Build the `swmm-toolkit` wheel

Description: Build swmm-toolkit from source

Author and Copyright ©: Bryant E. McDonnell

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Version: 1.0

Build Info:

- macOS Big Sur: 11.7.4
- CPU - intel i7
- Python Version 3.11

The steps I took were the following. This worked for me but the process may need to be modified for others. Try your best to recreate the process that I followed especially with the Python Version. There are a number of setuptools and distutil features only available with later versions of Python (which is the reason I bumped to Python 3.11 for this.) This process follows the general steps that are followed in the GitHub Actions process.

1. Clone the `swmm-python` project

   ```
   > git clone https://github.com/pyswmm/swmm-python.git
   ```

2. Checkout the branch that you want to build (`dev` is default and is currently pointing to swmm-v5.2.3:

   ```
   > git checkout dev
   ```

3. Checkout the submodule (which is SWMM). This will checkout the SWMM project and checkout the correct version number for your `swmm-python`.

   ```
   > git submodule update --recursive
   ```

4. Change directory into `swmm-toolkit`

   ```
   > cd ./swmm-toolkit
   ```

5. Create a Python environment for YOUR version of python

   ```
   > python3.11 -m venv build_env
   ```

6. Activate your environment

   ```
   > source ./build_env/bin/activate
   ```

7. Install the build requirements:

   ```
   > python -m pip install -r build-requirements.txt
   ```

8. Now ... Finally... build the wheel!

   ```
   > python setup.py bdist_wheel
   ```

9. The wheel will be in `./dist`

   `> cd ./dist`

10. Install it in this environment or another environment that you want ....

    `> pip install swmm_toolkit-0.14.0-cp311-cp311-macosx_10_9_x86_64.whl`

If you get the following error... Might happen with an older version of Python installed...

```
(build-env) bryant@Bryants-MacBook-Pro swmm-toolkit % python setup.py bdist_wheel
Traceback (most recent call last):
  File "setup.py", line 20, in <module>
    from skbuild import setup
  File "/Users/bryant/Library/Mobile Documents/com~apple~CloudDocs/PROJECTCODE/swmm-python/build-env/lib/python3.8/site-packages/skbuild/__init__.py", line 9, in <module>
    from .setuptools_wrap import setup  # noqa: F401
  File "/Users/bryant/Library/Mobile Documents/com~apple~CloudDocs/PROJECTCODE/swmm-python/build-env/lib/python3.8/site-packages/skbuild/setuptools_wrap.py", line 36, in <module>
    from setuptools import setup as upstream_setup
  File "/Users/bryant/Library/Mobile Documents/com~apple~CloudDocs/PROJECTCODE/swmm-python/build-env/lib/python3.8/site-packages/setuptools/__init__.py", line 14, in <module>
    from ._deprecation_warning import SetuptoolsDeprecationWarning
ModuleNotFoundError: No module named 'setuptools._deprecation_warning'
```

1. Update pip

   `> python -m pip install --upgrade pip`

2. Then update setup tools

   `> pip install -U pip setuptools`

If you the the following error...

https://stackoverflow.com/questions/38658014/ninja-not-found-by-cmake

https://iq.opengenus.org/cmake-vs-ninja/#:~:text=CMake%20is%20a%20build%20generator%20while%20Ninja%20is%20a%20build,build%20generator%20which%20is%20compulsory.

```
-- Trying "Ninja" generator
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--
Not searching for unused variables given on the command line.
CMake Deprecation Warning at CMakeLists.txt:1 (cmake_minimum_required):
  Compatibility with CMake < 2.8.12 will be removed from a future version of
  CMake.

  Update the VERSION argument <min> value or use a ...<max> suffix to tell
  CMake that the project does not need compatibility with older versions.


CMake Error: CMake was unable to find a build program corresponding to "Ninja".
CMAKE_MAKE_PROGRAM is not set.  You probably need to select a different build tool.
-- Configuring incomplete, errors occurred!
See also "/Users/bryant/Library/Mobile Documents/com~apple~CloudDocs/PROJECTCODE/swmm-
python/swmm-toolkit/_cmake_test_compile/build/CMakeFiles/CMakeOutput.log".
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-- Trying "Ninja" generator - failure
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********************************************************************************
scikit-build could not get a working generator for your system. Aborting build.

Building MacOSX wheels for Python 3.8 requires XCode.
Get it here:

  https://developer.apple.com/xcode/

********************************************************************************
```

1. Check to see if you have `ninja` installed:

   `> ninja`

    1. (if you have it, it will return `ninja: error: loading 'build.ninja': No such file or directory`...
    2. then get the path

       `> where ninja` -> for me it was `/usr/local/bin/ninja`
    3. Set the variable

       `> set CMAKE_MAKE_PROGRAM:FILEPATH=/usr/local/bin/ninja`
2. If you do not have the `ninja` build tools for cmake

   `> brew install ninja` (then follow 1.1, onward)