

From: [Elnaz Mokhtari](#)
To: **S.33(1)**
Cc: [Hector Catalogna](#); [Stephen Muldoon](#)
Subject: RE: 42 James Street, Northcote, New Revision for Geotechnical Report (281686)
Date: Friday, 16 December 2022 12:25:24 PM
Attachments: [image003.png](#)
[image004.jpg](#)
[image005.jpg](#)
[image006.jpg](#)
[image007.png](#)
[image008.png](#)
[image009.jpg](#)
[image010.jpg](#)
[S44580_281686_IFC - Total.pdf](#)
[2201223-FEATURE.pdf](#)
[2201223-FEATURE.zip](#)

EXTERNAL EMAIL: This message originated from outside the Council. Please use caution when opening attachments, following links and do not enter your Council credentials when prompted unless you recognise the sender and know the content is safe.

Hi Morteza,

Hope you are doing well.

Please find attached updated drawings together with a copy of the Feature Survey for the site.

Kind Regards,

--

Elnaz Mokhtari
Structural Engineer



Engineering your success

Adelaide | Melbourne | Sydney

P 03 9815 7600

D **Out of**

2 Domville Ave Hawthorn VIC 3122

Out of Scope [@fmgengineering.com.au](mailto:Out of Scope@fmgengineering.com.au)

fmgengineering.com.au

Is it necessary to print this email? If you care about the environment like we do, please refrain from printing emails.

This email is confidential and may contain privileged or copyright information. If you are not the intended recipient please delete this email and you are notified that disclosing, copying, distributing or taking any action in reliance on the contents of this information is strictly prohibited.

From: Morteza Fini <Morteza.Fini@darebin.vic.gov.au>

Sent: Wednesday, 14 December 2022 8:32 AM

To: Elnaz Mokhtari **Out of Scope** [@fmgengineering.com.au](mailto:Out of Scope@fmgengineering.com.au)

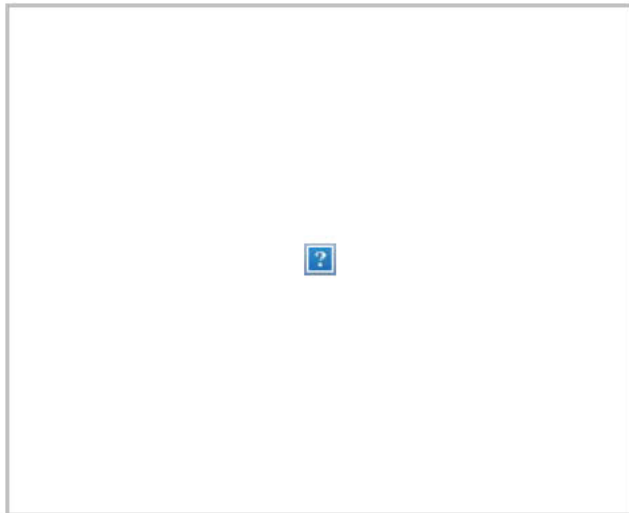
Subject: RE: 42 James Street, Northcote, New Revision for Geotechnical Report (281686)

Hi Elnaz,

Thanks for confirming the dates.

Regards,

Morteza Fini
Project Manager | Capital & Major Projects
Out of Scope



From: Elnaz Mokhtari Out of Scope @fmgengineering.com.au>

Sent: Tuesday, 13 December, 2022 3:01 PM

To: Morteza Fini <Morteza.Fini@darebin.vic.gov.au>

Cc: FMG Forensic <forensic@fmgengineering.com.au>; Hector Catalogna

<Out of Scope @fmgengineering.com.au>; Stephen Muldoon

<Out of Scope @fmgengineering.com.au>; Ian Yang Out of @fmgengineering.com.au>; Reza

Shahbazian Out of Scope @fmgengineering.com.au>; Jordan Colbert

Out of Scope @fmgengineering.com.au>

Subject: RE: 42 James Street, Northcote, New Revision for Geotechnical Report (281686)

EXTERNAL EMAIL: This message originated from outside the Council. Please use caution when opening attachments, following links and do not enter your Council credentials when prompted unless you recognise the sender and know the content is safe.

Hi Morteza,

Thanks a lot for your follow up phone call.

We will get back to you by Friday the 16th December with the changes on the drawings and by Wednesday the 21st December with the cost estimation.

Kind Regards,

--

Elnaz Mokhtari
Structural Engineer



Engineering your success

Adelaide | Melbourne | Sydney

P 03 9815 7600

Out of

2 Domville Ave Hawthorn VIC 3122

Out of Scope [@fmgengineering.com.au](mailto:outofscope@fmgengineering.com.au)

fmgengineering.com.au

Is it necessary to print this email? If you care about the environment like we do, please refrain from printing emails.

This email is confidential and may contain privileged or copyright information. If you are not the intended recipient please delete this email and you are notified that disclosing, copying, distributing or taking any action in reliance on the contents of this information is strictly prohibited.

From: Morteza Fini <Morteza.Fini@darebin.vic.gov.au>

Sent: Thursday, 17 November 2022 2:13 PM

To: Stephen Muldoon <Out of Scope @fmgengineering.com.au>

Cc: FMG Forensic <forensic@fmgengineering.com.au>; Elnaz Mokhtari

Out of Scope @fmgengineering.com.au

Subject: RE: 42 James Street, Northcote, New Revision for Geotechnical Report (281686)

Hi Stephen,

Thanks for your prompt response.

We reviewed your comments and accepted your comments.

Could you please proceed to finalize the design and prepare construction plans?

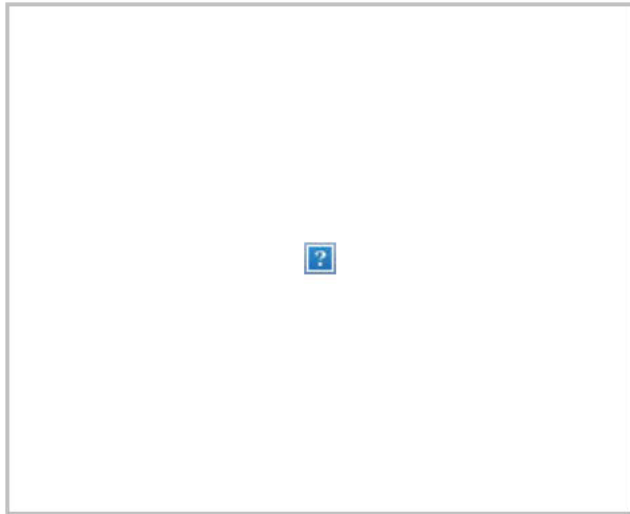
Could you please also let us know when the plans will be ready?

Regards,

Morteza Fini

Project Manager | Capital & Major Projects

T Out of Scope @fmgengineering.com.au



From: Stephen Muldoon <Out of Scope @fmgengineering.com.au>

Sent: Wednesday, 16 November, 2022 5:54 PM

To: Morteza Fini <Morteza.Fini@darebin.vic.gov.au>

Cc: FMG Forensic <forensic@fmgengineering.com.au>; Elnaz Mokhtari

Out of Scope @fmgengineering.com.au

Subject: RE: 42 James Street, Northcote, New Revision for Geotechnical Report (281686)

EXTERNAL EMAIL: This message originated from outside the Council. Please use caution when opening attachments, following links and do not enter your Council credentials when prompted unless you recognise the sender and know the content is safe.

Good evening Morteza,

Both myself and the Civil team have reviewed the comments below, in line with the previously issued documents and provide the comments in blue in your email below.

Can you please review and let me know your thoughts/comments as appropriate?

As per previous correspondence, we will not update the final documents until all outstanding items are finalised to expediate the issuing of the final documents.

Once all items have been agreed, a single final set of documents will be issued for final review prior to issuing the Construction issue documents.

As per my previous email, I am out on site tomorrow morning so I won't be contactable, however I will be available from the afternoon onwards if you would like to discuss any of the below.

Thanks,

--

Stephen Muldoon
Senior Forensic Engineer



From: Stephen Muldoon
Sent: Wednesday, 16 November 2022 3:11 PM
To: Morteza Fini <Morteza.Fini@darebin.vic.gov.au>
Cc: FMG Forensic <forensic@fmgengineering.com.au>; Elnaz Mokhtari
Out of Scope <@fmgengineering.com.au>
Subject: RE: 42 James Street, Northcote, New Revision for Geotechnical Report (281686)

Hi Morteza,

Thanks for your feedback. I have passed on the relative queries to the Civil team and have asked them to review and respond as required. I have also highlighted to them the urgency of a quick turnaround for this. I will come back to you with my comments shortly on the below. Once everything is agreed, we will then finalise the drawings.

Please note I am out on site tomorrow morning so I won't be contactable, however I will be available from the afternoon onwards.

If I have any other queries I will give you a call to discuss.

Thanks,

--

Stephen Muldoon
Senior Forensic Engineer



From: Morteza Fini <Morteza.Fini@darebin.vic.gov.au>
Sent: Wednesday, 16 November 2022 1:41 PM
To: Stephen Muldoon <Out of Scope @fmgengineering.com.au>
Subject: RE: 42 James Street, Northcote, New Revision for Geotechnical Report (281686)

Hi Stephen,

Thanks for sending the design for our review. Please find below our comments and queries about the updated drawings.

1. The design for the spoon drain from CH 0.000 to CH2.203 looks too steep (almost 100%) and it doesn't look practical or constructible with two turns (90-degree). Is it compliant with Australian standards.

Whilst the beginning of the spoon drain is relatively steep, it is only for a small section of the spoon drain and therefore won't be capturing a significant amount of water runoff. FMG have also provided a barrier kerb to one side, and the shotcrete wall provides a barrier on the other, therefore runoff will be wholly contained in the "channel" created by the spoon drain. We note that the layout/design may fall outside the Australian standards, however, it is a best practice response to manage stormwater within the constrained environment of the subject site.

2. Check the possibility of replacing the spoon drain with a catch drain in the corner.

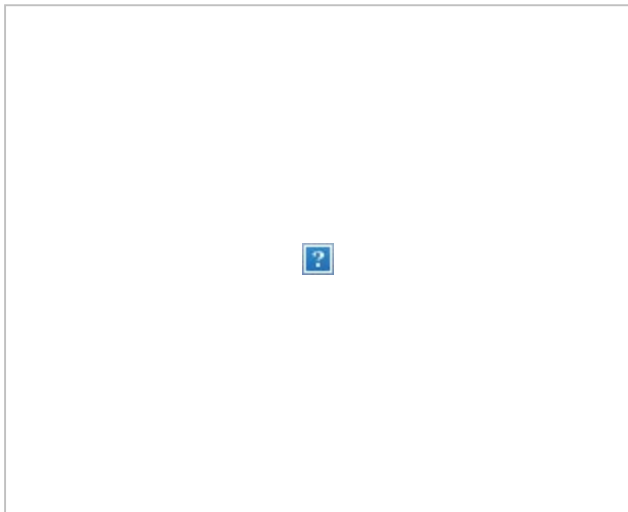
FMG have some concerns with this proposal, in particular, where this drainage pit would discharge to, construction of a drainage trench prior to the shotcrete wall would also be considered very dangerous given the adjacent slopes and would require shoring etc. It is FMG's opinion that this is a costly alternative to pick up a small volume of surface water

runoff. This option was initially considered by FMG however was rejected due to the factors/constraints discussed previously.

3. All details need to be consistent with Darebin Standard drawings. (attached).
As this is not a 'standard' project, the detail needs to be modified to suit site conditions/restraints i.e. the upstand barrier kerb. However, FMG can revise the spoon drain to align with the 600mm open invert drain detail if desired by the City of Darebin.
4. To check if the existing drain in the ROW has the capacity to collect the surface water coming from the spoon drain.
This is not something that was included in FMG's fee proposal as the final solution is not adding catchment to the drain, just formalising the existing. I.e. the final solution does not change the direction of the fall of the land, therefore the ROW is still capturing runoff from the same surface area. However, if this is required, a detailed feature survey of the location where the new spoon drain connects into the existing surface drainage system in the ROW, all the way down to where the existing spoon drain/surface drainage system discharges into the main stormwater drainage system in the area. If this is required, FMG can provide a fee for this additional design check.
5. Fill area at CH1.18 to be compacted Class 3 20mm size crushed rock compacted in 150mm layers.
This note can be added on the Civil/Structural drawings as required.
6. Bedding under spoon drain to be 120mm minimum depth Class 3 20mm size crushed rock as per Darebin standard.
This note can be added on the Civil/Structural drawings as required.
7. Make sure all other comments from our email on 24/10/2022 are considered while updating the plans.
Noted.

Regards,

Morteza Fini
Project Manager | Capital & Major Projects
T **Out of Scope**



From: Stephen Muldoon <xxxxxxx.xxxxxxx@xxxxxxxxxxxxxxxx.xxx.xx>

Sent: Friday, 11 November, 2022 4:12 PM

To: Morteza Fini <xxxxxxx.xxxx@xxxxxxx.xxx.xxx.xx>

Cc: FMG Forensic <xxxxxxx@xxxxxxxxxxxxxxxxxxx.xxx.xx>; Elnaz [Out of
[redacted]@fmgengineering.com.au]

Subject: RE: 42 James Street, Northcote, New Revision for Geotechnical Report (281686)

EXTERNAL EMAIL: This message originated from outside the Council. Please use caution when opening attachments, following links and do not enter your Council credentials when prompted unless you recognise the sender and know the content is safe.

Good afternoon Morteza,

I hope you are keeping well.

Please find attached a preliminary copy of the Civil Longitudinal section for the proposed spoon drain for the permanent batter for the land behind 42 James Street in Northcote. I have issued these for your review and comment.

We will finalise the drawing early next week and update the structural drawings to take in your previous comments, in line with the information contained in my previous email below.

If you would like to discuss anything with regards to the attached, please feel free to give me a call and I will issue through the final document next week as per my previous email.

Have a good weekend and will talk to you next week.

Thanks,

--

Stephen Muldoon

Senior Forensic Engineer



From: Morteza Fini <xxxxxxx.xxxx@xxxxxxx.xxx.xxx.xx>

Sent: Friday, 4 November 2022 12:52 PM

To: Stephen Muldoon <[Out of Scope]@fmgengineering.com.au>

Subject: RE: 42 James Street, Northcote, New Revision for Geotechnical Report (281686)

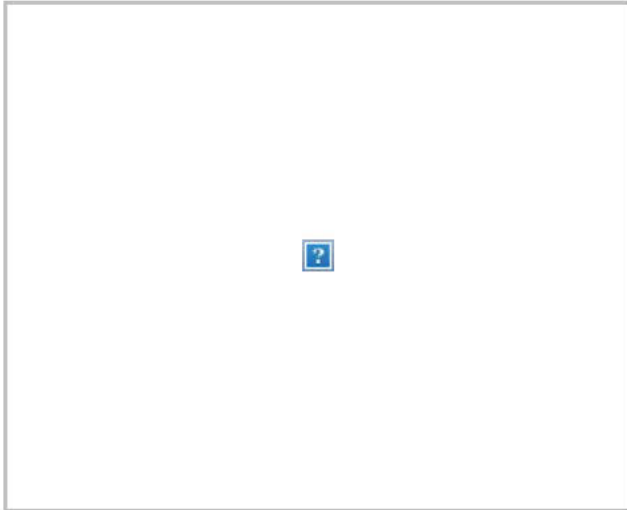
Hi Stephen,

Thanks for your prompt response.

We are looking forward to having the design finalized on time.

Regards,

Morteza Fini
Project Manager | Capital & Major Projects
Out of Scope



From: Stephen Muldoon **Out of Scope** <Out of Scope@fmgengineering.com.au>

Sent: Friday, 4 November, 2022 12:47 PM

To: Morteza Fini <Morteza.Fini@darebin.vic.gov.au>

Cc: FMG Forensic <forensic@fmgengineering.com.au>; Elnaz Mokhtari

Out of Scope <Out of Scope@fmgengineering.com.au>

Subject: RE: 42 James Street, Northcote, New Revision for Geotechnical Report (281686)

EXTERNAL EMAIL: This message originated from outside the Council. Please use caution when opening attachments, following links and do not enter your Council credentials when prompted unless you recognise the sender and know the content is safe.

Good afternoon Morteza,

Thanks for your email below.

I understand your frustration about the timeline and acknowledge that there has been significant delays in FMG issuing of the final documents.

I am currently working with the Civil Design team to get the design and documentation completed earlier than I outlined below, however at present, given current workload and other commitments, I cannot commit to having the design completed a week earlier unfortunately.

However, let me work with the team to try and get the documents out to you sooner.

In response to your other queries below, I provide the following comments:

- It is proposed to remove 150mm of topsoil, which we will make reference to on the updated drawings.

- It should be noted that there are no concerns with plants and seeds growing beneath the concrete and damaging the shotcrete capping. The proposed capping is 120mm thick and there will be no problems with organic growth through the capping layer once complete, assuming it has been installed correctly.
- FMG will make a note on the drawings for a uniform fall across the finalised stabilised batter capping area, where practical. FMG notes that cross sections outlining how this is achieved will not be provided on the final documentation. FMG will provide a typical cross section of the final solution and FMG will also provide a copy of the existing site survey drawings (in both PDF and CAD format). From this information, the Contractor will have sufficient information to understand what is required to achieve the final solution.

I trust the above addresses your concerns and as stated above I will work with our team to expediate the final documentation as far as I can.

I will be in contact with you next week to provide an update.

Thanks,

--

Stephen Muldoon

Senior Forensic Engineer



From: Morteza Fini <xxxxxxx.xxxx@xxxxxxx.xxx.xxx.xx>

Sent: Thursday, 3 November 2022 12:52 PM

To: Stephen Muldoon <Out of Scope@fmgeengineering.com.au>

Subject: RE: 42 James Street, Northcote, New Revision for Geotechnical Report (281686)

Hi Stephen,



Thanks for the update.

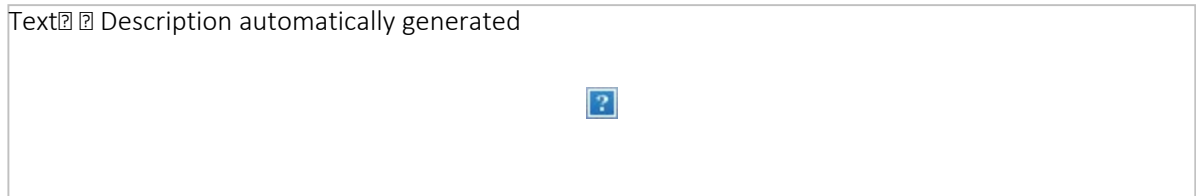
I am afraid the proposed dates for finalising the design are late, and we need the design to be completed at least a week sooner.

We are already behind in the program, and the contract for this project should be awarded before Xmas.

With the levels, we need to know what is the thickness of the soil that should be removed, including topsoil, plants, and seeds, to avoid growing them back and damaging the concrete.

As per your submission, we expect to see a uniform fall when the work is finished.

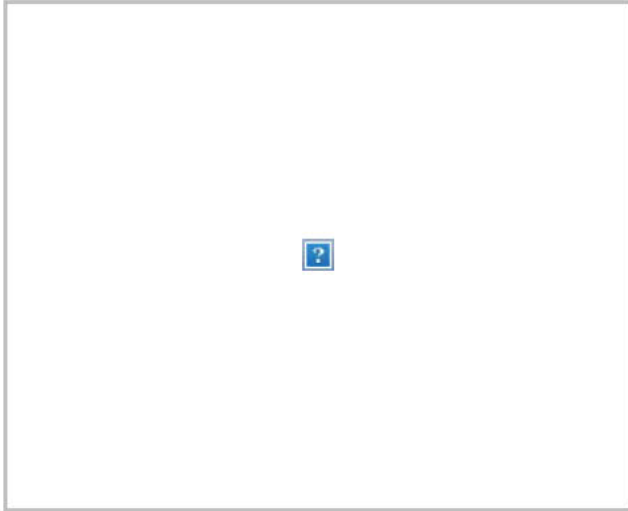
Text   Description automatically generated



Regards,

Morteza Fini

Project Manager | Capital & Major Projects
Out of Scope



From: Stephen Muldoon <**Out of Scope** @fmgengineering.com.au>

Sent: Thursday, 3 November, 2022 8:33 AM

To: Morteza Fini <Morteza.Fini@darebin.vic.gov.au>

Cc: FMG Forensic <forensic@fmgengineering.com.au>; Elnaz Mokhtari <elnaz.mokhtari@fmgengineering.com.au>

Subject: RE: 42 James Street, Northcote, New Revision for Geotechnical Report (281686)

EXTERNAL EMAIL: This message originated from outside the Council. Please use caution when opening attachments, following links and do not enter your Council credentials when prompted unless you recognise the sender and know the content is safe.

Good morning Morteza,

I was able to discuss the additional work with our Civil design team.

They have advised they will have preliminary drawings/information through to me at the beginning of the week commencing 14th November, with the aim to have the final detailed design documentation through to me by the end of that week/beginning of the following week.

I have reiterated to the Civil and Structural team the need to have sufficient information on the drawings to construct the proposed solution.

I have been advised that the Civil team will provide a long-section through the area to assist with level and construction of the spoon drain/drainage system.

The information from the Structural team will remain relatively similar to what has been issued, with only some minor changes to take into consideration some of your previous comments (i.e. higher kerb/upstand to prevent

water overflowing into neighbouring site etc.).

It is our opinion that this will provide sufficient information for the Contractor to construct the stabilised batter. It should be noted that the purpose of the solution is to match the finalised batter slope to the existing as close as possible, following a scrape of the top layer of loose soil from the area.

Therefore, the proposed levels will be relatively similar to the current levels on site.

We have used the feature survey as a background for our site plan which shows the existing levels, however, I will also provide through a copy of the PDF and CAD files for the survey for you to include in the documentation you supply to the Contractors to aid them with their understanding of the area.

Once I have received the initial Civil documentation I will provide it through for your information and then we will issue the final documentation to you following receipt of the final Civil design.

If you would like to discuss please give me a call.

Thanks,

--

Stephen Muldoon

Senior Forensic Engineer



From: Morteza Fini <Morteza.Fini@darebin.vic.gov.au>

Sent: Monday, 31 October 2022 3:31 PM

To: Out of Scope <[REDACTED]@fmgengineering.com.au>

Subject: RE: 42 James Street, Northcote, New Revision for Geotechnical Report (281686)

Hi Stephen,

The Council approves the \$1k cost for additional works.

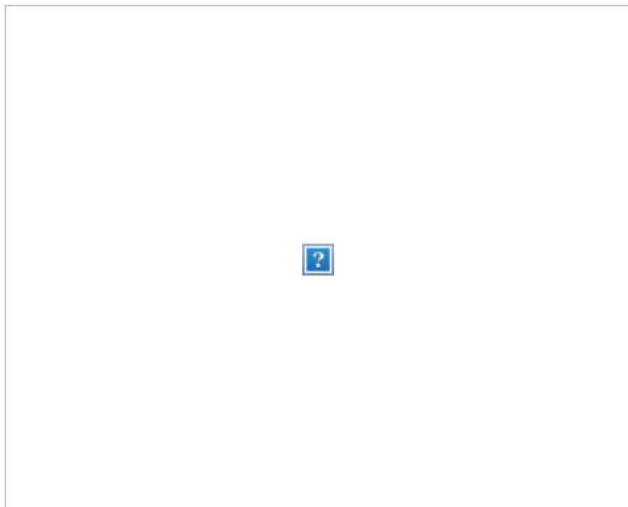
Please proceed to complete the design process as per our request ASAP.

Regards,

Morteza Fini

Project Manager | Capital & Major Projects

T Out of Scope <[REDACTED]>





From: Stephen Muldoon <[Redacted]@fmgengineering.com.au>
Sent: Monday, 31 October, 2022 3:29 PM
To: Morteza Fini <Morteza.Fini@darebin.vic.gov.au>
Cc: Elnaz Mokhtari [Redacted]@fmgengineering.com.au>; FMG Forensic <forensic@fmgengineering.com.au>
Subject: RE: 42 James Street, Northcote, New Revision for Geotechnical Report (281686)

EXTERNAL EMAIL: This message originated from outside the Council. Please use caution when opening attachments, following links and do not enter your Council credentials when prompted unless you recognise the sender and know the content is safe.

Good afternoon Morteza,

I just wanted to provide you with an update on this. With tomorrow being Melbourne Cup, most of our team are away on annual leave today and unfortunately I was unable to discuss with them about the requirements for the additional civil requirements to ensure sufficient information is provided to construct the solution. I will discuss with them on Wednesday and when I get a response I will provide you with a timeframe. I will highlight to them the urgency of this as you are wanting to award the contract before the end of the year.

As discussed last week, can you confirm that the City of Darebin are happy to proceed with the additional works based on the additional \$1,000 variation.

This will not hold up the work and me getting an answer for you, however I need a response in writing to pass onto our finance team.

I will be in contact again in the coming days.

Thanks,

--

Stephen Muldoon
Senior Forensic Engineer



From: Morteza Fini <Morteza.Fini@darebin.vic.gov.au>
Sent: Tuesday, 25 October 2022 2:50 PM
To: Elnaz Mokhtari [Redacted]@fmgengineering.com.au>
Cc: Oliver Kelly [Redacted]@fmgengineering.com.au>; Reza Shahbazian <[Redacted]@fmgengineering.com.au>; Anthony Perkin <[Redacted]@fmgengineering.com.au>; Emasha Weligamage <[Redacted]@fmgengineering.com.au>; Jordan Colbert <[Redacted]@fmgengineering.com.au>; Stephen Muldoon <[Redacted]@fmgengineering.com.au>

Out of Scope [redacted]@fmgengineering.com.au>; Out of Scope [redacted]@fmgengineering.com.au>; Hector Catalogna Out of Scope [redacted]@fmgengineering.com.au>

Subject: RE: 42 James Street, Northcote, New Revision for Geotechnical Report (281686)

Hi Elnaz,

Thank you for your response to our comments.

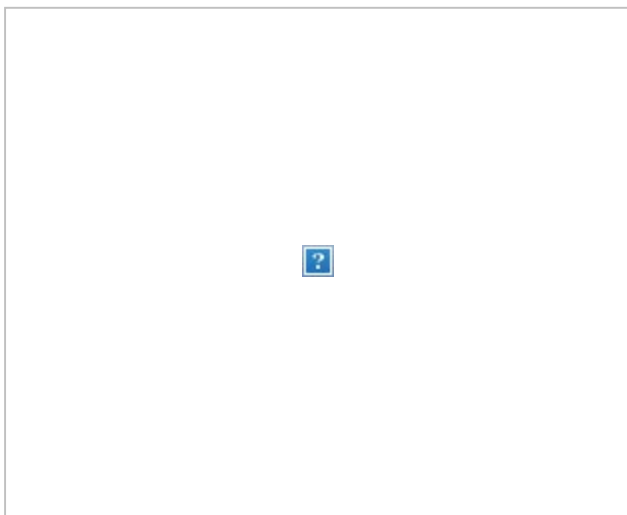
Regarding items 2 and 3, I am unsure why a separate architect would provide this (point 2) and not the engineer. Detailed set-out and Long section design, including Chainage, existing levels and proposed levels and elevation, are the essential part of any civil design which can not be excluded from the scope of the works. Council awarded the works based on the assumptions that structural and civil design documentation, as per your submission, covers points 2 and 3 of the email 10/10/22. Therefore the original price submission includes necessary Setout information and long section design as part of the construction set of drawings.

Council expects the design to be completed according to the standards and your submission which includes all the above details.

Could you please ensure the tender drawings will be prepared in two weeks?

Regards,

Morteza Fini
Project Manager | Capital & Major Projects
Out of Scope [redacted]



From: Out of Scope [redacted]@fmgengineering.com.au>

Sent: Monday, 24 October, 2022 3:04 PM

To: Morteza Fini <xxxxxxx.xxxx@xxxxxxx.xxx.xxx.xx_>

Cc: [REDACTED]@fmgengineering.com.au>; Reza Shahbazian

[REDACTED]@fmgengineering.com.au>; Anthony Perkin

[REDACTED]@fmgengineering.com.au>; Emasha Weligamage

[REDACTED]@fmgengineering.com.au>; Jordan Colbert

[REDACTED]@fmgengineering.com.au>; Stephen Muldoon

[REDACTED]@fmgengineering.com.au>; Ian Yang [REDACTED]@fmgengineering.com.au>; Hector

Catalogna [REDACTED]@fmgengineering.com.au>

Subject: FW: 42 James Street, Northcote, New Revision for Geotechnical Report (281686)

EXTERNAL EMAIL: This message originated from outside the Council. Please use caution when opening attachments, following links and do not enter your Council credentials when prompted unless you recognise the sender and know the content is safe.

Hi Morteza,

Thanks a lot for your time during the inspection today.

Please find comment responses in blue:

1. Extend the plan to the west to the existing gate and show the existing concrete.
 - The pavement detail will be provided for that area and will be covered on the plan. FMG notes that, the exact extent of the pavement will not be shown on the plan as the survey data in the area does not extend far enough to the west to show the exact location of the pavement. Hence FMG will show an indicative extent for the pavement which the Contractor will be required to confirm on site. If acceptable, FMG can nominate an indicative/approximate width for the pavement to extend (i.e 2m from the top of the batter to meet the existing pavement to the west) and advise that the Contractor will be required to confirm the exact dimension on site.
2. Detailed set out to be provided including Chainage and set out levels.
 - This item is not included in the fee proposal. FMG notes that pavement/site set-outs are usually provided by an Architect and this is not a service that we provide/included in our fee proposal.
3. Long section design to be provided including Chainage, existing levels and proposed levels – design line/levels of the invert of proposed spoon drain and north building line should be both shown on LS design
 - This was not included in FMG's fee proposal. If this is required it would either require civil modelling of the project or alternatively this can be done by hand but. If this is required, FMG expect that the costs associated with this additional design would be approximately \$1,000. If FMG were to proceed with this additional work, the

turnaround time would be approximately 2 weeks following receipt of approval to proceed (i.e. approval for additional works and approval for additional \$1,000 costs)

4. Show width on Section A-A
 - Please refer spoon drain detail
5. A higher kerb, say 200mm, may be required adjacent to the spoon drain
 - Happy to comply. This will be included on final updated documents
6. Further detail to be provided on how the spoon drain will be treated at severe drop-off near 90-degree bend at the beginning – Is there a large amount of fill to be placed here? If not, is a spoon drain the best solution and have GP with a pipe? Need Long section design.
 - Runoff along Spoon drain will be constrained by the upright kerb on one side, and shotcrete on the other, effectively forming a 200mm high, 600mm wide channel. This is well over capacity and should not present any issues conveying flow. FMG could add a note identifying for the spoon drain to be “streamlined” on site at bends to ensure free drainage.
 - The drainage will be considered to convey the flow on the pavement (left side of the plan) to collect in the surface drainage provisions (i.e. open channel) to the left end of site (i.e. upper access laneway).
 - The drainage will be considered to convey the flow on the shotcrete wall (from the end of the pavement to the end of the shotcrete wall to the right) to collect in the spoon drain to the right end of the site (i.e. lower access laneway).
7. For the cost estimate, allow for clean-up and trim trees east section of right of way in the schedule.
 - The cost estimate will be updated accordingly with respect to the new revision of the drawings including clean-up and trim trees east section (require approximately 7 working days)

Except for item 3 (provision of long-section as requested), the rest of changes in drawings and cost estimate, require approximately 7 working days.

However, if you require item 3 to be included, this timeframe will need to be increased to approximately 2 weeks (from receiving approval).

Can you please review the above and advise if you wish FMG to include the additional long-section works in the proposed update to the final documentation.

If so can you please provide approval for the additional costs \$1,000 and provide an additional PO for these works as required.

If you do not wish to include the additional long section works please advise and then we will update the documents as outlined above and issue out to you within 7 working days of receiving your response.

Kind Regards,

--

Elnaz Mokhtari
Structural Engineer



Engineering your success

Adelaide | Melbourne | Sydney

P 03 9815 7600

Out of

2 Domville Ave Hawthorn VIC 3122

Out of Scope [@fmgengineering.com.au](mailto:Out of Scope@fmgengineering.com.au)

fmgengineering.com.au

Is it necessary to print this email? If you care about the environment like we do, please refrain from printing emails.

This email is confidential and may contain privileged or copyright information. If you are not the intended recipient please delete this email and you are notified that disclosing, copying, distributing or taking any action in reliance on the contents of this information is strictly prohibited.

From: Morteza Fini <Morteza.Fini@darebin.vic.gov.au>

Sent: Monday, 10 October 2022 11:55 AM

To: Elnaz Mokhtari [Out of Scope @fmgengineering.com.au](mailto:Out of Scope@fmgengineering.com.au)>

Cc: Oliver Kelly [Out of Scope @fmgengineering.com.au](mailto:Out of Scope@fmgengineering.com.au)>; Reza Shahbazian

[Out of Scope @fmgengineering.com.au](mailto:Out of Scope@fmgengineering.com.au)>; Anthony Perkin

[Out of Scope @fmgengineering.com.au](mailto:Out of Scope@fmgengineering.com.au)>; Emasha Weligamage

[Out of Scope @fmgengineering.com.au](mailto:Out of Scope@fmgengineering.com.au)>; Jordan Colbert

[Out of Scope @fmgengineering.com.au](mailto:Out of Scope@fmgengineering.com.au)>; Stephen Muldoon

[Out of Scope @fmgengineering.com.au](mailto:Out of Scope@fmgengineering.com.au)>; Ian Yang [Out of Scope @fmgengineering.com.au](mailto:Out of Scope@fmgengineering.com.au)>; Hector

Catalogna [Out of Scope @fmgengineering.com.au](mailto:Out of Scope@fmgengineering.com.au)>

Subject: RE: 42 James Street, Northcote, New Revision for Geotechnical Report

Hi Elnaz,

We reviewed the updated plans, and our comments are as follows:

1. Extend the plan to the west to the existing gate and show the existing concrete.
2. Detailed set out to be provided including Chainage and set out levels.
3. Long section design to be provided including Chainage, existing levels and proposed levels – design line/levels of the invert of proposed spoon drain and north building line should be both shown on LS design
4. Show width on Section A-A
5. A higher kerb, say 200mm, may be required adjacent to the spoon drain
6. Further detail to be provided on how the spoon drain will be treated at severe drop-off near 90-degree bend at the beginning – Is there a large amount of fill to be placed here? If not, is a spoon drain the best solution and have GP with a pipe? Need Long section design.
7. For the cost estimate, allow for clean up and trim trees east section of right of way in the schedule.

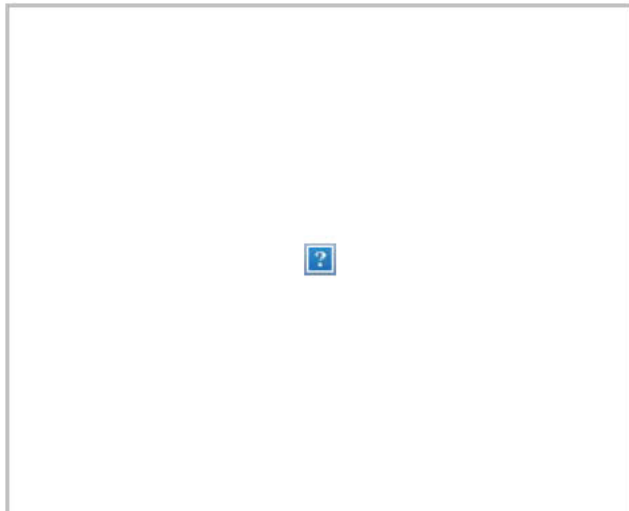
Please update the design according to our comments and send us the updated design.

I think a site visit with you or one of your designers would help us better understand the site condition and complete the design.

Could you please let me know what date and time suit you for a site visit?

Regards,

Morteza Fini
Project Manager | Capital & Major Projects
T Out of Scope



From: Elnaz Mokhtari Out of Scope @fmgengineering.com.au>
Sent: Monday, 3 October, 2022 2:27 PM
To: Morteza Fini <Morteza.Fini@darebin.vic.gov.au>
Cc: Oliver Kelly <Out of @fmgengineering.com.au>; Reza Shahbazian
Out of Scope @fmgengineering.com.au>; Anthony Perkin
Out of Scope @fmgengineering.com.au>; Emasha Weligamage
Out of Scope @fmgengineering.com.au>; Jordan Colbert
Out of Scope @fmgengineering.com.au>; Stephen Muldoon
Out of Scope @fmgengineering.com.au>; Ian Yang Out of @fmgengineering.com.au>; Hector
Catalogna Out of Scope @fmgengineering.com.au>
Subject: RE: 42 James Street, Northcote, New Revision for Geotechnical Report

EXTERNAL EMAIL: This message originated from outside the Council. Please use caution when opening attachments, following links and do not enter your Council credentials when prompted unless you recognise the sender and know the content is safe.

Hi Morteza,

It will be ready by the 12th of the October.

Kind Regards,

--

Elnaz Mokhtari
Structural Engineer



Engineering your success

Adelaide | Melbourne | Sydney

Out of
Scope

2 Domville Ave Hawthorn VIC 3122

Out of Scope [@fmgengineering.com.au](mailto:Out of Scope@fmgengineering.com.au)

fmgengineering.com.au

Is it necessary to print this email? If you care about the environment like we do, please refrain from printing emails.

This email is confidential and may contain privileged or copyright information. If you are not the intended recipient please delete this email and you are notified that disclosing, copying, distributing or taking any action in reliance on the contents of this information is strictly prohibited.

From: Morteza Fini <Morteza.Fini@darebin.vic.gov.au>

Sent: Monday, 3 October 2022 1:15 PM

To: Elnaz Mokhtari [Out of Scope @fmgengineering.com.au](mailto:Out of Scope@fmgengineering.com.au)>

Cc: Oliver Kelly [Out of Scope @fmgengineering.com.au](mailto:Out of Scope@fmgengineering.com.au)>; Reza Shahbazian

[Out of Scope @fmgengineering.com.au](mailto:Out of Scope@fmgengineering.com.au)>; Anthony Perkin

[Out of Scope @fmgengineering.com.au](mailto:Out of Scope@fmgengineering.com.au)>; Emasha Weligamage

[Out of Scope @fmgengineering.com.au](mailto:Out of Scope@fmgengineering.com.au)>; Jordan Colbert

[Out of Scope @fmgengineering.com.au](mailto:Out of Scope@fmgengineering.com.au)>; Stephen Muldoon

[Out of Scope @fmgengineering.com.au](mailto:Out of Scope@fmgengineering.com.au)>; Ian Yang [Out of Scope @fmgengineering.com.au](mailto:Out of Scope@fmgengineering.com.au)>; Hector

Catalogna [Out of Scope @fmgengineering.com.au](mailto:Out of Scope@fmgengineering.com.au)>

Subject: RE: 42 James Street, Northcote, New Revision for Geotechnical Report

Hi Elnaz,

Thanks for the updated drawings.

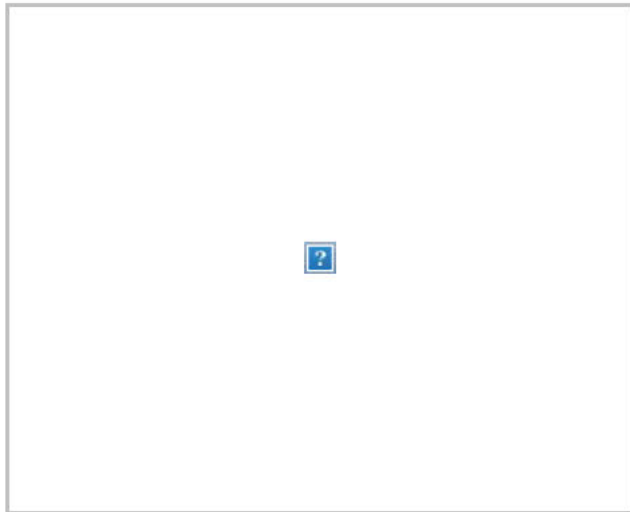
We will review the drawings and get back to you soon.

Could you please let us know the time frame for preparing the cost estimate?

Regards,

Morteza Fini
Project Manager | Capital & Major Projects

T
[Out of Scope @fmgengineering.com.au](mailto:Out of Scope@fmgengineering.com.au)



From: Elnaz Mokhtari <Out of Scope [redacted]@fmgengineering.com.au>
Sent: Friday, 30 September, 2022 4:10 PM
To: Morteza Fini <Morteza.Fini@darebin.vic.gov.au>
Cc: Oliver Kelly <Out of [redacted]@fmgengineering.com.au>; Reza Shahbazian <Out of Scope [redacted]@fmgengineering.com.au>; Anthony Perkin <Out of Scope [redacted]@fmgengineering.com.au>; Emasha Weligamage <Out of Scope [redacted]@fmgengineering.com.au>; Jordan Colbert <Out of Scope [redacted]@fmgengineering.com.au>; Stephen Muldoon <Out of Scope [redacted]@fmgengineering.com.au>; Ian Yang <Out of [redacted]@fmgengineering.com.au>; Hector Catalogna <Out of Scope [redacted]@fmgengineering.com.au>
Subject: RE: 42 James Street, Northcote, New Revision for Geotechnical Report

EXTERNAL EMAIL: This message originated from outside the Council. Please use caution when opening attachments, following links and do not enter your Council credentials when prompted unless you recognise the sender and know the content is safe.

Hi Morteza,

Hope you are doing well.

As discussed over the phone, please find attached updated drawings together with the updated geotechnical report.

Please find responses to the comments in red.

1. Level of batter before and after shotcrete to be shown on the drawings
Refer Note 2.

2. Instruction and level for cut and fill to make the surface smooth.

Refer Note 2.

3. Details of the French drain to be added.

French drain has been changed to spoon drain and detail has been added

4. Distance of the French drain from the retaining wall to be shown on the drawings.

Refer spoon drain detail

5. A section to show the levels after completion of work and where the slope meets the ground.

Refer section A-A and Note 2

6. Remove all non required info in the Notes

Removed

7. Shouldn't be Tender Issue, it's a draft design. Needs a lot more work before tendering.

The details in the drawings have been clarified for tender issue

8. The footprint of the new slab needs to be shown on a Plan view, where is it in relation to fences and verandah etc?

Refer plan

9. A strip drain needs to be shown on the Plan view (around the perimeter)

Refer plan

10. Grammar and spelling need to be improved

Sentences are modified

11. More details for geocomposite cusped strip filter drains

Refer spoon drain detail and typical drainage system

12. Need to show LPD and how to connect

There is a spoon drain that is located in the lower alley/laneway to the east of the batter. It is proposed to direct the surface water runoff from the batter into this spoon drain and it can then discharge to the existing stormwater system in the area. This is not expected to add a significant additional volume of surface water to the existing street drainage.

13. Need batter slopes on the French drain

Refer Note 2 and spoon drain detail.

14. Can the strip drain be below the French drain? I think note 8) is that Strip drains to be backfilled with screenings? Filter fabric?

Strip drains will extend from the shotcrete covered zone to the spoon drain and will be ending around the AG drain pipe and fully covered by screening as shown in the detail.

15. Does any storm water come off the buildings and onto the surface of this area?

There doesn't appear to be any downpipes from the neighbour properties discharging to the proposed batter area. We note that some downpipes from neighbouring properties to the east and west of the proposed works area do discharge into the upper and lower alley/laneways, however this

is directed away from the proposed works area in both instances.

- 16. The drawings need to reflect the work proposed in the geotechnical report. Drawings & Specs will need to be very clear and unambiguous for tenderers.

The drawings updated with respect to the revised version of the geotechnical report

- 17. Notes on drawings need to be instructions to the Contractor, eg install, lay, prepare, construct. Not words like 'installing', 'applying'

Modified

Kind Regards,

--

Elnaz Mokhtari
Structural Engineer



Engineering your success

Adelaide | Melbourne | Sydney

P 03 9815 7600

Out of

2 Domville Ave Hawthorn VIC 3122

Out of Scope@fmgengineering.com.au

fmgengineering.com.au

Is it necessary to print this email? If you care about the environment like we do, please refrain from printing emails.

This email is confidential and may contain privileged or copyright information. If you are not the intended recipient please delete this email and you are notified that disclosing, copying, distributing or taking any action in reliance on the contents of this information is strictly prohibited.

ited.

=====
 =====
 Disclaimer: This communication is intended only for the person or entity to which it is addressed and may contain confidential and/or privileged material. Any review, retransmission, dissemination or other use of, or taking any action in reliance on, this communication by persons or entities other than the intended recipient is prohibited. If you received this in error, please inform the city of Darebin immediately by return email and delete the material including all copies from the computer. The City of Darebin makes no express or implied representation or warranty that this electronic communication or any attachment is free from computer viruses or other defects or conditions which could damage or interface with the recipient data, hardware or software. This communication and any attachment may have been modified or otherwise interfered with the course of transmission.

=====
 =====
 Disclaimer: This communication is intended only for the person or entity to which it is addressed and may contain confidential and/or privileged material. Any review, retransmission, dissemination or other use of, or taking any action in reliance on, this communication by persons or entities other than the intended recipient is prohibited. If you received this in error, please inform the city of Darebin immediately by return email and delete the material including all copies from the computer. The City of Darebin makes no express or implied representation or warranty that this electronic communication or any attachment is free from computer viruses or other defects or conditions which could damage or interface with the recipient data, hardware or software.

This communication and any attachment may have been modified or otherwise interfered with the course of transmission.

=====
=====
=====

Disclaimer: This communication is intended only for the person or entity to which it is addressed and may contain confidential and/or privileged material. Any review, retransmission, dissemination or other use of, or taking any action in reliance on, this communication by persons or entities other than the intended recipient is prohibited. If you received this in error, please inform the city of Darebin immediately by return email and delete the material including all copies from the computer.

The City of Darebin makes no express or implied representation or warranty that this electronic communication or any attachment is free from computer viruses or other defects or conditions which could damage or interface with the recipient data, hardware or software.

This communication and any attachment may have been modified or otherwise interfered with the course of transmission.

=====
=====
=====

Disclaimer: This communication is intended only for the person or entity to which it is addressed and may contain confidential and/or privileged material. Any review, retransmission, dissemination or other use of, or taking any action in reliance on, this communication by persons or entities other than the intended recipient is prohibited. If you received this in error, please inform the city of Darebin immediately by return email and delete the material including all copies from the computer.

The City of Darebin makes no express or implied representation or warranty that this electronic communication or any attachment is free from computer viruses or other defects or conditions which could damage or interface with the recipient data, hardware or software.

This communication and any attachment may have been modified or otherwise interfered with the course of transmission.

=====
=====
=====

Disclaimer: This communication is intended only for the person or entity to which it is addressed and may contain confidential and/or privileged material. Any review, retransmission, dissemination or other use of, or taking any action in reliance on, this communication by persons or entities other than the intended recipient is prohibited. If you received this in error, please inform the city of Darebin immediately by return email and delete the material including all copies from the computer.

The City of Darebin makes no express or implied representation or warranty that this electronic communication or any attachment is free from computer viruses or other defects or conditions which could damage or interface with the recipient data, hardware or software.

This communication and any attachment may have been modified or otherwise interfered with the course of transmission.

=====
=====
=====

Disclaimer: This communication is intended only for the person or entity to which it is addressed and may contain confidential and/or privileged material. Any review, retransmission, dissemination or other use of, or taking any action in reliance on, this communication by persons or entities other than the intended recipient is prohibited. If you received this in error, please inform the city of Darebin immediately by return email and delete the material including all copies from the computer.

The City of Darebin makes no express or implied representation or warranty that this electronic communication or any attachment is free from computer viruses or other defects or conditions which could damage or interface with the recipient data, hardware or software.

This communication and any attachment may have been modified or otherwise interfered with the course of transmission.

=====
=====
=====

Disclaimer: This communication is intended only for the person or entity to which it is addressed and may contain confidential and/or privileged material. Any review, retransmission, dissemination or other use of, or taking any action in reliance on,

this communication by persons or entities other than the intended recipient is prohibited. If you received this in error, please inform the city of Darebin immediately by return email and delete the material including all copies from the computer.

The City of Darebin makes no express or implied representation or warranty that this electronic communication or any attachment

is free from computer viruses or other defects or conditions which could damage or interface with the recipient data, hardware or software.

This communication and any attachment may have been modified or otherwise interfered with the course of transmission.

=====
=====
=====
=====

Disclaimer: This communication is intended only for the person or entity to which it is addressed and may contain confidential and/or privileged material. Any review, retransmission, dissemination or other use of, or taking any action in reliance on,

this communication by persons or entities other than the intended recipient is prohibited. If you received this in error, please inform the city of Darebin immediately by return email and delete the material including all copies from the computer.

The City of Darebin makes no express or implied representation or warranty that this electronic communication or any attachment

is free from computer viruses or other defects or conditions which could damage or interface with the recipient data, hardware or software.

This communication and any attachment may have been modified or otherwise interfered with the course of transmission.

=====
=====
=====
=====

Disclaimer: This communication is intended only for the person or entity to which it is addressed and may contain confidential and/or privileged material. Any review, retransmission, dissemination or other use of, or taking any action in reliance on,

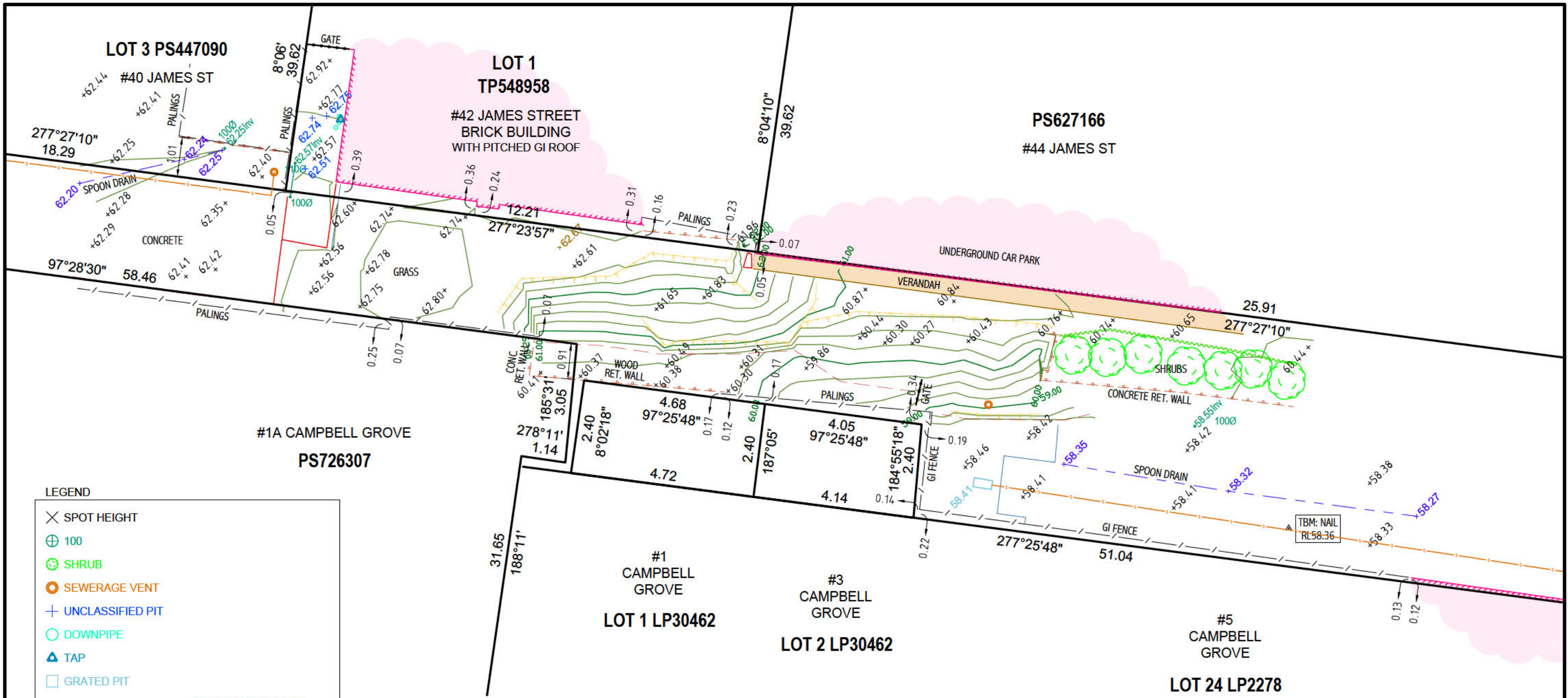
this communication by persons or entities other than the intended recipient is prohibited. If you received this in error, please inform the city of Darebin immediately by return email and delete the material including all copies from the computer.

The City of Darebin makes no express or implied representation or warranty that this electronic communication or any attachment

is free from computer viruses or other defects or conditions which could damage or interface with the recipient data, hardware or software.

This communication and any attachment may have been modified or otherwise interfered with the course of transmission.

=====
=====



LEGEND

- ✕ SPOT HEIGHT
- ⊕ 100
- ⊕ SHRUB
- SEWERAGE VENT
- + UNCLASSIFIED PIT
- DOWNPIPE
- ▲ TAP
- GRATED PIT
- EDGE OF CONCRETE
- EDGE OF PAVING
- INVERT OF PIPE
- MAJOR BUILDING
- TOP OF BANK
- RETAINING WALL
- TOE OF BANK
- GATE
- GARDEN BED
- FENCE
- DRAIN (Concrete / Earth)
- VERANDAH CANOPY
- WALL
- TITLE / BOUNDARY LINE
- U/G SEWERAGE (DBYD)

NOTES:

This plan is prepared for FMG ENGINEERING from a field survey for the purpose of designing new constructions on the land and to show the relationship between the boundaries and occupation, and should not be used for any other purpose. For clarity, some occupation may not be shown to scale. Possessory Rights may have accrued to occupation location. The Title boundaries have been surveyed.

Above ground services as seen by the surveyor at the time of survey have been shown on this plan. Pits may be larger underground than the size shown on the plan. Footing locations and subsurface structures have not been located. Services plotted from Dial Before You Dig plans (DBYD ref:20833885) are indicative only at the date of the search. **Prior to any demolition, excavation or construction, current Dial Before You Dig plans must be ordered and examined.** Alignments and depths of services plotted from DBYD may not be reliable as services may not run in a straight line between pits. Any digital data forwarded by Landair Surveys must not be altered in any way without prior approval of Landair Surveys. The data may be copied and then manipulated as required. This note is an integral part of the plan.

MAJOR CONTOUR INTERVAL : 1m, MINOR CONTOUR INTERVAL : 0.25m
LEVELS ARE TO AUSTRALIAN HEIGHT DATUM (AHD) AND
CO-ORDINATES ARE ON MAP GRID OF AUSTRALIA (MGA94) VIDE GPSNET

CERTIFICATION BY LICENSED SURVEYOR FOR PLAN

I, TRENT WEBB of 1/87-91 HEATHERDALE RD, RINGWOOD 3134 certify that this plan has been prepared from a survey made under my direction and supervision in accordance with the Surveying Act 2004 and completed on 21/12/2020. This plan is accurate and correctly represents the adopted boundaries and the survey accuracy accords with the requirements of Regulation 7(1) as defined by the Surveying (Cadastral Surveys) Regulations 2015.

Date: 30/12/2020

Out of Scope

_____ Licensed Surveyor,

FMG ENGINEERING

FEATURE

42 JAMES STREET

NORTHCOTE

LENGTHS ARE IN METRES

SCALE 1:100

MGA 94 ZONE 55

JOB NUMBER:	2201223
DATE OF SURVEY:	21/12/2020
FIELD PARTY:	EC, MD
DRAWN BY:	CC
PLAN DATE:	30/12/2020
REVISION:	-
SHEET:	SHEET 1 OF 1
SIZE:	A3

1/87-91 Heatherdale Rd
Ringwood 3134

info@landair.com.au
www.landair.com.au

1300 130 158
(03) 9872 5092

GENERAL

DO NOT SCALE DRAWINGS.
UNLESS OTHERWISE NOTED ALL LEVELS ARE IN METRES AND ALL DIMENSIONS IN MILLIMETRES.
THE BUILDER SHALL BE RESPONSIBLE FOR MAINTAINING THE STABILITY OF THE STRUCTURE UNTIL ITS COMPLETION AND SHALL ENSURE THAT NO PART OF THE STRUCTURE IS OVERSTRESSED BY EXCESSIVE LOADING.
ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT CODES OF PRACTICE EXCEPT WHERE VARIED BY THE SPECIFICATION AND / OR DRAWINGS.

AS 3600 CONCRETE STRUCTURES CODE.
AS/NZS 4671 STEEL REINFORCING MATERIALS
AS 1170 (Pt 1-4) SAA LOADING CODE
AS 1170 (Pt 0) STRUCTURAL DESIGN ACTION
AS/NZS 3679 HOT ROLLED AND WELDED SECTIONS
AS 4100 STEEL STRUCTURES CODE.
AS/NZS 1163 STRUCTURAL STEEL HOLLOW SECTIONS.
AS/NZS 1554 STRUCTURAL STEEL WELDING
AS 1684 NATIONAL TIMBER FRAMING CODES
AS 1720 TIMBER STRUCTURES CODE.
AS 1289 METHODS OF TESTING SOILS FOR ENGINEERING PURPOSES.
AS 3700 MASONRY CODE.
AS/NZS 4600 COLD FORMED STEEL STRUCTURES
AS 1657 FIXED PLATFORMS, WALKWAYS, STAIRWAYS AND LADDERS CODE
AS/NZS 4455 MASONRY UNITS AND SEGMENTAL PAVERS

ABBREVIATIONS:

NTS - NOT TO SCALE
UNO - UNLESS NOTED OTHERWISE
EF - EACH FACE
FF - FAR FACE

PROVIDE CLAY 'PLUG' TO ALL SERVICE TRENCHES WHERE ANY PIPE, DUCT OR CABLE ENTERS THE BUILDING TO PREVENT INGRESS OF WATER UNDER BUILDING
UNDER PART 4 OF THE BUILDING ACT 1993 THE BUILDER IS REQUIRED TO NOTIFY THE RELEVANT BUILDING SURVEYOR OF EACH MANDATORY INSPECTION STAGE. PLEASE ENSURE THAT THEY ARE NOTIFIED.
THE BUILDER SHALL GIVE AT LEAST 48 HOURS NOTICE PRIOR TO INSPECTION OF ALL STRUCTURAL WORKS.
BUILDER TO ALLOW IN HIS TENDER FOR ALL ADDITIONAL COST ASSOCIATED WITH THE PROPOSED LOCATION OF CRANE(S) AND RELATED SUPPORT STRUCTURES.

FIXING POINTS & SUPPORTS FOR BUILDING MAINTENANCE EQUIPMENT:
BUILDER TO MAKE DUE ALLOWANCE IN HIS TENDER FOR ALL CAST-IN INSERTS, STEEL CONNECTION PLATES, ACCESS HOOKS, SAFETY HARNESS PLATES, STATIC LINE SUPPORTS ETC. REQUIRED AS ABSEILING FIXING POINTS TO THE PERIMETER OF THE ROOF, EXTERNAL WALLS AND GROUND SLABS.
WHERE IT IS PROPOSED TO ALSO USE A SWING-STAGE THE BUILDER IS TO MAKE ADDITIONAL ALLOWANCE FOR DAVIT ARMS, NEEDLES AND ASSOCIATED RESTRAINT SYSTEMS ETC. TO THE PERIMETER OF THE ROOF AND ALSO ANY FIXING POINTS REQUIRED ALONG THE EXTERNAL WALLS AND GROUND SLAB.
ALL STRUCTURAL FIXING REQUIREMENTS ASSOCIATED WITH BUILDING MAINTENANCE ARE TO BE DESIGNED AND DOCUMENTED BY A SPECIALIST ENGINEER ENGAGED BY THE BUILDER. BUILDER TO ALLOW IN HIS TENDER FOR ALL COSTS AND FEES ASSOCIATED WITH THIS ENGINEERING WORK. BUILDER TO MAKE THE ABOVE ALLOWANCES FOR ALL BUILDINGS.
SUBSTITUTION SHALL NOT BE PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.

EXTERNAL INSULATION
FMG ENGINEERING HAS NOT CARRIED OUT A REVIEW WITH RESPECT TO COMBUSTIBILITY, FIRE RESISTANCE OR FIRE SAFETY PROVISIONS OF THE EXTERNAL INSULATION

DEMOLITION

ALL DEMOLITION WORK IS TO BE IN ACCORDANCE WITH AS2601. THE CONTRACTOR IS TO ENGAGE A COMPETENT PERSON TO PREPARE A DEMOLITION WORK PLAN IN ACCORDANCE WITH AS 2601.
THE CONTRACTOR IS TO ENSURE THE STRUCTURE IS IN A STABLE CONDITION AT ALL TIMES.
REFER TO SECTIONS AND PLANS ON DRAWINGS FOR SUGGESTED DEMOLITION PROCEDURES FOR CERTAIN AREAS.
WHERE TEMPORARY PROPPING IS SPECIFIED, PROPS ARE TO BE TIGHTENED SUFFICIENTLY TO SUPPORT DEAD LOADS FROM ABOVE. TRANSFER ALL PROPPING FORCES INTO THE GROUND AND PROVIDE ADEQUATE SOLEPLATES OR FOOTINGS TO SAFELY SUPPORT THESE FORCES WITHOUT EXCESSIVE SETTLEMENT UNLESS CALCULATIONS ARE PROVIDED TO SHOW THE STRUCTURE IS CAPABLE OF SUPPORTING THE LOADS.

HEALTH AND SAFETY

IT IS THE RESPONSIBILITY OF THE BUILDER TO ENSURE ALL WORKS ARE CARRIED OUT IN A SAFE MANNER.
THE WORKS SHALL COMPLY WITH ALL APPLICABLE HEALTH AND SAFETY LEGISLATION INCLUDING CODES OF PRACTICE, AUSTRALIAN STANDARDS, GUIDANCE NOTES AND WORKSAFE REQUIREMENTS.
THE BUILDER SHALL ENSURE A RISK ASSESSMENT HAS BEEN CARRIED OUT AND DOCUMENTED FOR ALL ACTIVITIES PERFORMED ON THE SITE. SAFE WORK PROCEDURES MUST BE DOCUMENTED AS REQUIRED BY LEGISLATION AND RELEVANT AUTHORITIES. THE BUILDER MAY NEED TO ENGAGE SUITABLY EXPERIENCED CONSULTANTS TO PREPARE A SAFE WORK PROCEDURE IF THE BUILDER IS INEXPERIENCED IN THIS FIELD OR IF THEY ARE NOT SATISFIED WITH THE METHOD PROPOSED BY THE CONTRACTOR.

CONCRETE

CONCRETE SHALL CONFORM TO THE FOLLOWING:
a) CEMENT TYPE GP COMPLYING TO / WITH AS 1379 AND AS 3600

SHRINKAGE:

MAXIMUM DRYING SHRINKAGE STRAIN MEASURED IN ACCORDANCE WITH AS 1012 PART 13 SHALL NOT EXCEED 650 x 10-6/ AT 8 WEEKS

CONCRETE TESTING SHALL BE IN ACCORDANCE WITH AS 1379, METHOD OF TESTING AND ASSESSMENT SHALL BE "PROJECT ASSESSMENT" METHOD.

REINFORCEMENT

ALL REINFORCEMENT SHALL BE AS FOLLOWS:

SYMBOL	STRUCTURAL GRADE	DUCTILITY CLASS
R	STRUCTURAL GRADE PLAIN BARS TO AS 1302 (250 MPa)	N
S	STRUCTURAL GRADE DEFORMED BARS TO AS 1302 (250 MPa)	N
Y	DEFORMED BARS GRADE 400 Y TO AS 1302 (400MPa)	N
N	DEFORMED BARS GRADE 500 Y TO AS/NZS 4671 (500MPa)	N
RN SN	FABRIC TO AS/NZS 4671 (500MPa)	N
RL SL	FABRIC TO AS/NZS 4671 (500MPa)	L

NOTE: THE NUMBER FOLLOWING R,S,Y,N AND RL/SL IS THE BAR DIAMETER IN MILLIMETRES

LOW DUCTILITY DEFORMED BARS (DUCTILITY CLASS L) SHALL NOT BE USED UNDER ANY CIRCUMSTANCES (EXCEPT FOR FABRIC)

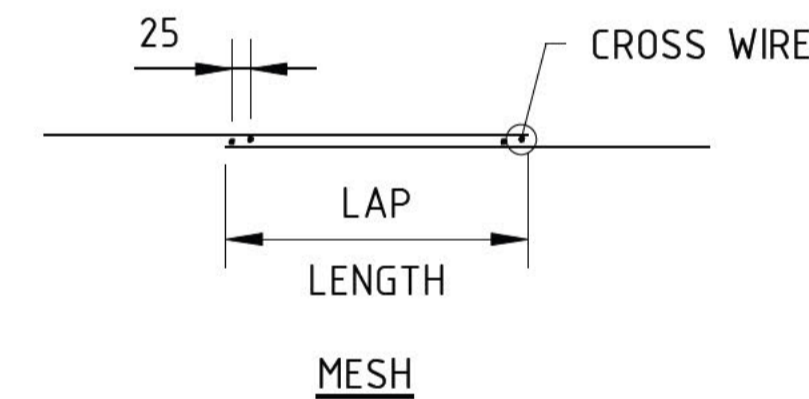
NO REINFORCEMENT SPLICES SHALL BE MADE, OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS, WITHOUT THE PRIOR APPROVAL OF THE SUPERINTENDENT/ ENGINEER. MINIMUM LAP FOR FABRIC SHALL BE ONE SQUARE OF MESH PLUS 25mm.

WELDING OF REINFORCEMENT IS NOT PERMITTED UNLESS SHOWN ON THE DRAWINGS OR APPROVED BY THE SUPERINTENDENT/ENGINEER. DEFORMED BARS SHALL BE COLD ROLLED ONLY.

ALL REINFORCEMENT BARS SHALL BE HANDLED ON SITE INCLUDING STORAGE, FIXING AND WELDING STRICTLY IN ACCORDANCE WITH RELEVANT MANUFACTURERS REQUIREMENTS AND RECOMMENDATIONS. BUILDER AND HIS CONTRACTORS TO OBTAIN ALL RELEVANT INFORMATION FROM MANUFACTURERS AND FAMILIARIZE WITH SUCH REQUIREMENTS.

REINFORCEMENT LAP LENGTHS

BAR SIZE	LAP LENGTH
MESH	2 x CROSS WIRES + 25mm



DRAWING INDEX

S01 GENERAL NOTES AND INDEX
S10 PLAN, SECTION AND DETAILS
S11 DETAILS
S12 DETAILS

ISSUED FOR CONSTRUCTION
UPON APPROVAL FROM STATUTORY AUTHORITIES

REV	DESCRIPTION	DATE	INIT	APP
B	FOR CONSTRUCTION	16.12.2022	EM	HC
A	PRELIMINARY ISSUE	22.11.2022	EM	HC
T2	TENDER ISSUE	30.09.2022	EM	HC
T1	TENDER ISSUE	26.08.2022	EM	MS

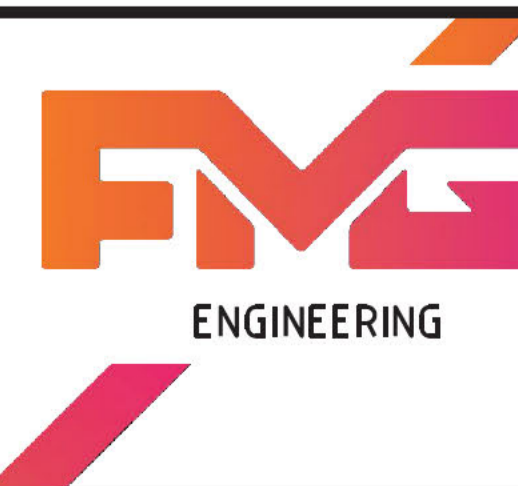
Engineering
your success.

ADELAIDE
MELBOURNE
SYDNEY

fmgengineering.com.au

P 03 9815 7600 | 2 Domville Ave, Hawthorn VIC 3122

ABN 58 083 071 185
Quality Management Systems ISO 9001 Certified



SIGNATURE

CLIENT

City of Darebin

PROJECT TITLE

PERMANENT BATTER REINSTATEMENT DETAIL

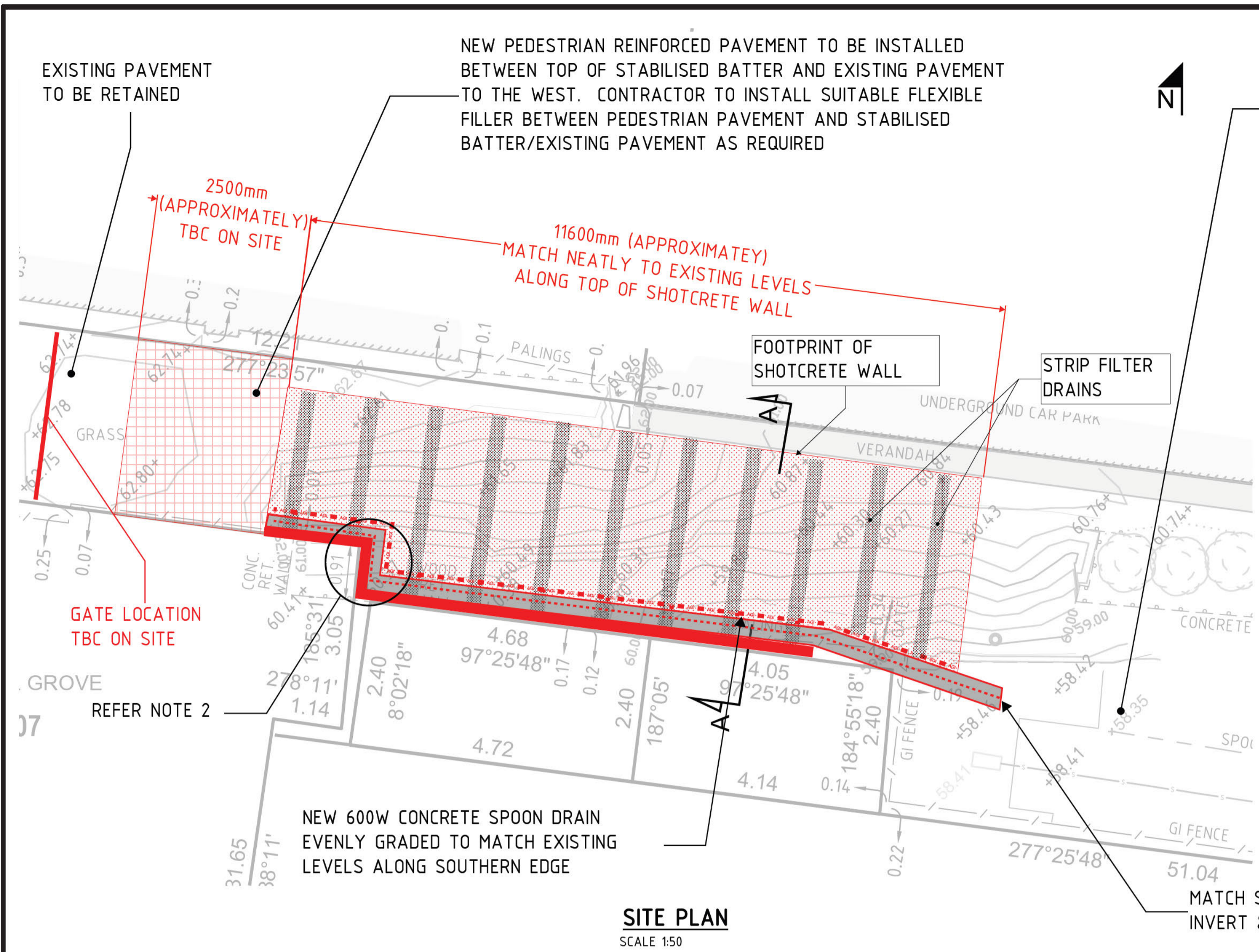
SITE ADDRESS

42 James Street, NORTHCOTE, VIC 3070

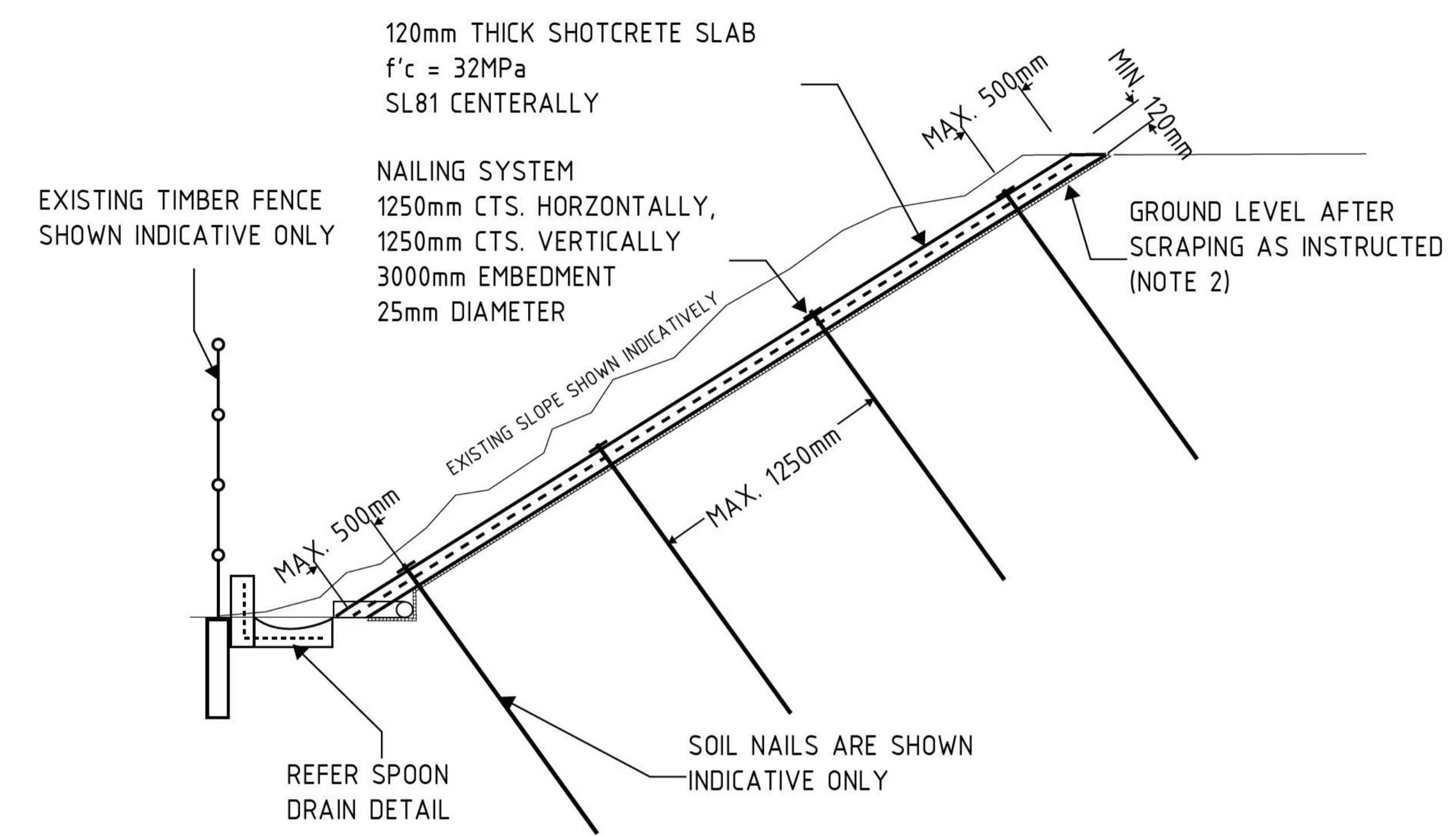
DRAWING TITLE

GENERAL NOTES AND INDEX

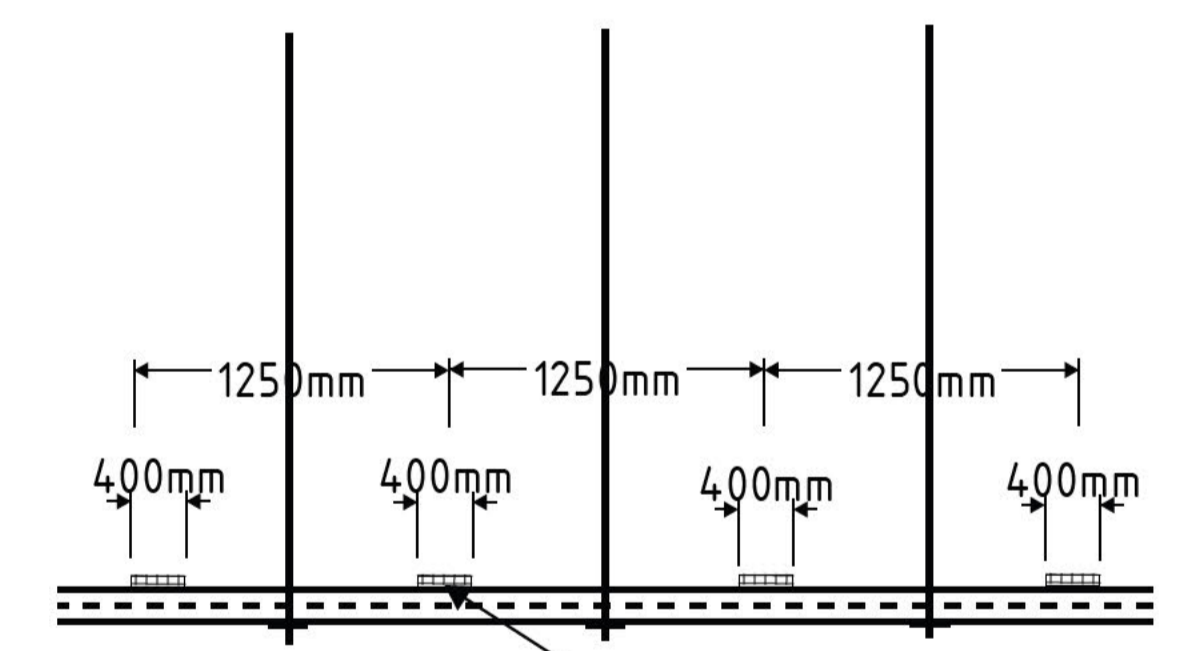
DESIGNED	EM	DRAWN	EM
CHECKED	HC	No. OF SHEETS	
SCALE	NTS @ A1	DATE STARTED	
SITE ID & JOB No.	S44580-281686	REV.	
DRAWING No.	S01		B



CLEAN ALL DEBRIS FROM EXISTING LANEWAY AND SPOON DRAIN TO ENSURE THAT WATER FROM NEW SPOON DRAIN CAN BE ADEQUATELY DISCHARGED VIA EXISTING SURFACE DRAINAGE SYSTEM IN THE LANEWAY



SECTION A-A TYPICAL RETAINING NAILING WALL SECTION



400mm GEOCOMPOSITE CUSPATED STRIP FILTER DRAINS (40mm PVC DOUBLE DIMPLE STRIP FILTER DRAIN) OR SIMILAR PRODUCT. AT 1250 CTS.

TYPICAL DRAINAGE SYSTEM PLAN VIEW

- NOTE 1 - REFER GEOTECHNICAL REPORT PREPARED BY FMG No. 281686 DATED 30.09.2022
- NOTE 2 - ALL FILL MATERIAL IN THE AREA CIRCLED ABOVE TO BE COMPACTED CLASS 3 20mm SIZE CRUSHED ROCK COMPACTED IN 150mm LAYERS.
- NOTE 3 - BEDDING UNDER SPOON DRAIN TO BE 120mm MINIMUM DEPTH CLASS 3 20mm CRUSHED ROCK, IN ACCORDANCE WITH CITY OF DAREBIN STANDARD DETAILS.
- NOTE 4 - SOIL NAILING RETAINING SYSTEM IS DESIGNED IN ACCORDANCE WITH FHWA AND AS 4678-2002.
- NOTE 5 - A WATERPROOFING ADMIXTURE SHALL BE ADDED TO THE SHOTCRETE MIXTURE ACCORDING TO THE SUPPLIER'S INSTRUCTION.

- METHODOLOGY:**
 NAILING SYSTEM FOR STABILISING THE SLOPE IN ACCORDANCE WITH THE FOLLOWING METHODOLOGY:
- 1) PROVIDE THE TEMPORARY ACCESS AS REQUIRED.
 - 2) UNDERTAKE BULK EARTHWORKS AS REQUIRED TO THE SLOPE OF THE PREPARED GROUND LEVEL. PROVIDE AN EVEN GRADE BETWEEN EXISTING LEVELS AT TOP AND AT BOTTOM OF BASE (MAX. 1V:2H)
 - 3) PROVIDE STRIP DRAIN 1250mm CTS.(GEOCOMPOSITE CUSPATED STRIP FILTER DRAINS OR SIMILAR PRODUCT).
 - 4) INSTALL STEEL MESH (SL81) TO BE PLACED CENTRALLY.
 - 5) APPLY SHOTCRETE (F'c=32 MPa) TO THE SURFACE OF REINFORCED AREA (120 mm THICK).
 - 6) DRILL HOLES WITH A DEPTH OF AROUND 3000mm IN THE SOIL WITH 25 DEGREES DOWNWARD TO THE HORIZON IN A PATTERN OF 1250mm CTS. HORIZONTALLY, 1250mm CTS. VERTICALLY.
 - 7) INSTALL THE PREPARED NAILS, INJECT THE CEMENT GROUT TO THE ANNULUS BETWEEN THE NAILS AND THE HOLE.
 - 8) APPLY STEEL END PLATES TO THE NAIL HEADS AND APPLY THE PROTECTIVE CONCRETE ON IT.
 - 9) PROVIDE A CONNECTION AT THE BOTTON FROM THE STRIP DRAIN TO A SPOON DRAIN.

ISSUED FOR CONSTRUCTION
 UPON APPROVAL FROM STATUTORY AUTHORITIES

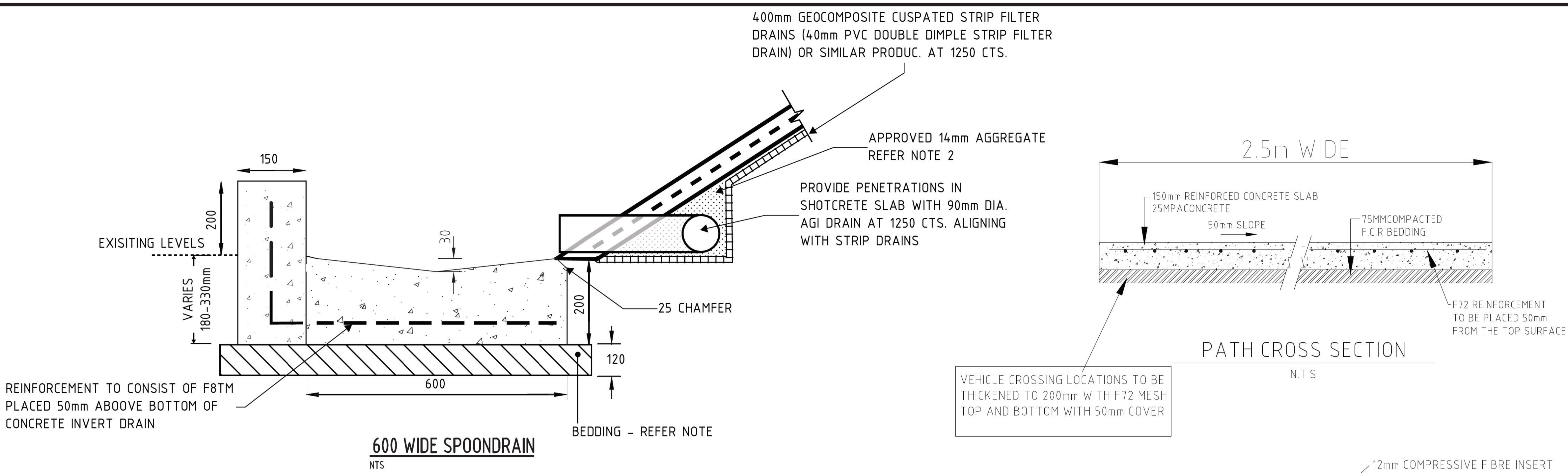
REV	DESCRIPTION	DATE	INIT	APP
B	FOR CONSTRUCTION	16.12.2022	EM	HC
A	PRELIMINARY ISSUE	22.11.2022	EM	HC
T2	TENDER ISSUE	30.09.2022	EM	HC
T1	TENDER ISSUE	26.08.2022	EM	MS

Engineering your success. | ADELAIDE MELBOURNE SYDNEY
fmgengineering.com.au
 P 03 9815 7600 | 2 Domville Ave, Hawthorn VIC 3122
 ABN 58 083 071 185
 Quality Management Systems ISO 9001 Certified

ENGINEERING

CLIENT: **City of Darebin**
 PROJECT TITLE: **PERMANENT BATTER REINSTATEMENT DETAIL**
 SITE ADDRESS: **42 James Street, NORTHCOTE, VIC 3070**
 DRAWING TITLE: **PLAN, SECTION AND DETAIL**

DESIGNED	EM	DRAWN	EM
CHECKED	HC	No. OF SHEETS	
SCALE	NTS @ A1	DATE STARTED	
SITE ID & JOB No.	S44580-281686	REV.	
DRAWING No.	S10		B



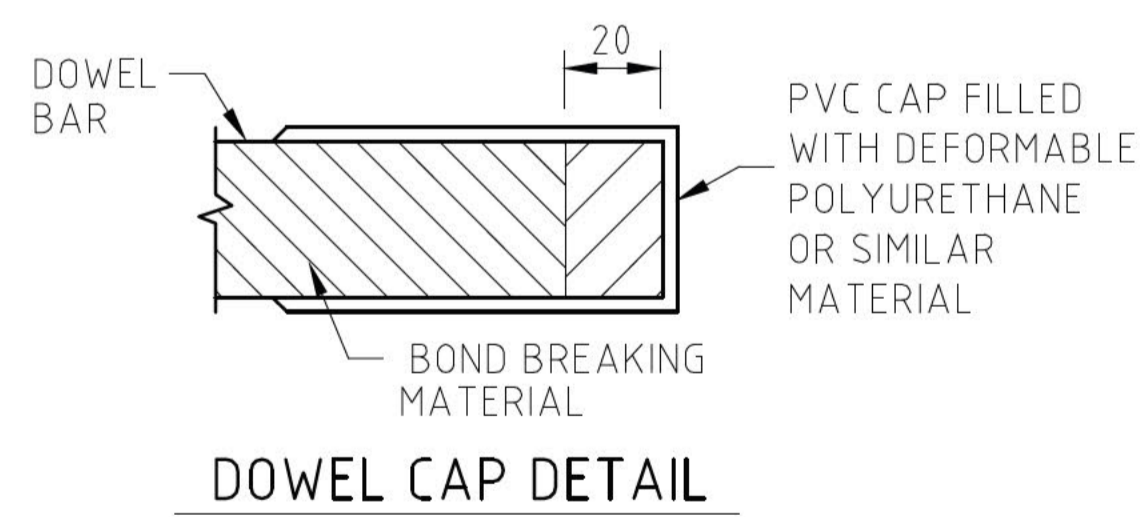
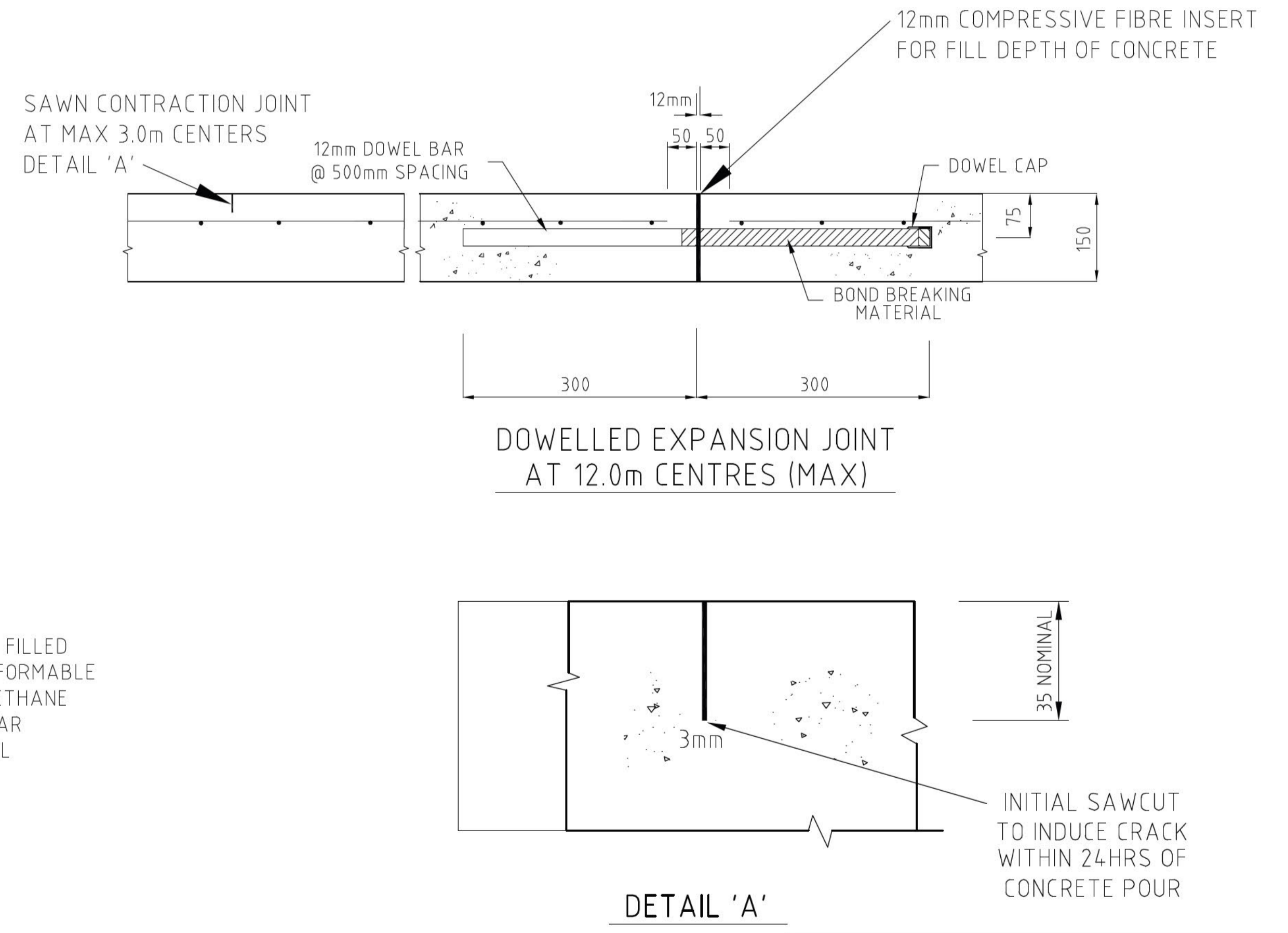
NOTE 1 - BEDDING UNDER SPOON DRAIN TO BE 120mm MINIMUM DEPTH CLASS 3 20mm CRUSHED ROCK, IN ACCORDANCE WITH CITY OF DAREBIN STANDARD DETAILS.

NOTE 2 - APPROVED 14 mm CRUSHED ROCK AGGREGATE (FINE MATERIAL PORTION LESS THAN 3 PERCENT)

REFER B2 MATERIAL FROM TABLE BELOW AS ACCEPTABLE PARTICLE SIZE RANGE FOR DRAINAGE MATERIAL

Grading Requirements for Granular Filter Material

Sieve Size AS (mm)	Limits of Grading (% passing by mass)									
	Single and First Stage Filters					Second Stage Filters				
	A2	A3	A4	A5	A6	B1	B2	B3	B4	
37.5	-	-	-	-	100	-	-	-	-	
26.5	-	-	-	-	-	-	-	-	100	
19.0	-	-	-	100	85-100	-	100	100	70-100	
13.2	-	-	-	90-100	-	-	90-100	90-100	0-70	
9.50	100	100	100	70-100	65-100	100	70-100	40-70	0-25	
4.75	90-100	90-100	70-100	28-100	48-82	70-100	28-100	0-15	-	
2.36	75-100	70-100	0-50	0-28	30-60	0-50	0-28	0-5	0-5	
1.18	50-98	40-65	0-10	0-8	15-40	0-10	0-8	-	-	
0.600	30-80	12-40	-	-	5-25	-	-	-	-	
0.300	10-40	0-16	0-5	0-5	0-10	0-5	0-5	-	-	
0.150	0-7	0-4	-	-	0-5	-	-	-	-	
0.075	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	



ISSUED FOR CONSTRUCTION
UPON APPROVAL FROM STATUTORY AUTHORITIES

REV	DESCRIPTION	DATE	INIT	APP
B	FOR CONSTRUCTION	16.12.2022	EM	HC
A	PRELIMINARY ISSUE	22.11.2022	EM	HC
T2	TENDER ISSUE	30.09.2022	EM	HC
T1	TENDER ISSUE	26.08.2022	EM	MS

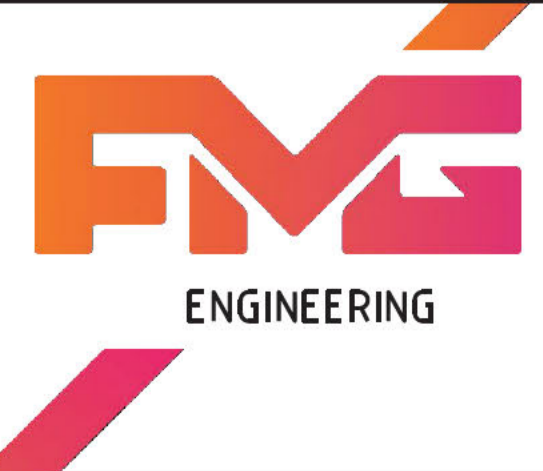
Engineering your success. ADELAIDE MELBOURNE SYDNEY

fmgengineering.com.au

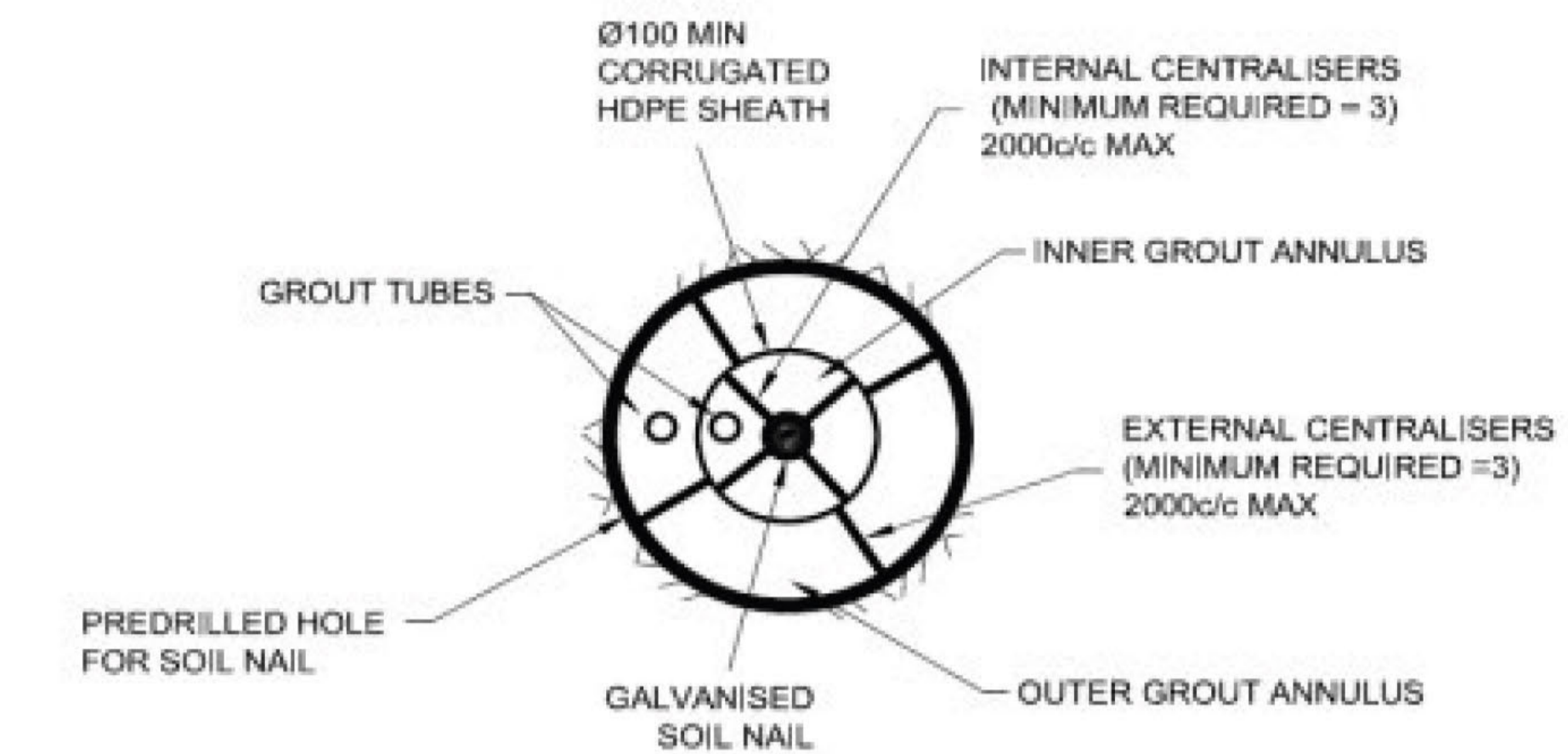
P 03 9815 7600 | 2 Domville Ave, Hawthorn VIC 3122

ABN 58 083 071 185

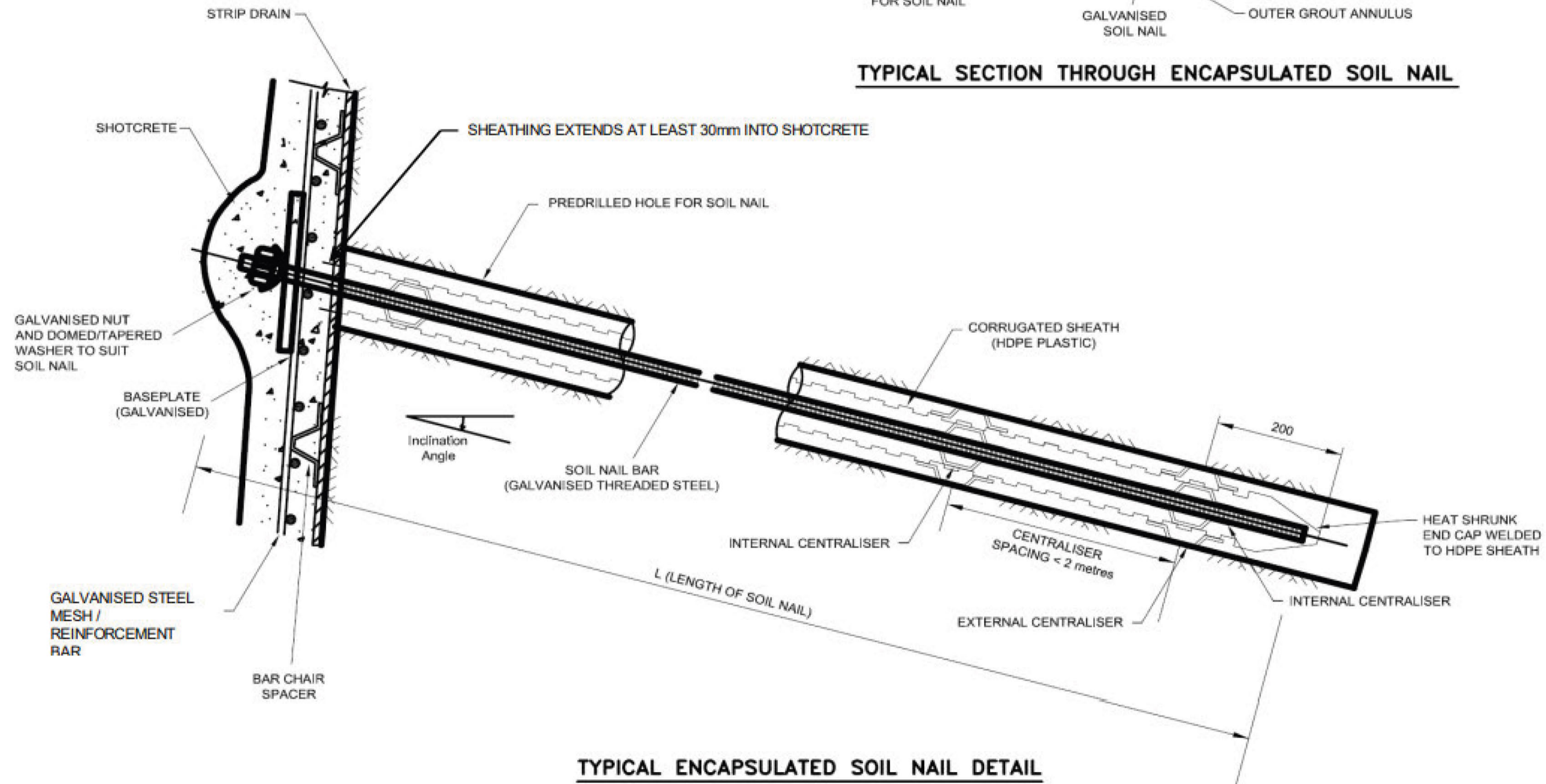
Quality Management Systems ISO 9001 Certified



CLIENT City of Darebin	DESIGNED EM	DRAWN EM
PROJECT TITLE PERMANENT BATTER REINSTATEMENT DETAIL	CHECKED HC	No. OF SHEETS
SITE ADDRESS 42 James Street, NORTHCOTE, VIC 3070	SCALE NTS @ A1	DATE STARTED
DRAWING TITLE DETAILS	SITE ID & JOB No. S44580-281686	REV. B
	DRAWING No. S11	



TYPICAL SECTION THROUGH ENCAPSULATED SOIL NAIL

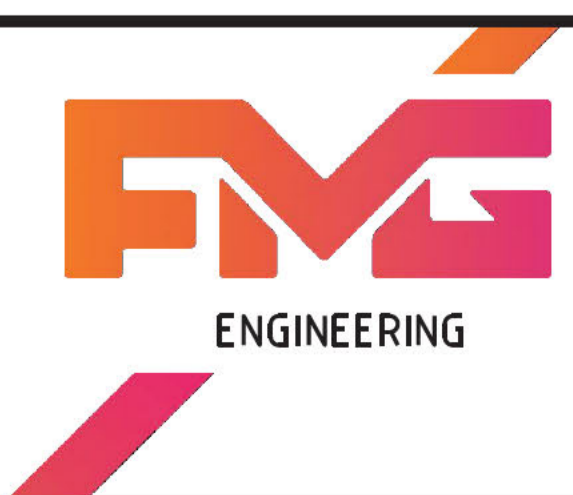


TYPICAL ENCAPSULATED SOIL NAIL DETAIL

ISSUED FOR CONSTRUCTION
UPON APPROVAL FROM STATUTORY AUTHORITIES

REV	DESCRIPTION	DATE	INIT	APP
B	FOR CONSTRUCTION	16.12.2022	EM	HC
A	PRELIMINARY ISSUE	22.11.2022	EM	HC
T2	TENDER ISSUE	30.09.2022	EM	HC
T1	TENDER ISSUE	26.08.2022	EM	MS

Engineering your success. | ADELAIDE MELBOURNE SYDNEY
fmgengineering.com.au
 P 03 9815 7600 | 2 Domville Ave, Hawthorn VIC 3122
 ABN 58 083 071 185
 Quality Management Systems ISO 9001 Certified



CLIENT: **City of Darebin**
 PROJECT TITLE: **PERMANENT BATTER REINSTATEMENT DETAIL**
 SITE ADDRESS: **42 James Street, NORTHCOTE, VIC 3070**
 DRAWING TITLE: **DETAILS**

DESIGNED	EM	DRAWN	EM
CHECKED	HC	No. OF SHEETS	
SCALE	NTS @ A1	DATE STARTED	
SITE ID & JOB No.	S44580-281686	REV.	
DRAWING No.	S12		B

