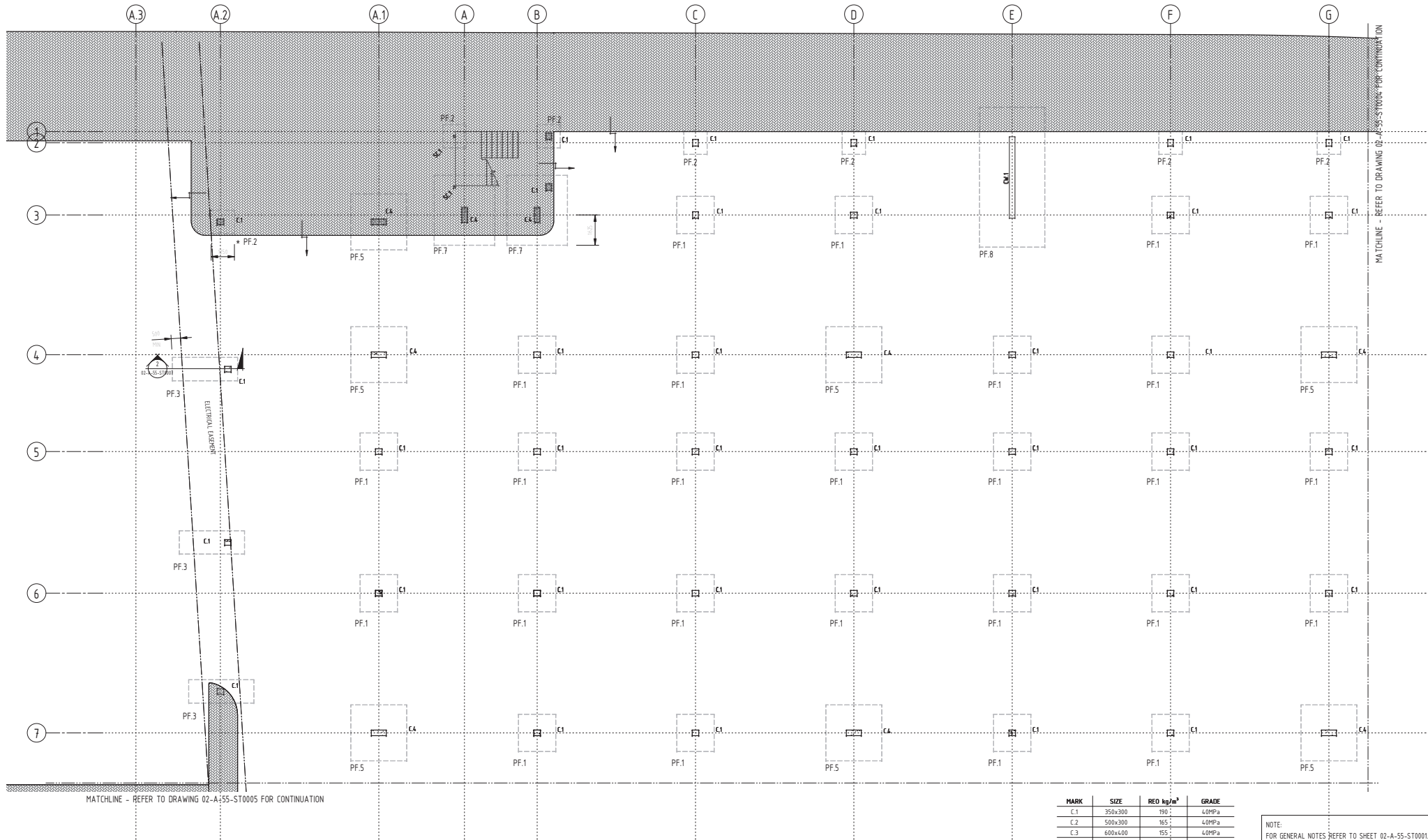
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FOUNDATIONS
GENERAL ARRANGEMENT
SHEET 2
PTA Drawing No:02-A-55-ST0004
REV: E



MARK	SIZE	REQ kg/m ³	GRADE
C.1	350x300	190	40MPa
C.2	500x300	165	40MPa
C.3	600x400	155	40MPa
C.4	800x300	325	40MPa
C.5	800x600	155	40MPa
SC.1	SHS 100x100x6	-	300+

Grand total: 194

NOTE:
FOR GENERAL NOTES REFER TO SHEET 02-A-55-ST0001.
FOOTING SHOWN ARE SUBJECT TO REFINEMENT OF THE LATERAL
LOADING. REFER TO SHEET 02-A-55-ST0007 FOR SIZES.
* - DENOTES FOOTINGS SUBJECT TO CONFIRMATION OF DEPTH
OF UNDERGROUND SERVICES

REV	DATE	ORIG SIZE	AMENDMENT	DRN	CHKD	APP
E	25.09.15		ISSUE FOR 50%			
D	04.09.15		RE-ISSUE FOR 15% SCHEMATIC DESIGN			
C	07.08.15		ISSUE FOR 15%			
B	22.07.15		ISSUE FOR INFORMATION			
A	16.07.15		ISSUE FOR INFORMATION			
REV	DATE	ORIG SIZE	AMENDMENT	DRN	CHKD	APP
A1			DRAWING PATHNAME			
			C:\Autodesk\ADGSTR_17626\EDGEWATER_CENTRAL_V5_1.morrison.rvt			

ADG
Perth Office
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Subiaco, Western Australia 6008, Australia
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T 1300 657 402 F +617 3871 2266
E info@adgpc.com W www.adgpc.com
BRISBANE / SYDNEY / MELBOURNE / GOLD COAST / SUNSHINE COAST / DARWIN

ACCEPTED ON BEHALF OF PTA	
Date	Date
Date	Date

SCALE: As indicated (@ A1)
DATUM: HORIZONTAL: PCG94 VERTICAL: AHD
0 10 20 30 40 50 100mm

PTA DIVISION	
DESIGNED P.M.	APPROVED FOR ISSUE PRELIMINARY NOT FOR CONSTRUCTION
DRAWN T.M.	Date
CHECKED K.Y.	This document must not be copied without PTA's written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorized purpose.

Government of Western Australia
Public Transport Authority

Edgewater Carpark

FOUNDATIONS
GENERAL ARRANGEMENT
SHEET 1

PTA Drawing No:02-A-55-ST0003

REV: E

Edgewater Carpark

Edgewater Train Station, Joondalup

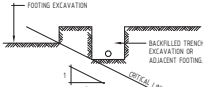
GENERAL

01. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANT DRAWINGS AND SPECIFICATIONS AND WITH ALL OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO ADD ENGINEERS BEFORE PROCEEDING WITH THE WORK.
02. SETTING-OUT DIMENSIONS AND SIZES OF STRUCTURAL MEMBERS SHALL NOT BE DETERMINED BY SCALING THE STRUCTURAL DRAWINGS. ANY SETTING-OUT DIMENSIONS SHOWN IN THE STRUCTURAL DRAWINGS SHALL BE CHECKED BY THE CONTRACTOR BY MEANS OF THE FOLLOWING:
03. UNLESS NOTED OTHERWISE ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES.
04. CONTRACTOR TO COORDINATE ALL SERVICES TO AVOID CLASHES WITH STRUCTURAL ELEMENTS. ALL EXISTING SERVICES SHALL BE LOCATED PRIOR TO THE COMMENCEMENT OF WORKS.
05. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT AND CURRENT AUSTRALIAN STANDARDS AND WITH THE BY-LAWS AND ORDINANCES OF THE RELEVANT BELONGED AUTHORITIES EXCEPT WHERE VARIED BY THE PROJECT SPECIFICATION OR WRITTEN INSTRUCTION.
06. CONTRACTOR TO PROVIDE MINIMUM 24 HOURS NOTICE FOR ALL ENGINEERS' INSPECTIONS.
07. DURING CONSTRUCTION, THE STRUCTURE, NEIGHBOURING STRUCTURES AND ADJACENT SERVICES SHALL BE MAINTAINED IN A SAFE AND STABLE CONDITION. NO PART SHALL BE OVERSTRESSED. TEMPORARY SUPPORT AND BRACING SHALL BE PROVIDED BY THE CONTRACTOR AS REQUIRED TO KEEP THE WORKS AND EXCAVATIONS STABLE AT ALL TIMES.
08. CONTRACTOR TO OBTAIN WRITTEN INSTRUCTION FOR VARIATIONS, AMENDMENTS, DETAILS OR WHERE DETAILS HAVE NOT BEEN INCLUDED WITHIN THE CURRENT DOCUMENTATION PRIOR TO PROCEEDING WITH WORKS.
09. NO PENETRATIONS, CORROSION OR CRACKS OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE PERMITTED WITHIN STRUCTURAL ELEMENTS WITHOUT WRITTEN APPROVAL.
10. PROPRIETARY ITEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. ELEMENTS DESIGNED BY OTHERS SHALL BE INSPECTED AND CERTIFIED BY THE SAME AND SHALL BE INCLUDED WITHIN THE STRUCTURAL CERTIFICATION PROVIDED BY THE ENGINEERS.
11. WHO LOADS ARE IN ACCORDANCE WITH AS/NZS 4103 - DESIGN A TYPICAL CATEGORY 25 - REGION A
12. THE STRUCTURAL COMPONENTS DETAILLED ON THESE DRAWINGS HAVE BEEN DESIGNED IN ACCORDANCE WITH ALL RELEVANT AND LOCAL AUTHORITY REQUIREMENTS FOR THE FOLLOWING LOADS:

ELMENT	PARAMETER	LEVEL LOAD DATA
1	WIND LOAD (kPa)	25 kPa
2	WIND LOAD (kN/m²)	15 kN APPLIED OVER 30m²
3	SEISMOLOGICAL LOAD	AS/NZS 4103 - DESIGN A TYPICAL CATEGORY 25 - REGION A
4	IMPACT LOAD	0.89
5	SOIL CLASSIFICATION	Ca

FOUNDATIONS

01. THIS FOOTING DESIGN HAS BEEN PREPARED BASED ON INFORMATION PROVIDED IN THE FOLLOWING GEOTECHNICAL REPORT:
02. THE DESIGNER MUST BE AWARE THAT FOUNDATIONS MAY VARY BETWEEN TEST LOCATIONS REFERRED TO IN THE GEOTECHNICAL REPORT.
03. IF FOUNDATION CONDITIONS DIFFER FROM THOSE DESCRIBED IN THE GEOTECHNICAL REPORT IN PERFORMANCE EARTHQUAKES OR FOOTING EXCAVATION, THE DESIGNER MUST BE NOTIFIED IN WRITING IMMEDIATELY AS A VARIATION TO THE SITE CLASSIFICATION AND/OR DESIGN MAY BE REQUIRED.
04. THIS DESIGN HAS BEEN BASED ON THE ASSUMPTION THAT THE FOUNDING MATERIAL SATISFIES THE MINIMUM BEARING CAPACITY NOMINATED ON THE DRAWINGS AND/OR GEOTECHNICAL REPORT. FURTHERMORE, THE PROPOSED LOCATION OF THE STRUCTURE IS NOT SUBJECT TO POSSIBLE GEOTECHNICAL OR OTHER SOIL INSTABILITY PROBLEMS.
05. FOOTING PILES SHALL BE LOCATED CENTRALLY UNDER WALLS AND COLUMNS UNLESS NOTED OTHERWISE.
06. ALL LOOSE MATERIALS AND WATER TO BE CLEANED OUT OF THE FOUNDATION FORM WORK TO BE USED WHERE THE SIZES OF THE FOUNDATION ARE NOT STABLE.
07. A 50mm MINIMUM BULKING LAYER SHOULD BE APPLIED TO THE BASE OF ALL FOUNDATIONS IMMEDIATELY AFTER VIBRATING OF THE BEARING CAPACITY BY THE GEOTECHNICAL ENGINEER.
08. WHERE THE FOUNDING MATERIAL IS SUPERIOR THAN REQUIRED FOR THE FOOTING, THE EXCAVATION IS TO BE BACKFILLED WITH A WEAR OR REINFORCEMENT FILL TO THE UNDERSIDE OF THE FOOTING.
09. UNLESS OTHERWISE APPROVED BY ADD ENGINEERS, THE LIMITATIONS OF EXCAVATIONS HAVING FOOTINGS SHALL BE AS FOLLOWS:



EXCAVATION HAVING EXISTING FOOTINGS SHALL NOT EXTEND BELOW FOUNDATION LEVEL WITH THE APPROVAL OF ADD ENGINEERS.

FOUNDATIONS - CONTINUED

01. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ANY EXCAVATION IN A STABLE CONDITION WITHOUT ADVERSELY AFFECTING SURROUNDING PROPERTY, INCLUDING SERVICES.
02. THIS INCLUDES OBTAINING ALL NECESSARY APPROVALS FOR SHORING AND ANCHORING SYSTEMS.
03. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AND LOCATING ALL EXISTING UNDERGROUND SERVICES PRIOR TO ANY EXCAVATION COMMENCING.
04. DEPTHS SPECIFIED FOR FOOTINGS ARE MINIMUM DEPTHS. GREATER DEPTH MAY BE NECESSARY TO ACHIEVE SPECIFIED FOUNDING BASE.
05. IF THE MATERIAL UNDERLYING THE SOFT IS EXPANSIVE CLAY, PRECAUTIONS ARE TO BE TAKEN TO AVOID FUTURE VARIATIONS.
06. IF THE MATERIAL UNDERLYING THE SITE IS EXPANSIVE CLAY, THE FOLLOWING PRECAUTIONS ARE TO BE TAKEN TO AVOID FUTURE VARIATIONS:
- (a) AVOID LANDSCAPE PLANTING CLOSE TO FOOTINGS.
 - (b) PROMPT REPAIR OF LEAKING SERVICES.
 - (c) FINISHED LEVELS SHALL ENSURE SURFACE WATER CAN NOT POND AGAINST FOOTINGS.

SUBGRADE PREPARATION

01. THE SITE SHALL BE STRIPPED AND EXCAVATED TO THE LEVELS SHOWN ON THE RELEVANT DRAWINGS.
02. THE SITE SHALL BE STRIPPED OF ALL VEGETATION AND ANY SOFT SPOTS, Boulders OR FILL UNDER SLABS OR FOOTINGS TO BE PLACED IN 200mm MAX LAYERS AND COMPACTED TO 95% DRY DENSITY RATIO (STANDARD) COMPACTOR FOR CONCRETE MATERIALS OR 90% RELATIVE DENSITY FOR NON CONCRETE MATERIALS.
03. ANY LOCAL "SOFT" ZONES ARE TO BE EXCAVATED AND COMPACTED TO ACHIEVE THE ABOVE AND NOT TO BE REJECTED BY GEOTECHNICAL ENGINEER.

CONCRETE

01. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 AND THE CONCRETE SPECIFICATION.
02. NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING.
03. ALL REINFORCEMENT SHALL BE PROPERLY SUPPORTED ON REINFORCEMENT CHAIRS AT NOT GREATER THAN 40mm CENTRES WITH WAYS SHALL BE TIED AT ALTERNATE INTERSECTIONS. IN EXPOSURE CONDITIONS GREATER THAN B1 USE ONLY PLASTIC CHAIRS.
04. CONCRETE DIMENSIONS SHOWN DO NOT INCLUDE THICKNESSES OF APPLIED FINISHES.
05. DEPTHS OF BEAMS ARE GIVEN FIRST AND INCLUDE SLAB THICKNESSES.
06. FOR CHAMBERS, DROP GROOVES, FILLETS ETC REFER TO ARCHITECT'S DETAILS.
07. MAINTAIN MINIMUM COVER TO REINFORCEMENT AT THESE LOCATIONS.
08. NO HOLES, CRACKS OR DIMENSIONS OF PIPES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR WRITTEN APPROVAL OF THE ENGINEER.
09. CONSTRUCTION JOINTS WHERE NOT SHOWN SHALL BE LOCATED TO THE APPROVAL OF THE ENGINEER.
10. THE FINISHED CONCRETE SHALL BE A DENSE HOMOGENEOUS MASS, COMPLETELY FILLING THE FORMWORK THROUGHOUT. PRELOADING THE REINFORCEMENT AND FILL OF STONE POCKETS. ALL CONCRETE INCLUDING SLABS ON GROUND AND FOOTINGS SHALL BE COMPACTED THOROUGHLY.
11. CURING OF ALL CONCRETE SHALL BE ACHIEVED BY KEEPING SURFACES CONTINUOUSLY WET FOR A PERIOD OF 3 DAYS, AND PREVENTION OF LOSS OF MOISTURE FOR A TOTAL OF 7 DAYS FOLLOWED BY A GRADUAL DRYING OUT APPROVED SPRAYED ON CURING COMPOUND OR WHERE NO FLOOR FINISHES ARE PROPOSED, ONLY WAX BASED AND CHLORINATED RUBBER CONCRETE WAXES MAY BE USED TO PROTECT FROM WIND AND TRAFFIC.
12. CONSTRUCTION STOPPING SHALL BE LEFT IN PLACE WHERE REQUIRED TO AVOID OVERSTRESSING THE STRUCTURE DUE TO CONSTRUCTION LOADS.
13. THE ENGINEER SHALL BE GIVEN A MINIMUM OF 72 HOURS NOTICE FOR REINFORCEMENT INSPECTION AND CONCRETE SHALL NOT BE ORDERED UNTIL FINAL APPROVAL IS OBTAINED.
14. THE ENGINEER SHALL BE GIVEN A MINIMUM OF 72 HOURS NOTICE FOR REINFORCEMENT INSPECTION AND CONCRETE SHALL NOT BE ORDERED UNTIL FINAL APPROVAL IS OBTAINED.
15. CONCRETE SHALL BE PLACED IN 150mm MAX LAYERS.
16. REINFORCEMENT SYMBOLS - (1) NUMBER OF BARS IN GROUP (2) BAR MARK TYPE AND DIAMETER (3) SPACING IN mm
17. DENOTES LAYER BAR PLACED IN
18. DENOTES BARS LAD FIRST
19. DENOTES BARS LAD LAST
20. DENOTES GRADE 300 S W/OT ROLLED DEFORMED BARS TO AS 1902
21. DENOTES GRADE 300 N BARS TO AS 1902 CLAS IN
22. DENOTES GRADE 300 R NOT ROLLED PLAIN BARS TO AS 1902
23. DENOTES HARD-DRAWN WIRE REINFORCEMENT FIBRE TO AS 1094
24. DENOTES HARD-DRAWN WIRE PLAN W/OT TO AS 1094
25. N.S.D. - DENOTES BARS NOT SHOWN ON PLAN
26. THE FIGURE FOLLOWING THE FIBRE SYMBOL IS THE REFERENCE NUMBER FOR FIBRE TO AS 1094.
27. REINFORCEMENT IS REPRESENTED DIAGONALLY AND NOT NECESSARILY IN TRUE PROPORTION.
28. SLAB REINFORCEMENT SHALL EXTEND AT LEAST 60mm INTO PASSIVELY SUPPORT WALLS AND 10 PERCENT OF BOTTOM REINFORCEMENT SHALL BE COGGED TO ACHIEVE ANCHORAGE AT SIMPLY SUPPORTED ENDS.
29. SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN POSITION SHOWN OR OTHERWISE APPROVED IN WRITING BY THE ENGINEER. LAPS SHALL BE AS SHOWN ON THE DRAWING.

CONCRETE - CONTINUED

01. WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED UNLESS SHOWN ON A STABLE CONDITION WITHOUT ADVERSELY AFFECTING SURROUNDING PROPERTY, INCLUDING SERVICES.
02. JOINTS TO BARS SHALL BE 1 BAR DIAMETER OVER A LENGTH OF 12 BAR DIAMETER.
03. FABRIC SHALL BE LAPPED 2 TRANSVERSE WAYS PLUS 50mm OR 25mm WHICHEVER IS THE GREATER. HOOKED BARS SHALL BE TIED TOGETHER AT 30 BAR DIAMETER CENTRES WITH 10 WAYS OF THE WIRE.
04. WHEN TRANSVERSE TIE BARS ARE NOT SHOWN PROVIDE NO-300 S/PLD WIRE NECESSARY AND LAP WITH MIN BARS 40mm UNL.
05. PROVIDE UPWARD CAMBER TO FORMWORK OF CANTILEVERS OF L/200, WHERE L IS THE PROJECTION BEYOND COLUMN OR WALL FACE AND TO FORMWORK OF SLABS WHERE NOTED ON PLAN. MAINTAIN THE SLAB AND BEAM DEFLECTIONS SHOWN.
06. A BOND BREAKING MATERIAL SHALL BE PLACED BETWEEN CONTACTING SURFACES AT CONTACT JOINTS. REINFORCEMENT SHALL NOT BE CONTINUOUS THROUGH CONTACT JOINTS.
07. AT PENETRATIONS IN SLABS UNLESS OTHERWISE DETAILLED REINFORCEMENT SHALL NOT BE CUT BUT SHALL BE GATHERED ALONG TO EACH SIDE OF PENETRATION AND EXTRA REINFORCEMENT PROVIDED BETWEEN THE PENETRATIONS AS DIRECTED BY THE ENGINEER.
08. ALL BARS IN TYPICAL BAR GROUPS SHALL BE THE SAME LENGTH. TIME BAR ONLY IS GENERALLY SHOWN FULL LENGTH ON PLAN. SPACE BARS AT APPROXIMATELY 15 CENTRES.
09. DO NOT BUILD BOND OR BLOCKWORK ON SUSPENDED WORK UNTIL SHORING HAS BEEN REMOVED AND THEN ONLY AFTER BLOCKS HAVE BEEN STAKED ADJACENT TO THEIR FUTURE POSITION.
10. CONCRETE TO BE KEPT "FREE" OF SUPPORTING BLOCKWORK OR BLOCKWORK BY APPROVED S/PLD "CHIPS" IN SPANNING LAYERS OF ALLOYED STEEL LAYER 4-6mm (1 SHEET).
11. CONCRETE GRADE AND COVER DETAILS.
12. REFER TO FOOTING PLANS, SLAB ON GROUND PLANS, FORMWORK PLANS, COLUMN SCHEDULE OR WALL ELEVATION DRAWINGS.

FORMWORK

01. THE DESIGN CERTIFICATION CONSTRUCTION AND PERFORMANCE OF THE FORMWORK AND FASE WORK IS THE RESPONSIBILITY OF THE CONTRACTOR.
02. DESIGN AND CONSTRUCTION AND STOPPING TIMES TO COMPLY WITH AS 3600 AND AS 3600 UNLESS OTHERWISE APPROVED BY THE ENGINEER.
03. DURING CONSTRUCTION, STOPPING IS REQUIRED WHERE LOADS FROM STACKED MATERIALS, FORMWORK AND OTHER SUPPORTED SLABS NEEDED TO BE REMOVED OR REDUCED TO A MINIMUM OF 10% OF THE DESIGN STRENGTH OR SERVICABILITY AT THAT AGE. ONCE THE NOMINATED 28 DAY STRENGTH HAS BEEN ATTAINED, THESE LOADS SHALL NOT EXCEED THE DESIGN SUPERIMPOSED LOADS SET OUT IN THE GENERAL NOTES.
04. THE FORMWORK SHALL NOT BE DESIGNED TO RELY ON RESTRAINT OR SUPPORT FROM THE PERMANENT STRUCTURE WITHOUT PRIOR APPROVAL FROM THE PROJECT DESIGN ENGINEER.
05. FORMWORK SHALL BE DESIGNED TO ACCOMMODATE MOVEMENTS DUE TO POST TENSIONING.
06. FOR FINISH TO FORMED CONCRETE SURFACES REFER TO SPECIFICATION.
07. COMPOSITE STEEL BEAMS SHALL BE PROPPED PRIOR TO CASTING SLABS OVER UNLESS NOTED OTHERWISE.
08. IT IS ANTICIPATED IN MULTI-STORY CONSTRUCTION THAT PROPPING SHALL EXTEND AT LEAST 2 LEVELS BELOW THE FLOOR BEING CAST. PROPP REMOVAL, PROGRAMMED SPRAYED ON CURING COMPOUND OR WHERE NO FLOOR FINISHES ARE PROPOSED, ONLY WAX BASED AND CHLORINATED RUBBER CONCRETE WAXES MAY BE USED TO PROTECT FROM WIND AND TRAFFIC.
09. CONSTRUCTION STOPPING SHALL BE LEFT IN PLACE WHERE REQUIRED TO AVOID OVERSTRESSING THE STRUCTURE DUE TO CONSTRUCTION LOADS.
10. THE ENGINEER SHALL BE GIVEN A MINIMUM OF 72 HOURS NOTICE FOR REINFORCEMENT INSPECTION AND CONCRETE SHALL NOT BE ORDERED UNTIL FINAL APPROVAL IS OBTAINED.
11. THE ENGINEER SHALL BE GIVEN A MINIMUM OF 72 HOURS NOTICE FOR REINFORCEMENT INSPECTION AND CONCRETE SHALL NOT BE ORDERED UNTIL FINAL APPROVAL IS OBTAINED.
12. CONCRETE SHALL BE PLACED IN 150mm MAX LAYERS.
13. REINFORCEMENT SYMBOLS - (1) NUMBER OF BARS IN GROUP (2) BAR MARK TYPE AND DIAMETER (3) SPACING IN mm
14. DENOTES LAYER BAR PLACED IN
15. DENOTES BARS LAD FIRST
16. DENOTES BARS LAD LAST
17. DENOTES GRADE 300 S W/OT ROLLED DEFORMED BARS TO AS 1902
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22. N.S.D. - DENOTES BARS NOT SHOWN ON PLAN
23. THE FIGURE FOLLOWING THE FIBRE SYMBOL IS THE REFERENCE NUMBER FOR FIBRE TO AS 1094.
24. REINFORCEMENT IS REPRESENTED DIAGONALLY AND NOT NECESSARILY IN TRUE PROPORTION.
25. SLAB REINFORCEMENT SHALL EXTEND AT LEAST 60mm INTO PASSIVELY SUPPORT WALLS AND 10 PERCENT OF BOTTOM REINFORCEMENT SHALL BE COGGED TO ACHIEVE ANCHORAGE AT SIMPLY SUPPORTED ENDS.
26. SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN POSITION SHOWN OR OTHERWISE APPROVED IN WRITING BY THE ENGINEER. LAPS SHALL BE AS SHOWN ON THE DRAWING.

POST TENSIONED CONCRETE

01. ALL POST TENSIONING WORK SHALL BE TO AS 3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT AS VARYED BY THE CONTRACT DOCUMENTS.
02. UNLESS NOTED OTHERWISE STRENGTH SHALL BE 40 MPa AT 28 DAYS.
03. CONCRETE MIX DESIGN SHALL ACHIEVE MAXIMUM SHRINKAGE OF 600mm AT 14 DAYS. WATER-CEMENT RATIO SHALL BE A MAXIMUM OF 0.44.
04. CABLES SHALL BE MADE FROM 12mm STRESS-RELIEVED LOW RELAXATION STEEL GRADE STRAND TO AS 1011, EACH STRAND TO PROVIDE A FORCE OF 10kN AT 10% HOT MORE THAN 60% AFTER ALL LOSSES. THE MAXIMUM FORCE APPLIED TO THE TENDONS DURING JACKING SHALL BE 50kN OR 60% PER 12mm STRAND.
05. ALL CABLE ORBINA'S OPERATIONS SHOWN ON DRAWINGS ARE TO UNDERSIDE OF DECKS PRIOR SLAB SUFFIT EXCEPT AT ANCHORAGE, WHERE DIMENSIONS INDICATED THUS ARE TO THE CENTRELINE OF THE TENDON.
06. CABLE JACKETS SHALL BE LOCATED TO WITHIN 50mm OF CORRECT POSITION PROFILES SHALL BE PARABOLIC BETWEEN HIGH AND LOW POINTS UNL.
07. ALL STRESSING OPERATIONS SHALL TAKE PLACE IN THE PRESENCE OF EXPERIENCED PERSONNEL. CARE SHALL BE TAKEN TO ENSURE SAFETY OF ALL SITE PERSONNEL, DURING STRESSING.
08. DETAILS OF ALL STRESSING OPERATIONS, TOGETHER WITH CURRENT DETAILS AND CALCULATION CHARTS SHALL BE PROVIDED AT LEAST 14 DAYS BEFORE EACH STAGE STRESSING, AND APPROVAL OBTAINED FROM THE ENGINEER FOR TOLERANCE OF CABLE DEVIATIONS AFTER EXTENSIONS HAVE BEEN REVIEWED.
09. TOLERANCE IN REQUIRED TENDON EXTENSION SHALL BE +/-30%.
10. ALL JACKS AND GAUGES USED ON THE PROJECT SHALL BE CALIBRATED NO MORE THAN 2 MONTHS BEFORE BEING USED FOR FIRST TIME ON THE SITE. THESE CHARTS SHOWING IDENTIFICATION NUMBERS OF EQUIPMENT SHALL BE SUPPLIED TO THE ENGINEER PRIOR TO USE ON THE SITE.

PRESTRESSED CONCRETE - CONTINUED

01. POST TENSIONING IS REQUIRED IN 20 STAGES APPROXIMATELY 24 HOURS PRIOR TO 100% AND 24 HOURS PRIOR TO 100% AFTER CASTING UNL.
02. CONCRETE STRENGTH TESTS USING SITE CURED CYLINDERS SHALL BE MADE TO AVOID OVERSTRESSING THE CONCRETE. MINIMUM EXPECTED LOSSES FOR SHRINKAGE, CREEP, RELAXATION, FRICTION AND DRAG IN CALCULATED BY THE CONTRACTOR AND SUPPLIED TO THE ENGINEER FOR CHECK AT LEAST ONE WEEK PRIOR TO FIRST ASSEMBLING CABLES TO THE PLAN.
03. MAXIMUM TENDON TOLERANCE OF 10% POST TENSIONING TO +/-2.0mm DECKS SHALL BE SECURELY SUPPORTED AT 1000mm MAX CENTRES.
04. MINIMUM CONCRETE COVER TO ALL DECKS TO BE 25mm UNL.
05. FOR TENDON NOTATION REFER PLANS.
06. DAMAGE TO THE TENDONS SHALL BE PREVENTED AT ALL STAGES OF CONSTRUCTION. MINIMUM PROTECTIVE REQUIREMENTS INCLUDE:
- (a) PROVISION OF PLANKS ON BLOCKS ACROSS SLAB HANDS FOR ACCESS.
 - (b) ADEQUATE RESTRAINT OF CONCRETE PUMP LINES AND PLACING ON STOLLS OR TIMBER BLOCKS ABOVE DECKS.
07. DECKS TO BE GROUTED AFTER APPROVAL OF FINAL STRESSING, WITH A GROUT OF WATER CEMENT RATIO NOT GREATER THAN 0.45.
08. STRESSING RECESSES AND POINTS, AFTER GROUTING, THE TEMPORARY SEALING MORTAR IS TO BE REMOVED WHERE APPLICABLE, FROM SIDES AND BOTTOM FACES OF RECESSES AND FILLED WITH WELL VIBRATED S/PLD CONCRETE MIX.
09. POST TENSIONING SLABS SHALL HAVE 200mm PRECIMER UNL.
10. IMMEDIATE LESS DESIGN ASSUMPTIONS: DRAW N x 4.0m
11. DESIGN TO BE ADVISED OF THESE IT ARE NOT APPLICABLE.
12. PLACING OF REINFORCEMENT SHALL BE COORDINATED TO STOP PLACING OF POST TENSIONED TENDONS.
13. FOR PARTIAL, POST TENSIONING PROCEDURES, REFER TO CONTRACT SPECIFICATION.

STRUCTURAL BRICKWORK/BLOCKWORK

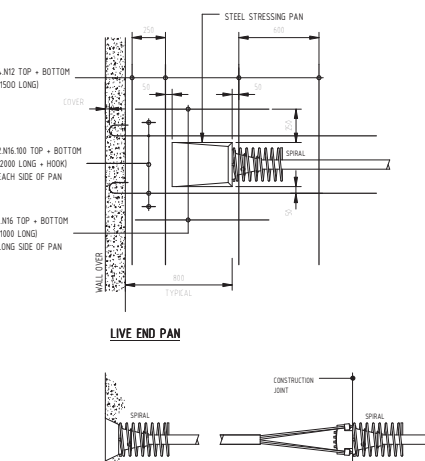
01. ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH CODE AS 3700 AND ALL BLOCKWORK SHALL BE CONSTRUCTED IN GRADE 9 BLOCK 15 MPa AS SET OUT IN CODE AS 3700. BLOCKWORK SHALL HAVE A MINIMUM STRENGTH OF 20MPa.
02. MORTAR SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 5.5 MPa.
03. GROUT ALL CORERS TO BLOCKWORK. GROUT SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 25 MPa (1:1) AND A SLUMP OF 25mm +/- 25mm MAX. AGGREGATE SIZE SHALL BE 10mm.
04. BRICKWORK TOLERANCES SHALL COMPLY WITH TABLE 81 OF AS 3700-2000. ALL PERPENDS SHALL BE PROPERLY ALIGNED.
05. PROVIDE CLEAN CUT BLOCKS AT THE BASE OF PLASTERERS AND AT EVERY CORNER TO REMOVED WALLS.
06. FOR ALL CAVITY WALLS PROVIDE TIES AT 600 ORS BOTH VERTICAL AND HORIZONTAL UNLESS OTHERWISE. TIES SHALL BE MADE OF 3mm DIA GALVANIZED WIRE OR EQUIVALENT CROSS SECTIONAL AREA UNL.
07. IN CAVITY BRICKWORK/BLOCKWORK, KEEP CAVITY CLEAR AND CLEAR OF OBSTRUCTIONS. CAVITY NOT TO EXCEED 100mm AND NOT TO BE SMALLER THAN 40mm.
08. MAXIMUM PER DAY SHALL NOT EXCEED 100mm (HALF LIFT APPROX) UNLESS APPROVED BY THE ENGINEER.
09. COURSE REINFORCEMENT TO BE LAID AT 600 ORS (VERTICALLY) LAP 500 TYPICAL.
10. FULLY BED FACE SHELLS AND CROSSBARS.
11. ALL OPENING GREATER THAN 600mm VERTICALLY OR HORIZONTALLY SHALL BE TRIMMED AT THE SIDES AND BUILT UP TO FILLING ONE CORE AND REINFORCING WITH 1.0mm WHICH SHALL EXTEND 600mm PAST STOPPING. THE TOP OF THE OPENING SHALL HAVE A REINFORCED LATCH, BEAM, JACK BAR, OR STEEL ANGLE SUPPORT AS DETAILLED.
12. PROVIDE 60mm MIN CLEAR COVER TO ALL TIES AND MAIN REINFORCEMENT TO OUTSIDE FACE OF BLOCKWORK. USE BRICKWORK FOR DETAILS.
13. UNLESS NOTED OTHERWISE, PROVIDE CONTROL JOINTS AT 5000mm CENTRES AND AT 600mm CENTRES FOR CORNERS. ALL CONTROL JOINTS SHALL BE AS DETAILLED BY THE ENGINEER OR APPROVED IN THE ABSENCE OF DETAILS THE CONTROL JOINT SHALL COMPLY TO DETAILS IN CHAPTER 12 OF THE AUSTRALIAN CONCRETE MASONRY DESIGN AND CONSTRUCTION MANUAL, OR BLOCKWORK OR BUILDING NOTE 1 FROM BLOCKWORK RESEARCH INSTITUTE.
14. ALL WALLS SHALL BE BONDED OR TIED AT THEIR INTERSECTIONS.
15. NO BLOCKWORK SHALL BE FILLED TO A HEIGHT GREATER THAN 1200mm WITHOUT SUPPORTING SHORING.
16. IF ALL PIPES FOR ARCHITECTURAL DETAILS NOT SPECIFICALLY SHOWN ON DRAWINGS.
17. PROVIDE SLOD BLOCK OR CONCRETE FILLED TOP COURSE IMMEDIATELY BELOW SLABS BEARING ON MOLLOW BLOCK FILLED.
18. ADDITIONAL DRAINS AND FLECTOR BARS SHALL BE TO BE PLACED BEHIND ALL RETAINING WALLS 100 - PIPES, TO OUTLETS.
19. WATERPROOFING TO ARCHITECT'S REQUIREMENTS.
20. ALL LOAD BEARING BRICKS SHALL BE LAID PRODS UP EXCEPT FOR THE TOP COURSE, WHICH SHALL BE LAID PRODS DOWN WHEN SUPPORTING A CONCRETE SLAB OR BEAM. BLOCKWORK SHALL HAVE A LAYER OF MORTAR PLACED ON THE TOP AND TROULLED SHOWN WITH 1 SHEETS OF ALCOYR OR EQUIVALENT UNL.
21. WHEREVER BRICK WALLS ARE BUILT OFF CONCRETE SLABS, WITH THE EXCEPTION OF THE EXTERNAL OUTLET SONS OF CAVITY WALLS, THEY SHALL BE LAID ON A LIGHT GAUGE BUILDING PAPER TO PERMIT FINE TIGHTEN UP OF THE SLAB IN RELATION TO THE BLOCKWORK.

STRUCTURAL BRICKWORK/BLOCKWORK - CONTINUED

01. WHERE WALLS ARE NON LOAD BEARING AT EITHER HORIZONTAL OR VERTICAL FACES THEY SHOULD BE SEPARATED FROM THE CONCRETE BY 20mm THICK POLYSTYRENE UNL.
02. NO PIPES OR CHASES SHALL BE CUT IN LOAD BEARING BRICKWORK OR BLOCKWORK WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.
03. ALL CONCRETE BLOCK WALLS SHALL BE BUILT TO A GAUGE CONTROL BLOCK SUCH THAT BLOCK-PLANE-JOINT DIMENSIONS ARE MULTIPLES OF 100mm UNL. STRECHER RING UNLESS SPECIFIED OTHERWISE.
04. A 300mm wide STOP OF CONCRETE GRANITE MATERIAL IS TO BE PLACED BEHIND ALL RETAINING WALLS.
05. SPAN OF DECKING
- | SPAN OF DECKING | SIZE AND TYPE OF LIMIT |
|-----------------|------------------------|
| UP TO 850 | 85 x 8 |
| 850 TO 1500 | 100 x 100 |
| 1500 TO 1800 | 100 x 100 |
| 1800 TO 2400 | 150 x 100 |
| 2400 TO 2700 | 150 x 100 |
| 2700 TO 3000 | 150 x 100 |
06. ALL ANGLES SPECIFIED ARE TO HAVE LONG LEO VERTICAL WHERE APPLICABLE. ONE BEARING TYPICAL 100mm MINIMUM ON EITHER BRICK SIDE. SPANS GREATER THAN 3000 TO BE AS DETAILLED ON RELEVANT PLANS. THE ABOVE REDIMENSIONS ARE FOR SINGLE STORY APPLICATIONS WHERE THE BRICKWORK CARRIES NO LOAD OTHER THAN ITS OWN WEIGHT.
07. PROVIDE WALL TIES AT SLAB LEVEL. TO PROVIDE LATERAL SUPPORT TO MASONRY VENER. SPACE TIES AT 400mm HORIZONTALLY - 1 ROW ONLY. TIES SHALL BE CAST INTO SLAB OR SECURELY SHOT PILED. THE ENGINEER SHALL BE ADVISED OF THE TYPE AND MODEL OF THE TIE TO BE USED AS WELL AS THE METHOD OF FIXING TO THE SLAB.

STRUCTURAL STEEL

01. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 4100 AND AS 4101 EXCEPT WHERE VARYED BY THE CONTRACT DOCUMENTS.
02. ONE SET COPY OF WORKSHOP FABRICATION DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AT LEAST 15 DAYS PRIOR TO COMMENCEMENT OF FABRICATION.
03. BOLT DESIGNATION - TYPICAL UNL.
04. BOLT TYPE
- | ELMENT | SURFACE CLEANING | PAINTING | FINISH |
|--------------------------------|-----------------------|--------------------|-------------------------------|
| EXPOSED STEELWORK INTERNAL | SANDBLAST TO CLASS 25 | 75-200 PHOSPHATE | SEE ARCHITECT'S SPECIFICATION |
| NON EXPOSED STEELWORK EXTERNAL | SANDBLAST TO CLASS 15 | HOT DIP GALVANIZED | --- |
05. ALL STEELWORK SHALL BE GRADE 300 GENERALLY AND GRADE 450 FOR COLD FORMED LIGHT GRADE SECTIONS UNL.
06. ALL HOLDING DOWN BOLTS SHALL BE EITHER COUNTERSINK BOLTS OR BE MADE FROM MILD STEEL BARS WITH A MINIMUM 100mm OF 230 MPa UNL.
07. TESTING OF WELDS SHALL BE IN ACCORDANCE WITH THE SPECIFICATION.
08. STEELWORK UNL SHALL BE BLASTED TO CLASS 25 AND GIVEN TWO COATS OF 200 PHOSPHATE PRIMER.
09. ALL FULLY SCALED HOLLOW BOX SECTIONS CONTAINING TOTALLY ENCLOSED ARE MUST BE VENTED NEAR EACH END WHEN THE MEMBER IS TO BE GALVANIZED. THE MINIMUM DENSITY OF THE VENTS SHOULD BE TO BE 20% OF THE INTERNAL DIAMETER OR DIAGONAL OPENING FOR HOLDINGS UP TO 50mm. FOR LARGER MEMBERS VENTING DETAILS SHALL BE PROVIDED BY THE GALVANISER FOR THE APPROVAL OF THE ENGINEER PRIOR TO THE GALVANIZING.
10. EQUALLY HOLLOW SECTIONS EXPOSED SHALL BE GRADE 250 IN ACCORDANCE WITH AS 1913 UP TO 165mm OUTSIDE DIAMETER UNL.
11. IN CAVITY BRICKWORK/BLOCKWORK, KEEP CAVITY CLEAR AND CLEAR OF OBSTRUCTIONS. CAVITY NOT TO EXCEED 100mm AND NOT TO BE SMALLER THAN 40mm.
12. MAXIMUM PER DAY SHALL NOT EXCEED 100mm (HALF LIFT APPROX) UNLESS APPROVED BY THE ENGINEER.
13. COURSE REINFORCEMENT TO BE LAID AT 600 ORS (VERTICALLY) LAP 500 TYPICAL.
14. FULLY BED FACE SHELLS AND CROSSBARS.
15. ALL OPENING GREATER THAN 600mm VERTICALLY OR HORIZONTALLY SHALL BE TRIMMED AT THE SIDES AND BUILT UP TO FILLING ONE CORE AND REINFORCING WITH 1.0mm WHICH SHALL EXTEND 600mm PAST STOPPING. THE TOP OF THE OPENING SHALL HAVE A REINFORCED LATCH, BEAM, JACK BAR, OR STEEL ANGLE SUPPORT AS DETAILLED.
16. PROVIDE 60mm MIN CLEAR COVER TO ALL TIES AND MAIN REINFORCEMENT TO OUTSIDE FACE OF BLOCKWORK. USE BRICKWORK FOR DETAILS.
17. UNLESS NOTED OTHERWISE, PROVIDE CONTROL JOINTS AT 5000mm CENTRES AND AT 600mm CENTRES FOR CORNERS. ALL CONTROL JOINTS SHALL BE AS DETAILLED BY THE ENGINEER OR APPROVED IN THE ABSENCE OF DETAILS THE CONTROL JOINT SHALL COMPLY TO DETAILS IN CHAPTER 12 OF THE AUSTRALIAN CONCRETE MASONRY DESIGN AND CONSTRUCTION MANUAL, OR BLOCKWORK OR BUILDING NOTE 1 FROM BLOCKWORK RESEARCH INSTITUTE.
18. ALL WALLS SHALL BE BONDED OR TIED AT THEIR INTERSECTIONS.
19. NO BLOCKWORK SHALL BE FILLED TO A HEIGHT GREATER THAN 1200mm WITHOUT SUPPORTING SHORING.
20. IF ALL PIPES FOR ARCHITECTURAL DETAILS NOT SPECIFICALLY SHOWN ON DRAWINGS.
21. PROVIDE SLOD BLOCK OR CONCRETE FILLED TOP COURSE IMMEDIATELY BELOW SLABS BEARING ON MOLLOW BLOCK FILLED.
22. ADDITIONAL DRAINS AND FLECTOR BARS SHALL BE TO BE PLACED BEHIND ALL RETAINING WALLS 100 - PIPES, TO OUTLETS.
23. WATERPROOFING TO ARCHITECT'S REQUIREMENTS.
24. ALL LOAD BEARING BRICKS SHALL BE LAID PRODS UP EXCEPT FOR THE TOP COURSE, WHICH SHALL BE LAID PRODS DOWN WHEN SUPPORTING A CONCRETE SLAB OR BEAM. BLOCKWORK SHALL HAVE A LAYER OF MORTAR PLACED ON THE TOP AND TROULLED SHOWN WITH 1 SHEETS OF ALCOYR OR EQUIVALENT UNL.
25. WHEREVER BRICK WALLS ARE BUILT OFF CONCRETE SLABS, WITH THE EXCEPTION OF THE EXTERNAL OUTLET SONS OF CAVITY WALLS, THEY SHALL BE LAID ON A LIGHT GAUGE BUILDING PAPER TO PERMIT FINE TIGHTEN UP OF THE SLAB IN RELATION TO THE BLOCKWORK.



TYPICAL POST TENSIONING ANTI-BURST REINFORCEMENT

SCALE 1:20

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