Planning agreement

City of Parramatta Council
Council

and

Stamford House 88 Pty Limited (ACN 100 778 336)
Developer

Contents

Dated

Parties: **City of Parramatta Council (Council)**

and **Stamford House 88 Pty Ltd (ACN 100 778 336) (Developer)**

Background

A. The Developer owns the Land.

B. Council is the consent authority pursuant to the Act for the Proposed Development

C. On 19 May 2009, The Hills Shire Council (being the former consent authority for the Land) resolved to adopt the Draft LEP and issue a Section 69 report to the Director General for gazettal subject to a number of conditions.

D. The Developer lodged the Development Applications in anticipation of gazettal of the Draft LEP, to carry out the Proposed Development on the Land.

E. On or about 17 April 2015, the Developer and The Hills Shire Council entered into a planning agreement with respect to the Proposed Development.

F. On 12 May 2016, the Land became part of the local government area of the Council, by way of the *Local Government (Council Proclamation) 2016.*

G. On or about 12 May 2017, the Developer lodged an application to modify the Proposed Development with Council.

H. The Developer has offered to enter into an amended planning agreement on the terms set out below.

Background

1. Definitions and interpretation

1.1 Definitions

In this document unless the context otherwise requires:

Act means the *Environmental Planning and Assessment Act 1979*;

Additional Monetary Contribution means the amount determined by multiplying the Monetary Contribution Rates by the number of dwellings in addition to the Anticipated Dwellings approved for the Proposed Development;

Anticipated Dwellings means the dwellings anticipated in the Proposed Development as set-out in Schedule 4;

Business Day means a day that is not a Saturday, Sunday, public holiday or bank holiday in New South Wales;

Construction Certificate has the same meaning as in the Act;

Dedication means the creation or transfer of an estate in fee simple free of any mortgage, lease, easement or other encumbrance of a lot registered under the *Real Property Act 1900*;

Dedication Land means the part of the Land specifically identified for dedication to Council in Schedule 1 as illustrated on the site plan (Figure 1); and being Lot 2 in the Plan of Subdivision annexed hereto in Annexure B;

Development Application means the development application for the Proposed Development, being JP-943/2010, as amended by development application 495/2017, and any subsequent modification application(s);

Development Consent means the approval of the Development Application;

Development Contributions means a monetary contribution and the dedication of land free of cost;

Draft LEP means the Draft Local Environmental Plan which provides for the following rezoning:

(a) land bounded by Jenkins Road, Post Office Street, Boundary Road and the Railway reservation from Residential 2(a1) to R1 General Residential: and

(b) land bounded by Moseley Street, Jenkins Road, Post Office Street and Donald Street from Residential 2(a2) to R4 High Density Residential;

Easements means all the following, more accurately described, respectively, in the Plan of Subdivision annexed hereto at Annexure B:

(a) easement to drain water in favour of SP64797 burdening the Land which is 3 and 3.5 metres wide (denoted 'F' on the plan);

(b) easement to drain water in favour of SP64797 burdening the Land which is 1.2 metres wide (denoted 'J' on the plan);

(c) easement to drain water in favour of Lot 1 burdening Lot 2 which is variable width (denoted 'K' on the plan);

(d) easement to drain water in favour of Lot 1 burdening Lot 2 which is variable width (denoted 'L' on the plan); and

(e) easement to drain water in favour of Lot 1 burdening Lot 2 which is 1.5 metres wide (denoted 'M' on the plan);

Encumbrance includes any mortgage or charge, lease, (or other right of occupancy) or profit a prendre;

GST means any tax, levy, charge or impost implemented under the *A New Tax System (Goods and Services Tax) Act* (GST Act) or an Act of the Parliament of the Commonwealth of Australia substantially in the form of, or which has a similar effect to, the GST Act;

Land comprises the whole of the land described in Schedule 3;

Monetary Contribution means the amount determined by multiplying the Monetary Contribution Rates by the number of dwellings approved for the Proposed Development;

Monetary Contribution Rates means the rates set out in Schedule 2. Occupation Certificate has the same meaning as in the Act;

Party means a party to this document, including their successors and assigns;

Price Index means:

(a) All Groups Consumer Price Index applicable to Sydney published by the Australian Bureau of Statistics; or

(b) if this price index is discontinued or abolished or if the items or weighting of the items whose prices are considered varied so as to change the basis of the price index then such price index as Council may select that, as nearly as practicable, serves the same purpose.

Proposed Development means the development the Land for mixed use retail and residential, generally as described in Schedule 4;

Subsisting Breach means any breach by the Developer in the performance of its obligations under this document which is not rectified within 14 days of written notice of the breach being provided to the Developer by Council;

Total Development Contribution Value means the total monetary value of the Monetary Contribution and Dedication Lands as specified in Schedule 5.

1.2 Interpretation

In this document unless the context otherwise requires:

(a) clause and subclause headings are for reference purposes only;

(b) the singular includes the plural and vice versa;

(c) words denoting any gender include all genders;

(d) reference to a person includes any other entity recognised by law and vice versa;

(e) where a word or phrase is defined its other grammatical forms have a corresponding meaning;

(f) any reference to a party to this document includes its successors and permitted assigns;

(g) any reference to a provision of an Act or Regulation is a reference to that provision as at the date of this document;

(h) any reference to any agreement or document includes that agreement or document as amended at any time;

(i) the use of the word includes or including is not to be taken as limiting the meaning of the words preceding it;

(j) the expression at any time includes reference to past, present and future time and the performance of any action from time to time;

(k) an agreement, representation or warranty on the part of two or more persons binds them jointly and severally;

(l) an agreement, representation or warranty on the part of two or more persons is for the benefit of them jointly arid severally;

(m) reference to an exhibit, annexure , attachment or schedule is a reference to the corresponding exhibit, annexure, attachment or schedule in this document;

(n) reference to a provision described, prefaced or qualified by the name, heading or caption of a clause, subclause, paragraph, schedule, item, annexure, exhibit or attachment in this document means a cross reference to that clause, subclause, paragraph, schedule, item, annexure, exhibit or attachment;

(o) when a thing is required to be done or money required to be paid under this document on a day which is not a Business Day, the thing must be done -and the money paid on the immediately following Business Day; and

(p) reference to a statute includes al] regulations and amendments to that statute and any statute passed in substitution for that statute or incorporating any of its provisions to the extent that they are incorporated.

2. Planning agreement under the Act

The Parties agree that this document is a planning agreement within the meaning of section 7.4 of the Act.

3. Application of this document

This document is made in respect of the Proposed Development and applies to the Land.

4. Operation of this document

4.1 Until the planning agreement operates, this document constitutes the Developer's offer to enter into the planning agreement if consent under section 4.16 of the Act is granted to the Development Application for the Proposed Development.

4.2 The planning agreement operates only if:

(a) the Draft LEP is gazetted;

(b) the carrying out of the Proposed Development is subject to a condition imposed under section 7.7(3) of the Act requiring this planning agreement to be entered into, and

(c) the planning agreement is entered into as required by the condition in accordance with clause 25C(1) of the *Environmental Planning and Assessment Regulation 2000*.

4.3 This document provides for Development Contributions to be made with respect to the Development Consent as outlined in Schedule 1 and Schedule 2.

5. Dedication Lands

5.1 Developer must not deal with property

The Developer must not during the term of this document sell, transfer, mortgage, charge or grant a lease or license or any other right of occupancy to any person over the Dedication Land without first obtaining Council's consent in writing, except for land specified in clause 6.13 of this document. Council may, at its absolute discretion, refuse its consent or give consent with conditions.

5.2 Caveat

(a) The Developer agrees that its obligations under this document create an equitable interest in the Dedication Lands held by Council and it agrees to grant to Council a right to register a caveat on title over the Dedication Lands.

(b) The Developers must provide Council with survey plans for the Dedication Lands.

(c) On the date of execution of this document, the Developer will give to Council in registrable form caveats over the Dedication Lands endorsed with landowner's consent in the form and on the terms of the caveat attached to this document as Annexure A. The Developers acknowledge and agree that to be in registrable form the caveats must 'identify the land by a survey plan in accordance with the *Real Property Regulation 2014* including Schedule 4.

(d) Council must not unreasonably withhold its consent to the registration of any dealing by a mortgagee that would not have a material adverse effect on Council's interest in the Dedication Lands.

(e) Council will give to the Developer a withdrawal of caveat within 7 days of this document being validly terminated under clause 18.1.

6. Dedication

6.1 The Developer must at its cost Dedicate to Council the Dedication Lands free of any encumbrance except for the easement for drainage outlined in Annexure B , in accordance with the times listed in Schedule 1.

6.2 If the Developer does not Dedicate to Council the Dedication Lands in accordance with this clause, Council is entitled to acquire the Dedication Lands, the Developer consents to the Council compulsorily acquiring the Dedication Lands in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991* (NSW) for the amount of $1.

6.3 The Developer and Council agree that this clause 6.2 is an agreement between the Council and the Developer for the purpose of section 30 of the *Land Acquisition (Just Terms Compensation) Act 1991* (NSW) and have agreed on all relevant matters concerning the compulsory acquisition and compensation to be paid.

6.4 Prior to the Dedication of the Dedication Lands, the Developer must at its cost, supply and install kikuyu turf on the Dedicated Lands in accordance with the specifications outlined in the Landscape Detail Plan at Annexure D.

6.5 Prior to the dedication of the land, the Developer, must at its cost, remove any rubbish, structures and debris and certify that the land is not contaminated. The developer is to provide a Site Audit Statement to state that the land will be fit for open space purpose and this must comply with Guidelines for the NSW Site Auditor Scheme, issued under the *Contaminated Land Management Act 1997 (NSW)*. The Site Audit Statements are to be undertaken by an EPA accredited contaminated land site auditor.

6.6 The Dedication will be effected when:

(a) a plan of subdivision is registered dedicating the Dedication Lands to Council, or

(b) Council becomes the registered proprietor of an existing lot being part of the Dedication Lands as a result of the registration of a transfer of land.

6.7 Where an existing lot forming part of the Dedication Lands is to be transferred to Council,

(a) the Developer will deliver to Council the following:

(i) transfer in registrable form signed by the registered proprietor of the lot;

(ii) the Certificate of Title for the lot; and

(iii) a discharge of mortgage, surrender of lease or other document to release the lot from any encumbrance.

(b) Council will on receipt of these documents arrange for the following:

(i) stamping of the transfer; and

(ii) lodgement of the transfer and other documents at the office of Land and Property Information for registration.

6.8 Council must provide the Developer with a tax invoice for its reasonable expenses incurred in relation to the Dedication of the Dedication Land including its legal costs and disbursements on an indemnity basis (including any registration fees).

6.9 The Developer will be entitled to the benefit of any special or discounted rates charged to Council by its consultants and legal advisers and will be entitled to seek assessment of any legal costs, under section 68 of the *Legal Profession Uniform Law Application Act 2014* .

6.10 The Developer must pay to Council the amount invoiced for expenses under clause 6.6 within 14 days of receipt of the invoice.

6.11 The Developer must pay Council on reasonable notice the stamp duty (if any) on the Dedication of the Dedication Land. The Parties acknowledge that Section 277 *Duties Act* 1997 provides generally that duty under that Act is not chargeable on dutiable transactions where Council is liable to pay the duty.

6.12 After the Dedication Land is transferred to Council, Council will use the land for public purposes being the provision of public open space and such other public purposes in the future as Council may consider appropriate.

6.13 The Council acknowledges and consents to the registration of the Plan of Subdivision and creation of the Easements in terms specified in Annexure B to this document.

6A Maintenance of OSD located in Dedicated Land

6A.1 Maintenance Schedule

The Stormwater Detention Tank and connecting pipework (**Detention Tank**), located and denoted as 'K', 'L' and 'M' on the Plan at Annexure B, is to be maintained in accordance with the Schedule prepared by Mance Arraj Engineers, dated 2 July 2018 and found at Annexure C.

6A.2 Cost of all maintenance works for Detention Tank

The cost of all on-going maintenance work and/or replacement of damaged sections, parts or items of the Stormwater Detention Tank (including associated connecting pipework), with be borne by the Developer (or successor it title) of Lot 1 (being Lot 1 identified in the plan at Annexure B).

6A.3 Carrying out of maintenance works on Detention Tank

The Developer (or successor it title) of Lot 1 (being Lot 1 identified in the plan at Annexure B) must ensure that any person and/or entity engaged to carry out any maintenance work on the Detention Tank from time to time, must at all times meet the following requirements:

i) carry out that work in a professional and tradesman like manner:

ii) have a current public liability insurance to carry out such maintenance/repair work, being any amount of at least $10 Million, being an amount positively adjusted every 5 years in accordance with the Sydney consumer price index;

iii) ensure that all public safety and risk management practices and measures, such barriers etc, are acted upon and in place at all material times:

iv) ensure that any damage to the Dedicated Land is repaired and returned to its previous condition.

7. Monetary Contributions

7.1 Payment

The Developer must pay the Monetary Contribution and any applicable Additional Monetary Contribution (Total Monetary Contribution). Payment of the Total Monetary Contribution may be made by cheque or electronic bank transfer to Council's nominated bank account.

The Developer is to pay Council the total of the outstanding Monetary Contributions set out in Schedule 5, being an amount of $488,794.00, on execution of this Agreement.

7.2 Additional Dwellings

If the Development Consents approve dwellings in addition to the Anticipated Dwellings then the Developer must pay the Additional Monetary Contribution calculated in accordance with

the rates set out in Schedule 2. The Additional Monetary Contribution must be paid before any construction certificate is issued for the additional dwellings.

7.3 Annual Increases

On each anniversary of the date of this document the Total Monetary Contribution applicable immediately prior to that anniversary will be increased by the same percentage as the annual percentage increase, if any, in the Price Index most recently published prior to the relevant anniversary. The increased Total Monetary Contribution will be the Total Monetary Contribution in the subsequent 12 months.

7.4 Public Purpose

The Total Monetary Contribution is required for the funding of the construction of improvements to the public domain in the vicinity of the Land (including those specified in Section 7.4(2) of the Act) as determined by the General Manager of Council from time to time and Council will apply the Total Monetary Contribution for those purposes.

8. Works in Kind (deleted)

9. Defects Liability Period (deleted)

10. Security – Works (deleted)

11. Application of sections 7.11 and 7.12 of the Act

For the purpose of section 7.4(5) of the Act this document excludes the operation of sections 7.11 and 7.12 of the Act in considering the Development Application(s) for the Proposed Development.

12. Modifications

12.1 In the event that the Proposed Development is changed, modified or amended prior to completion of the development, and a further development or modification application is made for the development of the Land, then any Development Contribution made pursuant to this document will, to the extent that it is lawful:

(a) be taken into account as part of any development contribution for the purpose of any planning agreement relating to a later application in respect of the Land;

(b) be taken into account in determining any development contribution under sections 7.11 and 7.12 of the Act;

(c) be taken into account in determining whether or not any planning agreement excludes the operation of sections 7.11and/or 7.12 of the Act;

(d) be taken into account for the purposes of s7.11(6) of the Act; and

(e) be taken into account for the purposes of section 4.15 of the Act.

13. Easements Covenants and Restrictions on Title

13.1 Prior to any dedication of the Dedication Lands to Council, the Parties are to resolve what easements, covenants and/or restrictions on title must necessarily be created upon any subdivision of the Land, having regard to the provisions of Part 6 of the *Conveyancing Act 1919*.

13.2 The Parties warrant one with the other to do all things necessary to procure the registration on title to the Land or title(s) to any relevant lot created by subdivision of the Land of any easement, covenant or restriction on title as referred to in clause 13.1 of this document.

14. Joint and individual liability and benefits

Except as otherwise set out in this document, any agreement, covenant, representation or warranty under this document by 2 or more persons binds them jointly and each of them individually, and any benefit in favour of 2 or more persons is for the benefit of them jointly and each of them individually.

15. No fetter

Nothing in this document will be construed as requiring the Council to do anything that would cause it to be in breach of their respective obligations at law, and without limitation.

16. Representations and warranties

The Parties represent and warrant that they have power to enter into this document and comply with their obligations under the document and that entry into this document will not result in the breach of any law.

17. Severability

If a clause or part of a clause of this document can be read in a way that makes it illegal, unenforceable or invalid, but can also be read in a way that makes it legal, enforceable and valid, it must be read in the latter way. If any clause or part of a clause is illegal, unenforceable or invalid, that clause or part is to be treated as removed from this document, but the rest of this document is not affected.

18. Termination

18.1 Development Consents

If Development Consent is granted by the Council with respect to the Development Application, this document terminates:

(a) on the lapse of the Development Consent; or

(b) on the formal surrender of the Development Consent or

(c) on the final determination by a Court of competent jurisdiction issuing a declaration that the Development Consent is invalid.

18.2 Consequences

(a) On the date of termination or rescission of this document, subject to the following sub-paragraphs each party releases each other from any obligation to perform any term, or any liability arising out of, this document after the date termination.

(b) Any unapplied Monetary Contribution, bond or Bank Guarantee that has been provided to Council will be refunded to the Developer as soon as practicable after the date of termination.

(c) Termination or rescission of this document does not release either party from any obligation or liability arising under this document before termination or rescission.

19. Private Certifiers

Where Council is not the certifying authority for any aspect of the Proposed Development the Developer must on the appointment of a private certifier provide a copy of this document to the private certifier.

20. Breach Notice and Rectification

20.1 If the Developer is, in the opinion of Council, in breach of a material obligation under this document, Council may provide written notice of the breach to the Developer and require rectification of that breach within a reasonable period of time (Breach Notice).

20.2 Unless there are compelling reasons to extend or abridge the period of time permitted for rectification, a reasonable period of time is taken to be fourteen days from receipt of written notification of the breach.

20.3 If the breach is not rectified within the time specified in the Breach Notice, or otherwise agreed between the Parties, Council may rectify the breach as the agent of the Developer and at the risk of the Developer. The Developer must pay all reasonable costs incurred by the Council in remedying the breach.

21. Dispute resolution

21.1 Determination of disputes

If there is any dispute, difference of opinion or failure to agree relating to or arising from this document (Dispute) that dispute must be referred for determination under this clause.

21.2 No legal proceedings

The Parties must not bring or maintain any action on any Dispute (except for urgent injunctive relief to keep a particular position) until it has been referred and determined as provided in this clause.

21.3 Notice of disputes

A Party referring a Dispute for determination must do so by written notice to the other parties (Dispute Notice) which must specify the nature of the Dispute and a nominated officer of the referring party with sufficient authority to determine the Dispute.

21.4 Negotiated resolution and selection of expert

(a) On service of the Dispute Notice the receiving Parties must refer the Dispute to an officer with sufficient authority to determine the Dispute. The nominated officers of each Party must meet of least once and use reasonable endeavours to resolve the Dispute by negotiation within seven days of service of the Dispute Notice. Any resolution must be recorded in writing and signed by each nominated officer. By agreement, the nominated officers may employ the services of a mediator to assist them in resolving the Dispute.

(b) If the nominated officers are unable to resolve the Dispute within seven days of service of the Dispute Notice they must endeavour within the following seven-day period to appoint an expert by agreement. That appointment must be recorded in writing and signed by each nominated officer.

(c) If the nominated officers do not record the appointment of an expert within that second seven day period, the expert must be appointed, at the request of any party, by the President for the time being (or if none, the senior elected member) of the Law Society of New South Wales.

21.5 Assistance to the Expert

(a) Once the Expert has been appointed (the Expert), the Parties must:

(i) each use their best endeavours to make available to the Expert all information the Expert requires to settle or determine the Dispute; and

(ii) ensure that their employees, agents or consultants are available to appear at any hearing or enquiry called by the Expert.

(b) The Parties may give written submissions to the Expert but must provide copies to the other Parties at the same time.

21.6 Expert's decision

(a) The decision of the Expert must:

(i) be in writing and give reasons; and

(ii) be made and delivered to the parties within one month from the date of submission of the dispute to the Expert or the date of completion of the last hearing or enquiry called by the Expert, if later.

(b) The Expert may conduct the determination of the Dispute in any way it considers appropriate but the Expert may, at its discretion, have regard to the Australian Commercial Disputes Centre's guidelines for expert determination of disputes or such other guidelines as it considers appropriate.

(c) The Expert's decision is final and binding on the parties.

(d) The Expert must act as an expert and not as an arbitrator

21.7 Expert's costs

(a) The Expert must also determine how the expenses relating to the reference of the Dispute (including the Expert's remuneration) should be apportioned between the parties and in default of a decision by the Expert those expenses must be borne by the parties equally.

(b) In determining the apportionment of costs the Expert may have regard to what the Expert, in its reasonable opinion, considers to be a lack of good faith or a failure to use reasonable endeavours by any party in assisting the Expert or resolving the dispute between the parties' nominated officers as required by this clause.

21.8 Continual performance

Each Party must continue to perform its obligations under this document while any dispute is being determined under this clause.

22. Registration of document on Title

22.1 Acknowledgement

The Developer acknowledges that Council intends to register this document under section 7.6 of the Act on the Lands and on registration by the Registrar-General the document will be binding on and enforceable against the owner of the Lands from time to time as if each owner for the time being had entered into this document.

22.2 Consents to Registration

This document must be registered on the title of the Land as soon as practicable after it is made. On execution of this Agreement, the Developer must provide to the Council all documents necessary to affect the registration of this document on the title of the Land.

22.3 Release from Registration

Council will at the request of a Developer release part of the Land from registration of this document where the Development Contributions have been made including completion of the Works and no other money is owing to Council under this document. The obligations of the

Council are satisfied when Council provides the Developer with a signed Request in registrable form for the release of registration of this document

22.4 Registration Expenses

The Developer must pay Council's reasonable expenses including registration fees, any stamp duty, legal costs and disbursements, for the registration of this document and the subsequent removal of registration, on an indemnity basis.

The Developer will be entitled to the benefit of any special or discounted rates charged to Council by its consultants and legal advisers and will be entitled to seek assessment of any legal costs, under section 68of the *Legal Profession Uniform Law Application Act 2014*.

23. General provisions

23.1 Legal expenses and stamp duty

(a) The Developer must pay the Council's legal costs and disbursements in connection with the negotiation, preparation, execution, carrying into effect, enforcement and release and discharge of this agreement, including the reasonable costs of obtaining any legal advice in connection with this agreement, no later than 10 Business Days after receiving a demand from the Council to pay such costs.

(b) The Developer agrees to pay or reimburse the costs and expenses incurred by Council in connection with the advertising and exhibition of this agreement in accordance with the Act.

(c) The Developer agrees to pay Council any administrative fees as required by Council, acting reasonably, in connection with the administration of this agreement.

23.2 GST

If any payment made by one party to any other party under or relating to this document constitutes consideration for a taxable supply for the purposes of GST or any similar tax, the amount to be paid for the supply will be increased so that the net amount retained by the supplier after payment of that GST is the same as if the supplier was not liable to pay GST, in respect of that supply. This provision is subject to any other agreement regarding the payment of GST on specific supplies and includes payments for supplies relating to the breach or termination of, and indemnities arising from, this document.

23.3 Assignment

A party must not transfer any right or liability under this document without the prior consent of each other party, except where this document provides otherwise.

23.4 Notices

(a) Any notice to or by a party under this document must be in writing and signed by the sender or, if a corporate party, an authorised officer of the sender.

(b) Any notice may be served by delivery in person or by post or transmission by facsimile to the address or number of the recipient specified below or most recently notified by the recipient to the sender:

Stamford House 88 Pty Ltd
Sam Fayad
Level 1, 74 Macquarie Street
PARRAMATTA NSW 2150

City of Parramatta Council
The Public Officer

126 Church Street
PARRAMATTA NSW 2150

(c) Any notice is effective for the purposes of this document upon delivery to the recipient or production to the sender of a facsimile transmission confirmation report before 4.00pm local time on a day in the place in or to which the written notice is delivered or sent or otherwise at 9 00am on the next day following delivery or receipt.

23.5 Governing law and jurisdiction

(a) This document is governed by and construed under the law in the State of New South Wales.

(b) Any legal action in relation to this document against any party or its property may be brought in any court of competent jurisdiction in the State of New South Wales.

(c) Each party by execution of this document irrevocably, generally and unconditionally submits to the non-exclusive jurisdiction of any court specified in this provision in relation to both itself and its property.

23.6 Amendments

Any amendment to this document has no force or effect, unless effected by a document executed by the parties.

23.7 Third parties

This document confers rights only upon a person expressed to be a party, and not upon any other person.

23.8 Precontractual negotiation

This document:

(a) expresses and incorporates the entire agreement between the parties in relation to its subject matter, and all the terms of that agreement; and

(b) supersedes and excludes any prior or collateral negotiation, understanding, communication or agreement by or between the parties in relation to that subject matter or any term of that agreement

23.9 Further assurance

Each party must execute any document and perform any action necessary to give full effect to this document, whether before or after performance of this document.

23.10 Continuing performance

(a) The provisions of this document do not merge with any action performed or document executed by any party for the purposes of performance of this document.

(b) Any representation in this document survives the execution of any document for the purposes of, and continues after, performance of this document.

(c) Any indemnity agreed by, any party under this document:

(i) constitutes a liability of that party separate and independent from any other liability of that party under this document or any other agreement; and

(ii) survives and continues after performance of this document.

23.11 Waivers

Any failure by any party to exercise any right under this document does not operate as a waiver and the single or partial exercise of any right by that party does not preclude any other or further exercise of that or any other right by that party.

23.12 Remedies

The rights of a party under this document are cumulative and not exclusive of any rights provided by law.

23.13 Severability

Any provision of this document which is invalid in any jurisdiction is invalid in that jurisdiction to that extent, without invalidating or affecting the remaining provisions of this document or the validity of that provision in any other jurisdiction.

23.14 Counterparts

This document may be executed in any number of counterparts, all of which taken together are deemed to constitute one and the same document.

23.15 Party acting as trustee

If a party enters into this document as trustee of a trust, that Party and its successors as trustee of the trust will be liable under this document in its own right and as trustee of the trust. Nothing releases the party from any liability in its personal capacity. The party warrants that at the date of this document:

(a) all the powers and discretion conferred by the deed establishing the trust are capable of being validly exercised by the party as trustee and have not been varied or revoked and the trust is a valid and subsisting trust;

(b) the party is the sole trustee of the trust and has full and unfettered power under the terms of the deed establishing the trust to enter into and be bound by this document on behalf of the trust and that this document is being executed and entered into as part of the due and proper administration of the trust and for the benefit of the beneficiaries of the trust;

(c) no restriction on the party's right of indemnity out of or lien over the trust's assets exists or will be created or permitted to exist and that right will have priority over the right of the beneficiaries to the trust's assets.

Signed for and on behalf of City of Parramatta Council pursuant to a resolution of 10 December 2018:

Signature of Acting Chief Executive Officer

S.L. COLEMAN

Name of Acting Chief Executive Officer (print)

The Common Seal of the
CITY OF PARRAMATTA COUNCIL
was hereunto affixed on this _____
day of _____
pursuant to a resolution of
CITY OF PARRAMATTA COUNCIL
passed at its meeting held on
10 December 2018

Signature of Mayor

ANDREW WILSON

Name of Mayor (print)

Signed for and on behalf of Stamford House 88 Pty Ltd:)
)
)

Signature of director

SAM FAYAD
Name of director (print)

Signature of director/company secretary
(Please delete as applicable)

FAYAD LEE FAYAD
Name of director/company secretary (print)

Schedule 1 – Dedication Lands

The land to be dedicated to Council as public open space is shown on Figure 1.

Details of the Dedication Lands and the Dedication are as below:

Lot	DP	Owner	Area to be dedicated m^2	Timing of dedication
100	1221092	Stamford House 88 Pty Ltd	3,485	Prior to the issue of the final Occupation Certificate for the Proposed Development
		Estimated value	$4,894,124.00	

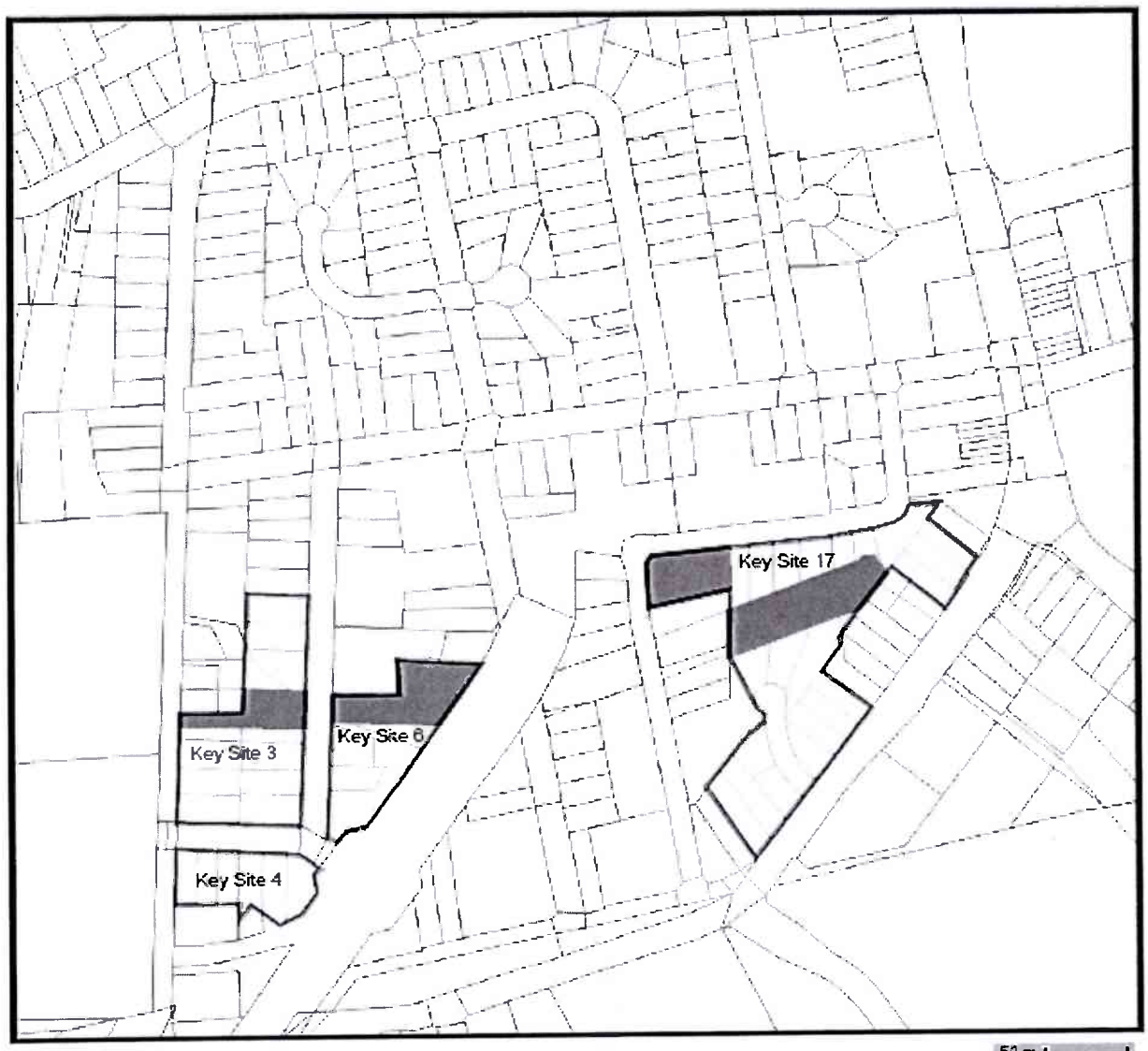


Figure 1 - Land Dedication

Land to be dedicated as open space

Key Sites

Schedule 2 – Monetary contributions

Contribution type	Value $		Timing
Monetary Contribution for specific works			
Open Space Embellishment – CPLOS2	349,650		On execution of the Deed amending this Agreement
Cycleway/Pedestrian Path in Transmission Easement	24,040		
Sub-Total	**373,690**		
Total Monetary Contribution			
(a) Monetary Contribution for units approved as part of previous DA (943/2010/JP)	*Quantum calculated using Monetary Contribution Rates below (a)*		-
(b) Additional Monetary Contribution for additional units added as part of new DAs post DA 943/2010/JP	*Quantum calculated using Monetary Contribution Rates below (b)*		*Payment in accordance with clause 7 of the document*
Monetary Contribution Rates	***(a)***	***(b)***	
Monetary rate per 1 bedroom unit	*4,157*	*11,476*	
Monetary rate per 2 bedroom unit	*5,336*	*14,732*	
Monetary rate per 3+ bedroom unit	*6,073*	*16,767*	

Schedule 3 – Owners

Legal description	Address	Owner
Lot 100/DP1221092	1-7 Thallon Street, Carlingford	Stamford House 88 Pty Ltd

Schedule 4 – Proposed development

Demolition of existing structures and erection of 21 storey mixed use development comprising:

- 18 one bedroom units
- 152 two bedroom units
- 21 three bedroom units
- 407.9m2 retail floor space at ground level; and
- Three basement parking levels providing 302 car parking spaces.

Anticipated dwellings: 191

Note: Monetary Contribution paid for 183 units for DA 943/2010/JP on 18/10/17 based on the following approved dwelling mix:

- 20 one bedroom units
- 142 two bedroom units
- 21 three bedroom units

SCHEDULE 5 – Total Development Contribution Value

The Total Development Contribution Value under this document is calculated as follows:

Contribution	***Value***
*Monetary Contribution paid for 183 residential units per Original Schedule 2 per unit value)(**Note:** Paid to Council on 18/10/17)*	*$1,004,419.28*
Monetary Contribution for eight (8) additional 2-Bed dwellings in accordance with the Section 94 Contributions Plan 2014 – Carlingford Precinct	*$115,104.00*
Dedication Lands	*$4,894,124.00*
Monetary contribution for Open Space Embellishment (CPLOS3) and Cycleway/Pedestrian Path in Transmission Easement	*$373,690.00*
Total Development Contribution Value	***$6,387,337.28***

Annexure A – Caveat

Form: 08X
Release: 4·5

CAVEAT

Prohibiting Recording of a Dealing or Plan
or Granting of a Possessory Application
New South Wales
Section 74F Real Property Act 1900

Leave this space clear. Affix additional pages to the top left-hand corner.

PRIVACY NOTE: Section 31B of the Real Property Act 1900 (RP Act) authorises the Registrar General to collect the information required by this form for the establishment and maintenance of the Real Property Act Register. Section 96B RP Act requires that the Register is made available to any person for search upon payment of a fee, if any.

STAMP DUTY

Revenue NSW use only

(A) **TORRENS TITLE**

100/DP122109

(B) **REGISTERED DEALING**

Number	Torrens Title

(C) **LODGED BY**

Document Collection Box	Name, Address or DX, Telephone, and Customer Account Number if any	CODE
	Reference:	X

(D) **REGISTERED PROPRIETOR**

Stamford House 88 Pty Ltd
Level 1, 74 Macquarie Street
Parramatta NSW

Postcode: 2150

(E) **CAVEATOR**

Insert the full name and address (residential if individual/registered office if body corporate)

City of Parramatta Council
126 Church Street
Parramatta NSW

Postcode: 2150

(F) **NAME AND ADDRESS IN AUSTRALIA SERVICE OF NOTICES ON THE CAVEATOR**

IMPORTANT NOTE: The address *must* be a street address. If desired, a Document Exchange box in NSW may be provided *in addition*. If the caveator's name or address for service of notices changes, notification *must* be lodged on form 08CX.

Name: City of Parramatta Council
Street Address: 126 Church Street, Parramatta NSW

Postcode: 2150

Document Exchange Box in NSW (additional):

(G) **ACTION PROHIBITED**

1,2 and 7

(H) The caveator claims to be entitled to the estate or interest in the above land specified in Schedule 1 by virtue of the instrument set out in that schedule and prohibits the Registrar General from taking, with respect to the above land, the action specified above unless the caveator has consented in writing or this caveat has lapsed or been withdrawn.

ALL HANDWRITING MUST BE IN BLOCK CAPITALS.

1708

WARNING: care should be exercised in completing a caveat form. An unsupported caveat may be challenged in the Supreme Court; compensation may be awarded for lodging a caveat without justification (section 74P Real Property Act 1900). Failure to observe the requirements of regulations 7 and 8 of the current Real Property Regulation may make the caveat invalid.

(I) SCHEDULE 1 Estate or interest claimed

Particulars of the estate or interest in the abovementioned land		
Equitable interest to have title of this land transferred or dedicated to the caveator in connection with development of the land		
By virtue of the instrument referred to below		
Nature of Instrument	Date	Parties
Planning Agreement		City of Parramatta Council Stamford House 88 Pty Ltd
By virtue of the facts stated below		
Not applicable		

(J) SCHEDULE 2 Action prohibited by this caveat

1. The recording in the Register of any dealing other than a plan affecting the estate or interest claimed by the caveator and set out in Schedule 1.
2. The registration or recording of any plan other than a delimitation plan affecting the estate or interest claimed by the caveator and set out in Schedule 1.
3. The registration of delimitation plan [1] No. _____
4. The granting of any possessory application [2] with respect to the land in the Torrens Title referred to above.
5. The recording in the register of any dealing affecting the estate or interest of which the caveator is registered proprietor.
6. The granting of an application to extinguish the SELECT >>> >>> >>> created by SELECT >>> >>> No. _____
7. The recording in the Register of a writ affecting the estate or interest claimed by the caveator and set out in Schedule 1.

(K) STATUTORY DECLARATION [3]

I, _____

solemnly and sincerely declare that—

1. To the best of my knowledge, information and belief
   (a) the caveator has a good and valid claim to the estate or interest set out in Schedule 1.
   (b) the address specified at (D) as the address of the registered proprietor is the correct address.
2. This caveat does not require the leave of the Supreme Court or the endorsed consent of the SELECT >>> >>> >>> ;

I make this solemn declaration conscientiously believing the same to be true and by virtue of the Oaths Act 1900 and I certify this caveat to be correct for the purposes of the Real Property Act 1900.

Made and subscribed at _____ in the _____ on _____

in the presence of _____ of _____

☐ Justice of the Peace (J.P. Number: _____) ☐ Practising Solicitor

☐ Other qualified witness *[specify]* _____

** who certifies the following matters concerning the making of this statutory declaration by the person who made it:

1. I saw the face of the person *OR* I did not see the face of the person because the person was wearing a face covering, but I am satisfied that the person had a special justification for not removing the covering; and
2. I have known the person for at least 12 months *OR* I have confirmed the person's identity using an identification document and the document I relied on was a _____ *[Omit ID No.]*

Signature of witness: _____ Signature of declarant: _____

Capacity of declarant if other than the caveator:

(L) CONSENT (section 74O Real Property Act 1900) [4]

I, the registered proprietor named at (D)/possessory applicant, for the purposes of section 74O only, consent to this caveat.

Signature of registered proprietor/possessory applicant _____

1. A plan defining the boundaries of land in a limited folio of the Register. See Part IVB Real Property Act 1900.
2. An application made by a person claiming title to land by virtue of adverse possession. See Part VIA Real Property Act 1900.
3. As the services of a qualified witness cannot be provided at lodgment, the declaration should be signed and witnessed prior to lodgment.** If made outside NSW, cross out the witness certification. If made in NSW, cross out the text which does not apply.
4. Only one capacity can be selected, either registered proprietor or possessory applicant, cross out whichever does not apply.

ALL HANDWRITING MUST BE IN BLOCK CAPITALS. Page 2 of _____ 1708

Annexure B – Plan of Subdivision

PLAN FORM 6 (2017)	DEPOSITED PLAN ADMINISTRATION SHEET	Sheet 1 of 4 sheet(s)

Office Use Only

Registered:

Title System:

Office Use Only

DP1240443

PLAN OF SUBDIVISION OF LOT 100 IN DP1221092

LGA: CITY OF PARRAMATTA

Locality: CARLINGFORD

Parish: FIELD OF MARS

County: CUMBERLAND

Survey Certificate

I, MATTHEW PLOWMAN

of SDG LAND DEVELOPMENT SOLUTIONS
P.O. Box 2572, NORTH PARRAMATTA 1750

a surveyor registered under the *Surveying and Spatial Information Act 2002*, certify that:

*(a) The land shown in the plan was surveyed in accordance with the *Surveying and Spatial Information Regulation 2017*, is accurate and the survey was completed on 12 September 2017, or

~~*(b) The part of the land shown in the plan (*being/*excluding ** .....~~
~~.....)~~
~~was surveyed in accordance with the *Surveying and Spatial Information Regulation 2017*, the part surveyed is accurate and the survey was completed on, ... the part not surveyed was compiled in accordance with that Regulation, or~~

~~*(c) The land shown in this plan was compiled in accordance with the *Surveying and Spatial Information Regulation 2017*.~~

Datum Line:

Type: *Urban/~~*Rural~~

The terrain is *Level-Undulating / ~~*Steep-Mountainous.~~

Signature: ..... Dated:

Surveyor Identification No: 5915
Surveyor registered under
the *Surveying and Spatial Information Act 2002*

*Strike out inappropriate words.

**Specify the land actually surveyed or specify any land shown in the plan that

Crown Lands NSW/Western Lands Office Approval

I, ... (Authorised Officer) in approving this plan certify that all necessary approvals in regard to the allocation of the land shown herein have been given.

Signature: .....

Date: .....

File Number: .....

Office: .....

Subdivision Certificate

I, ...

*Authorised Person/*General Manager/*Accredited Certifier, certify that the provisions of s.109J of the *Environmental Planning and Assessment Act 1979* have been satisfied in relation to the proposed subdivision, new road or reserve set out herein.

Signature: .....

Accreditation number: .....

Consent Authority: .....

Date of endorsement: .....

Subdivision Certificate number: .....

File number: .....

*Strike through if inapplicable.

Plans used in the preparation of survey/~~compilation.~~

DP1221092

Statements of intention to dedicate public roads, create public reserves and drainage reserves, acquire/resume land.

Surveyor's Reference: 6080

Signatures, Seals and Section 88B Statements should appear on PLAN FORM 6A

PLAN FORM 6A (2017) **DEPOSITED PLAN ADMINISTRATION SHEET** Sheet 2 of 4 sheet(s)

Office Use Only

Registered:

Office Use Only

DP1240443

PLAN OF SUBDIVISION OF LOT 100 IN DP1221092

Subdivision Certificate number: .....

Date of Endorsement: .....

This sheet is for the provision of the following information as required:

- A schedule of lots and addresses - See 60(c) *SSI Regulation 2017*
- Statements of intention to create and release affecting interests in accordance with section 88B *Conveyancing Act 1919*
- Signatures and seals- see 195D *Conveyancing Act 1919*
- Any information which cannot fit in the appropriate panel of sheet 1 of the administration sheets.

LOT	STREET NUMBER	STREET NAME	STREET TYPE	LOCALITY
1		THALLON	STREET	CARLINGFORD
2		THALLON	STREET	CARLINGFORD

PURSUANT TO SECTION 88B OF THE CONVEYANCING ACT 1919 IT IS INTENDED TO CREATE:

1. EASEMENT TO DRAIN WATER 3 & 3.5 WIDE (F)
2. ~~EASEMENT FOR SERVICES 1 WIDE (G)~~
3. EASEMENT TO DRAIN WATER 1.2 WIDE (J)
4. EASEMENT TO DRAIN WATER VARIABLE WIDTH (K)
5. EASEMENT TO DRAIN WATER VARIABLE WIDTH (L)
6. EASEMENT TO DRAIN WATER 1.5 WIDE (M)

EXECUTED by)
Stamford House 88 Pty Limited)
ACN 100 778 336)
in accordance with s127 of)
the Corporations Act 2001)

.....
Sam Fayad
Director

.....
Joseph Khattar
Director

Surveyor's Reference: 6080

PLAN FORM 6A (2017) **DEPOSITED PLAN ADMINISTRATION SHEET** Sheet 3 of 4 sheet(s)

Office Use Only

Registered:

Office Use Only

DP1240443

PLAN OF SUBDIVISION OF LOT 100 IN DP1221092

Subdivision Certificate number: .....

Date of Endorsement: .....

This sheet is for the provision of the following information as required:

- A schedule of lots and addresses - See 60(c) *SSI Regulation 2017*
- Statements of intention to create and release affecting interests in accordance with section 88B *Conveyancing Act 1919*
- Signatures and seals- see 195D *Conveyancing Act 1919*
- Any information which cannot fit in the appropriate panel of sheet 1 of the administration sheets.

Consent of Mortgagee

Surveyor's Reference: 6080

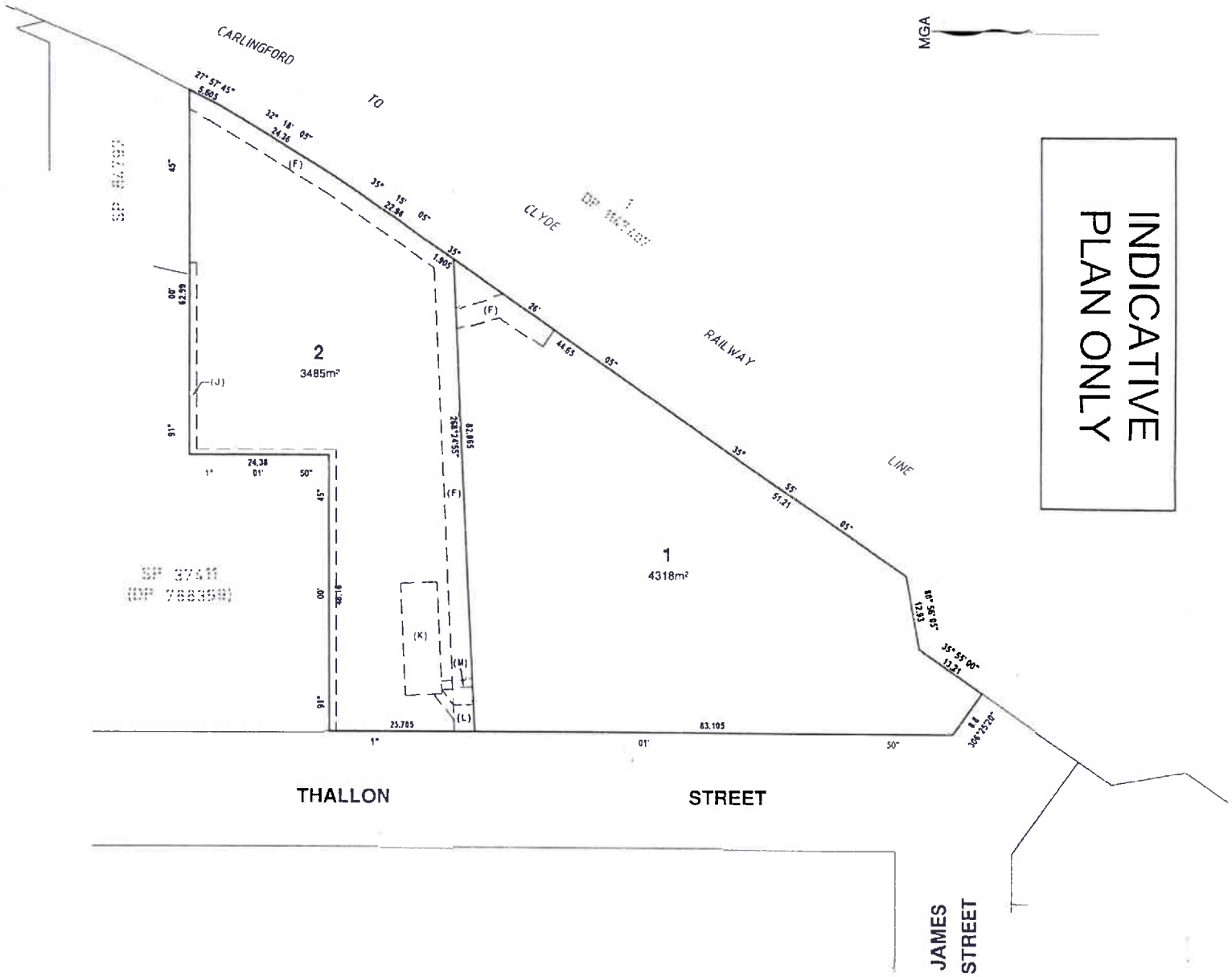
PLAN FORM 6A (2017)	DEPOSITED PLAN ADMINISTRATION SHEET	Sheet 3 of 4 sheet(s)

Office Use Only **Registered:**	Office Use Only DP1240443
PLAN OF SUBDIVISION OF LOT 100 IN DP1221092	This sheet is for the provision of the following information as required: • A schedule of lots and addresses - See 60(c) *SSI Regulation 2017* • Statements of intention to create and release affecting interests in accordance with section 88B *Conveyancing Act 1919* • Signatures and seals- see 195D *Conveyancing Act 1919* • Any information which cannot fit in the appropriate panel of sheet 1 of the administration sheets.
Subdivision Certificate number: ..... Date of Endorsement:	

Consent of Mortgagee

Surveyor's Reference: 6080

PRELIMINARY PLAN FOR VPA



Planning Agreement

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Surveyor: MATTHEW PLOWMAN Date of Survey: 17/07/2018 Surveyor's Ref: 6080	PLAN OF SUBDIVISION OF LOT 100 DP 1221092	L G A: CITY OF PARRAMATTA Locality: CARLINGFORD Subdivision No: Lengths are in metres. Reduction Ratio 1:700	Registered	DP 1240443

INSTRUMENT SETTING OUT TERMS OF EASEMENTS INTENDED TO BE CREATED PURSUANT TO SECTION 88B OF THE CONVEYANCING ACT 1919

Lengths are in metres

(Sheet 1 of 4 sheets)

Plan:

Plan of Subdivision of Lot 100 in DP1221092 covered by Subdivision Certificate No.

Full name and address of the owners of the land:

STAMFORD HOUSE 88 PTY LIMITED
(ACN 100 778 336)
Level 1, 74 Macquarie Street, Parramatta NSW 2150

PART 1

No. of item shown in the intention panel on the plan	Identity of easements restrictions and positive covenants to be created and referred to in the plan	Burdened lot(s) or parcel(s)	Benefited lot(s) or Prescribed Authorities
1	Easement to Drain Water 3 & 3.5 Wide (F)	1	2
~~2~~	~~Easement for Services 1 Wide (G)~~	~~1~~	~~Lot 1 DP 1147407~~
3	Easement to Drain Water 1.2 Wide (J)	2	All lots and common property SP 64797
4	Easement to Drain Water Variable Width (K)	2	1
5	Easement to Drain Water Variable Width (L)	2	1
6	Easement to Drain Water 1.5 Wide (M)	2	1

.....
Stamford House 88 Pty Limited

INSTRUMENT SETTING OUT TERMS OF EASEMENTS INTENDED TO BE CREATED PURSUANT TO SECTION 88B OF THE CONVEYANCING ACT 1919

Lengths are in metres

Plan:

Plan of Subdivision of Lot 100 in DP1221092 covered by Subdivision Certificate No.

PART 2

EXECUTED by)
Stamford House 88 Pty Limited)
ACN 100 778 336)
in accordance with s127 of)
the Corporations Act 2001)

.....
Sam Fayad
Director

.....
Joseph Khattar
Director

Consent of Mortgagee

.....
Stamford House 88 Pty Limited

INSTRUMENT SETTING OUT TERMS OF EASEMENTS INTENDED TO BE CREATED PURSUANT TO SECTION 88B OF THE CONVEYANCING ACT 1919

Lengths are in metres

Plan:

Plan of Subdivision of Lot 100 in DP1221092 covered by Subdivision Certificate No.

Consent of Mortgagee

.....

Stamford House 88 Pty Limited

Annexure C – OSD and WSUD Maintenance Schedule

MANCE ARRAJ

OSD AND WSUD MAINTENANCE

SCHEDULE

1-7A THALLON STREET

CARLINGFORD

CONTENTS

MANCE ARRAJ ENGINEERS
CIVIL & STRUCTURAL CONSULTING ENGINEERS
1ST Floor, 278-282 Church Street, Parramatta NSW 2150

Phone: 8897 8800

DATE – JULY 2ND, 2018

PREPARED BY: STEVE ARRAJ, BE(CIVIL)

Stormwater and On Site Detention Maintenance Schedule

1-7A Thallon Street, Carlingford

Maintenance Action	Frequency	Responsibility	Procedure
Detention Tank/Discharge Control Pits			
Inspect and remove any blockage of orifice	Six Monthly	Maintenance Contractor with Confined Space Training	Remove grate and screen to inspect orifice. See attached Site Stormwater plan for location of Discharge Control Pit
Check attachment of orifice plate to wall of pit (ensure no gaps exist)	Annually	Maintenance Contractor with Confined Space Training	Remove grate and screen. Ensure orifice plate is mounted securely, tighten fixings if required and seal any gaps which are present.
Check orifice diameter correct and retains sharp edge.	Five Yearly	Maintenance Contractor with Confined Space Training	Compare orifice diameter to approved design (see Works as Executed Drawing) and ensure edge of orifice is not pitted or damaged.
Inspect trash screen and clean	Six Monthly	Maintenance Contractor with Confined Space Training	Remove grate and screen if required to clean it.
Check attachment of screen to wall of pit	Annually	Maintenance Contractor with Confined Space Training	Remove grate and screen. Ensure screen fixings secure. Repair as required.
Check trash screen for corrosion	Annually	Maintenance Contractor with Confined Space Training	Remove grate and examine screen for rust or corrosion, especially at corners or welds.

Stormwater and On Site Detention Maintenance Schedule

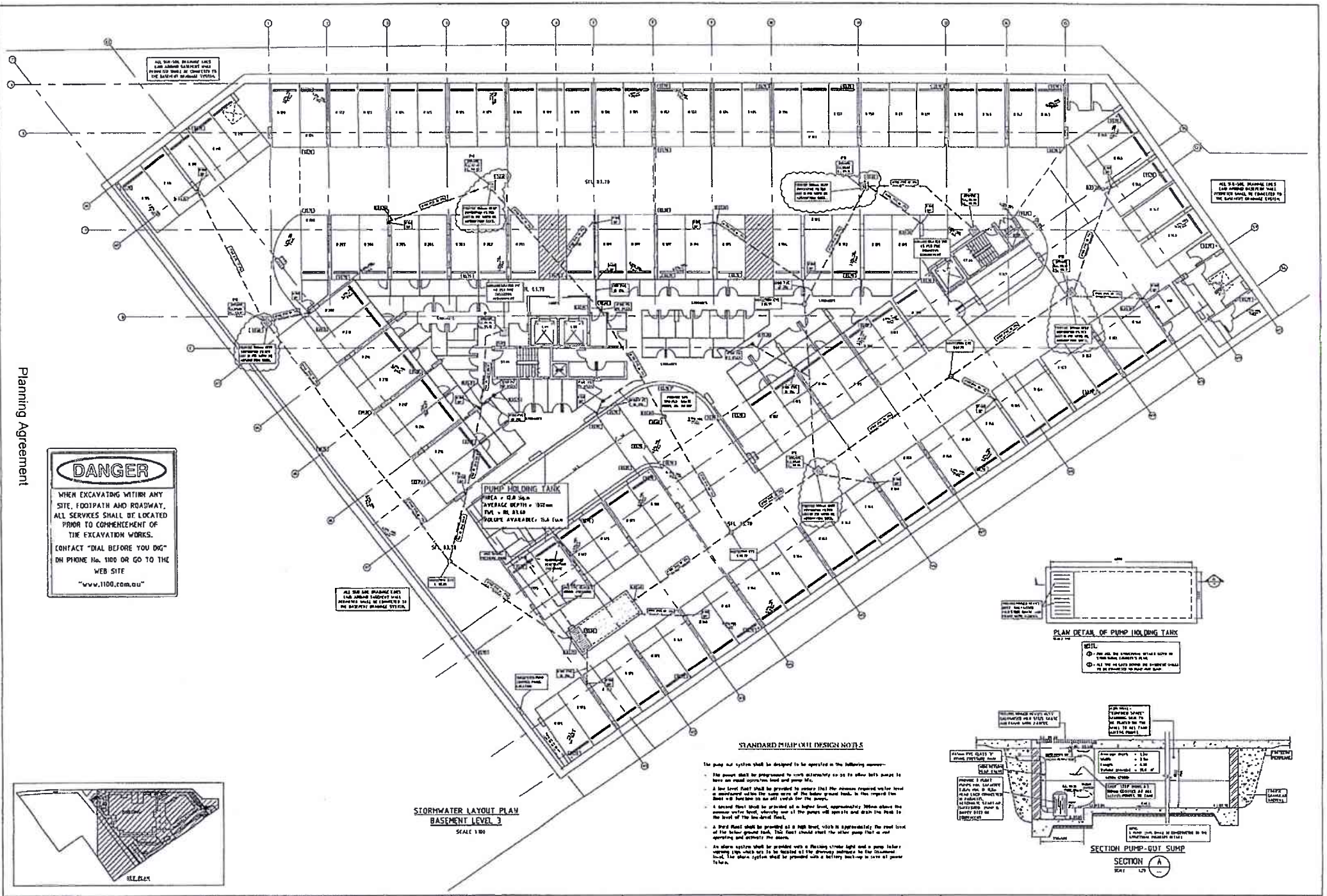
1-7A Thallon Street, Carlingford

Maintenance Action	Frequency	Responsibility	Procedure
Inspect overflow weir and remove any blockage	Six Monthly	Maintenance Contractor with Confined Space Training	Remove grate and open cover to ventilate underground storage if present. Ensure weir clear of blockages.
Inspect Discharge control pit walls (internal and external, if appropriate) for cracks or spalling	Annually	Maintenance Contractor with Confined Space Training	Remove grate to inspect walls. Repair as required. Clear vegetation from external walls if necessary and repair as required.
Inspect Discharge Control Pit sump and remove any sediment/sludge	Six Monthly	Maintenance Contractor with Confined Space Training	Remove grate and screen. Remove sediment/sludge build up and check orifice and flap valve are clear.
Inspect grate for damage or blockage	Six Monthly	Maintenance Contractor	Check both sides of grate for corrosion, (especially corners and welds) damage or blockage.
Inspect outlet pipe and remove any blockage	Six Monthly	Maintenance Contractor with Confined Space Training	Remove grate and screen. Ventilate underground storage if present. Check orifice and remove any blockages in outlet pipe. Flush outlet pipe to confirm it drains freely. Check for sludge/debris on upstream side of return line.
Check step irons for corrosion	Annually	Maintenance Contractor with Confined Space Training	Remove grate. Examine step irons and repair any corrosion or damage or replace step if necessary.
Check fixing of step irons is secure	Six Monthly	Maintenance Contractor with Confined Space Training	Remove grate and ensure fixings secure prior to placing weight on step iron.

Stormwater and On Site Detention Maintenance Schedule

1-7A Thallon Street, Carlingford

Maintenance Action	Frequency	Responsibility	Procedure
Inspect Confined Space Signage at each Grated access point	Annually	Maintenance Contractor with Confined Space Training and Equipment	Check Confined Space signage and ensure that it is fixed securely to wall, not faded, deteriorated or missing and is clearly visible. Replace as necessary or reposition to a clearly visible location.
Inspect storage tank area and remove debris/litter/mulch etc likely to block screens/orifice.	Monthly or following Rain Period	Maintenance Contractor with Confined Space Training and Equipment	Remove debris and floatable material, ie pine bark mulch, likely to be carried to control pit/downstream pits.
Stormfilter by Stormwater 360			**Manufactured by Stormwater 360**
See attached maintenance Guidelines by Stormwater 360			
Enviropods by Stormwater 360			**Manufactured by Stormwater 360**
Inspect pits with Enviropods fitted in Basement Level 3	Monthly or following Rain Period	Maintenance Contractor with Confined Space Training and Equipment	Visually inspect pits through grates. Should there be a heavy build up of debris, grates shall be removed and enviropds removed for cleaning. If material of Enviropd is damaged a replacement filter screen shall be obtained from the manufacturer.
General			
Inspect gutters of building and remove any debris/sludge	Annually	Maintenance Contractor	Remove any leaves or debris and sludge from gutters of building and flush downpipes of building to remove any blockages. Pits downstream of downpipes to be cleaned of flushed debris.
Inspect pits and trench drains on site and remove debris/litter/sludge	Monthly or following Rain Period	Maintenance Contractor	Remove grate. Remove any debris/litter/sludge from within pits.
Inspect site for litter and floatable debris and remove	Fortnightly	Maintenance Contractor	Remove litter from site and sweep all driveway and pathways in order to remove leaves or sediments that may enter into the drainage system.



Planning Agreement

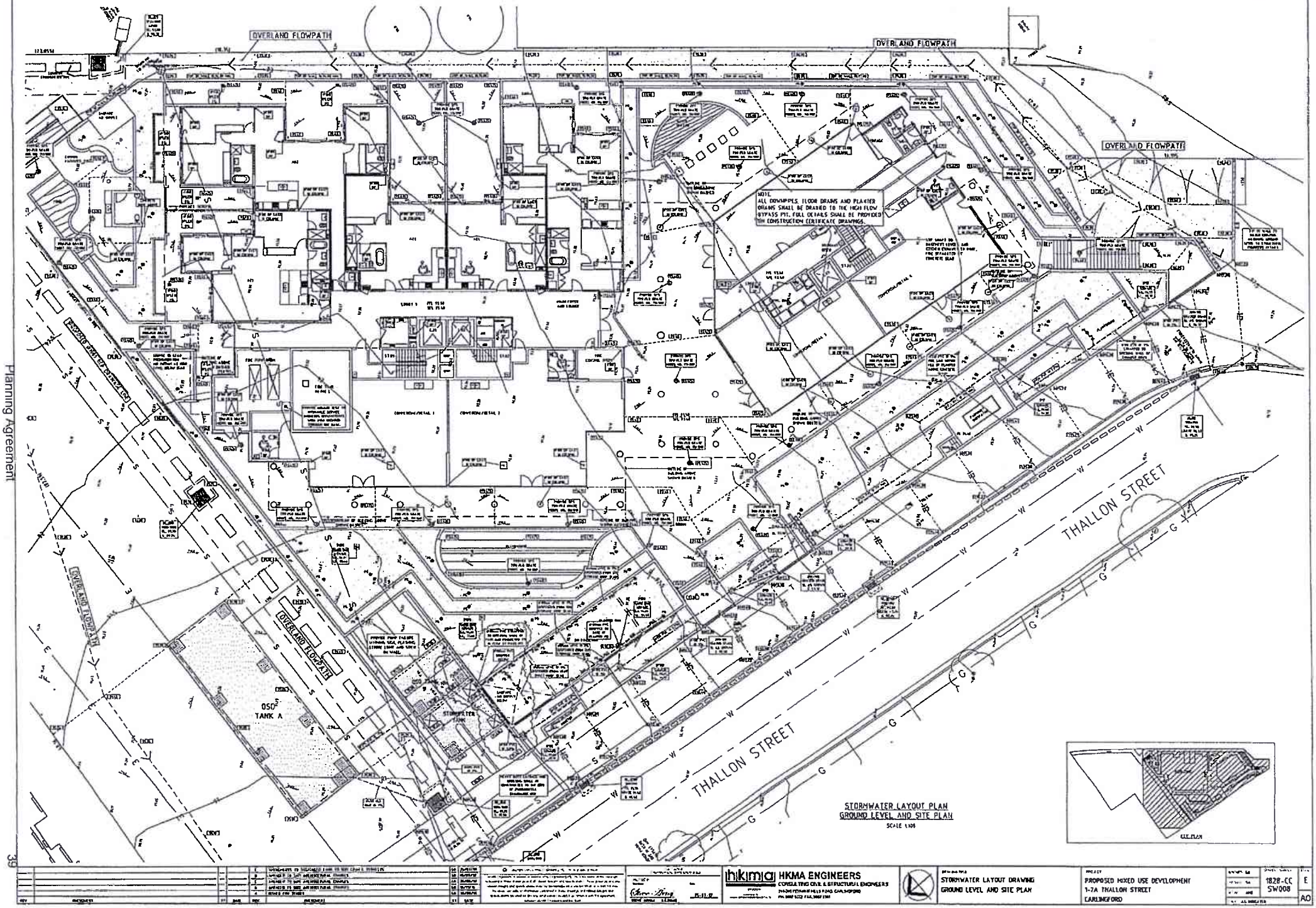
38

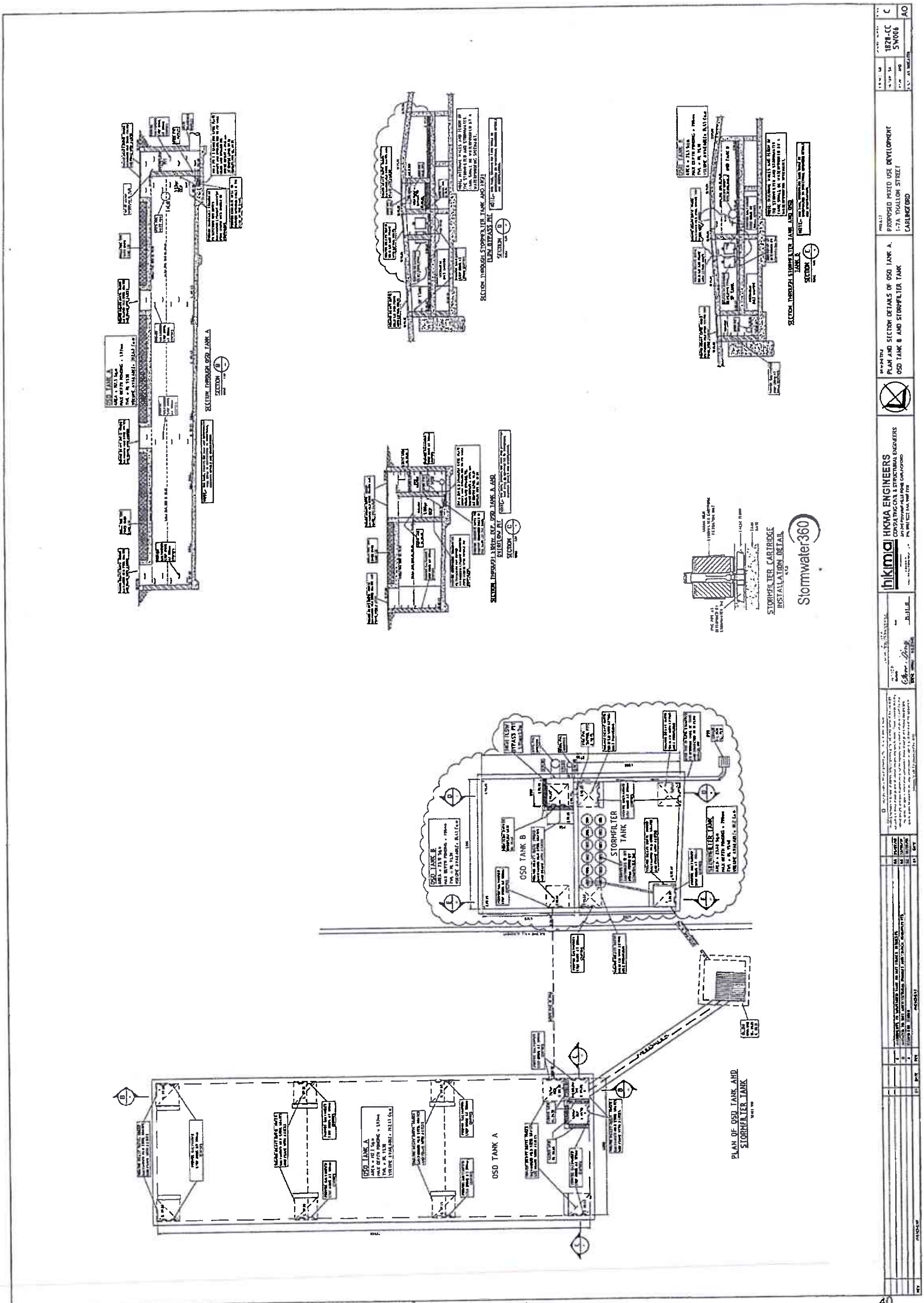
HKMA ENGINEERS
CONSULTING CIVIL & STRUCTURAL ENGINEERS

STORMWATER LAYOUT DRAWING
BASEMENT LEVEL 3 AND PUMP OUT
TANK DETAILS AND NOTES

PROPOSED MIXED USE DEVELOPMENT
1-7A THALLON STREET
CARLINGFORD

1828-CC
SW002
E
AO



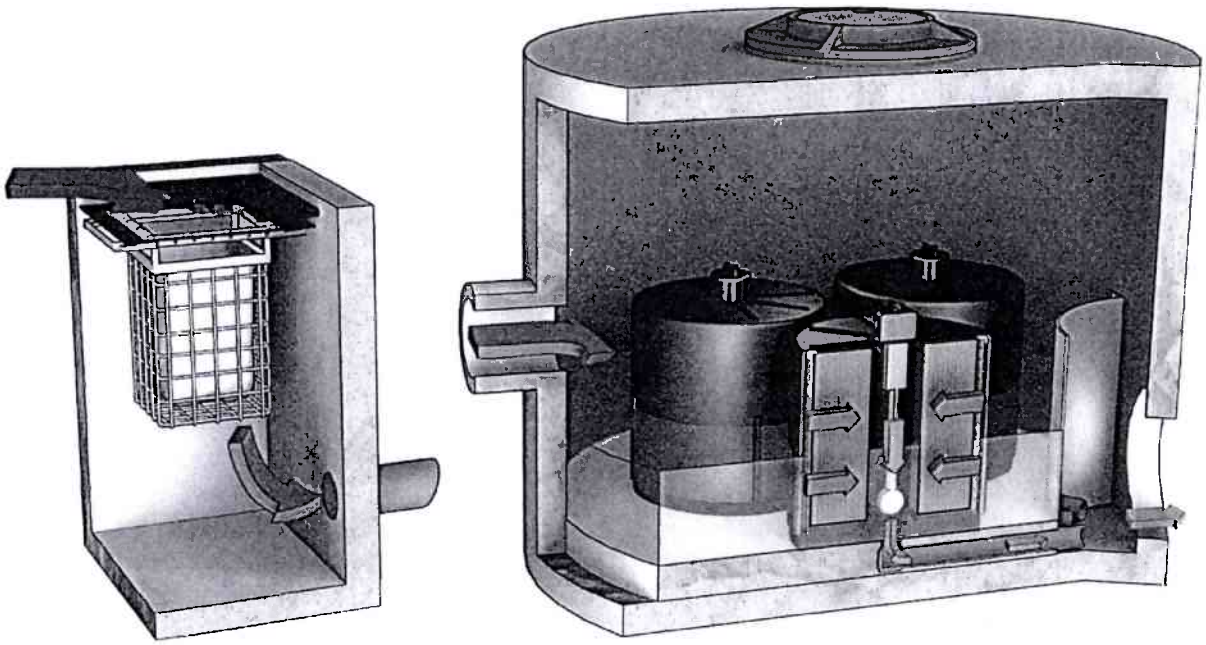


SECTION THROUGH OSD TANK A
SECTION B
SECTION THROUGH STORMFILTER TANK AND HIGH FLOW BYPASS PIT
SECTION D
SECTION THROUGH STORMFILTER TANK AND OSD TANK B
SECTION E
SECTION THROUGH 1.8KL/m PCP, OSD TANK A AND OVERFLOW PIT
SECTION C
STORMFILTER CARTRIDGE INSTALLATION DETAIL
Stormwater360
OSD TANK A
OSD TANK B
STORMFILTER TANK
PLAN OF OSD TANK AND STORMFILTER TANK
HKMA ENGINEERS
CONSULTING CIVIL & STRUCTURAL ENGINEERS
PROPOSED MIXED USE DEVELOPMENT
1-7A THALLON STREET
CARLINGFORD
PLAN AND SECTION DETAILS OF OSD TANK A, OSD TANK B AND STORMFILTER TANK
1828-CC
SW006
C
A0

Stormwater360
AUSTRALIA

StormFilter / EnviroPod

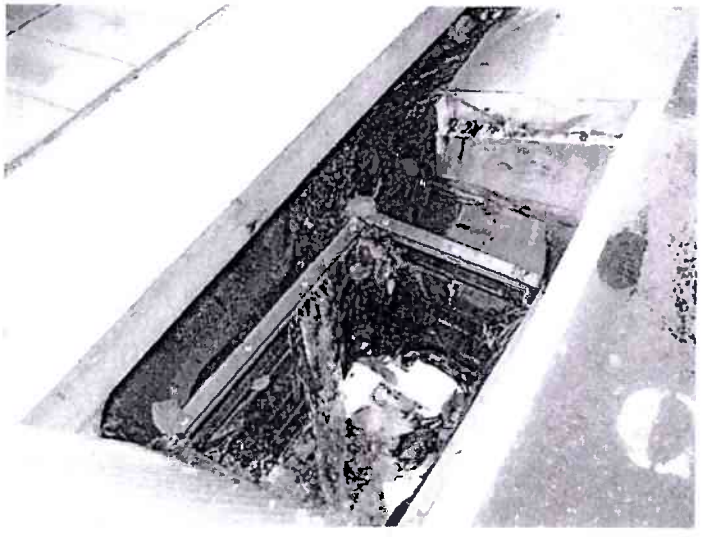
SFEP Treatment Train
Operations and Maintenance



Note: **This guideline should be used as a part of the site stormwater management plan and is to be read in conjunction with the site specific Maintenance Schedule.**

1. INTRODUCTION

The following report details the recommended methods for cleaning and maintaining the Enviropod Stormwater Gully Pit Insert. The aspects associated with cleaning included in this manual are methods for grate removal, filter bag cleaning, unit inspection, filter bag rejuvenation and the re-installation of the filter bags. This plan should be used in conjunction with the appropriate traffic management plans and site safety plans produced for each project. Other Stormwater360 (IES) documents which IES staff should use in conjunction with this report include the IES Employee Health and Safety Manual. It is recommended that contractors develop their own health and safety plans for activities to ensure that the workers are placed in a safe work environment.



Enviropod filter in service.

Each stormwater treatment device must be inspected and maintained regularly to ensure it is working properly throughout the estimated design life. During each inspection and clean, details of the mass, volume and type of material observed should be record to provide ongoing data for future management plan revisions and the optimisation of the maintenance frequency. It is essential that maintenance (including inspections, recording and reporting) be carried out in a systematic manner and is carried out by qualified and experienced personnel. It is also advisable that the treatment device owner has a nominated person responsible for overseeing the management process.

Maintenance is an essential component of stormwater management enabling ongoing at source control of stormwater pollution. Maintenance will also prevent failures such as structural failure (e.g. prevents blocked outlets) or aesthetic failure (e.g. debris accumulation). All stormwater treatment devices require maintenance to ensure the ongoing performance of the system.

This document consists primarily of the processes and tasks associated with the hand maintenance and inductor maintenance procedures. It does not include detail of the traffic management requirements or occupational health and safety requirements. Contractors or IES staff should utilise their own Employee Health and Safety Manual, which details the policies and procedures for safe work.

2. Health and Safety

Cleaning of Enviropod filters and Stormfilters is a specialist activity. Material collected can be harmful if not handled correctly. Sediments may contain heavy metals and carcinogenic substances as well as harmful objects such as broken glass and syringes. It is essential that Occupational Safety and Health guidelines are followed at all times, and that the following steps are carried out to ensure safe and successful maintenance operations.

In additional to the hazards associated with the cleaning handling of material in the filter bags, there also hazards associated with traffic at the work site, the removal of the grate, pedestrians and other non-worker personnel, and general work place hazards associated with working outdoors.

The procedures indicated in the Operations section of this manual are recommend as the safest and most efficient manner in conducting the maintenance of Enviropod Units (Section 3), however contractors and cleaning staff may vary the procedure in response to the site conditions, varying work practices or general preferences in the cleaning techniques. Please note that procedures outlined in this manual are not exhaustive, and that any changes should still comply with general safe work practices.

2.1 Personnel Health and Safety

All contractors and staff shall comply with all current Health and Safety Legislation and take all practicable steps to:

- Comply with all applicable laws, regulations and standards.
- Ensure that all employees, contractors and visitors are informed of and understand their obligations in respect of current Health and Safety Legislation.
- Ensure that employees understand and accept their responsibility to practice and promote a safe and healthy work environment.

All relevant precautions must be taken to prevent contact with sediment and litter when maintaining filters. The following personal protective equipment (PPE) safety equipment should be worn:

- Puncture resistant gloves.
- Steel capped safety boots.
- Fluorescent safety vest.
- Overalls or similar skin protection.
- Safety apron. (if necessary)*
- Eye protection. (if necessary)*

*Higher personal safety conditions may be required when maintaining units that may contain more hazardous material, for example pits where syringes have be observed or pits located in areas associated with such activities.

2.2 Traffic Control

All stormwater collection pits are typically situated either in/on roads and car parks or adjacent to roads in the footpath or swales. Traffic control requirements at each of these locations is typically the same, with most of the state and local road authorities requiring the same controls implemented whether the work is to be conducted on the road or on the road reserve.

As traffic requirements vary based on the road usage and the specific road configuration, traffic control plans should be prepared for each site. Given that maintenance is typically a quick process, the contractor should liaise with the relevant road authority to determine the specific road safety requirements for each location to ensure that on site workers can conduct the cleaning operations safely and efficiently, while complying with all laws and regulations.

NSW RTA working on roads safety manual indicates the signage requirements, placement of barricades or witches hats and the positioning of traffic control personnel. In addition to standard safety requirements IES recommends that the maintenance vehicle be used to increase safety, through shielding the work area from oncoming traffic.

Plate 1 indicates the vehicle placed to shield the work area with cones placed around the vehicle. Plate 2 indicates at head on view, note the vehicle is positioned to allow access to the drive, whilst still blocking the pit from on-coming traffic. The vehicle has a flashing light on the roof and the hazard lights switched on.

Plate 1 Vehicle positioned near pit, preventing traffic from passing close to the pit.

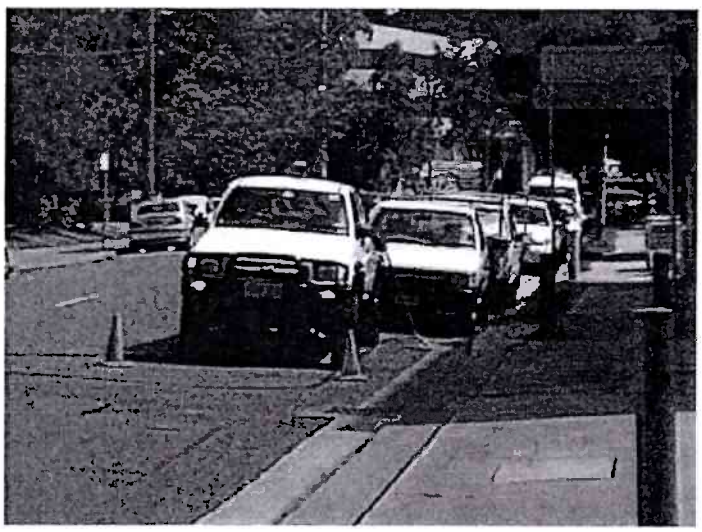


Plate 1 Head-on view, indicating the placement of the vehicle near the pit.

2.3 Confined Spaces

Confined spaces poses a serious safety hazard for all personnel, however during the normal maintenance procedures there should be no reason to enter a confined space. All maintenance procedures are able to be conducted from the surface. Confined space entry procedures are not included as part of this manual, for IES employees confined space entry procedures are included as part of the IES Safety Manual. It is recommend that all contractors evaluate their own needs for confined space entry and compliance with Occupation Health and Safety regulations.

When repairs or maintenance activities cannot be conducted from the surface, the contractor/cleaner should evaluate the need to enter the confined space, considering all alternative options. Where there is a need to proceed in a confined space, only staff with current confined space training shall operate in a confined space. Appropriate measures and controls shall be put in place to meet confined space entry requirements. Safety equipment must be worn where deemed necessary and where gas or oxygen hazard occurs, staff trained in its use will only use BA gear. **Non-trained staff must not go into confined spaces.**

3. Operations

This section details the specific activities required to clean the Enviropod units. Please note it has been written for use by someone who has never encountered a stormwater pit or an Enviropod unit, providing a step by step process for each of the cleaning stages.

3.1 Maintenance & Monitoring of Enviropod filters

To ensure that the unit performs optimally, the material collected by the filter bag should be emptied when the level of material is no more than approximately **half to two thirds** of the total bag depth or when there is evidence of material overflow. Although the bag has greater storage area, it is recommended that it is not left to fill completely prior to empting, for the following reasons; the bags are capable of retaining a heavy mass of material (in excess of 50kg); material near the top of the bag can be resuspended during high to extreme rainfall events; and blockage of the overflow sections can occur, when material is allowed to build up above the filter bag.

It is also recommended that additional monitoring should be conducted following moderate to extreme rainfall events, in particular, when preceding months have had little to no rainfall. This monitoring is considered necessary to accommodate for higher volumes of runoff generated during major rainfall events, an anticipated greater accumulation of surface contamination during low rainfall periods and to ensure that the units have not been damaged due to high pipe velocities.

3.2 *Stormwater Pit Cover Removal*

3.2.1 Hinged Pit Grates

To open a hinged pit grate follow the following steps:

1. Insert the lifting hooks beneath the grate. (Position indicated in Plate 2)
2. Check hinge point is not damaged and debris is not caught in the hinge area.
3. Note many cast iron hinges are not hinged securely (to enable the removal of the grate). This may result in the pit grate not being able to sit in an open position. Additionally the hinge pins may also be damaged or corroded, which may allow for the pit grate to fall into pit. Such pit grates can be removed using the method indicated below for non-hinged grates.
4. Fully open pit grate, ensuring that the grate will stay in the open position without any external forces applied. Grates which do not remain open without being held should be removed or secured during cleaning or maintenance activities. Plate 3 and Plate 4 indicate the grate being opened and grate resting freely in the open position, respectively.

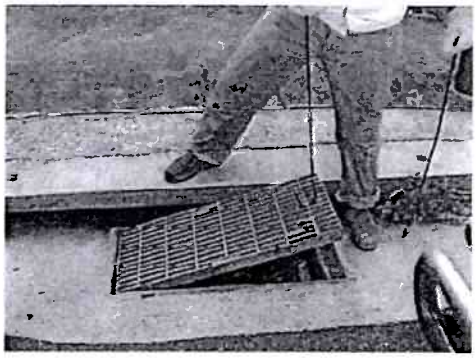


Plate 2 Lifting the grate

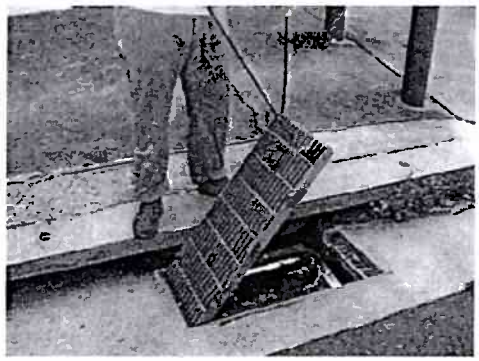


Plate 3 Opening Grate

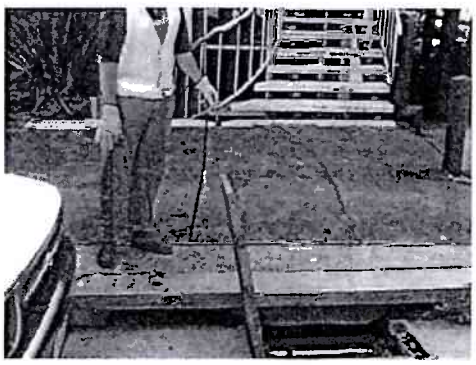


Plate 4 Fully open grate

Plate 5 Lowing grate

3.2.2 *Non-Hinged Pit Grates*

To remove a non-hinged pit grate:

1. Place lifting hooks beneath grate, where possible in the four corners of the grate (Plate 6). Concrete lids may have Gatic lifting points, a key arrangement or holes in the lid, as such special equipment, such as Gatic lifters may be required.
2. Position each person either side of the grate. (Plate 7)
3. Lift the grate, ensuring that good heavy lifting posture is used at all times.
4. Place the grate on an angle on the gutter, to allow for the lifting hooks to be removed. (Plate 8)
5. For extremely heavy one piece grates and concrete Gatic covers, insert the lifters in place and slide the lids back. Note some lids may still require two people. (Picture required)

Plate 6 Insert hook near edge of grate

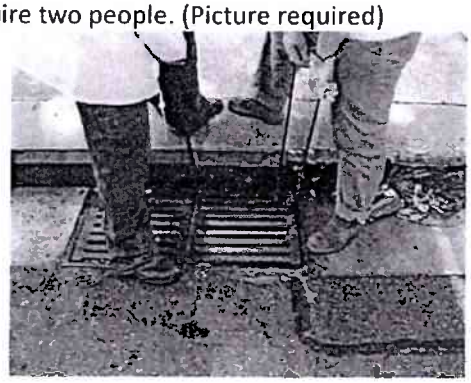


Plate 7 Position each lifter either side of the grate

Plate 8 Lift grate and move grate to one side

Plate 9 Lift grate above the support frame

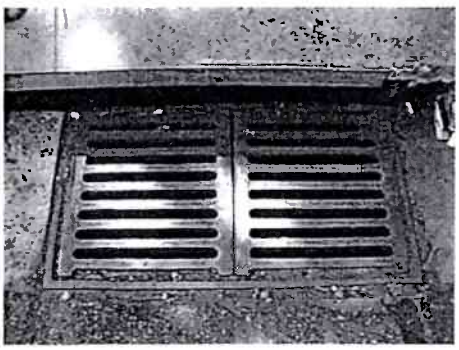


Plate 10 Reinstated non hinged grate

3.3 Cleaning Methods

One of the following methods of maintenance should be used for the servicing of these Enviropod Filters:

- Hand Maintenance.

3.3.1 Cleaning using Inductor Truck

The following steps indicate a safe and efficient method to clean the Enviropod using an Inductor:

1. Open gully pit. (See Section **Error! Reference source not found.**)
2. Place the inductor hose over the material collected in the filter bag and switch on the inductor.
3. Using the inductor hose suck all of the sediment, organic leaf material, litter etc., collected in the filter bag
4. Allow the filter bag to be sucked up into the inductor hose for a few seconds to allow for the filter mesh pores to be cleaned. Care is to be taken by the operator not to damage the filter, i.e. ensure that there are no sharp edges on the inductor hose.
5. If material has built up around the overflows, use the inductor hose to clear the accumulated material.
6. Remove filter bag from the pit.
7. Sediment retained in the gully pit grate is to be removed.
8. Back opening channels are to be cleared of any debris to ensure flow is not hindered. Debris can be collected using the inductor truck.
9. All gully pit waste is to be removed from the pit.
10. Check the Enviropod unit. (See Section 0)
11. Check filter bag. (See Section 0)
12. Reinstate filter bag and gully pit lids.

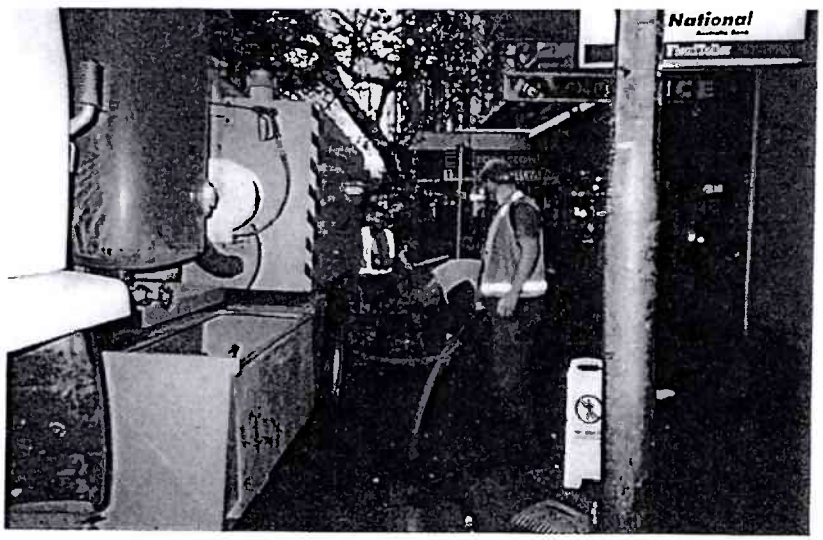


Plate 11 Cleaning an Enviropod using the inductor method

Gully pit sediments under no circumstances are to be backwashed into the gully pit.

3.3.2 Hand Maintenance

The following steps indicate a safe and efficient method to clean the Enviropod manually by hand:

1. Open gully pit. (See Section **Error! Reference source not found.**)
2. Place the lifting hooks in the lifting loops of the filter bag. (See Plate 12)
3. For extremely heavy and overfilled bags either use a hydraulic lifting arm to lift the bag, or remove excess material using a shovel or similar piece of equipment. IES prefers the use of a post hole shovel, due to the reduced strain on the back when digging and the ability of the shovel to grab material vertically. (Insert Picture)
4. Lift the bag vertically off the supporting frame, ensuring that no undue pressure is placed on the filter bag. (See Plate 13)
5. Lift the bag clear of the stormwater pit. (See Plate 14)
6. Position the bag over the truck or other collection vehicle, taking hold of the loops at the base of the bag. (See Plate 15 and Plate 16)
7. Lift and empty the filter bag by holding the bottom lifting loops only. (See Plate 17)
8. Completely empty the filter bag. (See Plate 18)
9. Brush the filter bag with a stiff brush to remove bound sediment from the filter pores. (See Plate 19)
10. Check the filter bag. (See Section 0)
11. Check the Enviropod unit. (See Section 0)
12. Reinstate filter bag, ensuring bag is installed the correct way. (See Plate 20 and Plate 21)
13. Reinstate gully pit lids. (See Plate 22 and Plate 23)

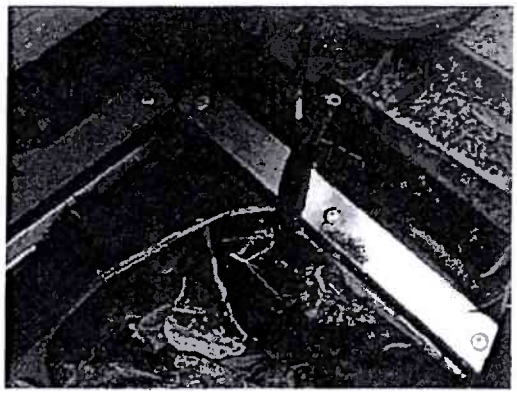


Plate 12 Place the lifting hooks through the bag loops

Plate 13 Lift the bag from the cage and support frame

Plate 14 Lift the bag from the stormwater pit

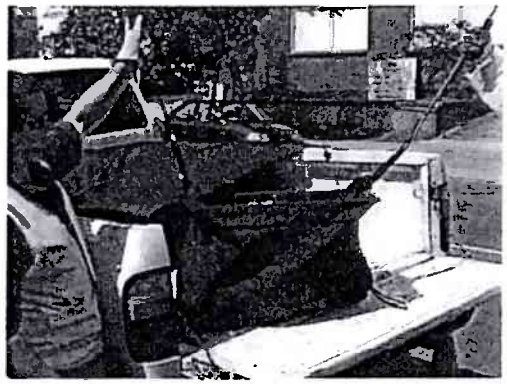


Plate 15 Lift the bag onto the collection vehicle

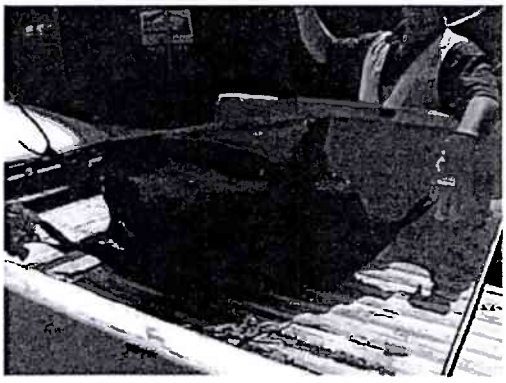


Plate 16 Grab the bottom lifting loops

Plate 17 Lifting the bottom bag loops empty the filter bag

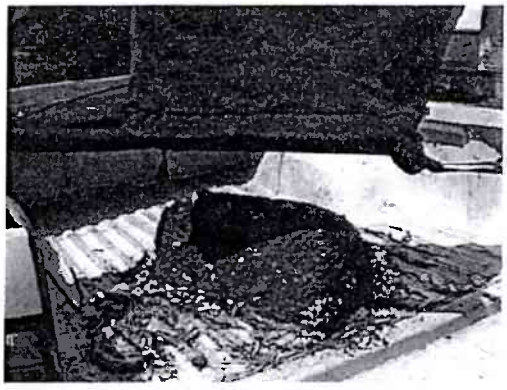


Plate 18 Completely empty the contents of the filter bag

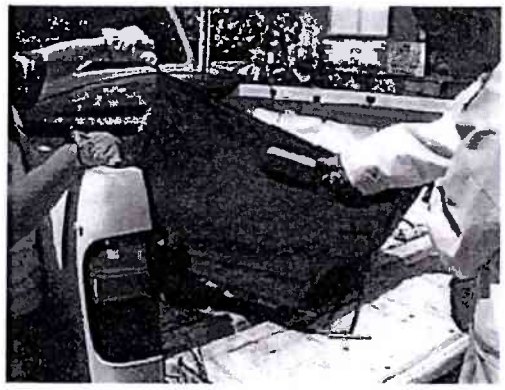


Plate 19 Brush the pores filter bag with a stiff brush

Plate 20 Reinstall filter bag

Plate 21 Ensure that the unit is positioned correctly, with the lifting loops on the inside

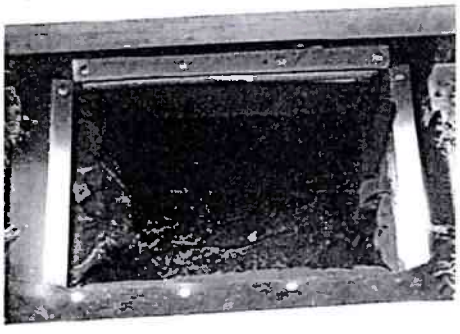


Plate 22 Correctly installed filter bag

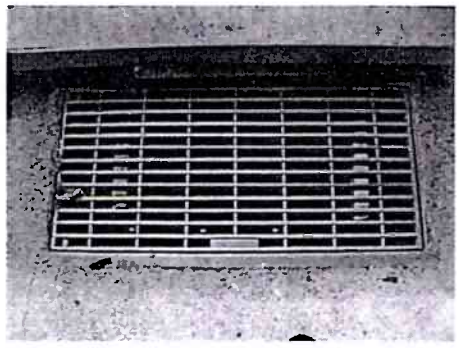


Plate 23 Installed filter bag and sealed pit

3.4 Unit Inspection

After the Enviropod filter bag is removed, emptied and cleaned, the following should be checked to ensure that the unit has not been damaged:

- All connections and joints should be checked and broken rivets replaced (See Plate 24);
- The plastic pit seals should be inspected for unit movement or damage (See Plate 30); and
- The cage should be inspected for damage or movement (See Plate 31).

The overflow diversion channels, and the area between the Enviropod cage and pit wall should also be inspected for the accumulation of debris. Any observed debris should be removed and disposed of off-site. Accumulated material within the outlet pipe may need to be flushed.

Note: If the units are not cleaned regularly the mobilisation of material collected in the Enviropod unit may occur, as such cleaning of the units in accordance with this management plan is required. As this plan is based on observations and data collected during the monitoring period, ongoing adjustment of the cleaning frequency is generally required to improve the overall efficiency in the removal of collected material and prevent material overflow.

Plate 24 Check seals are pushed against the pit walls

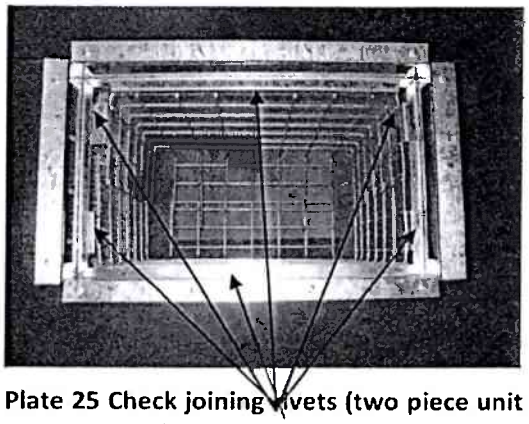


Plate 25 Check joining rivets (two piece unit shown above)

3.5 Filter Bag Inspection and Rejuvenation

Following the emptying and cleaning of the filter bags, the filter bag should be inspected to evaluate the bag condition. Given the nature of stormwater the filter bag from some Enviropod units can become considerably clogged with fine sediment. Filters can also be damaged by various objects in stormwater as well as fauna. Sharp objects such as sticks combined with high velocity water and a large mass in the filter bag can cause small tears in the filter material. Animals such as rats have also been known to chew through fine mesh filter bags located in gully pits near takeaway food outlets.

3.5.1 Clogged Filters

Clogged filter bags can be clean using several different methods. If the bag cleaning techniques described in the general maintenance sections above are not able to clean the filter bags the following options should be considered:

- Using a stiff brush and a bucket of soapy water scrub the filter bag surface.
- Remove filter bags from the pit and wash the bags using a high pressure water spray. Care has to be taken to not transfer the contamination elsewhere. Waste water from the process should be collected of and disposed of correctly.

- Remove the filter bags from the pits and the support rings and wash the bags in an industrial washing machine.

The final option presented above typically results in the bags appearing like new, with no visible stain or pore clogging within the filter mesh.

Plate 26 Slightly clogged filter bag, indicated by the brown stain on in the centre of the bag

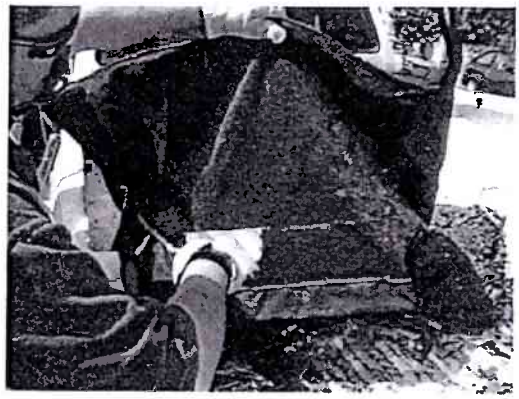


Plate 27 A clean used filter bag

3.5.2 Damaged Filters

Damaged filters can often be repaired, provided the damage is small. Small tears in the fabric may occur do to several reasons, however the overall strength & structure of the nylon fabric typically prevents small tears becoming much larger. Although the bag is unlikely to tear further care must be used when clean torn bags as not to spill the collected material into the pit.

Small tears maybe repaired by either sewing the tear back together, with additional fabric to increase the strength of the stitching, or by sewing a patch of the filter material onto the filter bag. The filter bags may need to be replaced if large tears are present, as the filter bag is no longer able to function as intended.

3.6 Disposal of Material

All gully pit wastes from the site are to be taken off site and disposed of at a transfer station or similar approved disposal site. Stormwater Sediments can contain Lead, Copper, Zinc, Mercury, hydrocarbons and PCBs, which are harmful to both humans and the receiving environment. Appropriate sampling and laboratory analysis may be required to classify the material as suitable for reuse, or disposal under appropriate local guidelines.

4. Emergency Procedures

4.1 Spill Procedures

In the event of a spill discharging into any gully pit all sediment is to be extracted and the filter bags are to be removed and replaced with rejuvenated filter bags. Normal operation procedures apply to additional cleaning as a result of spills.

4.2 Blockages

In the unlikely event of surface flooding around a gully pit fitted with an Enviropod the following steps should be carried out:

Check Enviropod over flow bypass. The Enviropod filter has been designed with an overflow mechanism built into the filter box. If surface flooding still exists check the overflow slots underneath the rubber seal. If debris is lodged in the overflow slots these can be easily cleared by hand or steel rod.

If overflow is clear and surface flooding still exists remove Enviropod and check outlet pipe for blockages.

Removal of the Enviropod may be difficult if the filter is clogged and the Enviropod is holding water. If the filter is clogged, brush the side walls of the filter with a yard broom or similar. This will dislodge particles trapped at the interface allowing contained water to flow through the filter.

If the outlet pipe is blocked, it is likely that a gully sucker truck will be required to unblock it. Debris should be removed from the Enviropod with the gully sucker truck before removal of the Enviropod filter.

If a gully sucker truck is not available and the Enviropod needs to be removed by hand, follow the steps below:

- Remove excess debris by hand or brush the side of the filter.
- Lift and place filter ring through the filter box and into cage.
- Remove Filter box.
- Lift cage containing filter bag and ring out of the pit.
- Unblock outlet pipe.

STORMFILTER

1.1 DESCRIPTION

StormFilter is a passive, flow-through stormwater filtration system. It consists of vaults that house rechargeable cartridges filled with a variety of filter media. The filter systems are installed in-line with storm drains. The StormFilter works by passing stormwater through media-filled cartridges, which trap particulates and adsorb materials such as dissolved metals and hydrocarbons. After being filtered through the media, the treated stormwater flows into a collection pipe or discharges into an open channel drainage way. StormFilter is offered in three different configurations: cast-in-place, precast and linear. The precast and linear models utilize pre-manufactured vaults. The cast-in-place units are customized for larger flows and may be either covered or uncovered underground units.

1.2 OPERATION

1.2.1 Purpose

The StormFilter is a passive stormwater filtration system designed to improve the quality of stormwater runoff from the urban environment before it enters receiving waterways.

Through independent third party studies, it has been demonstrated that the StormFilter is highly effective for treatment of first flush flows and flow-paced flows during the latter part of a storm. In general, StormFilter's efficiency is highest when pollutant concentrations are highest. The primary target pollutants for removal are: sediments (TSS), soluble metals, soluble phosphorus, nitrates, and oil and grease.

1.2.2 Sizing

The StormFilter® is typically sized to treat the peak flow of a water quality design storm as it passes through the filter. The peak flow is determined by calculations based on the contributing watershed hydrology and using a design storm magnitude. The design storm is usually based on the regulatory requirements set by the local stormwater management agency. The particular size of a StormFilter is determined by the number of filter cartridges (see Figure 4) required to treat the peak stormwater flow. Each cartridge is designed to treat a peak flow of 1 Litre/second. For example: a peak design stormwater flow rate of 10L/s would require that 10 cartridges be used in the treatment vault.

Because of the highly porous nature of the granular filter media, the flow through a newly installed cartridge is restricted to 1L/s, using a restrictor disc, to ensure adequate pollutant-media contact time.

1.2.3 Basic Function

The StormFilter is designed to siphon stormwater runoff through a filter cartridge containing media. The variety of media available can be designed to act as a mechanical filter to remove sediments, as an ion exchanger to remove dissolved heavy metals, and as an absorber to remove oils and greases.

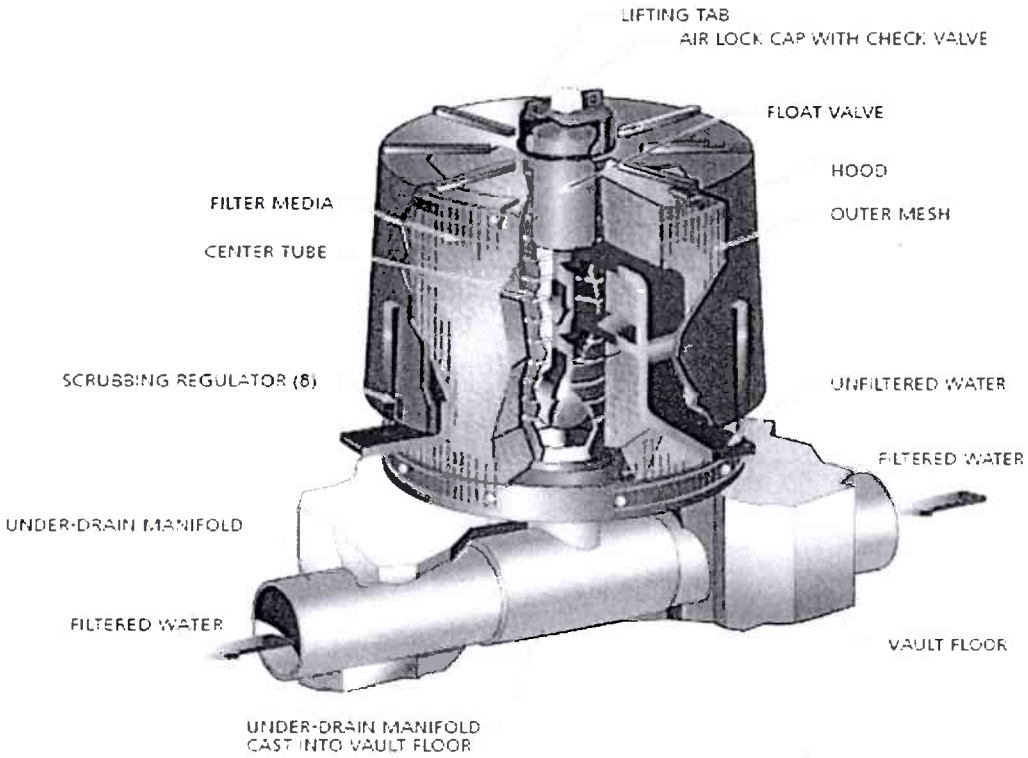


Figure 4. Filter Cartridge

1.2.4 Priming System Function

The treated stormwater collects in the centre tube of the cartridge, which is equipped with a self-priming siphon system. Figure 1 illustrates this system. The key component of the system is the plastic float. The float consists of a ball located at the base leading up to a larger portion, which provides increased buoyancy. Initially the ball rests in a seat effectively closing off the port to the drainage manifold.

As a result, the filter fills the centre drainage tube until the water level has risen high enough to purge the air from the filter cartridges and displaces the float. At a water depth of 22 inches the float pulls loose and allows the filtered water to drain out through the manifold. This effectively "primes" a siphon within the drainage tube and greatly increases the potential across the filter. The priming system increases StormFilter's ability to be loaded with sediment. A related feature is the cartridge "hood". This hood maintains the siphon effect by preventing air from being drawn into the cartridge until the external water level drops below the bottom of the hood.

Cartridges are connected to the manifold with a plastic connector. Since some media used is potentially buoyant, a threaded connector affixed to the manifold with compression bolts is necessary to ensure the cartridge isn't lifted out of place. For the heavier leaf media, a slip connector is used.

StormFilter is also equipped with flow spreaders that trap floating debris and surface films, even during overflow conditions. Depending on individual site characteristics, some systems are equipped with high and/or low flow bypasses. High flow bypasses are installed when the calculated peak storm event generates a flow that overcomes the overflow capacity of the system. This is especially important for precast systems. Low flow bypasses are sometimes installed to bypass continuous inflows caused by ground water seepage, which usually do not require treatment. All StormFilter units are designed with an overflow. The overflow operates when the inflow rate is greater than the infiltration capacity of the filter media.

1.2.5 Maintenance Overview

The primary purpose of the StormFilter is to filter out and prevent pollutants from entering our waterways. Like any effective filtration system, periodically these pollutants must be removed to restore the StormFilter to its full efficiency and effectiveness. Maintenance requirements and frequency are dependent on the pollutant load characteristics of each site. To assist the owner with maintenance issues, Stormwater360 provides detailed Operation & Maintenance Guidelines with each unit.

Stormwater360 can provide maintenance services completely, or in part. Available services include tracking of installed systems, advising the system's owner of maintenance needs, and notification of the regulatory agency once the system has been maintained.

Maintenance is usually performed in the dryer periods to rejuvenate the filter media and prepare the system for the next rainy period. Maintenance activities can also be required in the event of a chemical spill or excessive sediment loading due to site erosion or extreme storms. It is good practice to inspect the system after severe storm events.

END OF SECTION 1

SECTION 2

RECOMMENDED MAINTENANCE AND EXPECTED PERFORMANCE

2.1 TYPES OF MAINTENANCE

Presently, procedures have been developed for two levels of maintenance: Inspection/minor maintenance and major maintenance. Inspection/minor maintenance activities are combined since the minor maintenance does not require special equipment and typically little or no materials are in need of disposal. Inspection/minor maintenance typically involves opening the flow restricting valves (to pre-set levels) and cleanup of vegetation and debris. Major maintenance typically includes cartridge recharging. Major maintenance may involve disposal of materials that require consideration of regulatory guidelines. Depending on the particular unit configuration and equipment used, major maintenance may require an understanding of OSHA rules. Table 1 summarizes the primary activities associated with StormFilter maintenance.

Table 1: StormFilter

Facility Component Requiring Maintenance	Maintenance Activity	When Maintenance Activity Is Required	Expected Facility Performance After Maintaining
StormFilter® Cartridges and Containment Structure	Trash and Debris Removal	Floatable objects or other trash is present in the filter. Remove to avoid hindrance of filtration and eliminate unsightly debris and trash.	Permanent removal from storm system.
	Cartridge Replacement and Sediment Removal	1. Media has been contaminated by high levels of pollutants, such as after a spill.	1. New media is able to effectively treat stormwater.
Drainage System Piping	Flushing With Water	Drainage system is obstructed by debris or sediment.	Outflow is not restricted.

2.2 MAINTENANCE ACTIVITIES

2.2.1 Maintenance Activity Timing

Two scheduled inspections/maintenance activities should take place during the year. During the minor maintenance activities (routine inspection, debris removal), the type of major maintenance required is determined and, if required for disposal, samples of the sediments and media are obtained. The next scheduled date is to perform major maintenance activities (replacement of the filter cartridges and associated sediment removal). In addition to the scheduled activities, it is important to check the condition of the filter after major storms to check for damage caused by high flows and to check for high sediment accumulation, which may be caused by localised erosion in the drainage area. It may be necessary to adjust maintenance activity scheduling depending on the actual operating conditions encountered by the system.

2.2.2 Maintenance Activity Frequency

The primary factor controlling timing of maintenance for the StormFilter is sedimentation. A properly functioning system will remove solids from water by trapping these particulates within the porous structure of the media. The flow through the system will naturally decrease as more and more solids are trapped. Eventually the flow through a system will be low enough to require replacement of the cartridges. Sediment should be removed from upstream trapping devices on an as needed basis to prevent material from being re-suspended and discharged to the system.

Site conditions greatly influence maintenance requirements. StormFilter units located in areas with erosion or active construction should be inspected and maintained more often than those in fully established areas. The maintenance frequency may be adjusted as additional monitoring information becomes available during the inspection program. Areas that develop known problems should be inspected more frequently than areas that demonstrate no problems, particularly after large storms. Ultimately, inspection and maintenance activities should be scheduled based on the historic records and characteristics of an individual filter.

2.3 MAINTENANCE CREW REQUIREMENTS

Table 4 lists the anticipated crew requirements for maintenance operations. Removal of water and sediments during major maintenance activities can be accomplished using either a pump and water truck or a vacuum truck. All applicable safety (OH & S) and disposal regulations should be followed. A general description of the maintenance activities follows.

Table 4: ANTICIPATED CREW REQUIREMENTS

	Inspection/Minor Maintenance	Major Maintenance: Sediment Removal	Major Maintenance: Cartridge Replacement
Labourer	1		1
Skilled Worker	1	1	1
Vacuum/Water Truck Operator		1	0/1
Total	**2***	**2***	**2/3***
Special Requirements	Knowledge of Proper StormFilter Function	Knowledge of Disposal Requirements	Knowledge of Cartridge Removal and Installation Procedures

* May require OH & S trained person if/when vault entry occurs.

2.4 MAINTENANCE METHODS

2.4.1 Minor Maintenance/Inspection (Twice A Year)

Minor maintenance typically will involve the steps below, however if it appears that a spill of some type has occurred, the local hazard control agency and Stormwater360 should be notified immediately. **In the case of a spill, the worker should abort maintenance activities until the proper guidance has been obtained.**

Steps for Minor Maintenance

1. Maintenance to be performed by a skilled worker familiar with StormFilter units.
2. If applicable, set up safety equipment to protect pedestrians from fall hazards presented by open doors. Also set up appropriate safety equipment for work near roadways.
3. Inspect the external condition of the unit and take notes concerning defects/problems.
4. Open the doors to the vault and allow the system to air out for 5-10 minutes.
5. **Without entering the vault**, inspect the inside of the unit, including components.
6. Take notes about the external and internal condition. This includes inspecting pit penetrations, walls, lids, ladders & grates etc.
7. Give particular attention to recording the level of sediment build-up on the floor of the vault in the forebay (or pre-treatment bay), and on top of the internal components. If flow is occurring, note the level of water and estimate the flow rate per drainage pipe. Record all observations.
8. Remove large loose debris and trash using a pole with a grapple or net on the end.

9. Close and fasten the door, and remove safety equipment.

10. Finally, make notes about the local drainage area relative to ongoing construction, erosion problems, or high loadings of other materials to the system.

2.4.2 Major Maintenance Inspection (Once a Year)

The primary goal of the major maintenance inspection is to assess the condition of the cartridges relative to the level of sediment loading. It may be desirable to conduct this inspection during a storm to observe the relative flow through the filter cartridges. If the submerged cartridges are severely plugged, large amounts of sediments should be present and very little flow will be discharging from the drainage pipes. It is likely that the cartridges need to be replaced. Major maintenance inspection will typically involve the steps below. However, if it appears that a spill of some type has occurred, the local hazard control agency and Stormwater360 should be notified immediately. **In the case of a spill, the worker should abort maintenance activities until the proper guidance has been obtained.**

Steps for Pre-Major Maintenance Inspection

1. Maintenance to be performed by a skilled worker familiar with StormFilter units.

2. If applicable, set up safety equipment to protect pedestrians from fall hazards presented by open doors. Also, set up appropriate safety equipment for work near roadways.

3. Inspect the external condition of the unit and take notes concerning defects/problems.

4. Open the doors to the vault and allow the vault to air out for 5-10 minutes.

5. Without entering the vault, give the inside of the unit, including components, a general condition inspection.

6. Take notes about the external and internal condition.

7. Give particular attention to recording the level of sediment build-up on the floor of the vault, in the forebay, and on top of the internal components.

8. Remove large loose debris and trash using a pole with a grapple or net on the end.

9. If the visit is during a storm, make the flow observations discussed above.

10. Close and fasten the door, and remove safety equipment.

11. Make notes about the local drainage area relative to ongoing construction, erosion problems, or high loading of other materials to the system.

12. Review the condition reports from the previous minor and major maintenance visits and schedule for cartridge replacement if needed.

2.4.3 Major Maintenance: Sediment Removal & Cartridge Replacement (& Emergency)

Major maintenance/filter cartridge replacement typically involves the steps below. However, if it appears that a spill of some type has occurred, the local hazard control agency and Stormwater360 should be notified immediately. **In the case of a spill, the worker should abort maintenance activities until the proper guidance has been obtained.** Depending on the configuration of the particular system, a worker may be required to enter the vault to perform some tasks. If vault entry is required, OH & S rules for general confined space entry must be strictly adhered to. Filter cartridge replacement should occur during dry weather and it may be necessary to plug the filter inlet pipe if base flows exist. Standing water present in the vault should be regarded as polluted and contained during this operation by temporarily capping the manifold connectors.

Steps For Cartridge Replacement Maintenance

1. Depending on the particular unit, one or two utility workers and a hauling truck operator will deliver the replacement cartridges to the site. Information concerning how to obtain the replacement cartridges is available from Stormwater360.

2. If applicable, set up safety equipment to protect pedestrians from fall hazards presented by open doors. Also, set up appropriate safety equipment for work near roadways.

3. Inspect the external condition of the unit and take notes concerning defects/problems.

4. Open the doors to the vault and allow the system to air out for 5-10 minutes.

5. Without entering the vault, give the inside of the unit, including components, a general condition inspection.

6. Make notes about the external and internal condition.

7. Give particular attention to recording the level of sediment build-up on the floor of the vault, in the forebay, and on top of the internal components.

8. Remove large loose debris and trash using a pole with a grapple or net on the end.

9. Ensuring safe working procedures are met, off load the replacement cartridges (16-39kgs each) and set aside.

10. Remove the top cap (threaded), upper seal and float from the cartridge. Repeat procedure for every cartridge within StormFilter vault. Place items in a large plastic container to be lifted form the vault. ***Note: * Confined space entry may be required on StormFilter systems. In this case, please ensure that appropriate Confined Space entry training and subsequent certification has been undertaken and valid, and work procedures are strictly adhered to. If you are unsure, do not enter the vault and contact Stormwater360 immediately.***

11. Using a cordless drill and 8mm hex head, remove the three screws located around the top perimeter of the cartridge hood. Place screws in the large plastic container and, once full or completed, remove plastic container form vault.

12. Move the Vacuum truck near the StormFilter vault on the down wide side. Be sure that the Vacuum truck is not too close to the vault so as the fumes will not enter the vault. Make sure that the last 500mm of the nozzle is approx. 100-125mm in outside diameter.

13. Feed vacuum nozzle into cartridge bay and start vacuum truck. Remove cartridge hood and place nozzle directly onto filter media. Completely remove media from each cartridge and repeat process for every cartridge in vault.

14. Once completed unthread cartridges from vault floor and place hood back on cartridges

15. Using the appropriate lifting cap, attach the cable and remove the cartridge (up to 10kgs. each) from the vault. Personnel standing under suspended cartridges is strictly prohibited. Care must be used to avoid damaging the cartridges during removal and installation. The cost of repairing components damaged during maintenance will be the responsibility of the owner unless maintenance activities are being performed by Stormwater360 and damage is not related to discharges to the system.

16. Set the used cartridge aside or load onto the hauling truck.

17. Repeat steps 14 to 15 once all cartridges have been removed.

18. Remove deposited sediment from the floor of the vault and, if large amounts are present, from the forebay. This can be accomplished by using the Vacuum truck

15 Once the sediments are removed, it is necessary to assess the condition of the vault, particularly the manifold and the connectors. These are short sections of 2-inch schedule 50 PVC, or threaded schedule 80 PVC that should protrude above the floor of the vault. If required, apply a light coating of FDA approved silicon grease to the outside of the exposed portion of the connectors. This ensures a watertight connection between the cartridge and the drainage pipe. Replace any damaged connectors.

16. Using the boom, crane, or tripod, lower and install the new cartridges (typically 16-17kgs. for perlite cartridges). Once again, take care not to damage connections.

17. Close and fasten the door, and remove safety equipment.

18. Make notes about the local drainage area relative to ongoing construction, erosion problems, or high loadings of other materials to the system.

19. Finally, dispose of the residual materials in accordance with applicable regulations. Make arrangements to return the used cartridges to Stormwater360.

2.4.4 Related Maintenance Activities (Performed on an as-needed basis)

StormFilter units are often just one of many components in a more comprehensive stormwater drainage and treatment system. The entire system may include catch basins, detention vaults, sedimentation vaults and manholes, detention/retention ponds, swales, artificial wetlands, and other miscellaneous components. In order for maintenance of the StormFilter to be successful, it is imperative that all other components be properly maintained. The maintenance/repair of upstream facilities should be carried out prior to StormFilter maintenance activities. In addition to considering upstream facilities, it is also important to correct any problems identified in the drainage area. Drainage area concerns may include: erosion problems, heavy oil and grease loading, and discharges of inappropriate materials.

2.5 TYPICAL EQUIPMENT REQUIRED FOR MAINTENANCE ACTIVITIES

Typical equipment required for conducting maintenance is shown in Table 5. Some of the materials listed are suggestions rather than requirements. It should be noted that there is more than one way to accomplish some tasks. Owners with available labour and equipment resources may desire to use alternative methods. However, it is advisable that guidance from Stormwater360 be obtained prior to using alternative techniques.

Table 5: MAINTENANCE EQUIPMENT REQUIREMENTS

Maintenance Equipment Required		
Minor Maintenance	**Pre-Major Maintenance Inspection**	**Major Maintenance Cartridge Replacement**
Safety Equipment*: First aid, cones, barricades, flagging, flares, tape, vests, hard hats.	Safety Equipment*: First aid, cones, barricades, flagging, flares, tape, vests, hard hats.	Safety Equipment*: First aid, cones, barricades, flagging, flares, tape, vests, hard hats.
Work Clothes: Rubber boots, overalls, and gloves.	Work Clothes: Rubber boots, overalls, and gloves.	Work Clothes: Rubber boots, overalls, and gloves.
Door Bolt, Wrench, proprietary lifters (e.g. Gatic) and Miscellaneous Tools.	Door Bolt, Wrench, proprietary lifters (e.g. Gatic) and Miscellaneous Tools.	Door Bolt, Wrench, Pentasocket and Miscellaneous Tools.
Tape Measure	Tape Measure	Tape Measure
Flashlight	Flashlight	Flashlight
Grapple or Net Pole	Grapple or Net Pole	Grapple or Net Pole
Record Keeping Forms	Record Keeping Forms	Record Keeping Forms
Trash/Debris Container	Trash/Debris Container	Vacuum Truck
		Replacement Cartridges
		Cartridge Hauling Truck
		Crane, Tripod and Hoist, or Other Lifting Device (150kg minimum capacity)
		Shovels
		Extra 50mm PVC cartridge connectors
		Spare Flow Restrictor disks
		Trash/Debris Container
		Vault Inlet Pipe Plug
		Dolly
		PVC Pipe Cutter
		Ladder
		Cartridge Installation and Removal Sling

*** Confined space equipment may be required for vault entry. This equipment must be used by personnel with the appropriate OH & S training. This equipment typically includes: Atmospheric testing devices, atmospheric purging and ventilating devices, and entry, exit, and rescue assisting devices.**

2.6 MATERIAL DISPOSAL

The accumulated sediment found in stormwater treatment and conveyance systems must be handled and disposed of in a manner that will not allow the material to affect surface or ground water. It is possible for sediments to contain measurable concentrations of heavy metals and organic chemicals (such as pesticides and petroleum products). Areas with the greatest potential for high pollutant loading include industrial areas and heavily traveled roads. Sediments and water must be disposed of in accordance with all applicable waste disposal regulations. It is not appropriate to discharge these materials back to the stormwater drainage system. Part of arranging for maintenance to occur should include coordination of disposal of solids (landfill coordination) and liquids (municipal vacuum truck decant facility, local wastewater treatment plant, on-site treatment and discharge). Owners should contact the local public works department and inquire about how the department disposes of their street waste residuals. Disposal methods or reuse of the media contained in the cartridges will be determined by Stormwater360. If the material has been contaminated with any unusual substance, the cost of special handling and disposal will be the responsibility of the owner.

Enviropod Service Receipt

Site:
Contractor:
Location:
Year:

Job Number:
Receipt Number:
Week Serviced:

Service Frequency:
Enviropods on Site:

Enviropods Cleaned:
Bags Checked:
Frames and Seals Checked:
Overflows Checked
Tonnage:

If Damaged, Action:
If Damaged, Action:
If Blocked, Cleaned:

Comments

This service has been performed in accordance with Enviropod Management Plan (EMP) for above site. Please file this receipt with EMP and keep on site for compliance inspections.

Signature:

Position:

Enviropod Maintenance Form

Client:

Project:
ENVIROPOD Sites

Bag:

Date:

NOTE: See maps for detailed location.

Pit No.	Map No.	Location	Bag Size	Date	% Organics	% Litter	% Sediment	Fullness - F, 1/2, 1/4 or 0	Notes	Grate
1										
2										
3										
4										
5										
6										
7										
8										
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Sample StormFilter Minor Maintenance Inspection Data Sheet

Date: _____ Location: _____

System Size: _____ TYPE: Cast-In-Place Precast Linear

Personnel: _____

System Observations

Media Months in Service: _____

Oil and Grease in Forebay: _____

Sediment Depth in Forebay: _____

Sediment Depth on Vault Floor: _____

Structural Damage: _____

_____

Estimated Flow from Drainage Pipes (if available): _____

Cartridges Submerged? (Yes _____ No _____) How Deep? _____

StormFilter Minor Maintenance Activities (check off if done and give description)

Remove Trash and Debris: _____

Minor Structural Repairs: _____

Drainage Area Report

Excessive Oil and Grease Loading (Yes _____ No _____) Source: _____

Sediment Accumulation on Pavement (Yes _____ No _____) Source: _____

Erosion of Landscaped Areas (Yes _____ No _____) Source: _____

Items Needing Further Work: _____

_____

_____

Comments: _____

Sample StormFilter Major Maintenance Inspection Data Sheet

It may be desirable to conduct this inspection during a storm to observe the relative flow through the filter cartridges. If the submerged cartridges are severely plugged, large amounts of sediments should be present, very little flow will be discharging from the drainage pipes, and it is likely that the cartridges need to be replaced during major maintenance.

Date: _____ **Location:** _____

System Size: _____ **TYPE: Cast-In-Place Precast Linear**

Personnel: _____

System Observations

Media Months in Service: _____

Oil and Grease in Forebay: _____

Sediment Depth in Forebay: _____

Sediment Depth on Vault Floor: _____

Structural Damage: _____

Estimated Flow from Drainage Pipes (if available): _____

Cartridges Submerged? (Yes _____ No _____) How Deep? _____

Drainage Area Report

Excessive Oil and Grease Loading (Yes _____ No _____) Source: _____

Sediment Accumulation on Pavement (Yes _____ No _____) Source: _____

Erosion of Landscaped Areas (Yes _____ No _____) Source: _____

Comments: _____

_____

_____

_____

Review the condition reports from the previous minor and major maintenance visits.

Sample StormFilter Major Maintenance/Cartridge Replacement Data Sheet

Date: _____ Location: _____

System Size: _____ TYPE: Cast-In-Place Precast Linear

Personnel: _____

List Safety Procedures and Equipment Used: _____

_____

_____

System Observations

Media Months in Service: _____

Oil and Grease in Forebay: _____

Sediment Depth in Forebay: _____

Sediment Depth on Vault Floor: _____

Structural Damage: _____

Drainage Area Report

Excessive Oil and Grease Loading (Yes _____ No _____) Source: _____

Sediment Accumulation on Pavement (Yes _____ No _____) Source: _____

Erosion of Landscaped Areas (Yes _____ No _____) Source: _____

StormFilter Cartridge Replacement Maintenance Activities (check off it done and give description)

Remove Trash and Debris (Yes _____ No _____) Details: _____

Replace Cartridges (Yes _____ No _____) Details: _____

Sediment Removed (Yes _____ No _____) Details: _____

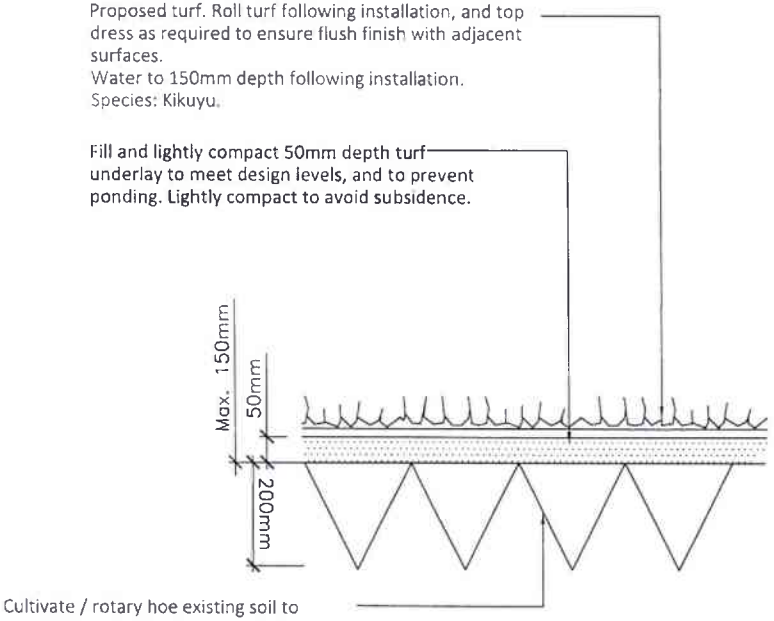
Quantity of Sediment Removed (estimate?): _____

Minor Structural Repairs (Yes _____ No _____) Details: _____

Residuals (debris, sediment) Disposal Methods: _____

Notes/Problems: _____

Annexure D – Landscape Detail Plan



DETAIL - GROUND CULTIVATION, TOPSOIL AND TURF

Scale: 1:20

SPECIFICATION NOTES:

The Contractor shall cultivate existing site soil to minimum 200mm depth and incorporate 'Terracottem' soil conditioner at rates recommended by the manufacturer and hand excavate around any existing tree roots or services.

The Contractor shall also supply and install Kikuyu turf to max.1:6 grade over entire site coverage.

Soil shall be compacted lightly beneath new turf areas to avoid trip hazards.

If necessary, top dress turf to ensure adjoining levels finish flush. Do not use mulch in turf areas or as a filling material.

Type: Kikuyu

Lay the turf in the following manner:
- in stretcher pattern with the joints staggered and close butted
- parallel with the long sides of level areas with contours on slopes
- to finish flush after tamping, with adjacent finished surfaces of ground, paving and edging

Manually roll with a drum roller or similar to an even surface after laying.

Water immediately after laying until the topsoil is moistened to its full depth. Continue watering to maintain moisture to this depth. Keep the grass in a healthy condition.

Apply fertilizer at the completion of the first and last mowing, and at other times as required to maintain healthy grass cover.

Mow to maintain the grass height within the required range. Do not remove more than one third of the grass height at any one time. Remove grass clippings from the site after each mowing.

HOLD POINTS:

The Contractor shall notify Council's Superintendent for the following proposed hold points during works for approval:
- Ripping and cultivating the site
- Laying and spreading of turf underlay to required levels
- Completion of turf laying.

Contractor to provide samples of imported topsoil and data sheet to Council's Superintendent.

A Wilson

Planning Agreement

CITY OF PARRAMATTA

DIAL 1100 BEFORE YOU DIG

Issue | Date | Description

Co-ords: MGA | Datum: AHD

UNLESS DETAILED ON THIS DRAWING ALL WORK SHALL CONFORM TO AUS-SPEC

Designed | Date
Drawn | Date
Design Approved | Date
Client Accepted | Date
Approved for Construction | Date
Senior Manager Capital Projects

Date: SEPTEMBER 2018
Scale: AS SHOWN AT A1

Project: THALLON STREET LAND DEDICATION

Title: TYPICAL LANDSCAPE DETAIL

Sheet No: 1

Status: FOR INFORMATION ONLY