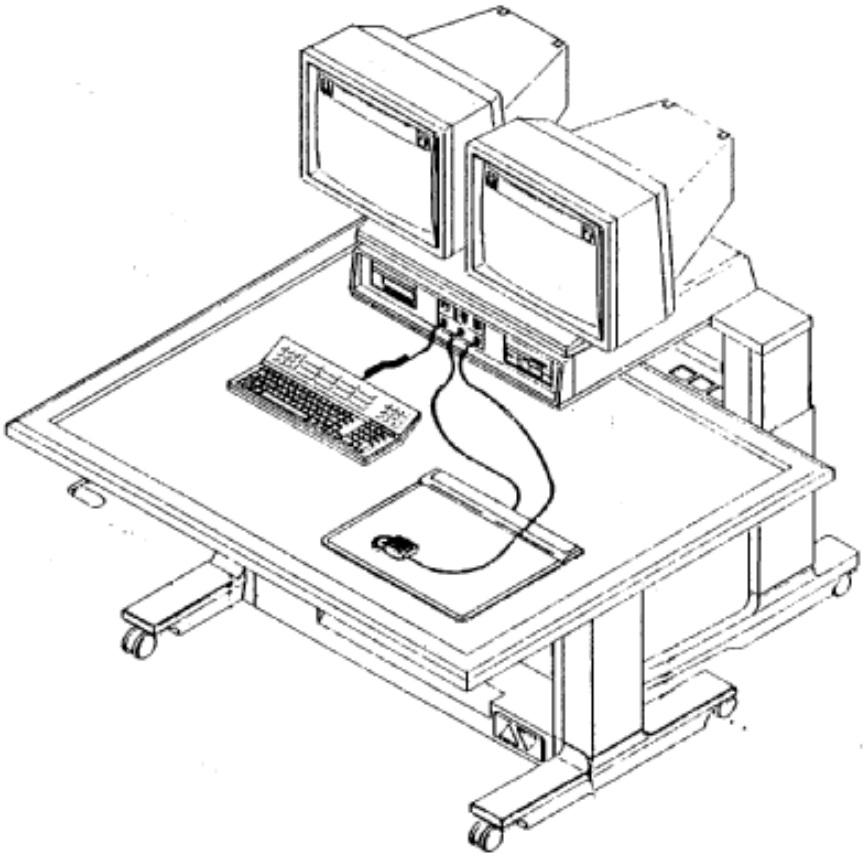
US Army Corp
of Engineers
Omaha District

COMPUTER-AIDED DRAFTING GUIDELINES



REVISED
MARCH 1998

PREFACE

This Drafting Guidelines Manual was prepared as reference material as to the policy, guidance and responsibility for engineers, technicians, and draftsmen in the preparation of final drawings made by or prepared under the supervision of the Omaha District. It also establishes guidelines for the training of inexperienced personnel.

It is applicable to the Omaha District Office and all Architect-Engineers under Contract for Drafting or Design Services with the Omaha District.

This manual establishes the basic requirements for the preparation of engineering drawings on all Omaha Districts' Military Projects.

It is not intended that this manual be considered an engineering textbook, but rather that it will be used as a reference book for the guidance of all personnel concerned in the completion of quality engineering drawings.

INDEX

DESCRIPTION **PAGE NO.**

PREFACE.....2

INDEX.....3

LETTER OF INTRODUCTION ON A-E CADD WORK.....4-5
AE AUTOCAD, MICROSTATION, CONVERSIONS, FILES, AND PLOTTING.....6-12

CADD DRAFTING LINE WEIGHTS.....13
LINE WEIGHTS FOR SITE & GRADING PLANS.....15
LINE WEIGHTS FOR UTILITIES & ELECTRICAL DISTR. PLANS.....16
LINE WEIGHTS FOR ARCHITECTURAL SECTION.....17
LINE WEIGHTS FOR STRUCTURAL SECTION.....18
LINE WEIGHTS FOR MECHANICAL & ELECTRICAL PLANS.....19

LEVEL ASSIGNMENTS.....20
SURVEY / MAPPING.....21-22
LEVELS FOR TTN FILES.....23
EXTERIOR UTILITY & SITE WORK.....24-26
ARCHITECTURAL FLOOR PLANS.....27-28
ARCHITECTURAL REFLECTED CEILING PLANS.....29-30
ARCHITECTURAL SECTIONS/ELEVATIONS.....31-32
ARCHITECTURAL DETAILS.....33-34
MECHANICAL HVAC.....35-36
MECHANICAL PIPING/PLUMBING.....37-38
ELECTRICAL DRAWINGS.....39-40
STRUCTURAL FOUNDATION PLANS.....41-42
STRUCTURAL ROOF FRAMING PLANS.....43-44
STRUCTURAL DETAILS.....45-46

COMMONLY USED STANDARDS OF OMAHA DISTRICT.....47-51

LETTERING & NOTE INFO.....52

TYPICAL SEQUENCE OF DRAWINGS.....53-54

TITLE BLOCK INFO.....55-57

DESIGN FILE NAMING CONVENTIONS.....58-78

LETTER OF INSTRUCTION ON A-E CADD WORK

REVISING AN EXISTING .DGN FILE. The revision shall conform to the existing line weights, colors, levels, etc. (i.d. line, tex, cell).

WHEN EXISTING DRAWINGS are MODIFIED by an A-E, the supplied CORPFILB can be copied over the "FONTLIB" file in Microstation.

Essentially, all CADD drawings should be capable of viewing or plotting with 1) all elements showing and/or 2) all objects except notes, leader arrows, and/or 3) all objects and/or notes except dimensions.

When creating a new .DGN file, the Corp SEED.DGN file shall be used. The SEED.DGN file will be supplied by the Corp. (The SEED.DGN file may very from time to time).

The Standard SEED.DGN file setup:	Standard Metric Seed File:
WORKING AREA = 4479 SQUARE '	WORKING AREA = 42946 SQ M
SUB/MASTER UNITS = 12	SUB/MASTER UNITS = 1000 MM
POSITION UNITS/	POSITION UNITS = 10
SUB UNITS = 8000	

Cell libraries shall be used to their fullest. (DRAFTING.CEL, ARCH.CEL AND MECH.CEL will be provided by the Corp). Updated cell libraries will be provided as new standard cells are added. A minimum of cells from the Corp supplied libraries shall be dropped. That is to say, "DROP STATUS" only on those cells where it is a necessity. (I. E. Any text inclusive cell to be edited as "TITLE OR "SECCUT"). NO NESTED CELLS.

ALL NEW DRAWINGS CREATED BY AN "A-E" can use the Omaha District Font Resource. All text shall be either Fonts 2, 3, or 61-63.

General notes shall be font #3 (ALL CAPS) and object notes shall be I.D. 'd from the "TEXT" area below the title block, Fonts 2 or 3. No text shall be smaller than 120 Wrico equivalent. (A minimum of 1/8th inch) weight 1 line length shall not be more than 80 characters and line spacing shall be a minimum of 1/2 of text height. Justification shall be upper-left.

Object notes, leaders and leader arrows shall be on the same level.

Use 3-point Arc (singular or in tandem, as needed) for leader lines.

Dimension and leader shall be "Larrow" from the drafting cell library. Dimensions shall be weight 0.

Level assignments, line weights and design file naming conversions shall follow the "Computer-Aided Drafting Guidelines " supplied by the Omaha District.

Active scale shall be set approximately as per scale chart provided by the Corp. (For no scale drawings, use AS=12.)

Final file design should be done with the WHOLE FILE in view #1 and the TITLE BLOCK in view #5. View #1 shall be the only view on. All files shall be in the .DGN File Format and compressed before submission to the Corp. Do not file design with multiple views on one screen.

The Corps has made every effort to be compatible with Microstation PC to the best extend possible.

CADD SECTION, DESIGN BRANCH

USACE - OMAHA DISTRICT 9/4/97

CADD STANDARDS - AE AUTOCAD, MICROSTATION, CONVERSIONS, FILES, AND PLOTTING

AUTOCAD TO MICROSTATION

(If conversions are ever to be done, these standards shall be done in addition to all standards on page 3)

1. DO NOT USE PAPER SPACE
   (THE MODEL SPACE INFORMATION DOESN'T COME BACK IN THE SAME LOCATION)
2. TABLE NODES SHALL BE ONLY BE IN COLUMNS OR INDIVIDUAL, NEVER IN ROWS
   (DIFFERENT FONTS DON'T LAY OUT THE SAME, SOME ARE WIDER, SOME ARE NARROWER)
3. DO NOT USE NON-STANDARD AUTOCAD FONTS (USE **ROMANS.SHX**)
   (LAYS OUT SIMILAR TO FONT #3 IN MICROSTATION)
4. EACH DRAWING SHALL BE BE IN ITS OWN DESIGN FILE (EACH DRAWING SHEET SHALL BE HAVE A UNIQUE DESIGN FILE AND FILE NAME)
5. LEAVE ONLY ACAD.MNX MENU ATTACHED TO DRAWING
   (MAKES IT EASIER TO OPEN IN AUTOCAD)
6. DO NOT USE BLOCKS WITH EDITABLE TEXT IN THEM (ATTRIBUTES)
   (TEXT INFORMATION WILL NOT SHOW UP IN MICROSTATION)
7. ERASE UNUSED INFORMATION OUTSIDE OF THE BORDER (TO SPEED UP THE CONVERSION)
8. USE ONLY VERSION 11 OR 12, NOT 13 (MICROSTATION CAN ONLY READ VERSION 11 OR 12)
9. KEEP XREFS TO A MINIMUM, **BIND ALL XREFS TO DRAWING** BEFORE CONVERSION
   (XREFS DON'T ALWAYS COME THROUGH IN THE SAME LOCATION)
10. PURGE DRAWINGS. (TO SPEED UP THE CONVERSION)
11. DO NOT USE SPECIAL ESCAPE CHARACTERS (IE. %%208 FOR 1/2) (THEY CONVERT TO *)

MICROSTATION TO AUTOCAD

(If conversions are ever to be done, these standards shall be done in addition to all standards on page 3)

1. DO NOT USE NESTED CELLS (THEY WON'T CONVERT TO AUTOCAD)
2. TABLE NODES SHALL BE ONLY BE IN COLUMNS OR INDIVIDUAL, NEVER IN ROWS
   (DIFFERENT FONTS DON'T LAY OUT THE SAME, SOME ARE WIDER, SOME ARE NARROWER)
3. DO NOT USE FILLED SHAPES (THEY WON'T BE FILLED IN AUTOCAD)
4. EACH DRAWING SHALL BE BE IN ITS OWN DESIGN FILE (EACH DRAWING SHEET SHALL BE HAVE A UNIQUE DESIGN FILE AND FILE NAME)
5. USE ONLY CELLS FOR DIMENSION ARROWHEADS, NEVER FONTS
   (THEY SHOW UP AS TEXT IN AUTOCAD)
6. DO NOT USE TEXT NODES OR TAGS IN CELLS (THE TEXT WILL NOT SHOW UP IN AUTOCAD)
7. DELETE UNUSED INFORMATION OUTSIDE OF THE BORDER
   (TO SPEED UP THE CONVERSION)
8. DO NOT USE SHARED CELLS (ONLY THE FIRST ONE PLACED SHOWS UP IN AUTOCAD)
9. DO NOT LOOP REFERENCES (IT CAUSES THE PROGRAM TO CRASH)
10. COMPRESS DESIGNS (TO SPEED UP THE CONVERSION)
11. **ALL CELLS WILL BE DROPPED**. (THIS FIXES MOST PROBLEMS WITH CELLS)
12. ALL REFERENCES WILL BE MERGED DURING CONVERSION

A/E SHALL SUPPLY US WITH ALL **FONTS, SHAPE FILES, XREFS, AND PEN TABLES** USED.

CONVERSION PROCEDURE - MICROSTATION TO AUTOCAD:

THESE STEPS WILL BE FOLLOWED IN THE CONVERSION

1. COPY ALL FILES TO A TEMPORARY LOCATION FOR CONVERSION

2. REMOVE READ ONLY ON ALL FILES.
   chmod 777

3. COPY DROPCELL.DOC AND TRYTHIS TO EACH SUBDIRECTORY

   DROPCELL.DOC

```
for file in `find * -name "*".dgn -print`
do
edg $file <trythis
done
```

   TRYTHIS

```
set search/type=cell
modify status=delete whole
set search/all
set search/status=active,complex
set search/type=graphic
set search/nest=0
modify status=simple whole
exit
```

3. FROM UNIX, RUN DROPCELL.DOC IN EACH SUBDIRECTORY
   $ sh dropcell.doc

4. CONVERSION MUST BE RUN FROM **MICROSTATION 95**

5. SET UP MICROSTATION FOR CONVERSION
   FILE - EXPORT - DWGORDXF - FILENAME -
   SET WEIGHTS TO COLOR: 1=1 ECT. BUT 0=32
   SET WEIGHT TO COLOR CONVERSION GENERAL - MORE - LINE WEIGHT AS:
   COLOR
   CREATE DWGFONT.TBL - ALL FONTS ROMANS.SHX
   ROMANS 0
   ROMANS 1
   ROMANS 2
   ROMANS 3
   ECT.
   ALL REFERENCES - GENERAL - MERGE - MERGE - MERGE
   SET WEIGHT WIDTH - ALL WEIGHTS = 0.000

6. MAKE SURE YOU ARE USEING THE CORRECT WORKSPACE

7. RUN BATCH FILE CONVERSION
   c:\win32app\ustation\msbatch dwgout input:i:\?*.dgn outdwg:g:\?\ createdwg

WHEN RECEIVING FILES, WE EXPECT:

FOR MICROSTATION (*.DGN):

1. When opened, we shall see the drawing exactly as it should be plotted.
2. VIEW 1 is the only view open in file.
3. View 1 shall be zoomed to fit the border.
4. All information in the title block shall be filled in, including plot scale.
5. The information in the title block shall be correct, including the design file name and the plot scale.
6. All files shall reference a border supplied by the Omaha District, that was created in MicroStation with the proper line weights.
7. Detach all unused reference files.
8. For any half tone references, the logical name shall have common first or last character(s). Preferably use "_xxx" at the end of the logical name. Include this information with the pertinent information.
9. All unnecessary information outside the border shall be deleted.
10. All files shall be compressed.
11. The font resource you used shall be included with the set, even if it is the standard MicroStation font resource.
12. An ASCII text file with any pertinent information. Such as a brief history of how the files were created if they were converted from AutoCAD, reference file paths that should be added to MS_RFDIR, the name of your font resource file, the name and phone number of the person we need to contact if we have problems, and the version of Microstation used to create and/or work on the drawings.

FOR AUTOCAD (*.DWG):

1. When opened, we shall see the drawing exactly as it should be plotted.
2. Only 1 viewport is open in the file.
3. The view shall be zoomed to fit the border.
4. All information in the title block shall be filled in, including plot scale.
5. The information in the title block shall be correct, including the design file name and the plot scale.
6. All files shall have the same border.
7. All unnecessary information outside the border shall be deleted.
8. All files shall be purged.
9. All xrefs shall be bound to the drawing.
10. All fonts used shall be included with the set, even if they are the standard AutoCAD fonts. (The fonts we have are on page 7. All others shall be supplied to the Omaha District.)
11. An ASCII text file with any pertinent information. Such as a brief history of how the files were created if they were converted from MicroStation, the name of your font resource file, the name and phone number of the person we need to contact if we have problems, and the version of AutoCAD used to create and/or work on the drawings.
12. Both the pen table and the .pcp file shall be supplied, as described below.
13. Each sheet/design shall have its own file and file name.
14. Paper space shall not be used.

ELECTRONIC BID SETS IN AUTOCAD

TO PLOT WITH APLOT, WE NEED A FILE *.PEN
WITH THE PLOT_WIDTH FILLED IN.

```
units = cm
if (color == 1) then                ; red (default AutoCAD color table)
   plot_width = 0.020
   color = (0, 0, 0)                        ; R=0, G=0, B=0 is pure black
   priority = 100
else if (color == 2) then           ; yellow (default AutoCAD color table)
   plot_width = 0.005
   color = (0, 0, 0)                        ; R=0, G=0, B=0 is pure black
   priority = 100
else if (color == 3) then           ; green (default AutoCAD color table)
   plot_width = 0.010
   color = (0, 0, 0)                        ; R=0, G=0, B=0 is pure black
   priority = 100
else if (color == 4) then           ; cyan (default AutoCAD color table)
   plot_width = 0.010
   color = (0, 0, 0)                        ; R=0, G=0, B=0 is pure black
   priority = 100
else if (color == 5) then           ; blue (default AutoCAD color table)
   plot_width = 0.050
   color = (0, 0, 0)                        ; R=0, G=0, B=0 is pure black
   priority = 100
else if (color == 6) then           ; magenta (default AutoCAD color table)
   plot_width = 0.010
   color = (0, 0, 0)                        ; R=0, G=0, B=0 is pure black
   priority = 100
else if (color == 7) then           ; white/black (default AutoCAD color table)
   plot_width = 0.015
   color = (0, 0, 0)                        ; R=0, G=0, B=0 is pure black
   priority = 100
else                            ; all other colors (default AutoCAD color table)
   plot_width = 0.010
   color = (0, 0, 0)                        ; R=0, G=0, B=0 is pure black
   priority = 100
endif
```

A PEN TABLE SHALL BE SUPPLIED FROM EACH A/E FOR EACH SET OF SHEETS WITH DIFFERING CONDITIONS. HALF TONING SHALL ALSO BE INDICATED BY A COLOR= (200,200,200) FOR GRAY.

TO PLOT HARD COPIES TO VELLUM FROM AUTOCAD

TO PLOT WITH AUTOCAD PLOT, WE NEED A FILE ?.PCP
WITH THE PLOT_WIDTH FILLED IN.

```
;  The file should reflect color and line weight.
;    Pen 1: Smooth black line
;    Pen 2: Solid black line
;    Pen 3: Gray scale line
;    Pen 4: Heavy black line
;    Pen 5: Very light gray line
;    Pen 6: Light black line
;    Pen 7: Dark gray line

VERSION = 1.0
UNITS = _I
ORIGIN = 0.00,1.00
SIZE = MAX
ROTATE = 0
HIDE = _N
PEN_WIDTH = 0.010000
SCALE = 1=96
PLOT_FILE = c:\*
FILL_ADJUST = _N
OPTIMIZE_LEVEL = 0

BEGIN_COLOR = 1
  PEN_NUMBER = 1
  HW_LINETYPE = 0
  PEN_SPEED = 36
  PEN_WEIGHT = 0.020000
END_COLOR

BEGIN_COLOR = 2
  PEN_NUMBER = 1
  HW_LINETYPE = 0
  PEN_SPEED = 36
  PEN_WEIGHT = 0.005000
END_COLOR

BEGIN_COLOR = 3
  PEN_NUMBER = 1
  HW_LINETYPE = 0
  PEN_SPEED = 36
  PEN_WEIGHT = 0.010000
END_COLOR

BEGIN_COLOR = 4
  PEN_NUMBER = 1
  HW_LINETYPE = 0
  PEN_SPEED = 36
  PEN_WEIGHT = 0.010000
END_COLOR
```

```
BEGIN_COLOR = 5
  PEN_NUMBER = 1
  HW_LINETYPE = 0
  PEN_SPEED = 36
  PEN_WEIGHT = 0.050000
END_COLOR

BEGIN_COLOR = 6
  PEN_NUMBER = 1
  HW_LINETYPE = 0
  PEN_SPEED = 36
  PEN_WEIGHT = 0.010000
END_COLOR

BEGIN_COLOR = 7
  PEN_NUMBER = 1
  HW_LINETYPE = 0
  PEN_SPEED = 36
  PEN_WEIGHT = 0.015000
END_COLOR
```

A PEN TABLE SHOULD BE SUPPLIED FROM EACH A/E FOR EACH SET OF SHEETS WITH DIFFERING CONDITIONS. COLORS SHOULD GO FROM 1 TO 255. HALF TONING SHOULD ALSO BE INDICATED BY PEN_NUMBER = 3 OR 5 FOR GRAY.

Standard AutoCAD fonts:

ARCHSTYL.SHX
AU101S01.SHX
AU102S01.SHX
bigfont.shx
bold.shx
complex.shx
dim.shx
gothice.shx
gothicg.shx
gothici.shx
greekc.shx
greeks.shx
HELVETIC.SHX
isocp.shx
isocp2.shx
isocp3.shx
isoct.shx
isoct2.shx
isoct3.shx
italic.shx
italicc.shx
italict.shx
monotxt.shx
MROMANS.SHX
msimplex.shx
outline.shx
romanc.shx
romand.shx
romans.shx
romant.shx
scriptc.shx
scripts.shx
simplex.shx
special.shx
syastro.shx
symap.shx
symath.shx
symeteo.shx
symusic.shx
txt.shx

bgothl.ttf
bgothm.ttf
compi.ttf
comsc.ttf
dutch.ttf
dutchb.ttf
dutchbi.ttf
dutcheb.ttf
dutchi.ttf
monos.ttf
monosb.ttf
monosbi.ttf
monosi.ttf
stylu.ttf
swiss.ttf
swissb.ttf
swissbi.ttf
swissbo.ttf
swissc.ttf
swisscb.ttf
swisscbi.ttf
swisscbo.ttf
swissci.ttf
swissck.ttf
swisscki.ttf
swisscl.ttf
swisscli.ttf
swisse.ttf
swisseb.ttf
swissek.ttf
swissel.ttf
swissi.ttf
swissk.ttf
swisski.ttf
swissko.ttf
swissl.ttf
swissli.ttf
umath.ttf
vinet.ttf

cibt____.pfb
cibt____.pfm
cobt____.pfb
cobt____.pfm
copying.gs
euro____.pfb
euro____.pfm
eur_____.pfb
eur_____.pfm
fontmap.bd
fontmap.ps
outline
par_____.pfb
par_____.pfm
romb____.pfb
romb____.pfm
romi____.pfb
romi____.pfm
rom_____.pfb
rom_____.pfm
sasbo___.pfb
sasbo___.pfm
sasb____.pfb
sasb____.pfm
saso____.pfb
saso____.pfm
sas_____.pfb
sas_____.pfm
suf_____.pfb
suf_____.pfm
teb_____.pfb
teb_____.pfm
tel_____.pfb
tel_____.pfm
te_____.pfb
te_____.pfm
uglyr.gsf

CADD DRAFTING LINE WEIGHTS

USE WT. = 0 WHEN SHOWING:

1. DIMENSION, CENTER, BREAK OR LEADER LINES
2. ALL POCHE'
3. COLUMN LINES AND CIRCLE
4. EXISTING OBJECT LINES WHEN SHOWING A CONTRAST WITH NEW WORK THAT IS TO BE ADDED
5. REMOVAL SYMBOL

USE WT. = 1 WHEN SHOWING:

1. FREEHAND LETTERING (FONT 23)
2. MOST OBJECT LINES
3. FLOOR PLANS, DETAILS, ELEVATIONS, ETC., WHEN IT IS NOT NECESSARY TO SHOW A CONTRAST BETWEEN NEW AND EXISTING CONSTRUCTION

USE WT. = 2 WHEN SHOWING:

1. ONE LINE DIAGRAMS
2. IN SECTIONS AND DETAILS, ANY BUILDING COMPONENT OUTLINE CUT BY SECTION PLANE

USE WT. = 3 WHEN SHOWING:

1. NEW FRAMING MEMBERS ON ROOF FRAMING PLANS ON ALL STRUCTURAL DWGS
2. NEW DUCTWORK, PIPING, AND MECH EQUIPMENT ON FLOOR PLANS, ELEVATIONS AND SECTIONS ON ALL MECHANICAL DWGS
3. NEW LIGHTING FIXTURES, WIRING, OUTLETS, PHONE JACKS, ETC. ON ALL ELECTRICAL DWGS
4. NEW WIRING DIAGRAMS WHEN SHOWN WITH EXISTING WORK

USE WT. = 4 WHEN SHOWING:

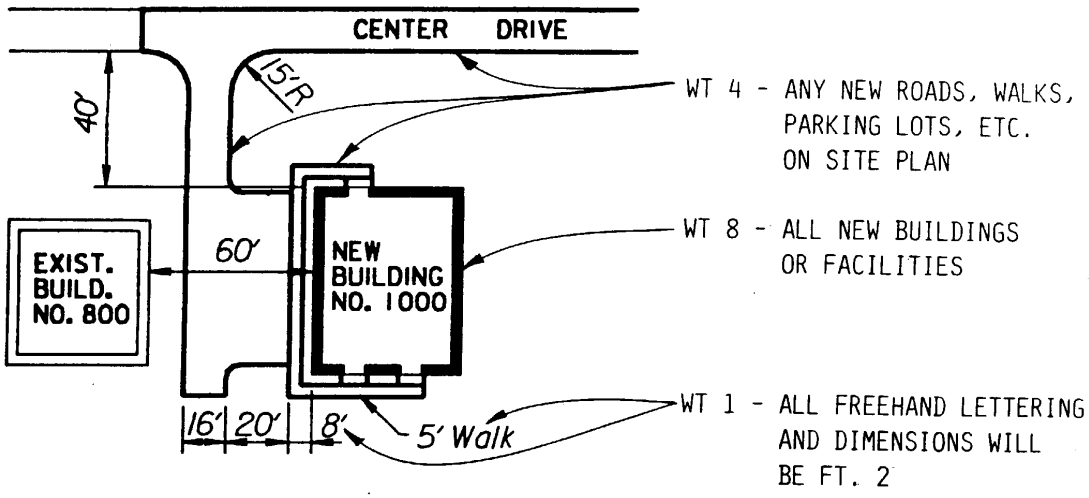
1. NEW GRADING CONTOURS ON CIVIL DWGS
2. NEW UTILITY LINES (INCLUDING ELECT. DISTRIBUTION) AND RELATED UTILITY CONSTRUCTION ON UTILITIES DWGS
3. ALL MATCH LINES
4. NEW WASTE DRAINS AND/OR SANITARY SEWER LINES ON PLUMBING DWGS
5. IN SECTIONS AND DETAILS, ALL SHEET METAL CUT BY SECTION PLANE (METAL DOORS, FRAMES, FLASHING, ETC.)

USE WT. = 8 WHEN SHOWING:

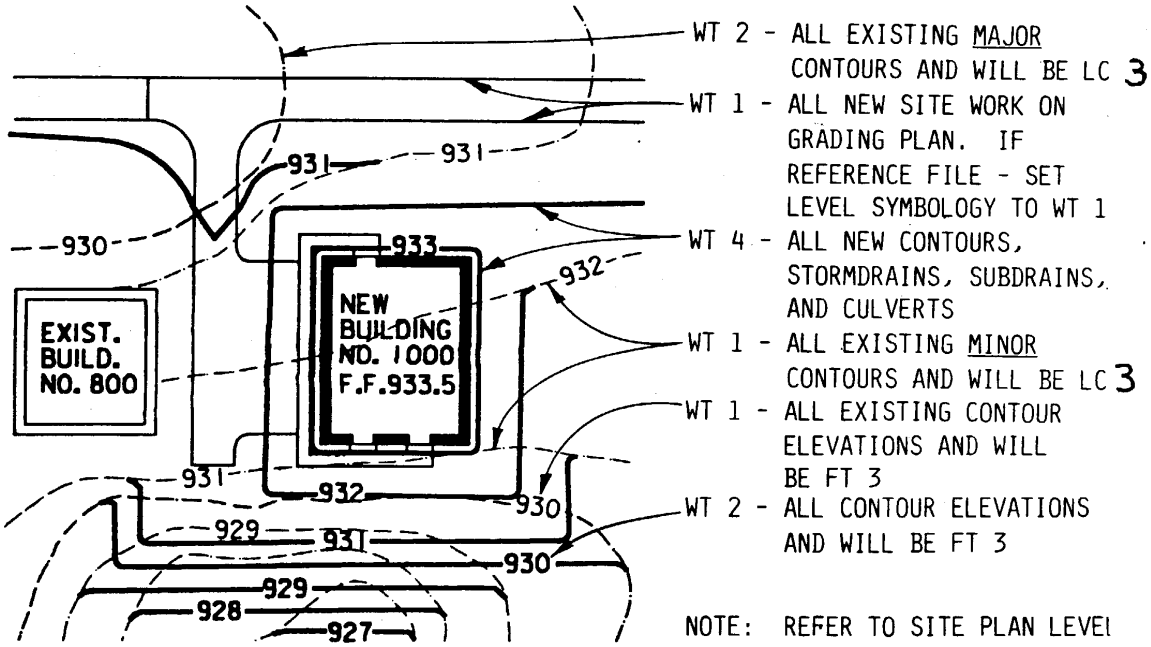
NEW STRUCTURE OR BUILDING OUTLINES ON CIVIL SITE PLANS

NOTE

SEE PAGE 15 THRU 19 FOR EXAMPLES OF CADD DRAFTING LINE WEIGHTS

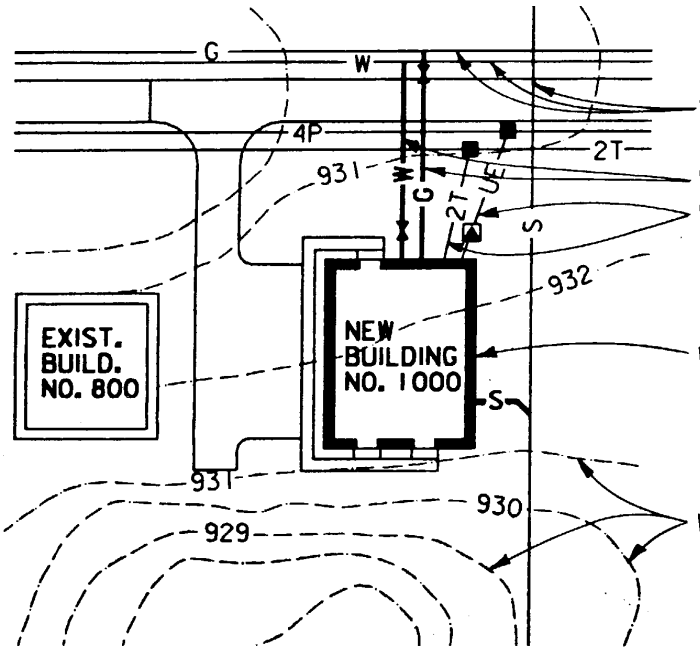


SITE PLAN



NOTE: REFER TO SITE PLAN LEVEL SCHEME FOR PROPER LEVEL ASSIGNMENTS AND COLORS.

GRADING PLAN



WT 1 - ALL EXISTING UTILITY LINES

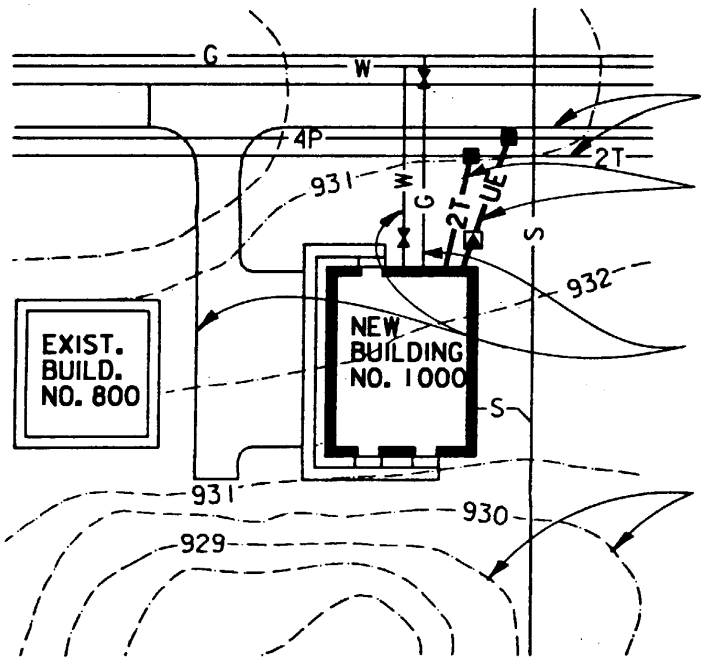
WT 4 - ALL NEW UTILITY LINES

WT 1 - ALL ELECTRICAL DISTRIBUTION AND/OR COMMUNICATION LINES AND SITE WORK

WT 8 - ALL NEW BUILDINGS OR FACILITIES

WT 1 - EXISTING CONTOURS WILL BE LC.3. (CONTOURS MAY BE TURNED OFF FOR CLARITY).

UTILITY PLAN



WT 1 - ALL EXISTING ELEC. DIST AND/OR COMM. LINES

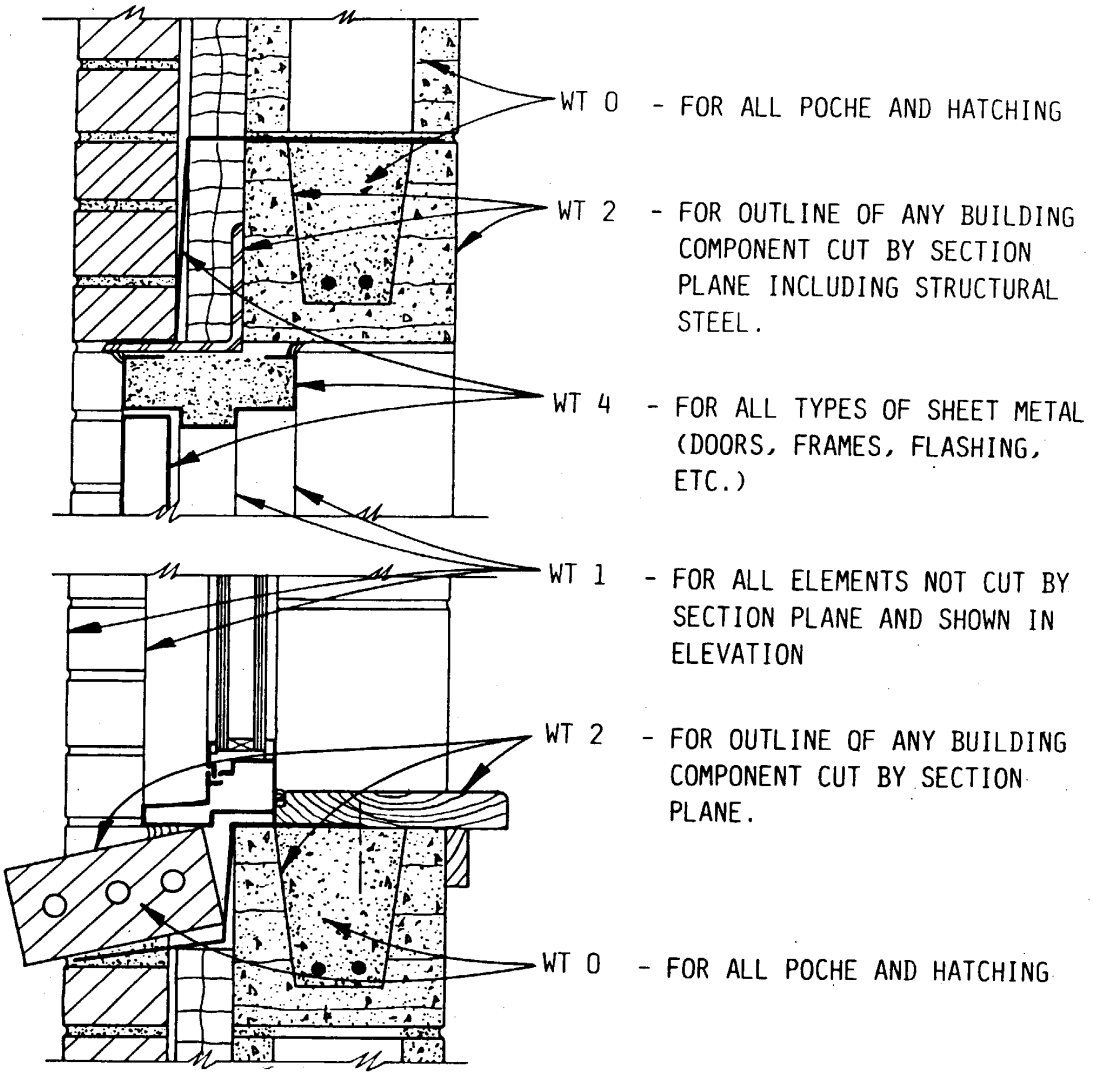
WT 4 - ALL NEW ELECTRICAL DISTRIBUTION AND/OR COMMUNICATION LINES

WT 1 - ALL NEW UTILITIES AND SITE WORK

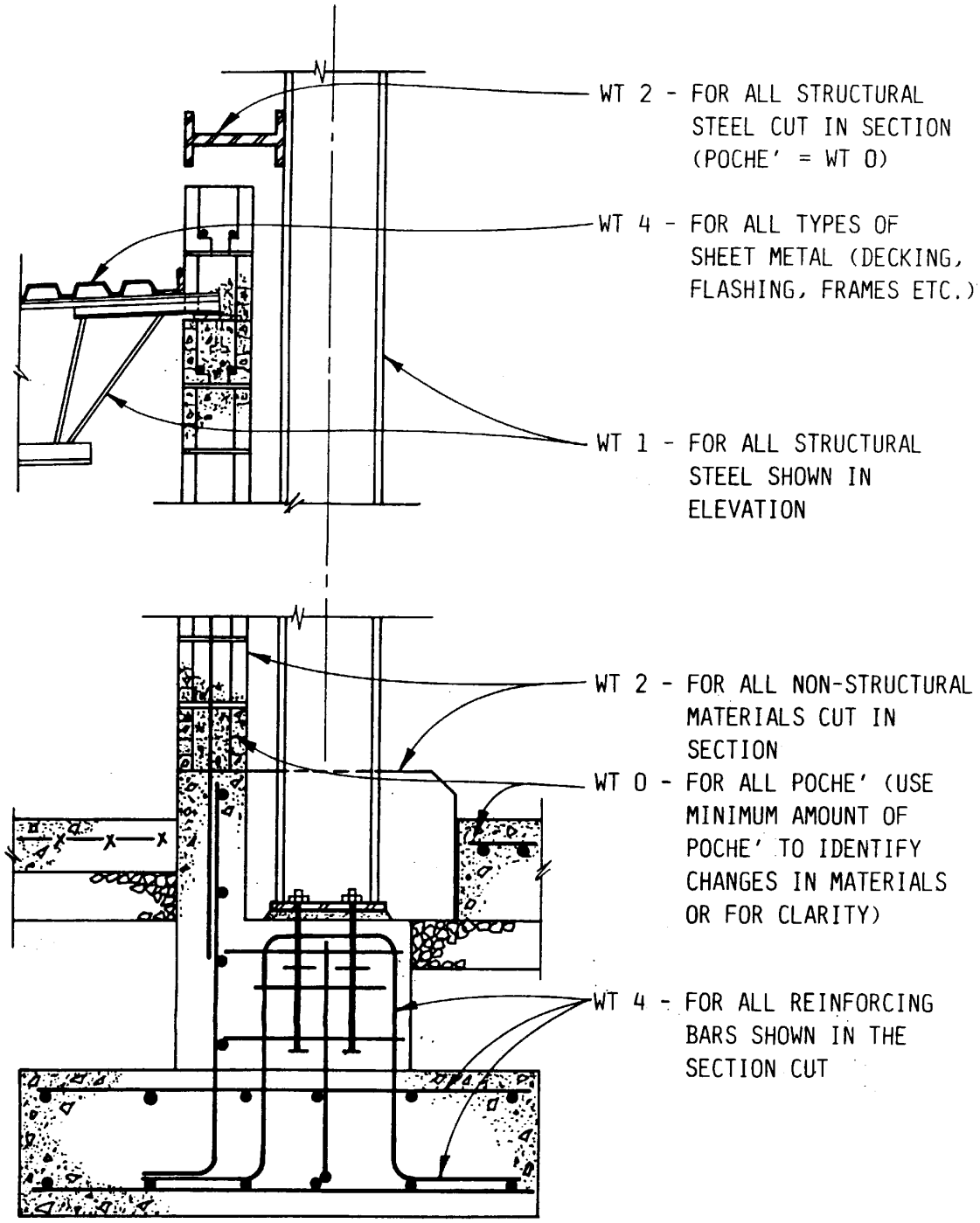
WT 1 - EXISTING CONTOURS WILL BE LC.3. (CONTOURS MAY BE TURNED OFF FOR CLARITY).

NOTE: REFER TO SITE PLAN LEVEL SCHEME FOR PROPER LEVEL ASSIGNMENTS AND COLORS

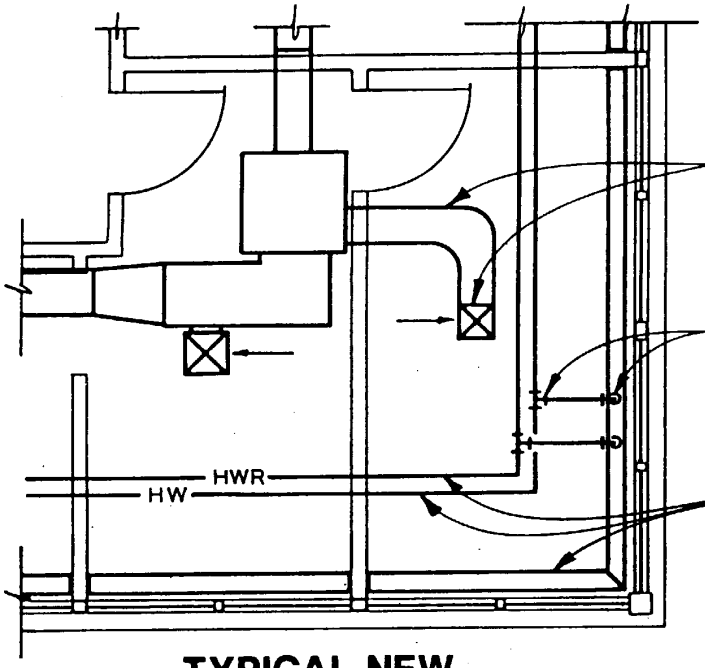
ELECTRICAL DISTR. PLAN



TYPICAL ARCHITECTURAL SECTION



TYPICAL STRUCTURAL SECTION



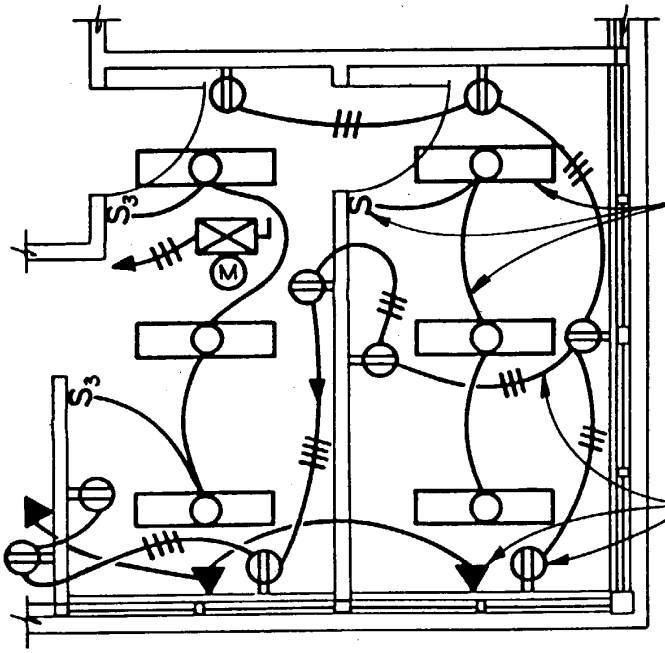
WT 3 - FOR ALL NEW DUCTWORK, GRILLS, ETC.

WT 2 - FOR VALVES, FITTINGS AND FLANGES FOR CONGESTED AREAS

WT 3 - FOR ALL NEW SINGLE LINE PIPING AND EQUIPMENT

NOTE:
WT 5 - FOR ALL NEW WASTE DRAINS AND/OR SANITARY SEWERS

TYPICAL NEW MECHANICAL PLAN



WT 3 - FOR ALL LIGHTING, SWITCHES AND WIRING

WT 3 - FOR ALL POWER TELEPHONE AND COMMUNICATION RECEPTACLES AND WIRING

TYPICAL NEW ELECTRICAL PLAN

LEVEL ASSIGNMENTS

1. THE FOLLOWING LISTS SHOW THE LEVEL ASSIGNMENTS USED BY THE OMAHA DISTRICT FOR ALL EXTERIOR UTILITY AND SITE WORK AND FOR INTERGRAPH'S APDP PACKAGE OF LEVEL ASSIGNMENTS FOR ARCHITECURAL, M ECHANICAL AND ELECTRIACL DRAWINGS.

2. THERE ARE FIVE LEVELS (51-55) RESERVED FOR YOU TO ASSIGN. THE LEVELS THAT ARE LEFT BLANK ON THE FOLLOWING LISTS ARE UNASSIGNED AND ARE RESERVED FOR FUTURE USE.

3. IF OTHER INTERGRAPH SOFTWARE PACKAGES ARE USED, SUCH AS E.S.P., INROADS, PROJECT ARCHITECT AND E.E. SCHEMATIC, THEN THE LEVEL ASSIGNMENTS SPECIFIED FOR THAT PARTICULAR PACKAGE WILL BE USED.

Survey/Mapping Level Assignments and Level Symbology

Table 3-1

ALL TEXT - FONT 3

Level	Description	Line Code	Line Weight	Color
01	Sheet Dependent Infor			
02	Coordinate Grid	Soild (0)	0	Green (2)
03	Coordinate Grid Annotation	Solid (0)	1	Green (2)
04	Buildings	Solid (0)	2	Yellow (4)
05	Building Annotation	Solid (0)	0	Yellow (4)
06	Road Centerline	Soild (0)	0	Yellow (4)
07	Road, RR, and Centerline Annotation	Soild (0)	0	Yellow (4)
08	Roads, Parking Lots, Walks, Railroads, Trails		1	Yellow (4)
09	Concrete Joint Layout	Solid (0)	0	Yellow (4)
10	Concrete Joint Elevations	Solid (0)	0	Yellow (4)
11	Runways, Taxiways and Aprons	Solid (0)	1	Violet (5)
12	Runway, Taxiway and Apron Annotation	Solid (0)	0	Violet (5)
13	Pavement Markings, Signs	Solid (0)	0	Violet (5)
14	Headwalls and Structures	Solid (0)	1	Orange (6)
15	Headwall and Structure Annotation	Solid (0)	0	Orange (6)
16	Culverts	Soild (3)	1	Orange (6)
17	Culvert Annotation	Soild (0)	0	Yellow (4)
18	Riprap	Soild (0)	1	Green (2)
19	Water Features	Solid (0)	1	Blue (1)
20	Water Feature Annotation	Solid (0)	0	Blue (1)
21	Vegetation	Soild (0)	0	Green (2)
22	Vegetation Annotation	Solid (0)	0	Green (2)
23	Fences	Soild (0)	0	Blue (1)
24	Fence Annotation	Solid (0)	0	Blue (1)
25	Boundary Lines/Cadastral	Solid (0)	2	Orange (6)
26	Boundary Line/Cadastral Annotation	Solid (0)	0	Orange (6)
27	Survey Control Points, Baselines	Solid (0)	1	Violet (5)
28	Survey Control Point Annotation	Solid (0)	1	Violet (5)
29	Break Lines	Solid (0)	0	Yellow (4)
30	Spot Elevations	Solid (0)	0	Yellow (4)
31	Major Contours	Solid (0)	2	Orange (6)
32	Contour Annotation	Solid (0)	0	Orange (6)
33	Minor Contours	Solid (0)	0	Red (3)
34	Bore Holes and Text	Solid (0)	0	Orange (6)
35	Storm Sewers and Storm Manholes	Solid (0)	0	Green (2)

Table 3-1 (Continued)

Level	Description	Line Code	Line Weight	Color
36	Storm Sewer and Manhole Annotation and Inverts	Solid (0)	0	Green (2)
37	Sanitary Sewers and Sanitary Manholes	Solid (0)	0	Yellow (4)
38	Sanitary Sewer and Manhole Annotation and Inverts	Solid (0)	0	Yellow (4)
39	Water Lines, Water Valves, Fire Hydrants, Water Tanks	Solid (0)	0	Blue (1)
40	Water Lines, Valve, Fire Hydrant and Water Tank Annotation	Solid (0)	0	Blue (1)
41	Gas Lines, Gas Valves	Solid (0)	0	Red (3)
42	Gas Line, Gas Valve Annotation	Solid (0)	0	Red (3)
43	Power Lines, Power Poles, Lights, Telephone Poles	Solid (0)	0	Violet (5)
44	Power Line, Power Pole, Light and Telephone Pole Annotation	Solid (0)	0	Violet (5)
45	Steam Lines, Steam Manholes, Steam Valves	Solid (0)	0	Orange (6)
46	Steam Line, Steam Manhole, Steam Valve Annotation	Solid (0)	0	Orange (6)
47	Cross Sections & Profiles	Solid (0)	0	Yellow (4)
48	Details, Inserts	Solid (0)	0	
49	Soundings	Solid (0)	0	Blue (1)
50	Channel Lines, Disposal Areas	Solid (0)	1	Yellow (4)
51	Channel Line Annotation	Solid (0)	0	Yellow (4)
52	Navigation Aids and Annotation	Solid (0)	1	Orange (6)
53	Levees, Dikes and Annotation	Solid (0)	1	Yellow (4)
54	Pipe Lines, Structures, Bridges	Solid (0)	1	Orange (6)
55	Pipe Line Annotation	Solid (0)	0	Orange (6)
56	Stationing and Miles Markers	Solid (0)	1	Violet (5)
57	Revetments & Annotation	Solid (0)	0	Green (2)
58	Vessel Track Line	Solid (0)	1	Red (3)
59	Ground Shots - Mass Points			
60	Unassigned			
61	Unassigned			
62	Unassigned			
63	Edge - Boundary			

Note: Obscured Areas, Unknowns, and Dirt Roads will be dashed (LC=3), long dashed)

Levels Used In Creating A TTN File

Level	Description	Purpose
4	Buildings	Obscure Areas
6	Road Centerline	Break Lines
8	Roads, R/R's, Walks Parking Lots, Trails	Break Lines
9	Concrete Joint Layout	Break Lines
11	Runways, Taxiways and Aprons	Break Lines
14	Headwalls & Sructures	Break Lines & Obscure Areas
19	Water Features	Break Lines & Obsecure Areas
29	Break Lines	Break Lines
50	Channel Lines, Disposal Areas	Break Lines
54	Pipe Lines, Structures, Bridges	Break Lines & Obscure Areas
59	Ground Shots - Mass Points	Regular Points
63	Edge - Boundary	Edge

LEVEL ASSIGNMENT FOR ALL EXTERIOR UTILITY AND SITE WORK

LEVEL	1	BORDER, NORTH ARROW AND SCALES
	2	COORDINATE GRID
	3	COORDINATE GRID ANNOTATION
	4	BUILDINGS
	5	BUILDING ANNOTATION
	6	ROAD CENTERLINE
	7	ROAD, RAILROAD & CENTERLINE ANNOTATION
	8	ROADS, PARKING LOTS, WALKS, RR & TRAILS
	9	CONCRETE JOINT LAYOUT
	10	CONCRETE JOINT ELEVATIONS
	11	RUNWAY, TAXIWAY, & APRONS
	12	RUNWAY ANNOTATION
	13	PAVEMENT MARKINGS, SIGNS
	14	STRUCTURES, HEADWALLS
	15	STRUCTURE ANNOTATION
	16	CULVERTS
	17	CULVERT ANNOTATION
	18	RIPRAP
	19	WATER FEATURES (STREAMS, RIVERS, ECT.)
	20	WATER FEATURES ANNOTATION
	21	VEGETATION
	22	VEGETATION ANNOTATION
	23	FENCES
	24	FENCE ANNOTATION
	25	BOUNDARY LINES
	26	BOUNDARY LINE ANNOTATION
	27	SURVEY CONTROL POINTS
	28	SURVEY CONTROL PTS. ANNOTATION
	29	BREAKLINES
	30	SPOT ELEVATIONS
	31	MAJOR CONTOURS
	32	MAJOR CONTOUR ANNOTATION
	33	MINOR CONTOURS
	34	BORE HOLES AND TEXT
	35	STORM SEWEER LINES, MANHOLES & SUBDRAINS
	36	STORM SEWER ANNOTATION
	37	SANITARY LINES, MANHOLES
	38	SANITARY LINE ANNOTATION
	39	WATER LINES, FIRE HYDRANTS, TANKS
	40	WATER LINE, HYDRANTS, TANK ANNOTATION

LEVEL ASSIGNMENT FOR ALL EXTERIOR UTILITY AND SITE WORK

(continued)

LEVEL	41	GAS LINES, VALVES
	42	GAS LINE ANNOTATION\
	43	POWER LINES, LIGHTS, TELEPHONE POLES
	44	POWER LINES ANNOTATION
	45	STEAM LINES (HTHW)
	46	STEAM LINES ANNOTATION
	47	CROSS SECTIONS & PROFILES
	48	DETAILS
	49	SOUNDINGS
	50	CHANNEL LINES, DISPOSAL AREAS
	51	CHANNEL LINE ANNOTATIONS
	52	NAVIGATION AIDS
	53	LEVEES, DIKE & ANNOTATION
	54	PIPE LINES
	55	PIPE LINES ANNOTATION
	56	STATIONING & MILE MARKERS
	57	REVETMENTS & ANNOTATION
	58	CURVE DATA
	59	USER DEFINABLE
	60	USER DEFINABLE
	61	USER DEFINABLE
	62	USER DEFINABLE
	63	USER DEFINABLE

(ITOURS

EXIST. MAJOR CONTOURS 1959

EXIST. MINOR CONTOURS

NEW CONTOURS 1989

PAVEMENT

EXIST. DRIVES TO REMAIN
REMAIN STREET

EXIST. DRIVES TO BE REMOVED
REMOVAL STREET

NEW DRIVES
NEW STREET

EXIST. SIDEWALKS AND PADS TO REMAIN

EXIST. SIDEWALKS, PADS TO BE REMOVED

NEW SIDEWALKS AND PADS

BUILDINGS

EXIST. BUILDINGS TO REMAIN
1959

EXIST. BUILDINGS TO BE REMOVED
1940

NEW BUILDINGS
1989

EXIST. CONCRETE JOINT LAYOUT

NEW CONCRETE JOINT LAYOUT

WATER FEATURES *Creek*

UTILITIES

EXIST. WATER LINES TO REMAIN W 6"

EXIST. WATER LINES TO BE REMOVED W 6"

NEW WATER LINES W 6"

EXIST. GAS LINES TO REMAIN G 2"

EXIST. GAS LINES TO BE REMOVED G 2"

NEW GAS LINES G 2"

EXIST. SANITARY SEWER TO REMAIN MH S 4"

EXIST. SANITARY SEWER TO BE REMOVED MH S 4"

NEW SANITARY SEWER LINES MH S 4"

EXIST. STORM SEWER LINES TO REMAIN MH 8" AI

EXIST. STORM SEWER TO BE REMOVED MH 8" AI

NEW STORM SEWER LINES MH 8" AI

EXIST. ELECTRICAL TO REMAIN MH UG

EXIST. ELECTRICAL TO BE REMOVED MH UG

NEW ELECTRICAL MH UG

EXIST. SUBDRAIN LINES TO REMAIN 8" MH

EXIST. SUBDRAIN LINES TO BE REMOVED 8" MH

NEW SUBDRAIN LINES 8" MH

EXIST. STEAM LINES HTHW 8"

MANMADE FEATURES

EXIST. FENCE & R.R. TO REMAIN XX XX

EXIST. FENCE & R.R. TO BE REMOVED XX XX

NEW FENCE & R.R. XX XX

EXIST. RUNWAY, TAXIWAY & APRONS

NEW RUNWAY, TAXIWAY & APRONS

LANDSCAPING

EXIST. VEGETATION TO REMAIN

EXIST. VEGETATION TO BE REMOVED

NEW VEGETATION

MISC.

X

Freehand Lettering

200---MAIN TITLES

175---SUB TITLES

90--(RARELY USED) 120 140

REMOVAL SYMBOL

THIS LEGEND IS IN THE DRAFTING CELL LIB. AS SITELG

8000PU

LEVEL ASSIGNMENTS FOR ARCHITECTURAL FLOOR PLANS

LEVEL	1	DRAWING SHEET EDGE
	2	GRAPHIC SCALE/NORTH ARROW
	3	“DRAWING SHEET INDPENDENT” INFORMATION
	4	BUILDING FOOTRPINT (FLOOR PERIMETER)
	5	ROOM PERIMETER SHAPE
	6	EXTERIOR PERIMETER SHAPE
	7	RESERVED
	8	CURTAIN WALL CENTERLINES
	9	CURTAIN WALL MULLIONS AND GLASS
	10	COLUMN GRID (CENTERLINES ONLY)
	11	COLUMN GRID TAGS
	12	COLUMNS
	13	RESERVED
	14	CAVITY WALL LINES
	15	EXTERIOR WALL EDGES
	16	WINDOWS, WINDOW SILLS
	17	ROOM NAMES & UNDERLINE
	18	SHAFTS
	19	ELEVATORS, ESCALATORS
	20	STAIRS AND HANDRAILS, BREAKLINES
	21	BEAM EDGES
	22	SLABS
	23	INTERIOR WALL EDGES
	24	STRUCTURAL WALL EDGES
	25	DOORS AND DOOR SWINGS
	26	DOOR FRAMES
	27	RESERVED
	28	RENOVATION (WALLS AND PARTITIONS TO REMAIN)
	29	RENOVATION (WALLS AND PARTITIONS TO BE REMOVED) DEMOLITION
	30	PLUMBING FIXTURES (TUB, SHOWERS, TOILETS, ETC...)
	31	TOILET PARTITIONS AND HANDICAP HANDRAILS
	32	RENOVATION (EXISTING PLUMBING FIXTURES AND THOSE TO REMAIN)
	33	RENOVATION (PLUMBING FIXTURES TO BE REMOVED) DEMOLITION
	34	REFERENCE NOTES (PLUMBING)
	35	CASEWORK/MILLWORK
	36	EQUIPMENT (X-RAY MACHINES, COMPUTERS, ETC.) GENERAL
	37	EQUIPMENT (OWNER PURCHASED)
	38	BEAM CENTERLINES
	39	CEILING REFERENCES (DROPS, BULKHEADS, ETC.)
	40	REFERENCE SYMBOLS AND SYMBOL TEXT

LEVEL ASSIGNMENTS FOR ARCHITECTURAL FLOOR PLANS

(continued)

LEVEL	41	MATCH LINES, BREAKLINES, CENTERLINES, TARGETS
	42	DOOR SYMBOLS
	43	WINDOW SYMBOLS (NUMBER)
	44	WALL FIRE RATNGS
	45	ROOM NUMBERS
	46	NOTES, MISCELLANEOUS TEXT, LEADER LINE, TERMINATORS
	47	DRAWING COMPONENT TITLES AND SCALES (USER INPUT)
	48	LEGEND & SCHEDULE GRAPHICS
	49	LEGEND & SCHEDULE TEXT
	50	DIMENSIONS
	51	USER DEFINABLE
	52	USER DEFINABLE
	53	USER DEFINABLE
	54	USER DEFINABLE
	55	USER DEFNABLE
	56	REFERENCE NOTES (ELECTRICAL)
	57	REFERENCE NOTES (HVAC)
	58	REFERENCE NOTES (STRUCTURAL)
	59	SPECIFICATION SECTION NUMBERS
	60	WALL AND PARTITION CENTERLINES
	61	NON-PRINT REFERENCE ELEMENTS
	62	ADDENDA AND BULLETIN “BUBBLES”
	63	“CHANGE INDICATION” LEVEL

LEVEL ASSIGNMENTS FOR ARCHITECTURAL REFLECTED CEILING PLANS

LEVEL	1	SHEET BORDER
	2	NORTH ARROW/GRAPHIC SCALE
	3	“SHEET DEPENDENT” TITLE BLOCK INFORMATION
	4	
	5	
	6	
	7	
	8	
	9	
	10	WALL FIRE RATINGS
	11	CEILING PATTERN (GRID)
	12	CEILING PATTERN (PLASTER/GYP BOARD)
	13	CEILING PATTERN (LINNEAR METAL/WOOD)
	14	CEILING PATTERN (EXPOSED CONST., SPECIAL & USER DEFINED)
	15	CEILING PATTERN (MISC. AREA PATTERN, LEAD LINING, SOUND, INS.)
	16	CEILING PATTERN (RENOVATION - EXISTING)
	17	CEILING PATTERN (RENOVATION - TO BE REMOVED)
	18	CEILING PATTERN (SHAFTS)
	19	
	20	FLUORSCENT (RECESSED/STRIP)
	21	FLUORSCENT (SURFACE & SEMI - RECESSED)
	22	FLUORSCENT (WALL)
	23	INCANDESCENT (RECESSED)
	24	INCANDESCENT (RECESSED)
	25	INCANDESCENT (WALL)
	26	H.I.D. (RECESSED)
	27	H.I.D. (SURFACE)
	28	H.I.D. (WALL)
	29	EXIT LIGHTS
	30	(ELECTRICAL) SMOKE & HEAT DETECTORS
	31	(COMMUNICATION) SPEAKERS
	32	CLOCKS
	33	
	34	
	35	SPRINLERS (CEILING, WALL)
	36	
	37	
	38	HVAC (SUPPLY)
	39	HVAC (RETURN)
	40	REFERENCE SYMBOLS AND SYMBOL TEXT

LEVEL ASSIGNMENTS FOR ARCHITECTURAL REFLECTED CEILING PLANS

(continued)

LEVEL	41	MATCH LINES, BREAKLINES, CENTERLINES, TARGETS
	42	CEILING HEIGHT SYMBOLS & TEXT
	43	
	44	
	45	ROOM NAMES AND NUMBERS
	46	NOTES, MISCELLANEOUS TEXT
	47	DRAWING COMPONENT TITLES AND SCALES (USER INPUT)
	48	
	49	
	50	DIMENSIONS
	51	USER DEFINABLE
	52	USER DEFINABLE
	53	USER DEFINABLE
	54	USER DEFINABLE
	55	USER DEFINABLE
	56	
	57	
	58	
	59	SPEC NUMBERS
	60	CEILING HEIGHT SYMBOL & TEXT (NON PRINT)
	61	NON-PRINT REFERENCE ELEMENTS
	62	ADDENDA AND BULLETIN “BUBBLES”
	63	“CHANGE INDICATION” LEVEL

LEVEL ASSIGNMENTS FOR ARCHITECTURAL SECTIONS/ELEVATIONS

LEVEL	1	SHEET BORDER
	2	NORTH ARROW/GRAPHIC SCALE
	3	“SHEET DEPENDENT” TITLE BLOCK INFORMATION
	4	GRADE LINE
	5	
	6	
	7	
	8	
	9	
	10	COLUMN GRID CENTERLINE
	11	COLUMN GRID TAGS
	12	COLUMNS
	13	FINISH FLOOR LINES AND TARGETS
	14	
	15	WALL EDGES AND CURTAIN WALLS
	16	WINDOWS, WINDOW SILLS
	17	STAIRS
	18	LOUVERS
	19	
	20	COMPONENTS AND STEEL SECTIONS
	21	
	22	
	23	
	24	
	25	DOORS AND FRAMES
	26	
	27	
	28	
	29	
	30	PLUMBING FIXTURES
	31	TOILET PARTITIONS AND HANDICAP HANDRAILS
	32	
	33	
	34	
	35	CASEWORK/MILLWORK
	36	EQUIPMENT (X-RAY MACHINES, COMPUTERS, ETC.) GENERAL
	37	EQUIPMENT (0WNER PURCHASED)
	38	
	39	
	40	REFERENCE SYMBOLS AND SYMBOL TEXT

LEVEL ASSIGNMENTS FOR ARCHITECTURAL SECTIONS/ELEVATIONS

(continued)

LEVEL	41	MATCH LINES, BREAKLINES, CENTERLINES, TARGETS
	42	FLOOR ELEV, TAGS & ELEVATIONS
	43	
	44	
	45	ROOM NAMES AND NUMBERS
	46	NOTES, MISC. TEXT, FIN. FLR. LINES ELEV AND DESC TAGS
	47	ELEVATION & SECTION TITLES AND SCALES
	48	LEGEND GRAHICS
	49	LEGEND TEXT
	50	DIMENSIONS
	51	USER DEFINABLE
	52	USER DEFINABLE
	53	USER DEFINABLE
	54	USER DEFINABLE
	55	USER DEFINABLE
	56	
	57	
	58	LARGE SCALE DRAWING INFORMATION
	59	SPEC NUMBERS
	60	WALL AND PARTITION CENTERLINES
	61	NON-PRINT REFERENCE ELEMENTS; DEFAULT ACTIVE
	62	ADDENDA AND BULLETIN “BUBBLES”
	63	“CHANGE INDICATION” LEVEL

LEVEL ASSIGNMENTS FOR ARCHITECTURAL DETAILS

LEVEL	1	SHEET BORDER
	2	GRAPHIC SCALE/NORTH ARROW
	3	“SHEET INDEPENDENT” TITLE BLOCK INFORMATION
	4	MODULAR DETAIL REF. GRID - LINES
	5	MODUALR DETAIL REF. GRID - TIC MARKS
	6	
	7	
	8	
	9	
	10	COLUMN GRID (CENTER LINES)
	11	COLUMN GRID BUBBLES
	12	
	13	
	14	
	15	
	16	
	17	
	18	
	19	
	20	COMPONENTS AND STEEL SECTIONS
	21	
	22	
	23	
	24	
	25	
	26	
	27	
	28	
	29	
	30	
	31	
	32	
	33	
	34	
	35	
	36	EQUIPMENT
	37	EQUIPMENT
	38	
	39	
	40	REFERENCE SYMBOLS AND TEXT

LEVEL ASSIGNMENTS FOR ARCHITECTURAL DETAILS

(continued)

LEVEL	41	MATCH LINES, BREAKLINES, CENTERLINES, TARGETS
	42	DOOR NUMBERS AND SYMBOLS
	43	WALL TYPE LABELS (LOLLIPOPS)
	44	
	45	
	46	NOTES, MISCELLANEOUS TEXT
	47	DETAIL TITLE AND SCALE
	48	
	49	
	50	DIMENSIONS
	51	USER DEFINABLE
	52	USER DEFINABLE
	53	USER DEFINABLE
	54	DEFAULT ACTIVE
	55	
	56	
	57	
	58	
	59	SPEC NUMBERS
	60	
	61	
	62	ADDENDA AND BULLETIN “BUBBLES”
	63	“CHANGE INDICATION” LEVEL

LEVEL ASSIGNMENTS - MECHANICIAL HVAC

LEVEL 1	SHEET BORDER
2	GRAPHIC SCALE/NORTH ARROW/TITLE BLOCK INFO
3	
4	SUPPLY - DUCTWORK LAYOUT
5	SUPPLY - DAMPERS, NON-CEILING GRL/DIF/REG, AIR-FLOW DEVICES, VAV BOXES
6	
7	RETURN - DUCTWORK LAYOUT
8	RETURN - DAMPERS, NON-CEILING GRL/DIF/REG, AIR-FLOW DEVICES
9	
10	MAKE-UP - DUCTWORK LAYOUT
11	MAKE-UP - DAMPERS, AIR-FLOW DEVICES
12	
13	EXHAUST - DUCTWORK LAYOUT
14	EXHAUST - DAMPERS, AIR-FLOW DEVICES
15	EQUIPMENT - AIR DISTRIBUTION (AHU, MAU)
16	LOUVERS
17	
18	DOOR AND TRANSFER GRILLES
19	
20	EXISTING DUCTWORK - TO REMAIN
21	EXISTING DUCTWORK - TO BE REMOVED
22	
23	
24	THERMOSTATS
25	SUPPLY - CEILING DIFFUSERS, REGISTERS
26	RETURN - CEILING GRILLES, REGISTERS
27	EXHAUST - CEILING GRILLES. REGISTERS
28	EQUIPMENT - EXISTING
29	EQUIPMENT - NEW (CHILLERS, FANS, BOILERS, TANKS)
30	ARCHITECTURAL REFLECTED CEILING PLAN GRAPHICS
31	CFM TAGS & DIFF/GRL/REG I.D. (SUPPLY)
32	CFM TAGS & GRL/REG I.D. (RETURN)
33	CFM TAGS & GRL/REG I.D. (EXHAUST)
34	MISC. PIPING THAT MAY BE SHOWN ON HVAC DRAWINGS (GAS, FOS, FOR, LPS, FW)
35	HVAC PIPING - HEATING (SUPPLY) (HWS)
36	HVAC PIPING - HEATING (RETURN) (HWR)
37	HVAC PIPING - COOLING (SUPPLY) (CWS)
38	HVAC PIPING - COOLING (RETURN) (CWR)
39	HVAC PIPING - REFRIGERATION & MISC. (RL)
40	SPACE HEATING EQUIPMENT (UNIT HEATERS, FAN COIL UNITS, FIN TUBE)

LEVEL ASSIGNMENTS - MECHANICAL HVAC

(continued)

LEVEL	41	MATCH LINES, BREAKLINES, TARGETS
	42	
	43	
	44	
	45	ROOM NAME & NUMBERS
	46	MISCELLANEOUS TEXT (FT=23)
	47	INDEPENDENT SHEET NOTES (FT=2)
	48	LEGEND & SCHEDULE GRAPHICS
	49	LEGEND & SCHEDULE TEXT
	50	DIMENSIONS
	51	
	52	
	53	
	54	
	55	
	56	FLOW ARROWS
	57	DUCTWORK & PIPING CENTERLINES
	58	
	59	EQUIPMENT OUTLINES (USED FOR OTHER DISCIPLINES TO REFERENCE)
	60	
	61	ERROR MESSAGES & SYMBOLS
	62	ADDENDA AND BULLENTIN “BUBBLES”
	63	“CHANGE INDICATION” SYMBOLS & TEXT

LEVEL ASSIGNMENTS - MECHANICAL PIPING / PLUMBING

LEVEL	1	SHEET BORDER
	2	GRAPHIC SCALE/NORTH ARROW/TITLE BLOCK INFO
	3	
	4	
	5	SITE SANITARY
	6	SITE STORM
	7	SITE DOMESTIC
	8	
	9	SITE - EXISTING UTILITY LINES
	10	DOMESTIC (HOT & RECIRCULATING) (DHW, RDHW)
	11	DOMESTIC COLD (DCW)
	12	SANITARY (VENTS INCLUDED) (SAN)
	13	STORM (ROOF DRAINS) (RD)
	14	CONDENSATE DRAIN LINES (CD)
	15	FUEL/GAS LINES (FUEL. G)
	16	
	17	FIRE PROTECTION LINES (F)
	18	
	19	DISTILLED WATER
	20	COMPRESSED AIR (A)
	21	MEDICAL GASES (OX, NIT, ETC.)
	22	VACUUM (V)
	23	HYDRAULIC PIPING
	24	
	25	
	26	STEAM (HPS.LPS)
	27	
	28	EQUIPMENT - EXISTNG
	29	EQUIPMENT - NEW (PUMPS, TANKS. ETC)
	30	
	31	
	32	EXISTING PIPING - TO REMAIN
	33	EXISTING PIPING - TO BE REMOVED
	34	HVAC PIPING - MISC. (GAS, FOS, FOR, LPS, FW)
	35	HVAC PIPING - HEATING (SUPPLY) (HWS)
	36	HVAC PIPING - HEATING (RETURN) (HWR)
	37	HVAC PIPING - COOLING (SUPPLY) (CWS)
	38	HVAC PIPING - COOLING (RETURN) (CWR)
	39	HVAC PIPING - REFRIGERATION & MISC. (RL)
	40	

LEVEL ASSIGNMENTS - MECHANICAL PIPING / PLUMBING

(continued)

LEVEL	41	MATCH LINES, BREAKLINES, TARGETS
	42	
	43	
	44	
	45	ROOM NAMES & NUMBERS
	46	MISCELLANEOUS TEXT (FT=23)
	47	INDEPENDENT SHEET NOTES (FT=2)
	48	LEGEND & SCHEDULE GRAPHICS
	49	LEGEND & SCHEDULE TEXT
	50	DIMENSIONS
	51	
	52	
	53	
	54	
	55	
	56	FLOW ARROWS
	57	PIPING CENTERLINES
	58	
	59	EQUIPMENT OUTLINES (USED FOR OTHER DISCIPLINES TO REFERENCE)
	60	
	61	ERROR MESSAGES & SYMBOLS
	62	ADDENDA AND BULLETIN “BUBBLES”
	63	“CHANGE INDICATION” SYMBOLS & TEXT

LEVEL ASSIGNMENTS FOR ELECTRICAL DRAWINGS

LEVEL	1	SHEET BORDER
	2	“DRAWING SHEET INDEPENDENT” INFORMATION
	3	“DRAWING SHEET DEPENDENT” INFORMATION
	4	
	5	SITE LIGHTING
	6	SITE ELECTRICAL (POWER)
	7	SITE COMMUNICATION
	8	SITE LIGHTING (EXISTING)
	9	
	10	LIGHT/POWER PANELS
	11	PANEL ID (TEXT)
	12	SPECIAL JUNCTION BOXES
	13	SPECIAL JUNCTION BOX TEXT & LEADER LINE
	14	RECEPTACLES
	15	SWITCHES
	16	
	17	METERS, FAN HANGAR OUTLET, OUTLET BOX
	18	MOTORS
	19	ELECTRICAL DEVICE ID
	20	FIRE PROTECTION - WALL MOUNTED (SMOKE DETECTOR, HORN, EXIT LIGHT, ALARM, ETC)
	21	FIRE PROTECTION - CEILING MOUNTED (SMOKE DETECTOR, HORN, EXIT LIGHT, ALARM, ETC.)
	22	SECURITY SYSTEM COMPONENTS
	23	
	24	
	25	COMMUNICATIONS - TELEPHONE
	26	TV
	27	CLOCKS
	28	INTERCOM
	29	BUSWAYS - BUSDUCTS
	30	LIGHTING - FLUORESCENT
	31	LIGHTING - INCADESCENT
	32	SPECIAL LIGHT FIXTURE TYPES (HID, SODIUM, MET, HALIDE)
	33	LIGHTING - EXISTING
	34	LIGHTING TAGS - TEXT
	35	CIRCUIT LINES
	36	CIRCUIT ID (PANEL ID & CIRCUIT NUMBER)
	37	WIRE COUNTS
	38	SPECIAL CIRCUITS (PATTERN)
	39	CIRCUIT LINES (EXPOSED CONDUIT)
	40	REFERENCE SYMBOLS AND TEXT

LEVEL ASSIGNMENTS FOR ELECTRICAL DRAWINGS

(continued)

LEVEL	41	MATCH LINES, BREAKLINES, CENTERLINES, TARGETS
	42	
	43	
	44	
	45	ROOM NAMES AND NUMBERS (SYMBOL, TEXT & UNDERLINE)
	46	NOTES, MICELLANEOUS TEXT
	47	DRAWING COMPONENT TITLES AND SCALES
	48	LEGEND & SCHEDULE GRAPHICS
	49	LEGEND & SCHEDULE TEXT
	50	DIMENSIONS
	51	USER-DEFINABLE
	52	USER -DEFINABLE
	53	USER-DEFINABLE
	54	USER-DEFINABLE
	55	USER-DEFINABLE
	56	REFERENCE NOTES (ELECTRICAL)
	57	REFERENCE NOTES (HVAC)
	58	REFERENCE NOTES (STRUCTURAL)
	59	SPEC NUMBERS
	60	
	61	NON-PRINT REFERENCE ELEMENTS
	62	ADDENDA AND BULLETIN “BUBBLES”
	63	“CHANGE INDICATION” (SYMBOL & TEXT)

LEVEL ASSIGNMENTS FOR STRUCTURAL FOUNDATION PLANS

LEVEL	1	SHEET BORDER
	2	
	3	EXISTING EXTERIOR WALL
	4	NEW INTERIOR WALL, NEW INTERIOR WALL - HIDDEN
	5	STEP FOOTING
	6	FOOTINGS
	7	GRADE BEAM
	8	PIERS
	9	EXISTING PIERS
	10	COLUMN LINES
	11	COLUMN TAGS
	12	COLUMNS
	13	
	14	
	15	
	16	OPENINGS
	17	
	18	
	19	
	20	STAIRS
	21	
	22	STOOPS
	23	NON LOAD BEARING WALLS
	24	LOAD BEARING WALLS
	25	
	26	NOSING
	27	
	28	PARTIAL HEIGHT WALLS
	29	SLOPE LINE
	30	
	31	
	32	
	33	THICKENED SLAB
	34	SLABS - INTERIOR
	35	
	36	EQUIPMENT PADS
	37	
	38	
	39	
	40	REFERENCE SYMBOL

LEVEL ASSIGNMENTS FOR STRUCTURAL FOUNDATION PLANS

(continued)

LEVEL	41	MATCH LINE
	42	EXPANSION JOINTS
	43	CONTROL JOINTS
	44	
	45	REINFORCING
	46	TEXT - TEXT LEADERLINES
	47	TITLES
	48	NOTES
	49	SCHEDULES - LEGENDS
	50	DIMENSIONS
	51	KEY PLAN NUMBERS
	52	
	53	POUCHE
	54	
	55	TRENCHDRAINS
	56	
	57	FLOOR DRAINS
	58	
	59	
	60	
	61	CLIP AREA REFERENCE
	62	AMENDMENT SYMBOLS
	63	

LEVEL ASSIGNMENTS FOR STRUCTURAL ROOF FRAMING PLANS

LEVEL	1	SHEET BORDER
	2	
	3	EXISTING EXTERIOR WALL
	4	NEW INTERIOR WALL, NEW INTERIOR WALL - HIDDEN
	5	
	6	
	7	
	8	PIERS
	9	
	10	COLUMN LINES
	11	COLUMN TAGS
	12	COLUMNS
	13	
	14	
	15	
	16	OPENINGS
	17	WALL BRACING
	18	EDGE ANGLES
	19	SAG RODS
	20	STAIRS
	21	PRIMARY BEAMS
	22	SECONDARY BEAMS
	23	NON LOAD BEARING WALLS
	24	LOAD BEARING WALLS
	25	LINTELS
	26	BEAM POCKETS
	27	MONUMENT SYNBOL
	28	
	29	
	30	JOIST FRAMING BELOW
	31	EXISTING BEAM
	32	
	33	
	34	SLABS - INTERIOR
	35	DECKING
	36	EQUIPMENT PADS
	37	BRIDGE CRANE / MONORAIL
	38	DIAGNAL BRACING
	39	SHAPE SYMBOLS - ELEV.
	40	REFERENCE SYMBOL

LEVEL ASSIGNMENTS FOR STRUCTURAL ROOF FRAMING PLANS

(continued)

LEVEL	41	MATCH LINE
	42	
	43	
	44	
	45	
	46	TEXT - TEXT LEADERLINES
	47	TITLES
	48	NOTES
	49	SCHEDULES - LEGENDS
	50	DIMENSIONS
	51	KEY PLAN NUMBERS
	52	
	53	POUCHE
	54	
	55	
	56	
	57	
	58	
	59	
	60	
	61	CLIP AREA REFERENCE
	62	AMENDMENT SYMBOLS
	63	

LEVEL ASSIGNMENTS FOR STRUCTURAL DETAIL SHEETS

LEVEL	1	SHEET BORDER
	2	BORDER TEXT
	3	
	4	
	5	
	6	
	7	
	8	
	9	
	10	COLUMN LINES
	11	COLUMN TAGS
	12	
	13	
	14	
	15	MASONRY
	16	OPENINGS
	17	
	18	
	19	
	20	BEAMS / STEEL
	21	
	22	
	23	
	24	
	25	
	26	
	27	
	28	
	29	
	30	
	31	
	32	
	33	
	34	
	35	
	36	EQUIPMENT
	37	
	38	
	39	
	40	REFERENCE SYMBOL

LEVEL ASSIGNMENTS FOR STRUCTURAL ROOF FRAMING PLANS

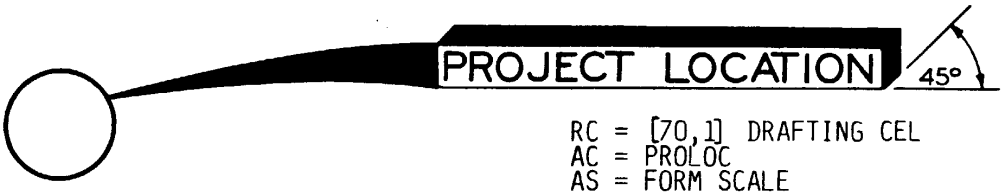
(continued)

LEVEL	41	MATCH LINE
	42	
	43	
	44	WELD SYMBOLS
	45	REINFORCEMENT
	46	TEXT - TEXT LEADERLINES
	47	TITLES
	48	NOTES
	49	SCHEDULES - LEGENDS
	50	DIMENSIONS
	51	
	52	
	53	POUCHE
	54	
	55	
	56	
	57	
	58	
	59	
	60	
	61	CLIP AREA REFERENCE
	62	AMENDMENT SYMBOLS
	63	

COMMONLY USED STANDARDS OF OMAHA DISTRICT

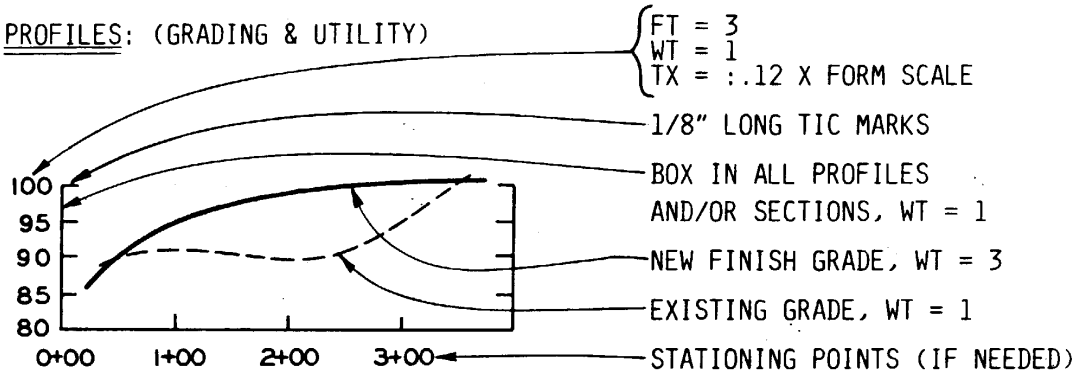
PROJECT LOCATION:

ALL PROJECT LOCATIONS - ADD SHADOW BOX AND LEADERS AS SHOWN.

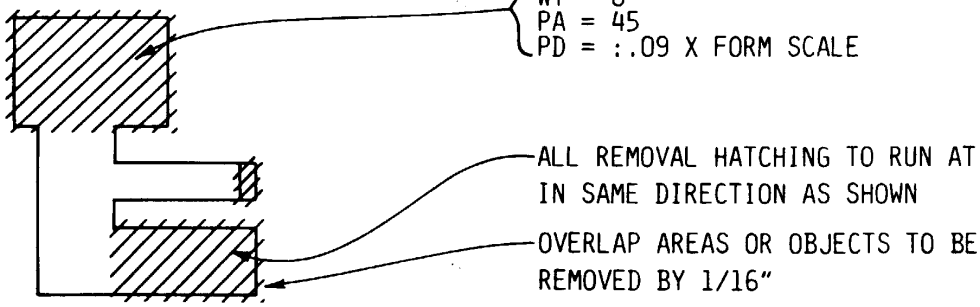


RC = [70,1] DRAFTING CEL
AC = PROLOC
AS = FORM SCALE

PROFILES: (GRADING & UTILITY)



REMOVAL SYMBOL:

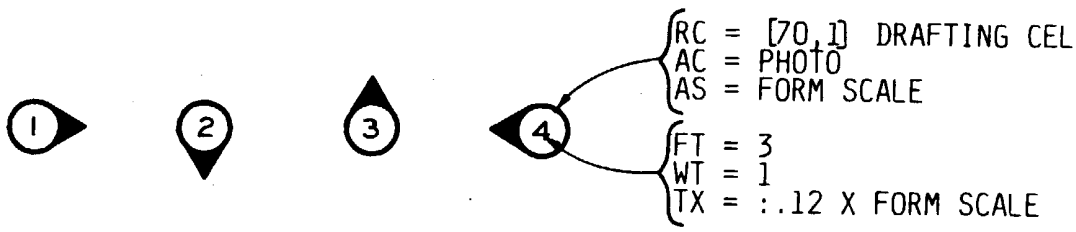


COMMONLY USED STANDARDS OF OMAHA DISTRICT

MATCH LINES:

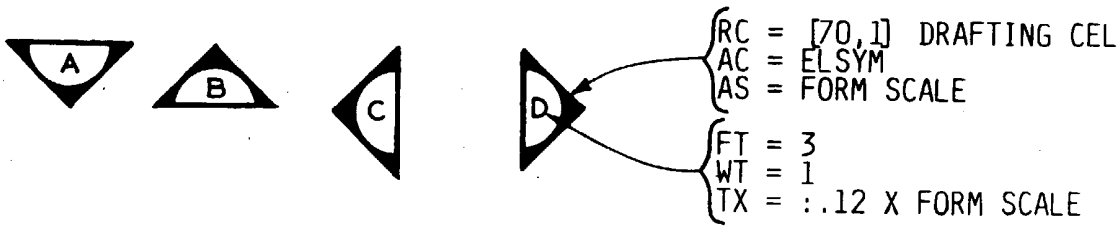
PHOTOGRAPHS:

USE THE FOLLOWING SYMBOL TO INDICATE LOCATION AND DIRECTION OF SIGHT OF PHOTOGRAPHS.

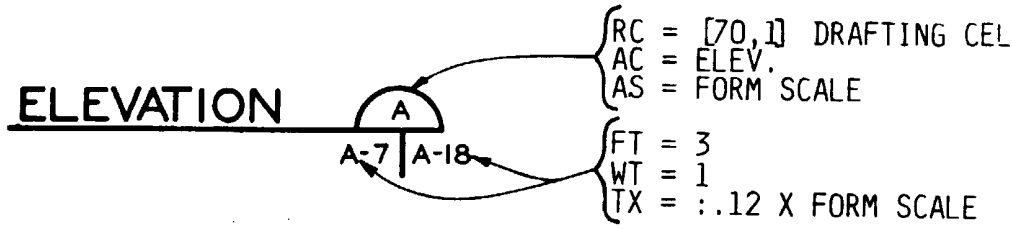


INTERIOR ELEVATIONS:

ONE OF THE FOLLOWING SYMBOLS MAY BE USED TO SHOW THE DIRECTION OF SIGHT ON THE FLOOR PLAN



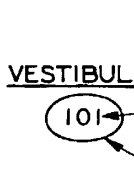
USE THIS SYMBOL ON THE SHEET WHERE THE ELEVATION IS



COMMONLY USED STANDARDS
OF OMAHA DISTRICT

ROOM NAMES & NUMBERS:

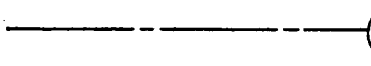
ROOM NAMES & NUMBERS TO BE ON ALL 1/4" FLOOR PLANS



FT = 3
WT = 1
TX = :.12 X FORM SCALE
(TYPICAL OF ENCLOSED TEXT
ON THIS PAGE)

30° OR 35° ELLIPSE
1/2" (OR LARGER IF NECESSARY)

COLUMN DESIGNATIONS:



3/8" CIRCLE

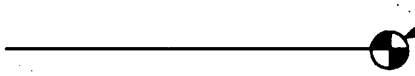
DOOR NUMBERS:

TO BE USED ON 1/4" SCALE ARCHITECTURAL DRAWINGS ONLY (5/16" CIRCLE PREFERRED, 3/8" CIRCLE IF NECESSARY)

WINDOW TYPE DESIGNATION:

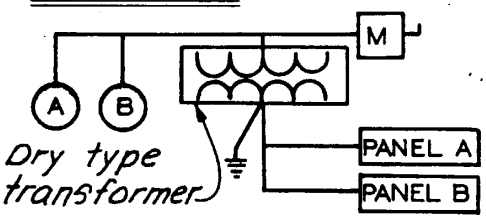
5/16" HEXAGON. TO BE USED ON 1/4" SCALE ARCHITECTURAL DWGS ONLY

ELEVATION SYMBOL:



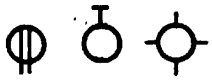
1/4" CIRCLE TO BE USED FOR BUILDING ELEVATION AND WALL SECTION HEIGHTS

ONE-LINE DIAGRAMS AND SCHEMATICS:



USE FREEHAND TYPE (FT=2) ON ALL NOTES EXCEPT FOR INFORMATION ENCLOSED IN A BOX OR CIRCLE. (FT=3) (DIAGRAMS MAY BE ALTERED IN SIZE AND/OR LENGTH IN ORDER TO MAKE THE INFORMATION FIT)

ELECTRICAL OUTLETS, LIGHTS ETC.:



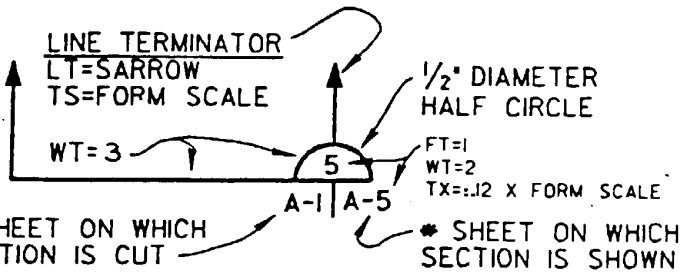
USE 1/4" CIRCLES ON 1/4" SCALE PLANS AND 3/16" CIRCLES ON 3/16" OR 1/8" SCALE PLANS

COMMONLY USED STANDARDS OF OMAHA DISTRICT

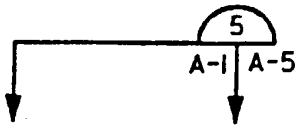
TYPICAL SECTION CUT

RC=[70,1]DRAFTING.CEL
AC=FORM SCALE

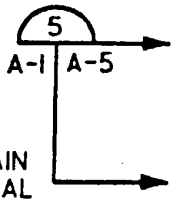
AC=SECCUT

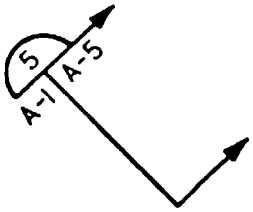


VARYING SITUATIONS

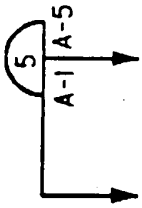


THE HALF CIRCLE SHALL REMAIN HORIZONTAL ON ALL HORIZONTAL & VERTICAL SECTION CUTS.



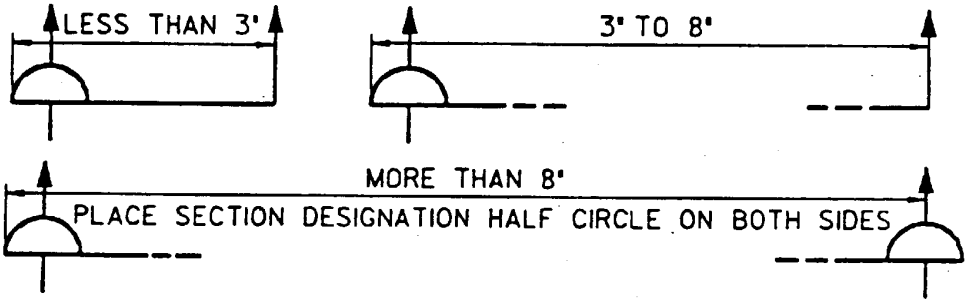


ACCEPTABLE

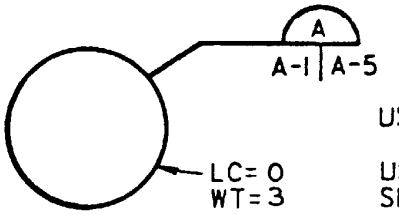


UNACCEPTABLE

LENGTH VARIATIONS



DETAILS



USE THIS WHERE DETAIL IS TAKEN

USE THIS WHERE ENLARGED DETAIL IS SHOWN

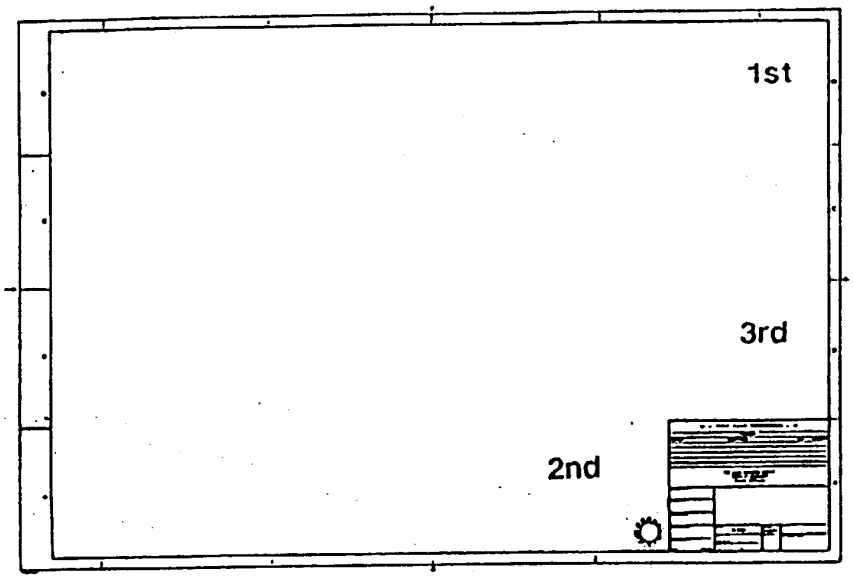
USE LINE WEIGHT, TEXT, & HALF CIRCLE SIZE SAME AS FOR A SECTION CUT

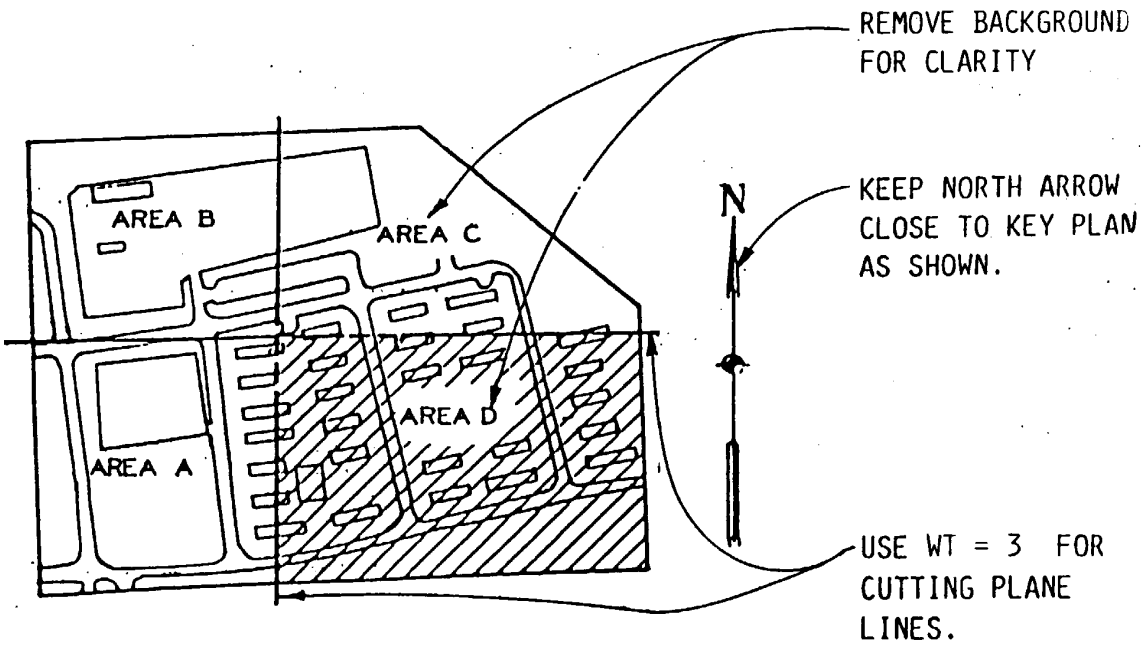
* SHEET REFERENCE NUMBERS MAY BE OMITTED IF SECTION OR DETAIL IS CUT AND SHOWN ON THE SAME SHEET.

COMMONLY USED STANDARDS OF OMAHA DISTRICT

KEY PLAN:

PLACE KEY PLAN IN ONE OF THE LOCATIONS SHOWN. LOCATIONS ARE SHOWN NUMERICALLY ACCORDING TO PREFERENCE.





KEY PLAN
NO SCALE

LETTERING

1. CIVIL, STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS

   A) **FONT 2**
   B) ALL CAPS

2. ARCHITECTURAL DRAWINGS

   A) **FONT 2 OR 3**
   B) ALL CAPS

3. ALL LEADERS FROM FREEHAND NOTES SHOULD START EITHER AT BEGINNING OR NOTE OR END OF NOTE ONLY.

SAMPLE FORMAT FOR ALL TYPED NOTES: (FONT 3)

NOTES:

1. ALL RECEPTACLES IN ROOM 325A AND 325B MUST BE ISOLATED GROUND TYPE. THE DUPLEX OUTLETS SHALL BE 20A, EQUIVALENT TO HUBBELL TYPE 1G5362.
2. RECEPTACLES IN RECEPTACLE STRIPS MAY BE 15A, SINGLE OUTLET TYPE (SLATER #1G5361 OR EQUAL.)
3. A TRANSIENT VOLTAGE SUPPRESSOR SHALL BE PROVIDED TO PROTECT DATA PROCESSING CIRCUITS.

TYPICAL SEQUENCE OF DRAWINGS

COVER SHEET
LOCATION PLAN:
    VICINITY MAP, PROJECT LOCATION, INDEX
LEGEND SHEET
ELECTRICAL LEGEND SHEET
ABBREVIATION SHEET
BORING LOGS AND BORING LOCATION PLANS
SITE REMOVL PLANS
SITE PLANS
GRADING AND DRAINAGE PLANS:
    GRADING AND DRAINAGE CROSS SECTIONS & PROFILES
    STORM DRAIN PROFILES
    STORM DRAIN SCHEDULE
    STORM DRAIN MANHOLE, SECTIONS & SCHEDULE
    SUBDRAIN DETAILS & RISER DETAILS
    CURB INLETS, DETAILS & SCHEDULES
    AREA INLET DETAILS
UTILITY PLANS:
    SANITARY SEWER DETAILS
    WATER LINE DETAILS
    LIFT STATION DETAILS
    CASING PIPE DETAILS
ELECTRICAL DISTRIBUTION PLAN:
    ELEC. DIST. DETAILS
LANDSCAPE PLANS:
    PLANTING DETAILS:
IRRIGATION PLANS:
    SPRINKLER SYSTEM DETAILS
TRAFFIC SIGNING & STRIPING DETAILS
FENCE DETAILS
ARCHITECTURAL:
    REMOVAL PLANS
    COMPOSITE PLANS
    ROOF PLANS (COMPOSITE)
    FLOOR PLANS (1/4” SCALE)
    REFLECTED CEILING PLANS
    ELEVATIONS
    BUILDING CROSS SECTIONS
    WALL SECITONS
    DETAILS
STRUCTURAL:
    REMOVAL PLANS
    FOUNDATION PLANS
    FOUNDATION SECTIONS AND/OR DETAILS
    FLOOR FRAMING PLANS
    FLOOR FRAMING SECTIONS AND DETAILS
    COLUMN JOIST BEAM SCHEDULES AND DETAILS
    ROOF FRAMING PLANS
    ROOF FRAMING SECTIONS AND DETAILS
    FRAMING ELEVATIONS MISCELLANEOUS DETAILS

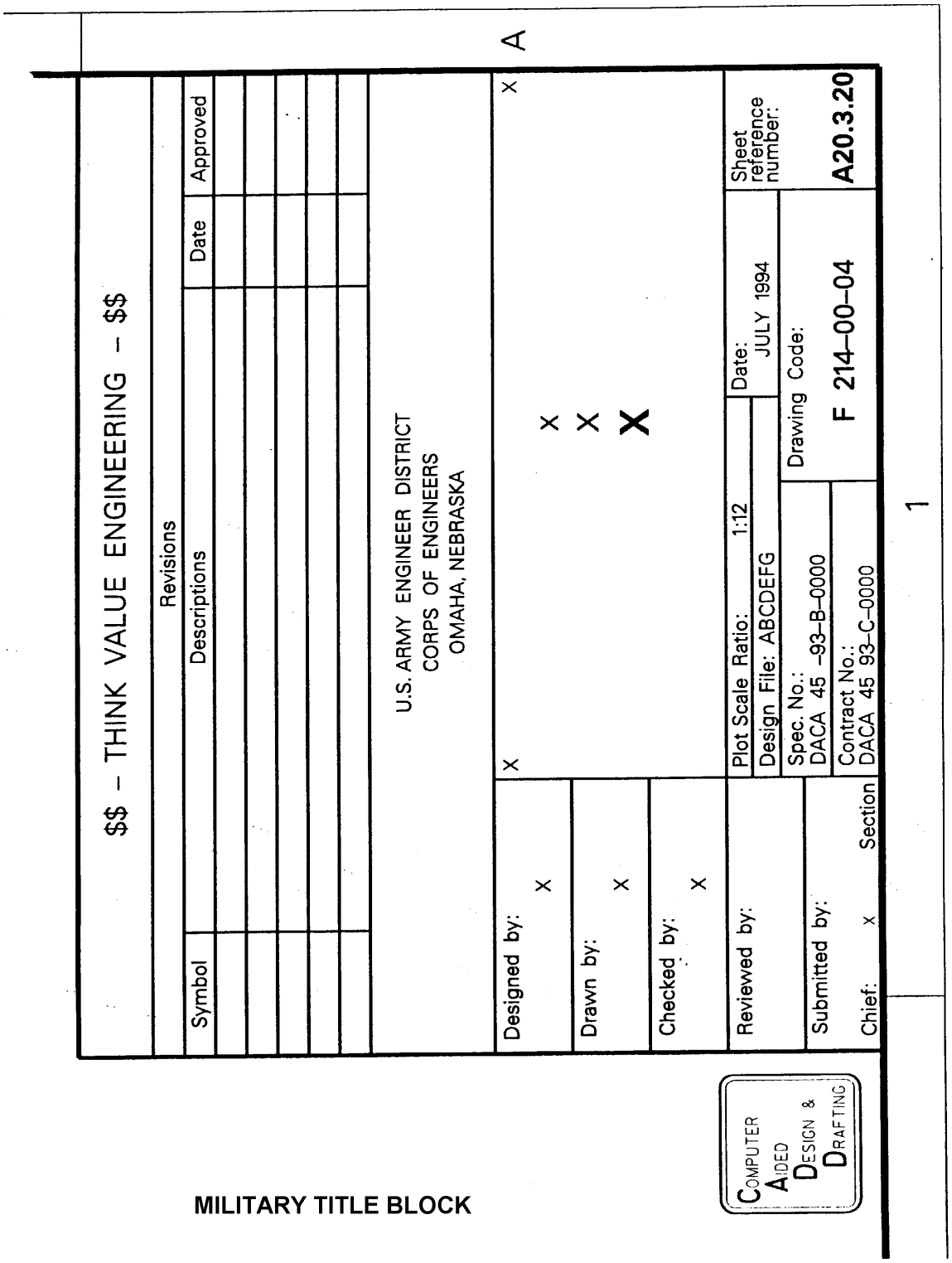
MECHANICAL:

- REMOVAL PLANS
- PLUMBING PLANS
- ONE LINE AND/OR RISER DIAGRAMS
- PLUMBING DETAILS
- MECHANICAL PLANS (HVAC)
- MECHANICAL DETAILS (HVAC)
- SCHEDULES
- TEMPERATURE CONTROLS
- FINE PROTECTION PLANS

ELECTRICAL:

- REMOVAL PLANS
- LIGHTING PLANS
- POWER PLANS
- ONE LINE AND RISER DIAGRAMS
- COMMUNICATION AND FIRE ALARM PLANS
- PANEL SCHEDULES
- DETAILS

THIS SEQUENCE OF DRAWINGS IS INTENDED TO SERVE AS A GUIDELINE IN ASSEMBLING A SET OF DRAWINGS. SPECIFIC DRAWINGS AND ORDER MAY VARY FROM PROEJCT TO PROJECT.



MILITARY TITLE BLOCK

DEFINITIONS OF REVISIONS:

1. REVISIONS BY MODIFICATION. (AFTER AWARD OF CONSTRUCTION CONTRACT).
2. METHOD OF ADDING NEW DRAWING BY MODIFICATION.
3. REVISIONS BY AMENDMENT WHEN WRITTEN "WORD DESCRIPTIVE" AMENDMENT IS ISSUED AND DRAWINGS ARE POSTED FROM WRITTEN DESCRIPTIONS AFTER THE ISSUE DATE.
4. REVISIONS BY AMENDMENT WHEN DRAWING IS TO BE RE-ISSUED.
5. METHOD OF ADDING NEW DRAWING BY AMENDMENT.
   NOTE: DELTA NUMBER MATCHES AM. NUMBER

INSTRUCTIONS FOR NOTING REVISIONS:

1. ADD THE REVISION DESCRIPTION (EITHER AMENDMENT OR MODIFICATION DESCRIPTION AS APPLICABLE).
2. ADD THE PROPER REVISION SYMBOL TO THE LEFT OF THE REVISION NOTATION.
3. ADD THE PROPER AMENDMENT OR MOD. SYMBOL NEAR EACH REVISED ITEM IN THE BODY OF THE DRAWING.
4. ADD ARCHITECT-ENGINEERS INITIALS IN APPROVED BLOCK WHEN A-E IS RESPONSIBLE FOR AMENDMENT OR MODIFICATION.
5. WHEN ADDING A NEW DRAWING TO SHOW SUPPLEMENTAL DATA, USE SAME DRAWING NUMBERS AS DRAWING WITH SIMILAR SUBJECT MATTER AND ADD AN ALPHABETICAL SUFFIX TO THE SHEET NO. THIS DRAWING SHOULD BE ADDED TO THE INDEX OF DRAWINGS IN ITS PROPER PLACE ACCORDING TO THE SHEET NUMBER.
6. FOR MODIFICATION ONLY:
   ADD A ½ INCH ENCIRCLED (P/X) INSIDE OF TITLE BLOCK AND TO THE RIGHT OF THE DRAWING CODE AS SHOWN. USE THIS SYMBOL NEAR EACH REVISED ITEM IN THE BODY OF THE DRAWING.

COMPUTER AIDED DESIGN & DRAFTING

$$ – THINK VALUE ENGINEERING – $$

Revisions

Symbol	Descriptions	Date	Approved
P-7	REVISED FIXTURE LAYOUT ROOM 102	6-17-94	
P-1	NEW DRAWING ADDED, ADDED EXIT LIGHTS	3-27-94	
1	REVISED IN ACCORDANCE WITH AM. NO. 0007	3-17-94	
3	AM. #0003 GENERAL REVISIONS	2-27-94	
1	AM. #0001 NEW DRAWING ADDED	2-17-94	

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
OMAHA, NEBRASKA

Designed by: X
Drawn by: X
Checked by: X
Reviewed by:
Submitted by:
Chief: x Section

X X X X X

Plot Scale Ratio: X
Design File: X
Date: NOV. 1994
Sheet reference number: X
Spec. No.: DACA 45
Contract No.: DACA 45
Drawing Code: (P/X) AF 000-00-00

A

2 1

METHOD OF
NOTING DRAWING REVISIONS
EXAMPLE 0-C

LINE WEIGHT 0

LINE WEIGHT 1

LINE WEIGHT 2

LINE WEIGHT 3

LINE WEIGHT 4

LINE WEIGHT 5

LINE WEIGHT 6

LINE WEIGHT 7

CORPS TEXT STANDARDS

90--(RARELY USED) 120 140

175---SUB TITLES

200---MAIN TITLES

Freehand ARCH. FREEHAND

NO.'S ARE WRICO EQUIVALENTS
FOR DRAFTING'S REFERENCE

TEXT FONT Ø

TEXT FONT 1

TEXT FONT 2

TEXT FONT 3

Text Font 23

DESIGN FILE AND SHEET REFERENCE

NAMING CONVENTIONS

DESIGN FILE NAMING CONVENTION EXPLANATION:

1. THE DESIGN FILE NAME SHALL HAVE A MAXIMUM OF EIGHT CHARACTERS FOLLOWED BY ".DGN."

[_____.DGN]
12345678

2. THE FIRST FOUR CHARACTERS ARE THE FILE CODE. CHARACTERS 1 AND 2 WILL BE A LOCATION CODE PREFIX (0D - OMAHA DISTRICT). SEE ATTACHMENT NUMBER ONE FOR ADDITIONAL LOCATION LISTINGS. CHARACTERS 3 AND 4 WILL BE A TWO DIGIT SEQUENCE NUMBER (01). THE FILE CODE WILL BE ASSIGNED TO THE PROJECT DIRECTORY BY THE CADD SYSTEM MANGER AFTER A REQUEST FOR PROJECT DIRECTORY IS SUBMITTED BY THE PA OR PE. INDIVIDUALS MAY NOT ASSIGN THESE CHARACTERS ON THEIR OWN.

[0D01 ____.DGN]
12345678

3. CHARCTER 5 IS A DISCIPLINE CODE (C). SEE ATTACHMENT NUMBER TWO FOR DISCIPLINE CODES.

[0D01C____.DGN]
12345678

4. CHARACTER 6 IS A SUBJECT CODE (1). SUBJECT CODES RUN FROM 0 TO 9 AND THEN A T0 Z. SUBJECT CODES ARE STANDARDIZED FOR EACH DISCIPLINE. ADDITIONAL SUBJECT CODES CAN BE CREATED AS REQUIRED FOR A SPECIFIC PROJECT AS LONG AS THE CODES ARE ADDED TO THE INDEX. SEE ATTACHMENT NUMBER THREE FOR SUBJECT CODES.

[0D01C1___.DGN]
12345678

5. CHARACTERS 7 AND 8 ARE RESERVED FOR NUMBERS 00 THROUGH 99 (01).

[0D01C101.DGN]
12345678

SHEET REFERENCE NUMBERING CONVENTION:

1. THE SHEET REFERENCE NUMBERS SHALL HAVE A MINIMUM OF FOUR CHARACTERS WITH THE FORMAT AS SHOWN BELOW. SHEET REFERENCE NUMBERS SHOULD MATCH THE LAST FOUR CHARACTERS OF THE FILE NUMBER AS MUCH AS POSSIBLE. THE FIRST TWO CHARACTERS WILL BE SEPARATED BY A "." SYMBOL.

```
[ __ . __ ]
  12   34
```

2. THE FIRST CHARACTER IS THE DISCIPLINE CODE (C). SEE ATTACHMENT NUMBER TWO FOR DISCIPLINE CODES.

```
[ C__.__ ]
   12  34
```

4. THE SECOND CHARACTER IS THE SUBJECT CODE (1). SUBJECT CODES RUN FROM 0 TO 9 AND THAN A TO Z. SUBJECT CODES ARE STANDARDIZED FOR EACH DISCIPLINE. ADDITIONAL SUBJECT CODES CAN BE CREATED AS REQUIRED FOR A SPECIFIC PROJECT AS LONG AS THE CODES ARE ADDED TO THE INDEX. SEE ATTACHMENT NUMBER THREE FOR SUBJECT CODES.

```
[ C1. __ ]
   12  34
```

5. CHARACTERS 3 AND 4 ARE RESERVED FOR NUMBERS 00 THROUGH 99 (01). AGAIN, THE SHEET REFERENCE NUMBER SHOULD MATCH THE FILE NUMBER AS MUCH AS POSSIBLE.

```
[ C1.01 ]
   12 34
```

LOCATION CODES:

FILE NAME (FIRST AND SECOND CHARACTER) [0D _____.DGN]

12345678

MILITARY LOCATIONS:

OF	OFFUTT AFB
ML	McCLELLAN AFB
MC	McCONNELL AFB
WH	WHITEMAN AFB
FC	FORT CARSON
FM	FORT McCOY
BK	BARKSDALE AFB
ED	EDWARDS AFB
MA	MARCH AFB
EL	ELLSWORTH AFB
FL	FALCON AFB
GR	GRIFFISS AFB
HA	HAMILTON AFB
KI	K.I. SAWYER AFB
PE	PETERSON AFB
WU	WURTSMITH AFB
GE	GEORGE AFB
LO	LOWRY AFB
FA	FAIRCHILD AFB
DY	DYESS AFB
AA	AIR FORCE ACADEMY
BM	BILLY MITCHELL FIELD
BU	BUCKLEY ANG BASE
FZ	FITZSIMMONS AMC
RA	ROCKY MOUNTAIN ARSENAL
AP	ARMY AMMO PLANTS

CIVIL WORK LOCATIONS:

OD	OMAHA DISTRICT
MR	MISSOURI RIVER DIVISION
EN	ENVIRONMENTAL
GR	MISSOURI RIVER, GARRISON DAM
FP	MISSOURI RIVER, FORT PECK
BB	MISSOURI RIVER, BIG BEND
GP	MISSOURI RIVER, GAVINS REPORT
FR	MISSOURI RIVER, FORT RANDALL
OA	MISSOURI RIVER, OAHE DAM
PC	MISSOURI RIVER, PAPIO CREEK
HT	HARRY S. TRUMAN DAM
LS	LAKE SHARPE, SD
BH	BLACK HILLS, SD
CD	CHATFIELD DAM, CO

CC CHERRY CREEK, CO

DISCIPLINE CODES:

FILE NAME (FIFTH CHARACTER) [0D01C____.DGN]
12345678

SHEET REFERENCE NUMBER (FIRST CHARACTER) [C __.__]
12 34

A	ARCHITECT
C	CIVIL
D	CADD/DRAFTING
E	ELECTRICAL
F	FIRE PROTECTION
G	GEOTECH
H	HYDRO
I	INTERIORS
L	LANDSCAPE
M	MECHANICAL
P	SITE & MASTER PLANNING
Q	AIRFIELD PAVEMENT
S	STRUCTURAL
U	ENVIRONMENTAL
V	SURVEYS

ARCHITECTURAL SUBJECT CODES:

FILE NAME (SIXTH CHARACTER) [D01A1__.DGN]
12345678

SHEET REFERENCE NUMBER (SECOND CHARACTER) [A1.___]
12 34

0 COMPOSITE FILES
(IE) A1.0 FLOOR PLAN
A2.0 REFLECTED CEILING PLAN
A3.0 ROOF PLAN
A4.0 ELEVATIONS

MULTIPLE COMPOSITE FLOOR PLAN FILES EXAMPLES
A1.01 FIRST FLOOR COMPOSITE PLAN
A1.02 SECOND FLOOR COMPOSITE PLAN
A1.03 THIRD FLOOR COMPOSITE PLAN

1 FLOOR PLANS, ENLARGED FLOOR PLANS

2 REFLECTED CEILING PLANS, SPECIAL WALL CONSTRUCTION PLANS, SPECIAL EQUIPMENT PLANS

3 ROOF PLANS

4 EXTERIOR ELEVATIONS, PARTIAL EXERIOR ELEVATIONS, INTERIOR ELEVATIONS

5 BUILDING CROSS SECTIONS, EXTERIOR AND INTERIOR WALL SECTIONS, WALL TYPES

6 DOOR, WINDOW AND LOUVER SCHEDULES, ROOM FINISH AND MATERIAL SCHEDULES

7 DOOR, WINDOW AND LOUVER DETAILS

8 ROOF DETAILS

9 STAIR & MISCELLANEOUS DETAILS AND SECTIONS

R REMOVAL PLANS, DETAILS AND ELEVATIONS

L LEGEND (ARCHITECURAL ONLY, WHEN REQUIRED)

CIVIL SUBJECT CODES:

FILE NAME (SIXTH CHARACTER) [0D01C1__.DGN]
12345678

SHEET REFERENCE NUMBER (SECOND CHARACTER) [C1.__]
12 34

0	COMPOSITE FILES (REFERENCE FILES)
	REFERENCE FILES : . . . . C001 GRADING & DRAINAGE . . . . C002 GRADING SECTIONS & ROAD PROFILES . . . . C003 JOINT LAYOUT
1	GRADING PLANS
2	GRADING SECTIONS
3	ROAD PROFILES
4	ROAD CROSS SECTIONS
5	STORM DRAIN PROFILES AND SCHEDULES
6	SUBDRAIN PROFILES AND SCHEDULES
7	JOINT LAYOUT PLANS
8	DETAIL SHEETS
9	MISCELLANEOUS
R	REMOVALS

CADD/DRAFTING SUBJECT CODES:

FILE NAME (SIXTH CHARACTER) [0D01D1___.DGN]
12345678

SHEET REFERENCE (SECOND CHARACTER) [D1.__]
12 34

1	COVER SHEET
2	INDEX
3	LEGEND SHEET
4	ELECTRICAL LEGEND SHEET
5	ABBREVATION SHEET

ELECTRICAL SUBJECT CODES:

FILE NAME (FIFTH CHARACTER) [0D01E1___.DGN]
12345678

SHEET REFERENCE NUMBER (SECOND CHARACTER) [E1.__]
12 34

EXTERIOR

U	SITE UTILITIES (INCLUDES L,P, & C ON COMMON DRAWINGS)
L	SITE LIGHTING ONLY
P	SITE POWER (DISTRIBUTION ONLY)
C	CATHODIC PROTECTION
D	SITE DETAILS
S	SITE SCHEDULES

INTERIOR

O	COMPOSITE PLAN & SUPPLEMENTAL LEGEND
R	REMOVALS
1	LIGHTING
2	POWER
3	SIGNAL (TELEPHONE, INTERCOM, ETC.)
4	GROUNDING & LIGHTING PROTECTION
5	ONE-LINE & RISERS (POWER, COMM, SECURITY, ETC.)
6	SCHEDULES
7	DETAILS
8	CONTROL SCHEMATICS
9	MISCELLANENOUS
I	FOR INFORMATION ONLY

NOTES:

- IF ADDITIONAL SUBJECT AREAS ARE NECESSARY OTHER LETTERS CAN BE USED AS DEFINED BY THE DESIGNER.

- DESIGNERS OPTION TO GROUP DETAILS AND SCHEDULES WITH THEIR SUBJECT CATEGORY INSTEAD OF THEIR OWN CATEGORY: E.G. LIGHTING, (PLANS, DETAILS, SCHEDULES)

FIRE PROTECTION SUBJECT CODES:

FILE NAME (FIFTH CHARACTER) [0D01F1__.DGN]
12345678

SHEET REFERENCE NUMBER (SECOND CHARACTER) [F1.__]
12 34

0	COMPOSITE PLAN
1	FLOOR PLAN (ARCHITECTURAL FEATURES)
2	SUPPRESSION SYSTEM PLAN
3	SUPRESSION RISERS/DETAILS
4	FIRE DETECTION FLOOR PLANS
5	FIRE ALARM ONE-LINES/RISERS
6	FIRE ALARM DETAILS
7	MISCELLANEOUS
I	FOR INFORMATION ONLY
R	REMOVAL PLANS

GEOTECH SUBJECT CODES:

FILE NAME (FIFTH CHARACTER) [0D01G1__.DGN]
12345678

SHEET REFERENCE NUMBER (SECOND CHARACTER) [G1.__]
12 34

0	SITE PLANS
1	BORING LOCATION PLANS
2	BORING LOGS
3	RIGHT-OF-WAY PLAN
4	HORZ/VERT CONTROL PLANS
5	EROSION CONTROL PLAN
6	EXCAVATION PLAN
7	GRADING PLAN
8	DETAILS
9	EXCAVATION CROSS SECTIONS
P	PIEZO METER DETAILS

HYDRO SUBJECT CODES:

FILE NAME (FIFTH CHARACTER) [0D01H1__.DGN]
12345678

SHEET REFERENCE NUMBER (SECOND CHARACTER) [H1.__]
12 34

0	PLAN VIEW/R.O.W.
1	BASIN MAP
2	ISOHYETAL MAP
3	DRAINAGE, STRUCTURES/HYDRAULIC STRUCTURES, (DROPS, SPILLWAYS, ETC)
4	RESERVOIR POOL AREA
5	PROFILES & CROSS SECTION
6	ALIGNMENT & CROSS SECTONS LOCATIONS
7	PROPOSED PROJECT IMPROVEMENTS
8	FLOODED AREA MAPS
9	HYDROGRAPHS FREQUENCY ENGINEERING CURVES
A	FLOOD WARNING GAGE DESIGN
R	REMOVAL

INTERIORS SUBJECT CODE:

FILE NAME (FIFTH CHARACTER) [0D01I1__.DGN]

SHEET REFERENCE NUMBER (SECOND CHARACTER) [I1.__]
12 34

0	COMPOSITE FURNITURE PLAN
1	FURNITURE FLOOR PLANS, PATTERNS
2	PREWIRED WORKSTATION TYPICALS
3	SIGNAGE SCHEDULES AND DETAILS
E	EQUIPMENT PLANS
R	REMOVAL PLANS

LANDSCAPE SUBJECT CODES:

FILE NAME (FITH CHARACTER) [0D01L1__.DGN]
12345678

SHEET REFERENCE NUMBER (SECOND CHARACTER) [L1.__]
12 34

1	LANDSCAPE PLAN
2	PLANTING DETAILS
3	IRRIGATION PLAN
4	IRRIGATION DETAILS

MECHANICAL SUBJECT CODES:

FILE NAME (FIFTH CHARACTER) [0D01M1__.DGN]
12345678

SHEET REFERENCE NUMBER (SECOND CHARACTER) [M1.__]
12 34

0	COMPOSITE PLAN
1	PLUMBING PLANS
2	PLUMBING DETAILS, DIAGRAMS, SCHEDULES
3	HVQAC PLANS
4	HVAC SECTIONS, DIAGRAMS
5	HVAC SCHEDULES
6	HVAC CONTROLS
7	MACHINES
R	REMOVAL PLANS

SITE & MASTER PLANNING SUBJECT CODES:

	FILE NAME (FIFTH CHARACTER)		[0D01P1__.DGN] 12345678
	SHEET REFERENCE NUMBER (SECOND CHARACTER)		[P1.__] 12 34
	0	COMPOSITE SITE, UTILITY & REMOVAL PLAN (REFERENCE FILES)	
	1	LOCATION PLAN, BORROW & FILL SITES	
	2	REMOVAL	
	3	SITE	
	4	DETAILS	
0	REFERENCE FILES		
	OSU	SURVEY	
	0SI	NEW WORK	
	0RE	REMOVAL	
	OKP	KEY PLAN	
	OUT	EXIST. UTILITIES	
1	OVERALL MAPS (PLOTTING FILES)		
	101	LOCATION PLAN	P1.01
	102	PHASING PLAN	P1.02
	103	CONCURRENT CONSTRUCTION	
2	REMOVAL (PLOTTING FILES)		
	201	REMOVAL AREA A	P2.01
	202	REMOVAL AREA B	P2.02
3	SITE (PLOTTING FILES)		
	301	SITE PLAN AREA A	P3.01
	302	SITE PLAN AREA B	P3.02
4	SITE DETAILS (PLOTTING FILES)		
	401	DETAILS	P4.01

AIRFIELD PAVEMENT SUBJECT CODES:

FILE NAME (FIFTH CHARACTER) [0D01Q1__.DGN]
12345678

SHEET REFERENCE NUMBER (SECOND CHARACTER) [Q1 . __]
12 34

0	COMPOSITE FILES
1	PAVEMENT REMOVAL PLANS
2	PAVEMENT REMOVAL SECTIONS
3	PAVING PLAN
4	GRADING PLANS
5	PAVEMENT PROFILE SHEETS
6	STORM DRAIN PROFILES AND SCHEDULES
7	STORM DRAIN DETAIL SHEETS
8	SUBDRAIN PROFILES AND SCHEDULES
9	SUBDRAIN DETAIL SHEETS
A	JOINT LAYOUT PLANS
B	PAVEMENT SECTION SHEETS
C	JOINT DETAIL SHEETS
D	SPOT ELEVATION PLANS
E	PAVEMENT REPAIR PLANS
F	PAVEMENT REPAIR DETAILS
G	MARKING REMOVAL PLANS
H	MARKING PLANS
I	MOORING DEVICE LAYOUT
J	MOORING DEVICE DETAILS
K	MISCELLANEOUS

STRUCTURAL SUBJECT CODES:

FILE NAME (FIFTH CHARACTER) [0D0151__.DGN]
12345678

SHEET REFERENCE NUMBER (SECOND CHARACTER) [S1. __]
12 34

0	COMPOSITE PLAN
1	DESIGN & GENERAL NOTES
2	FOUNDATION PLANS
3	ROOF FRAMING PLANS
4	FRAMING ELEVATIONS
5	FOUNDATION DETAIL SHEETS
6	FRAMING DETAILS
7	ELEVATION DETAILS
8	MISCELLANEOUS DETAILS
9	MASONRY DETAILS
R	REMOVAL PLAN

ENVIRONMENTAL SUBJECT CODES:

FILE NAME (FIFTH CHARACTER) [0D01U1__.DGN]
12345678

SHEET REFERENCE NUMBER (SECOND CHARACTER) [U1.__]
12 34

0	COMPOSITE UTILITY PLANS
1	WATER & WASTEWATER PLANS
2	YARD PIPING PLANS
3	PROFILES
4	DETAIL SHEETS
5	PROCESS PLANS
6	PROCESS EQUIPMENT DETAILS
7	MISCELLANEOUS HYDRAULIC STRUCTURES
8	FLOW DIAGRAMS & HYDRAULIC PROFILES
9	ISOMETERICS/SCHEDULES/CONTROL DRAWINGS
R	REMOVAL

SURVEY SUBJECT CODES:

FILE NAME (FIFTH CHARACTER)	[0D01V1__.DGN]
SHEET REFERENCE NUMBER (SECOND CHARACTER)	[V1. __] 12 34

1 SURVEY FILE