Taking the fear out of selecting the appropriate architecturally exposed structural steel category.

# AESS COMES OF AGE

steel fabricators and erectors, updated the popular AESS Cost Matrix for the new AESS category system.

As with the previous version, the updated AESS Cost Matrix is designed to inform design teams about the cost premium associated with specifying AESS. Naturally, the actual cost of craftsmanship varies greatly from fabricator to fabricator across the country. Thus, the idea is to allow project teams to balance a project budget with the desired scope. Here are the conceptual cost premiums for AESS 1, AESS 2, AESS 3 and AESS 4 as compared to standard domestically fabricated and erected structural steel that isn't speci ed as AESS:

- ➤ AESS 1: 10% to 20%
- ➤ AESS 2: 25% to 35%
- ➤ AESS 3: 40% to 75%
- ➤ AESS 4: 100% to 150%

As you can see, there is a marked increase between the four categories. If none of these categories t a project's scope or budget, teams are encouraged to use the AESS C (Custom) category to create a project scope specic to their steel fabrication and erection needs. And as mentioned, project teams should not be afraid to use multiple AESS categories for different steel across a project to balance vision and cost.

## Step 3: Determine if you really, really, really, really, really, really, really.

There is a lot of beauty in using exposed standard structural steel (SSS). If the exposed steel is out of view of the day-to-day user, blocked by screens or signage or located where the focal point is not the framing system (e.g., museums or performance spaces), then project teams can opt to use SSS rather than AESS.

➤ AESS 1: Basic elements

➤ AESS 2: Feature elements at a distance > 20 ft (6 m)

➤ AESS 3: Feature elements at a distance < 20 ft (6 m)

➤ AESS 4: Showcase elements

➤ AESS C: Custom elements

Each category is described in detail in the ..., and the included AESS Matrix provides a visual guide as to what is and what is not included in each category. The various categories allow project teams to determine the level of craftsmanship necessary for their project, thus creating a scenario where AESS can be applicable in projects of all shapes, sizes and locations.

### Step 2: Review the conceptual cost premium for each of the AESS categories.

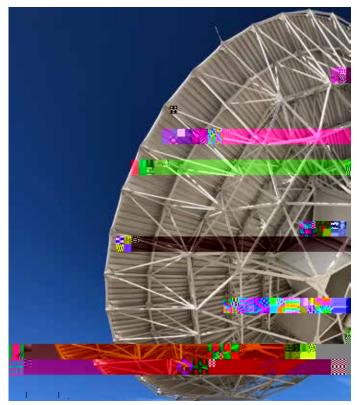
In 2017, the Steel Liaison Committee of the Structural Engineers Association of Colorado and the Rocky Mountain Steel Construction Association, with input from national structural

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They can then pay added attention to the nal steel nishes instead of dealing with the added cost and inspections required for any of the AESS categories.

The architect, structural engineer and steel connection designer can work together to take advantage of the various steel shapes, long spans and con gurations to create a dynamic framing system that is functional, aesthetically pleasing and budget-friendly. Bottom line, if, after reviewing the ve AESS categories, you determine that none of them are feasible but you still want to incorporate exposed structural steel, good news: You can still incorporate exposed structural steel.

#### Step 4: Map your project out visually.

When you've determined that AESS is the right choice for a project, grab your drawings and map out which categories you would like to use in the various areas. If only maintenance crews or an occasional bird will see the craftsmanship at higher distances, you may want to use a lower or custom AESS category. And for steel close to the touch or near eye level, go with a higher or custom AESS category.

You can even use more than one category on singular tall or long elements. For example, for a three-story column, you can start out with SSS at the top, AESS 1 near the middle and AESS 4 at the bottom. Using multiple categories ensures that added craftsmanship is only applied where needed.

Once again, the AESS Category Matrix can come in handy when mapping things out. While reviewing the location, context and design style of the steel, teams can check off which category best ts their needs. Or they can start to ll in AESS C desires, which is mandatory for projects using that category. (The C category will be discussed in more detail during the corresponding NASCC: The Steel Conference presentation.)

#### Step 5: Map out your budget visually.

Now that you have mapped out your project visually, it's time to map it out from a budget perspective as well, and your project team can use a blank AESS Cost Matrix to conceptually map out what the projected AESS premium will be.

The informal (not actual) cost premiums noted in the AESS Cost Matrix apply to the total fabricated and erected weight of AESS for that particular line item or category.



As an example, let's say handling X amount of SSS (we'll call it one ton) is \$100. Now let's say the fabricator must remove all mill marks from the steel (an item that starts in AESS 3). For one ton of steel, this added step will have an added cost range of 5% to 15%, and teams can anticipate adding \$5 to \$15 per ton to the budget. If one ton of steel has few visible mill marks that need removal, then the theoretical budgeted line item would be \$105—but if there are numerous mill marks, then the conceptual budgeted line item would be closer to or exceed the higher end of the range, \$115.

Once the budget is mapped out, then the project team can go back to the visual map and make necessary changes in the categories. Understand that for structural steel projects, the labor component—and not the material component—is where you want to look for project savings. Therefore, when ne-tuning visual and budget desires, think less about changing the steel shapes and more about using SSS or a lower AESS category, or creating a budget- and scope-friendly TJOS -0.080 threduclabor

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### Step 10: Chat with the steel industry.

As you can see, there are multiple options for using AESS on projects of all sizes and budgets. And AISC staff and our member steel fabricators and erectors are happy to assist you with understanding the new AESS category system and Tcwc 0 0 scn/new

