

# UtilityDrafter.com

Complete Site Guide

For Field Crews, Apprentices & CAD Drafters

37 Tools | AutoCAD Reference | Utility Industry Standards

SDGE Overhead & Underground Construction Standards

Works on Desktop, Tablet & Mobile — No Login Required

Anthony Squires | Senior Drafter | 2026

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# SECTION 1 — GETTING STARTED

UtilityDrafter.com is a free web-based reference tool built specifically for utility industry drafters and field crews. Think of it as a toolbox you carry in your pocket — available on any phone, tablet, or desktop, no app store download required, no login, no account.

The site has two main areas:

**AutoCAD Reference Tools** — Calculators, guides, and reference tables for anyone working in AutoCAD 2024. Covers scaling, units, layers, printing, blocks, and more. Useful whether you are a beginner just learning AutoCAD or a 20-year veteran who needs a quick lookup.

**Utility Industry Standards** — Direct access to SDGE construction standards manuals (DMCS, EDD, UDCS) with built-in PDF readers. Field crews can look up pipe construction details, underground specs, and electrical distribution drawings from any device on the job site.

No internet connection? Once you install the app (see Section 3), many pages work fully offline. The PDF readers require the PDF to be loaded at least once while online.

## 2. How to Navigate the Site

Every page has a navigation bar at the top. On desktop it shows all the tool links across the screen. On a phone or tablet it collapses into a hamburger menu (the three-line icon in the top-right corner). Tap it to open the full menu.

The navigation is organized into groups:

Nav Item	What You Find There
Home	The main landing page with PDF download buttons and site overview
Scale Calc, Units, Fractions...	The AutoCAD calculator and converter tools
Title Block, Setup Wizard...	Drawing setup and template tools
Layers, Linetypes, Dim Styles...	Reference guides for CAD standards
Blocks, Xrefs, Sheet Sets...	Advanced AutoCAD tools
Utility Industry (dropdown)	All SDGE construction standard references and readers
Sci Calc, Chem Ref	Science and engineering reference tools
What's New	Latest updates and new features added to the site

The Utility Industry item has a dropdown sub-menu. On desktop, hover over it. On mobile, tap it to expand the list of SDGE standard reference pages.

In the top-right corner of every page you will see two buttons:

**Dark Mode button** — Switches the entire site to a dark background with lighter text. Easier on the eyes at night or in low-light conditions. Your preference is saved automatically, so it stays dark mode every time you come back.

**Install button** — This only appears on supported browsers (Chrome on Android, Safari on iPhone/iPad). Tap it to add UtilityDrafter.com as an app on your home screen. Once installed it opens full-screen like a native app, loads faster, and many tools work offline without any internet connection.

iPhone users: if you do not see the Install button, open the site in Safari, tap the Share icon (the box with an arrow pointing up), then tap "Add to Home Screen."

At the top of most pages you will see three orange download buttons:

Button	What You Get
Download PDF	AutoCAD 2024 Quick Reference Card — a condensed one-page cheat sheet of the most common
AutoCAD Basic Drafting Guide	A beginner-friendly guide to core AutoCAD drafting concepts and workflows
Scaling & Units Manual	The full detailed manual covering all scaling, unit, and measurement topics on this site

## 5. Pinned Favorites & Cloud Sync

Every page in the navigation bar has a small star icon next to it. Tap the star to pin that tool to your Favorites bar — a quick-access strip that appears just above the navigation links. Pinned pages are saved in your browser so they persist between visits.

The cloud sync feature lets you share your pinned pages across multiple devices. Tap the cloud icon in the favorites bar to get a 16-character sync code. Enter that same code on any other device to restore your exact set of pinned pages.

Sync codes are private — no account or email needed. Write your code down somewhere safe. If you clear your browser cache without syncing first, your pins will be lost.

## SECTION 2 — CALCULATORS & CONVERTERS

[utilitydrafter.com/scale-calculator.html](https://utilitydrafter.com/scale-calculator.html)

**What it is:** Converts between drawing scale and real-world measurements. Enter a scale factor like 1/20 or 1/4"=1'-0" and it instantly shows you what any real dimension becomes on paper, or what a dimension on paper represents in real life.

**How to use it:** Select your drawing scale from the dropdown or type it in manually. Enter a measurement and the calculator does the math. You can switch between architectural (feet/inches), engineering (decimal feet), and metric scales.

*Tip: This is the most-used tool on the site. Bookmark it.*

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[utilitydrafter.com/unit-converter.html](https://utilitydrafter.com/unit-converter.html)

**What it is:** Converts between every common measurement unit used in drafting and construction — inches, feet, meters, millimeters, decimal feet, and more. Also handles area and volume conversions.

**How to use it:** Type a number in any field and all the other units update instantly. No button to press — it converts as you type. The top section handles length, the lower sections handle area and volume.

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### [ ] Fraction Conversion

[utilitydrafter.com/fraction-conversion.html](https://utilitydrafter.com/fraction-conversion.html)

**What it is:** Converts between fractions, decimals, and millimeters. Covers all standard architectural fractions from 1/64" up to whole feet.

**How to use it:** Either type in a decimal and find the nearest fraction, or browse the full conversion table. The table is searchable — type any value in the search box to filter.

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[utilitydrafter.com/scientific-calculator.html](https://utilitydrafter.com/scientific-calculator.html)

**What it is:** A full scientific calculator built into the browser. Handles trigonometry, logarithms, exponents, and all standard math functions. No need to switch apps.

**How to use it:** Works like any scientific calculator. Tap the buttons or type directly with your keyboard. Includes memory functions and a calculation history panel.

*Tip: Handy for structural load calculations, angle calculations, and any math that goes beyond basic arithmetic on a job site.*

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## SECTION 3 — DRAWING SETUP TOOLS

[utilitydrafter.com/drawing-setup-wizard.html](http://utilitydrafter.com/drawing-setup-wizard.html)

**What it is:** A step-by-step guided setup for starting a new AutoCAD drawing correctly. Covers units, limits, scale, annotation scale, and the most common beginner mistakes.

**How to use it:** Follow the steps in order — each step builds on the last. The wizard asks you questions like “What is your drawing scale?” and “Are you printing to scale?” and then tells you exactly what settings to enter in AutoCAD.

*Tip: Run this before starting any new drawing. It takes 5 minutes and prevents hours of headaches later.*

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[utilitydrafter.com/title-block-setup.html](http://utilitydrafter.com/title-block-setup.html)

**What it is:** A reference guide for creating and filling out a proper title block. Covers standard fields, placement rules, text heights, and how to link title block attributes to sheet properties.

**How to use it:** Browse the reference tables for standard title block field names and sizes. Follow the step instructions to create an attribute-based title block that updates automatically in a sheet set.

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### [D] Template Builder

[utilitydrafter.com/template-builder.html](http://utilitydrafter.com/template-builder.html)

**What it is:** Guides you through building a reusable AutoCAD drawing template (.dwt file). Covers layers, text styles, dimension styles, layouts, and page setup — everything set up correctly once so you never have to repeat it.

**How to use it:** Work through each section in order. The guide tells you which AutoCAD commands to run, what settings to use, and why each setting matters. At the end you have a complete template ready to save as a .dwt file.

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[utilitydrafter.com/annotative-text.html](http://utilitydrafter.com/annotative-text.html)

**What it is:** Explains AutoCAD's annotative text and annotation scale system — the feature that automatically sizes your text correctly for any plot scale.

**How to use it:** Read through the concept explanation first, then follow the step-by-step setup instructions. The guide covers annotative text styles, annotative dimensions, and how to manage annotation scales across multiple viewports.

*Tip: If your text prints too big or too small when you change the scale, this guide is the fix.*

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## SECTION 4 — REFERENCE GUIDES

[utilitydrafter.com/layer-standards.html](http://utilitydrafter.com/layer-standards.html)

**What it is:** Industry-standard layer naming conventions including AIA, NCS, and discipline-specific standards. Shows correct colors, linetypes, and lineweights for each layer type.

**How to use it:** Browse the tables by discipline (civil, electrical, mechanical, etc.). Each layer entry shows the full layer name, recommended color number, linetype, and lineweight. Table cells are click-to-copy — tap any layer name to copy it to your clipboard.

*Tip: Use this when setting up a new project to make sure your layers match the client or project standard.*

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[utilitydrafter.com/linetype-guide.html](http://utilitydrafter.com/linetype-guide.html)

**What it is:** A complete reference for AutoCAD linetypes — what each linetype looks like, its name in AutoCAD, and the correct LTSCALE settings for different drawing scales.

**How to use it:** Browse the visual linetype samples to find the right one for your drawing. The LTSCALE calculator at the top lets you enter your drawing scale and get the correct scale factor to make your linetypes display at the right density.

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### [H] Hatch Calculator

[utilitydrafter.com/hatch-calculator.html](http://utilitydrafter.com/hatch-calculator.html)

**What it is:** Calculates the correct hatch scale for any drawing scale. Prevents the common problem of hatches printing as solid blocks or barely visible dots.

**How to use it:** Enter your drawing scale and the hatch pattern you are using. The calculator returns the exact scale value to enter in the AutoCAD hatch dialog.

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[utilitydrafter.com/dimension-styles.html](http://utilitydrafter.com/dimension-styles.html)

**What it is:** A setup guide for AutoCAD dimension styles. Covers text height, arrow size, tolerances, scale factors, and the differences between model space and paper space dimensioning.

**How to use it:** Follow the setup walkthrough to create a dimension style that plots correctly at your drawing scale. The reference tables show all the key dimension style variables and recommended values.

*Tip: Get this right once, save it in your template, and you will never fight with dimension sizes again.*

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[utilitydrafter.com/command-aliases.html](http://utilitydrafter.com/command-aliases.html)

**What it is:** A complete searchable list of AutoCAD command aliases — the short keyboard shortcuts that speed up drafting. Includes all default aliases plus common custom ones.

**How to use it:** Type any command or alias into the search box to look it up instantly. The table shows the short alias, the full command name, and what it does. Table cells are click-to-copy.

*Tip: Learning 20 of the most common aliases can cut your drafting time by 30%.*

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[utilitydrafter.com/viewport-paper-space.html](http://utilitydrafter.com/viewport-paper-space.html)

**What it is:** Explains the model space vs paper space system in AutoCAD — one of the most confusing concepts for beginners. Covers creating viewports, locking them, setting viewport scale, and publishing to PDF.

**How to use it:** Read the concept overview first, then follow the step-by-step viewport setup guide. Covers single-scale and multi-scale sheet layouts.

*Tip: If you have ever printed a drawing and the scale was wrong even though you set it, this guide tells you exactly why and how to fix it.*

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# SECTION 5 — ADVANCED CAD TOOLS

[utilitydrafter.com/blocks-attributes.html](https://utilitydrafter.com/blocks-attributes.html)

**What it is:** A guide to creating, inserting, and managing AutoCAD blocks and attributed blocks. Covers the BLOCK command, WBLOCK, INSERT, ATTDEF, ATTEDIT, and the Block Attribute Manager.

**How to use it:** Follow the step-by-step instructions to create your first attributed block. The guide walks through a real example — a symbol with fields for size, material, and tag number.

*Tip: Attributed blocks are the foundation of smart drawings. Master them and you can auto-generate parts lists and schedules directly from your drawing.*

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## [X] Xrefs (External References)

[utilitydrafter.com/xref.html](https://utilitydrafter.com/xref.html)

**What it is:** A reference guide for AutoCAD's XREF system — attaching external drawings as underlays in your current drawing. Covers ATTACH, BIND, CLIP, UNLOAD, and path management.

**How to use it:** Browse the workflow sections for the specific task you need — attaching a new xref, fixing a broken xref path, clipping an xref to show only part of it, or binding an xref permanently into your drawing.

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## [S] Sheet Set Manager

[utilitydrafter.com/sheet-set-manager.html](https://utilitydrafter.com/sheet-set-manager.html)

**What it is:** A setup guide for AutoCAD's Sheet Set Manager (SSM). Covers creating a sheet set, adding sheets, setting up automatic sheet numbering, and publishing a full set to PDF.

**How to use it:** Follow the creation walkthrough to set up your first sheet set. Once set up, the SSM lets you publish your entire drawing set with one command and keeps all sheet numbers and revision blocks synchronized.

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*Tip: This is the professional way to manage a multi-sheet drawing set. Worth learning if you regularly deliver drawing packages to clients.*

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[utilitydrafter.com/plot-print-setup.html](https://utilitydrafter.com/plot-print-setup.html)

**What it is:** Covers everything about printing from AutoCAD — page setups, plot styles (CTB vs STB), plot area options, scale settings, and publishing to PDF.

**How to use it:** Use the tabbed sections to jump to the specific topic you need. The CTB vs STB comparison table helps you decide which plot style type to use. The PDF export section covers the best settings for print-quality output.

*Tip: Always create a named page setup for each drawing type you plot regularly. It saves you from having to re-enter settings every time.*

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[utilitydrafter.com/drawing-health-audit.html](http://utilitydrafter.com/drawing-health-audit.html)

**What it is:** A troubleshooting guide for fixing corrupt or bloated AutoCAD files. Covers AUDIT, PURGE, RECOVER, OVERKILL, and how to deal with proxy objects and corrupt blocks.

**How to use it:** Run through the health checklist when a drawing is slow, crashing, or has unexplained behavior. Each issue in the checklist has a direct cause and a specific AutoCAD command to fix it.

*Tip: Run PURGE and AUDIT on any drawing you receive from a client or consultant before doing serious work in it. It prevents problems before they start.*

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[utilitydrafter.com/table-data-links.html](http://utilitydrafter.com/table-data-links.html)

**What it is:** Covers AutoCAD's TABLE command and the Data Link feature that connects a table in your drawing directly to an Excel spreadsheet. Changes in Excel update automatically in the drawing.

**How to use it:** Follow the data link setup guide to connect your first Excel spreadsheet to an AutoCAD table. The walkthrough covers creating the link, formatting the table, and refreshing data after Excel updates.

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## [L] LISP Scripts

[utilitydrafter.com/lisp-scripts.html](http://utilitydrafter.com/lisp-scripts.html)

**What it is:** A reference library of AutoLISP routines for common AutoCAD automation tasks. Includes scripts for batch layer changes, automatic numbering, drawing cleanup, and custom commands.

**How to use it:** Browse the script categories to find what you need. Each script shows the full code and instructions for loading it into AutoCAD using the APPLOAD command. Most scripts are copy-paste ready.

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## [!] LISP Snippets

[utilitydrafter.com/lisp-snippets.html](http://utilitydrafter.com/lisp-snippets.html)

**What it is:** Shorter ready-to-load AutoLISP and Visual LISP code blocks for quick tasks — one-liners and small functions for layer control, object selection, text editing, and drawing utilities.

**How to use it:** Each snippet shows the code in a copy box. Click Copy, then paste it into the AutoCAD command line or load it via APPLOAD. Snippets are organized by task type.

*Tip: Great for quick fixes when you do not need a full script library.*

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## SECTION 6 — UTILITY INDUSTRY TOOLS

All utility industry tools are under the "Utility Industry" dropdown in the navigation bar. These tools are built specifically for SDGE construction standards. The PDF readers let you view the full manuals directly on your phone or tablet without downloading anything.

[utilitydrafter.com/utility-reference.html](https://utilitydrafter.com/utility-reference.html)

**What it is:** A master reference page for SDGE utility construction. Includes conductor data, framing tables, pole class information, and/or ratings, and commonly referenced values from the construction standards.

**How to use it:** Browse by category using the section tabs. The tables are click-to-copy so you can quickly grab a value. Use the search function (CTRL-F) to find specific items.

### [O] OH Construction Standards — OHCS Reference

[utilitydrafter.com/ohcs-reference.html](https://utilitydrafter.com/ohcs-reference.html)

**What it is:** A structured reference guide to the SDGE Overhead Construction Standards. Shows the current manual version, release history, and a change log tracking what has been updated in each release.

**How to use it:** The change log automatically syncs with the OHCS Reader. When you load a PDF in the reader, this page updates to show the version name, page count, and release date of the manual you loaded.

### [R] OHCS Reader

[utilitydrafter.com/ohcs-reader.html](https://utilitydrafter.com/ohcs-reader.html)

**What it is:** A full PDF reader built into the browser for the SDGE Overhead Construction Standards manual. The sidebar shows all chapters and sections — click any entry to jump directly to that page.

**How to use it:** The reader loads the OHCS manual automatically when you open the page (requires internet for the initial download). Once loaded, use the chapter navigation on the left to jump to any section. You can also upload your own copy of the manual if you have a newer version.

*Tip: The chapter navigation syncs with whichever version of the PDF you load — it reads the document's own bookmarks automatically.*

Reader Controls:

Control	What It Does
Arrow buttons (< >)	Go to previous or next page
Page number field	Type a page number and press Enter to jump there directly
Zoom In / Out buttons	Make the document larger or smaller on screen
Upload Local Copy	Load a PDF file from your device instead of the server version
Open OHCS Manual	Reload the server version of the manual

[utilitydrafter.com/edd-reference.html](https://utilitydrafter.com/edd-reference.html)

**What it is:** Reference page for the SDGE Electrical Distribution Drawings (EDD) manual. Tracks the current version and release history of the EDD document.

**How to use it:** Works the same way as the OHCS Reference — syncs automatically with the EDD Reader to show whichever version you last loaded.

*Tip: The EDD manual covers standard drawing details for electrical distribution construction — poles, conductors, equipment, and underground systems.*

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[utilitydrafter.com/edd-reader.html](https://utilitydrafter.com/edd-reader.html)

**What it is:** Built-in PDF reader for the SDGE Electrical Distribution Drawings manual. Loads the EDD manual automatically and provides chapter-level navigation.

**How to use it:** Same controls as the OHCS Reader. The sidebar shows the EDD document structure. Click any section to jump to it. The reader remembers where you were when you come back to the page.

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## [G] UG Construction Standards — UGCS Reference

[utilitydrafter.com/ugcs-reference.html](https://utilitydrafter.com/ugcs-reference.html)

**What it is:** Reference page for the SDGE Underground Construction Standards manual. Tracks the current version and provides a change log for the UGCS document.

**How to use it:** Same format as the OHCS Reference page. Syncs with the UGCS Reader to reflect whatever version you have loaded.

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## [g] UGCS Reader

[utilitydrafter.com/ugcs-reader.html](https://utilitydrafter.com/ugcs-reader.html)

**What it is:** Built-in PDF reader for the SDGE Underground Construction Standards. Loads the UGCS manual automatically with full chapter navigation in the sidebar.

**How to use it:** Same controls as the OHCS Reader. File size is approximately 116 MB — plan for a longer initial load on mobile data connections.

*Tip: Use the chapter navigation to jump directly to vault details, conduit specs, or cable installation requirements without scrolling through the whole document.*

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## SECTION 7 — SITE TOOLS & EXTRAS

[utilitydrafter.com/periodic-table.html](http://utilitydrafter.com/periodic-table.html)

**What it is:** A complete interactive periodic table with element details — atomic number, weight, electron configuration, melting/boiling points, and common uses. Useful for material specification and chemical reference.

**How to use it:** Click any element to expand its full data card. Use the search bar to find an element by name, symbol, or atomic number.

*Tip: Handy for specifying materials or looking up properties when working on water treatment or chemical processing projects.*

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[utilitydrafter.com/whats-new.html](http://utilitydrafter.com/whats-new.html)

**What it is:** A running log of all updates, new features, and improvements made to the site. Shows the release date and a summary of what changed in each update.

**How to use it:** Check this page after you have not visited the site for a while to see what was added or improved since your last visit.

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### [?] Search

[utilitydrafter.com/search.html](http://utilitydrafter.com/search.html)

**What it is:** Full-text search across all 37 tools and reference pages on the site. Finds results by tool name, description, content, and keywords.

**How to use it:** Type any term into the search box and results appear instantly. Click a result to go directly to that tool. Keyboard shortcut: press Ctrl+K (or Cmd+K on Mac) from any page to jump straight to the search box.

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## Mobile Usage Tips

UtilityDrafter.com is designed to work well on phones and tablets. Here are the most important things to know when using it in the field:

### Install as an App

Using the Install button (or Add to Home Screen on iPhone) makes the site open full-screen without the browser address bar, loads faster, and enables offline access.

### Large PDF files on mobile

The OHCS manual is 180 MB and the UGCS is 116 MB. On a slow data connection, these can take several minutes to load. Connect to Wi-Fi when possible for the first load. Once loaded in the reader, navigation is fast.

### Tap to copy

Most tables on the site support tap-to-copy. Tap any value in a table and it copies to your clipboard automatically. Useful for grabbing a spec value to paste into an email or note.

### Offline mode

After installing the app, the calculator and reference tools work offline. The PDF readers require the PDF to be loaded at least once while online. After that, the page itself works offline but re-loading the PDF requires a connection.

## Screen rotation

The PDF readers work better in landscape (horizontal) orientation on phones. Rotate your phone sideways for more reading width when viewing construction standards.

## Pinch to zoom

In the PDF readers you can pinch to zoom in on diagrams and tables. Use the zoom buttons in the reader toolbar for more precise control.

These keyboard shortcuts work from any page on the site

Shortcut	Action
Ctrl+K / Cmd+K	Jump to Search from anywhere on the site
Arrow keys (in PDF reader)	Navigate between pages
+ and - keys (in PDF reader)	Zoom in and out
Escape	Close any open modal or popup dialog

Questions or suggestions? The site is maintained by Anthony Squires, Senior Drafter. Visit [asquires.com](http://asquires.com) or connect on LinkedIn at [linkedin.com/in/anthony-squires](https://www.linkedin.com/in/anthony-squires) for direct contact.