

то:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON JANUARY 21, 2012
FROM:	JOHN BRAAM, P. ENG. MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES & CITY ENGINEER AND MIKE TURNER, DEPUTY CITY TREASURER
SUBJECT	SOUTHERN ONTARIO WATER CONSORTIUM LONDON WASTEWATER FACILITY

RECOMMENDATION

- a) That, on the recommendation of the Managing Director, Environmental and Engineering Services & City Engineer, the by-law <u>attached</u> as Appendix A **BE INTRODUCED** at the Municipal Council meeting of January 29, 2013, to approve an Agreement with the University of Western Ontario for the construction of the Southwestern Ontario Water Consortium London Wastewater Facility, and authorize the Mayor and City Clerk to sign the Agreement;
- b) That, on the recommendation of the Managing Director Environmental and Engineering Services & City Engineer, and the Deputy City Treasurer, the Deputy City Treasurer BE AUTHORIZED to award a future, tendered contract for construction of the Southern Ontario Water Consortium London Wastewater Facility at a dollar limit higher than Section 13.2 and Schedule A of the Procurement of Goods and Services Policy, but not greater than \$8 million;
 - It being noted that all other requirements for the contract award under the Procurement of Goods and Services Policy will be maintained, and that an information report will be provided to the Civic Works Committee on the award result;
 - It being further noted that this action will accelerate the expenditure of FedDev funds (through the University of Western Ontario Agreement) that are to be claimed within a specified timeline;
- c) That, on the recommendation of the Managing Director Environmental and Engineering Services & City Engineer, the financing for the Southwestern Ontario Water Consortium London Wastewater Facility **BE APPROVED** as set out in the Sources of Financing Report attached hereto as Appendix B.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

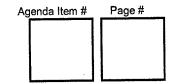
April 23, 2012. CWC Staff Report - Water Technology Centre Pre-Design and Design Consultant Appointment.

August 15, 2011. Built and Natural Environment Committee Staff Report - Water Technology Centre Initiative Update

BACKGROUND

Purpose:

This report seeks approvals required to expedite construction of the Southern Ontario Water Consortium – London Wastewater Facility (SOWC-LWF). The first recommendation provides the mechanism by which Federal Economic Development Agency for Southern Ontario (FedDev) funding for the facility will flow from the SWOC to the City. The second recommendation is to delegate authority to staff to award a future, construction contract for the



SOWC-LWF in accordance with the Procurement of Goods and Services policy with an exception: increasing the delegated authority limits of staff above \$1,000,000 for tendered contracts. This increase is necessary to ensure that the final stage of construction is completed within the timelines specified in the FedDev funding agreement with the SOWC.

Discussion:

As announced in August, 2011, the Federal Government through FedDev has partnered with the SOWC to develop the LWF. The city of London and the University of Western Ontario are members of the SOWC. The LWF will focus on developing new water treatment technologies and will be constructed at the Greenway Wastewater Treatment Plant.

Revised Funding

The City of London has allocated \$3.8 million to the project. The original FedDev commitment was \$5.4 million but has been reduced by about \$700,000 due to changes in the scope of the work eligible for cost recovery. The revised maximum Fed/Dev claim for costs is \$4,731,194. Procurement of all goods and services related to the project will be by the City.

Project expenses eligible for FedDev funding will be recovered from the SOWC through the recommended University of Western Ontario Agreement (Schedule A of Appendix A), as authorized by the recommended By-law (Appendix A). The total project funding, subject to the approval of the recommendations of this report, is summarized in Appendix B — Sources of Financing Report. The Agreement has been reviewed by the City Legal Department.

Funding and Project Schedules

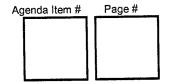
The FedDev funding has been allocated in two tranches with specific timelines for each. Funds not expended within the identified timelines will be clawed back. The first tranche totalling \$920,000 will be used to complete the facility design and to pre-purchase some of the process equipment. This equipment is to be tendered, delivered and installed prior to the March 31, 2013 deadline.

City funds and the second tranche of FedDev funding will be used to complete the LWF, including re-purposing of the existing Greenway dewatering building and installation of the remaining process and ancillary equipment. This work will be completed under a single, tendered, construction contract which must be completed by March 31, 2014 under deadlines imposed by FedDev. This timeline will be difficult for the following reasons:

- The contract tender could not be advertised until early January meaning Municipal Council approval and document execution will not be completed until May 1, 2013, at the earliest, under normal reporting and award procedures that follow the Procurement of Goods and Services Policy. This would leave only 10 months to complete the work.
- The LWF will be located in the existing biosolids dewatering building which will not be available until the Greenway PCC Dewatering upgrades (Contract T12-46) are completed at the end of May, 2013. Extensive demolition and re-modelling will be required to make the space suitable, and will account for a substantial portion of the work under the contract.

However, LWF contract work outside of the existing dewatering building can begin much earlier if a contract can be awarded more expeditiously. Granting staff the authority to award the tendered construction project will add an additional six weeks of construction time to the timetable and help to meet the strict timelines mandated by the FedDev funding requirements. Staff is also exploring ways to make the biosolids building available before the end of May.

The value of the contract cannot be more than \$8 million based on available funding from the City and FevDev. The Managing Director, Environmental and Engineering Services & City Engineer and the Deputy City Treasurer will provide a report to the Municipal Council on the contractor selected, the value of the contract, and any anomalies considered in the award process.



Project Support

The London Economic Development Corporation continues to support the research and validation centre at Greenway because of the economic development opportunities it can provide. A letter of support is provided in Appendix C.

The International Water Centre of Excellence (with Board Members from LEDC, University of Western Ontario, Industry and the City) have indicated their support for the final design of the project, and the recommendations of this report to expedite the project (Appendix D).

Conclusion:

It is recommended that the Municipal Council approve the funding agreement that will allow FedDev funding to flow to the City for construction of the Southern Ontario Water Consortium – London Wastewater Facility, and delegate authority to the Deputy City Treasurer to award the construction contract for it, notwithstanding the limits for staff authority under the Procurement of Goods and Services Policy. This delegated authority will assist in meeting the tight March 31, 2014 timeline dictated by the FedDev funding agreement, beyond which date cost recoveries cannot be made.

,	annot be made.	10
Rev	SUBMITTED BY:///	REVIEWED AND CONCURRED BY:
	GEORDIE GAULD DIVISION MANAGER, WASTEWATER AND TREATMENT OPERATIONS	JOHN LUCAS, P.ENG. DIRECTOR, WATER & WASTEWATER AND TREATMENT
	RECOMMENDED BY:	RECOMMENDED BY:
	John m Sroam	may
	JOHN BRAAM, P.ENG. MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES & CITY ENGINEER	MIKE TURNER, DEPUTY CITY TREASURER

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January 10, 2013

Appendices:

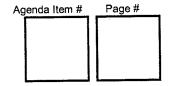
Appendix A – By-law to authorize and approve a funding Agreement with Western University, including Funding Agreement with Western University

Appendix B - Sources of Financing Report

Appendix C - Letter of Support - LEDC

Appendix D – Letter of Support – IWCE

cc. Peter White – President and CEO, LEDC
Dan Sinai – President, The International Water Centre of Excellence



Attachments: Appendix 'A' - By-law

APPENDIX A

Bill No. 2013

By-law No.

A By-law to authorize and approve an Agreement between The Corporation of the City of London and The University of Western Ontario regarding construction of the Southwestern Ontario Water Consortium – London Wastewater Facility and to authorize the Mayor and Clerk to execute the agreement

AND WHEREAS subsection 5(3) of the *Municipal Act, 2001* S.O. 2001, c.25, as amended, provides that a municipal power shall be exercised by by-law;

AND WHEREAS section 9 of the *Municipal Act, 2001* provides that a municipality has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under this or any other Act;

AND WHEREAS it is deemed expedient for the Corporation of the City of London to enter into an Agreement with The University of Western Ontario to provide for the construction of the Southwestern Ontario Water Consortium – London Wastewater Facility;

NOW THEREFORE the Municipal Council of The Corporation of the City of London enacts as follows:

- The Agreement between The Corporation of the City of London and The University of Western Ontario for construction of the Southwestern Ontario Water Consortium – London Wastewater Facility <u>attached</u> as Schedule A to this By-law, is hereby authorized and approved.
- 2. The Mayor and City Clerk are authorized to execute the agreement authorized and approved under section 1 of this by-law.
- 3. This by-law shall come into force and effect on the day it is passed.

PASSED in Open Council

, 2013

Joe Fontana Mayor

Cathy Saunders City Clerk

First reading – Second reading – Third reading –

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By-law Schedule A

Funding Agreement with The University of Western Ontario

DAY OF

Between:

THE UNIVERSITY OF WESTERN ONTARIO ("Western")

-and-

THE CORPORATION OF THE CITY OF LONDON ("London")

Whereas Western and London have agreed, as part of the Southwestern Ontario Water Consortium ("SOWC"), to undertake construction of the London Wastewater Facility (SOWC-LWF);

And whereas Western is a party to an agreement with the University of Waterloo whereby funds are to be flowed through the University of Waterloo to Western from the Federal Economic Development Agency for Southern Ontario ("FedDev") for the SOWC-LWF, which agreement is attached hereto as Schedule "A" and shall be referred to as the Inter-Institutional Agreement ("IIA");

And whereas the SOWC-LWF will be located on premises owned and operated by London, and will be connected to other wastewater facilities owned and operated by London;

And whereas the parties wish to enter into this Agreement to set out the terms under which the construction of the SOWC-LWF will be undertaken, financed and used in order to ensure compliance with the IIA;

Now therefore in consideration of the mutual promises agreements and covenants herein contained, the receipt and sufficiency whereof is hereby acknowledged, the parties agree as follows:

Construction of SOWC-LWF

1. Subject to the City completing a successful bidding and tendering process to secure contractors, subcontractors and sub-trades, London will undertake construction of the SOWC-LWF (the "Project"), in accordance with the design parameters set out in Schedule "B".

2. London may subcontract all or part of the design and construction of the SOWC-LWF. Notwithstanding any such subcontracting, London shall remain responsible for compliance by London and its subcontractors with this Agreement.

Eligible Expenditures

- 3. London agrees to be bound to the terms and conditions and general other requirements imposed on the Lead Institution by FedDev or the board of directors of the SOWC, in accordance to Article 3, Funds Administration, outlined in the IIA.
- 4. Eligible Expenditures are those approved expenditures in Schedule "C", and shall not exceed a total value of \$4,731,194. Eligible Expenditures must be incurred between March 23, 2011 and March 31, 2014.
- 5. Subject to the terms of this Agreement, Western shall reimburse London for Eligible Expenditures incurred in the Project.
- 6. All Eligible Expenditures must be incurred using London's tendering and acquisition policies for the purchase of assets and services.
- 7. London shall invoice Western monthly for Eligible Expenditures incurred during the immediately preceding month, together with supporting documentation including suppliers' invoices to London. Western shall immediately report such Eligible Expenditures to the University of Waterloo pursuant to the provisions of the IIA, and shall reimburse London for the Eligible Expenditures. London further agrees to abide by the terms and conditions of Article 4, Financial Record Keeping and Audits, and Article 5, Reporting Obligations in the IIA and assist Western with its reporting requirements for disbursement of funds.
- 8. The parties may, by agreement in writing, change the time frame for reporting and paying Eligible Expenditures subject to the terms and conditions of the IIA.

Access to SOWC-LWF

- 9. SOWC-LWF will be located at London's Greenway Pollution Control Centre (the "Centre") and will be attached to equipment owned and operated by London as part of the Centre.
- 10. Western, and such third parties as Western shall designate, shall have access on reasonable notice to the Centre during the installation, testing and validation of the SOWC-LWF equipment. Access shall at all times be subject to operational requirements of London, including such safety and security precautions as London, acting reasonably, shall deem appropriate.
- 11. Following installation, testing and validation of the SOWC-LWF equipment, London shall provide non-exclusive access to SOWC-LWF to Western and other users who have

been approved by SOWC. Access shall at all times be subject to operational requirements of London, including such safety and security precautions as London, acting reasonably, shall deem appropriate.

Ownership

12. Western shall retain title to, and ownership of all assets that are acquired with funds provided to London under paragraph 5 of this Agreement and /or form part of SOWC-LWF (the "Equipment"). London acknowledges that Western may not sell, assign, transfer, encumber, pledge, grant a security interest or otherwise dispose of same, without the prior written consent of the University of Waterloo. At the end of the Term as defined below, the City shall have the option to acquire the SOWC-LWF Equipment for the nominal price of \$1.00.

Intellectual Property

13. Intellectual property rights for intellectual property conceived, produced, developed, reduced to practice or otherwise made by any approved platform user, its personnel or students in the course of carrying out any project at SOWC-LWF, will be in accordance with the respective policies and procedures of the user whose personnel created such intellectual property, applicable law, and any other applicable agreements.

Term

14. The term of this Agreement shall commence on the effective date first set out above and shall terminate on March 31, 2025.

Dispute Resolution

- 15. In the event of a controversy or dispute between the Parties arising out of or in connection with this Agreement or regarding the interpretation of the provisions thereof, the Party alleging a controversy or dispute (the "Disputing Party") must notify the other Party (the "Recipient Party") in writing of such dispute or controversy ("Dispute Notice") and specify the particulars of such dispute or controversy in the Dispute Notice.
- 16. Upon receipt of a Dispute Notice by the Recipient Party, the Recipient Party and the Disputing Party must mutually consult in good faith in an attempt to settle amicably and in the spirit of cooperation any such controversy or dispute.
- 17. If on the date which is fourteen (14) days after the Recipient Party's receipt of the Dispute Notice the Disputing Party and the Recipient Party have not amicably settled the matter(s) set out in the Dispute Notice then the matter(s) shall be referred to a single arbitrator whose decision shall be final and binding. If the Parties cannot agree on the arbitrator, either party may apply under Section 10 of the Ontario Arbitrations Act for the Court to select an Arbitrator.

General

- 18. This Agreement shall be governed by and construed in accordance with the laws of the Province of Ontario and of Canada applicable thereto.
- 19. Each Party must at all times be in compliance with all federal, provincial, territorial, municipal and other applicable laws, regulations, by-laws, rules, decrees and ordinances governing the parties and the Project, including without limitation, environmental legislation and any mitigation measures imposed by the Minister.
- 20. The Parties acknowledge that the provisions of this Agreement are intended to comply with Western's obligations under the IIA and that they will conduct themselves in good faith to give effect to that intention.
- 21. This Agreement constitutes the entire and sole Agreement between the Parties with respect to the issues and items covered by this Agreement, and supersedes all previous negotiations, communications and other agreements, whether written or oral, relating to it, unless they are incorporated by reference in this Agreement. There are no terms, covenants, representations, statements or conditions binding on the Parties with respect to said issues and items other than those contained in this Agreement.
- 22. The Parties acknowledge that Western is subject to the *Freedom of Information and Protection of Privacy Act* (Ontario) and London is subject to the *Municipal Freedom of Information and Protection of Privacy Act* (Ontario) and the Parties agree to cooperate with one another from time to time with respect to compliance with the statutes and any regulations passed thereunder.
- 23. This Agreement shall be binding upon and shall enure to the benefit of the Parties and their respective successors and assigns.
- 24. All notices or other communications under this Agreement shall be given in writing by personal delivery or by facsimile to the person named below:

To London:

City Clerk 300 Dufferin St. P.O. Box 5035, London, Ontario N6A 4L9 Facsimile: 519-661-4892

To Western:

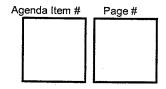
Vice President (Research) Room 2107 Stevenson Hall The University of Western Ontario London, Ontario N6A 5B8 Facsimile: 519-661-3139

25. This Agreement and any other writing delivered in connection may be executed in any number of counterparts and any Party may execute any counterpart, each of which when executed and delivered will be deemed to be an original and all of such counterparts of this Agreement or such other writing taken together will be deemed to be one and the same instrument.

In witness whereof the Parties have executed this Agreement by their duly authorized signing officers.

THE CORPORATION OF THE CITY OF LONDON

	Per:
	Per:
	THE UNIVERSITY OF WESTERN ONTARIO
-	Per:
	r CI.
Schedule "A" Schedule "B" Schedule "C"	



Schedule A

To the Agreement with the University of Western Ontario

Inter-Institutional Agreement (IIA)

This Inter-Institutional Agreement (the "Agreement") is made as of December 1, 2011

between

University of Waterloo (the "Lead Institution")

and

McMaster University
Ryerson University
University of Guelph
The University of Ontario Institute of Technology
The Governing Council of the University of Toronto
The University of Western Ontario
Wilfrld Laurier University

(Individually referred to by name or as a "Participating Institution" and collectively as "Participating Institutions")

Whereas the Lead Institution, on behalf of the Participating Institutions, has made application (the "FedDev Application") to the Technology Development Program of the Federal Economic Development Agency for Southern Ontario ("FedDev") for funding for a project referred to as "Project No. 801680" and known as "Southern Ontario Water Consortium: A Development Platform for New Water Technologies" (SOWC);

And Whereas the Lead Institution and McMaster University, Ryerson University, University of Guelph, University of Ontario Institute of Technology, The Governing Council of the University of Toronto, and Wilfrid Laurier University together have made application (the "MRI Application") to the Ministry of Research and Innovation ("MRI") for funding for a project referred to as "Project No. 21616" and known as "Water Quality Research Platform in Urban and Urbanizing Watersheds";

And Whereas the FedDev and MRI applications are referred to as the ("Project");

And Whereas the Lead Institution and the Participating Institutions are hereafter collectively called the "Institutions", and individually an "Institution", as the context requires;

And Whereas the Lead Institution and the Participating Institutions are collectively referred to as the "Parties", and individually a "Party", as the context requires;

And Whereas the FedDev application and the MRI application have been conditionally approved by FedDev and MRI respectively;

And Whereas the Ministry of Economic Development and Innovation ("MEDI") has taken over responsibility for MRI;

And Whereas the Lead Institution is required to enter into award agreements with FedDev (the "FedDev Contribution Agreement (CA)"), attached as Schedule "A", and MEDI (the "MEDI Award Agreement"), attached as Schedule "B", with respect to the Project, collectively referred to as the "Funding Agreements";

And Whereas the Funding Agreements, among other things, define certain conditions for the use by the Lead Institution of FedDev funding and MEDI funding with respect to the eligible recipients and eligible expenses under the Funding Agreements, and applies to the Project;

And Whereas the Lead Institution is obligated by its execution of the Funding Agreements and this Agreement, and pursuant to the Funding Agreements and this Agreement will a) distribute certain of the grant funds received from FedDev and MEDI (the "Funds") to the Participating Institutions, or b) make purchases on behalf of the Participating Institutions, in accordance with the attached Schedule "C" (the "Approved Budget");

And Whereas the Lead Institution is responsible for the administration of the FedDev and MEDI awards;

And Whereas the Participating Institutions have been approved with a specific budget for acquisition of specific line items, in accordance with the attached Schedule "D" (the "Budget Distribution");

And Whereas the Participating Institutions have each made cash and committed to secure in-kind contributions ("financial contributions"), required as matching funds to the Project in accordance with the attached Schedule "E" (the "Contributions");

Now therefore in consideration of the mutual promises and covenants contained in this Agreement, the Participating Institutions agree as follows:

1. Contacts

- 1.1 Participating Institutional Researcher Contact: For the purposes of undertaking the Project and responsibilities for expenditures at each Participating Institution, each Participating Institution shall appoint an Institutional Researcher Contact, and the Participating Institutions shall provide the name and contact information for that person in Schedule "F" (the "Institutional Researcher Contact Agreement") attached to this Agreement, which may be updated from time to time. Should the Institutional Researcher Contact for the Participating Institution discontinue his or her role, the Participating Institution shall immediately notify Lead Institution and provide the name of a replacement Institutional Researcher Contact at the Participating Institution.
- 1.2 Administrative Contact: For the purposes of co-ordination of the Project and for reporting and other administrative tasks at each Participating Institution, each Participating Institution shall appoint an Administrative Contact, and the Participating Institutions shall provide the name and contact information for that person in Schedule "G" (the "Administrative Contacts") attached to this Agreement, which may be updated from time to time. Should the Administrative Contact for the Participating Institution discontinue his or her role, the Participating Institution shall immediately notify Lead Institution and provide the name of a replacement Administrative Contact at the Participating Institution.
- 2. Financial Commitments: Each Participating Institution warrants, represents, and certifies to Lead Institution and to the other Participating Institutions that:
 - (a) The required eligible partner financial contribution from such Participating Institution and from its funding partners for the Project, as set out in Schedule "E" attached to this Agreement, has been committed and will remain committed for the Project, or be replaced by another eligible source;
 - (b) Such financial contribution constitutes that Participating Institution's matching financial contribution to "eligible costs" as defined by the CFI Policy and Program Guide (as amended from time to time, the "Guide"), of the Project;
 - (c) All FedDev and MEDI funds received by it for its portion of the Project will be used only to pay the pre-agreed FedDev and MEDI portions (as appropriate), of the Eligible Costs thereof, as set out in Schedules "A", "B", "C" and "D";
 - (d) It will ensure that all necessary resources are available for the ongoing operation, insurance and maintenance of the infrastructure developed under its part of the Project for the Term of this Agreement.

3. Funds Administration

3.1 FedDev Funds Administration: The Lead Institution will administer all funds received from FedDev in accordance with FedDev rules, regulations and policies, as may be amended from time to time, as set

out in Schedule "A", and/or in other FedDev directives (collectively, "FedDev Policies") and the Participating Institutions agree to be bound by these terms and conditions and general other requirements imposed on the Lead Institution by FedDev or the board of directors of the SOWC;

- **3.2 MEDI Funds Administration:** The Lead Institution will administer all funds received from MEDI in accordance with MEDI rules, regulations and policies, as may be amended from time to time, as set out in the Schedule "B" and/or in other MEDI directives (collectively, "MEDI Policies") and the Participating Institutions agree to be bound by these terms and conditions and general other requirements imposed on the Lead Institution by MEDI or the board of directors of the SOWC.
- **3.3 Overall Funds Administration:** The Participating Institutions will use all FedDev and MEDI funds in accordance with the approved Expenditures, as set out in Schedule "C", and Schedule "D". No changes to or deviations from the Approved Budget are allowed without prior written approval of Lead Institution.

3.4 Agreements Governing Other Funds received for the Project.

- 3.4.1 No Participating Institution will accept any other Funds or enter into an agreement with a person providing other Funds if a requirement of the acceptance of the other Funds or a requirement of such agreement is in conflict with the conditions of funding by the FedDev or MEDI, if applicable, or will result in that Participating Institution being restricted in the performance of its obligations in relation to the Project or the Project infrastructure.
- **3.4.2** The Participating Institutions hereby confirm that for purposes of this Project, no other federal, provincial, municipal or local government financial assistance has been requested, approved, received or will be received.
- **3.4.3** The Participating Institutions shall promptly inform the Lead Institution in writing in the event additional other government financial support has been requested or received for the purposes of the Project during the Term of this Agreement, and acknowledges and agrees that an adjustment to the amount of the FedDev or MEDI funds it receives and a request for repayment of part or all of the amounts paid to the Participating Institution may be made as a result thereof. The amount of repayment requested will constitute a debt due and will be recovered as such from the Recipient.
- **3.4.4** In no instance will the total government funding toward the Eligible Costs of the project be allowed to exceed the amount approved in Schedule "D".
- 3.5 Disbursement of FedDev and MEDI Funds to Participating Institutions: Disbursement of FedDev and MEDI Funds are based on reimbursement of Eligible Project Costs. The Lead Institution shall disburse to the Participating Institutions all payments from FedDev and MEDI for the Project in an amount not to exceed those outlined in Schedule "D", no later than thirty (30) days of receipt of the funds from FedDev or MEDI. The Lead Institution shall not be liable for cost overruns incurred by a Participating Institution, or any shortfall or non-advance of funds from FedDev or MEDI, notwithstanding each Participating Institution's submission of claims for reimbursement. Any over-expenditure of the amount to which a Participating Institution is entitled shall be the sole responsibility of the Participating Institution causing the over-expenditure, and the Lead Institution shall not have any liability to the Participating Institution in that regard.
- 3.6 Overpayment or non-entitlement: Where, for any reason, a Participating Institution is not entitled to all or part of the Funds or the amount paid to Participating Institution exceeds the amount to which the Participating Institution is entitled, the Funds or the amount in excess, as the case may be, shall constitute a debt due to the Lead Institution and shall be recovered as such from the Participating Institution. The Participating Institution shall repay Lead Institution within thirty (30) days from the date of the Lead Institution's notice, the amount of the Funds disbursed or the amount of the overpayment, as the case may be, together with interest calculated in accordance with the Interest and Administrative Charges Regulations, in effect on the due date, from the date of the notice, until payment is received by the Lead Institution.

3.7 Revenues from Assets: The Parties acknowledge that their contributions to the Project are meant to accrue to the public benefit. The Participating Institutions will notify the Lead Institution in writing within sixty (60) days of the end of its fiscal year, if any asset to which Funds received from FedDev have been used in such a way that, in its fiscal year, revenues are generated from it which exceed its operating expenses, including maintenance and upgrades to the platform, and the Lead Institution may require the Participating Institutions to pay the Lead Institution immediately a portion of the excesses, in the same proportion as the Funds received from FedDev is to the total cost of the asset. This obligation will apply for the duration of the Term.

Notwithstanding the foregoing, Parties recognize that revenue generation and the disbursement of any funds generated through use of the platform will be conducted in accordance with policies established by the board of directors of the SOWC.

3.8 Pre Disbursement Conditions

3.8.1 The Lead Institution shall not be obligated to disburse any Funds or make any advance payment or to take, perform or fulfill any other action hereunder until the following conditions have been satisfied or provided for in a manner satisfactory to the Lead Institution:

- (a) Engineering and architectural designs outlining construction and installation activities for the London, Guelph and McMaster nodes and any other construction and installation activities for which the Lead Institution may request;
- (b) Each Participating Institution shall ensure that its portion of the Project is adequately insured and shall provide evidence of such. Each Participating Institution shall obtain general liability insurance and property damage insurance in amounts consistent with the scope and investments of the Project at each node and location where Project activities will take place, and will include no less than \$5,000,000 per occurrence, covering bodily injury, personal injury, death and property damage. The Parties agree to maintain such policies for the Term of this Agreement;
- (c) Each Participating Institution shall provide to the Lead Institution, in form and substance satisfactory to the Lead Institution, endorsements to the property damage insurance naming Her Majesty the Queen in Right of Canada (represented by the Minister responsible for FedDev) as "co-loss payee" and endorsements to the liability insurance naming Her Majesty the Queen in Right of Canada as "additional insured";
- (d) The Lead Institution is required to provide FedDev with information on the qualifications of the Operations Manager and the Associate Operations Manager, and it is agreed that FedDev will not contribute to any cost of the Project unless satisfied with the qualifications of the expertise engaged:
- (e) The Lead Institution must undertake an environmental assessment of the Project in accordance with the Canadian Environmental Assessment Act and FedDev determines that the Project is unlikely to result in any significant adverse environmental effects after the implementation of mitigation measures, if any; and
- (f) Aboriginal Consultation. FedDev must be satisfied that any legal duty to consult with, and where appropriate, to accommodate Aboriginal groups has been met.

4. Financial Record Keeping and Audits

- **4.1 Participating Institutions Internal Accounting Records:** Each Participating Institution directly receiving Funds from any source for Eligible Costs of the Project, as outlined in Schedule "C" shall set up and maintain separate internal accounting records with respect to these specific contributions and related Eligible Costs of the Project, as directed by Lead Institution. No more than monthly and no less than quarterly, in accordance with reporting obligations set forth in 5.1 and 5.5 below, such Participating Institution will record all such cost transactions (including associated in-kind contributions, if applicable) and certify that 100% of these costs are eligible for funding. Such records shall be prepared and retained in accordance with FedDev requirements, and or as applicable MEDI requirements.
- **4.2 Audit Tracking System:** The records referenced in 4.1 shall include a verifiable audit tracking system for receipts and disbursement. To ensure that each of the FedDev or MEDI Funds contributions to the Project do not exceed their respective agreed proportions (or shares) of all Eligible Costs of the Project,

each Participating Institution agrees that this audit tracking system shall, at a minimum, apply to:

- (a) All contributions directly received and expenditures directly made by the Participating Institution
 that constitute eligible receipts and costs for its portion of the Project as defined in Schedules "D"
 and "E", respectively;
- b) The FedDev contributions to the amounts referred to in (a) above;
- (c) The MEDI contributions to the amounts referred to in (a) above; and
- (d) The financial contributions of the Participating Institution and all of its funding partners for its portion of the Project.
- **4.3 Records Retention Period:** Each Participating Institution agrees to maintain its supporting documentation relating to its part of the Project, forming part of its audit tracking system (including supporting documentation for all in-kind contributions) until March 31, 2025.
- **4.4 Audit Obligations:** Each Participating Institution shall make available, upon reasonable notice, its records concerning its share of the Project to audit or examination conducted by auditors or other duly authorized representatives on behalf of the Lead Institution or FedDev (including the Auditor General of Canada) or, where appropriate, MEDI, as requested. In the event that FedDev or MEDI requests information from the Lead Institution concerning the Participating Institutions' share of the Project, the Participating Institution shall forthwith provide such information to the Lead Institution, after the Lead Institution has relayed that request to the Participating Institution.

5. Reporting Obligations

- 5.1 Financial Reporting Obligations: In order to enable the Lead Institution to obtain payment from FedDev and MEDI under the respective Award Agreements, the Participating Institutions will provide to the Lead Institution satisfactory financial reports using the prescribed FedDev (see Schedule "H", the "FedDev Financial Reporting Schedule") and MEDI (see Schedule "I", the "MEDI Financial Reporting Schedule") reporting forms for its portion of the Project per 5.1, 5.2 and 5.5. The reports shall be submitted at least fifteen (15) days prior to the due date on which the Lead Institution is required to submit its financial reports to FedDev and/or MEDI. Such financial reports shall also explain any variances from the original budget approved by FedDev where such variances require the approval of FedDev, or MEDI where such variances require the approval of MEDI.
- **5.2 Final Financial Reporting Obligations:** The financial reports to be provided by the Lead Institution at the end of the Project in accordance with the prescribed FedDev and MEDI forms shall be the final financial report, and for such purpose, each Participating Institution shall certify that:
 - (a) Its portion of the Project has been completed;
 - (b) Its matching funds have been received and spent;
 - (c) FedDev's and MEDI's contribution (as applicable) for its portion of the Project does not exceed the agreed FedDev MEDI portions of Eligible Costs;
 - (d) Resources are available for ongoing operation and maintenance of its portion of the infrastructure for the Term of this Agreement; and
 - (e) All funds received were utilized for payment of Eligible Costs matched to the approved expenditures in the budget set out in Schedule "C" and Schedule "D".
- **5.3** All Parties acknowledge and grant that the FedDev Minister and/or the Auditor General of Canada may have access to all accounts and records of the Project held by the Participating Institution (including to those of agents or third party contractors) and audit, or cause to have audited, such accounts and records wherever located as set out in 5.4. Each Party shall ensure that agents or third party contractors to the Project are obligated to abide by Article 5.3 and 5.4.
- **5.4 Auditor General of Canada:** The Parties acknowledge that the Auditor General of Canada may, at the Auditor General's costs, after consultation with the Party, conduct an inquiry under the authority of Subsection 7.1(1) of the Auditor General Act in relation to any funding agreement (as defined in

Subsection 42(4) of the Financial Administration Act) with respect to the use of funds received. For the purposes of any such inquiry undertaken by the Auditor General, the Parties shall provide, upon request and in accordance with any timeframe provided by the Auditor General, to the Auditor General or anyone acting on behalf of the Auditor General: (a) all records held by the Participating Institution relating to this Agreement and use of the Funds; (b) all records held by any agent or third party contractor relating to this Agreement and use of the Funds; and c) such further information and explanation as the Auditor General, or anyone action on behalf of the Auditor General, may request relation to this Agreement and/or the Funds.

- **5.5 Progress Reports:** In concert with submission of all financial reports and then annually for three years beyond the end of the MEDI eligible funds expenditures period noted in 7.1.2, the Participating Institutions shall provide the Lead Institution a written progress report of the Participating Institution's research conducted with the infrastructure developed or acquired under its portion of the Project, using the specified reporting form developed by FedDev and MEDI as applicable. The Participating Institutions shall, at all reasonable times during the Term of this Agreement, and upon reasonable notice provide the Lead Institution and FedDev or MEDI, or their representatives, access to the premises where the Project is being conducted in order to inspect the Participating Institution's portion of the Project.
- **5.6 Lead Institution Reporting Obligations:** The Lead Institution shall provide financial reports and other reports to FedDev and MEDI in accordance with the Funding Agreements.
- **5.7 Notification of Change:** The Participating Institutions agree to notify the Lead Institution, immediately in the event that:
 - (a) The estimated costs to complete that Participating Institution's share of the Project exceed the anticipated total costs and expenses of that Participating Institution's share of the Project as set out in Schedule "D"; or;
 - (b) Any of the financing or contributions for that Participating Institution's share of the Project to be contributed by that Participating Institution and/or that Participating Institution's funding partners, as set out in Schedule "E" becomes unavailable for any reason; or
 - as set out in Schedule "E" becomes unavailable for any reason; or

 (c) A funding partner of that Participating Institution withdraws from the Project without having provided the full amount of its contribution as set out in Schedule "E"; or
 - (d) The Participating Institution's portion of the Project cannot be completed for any reason; or
 - (e) A budget change or amendment to the approved line items or nature of infrastructure being developed is anticipated;
 - (f) There is <u>any</u> deviation in cash flow projection or in budget or costs or deviation from Schedule "C" or Schedule "D" for its portion of the Project; or
 - (g) The Participating Institution abandons the Project.

Upon the occurrence of any of the enumerated events in this Section, the Lead Institution shall advise FedDev and, where appropriate, MEDI of such event.

6. Liability and Indemnity

- **6.1 Lead Institution shall not bear costs:** The Participating Institutions shall not knowingly or negligently perform or cause to be performed any action prohibited under this Agreement, or knowingly or negligently fail to perform any action required under this Agreement, that causes impairment of the Lead Institution's ability to perform its obligations pursuant to this Agreement, or the Funding Agreements. If the Lead Institution's ability is so impaired by a Participating Institution, the Participating Institution causing said impairment shall be responsible to the Lead Institution for payment of any damages or costs arising from the action or failure of or caused by the Participating Institution.
- **6.2 Liability:** Provided that it has carried out its duties and exercised its authority under this Agreement in good faith and with reasonable care, no Party shall be responsible or liable to any other Party for any matters which arise during the course of the Project or during the Term of this Agreement which are beyond the reasonable control of the Party, and no Party, its directors, officers, employees, appointees, students, trainees and agents (the "first Party") shall be liable to any other Party for any losses, damages

or costs incurred by the other Party arising out of the Project except to the extent caused by the gross negligence or wilful misconduct of the first Party. For the avoidance of doubt, each Party assumes its own liability for any and all damages, injuries, claims, demands, suits, actions, liabilities, costs and expenses on account of injuries (including death) to persons participating in the Project or damage to real property or tangible personal property which may arise as a result of its activities under the Project. Except as provided in this Section 6.2, in no event shall any Party be liable to another Party for any special, indirect or consequential damages arising from or out of the Project or this Agreement.

6.3 Liability: Lead Institution: In its capacity as Lead Institution, the Lead Institution shall in no event be liable for any special, indirect or consequential damages to the Participating Institutions arising from or out of the Project or this Agreement, except to the extent caused by the Lead Institution's gross negligence or willful misconduct.

7. Miscellaneous

7.1 Eligible Expenditures

- 7.1.1: Eligible expenditures for FedDev funds, including matching contributions noted in Schedule "E" must be incurred between March 23, 2011 and March 31, 2014.
- **7.1.2:** Eligible expenditures for MEDI funds, including matching contributions noted in Schedule "E" must be incurred between January 1, 2007 and December 31, 2015.

7.2 Ownership and Right of Use

- **7.2.1** A Participating Institution shall retain title to, and ownership of all assets acquired by them and /or located at its site for the duration of the Term of this Agreement and shall not sell, assign, transfer, encumber, pledge, grant a security interest or otherwise dispose of same, without the prior written consent of the Lead Institution. As a condition of such consent, the Lead Institution may require the Participating Institution to repay the Lead Institution the whole or any part of the Funds paid to the Participating Institution. Any written request for consent to dispose of assets will be responded to within 160 calendar days from receipt by the Lead Institution. If Lead Institution does not respond within the allocated timeframe, consent to dispose will have been deemed given by the Lead Institution.
- **7.2.2** Participating Institutions acknowledge that the SOWC Board of Directors have a responsibility to ratify protocols regarding access to Project Assets, establishment of user fee schedules regarding generation of funds for the Platform, and related issues, as outlined in Schedule "J", ("Management and Governance"), such that requests will be equitably adjudicated with a view to the best interests of the applicant, the host institution and the broader aims of the SOWC. Requests for access will be made through the Platform Management Committee.

7.3 Confidentiality

7.3.1 Confidential Information means the confidential or proprietary business or technical information of a Party or any third party that is identified in writing as confidential at the time of disclosure or identified orally as such at the time of disclosure and minuted and confirmed in writing within fourteen (14) days of the oral identification.

The parties recognize that one of the goals of the SOWC is to create an open data environment that encourages the sharing of data generated on the platform. At the same time the parties recognize the legitimate rights of users to maintain their intellectual property. Board policy will provide for mechanisms to facilitate exchange while respecting rights to IP.

7.3.2 Each Party agrees that Confidential Information it receives from another Party or any third party will be safeguarded and disclosed only to persons within the receiving Party with a need to know such Confidential Information for the purpose of carrying out work under this Agreement. Confidential Information shall not be used for any purpose except that for which it was initially provided to the receiving Party. Each Party will take such steps to protect Confidential Information it receives from another Party or any third party as it would to protect its own Confidential Information

7.3.3 The obligation to keep Confidential Information confidential will not apply to information which:

(a) Is already know at the time of disclosure to the Party to whom it is disclosed and that Party can prove by written records that it is already known;

(b) Is or becomes part of the public domain without material breach of this Agreement by the Party seeking to rely on this exclusion;

(c) Is obtained from third parties which impose no related confidentiality obligations on the disclosing

(d) Is authorized for release by the disclosing Party or third party;

(e) Is demonstrated to have been developed independently of the Confidential Information received from the disclosing Party or third party; or,

(f) Is required to be disclosed by law or order of a court, governmental tribunal or governmental agency, but the Party subject to such requirement will promptly notify the disclosing Party or third party and give the disclosing Party or third party a reasonable opportunity to seek a confidentiality order or the like.

7.3.4 Each Party agrees that these obligations of confidentiality will continue from the time of disclosure of Confidential Information until such Confidential Information becomes part of the public domain. Upon expiration or termination of this Agreement, each Party that has received Confidential Information during the term of this Agreement will, upon written request, forthwith return such Confidential Information to the disclosing Party or third party and will not retain copies or transcripts thereof for any purpose whatsoever.

7.3.5 All obligations of confidentiality herein shall survive for five (5) years after expiration or termination of this Agreement.

7.4 Intellectual Property

7.4.1 Intellectual Property includes, without limitation, all designs, specification, software, data, drawings, plans, reports, patterns, models, prototypes, demonstration units, practices, inventions, methods and related technology, processes or other information conceived, produced, developed or reduced to practice by a Party, and all rights therein, including, without limitation, patents, copyrights, industrial designs, trade-marks and any registrations or applications for the same and all other rights if intellectual property therein, including any rights which arise from the above items being treated by the Parties as trade secrets or confidential information.

7.4.2 "Background Intellectual Property" means any and all Intellectual Property that is not Project Intellectual Property. Each Party grants a royalty-free, non-exclusive license to each other Party to use, copy and modify its Background Intellectual Property solely as necessary to fulfill its obligations in respect of the Project under and in accordance with this Agreement. Except as provided for in this paragraph 7.4.2, each Party agrees that Background Intellectual Property of another Party shall remain the exclusive property of that Party and that it will not acquire any rights or interest in another Party's Background Intellectual Property. Each Party agrees that pursuant to this Agreement it does not acquire any license, rights or interest in the Background Intellectual Property of any third party.

7.4.3 "Project Intellectual Property" means any Intellectual Property conceived, produced, developed, reduced to practice or otherwise made by a Party's personnel or its students in the course of carrying out the Project.

7.4.4 Rights in any Project Intellectual Property Rights, if any, will be determined in accordance with the respective policies and procedures of the Party or Parties whose personnel created such intellectual property, applicable law, and any other agreements between the Parties.

7.4.5 Notwithstanding who has title to the Project Intellectual Property, a Party shall not grant an exclusive and irrevocable license or sublicense of Project Intellectual Property to any other party.

7.4.6 Each Party shall ensure, in its reasonable discretion, that appropriate steps are taken to protect Project Intellectual Property conceived, produced, developed, reduced to practice or otherwise made by its personnel and students and shall retain ownership of the Project Intellectual Property for the Term of this Agreement.

7.5 Publication

7.5.1 In accordance with their respective policies, the Parties require that research results be published. Accordingly, the Parties shall be entitled to publish or disclose publicly research results, data or technical information arising out of the Project or relating to or including Project Intellectual Property (the "Research Results") generated solely by their respective personnel or students without restriction provided such publication or public disclosure does not contain Confidential Information of another Party or any third party, or commercializable subject matter. Research Results generated by personnel or students of two or more Parties may be published by mutual agreement of those Parties.

- **7.5.2** In the event a publication or public disclosure of Research Results contains commercializable subject matter, such publication or public disclosure shall be delayed for a period sufficient to allow for the taking of appropriate steps to protect such commercializable subject matter; such delay shall be in accordance with the respective policies of the Parties, including those relating to student theses.
- **7.6 Participating Institutions Bound by Award Agreements:** In accepting funding for the Project, Participating Institutions accept and agree to be bound by the same terms and conditions of the Funding Agreements applicable to the Lead Institution. In the event of a conflict between the Funding Agreements and this Agreement, the Funding Agreements will take precedence.

7.7 Communications

- 7.7.1 All communication with FedDev concerning the Project shall be made through the Lead Institution.
- 7.7.2 All communications with MEDI concerning the Project shall be made through the Lead Institution.
- **7.7.3** Any communications issued by Participating Institutions must take into account Clause 9 "Federal Visibility Requirements" of the CA and Article 42 "Communications" of the MEDI Agreement.
- **7.8 Dispute Resolution:** In the event of a controversy or dispute between or among any Parties arising out of or in connection with this Agreement or regarding the interpretation of the provisions thereof, the following shall apply:
 - (a) The Party alleging a controversy or dispute (the "Disputing Party") must notify the other Party (the "Recipient Party"), with a copy to the Lead Institution, in writing of such dispute or controversy ("Dispute Notice") and specify the particulars of such controversy or dispute in the Dispute Notice;
 - (b) Upon receipt of a Dispute Notice by the Recipient Party, the Recipient Party and the Disputing Party must mutually consult in good faith in an attempt to settle amicably and in the spirit of cooperation any such controversy or dispute. If the matter cannot be settled amicably between the Parties, the controversy or dispute shall be referred to the relevant SOWC Theme Operations Committee ("TOC") which shall work with a view to taking appropriate action to resolve the controversy or dispute and avoid recurrence. Where the controversy or dispute remains unresolved within fourteen (14) days of being referred to the relevant TOC, the controversy or dispute shall be referred to the SOWC Platform Management Committee ("PMC") which shall work with a view of taking appropriate action to resolve the controversy or dispute and avoid recurrence. Where the controversy or dispute remains unresolved within fourteen (14) days after referral to the PMC, the controversy or dispute shall be referred to the SOWC Board of Directors which shall work with a view of taking appropriate action to resolve the controversy or dispute and avoid recurrence; and
 - (c) If on the date which is fourteen (14) days after referral to the SOWC Board of Directors then the Disputing Party and the Recipient Party must settle such matters in compliance with the procedures set out in Schedule "K" ("Dispute Resolutions Procedures") attached to this Agreement.

For the avoidance of doubt, the Parties acknowledge and agree that the provisions of clause 14 of this Agreement apply to a Dispute Notice issued pursuant to this clause 7.8.

- **7.9 Relationship Between the Parties:** The Parties are independent Parties and nothing in this Agreement constitutes any Party as the agent, employer, principal or partner of or joint venturer with the other Parties. No Party has any authority to assume or create any obligation or liability, either express or implied, on behalf of another Party hereto.
- 7.10 Agree to Acknowledge and Participate: Participating Institutions agree to acknowledge their membership in SOWC and funding received from FedDev and MEDI in all relevant publications and other communications. Participating Institutions also agree to accommodate any reasonable request of FedDev, MEDI or SOWC regarding promotional initiatives, including but not limited to coordination of public announcements, media events outlining Project achievements or initiatives, public and media events, or other activities that showcase the results or expected results of the Project, including any media public event upon the completion of the Project. This includes providing access to work sites. Unless agreed to in advance, no event or communication will take place without at least fifteen (15) business days notice to the Participating Institution(s), unless otherwise agreed to in writing. Participating Institutions also agree to prominently display at any Project site in a manner prescribed by FedDev, MEDI or SOWC as appropriate, promotional material or signage which may be provided by FedDev, MEDI or SOWC, at the Participating Institution's expense, communicating the nature of the funded activities and/or involvement of FedDev, MEDI and SOWC.
- **7.11 Tendering Policies:** Each Party covenants and agree that it will adhere to its own tendering and acquisition policies for the purchase of assets and services. In the event that any Party proposes to amend its tendering and acquisition policies, it shall inform the Lead Institution, who shall inform FedDev of the proposed amendment no less than thirty (30) calendar days prior to the amendment coming into force in which case FedDev may elect to continue to require the Parties to follow the current policies or follow the new amended policies for the purposes of the FedDev portion of the project.

7.12 Approval, Permits and Access

7.12.1 Each of the University of Guelph and The University of Western Ontario represents and confirms that (a): all relevant governmental or municipal permits, approvals, consents, permissions to engage in building activities on wastewater sites have been obtained or will be obtained prior to proceeding with any Project-related activity and (b): the necessary access to the Project municipal wastewater facility sites located in the cities of Guelph and London respectively, for the purpose of achieving the objectives of the Project, has been secured, or will be secured, for the lesser of: i) the period during which assets acquired with project Funds remain at the above sites, or ii) the Term of this Agreement.

7.12.2 The University of Guelph and The University of Western Ontario also confirm that such access has been granted unconditionally for the Lead Institution and all other Participating Institutions during the Term of the Project

7.12.3 The University of Guelph and The University of Western Ontario also confirm that:

- a) They will inform FedDev, through the Lead Institution, immediately if such permissions, approvals, consents or permits are withdrawn or amended; and
- b) The relevant municipal authorities have agreed that the ownership of all assets paid for with project Funds, in whole or in part, whether affixed to or temporarily placed on municipal property, must remain the property of the Participating Institution(s), unless disposal or transfer of ownership of that asset has been approved in advance and is carried out in accordance with disposal procedures noted in 7.2.1.

7.13 Collaboration and Cooperation

7.13.1 The Parties acknowledge and agree that the mission of the Project is to establish a strong and sustainable consortium of public, private, institutional, and not-for-profit partners who will proactively collaborate to:

a) Accelerate the discovery, innovation, development and commercialization of water-related

management practices, technologies, systems, services, products and processes;

Share infrastructure, information, and ideas;

Attract domestic and international investment to SOWC and its constituent partners;

c) d) Create high value jobs;

- Attract the best and the brightest water-related talent from around the world; e)
- Train and develop the next generation of water researchers, managers, and entrepreneurs; f)
- Assist in branding SOWC as one of the foremost water research collaborations in the world; and
- Develop a new model of collaboration and cooperation in furtherance of shared SOWC objectives.
- 7.13.2 The Parties endorse the Project foregoing mission and agree to support, promote, and actively participate in the activities and objectives described in 7.13.1. In particular, but not restricting the generality of the foregoing, the Parties agree to:
 - Actively participate in the governance and operations of SOWC and abide by the decisions, protocols, regulations, and guidelines promulgated by the SOWC board of directors and other duly authorized SOWC decision-makers and decision-making bodies from time to time;
 - Share access to Project equipment and facilities in accordance with the direction of the SOWC board of directors subject to Section 7.2.2 of this Agreement and the Parties' respective policies and obligations relating to health, safety, security and confidentiality;
 - Share access to non-proprietary information and data in accordance with the direction of the SOWC board of directors;
 - Assist the branding of SOWC by supporting SOWC promotional measures and marketing
 - Provide all reasonable information and assistance to enable the Lead Institution to comply with the terms and conditions of the FedDev Contribution Agreement and the MEDI Award Agreement as applicable on behalf of the Participating Institutions.
- 7.14 All records relating to the Project must be maintained in a location in Southern Ontario.
- 7.15 Commitments of the Parties: Each Party agrees to participate in carrying out the Project in accordance with the Terms and Conditions of the Funding Agreements and this Agreement, adhere to the directives of the SOWC Board of Directors, and to act with due professionalism and diligence in order to facilitate the progress and achievement of the overall objectives of the Project.
- **Duration of the Agreement**
- 8.1 FedDev funds may be used to support eligible project expenses incurred from March 23, 2011 to March 31, 2014.
- 8.2 MEDI (Ontario) funds may be used to support eligible project expenses incurred from January 1, 2007 to December 31, 2015.
- 8.3 Term: The Term of this Agreement shall commence on January 1, 2007 and end on March 31, 2025. This Term comprises the FedDev and MEDI Funds eligibility period during which their respective eligible expenditures may be incurred, and a Control Period stipulated in the FedDev Agreement, which is defined as the period of 11 years from the end of the FedDev funds eligibility period to March 31, 2025, for retention of documentation.
- **Termination**
- 9.1 Termination by Lead or Participating Institutions: Except as otherwise provided herein, no Party may terminate this Agreement without the written agreement of the other Parties.
- 9.2 Termination of FedDev Award Agreement: In the event of termination of the FedDev Contribution Agreement, the Lead Institution may terminate this Agreement on written notice to the Participating Institutions given as soon as practicable following receipt of FedDev's notice of termination.

9.3 Termination of MEDI Award Agreement: In the event of termination of the MEDI Award Agreement, the Lead Institution may terminate this Agreement on written notice to the Participating Institutions given as soon as practicable following receipt of MEDI's notice of termination.

Default and Remedies

10.1 Event of Default: An Event of Default shall be deemed to have occurred if:

(a) The Participating Institutions have failed or neglected to pay the Lead Institution any amount due in accordance with this Agreement;

(b) The Project is not completed to the satisfaction of FedDev, MEDI or SOWC;

- Any Party makes a materially false or misleading statement concerning support by FedDev or MEDI in any internal and/or public communication, other than in good faith;
- (d) Any Party becomes bankrupt or insolvent, goes into receivership, or takes the benefit of any statute from time to time in force relating to bankrupt or insolvent debtors;
- (e) An order is made or any Party has passed a resolution for the winding up of the Party, or the Party is dissolved;
- Any Party has, in the opinion of FedDev or MEDI, ceases to carry on business or has sold all or substantially all its assets;
- The Project is carried out at locations other than those noted in Annex 1 of Schedule "A" without the prior written authority of FedDev, MEDI, and SOWC;
- (h) Any Party has submitted false or misleading information, or has made a false or misleading representation to the Lead Institution, FedDev, MEDI or in this Agreement or the Funding Agreements;
- Any Party has not, in the opinion of FedDev, MEDI or SOWC, met or satisfied a term or condition of this Agreement or the Funding Agreements;

Any Party is not eligible or is otherwise not entitled to the Funds; or

Any Party has not complied with the monitoring, audit and evaluation requirements specified in this Agreement or the Funding Agreements.

10.2 Remedies: If an Event of Default has occurred, the Lead Institution may immediately exercise any one or more of the following remedies, in addition to any remedy available at law:

- Terminate any obligation by the Lead Institution to make any payment under this Agreement, including any obligation to pay an amount owing prior to such termination;
- Suspend any obligation by the Lead Institution to make any payment under this Agreement, including any obligation to pay an amount owing prior to such suspension; and
- Require the Participating Institutions to repay forthwith to the Lead Institution all or part of the Funds it has received, and that amount is a debt due to the Lead Institution and may be recovered as such.
- Binding Terms and Conditions: Without affecting in any manner the forgoing provisions of this Agreement, each Participating Institution accepts and agrees to be bound by the terms and conditions of the relevant Funding Agreements, FedDev and MEDI Policies and the following documents for the Project:
 - (a) FedDev Contribution Agreement (CA) (Schedule "A");
 - (b) MEDI Award Agreement (Schedule "B");
 - Approved Budget (Schedule "C");
 - Budget Distribution (Schedule "D"); Contributions (Schedule "E");
 - (e)
 - Institutional Researcher Contact Agreement (Schedule "F"); Administrative Contacts (Schedule "G"). (f)

 - FedDev Attestation Form, Claim Statement Form, In-Kind Contribution Confirmation (Schedule "H")
 - MEDI Attestation Form (Schedule "I")
 - Management and Governance (Schedule "J")
 - (k) Dispute Resolution Procedures (Schedule "K");

All of which are incorporated by reference and applicable hereto.

- 12. Amendments: This Agreement may only be amended by a document in writing signed by the authorized representative of each Party.
- 13. Governing Law13.1 This Agreement shall be governed by and construed in accordance with the laws of the Province of Ontario and of Canada applicable thereto.
- 13.2 Each Party must at all times be in compliance with all federal, provincial, territorial, municipal and other applicable laws, regulations, by-laws, rules, decrees and ordinances governing the parties and the Project, including without limitation, environmental legislation and any mitigation measures imposed by the Minister.
- 14. Notices: All reports, communications and notices to be made pursuant to this Agreement shall be validly and effectively made if made in writing and delivered by first class mail, postage prepaid, or by facsimile, or by personal or courier delivery, and addressed to the Party to whom it is intended, at its address as set out below. For the purposes of delivering and receiving notices pursuant to this Agreement, the Participating Institutions shall appoint a contact person, as set out in "Schedule "G".
- 15. Entire Agreement: This Agreement, including its Schedules and attached hereto, constitutes the entire and sole Agreement between the Parties with respect to the issues and items covered by this Agreement, and supersedes all previous negotiations, communications and other agreements, whether written or oral, relating to it, unless they are incorporated by reference in this Agreement. There are no terms, covenants, representations, statements or conditions binding on the Parties with respect to said issues and items other than those contained in this Agreement.
- **16. Binding Agreement:** This Agreement shall be binding upon and shall enure to the benefit of the Parties and their respective successors and assigns.
- 17. Force Majeure: The failure of any of the Parties at any time to require performance by another Party of any provision herein shall in no way affect its right thereafter to enforce such provision or to seek damages for the breach thereof. It is agreed between the Parties that they shall not be held responsible to the other Parties for damages caused by delay or failure to perform undertakings hereunder when such delay or failure is due to fires, strikes, lockouts, floods, acts of God, or the Queen's enemies, lawful acts of public authorities, orders of government, war, warlike operations, riot, insurrection, public health emergencies, quarantines or delays or defaults caused by common carriers, which cannot be reasonably be foreseen or provided against.
- 18. Freedom of Information: The Parties acknowledge that the Lead and Participating Institutions are educational institutions to which the *Freedom of Information and Protection of Privacy Act* (Ontario) applies and the Parties agree to cooperate with one another from time to time with respect to compliance with the statute and any regulations passed thereunder.
- 19. Counterparts: This Agreement and any other writing delivered in connection may be executed in any number of counterparts and any Party may execute any counterpart, each of which when executed and delivered will be deemed to be an original and all of such counterparts of this Agreement or such other writing taken together will be deemed to be one and the same instrument.
- 20. English Language: The Parties hereto have expressly agreed that this Agreement be drawn up in English only. Les parties aux presentes ont expressement requis que la présente entente soit rédigée en anglais.

In witness whereof the Parties have executed this Agreement.

FOR UNIVERSITY OF WATERLOO:	
Signature: I have the authority to bind the University.	Date: April 1/1/2
િર્ગ D. George Dixon, Vice-President, University Research	
Signature: I have the authority to bind the University. Feridun Hamdullahpur, President & Vice-Chancellor	Date: April 13,262
FOR MCMASTER UNIVERSITY:	
Signature: I have the authority to bind the University.	Date:
Patrick Deane, President & Vice Chancellor	
Signature: I have the authority to bind the University.	Date:
Mo Elbestawi, Vice-President, Research and International Affairs	
FOR RYERSON UNIVERSITY:	
Signature: I have the authority to bind the University.	Date:
Wendy Cukier MA, MBA, PhD, DU (Hon), LLD (Hon) MSC Vice President, Research and Innovation	
FOR UNIVERSITY OF GUELPH:	
Signature: I have the authority to bind the University.	Date:
Richard D. Moccia, Acting Associate Vice-President, Research Services	
Signature: I have the authority to bind the University.	Date:

Dave Reinhart, Director, Research Financial Services

FOR BRITCH OF WATERLOO.	
Signature: I have the authority to bind the University.	Date:
D. George Dixon, Vice-President, University Research	
Signature: I have the authority to bind the University.	Date:
Feridun Hamdullahpur, President & Vice-Chancellor	
FOR MCMASTER UNIVERSITY: Signature:	Date: 23 april 201
I have the authority to bind the University. Patrick Deane, President & Vice Chancellor	·
Signature: I have the authority to bind the University.	Date: 147/19/2012
Mo Elbestawi, Vice-President, Research and International Affairs	
FOR RYERSON UNIVERSITY:	
Signature: I have the authority to bind the University.	Date:
Wendy Cukier MA, MBA, PhD, DU (Hon), LLD (Hon) MSC Vice President, Research and Innovation	
FOR UNIVERSITY OF GUELPH:	
Signature: I have the authority to bind the University.	Date:
Richard D. Moccia, Acting Associate Vice-President, Research Services	
Signature: I have the authority to bind the University.	Date:
Dave Reinhart Director Research Financial Services	

FOR UNIVERSITY OF WATERLOO:	
Signature: I have the authority to bind the University.	Date:
D. George Dixon, Vice-President, University Research	
Signature: I have the authority to bind the University.	Date:
Feridun Hamdullahpur, President & Vice-Chancellor	
FOR MCMASTER UNIVERSITY:	
Signature: I have the authority to bind the University.	Date:
Patrick Deane, President & Vice Chancellor	
Signature: I have the authority to bind the University.	Date:
Mo Elbestawi, Vice-President, Research and International Affairs	
FOR RYERSON UNIVERSITY: Signature: I have the authority to bind the University.	Date: MAY 380/2012
Wendy Cukier MA, MBA, PhD, DU (Hon), LLD (Hon) MSC Vice President, Research and Innovation	
FOR UNIVERSITY OF GUELPH:	
Signature: I have the authority to bind the University.	Date:
Richard D. Moccia, Acting Associate Vice-President, Research Services	
Signature: I have the authority to bind the University.	Date:
Dave Reinhart, Director, Research Financial Services	

FOR UNIVERSITE OF WATERLOO.	
Signature: I have the authority to bind the University.	Date:
D. George Dixon, Vice-President, University Research	
Signature: I have the authority to bind the University.	Date:
Feridun Hamdullahpur, President & Vice-Chancellor	
FOR MCMASTER UNIVERSITY:	
Signature: I have the authority to bind the University.	Date:
Patrick Deane, President & Vice Chancellor	
Signature: I have the authority to bind the University.	Date:
Mo Elbestawi, Vice-President, Research and International Affairs	
FOR RYERSON UNIVERSITY:	
Signature: I have the authority to bind the University.	Date:
Wendy Cukier MA, MBA, PhD, DU (Hon), LLD (Hon) MSC Vice President, Research and Innovation Kevin I Vice-Presider	nt (Research)
FOR UNIVERSITY OF GUELPH: University	
Signature: I have the authority to bind the University.	Date: [Hay 17, 701]
Richard D. Moccia, Acting Associate Vice-President, Research Services	
Signature: I have the authority to bind the University.	Date: <u>May 17/12</u>
Dave Reinhart Director, Research Financial Services	

TOR SHAPERSHIP OF CHIARIO INSTITUTE OF TECHNOLOGY:	
Signature: I have the authority to bind the University.	Date: Opiul 2012
Dr. Michael Owen, Associate Provost Research	
Signature: I have the authority to bind the University.	Date: <u>2 の 2 - </u>
Dr. Richard Marceau, Provost	
FOR THE GOVERNING COUNCIL OF THE UNIVERSITY OF TORONTO:	
Signature: I have the authority to bind the University.	Date:
Lino DeFacendis, Director, Partnerships	
FOR THE UNIVERSITY OF WESTERN ONTARIO:	
Signature: I have the authority to bind the University.	Date:
Dan Sinai, (Acting) Associate Vice-President, Research	
FOR WILFRID LAURIER UNIVERSITY:	
Signature: I have the authority to bind the University.	Date:
Abby A. Goodrum, Vice-President: Research	

APR 1 6 2012

15

FOR UNIVERSITY OF ONTARIO INSTITUTE OF TECHNOLOGY:	
Signature: I have the authority to bind the University.	Date:
Dr. Michael Owen, Associate Provost Research	
Signature: I have the authority to bind the University.	Date:
Dr. Richard Marceau, Provost	
FOR THE GOVERNING COUNCIL OF THE UNIVERSITY OF TORONTO:	25/0/2
Signature: PCP UZZ I have the authority to bind the University.	Date: 27712
Lino DeFacendis, Director, Partnerships R. Paul Young, PhD, FRSC Vice-President, Research	
FOR THE UNIVERSITY OF WESTERN ONTARIO:	
Signature: I have the authority to bind the University.	Date:
Dan Sinai, (Acting) Associate Vice-President, Research	
FOR WILFRID LAURIER UNIVERSITY:	
TOT WELLIE EAGINET ON VERTON T.	
Signature: I have the authority to bind the University.	Date:
Abby A. Goodrum, Vice-President: Research	

TOR ONIVERSITE OF ONTARIO INSTITUTE OF TECHNOLOGY:	
Signature: I have the authority to bind the University.	Date:
Dr. Michael Owen, Associate Provost Research	
Signature: I have the authority to bind the University.	Date:
Dr. Richard Marceau, Provost	
FOR THE GOVERNING COUNCIL OF THE UNIVERSITY OF TORONTO:	
Signature: I have the authority to bind the University.	Date:
Lino DeFacendis, Director, Partnerships	
FOR THE UNIVERSITY OF WESTERN ONTARIO:	
Signature: I have the authority to bind the University.	Date: <u>Apr 18 / D</u>
Dan Sinai, (Acting) Associate Vice-President, Research	
FOR WILFRID LAURIER UNIVERSITY:	
Signature: I have the authority to bind the University.	Date:
Abby A. Goodrym Vice President: Research	

FOR UNIVERSITY OF UNTARIO INSTITUTE OF TECHNOLOGY.	
Signature: I have the authority to bind the University.	Date:
Dr. Michael Owen, Associate Provost Research	
Signature: I have the authority to bind the University.	Date:
Dr. Richard Marceau, Provost	
FOR THE GOVERNING COUNCIL OF THE UNIVERSITY OF TORONTO:	
Signature: I have the authority to bind the University.	Date:
Lino DeFacendis, Director, Partnerships	
FOR THE UNIVERSITY OF WESTERN ONTARIO:	
Signature: I have the authority to bind the University.	Date:
Dan Sinai, (Acting) Associate Vice-President, Research	
FOR WILFRID LAURIER UNIVERSITY:	
Signature: Acrost to bind the University.	Date: 04/27/12

Abby A. Goodrum, Vice-President: Research

Schedule "A" FedDev Contribution Agreement

Schedule "B"
MEDI Award Agreement

Schedule "C"
Approved Budget

Schedule "D"
Budget Distribution

Schedule "E" Contributions

University Partners	Cash
Wilfrid Laurier University	\$ 45,442
McMaster University	\$ 34,093
Ryerson University	\$ 34,093
University of Guelph	\$ 35,001
University of Toronto	\$147,259
University of Ontario Institute of Technology	\$ 3,798
University of Waterloo	\$234,381

Schedule "F" Institutional Researcher Contact Agreement

WHEREAS the University of Waterloo, McMaster University, Ryerson University, University of Guelph, University of Ontario Institute of Technology, University of Toronto, The University of Western Ontario, and Wilfrid Laurier University are Parties to an Inter-Institutional Agreement (the "IIA") to which this Institutional Researcher Contact Agreement is appended, under which FedDev and MEDI will provide funding to Lead Institution to carry out a Project in which I am an Institutional Researcher Contact;

AND WHEREAS I will be involved in the Project;

NOW THEREFORE, in consideration of information and facilities made available to me in connection with my work in relation to the Project and other valuable consideration, I agree that:

- 1. **Defined Terms.** All terms denoted with initial capital letters and not defined herein will have the meanings ascribed to those terms in the IIA and/or the FedDev Contribution Agreement or the MEDI Award Agreement to which this Institutional Researcher Contact Agreement is appended.
- 2. **Reasonable Efforts.** I will use all reasonable efforts to achieve the objectives and deliverables defined in the Project in Schedules 'A' and 'B'. I will use all reasonable efforts to use the Funds as stated for the purposed outlined in the IIA and Schedule "C" and Schedule "D" to the IIA and will notify Lead Institution of any proposed changes to the use of the Funds.
- 3. **Reporting.** I will use all reasonable efforts to provide information necessary for the purposes of reporting as set out in the IIA.
- 4. Intellectual Property. I will comply with the intellectual property conditions that are set out in the IIA.
- 5. Publications. I will comply with all publication conditions that are set out in the IIA.
- 6. **Acknowledgement.** I have had an opportunity to review the applicable terms of the IIA, and having read this Institutional Researcher Contact Agreement and understood it, hereby agree to its terms.

By signing below, I indicate my acceptance of these terms.

FOR UNIVERS	ITY OF WATERLOO:	
Signature:	Sames Barker, Node Leader (Watersheds)	Date:/ <u>6/04/2</u> 0/2
FOR MCMAST	ER UNIVERSITY:	
Signature:	Jamal Deen, Node Leader (Sensors)	Date:
FOR RYERSON	UNIVERSITY:	
Signature:	Dr. Lynda McCarthy, Professor, Chemistry and Biology	Date:

Schedule "F" Institutional Researcher Contact Agreement

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By signing below	, I indicate my acceptance of these terms.	
FOR UNIVERSI	TY OF WATERLOO:	
Signature:	James Barker, Node Leader (Watersheds)	Date:
FOR MCMASTE	IR UNIVERSITY: Jamel Deen Jamal Deen, Node Leader (Sensors)	15 April 2012 Date:
FOR RYERSON Signature:	UNIVERSITY:	Date:
	Dr. Lynda McCarthy, Professor, Chemistry and Biology	

Schedule "F" Institutional Researcher Contact Agreement

WHEREAS the University of Waterloo, McMaster University, Ryerson University, University of Guelph, University of Ontario Institute of Technology, University of Toronto, The University of Western Ontario, and Wilfrid Laurier University are Parties to an Inter-Institutional Agreement (the "IIA") to which this Institutional Researcher Contact Agreement is appended, under which FedDev and MEDI will provide funding to Lead Institution to carry out a Project in which I am an Institutional Researcher Contact;

AND WHEREAS I will be involved in the Project;

NOW THEREFORE, in consideration of information and facilities made available to me in connection with my work in relation to the Project and other valuable consideration, I agree that:

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- 4. Intellectual Property. I will comply with the intellectual property conditions that are set out in the IIA.
- 5. Publications. I will comply with all publication conditions that are set out in the IIA.
- 6. Acknowledgement. I have had an opportunity to review the applicable terms of the IIA, and having read this Institutional Researcher Contact Agreement and understood it, hereby agree to its terms.

By signing below, I indicate my acceptance of these terms.

FOR UNIVERSI	TY OF WATERLOO:	
Signature:	James Barker, Node Leader (Watersheds)	Date:
FOR MCMASTE	R UNIVERSITY:	
Signature:	Jamal Deen, Node Leader (Sensors)	Date:
FOR RYERSON	UNIVERSITY:	ميا ۽
Signature:	Dr. Lynda McCarthy, Professor, Chemistry and Biology	Date: MON 9 12

FOR UNIVERSIT	TY OF GUELPH:	
Signature:	Ed McBean, Professor	Date: May 14/1
FOR UNIVERSIT	Y OF ONTARIO INSTITUTE OF TECHNOLOGY:	
Signature:	Dr. Doug Holdway, Faculty of Science, UOIT	Date:
FOR THE GOVE	RNING COUNCIL OF THE UNIVERSITY OF TORONTO:	
Signature:	Dr. Susan Andrews, Professor Department of Civil Engineering Node Leader, Drinking Water	Date:
FOR THE UNIVE	RSITY OF WESTERN ONTARIO:	
Signature:	Dr. George Nakhla, Professor	Date:
FOR WILFRID L	AURIER UNIVERSITY:	
Signature:	Dehorah MacLatchy, Node Leader (Ecotoxicology)	Date:

FOR UNIVER	SITY OF GUELPH:	
Signature:	Ed McBean, Professor	Date:
FOR UNIVERS	Dr. Doug Holdway, Faculty of Science, UOIT	Date: 16 April, 2012
FOR THE GO	VERNING COUNCIL OF THE UNIVERSITY OF TORONTO:	
Signature:	Dr. Susan Andrews, Professor Department of Civil Engineering Node Leader, Drinking Water	Date:
FOR THE UNI	VERSITY OF WESTERN ONTARIO:	
Signature:	Dr. George Nakhla, Professor	Date:
FOR WILFRID	LAURIER UNIVERSITY:	
Signature:	Dehorah Maci atchy Node Leader (Ecotoxicology)	Date:

FOR UNIVERS	ITY OF GUELPH:	
Signature:	Ed McBean, Professor	Date:
FOR UNIVERS	ITY OF ONTARIO INSTITUTE OF TECHNOLOGY:	
Signature:	Dr. Doug Holdway, Faculty of Science, UOIT	Date:
FOR THE GOV	ERNING COUNCIL OF THE UNIVERSITY OF TORONTO:	
Signature:	Dr. Susan Andrews, Professor Department of Civil Engineering Node Leader, Drinking Water	Date: <u> </u>
FOR THE UNIV	ERSITY OF WESTERN ONTARIO:	
Signature:	Dr. George Nakhla, Professor	Date:
FOR WILFRID	LAURIER UNIVERSITY:	
Signature:	Deborah MacLatchy, Node Leader (Ecotoxicology)	Date:

Signature:	Ed McBean, Professor	Date:
FOR UNIVERSITY	Y OF ONTARIO INSTITUTE OF TECHNOLOGY:	
Signature:	Dr. Doug Holdway, Faculty of Science, UOIT	Date:
FOR THE GOVER	NING COUNCIL OF THE UNIVERSITY OF TORONTO:	
Signature:	Dr. Susan Andrews, Professor Department of Civil Engineering Node Leader, Drinking Water	Date:
FOR THE UNIVER	RSITY OF WESTERN ONTARIO:	
Signature:	Dr. George Nakhla, Professor	Date:
FOR WILFRID LA	URIER UNIVERSITY:	
Signature:	Deborah MacLatchy, Node Leader (Ecotoxicology)	Date: <u>20 Apri 120</u> 12

FOR UNIVERSITY OF GUELPH:

Schedule "G" Administrative Contacts

Lead Institution	Contact General	Contact Finance
University of Waterloo	Andrew Barker	Doreen White
	Director, Institutional Research	Senior Manager, Research Finance
	Office of Research, NH 1006	Office of Research, NH 1033
	University of Waterloo	University of Waterloo
	Waterloo, Ontario N2L 3G1	Waterloo, Ontario N2L 3G1
	519-888-4567 ext. 36004	519-888-4567 ext. 35059
	519-725-9971 (fax)	519-746-7151 (fax)
	andrew.barker@uwaterloo.ca	dwhite@uwaterloo.ca

Participating Institutions	Contact General	Contact Finance
McMaster University	Kathy Charters, Executive Director	Susan Munro, Assistant Director
	Research Office for Administration,	Research Finance
	Development & Support (ROADS)	Gilmour Hall 305
	Gilmour Hall 305	McMaster University
	McMaster University	1280 Main Street West
	1280 Main Street West,	Hamilton, Ontario L8S 4L8
	Hamilton, Ontario L8S 4L8	905-525-9140 ext. 23711
•	905-525-9140 ext. 23735	905-540-8019 (fax)
	905-540-8019 (fax)	munros@mcmaster.ca
	chartersk@mcmaster.ca	
Ryerson University	Paul McArthur,	Vivian Chan,
	Grants/Contracts Officer: Research	
	Infrastructure	Administration and Finance Office of
	Ryerson University	the Vice President, Research and
	Office of Research Services,	Innovation
	350 Victoria Street	Ryerson University
	Toronto, Ontario M5B 2K3	Office of Research Services,
	Phone: 416-979-5000 ext. 4841	350 Victoria Street
	pmcarth@ryerson.ca	Toronto, Ontario M5B 2K3
		Tel: 416-979-5000 ext. 2792
University of Guelph	Louro Boourse	viv.chan@ryerson.ca
oniversity of Guerph	Laura Beaupre Director, Research Support	Lee Bennard
	Services	Manager, Infrastructure Programs
		Research Financial Services
	Room 437, University Centre	Level 4 University Centre
	University of Guelph 50 Stone Road East	University of Guelph 50 Stone Road East
	Guelph, Ontario N1G 2W1	
	519 824-4120 ext. 56616	Guelph, Ontario N1G 2W1 519-824-4120 ext. 52078
	519-821-5236 (fax)	
	lbeaupre@uoguelph.ca	519-827-1685 (fax)
Jniversity of Ontario Institut		lbennard@uoguelph.ca Gil Zulueta
of Technology	Manager, Research Services	Manager, Research & Trust
, comicing,	Office of Research Services	Accounting
•	University of Ontario Institute of	University of Ontario Institute of
•	Technology	Technology
	Oshawa, Ontario L1H 7K4	Oshawa, Ontario L1H 7K4
	905-721-8668 ext. 3176	905-721-8668 ext. 6546
	Jennifer.Freeman@uoit.ca	gil.zulueta@uoit.ca
	paramoni roomanagaani.ca	M

The Governing Council of the	Elizabeth Tharakan	Eugenia Amul
University of Toronto	Contracts Officer	Research Accountant
	Innovations & Partnerships Office	Research Oversight and Compliance
	University of Toronto	Office
	Banting Institute	2nd Floor, McMurrich Bldg.,
·	413 100 College St.	12 Queen's Park Crescent West,
	Toronto Ontario M5G 1L5	Toronto, Ontario M5S 1S8
	416-946-5170	416-978-2147
	416-978-6052 (fax)	416-946-5763 (fax)
		eugenia.amul@utoronto.ca
The University of Western		Meredith Legault
Ontario	(Acting) Associate Vice-President,	Financial Officer
	Research	The University of Western Ontario
	The University of Western Ontario	1151 Richmond Street, SSB 6183
	1151 Richmond Street, SSB 5183A	London, Ontario N6A 3K7
	London, Ontario N6A 3K7	(519) 661-2111 ext. 85456
	(519) 661-3406	(519) 850-2509 (fax)
	(519) 661-3907 (fax)	mlegaul2@uwo.da
	dsinai2@uwo.ca	
Wilfrid Laurier University	Sally Gray	Rene Soto
	Director: Research Services	Research Finance Administrator
	Office of Research Services, AH227	Office of Research Services, AH221
	,	Wilfrid Laurier University
3		Waterloo, Ontario N2L 3C5
i e		519-884-0710 ext. 2695
		519-884-7670 (fax)
	sgray@wlu.ca	rsoto@wlu.ca

Schedule "H" FedDev Attestation Form, Claim Statement Form, In-Kind Contribution Confirmation

Schedule "J" Management and Governance

The Board of Directors

The board's primary responsibility will be to ensure that policies and practices are in place to warrant the effective functioning of and access to the platform. The board will include representatives of the private sector and Vice Presidents of Research as representatives of partner Universities. It may also include members from First Nations, governments and non-profit organizations, and others as appropriate.

The board is responsible for:

- Approving policies for management of the platform including a financial policy (fee structure), and an access/scheduling policy developed by the Platform Management Committee (PMC).
- · General oversight of the administration of the Platform.
- Providing strategic guidance to the Operations Manager (OM).
- Assisting with promotion and branding of the SOWC as appropriate.
- establishing and approving the business model and governance structure of the SOWC "postproject" and for ensuring its successor board is in place on April 1, 2014.

The board will ensure compliance with the letter and the spirit of all agreements with funders, consortium members and other stakeholders, and will assist the advancement of SOWC's aims and objectives. The Board's term will be the duration of the project (until March 31, 2014). A simple majority will be required for decisions. Board membership is not remunerated, but Board members may claim appropriate expenses for participating in Board activities.

Platform Management Committee (PMC)

The PMC will advise the OM to ensure ongoing integration of the themes and to recommend new initiatives and corrective actions to support integration, access, and engagement by interested academic, private, and public organizations. The chair of each TOC and the Associate Operations Manager (AOM) will form the overall PMC. An industry representative of the Board will also serve on PMC along with representatives of any other organizations as appropriate for cross-platform integration (e.g. The Grand River Conservation Authority) as approved by the Board. PMC will be chaired by the OM.

Above all, the PMC is designed to ensure integration across the Theme Areas and to assist the Operations Manager in ensuring the success and optimal functioning of the platform. It will develop policies for the management of the platform including a financial policy (fee structure), and an access/scheduling policy for approval of the Board.

Theme Operations Committees (TOCs)

Each Theme area (Watersheds, Drinking Water, Wastewater, Ecotoxicology, Sensors and Analytics) will be represented by a Theme Operations Committee (TOC).

Assisting and reporting to the Operations Manager, each TOC will have one member from each partner institution that is engaged in the theme (not all eight universities have engagement in each theme), appointed by each institution's Vice President Research. Each TOC will also include at least one Industry representative, and may include government or non-government organization representatives as appropriate. In some cases, legacy management structures are in place (i.e. the Borden field facility) and the OM working with the TOC will leverage such structures as is appropriate. Recognizing the complexity of the operation of the test and demonstration facility in London, there will be an AOM for that facility.

The OM, the AOM, and the TOCs will insure that the platform is available to all users equitably. The Operations Manager will work with each TOC to establish policies that maximize access while maintaining operational status and ensuring adequate funds are maintained for operation, repairs and replacement of equipment. TOCs will review operations semi-annually and recommend adjustments as required to the Operations Manager and thence to the Platform Management Committee and the Board.

Above all, the Theme Operations Committees are designed to ensure integration within the Theme Areas and across participating Universities and to ensure that the Operations Manager can access the expertise of the research community in each theme. Each Theme Operating Committee will have a Chair or "Node Leader" responsible for facilitating meetings and engagement within the TOC and for representation of the TOC on the PMC for full integration and coordination across Theme areas.

The TOC and Node Leaders also have primary responsibility for the acquisition and installation of the equipment associated with their Theme Area. Policies of the host Institution must be followed for all acquisition and hiring, and each University is responsible for financial accounting. Node Leaders are responsible for overall management of the budget for their Theme Area, and reporting to PMC.

Management

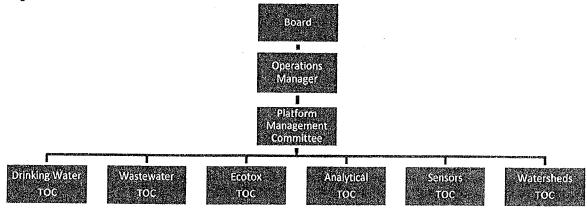
The Operations Manager is responsible to the Board for the establishment and overall operation of the platform and for ensuring complete integration among the themes. The OM's first duty is to ensure integration and ease of access for users, working with and through the Theme Operations Committees.

The OM will be responsible to manage activities associated with each of the individual Platform Nodes including the supervision of equipment purchasing and installation, and facilitation of access to the facilities as they become available for testing, piloting and demonstration by industrial partners and other users. The OM also has primary responsibility for marketing and promotion of SOWC.

SOWC personnel will report directly to the Operations Manager. Positions will include an Associate Operations Manager (AOM) to be located in London. The AOM is responsible for the operations of the Western University London activities of the Wastewater Node of the platform at the City of London wastewater treatment plant. Other SOWC positions are expected to include an Industry Coordinator and a Communications Coordinator as well as an Office Manager/Executive Assistant.

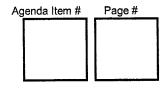
Node Facility Managers and Platform Operations Technicians will be allocated to each of the Platform Nodes based on need, and will be hired by and report directly to the relevant Node Leader. These positions will have responsibility for coordinating and expediting the procurement of equipment required for each Node, arranging for installation as required and directly assisting industrial partners in their Platform testing and demonstration activities and field work.

Organizational Chart:



Schedule "K" Dispute Resolution Procedures

- 1. The Party that desires mediation shall serve the other Party with a written notice requesting that the dispute be submitted to a non-binding mediation process ("Mediation Notice"). The Parties shall mutually agree on a single mediator to mediate the dispute in accordance with mediation procedures suggested by the mediator. The involved Parties agree to use their best efforts in participating in the mediation process and attempt to resolve the dispute. The Parties agree to have their principals, including their respective Vice-President, Research, participate in the mediation process, including being present throughout the mediation session(s). The mediation shall be held in Waterloo. The Parties agree to share equally the costs of mediation, which costs shall not include costs incurred by a Party for representation by counsel.
- 2. If the Parties are unable to resolve all issues in dispute in the mediation within thirty (30) days of the Mediation Notice, the Parties agree that the remaining issues in dispute must be determined by arbitration. The Party that desires arbitration shall nominate one arbitrator and shall notify the other Party of such nomination, who shall within (30) days after receiving such notice nominate an arbitrator. The two arbitrators shall select a third arbitrator to act jointly with them. If the two arbitrators appointed by the Parties shall fail within a further 15-day period to select a third arbitrator, either Party may apply to a judge of the Ontario Superior Court of Justice to appoint such third arbitrator. If a second arbitrator is not nominated within (30) days, then the first arbitrator may proceed to determine the dispute and the first arbitrator's decision shall, subject to the provisions hereof, be binding upon the Parties.
- 3. The arbitrator or arbitrators selected to act hereunder shall be qualified by education and training to pass upon the particular question in dispute.
- 4. The arbitrator or arbitrators so chosen shall proceed immediately to hear and determine the matter or matters in dispute. The decision of the arbitrator, or the decision of a majority of arbitrators, as the case may be, shall be made within 45 days after the confirmation of the appointment of the arbitrator, or the appointment of the third arbitrator, as the case may be, subject to any reasonable delay due to unforeseen circumstances. Notwithstanding the foregoing, in the event the single arbitrator fails to make a decision within 60 days after his/her appointment or if the arbitrators, or a majority of them, fail to make a decision within 60 days after the appointment of the third arbitrator, then either Party may elect to have a new single arbitrator or arbitrators chosen in like manners as if none had previously been selected.
- 5. If a Party fails or refuses to appear and give evidence or otherwise participate in the arbitration contemplated, the arbitrator(s) shall decide the reference in the absence of that Party.
- 6. The decision of the arbitrators or any two of them (or the decision of the single arbitrator, if only one is appointed in the circumstances described in the subsection 1.1) shall be given in writing and shall be final, binding on the Parties, not subject to any appeal, and shall deal with the question of costs of arbitration and all matters related thereto.
- 7. Judgment upon the award rendered may be entered into any court having jurisdiction, or application may be made to such court for a judicial recognition of the award or an order of enforcement thereof, as the case may be.



Schedule B

To the Agreement with the University of Western Ontario





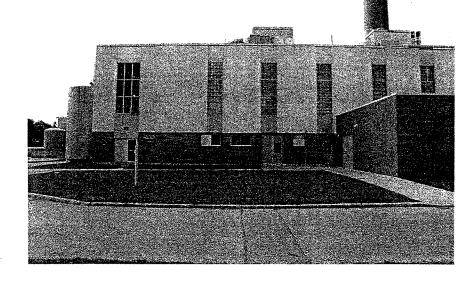
CORPORATION OF THE CITY OF LONDON

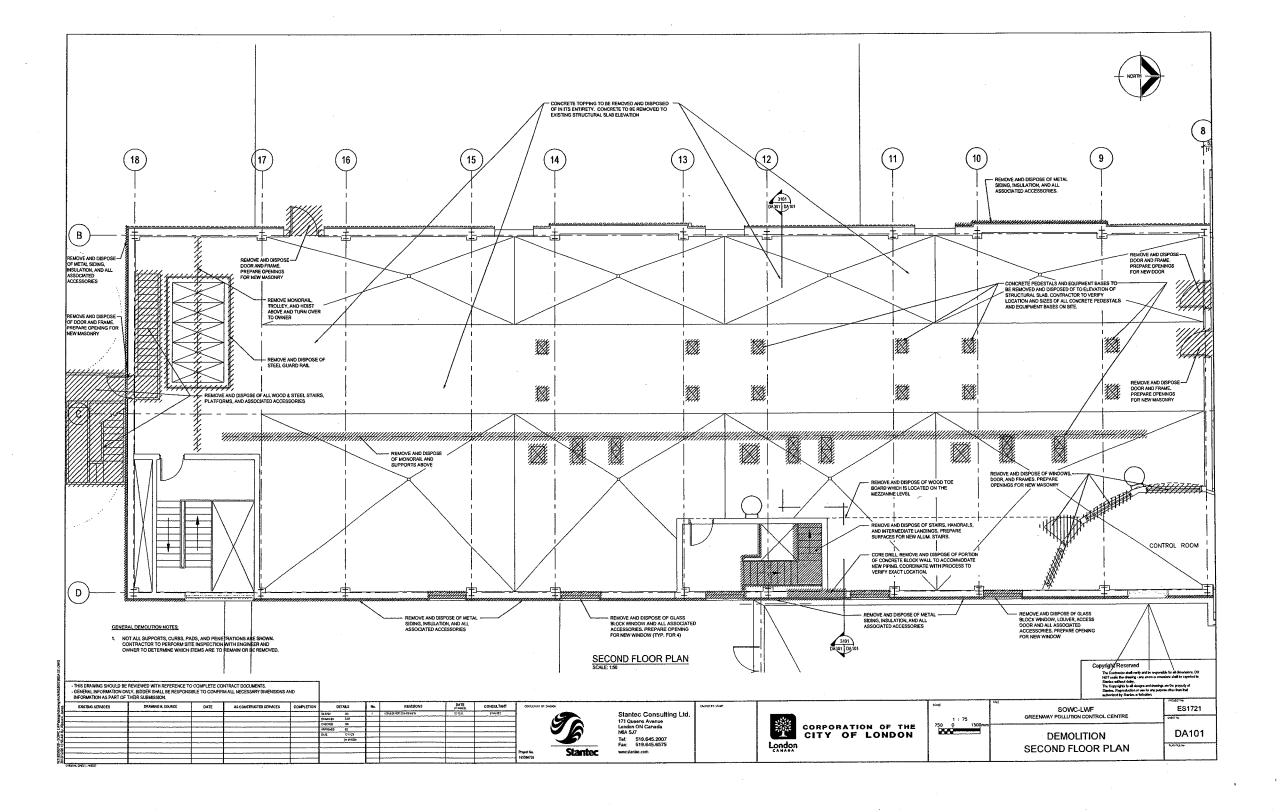
GREENWAY POLLUTION CONTROL CENTRE SOUTHERN ONTARIO WATER CONSORTIUM - LONDON WASTEWATER

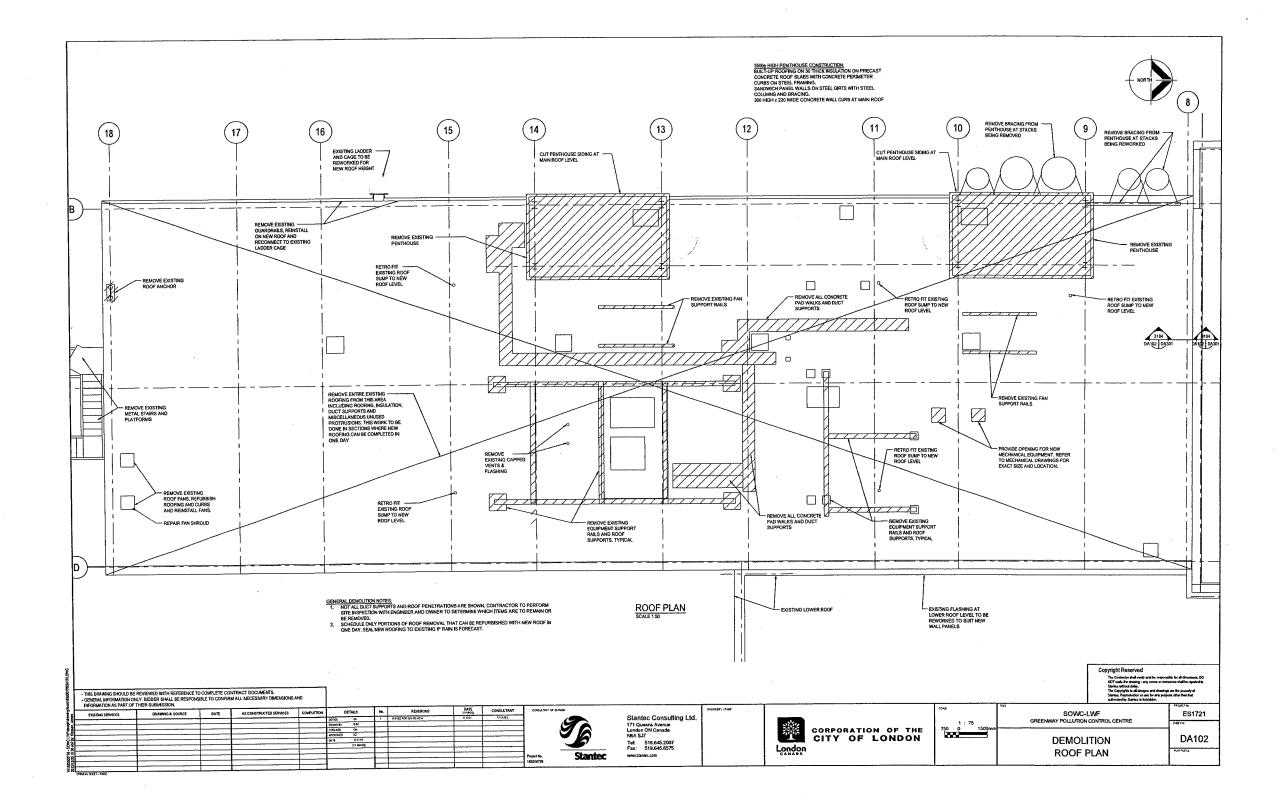
FACILITY (SOWC - LWF)

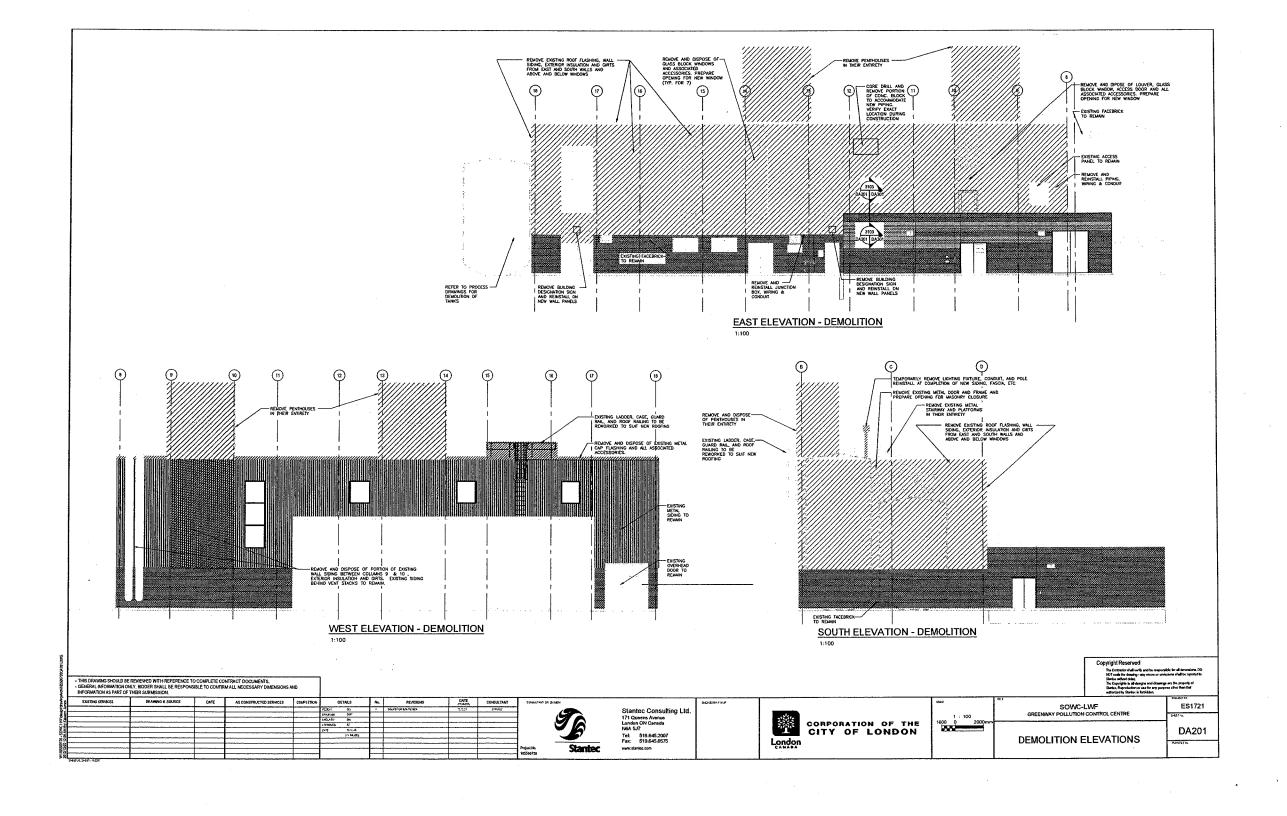
DECEMBER 2012 - 90% REVIEW

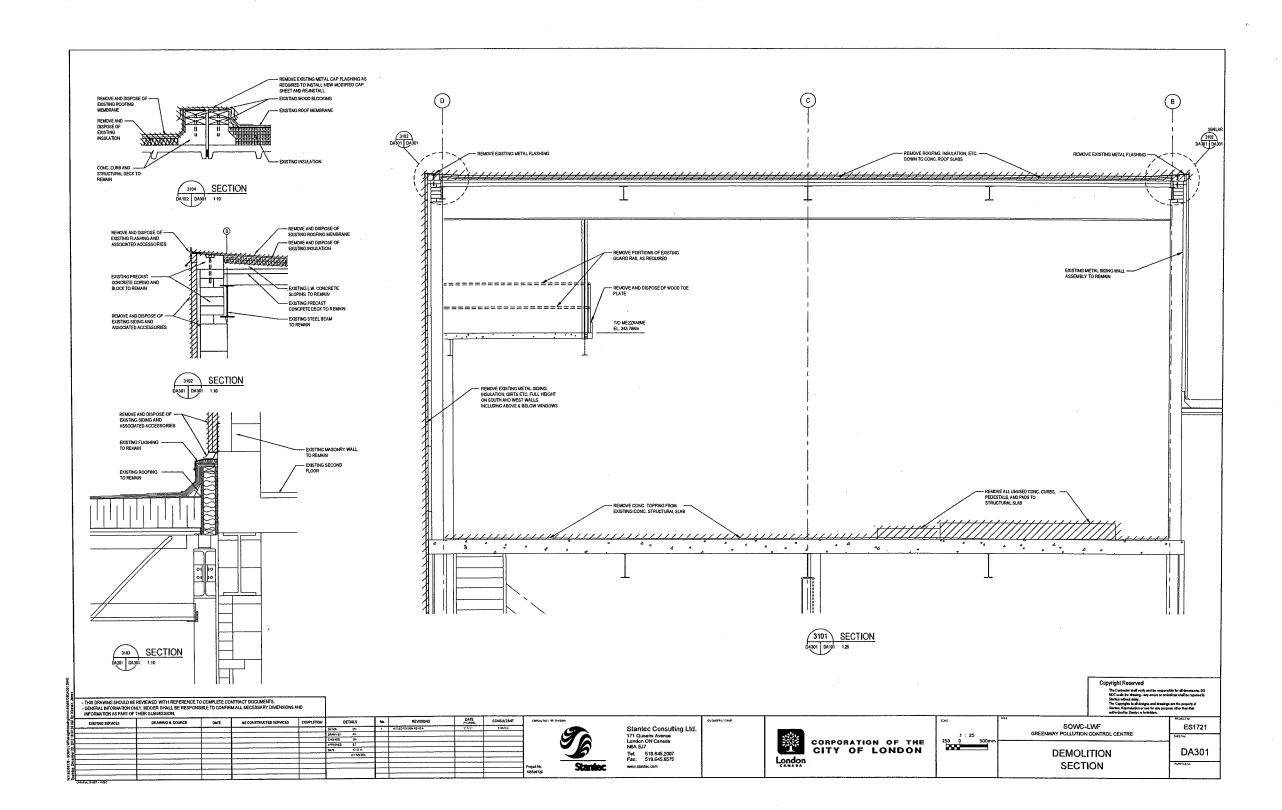
Project Number: 165500726

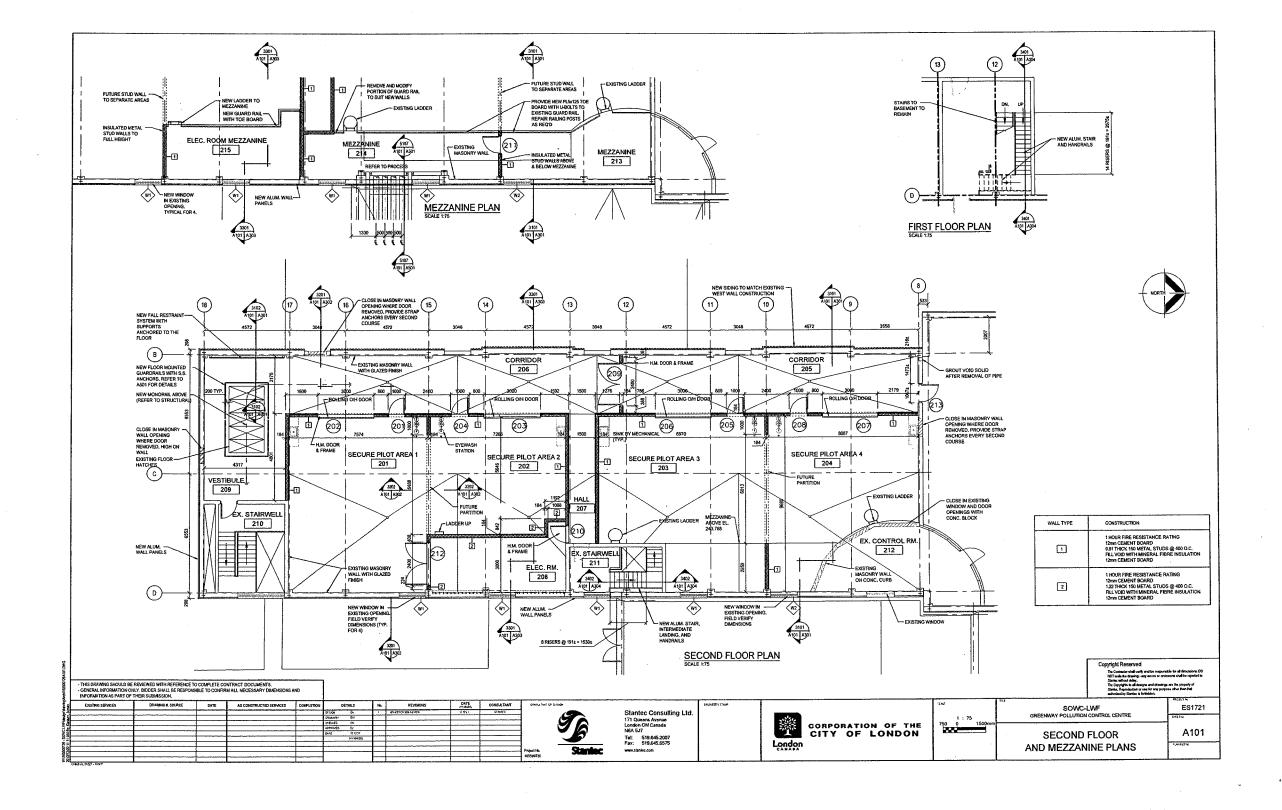


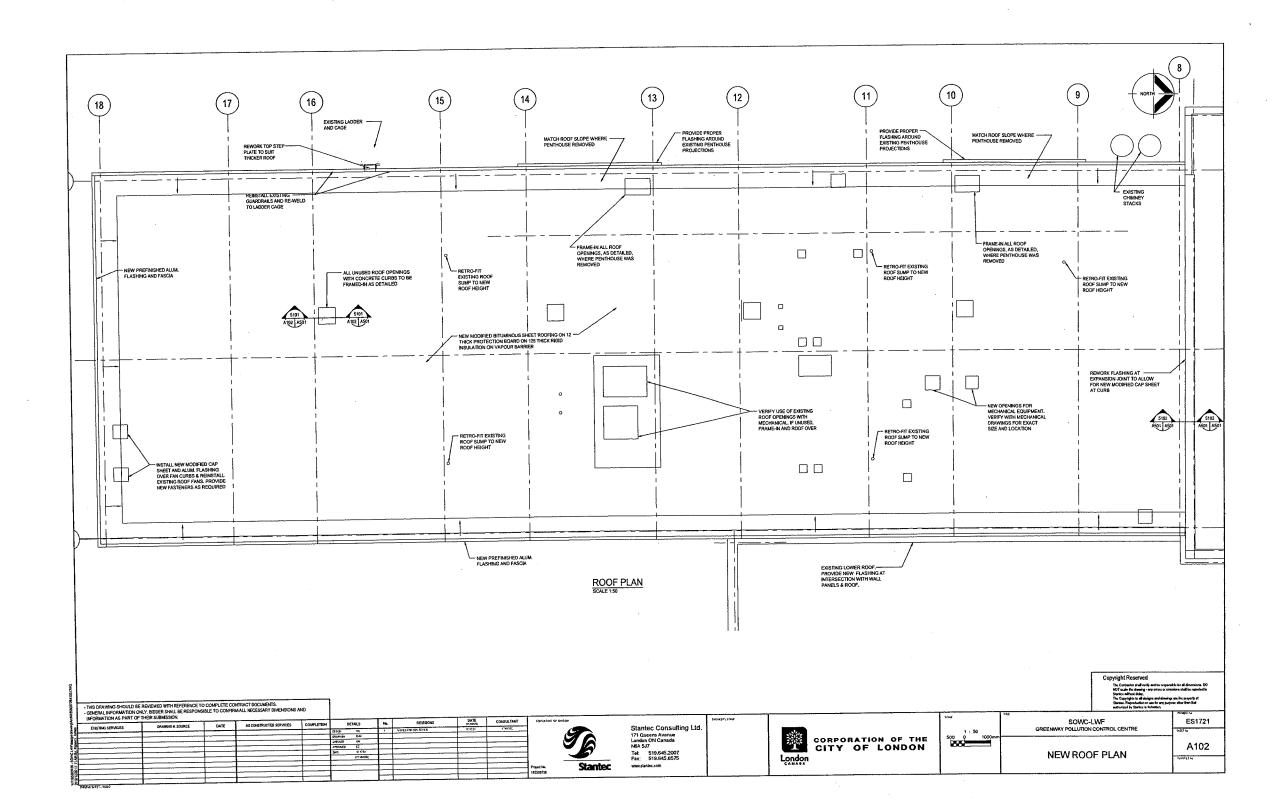


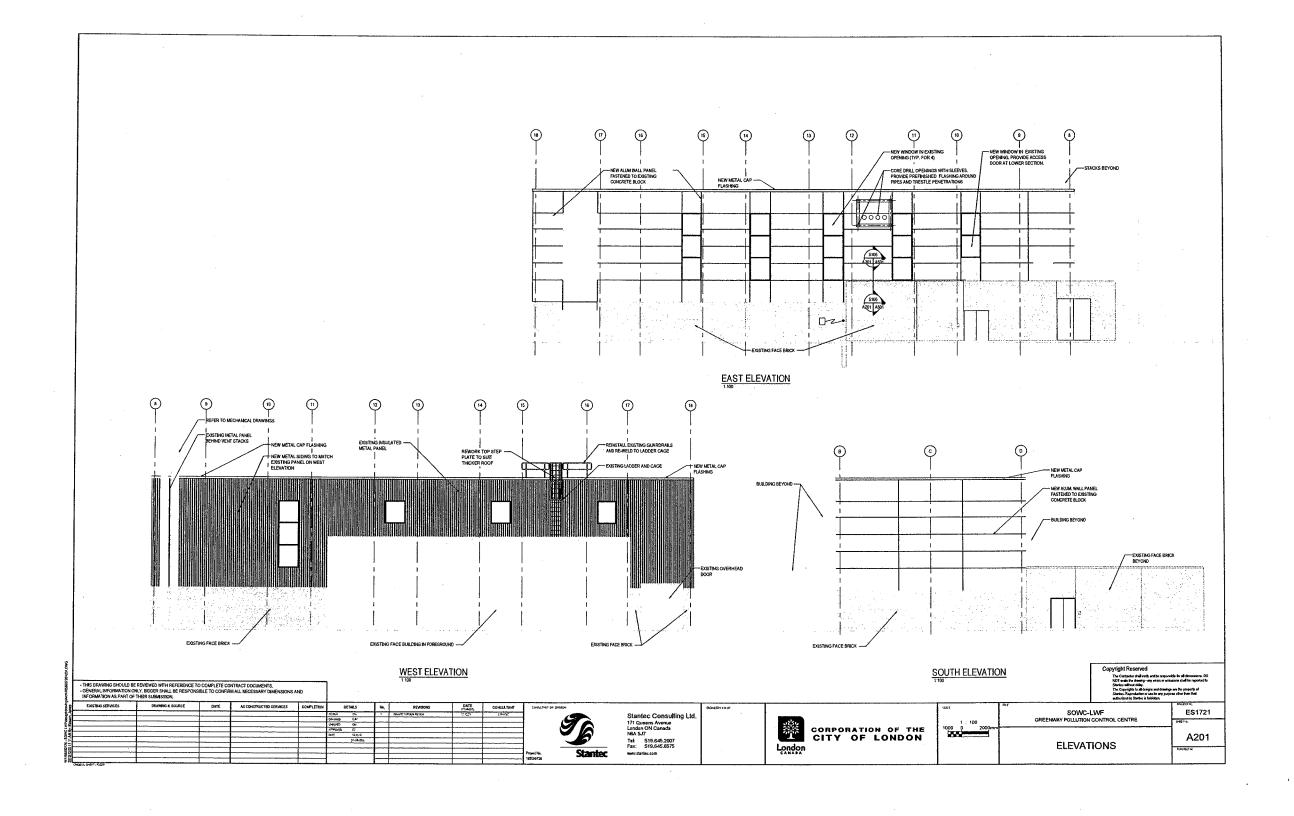


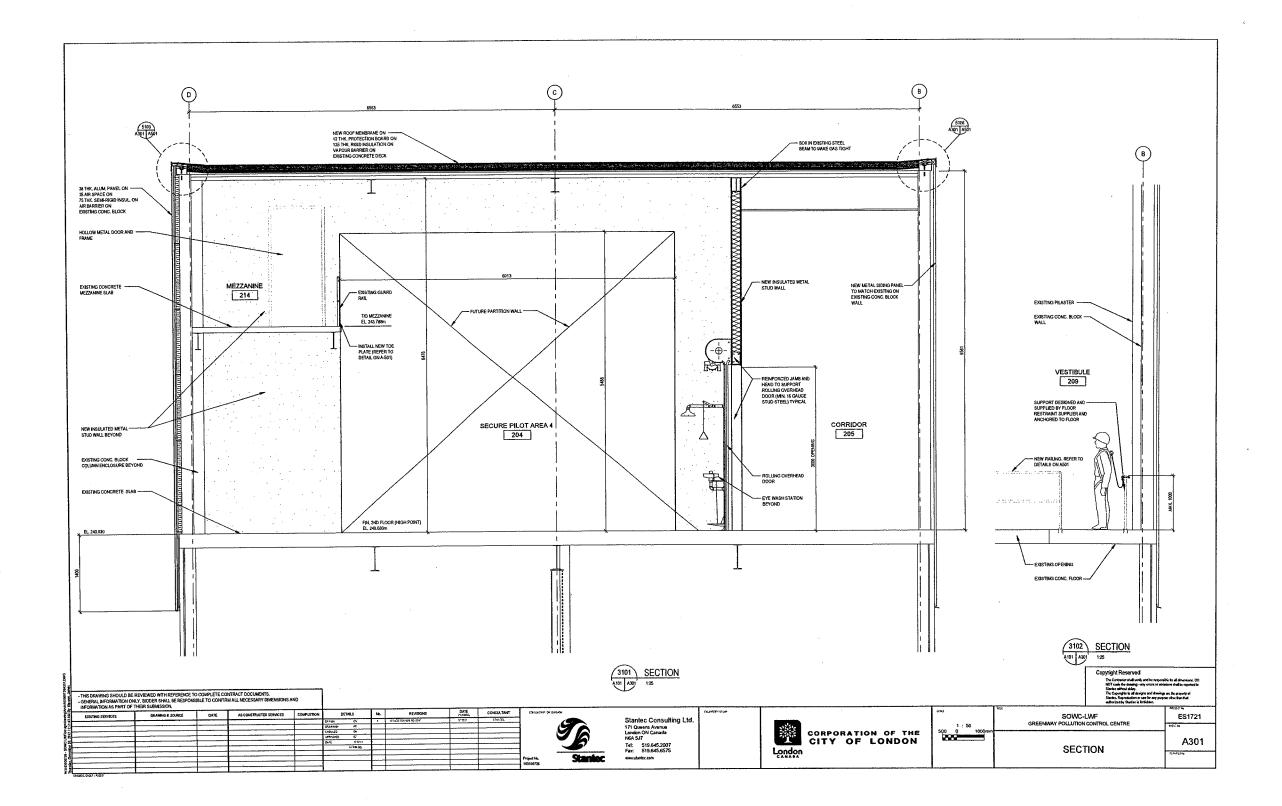


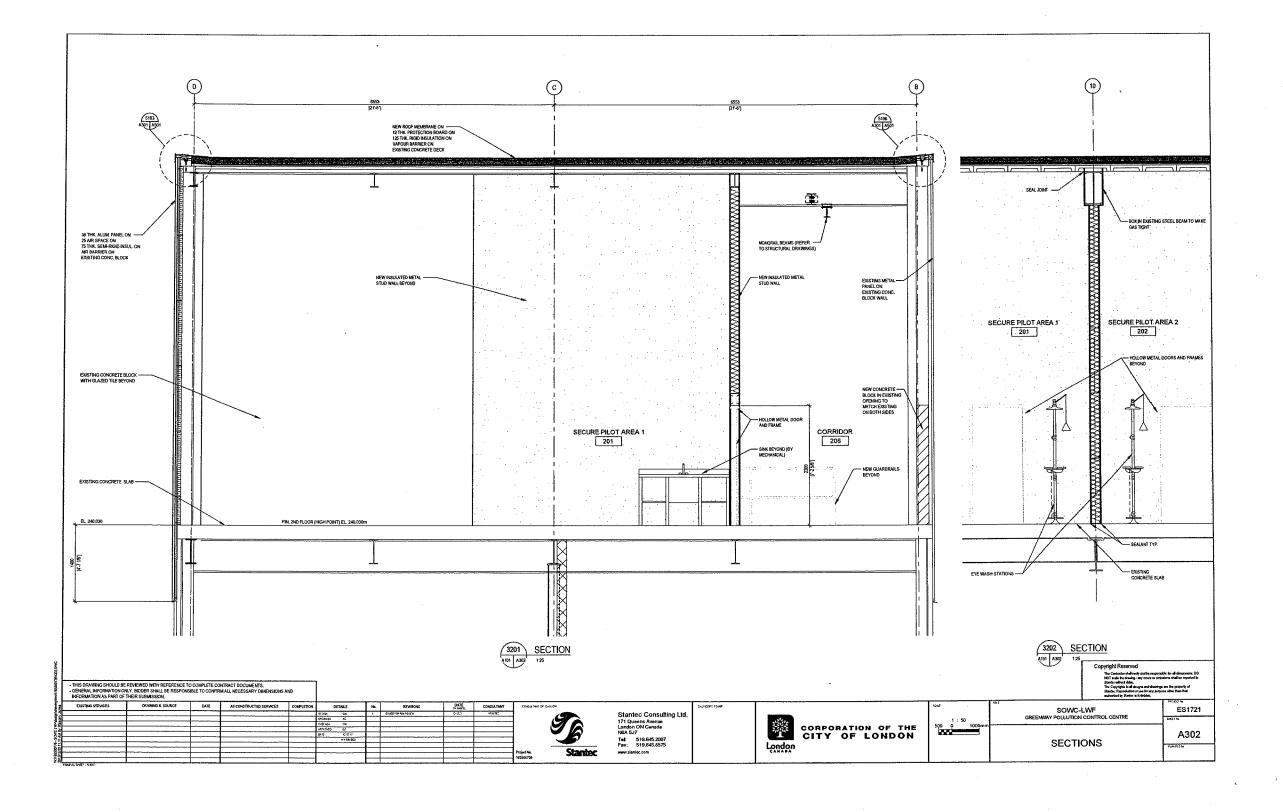


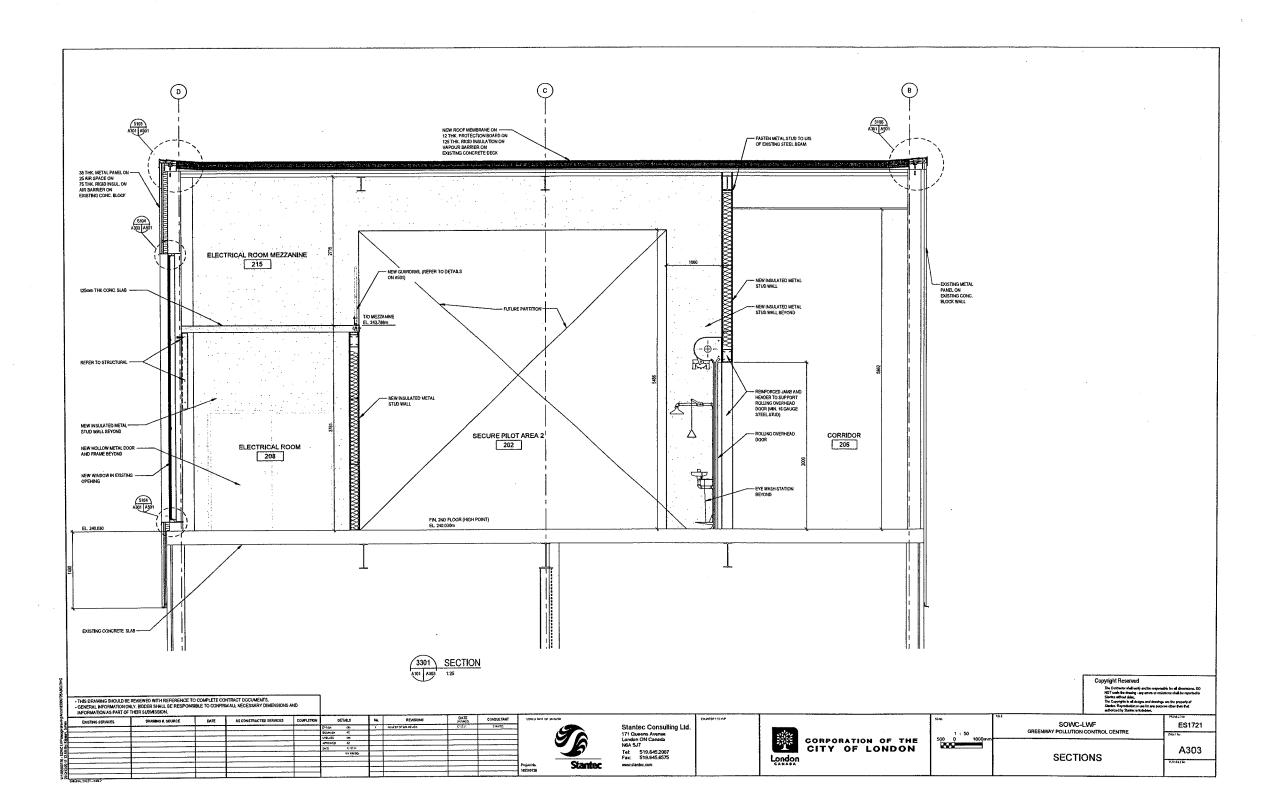


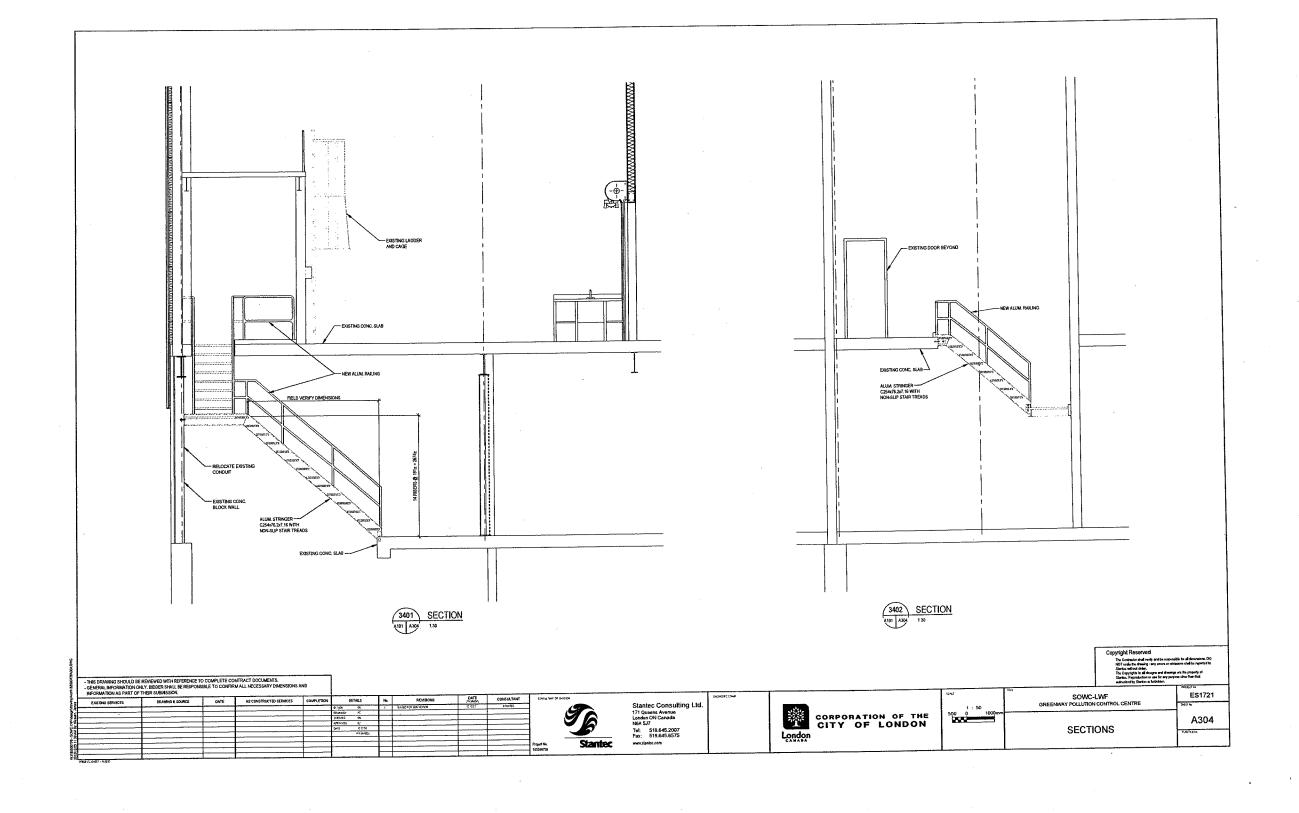


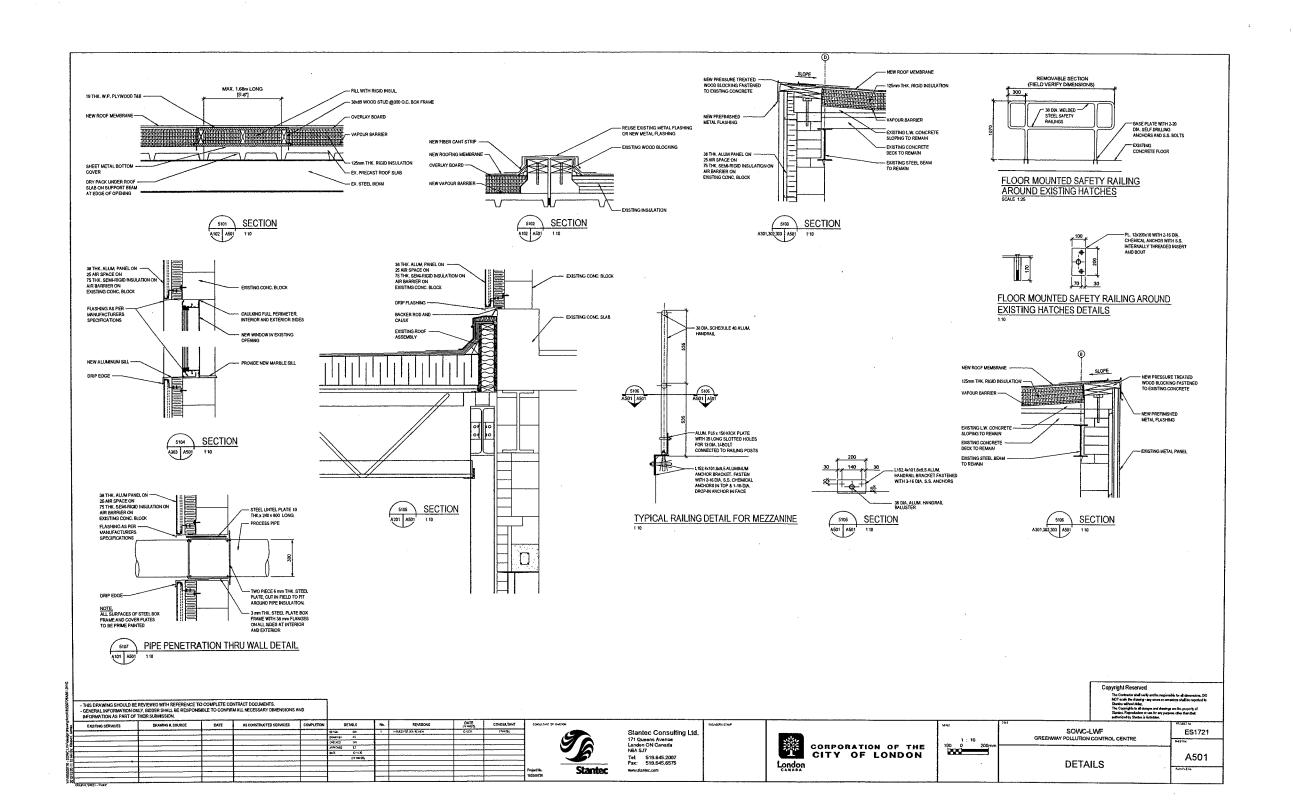


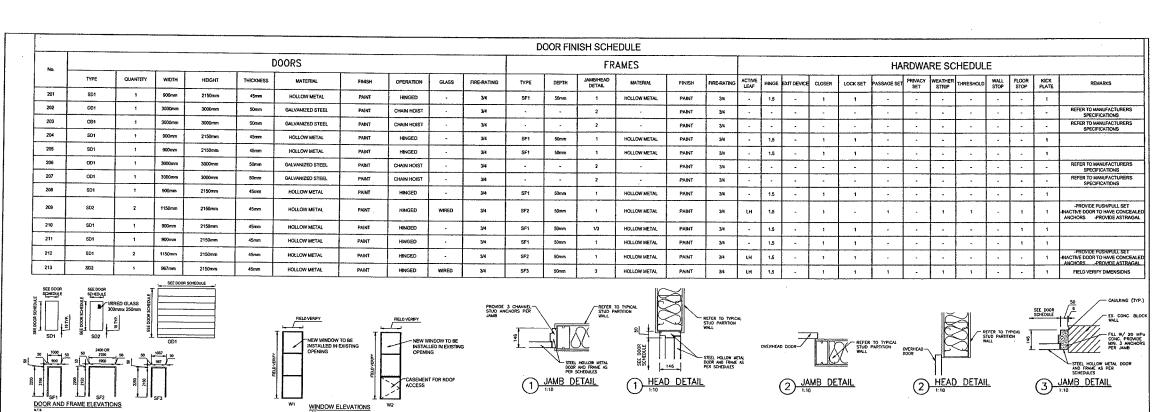












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	ROOM FINISH SCHEDULE																	
	ROOM	FLOO	R		BASE		С	EILING		NORTH WAL		EAST WA	ALL	SOUTHW	ALL	WEST WALL		REMARKS
No.	NAME	MATERIAL	FINISH	MATERIAL	FINISH	HEIGHT	MATERIAL	FINISH	HEIGHT	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	
201	SECURE PILOT AREA 1	CONCRETE	SEALER	-			CONCRETE DECK	PAINT	6475	CEMENT BOARD	PAINT	GLAZED BLOCK		GLAZED BLOCK/ CEMENT BOARD	PAINT	CEMENT BOARD	PAINT	CLEAN GLAZED BLOCK TYPICAL FOR ALL ROOMS
202	SECURE PILOT AREA 2	CONCRETE	SEALER			-	CONCRETE DECK	PAINT	6475	CEMENT BOARD	PAINT	GLAZED BLOCK/ CEMENT BOARD	PAINT	CEMENT BOARD	PAINT	CEMENT BOARD	PAINT	CLEAN GLAZED BLOCK TYPICAL FOR ALL ROOMS
203	SECURE PILOT AREA 3	CONCRETE	SEALER		٠		CONCRETE DECK	PAINT	6475	CEMENT BOARD	PAINT	GLAZED BLOCK	-	GLAZEO BLOCK/ CEMENT BOARD	PAINT	CEMENT BOARD	PAINT	
204	SECURE PILOT AREA 4	CONCRETE	SEALER	-	-		CONCRETE DECK	PAINT	6475	GLAZED BLOCK	·	GLAZED BLOCK/ CONC. BLOCK	PAINT	CEMENT BOARD	PAINT	CEMENT BOARD	PAINT	
205	CORRIDOR	CONCRETE	SEALER	-		-	CONCRETE DECK	PAINT	6475	GLAZEO BLOCK		CEMENT BOARD	PAINT	CEMENT BOARD	PAINT	GLAZED BLOCK	-	
206	CORRIDOR	CONCRETE	SEALER	-		-	CONCRETE DECK	PAINT	6475	CEMENT BOARD	PAINT	CEMENT BOARD	PAINT	-		GLAZED BLOCK	-	
207	HALL	CONCRETE	SEALER		-	-	CONCRETE DECK	PAINT	6475	CEMENT BOARD	PAINT	GLAZED BLOCK		CEMENT BOARD	PAINT		-	
208	ELEC, ROOM	CONCRETE	SEALER	•		-	CONCRETE	PAINT	3494	GLAZED BLOCK/ CEMENT BOARD	PAINT	GLAZED BLOCK		CEMENT BOARD	PAINT	CEMENT BOARD	PAINT	
209	VESTIBULE	CONCRETE	SEALER				CONCRETE DECK	PAINT	6475	CEMENT BOARD	PAINT	GLAZED BLOCK	-	GLAZED BLOCK	-	GLAZED BLOCK		
210	EX, STAIRWELL	CONCRETE	-	·	-	-	CONCRETE DECK			GLAZED BLOCK	-	GLAZED BLOCK	-	GLAZED BLOCK		GLAZED BLOCK	-	existing
211	EX. STAIRWELL	CONCRETE			-	•	CONCRETE DECK	-	-	GLAZED BLOCK	-	GLAZED BLOCK	-	GLAZED BLOCK		GLAZED BLOCK	-	EXISTING
212	EX. CONTROL ROOM	CONCRETE	SEALER				CONCRETE DECK	PAINT	6475	GLAZED BLOCK/ CONC. BLOCK	PAINT	CONC. BLOCK	PAINT	CONC. BLOCK	PAINT	CONC. BLOCK	PAIN?	EXISTING
213	MEZZANINE	CONCRETE	SEALER		•	-	CONCRETE DECK	PAINT	2685	GLAZED BLOCK	-	GLAZED BLOCK	-	CEMENT BOARD	PAINT			
214	MEZZANINE	CONCRETE	SEALER	-	-		CONCRETE DECK	PAINT	2685	CEMENT BOARD	PAINT	GLAZED BLOCK		CEMENT BOARD	PAIN?	CEMENT BOARD	PAINT	
215	ELEC. ROOM MEZZANINE	CONCRETE	SEALER	-			CONCRETE DECK	PAINT	2685	CEMENT BOARD	PAINT	GLAZED BLOCK	-	CEMENT BOARD	PAINT	-		

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1. REPAIR ALL EXISTING CONCRETE BLOCK WALLS AS NECESSARY PRIOR TO PAINTING. DATE AS CONSTRUCTED SERVICES DETAILS DATE CONSULTANT

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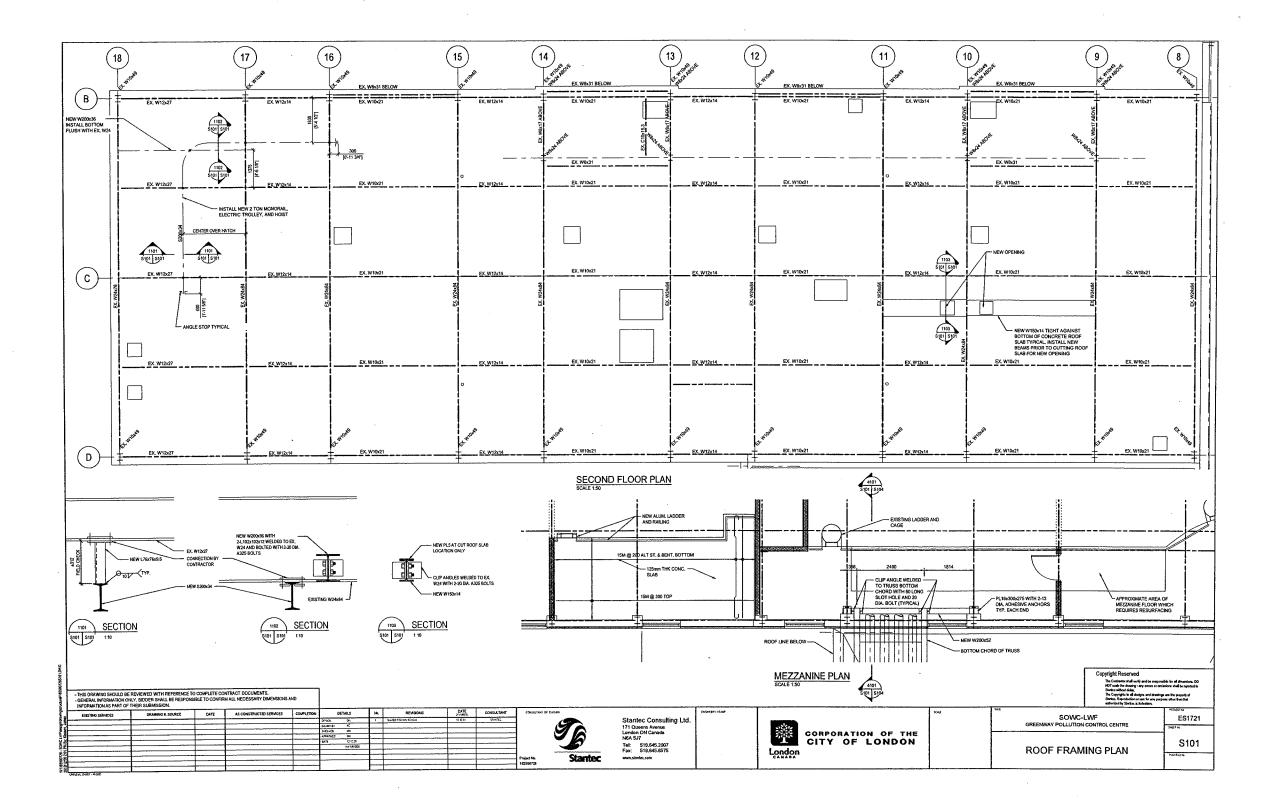


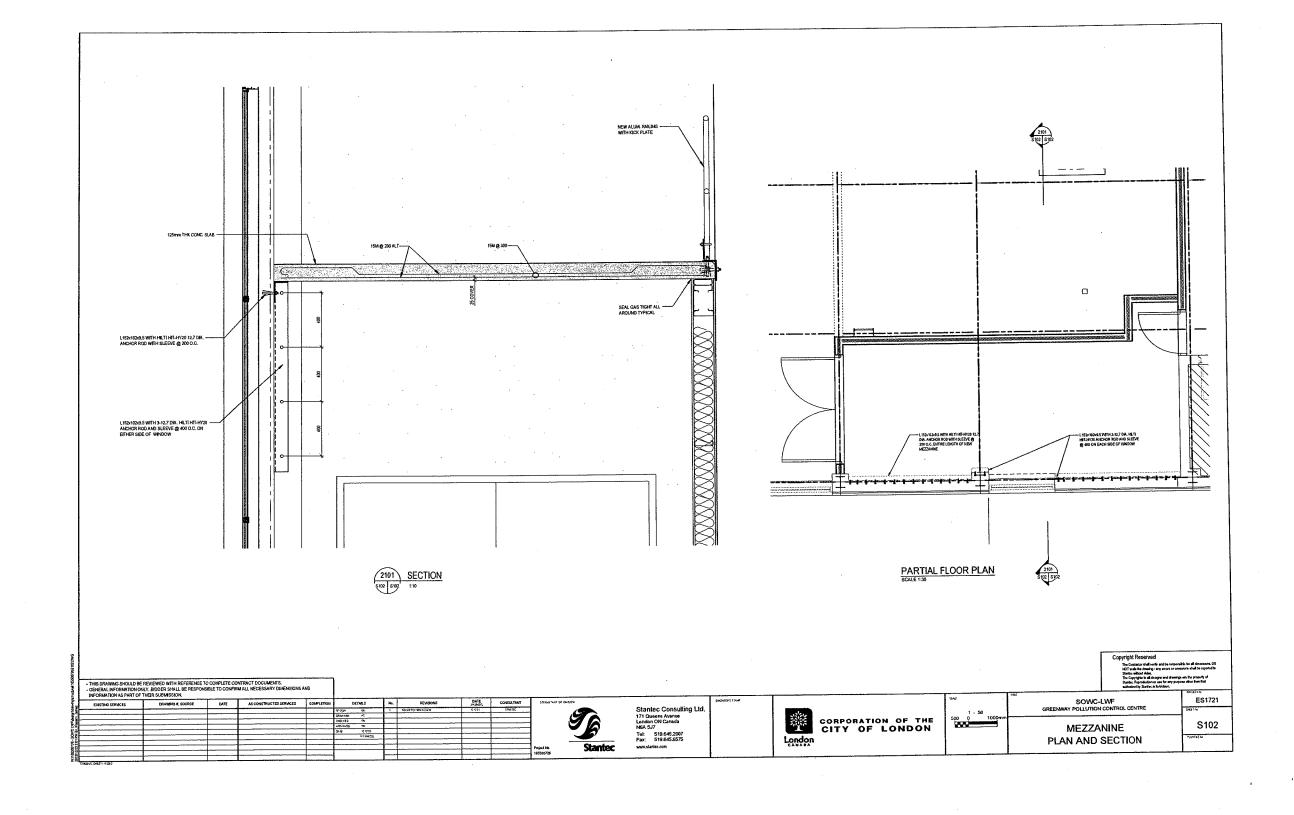
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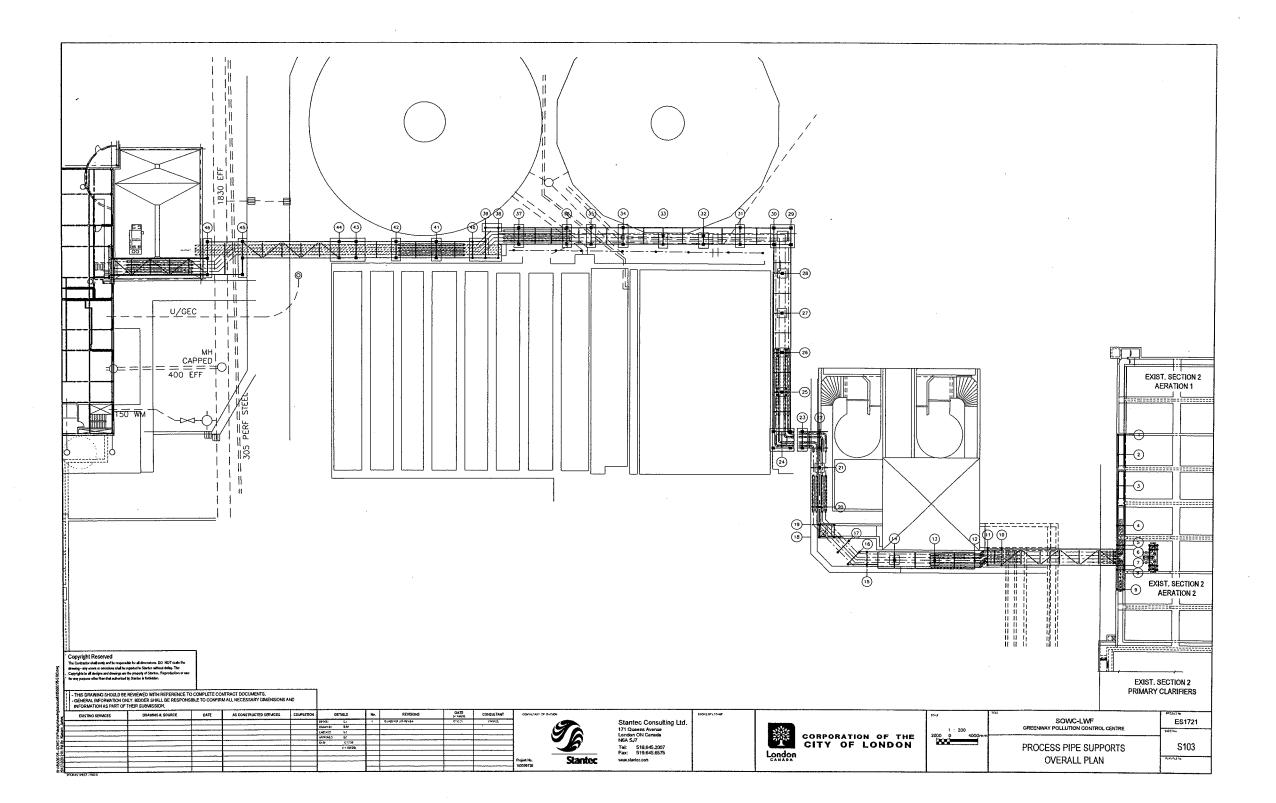
SOWC-LWF GREENWAY POLLUTION CONTROL CENTRE ROOM & DOOR FINISH SCHEDULE. **DOOR ELEVATIONS & DETAILS**

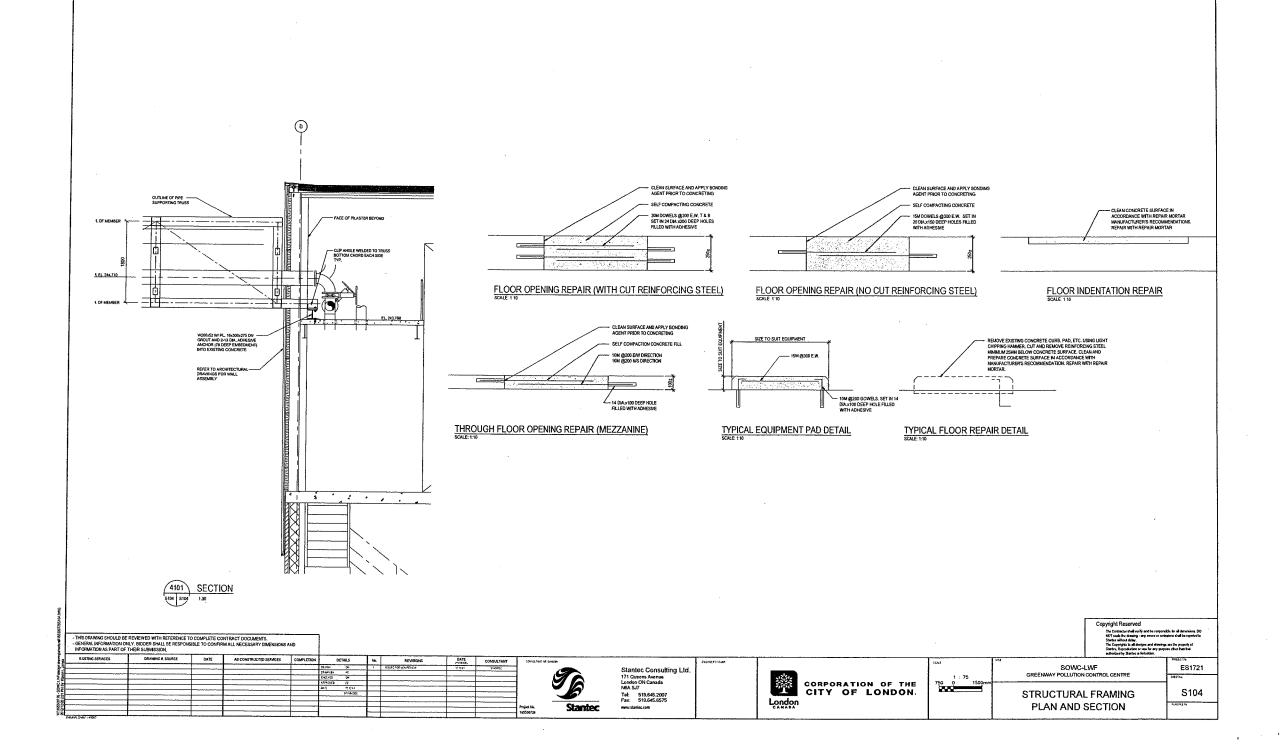
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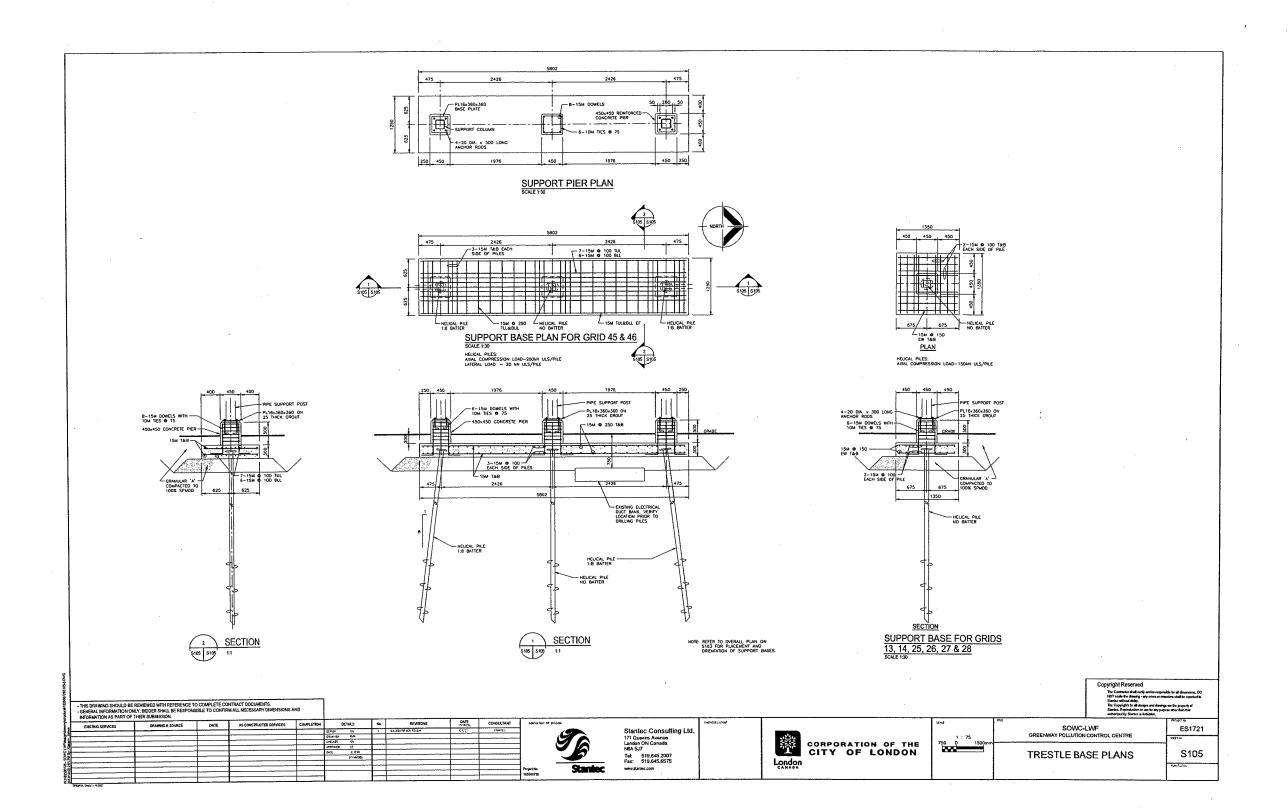
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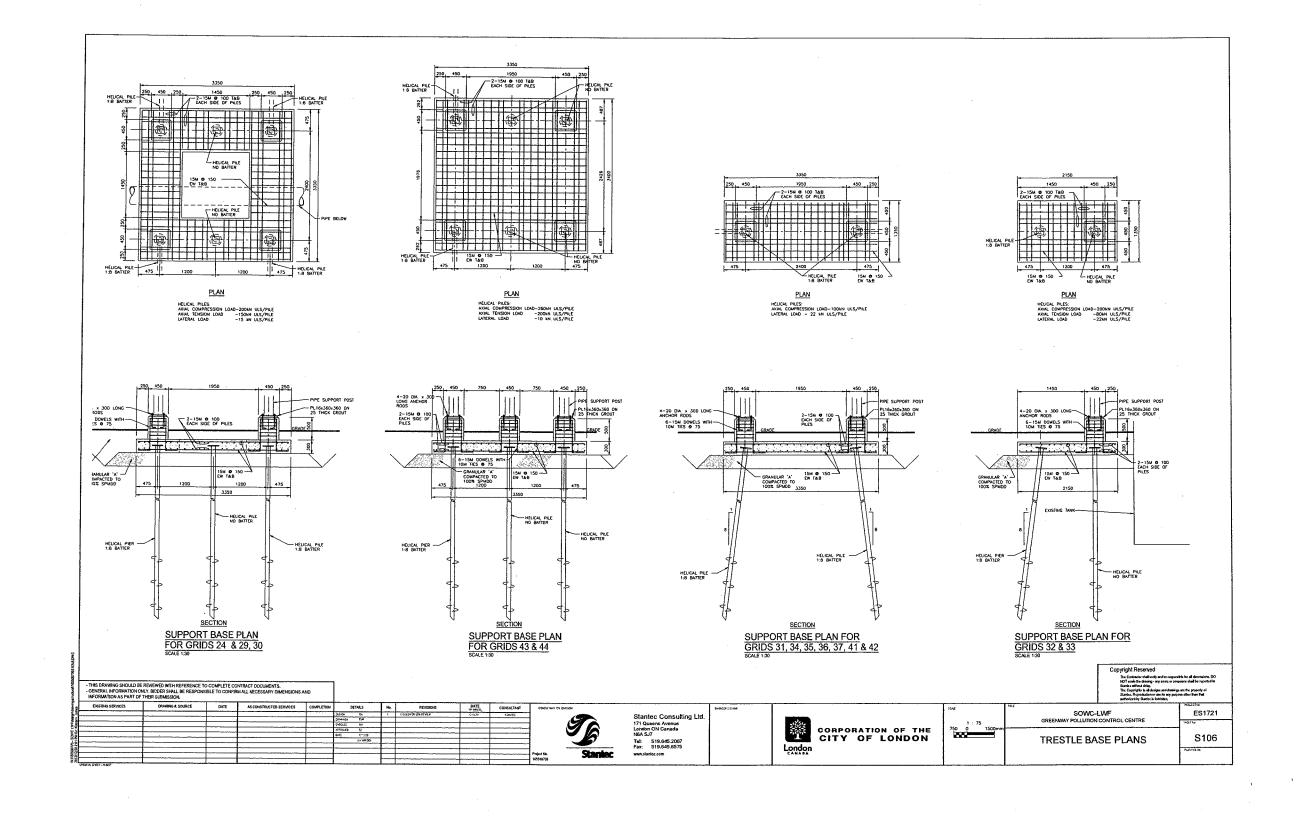


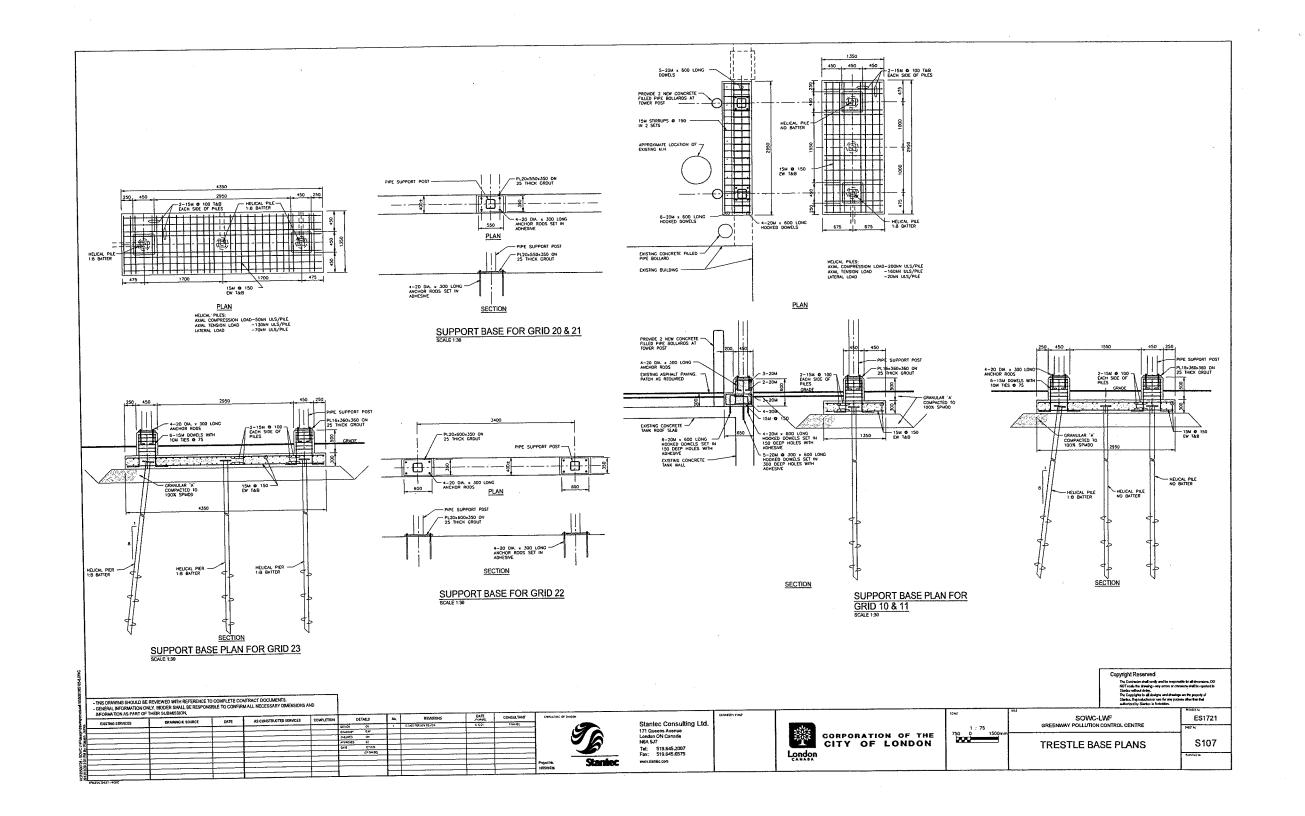


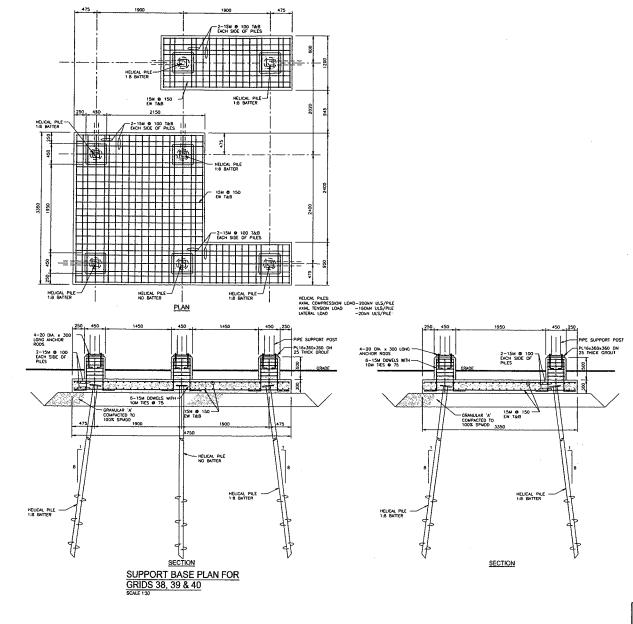












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GREENWAY POLLUTION CONTROL CENTRE
TRESTLE BASE PLANS

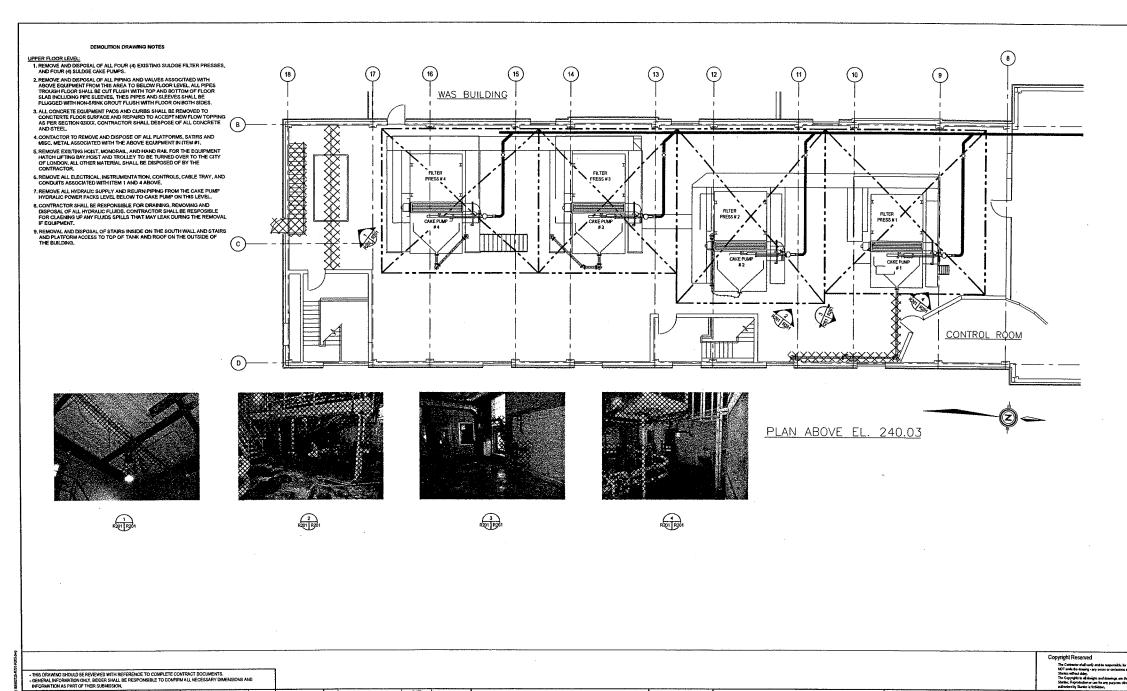
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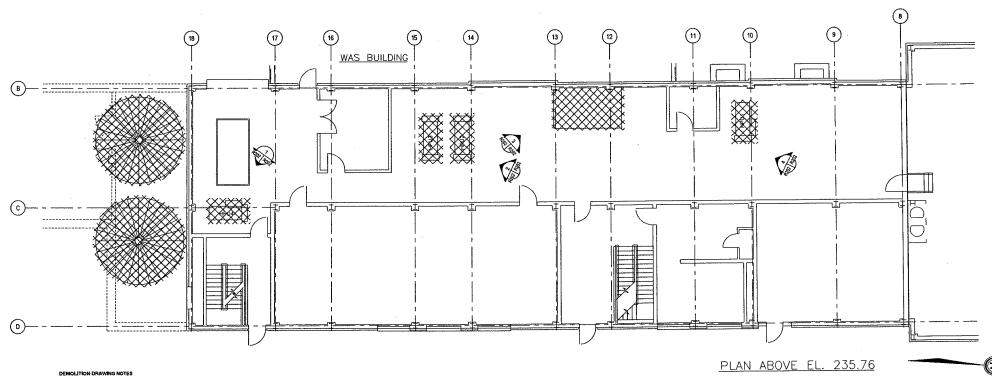
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REVISIONS CONSULTANT Stantec Consulting Ltd. 171 Queens Avenue London ON Canada N6A 5J7 SOWC-LWF ES1721 GREENWAY POLLUTION CONTROL CENTRE 1:75 CORPORATION OF THE CITY OF LONDON Tel: 519.645.2007 Fax: 519.645.6575 PIPE / EQUIPMENT REMOVALS R101 Föüdöu PROCESS AND ELECTRICAL Stantec www.slantec.com



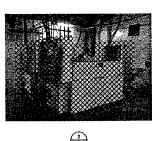
MAIN FLOOR LEVEL:

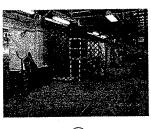
1. REMOVE AND DISPOSAL ALL FOUR (4) CAKE PUMP HYDRALIC POWER PACKS (8-SDW-SCP1 TROUGH 8-SDW-SCP-4).

- 2. REMOVE ALL HYDRALIC SUPPLY AND REURN PIPINS FROM THE CAKE PLIMP HYDRALIC POWER PACKS ON THIS LEVEL TO CAKE PLIMP ON THE ABOVE LEVEL.
- 3. CONTRACTOR SHALL BE RESPONSIBLE FOR DRAINING, REMOVING AND DISPOSAL OF ALL HYDRALIC FLUIDS. CONTRACTOR SHALL BE RESPOSIBLE FOR CLAEINS UP ANY FLUIDS SPILLS THAT MAY LEAK DURING THE REMOVAL IF EQUIPMENT.
- 4. REMOVE AND DISPOSAL OF TWO (2) EXISTING CHEMICAL TANKS AND ASSOCATED PIPING, PUMPS, AND PLATORM.
- ASSOCIATED PERIOD, FOMES, AND CURBS SHALL BE REMOVED TO CONCTERTE FLOOR SUPFACE AND REPAIRD TO MATCH EXISTING FLOOR AND TO THE CONTACTOR SOMEWISTATORS ACCEPTANCE. CONTRACTOR SHALL DESPOSE OF ALL CONCRETE AND STEEL.
- REMOVE ALL ELECTRICAL, INSTRUMENTATION, CONTROLS, CABLE TRAY, AND CONDUITS ASSOCIATED WITH ITEM 1 AND 4 ABOVE.
- CONDUITS ASSIGNATED WITH TEM 1 AND 4 ABOVE.

 7. REMOVE RITER PRESS DRAIN PIPPING, FLOOR DRAIN HEAD PIPING, EFFLUENT FLUENDS WATER PIPING AND OTHER PIPING IN THIS AREA TO BUILT THE NEW PIPPING REQUIREMENTS ON THE 2"P CHANNESS SEE PHOTOS ON DRAIMAND TOXOX FOR AREA OF REMOVALS, CONTRACTOR SHALL COORDINATE WITH A CONTRACT OF REMOVALS, CONTRACTOR SHALL COORDINATE WITH A CONTRACT OF REMOVALS, CONTRACTOR SHALL COORDINATE WITH A CONTRACT OF REMOVALS, PROPER PROPER PLANT FLOOR STATE OF REMOVALS PROPER PLANT FLOOR STATE OF REMOVAL PRICES FLOOR STATE
- 8. REMOVE AND DISPOSAL OF TWO (2) EXISTING INSULATED STEEL PULP TANKS THAT ARE LOCATED OUTSIDE ON THE SOUTH SIDE OF THE BUILDING.THE SUPPORT LEGS, THE CONE TANKS BOTTOMS, AND SOME PIPPING ARE BUINDED BELOW, CONTRACOR SHALL EXCAVATE AND REMOVE ALL TANK SUPPORTS AND CONTOTTRE SUPPORTS TO SULT INSTALLATION OF NEW TANKS. EXCAVATED MATERIAL SHALL BE DISPOSED BY THE CONTRACTOR AS INSTITUTED BY THE CONTRACT ADMINISTRATIO.













- THIS BRAWING SHOULD BE REVIEWED WITH REFERENCE TO COMPLETE CONTRACT DOCUMENTS, -CONTRACT DO

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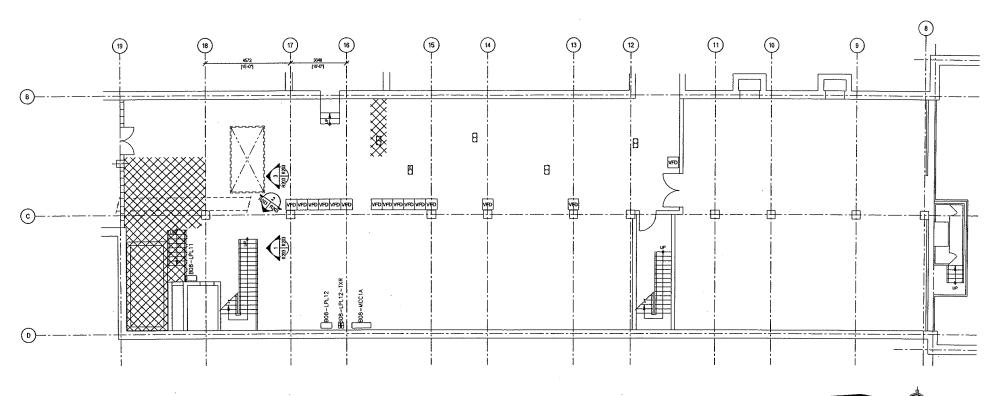
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SOWC-LWF GREENWAY POLLUTION CONTROL CENTRE PIPE / EQUIPMENT REMOVALS PROCESS AND ELECTRICAL

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ES1721



DEMOLITION DRAWING NOTES

LOWER (BASEMENT) LEVEL;

- REMOVE TWO (2) PULP PUMPS (B-SDW-PRP1 AND 8-SDW-PRP2), PUMPS SHALL BE TURNED OVER TO CITY OF LONDON.
- REMOVE ALL MIXING EQUIPMENT IN THE PULP TANK EAST OF THE ABOVE PUMPS, MIXERS SHALL BE TURNED OVER TO CITY OF LONDON.
- PUMPS, MIXERS SHALL BE TURNED OVER TO CITY OF LONDON.

 3. REMOVE AND DISPOSAL OF CONCRETE PULP TAME WALLS AS SHOWN TO ALLOW INSTALLATION OF NEW PUMPS, MULL SHALL BE SAW OUT TO PROVIDE SMOOTH EXPOSED SURFACE OR PARGED TO PROVIDE SUTTALE SMOUTH SURFACE. ALL REMAINING TANK WALLS SHALL BE CLEANED OF PULP RESIDUE.
- 4. ALL CONCRETE EQUIPMENT PADS AND CURBS SHALL BE REMOVED TO CONCTERTE FLOOR SLRFACE AND REPAIRD TO MATCH EXISTING FLOOR AND TO THE CONTACTOR ADMINISTATORS ACCEPTANCE. CONTRACTOR SHALL DESPOSE OF ALL CONCRETE AND STEEL.
- REMOVE ALL ELECTRICAL, INSTRUMENTATION, CONTROLS, CABLE TRAY, AND CONDUITS ASSOCIATED WITH ITEM 1 AND 2 ABOVE,
- REMOVE AND DEPOSAL OF SUDDE PUMP 4 (8.5DW.SFP4 DISCHARGES PPING FROM TEE ON PUMP DISCHARGE HEADER TO PIPE SLEEVE THROUGH FLOW ASLOW. THE DISCHARGE EE CONNECTION SHALL BE BUILD FLANSED WHEN PIPE IS REMOVED.



R203 R203



2 R203 R203





PLAN ABOVE EL. 230.20

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AS CONSTRUCTED SERVICES COMPLETION DETAILS



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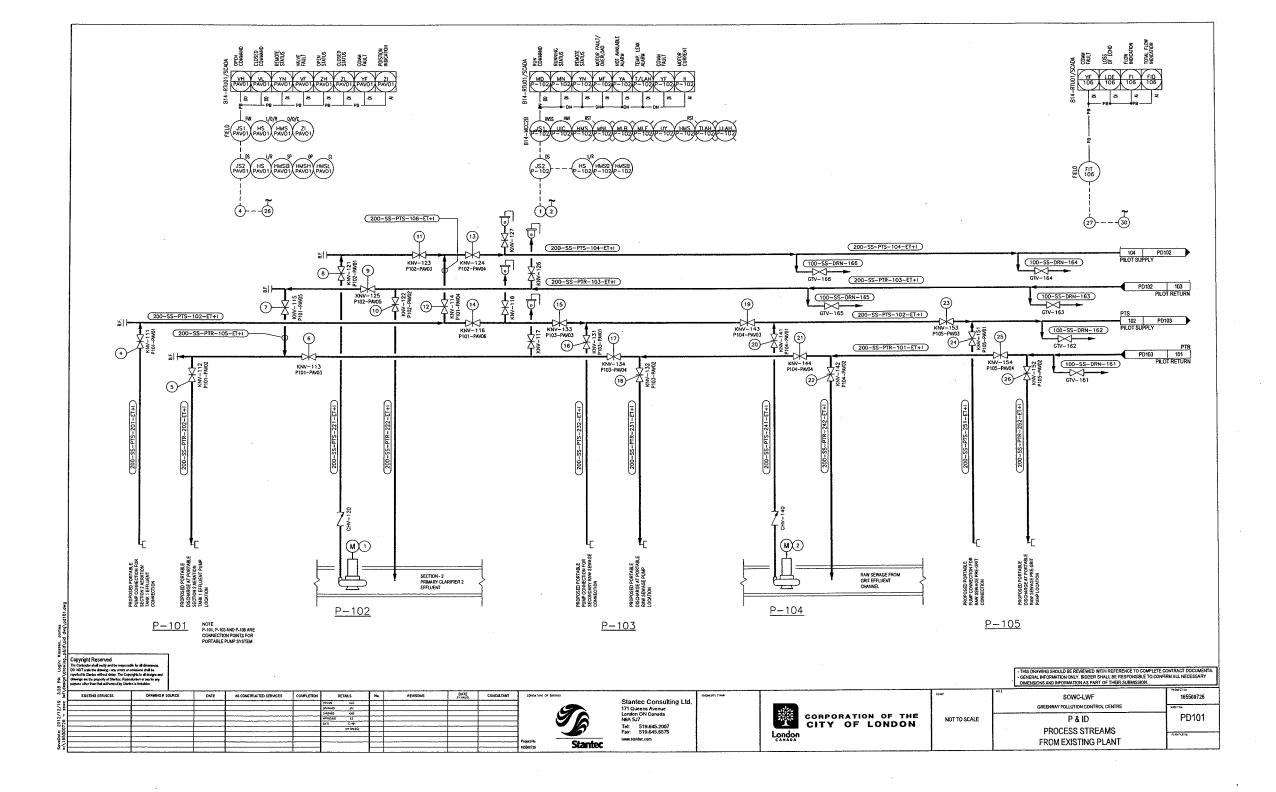


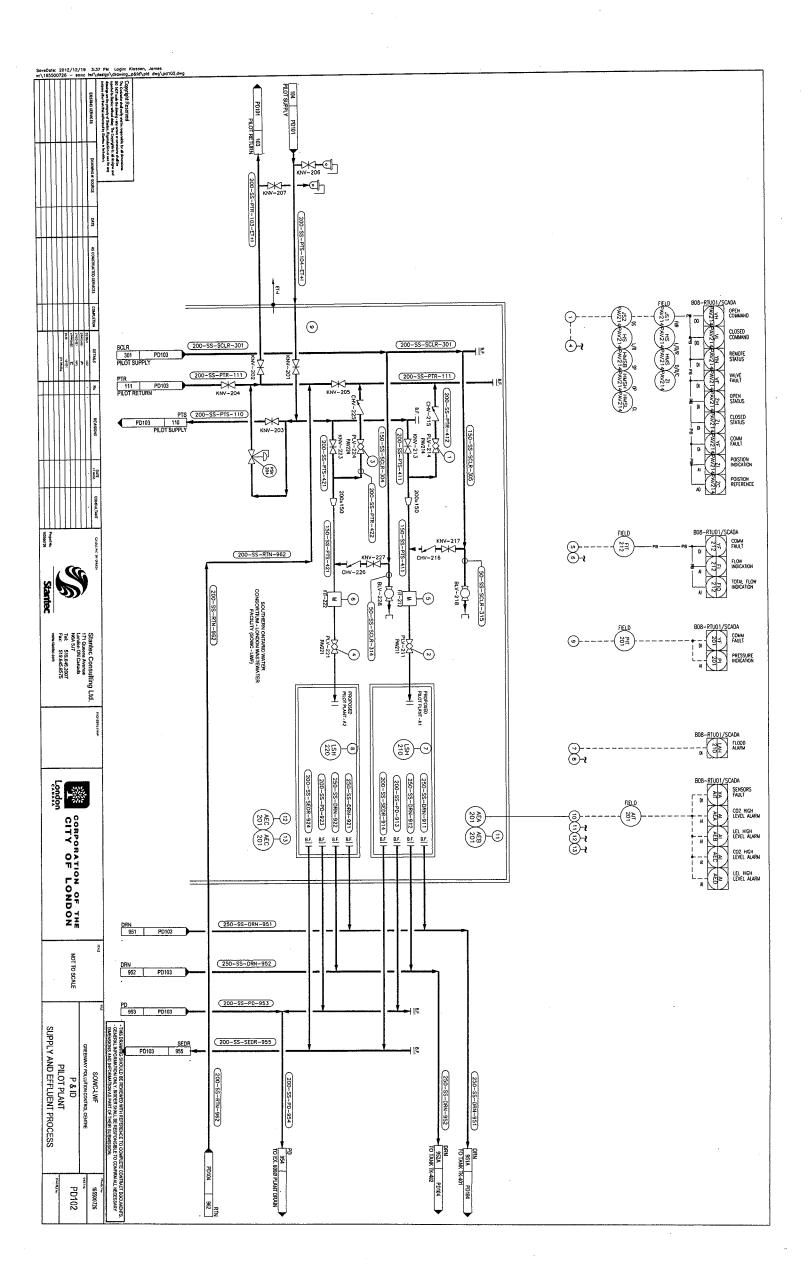
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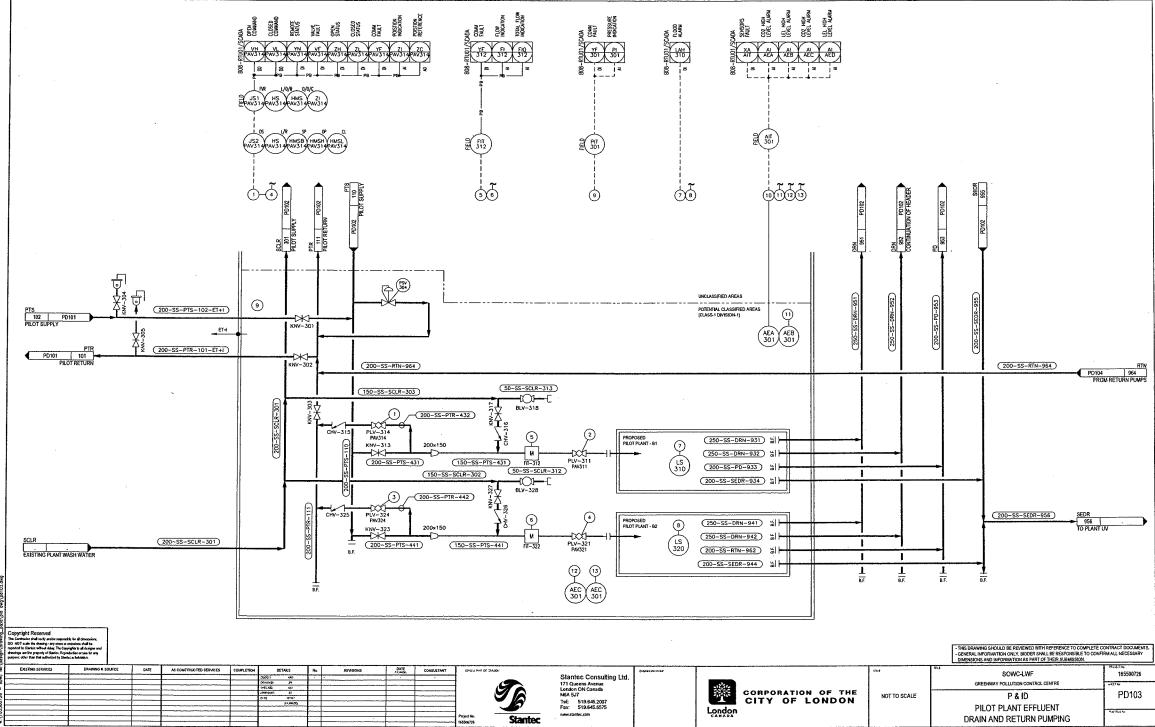
SOWC-LWF GREENWAY POLLUTION CONTROL CENTRE

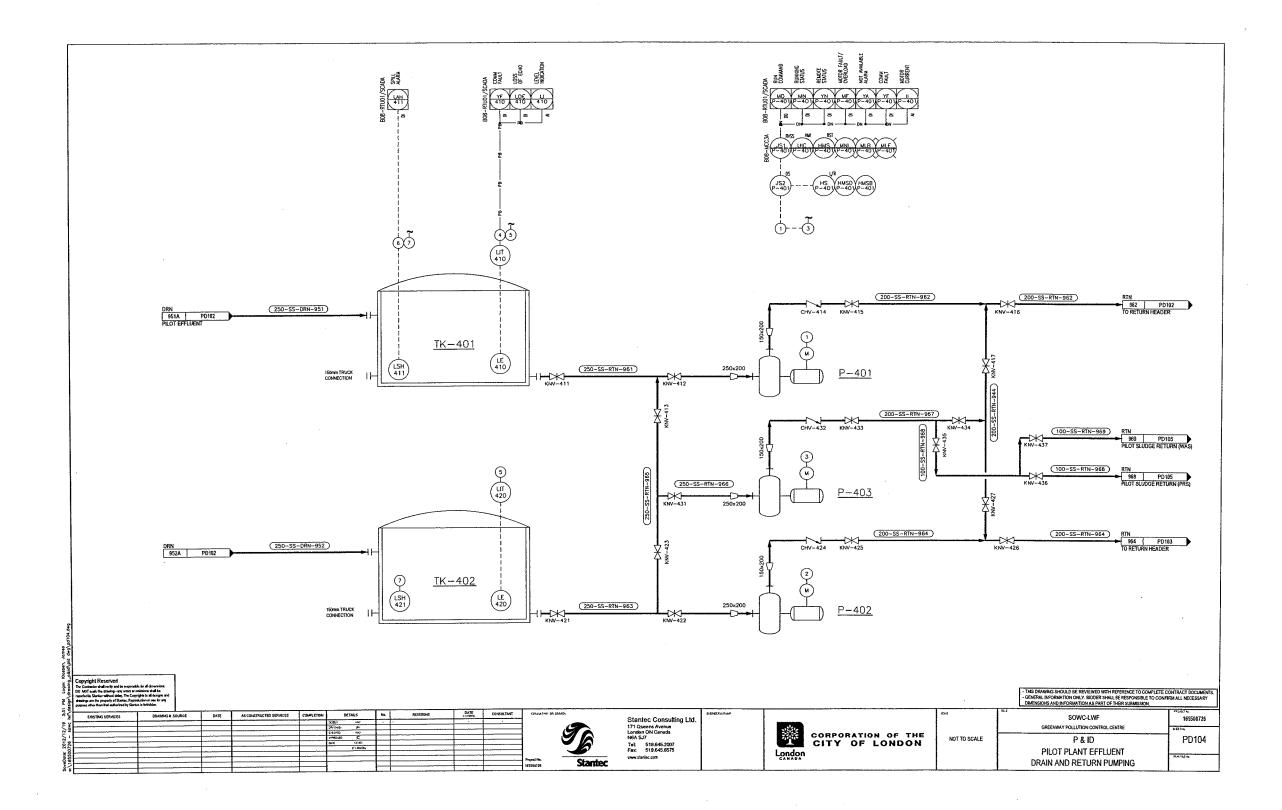
ES1721 PIPE / EQUIPMENT REMOVALS R203 PROCESS AND ELECTRICAL

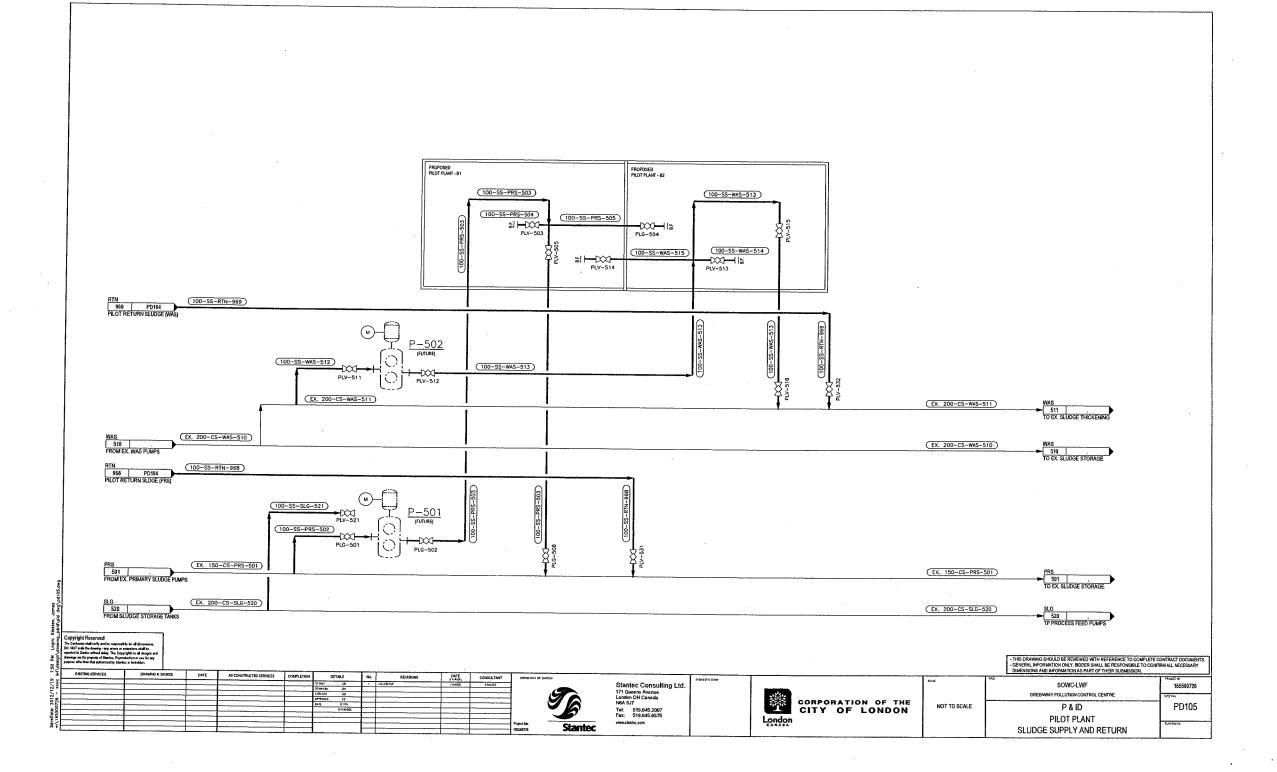
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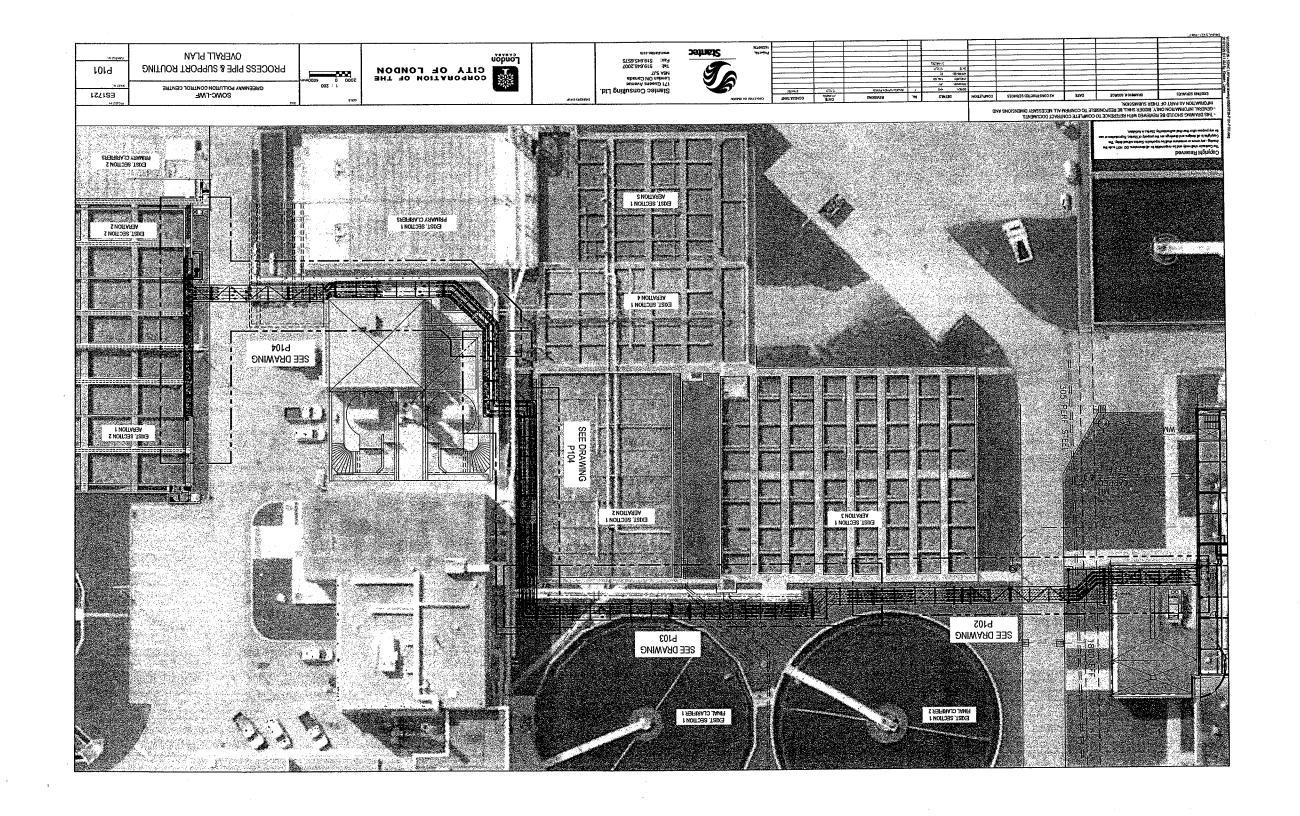


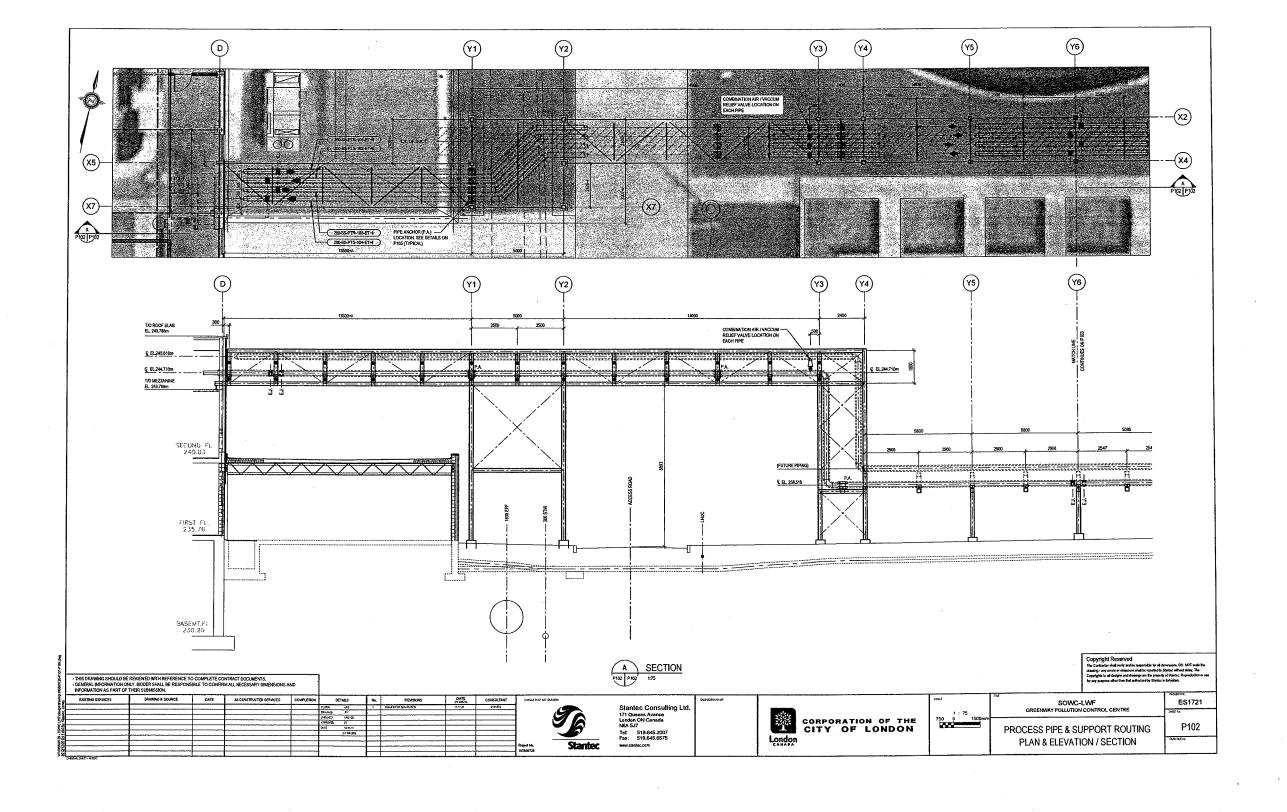


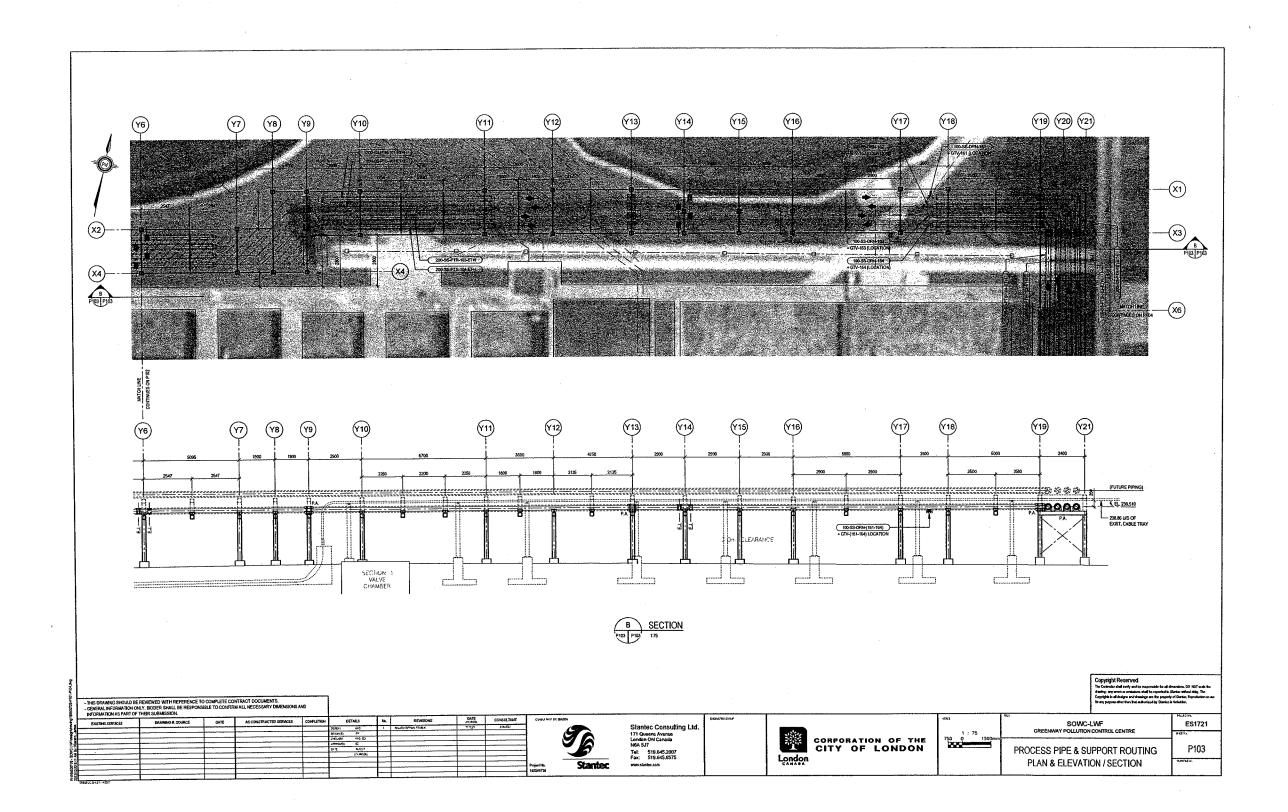


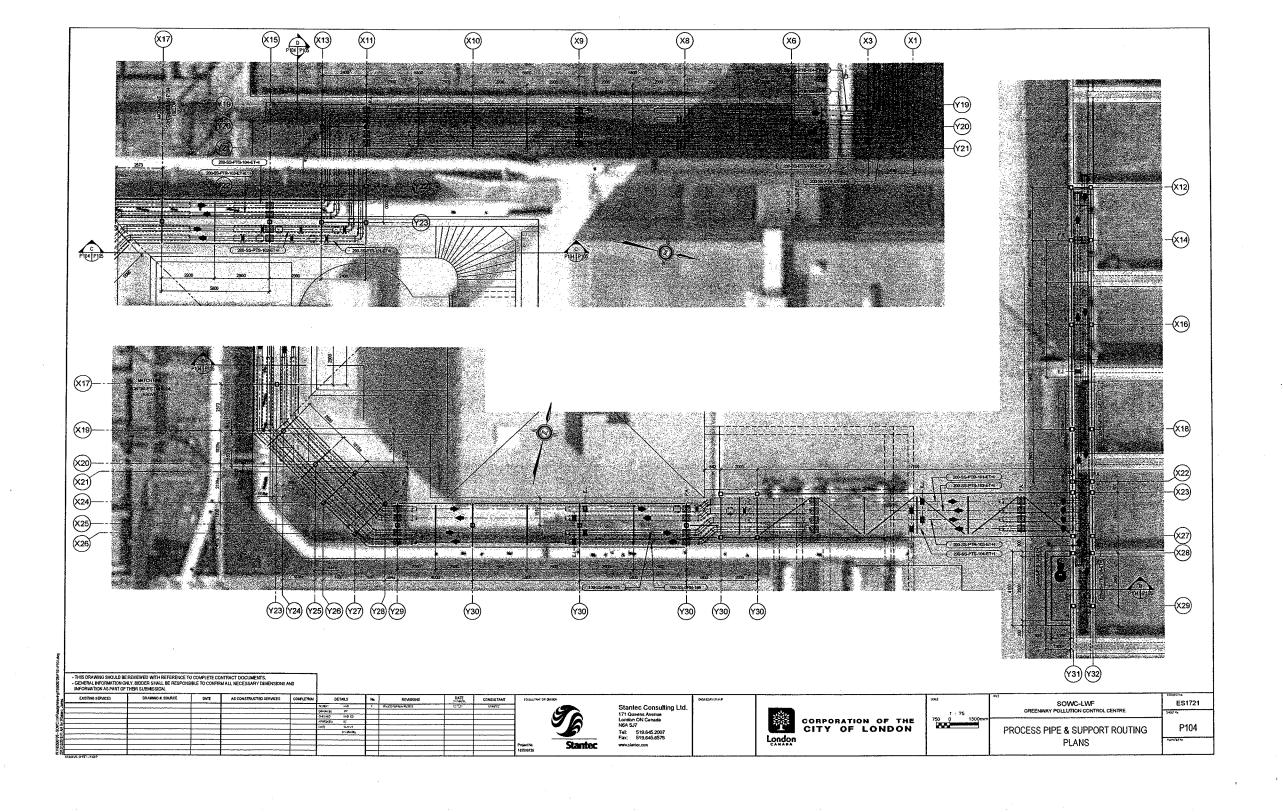


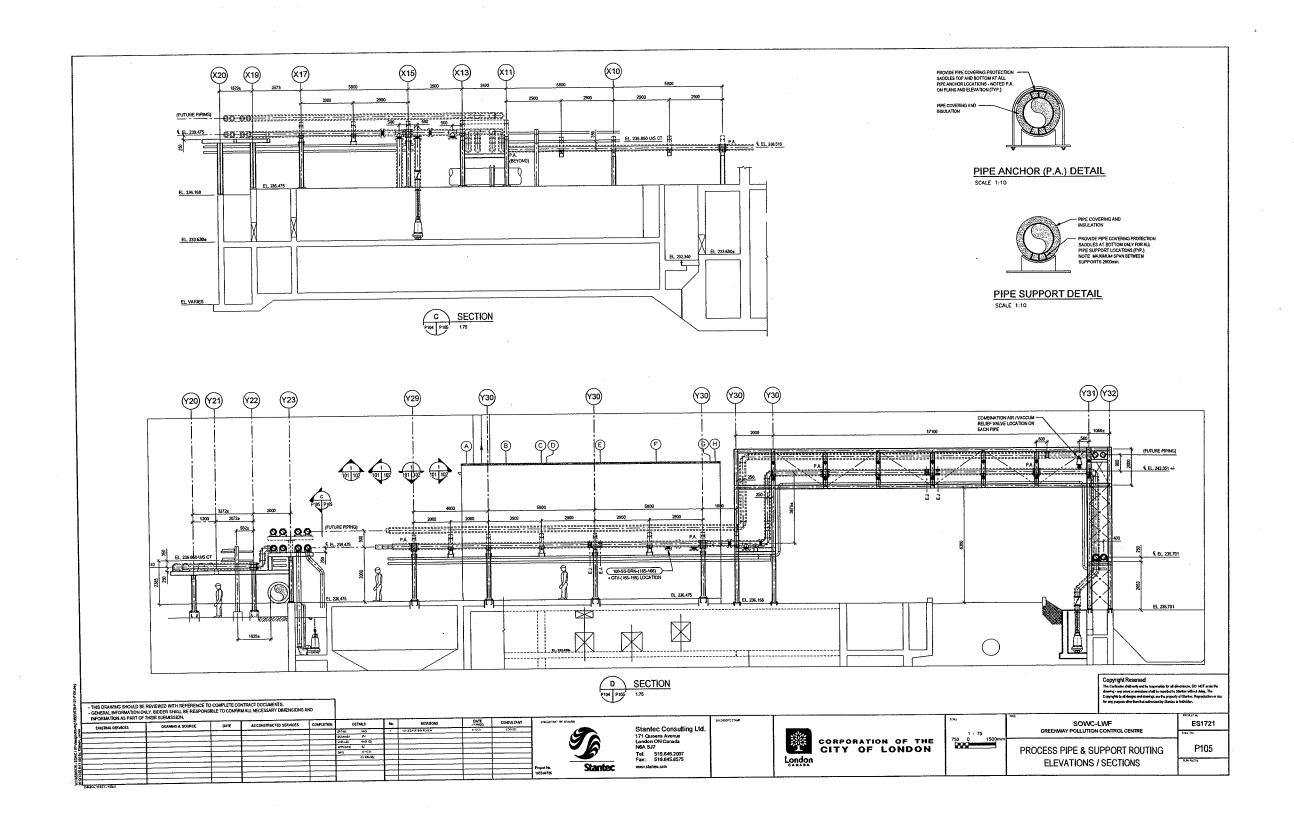


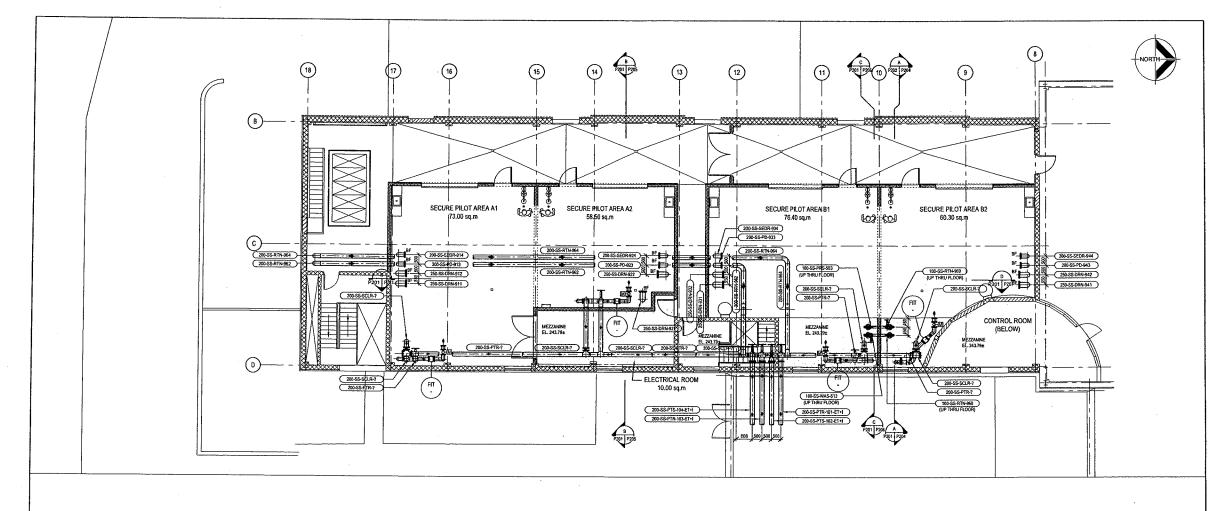












FLOOR PLAN ABOVE EL. 243.79 FIN. 2ND FLOOR (HIGH POINT) EL. 240.03m.

GENERAL NOTES (Typical for all drawings)

- CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS, CONNECTIONANTERFACE DETAILS, PROCESS PIPING AND NEW DIMENSIONAL DATA WITH EQUIPMENT SUPPLIERS APPROVED DRAWINGS PRIOR TO COMMENCING, WORK TO BE PERFORMED.
- THE CONTRACTOR IS RESPONSIBLE FOR THE SUPPLY AND INSTALLATION OF ALL REQUIRED STRUCTURAL COMPONENTS, ALL SUPPORTS REQUIRED AND AS SPECIFIED, (ALL REQUIRED AND ALL SUPPORT STEEL AND GALVANIZED STEEL PIPE SUPPORTS THAT ARE NOT INDICATED ON THE CONTRACT DANNINGS).
- 3. ALL EQUIPMENT SHALL BE CSA AND/OR U.L.C. LISTED.
- 4. REFER TO STRUCTURAL DRAWINGS FOR DIMENSIONAL DATA.

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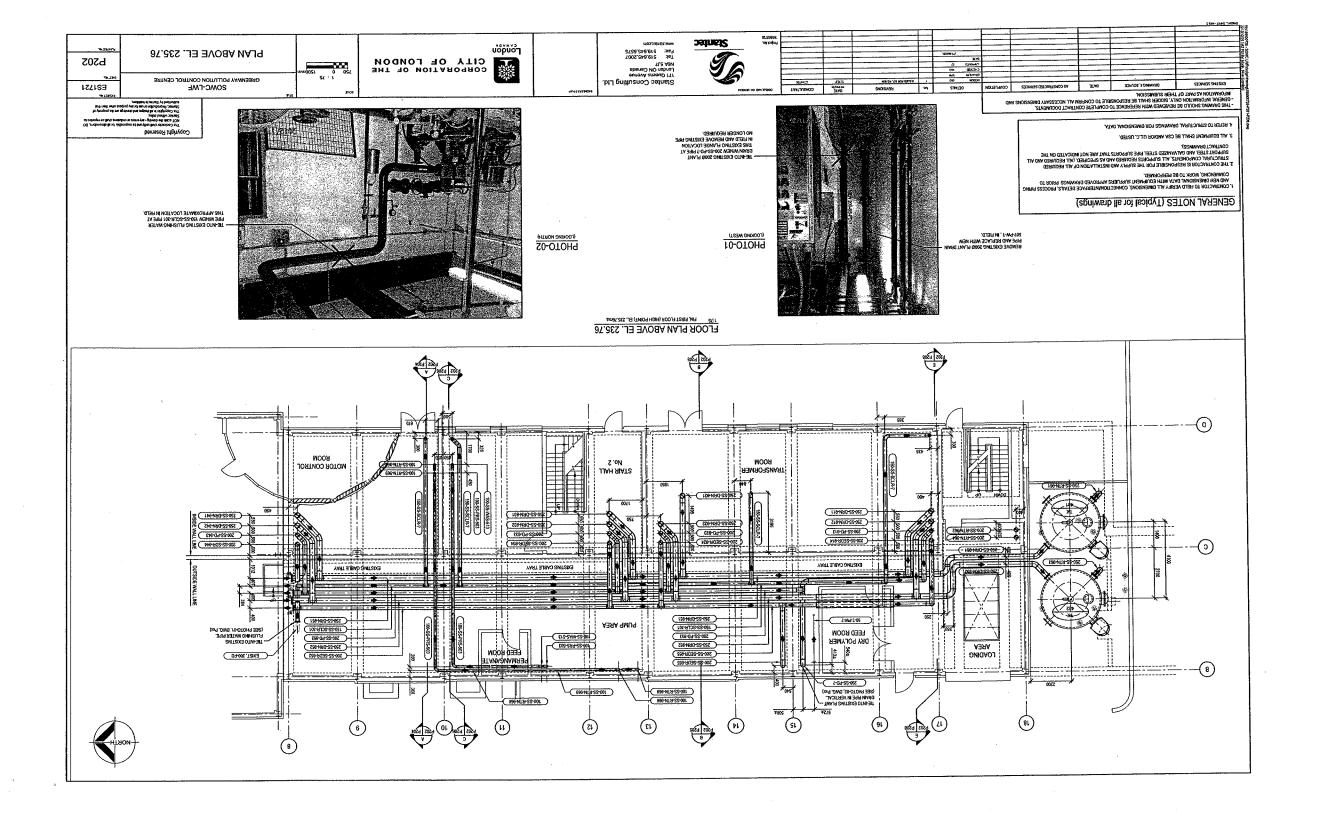
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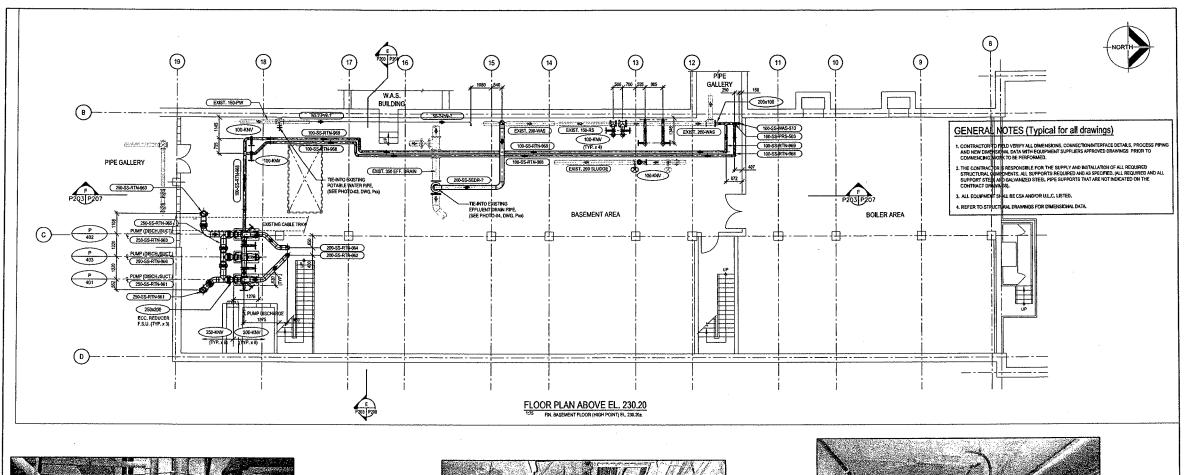
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GREENWAY POLLUTION CONTROL CENTRE PLAN ABOVE EL. 243.79

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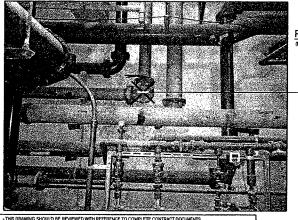


PHOTO-03

PHOTO-04 (LOOKING NORTH)

THE-INTO EXISTING 1500 POTABLE WATER PIPE WINEW 50-7-PW-7 AT THIS EXISTING FLANGE LOCATION IN FIELD.

TIE-INTO EXISTING 3500 EFFLUENT DRAIN PIPE WINEW 200-SS-SEDR-? AT THIS APPROXIMATE LOCATION IN FIELD.

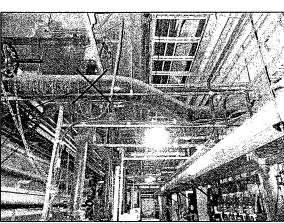
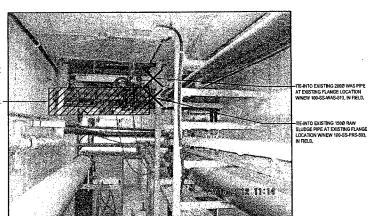


PHOTO-05

REMOVE EXISTING 1500 PIPE. PLUG VALVE, TEE, ETC, AS SHOWN.



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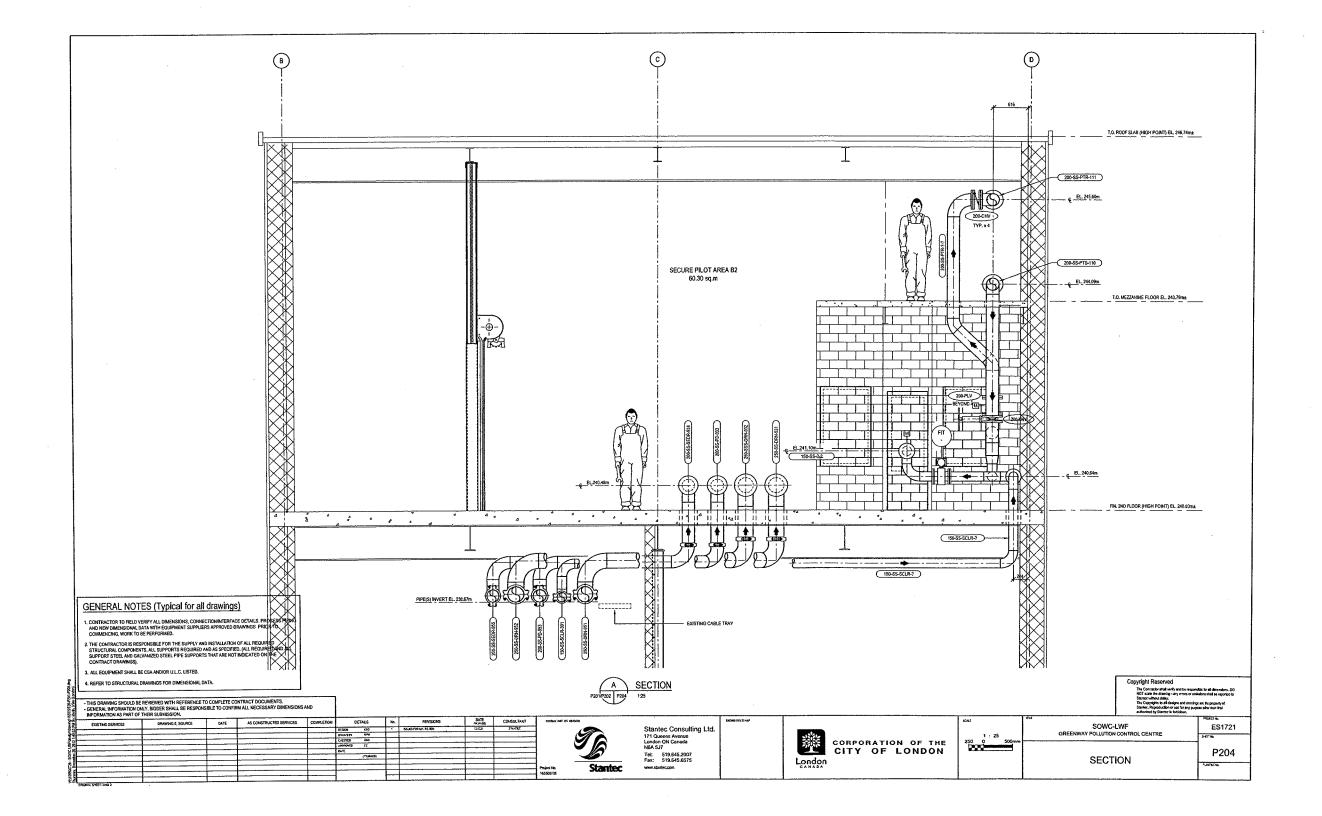
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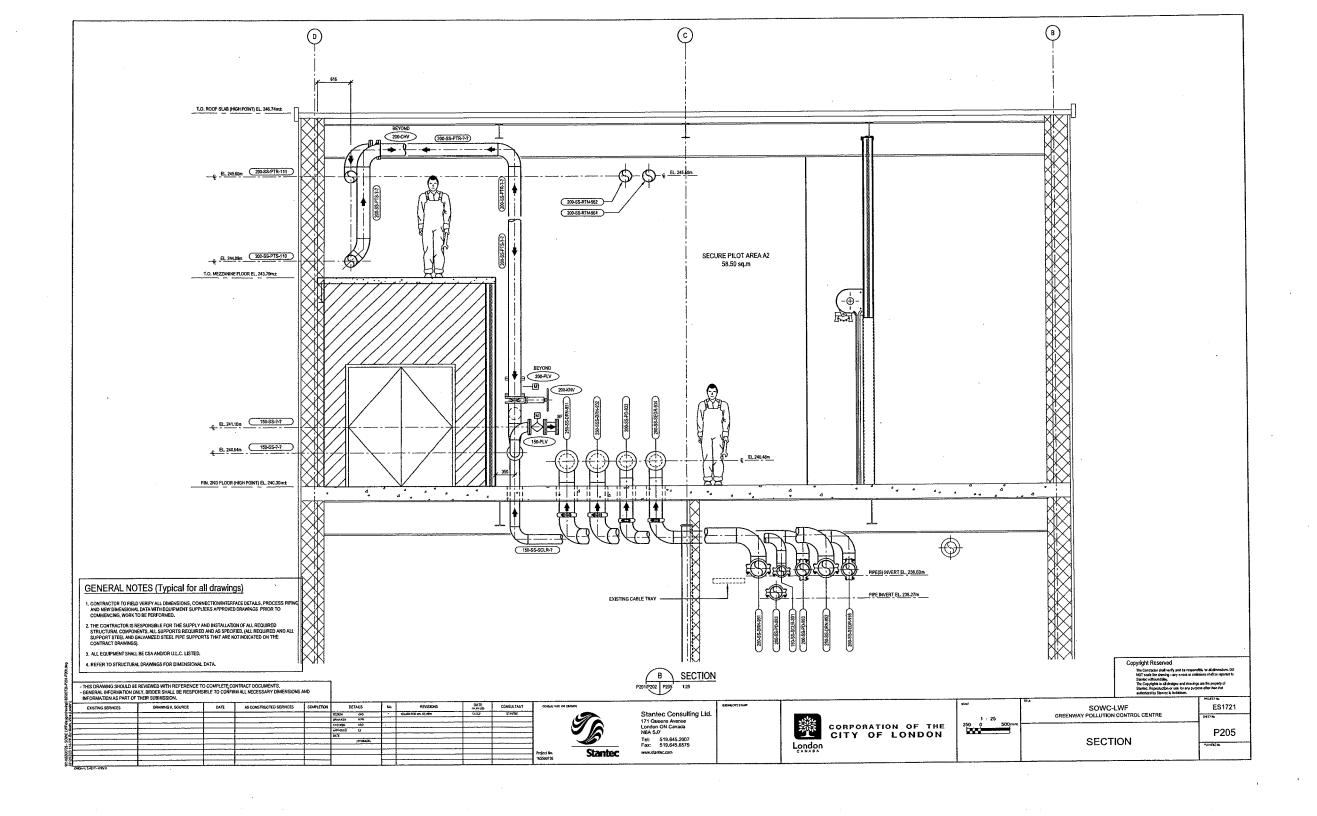
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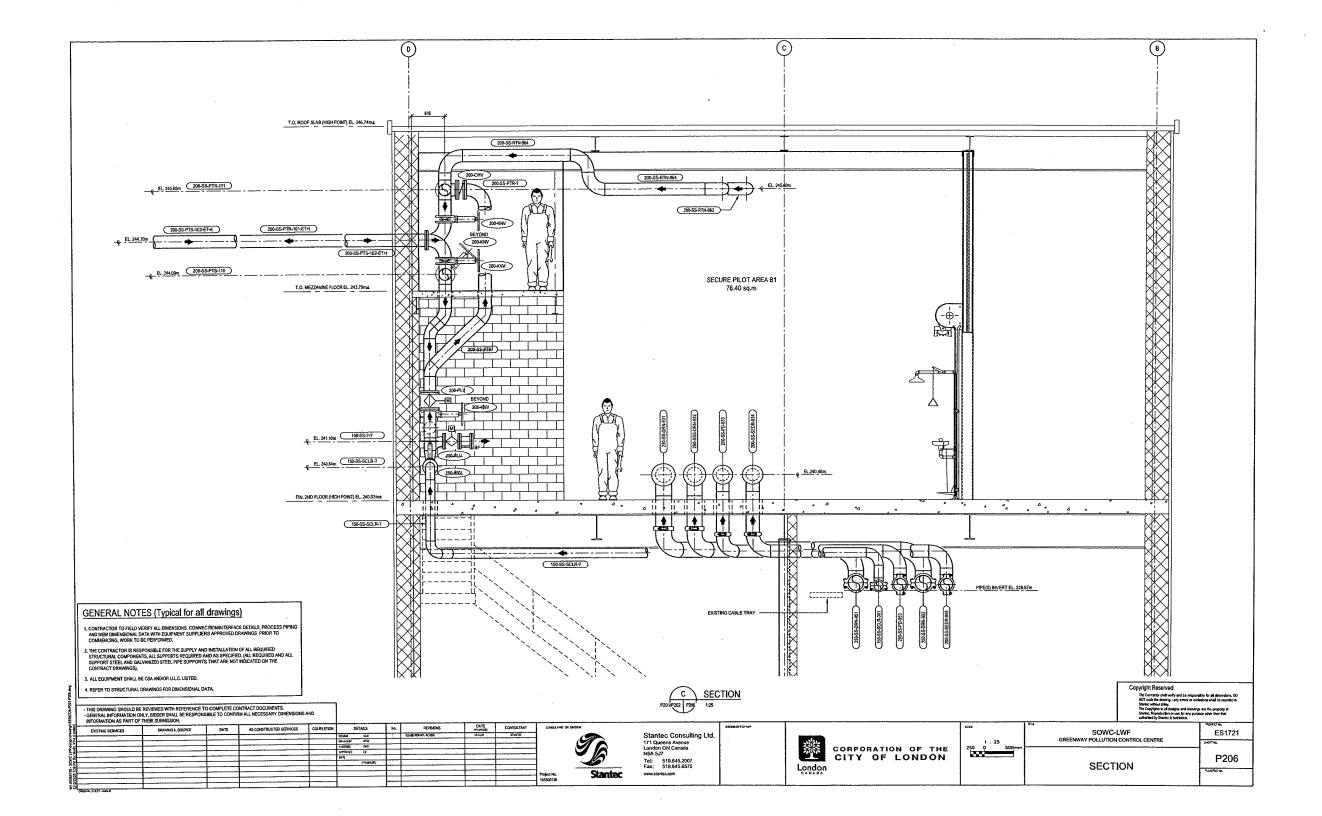
SOWC-LWF GREENWAY POLLUTION CONTROL CENTRE ES1721

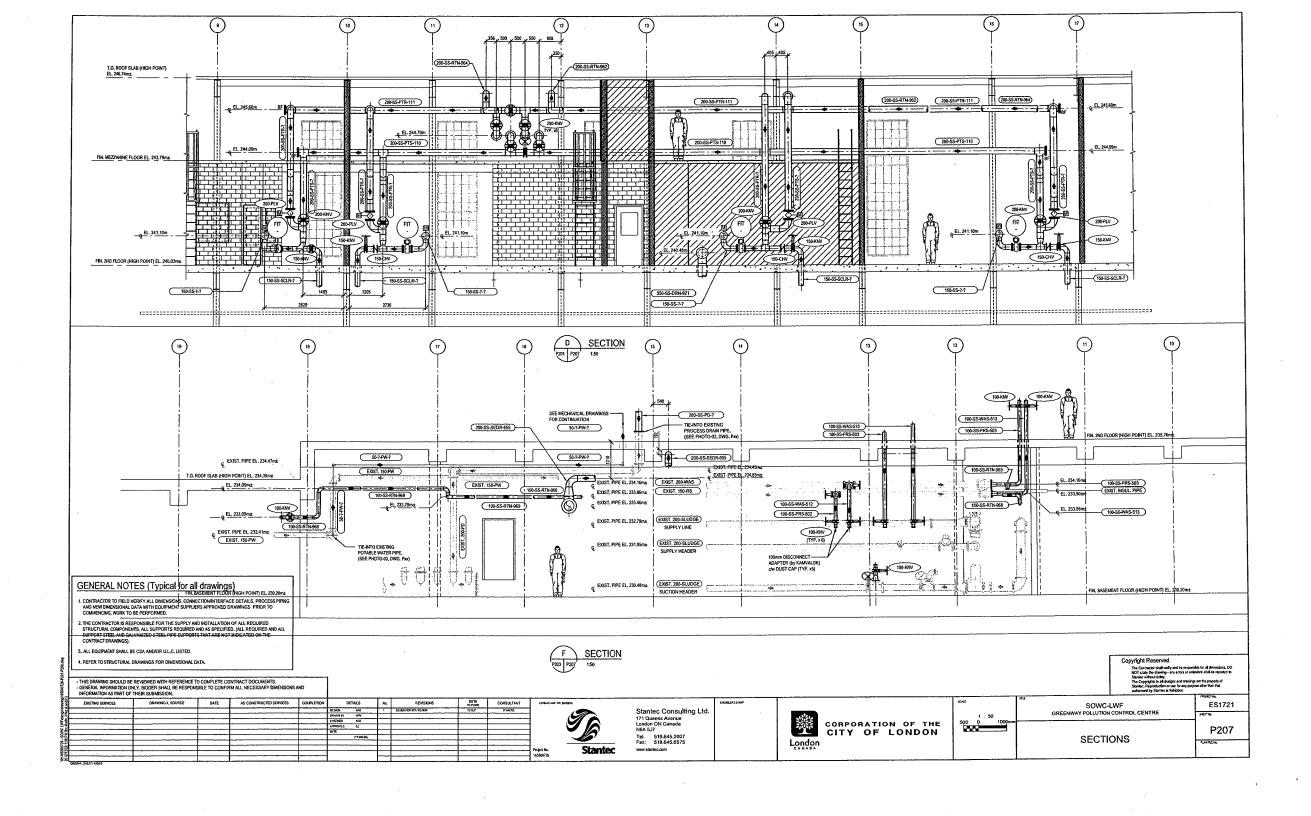
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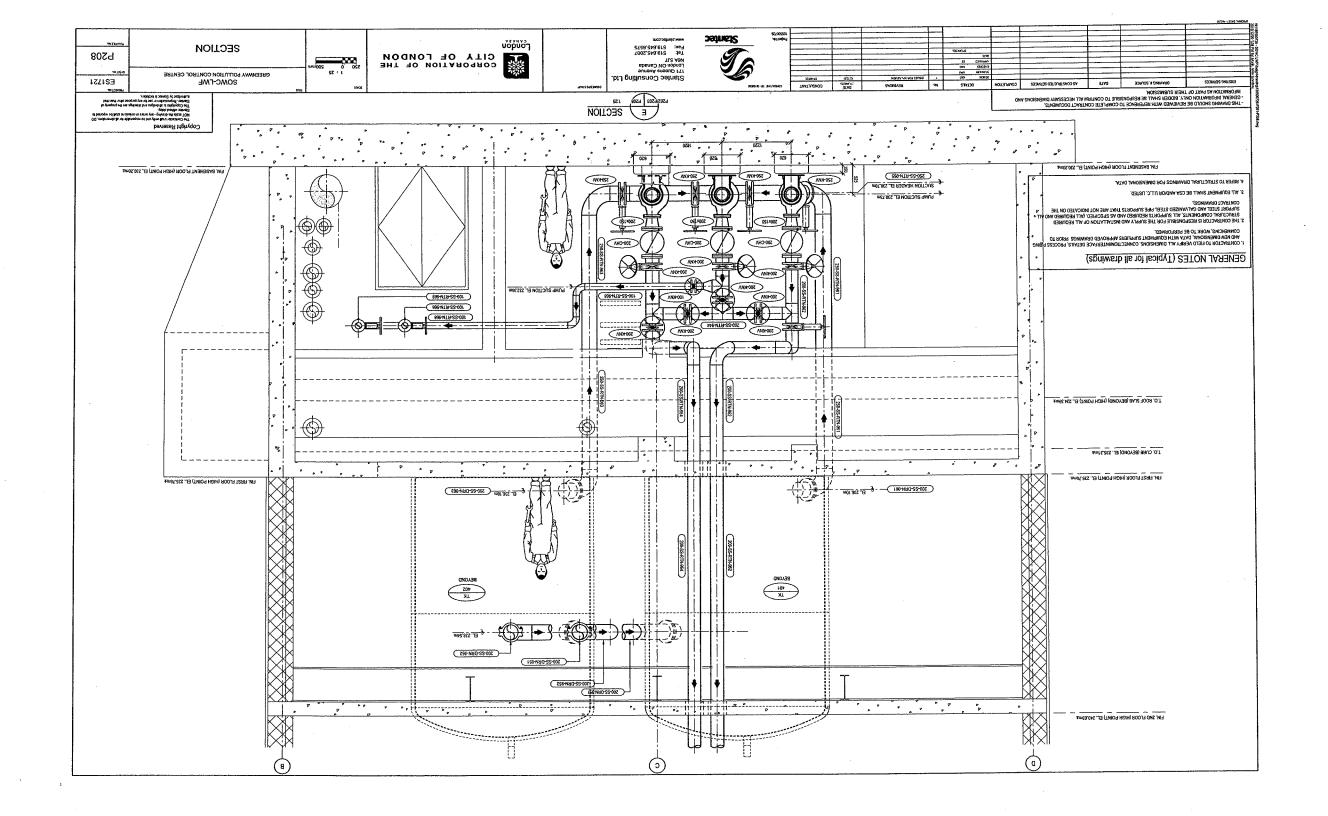
PLAN ABOVE EL. 230.20





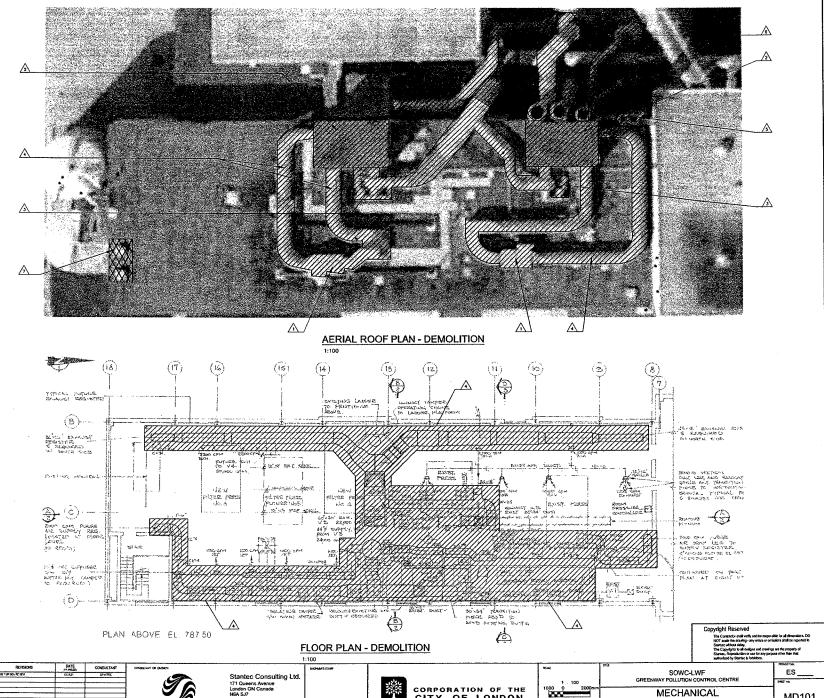






DEMOLITION NOTES:

- 4
 - REMOVE EXISTING VENTILATION UNIT ON ROOF WITH ALL ASSOCIATED DUCTWORK, SUPPORTS, CONTROLS AND ACCESSORIES.
- REMOVE EXISTING FILTER PENTHOUSE ON ROOF WITH ALL ASSOCIATED DUCTWORK, SUPPORTS AND ACCESSORIES.
- REMOVE EXISTING EXHAUST FAN ON ROOF WITH ALL ASSOCIATED DUCTWORK, SUPPORTS, CONTROLS AND ACCESSORIES.
- REMOVE ALL EXISTING DUCTWORK RELATED TO THE EXISTING VENTILATION UNITS, INCLUDING ALL FITTINGS, REGISTERS, GRILLES, DAMPERS AND SUPPORTS.
- CUT DOWN THE EXISTING BOILER STACK AND TERMINATE AT 900mm ABOVE THE HIGHEST POINT OF THE BUILDING ROOF ACCORDING TO CSA B149.1-10.
- 6. REMOVE ALL EXISTING SCRUBBER DUCTWORK, COORDINATE WITH PROCESS.
- REMOVE EXISTING EXHAUST FANS FOR ROOFING REPLACEMENT AND REINSTATE EXISTING FANS WITH NEW CURBS.



EXISTING SERVICES DRAWING #	SOURCE DA	ITE AS	S CONSTRUCTED SERVICES	COMPLETION	DETAILS	No.	REVISIONS	DATE	CONSULTANT	CONSULTANT OR DIVISION		DIGHERS STAMP		жщ	mis cours		PROJETILE.
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DEMOLITION NOTES

GENERAL:

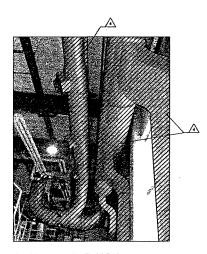
- . THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL LABOR, EQUIPMENT AND SERVICES TO PROPERLY EXECUTE THE DEMOLITION AND REMOVAL WORK INDICATED ON THESE CONSTRUCTION DOCUMENTS.
- THE DEMOLITION DRAWINGS WERE DEVELOPED BASED ON THE AVAILABLE RECORD DRAWINGS. THE CONTRACTOR SHALL VISIT THE SITE AND INSPECT THE EXISTING BUILDING AND VERBY THAT ALL ITEMS INDICATED TO BE EXISTING AND SO MARKED ON DRAWINGS ARE IN PLACE AND CORRECT.
- 3. ALL DEMOLITION WORK SHALL BE PERFORMED WITH MINIMUM DAMAGE TO THE EXISTING STRUCTURE AND DEVICES THAT ARE TO REWAIN, IT SHALL BE RECOGNIZED THAT THE LITINGST CARE BE TAKEN WHEN PERFORMING THE DEMOLITION WORK, PROVIDE BARRICADES WHERE REQUIRED TO PROTECT THE PUBLIC.
- 4. IF CONTRACTOR IS UNSURE IF AN ITEM IS TO BE REMOVED OR NOT, VERIFY WITH OWNER AND/OR ENGINEER BEFORE PROCEEDING, EOUPPMENT REMOVED THAT WAS NOT TO BE, WILL BE REINSTALLED BACK TO ITS ORIGINAL WORKING CONDITION AT THE CONTRACTOR'S OWN EXPENSE AND TO THE SATISFACTION OF THE OWNER AND ENGINEER.
- 5 MAKE ALL TEMPORARY CONNECTIONS AS REQUIRED TO MAINTAIN OPERATION OF THE FACILITY DURING CONSTRUCTION AND EQUIPMENT REPLACEMENT OR MODIFICATION, SCHEDULE WORK FOR SHUTDOWN WITH THE OWNER, AS REQUIRED, TO REDUCE THE DISRUPTION TO THE REST OF THE CIRCUITRY.
- 6. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE RESULTING FROM OPERATIONS TO EXISTING FACILITIES THAT ARE TO REMAIN SUCH AS, BUT NOT LIMITED FOR UNDERGROUND CABLES, HARD SURFACE ASKES, STRUCTURAL CLEUKS, PIPO, AND OTHER UTILITIES. CONTRACTOR TO RESTORE, REPLACE OR REPAIR ANY SUCH DAMAGE TO THE SATISFACTION OF THE ENGINEER AND OWNER.
- RELOCATE, MAKE TEMPORARY CONNECTIONS, REINSTALL AND RECONNECT ANY EQUIPMENT AS REQUIRED FOR THE CONSTRUCTION OF A NEW CEILING, WALLS, STRUCTURES, PIPING AND SYSTEMS BEING MODIFIED AS PART OF THIS PROJECT
- B. PATCH ALL HOLES IN EXISTING INTERIOR AND EXTERIOR WALLS, STRUCTURES, BASES, CEILINGS, ETC. RESULTING FROM THE REMOVAL OF RACEWAYS AND/OR PIPING.
- I. TURN OVER ANY EQUIPMENT REMOVED TO THE OWNER AS DIRECTED ON SITE. ALL MATERIAL AND EQUIPMENT NOT REQUIRED BY THE OWNER IS TO BE REMOVED OFF SITE BY THE CONTRACTOR AND DISPOSED OF PROPERLY.

MECHANICAL

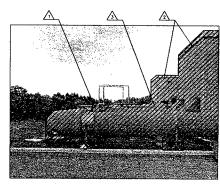
- DUCTWORK AND EQUIPMENT TO BE REMOVED ARE INDICATED ON DEMOLITION DRAWINGS. REMOVE ITEMS AS INDICATED AND AS REQUIRED TO ACCOMMODATE THE NEW WORK.
- CONTRACTOR SHALL VERIFY EXACT SIZES, LOCATIONS AND QUANTITIES OF ALL ITEMS IN FIELD.
- 3. ANY ITEM REQUIRED TO BE REMOVED IN THE CONTRACTOR'S JUDGEMENT BUT NOT SHOWN ON DRAWING SHALL BE VERIFIED AND REMOVED/RELOCATED AT NO ADDITIONAL COST.
- CONTRACTOR SHALL CHECK WITH ENGINEER FOR ITEMS TO BE SAVED AND RETURN SUCH ITEMS TO THE OWNER. ALL OTHER ITEMS SHALL BE HAULED AWAY FROM SITE.
- ALL PIPING WHICH ARE DISCONNECTED, SHALL BE TEMPORARILY VALVED & CAPPED TILL NEW CONNECTIONS ARE MADE.
- ALL DUCTWORK WHICH IS DISCONNECTED, SHALL BE TEMPORARILY CAPPED UNTIL NEW CONNECTIONS ARE MADE.
- ALL OPENINGS REMAINING IN WALLS/FLOOR/ROOF, AFTER DEMOLITION WORK IS DONE, SHALL BE PATCHED BY THE CONTRACTOR WITH MATERIALS SO AS TO MATCH EXISTING FINISHES, UNLESS OTHERWISE SHOWN.
- 8. INSULATION ON MATERIALS TO BE REMOVED SHALL BE IDENTIFIED BEFORE ATTEMPTING DEMOLITION AND EPA REGULATION SHALL BE COMPLIED WITH.
- 9. CONTRACTOR SHALL REMOVE PIPE OR DUCT HANGERS AND SUPPORTS.
- 10. CAP PIPING BELOW FLOOR/BEHIND WALL AS REQUIRED.
- DEMOLITION TO BE CARRIED OUT IN A MANNER TO PREVENT DAMAGE TO ANY EXISTING SERVICE OR STRUCTURE.
- 12. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE THAT MAY OCCUR.

DEMOLITION NOTES:

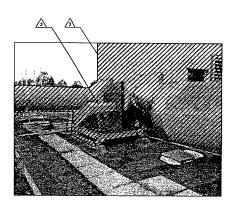
- Ā
- REMOVE EXISTING VENTILATION UNIT ON ROOF WITH ALL ASSOCIATED DUCTWORK, SUPPORTS, CONTROLS AND ACCESSORIES.
- REMOVE EXISTING FILTER PENTHOUSE ON ROOF WITH ALL ASSOCIATED DUCTWORK, SUPPORTS AND ACCESSORIES.
- REMOVE EXISTING EXHAUST FAN ON ROOF WITH ALL ASSOCIATED DUCTWORK, SUPPORTS, CONTROLS AND ACCESSORIES.
- REMOVE ALL EXISTING DUCTWORK RELATED TO THE EXISTING VENTILATION UNITS, INCLUDING ALL FITTINGS, REGISTERS, GRILLES, DAMPERS AND SUPPORTS.
- CUT DOWN THE EXISTING BOILER STACK AND TERMINATE AT 900mm ABOVE THE HIGHEST POINT OF THE BUILDING ROOF ACCORDING TO CSA B149.1–10.
- 6. REMOVE ALL EXISTING SCRUBBER DUCTWORK. COORDINATE WITH PROCESS.



INTERIOR DUCTWORK



ROOF DUCTWORK & PENTHOUSE



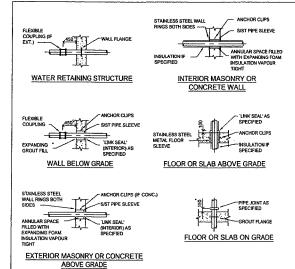
ROOF DUCTWORK & FAN

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DETAILS REVISIONS CONSULTANT AS CONSTRUCTED SERVICES EXISTING SERVICES DRAWING I. SOURCE DATE SOWC-LWF ES Stantec Consulting Ltd. GREENWAY POLLUTION CONTROL CENTRE 171 Queens Avenue London ON Canada N6A 5./7 N.T.S. CORPORATION OF THE MECHANICAL DOC CITY OF LONDON MD102 Tel: 519.645.2007 Fax: 519.645.6575 DEMOLITION Γουίφου PURMER www.slanlec.com Stantec



CONSTRUCTION NOTES: (UNLESS NOTED OTHERWISE)

- 1. ALL PIPES PASSING THRU CONCRETE FLOORS SHALL BE SLEEVED.
- 2. ALL SLEEVES SHALL BE SCH. 40 TYPE 304 S/ST I.D. PIPE AND SHALL EXTEND 100 ABOVE FINISHED
- CAST IN PLACE PIPE SPOOLS SHALL BE SAME MATERIAL AS PIPING SYSTEM, FOR STAINLESS STEEL. PIPE SYSTEMS, CAST IN PLACE PIPE SPOOLS SHALL BE SCHEDULE 40, TYPE 304 STAINLESS STEEL.
- 4. PIPE JOINTS ON EITHER SIDE OF THE SLEEVE SHALL BE VICTAULIC FLANGE JOINTS TO FACILITATE INSTALLATION OF THE PIPING.
- ALL DUCTILE IRON PIPES PASSING THRU CONCRETE WALLS SHALL BE INSTALLED WITH A WALL FLANCE (GROUT RING) AND SHALL BE PLAIN END TO VICTAULIC FLANGE WHEN MATING TO FLANGED PIPING SYSTEMS.
- ALL WALL THIMBLES, SLEEVES, FLANGES, BACKING FLANGES, FASTENERS AND HARDWARE IN WATER RETENTION STRUCTURES TO BE STAINLESS STEEL.

TYPICAL PIPE PENETRATIONS AND SLEEVE DETAILS

AC ANT BEP CO WHO THE EST ETP EWC FO GWH HOS ON KNOWN CON ON SEC. TRAD PRIMER ASSEMBLY (SI SOT ACTUATED) THAP PRIMER ASSEMBLY (E EMERGENCY EYEWASH ELECTRIC WATER COOLER FLOOR DRAIN FUNNEL FLOOR DRAIN GUTTER DRAIN GAS WATER HEATER HUB DRAIN HOSE DOWN STATION HOSE VALVE HOSE VALVE DOMESTIC HOT WATER HEAT EXCHANGER DOMESTIC HOT WATER LAVATORY MOP SINK OVERFLOW ROOF DRAIN OVERFLOW NOZZLE OIL WATER SEPERATOR

ROOF DRAIN

SINK SHOWER SUMP PUMP SERVICE SINK

STORAGE TANK

TEMPERING VALVE

VACCUM PUMP VENT THRU ROOF WATER CLOSET WASH FOUNTAIN

PLUMBING GENERAL NOTES:

TEMPERED WATER STORAGE TANK URINAL VACCUM PUMP

THIS IS A STANDARD LEGEND, THEREFORE, SOME SYMBOLS AND ABBREVIATIONS MAY APPEAR ON THIS SHEET AND NOT ON THE DRAWINGS.

FIXTURES LOCATED IN SLABS ON GRADE SHALL HAVE THEIR TRAPS AND HORIZONTAL TRAP ARMS
CAST INTO THE FLOOR SLAB UNLESS INDICATED OTHERWISE.

INSTALL TRAP PRIMER VALVES ON ALL FLOOR AND HUB DRAINS WITH "P' EXTENSION, SEE SPECIFICATION. FLOOR AND HUB DRAINS WITH THE EXTENSIONS SHALL HAVE DEEP SEAL TRAPS. WHERE FLOOR AND HUB DRAINS WITH TRAP PRIMERS ARE LOCATED IN A SLAB ON GRADE, ROUTE 12mm CUPPER TURING ERVASED IN FLOOR SLAB TO TRAP PRIMERS.

INSTALL BURIED AND CONCRETE ENCASED COPPER PIPING WITH A PROTECTIVE SLEEVE OR WRAF FOR IT'S ENTIRE LENGTH, SLEEVE OR WRAP SHALL BE FLEXIBLE POLYETHYLENE MANUFACTURED FOR CONTINUOUS PIPE COVER APPLICATION, EXTEND SLEEVE OR WRAP 50mm ABOVE FINISHED FURNISH AND INSTALL WATER HAMMER ARRESTORS ON CW AND HW PIPING, P.D.I. SIZE 'C' IMPRILUM.

7. FIELD VERIFY PIPING ELEVATIONS WITH EXISTING CONDITIONS PRIOR TO INSTALLATION.

6. THE CONTRACTOR SHALL PROVIDE OFFSETS IN THE PIPING RUNS WHERE REQUIRED TO CLEAR EXISTING AND NEW DUCY, STRUCTURE AND OTHER PIPING SYSTEMS.

9. PLUMBING VENTS THROUGH ROOF SHALL BE OFFSET AT ROOF TO PROVIDE MINIMUM DISTANCE OF

10. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF PLUMBING FIXTURES AND FLOOR

11. SLOPE SANITARY PIPING AT 2% LINLESS OTHERWISE INDICATED ON FLOOR PLANS, WHERE FIELD CONDITIONS DO NOT ALLOW A 2% SLOPE, PROVIDE MINIMUM 1% SLOPE,

12. REFER TO OBC (ONTARIO BUILDING CODE) FOR MINIMUM ALLOWABLE SLOPE FOR RELEVANT PIPE

2. INSULATE ABOVE GRADE DRAINAGE PIPING THAT RECEIVES CONDENSATE FROM AIR

TRENCH DRAW

PLUMBING ABBREVIATIONS

AREA DRAIN ACID NEUTRALIZATION TANK

BACKFLOW PREVENTER

CONDENSATE DRAIN
DOMESTIC COLD WATER
CIRCULATION PUMP
DRINKING FOUNTAIN
DOMESTIC WATER HEATER

EMERGENCY SAFETY SHOWER

COMBINED EMERGENCY SHOWER & EYEWASH

BOOSTER PUMP

CUMPENSATE DEVIN

ACCESS DOOR AIR HANDLING UNIT ALARM BUTTERFLY DAMPER CEILING DIFFUSER CONDENSER UNIT DOOR GRILLE DUCT FIRE DAMPER FLOW INDICATOR COMBINATION FIRE AND SMOKE DAMPER FINNED TUBE CONVECTOR GAS UNIT HEATER HVAC CONTROL PANEL HEAT RECOVERY UNIT HEAT PUMP . HUMIDIFIER HEATING & VENTILATING UNIT HEATING WATER PUMP HEAT EXCHANGER HEAT EXCHANGER LINEAR DIFFUSER MOTORIZED DAMPER OPPOSED BLADE DAMPER OUTSIDE AIR PERFORATED CEILING GRILLE PERFORATED CEILING DIFFUSER PORTABLE EXHAUST FAN PORTABLE EMHAUST FAN RETURN AM RODAN AM CONDITIOMER RETURN AM REGISTER SUPPLY AM SUPPLY AM REGISTER SUPPLY AM VIEW REGISTER SUPPLY FAN VIEW REGISTER VIEW REG VOLUME CONTROL DAMPER

HVAC ABBREVIATIONS

PLUMBING SYMBOLS CITY POTABLE WATER (COLD WATER) NON POTABLE WATER ----- COMPRESSED GAS ---- NG ---- NATURAL GAS PIPING ABOVE GRADE ENCASED PIPING LINION FLOOR DRAIN CLEANOUT AREA DRAIN CATCH BASIN □_{C8} VENT PIPING ---- SAN ----SANITARY LINE CONDENSATE DRAIN BELOW ----- CD -----CONDENSATE DRAIN ABOVE ----- co -----RAIN WATER LEADER ------ RWI. ---------- ST ----- STORM SEWER WASTELINE -----C----COMBINED SEWE ___tot__ **BACKFLOW PREVENTER** HOSE BIB ROOF DRAIN HUR DRAIN OFF FUNNEL FLOOR DRAIN ELBOW 90 DEGREE ELBOW DOWN CROSS TEE TEE UP TEE DOWN ELBOW 45 DEGRE LATERAL LATERAL UP LATERAL DOWN

MECHANICAL GENERAL NOTES:

- CONTRACTOR SHALL RECORD ON AS-BUILT DRAWINGS ALL SIZES, MATERIALS, ELEVATIONS AND LOCATIONS
 OF ALL EQUIPMENT AND DUCTWORK THAT DEVIATES FROM THE DESIGN CONTRACT DRAWINGS.
- ALL WORK AND MATERIALS SHALL CONFORM TO THE LATEST EDITION OF THE ONTARIO BUILDING AND MECHANICAL CODES AND ALL OTHER AUTHORITIES HAVING JURISDICTION.
- PRIOR TO START OF CONSTRUCTION COORDINATE INSTALLATION OF MECHANICAL WORK TO AVOID UNINECESSARY JOB DELAYS OR INTERFERENCE WITH ALL OTHER TRADES.
- 4. OBTAIN ALL FIELD APPROVALS ON MECHANICAL WORK FROM REGULATING AGENCIES WHERE REQUIRED.
- 5. ALL EQUIPMENT SHALL BE CSA AND/OR U.L.C. LISTED.
- ALL HWAC WORK SHALL BE IN COMPLIANCE WITH NFPA 90A AND 90B AS APPLICABLE AND IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- MECHANICAL DRAWINGS ARE SCHEMATIC IN NATURE AND ARE TO CONVEY DESIGN INTENT DRLY, REQUIRED OFFSETS, FITTINGS AND GENERAL INSTALLATION REQUIREMENTS ARE THE RESPONSIBILITY OF THE CONTRACTOR.

HVAC GENERAL NOTES:

- THIS IS A STANDARD LEGEND, THEREFORE, SOME SYMBOLS AND ABBREVIATIONS MAY APPEAR ON THIS SHEET AND NOT ON THE DRAWBAGS.
- 2. FOR DUCT CONSTRUCTION DETAILS, SEE SPECIFICATIONS.
- 3. DUCT AND PIPING ELEVATIONS SHOWN ARE APPROXIMATE, FIELD VERFY ELEVATIONS PRIOR TO INSTALLATION, EXCEPT WHERE IMMERISIONS ARE SPECIFICALLY BOKCATED, MECHANICAL DRAWNINGS ARE GENERALLY DOKEMBANTE, DOS BOILL DOT BE SCALED, SUE AND EXCUTE OF ELIPINATIST IS SHOWN TO SCALE WHERE POSSIBLE, DAMANISS INDICATE THE REQUIRED SIZE AND ROUTES OF SYSTEM ELEMENTS, IT IS NOT INTENDED TO HIDICATE ALL OFFSTER RISERS, OR FITTINGS, IT IS THE COMPRECIOUS ELEMENTS. IT IS TO INSTALL SYSTEM ELEMENTS IN A MANNER TO CONFORM TO BUILDING STRUCTURE AND TO AVOID
- 5. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF ROOF OPENINGS AND PENETRATIONS.

H	BELLMOUTH
\$0	SMOKE DAMPER
	FIRE DAMPER
SFO	COMBINATION FIRE AND SMOKE DAMPER
	MANUAL BUTTERFLY DAMPER
	MOTORIZED DAMPER
	SOUND ATTENUATED DUCT
声	FLEXIBLE CONNECTION
	FLEXIBLE DUCTWORK (SINGLE LINE) WITH SPIN-IN COLLAR AND BALANCING DAMPER
	FLEXIBLE DUCTWORK (DOUBLE LINE) WITH SPIN-IN COLLAR AND BALANCING DAMPER
$\perp \pm \perp$	INCLINED RISE IN DUCT
1-1	INCLINED DROP IN DUCT
<u>F</u>	DUCY-MOUNTED HUMIDITY SENSOR
	DUCT-MOUNTED AIR FLOW MONITORING STATION
	DUCT-MOUNTED SMOKE DETECTOR
<u> </u>	DUCT-MOUNTED STATIC PRESSURE SENSOR
<u></u>	DUCT-MOUNTED DIFFERENTIAL PRESSURE SENSOR
p_	DUCT-MOUNTED TEMPERATURE SENSOR
L-1	LOUVER
D-1	DAMPER

INTAKE, RETURN, OR EXHAUST DUCT (SECTION)

ROOM YEMPERATURE SENSOR

ROOM PRESSURE SENSOR

ROOM HUMIDITY SENSOR

HVAC CONTROL PANEL

HÇP

HVAC SYMBOLS

TURNING VANES

CONICAL TEE

45 DEGREE ENTRY

WALL REGISTER OR GRELE (SUPPLY)

CEILING DIFFUSER OR REGISTER (SUPPLY)

CEILING REGISTER OR GRILLE (RETURN AND EXHAUST)

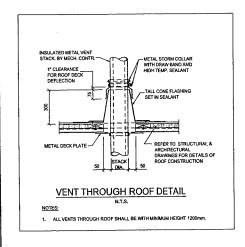
WALL REGISTER OR GRILLE (RETURN AND EXHAUST)

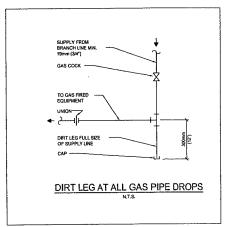
THE CONTRACTOR SHALL PROVIDE OFFSETS IN THE PIPING AND DUCT RUNS WHERE REQUIRED TO CLEAR EXISTING AND NEW DUCTS, STRUCTURES AND OTHER PIPING SYSTEMS.

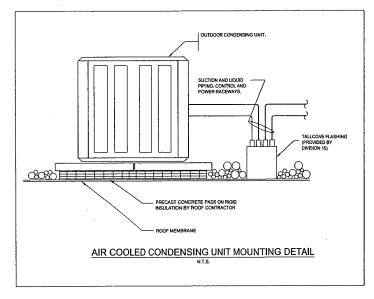
- TRANSITIONS TO ALL EQUIPMENT, INTO THE AVAILABLE SPACE, IN A MANNER TO MAKE ALL WORKING PARTS ACCESSIBLE FOR MAINTENANCE AND SERVICE.
- DIVISION 15, CONTRACTOR TO PROVIDE AND INSTALL ALL LOW VOLTAGE WIRING AND CONDUIT, CONDUIT AS SPECIFIED IN DIVISION 16.

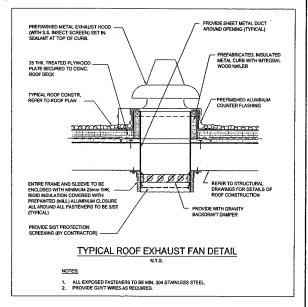
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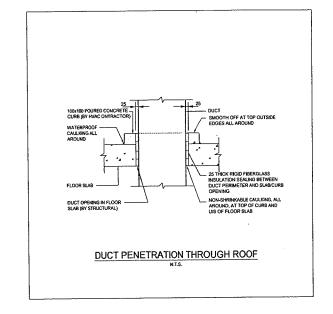
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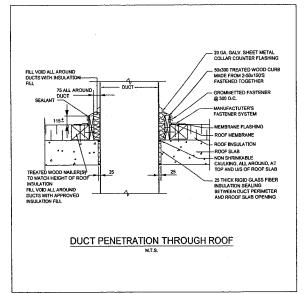


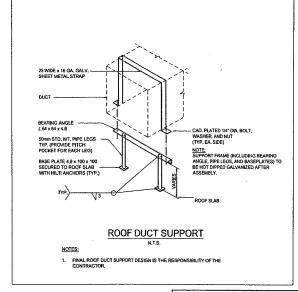












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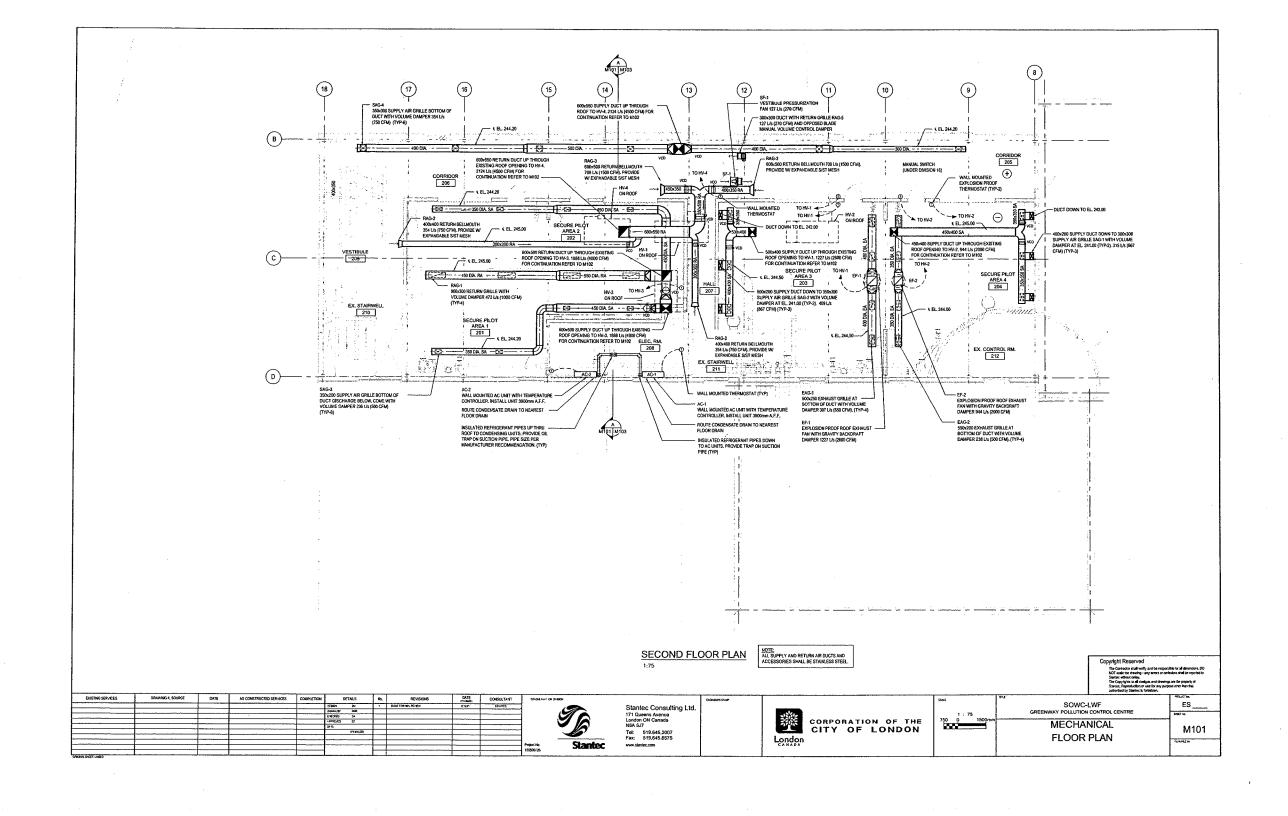
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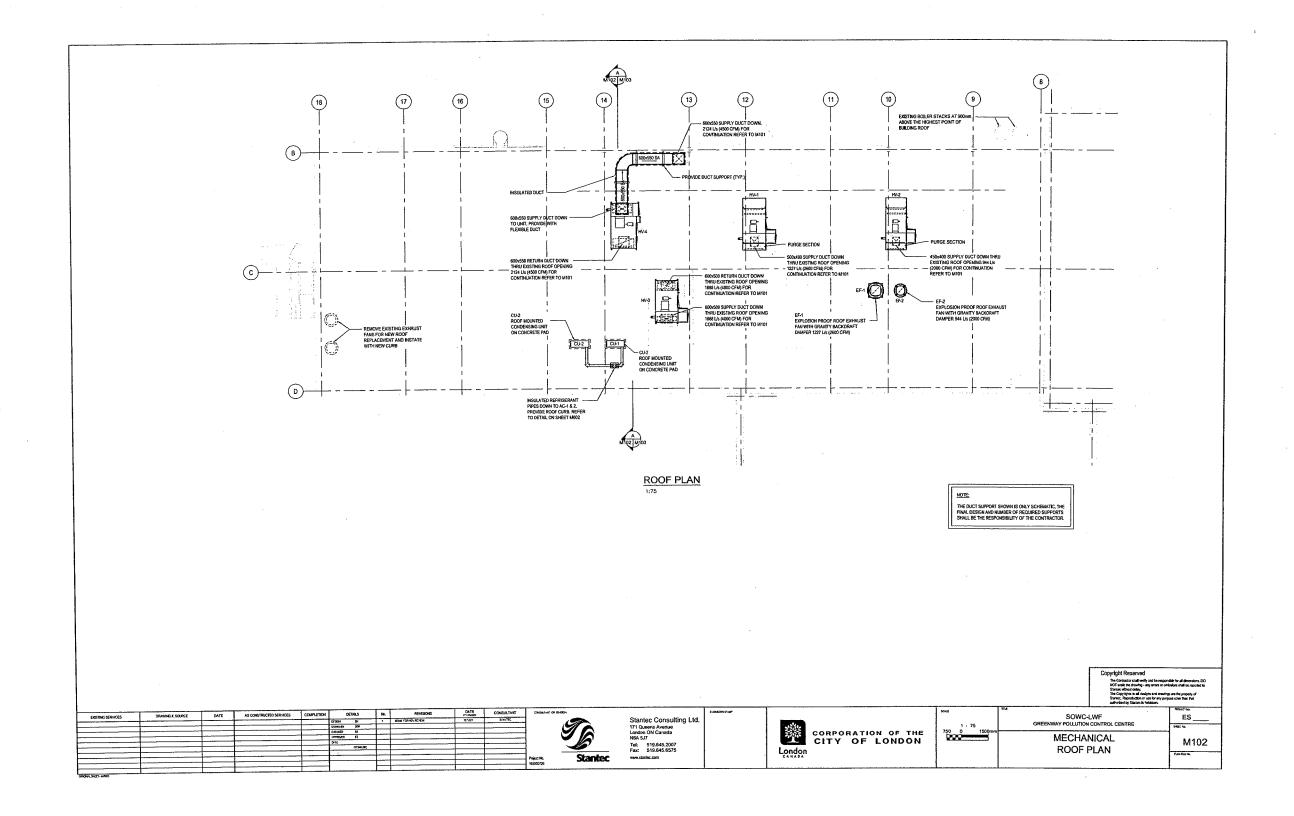
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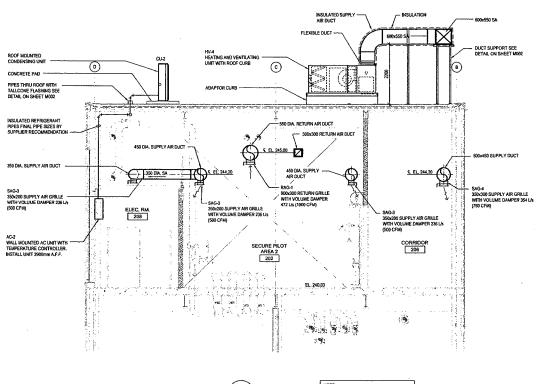
CORPORATION OF THE CITY OF LONDON

H.T.S.

SOWC-LWF GREENWAY POLLUTION CONTROL CENTRE MECHANICAL STANDARD DETAILS ES ____ 5467 to M002







SECTION

NOTE: ALL SUPPLY AND RETURN AIR DUCTS AND ACCESSORIES SHALL BE STAINLESS STEEL.

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Stantec

Stantec Consulting Ltd.
171 Queens Avenue
London ON Canada
N8A 5.7
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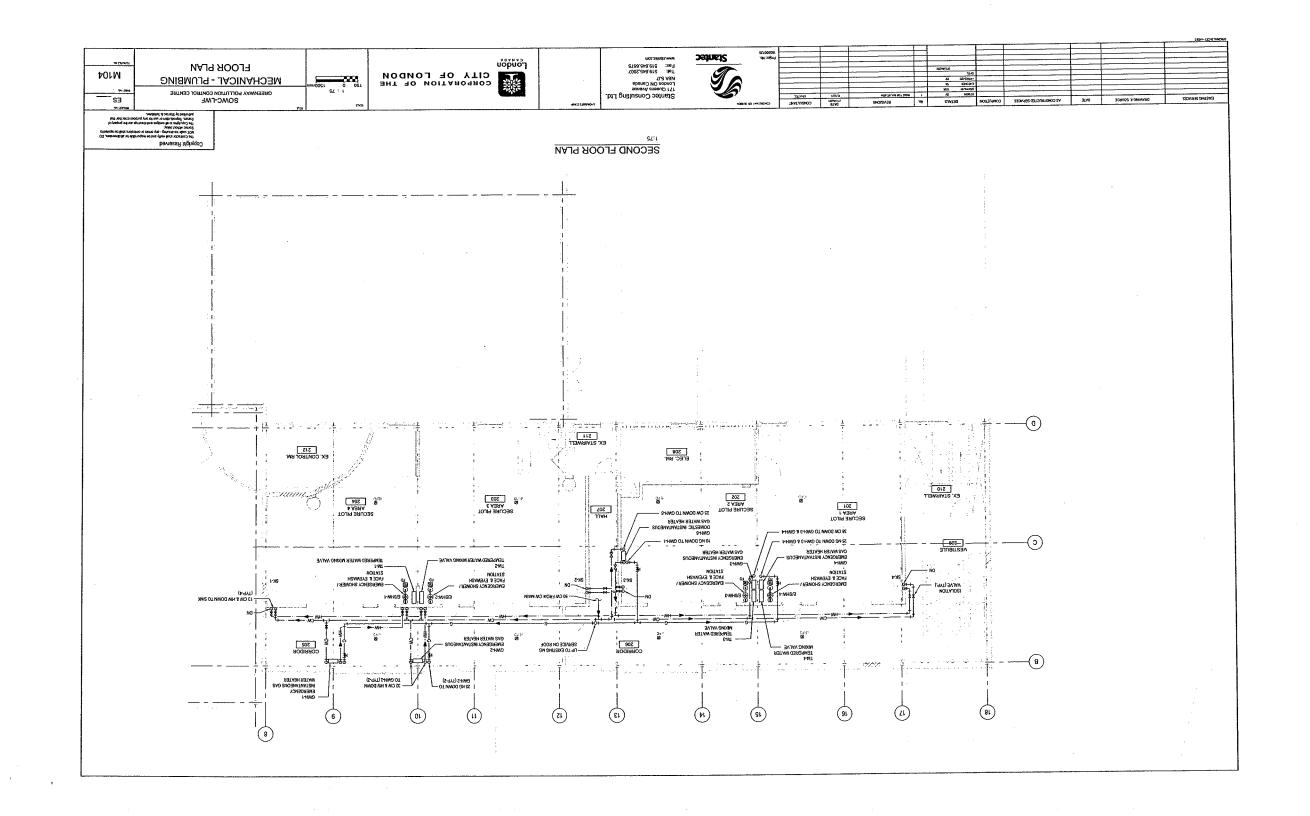
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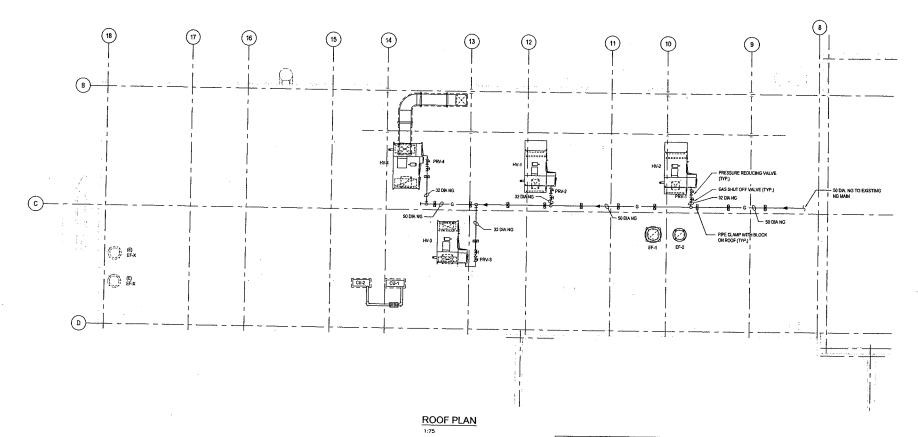
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MECHANICAL SECTION

M103 PLIN PLE NA.





NATURAL GAS PRESSURE REDUCING REGULATOR SCHEDULE PRESSURE INCHW.C. CAPACITY SCFH DESCRIPTION REMARKS PRV-1 PRESSURÉ REDUCING VALVE FISHER SERIES S300 SEE NOTE 1,2,3 250 PRV-2 PRESSURE REDUCING VALVE FISHER SERIES S300 SEE NOTE 1,2,3 200 PRV-3 PRESSURE REDUCING VALVE FISHER SERIES S300 150 SEE NOTE 1,2,3 PRV-4 PRESSURE REDUCING VALVE FISHER SERIES 9300 SEE NOTE 1,2,3

NOTES:

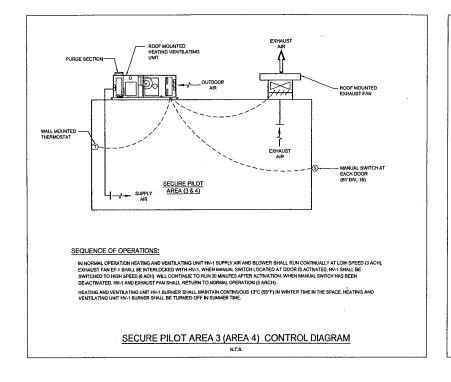
1. SUITABLE FOR HEATING AND VENTILATING APPLICATION.

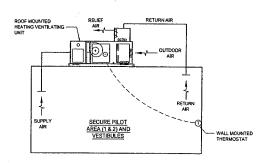
2. SUITABLE FOR OUTDOOR LOCATION.

3. THE LISTED OUTLET PRESSURE IS FOR REFERENCE ONLY. ADJUST ACTUAL DUTLET PRESSURE ON SITE TO MEET MANUFACTURER RECOMMENDED OPERATING PRESSURE FOR ALL GAS FIRED EQUIPMENT.

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171 Queens Avenue
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NBA 5J7
Tol: 619.645.2007
Fax: 519.645.6575
www.talefc.com SOWC-LWF GREENWAY POLLUTION CONTROL CENTRE E\$ ___ CORPORATION OF THE CITY OF LONDON 750 0 1500m MECHANICAL - PLUMBING M105 Fondon Stantec **ROOF PLAN** PLANTE W.





SEQUENCE OF OPERATIONS:

SUMMER OPERATION HV-3 / HV-4;

UPON A SPACE TEMPERATURE READING (BY WALL MOUNTED THERMOSTAT) OF OVER PRE-DETERMINED TEMPERATURE, THE SUPPLY FAN IN HAS I MAY SHALL BE ACTIVATED, CUIDOR ARE OAMPER AND RELIEF ARE DAMPER SHALL BE OPEN AND RETURN ARE DAMPER SHALL BE CODEN AND RETURN ARE DAMPER SHALL BE CODEN AND RETURN ARE DAMPER SHALL BE CLOSED. UPON A SPACE TEMPERATURE READING (BY WALL MOUNTED THERMOSTRA) OF BELOW SET-POINT TEMPERATURE, THE SUPPLY FAN IN HAS I MAY SHALL BE DEACTIVATED, OUTDOOR ARE DAMPER AND RELIEF DAMPER SHALL BE CLOSED. HEATING AND VENTILATING UNIT HAS I HAVE BURNERS SHALL BE TURNED OF IN SUMMER TIME.

WINTER OPERATION HV-3 / HV-4:

HEATING AND VENTILATING UNT 14/3 14/4 SHALL BE CONTROLLED BY WALL MOUNTED THERMOSTAT. 14/3 1 HV/4 SHALL BE ENERGIZED TO SATISTY SPACE TEMPERATURE SET-FOUT OF PRE-CETERWINED, OUTDOOR AIR DAMPER AND RELIEF AIR SHALL REMAIN CLOSED NO RETURN AIR DAMPER SHALL REMAIN OPEN IN WINTER TIME.

SECURE PILOT AREA 1 & 2 (HV-3) & VESTIBULE (HV-4) CONTROL DIAGRAM

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NOTE: ALL ELECTRIC HEATERS ARE SUPPLY BY DIVISION 16

				EQUIP	MENT SC	HEDULE						
MARK	DESCRIPTION	SERVICE AREA	DESIGN BASIS	MODEL No	HEATING INPUT (BYUH)	HEATING OUTPUT (BTUH)	COOLING CAPACITY (BTUH)	L/s (CFM)	MOTOR kW (HP)	ELECTRICAL V/PH/Hz	ESP Pa (ln. H²O)	REMARKS
HV-1	HEATING & VENTILATING	SECURE PILOT AREA 3	ENGINEERED AIR	DUE 20	250,000	200,000	(5,5,1)	1,227 (2,600) HI	1.50 (2.0)	575/3/60	250 (1.0)	SEE NOTES 1,2,3,4,5,6,7
HV-2	HEATING & VENTILATING	SECURE PILOT AREA 4	ENGINEERED AIR	DJE 20	200,000	260,000		614 (1,300) LO 944 (2000) HI	1.12 (1.5)	575/3/60	100	
HV-3	HEATING & VENTILATING	SECURE PILOT AREA 1 & 2	ENGINEERED AIR	DJE 20				472 (1,000) LO		5/5/3/60	250 (1.0)	SEE NOTES 1,2,3,4,5,6,7
HV-4			LAGINGERED AIR	DE 20	150,000	120,000		1,888 (4,000)	2.24 (3.0)	575/3/60	187 (0.75)	SEE NOTES 1,2,3,4,6
HV-4 TES:	HEATING & VENTILATING	VESTIBULE	ENGINEERED AIR	DJE 20	150,000	120,000		2,124 (4,500)	3.73 (5.0)	575/3/60	187 (0.75)	SEE NOTES 1,2,3,4,6

MOTES:
1. INDIRECT GAS PIRED UNIT.
2. 3 PASS STAMLESS STEEL DRUM AND TUBE HEAT EXCHANGER.
3. 1 PASS STAMLESS STEEL DRUM AND TUBE HEAT EXCHANGER.
4. PROVIDE FACTORY DISCONNECT SWITCH FACTORY MOUNTED AND WIRED, NEUMA.
5. PROVIDE FACTORY DRUM STEEL SWITCH FACTORY MOUNTED AND WIRED, NEUMA.
6. PROVIDE FACTORY WITH SUFFICIENCY CURR WITH MINAULM 400mm HEIGHT.
7. PROVIDE WITH PURGE SECTION.

MARK	AR CONDITIONER ELECTRICAL ROOM MITSUBISH PKA-A38KA 36,000 16,000 3 204/460 SEE NOTES 1,23 CONDENSER UNIT ELECTRICAL ROOM MITSUBISH PUZ-HKSONIAA 36,000 - 3 204/460 SEE NOTES 2,3 O INTERLOCK WITH WALL MOUNTED CONTROLLER (THERMOSTAT), PROVIDED BY UNIT SUPPLIER, (MODEL Na/PAR-21MAA). FRANT IPPE SIZES ARE PER THE UNIT SUPPLIER RECOMMENDATION.	REMARKS							
AC-1,2	AIR CONDITIONER	ELECTRICAL ROOM	MITSUBISHI	PKA-A38KA	36,000	18,000	3	208/1/50	SEE NOTES 1,23,4,5,7,
CU-1,2	CONDENSER UNIT	ELECTRICAL ROOM	MITSUBISHI	PUZ-HA36NHA4	35,000				
ES: PROMOE AND	WYEDI OOY MATUUMIN I MOUNTH								
PROVIDE AND PROVIDE ALL ALL REFRIGE INSULATE ALL INSULATE ALL INSULATE ALL	RANT PIPE SIZES ARE PER THE UN CONDENSATE PIPES, (ALL HARD (REFRIGERANT PIPES.	NG UNIT. IT SUPPLIER RECOMMENDATION		EL No.PAR-21MAA).				٠	

	Υ		EXHAL	JST/SUPPI	Y FAN	SCHEDULE						
MARK	DESCRIPTION	SERVICE AREA	DESIGN BASIS	MODEL No.	DRIVE	L/s (CFM)		SP In. H²O)	FRPM	MOTOR W (HP)	ELECTRICAL V/PH/Hz	REMARKS
EF-1	ROOF EXHAUST FAN	SECURE PILOT AREA 3	GREENHECK	CU8E-181-5	BELT	1,227 (2,600) HI 614 (1,300) LO	63	(0.25)		0.373 (0.5)	575/3/60	SEE NOTES 2.3.4
EF-2	ROOF EXHAUST FAN	SECURE PILOT AREA 4	GREENHECK	CUBE-161-4	BELT	944 (2000) HI 472 (1,000) LO	63	(0.25)		0.119 (0.25)	120/1/60	SEE NOTES 2.3.4
SF-1	SIDEWALL SUPPLY FAN	VESTIBULE	GREENHECK	SS1-10	DIRECT	127 (270)	63	(0.25)	1650	0.037 (0.05)	120/1/60	SEE NOTES 1.2.5

NOTES:

1. PROVIDE FACTORY DISCONNECT SWITCH, FACTORY MOUNTED AND WIRED, HEMA-SR.

2. PROVIDE MOTOR WITH THERMAL OWERLOADS.

3. PROVIDE FACTORY DISCONNECT SWITCH, FACTORY MOUNTED AND WRIED INSMA-7.

4. PROVIDE EVELOSION PROOF WOTOR CLASS 1, DISMISON 1, GROUP C AND ST.

5. PROVIDE WALL HOUSING, FROMT AND DRIVE SIDE PROTECTIVE GUARDS AND ALL MINUNTING ACCESSORIES.

		GF	RILLE SCHEDU	LE			
MARK	DESCRIPTION	SERVICE AREA	DESIGN BASIS	MODEL No.	SIZE	L/s (CFM)	REMARKS
SAG-1	SUPPLY AIR GRILLE	SECURE PILOT AREA 4	E.H. PRICE	7200	300x300	315 (667)	SEE NOTES 1,2
SAG-2	· SUPPLY AIR GRILLE	SECURE PILOT AREA 3	· E.H. PRICE	720D	350x300	409 (867)	SEE NOTES 1,2
SAG-3	SUPPLY AIR GRILLE	SECURE PILOT AREA 1 & 2	E.H. PRICE	720D	350x200	236 (500)	SEE NOTES 1.2
SAG-4	SUPPLY AIR GRILLE	VESTIBULE	E.H. PRICE	7200	350x300	354 (750)	SEE NOTES 1.2
RAG-1	RETURN AIR GRILLE	SECURE PILOT AREA 1 & 2	E.H. PRICE	7200	900x300	472 (1000)	SEE NOTES 1.3
RAG-2	RETURN AIR GRILLE	VESTIBULE	E.H. PRICE	7200	400x400	354 (750)	SEE NOTES 1.3
RAG-3	RETURN AIR GRILLE	VESTIBULE	E.H. PRICE	7290	600x500	708 (1500)	SEE NOTES 1,3
EAG-1	EXHAUST AIR GRILLE	SECURE PILOT AREA 4	E.H. PRICE	720D	500x250	307 (650)	
EAG-2	EXHAUST AIR GRILLE	SECURE PILOT AREA 3	E.H. PRICE	7200	550x200	238 (500)	SEE NOTES 1.2 SEE NOTES 1.2

NOTES:

1. SUPPLY AIR AND RETURN GRALLES BASIS OF DESIGN 700 SERIES.

2. ALL SUPPLY AIR GRALLES SHALL BE DOUBLE DEPLECTION CONSTRUCTED ENTIRELY OF TYPE SHAL STAINLESS STEEL OPPOSED BLADE DAMPER & SECURING HARDWARE.

3. ALL RETURN GRALLES SHALL COME WITH STAINLESS STEEL OPPOSED BLADE VOLUME CONTROL DAMPER.

MARK	DESCRIPTION			1	REMARKS TRAP SEAL PRIMER		
MAIN	DESCRIPTION	C.W.	H.W.	T.W.	DRAIN	VENT	
SK	SINK	12 (%)	12 (95%)		38 (1%)	32 (1)(7)	
FD	FLOOR DRAIN		-		75 (3")	- 1	TRAP SEAL PRIMER
E/SHW-1	EMERGENCY SHOWER/ EYEWASH	-	-	32 (1)27)	-	- 1	
TM-1	TEMPERED WATER MIXING VALVE	32 (1)(7)	32 (1)(*)	32 (1½")	_		

PLUMBING FIXTURE SCHEDULE

		PLUM	IBING EQUIPME	NT SCHEDULE				
MARK	DESCRIPTION	SERVICE AREA	DESIGN BASIS	MODEL No	SIZE LITRE (GAL)	INPUT (BTUH)	ELECTRICAL V/PH/Hz	REMARKS
GWH-1,2,3,4	NATURAL GAS EMERGENCY INSTANTANEOUS WATER HEATER	SECURE PILOT AREAS EMERGENCY SHOWER / FACE EYEWASH	NORITZ	NC381-SV-ASME-NG	-	380,000	120/1/60	SEE NOTE 1.2
GWH-5	NATURAL GAS DOMESTIC INSTANTANEOUS WATER HEATER	SECURE PILOT AREAS SINKS	NORITZ	NC199-DVC-NG	_	199,000	120/1/60	SEE NOTE 1,2

NOTE:

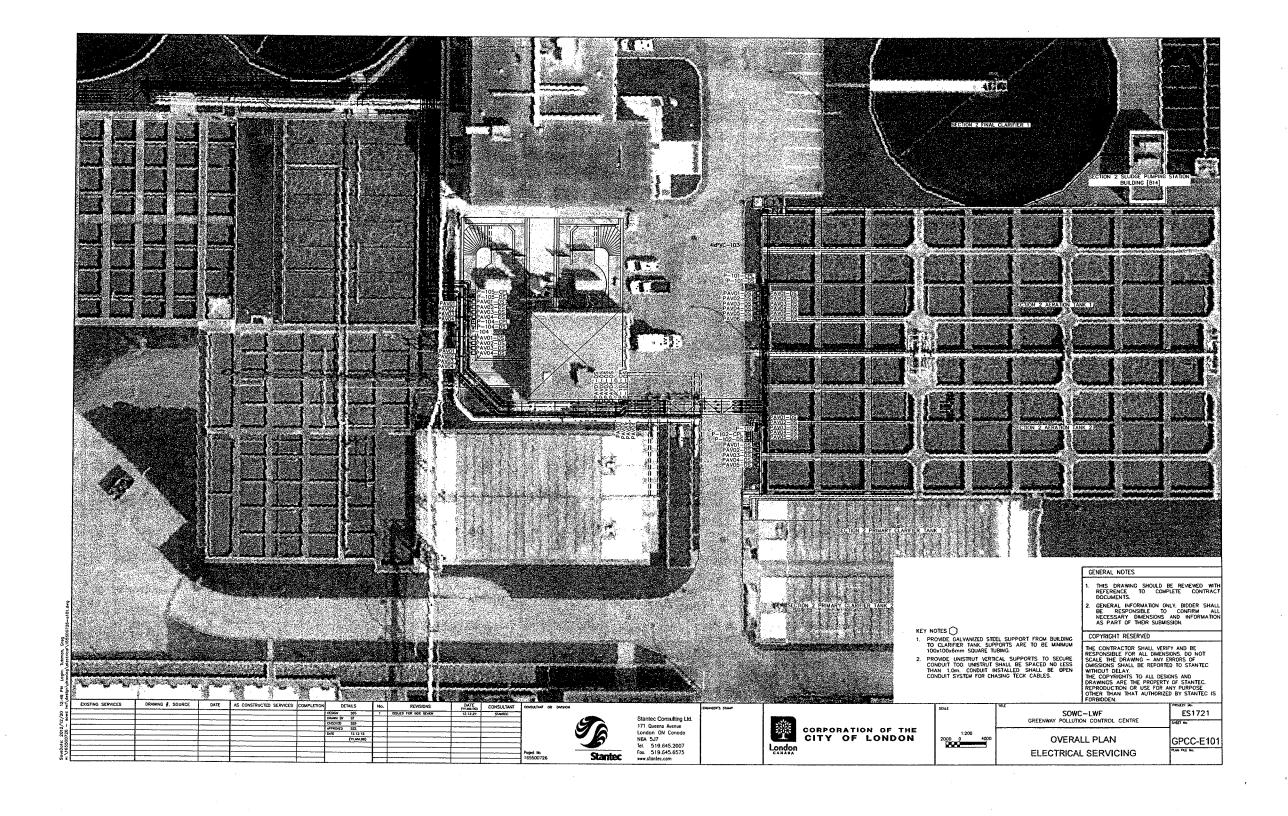
1. USE WITH TEMPERED WATER MIXING VALVE. DESIGN BASIS HAVE MODEL IN. 2020 WITH SIST CARNET HAWS MODEL IN. 2020SUR

2. WATER HEATER SHALL COME WITH POWER VENT, PROVIDE 125 DM, CATAGORY IN STAMLESS STEEL VENT PIPE THRU, SIDE WALL WITH WEATHER CAP.

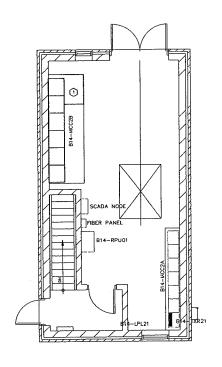
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F		LAYOUT	F & PLANS		T	Si		DIAGRAMS / POWER SCHEMATI	ICS		1	CONTROL	L SCHEMATI	`s	- - <u></u>	LINETYPES		ABBREVIATIONS	
SY	SY148OL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYNABOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	╢	POWERICONTROL CEVICE/EQUIPMENT REMO	CAV	ABOVE FINISHED PLOOR COMPLETE WITH	
			T .				7				TS				-	POWERICONTROL DEVICE/EQUIPMENT EXIST	TING CM	CUSTOMER METERING CONTROL PANEL STATION	
(Ø	MOTOR	(E)	SECURITY KEYPAD	52	POWER CIRCUIT BREAKER (PCB) M-MOTOR OPERATED (EOF)	(⋛ 	UNIT HEATER (3 ф)	Ф	OUPLEX RECEPTACLE	-5	K1 TEMPERATURE SWITCH, NORMALLY OPENED	J-0-	GN TAKE BELAY CONTACT		POWERICONTROL DEVICE/EQUIPMENT NEW	DS DS	DISCONNECT SWITCH	
	- 1	·						ĺ	-		5		^	HORMALLY OPENED	1	LIGHTING DEVICE/EQUIPMENT REMOVALS	CPL CPP DS EMH JE(X) P6(X) TB(X) UJG	ELECTRICAL MANHOLE JUNCTION BOX FULL BOX	
	ا ہ		_		逢	DRAW-OUT POWER CIRCUIT	10			ŧ	TS	1			II	LIGHTING DEVICE/EQUIPMENT EXISTING	1800)	1ERWINAL BOX UNDER GROUND	
(Ø	DAMPER MOTOR	(M)	MOTION / OCCUPANCY SENSOR	52	BREAKER (DO-PCB) M - MOTOR OPERATED (E000)	(CW)	UMIT HEATER (1 q)	₩	FOURPLEX RECEPTACLE	- <u>5</u>	TEMPERATURE SWITCH, NORMALLY CLOSED	1-01-0	ON TIME DELAY CONTACT NORMALLY CLOSED		i	ICP SCP	INSTRUMENTATION PANEL SCADA CONTROL PANEL	
	- 1			İ	*		1.		_		ے ا		1. "		1	LIGHTING DEVICE/EQUIPLIENT NEW	SEP	SECURITY PANEL	
	_				١, ١	MOULDED CASE SWITCH (MCS) OR		MOTOR ACTUATED VALVE	_		PS		1			NEW CONTROL DEVICE/EQUIPMENT	S2 ATS	CIRCUIT BREAKER AUTOMATIC TRANSFER SWITCH	
	마	DISCONNECT SWITCH, NON FUSED	(0)	DOOR SENSOR	(ب	MOULDED CASE CIRCUIT BREAKER (MCCB)*	W	CAW PVR STARTER	₩.	EMERGENCY EXIT SKIN	100	PRESSURE SWITCH, NORMALLY OPENE	₽I~~	OFF TIME DELAY CONTACT NORMALLY OPENED		EXISTING CONTROL DEVICE/EQUIPMENT	CT PT	CURRENT TRANSFORMER POTENTIAL TRANSFORMER	
1				İ	l i				_		_		1			POWERICONTROL DEVICE/EQUIPMENT TEXT (REMOVALS DN ES	DEVICENET EMERGENCY STOP	
	Ø,	DISCONNECT SWITCH, FUSED		TELEPHONE GUTLET	(ا	MOULDED CASE CIRCUIT BREAKER		SPECIAL PURPOSE PLUG & RECEPTACLE	1	EMERGENCY/EXIT LIGHTING	PS			OFF TIME DELAY CONTACT	II	POWERICONTROL DEVICE/EQUIPMENT TEXT (FIBRE OPTIC FORWARDIOFFRIEVERSE	
'	K.r	DESCRIPTION OF THE PROPERTY OF	-	TELEPHONEOUTE	l 🖫	(MCCB) AV THERMAL MAGNETIC TRIP		DISCONNECT RATED	4_4	EMERGENCY/EXIT LIGHTING COMEINATION UNIT	Lolo	PRESSURE SWITCH, NORMALLY CLOSE	مات ا م	HORIZALLY CLGSED	 	POWER/CONTROL DEVICE/EQUIPMENT TEXT &	FIOIS	FASTIOFFISLOW FORWARD/REVERSE	
	ļ				1 T.											CONDUITS/MIREWAYS REMOVALS	HADA LAR	HAND/OFFIAUTO LOCAL REMOTE	
1	2 h	ENCLOSED CIRCUIT BREAKER	A	COMBINED TELEPHONE AND ETHERNEY	(,	MAGNETIC-ONLY MOULDED CASE CIRCUIT BREAKER OR	5	CURRENT TRANSFORMER (CT)	g	INDOOR FIXTURE	FS	FLOW SWITCH,		PUSH BUTTON, SELECTOR SWITCH 2nd CONTACT		i	LSIG MB	LGNG SHORT INSTANTANEOUS GROUND MODBUS	
	_		-	Conte	🖶	MOTOR CIRCUIT PROTECTOR (MCP)	_		~		1	NORMALLY OPENED	~ ~	HORMALLY OPENED		CONDUITS MIREWAYS EXISTING	MB O/C O/O	OPENCLOSE ON/OFF	
					T,											CONDUITS/MIREWAYS NEW	O/O/C PB	OPENOFFICLOSE PROFIBUS	
	\$	LINE VOLTAGE SWITCH		LIGHTING/ PANEL BOARD	,	MOULDED CASE CIRCUIT BREAKER (MCCB) A SOLID STATE TRIP UNIT	.Î.	POTENTIAL/VOLTAGE TRANSFORMER	×₩	OUTDOOR WALL-PACK FIXTURE	-o-p-o-	FLOW SWITCH	حالمه	PUSH BUTTON, SELECTOR SWITCH 2nd CONTACT		UNDERGROUND CONDUITSWIREWAYS REMOV	PB S/S SP	STOP START STOP (MAINTAINED)	
	- 1		1		Ego.	, sq. a come or one law ump	**	"""	, , , ,			NORMALLY CLOSED		HORMALLY CLOSED		UNDERGROUND CONDUITSMIREMAYS EXISTI	ING.		
	м				i		l	1			LS		90.1145			UNDERGROUND CONDUITSWIREWAYS NEW			
		MANUAL MOTOR STARTER	1		%	DISCONNECT (ISOLATION; SWITCH (DS)	##	POWER TRANSFORMER (T)		INDOOR PLUORESCENT FIXTURE	∽م ⊸ا	LEVEL SWITCH NORMALLY OPENED	PB-№19 → →	PUSH BUTTON - MUSHROOM HEAD NORMALLY OPENED, MAINTAINED	11	İ			
	Ψ				ľ		1 1 1 1 1 1 1				3	NO. SECTION AND SE	1	MORROWCLY OPERED, MAINTAINED		REMOVALS POWER WIRING			
,	1AP]			L				LS		PRAISO			EXISTING POWER WIRING			
ľ		MANUAL MOTOR STAFFER CAW PROT LIGHT	1		/	LOADBREAK (INTERRUPTER) SWITCH (LBS)- MEDIUM VOLTAGE	₩	POWER AUTOTRANSFORMER (AT)	i		-ميـ	LEVEL SWITCH NORMALLY CLOSED	PB-N20	PUSH BUTTON - MUSHROOM HEAD NORMALLY CLOSED, MAINTAINED		NEW POWER WIRING			
	*		1		ľ		, '				٥			THE PARTY OF COSES, SPORT PARTY]	NEW 120Vac CONTROL WIRING	ļ		
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	\$	SWITCH CAN PILOT LIGHT	l	}		FUSE (FU)	=	CAPACITOR		}	لمر	NORMALLY OPENED	m ra-g-	SELECTOR SWITCH - 2 POSITION NORMALLY OPENED		EXISTING 120Vac CONTROL WIRING			
ì	` ;		İ		']]	1 .	1		FIELD 120Vic CONTROL WIRING	ı		
Ι.	_		į		اما	MEDIUM VOLTAGE FUSE CUT-OUT OR	٠.	l i			ZS		i	Ì		NEW 24Vac CONTROL WIRING	1		
1		CONTROLLER / STARTER			4/	LOW VOLTAGE FUSE - SWITCHED	1	INDUCTOR / REACTOR			-0	LBAST SWITCH NORMALLY CLOSED	m t] R	SELECTOR SWITCH - 2 POSITION NORMALLY CLOSED		EXISTING 24V4: CONTROL WIRING			
							ļ .					j]	1	***************************************	FIELD 24Vdc CONTROL WIRING	- 1		
Ι.	_				1 7		1	DE-TUNED CAPACITOR BANK,			ZS.		1,0,		1				
'	•	CONTROL STATION		•	ΙĀ	FUSED DISCONNECT SWITCH (FS)	로	SINGLE-TUNED HARMONIC FILTER			~~~	NORMALLY OPENED - HELD CLOSED	100 F.Z.V	SELECTOR SWITCH - 3 POSITION NORMALLY OPENED		HEW 4-20ma Instrumentation Wiring			
	:				부			i			ŀ			İ		FIELD 4-20ma Instrumentation Waring			
۔ ا		JUNCTION BOX			^	SWITCH-RATED PLUG&RECEPTACLE (SP)	na				2S	LIMIT SWITCH	LHSA			GROUND WARING	1		
"	(JBX)	JUNG HUN BOX	1		↑	PLUG & RECEPTACLE (JACK) (PR)	间	AVAIT FILTER (RL FILTER)			-05-0-	NORMALLY CLOSED - HELD OPENED	سملم	SELECTOR SWITCH - 3 POSITION NORMALLY CLOSED		BONDING WIRING			
İ			1		1										ll	SYSTEM GROUND	- 1		
6	\square	UNIT HEATER			l	MANUAL STARTER DISCONNECT SWITCH					řĒ	LED - INDICATING LIGHT	F. W				ľ		
1	~~,	ONIT PICKUSA]		Å	(MS)		DIGITAL RELAYMETER/CONTROLLER			\odot	'A' AMBER, 'B' BLUE, 'G' GREEN, 'R' RED, W' WHITE, Y' YELLOW		DEVICENET T-CONNECTOR	DN	NEW DEVICENET WIRING	1		
_					ردا ا		1									EXISTING DEVICENET WIRING			
1 2	abla	MOTOR ACTUATED VALVE			+	MAGNETIC STARTER IN OVERLOAD RELAY (FVNR, FVR, TS1W, TS2W)		ANALOG RELAYAMETERICONTROLLER				COL - CONTROL RELAY, TIMER	1		EN	NEW ETHERNET WIRING	I		
1	lee				中	LOCAL CONTROL: HOA, RL, SS, OO, FR, OC		NAME OF REDATING PROPERTY.			\circ	STARTERICONTACTOR	⋈	DEVICENET TERMINATING RESISTOR		EXISTING ETHERNET WIRING	ı		
	.				L							İ			F0		·		
1		SPECIAL PURPOSE PLUG & RECEPTACLE DISCONNECT RATED	1		蓉/	REDUCE VOLTAGE SOFT STARTER (RVSS) MINTERNAL BYPASS SWITCH		LIGHTING PANEL	1		-1 F	CONTROL RELAY, TIMER, STARTERICONTACTOR,	-	DELACTIC NOMEDA-		NEW FIBER OP TIC WIRING	Ī		
Ι `	9	UISCONNECT KATED			ピピ	LOCAL CONTROL: HOA, RL, SS, QO, FR, OC					7.5	BREAKER AUX, DISCONNECT AUX, NORMALLY OPENED CONTACT	-	DEVICENET POWERTAP		EXISTING FIBER OPTIC WIRING			
					38(0			[[l			AND THE PROPERTY OF THE PROPER	1		P8	NEW PROFIBUS OP/PA WIRING	1		
(0	SMOKE DETECTOR			¥ [¥ (3	VARIABLE FREQUENCY DRIVE (VFD) (HP-VT, HP-CT)	1	[ļ		-₩-	CONTROL RELAY, TIMER, STARTERICONTACTOR,	0	GC PGRT PLUG-IN CONNECTOR		EXISTING PROFIBUS DAFA WIRING			
'	_		1	i ·		100 -11, 1000s)	1				1.	BREAKER AUX. DISCONNECT AUX: NORMALLY CLOSED CONTACT	`	SO - ON I PLUCHN LUNNECTOR	sı	NEW SERIAL WIRRKS			
	- 1		1]]				1					GENERAL NOTES	
	0	THERMOSTAT	1]	(₩)	INDUCTION MOTOR (34)	1				®	PLC INPUT DI. DISCRETE	l 📇	CONTROLNET Y-CONNECTOR	×	EXISTING SERIAL MIRING	- 1	· · · · · · · · · · · · · · · · · · ·	
			1		Γ		•	[į		~	AI: ANALOG Pt PLESE	4			NEW TELEPHONE WIRING		1. THIS DRAWING SE REFERENCE TO	OULD BE REVIEWED COMPLETE CONTR
1	- 1		1						1						Pr	EXISTING TELEPHONE WIRING	1		
					(i)	INDUCTION MOTOR (14)			1		∞	PLC OUTPUT DO, DISCRETE	- 6	CONTROLNET TERMINATING RESISTOR				BE RESPONSIBLE	TION ONLY, BIDDER SH
	į				′] 1	l		~	AO: ANALOG PO: PULSE	-					NECESSARY DIMEN AS PART OF THEIR	E TO CONFIRM ISIONS AND INFORMA SUBMISSION,
	ı								1									COPYRIGHT RESERVED	
	-				(3 ₺)	SYNCHRONOUS MOTOR			ļ		◆	PLC RELAY/DISCRETE OUTPUT NORMALLY OPENED						******	
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			1		16									l				SCALE THE DRAWING - OMISSIONS SHALL BE R	ANY ERRORS OF
1	- 1		1](BRUSHLESS SYNCHRONOUS MOTOR			1	1	€₽	PLC RELAY/DISCRETE OUTPUT NORMALLY CLOSED						WITHOUT DELAY. THE COPYRIGHTS TO A	If DESIGNE AND
L	1		1															DRAWINGS ARE THE PR	OPERTY OF STANTEC.
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					499	980/0 SSS IE 12,12,12		 		7 6		N Canada] [CORPORA	TION OF THE		SHLLHWA	OCCUMENT CONTROL CENTRE	94ET Hs.
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			-						Project No. 165500726	Stantec	Tet. 519. Fox. 519. www.stonteo	.645.2007 .645.6575	1	Sudou				ADDREVATIONS	GPCC-E0







GENERAL NOTES

- THIS DRAWING SHOULD BE REVIEWED WITH REFERENCE TO COMPLETE CONTRACT DOCUMENTS.
- DOCUMENTS.

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 AS PART OF THEIR SUBMISSION.

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KEY NOTES ()

1. CONTRACTOR TO EXTEND CONCRETE MAINTENANCE PAD. TO ACCOMMODATE NEW B14-MCC2B.

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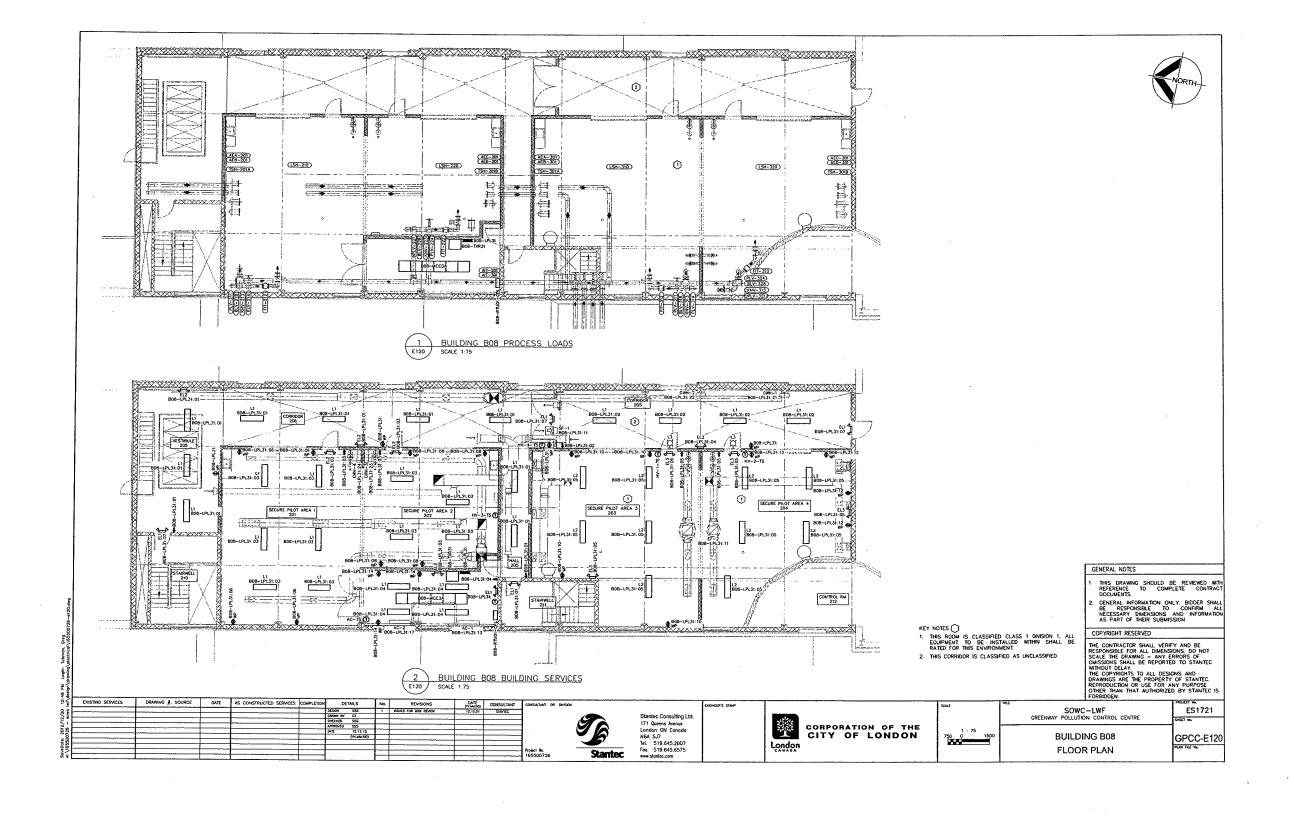
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BUILDING B14 ELECTRICAL FLOOR PLAN

SOWC-LWF GREENWAY POLLUTION CONTROL CENTRE

GPCC-E110

ES1721





1 BUILDING BOB ROOF PLAN
E121 SCALE 1:75

REVISIONS

GENERAL NOTES

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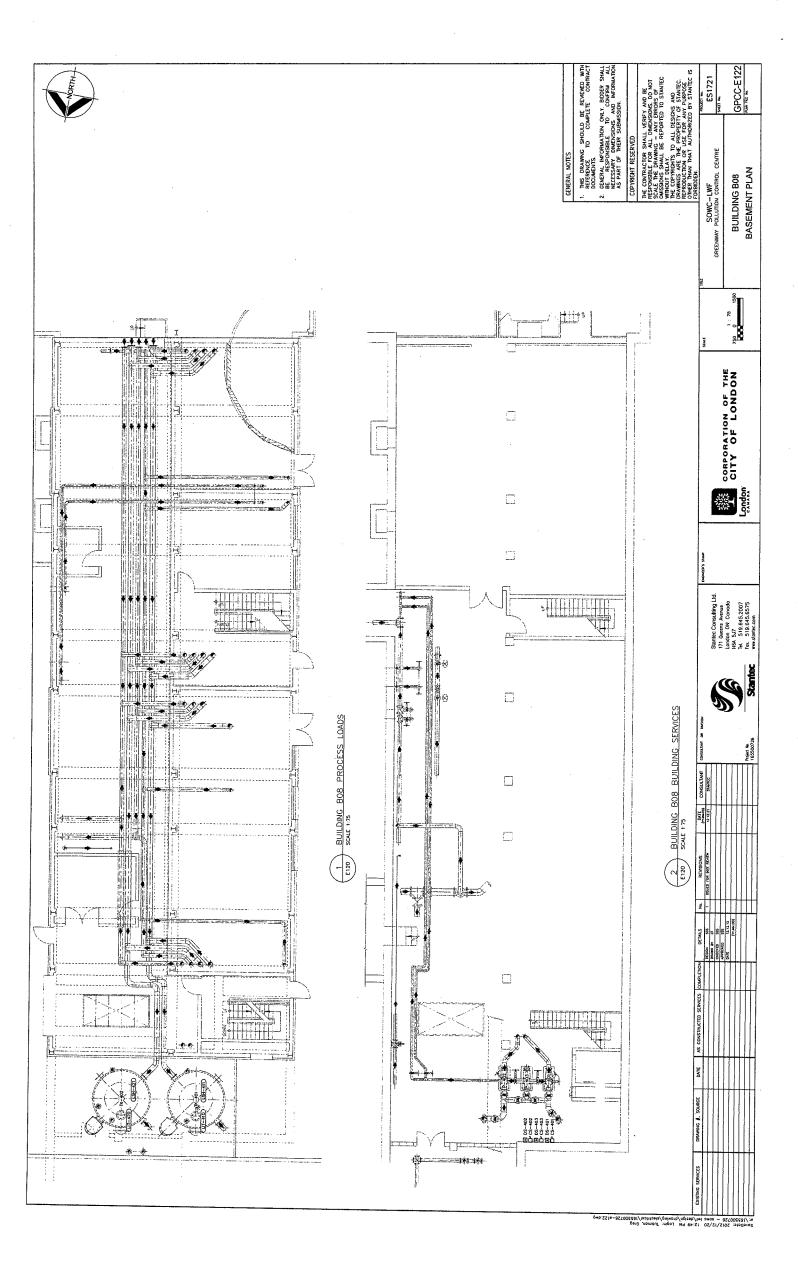
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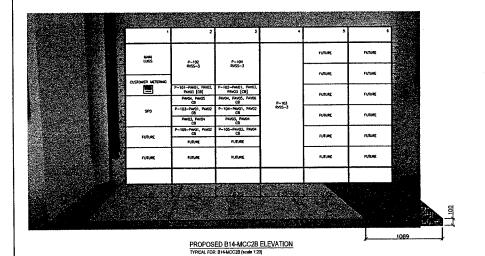
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BUILDING B08 ROOF PLAN

GPCC-E121

ES1721





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EXISTING B14-MCC2A ELEVATION
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PROPOSED B08-MCC3A ELEVATION TYPICAL FOR: B08-MCC3A (scale 1:20)

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GREENWAY POLLUTION CONTROL CENTRE ES1721

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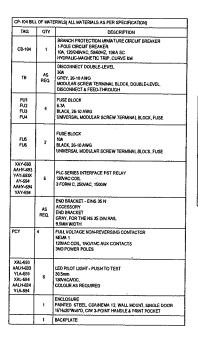
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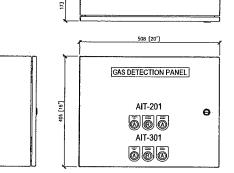
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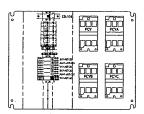


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GAS DETECTION PANEL

GENERAL NOTES

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GREENWAY POLLUTION CONTROL CENTRE

CONTROL PANEL DETAIL GAS DETECTION PANEL

GPCC-E502 PLAN FILE No.

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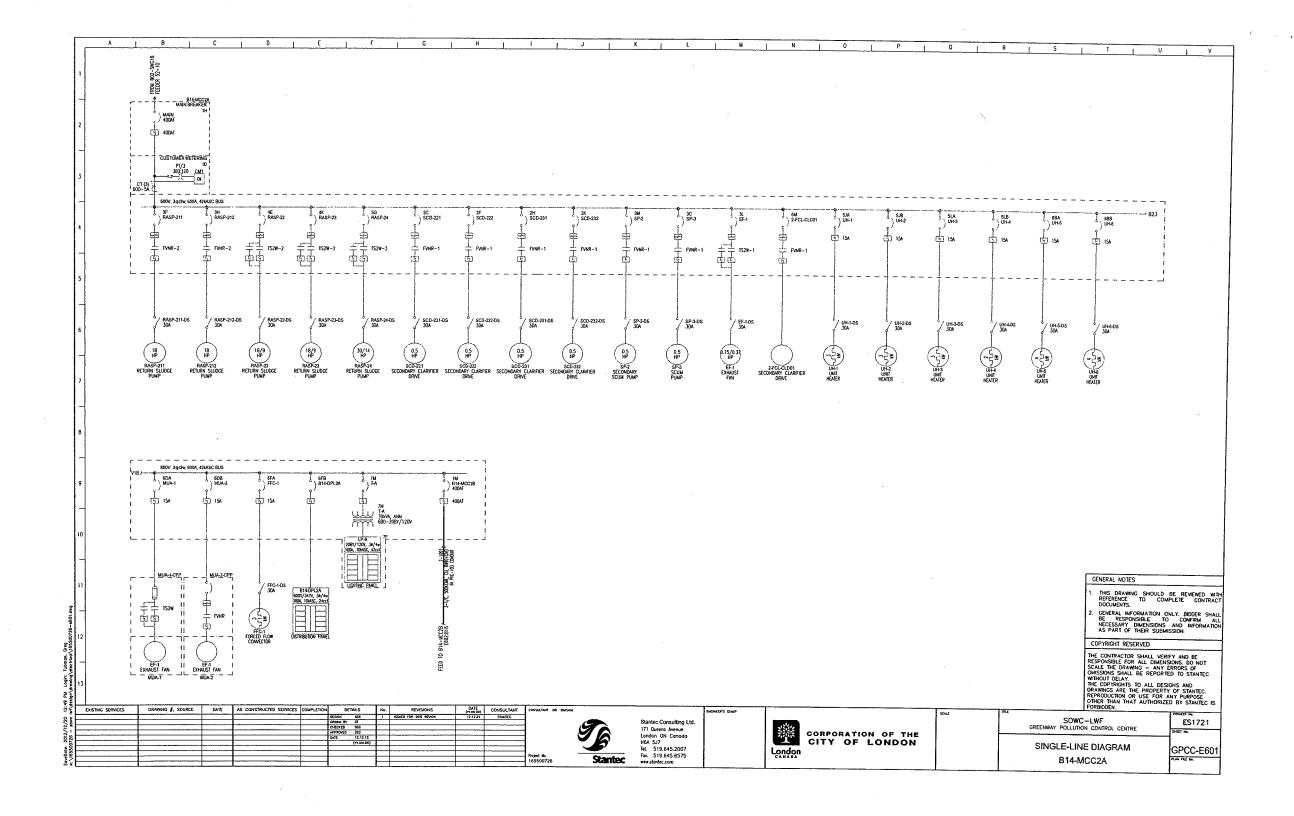
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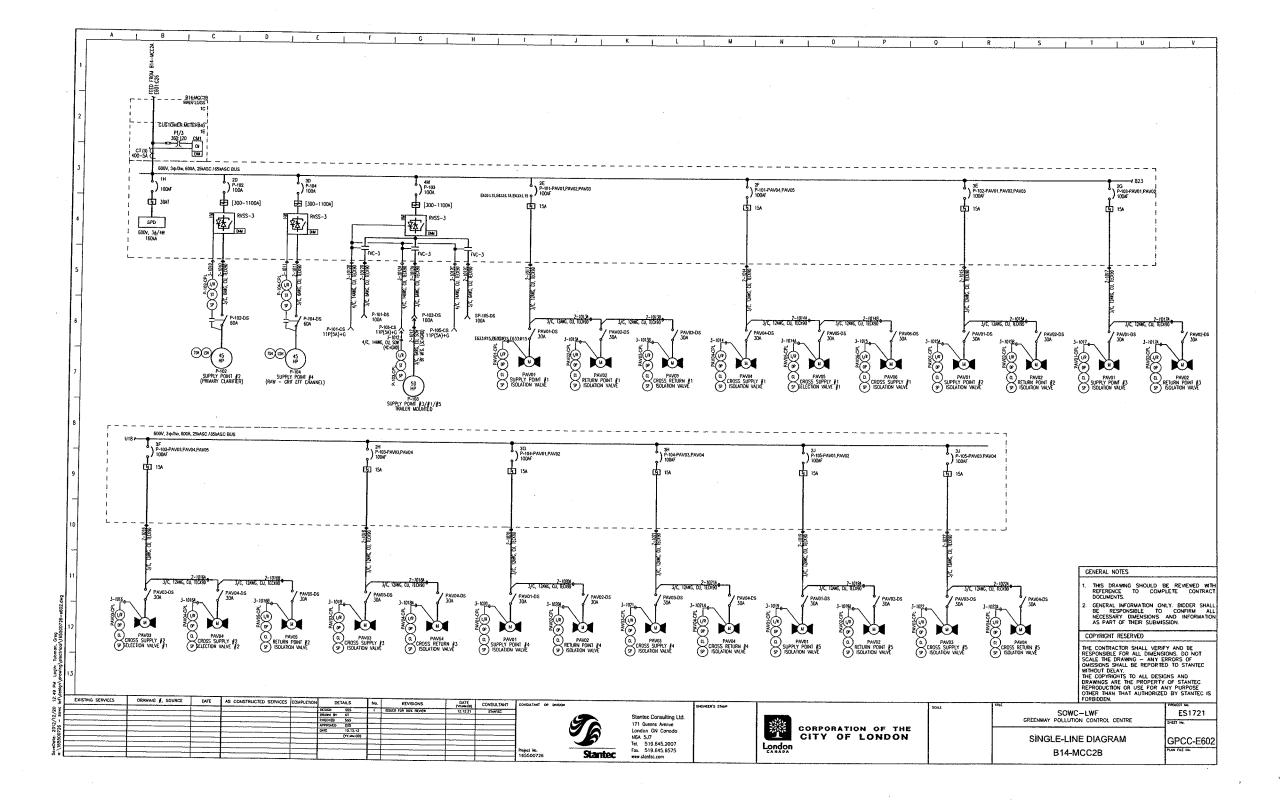
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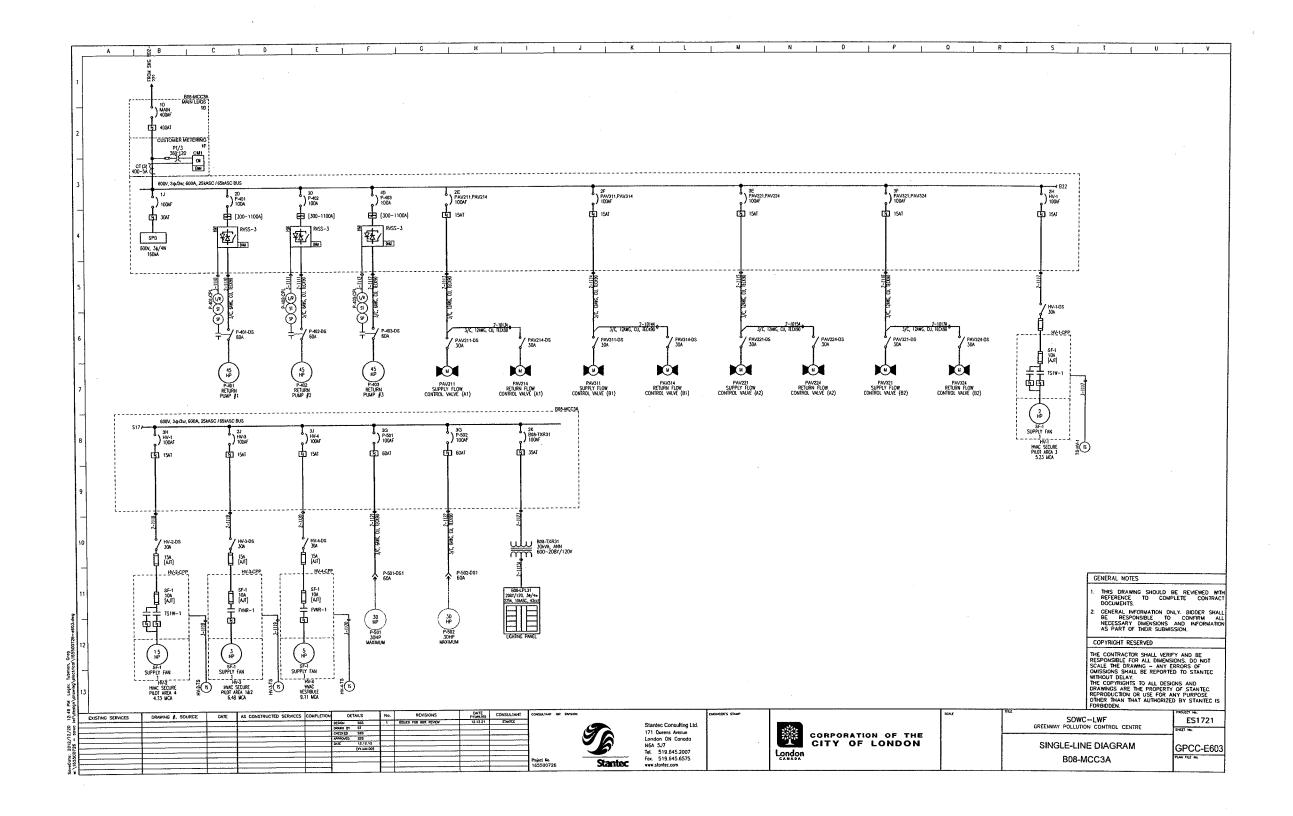


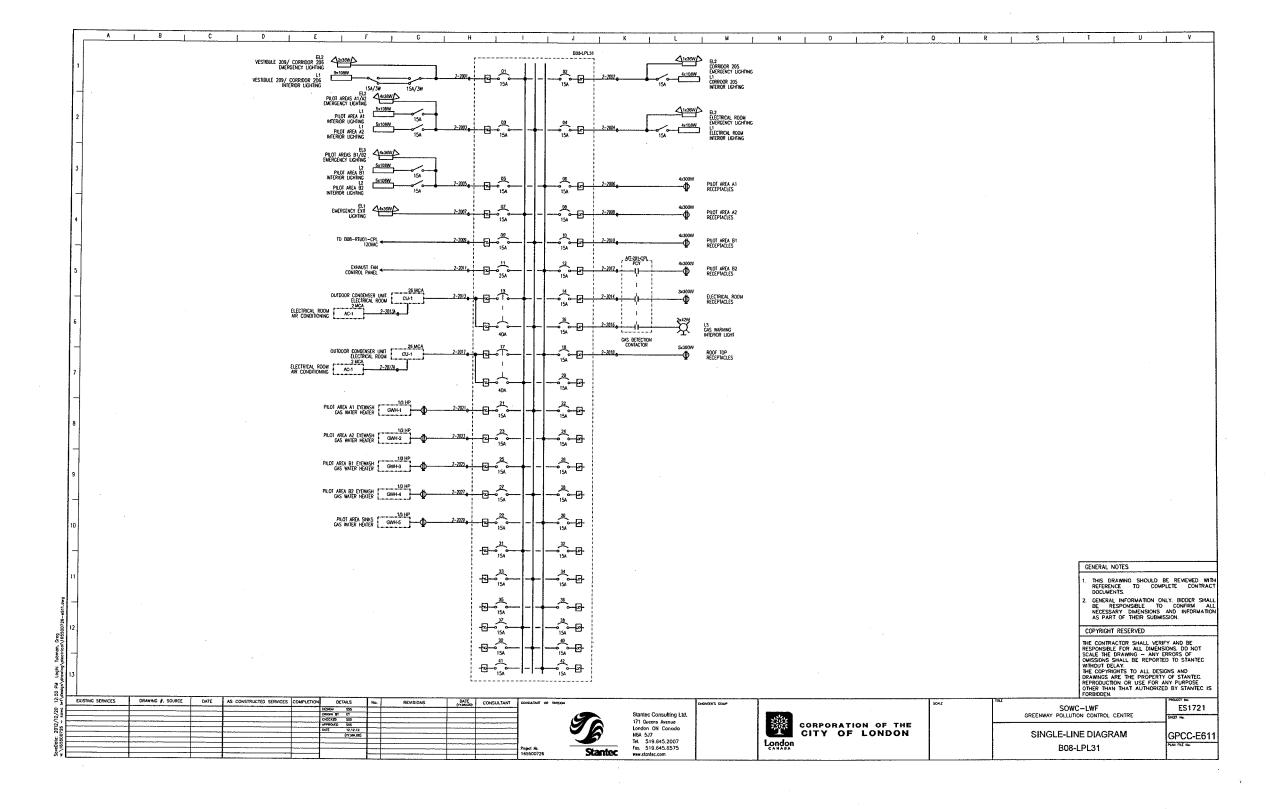
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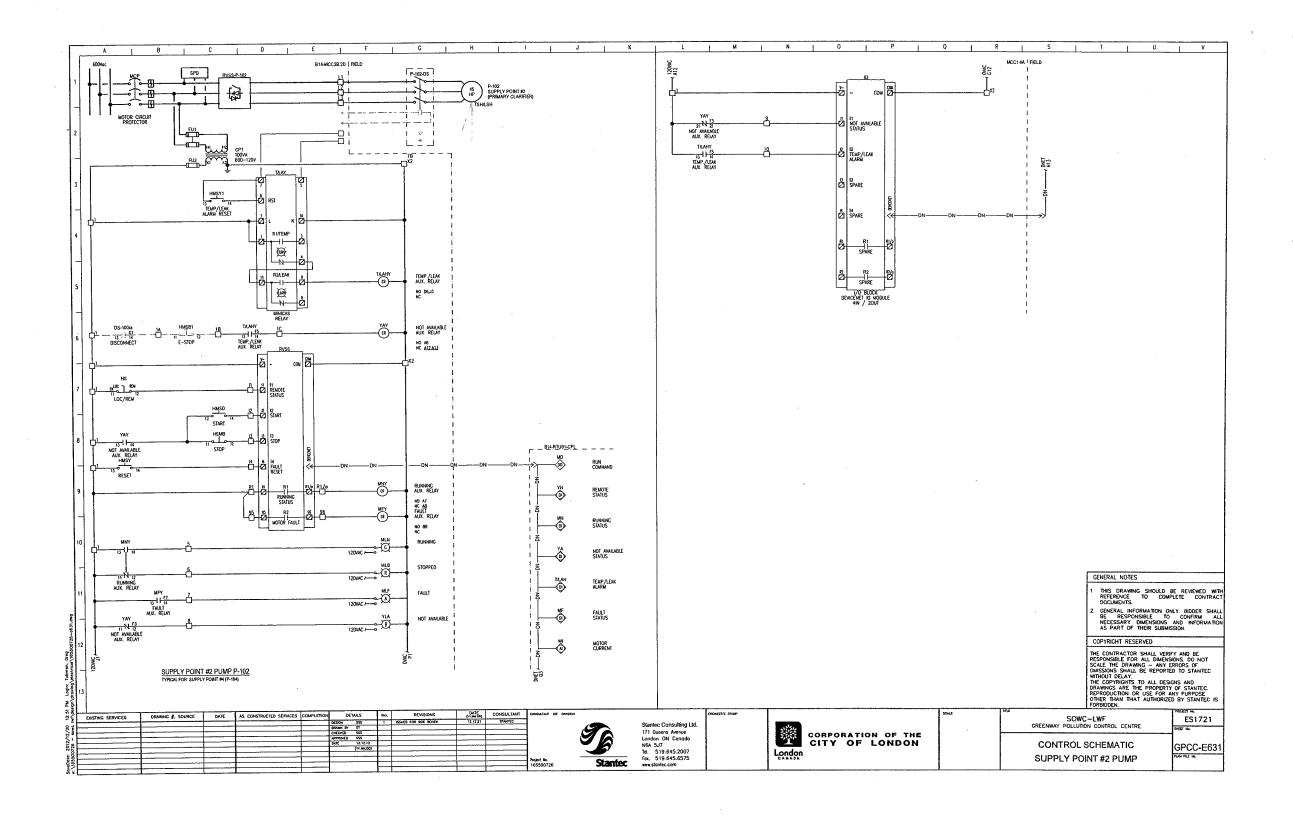
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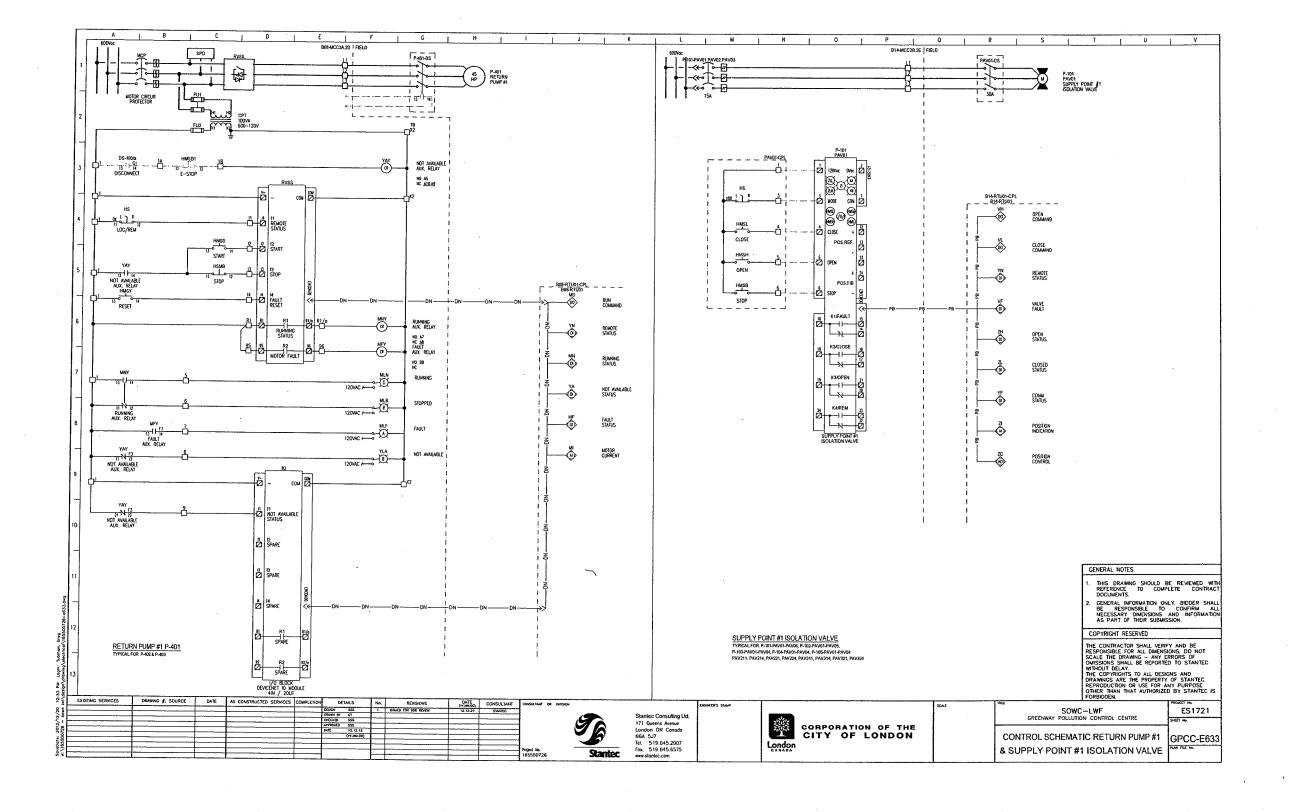


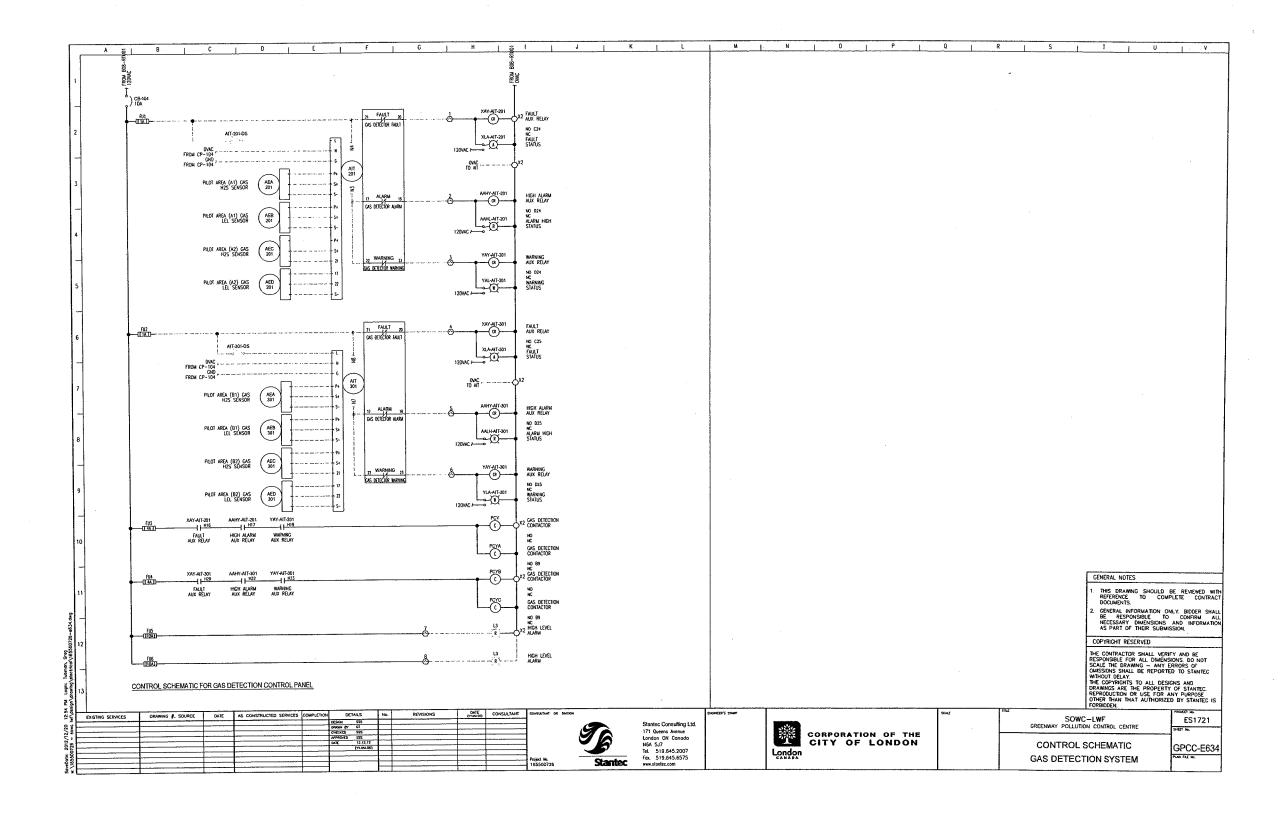


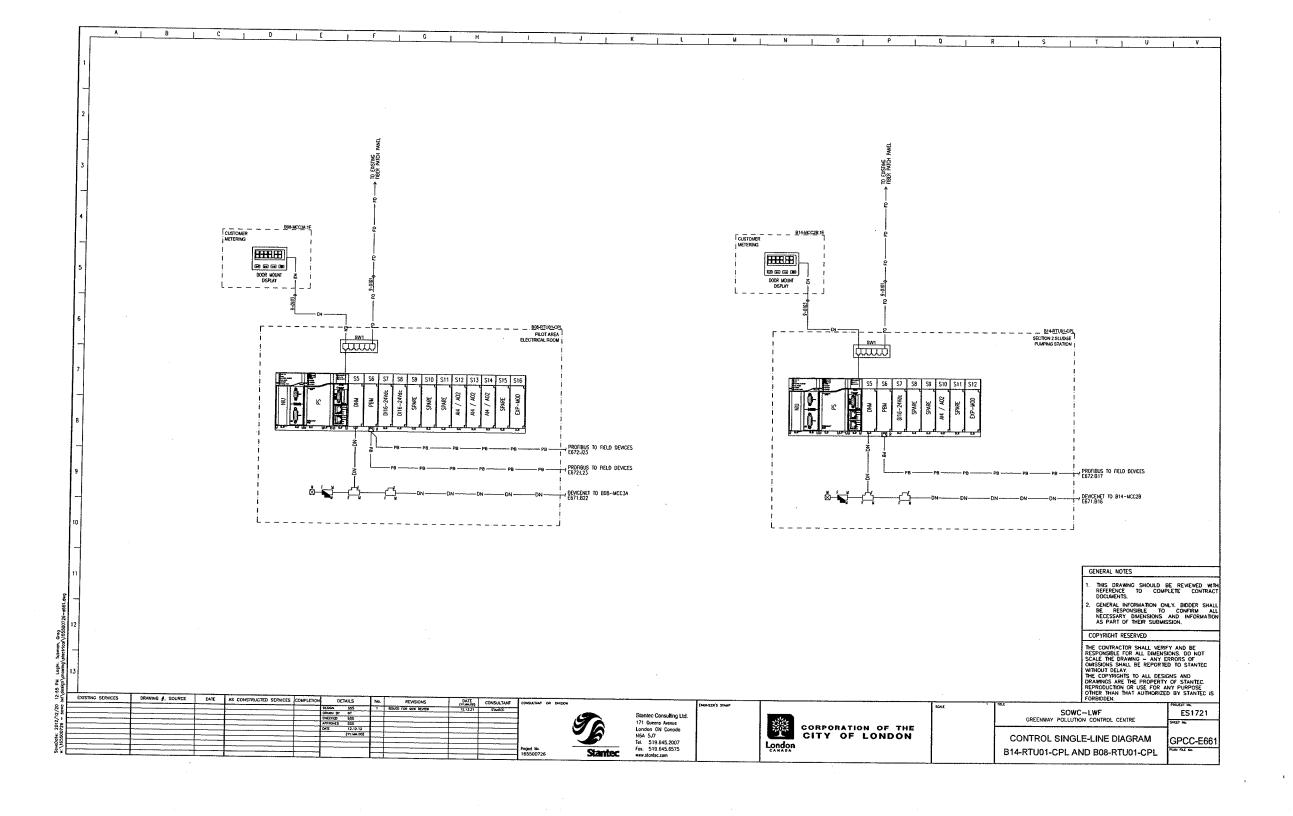


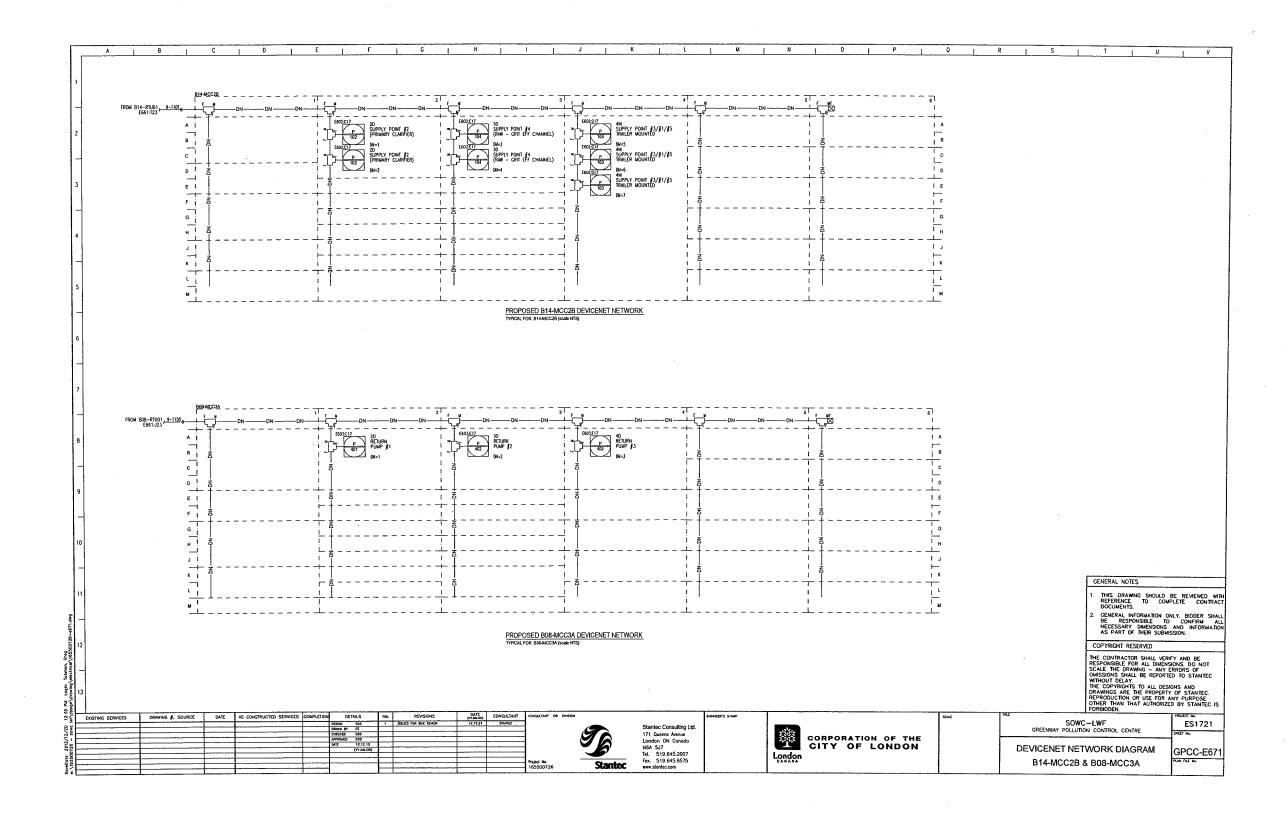


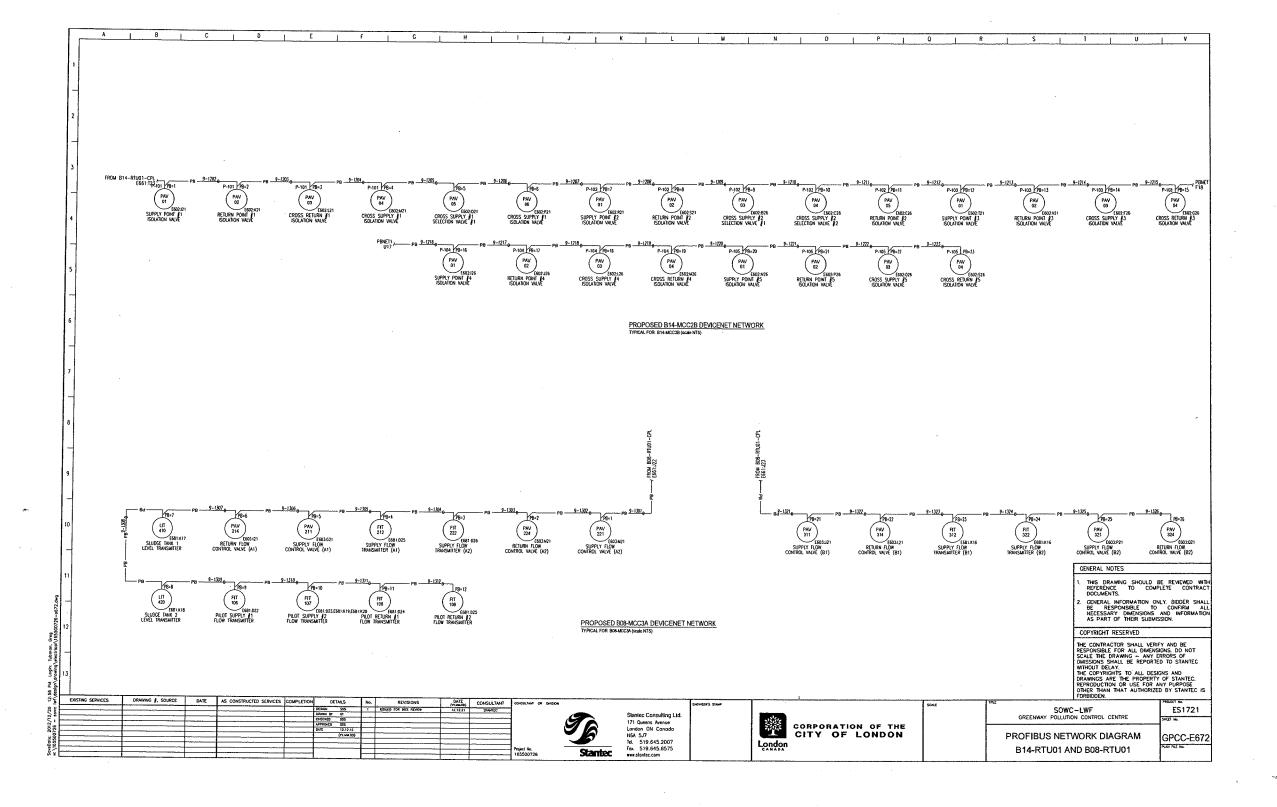


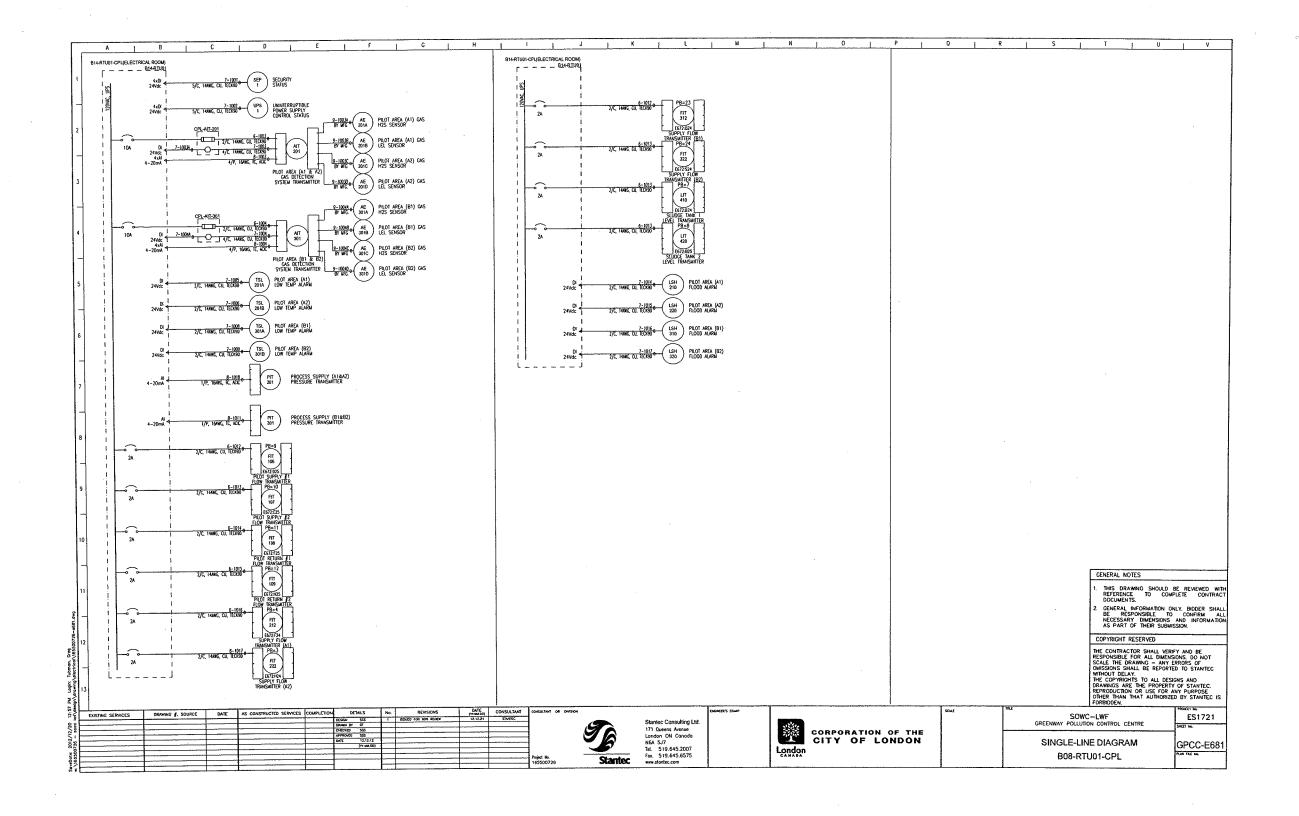


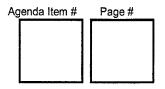












Schedule C

To the Agreement with the University of Western Ontario.

SCHEDULE C

Fed Dev Line No.	London Platform Budget Line Item	ELIC COS	GIBLE STS
10	General Engineering Requirements	\$	533,052
11	Excavation, fill, compaction	\$	15,000
12	OUT OF SCOPE	\$	0
13	OUT OF SCOPE	\$	0
14	OUT OF SCOPE	\$	0
15	OUT OF SCOPE	\$	0
16	Main Feed Pipes	\$	877,579
17	Main Feed Pumps	\$	673,821
18	Process Return Piping	\$	438,789
19	Misc Process Piping	\$	53,608
20	Misc Process Valving	\$	44,673
21	Electrical, I&C, SCADA System	\$	645,278
22	Misc Metals	\$	570,823
23	Hazardous Class. Req'ts (NFPA 820)	\$	483,462
24	Misc Pilot Plant Equipment	\$	395,109
	NODE SUBTOTAL	\$	4,731,194

Chair and Members Civic Works Committee January 11, 2013 (Approve Additional Funding)

RE: Southern Ontario Water Consortium - London Wastewater Facility
Procurement of Goods and Services Policy Changes for Construction Contract Award
Capital Project ES1721 - Economic Development

FINANCE DEPARTMENT REPORT ON THE SOURCES OF FINANCING:

Finance Department confirms that the cost of this project can be accommodated within the financing available for it in the Capital Works Budget and that, subject to the adoption of the recommendations of the Managing Director, Environmental and Engineering Services and City Engineer and the Deputy City Treasurer, the detailed source of financing for this project is:

ESTIMATED EXPENDITURES	-	Approved Budget	Additional Funding (1)	Revised Budget	Committed to Date	Balance for Future Work
Engineering Construction		\$534,582 3,265,418	4,731,194	\$534,582 7,996,612	\$534,582	\$0 7,996,612
NET ESTIMATED EXPENDITURES		\$3,800,000	\$4,731,194	\$8,531,194	\$534,582	\$7,996,612
SOURCE OF FINANCING:						
Debenture Quota Other - FedDev	2) 1)	\$3,800,000	4,731,194	\$3,800,000 4,731,194	\$534,582	\$3,265,418 4,731,194
TOTAL FINANCING	_	\$3,800,000	\$4,731,194	\$8,531,194	\$534,582	\$7,996,612

NOTES:

1) Additional funding of \$4.7 million has been allocated to the Southern Ontario Water Consortium (SOWC) – London Wastewater Facility (LWF) by FedDev as part of the contribution agreement signed by FedDev and the University of Waterloo (FedDev's partner of record for the SOWC). Funding is conditional on FedDev's approval of detailed engineering and/or architectural plans for the facility in London. City funding will not be expended on the SOWC-LWF until the FedDev funding is secured. Municipal Council previously approved \$506,073 on May 1, 2012 for engineering on this project from the City funds allocated to it.

NOTE TO CITY CLERK:

2) Administration hereby certifies that the estimated amounts payable in respect of this project does not exceed the annual financial debt and obligation limit for the Municipality of Municipal Affairs in accordance with the provisions of Ontario Regulation 403/02 made under the Municipal Act, and accordingly the City Clerk is hereby requested to prepare and introduce the necessary

An authorizing by-law should be drafted to secure debenture financing for Project ES1721 - Economic Development for the net amount to be debentured of \$3,800,000.

Alan Dunbar

Manager of Financial Planning & Policy

JG

Agenda item #	Page #
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APPENDIX C

Letter of Support from LEDC





John Lucas, P. Eng Director - Water / Wastewater City of London 300 Dufferin Avenue London, Ontario Canada N6A 4L9 January 9th, 2013

Re: The International Water Centre of Excellence (IWCE)

Water is quickly becoming one of the world's key commodities and the next-2 decades will bring a focus to the provision of water worldwide that was never imagined even 10 years ago.

The International Water Centre of Excellence (IWCE) led by the water technology industry, the City of London, LEDC and Western University will make London, Ontario the leading site for industrial water treatment technology commercialization, validation and testing in Canada. As one of the key nodes in the Southern Ontario Water Congress (SOWC) supported by FedDev Ontario, this world unique facility will provide the critical link between the private and public sectors as part of a strategic initiative with industry, academic institutions, municipalities and the Ontario and Canadian governments to strengthen Canada's position as a global leader in water and wastewater treatment technologies.

The new IWCE at the Greenway Pollution Control Plant in London, Ontario will address comprehensive water treatment issues from research to full scale validation, a combination which is unique in the world. While this is already a strength in Ontario, the absence of full-scale testing facilities worldwide is often limiting to developers of new environmental technologies. Hence, these facilities would provide accelerated growth potential for Ontario companies.

Building on existing critical mass and strengths in London and at other Ontario companies and institutions, research programs and technologies investigated will address water and wastewater treatment and optimization, water recycling, bio-solids reduction, energy recovery from biogases, nutrient removal and compound recovery, to name a few. These technologies will usher in a new era of treatment technologies, focused not only on pathogen destruction but also on the effective treatment of toxic compounds in water, such as pesticides, pharmaceuticals and endocrine disruptors, which pose new risks to the global ecology and the sustainability of water supplies worldwide.

The Centre will include:

- On-site access to all aspects of a high-capacity sewage treatment plant
- Training and education facilities for scientists, engineers, and plant operators
- Large-scale pilot plant demonstration capacity
- Full scale technology demonstration and testing capacity
- Space available for rent/lease to the private sector in technology development/testing
- Access for international regulators and testing agencies for full-scale testing of new technologies

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development.

The provision of water treatment technologies to the world will be a growth industry that Ontario is particularly well-positioned for. Two of the leading Ontario companies are located in London including Trojan UV, and Purifics ES who both see this centre as an important part of the research programs in coming years, securing local employment and economic

This project will consist of the design and construction of a comprehensive technology development and research facility, including advanced laboratory facilities and testing facilities which will provide unprecedented access for scientists and engineers from Western, the SOWC, the City of London, and industry to pursue industrial scale-up testing of emerging treatment and distribution technologies.

The facility will provide open access to other industrial, governmental, and non-governmental organizations, to attract the scientists, engineers, technicians, and technologists from across Canada and around the world who will form the next generation of wastewater treatment experts and companies.

When the IWCE was first envisioned, one of the key areas that Western, LEDC and the City worked towards was obtaining financial support from other levels of government. This had been a request of Council and something that after significant effort by the IWCE Board was achieved with the multi-million dollar FedDev Ontario supported funding. FedDev Ontario Minister Gary Goodyear was personally involved in the overall planning for the SOWC, and he was an ardent supporter of the London node. We would also like to thank MPs Ed Holder and Joe Preston who helped us in many ways in getting this unique project funding approved.

The London Economic Development Corporation is pleased to see the plan move ahead and we are very excited that we will have both a unique and world leading facility when complete that will allow London to further develop its world leading position in water.

This ability to provide research, product development and expertise will provide many economic development opportunities for the city, and provide us with an outstanding platform to work with the water industry worldwide.

Yours Truly

Peter White

President and CEO

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APPENDIX D

Letter of Support from IWCE

January 9, 2013

Mr John Lucas
Director - Water and Wastewater
The Corporation of the City of London
300 Dufferin Street
London ON

Dear Mr Lucas

On behalf of the Board of Directors of the International Water Centre of Excellence (IWCE), I am writing to express our support for your plan to enable and accelerate the construction of the Southern Ontario Water Consortium's London Wastewater Facility (SOWC-LWF).

In order to meet the March 31, 2014 deadlines imposed by FedDev Ontario, you have recommended that Council allow senior staff to administratively award the contract in order to reduce the risk of late claims for FedDev reimbursement, and that staff be given the authority to award the tendered construction project to add an additional six weeks of construction to the timetable and help to meet the strict timelines mandated by the FedDev funding requirements. I understand that City Staff will also explore ways to make the bio-solids building available before the end of May.

The IWCE Board of Directors has agreed unanimously that we support your proposed plan. Given the importance and visibility of this project, your plan is eminently sensible and should serve to minimize the overall risk to the project.

Sincerely,

Dan Sinai

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President, The International Water Centre of Excellence

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