

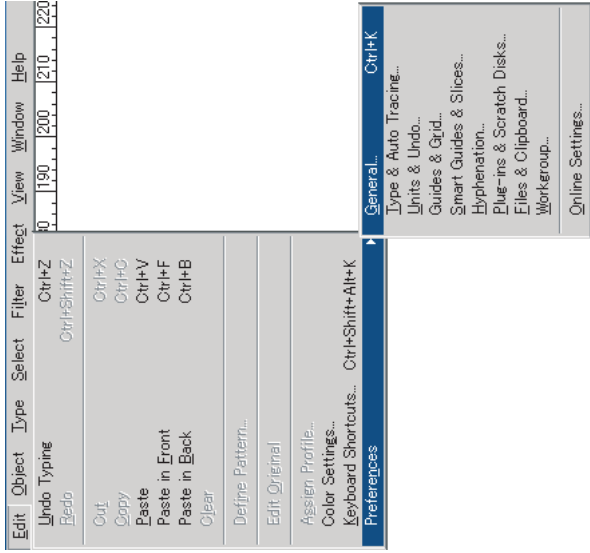
# **Digital Map Symbolization Manual**



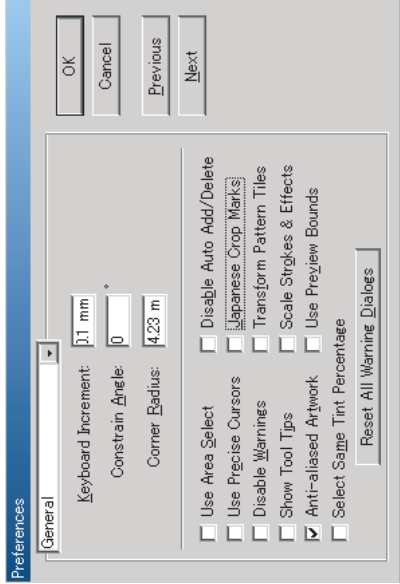
## Preferences Setting

Before editing one should set Preferences in Illustrator

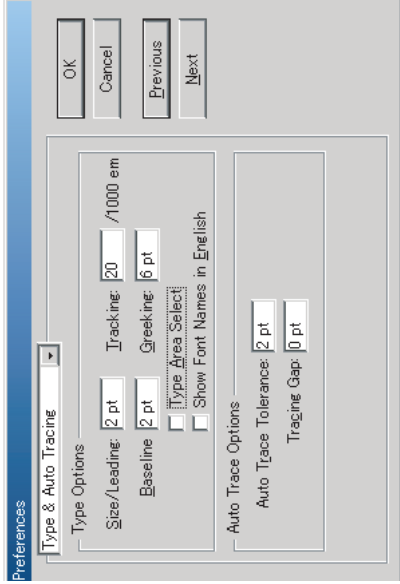
-1 Select Edit then you let see pull down menu then select the Preference



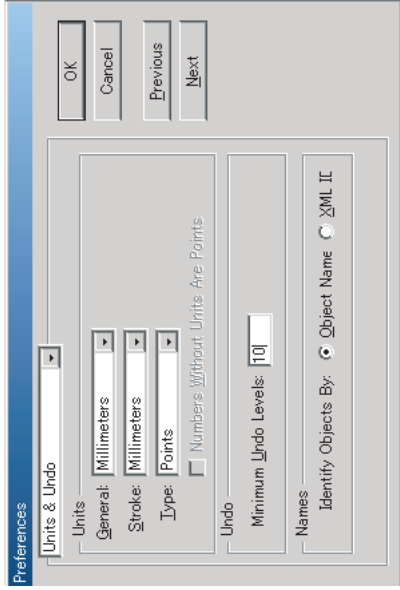
-2 Select the General in sub-pulldown then you can see this dialog box, then you put on check mark only as Anti-aliased Artwork For other boxes put off check mark. Then change the Keyboard Increment 0.1 mm., and then click Next



-3 You can see this dialog box, then put off check mark Type Area Select. And then click Next

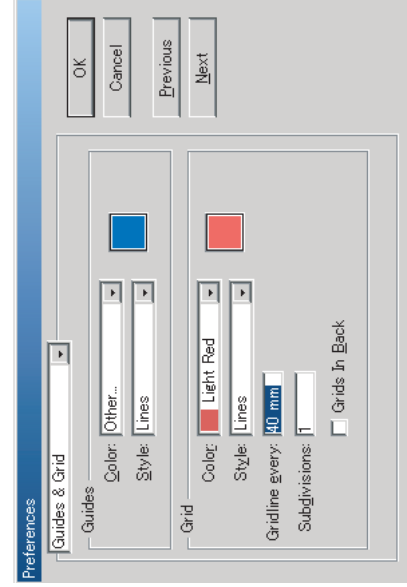


-4 You can see this dialog box, then you let change the units which should be set General; mm, Stoke; mm, Type; Points; Undo10. And then click Next.

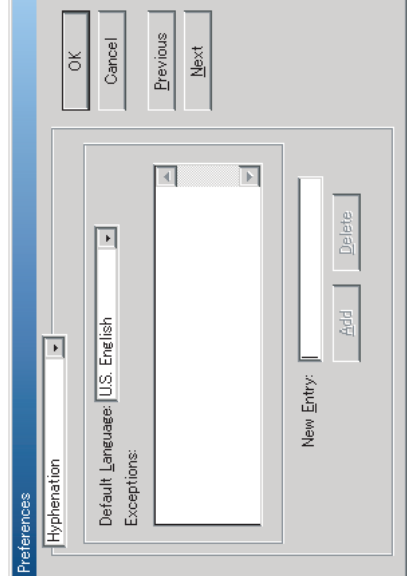


## Setting Preference

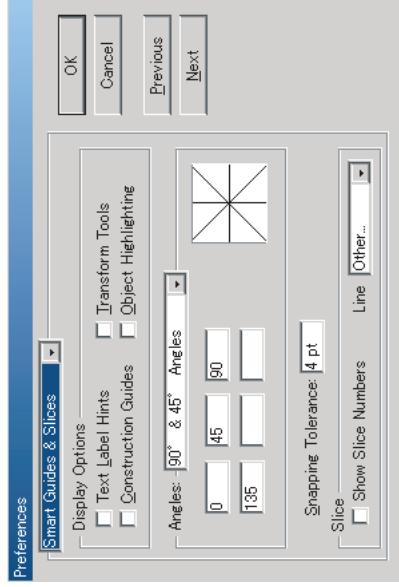
Before editing you should set preferences on the Illustrator.



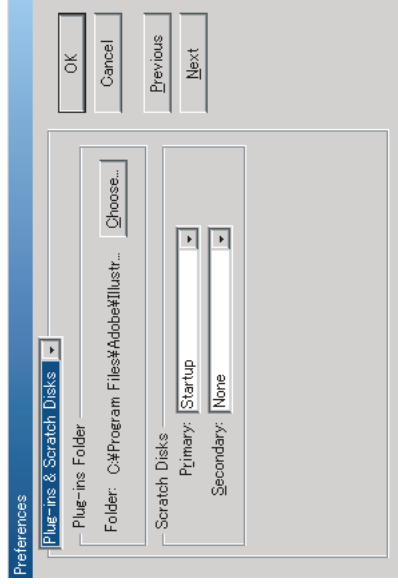
-4 You can see this dialog box, then you put off check Grids in Back and then click Next.



-6 You can see this dialog box, usually it is not need to change then click Next.



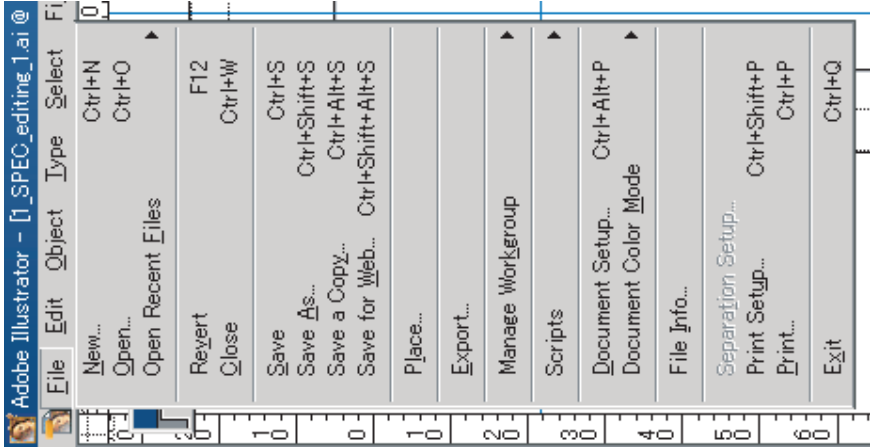
-5 You can see this dialog box, then you put off the all check box and then click Next.



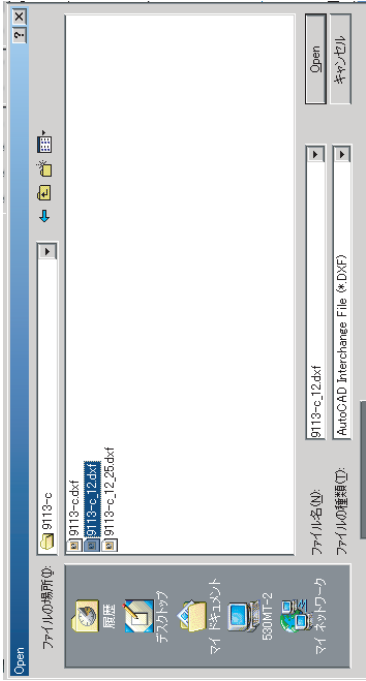
-7 You can see this dialog box, usually it is not need to change then click OK.

How to edit map by using s/w Illustrator  
Guidelines on the DXF file Import.

-1 Select File then you let see pull down menu then select the Open or Place.



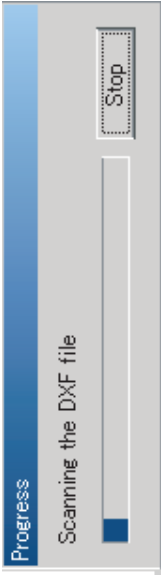
- 2 Select the target DXF file then Open



- 3 OK enter



- 4 Then you can see this dialog. About now loading the DXF file.

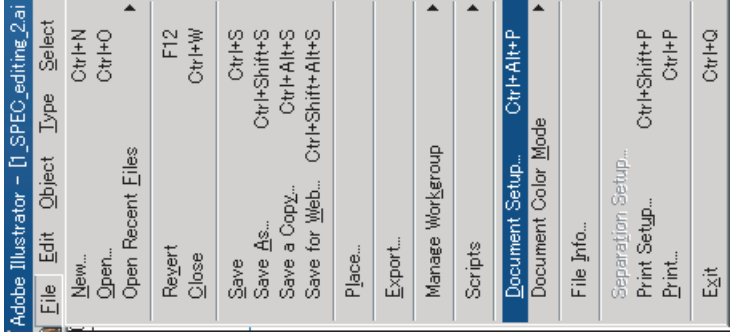


## Guidelines 2 Document Setup

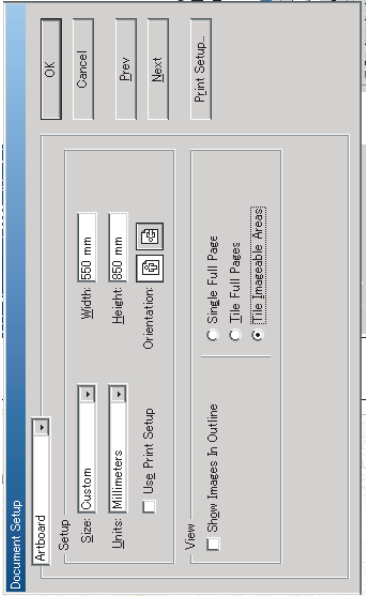
-1 After the DXF file loading is finished, you can see this map object which is built in default sizes of Illustrator.



- 2 Select File then you let see pull down menu then select the Document Setup.

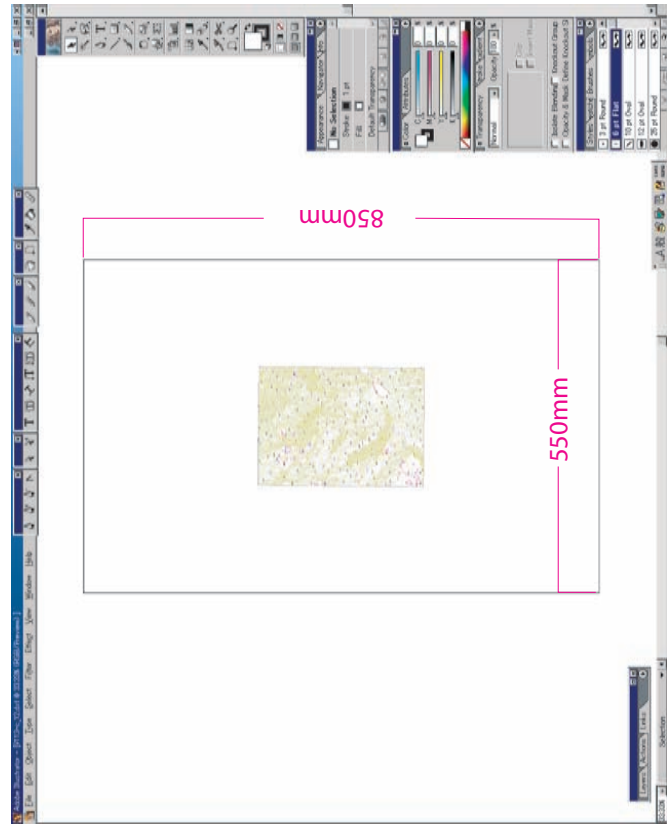


- 3 Open the Document Setup dialog, you can change the art board size which size is width 550mm, height 850mm.

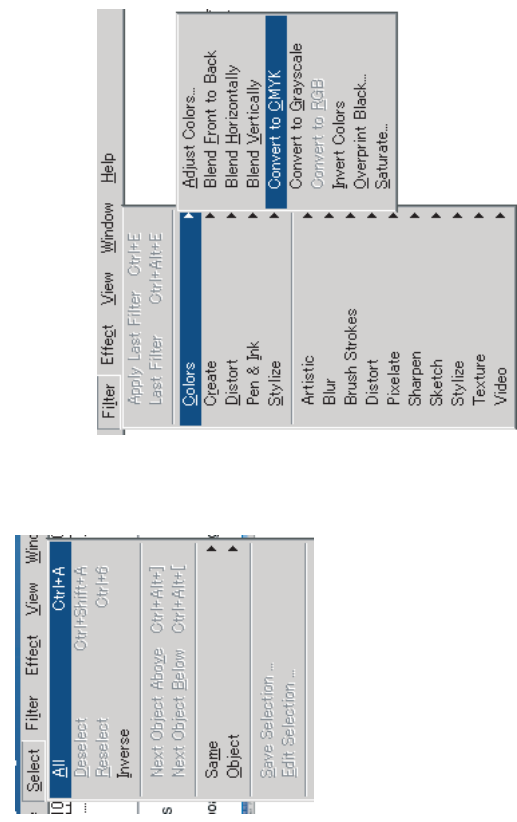


## Guidelines 2-1 Document Setup

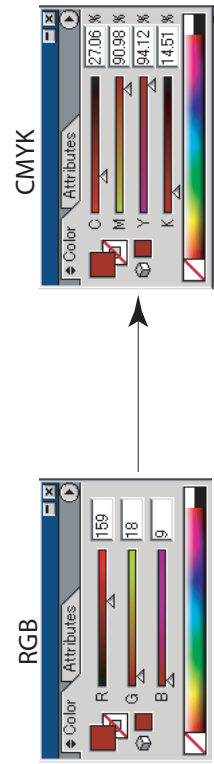
-1 After artboard size is changed you can see the following



-2 Open Edit and then in the pulled down window go in Select All or simultaneously press Ctrl+A. Then open Filter, look into Colors and in the pulled down submenu look into Convert to CMYK



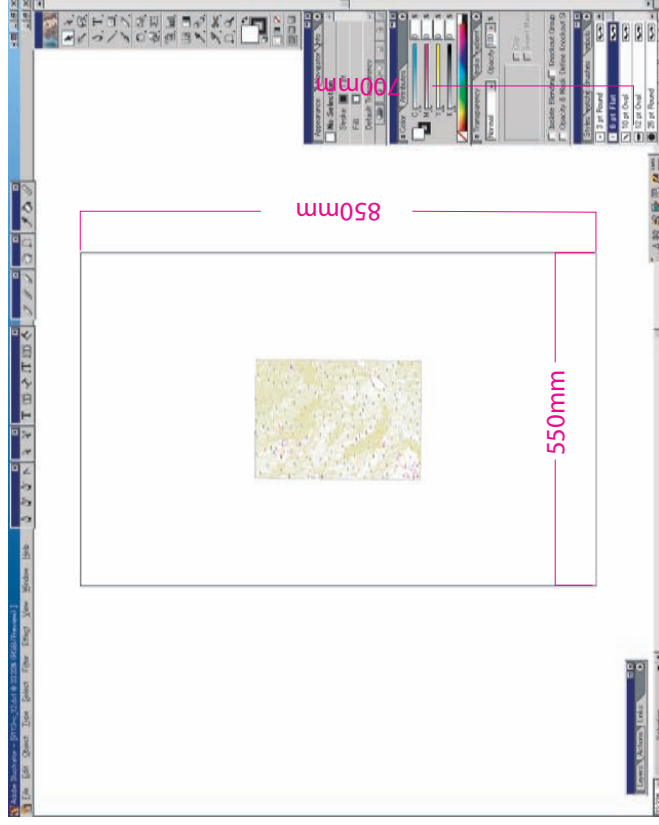
-3 It is possible to switch from RGB to CMYK through color dialogue window



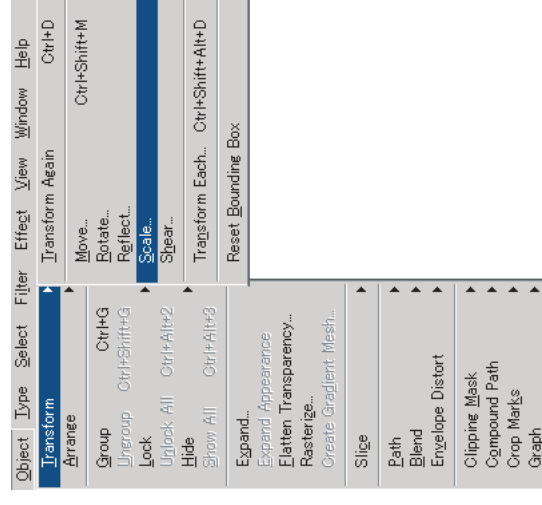
*In publishing purposes CMYK color separation is basically used. In case of RGB and CMYK mixing it becomes impossible to correctly produce reproduction films from files due to incorrect color separation.*

## Guidelines 4 Scale conversion

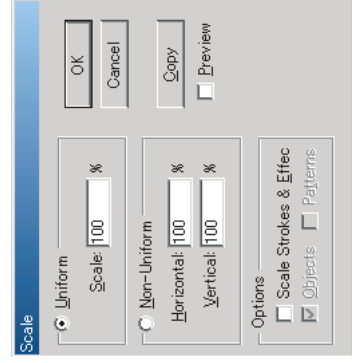
-1 After the size of artboard is changed the following appears



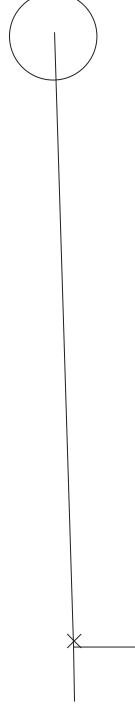
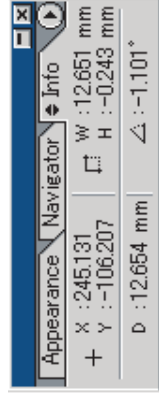
-2 Select Select from menu and All in the pulled down window or the same by simultaneous pressing Ctrl+A. Select Object from menu, then Transform and Scale from submenu.



-3 A dialogue window Scale appears and you should define scale in % as result of calculations by the values of neckline distance of this object and neckline ground distance. The value of neckline ground distance can be obtained by using AutoCAD. For example, ground distance 20,000m/map scale (1:25,000)=80cm. 80cm/object neckline distance = scale, %.

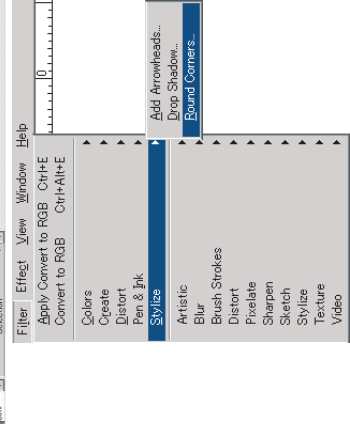
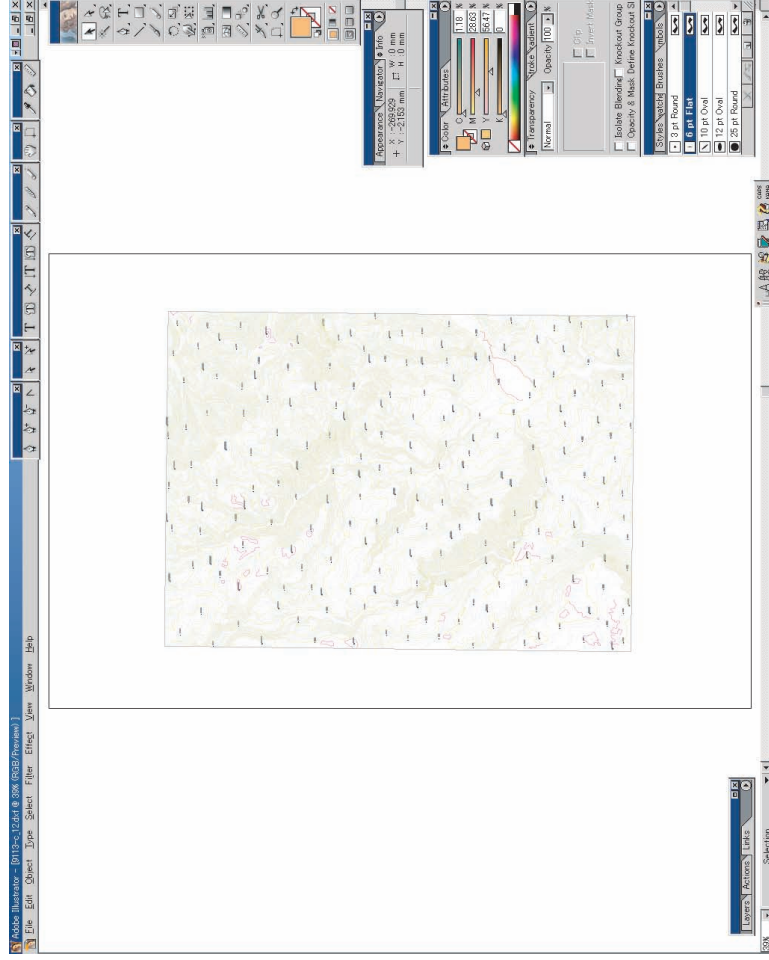


To measure distance one may use Measuring Tools. Select tool, then double click on object starting point (set as 0) and drag till the ending point. Result is in Info window.



## Guidelines 4-1 Scale conversion

- 1 After scale conversion you can see scaled object.  
then check the neat line length by using the Measure Tool.

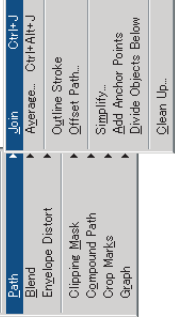
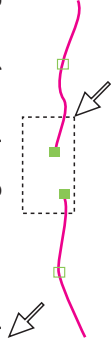


- 3 Some Liner objects and Polygon objects should be changed round the its corner, due to the shapes look like something. Select the target object, select Filter in menu bar, you let select Stylize from pull down menu. Then you can see Round Corners dialog box, you let enter the Radius, and then click OK.

## Guidelines 5 Objects retouching

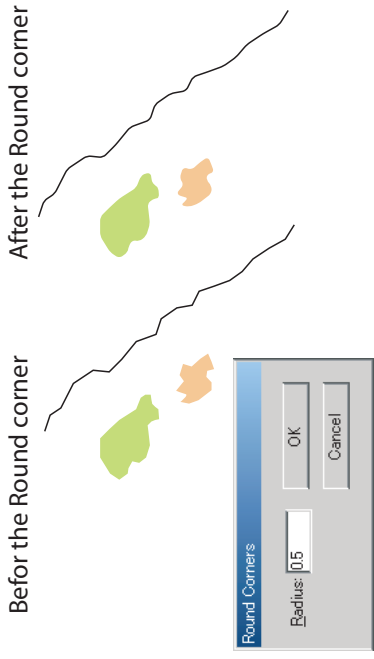
- 1 The liner objects should be retouched before editing. As for the liner objects should be continued line which are roads, railways, single rivers, canals, utility of water, oil, gas, its pipe lines, and power, communication, its lines, embankment,.....etc

- You let join the unconnected objects, 1; select the tow objects points of targets path by using Direct Selection tool.



- Object in menu bar, you let select Path from pull down menu or press the Key of Ctrl+ J. Then the objects are joined.

- 2 Also the Polygon objects should be retouched before editing. As for the double line river, lake, pond, vegetation, .....etc



## Guidelines 7 About the Layer order.

Before starting you should replace the layer order.

The layer order sample is as shown in the chart below and refer to Sample map files.

- 1-This layer object is prepared for hold out the object of out of neat line. It is made from the neat line.
- 1 Make Hold out NEAT LINE layer
- 2 Copy neat line then Paste in Front 9999neat line layer, then move to Hold out NEAT LINE layer
- 3 Scale up 105% and copy, then Make Compound path and then Fill white, non Stroke

- 2 These layers are prepared for hold out masks for definite colors.
- For example, when Black color annotations overlap the Black color objects which the object should be masked by background color. Due to make readable the annotation.
- In case of background color is green, You should use Hold out Green layer.

| Layers | Actions | Links         |
|--------|---------|---------------|
|        |         | grid No.      |
|        |         | grid          |
|        |         | legend        |
|        |         | geo No.       |
|        |         | NEAT          |
|        |         | direction     |
|        |         | hold out neat |
|        |         | 8152          |
|        |         | 8172          |
|        |         | 8173          |
|        |         | 8152          |
|        |         | 8162          |
|        |         | 8115          |
|        |         | 8117          |
|        |         | 8115          |
|        |         | 8118          |
|        |         | 8156          |
|        |         | 7370_No.      |
|        |         | 3514          |
|        |         | 3548          |
|        |         | 3516          |
|        |         | 3522          |
|        |         | 3524          |
|        |         | 3722          |
|        |         | 3728          |
|        |         | 4118          |
|        |         | 4122          |
|        |         | 4540          |
|        |         | 4530          |
|        |         | 4525          |
|        |         | 4515          |
|        |         | 4510          |
|        |         | 4132          |
|        |         | 4126          |
|        |         | 4140          |
|        |         | 7370          |
|        |         | 6110          |
|        |         | 4720          |
|        |         | 4725          |
|        |         | 3718          |
|        |         | 5525          |

The item of marginal information and legend

1-This layer is prepared for hold out the object of out of neat line.

These layers objects are the item of control point

These layers objects are the item of annotations

These layers are the buildings

These layers objects are the isolated symbols

These layers objects are the liner feature of infrastructure

| Layers | Actions | Links            |
|--------|---------|------------------|
|        |         | 5530             |
|        |         | 5510             |
|        |         | 5515             |
|        |         | 7265             |
|        |         | 7260             |
|        |         | 7275             |
|        |         | 2590             |
|        |         | 4310             |
|        |         | 7410             |
|        |         | 7430             |
|        |         | 7270             |
|        |         | 5530             |
|        |         | 5195             |
|        |         | hold out mask... |
|        |         | 7390_No.         |
|        |         | contour mask     |
|        |         | 3522             |
|        |         | 7150_t           |
|        |         | 7150             |
|        |         | 7160_t           |
|        |         | 7160             |
|        |         | 7170_t           |
|        |         | 7170             |
|        |         | 7108_t           |
|        |         | 7180             |
|        |         | 7110             |
|        |         | 7120             |
|        |         | 7130             |
|        |         | 7140             |
|        |         | 2530             |
|        |         | 2550             |
|        |         | hold out mask... |
|        |         | 2510             |
|        |         | 2110_f           |
|        |         | 2130_f           |
|        |         | 2230_f           |
|        |         | 2110_n           |
|        |         | 2120             |
|        |         | 2130             |
|        |         | 2230             |
|        |         | 2160             |

These layers objects are the isolated symbols

The Item of Cartography and Others

Coast lines, River, as same kinds

Barrages and as same kinds

-2 These layers are prepared to hold out masks for definite colors

Contour vale

Contour mask

Contour line

Bridges and as same kinds

These layers are the roads mask which layer should be placed high class to low.

These layers objects are the Black parts of roads which layer should be place high class to low.

These layers objects are single line roads

### Guidelines 7-1 About the Layer order.

Before starting you should replace the layer order.  
The layer order sample is as shown in the chart below and refer to Sample map files.

Layers

Actions

Links

2510

2120\_f

2130\_f

2230\_f

2120\_n

2120

2130

2230

2160

2170

2190

4355

4360

4770

5330\_f

5340

5340\_f

5125

5115

5135

2535

6190

6180

6120

6220

6230

5410

6210

6330

5350

6370

6380\_f

6390\_f

6390

6810\_L

6360

hold out mask3

6810

6340

These layers are the liner feature

Place fo waste, as same kinds

Canal mask of line type

Coast lines, as same kinds

Water mask

Canal, as same kinds

Culverts, as same kinds

Vegetation and as same kinds

### Guidelines 8 Symbolizing

You can use some kind of point symbol from the file of Symbols\_palette which file was prepared for 1:25 000 maps.

Explanation for how to be symbolizing for point feature.

△

For example, National Geodetic points can copy from the symbols\_palette file, then it is pasted the target layer.  
Select Window then pull down menu from show Brushes. You can see the 7320 Brush object.  
1: And then select all of 7320 layer.  
2: Click the Brush.  
3: You can see to be changed object .

As for some prepared point symbols, you can use the Brush function which is very useful and made progress your working.

select all of 7320 layer.

△ 7320

3710

3712

3714

3716

3734

4515

4510

2535

4325

4340

4360

4350\_d

パターングラシ2

5710

5715\_u

4326

Click the Brush.

You can see to be changed object

Guidelines 8 -1      Symbolizing

List of point symbols to be prepared by using the Brush function. These symbols can be copied from this list or the file of Symbol\_palette.ai

| Layer name and Symbol name                                                                                                   | Symbol | Layer name and Symbol name                                                                    | Symbol | Layer name and Symbol name                                             | Symbol | Layer name and Symbol name                                                    | Symbol |
|------------------------------------------------------------------------------------------------------------------------------|--------|-----------------------------------------------------------------------------------------------|--------|------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------|--------|
| 7310<br>nivelnanska tačka<br>Bench mark                                                                                      |        | 3532<br>ciglanja<br>Brick factory                                                             |        | 4126<br>spomenik<br>Monument                                           |        | 4575<br>napušteni rudnik<br>Disused mine                                      |        |
| 7320<br>trigonometrijska tačka<br>Triangulation point                                                                        |        | 3534<br>specifična fabrička postrojenja<br>Specific factory                                   |        | 4128<br>kula(osmatračnica)<br>Watchtower                               |        | 2725<br>aerodrom<br>Airport                                                   |        |
| 7330<br>crkva (kapela) kao trigonometrijska tačka<br>Triangulation point on a church                                         |        | 3536<br>mala strugara (pilana, žaga)<br>Small sawmill                                         |        | 4130<br>religiozni znak ili krst<br>Religious Monument and, cross      |        | 5510<br>jak izvor<br>Large Spring                                             |        |
| 7335<br>džamija kao trigonometrijska tačka<br>Triangulation point on a mosque                                                |        | 3538<br>hidroelektrana<br>Hydroelectric power plant                                           |        | 4132<br>kamenja huruka ili gomila kamenja<br>Stone marker, monument    |        | 5515<br>slab izvor<br>Small spring (spring water pond)                        |        |
| 7340<br>sinagoga kao trigonometrijska tačka<br>Triangulation point on a synagogue                                            |        | 3540<br>termoelektrana<br>Thermoelectric power plant                                          |        | 4134<br>vodenica<br>Water mill                                         |        | 5520<br>česma<br>Water drinking place                                         |        |
| 7350<br>razni objekti kao trigonometrijska tačka: meteorološka opservatorija - stanica, meteorological observatory           |        | 3542<br>silos<br>Silo                                                                         |        | 4136<br>vazduhoplovni zrakoplovni svetionik<br>Aeronautical lighthouse |        | 5525<br>bunar<br>Water well                                                   |        |
| 7355<br>razni objekti kao trigonometrijska tačka: antenski stub, Triangulation point on a meteorological electric wave tower |        | 3544<br>meteorološka opservatorija ili stanica<br>Meteorological observatory                  |        | 4138<br>pećina: sa vodom<br>Cave(with water current)                   |        | 5530<br>cisterna (ina stahno vode za pije)<br>Drinking water tank             |        |
| 7360<br>razni objekti kao trigonometrijska tačka: granični stub<br>Triangulation point on a border post                      |        | 3546<br>zamak<br>Castle, ruin of castle                                                       |        | 4140<br>pećina: bez vode<br>Cave(without water current)                |        | 5535<br>rezervoar vode u vidu kule<br>Water tower                             |        |
| 7365<br>razni objekti kao trigonometrijska tačka: dimnjak i/ili<br>Triangulation point on a chimney                          |        | 3548<br>kalun, koliba, pojata, bačilo<br>Hut                                                  |        | 4142<br>jama ili bezdan<br>Rent (rock)                                 |        | 5540<br>cirkla (pumpa)<br>Water pump                                          |        |
| 3510<br>crkva<br>Christian church                                                                                            |        | 4110<br>bušotina za eksploataciju nafte (plina): sa tornjem<br>Oil and gas well with tower    |        | 4510<br>usamljeni grob<br>Individual grave (Christian)                 |        | 5545<br>bazen: plivalište<br>Reservoir (swimming pool)                        |        |
| 3512<br>kapela<br>Christian chapel                                                                                           |        | 4112<br>bušotina za eksploataciju nafte (plina): bez tornja<br>Oil and gas well without tower |        | 4515<br>usamljeni grob<br>Individual grave (Islamic)                   |        | 5550<br>bazen: bazen za industrijsku vodu<br>Reservoir (Industrial reservoir) |        |
| 3514<br>manastir<br>Christian monastery                                                                                      |        | 4114*<br>rezervoar nafte<br>Tank                                                              |        | 4520<br>usamljeni grob<br>Individual grave (Judea)                     |        | 5580<br>plovnost rijeke za brodove<br>Ships can sail.                         |        |
| 3516<br>džamija<br>Islamic temple (mosque)                                                                                   |        | 4116<br>plinara<br>Gaswork                                                                    |        | 4522<br>usamljeni grob<br>Individual grave (Bogomil)                   |        | 5585<br>plovnost rijeke za manje brodove<br>Small ships can sail.             |        |
| 3518<br>turbe (tekija)<br>Islamic grave temple                                                                               |        | 4118<br>antenski stub: usamljen<br>Electric wave tower (Independent)                          |        | 45**<br>usamljeni grob<br>Individual grave (Partisan soldiers)         |        | 5590<br>plovnost rijeke za splavove<br>Rafts can sail.                        |        |
| 3520<br>sinagoga<br>Judaic temple                                                                                            |        | 4120<br>antenski stub: na zgradi<br>Electric wave tower (on building)                         |        | 4545<br>stadion ili sportsko igralište<br>Stadium or ground            |        | 5595<br>kilometarska oznaka<br>Kilo post                                      |        |
| 3522<br>usamljena zgrada<br>Individual building                                                                              |        | 4122<br>transformator<br>Transformer                                                          |        | 4565*<br>majdan<br>Quarrying place                                     |        | 6110<br>bijelogorica<br>Broadleaf wood                                        |        |
| 3528<br>dimnjak<br>Chimney                                                                                                   |        | 4124<br>transformator na podzemnom oslončevu<br>Underground transformer                       |        | 4570*<br>rudnik<br>Mine                                                |        | 6120<br>topola<br>Poplar                                                      |        |

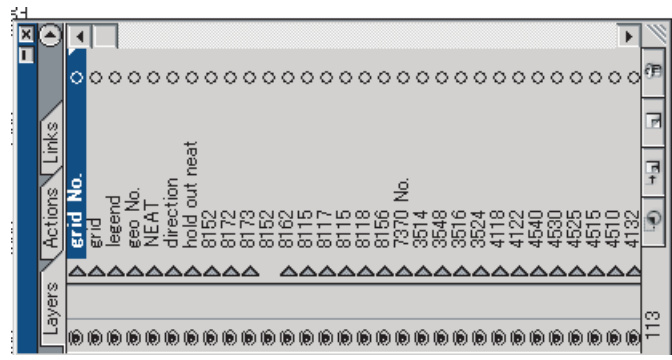


Note: These Brush object symbols should be given finally the Expand function!  
If you have not done the Expand these brush object symbols which are not able to editing;  
Scale, Rotate, Change its color, attribute,.....but you can only move them. It is inconvenience for progression of work.

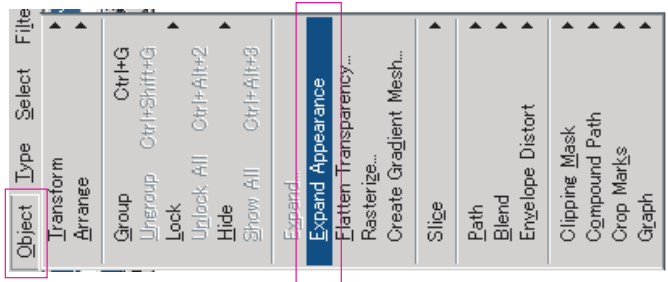
How to Expand the Brush object.

1; Select the all symbols of target layer .

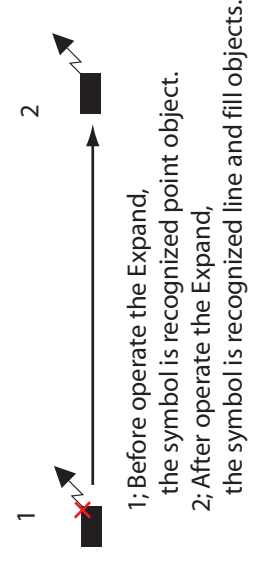
This time, other layers should be turned off. Click on the target layer+Alt key then other layer will be turned off.



2; Select Object from menu bar then select the Expand Appearance.

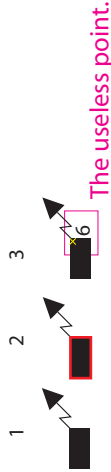


3; You can see the symbols which are changed point object to line and fill objects which are original composition before enter the Brush library. When you select the object, you can see as below.



Note: After the Expand, the symbols have a point which is identified original point before enter the Brush library and come from the DXF data. Finally, these points data should be removed when after the placing on symbols or finished editing.

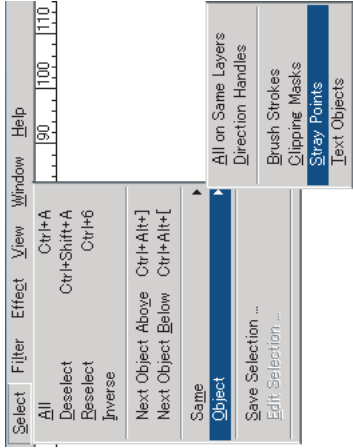
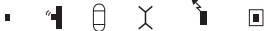
- How to select the useless point.keleton of object.
- 2; Select object by Direct Selection tool, you can see current selection object.
  - 3; Select Object from menu bar, then Hide selection or Ctrl key+3, you can see as disappeared the object.
  - 4; Repeat 2 and 3, until the object is hide entirely. Select Object from menu bar, then Show All or Ctrl+Shift+3, then the object will be shown, you let use Lock function instead of 2 and 3 operation.
  - 5; Then you can see a point.
  - 6; Select the point, then see the Color dialog box. Then you can define the point color.
  - 7; Select Edit from menu bar, then chose Select from pull down menu, then chose Same Paint Style which is meaning same fill and same stroke.
  - 8; You can see that all points are selected.
  - 9; And then delete.



### Other method.

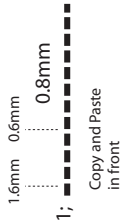
- 1; Select Select from menu bar, then chose Select from pull down menu, then chose Stray points.
- 2; Then the points are selected automatically.
- 3; And then delete.

note: This method is easy though it will be select usage point.





No. 63      ===== 1; Make the black line, select the target line then change color which is Non Fill, Turn Stroke, K100 in the color dialog box and enter the Stroke Weight 0.8mm which line Cap is Butt Cap: Join is Miter Join, and then you put check mark on the Dashed Line which is dash 1.6mm gap 0.6mm. Then change the Attributes Over print stroke.

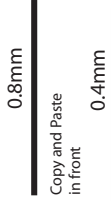


2; Copy and Paste in Front the current object. Then you can move current selected object layer of 2140 to 2140\_f layer. The color white is not need to operate Over print.

3; You can change color which is Non Fill, Turn Stroke, White which is entries in the Swatch dialog box, and the enter Stroke Weight 0.5mm. Note: this symbols layer order is, 1st 2140\_f, 2nd is 2140.

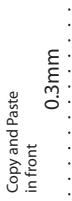


No. 64      ===== 1; Make the black line, select the target line then change color which is Non Fill, Turn Stroke, K100 in the color dialog box and enter the Stroke Weight 0.8mm which line Cap is Butt Cap: Join is Miter Join, then change the Attributes Over print stroke.



2; Copy and Paste in Front the current object. Then you can move current selected object layer of 2150 to 2150\_f layer. The color white is not need to operate Over print.

3; You can change color which is Non Fill, Turn Stroke, White which is entries in the Swatch dialog box. and enter the Stroke Weight 0.4mm. Copy and Paste in Front the current object then move the layer 2150\_f to 2150\_c.



4; You can change color which is Non Fill, Turn Stroke, Black which is entries in the Swatch dialog box, and enter the Stroke Weight 0.3mm which line Cap is Round Cap: Join is Round, and then you put check mark on the Dashed Line which is dash 0mm gap 2mm. Then change the Attributes Over print stroke.

Note: this symbols layer order is, 1st 2150\_c, 2nd 2150\_f, 3rd 2150.

-: You can make the other double line roads which No. are 70, 71, by using as these method. Symbols of No. 65, 66, 67, 68, roads are omitted for wanted space. Because they shown by just single line which are continued or dashed.

How to make line object.

Railway; as for the railway should be required three layers which are Black line parts, Dash line parts, White line parts(disused) and Symbol parts(electrified).

No. 72  1; Make the black line, select the target line then change color which is Non Fill, Turn Stroke of K100 in the color dialog box and enter the Stroke Weight 0.5mm which line Cap is Butt Cap:Join is Miter Join. And Then change the Attributes Over print stroke.

1;  2; Copy the current object, select Edit from menu bar select Copy or Ctrl+C. and Paste in Front or Ctrl+F. Then you can move current selected object layer, 2310, to 2310\_d layer.

3; " 1.1mm " 3; Then enter the Stroke Weight 1.1mm. And Then you put check mark on the Dashed Line which is dash 0.3mm, gap 0.6mm, dash 0.3mm, gap 18.8mm. Note: this symbols layer order is, 1st is 2310\_d, 2nd is 2310.

No. 73  1; Make the black line, select the target line then change color which is Non Fill, Turn Stroke, K100 in the color dialog box. and enter the Stroke Weight 0.5mm which line Cap is Butt Cap:Join is Miter Join. Then change the Attributes Over print stroke.

1;  2; Copy and Paste in Front the current object. Then you can move current selected object layer of 2320 to 2320\_d layer.

3; " 1.1mm " 3; Then enter the Stroke Weight 1.1mm. And Then you put check mark on the Dashed Line which is dash 0.3mm gap 20mm. Note: this symbols layer order is, 1st is 2320\_d, 2nd is 2320.

No. 74  1; Make the black line, select the target line then change color which is Non Fill, Turn Stroke, K100 in the color dialog box and enter the Stroke Weight 0.5mm which line Cap is Butt Cap:Join is Miter Join, and then you put check mark on the Dashed Line which is dash 19mm gap 0.5mm. Then change the Attributes Over print stroke.

1;  2; Copy and Paste in Front the current object. Then you can move current selected object layer of 2350 to 2350\_d layer.

3;  3; Then enter the Stroke Weight 1.1mm, and then you put check mark on the Dashed Line which is dash 0.3mm gap 19mm.

4;  4; This symbol has two dashed lines.

 5; You can only dashed line(2350\_d layer) of starting point by using the Direct Selection Tool. Then Stretch the dashed line(2350\_d layer) until the dash coming center of dashed. Note: this symbols layer order is, 1st is 2350\_d, 2nd is 2350.

-: You can make the other railway which No. are 76, 77, by using as these method.

No. 78 

1; 

Copy and Paste  
in front

3; 0.4mm

Copy and Paste  
in front

4; 0.4mm

1; Make the black line, select the target line then change color which is Non Fill, Turn Stroke, K100 in the color dialog box and enter the Stroke Weight 0.6mm which line Cap is Butt Cap. Join is Miter Join. And Then change the Attributes Over print stroke.

2; Copy the current object, select Edit from menu bar select Copy or Ctrl+H-C. and Paste in Front or Ctrl+F. Then you can move current selected object layer, 2370, to 2370\_f layer.  
The color white is not need operate Over print.

3; You can change color which is Non Fill, Turn Stroke, White which is entries in the Swatch dialog box, and enter the Stroke Weight 0.4mm which line Cap and Join are remembered same the black line. Copy and Paste in Front the current object then move layer 2370\_f to 2370\_d  
Note: this symbols layer order is, 1st is 2370\_d, 2nd is 2370\_f, 3rd 2370.

4; You can change color which is Non Fill, Turn Stroke, K100 in the color dialog box, and enter the Stroke Weight 0.4mm, and then you put check mark on the Dashed Line which is dash 0.1mm gap 1mm.  
Then change the Attributes Over print stroke.

### Railway; as for special case of combination of dashed and continued line.

No. 79 

1; 

Copy and Paste  
in front

3;

Copy and Paste  
in front

4;

1; Make the black thin line, select the target line then change color which is Non Fill, Turn Stroke, K100 in the color dialog box and enter the Stroke Weight 0.1mm which line Cap is Butt Cap. Join is Miter Join. Then change the Attributes Over print stroke.

2; Copy and Paste in front the object. Then you can move current selected object layer of 2380 to 2380\_f layer.  
The color white is not need to operate Over print.

3; You can change color which is Non Fill, Turn Stroke, White in the color dialog box enter the Stroke Weight 0.3mm which line Cap is Round Cap. Join is Miter Join.  
And then you put check mark on the Dashed Line which is dash 0mm gap 10mm.  
Copy and Paste in Front the current object then move the layer to 2380\_c layer.

4; You can change color which is Non Fill, Turn Stroke, K100 in the color dialog box and enter the Stroke Weight 0.5mm which line Cap is Round Cap. Join is Miter Join.  
And then you put check mark on the Dashed Line which is dash 0mm gap 10mm.  
Then change the Attributes Over print stroke.  
Note: this symbols layer order is, 1st is 2380\_c, 2nd is 2380\_f, 3rd is 2380.

The color white can not see on preview Screen. Changing the Art Work view , you can define the object.

No. 80

0.2

0.3

0.6

1.5

0.3

0.6

1;

2;

Offsetted Path

Original Path

3;

Useless Path

4;

5;

1; Make the black line, select the target line then change color which is Non Fill, Turn Stroke, K100 in the color dialog box and enter the Stroke Weight 0.3mm which line Cap is Butt Cap: Join is Miter Join. Then change the Attributes Over print stroke.

2; Select target object. Select Object from menu bar, then chose Path, Then chose Offset path in sub pull down menu. You can enter 0.3mm in the Offset dialog box then Click OK.

3; You can see the object which was made path like a enclosing the original object. After offset, you should cut the path its starting point and end point of useless upper side by using Scissors Tool from Tool bar. Then delete the catted object.

4; You can see double lines which are original and offsetted line.

5; Select offsetted line, then change the Stroke weight is 0.3mm, dash is 0.2, gap is 1.5mm.

Canals; as for the double line canals two layers should be required as follows: Blue solid line parts layer and 30%- blue color line parts layer.

- No. 116


- 1;

  
0.6mm
- 3;

  
0.4mm
- Copy and Paste  
in front
- 1;

  
0.4mm
- 2;

Copy and Paste in Front the current object. Then you can move current selected object layer of 5120 to 5120\_f layer.  
And then you put check mark off the Over print stroke.
- 3;

You can change color which is Non Fill, Turn Stroke, C30% in the color dialog box, and enter the Stroke Weight 0.4mm.  
Note: this symbols layer order is, 1st. is 5120\_f, 2nd is 5120.

-: Symbols of No. 116 is omitted for wanted space. Because No. 116 is shown by just single line which are continued.

- No. 118


- 1;

  
0.6mm
- 3;

  
0.4mm
- Copy and Paste  
in front
- 1;

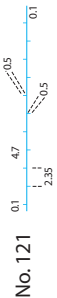
  
0.4mm
- 2;

Copy and Paste in Front the current object. Then you can move current selected object layer of 5330 to 5330\_f layer.  
And then you put check mark off the Over print stroke. Then you put check mark off the Dashed Line.
- 3;

You can change color which is Non Fill, Turn Stroke, C30% in the color dialog box, and end Stroke Weight 0.4mm.  
Note: this symbols layer order is, 1st. is 5330\_f, 2nd is 5330.

-: Symbols of No. 120, is omitted for wanted space. Because No. 120, is shown by just single line which is dashed.

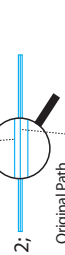
Canal; as for special case of combination of dashed and continued line.



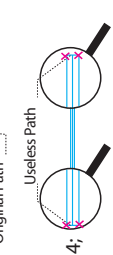
1; Make the black thin line, select the target line then change color which is Non Fill, Turn Stroke, C100% in the color dialog box and enter the Stroke Weight 0.1mm which line Cap is Butt Cap: Join is Miter Join. Then change the Attributes Over print stroke.



2; Select target object. Select Object from menu bar, then chose Path, Then chose Offset path in sub pull down menu. You can enter 0.3mm in the Offset dialog box then Click OK.



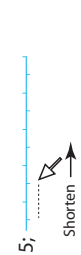
3; You can see as 2; fig. This symbol has three lines which are center of original line and both side line.



4; After offset, you should cut the path its starting point and end point of useless both side by using Scissors Tool from Tool bar. Then delete the cut object.



5; After Cut, select the upper line and lower line then change Stroke which is Stroke Weight 0.5mm, dash 0.1mm, gap 4.7mm.



6; Select starting point of lower line by using Direct Selection Tool, then you can be shortened the dashed line until the dot coming center of gap.  
Note: this symbol layer is 5140.



1; Make the black thin line, select the target line then change color which is Non Fill, Turn Stroke, C100% in the color dialog box and enter the Stroke Weight 0.2mm which line Cap is Butt Cap: Join is Miter Join. and enter dash 4mm, gap 0.6mm, dash 1.8mm, gap 0.6mm. Then change the Attributes Over print stroke.



2; Copy the current object select Edit from menu bar select Copy or Ctrl + C, and Pasete in Front or Ctrl + F. Then you can move current selected object layer , 5145 to 5145\_f layer.



3; Then enter the Stroke Weight 1mm which line Cap is Round Cap: Join is Miter Join. And then you put check mark on the Dashed Line which is dash 0mm gap 7mm. You can see as 2; fig. This symbol has tow lines which are dashed and dotted.



4; You can select only dotted line of starting point by using the Direct Selection Tool. Then shortened the dotted line until the dot coming center of dashed. Copy and Pasete in fron the current object then move the layer to 5145\_c layer.



5; You can change color which is Non Fill, Turn Stroke, White which is entries in the Swatch dialog box and enter the Stroke Weight 0.6mm which line Cap is Round Cap: Join is Miter Join. And then you put check mark on the Dashed Line which is dash 0mm gap 7mm. The color white is not need to operate Over print.  
Note: this symbols layer order is, 1st 5145\_c, 2nd is 5145\_f, 3rd is 5145.

-:You can apply to this method the other tow type line objects which symbol No. are 122, 124.  
Symbol of No. 125 is omitted for wanted space. Because No. 125 shown by just single line which is dashed.

Boundaries; as for special case of combination of dashed and continued line.

No. 181

1; 

1; Make the black fat line, select the target line then change color which is Non Fill, Turn Stroke, K100 in the color dialog box and enter the Stroke Weight 0.5mm which line Cap is Butt Cap: Join is Miter Join, then enter dash 2.4mm, gap 0.6mm, Then change the Attributes Over print stroke.

2; 

2; Copy and Paste in front the object, then enter the Stroke Weight 1.2mm which line Cap is Butt Cap: Join is Miter Join, then enter dash 0.2mm, gap 2mm, dash 0.2mm, gap 0.6mm.

3; 

3; Copy and Paste in front the object, then enter the Stroke Weight 0.4mm which line Cap is Round Cap: Join is Miter Join, then enter dash 0mm, gap 3mm.

4; 

4; You can see as 3; fig. This symbol has two lines which are dashed and dotted.

5; 

5; You can select only dotted line of starting point by using the Direct Selection Tool. Then Stretch the dotted line until the dot coming center of gap.

Polygons; Polygon object are used two kind of type which are simple polygon and complex polygon.

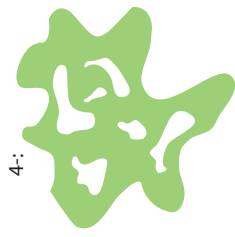
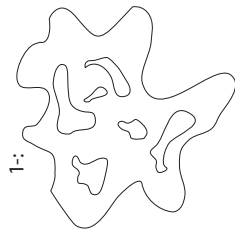
These polygon objects are used to represent the symbols surface which are as for water systems, rivers, lakes, ponds,..... as for vegetations, forests, plantations, bushes,..... as for topographies, sands, swamps,.....

As for simple polygon

- 1-: The simple polygon; Before make polygon, you should be joined the all segment of target object.
- 2-: After joining, Select the object then you can fill the object. And then you can see the polygon object was entirely filled .

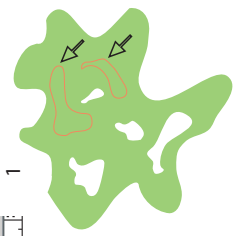
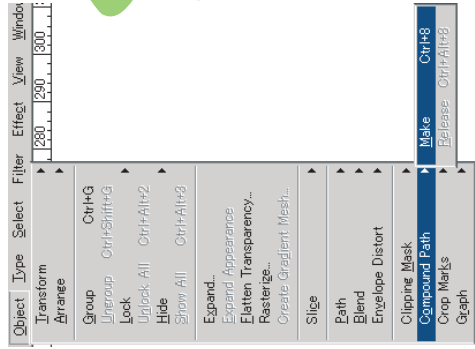
As for complex polygon

- 1-: The simple polygon; Before make polygon, you should be joined the all segment of target object which are outer object and inner object.
- 2-: After joining, select the all target object then Select Object from menu bar, you can chose Compound Paths on the pull down menu.
- 3-: And then click Make.
- 4-: Select the object then you can fill the object. And then you can see the polygon object which were filled outer polygon and non filled inner polygon.

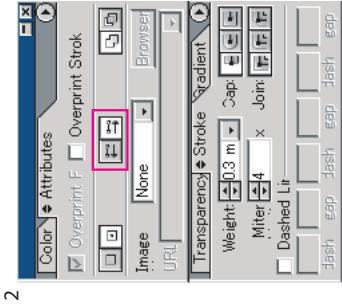


1-:

4-:



1



2

If you could not make Compound Paths, you can change Path Direction of target inner polygon. Then the incompleted inner polygon will be made.

- 1-: Select the incompleted polygon by using Direct Selection Tool.
- 2-: You can change Path Direction from the Attributes dialog box.
- 3-: And then you can complete the polygons.



3

In case of these, it can not make the compound path.  
Cases: incompleted polygon, wrong path direction, other layer object, grouped objects, overlapped objects.

## Editing

After symbolizing, you can start editing the map. It should be respected on the symbols legend and each symbol application and existing map and description.

- 1; Same color symbols should not overlap each other. In cases of overlapping symbols should be kept at the distance of about 0.2 from each other.
- 2; Generally point symbol should be placed on true position though they have been overlapped other symbols which should be moved to appropriately position which is not disturbed relative position each other.
- 3; Existing features and the secular change features tying should be done logical and respected on the symbol character.
- 4; Especially existing map is useful reference for editing from which it will be easy to know how to represent the symbols.
- 5; Annotations should not be overlapped each other and same color map features should not be overlapped the same color annotation.  
For example, in case of Black annotation on Black features and Blue annotation on Blue features should be moved annotation appropriately position or held out the features by masking (1-activate mask layer, 2-select the site of overlapping by using Rectangle Tool or drawing shape or using Ellipse tool, 3-in Color activate fill with the color of the background or choose appropriate type from Swatches, 4-in Attributes put off tick from both Overprint Fill and Overprint Stroke boxes ).  
You can see from the existing map for which overlapping features masking had been applied.  
:-In case if you could not apply the Hold out mask, the overlapped parts of the map features should be cut .
- 6; In case of some overlapping between contour objects (such as steep slopes, cliffs) and roadside (road and railway) objects (cuttings and embankments) overlapping parts of these contour objects should be white masked (using Hold out mask layer).
- 7; After editing, you should check and retouch at least 2 times by using material of hard copy printing.

Before making reproduction film you should check the following:

- 1; Does the map have the Crop marks which are available in 4 colors K100, C100, bosnia\_green, bosnia\_brown?
- 2; Have Overprint Fill and Overprint Stroke operations been finished in respect to the map?
- 3; Have the useless fonts been removed from the map?
- 4; Has font outline operation been finished over the map?
- 5; Has the map been separated in 4 colors?
- 6; Does the map have RGB objects? If the map file has RGB objects they should be replaced with appropriate color system.
- 7; Does the map have embedded image? If the map file has embedded image which should be changed link image.
- 8; Does the map have gradient objects? If the map file has gradient objects this gradient mode should appropriately be deactivated .