

DEVELOPING A ROADMAP FOR BIM IN MASONRY: A NATIONAL INITIATIVE IN THE UNITED STATES

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ABSTRACT

Building Information Modeling (BIM) provides a unifying framework for building design, analysis, and construction. The BIM model provides a digital representation of the building, so that the modeling and analysis tools used by architects, engineers, constructors, managers and owners can read from and write to the same information source. Over the last 20 years, the development of material-specific BIM tools has been led by the structural steel and precast-concrete industries, and recent efforts are advancing the state of the art in cast-in-place concrete. This paper reports on a national initiative in the United States to develop BIM requirements for masonry. The National Building Information Modeling for Masonry Initiative (BIM-M) is developing a roadmap for BIM development in five key areas: architectural parametric modeling, structural modeling and analysis, masonry construction activities, construction management, and masonry materials provision. The paper introduces the overall initiative, provides background on the development of the BIM-M roadmap, which has just recently been released, and highlights key aspects of each area of BIM for masonry.

KEYWORDS: building information modeling BIM

INTRODUCTION

BIM is an acronym that stands for an object, a “building information model” and also a process for creating and using that object “building information modeling”. According to the National Institute for Building Sciences, a building information model “*is a digital representation of physical and functional characteristics of a facility. As such it serves as a shared knowledge resource for information about a facility forming a reliable basis for decisions during its lifecycle from inception onward.*”[1, 2] In this context, the proposed parallel definition for masonry BIM is *a digital representation of the physical and functional characteristics of masonry materials and systems.*

This paper introduces an initiative by the North American masonry industry to bring masonry materials and systems into BIM. Through a process of precedent research, stakeholder input,