

## **Engineering Submissions Required Documents**

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## 1. Engineering Drawings

Drawing Numbers	Description	Engineering	Planning	Urban Design	Fire	Operations	Waterworks	Transportation	Environmental
		Number of Sets Required							
		2	2	1	2	2	2	1	1
None	Cover Sheet	X							
1-99	Index and General Notes <i>(Shows Drawings List, Layout Maps for General Plans, Grading Plans, Plan &amp; Profiles, Composite Utility Plans (CUP), Pavement Marking and Signage Plans (PMSPs), and Streetlighting, etc.)</i> Include NOTES as per the latest "Standard Notes for Engineering Drawings"(refer to Section A)	X							
101-199	General Plan <i>Scale 1:1000</i>	X	X (F)	X	X (F)	X (F)	X	X (F)	X (F)
201-299	Storm Drainage Plan <i>Scale 1:1000</i>	X							X
	Master Storm Drainage Plan (minor)	X							X
	Master Storm Drainage Plan (major) <i>Scale 1:1000 to 5000 as required</i>	X							X
301-399	Sanitary Drainage Plan <i>Scale 1:1000</i>	X							
	Master Sanitary Drainage Plan <i>Scale 1:1000 to 5000 as required</i>	X							
401-499	Grading Plan(s) <i>Scale 1:500</i>	X		X					

Drawing Numbers	Description	Engineering	Planning	Urban Design	Fire	Operations	Waterworks	Transportation	Environmental	
		Number of Sets Required								
		2	2	1	2	2	2	1	1	
501-599	Plan & Profile Drawings <i>Scale 1:500 Horizontal 1:100 Vertical</i>	X					X			
601-699	Site Alteration Plans (SAP) <i>Scale 1:500 to 1000 as required Include Detail Drawings</i>  <i>Include notes as per "General Notes for Site Alteration Plan" (MP 14)</i>	X		X						
701-799	Composite Utility Plans (CUPs) <i>Scale 1:500 (2<sup>nd</sup> Engineering Submissions)</i>  <i>Notes: Shall include all required easements and details of streetlighting (pole, luminaire and bracket). Engineering Drawings shall be signed by the City once the CUPs are signed-off by all Utilities Include Notes as per "General Notes for Composite Utility Plan" (Section M).</i>	X		X				X		
801-899	Pavement Marking & Signage Plans (PMSPs) <i>Scale 1:500 (2<sup>nd</sup> Engineering Submissions)</i>	X						X		
901-999	Traffic Control Signals & Intersection Illumination Drawings <i>Scale 1:500</i>	X						X		
	Traffic Control Signals & Intersection Illumination Details <i>(2<sup>nd</sup> Engineering Submissions)</i>	X						X		

Drawing Numbers	Description	Engineering	Planning	Urban Design	Fire	Operations	Waterworks	Transportation	Environmental	
		Number of Sets Required								
		2	2	1	2	2	2	1	1	
1001-1099	Stormwater Management Pond <i>Scale 1:500</i>	X		X					X	
	Stormwater Management Pond Sections	X		X					X	
1100 - 1199	Design Sheets ➤ Sanitary ➤ 5-Year Storm ➤ 100-Year HGL Analysis ➤ Overland Flow calculations at critical Low Points	X X X X							X X X	
1201-1299	Details ➤ ROW Drawings (Right-of-Way) ➤ Others (if required)  <i>Note: Shop drawings for non-standard intake structures (e.g. super catchbasins, etc.) shall be provided and stamped by a structural Professional Engineer (P. Eng.)</i>	X X						X		
Drawing Numbers	Description	Engineering	Planning	Urban Design	Fire	Operations	Waterworks	Transportation	Environmental	
1301-1399	Miscellaneous: ➤ Crossings (Bridge, Culvert, etc.) ➤ Retaining Walls ➤ Structural Details ➤ Other Details	X X X X								

	<p><u>Note:</u>  All structural details, including any structures designed to support vehicular and/or pedestrian load (i.e. bridges, sidewalks, culverts, etc.) shall be stamped, signed and dated by a structural Professional Engineers (P.Eng.). Structural shop drawings shall also be stamped, signed and dated by the manufacturer's P.Eng.</p>								
1401-1499	Special Associated Projects: ➤ Regional Roads ➤ Others	X X							
2001-2099	Streetlighting Drawings/Complete Package, as required  (Refer to Section N)	X							

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Notes:

- All hardcopy drawings sets are rolled unless otherwise noted.
- All drawings shall include City's Amanda file number (TECH XX XXXXXX XX).
- 60% of the Engineering Fees as per the latest Fee By-law (211-83) shall be provided at the 1<sup>st</sup> Engineering Submissions.
- Where an Owner files more than three (3) Engineering Submissions due to revisions by the Owner or the Owner's failure to revise Engineering Drawings as requested by the City, an additional Engineering Fee in accordance with the latest City's Fee By-law (211-83) will be charged for each Engineering Submissions over and above the 3<sup>rd</sup> Engineering Submissions. e.g. if the Aboveground Drawings (CUP/PMSP) are not accepted by the City and the Owner wants Acceptance of the Underground Drawings for Pre-servicing Agreement, any additional Engineering Submissions of Aboveground Drawings will be charged as an additional Engineering Submissions and additional Engineering Fees, as per the latest Fee By-law (211-83) shall apply.

**1.1 Summary of Engineering Submissions Requirements**

Consulting Engineer shall submit all Engineering Submissions (1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup>, etc.) and provide separate packages for each department, as per the summary given below, to the Development Engineer for circulation to other City's departments.

In additional to submission of hard copies, as per the summary provided below, soft copies (PDFs) of all engineering submission drawings, all calculations including design sheets, overland flows, etc. (EXCEL format) or other format that may have been used,

and soft copy (PDF) of the response letter to the City comments shall be submitted for each engineering submission.

1. Development Engineer ..... 2 complete sets (including CUP/PMSP/SL/Others)  
(all plans to be rolled in two sets)  
+ 2 copies of draft M-Plan and R-Plan (folded)  
+ Design Criteria Checklist (See Section 'K')  
+ 1 set of General Plans (folded)
  
2. Planning
  - (a) Team Manager..... 1 set of General Plans (folded)
  - (b) Project Planner..... 1 set of General Plans (folded)  
+ draft M-Plan and R-Plan (folded)
  
3. Urban Design..... 1 set of General Plans  
1 set of Grading Plans  
1 set of Site Alteration Plans  
1 set of CUP  
1 set of SWM Pond Design  
(all plans be rolled in one set)
  
4. Fire..... 1 set of General Plans (folded)
  
5. Operations..... 2 sets of General Plans (folded)
  
6. Waterworks..... 2 sets of General Plans  
2 sets of Plan and Profiles  
(all plans to be rolled in two sets)
  
7. Transportation..... 1 set of General Plans  
1 set of CUP  
1 set of PMSP  
1 set of Traffic Control Signals (if applicable)  
(all plans to be rolled in one set)
  
8. Environmental..... 1 set of General Plans (folded)  
1 set of Storm Drainage Plans (folded)  
1 set of SWM Pond/Sections (folded)
  
9. Streetlighting..... 2 sets of Streetlighting Drawings / Package  
2 sets of Intersection Illumination Drawings /  
Package, if applicable

## **1.2 Review Timelines Required for Engineering Submissions (Subdivision)**

When Consulting Engineer submits complete sets of Engineering Drawings, studies and other documents, the response period (timelines) required by the City, exclusive of the time required by Consulting Engineer for re-submission, are given below.

The timelines given below are tentative for a normal subdivision and can vary depending on the complexity, response by Consulting Engineer on City's comments, external agencies, and other factors.

### **(A) Engineering Drawings**

<b>S #</b>	<b>Description</b>	<b>Engineering Submissions</b>	<b>Timelines (Min.)*</b>
1	Draft Plans and Legal Topographic Survey Plans	1 <sup>st</sup>	6 weeks
		subsequent	2 weeks
2	Engineering Drawings (Complete Set)	1 <sup>st</sup>	6 weeks
		2 <sup>nd</sup>	4 weeks
		3 <sup>rd</sup> /subsequent	3 weeks
3	Site Alteration Plans, CUPs, PMSPs, Streetlighting, Stormwater Management Plans, Roundabouts Design and Other Plans (if submitted separately)	1 <sup>st</sup>	5 weeks
		2 <sup>nd</sup>	3 weeks
		3 <sup>rd</sup> /subsequent	2 weeks

*\*Note: Internal City's department to response back to Development Engineering one week before the above timelines*

### **(B) Studies (for Subdivision/Zoning/OP)**

1	Master Environmental Servicing Plan (MESP)	1 <sup>st</sup>	10 weeks
		2 <sup>nd</sup>	6 weeks
		3 <sup>rd</sup> /subsequent	4 weeks
2	Functional Servicing Report, including Downstream Sanitary Sewer Capacity, if required (FSR)	1 <sup>st</sup>	6 weeks
		2 <sup>nd</sup>	4 weeks
		3 <sup>rd</sup> /subsequent	3 weeks
3	Stormwater Management (SWM) Report	1 <sup>st</sup>	6 weeks
		2 <sup>nd</sup>	4 weeks
		3 <sup>rd</sup> /subsequent	3 weeks
4	Environmental Site Assessment (ESA) Reports	1 <sup>st</sup>	6 weeks
		2 <sup>nd</sup>	4 weeks
		3 <sup>rd</sup> /subsequent	3 weeks
5	Transportation Study/ Traffic Impact Study/Functional Traffic Design Study	1 <sup>st</sup>	6 weeks
		2 <sup>nd</sup>	6 weeks
		3 <sup>rd</sup> /subsequent	6 weeks
6	Noise Impact Study	1 <sup>st</sup>	4 weeks
		2 <sup>nd</sup>	3 weeks
		3 <sup>rd</sup> /subsequent	2 weeks

7	Water Supply Analysis Study	1 <sup>st</sup>	6 weeks
		2 <sup>nd</sup>	4 weeks
		3 <sup>rd</sup> /subsequent	3 weeks
8	Geotechnical/Hydrogeological Reports	1 <sup>st</sup>	4 weeks
		2 <sup>nd</sup>	3 weeks
		3 <sup>rd</sup> /subsequent	2 weeks
9	Other Proposals/Reports/Studies	1 <sup>st</sup>	4 weeks
		2 <sup>nd</sup>	3 weeks
		3 <sup>rd</sup> /subsequent	2 weeks

### Draft Plan Review Time (Example)

Descriptions	Weeks	
Owner Submits D/Plan1	xx	
DE Review D/Plan1	6	
Owner Submits D/Plan2	xx	
DE Review D/Plan2	6	
Owner Submits D/Plan3	xx	
DE Review D/Plan3	6	
D/Plan Accepted	xx	

DE: Development Engineer  
D/Plan: Draft Plan

### Engineering Drawings Review Time (Example)

Descriptions	Weeks	
CE Submits E/Drawings1	xx	
DE Review E/Drawings1	6	
CE Submits E/Drawings2	xx	
DE Review E/Drawings2	4	
CE Submits E/Drawings3	xx	
DE Review E/Drawings3	3	
E/Drawings Approved	xx	

CE: Consulting Engineer  
DE: Development Engineer  
E/Drawings: Engineering Drawings



### **1.3 Review Timelines Required for Engineering Submissions (Site Plan)**

When Consulting Engineer submits complete sets of Engineering Drawings, studies and other documents, the response period (timelines) required by the City, exclusive of the time required by Consulting Engineer for re-submission, are given below.

The timelines given below are tentative for a normal Site Plan and can vary depending on the complexity, respond by Consulting Engineer on City's comments, external agencies, and other factors.

#### **(A) Engineering Drawings**

<b>S #</b>	<b>Description</b>	<b>Engineering Submissions</b>	<b>Timelines (Min.)*</b>
1	Engineering Drawings (Complete Set, including Legal Topographic Survey Plan, General Notes and Details Plan, Site Plan, Grading Plan, Servicing Plan, and Erosion & Sediment Control Plan.  Plan & Profile and other engineering drawings may also be required for external works	1 <sup>st</sup>	4 weeks
		2 <sup>nd</sup>	3 weeks
		3 <sup>rd</sup> /subsequent	2 weeks

*\*Note: Internal City's department to response back to Development Engineering one week before the above timelines*

#### **(B) Studies**

1	Stormwater Management (SWM) Report	1 <sup>st</sup>	4 weeks
		2 <sup>nd</sup>	2 weeks
		3 <sup>rd</sup> /subsequent	2 weeks
2	Environmental Site Assessment (ESA) Report	1 <sup>st</sup>	6 weeks
		2 <sup>nd</sup>	4 weeks
		3 <sup>rd</sup> /subsequent	3 weeks
3	Traffic Impact Study/Functional Traffic Design Study	1 <sup>st</sup>	6 weeks
		2 <sup>nd</sup>	6 weeks
		3 <sup>rd</sup> /subsequent	6 weeks
4	Noise Study	1 <sup>st</sup>	4 weeks
		2 <sup>nd</sup>	3 weeks
		3 <sup>rd</sup> /subsequent	2 weeks
5	Geotechnical/Hydrogeological Reports	1 <sup>st</sup>	4 weeks
		2 <sup>nd</sup>	3 weeks
		3 <sup>rd</sup> /subsequent	2 weeks
6	Other Proposals/Reports/Studies	1 <sup>st</sup>	4 weeks
		2 <sup>nd</sup>	3 weeks
		3 <sup>rd</sup> /subsequent	2 weeks

#### 1.4 Streetlighting Drawings

Drawing Number	Description	Engineering
2001 to 2099	<p>Complete set of Streetlighting Drawings/Package. (to be submitted after 2<sup>nd</sup> Engineering Submissions of the CUP)</p> <p><u>Notes:</u> <i>The City shall accept the Streetlighting Drawings/Package only after they are signed-off by PowerStream</i></p> <p><i>The City will sign the CUP only after the Streetlighting Drawings are signed-off by PowerStream</i></p>	2

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Notes:

- All hardcopy Engineering Drawings sets are rolled unless otherwise noted
- All Engineering Drawings shall include City's AMANDA file # (TECH XX XXXXXX)

#### 1.5 Legal Plans

Description	Engineering	Planning
Draft M-Plan of Subdivision	2 (F)	1 (F)
Draft R-Plan (if applicable)	2 (F)	1 (F)

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## 1.6 Technical Studies

Description	Engineering		Urban Design	Waterworks	Transportation	Environmental	
	Hardcopy	Electronic	Hardcopy	Hardcopy	Hardcopy	Hardcopy	Electronic
<u>Environmental Site Assessment (ESA)</u> (2 hard + soft) <ul style="list-style-type: none"> <li>• ESA Phase I/II Study</li> <li>• Letter of Reliance for ESA Phase I/II Study (as per the City's Standards)</li> <li>• MECP Acknowledgement of Filing of Record of Site Condition (RSC) (for lands to be conveyed to the City)</li> <li>• A cheque in favour of City of Markham (for peer review): <ul style="list-style-type: none"> <li>➢ [\$Amount + admn. fee as per latest Fee By-law] + HST <i>City to get cost estimates from the peer reviewer prior to requesting the amount from the Owner</i></li> </ul> </li> </ul>	1	1*				1	1*
<u>Functional Servicing Study (FSR)</u> (3 hard copies + soft) <ul style="list-style-type: none"> <li>• The study shall also establish dewatering requirements (both temporary and permanent, if required).</li> </ul>	1	1*		1		1	
<u>Stormwater Management (SWM)</u> (2 hard copies + soft) <ul style="list-style-type: none"> <li>• Stormwater Management Study (provide report as per the City of Markham "Submission Requirements for Stormwater Management Reports for Subdivisions) (See Design Criteria - ANNEX 2)</li> <li>• Pond Operation and Maintenance Manual (if applicable)</li> </ul>	1	1*				1	
<u>Geotechnical (Soil) Study</u> (1 hard copy + soft)	1	1*					

Description	Engineering		Urban Design	Waterworks	Transportation	Environmental
	Hardcopy	Electronic	Hardcopy	Hardcopy	Hardcopy	Hardcopy
<u>Noise Impact Study</u> (3 hard + soft) <ul style="list-style-type: none"> <li>A cheque in favour of City of Markham for peer review (if required): <ul style="list-style-type: none"> <li>➤ [Amount + admn. as per latest fee By-law + HST <i>The City to get cost estimates from the peer reviewer prior to requesting the amount from the Owner</i></li> </ul> </li> </ul>	2	1*	1			
<u>Water Supply Analysis Study</u> (2 hard + soft) <ul style="list-style-type: none"> <li>Sketch showing the layout of the proposed internal watermain which matches the General Plan, demand calculations, watermain sizing, hydraulic simulation under Peak hour, Minimum day &amp; Maximum day + Fire</li> </ul>	1	1*		1		
<u>Hydrogeological Study</u> (2 hard + soft) <ul style="list-style-type: none"> <li>Required if residential wells are identified within 500 m from the site boundaries (influence zone). The study shall include well monitoring/contingency plan</li> <li>The study shall establish groundwater level, discharge rate, discharge management, dewatering requirements (both temporary and permanent, if required). The study shall also specify if a Permit to Take Water (PTTW) is required</li> <li>If the above condition is not applicable, provide a letter, stamped, signed and dated by a Professional Engineer, confirming that there are no residential wells identified within 500 m from the site boundaries</li> </ul>	1	1*				1
<u>Transportation</u> (2 hard + soft) <ul style="list-style-type: none"> <li>Traffic Impact Study (TIS) To identify transportation planning and traffic operation requirements. The study is often necessary to assess impacts of a development application (if applicable)</li> </ul>	1	1*			1	

<ul style="list-style-type: none"> <li>Functional Traffic Design Study (FTDS) To identify the layout and design of the internal transportation network for a development application. The study is generally based on traffic requirements identified by Traffic Impact Study (TIS) (if applicable)</li> </ul>	1	1*			1	
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\* *Electronic copy shall be submitted in PDF format on a CD*

## 2. Site Alteration Plans

Site Alteration Plans shall be submitted separately only if the Owner plans to carry out topsoil stripping/site alteration prior to the 1<sup>st</sup> Engineering Submissions, in which case, the Owner has to apply for a Site Alteration Permit in accordance with the Site Alteration By-law.

Alternatively, these plans shall be submitted with the 1<sup>st</sup> Engineering Submissions.

Description	Engineering		Environmental	Urban Design
	Hardcopy	Electronic Copy	Hardcopy	Hardcopy
<ul style="list-style-type: none"> <li>Complete set of Site Alteration Plans <i>Note:</i> <i>Refer to Site Alteration Plans requirements under “Engineering Drawings” Section J1.10 of the City’s Design Criteria</i></li> </ul>	2			1
<ul style="list-style-type: none"> <li>Environmental Site Assessment <i>Note:</i> <i>Refer to Environmental Site Assessment requirements under “Technical Studies” section</i></li> </ul>	1	1*	1	
<ul style="list-style-type: none"> <li>Clearance from the Ministry of Tourism and Culture for Archaeological Assessment</li> </ul>	1	1*		
<ul style="list-style-type: none"> <li>Dust Control Plan</li> </ul>	2			

• Itemized cost estimate for all Public Works	1	1		
• Letter of Credit <u>Notes:</u> ➤ The Owner shall provide one (1) original and two (2) copies of the required Letter of Credit ➤ The value of the Letter of Credit shall include: ➤ The cost estimate of all Public Works; plus ➤ 10% contingency; plus ➤ 10% engineering administration	3	1*		

Description	Engineering	
	Hardcopy	Electronic Copy
• Certificate of Liability Insurance  <u>Notes:</u> ➤ The Certificate of Liability insurance is in the amount, as required, ➤ The Owner provides one (1) original and two (2) copies of the Certificate of Liability Insurance	3	1*
– Pre-servicing Agreement  <u>Notes:</u> ➤ Prior to any Site Alterations works, the Owner shall sign a Pre-servicing Agreement for Municipal Servicing with the City, if the Owner wants to execute a Pre-servicing Agreement	3	1*

\* Electronic copy shall be submitted in PDF format on CD

### **3. MECP's Environmental Compliance Approvals (ECA)**

The application for MECP's ECA is accepted after 2<sup>nd</sup> Engineering Submissions. The City of Markham, under a Transfer of Review (TOR) program, will process the application. The Applicant is responsible to ensure that ECA application and their supporting documentation and Schedules meet the Ministry requirements.

It is important to note that no works shall be carried out without ECA approvals. If the City determines that the works, requiring ECA approvals, have been constructed or are being constructed before an ECA approval has been issued, the City has the responsibility to immediately notify the local Ministry District Office. The ECA application, if submitted, with all associated documents and fees, will be returned to the Applicant. The Applicant will be required to submit the ECA application directly to the Ministry for review as it cannot be reviewed under the TOR program by the City.

#### **1.1 ECA Fees Required**

The Applicant shall pay the ECA fees by cheque in favour of the "City of Markham", as follows and as amended from time to time:

##### **ECA Fees for Municipal Sewers**

- As required per the latest Fee By-law (211-83) with no HST

#### **1.2 Sewage Works Allowed under the TOR program**

Only ECA applications for the following sanitary sewage works are allowed that are designed in accordance with the Ministry document Design Guidelines for Sewage Works, 2008 (PIBS 6879), as amended:

- (a) New or modified, municipal or private sanitary sewers, forcemains or siphons.
- (b) New or modified, municipal or private sanitary sewage pumping stations.

#### **1.3 Storm Works Allowed under the TOR program**

Only ECA applications for the following stormwater works are allowed that are designed in accordance with the Ministry document Stormwater Management Planning and Design Manual, 2003 (PIBS 4329e) and Design Guidelines for Sewage Works, 2008 (PIBS 6879), as amended.

- (a) New or modified municipal or private storm sewers, ditches, culverts and grassed swales.
- (b) New or modified, municipal or private oil/grit separators.
- (c) Stormwater Management Facilities (wet ponds, wetlands, hybrid ponds, dry ponds)

- altering, modifying, adding, optimizing or expanding the retention capacity for existing approved stormwater management facilities, including stormwater outfalls.
- installing new stormwater management facilities, including stormwater outfalls.
- stormwater pumping stations.

(d) Lot Level and Conveyance Control (Low Impact Development) Measures

- altering, modifying, adding, optimizing or expanding the retention capacity for existing approved low impact development (LID) measures, including stormwater outfalls.
- installing new LID measures, including stormwater outfalls.
- rooftop, surface and underground storage with inlet control devices or orifices.

1.4 Pre-submission Consultation Requirements

Where the City is uncertain regarding the works that form part of the Transfer of Review program, the City shall require the Applicant to engage in pre-submission consultation with the local Ministry District Office.

1.5 Consultation with other Agencies and other Approvals

Where Conservation Authority clearance or Niagara Escarpment Planning and Development Act permit is required, the approval, permit, or clearance letter must be obtained by the Applicant before the application is accepted for review. Even if formal approval from the local Conservation Authority is not required, it is strongly recommended that Applicants consult with the local Conservation Authority, particularly on stormwater related applications to determine if they have any concerns with the project. If the project does not occur within the boundary of a Conservation Authority, consultation with the local Ministry of Natural Resources and Forestry (MNRF) office is recommended.

1.6 Indigenous Consultation, Environmental Assessment, Environmental Bill of Rights Requirements

The Applicant must ensure that ECA applications satisfy any applicable requirements under the Environmental Assessment Act (EAA). The EAA and the associated regulations can be found at <https://www.ontario.ca/laws>.

The Applicant must include a summary of consultation (including Indigenous consultation, if any).

1.7 Complete Applications - Minimum Documents Requirements for ECA Applications

For all ECA applications submitted under the TOR program, three complete sets of the documents, as per the **“MECP TRANSFER OF REVIEW PROGRAM APPLICATION SUBMISSION CHECKLIST”**, must be submitted by the Applicant for review.



1.8 Prior to submitting the final ECA application package to the City, one draft copy of the ECA application along with the required documents, in accordance with the “**MECP TRANSFER OF REVIEW PROGRAM APPLICATION SUBMISSION CHECKLIST**” shall be submitted to the City for review and comments.

#### **4. Drinking Waterworks Permit Application**

The application for MECP’s Drinking Waterworks Permit (DWWP) application is accepted after 2<sup>nd</sup> Engineering Submissions. The City of Markham, under a Transfer of Review (TOR) program, will process and have been authorised to issue the Permit. The Applicant is responsible to ensure that DWWP application and their supporting documentation and Schedules meet the Ministry requirements.

##### **4.1 DWWP Fees For Waterworks Application**

The Applicant shall pay the DWWP fees by cheque in favour of the “City of Markham”, as follows and as amended from time to time:

##### **DWWP Fees for Waterworks Application**

- As required per the latest Fee By-law (2002-276) with no HST

##### **4.2 Complete Applications-Minimum Documents Requirements for DWWP Applications**

For all DWWP applications submitted under the TOR program, two complete sets of the following documents must be submitted by the Applicant for review:

##### **NOTE:**

*Prior to submitting the final DWWP application package, one draft copy of the DWWP application along with the required documents shall be submitted to the City for review and comments.*

##### **MECP’s Portion**

- Drinking Waterworks Permit:  
Form 1 - Record of Watermains - Authorized as Future Alteration

##### **Notes**

- *Form 1 – Record of Watermain - Authorized as Future Alteration, is the only applicable form for all types of developments for Watermain installation*
- *Form 2 – Modifications or Replacements, is not applicable*
- *Name of Owner*  
*The Corporation of the City of Markham*
- *Name of Ownership Representative*  
*\_\_\_\_\_ , Manager, Systems Engineering*

##### **City’s Portion**

- City of Markham - Municipal Drinking Water Systems; Attachment “A” - Description of Works

- Complete set of General Plan and Plan & Profile drawings (rolled and stapled)
- Applicable technical studies (water supply analysis report, if required)

## 5. Accepted Engineering Drawings

Description	Engineering		Inspection		Waterworks	Asset Management
	Standard Hardcopy	Reduced Hardcopy	Standard Hardcopy	Reduced Hardcopy	Standard Hardcopy	Electronic Copy
Complete set of Engineering Drawings*	1	1	1	2	2	1*
Composite Utility Plans (CUP) (if submitted on a separate submission after the approval of the Engineering Drawings)	1	1	1	2	2	1*
Complete set of Streetlighting Drawings (signed-off by PowerStream)	1	1	2	2		1*
Traffic Control Signals & Intersection Illumination drawings (if applicable)	1	1	2	2		1*

\* *The electronic copy of all signed Engineering Drawings shall be in TIFF format, submitted on CD and named as per the City's naming conventions (please see naming conventions section). The electronic copy shall be scanned from the original signed hardcopy with 400dpi resolution, compressed to the highest compression with average file size of 1.0MB.*

*The CD shall contain two (2) folders, <TIFF>, as per details given above and <CAD>. The <TIFF> folder shall contain all electronic drawings in TIFF format and <CAD> folder shall contain all the electronic drawings in DWG format and associated electronic files.*

### Summary of Required Sets for Accepted Engineering Drawings

All hardcopy of Engineering Drawings sets are rolled unless otherwise noted.

- Four (4) complete sets of Engineering Drawings (Standard size: 24" x 36")
- Three (3) complete sets of Engineering Drawings (Reduced size: 11" x 17" size)
- One (1) CD containing electronic drawings in TIFF and CAD formats and named as per the City's naming conventions.

## **6. Site Alteration Permit Processes**

### **6.1 There is no development application (Site Plan or Subdivision) associated with the property**

(a) A Site Alteration Permit is required as per the Site Alteration By-law.

As per the Site Alteration By-law 2011-232, if a Site Plan or Subdivision application has not been submitted by the Owner, a Site Alteration Permit is required to carry out any Site Alteration activities such as the removal of topsoil from land, the placement or dumping of fill on land, the alteration of the grade of land or excavation by any means including the removal of vegetative cover, the compaction of soil or the creation of impervious surfaces, or any combination of these activities that would change the landform and natural vegetative characteristics of the land.

The Owner submits a Site Alteration Permit application and the City issues a Permit as per the By-law (2011-232) on submission of the required Engineering Fees, letter of credit, insurance, and Accepted Site Alteration Plans.

The following documents are required to initiate any Site Alteration activities:

- Tree inventory, assessment, and preservation plan(s) accepted by Urban Design Department and incorporated in Site Alteration Plans
- Site Alteration Plans accepted by Director of Engineering
- Site Alteration Permit issued by the City, and acknowledged and signed by the Owner
- Letter of Credit (110% of estimated cost for Site Alteration)
- The Owner's Liability Insurance certificate, naming the "City of Markham" as Additional Insured
- Engineering Fees: as per the latest Fee-By-law (211-83), as amended
- Approvals from other authorities having jurisdictions
- Confirmation that the appropriate archaeological assessments on lands deemed to have moderate to high potentials for the discovery of archaeological resources have been completed to the satisfaction of the Ministry of Culture

## **6.2 There is a Site Plan application associated with the property**

- (a) Site Plan is endorsed and the Owner has a conditional building permit, No Site Alteration Permit is required.
- (b) Site Plan is endorsed and the Owner does not have a conditional building permit. The Owner shall either apply for conditional building permit or alternatively they can apply for a Site Alteration Permit.
- (c) Site Plan is not endorsed. A Site Alteration Permit is required as per the Site Alteration By-law.

## **6.3 There is a Subdivision application associated with the property**

- (a) Subdivision Pre-servicing is executed, no Site Alteration Permit is required.
- (b) Subdivision Pre-servicing is not executed, a Site Alteration Permit is required as per the Site Alteration By-law.

## **7. Pre-servicing Agreement Processes**

### **7.1 Pre-servicing Agreement (Subdivision)**

- a) Pre-servicing Agreement can only be signed if there is an approved Draft Plan.
- b) Pre-servicing Agreement is not required if there is an executed Subdivision Agreement.
- c) Following information/documents are required to execute a Pre-servicing Agreement:
  - The Director of Engineering accepts Underground or full Engineering Drawings
  - Letter of Credit (for internal and external works); 20% underground and 30% aboveground, and 100% Site Alteration works
  - 100% of the required Engineering Fees as per the latest Fee By-law(211-83 (with Pre-servicing Agreement)
  - Copy of the Owners Liability Insurance certificate, naming the “Corporation of the City of Markham” as Additional Insured
  - MECP’s Environmental Compliance Approvals (sewers and SWM ponds)
  - Drinking Waterworks Permit (DWWP)
  - TRCA permit, if required

- York Region permit, if required
  - Other approvals, if required
- d) Development Engineer to request Legal Department to prepare the Pre-servicing Agreement.
- e) The Owner/Consulting Engineer shall request a Pre-construction meeting after a Pre-servicing Agreement is executed.

## **7.2 Pre-servicing Agreement (Site Plan)**

- a) Pre-servicing Agreement can only be signed if there is an endorsed Site Plan.
- b) Pre-servicing Agreement is not required if there is an executed Site Plan Control Agreement or Undertaking.
- c) Following information/documents are required to execute a Pre-servicing Agreement:
- Director of Engineering accepts Engineering Drawings
  - Letter of Credit
    - for Internal works: \$40,000/ha site with minimum \$10,000 and maximum \$100,000
    - for External works: 110% of external cost estimates of construction
  - Copy of Owners Liability Insurance certificate, naming the “Corporation of the City of Markham” as Additional Insured
  - 100% of the required Engineering Fees as per the latest Fee By-law \*211-83) (with Pre-servicing Agreement)
  - MECP’s Environmental Compliance Approvals (sewers), if required
  - Drinking Waterworks Permit (DWWP), if required
  - TRCA permit, if required
  - York Region permit, if required
  - Other approvals, if required
- d) Development Technologist to request Legal Department to prepare the Pre-servicing Agreement.
- e) The Owner/Consulting Engineer shall request a pre-construction meeting after a Pre-servicing Agreement is executed.

## 8. Subdivision Agreement Requirements

### 8.1 Required Documents

Consulting Engineer submits the following information to the Development Engineer, who after reviewing sends to Legal.

a) **Owner's Legal Name** \_\_\_\_\_

b) **Name of Engineer (5.1)** \_\_\_\_\_

c) **List of Prepared Drawings (5.2)**

Drawings Prepared By: \_\_\_\_\_

Dated: \_\_\_\_\_

Project No: \_\_\_\_\_

Drawing Nos. \_\_\_\_\_

*Note: All Engineering Drawings shall be accepted prior to finalization of the Subdivision Agreement; the Owner can apply to Legal after 2<sup>nd</sup> Engineering Submissions.*

d) **Stormwater Management Report (5.20)**

SWM Report Title: \_\_\_\_\_

Date of Report : \_\_\_\_\_

Date of Acceptance: \_\_\_\_\_

e) **Developer's Group Agreement (8.1)**

"Best Effort" Recovery for External Services:

Did any other owner(s) upfronted external services which benefit/will benefit this Subdivision and the cost recovery is not part of a Developer's Group Cost Sharing Agreement?

**Yes/No/Not Sure** (Please circle)

If 'Yes', then list all these cost recoveries as follows:

Recovery # 1:

Upfronting Owner	
Description of Recovery	

Recovery # 2:

Upfronting Owner	
Description of Recovery	

(Attach separate sheets if required)

f) **Noise Statement (8.3 to 8.5)**

- Include a copy of Attachment G of Section "O" (Noise Criteria), duly signed by the Noise Consulting Engineer

- Attach noise attenuation/warning clause map **Yes/No/Not Apply** (Please circle)

g) **Construction Access (8.6)** \_\_\_\_\_

h) **Total Gross Hectare (8.7)** \_\_\_\_\_

i) **Number of Units (8.11)** \_\_\_\_\_

j) **Attach Surveyor's Area Certificate** Yes / No

k) **External Sidewalk Extension (8.9)**

Is there any external sidewalk extension beyond the Subdivision to connect with existing sidewalk Yes / No

If Yes, list the name of the streets of these external sidewalk extensions:

Street 1	
Street 2	
Street 3	

(Attach separate sheets if required)

Is an external sidewalk extension map attached? Yes / No / Not applicable

l) **Lots or Blocks With Adjacent Sidewalks/Walkways (8.10)**

List all lots or blocks that are fronting or flanking sidewalks/walkways:

Plan	Lots or Blocks

Is a sidewalk map attached Yes / No/ Not applicable

m) **Public Open Space With Sidewalks/Walkways**

Is there any public open space with sidewalk or walkway? Yes / No

If Yes, What is the Block # of the Public Open Space? \_\_\_\_\_

If Yes, list all lots or blocks that are fronting or flanking the sidewalks/walkways:

Plan	Lots or Blocks

Is a map showing the lots or blocks that abut the public open space with sidewalk or walkway attached? Yes / No / Not Applicable

n) **Road (Schedule "D")**

Length of roads for the calculation of snowplowing cost estimate, in the following format:

Street/Lane Name	Length (km)
	0.000
Estimate for Snowplowing = \$XXXX x km of road x 2 years (check with Development Engineer for current rates)	

Is a highlighted road length map attached? Yes / No / Not applicable

**o) Watermain** (for Waterworks Fee Calculation)

Length of watermains, as required by Waterworks, 60% for calculating Waterworks fees, in the following format:

Street/Lane Name	Length (m)

Is a highlighted watermain map attached?                      Yes / No / Not applicable

**p) ATTACHMENTS (Certain Information can be provided on the same mapping)**

- ❖ Schedule C Information (WORD format)
- ❖ Schedule G (see Schedule “G” below) (WORD format)
- ❖ Schedule H (see Schedule “H” below) (Excel spreadsheet format)
- ❖ Draft Plan (PDF format)
- ❖ Draft Plan Conditions (in PDF format)
- ❖ Draft M-Plan(s), duly signed and dated by Legal Surveyor and Owner, showing the total area of Subdivision (PDF format)
- ❖ Draft R-Plan(s) for easements/blocks signed and dated by Legal Surveyor and Owner (PDF format)
- ❖ Surveyor’s Area Certification, signed by Legal Surveyor and including the total number of whole and partial units (6)
- ❖ Sidewalk Extension (beyond Plan of Subdivision) (7)
- ❖ Sidewalk Map (8)
- ❖ Sidewalks/Walkways within Open Space (9)
- ❖ Road Length Map (10)
- ❖ Sidewalk Length Map (11)
- ❖ Watermain Length Map (12)
- ❖ Other pertinent information, as required

**q) CONTACTS for Consulting Engineer**

- ❖ Name of Person: \_\_\_\_\_
- ❖ Name of Consulting Firm: \_\_\_\_\_
- ❖ Telephone No: \_\_\_\_\_
- ❖ Email Address: \_\_\_\_\_



**SCHEDULE 'G' (Format)**

**SCHEDULE OF COST DATES**

	<u>Start</u>	<u>Completion</u>
UNDERGROUND SERVICES:	<month, year>	<month, year>
ABOVEGROUND SERVICES:		
- Primary Road Construction	<month, year>	<month, year>
- Secondary Road Construction	within 12 to 24 months or as directed by the Director of Engineering	

**SCHEDULE 'H' (Format)**

**ESTIMATE OF COST OF CONSTRUCTION OF PUBLIC WORKS**

**AMANDA File #** \_\_\_\_\_

<b>(A)</b>	<b><u>Underground Services (10% Contingencies included)</u></b>	
1	Sanitary Sewer and Appurtenances (including service connections)	
2	Storm Sewers and Appurtenances (including service connections)	
3	Watermain and Appurtenances (including service connections)	
(A1)	Subtotal	\$0.00
	Add 10% Engineering Administration	\$0.00
(A2)	Subtotal (Letter of Credit)	\$0.00
<b>(B)</b>	<b><u>Aboveground Services (10% Contingencies included)</u></b>	
1	Primary Road Construction (to base asphalt and base curb)	
2	Secondary Road Construction (top asphalt, top curb, blvds, etc.)	
3	Sidewalks & Walkways	
(B1)	Subtotal	\$0.00
	Add 10% Engineering Administration	\$0.00
(B2)	Subtotal (Letter of Credit)	\$0.00
<b>(C)</b>	<b><u>Site Alteration (10% Contingencies included)</u></b>	
1	Site Alteration	
(C1)	Subtotal	\$0.00
	Add 10% Engineering Administration	\$0.00
(C2)	Subtotal (Letter of Credit)	\$0.00

<b>(D)</b>	<b><u>Streetlighting (10% Contingencies included)</u></b>	
1	Streetlighting	
2	Traffic Signals	
(D1)	Subtotal	\$0.00
	Add 10% Engineering Administration	\$0.00
(D2)	Subtotal (Letter of Credit)	\$0.00
<b>(E)</b>	<b><u>Others (10% Contingencies included)</u></b>	
1	Stormwater Management Pond	
2	Guide Rails	
3	Signs	
4	Bridges (Traffic or Pedestrian) / Culverts	
(E1)	Subtotal	\$0.00
	Add 10% Engineering Administration	\$0.00
(E2)	Subtotal (Letter of Credit)	\$0.00
	<b>Total Works - Before 10% Engineering Administration {A1 + B1 + C1 + D1 + E1}</b>	<b>\$0.00</b>
	<b>Total Letter of Credit Required {A2 + B2 + C2 + D2 + E2}</b>	<b>\$0.00</b>
	Less Works Certified to Date	
	Less Letter of Credit Received at Site Alteration	
	Less Letter of Credit Received at Pre-Servicing	
	<b>Additional Letter of Credit Required</b>	<b>\$0.00</b>

**Summary – Municipal Infrastructure**

<b>S #</b>	<b>Details</b>	<b>Length (m)</b>	<b>Amount (\$)</b>
1	Public Roads and Lanes		\$0.00
2	Watermain and Appurtenances (including Valve, VC, service connections)		\$0.00
3	Sanitary Sewer and Appurtenances (including MHs and service connections)		\$0.00
4	Storm Sewers and Appurtenances (including MHs and service connections)		\$0.00
5	SWM Pond and Appurtenances	LS	\$0.00
	<b>Total</b>		<b>\$0.00</b>

**9. Naming Conventions for Hardcopy Engineering Drawings**

<b>Drawing Numbers</b>	<b>Engineering Drawings Name</b>
1 - 99	Index & General Notes
101 - 199	General Plan
201 - 299	Storm Drainage Plan External Storm Drainage Plan (minor) External Storm Drainage Plan (major)
301 - 399	Sanitary Drainage Plan External Sanitary Drainage Plan
401 - 499	Grading Plan
501 - 599	Plan & Profile Drawing - <Street/Lane Name> - STA x+xxx to STA x+xxx
601 - 699	Site Alteration Plan Site Alteration Plan - Details
701 - 799	Composite Utility Plan Composite Utility Plan - Details
801 - 899	Pavement Marking & Signage Plan
901 - 999	Traffic Control Signals & Intersection Illumination Plan Traffic Control Signals & Intersection Illumination Plan – Details
1001 - 1099	Stormwater Management Pond Stormwater Management Pond – Sections
1101 - 1199	Design Sheets (All design sheets) Design Sheets: Sanitary Design Sheets: 5-Year Storm Design Sheets: 100-Year HGL Design Sheets: Overland Flow Calculations
1201 - 1299	Details - ROW Details – Others
1301 - 1399	<Crossing> (Bridge, Culvert, etc.) Retaining Walls <Crossing> (Bridge, Culvert, etc.) - Structural Details Retaining Walls - Structural Details - Other Details
1401 - 1499	Special Associated Projects - Regional Roads - Other
2001 - 2099	Streetlighting - <Drawing Name>

## **10. Naming Conventions for Electronic Engineering Drawings**

### **Legend**

#### **All Engineering Drawings Except Plan & Profile and Streetlighting:**

- With No Phase  
<City File #/Amanda #> [space] [-] [space] <Drawing # (4 digits leading with zero(s))> [space] [-] [space] <Drawing Name> [.] <extension (tif/dwg)>
- With Phases  
<City File #/Amanda #> [space] [-] [space] <Phase #> [space] [-] [space] <Drawing # (4 digits leading with zero(s))> [space] [-] [space] <Drawing Name> [.] <extension (tif/dwg)>

#### **Plan and Profile Drawings:**

- With No Phase  
<City File #/Amanda #> [space] [-] <Drawing # (4 digits leading with zero(s))> [space] [-] [space] <Street Name> [space] [-] [space] <STA #> [space] <to> [space] <STA #> [.] <extension (tif/dwg)>
- With Phases  
<City File #/Amanda #> [space] [-] [space] <Phase #> [space] [-] [space] <Drawing # (4 digits leading with zero(s))> [space] [-] [space] <Street Name> [space] [-] [space] <STA #> [space] <to> [space] <STA #> [.] <extension (tif/dwg)>

#### **Streetlighting Drawings:**

- With No Phase  
<City File #/Amanda #> [space] [-] [space] <Drawing # (4 digits leading with zero(s))> [space] [-] [space] [SL] [space] [-] [space] <Drawing Name> [.] <extension (tif/dwg)>
- With Phases  
<City File #/Amanda #> [space] [-] [space] <Phase #> [space] [-] [space] <Drawing # (4 digits leading with zero(s))> [space] [-] [space] [SL] [space] [-] [space] <Drawing Name> [.] <extension (tif/dwg)>

#### **Notes:**

- *The TIFF format electronic copy shall be scanned from the original signed hardcopy with 400dpi resolution, compressed to the highest compression level, with average file size of 1.0MB.*
- *All CAD reference files shall be provided as part of the electronic CAD drawings and located in the same folder as the CAD parent files.*

File Name	Drawing Type
TECH xx xxxxxx - Cover Sheet.tif/dwg (no phase) TECH xx xxxxxx - xxx - Cover Sheet.tif/dwg (phases) <u>e.g.</u> TECH 11 129302 - Cover Sheet.tif/dwg (no phase) TECH 12 130075 003 - Cover Sheet.tif/dwg (phases)	Cover Sheet
TECH xx xxxxxx - 1 - Index.tif/dwg (no phase) TECH xx xxxxxx - xxx - 1 - Index.tif/dwg (phases) <u>e.g.</u> TECH 11 129302 - 1 - General Notes.tif/dwg (no phase) TECH 12 130075 003 - 1 - General Notes.tif/dwg (phases)  TECH xx xxxxxx - x - General Notes.tif/dwg (no phase) TECH xx xxxxxx - xxx - x - General Notes.tif/dwg (phases) <u>e.g.</u> TECH 11 129302 - 2 - General Notes.tif/dwg (no phase) TECH 12 130075 003 - 2 - General Notes.tif/dwg (phases)	Index (1 - 99)   General Notes (2 - 99)
TECH xx xxxxxx - 10x - General Plan.tif/dwg (no phase) TECH xx xxxxxx - xxx - 10x - General Plan.tif/dwg (phases) <u>e.g.</u> TECH 11 129302 - 101 - General Plan.tif/dwg (no phase) TECH 12 130075 003 - 101 - General Plan.tif/dwg (phases)	General Plans (101 - 199)
TECH xx xxxxxx - 20x - Storm Drainage Plan.tif/dwg (no phase) TECH xx xxxxxx - xxx - 20x - Storm Drainage Plan.tif/dwg (phases) <u>e.g.</u> TECH 11 129302 - 201 - Storm Drainage Plan.tif/dwg (no phase) TECH 12 130075 003 - 201 - Storm Drainage Plan.tif/dwg (phases)  TECH xx xxxxxx - 20x - External Storm Drainage Plan.tif/dwg (no phase) TECH xx xxxxxx xxx - 20x - External Storm Drainage Plan.tif/dwg (phases) <u>e.g.</u> TECH 11 129302 - 202 - External Storm Drainage Plan.tif/dwg (no phase) TECH 12 130075 003 - 202 - External Storm Drainage Plan.tif/dwg (phases)	Storm Drainage Plans (201 - 299)   External Storm Drainage Plans (202 - 299)
TECH xx xxxxxx - 30x - Sanitary Drainage Plan.tif/dwg (no phase) TECH xx xxxxxx xxx - 30x - Sanitary Drainage Plan.tif/dwg (phases) <u>e.g.</u> TECH 11 129302 - 301 - Sanitary Drainage Plan.tif/dwg (no phase) TECH 12 130075 003 - 301 - Sanitary Drainage Plan.tif/dwg (phases)	Sanitary Drainage Plans (301 - 399)
TECH xx xxxxxx - 30x - External Sanitary Drainage Plan.tif/dwg (no phase) TECH xx xxxxxx xxx - 30x - External Sanitary Drainage Plan.tif/dwg (phases) <u>e.g.</u> TECH 11 129302 - 302 - External Sanitary Drainage Plan.tif/dwg (no phase) TECH 12 130075 003 - 302 - External Sanitary Drainage Plan.tif/dwg (phases)	External Sanitary Drainage Plans (302 - 399)
TECH xx xxxxxx - 40x - Grading Plan.tif/dwg (no phase) TECH xx xxxxxx xxx - 40x - Grading Plan.tif/dwg (phases) <u>e.g.</u> TECH 11 129302 - 401 - Grading Plan.tif/dwg (no phase) TECH 12 130075 003 - 401 - Grading Plan.tif/dwg (phases)	Grading Plans (401 - 499)

File Name	Drawing Type
TECH xx xxxxxx - 50x - <Street Name> - x+xxx to x+xxx.tif/dwg (no phase) TECH xx xxxxxx xxx - 50x - <Street Name> - x+xxx to x+xxx.tif/dwg (phases) <u>e.g.</u> TECH 11 129302 - 501 - Markham Road - 0+000 to 0+255.tif/dwg (no phase) TECH 12 130075 003 - 501 - Markham Road - 0+000 to 0+255.tif/dwg (phases)	Plan & Profile Drawings (501 - 599)
TECH xx xxxxxx - 60x - Site Alteration Plan.tif/dwg (no phase) TECH xx xxxxxx xxx - 60x - Site Alteration Plan.tif/dwg (phases) <u>e.g.</u> TECH 11 129302 - 601 - Site Alteration Plan.tif/dwg (no phase) TECH 12 130075 003 - 601 - Site Alteration Plan.tif/dwg (phases)  TECH xx xxxxxx - 60x - Site Alteration Plan - Details.tif/dwg (no phase) TECH xx xxxxxx xxx - 60x - Site Alteration Plan - Details.tif/dwg (phases) <u>e.g.</u> TECH 11 129302 - 602 - Site Alteration Plan - Details.tif/dwg (no phase) TECH 12 130075 003 - 602 - Site Alteration Plan - Details.tif/dwg (phases)	Site Alteration Plans (601 - 699)  Site Alteration Plan Details (602 - 699)
TECH xx xxxxxx - 70x - Composite Utility Plan.tif/dwg (no phase) TECH xx xxxxxx xxx - 70x - Composite Utility Plan.tif/dwg (phases) <u>e.g.</u> TECH 11 129302 - 701 - Composite Utility Plan.tif/dwg (no phase) TECH 12 130075 003 - 701 - Composite Utility Plan.tif/dwg (phases)  TECH xx xxxxxx - 70x - Composite Utility Plan - Details.tif/dwg (no phase) TECH xx xxxxxx xxx - 70x - Composite Utility Plan - Details.tif/dwg (phases) <u>e.g.</u> TECH 11 129302 - 702 - Composite Utility Plan - Details.tif/dwg (no phase) TECH 12 130075 003 - 702 - Composite Utility Plan - Details.tif/dwg (phases)	Composite Utility Plans (701 - 799)  Composite Utility Plan Details (702 - 799)
TECH xx xxxxxx - 80x - Pavement Marking & Signage Plan.tif/dwg (no phase) TECH xx xxxxxx xxx - 80x - Pavement Marking & Signage Plan.tif/dwg (phases) <u>e.g.</u> TECH 11 129302 - 801 - Pavement Marking & Signage Plan.tif/dwg (no phase) TECH 12 130075 003 - 801 - Pavement Marking & Signage Plan.tif/dwg (phases)	Pavement Marking & Signage Plans (801 - 899)
TECH xx xxxxxx - 90x - Traffic Control Plan.tif/dwg (no phase) TECH xx xxxxxx xxx - 90x - Traffic Control Plan.tif/dwg (phases) <u>e.g.</u> TECH 11 129302 - 901 - Traffic Control Plan.tif/dwg (no phase) TECH 12 130075 003 - 901 - Traffic Control Plan.tif/dwg (phases)  TECH xx xxxxxx - 90x - Traffic Control Plan - Details.tif/dwg (no phase) TECH xx xxxxxx xxx - 90x - Traffic Control Plan - Details.tif/dwg (phases) <u>e.g.</u> TECH 11 129302 - 902 - Traffic Control Plan - Details.tif/dwg (no phase) TECH 12 130075 003 - 902 - Traffic Control Plan - Details.tif/dwg (phases)	Traffic Control Signals & Intersection Illumination Plans (901 - 999)  Traffic Control Signals & Intersection Illumination Plans Details (902 - 999)

File Name	Drawing Type
TECH xx xxxxxx - 100x - SWM Pond.tif/dwg (no phase) TECH xx xxxxxx xxx - 100x - SWM Pond.tif/dwg (phases) <u>e.g.</u> TECH 11 129302 - 1001 - SWM Pond.tif/dwg (no phase) TECH 12 130075 003 - 1001 - SWM Pond.tif/dwg (phases)	Stormwater Management Pond (1001 - 1099)
TECH xx xxxxxx - 100x - SWM Pond - Sections.tif/dwg (no phase) TECH xx xxxxxx xxx - 100x - SWM Pond - Sections.tif/dwg (phases) <u>e.g.</u> TECH 11 129302 - 1002 - SWM Pond - Sections.tif/dwg (no phase) TECH 12 130075 003 - 1002 - SWM Pond - Sections.tif/dwg (phases)	Stormwater Management Pond Sections (1002 - 1099)
TECH xx xxxxxx - 110x - Design Sheets.tif/dwg (no phase) TECH xx xxxxxx xxx - 110x - Design Sheets.tif/dwg (phases) <u>e.g.</u> TECH 11 129302 - 1101 - Design Sheets.tif/dwg (no phase) TECH 12 130075 003 - 1101 - Design Sheets.tif/dwg (phases)	Design Sheets (All design sheets) (1101 - 1199)
TECH xx xxxxxx - Xxx - 110x - Design Sheets - Sanitary.tif/dwg TECH xx xxxxxx xxx - 110x - Design Sheets - Sanitary.tif/dwg <u>e.g.</u> TECH 11 129302 - 1101 - Design Sheets - Sanitary.tif/dwg (no phase) TECH 12 130075 003 - 1101 - Design Sheets - Sanitary.tif/dwg (phases)	Design Sheets - Sanitary (Sanitary design sheets) (1101 - 1199)
TECH xx xxxxxx - 110x - Design Sheets - Storm.tif/dwg (no phase) TECH xx xxxxxx xxx - 110x - Design Sheets - Storm.tif/dwg (phases) <u>e.g.</u> TECH 11 129302 - 1102 - Design Sheets - Storm.tif/dwg (no phase) TECH 12 130075 003 - 1102 - Design Sheets - Storm.tif/dwg (phases)	Design Sheets - Storm (Storm design sheets) (1102 - 1199)
TECH xx xxxxxx - 110x - Design Sheets - Overland Flow.tif/dwg (no phase) TECH xx xxxxxx xxx - 110x - Design Sheets - Overland Flow.tif/dwg (phases) <u>e.g.</u> TECH 11 129302 - 1103 - Design Sheets - Overland Flow.tif/dwg (no phase) TECH 12 130075 003 - 1103 - Design Sheets - Overland Flow.tif/dwg (phases)	Design Sheets - Overland Flow (Overland flow design sheets) (1103 - 1199)
TECH xx xxxxxx - 120x - Details.tif/dwg (no phase) TECH xx xxxxxx xxx - 120x - Details.tif/dwg (phases) <u>e.g.</u> TECH 11 129302 - 1201 - Details.tif/dwg (no phase) TECH 12 130075 003 - 1201 - Details.tif/dwg (phases)	Details - ROW (ROW details) (1201 - 1299)
TECH xx xxxxxx - 120x - Details - Others.tif/dwg (no phase) TECH xx xxxxxx xxx - 120x - Details - Others.tif/dwg (phases) <u>e.g.</u> TECH 11 129302 - 1203 - Details - Others.tif/dwg (no phase) TECH 12 130075 003 - 1203 - Details - Others.tif/dwg (phases)	Details - Others (Others Details) (1202 - 1299)
TECH xx xxxxxx - 130x - Bridge.tif/dwg (no phase) TECH xx xxxxxx - 130x - Culvert.tif/dwg (no phase) TECH xx xxxxxx xxx - 130x - Bridge.tif/dwg (phases) TECH xx xxxxxx xxx - 130x - Culvert.tif/dwg (phases) <u>e.g.</u> TECH 11 129302 - 1301 - Bridge.tif/dwg (no phase)	Crossings (Bridge, Culvert, etc.) (1301 - 1399)

<p>TECH 11 129302 - 1302 - Culvert.tif/dwg (no phase)  TECH 12 130075 003 - 1301 - Bridge.tif/dwg (phases)  TECH 12 130075 003 - 1302 - Culvert.tif/dwg (phases)</p> <p>TECH xx xxxxxx - 130x - Retaining Wall.tif/dwg (no phase)  TECH xx xxxxxx xxx - 130x - Retaining Wall.tif/dwg (phases)  <u>e.g.</u>  TECH 11 129302 - 1301 - Retaining Wall.tif/dwg (no phase)  TECH 12 130075 003 - 1301 - Retaining Wall.tif/dwg (phases)</p>	<p>Retaining Walls  (1301 - 1399)</p>
<p>TECH xx xxxxxx - 130x - Bridge - Details.tif/dwg (no phase)  TECH xx xxxxxx - 130x - Culvert - Details.tif/dwg (no phase)  TECH xx xxxxxx xxx - 130x - Bridge - Details.tif/dwg (phases)  TECH xx xxxxxx xxx - 130x - Culvert - Details.tif/dwg (phases)  <u>e.g.</u>  TECH 11 129302 - 1302 - Bridge - Details.tif/dwg (no phase)  TECH 11 129302 - 1302 - Culvert - Details.tif/dwg (no phase)  TECH 12 130075 003 - 1302 - Bridge - Details.tif/dwg (phases)  TECH 12 130075 003 - 1302 - Culvert - Details.tif/dwg (phases)</p> <p>TECH xx xxxxxx - 130x - Retaining Wall - Details.tif/dwg (no phase)  TECH xx xxxxxx xxx - 130x - Retaining Wall - Details.tif/dwg (phases)  <u>e.g.</u>  TECH 11 129302 - 1302 - Retaining Wall - Details.tif/dwg (no phase)  TECH 12 130075 003 - 1302 - Retaining Wall - Details.tif/dwg (phases)</p>	<p>Crossing Details  (Bridge, Culvert, etc.)  (1302 - 1399)</p> <p>Retaining Walls Details  (1302 - 1399)</p>
<p>TECH xx xxxxxx - 140x-Regional Road -&lt;Drawing Name&gt;.tif/dwg (no phase)  TECH xx xxxxxx xxx - 140x - Regional Road - &lt;Drawing Name&gt;.tif/dwg  (phases)  <u>e.g.</u>  TECH 11 129302 - 1401 - Regional Road - General Plan.tif/dwg (no phase)  TECH 12 130075 003 - 1401-Regional Road-General Plan.tif/dwg (phases)</p>	<p>Regional Drawings  (1401 - 1499)</p>
<p>TECH xx xxxxxx - 200x - SL - &lt;Drawing Name&gt;.tif/dwg (no phase)  TECH xx xxxxxx xxx - 200x - SL - &lt;Drawing Name&gt;.tif/dwg (phases)  <u>e.g.</u>  TECH 11 129302 - 2001 - SL - Hydro Distribution System.tif/dwg (no phase)  TECH 12 130075 003 - 2001-SL-Hydro Distribution System.tif/dwg (phases)</p>	<p>Streetlighting Drawings  (2001 - 2099)</p>