

Formula 1

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Formula 2

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Formula 3

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Detailed Explanation

The AIA/ASCE Joint Spec establishes uniform graphic and textual conventions that govern how drainage elements—including inlets, pipes, channels, detention/retention basins, swales, and outfalls—are represented across architectural, civil, and landscape architectural drawings. Central to the standard is the principle of 'design intent clarity': every symbol, line weight, hatch pattern, and dimension must unambiguously communicate hydraulic function, material specification, and spatial relationship without reliance on project-specific legend interpretation. It mandates consistent layer naming (e.g., 'D-PIPE-PLAN', 'D-INLET-ANNOT') aligned with CSI Unifomat and ISO 13567 standards, supports BIM coordination through object-based classification (e.g., IFC drainage elements), and prescribes minimum annotation requirements—such as pipe slope (as ratio or percent), invert elevations referenced to a common datum, and flow direction arrows. Furthermore, the standard integrates hydrologic and hydraulic assumptions directly into drawing metadata, requiring explicit notation of design storm frequency (e.g., 10-year, 25-year), runoff coefficients (C-values), time-of-concentration methods, and software used (e.g., EPA SWMM, HydroCAD). Compliance facilitates peer review, agency submittal approval (e.g., local MS4 programs, state DOTs), and reduces RFIs during construction by eliminating ambiguous representations.

Key Components

#	Component
1	Standardized Layer Naming Conventions
2	Hydraulic Annotation Requirements (invert elevations, slopes, capacities)
3	Unified Symbolology & Hatch Patterns for Drainage Elements

Applications

#	Application
1	Preparation of municipal stormwater management plans
2	Coordination of integrated site development drawings (architectural, civil, MEP)
3	Regulatory submittals to permitting agencies (EPA, state DEPs, local public works)

Related Concepts

#	Concept
1	Stormwater Management
2	Civil Engineering Drawing Standards
3	Building Information Modeling (BIM) for Infrastructure

Tags

drainage, civil-engineering, drawing-standards
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Drainage Design Drawing Standards (AIA/ASCE Joint Spec)
