**Lesson Information**

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| Lesson: (2 of 3) Construction Technique Length: 90 minutes  Unit: (2 of 3) Basic Technique  Course: Masonry |

**Content Assumptions**

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| Prior to this class, students have taken math and construction drawing courses. |

**Essential Questions**

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| 1. What preparations are necessary for masonry installations? 2. How are installation problems prevented by proper construction preparations? |

**Objectives Assessments**

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| After completing this lesson, students will be able to:   1. Describe the processes for construction and estimation techniques regarding masonry installations. 2. Demonstrate their knowledge of the relationships between buildings and their environments. | 1. Annotated drawing — rubric 2. Class discussion — Instructor observation |

**Activities/Instruction**

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| **Show and Tell** (45 minutes)  Using simple construction drawings (as listed in the Materials section), Instructor explains the preparations for masonry installations, including:   * Masonry construction in areas around wall openings (windows, doors, etc.) * Requirements for wall bracing, what types of wall bracing exist, and how they are constructed and used * Types of insulation used in masonry construction and how they are installed * Moisture, its effects on masonry construction, and how moisture problems are prevented/eliminated * Types of flashing used in masonry construction and how they are installed * Material estimations (for braces, block/brick, reinforcements and fasteners, and mortar/grout amounts)   During his/her explanations, Instructor facilitates a classroom discussion of how these elements all work together in the process of building construction. Students participate in the discussion and take notes over Instructor’s explanations.  **Up Against a Wall** (45 minutes)  Using their notes (and classroom resources, as appropriate), students are to make their own construction drawings and wall cross-sections, annotating them with information about/processes for the following:   * How masonry is constructed around at least one kind of wall opening * Information about at least one kind of wall bracing (how it fulfills requirements, how it is constructed and used) * Information about at least one kind of insulation (what it is made of, how it works, how it is installed) * At least one method for preventing or eliminating moisture’s effects on masonry * Information about at least one kind of flashing (what it is made of, how it work, how it is installed) * An estimation for at least one kind of material used in masonry construction (braces, block/brick, reinforcements/fasteners, mortar/grout) |

**Materials**

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| For Instructor:   * Construction drawing of a simple residence * Cross-section drawing of a wall * [ANNOTATED DRAWING RUBRIC] |