

THURSTON COUNTY
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THURSTON COUNTY ROADS & TRANSPORTATION SERVICES

Design and Construction Division

CADD & Eagle Point User Guidelines

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DESIGN AND CONSTRUCTION DIVISION

CADD & Eagle Point User Guidelines

Prepared for:
Thurston County Roads and Transportation Services
Design & Construction Division

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Introduction

This document outlines Thurston County Design & Construction AutoCAD and Eagle Point guidelines.

Thurston County Design and Construction perform a high level engineering design and construction services. County personnel primarily use Autodesk AutoCAD and Eagle Point software to prepare project plans. This document addresses CADD and Eagle Point guidelines and standards, and also compatibility issues between the two products.

These standards are intended to be neither static nor all-inclusive and thus will be updated and enhanced as appropriate. Suggestion for improvements are strongly encourage so that subsequent updates to this manual will reflect both the input and needs of the CADD user.

Users Responsibilities

Adherence to the standards and procedures contained in this manual is essential in preserving a homogeneous character in drawings issued by your agency or firm, and in increasing the efficient use of project time and management. This uniformity allows information to be correctly keyed, added and displayed at any phase in the project.

Modifications of the standards and procedures in this manual may be necessary for specific situations. Submit the required temporary modifications in memo form to the CADD Manager. Do not make arbitrary changes without prior approval.

Submit requests for permanent changes in memo form to the CADD Manager, for review and possible inclusion in this manual. Requests for deviation shall document (1) why the current procedure or standard is inapplicable or ineffective; (2) what the proposed deviation or change should be; and (3) how it would improve the CADD standards or procedures and the overall productivity.

The most efficient use of AutoCAD is not necessarily in the initial creation of a file, but in the ability to reuse the file or any part of the file at a future date. The true meaning of CADD productivity is embodied in not having to do the old job again, rather than simply doing the old job faster. As an example, the reuse and modification of "Prototype Drawings" can yield a very

efficient use of project time and economics. On a broad scale this can be very productive, however, the reuse process must not end here. Each user must continually examine the reusability of any information in a current file. The massing of information in differing libraries will take time and effort on the part of the users and computer management staff; however, future dividends of this endeavor will be advantageous.ⁱ

General Care

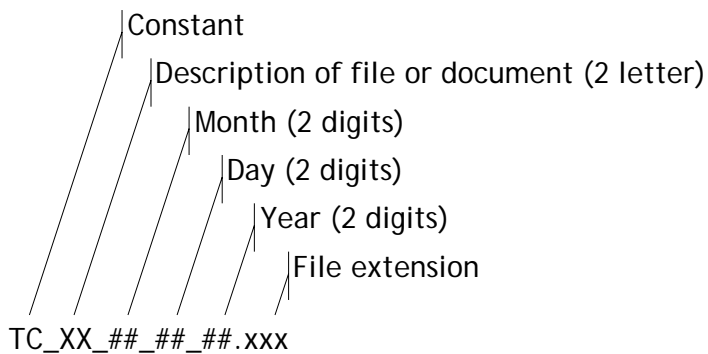
Extreme care should be taken in the overall maintenance of both computer hardware and software. In the case of software, a general cleanup will be needed if the user encounters a system "lock-up", "crash" or the display of a systems error. For this cleanup, the user should immediately notify the MIS. In the case of computer hardware, every effort should be made to keep the keyboard, monitor and CPU free from foreign substances that may be detrimental to the system. Eating or drinking over or near any computer equipment is not recommended. In addition, the general area around each workstation should be maintained in a neat and orderly manner.ⁱⁱ

Reference Files

Reference files are files that are commonly shared internally, with consultants, and outside agencies. Reference files may consist of prototype data files for Eagle Point, standard borders, project logos, standard border text, and background drawings. These files are to be used as provided without modification to name or contents. Only the person providing the master source of the Reference files should modify them.

Version Control

Version control numbering is established for AutoCAD and Eagle Point reference files, it is not necessarily for all working drawings or files. The standard naming for version control is as follows:



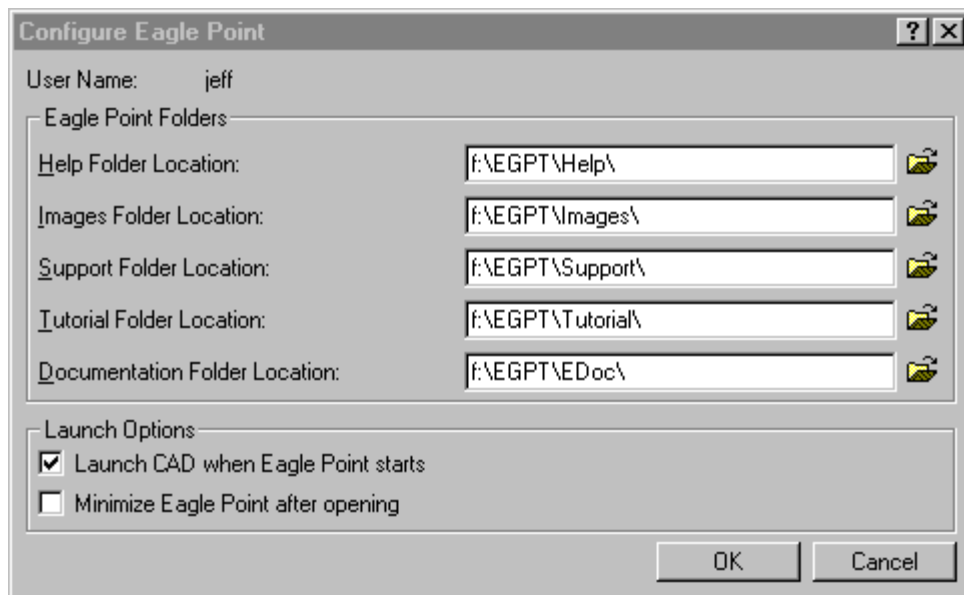
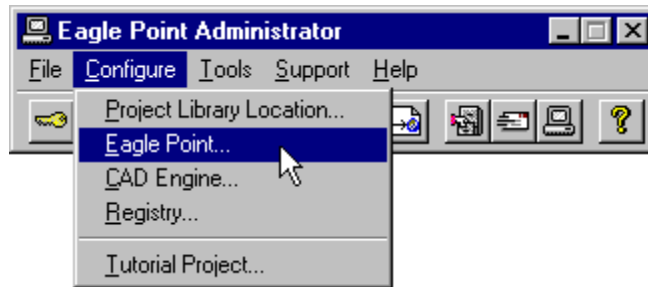
For example: **TC_PD_06_10_02.dwg** would be the Thurston County prototype AutoCAD drawing created on June 10, 2002.

Description of files or documents will need to be updated as needed. See Appendix A for current descriptions.

Reference Files

Reference files should be maintained in a central area of your network and maintained by the CADD manager. Depending on the organizations preference, individual users can map Eagle

Point and/or CAD to the network version of the files or copy files and place them in their appropriate local folder location.



Reference file locations are mapped using the Eagle Point Administrator interface.

CAD Guidelines

CAD guidelines and standards are a necessity to maintain drawing consistency throughout an organization.

Basis of Guidelines

The guidelines have been developed referring to the Washington State Chapter of APWA standardsⁱⁱⁱ. The APWA standards have been modifications in order to suit Thurston County Design, Construction, and Survey business processes.

These standards have been developed for use by public works agencies, utility districts and consulting engineers working with Thurston County. Although they are primarily designed for use on computer-generated drawings, the symbols and linetypes should be used on manually drawn plans to maintain consistency.

AutoCAD Layers

Thurston County prototype drawing includes all layers that are normally used for survey topographical data, and design. Layer conventions are based on four-part layer names to allow the user to control layer display and status through the use of filters. Each part name describes a particular characteristic of the entities contained in that layer.

- The first part of the name is the discipline that the objects are associated with.
- The second part name describes the type of object to be drawn.
- The third part describes the state of the object; and
- The fourth part of the name represents the AutoCAD entity that is being used.

AutoCAD Lineweights

The following are valid lineweight values used for plots:

Lineweight (mm)	Lineweight (In.)
0.15	0.006
0.20	0.007
0.30	0.012
0.40	0.016
0.50	0.020
0.70	0.028
1.00	0.039

Plot Styles – Color or Style Dependency

In previous versions of AutoCAD, plotted line weights depended on the display color. In AutoCAD 2000, display color now has nothing to do with plot characteristics if using Named Plot styles. A Named Plot style is an object property assigned to all object on either a by-layer or a by-object basis.

Types of Plot Style Tables

- Color Dependent Plot Style Table – CTB
- Named Style Table – STB

Thurston County drawings primarily use named plot styles (STB). If color dependent plot styles (CTB) are used, the equivalent color to name is listed. The following table lists the style name, and associated plot characteristics.

Note: This plot style table creates black and white plots with various lineweights and screening.

Thurston.stb(TC_PS_...stb)/Thurston.ctb(TC_PS...ctb)

Style Name (STB)	Equivalent Color (CTB)	Lineweight (mm)	Screening (%)
TEXT_BOLD	Red (1)	0.70	100
TEXT_MED_BOLD	Blue (5)	0.65	100

TEXT_LITE	Cyan (4)	0.30	100
TEXT_MED	Yellow (2)	0.50	100
TEXT_MED_LT	8	0.45	100
TEXT	Green (3)	0.40	100
DETAIL_BOLD	Red (1)	0.70	100
DETAIL_MED	Green (3)	0.40	100
DETAIL_MED_LT	Cyan (4)	0.30	100
DETAIL_LITE	Magenta (6)	0.15	100
DETAIL	Green (3)	0.40	100
PROPOSED	Yellow (2)	0.50	100
PROP_BOLD	Red (1)	0.70	100
EXISTING	255	0.30	80
CONTOURS	120	0.30	60
CONTOURS_IDX	124	0.50	80
DIMENSION	Green (3)	0.40	100
75%_SCREEN	250	0.40	75
50%_SCREEN	251	0.40	50
40%_SCREEN	252	0.40	40
30%_SCREEN	253	0.40	30
20%_SCREEN	254	0.40	20
GRIDLINES	131	0.05	100
OBJECT	na	Uses objects lineweight	100

AutoCAD Sheet Sets

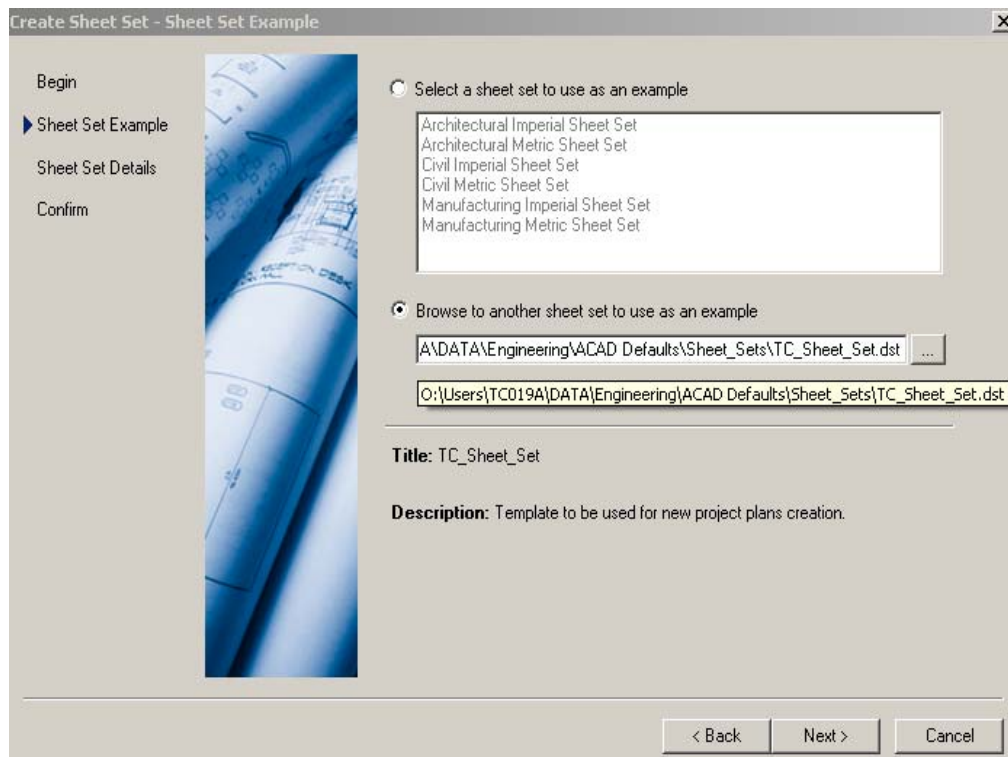
You create a sheet set with the Create a Sheet Set wizard. In the wizard, you can either create a sheet set from scratch based on existing drawings or use an existing sheet set as a template. With either method, layouts from several drawing files are imported into the sheet set. The associations and information that define a sheet set are stored in a sheet set data (DST) file.

Note: The sheet set data file should be stored in a network location that is accessible to all sheet set users on the network.

To create a sheet set, you should perform the following steps:

- Consolidate drawing files. It is recommended that you move the drawing files to be used in the sheet set into a small number of folders. This will simplify sheet set administration.
- Eliminate multiple layout tabs. It is recommended that each drawing you plan to use in the sheet set have only one layout to be used as a sheet in the sheet set. This is important for access to sheets by multiple users. Only one sheet in each drawing can be open at a time.
- Select *New Sheet Set* from the *File* pull down menu or the *Sheet Set Manager* palette to open the Create Sheet Set Wizard. The following outlines the Sheet Set Wizard dialog.
 - **Begin** - Select the *an example sheet set* button and select *next*.
 - **Sheet Set Example** - Select the *Browse to another sheet set to use as an example* button and browse to the Thurston Co. sheet set template located at `\Users\TC019A\DATA\Engineering\ACAD Defaults\Sheet_Sets\TC_Sheet_Set.dst` the box should look similar to figure 4-a. Select *Next*.

Figure 4-a



- **Sheet Set Details** - Name the sheet set using the CRP No. and the project name. Enter a description if applicable. In the *Store sheet set data file (dst.) here:* box enter or browse to the CRP file for the project and find the **AutoCAD Sheet Set** folder. Select *Next*.
- **Confirm** - Check the *Sheet Set Preview* for errors then select *Finish*.
- You are now ready to import layouts or add new sheets into the Sheet Set Manager. By using the Sheet Set Template you are taking advantage of the custom properties which are linked to fields in the Thurston Co. title block. Right click the sheet set title under sheets in the Sheet Set Manager and select *properties*. Under **Sheet Set Custom Properties** type in the appropriate information into the cells provided, use a space to leave a blank cell. Select *OK*.

Note: Although it is possible to use several layouts from the same drawing file as separate sheets in a sheet set, it is not recommended because it makes concurrent access to each layout by multiple users impossible. This practice can also reduce your management options and can complicate the organization of your sheet sets.

Archive and eTransmit

With a sheet set established for each project you can organize plan sets better for yourself and others. You should use the Archive and the eTransmit commands to assure that your data is complete when you transfer files to disk (Archive), or email transmittals (eTransmit).

To create a PS&E archive, you should perform the following steps:

- Open the Sheet Set that you wish to archive and right click the Sheet Set title under Sheets in the Sheet Set Manager. Select *Archive*, the Archive a Sheet Set dialog is opened.
- Check to make sure all the sheets are included. You can also exclude any files that may not be needed by unchecking them in any of the tabs on the Archive a Sheet set dialog. Enter any notes that may be relevant to the archive set and select the *Files Tree* tab.
- Select the *Add File* button and add any relevant files to the archive set (engineer estimates, specification documents, etc.) these should show on the files tree as user added files.
- Select the *Modify Archive Setup* button. In the *Archive file folder* drop down list browse to the projects archive folder. Set the other parameters according to figure 4-b or any variation you may need. Select *OK*.

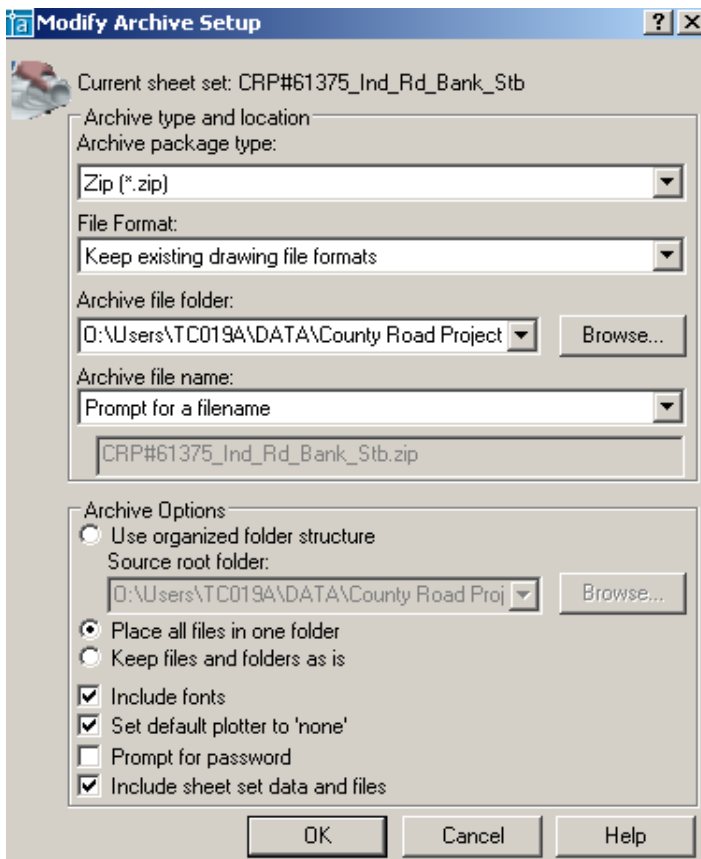


Figure 4-b

- Select *OK* on the Archive a Sheet Set dialog.

To create an email transmittal package you should follow the same steps outlined for the archive setup but instead select *eTransmit* on the sheet set right click menu then select a transmittal setup and make any modifications needed by selecting the *Transmittal Setups* button. For ease of use a standard transmittal setup has been created called **TC_Transmit_1** please do not modify this setup, use the Standard setup or create a new setup if needed. Save your zip file in a transmittal folder under the CRP folder.

Note: Keep in mind that you can also use these commands without a sheet set within a dwg file. When using a sheet set make sure the title of the sheet set is highlighted when you right click for use of the eTransmit command.

Eagle Point Guidelines

Eagle Point maintenance is paramount for the design integrity.

Data Collection

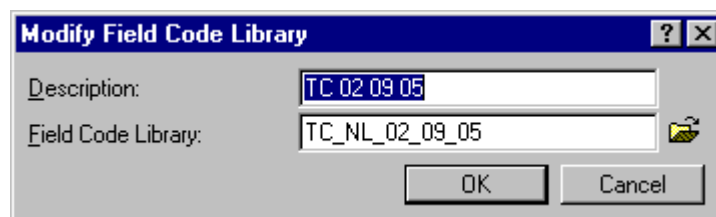
Thurston County Survey department uses field codes to identify topographic shots taken in the field. These field codes are used in Eagle Point to place symbols and line work into a CAD drawing.

Node (Field Code) Library

If using the Eagle Point Data Collection module to import a coordinate file, make sure the appropriate Node (Field Code) Library is set current.

Eagle Point maintains the node library in .SYM files. These files should follow the reference file naming convention. For example:

TC_NL_02_09_05.SYM would be the node library file created on February 9, 2005. Naming the description of the file should follow the same convention, without the file extension (or underscores if not allowed in the input box).

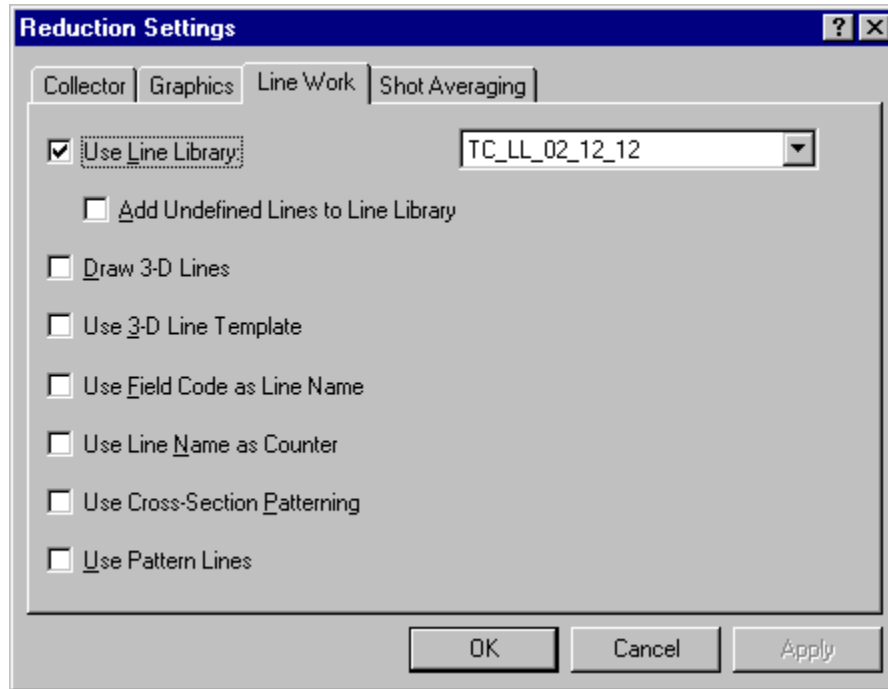


See Appendix C for the list of field codes and associated layer names.

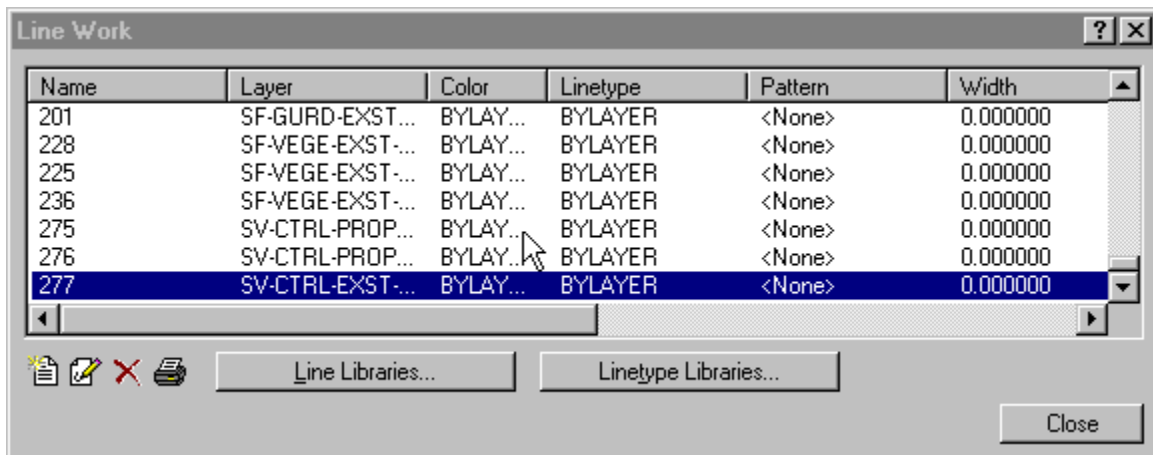
Line Library

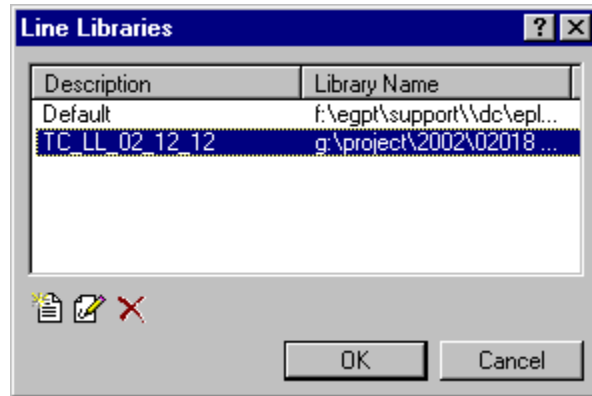
When using the Eagle Point Data Collection module to import a coordinate file, make sure the appropriate "Line Library" file is set current. Defining current line library can be accomplished in the following interfaces:

In Data Collection/Options/Reduction Settings;



Or in Data Collection/Options/Line Work.





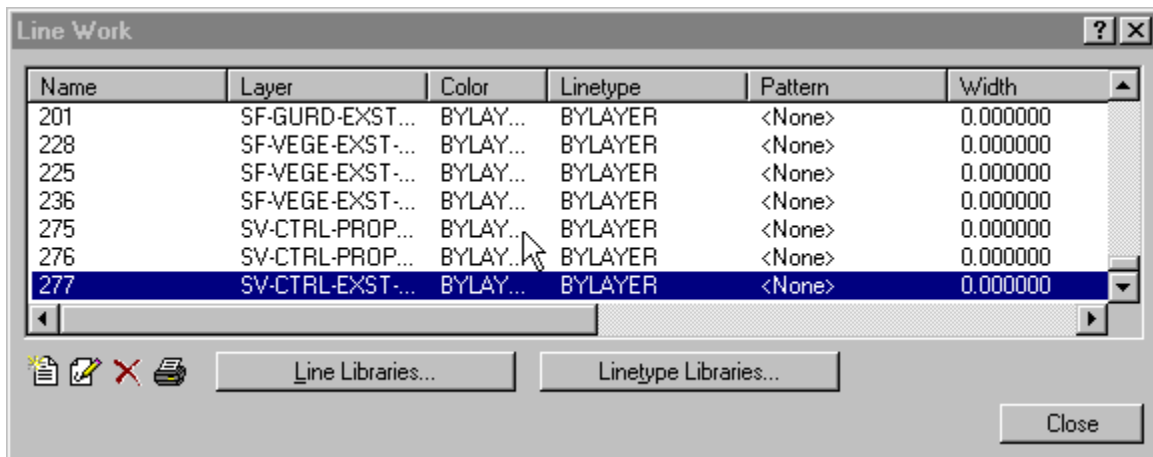
Eagle Point maintains the line library in .LWL files. These files should follow the reference file naming convention. For example:

TC_LL_06_20_02.LWL would be the line work library file created on June 20, 2002. Naming the description of the file should follow the same convention, without the file extension.

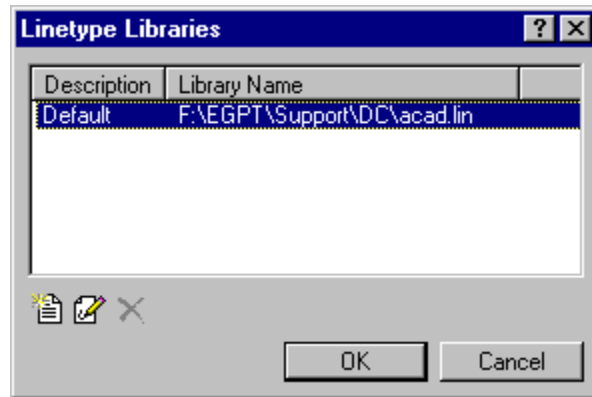
Linetype Library (.lin)

Using appropriate field codes during the survey data collection, CADD linework can be automatically created in an Eagle Point drawing. Linework includes placing CADD lines in the drawing with the pre-defined linetype, layer, color, and plot style.

The linework file can be defined in Eagle Point using Data Collection/Options/Line Work



Then choose Linetype Libraries to specify the .lin file.



Appendices

Appendix A	Reference file names.
Appendix B	AutoCAD layer names and conventions
Appendix C	Node (Field Code) Library

Appendix A – Reference File Names

SB	Standard border drawing.
PD	Prototype drawing.
XS	Eagle Point prototype cross-section drawing.
PP	Eagle Point prototype plan and profile drawing.
NL	Eagle Point node library file.
LL	Eagle Point line library file.

Appendix B – Layer Naming

First part of the name describes discipline.

GS	GAS
OL	OIL
PO	POWER
RE	REFERENCE
SS	SANITARY SEWER
SD	STORM DRAINAGE
SF	SURFACE FEATURES
SV	SURVEY
TL	TELEPHONE
TF	TRAFFIC
TV	CABLE TELEVISION
WA	WATER
DR	DRAFTING

Second part of the name depends on discipline chosen, some of which cross to other disciplines.

Objects under RE (layers for title blocks, match lines, etc.)

MTCH	MATCH LINE
GRID	PROFILE GRID
TITL	TITLE BLOCK

Objects under SV

CNTL	CENTERLINE
CONT	CONTOUR
CTRL	CONTROL

CITY	CORPORATE LIMIT
CNTY	COUNTY
DATM	DATUM
DLCM	DONATION LAND CLAIM
ESMT	EASEMENT
LROW	LIMITED ACCESS ROW
LOTN	LOT NUMBER
MEAN	MEANDER
NORA	NORTH ARROW
PRCL	PARCEL
PROP	PROPERTY
QSCT	QUARTER SECTION
RANG	RANGE
PARK	RESERVATION/PARK/FOREST
ROFW	RIGHT OF WAY
SECT	SECTION
16ST	SIXTEENTH SECTION
SOIL	SOIL BORING
STAT	STATE
TWNS	TOWNSHIP

Objects under TV, GS, OL, PO, SS, SD, and TL

ALIN	AERIAL LINE
BLIN	BURIED CONDUIT
GLIN	GRAVITY LINE
PLIN	PRESSURE LINE

METR	METER
SERV	SERVICE
STCR	STRUCTURE
VALV	VALVE

Objects under SF

BLDG	BUILDING
BUSS	BUS STOP
DTCH	CREEK/DITCH
CURB	CURB/SIDEWALK
PVMT	EDGE PAVEMENT
EMBT	EMBANKMENT
FENC	FENCE
GURD	GUARD RAIL
LAKE	LAKE/POND
MAIL	MAIL BOX
RLRD	RAILROAD
WALL	RETAINING WALL
RIPR	RIP RAP
RIVR	RIVERBANK
ROCK	ROCKERY
SHOR	SHORELINE
SIGN	SIGN
SWMP	SWAMP/MARSH
VEGE	VEGETATION
LITE	YARD LIGHT

Objects under TF

CHAN CHANNELIZATION

SIGL SIGNALIZATION

SIGN TRAFFIC SIGN

Objects under WA

GLIN GRAVITY LINE

PLIN PRESSURE LINE

FHYD FIRE HYDRANT

FITT FITTING

METR METER

SERV SERVICE

STCR STRUCTURE

VALV VALVE

Objects under DR

GENR STANDARD DETAIL

MISC MISCELLANIOUS ENTITY

Third part names describe the object's condition.

EXST EXISTING

PROP PROPOSED

PRO1 PROPOSED OPTION 1

PRO2 PROPOSED OPTION 2

PRO3 PROPOSED OPTION 3

PERM PERMANENT

TEMP TEMPORARY

DEPR DEPRESSION

INDX INDEX

FOUN FOUND

THEO THEORETICAL

Fourth part names describe AutoCAD related entities.

DIM DIMENSION

LIN LINETYPE

PNT POINT

SYM SYMBOL

TXT TEXT

HCH HATCH PATTERN

APPENDIX C – Node (Field Code) Library

FIELD CODE	DESCRIPTION	SYMBOL	LAYER
1	HOUSE CORNER	X	SF-BLDG-EXST-PNT
2	GARAGE CORNER	X	SF-BLDG-EXST-PNT
3	SHED CORNER	X	SF-BLDG-EXST-PNT
4	PUMP HOUSE CORNER	X	SF-BLDG-EXST-PNT
5	BUILDING CORNER	X	SF-BLDG-EXST-PNT
6	CARPORT CORNER	X	SF-BLDG-EXST-PNT
7	DECK CORNER	X	SF-BLDG-EXST-PNT
8	CONCRETE PAD CORNER	X	SF-BLDG-EXST-PNT
9	MOBIL HOME CORNER	X	SF-BLDG-EXST-PNT
10	BARN CORNER	X	SF-BLDG-EXST-PNT
11	MAIL BOX	X	SF-MAIL-EXIST-SYM
14	BENCH	X	SF-MISC-EXST-PNT
15	CL AC ROAD	X	SF-PVMT-EXST-PNT
16	EDGE OF AC ROAD	X	SF-PVMT-EXST-PNT
17	FOG LINE	X	TF-CHAN-EXST-PNT
18	CL GRV ROAD	X	SF-GRVL-EXST-PNT
19	EDGE GRV RD	X	SF-GRVL-EXST-PNT
20	EDGE AC DRV	X	SF-PVMT-EXST-PNT
21	EDGE GRV DRV	X	SF-GRVL-EXST-PNT
22	CL CONC ROAD	X	SF-PVMT-EXST-PNT
23	EDGE CONC RD	X	SF-PVMT-EXST-PNT
24	EDGE PARKING	X	SF-PVMT-EXST-PNT
25	SHOT ON PAVEMENT	X	SF-PVMT-EXST-PNT
27	CL RAILROAD TRACK	X	SF-RLRD-EXST-PNT
28	PNT ON RAIL	X	SF-RLRD-EXST-PNT
29	BRIDGE CORNER	X	SF-BRDG-EXST-PNT
30	CL BRIDGE	X	SF-BRDG-EXST-PNT
33	CL STRIPE	X	TF-CHAN-EXST-PNT
35	BACK CONC WALK	X	SF-PVMT-EXST-PNT
36	FACE CONC WALK	X	SF-PVMT-EXST-PNT
38	BACK AC WALK	X	SF-PVMT-EXST-PNT
39	FACE AC WALK	X	SF-PVMT-EXST-PNT
42	BK VERT CONC C/G	X	SF-CURB-EXST-PNT
43	FC VERT CONC C/G	X	SF-CURB-EXST-PNT
44	BK ROLLED C/G	X	SF-CURB-EXST-PNT
45	BK VERT CONC CURB	X	SF-CURB-EXST-PNT
46	FC VERT CONC CURB	X	SF-CURB-EXST-PNT
47	CL EXTRUDED CONC CURB	X	SF-CURB-EXST-PNT
48	CL EXTRUDED AC CURB	X	SF-CURB-EXST-PNT
49	BK AC TILT UP C	X	SF-CURB-EXST-PNT
50	GUTTER LINE	X	SF-CURB-EXST-PNT
57	CL BOTTOM SWALE	X	SF-DITCH-EXST-PNT
61	BOTTOM V-DITCH	X	SF-DITCH-EXST-PNT
62	DITCH LINE	X	SF-DITCH-EXST-PNT

FIELD CODE	DESCRIPTION	SYMBOL	LAYER
63	TOP OF DITCH	X	SF-DITCH-EXST-PNT
64	SHOULDER	X	SF-RDWY-EXST-PNT
65	TOP BACK OF DITCH	X	SF-DITCH-EXST-PNT
66	BOTTOM ASPHALT DITCH	X	SF-DITCH-EXST-PNT
70	STUCCO FENCE	X	SF-FENC-EXST-PNT
73	FENCE POST	X	SF-FENC-EXST-PNT
74	CHAIN LINK FENCE	X	SF-FENC-EXST-PNT
75	WIRE MESH FENCE	X	SF-FENC-EXST-PNT
76	BARBED WIRE FENCE	X	SF-FENC-EXST-PNT
77	MESH/BARBED WIRE FENCE	X	SF-FENC-EXST-PNT
78	WOOD BOARD FENCE	X	SF-FENC-EXST-PNT
79	WOOD RAIL FENCE	X	SF-FENC-EXST-PNT
80	ELECTRIC FENCE	X	SF-FENC-EXST-PNT
81	ROCK FENCE	X	SF-FENC-EXST-PNT
82	GATE POST	XBOX	SF-FENC-EXST-PNT
83	IRON FENCE	X	SF-FENC-EXST-PNT
86	TOP INSIDE COR WALL	X	SF-WALL-EXST-PNT
87	TOP OUTSIDE COR WALL	X	SF-WALL-EXST-PNT
88	BOTTOM INSIDE COR WALL	X	SF-WALL-EXST-PNT
89	BOTTOM OUTSIDE COR WALL	X	SF-WALL-EXST-PNT
90	TOP INSIDE EDGE OF WALL	X	SF-WALL-EXST-PNT
91	TOP OUTSIDE WALL	X	SF-WALL-EXST-PNT
92	BOTTOM EDGE WALL	X	SF-WALL-EXST-PNT
93	RETAINING WALL (TOP/BOT)	X	SF-WALL-EXST-PNT
100	SANSEW MANHOLE	SSMH	SS-STCR-EXST-SYM
101	CLEAN OUT	SSCO	SS-STCR-EXST-SYM
102	SEPNTIC TANK	CIR	SS-STCR-EXST-SYM
103	DRAINFIELD CORNER	X	SS-STCR-EXST-SYM
104	DISTRIBUTION BOX	XBOX	SS-STCR-EXST-SYM
110	STORMSEWER MANHOLE	SDMH	SD-STCR-EXST-SYM
111	CATCH BASIN	SDCB	SD-STCR-EXST-SYM
112	INLET	SSCO	SD-STCR-EXST-SYM
113	CMP	X	SD-GLIN-EXST-PNT
114	CONC CULVERT	X	SD-GLIN-EXST-PNT
115	PVC PIPE	X	SD-GLIN-EXST-PNT
116	OUTLET	SSCO	SD-STCR-EXST-SYM
117	FLEX PIPE	X	SD-GLIN-EXST-PNT
118	YARD DRAIN	SDCB	SD-STCR-EXST-SYM
119	ADS PIPE	X	SD-GLIN-EXST-PNT
120	HYDRANT	WFH2	WA-FHYD-EXST-SYM
121	WTRVAL	WV	WA-VALV-EXST-SYM
123	BLOW OFF	WBOV	WA-VALV-EXST-SYM
124	WATER METER	WMET	WA-METR-EXST-SYM
125	FAUCET	WTF	WA-VALV-EXST-SYM
126	FH GUARD POST	WGP	WA-FITT-EXST-SYM
127	WELL CASING	DCIR	WA-VALV-EXST-SYM
128	SPRINKLER HEAD	XCIR	WA-VALV-EXST-SYM

FIELD CODE	DESCRIPTION	SYMBOL	LAYER
129	SPRINKLER CNTR BOX	BOX	WA-VALV-EXST-SYM
130	POWER POLE	PPOLE	PO-STCR-EXST-SYM
131	GUY POLE	UP	PO-STCR-EXST-SYM
132	GUY ANCHOR	UPA	PO-STCR-EXST-SYM
133	POWER VAULT	PV	PO-STCR-EXST-SYM
134	POWER MANHOLE	MH	PO-STCR-EXST-SYM
135	TRANSFER BOX	XBOX	PO-STCR-EXST-SYM
136	POWER+PHONE POLE	PTPOLE	PO-STCR-EXST-SYM
137	SERVICE POLE	UP	PO-STCR-EXST-SYM
138	LUMINARE	TSLA	TF-SIGL-EXST-SYM
140	TELEPHONE POLE	TPOLE	TL-STCR-EXST-SYM
141	TELEPHONE MANHOLE	SDM	TL-STCR-EXST-SYM
142	TELEPHONE BOX	TBOX	TL-STCR-EXST-SYM
143	CABLE TV BOX	TVBOX	TV-STCR-EXIST-SYM
144	FUEL INLET	X	GS-VALV-EXST-SYM
145	FUEL VENT	X	GS-VALV-EXST-SYM
147	GAS METER	GMET	GS-METR-EXST-SYM
148	GAS VALVE	GASV	GS-VALV-EXST-SYM
150	TV SATILITE ANTENNA	XCIR	TV-STCR-EXIST-SYM
151	UG POWER LOCATE	X	PO-BLIN-EXST-PNT
152	UG GAS LINE LOCATE	X	GS-PLIN-EXST-PNT
153	UG TELEPHONE LOCATE	X	TL-BLIN-EXST-PNT
154	WATER LINE LOCATE	X	WA-PLIN-EXST-PNT
155	SANSEW LINE LOCATE	X	SS-PLIN-EXST-PNT
156	STORMDRAIN LINE LOCATE	X	SD-GLIN-EXST-PNT
158	POWER PEDESTAL	PBOX	PO-STCR-EXST-SYM
159	TELEPHONE BOOTH	TBOX	TL-STCR-EXST-SYM
160	GROUND SHOT	X	SF-TOPO-EXST-PNT
161	PROPANE TANK	X	SF-STCR-EXST-PNT
163	TOE OF SLOPE	X	SF-TOPO-EXST-PNT
164	TOP OF SLOPE	X	SF-TOPO-EXST-PNT
165	SHOT ON SLOPE	X	SF-TOPO-EXST-PNT
166	DAYLIGHT SHOT	X	SF-TOPO-EXST-PNT
167	TOP OF CUT	X	SF-TOPO-EXST-PNT
168	TOE OF CUT	X	SF-TOPO-EXST-PNT
170	LINE ON VEGETATION	X	SF-VEGE-EXST-PNT
171	HIGH WATER MARK	X	SF-TOPO-EXST-PNT
172	SHOT ON BEACH	X	SF-TOPO-EXST-PNT
173	CL OF CREEK	X	SF-DTCH-EXST-PNT
174	THREAD OF CREEK	X	SF-DTCH-EXST-PNT
175	EDGE OF CREEK	X	SF-DTCH-EXST-PNT
176	CL OF RIVER	X	SF-DTCH-EXST-PNT
177	THREAD OF RIVER	X	SF-DTCH-EXST-PNT
178	EDGE OF RIVER	X	SF-DTCH-EXST-PNT
179	CENTER OF SPRING	X	SF-TOPO-EXST-PNT
180	EDGE OF MARSH	X	SF-SWMP-EXST-PNT
181	TOE OF POND	X	SF-LAKE-EXST-PNT

FIELD CODE	DESCRIPTION	SYMBOL	LAYER
182	GRID POINT	X	SF-TPOP-EXST-PNT
183	EDGE OF FLAGGED WETLAND	X	SF-SWMP-EXST-PNT
185	EDGE OF LAWN	X	SF-VEGE-EXST-PNT
186	GRADE BREAK	X	SF-TOPO-EXST-PNT
187	ASPHALT BREAK LINE	X	SF-TOPO-EXST-PNT
188	WATER SHOT	X	SF-LAKE-EXST-PNT
189	TOP OF BANK	X	SF-TOPO-EXST-PNT
190	TOP OF POND	X	SF-LAKE-EXST-PNT
196	SIGN POST	SFSN	SF-SIGN-EXST-SYM
197	PEDESTRIAN POLE	TPB	TF-SIGL-EXST-SYM
198	TRAFFIC CONTROL VAULT	TSC	TF-SIGL-EXST-SYM
199	TRAFFIC LIGHT	TSPL	TF-SIGL-EXST-SYM
200	SIGNAL J-BOX	TJB1	TF-SIGL-EXST-SYM
201	GUARDRAIL	X	SF-GURD-EXST-PNT
202	GUARDRAIL POST	XBOX	SF-GURD-EXST-PNT
203	BOLLARD	CIR	SF-BLRD-EXST-SYM
225	TREE LINE	X	SF-VEGE-EXST-PNT
228	EDGE OF PLANTING AREA	X	SF-VEGE-EXST-PNT
231	SCHOOL MAST ARM	TPOL	TF-SIGL-EXST-SYM
232	SHRUB	SFS	SF-VEGE-EXST-SYM
234	TREE W/ DESCRIPTION	SFD	SF-VEGE-EXST-SYM
236	SHRUB/HEDGE LINE	X	SF-VEGE-EXST-PNT
237	SNAG	X	SF-VEGE-EXST-PNT
238	STUMP	X	SF-VEGE-EXST-PNT
239	LOG	X	SF-VEGE-EXST-PNT
241	BOULDER	CIR	SF-ROCK-EXST-SYM
243	PILING	CIR	SF-BRDG-EXST-SYM
246	FND PK AND FLASHER	SCIRP	SV-CTRL-FOUN-SYM
247	FND IRON PIPE	IPCIR	SV-CTRL-FOUN-SYM
248	FND REBAR	SCIRP	SV-CTRL-FOUN-SYM
249	FOUND PK NAIL	SCIRP	SV-CTRL-FOUN-SYM
250	FOUND HUB & TACK	SIP	SV-CTRL-FOUN-SYM
251	FOUND REBAR & CAP	SCIRP	SV-CTRL-FOUN-SYM
252	FOUND TACK	SCIRP	SV-CTRL-FOUN-SYM
253	FOUND MON IN CASE	SMIC	SV-CTRL-FOUN-SYM
254	FOUND RR SPIKE	SCIRP	SV-CTRL-FOUN-SYM
255	FOUND PLAT MON	SMON	SV-CTRL-FOUN-SYM
260	SET BENCH MARK	SBM	SV-CTRL-EXST-SYM
261	SET IRON PIPE	IPCIR	SV-CTRL-EXST-SYM
263	SET REBAR	IPCIR	SV-CTRL-EXST-SYM
264	SET PK NAIL	SCIR	SV-CTRL-EXST-SYM
265	SET HUB+TACK	BOXP	SV-CTRL-EXST-SYM
266	SET REBAR W/CAP	SCIR	SV-CTRL-EXST-SYM
267	SET TACK	SCIR	SV-CTRL-EXST-SYM
268	SET MONUMENT IN CASE	SMIC	SV-CTRL-EXST-SYM
269	SET RAILROAD SPIKE	SCIRP	SV-CTRL-EXST-SYM
270	SET PLAT MONUMENT	SMIC	SV-CTRL-EXST-SYM

FIELD CODE	DESCRIPTION	SYMBOL	LAYER
275	P-LINE	X	SV-CTRL-EXST-PNT
276	L-LINE	X	SV-CTRL-EXST-PNT
277	TRAVERSE LINE	X	SV-CTRL-EXST-PNT
300	ROW LINE	X	SV-ROFW-EXST-LIN
301	PROPERTY LINE	X	SV-PROP-EXST-LIN
302	PLAT LINE	X	SV-PLAT-EXST-LIN
303	SECTION LINE	X	SV-SECT-EXST-LIN
304	1/4 SECTION LINE	X	SV-QSCT-EXST-LIN
305	1/16 SECTION LINE	X	SV-16ST-EXST-LIN
550	MISC	X	MISC_PNT

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ⁱⁱⁱ Washington State Chapter of the American Public Works Association, April 13, 1988.