

Project Specifications – The Basics, in Five Minutes



First of all, apologies, the recording is just over eight (8) minutes!

Executive Summary. Project specifications are comprised of three main parts. Learn each of the three here and know what's in each section.

Two types of documents guide the construction. First of all, there are two main types of documents which guide the construction of a project: drawings and specifications. The drawings show pictorially how things are constructed. Drawings may or may not list material types, and certainly only show a portion of those material details. For example, a drawing may show a sidewalk from here to there, and may say the concrete is 3,000 psi; however, what is not shown are the details of the concrete's slump, water/cement ratio, allowable additives, required weather during placement, and the many other components of the concrete mixture. This is where the specifications come into play.

Ok, what's in a specification? A Project Specification package identifies each technical aspect of the work and separates it by type of work or material type. A *Division 3 – Concrete* section of a specification is shown below:

DIVISION 3 - CONCRETE

03100	CONCRETE FORMWORK
03150	CONCRETE JOINTS AND ACCESSORIES
03200	EPOXY-COATED CONCRETE REINFORCEMENT
03211	STEEL REINFORCEMENT
03300	CAST-IN-PLACE CONCRETE
03340	CONTROLLED LOW STRENGTH MATERIAL (CLSM)
03390	CONCRETE CURING
03410	PLANT PRECAST STRUCTURAL CONCRETE
03620	GROUTING
03630	CONCRETE DOWELING

Although the numbering immediately above is typical across the country from project to project (because it follows the Construction Specifications

Institute numbering system) whether or not this is included in your project is dependent upon whether or not your project is requiring this type of work.

In each of these specification sections, there are three parts:

- Part 1 – General – this part defines, in general, what this specification covers. The most important section here is the “Submittals” section. The submittals listed must be made in order to allow construction to commence.
- Part 2 – Products – this defines the materials that are required to build whatever is described in Part 1 above.
- Part 3 – Execution – this describes how the item(s) is to be built. Yes, there is a permissible “means and methods” component of the construction, but ultimately there may be hard rules associated with the installation. This will be defined here.

Here’s a sample of a full three page specification for a bike rack and shelter:

THIS SECTION IS INTENTIONALLY BLANK.



SECTION 02870 BIKE RACK AND SHELTER

PART 1 - GENERAL

1.01 DESCRIPTION:

- A. This Section includes providing all material, labor, tools, and equipment for installation of a bike rack and shelter as indicated on the Plans and Contract Documents and as specified in this Section.

1.02 SUMMARY:

- A. Section Includes:
1. Eight (8) stall minimum bike rack.
 2. Bike rack shelter.

1.03 REFERENCES:

- A. ASTM International (ASTM):
1. ASTM A36: Standard Specification for Carbon Structural Steel
 2. ASTM A53: Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless
 3. ASTM A511: Standard Specification for Seamless Stainless Steel Mechanical Tubing and Hollow Bar
 4. ASTM A1008: Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardened

1.04 SUBMITTALS:

- A. Submit the following in accordance with Section 01300 Submittals.
1. Product Data: Physical descriptions of product features, bicycle parking capacity, dimensions, shape, installation hardware requirements, setback requirements and spacing, and finish options for each bicycle dock.
 2. Shop Drawings: For bike rack and bike shelter.

PART 2 - PRODUCTS

2.01 MANUFACTURER:

- A. Bike Rack:
1. Ground Control Systems Hoop Runner Bicycle Rack HR100 or approved substitute.

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- B. Bike Shelter:
 - 1. Ground Control Systems Pinnacle Bike Shelter P0912 or approved substitute.

2.02 MATERIALS

- A. Bike Rack:
 - 1. Hollow structural section steel
- B. Bike Shelter:
 - 1. Roof: Translucent polycarbonate structured sheet.
 - 2. Structure: ASTM 36 Schedule 40 steel framing.

2.03 FINISHES:

- A. Bike Rack:
 - 1. Black Duraplas or approved substitute.
 - 2. Galvanized finish
- B. Bike Shelter:
 - 1. Black Duraplas or approved substitute.
 - 2. Hot-dipped galvanized.

PART 3 - EXECUTION

3.01 EXAMINATION:

- A. Examine footprint to ensure conditions are adequate for installation. Do not proceed with installation if conditions are not adequate for install. Notify Officer-in-Charge if conditions are unsatisfactory.

3.02 PREPARATION:

- A. The location of the bike shelter shall be flat, level, square, accurate for alignment, and correctly located for the installation of the bike rack and shelter.

3.03 INSTALLATION:

- A. Bicycle rack is embedded into concrete base with anchor rods.

3.04 CLOSEOUT ACTIVITIES:

- A. Provide in accordance with Section 01700 Contract Closeout.

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3.05 MEASUREMENT AND PAYMENT:

- A. Payment for work covered by this Section shall be included in the lump sum cost of the item in the Proposal Schedule "Civil Site Work".

END OF SECTION 02870

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My story. In my career I've written/prepared thousands of documents related to specifications: submittals, RFIs, and letters. Here's a secret, they're not always clear. And this is why you prepare submittals, RFIs, and letters. However, even before the construction begins, the estimator must prepare the project cost. It is in the estimate phase when the specifications are first read and analyzed. Jobs can be won and lost on interpretation of these documents. Read them carefully!

Work safe!