



Connecticut DOT

Number: ED-2022-1

Bureau of Engineering and
Construction

Date: January 28, 2022

ENGINEERING DIRECTIVE

Engineering Administrator

Inclusion of Bridge Element Quantities and Sketches for Bridge Safety Inspection in Final Design Documents

As part of the inspection process, Bridge Safety inspectors must record National Bridge Element (NBE) and Bridge Management Element (BME) quantities and provide computer-generated sketches of all major structural components. To avoid duplication of effort and prevent possible errors, Department and consultant bridge designers should provide the element quantities and sketches, since these items are already produced by or readily available to them.

This directive establishes the requirement that Final Design submission documents for projects involving new bridge construction or major rehabilitation shall include the following:

- **Bridge Element Quantities**

An [Excel spreadsheet](#) shall be provided listing the NBE and BME quantities. For projects with multiple bridges, separate spreadsheets shall be developed for each bridge. The deck and superstructure element quantities shall be tabulated for each span, and the substructure element quantities shall be tabulated for each abutment and pier. The table shall also show a summation of the total quantities for each element. The designer shall provide backup calculations for all elements.

- **Bridge Sketches**

These [sketches](#) shall be required for all new construction. They shall also be required for rehabilitation projects if new vector images are prepared, but not if scanned images from previous projects are used. It is not the intent of this directive for the designers to produce new drawings, but to simply modify drawings already created for the project.

Inclusion of Bridge Element Quantities and Sketches

The sketches shall conform to the requirements of the [CONNECT Digital Design Environment](#) and shall fit within the borders of a 22-inch x 34-inch full size plan sheet. The sketches shall consist of only the structural line work with no notes, labels or dimension lines and shall include:

- a plan and an elevation of the entire structure
- a deck plan and framing plan for each span
- plans and elevations of all substructure units
- elevations of all wingwalls

The [sketches](#) shall be provided in .pdf format as a single document for each bridge.

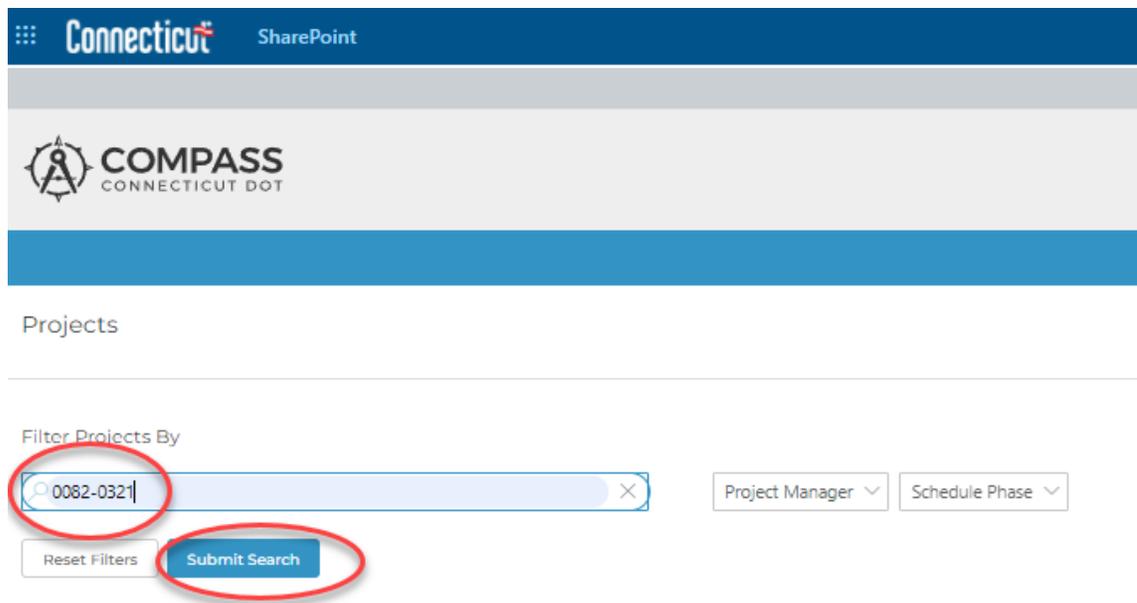
The element quantities and sketches shall be included with the Final Design Plan (FDP) submission for all projects with an FDP of June 1, 2022 or later. If any changes are made to the design prior to or during Construction, the quantities and sketches must be revised by the designer as needed.

Projects currently in the construction phase or with an FDP prior to June 1, 2022 shall be reviewed by the project engineer for the feasibility of implementing this directive.

The element quantities and sketches shall be placed in [COMPASS](#) in the Bridge Safety folder.

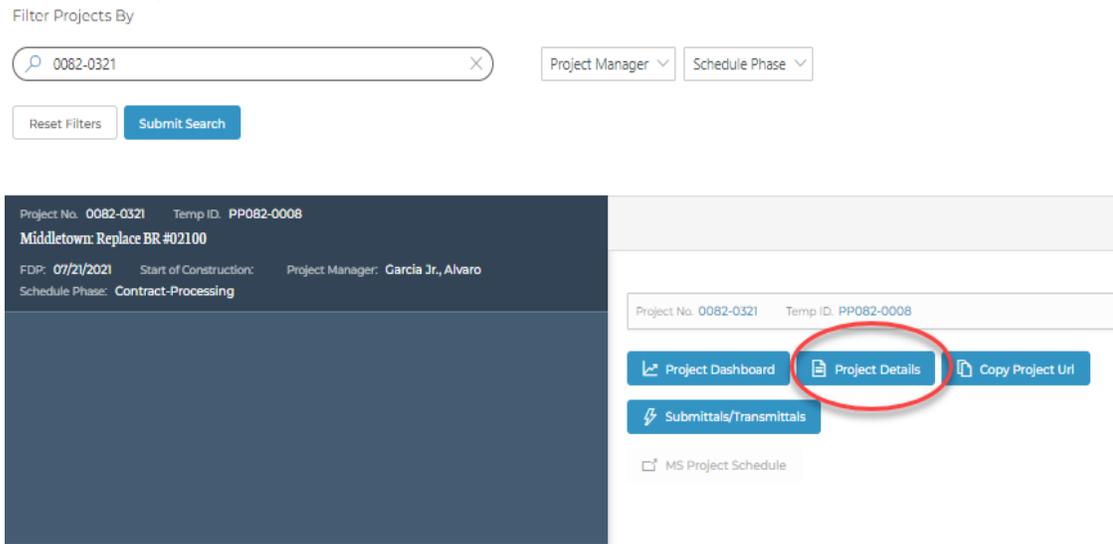
To access this folder:

- Enter the 8-digit project number in the “Search Projects” field and select “Submit Search”

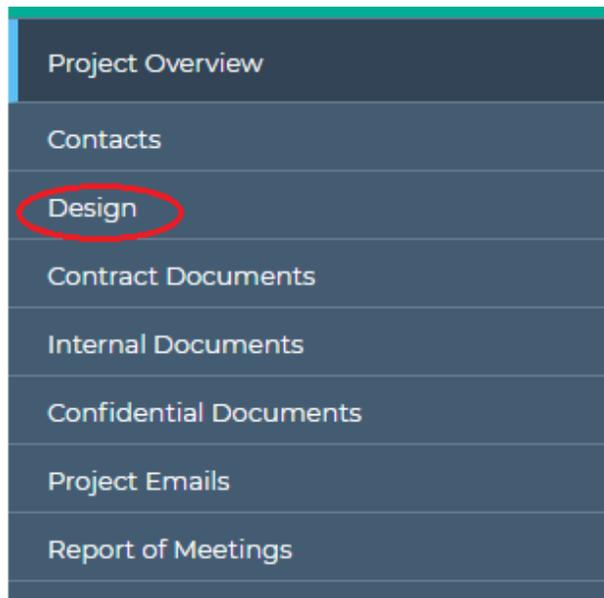


Inclusion of Bridge Element Quantities and Sketches

- Select “Project Details”:



- from Project Overview select “Design”



Inclusion of Bridge Element Quantities and Sketches

- Then select “Bridge_Safety”

Design

Created 	 Name 
January 5	 Active_Survey
January 5	 Bridge
September 27	 Bridge_Safety
January 5	 DGN
January 5	 Envir