



## Drafting Technique and Plan Symbols

One of the leading reasons why plans are returned for corrections during the Building Department plan review process is poor quality drafting. Plans must be drawn to scale on 17" x 11" min. (36" x 24" preferred) sized paper sheets and must be drawn using architectural graphic symbols, line weights, labeling, referencing, notations, schedules, dimensioning, detailing and technique to help the plan reader quickly and efficiently understand the exact nature and scope of the proposed work. Plans must be accurate, crisply drawn (use straight edge), well organized and fully coordinated between the plan sheets and must provide sufficient information to describe the work. Text and plan notations must be not less than 9 point Arial font or equal or 1/8" neatly hand printed and easily readable in landscape orientation.

Conversely, plans that have extraneous markings, poor line weight, hard to read text, missing or inaccurate information, not coordinated, or plans that are messy, not to scale, or don't utilize appropriate drafting techniques or standardized symbols are almost always rejected and returned for corrections. This adds time and frustration during the building permit plan review process which is not beneficial to anyone.

The following is a basic checklist of items that should be considered when preparing plans:

- **Sheet Size and Orientation**

- Typically, residential plans should be drawn on 36"x 24" sized sheets (Arch D). All plan sheets should be the same size, be sequentially numbered and be oriented to read in landscape orientation. The minimum size plan sheet is typically 17" x 11" (ANSI B).

- **Drafting Tools you will need**

- Computer aided drafting (CAD) program (if drafting with a computer);  

or
- Architectural Drafting Scale (Engineering Scale is also recommended).
- Either a parallel rule or a T-square, a 45 and 60 degree triangle.
- Fixture and basic shape Templates.

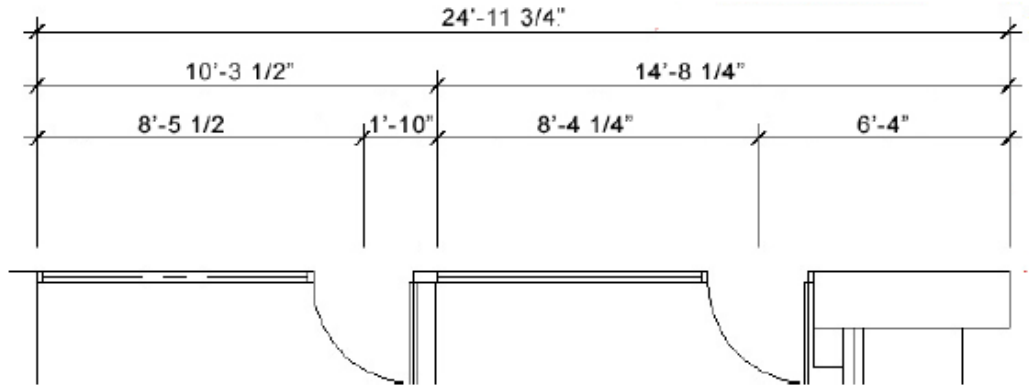


- **Drawing Scale** - Typical scales for drawings are as follows:

- Site Plan, Grading Plan, and Roof Plan: 1" = 20'-0" or 1/8" = 1'-0"
- Foundation Plan, Floor Plan, Electrical, Plumbing and Mechanical Plans, Framing Plans and Elevations: 1/4" = 1'-0"
- Building Sections: 3/8"- 1/2" = 1'-0"
- Construction and Structural Details: 3/4"- 3" = 1'-0"

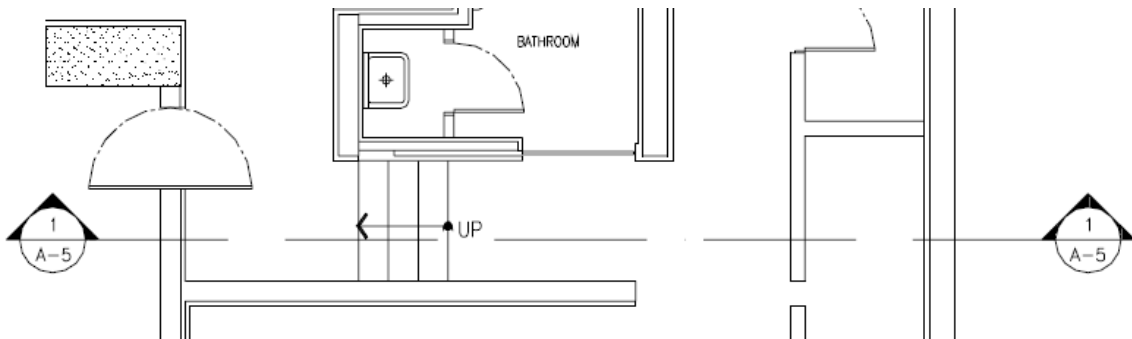
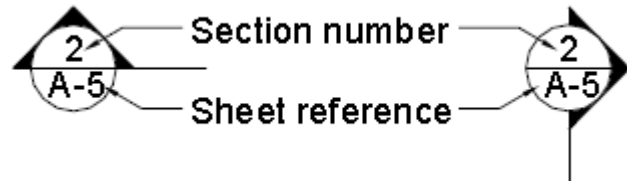
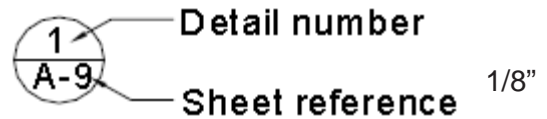
- **Graphic Symbols** – Architectural graphic symbols should be used when drafting floor plans. A sample of some typical residential plan symbols are provided on the last two pages of this handout.

- **Line Weight** - Line weight is important to properly convey the information on the drawings. All lines should be crisp true and easily readable.
  - Lines depicting primary objects of construction such as walls, structural framing members, details and elevation outlines should be **bold line weight**.
  - Lines depicting secondary objects such as doors, windows, counters and cabinets should be drawn with a **medium line weight**.
  - Lines depicting supplemental information such as dimension lines, center lines and callout lines should be drawn with **light weight lines**.



- **Labeling, Lettering, Notations and Referencing**

- Each plan, section, detail or elevation should be uniquely labeled and numbered.
- The size of the text or font must not be less than height for hand lettering and 3/32" height for computer generated text.
- Notes and callouts describing the work or drawn components must be provided.
- For alteration projects, elements shown should be labeled new (N) or existing (E).
- All new doors and windows should be identified with size and type information or a unique symbol referencing the door or window in the door or window schedule.
- Cross-References to specific details should be provided.



## Residential Plan Symbol Legend

	Existing ceiling light fixture		Astronomical Time Clock
	High Efficacy ceiling light fixture		Main service panel (amperage)
	Incandescent wall light fixture		Sub panel (amperage)
	High Efficacy wall light fixture		Data, Phone & TV jack
	High Efficacy & Water Resistant wall light fixture		Phone, Data jack
	Fluorescent ceiling light fixture		Data jack
	Undercabinet fluorescent light fixture		CATV jack
	Existing recessed ceiling light fixture		Data and electrical outlet
	High Efficacy recessed ceiling light fixture		Security camera
	High Efficacy - Water Resistant recessed fixture		Doorbell transformer
	120v smoke detector w/ battery backup		Doorbell chime
	120v carbon monoxide (CO) alarm w/ bat. backup		Doorbell pushbutton
	120v smoke & CO alarm w/ battery backup		Thermostat
	Ceiling fan/light combination		Exhaust fan
	Photocell		Exhaust fan w/ Humidistat control
	Motion sensor		HVAC supply air register
	Duplex receptacle (AFCI protected)		Under cabinet HVAC register
	Duplex receptacle (GFCI protected)		Return air grill
	Duplex receptacle (waterproof & GFCI protected)		Gas outlet
	Duplex GFCI protected receptacle - specified ht.		Hose bibb w/ anti siphon
	Duplex receptacle (AFCI protected)		Ice supply valve
	Special purpose receptacle (dishwasher)		Instant hot water heater
	240v receptacle		Low flow shower head
	Wall junction box		
	Floor mount receptacle (AFCI protected)		
	Single pole switch		
	2 pole switch		
	3-way switch		
	4-way switch		
	Single pole dimmer switch		
	3-way dimmer switch		
	Vacancy sensor switch		
	Concealed switch conductors		

**For alteration projects add subscripts:**  
 (N) for New  
 (E) for Existing

# Residential Plan Symbol Legend

	New wall		Refrigerator
	Existing wall		Dishwasher
	Existing wall to be removed		Range/Cooktop w/ Hood
	New beam (size and material)		Oven
	Window (window schedule reference)		Compactor
	Swinging door (door schedule reference)		Washer
	Pocket door (door width)		Dryer
	Bypass door (door width)		Sink / Lavatory (GPM)
	Byfold door (door width)		Tub
	Sliding glass door (door width)		Shower (GPM)
	Detail Reference Detail Number: 1 Page Number: A1		Water Closet (GPF)
	Section Reference Referenced Section Number: 1 Referenced Page Number: A1		Storage type Water Heater (Gal)
	Elevation Reference Elevation Reference Number: 1 Referenced Page Number: A1		Tankless water heater (BTU/H)
	Window schedule reference		Forced-Air Furnace (BTU/H)
	Door schedule reference		Air-Conditioner Condenser Unit
	Drawing revision number		

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