Using MUSIC-link for Lake Macquarie City Council

When Lake Macquarie City Council are assessing a development proposal, we must check that it complies with our Water Sensitive Urban Design policies. While eWater's MUSIC software makes it possible to achieve compliance with the targets and parameters, the assessment and refinement process has traditionally been iterative and time-consuming.

The main benefit of MUSIC-*link* is that developers and consultants can design their stormwater management infrastructure and then immediately validate it (within the software) to ensure that parameters fall within the limits of Lake Macquarie City Council's requirements. On receiving a submitted design and related validation report, our Development Assessment team can immediately check for compliance with our standards. If the design is compliance, it can be passed onto engineers for detailed evaluation.

MUSIC-*link* streamlines the process of achieving a match between the Lake Macquarie City Council's specific guidelines and urban developers' water sensitive designs. This shortcut bypasses the traditionally iterative process, where assessing authorities returned models to developers to be amended and re-submitted until they are suitable for engineering evaluation.
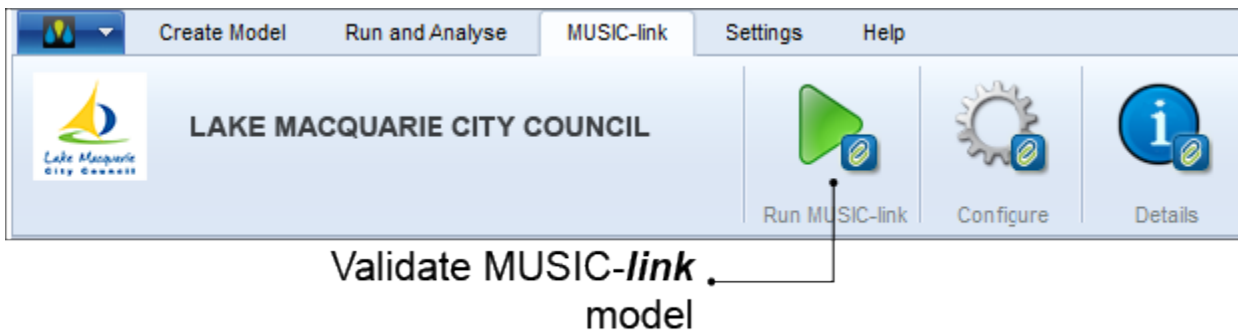
MUSIC-*link* allows Lake Macquarie City Council to:

- Apply a simple, robust and quicker process of WSUD assessment, helped by the compliance report that MUSIC-*link* provides with designs;
- Communicate clearly and directly with developers and designers, providing locally specific WSUD requirements and modelling parameters;
- Provide increased levels of redundancy for model assessment; and
- Build capacity and support policy redundancy to support longevity.

Using MUSIC-*link*

MUSIC-*link* forms part of the standard MUSIC 6 interface, and can be accessed using the MUSIC-*link* tab (shown below) in the main interface.

MUSIC-*link* tab

Working with MUSIC-*link* is a two-step process:

1. Create and run your MUSIC model; and
2. Validate you model against the set of pre-defined parameters for a particular assessing authority.

Creating a MUSIC model

When creating a MUSIC model for inclusion in the validation process, you can choose one of two methods: either create a standard model, or directly create a MUSIC-*link* model, as described below.
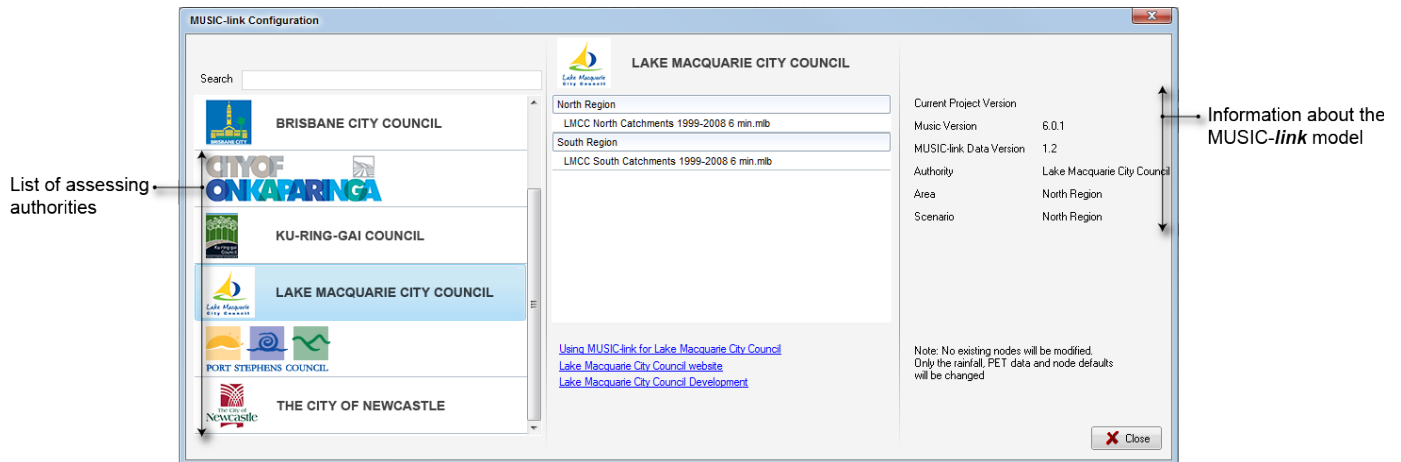
Create a standard model

- Choose a standard meteorological template that is available with MUSIC;
- Build and run your MUSIC model;
- In the MUSIC-*link* tab, click **Configure** and choose **Yes** to convert the existing model to a MUSIC-*link* model;
- Choose Lake Macquarie City Council and the associated meteorological template from the MUSIC-*link* Configuration window that opens (as per below diagrams); and
- Then, initiate the validation process. Refer to Validating the MUSIC-*link* model for details.

Directly create a MUSIC-*link* model

- Choose New MUSIC-link from the main MUSIC tab;
- Choose the Lake Macquarie City Council option from the drop down list and the associated meteorological template (as shown below);

- Build your model; and
- Then, initiate the validation process. Refer to Validating the MUSIC-*link* model for details.

Note: When using MUSIC-*link*, nodes with import flows do not contribute to the total area or the impervious percentage calculations.

List of assessing authorities

Information about the MUSIC-*link* model

Self-Validating the MUSIC-*link* model (Prior to lodgement with Lake Macquarie City Council)

Ensure that your MUSIC model has been created with Lake Macquarie City Council inputs prior to validating it. Once you have created your model:

1. Choose the MUSIC Link tab and click **Run MUSIC-link**; and
2. Once the model has been run, the MUSIC-*link* window appears showing the validation report (see below).

Validation report

A report is generated on completion of a validation run (as shown below). The top half of the report provides details of the validation result. It shows the compliance status of each parameter, which indicates whether the result in within the allowable range. An unchanged result indicates that this value has not been modified by the user (default value used during model run), and hence, it has no effect on overall compliance.

You can now do the following with the report:

- Click **Create Report** to expand a form, where you can enter details of the project & associated notes as well as contact details for those who are submitting the model & report. A report will only be generated (and can be saved in a PDF format) if all the parameters are compliant, or you have provided an explanation to justify why parameters are non-compliant (using the **Comment** field).
- Click **Next Steps** to expand the report for Lake Macquarie City Council lodgement Instructions (as outlined in the below diagram).

Annotations around the screenshot:
- Range of allowable values
- Compliance status
- Passed
- Failed
- Unchanged
- List of parameters for compliance check
- Customised to Lake Macquarie City Council

Screenshot content:

MUSIC-link

LAKE MACQUARIE CITY COUNCIL

music *link*

Results

Parameter	Min	Max	Actual	Result
Uncategorised Parameters				
% Reuse Demand Met	None	None	0	✓
Area (sqm)	None	None	50	✓
Evaporative Loss as % of PET	75	75	75	
Exfiltration Rate (mm/hr)	0	0	0	
Extended detention depth (m)	0.25	1	2	✗
Threshold Hydraulic Loading for C** (m/yr)	3500	3500	3500	
Total Nitrogen - C* (mg/L)	1	1	1	
Total Nitrogen - C** (mg/L)	1	1	1	

Next Steps

Once you have used the MUSIC-*link* self-validation functionality for your MUSIC model and it either:
A) Meets the reportable parameter requirements for Lake Macquarie City Council's setup configuration and targets, then;

STEP 1) Generate a Lake Macquarie City Council MUSIC-*link* PDF report for submission with your model.
STEP 2) Submit your self-validated MUSIC model along with the Lake Macquarie City Council MUSIC-*link* PDF report to Lake Macquarie City Council as part of your Development Application. All material

Create Report

Project Summary: _____ Contact Name: _____

Company Name: _____ Phone: _____

Address: _____ Email: _____

Reporting Node: Junction

Comment: _____

[Create Report]

Lodgement of your MUSIC model and MUSIC-*link* Report to Lake Macquarie City Council

If the MUSIC model meets the reportable parameter requirements for Lake Macquarie City Council's setup configuration and targets, proceed as follows:

1. Create/Generate a Lake Macquarie City Council MUSIC-*link* PDF report for submission with your model;
2. Submit your self-validated MUSIC model along with the Lake Macquarie City Council MUSIC-*link* PDF report to Lake Macquarie City Council as part of your Development Application.

If the parameters and/or targets are outside the required ranges and you believe the use of these parameters or the output results can be justified, please follow the steps below:

1. Generate a Lake Macquarie City Council MUSIC-*link* PDF report for submission with your model. **NOTE**: Any parameter breaches must be justified for the model to be considered by Lake Macquarie City Council;
2. Provide reasons for model assumptions that are outside of default parameter ranges in the **Comments** section; and/or
3. Submit your self-validated MUSIC model along with the Lake Macquarie City Council MUSIC-*link* PDF report to Lake Macquarie City Council as part of your Development Application.

⚠ All material submitted must be in accordance with Lake Macquarie City Council DA submission requirements.

If you require further assistance with utilising MUSIC-link Lake Macquarie City Council, please contact eWater support on 1300 92837 support@ewater.com.au or Lake Macquarie City Council's Customer Service Centre on (02) 4921 0333 during business hours.