

WHITE PAPERS

FOOD PROCESSING PLANT DESIGN



PREFACE

workflow. In this white paper, we'll take a look at how these factors influence design and why a utility matrix is an important tool in your plant's design. We'll also look at how plant owners are using Building Information Modeling (BIM) to make better business decisions.

FOUR MAJOR DECISIONS THAT IMPACT THE DESIGN OF YOUR FACILITY

FOOD PROCESSING PLANT OWNERS MUST ANSWER A FEW KEY QUESTIONS PRIOR TO THE DESIGN OF ANY FACILITY

_____ – Plant owners often select a location that will be most efficient from a supply and demand standpoint,

may impact the building's exterior and how piping is integrated into the building? Owners and engineers should work

_____ – The actual building material used for both the interior and exterior of the building will play an

its weight, and can limit where room and process openings can be placed. Steel buildings may offer more flexibility, but also must be assessed as part of the overall food safety program (i.e., typically, a ceiling would be required). Equipment

LEED requirements – Obtaining LEED certification often requires a more detailed approach to material selection and the overall design. The first step is determining the level of certification the owner desires so designers can properly document and design for those requirements. LEED affects virtually every aspect of the design of the building

more. Once the design has begun, it is difficult, and costly, to modify these systems significantly.

Insurance – As the preferred insurer for most commercial projects, Factory Mutual has rigorous specifications and

HOW PRODUCT, PRODUCT MIX, AND PRODUCTION VOLUME IMPACT DESIGN



Gathering the data and information necessary to complete the matrix encourages plant owners to plan ahead for future needs. If they know the company is planning a future line, it's important to include it in the matrix. Most

Engineers can forecast energy costs based on the plant's utility requirements. This may be helpful in selecting one equipment manufacturer over another based on projected energy costs. For example, the matrix may help

While the matrix is a very valuable tool in developing a plant's design, keeping the information up to date and informing

SHOULD YOUR PLANT USE BUILDING INFORMATION MODELING (BIM) FOR YOUR NEXT DESIGN PROJECT?

Food processing plants are embracing building information modeling (BIM) as the new standard in facility design. BIM's 3-dimensional data rich format allows designers to give plant owners, managers and employees a virtual walk-

the most informed decisions on process and work flows.

THE FIVE KEY BENEFITS OF USING BIM FOR FACILITY DESIGN ARE

1. 3D visualization allows plant managers to visualize and make decisions based on workflow, budget issues, energy costs and much more. Designers can actually show employee movement throughout the facility and perform simulations so owners can determine the best workflow processes to improve productivity. This ability can identify

FOUR WAYS BIM ALLOWS FOOD FACILITIES TO MAKE BETTER DECISIONS DURING DESIGN REVIEW

When performing a design review, BIM gives all of your food processing plant's stakeholders—operations, maintenance, safety, and engineering teams—an opportunity to explore the facility in a three-dimensional mode. Viewing the design

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