

CONTROLLER EQUIPMENT

Submittals Checklist for Conditional Qualification

PBOT Project Name: _____

Contract Number: _____

PBOT Project Number: _____

PBOT Construction Manager: _____

SSL Lead Engineer: _____

Engineer of Record: _____

Engineer of Record Phone Number: _____

Engineer of Record Email Address: _____

**Intended for use with the City of Portland
Standard Construction Specifications**

Date Submitted: _____

Submitting Contractor: _____

Contractor Contact: _____

Contractor Contact Phone Number: _____

Contractor Contact Email Address: _____

Instructions

The *Controller Equipment Submittals Checklist* includes preapproved items for use on projects with traffic signals, street lighting, or communications. The Contractor is responsible for downloading the current checklist off the website for each project. The checklist can be found on the City of Portland's website at the following address:

<https://www.portland.gov/transportation/engineering/construction>

These sheets will be accepted as an Equipment List in accordance with 00960.02 of the *City of Portland Standard Construction Specifications* for equipment included on this list.

Other Equipment Not Included On This List

The contractor shall submit a pdf document of the following per 00960.02. Use the *Electrical Equipment and Materials Checklist* for all other electrical equipment and materials.

Submittal Review Process

The Contractor will:

1. Fill out the appropriate project related info on the cover sheet and Table of Contents pages.
2. Check the box in the "On Project" column on the Table of Contents pages for all items included on the project.
3. For each item intended for use on the project, check the box for the brand/manufacturer and indicate the catalog/part number.

Do not mark more than two (2) options, except for conduit, wire, and pole coatings.

4. If the brand/manufacturer and/or model proposed for use is not shown (i.e. not preapproved), then write this information in the blank field. If the item is not included on the Table of Contents list, then use the template at the end of the document. Submit adequate supporting documentation such as catalog cutsheets, shop drawings, and specifications. It is the contractor's responsibility to clearly show how the product meets the *City of Portland Standard Construction Specifications* and Special Provisions.
5. Write-in products will require additional review time as these products require evaluation.
6. Submit to the construction engineer a complete pdf document which includes:
 - a. Completed checklist with each applicable page.
 - b. Write-in materials with supporting documentation.
 - c. Certificate of Materials Origins (CMO) as required per the checkbox.

The Engineer and/or Inspector will:

1. Review the submittals checklist and supporting documentation per 00150.35 of the *City of Portland Standard Construction Specifications*.
2. Return the reviewed pdf document to the Contractor with appropriate notations.

Construction

All materials delivered to the job site shall be **clearly marked** as to the brand/manufacturer and model/part description, or shall be accompanied by supplier's certification as to brand/manufacturer and model/part description.

The Contractor will:

1. Install only materials approved by the Engineer/Inspector through the materials submittal review and approval process described above.
2. **Provide a paper copy of the Controller Equipment Submittal Checklist to ODOT Traffic Signal Services Unit (TSSU) for use during cabinet testing.**
3. Submit required CMO's **prior** to installation.

The Inspector will:

1. Verify that materials installed match the approved items on the submittal checklist.
2. Verify the materials are installed per plans and specifications.
3. Fill out Field Inspection Report for items listed in Table of Contents.

Inspector to check each FIR box, and sign and date below to indicate material has been installed per plans and specifications.

Name: _____ Date: _____

Table of Contents

Item	Page	On Project	CMO Required ¹	FIR
Controller Cabinet	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controller Unit	1	<input type="checkbox"/>		<input type="checkbox"/>
Conflict Monitor	1	<input type="checkbox"/>		<input type="checkbox"/>
Load Switch	2	<input type="checkbox"/>		<input type="checkbox"/>
Flasher	2	<input type="checkbox"/>		<input type="checkbox"/>
Detector Amplifier	2	<input type="checkbox"/>		<input type="checkbox"/>
Isolator (DC)	3	<input type="checkbox"/>		<input type="checkbox"/>
Isolator (AC)	3	<input type="checkbox"/>		<input type="checkbox"/>
Flash Transfer Relay	3	<input type="checkbox"/>		<input type="checkbox"/>
Preemption Phase Selector	4	<input type="checkbox"/>		<input type="checkbox"/>
Preemption Detector	4	<input type="checkbox"/>		<input type="checkbox"/>
Radar Detection System	5	<input type="checkbox"/>		<input type="checkbox"/>
Battery Back-Up System	5	<input type="checkbox"/>		<input type="checkbox"/>
Blank Form		<input type="checkbox"/>		<input type="checkbox"/>

¹ Certificate of Material Origin (CMO) when required if steel or iron.
See City of Portland Standard Construction Specifications

Controller Cabinet

Description: Anodized aluminum cabinet furnished in accordance with ODOT Standard Specification for Microcomputer Signal Controller, July 1, 2014.

Use: Traffic signal controller cabinet.

<u>Brand/Manufacturer</u>	<u>Model/Part Number</u>
<input type="checkbox"/> McCain	332
<input type="checkbox"/> McCain	332S (Portland Style)
<input type="checkbox"/> McCain	332S (ODOT Style)
<input type="checkbox"/> McCain	336
<input type="checkbox"/> McCain	336S
<input type="checkbox"/> McCain	337
<input type="checkbox"/> Econolite/Safetran	332
<input type="checkbox"/> Econolite/Safetran	332S (Portland Style)
<input type="checkbox"/> Econolite/Safetran	332S (ODOT Style)
<input type="checkbox"/> Econolite/Safetran	336
<input type="checkbox"/> Econolite/Safetran	336S
<input type="checkbox"/> Econolite/Safetran	337

NO EXCEPTIONS TAKEN
 MAKE CORRECTIONS NOTED
 REVISE AND RESUBMIT
 REJECTED
 SUBMIT SPECIFIED ITEM

REVIEW IS IN ACCORDANCE WITH SECTION 00150.35 OF THE STANDARD CONSTRUCTION SPECIFICATIONS OF THE CITY OF PORTLAND, OREGON.

Controller Unit

Description: Traffic signal controller unit.

Use: Computer system for traffic signal system.

<u>Brand/Manufacturer</u>	<u>Model/Part Number</u>
<input type="checkbox"/> Intelight	2070-LDX-ATC
<input type="checkbox"/> McCain	2070E (internal use only)
<input type="checkbox"/> Econolite	2070E (internal use only)
<input type="checkbox"/> Eagle	2070E (internal use only)
<input type="checkbox"/> _____	_____

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Conflict Monitor

Description: Traffic signal conflict monitor unit.

Use: Monitors the output Greens and Yellows to prevent conflicting signal indications.

<u>Brand/Manufacturer</u>	<u>Model/Part Number</u>
<input type="checkbox"/> EDI (Eberle Design, Inc.)	2010ECL-IP
<input type="checkbox"/> EDI (Eberle Design, Inc.)	210C (internal use only)

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Load Switch

Description: Model 200 Solid State Switch Pack modular plug-in device containing three solid state switches.

Use: Used for opening and closing connections between the applied power and an external lamp load.

	<u>Brand/Manufacturer</u>	<u>Model/Part Number</u>
<input type="checkbox"/>	TSC	200
<input type="checkbox"/>	GDI	LS200
<input type="checkbox"/>	PDC	SSS-88
<input type="checkbox"/>	PDC	SSS-87
<input type="checkbox"/>	PDC	SSS-83
<input type="checkbox"/>	IDC-SSD	200
<input type="checkbox"/>	EDI (Eberle Design, Inc.)	200
<input type="checkbox"/>	_____	_____

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Flasher

Description: Model 204 Flasher Unit containing a flasher control circuit and two solid-state switches.

Use: Used for opening and closing connections between the applied power and an external lamp load during flashing operation.

	<u>Brand/Manufacturer</u>	<u>Model/Part Number</u>
<input type="checkbox"/>	TSC	204
<input type="checkbox"/>	PDC	SSF-88
<input type="checkbox"/>	PDC	SSS-86
<input type="checkbox"/>	EDI (Eberle Design, Inc.)	204
<input type="checkbox"/>	_____	_____

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Detector Amplifier

Description: Sensor unit producing an output signal when a vehicle or bicycle passes through or remains in a detection zone (e.g., wire loops in roadway).

Use: Used to produce a call when a metallic mass enters the detection zone causing a change of 0.02% minimum decrease inductance of the circuit at the terminals of the sensor unit.

	<u>Brand/Manufacturer</u>	<u>Model/Part Number</u>
<input type="checkbox"/>	Reno A & E	Model C-1100-SS (Vehicle)
<input type="checkbox"/>	Reno A & E	Model C-1101-B (Bicycle)
<input type="checkbox"/>	_____	_____

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Isolator (DC)

Description: Model 242 2-channel DC isolator.

Use: Provides isolation between electrical contacts external to the module and controller unit input.

	<u>Brand/Manufacturer</u>	<u>Model/Part Number</u>
<input type="checkbox"/>	TSC	242
<input type="checkbox"/>	PDC	DCI-82
<input type="checkbox"/>	EDI	242L
<input type="checkbox"/>	_____	_____

<input type="checkbox"/> NO EXCEPTIONS TAKEN <input type="checkbox"/> MAKE CORRECTIONS NOTED <input type="checkbox"/> REVISE AND RESUBMIT <input type="checkbox"/> REJECTED <input type="checkbox"/> SUBMIT SPECIFIED ITEM <small>REVIEW IS IN ACCORDANCE WITH SECTION 00150.35 OF THE STANDARD CONSTRUCTION SPECIFICATIONS OF THE CITY OF PORTLAND, OREGON.</small>

Isolator (AC)

Description: Model 252 2-channel AC isolator.

Use: Provides isolation between external 120 VAC input circuits and the controller unit input circuits.

	<u>Brand/Manufacturer</u>	<u>Model/Part Number</u>
<input type="checkbox"/>	TSC	252
<input type="checkbox"/>	GDI	ACIM252
<input type="checkbox"/>	PDC	ACI-88
<input type="checkbox"/>	_____	_____

<input type="checkbox"/> NO EXCEPTIONS TAKEN <input type="checkbox"/> MAKE CORRECTIONS NOTED <input type="checkbox"/> REVISE AND RESUBMIT <input type="checkbox"/> REJECTED <input type="checkbox"/> SUBMIT SPECIFIED ITEM <small>REVIEW IS IN ACCORDANCE WITH SECTION 00150.35 OF THE STANDARD CONSTRUCTION SPECIFICATIONS OF THE CITY OF PORTLAND, OREGON.</small>

Flash Transfer Relay

Description: Model 430 heavy duty flash transfer relay which is designed for continuous duty when signals are in flashing operation.

Use: Electro-mechanical device is energized only when signals are in flashing operation. The relay transfers the field outputs from switch pack output to flash control.

	<u>Brand/Manufacturer</u>	<u>Model/Part Number</u>
<input type="checkbox"/>	Midtex	Type 136
<input type="checkbox"/>	PDC	FTR-91
<input type="checkbox"/>	Magnecraft	AW21ACPX-2
<input type="checkbox"/>	Stuthers-Dunn	L1XBP-120VAC
<input type="checkbox"/>	_____	_____

<input type="checkbox"/> NO EXCEPTIONS TAKEN <input type="checkbox"/> MAKE CORRECTIONS NOTED <input type="checkbox"/> REVISE AND RESUBMIT <input type="checkbox"/> REJECTED <input type="checkbox"/> SUBMIT SPECIFIED ITEM <small>REVIEW IS IN ACCORDANCE WITH SECTION 00150.35 OF THE STANDARD CONSTRUCTION SPECIFICATIONS OF THE CITY OF PORTLAND, OREGON.</small>

Preemption Phase Selector

Description: Opticom phase selector card for input file.

Use: Dual priority, encoded signal device designed for use with Opticom Priority Control System emitters and detectors.

<u>Brand/Manufacturer</u>	<u>Model/Part Number</u>
<input type="checkbox"/> GTT Opticom 2 Channel	762
<input type="checkbox"/> GTT Opticom 4 Channel	764
<input type="checkbox"/> _____	_____

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Preemption Detector

Description: Opticom detector.

Use: Detects high and low priority signal from an approaching vehicle-mounted Opticom emitter.

<u>Brand/Manufacturer</u>	<u>Model/Part Number</u>
<input type="checkbox"/> GTT Opticom 2 Directions, Single Channel	721
<input type="checkbox"/> GTT Opticom 2 Directions, Two Channel	722
<input type="checkbox"/> _____	_____

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Radar Detection System

Description: Radar detection system complete with cabinet interface unit with SDLC capability (Click 650 or Click 656) and detector rack input cards.

Use: Vehicle and bike detection.

Brand/Manufacturer

Model/Part Number

Near Range – Stop Bar

- Wavetronix (Matrix)
- _____

Model SS-225-Matrix

Far Range – Stop Bar

- Wavetronix (Advance)
- _____

Model SS-200E

Cabinet Interface Unit

- Wavetronix
- Wavetronix
- _____

Click 650
Click 656

Battery Back-Up System

Description: Traffic signal battery back-up system that fits in a type 332 cabinet.

Use: Traffic signal battery back-up.

Brand/Manufacturer

Model/Part Number

- Alpha
- ZincFive
- _____

SE48-1616
UpStealth 170, 500 W Battery

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Blank Form

Instructions: Contractor to fill out this template for ALL equipment items that are not currently listed on the Table of Contents page.

Item:

Description:

Use:

<input type="checkbox"/>	<u>Brand/Manufacturer</u>	<u>Model/Part Number</u>
<input type="checkbox"/>	_____	_____
<input type="checkbox"/>	_____	_____

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Item:

Description:

Use:

<input type="checkbox"/>	<u>Brand/Manufacturer</u>	<u>Model/Part Number</u>
<input type="checkbox"/>	_____	_____
<input type="checkbox"/>	_____	_____

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Item:

Description:

Use:

<input type="checkbox"/>	<u>Brand/Manufacturer</u>	<u>Model/Part Number</u>
<input type="checkbox"/>	_____	_____
<input type="checkbox"/>	_____	_____

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