Annexure 14

STRUCTURAL DESIGN REQUIREMENTS



Tenant Structural Design Guidelines Chadstone Shopping Centre - The Market Pavilion

Issue: A - Draft

16 August 2022

Prepared For: Vicinity Centre PM Pty Ltd

Project No.: 19315

Document No.: 001

Report Amendment Register

Issue Ref	Amended Section(s)	Issue / Amendment Details	Author(s)	Reviewer	Date
001	N/A	A - Draft	Michael Grey	Michael Grey	16/08/22

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APPENDICES

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1 Introduction

This document serves as a structural engineering guideline to Tenants in relation to tenancy structural related works. All Tenants are to adhere to the requirements and approval processes as outlined in the attached guidelines.

It is the Tenants responsibility to engage a qualified Structural Engineer to undertake structural engineering drawings and computations and engineering drawings for tenancy structural related works including shopfronts, signs, ceilings, bulkheads, glazing and the like.

2 Core Holes & Penetration

2.1 General Requirements

A number of different types of suspended slabs exist throughout the Shopping Centre. In general, these include the following:

- a) Post tensioned slabs.
- b) Condeck slabs supported on either steel beams or block/reinforced concrete walls.
- c) Two-way slabs.

Any penetration shall be approved in writing by the Landlord's Structural Engineer.

The Tenant shall seek approval from the Landlord's Structural Engineer via the Landlord's Tenancy Project Manager prior to coring or larger penetration works.

All coring/penetration and associated works, including structural engineering fees, shall be undertaken at the Tenant's cost. We note that slab scanning is required prior to coring to ensure that core holes are located clear of existing beams, post tensioned cables, services, etc.

2.2 Electrical Floor Outlet Boxes

Subject to the conditions as stipulated in Section 2.1 above, it shall be acceptable to increase the allowable core hole diameter to 115mm to suit the GESRM2 Series floor outlet.

2.3 Door Pivots

Allowable floor recesses for pivot doors shall comply with the core hole requirements in Section 2.1 above. Where this is not achievable, pivot doors shall be hung/supported by structure above.

3 Floor Chasing Requirements

3.1 Suspended Slabs

Unless otherwise approved in writing by the Landlord's Structural Engineer, floor chasing shall strictly not be permitted within suspended slabs.

Remedial works costs, including consulting engineering fees, associated with any floor chases that have not been approved structurally, shall be the responsibility of the Tenant.

4 Allowable Floor Loads

4.1 Superimposed Dead Loads

Allowable floor superimposed dead loads vary throughout the Shopping Centre due to the different stages and types of construction over the years. As a result, a structural engineering assessment will be required by the Landlord's Structural Engineer where the Tenant proposes work involving additional superimposed dead loads on the floor, such as screeds and topping slabs. The Tenant shall be responsible for all associated consulting engineering costs.

RBG note that the following loads relate to new Fresh Food development zones only loading of existing Retail Zones should allow for a maximum SDL of 2.3 kPa.

Design slab superimposed floor dead loads are shown in Appendix A. Note that the design loads/weights provided include floor finishes, screeds, topping slabs, partitions, ceilings and the like.

Indicative superimposed floor dead loads/weights for a range of raised floor types are shown in Appendix A. Note that the floor type weights do not include an allowance for ceilings, partitions and existing screeds/topping slabs. As a result, if these exist, the associated weights will need to be added to the floor weights as specified. In general, we forewarn that existing screeds and topping slabs will need to removed prior to the addition of any raised floors.

4.2 Live Loads

Design live loads for the tenancies affected by the Fresh Food development are shown in Appendix A.

All costs associated with floor loading structural assessments, including consulting engineering, back propping, floor stiffening, etc., shall be the responsibility of the Tenant.

5 Fixing Requirements to Slabs & Steelwork

5.1 Slabs

Allowable fixings to slabs shall vary depending on the composition of the slab. Refer Appendix A for slab/floor types. RBG note that new floors for the Fresh Food development are generally PT banded concrete slabs.

In general, it shall be acceptable to fix to existing concrete slabs subject to the following conditions:-

- a) Approval is obtained by the Landlord's Structural Engineer prior to commencement. The Tenant's Structural Engineer shall provide fixing loads to the Landlord for assessment by the Landlord's Structural Engineer.
- b) Fixings are to be located clear of existing slab/beam post tensioned cables and any services, or similar items, that may be cast within the slabs. As a result, slab scanning is required prior to fixing into suspended concrete slabs.
- c) Subject to 'a)' above, fixings shall be permitted in slabs provided that there is 50mm minimum clear cover from the end of the fixing.

All costs associated with the structural assessment by the Landlord's Structural

Engineer shall be the responsibility of the Tenant.

5.2 Steel

A structural assessment is required by the Landlord's Structural Engineer for all tenancy related fixings to steelwork. Approval shall be obtained by the Landlord's Structural Engineer prior to commencement. The Tenant's Structural Engineer shall provide all fixing loads on the steelwork for assessment by the Landlord's Structural Engineer.

All costs associated with the structural assessment by the Landlord's Structural Engineer shall be the responsibility of the Tenant.

6 Shopfronts, Bulkheads & Signage

The structural engineering design of the tenancy shopfront, bulkheads, signage and glazing is the responsibility of the Tenant's Structural Engineer.

Form 126 design certification including calculations and structural engineering drawings shall be issued to the Landlord's TDM and RDM for approval prior to commencement of construction. Design loads on the existing structure shall also be issued to the Landlord's Structural Engineer to enable verification of the existing structure to support the proposed tenancy loads. The Landlord's Structural Engineer shall be responsible for checking the existing structure, except for the existing roof structure, for the proposed tenancy works. The Tenant's Structural Engineer shall be responsible for checking the existing roof structure, where applicable, for the proposed tenancy loads.

The design of the tenancy structural components shall take into consideration movement joints in the existing structure when present. All costs associated with the structural design and certification of the tenancy structural works (e.g. shopfront, bulkhead, glazing, signage, etc.), including existing structural design checks by the Landlord's Structural Engineer, shall be the responsibility of the Tenant.

Any stiffening works or modifications resulting from the Landlord's existing structural check shall also be the responsibility of the Tenant.

No alterations shall be made to the existing structure without written authorization from the Landlord's Structural Engineer.

7 Mezzanine Floors

In general, allowances have not been made for mezzanine floors in individual tenancies throughout the Shopping Centre.

Where mezzanine floors are proposed for a particular tenancy, structural engineering drawings, calculations (including reactions on the existing structure) shall be issued to the Landlord's Project Manager for review/approval by the Landlord's Structural Engineer prior to commencement.

All costs associated with the structural engineering check by the Landlord's Structural Engineer shall be the responsibility of the Tenant, including any stiffening works.

Where mezzanine floors are deemed acceptable by the Landlord's Structural Engineer, as a minimum they shall comply with the following constraints:-

- a) Timber floors and stairs.
- b) Lightweight stud walls.

- c) The mezzanine floor structure is to be designed and certified (Form 126) by the Tenant's Structural Engineer.
- d) The Tenant is responsible for maintaining the fire rating integrity where the mezzanine structure connects to the main structure.
- e) Subject to a structural engineering check, the mezzanine floor is to be supported on existing columns or new columns located over existing columns under. Mezzanine support columns are not to be supported on suspended slabs or beams.

All mezzanine floor costs, including the Landlord's Structural Engineering fees, shall be the responsibility of the Tenant.

8 Screeds & Built Up Floors

All screeds and built up floors shall be approved by the Landlord's Structural Engineer, prior to construction.

In general, it is recommended that all built up floors be constructed using timber framing and flooring. Concrete screeds shall be subject to approval by the Landlord's Structural Engineer.

Refer Section '5.1' of this report for allowable floor superimposed dead loads.

Existing floor joints shall be matched in the screeds, built up floors and floor finishes.

All costs associated with screeds and built up floors, including the Landlord's Structural Engineering fees, shall be the responsibility of the Tenant.

Note: Subject to a structural engineering check, no grinding on Landlord's slab is permitted.

9 Inter-Tenancy Walls

As a minimum, the following inter-tenancy wall guidelines shall be strictly adhered to:-

- a) Tenants are not permitted to apply any loading to partition walls.
- b) Cantilever shelving systems are not permitted to be fixed to inter-tenancy walls. The Tenant's Structural Engineer is responsible for designing support structures for shelving which is to be independent to inter-tenancy walls. Reactions onto the existing structure shall be submitted to the Landlord's Structural Engineer for assessment prior to commencement. The Landlord's structural engineering fees shall be the responsibility of the Tenant.
- c) Tenants are not permitted to make structural alterations to any inter-tenancy walls without written approval from the Landlord's RDM and TDM.
- d) Fixings to inter-tenancy walls shall be approved by the Landlord's Tenancy Project Manager.
- e) Where applicable, fire rating of inter-tenancy walls shall be maintained. Any damage to existing fire rated inter-tenancy walls, including fire spray and sealants, shall be made good by the Tenant to the satisfaction of the Landlord's Tenancy Project Manager. All associated costs shall be the responsibility of the Tenant.
- f) Where smoke walls exist, they shall not be penetrated or altered without approval from the Landlord's Tenancy Project Manager.

APPENDICES

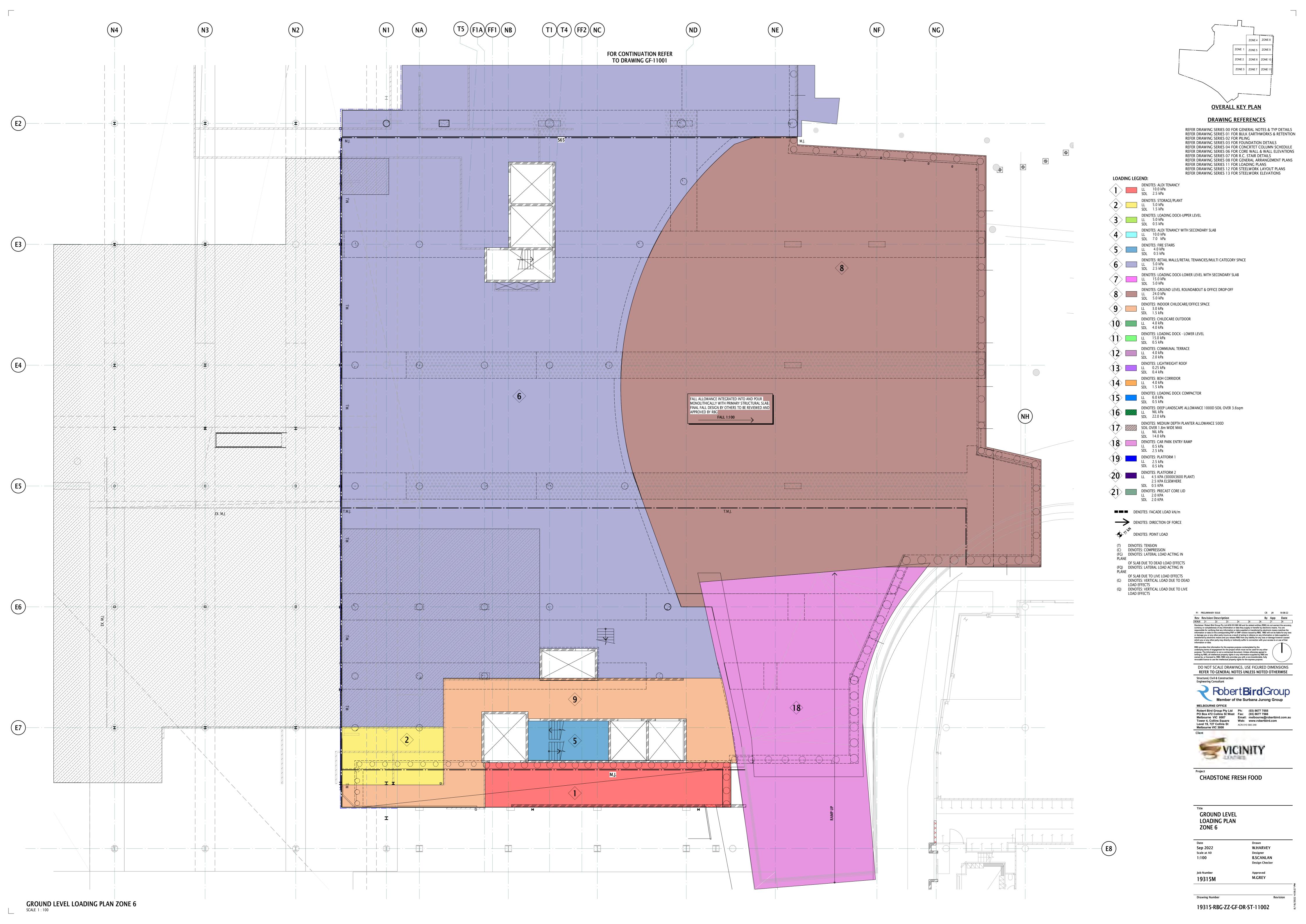
Appendix A Allowable Design Loads Plan

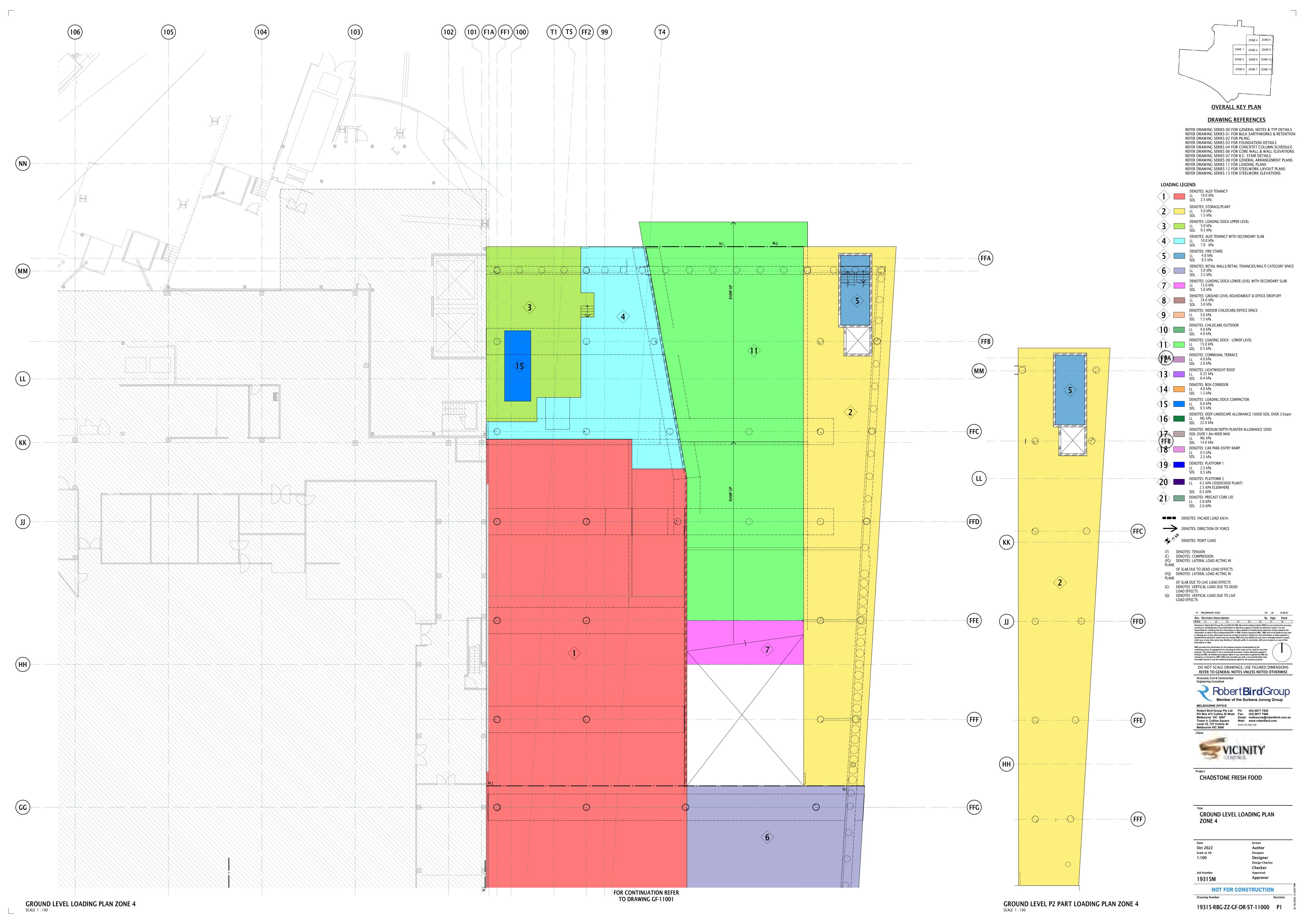


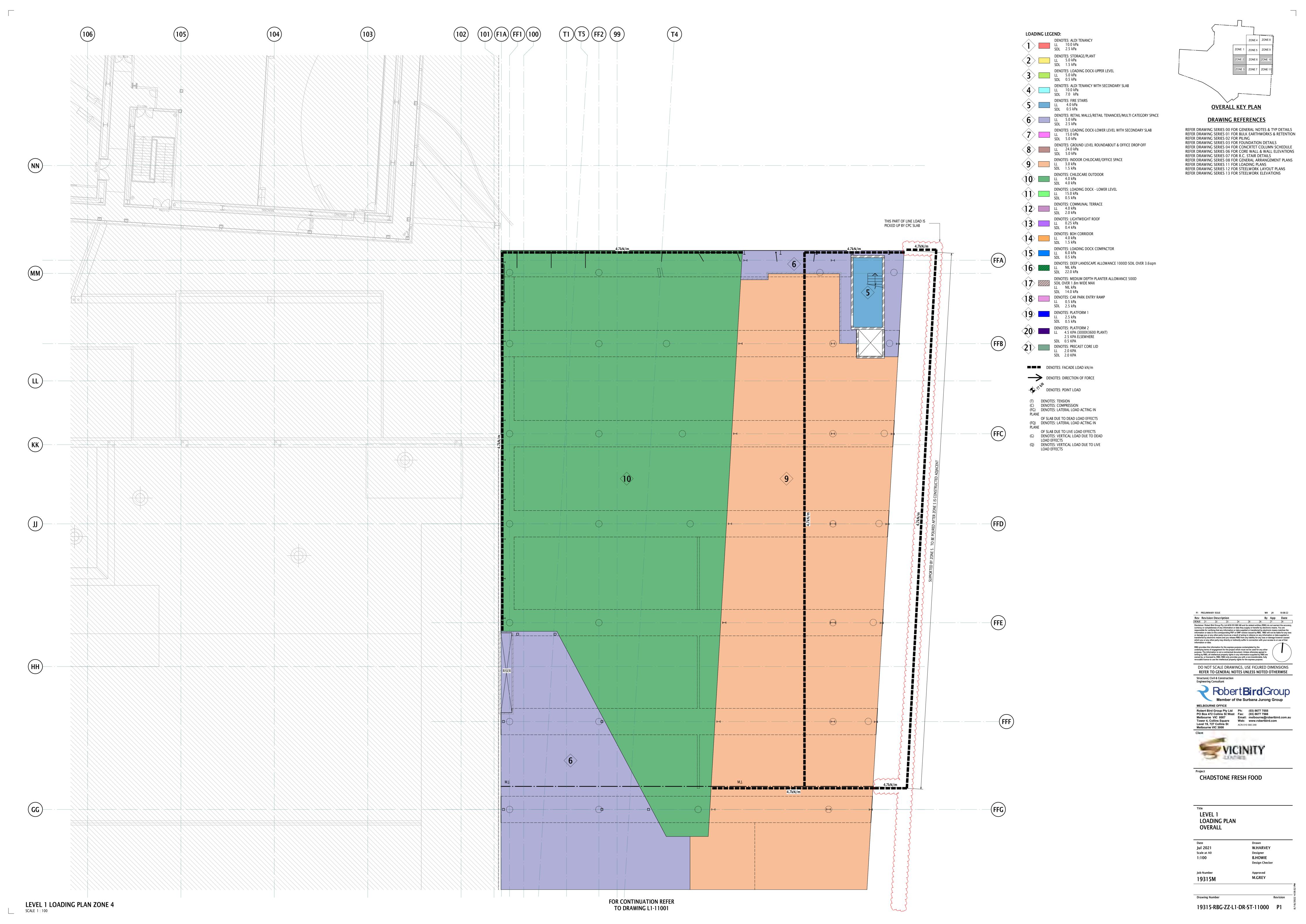
Appendix A Allowable Design Loads Plan

- A1 -The Market Pavilion development loading plans
- A2 Existing centre structure types ground level







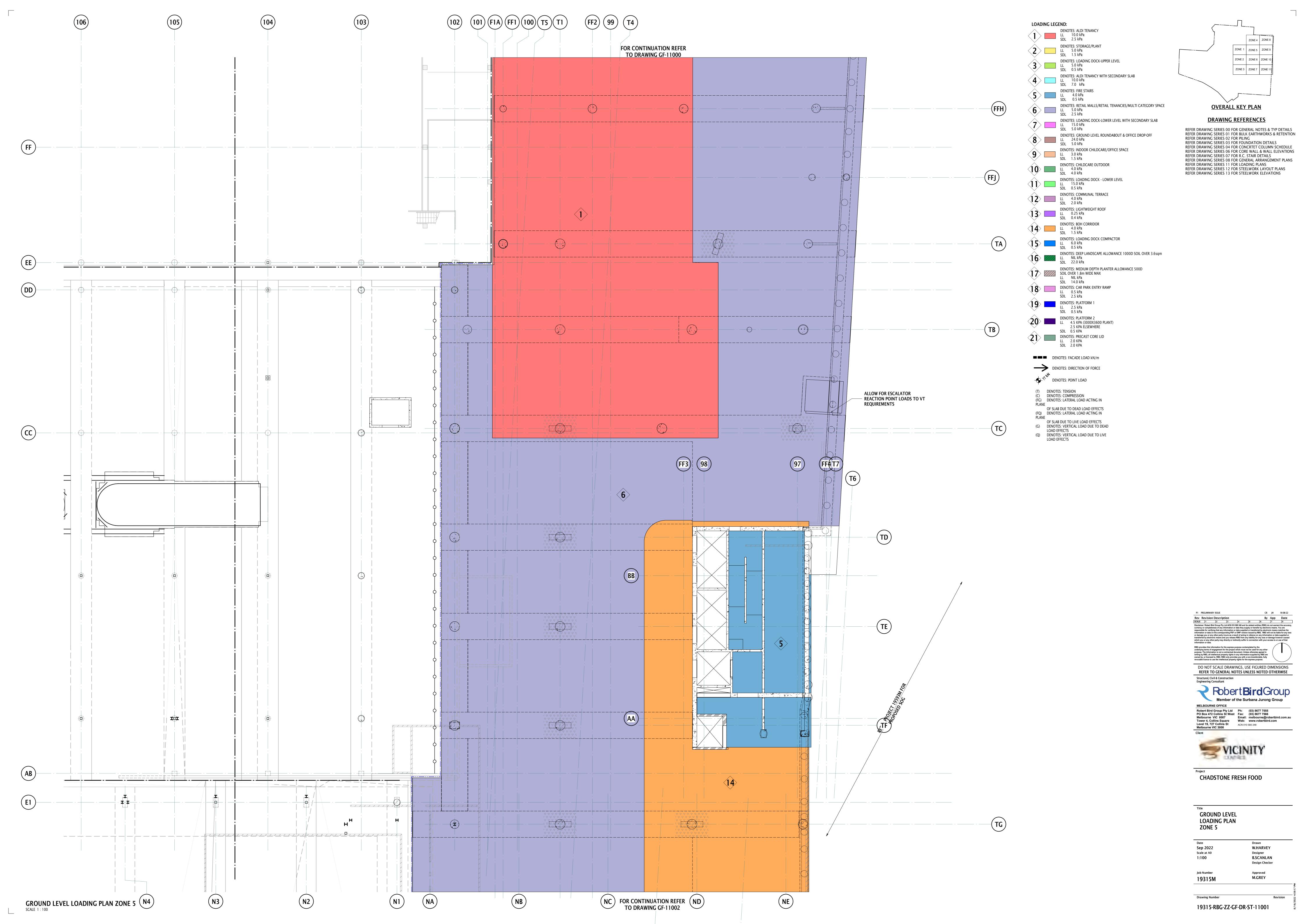


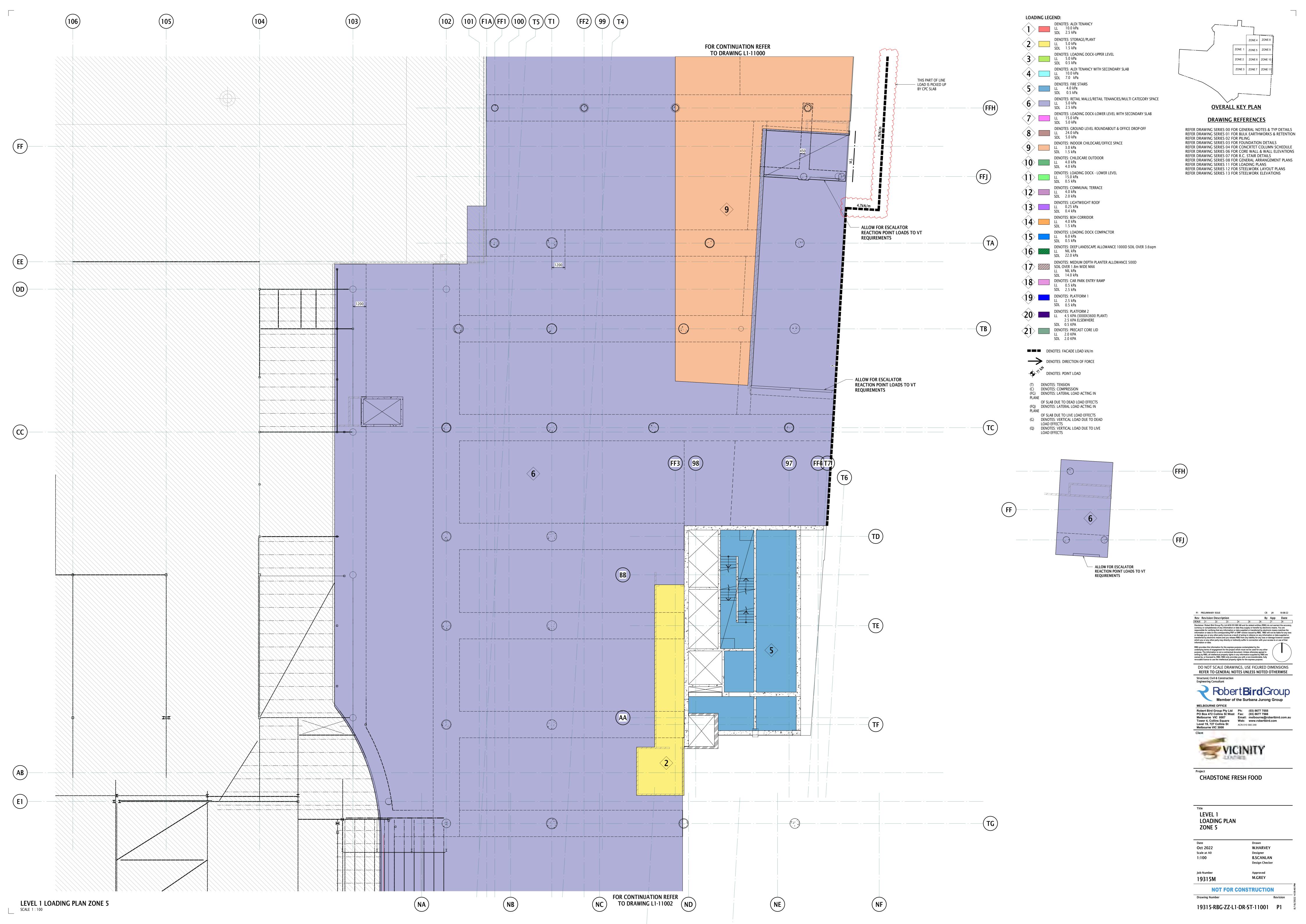
103 106 **OVERALL KEY PLAN DRAWING REFERENCES** REFER DRAWING SERIES 00 FOR GENERAL NOTES & TYP DETAILS REFER DRAWING SERIES 01 FOR BULK EARTHWORKS & RETENTION REFER DRAWING SERIES 02 FOR PILING REFER DRAWING SERIES 03 FOR FOUNDATION DETAILS REFER DRAWING SERIES 04 FOR CONCRTET COLUMN SCHEDULE REFER DRAWING SERIES 06 FOR CORE WALL & WALL ELEVATIONS REFER DRAWING SERIES 07 FOR R.C. STAIR DETAILS REFER DRAWING SERIES 08 FOR GENERAL ARRANGEMENT PLANS REFER DRAWING SERIES 11 FOR LOADING PLANS REFER DRAWING SERIES 12 FOR STEELWORK LAYOUT PLANS REFER DRAWING SERIES 13 FOR STEELWORK ELEVATIONS LOADING LEGEND: DENOTES: STORAGE/PLANT LL 5.0 kPa DENOTES: LOADING DOCK-UPPER LEVEL LL 5.0 kPa SDL 0.5 kPa DENOTES: ALDI TENANCY WITH SECONDARY SLAB FFA DENOTES: FIRE STAIRS MM DENOTES: RETAIL MALLS/RETAIL TENANCIES/MULTI CATEGORY SPACE
LL 5.0 kPa
SDL 2.5 kPa DENOTES: LOADING DOCK-LOWER LEVEL WITH SECONDARY SLAB DENOTES: GROUND LEVEL ROUNDABOUT & OFFICE DROP-OFF DENOTES: INDOOR CHILDCARE/OFFICE SPACE DENOTES: CHILDCARE OUTDOOR
LL 4.0 kPa
SDL 4.0 kPa DENOTES: LOADING DOCK - LOWER LEVEL
LL 15.0 kPa
SDL 0.5 kPa DENOTES: COMMUNAL TERRACE
LL 4.0 kPa
SDL 2.0 kPa DENOTES: LIGHTWEIGHT ROOF
LL 0.25 kPa
SDL 0.4 kPa DENOTES: BOH CORRIDOR
LL 4.0 kPa
SDL 1.5 kPa DENOTES: LOADING DOCK COMPACTOR
LL 6.0 kPa
SDL 0.5 kPa DENOTES: DEEP LANDSCAPE ALLOWANCE 1000D SOIL OVER 3.6sqm
LL NIL kPa
SDL 22.0 kPa FFC DENOTES: MEDIUM DEPTH PLANTER ALLOWANCE 500D SOIL OVER 1.8m WIDE MAX LL NIL kPa SDL 14.0 kPa DENOTES: CAR PARK ENTRY RAMP SDL 2.5 kPa DENOTES: PLATFORM 1
LL 2.5 kPa
SDI 0.5 kPa DENOTES: PLATFORM 2
LL 4.5 KPA (3000X3600 PLANT) 2.5 KPA ELSEWHERE SDL 0.5 KPA DENOTES: PRECAST CORE LID

LL 2.0 KPA FFD SDL 2.0 KPA DENOTES: FACADE LOAD kN/m DENOTES: DIRECTION OF FORCE DENOTES: POINT LOAD (T) DENOTES: TENSION (C) DENOTES: COMPRESSION (FG) DENOTES: LATERAL LOAD ACTING IN OF SLAB DUE TO DEAD LOAD EFFECTS
(FQ) DENOTES: LATERAL LOAD ACTING IN PLANE OF SLAB DUE TO LIVE LOAD EFFECTS

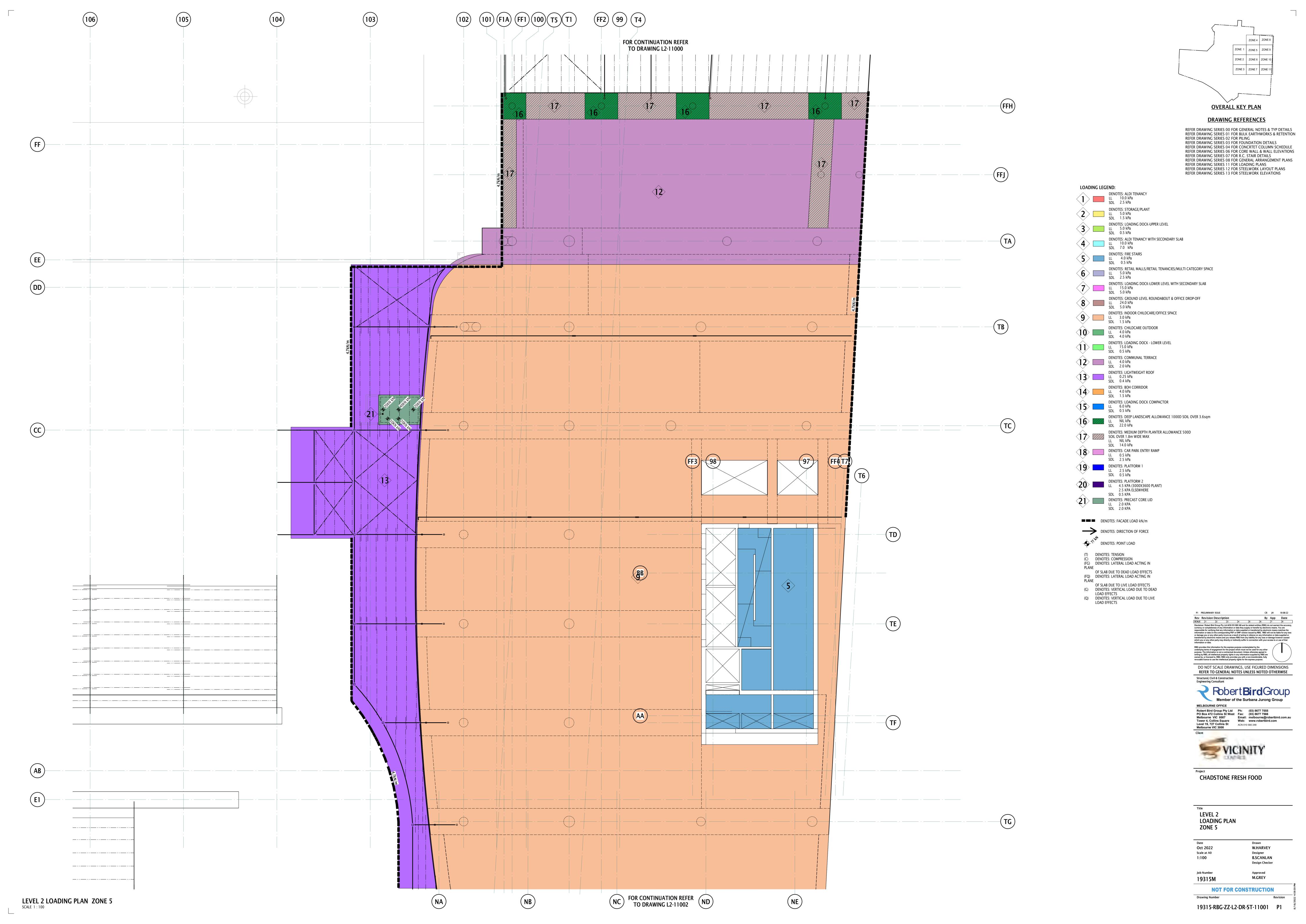
(G) DENOTES: VERTICAL LOAD DUE TO DEAD LOAD EFFECTS

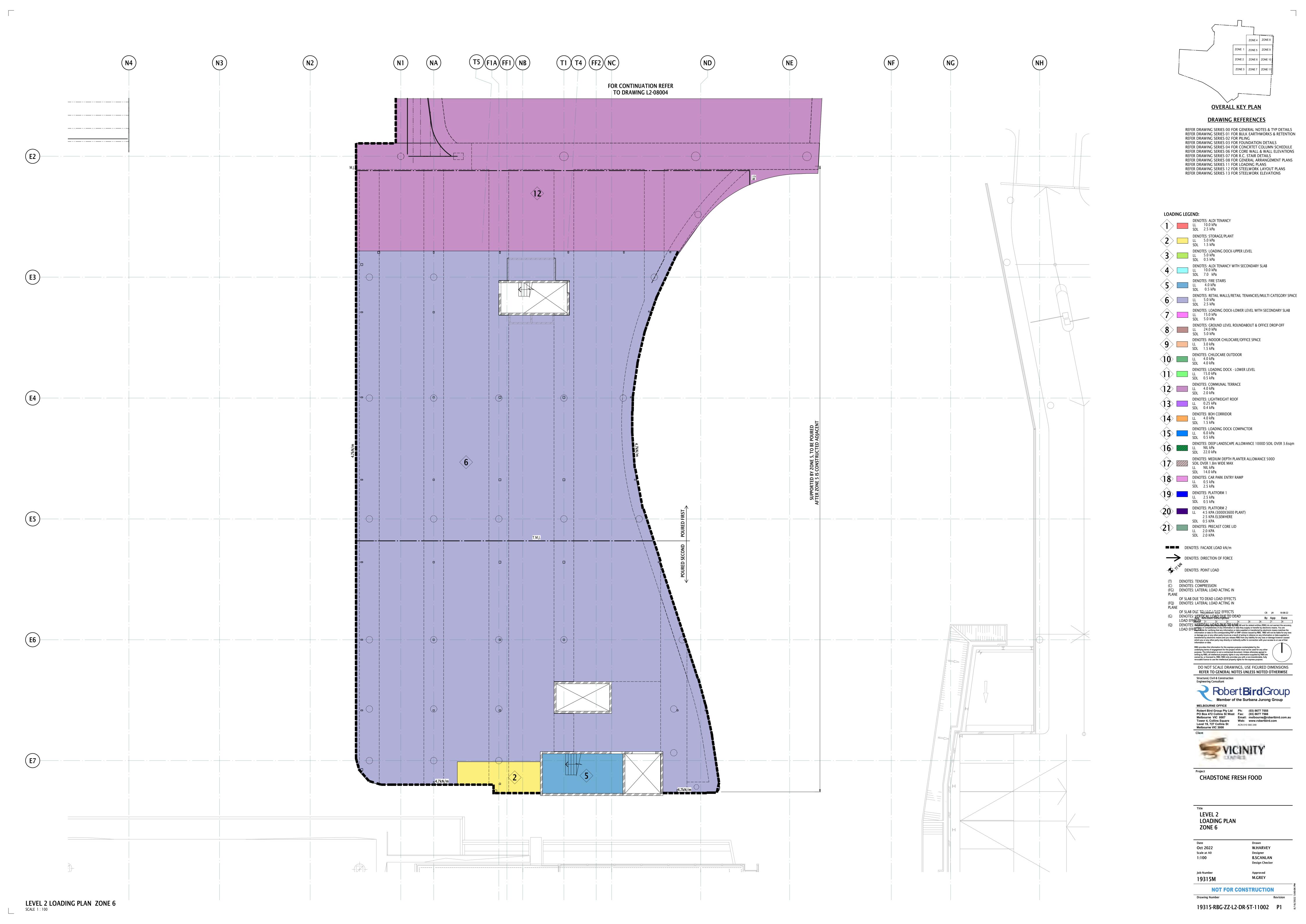
(Q) DENOTES: VERTICAL LOAD DUE TO LIVE LOAD EFFECTS PLANT LOCATION TBC P1 PRELIMINARY ISSUE Disclaimer: Robert Bird Group Pty Ltd ACN 010 580 248 and its related entities (RBG) do not warrant the accuracy, currency or completeness of any information or data they supply or transfer by electronic means. You are responsible for verifying that any information or data supplied or transferred by electronic means matches the information or data on the corresponding PDF or DWF version issued by RBG. RBG will not be liable for any loss or damage you or any other party incurs as a result of acting in reliance on any information or data supplied or transferred by electronic means and you release RBG from any liability for any loss or damage however caused which you or any other party may directly or indirectly suffer in connection with your access to or use of that information or data. RBG provides this information for the express purpose contemplated by the underlying terms of engagement for the project which must not be used for any other purpose. The information is not a contractual document. Unless otherwise agreed in writing by RBG, all intellectual property rights in any information supplied by RBG are owned by, or licensed to, RBG. RBG only provides you with a non-transferrable, fully revocable licence to use the intellectual property rights for the express purpose. DO NOT SCALE DRAWINGS, USE FIGURED DIMENSIONS REFER TO GENERAL NOTES UNLESS NOTED OTHERWISE Structural, Civil & Construction Engineering Consultant **Robert Bird Group** Member of the Surbana Jurong Group MELBOURNE OFFICE Robert Bird Group Pty Ltd Ph: (03) 8677 7555 PO Box 472 Collins St West Fax: (03) 8677 7566 (FFF)Melbourne VIC 8007 Email: melbourne@robertbird.com.au
Tower 4, Collins Square Web: www.robertbird.com Level 19, 727 Collins St
Melbourne VIC 3000 CHADSTONE FRESH FOOD FFG LEVEL 2 LOADING PLAN ZONE 4 Jul 2021 **W.HARVEY** Designer Scale at A0 **B.HOWIE** 1:100 Design Checker Approved M.GREY FOR CONTINUATION REFER TO DRAWING L2-11001 **NOT FOR CONSTRUCTION** LEVEL 2 LOADING PLAN ZONE 4 19315-RBG-ZZ-L2-DR-ST-11000 P1

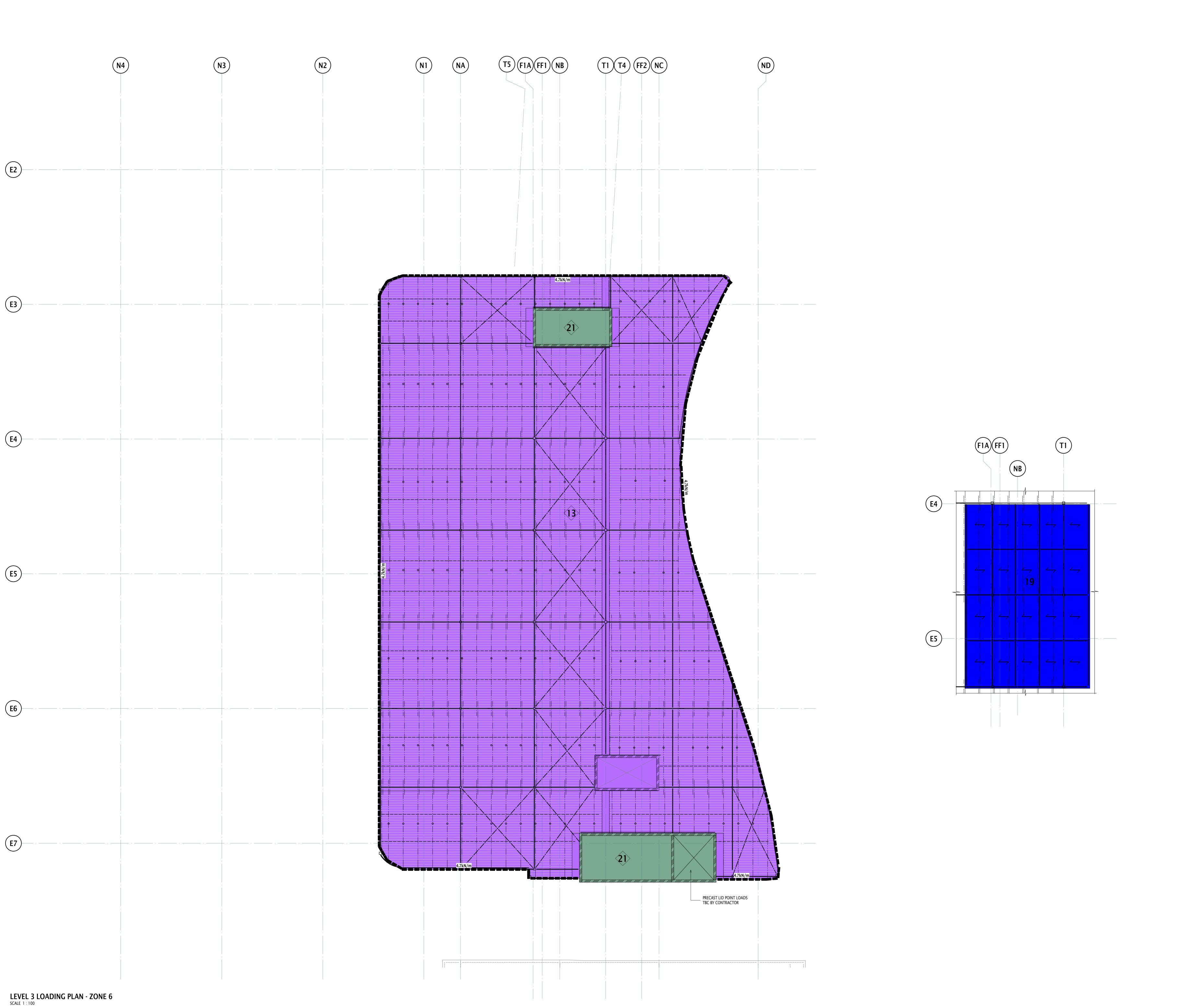


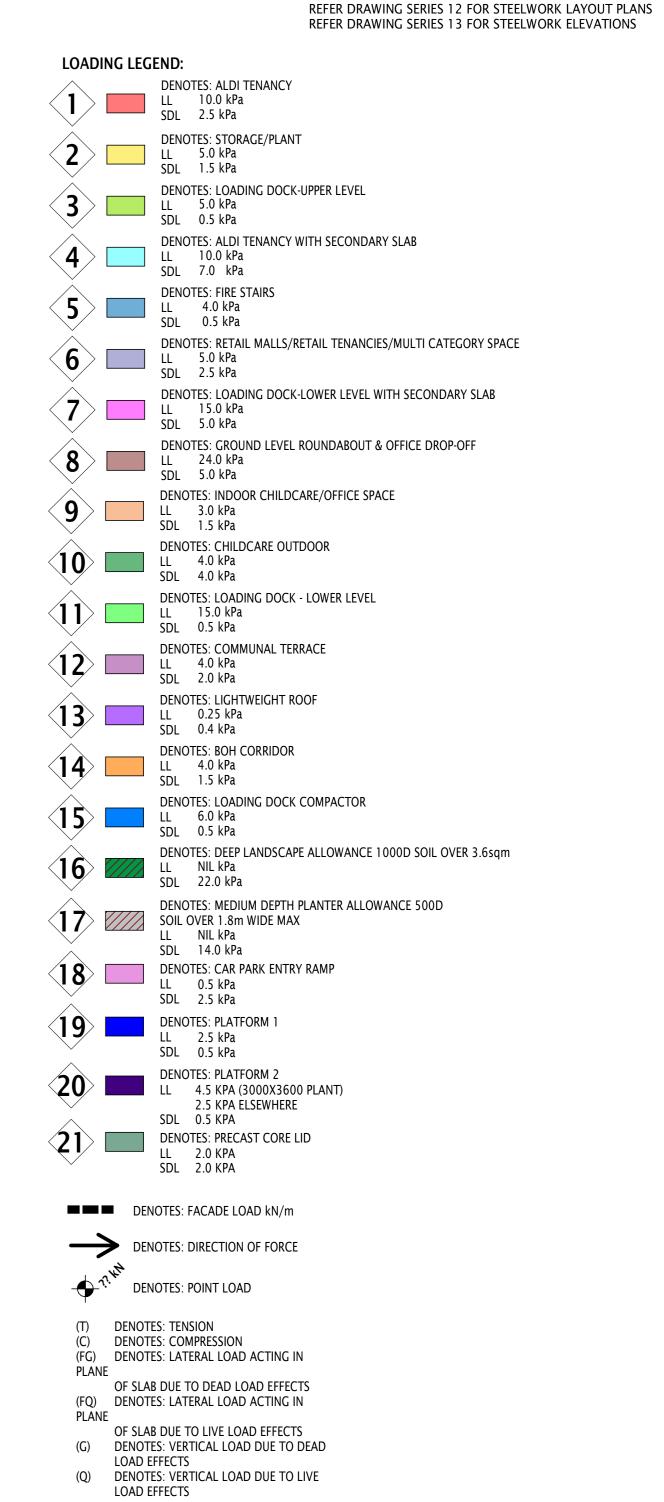












OVERALL KEY PLAN

DRAWING REFERENCES

REFER DRAWING SERIES 03 FOR FOUNDATION DETAILS

REFER DRAWING SERIES 07 FOR R.C. STAIR DETAILS

REFER DRAWING SERIES 11 FOR LOADING PLANS

REFER DRAWING SERIES 02 FOR PILING

REFER DRAWING SERIES 00 FOR GENERAL NOTES & TYP DETAILS REFER DRAWING SERIES 01 FOR BULK EARTHWORKS & RETENTION

REFER DRAWING SERIES 04 FOR CONCRTET COLUMN SCHEDULE REFER DRAWING SERIES 06 FOR CORE WALL & WALL ELEVATIONS

REFER DRAWING SERIES 08 FOR GENERAL ARRANGEMENT PLANS



Project
CHADSTONE FRESH FOOD

Title
LEVEL 3
LOADING PLAN

ZONE 6

Date Drawn
Oct 2022 W.HARVEY
Scale at A0 Designer
1:100 B.SCANLAN
Design Checker

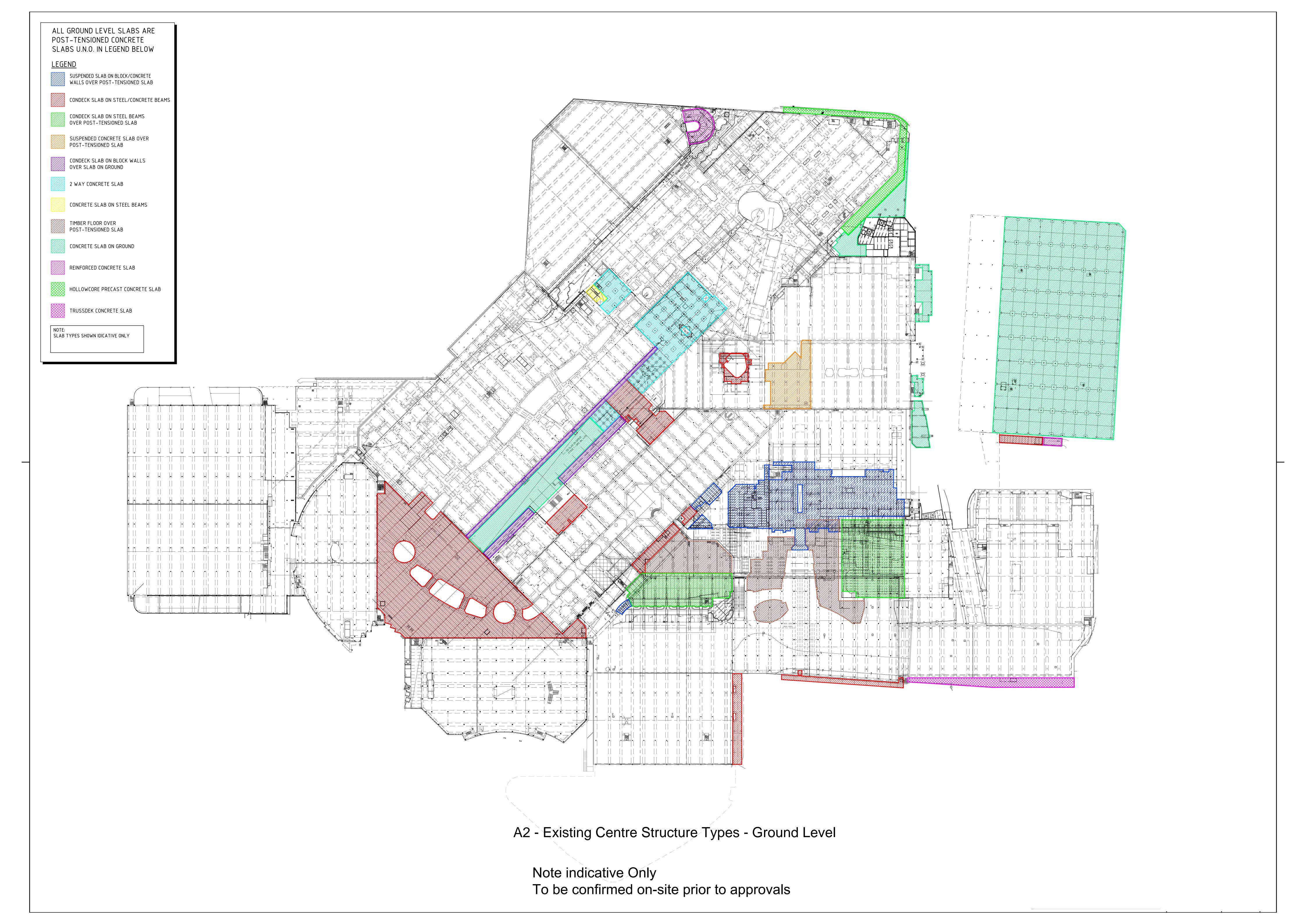
Job Number Approved

19315M M.GREY

NOT FOR CONSTRUCTION

Drawing Number

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