

LINE STYLES

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STANDARDS FOR LINE STYLES

In this section the standards for using line styles on roadway construction projects are listed:

1. The built-in line styles (0-7) can be used on MDOT Roadway projects. You should avoid using any line style other than the line style assigned as a standard in this CADD Manual. For example, the internal line style number 6 is used exclusively for the plot shape around plan sheets. This style is used to locate the plotting shape when doing batch plotting. Therefore you should not use line style number 6 for any other elements.
2. User defined line styles are defined in a resource file (.rsc). No other external line style resource files should be used other than the one supplied without prior written approval. Use of non-approved resource files causes the Department to be unable to reproduce your original drawing.

FREQUENTLY ASKED QUESTIONS

When I enter my design file some of the line styles show up as single lines instead of what they are supposed to look like, why is this happening?

The user defined line styles only show up because a special resource file has been created for these styles. If they are not showing up then your workspace is not seeing the resource file. This usually happens because you entered the design file using a metric workspace and the file is English, or vice-versa.

Another cause could be that something has been changed or been removed from the group directories. Make sure you have the most up to date files in the group directories. You also need to check your line style scales. They may be too small or large.

Can I create my own line styles?

You can create your own line styles but it is not recommended, due to the extra problems that are involved.

1. It is complicated and difficult to learn to create line styles. Line styles are made up of different items. There are internal line codes, user defined stroke codes, user defined symbols, and compound elements that comprise the preceding items.
2. You don't want to modify Roadway Design line resource file due to it being updated. If you make changes you will lose them when an update is done.

3. If you do create your own resource file, the only way to plot them is with Microstation plotting. IPLOT will not plot your own line styles as things are configured right now.
4. You would have to save this file and maintain it and then know how to configure workspaces to get it to read your own line style resource.

All the line styles I place seem to be the wrong size, what am I doing wrong?

This can be caused by a few reasons. First, you could be using a design file with working units different than the one used to create the line styles. This usually happens when you are using English settings in a metric seed file, or vice-versa. Secondly, it can be caused when someone has turned on the "scale" adjustment setting in the custom line style dialog box. Go to this dialog box, Element > Line Styles > Custom. If the scale option is checked, turn it off.

Can I change the size of line styles as I place them or after they have been placed?

Yes, it is possible to change the size as they are being placed. When the line styles are created they are designed so that they are placed at a predefined scale. In the case of Roadway Design styles, they are mostly created at a 1:1 scale. This means you adjust the placement scale ratio based on the final plot scale. There is only one place in Microstation that lets you adjust the placement scale. This is located on the custom line style dialog box. A scale ratio box shows up. If you wanted to place a line style on a drawing to be plotted at 1"=100' then this scale should be set to 100 before placing the line style. There is another awkward undocumented way to adjust this scale with a special program and some key-ins. We take care of this by adding this automatically in the programs that place line styles. Just be aware that when you manually turn on the adjusted scale item in the dialog box, it will stay on forever until you manually turn it off. Remember that when this setting is manually checked it affects all future line styles placed.

Changing the scale of line styles already placed in the design file can be done with a hard to find command called "CHANGE LINSTYLE SCALE". You could type in this command with a scale ratio at the end and then select the line style in the design file to change it to its new size. Doing multiple line styles all at once is a little more difficult. About the only way to do this with normal Microstation commands is to use the Selection Tool to select all the line styles and then type in the change linestyle scale command. To make this easier for you a couple of programs have been added to the DZINE menu under the SYMB > LINE STYLES option.

Introduction to User Defined Lines Styles

Microstation allows the usage of custom linesytlcs. This gives us the ability to draw elements that look like property lines, telephone lines, sewer lines, etc., as we draw them. They replace the old linear patterning method we once used. The big advantage of this is that the elements can be placed and modified as a normal element, unlike the patterned elements. They also take up a lot less disk space.

User defined line styles are called line style components and are made up of stroke and point symbols. They were created with Microstation's Line Style Edit Application. See Microstation's help for more information on user defined line styles.

The line style library, [rwdsty.rsc](#), is used as Roadway Design's standard line style library. These line styles are listed below.

Roadway Design's User Defined Line Style Resource Files

Rwdsty.rsc

Microstation can only display the line styles correctly if the workspace is set to read our resource file. Roadway workspaces points to this line style resource file.

This resource library contains all the user defined line styles for Roadway Design.

Other Line Style Resource Files

There are a few other line style resource files required to properly view and plot STANDARD DRAWINGS. These drawing were done by a consultant firm. They had to use and create a few additional resource files to be used in these type drawings.

These additional resource files have been included in our Group file directories and need to be listed in Microstation's configuration when viewing and plotting standard drawings.

These files are listed below:

ACADLSTY.RSC

LSTYLE.RSC

CACADLST.RSC

RWDSTY.RSC LINE STYLES



NAME: 12

Existing 12" pipe (also available, 12-100 & 12-20 for 100 and 20 scale)



NAME: 15

Existing 15" pipe (also available, 15-100 & 15-20 for 100 and 20 scale)



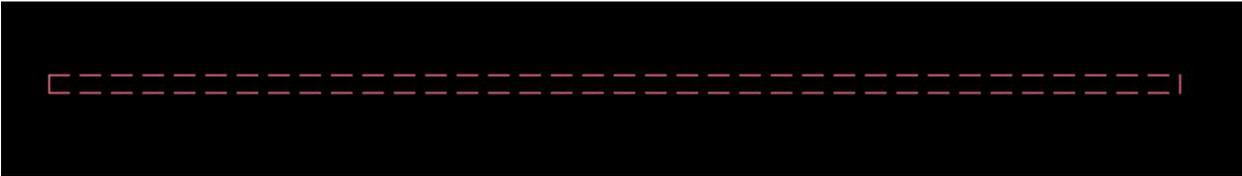
Name: 24

Pipe - existing (also avail. 24-100, 24-20)



Name: 29X18

Arch pipe -existing (also avail. 29x18-100, 29x18-20)



Name: 30

Pipe - existing (also avail. 30-100, 30-20)



Name: 36

Pipe - existing (also avail. 36-100, 36-20)



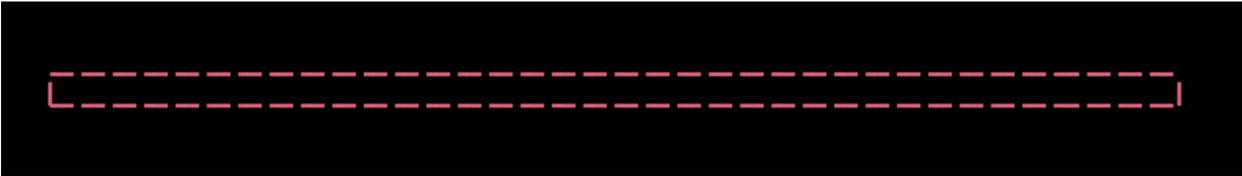
Name: 44X27

Arch pipe - existing (also avail. 44x27-100, 44x27-20)



Name: 48

Pipe - existing (also avail. 48-100, 48-20)



Name: 51X31

Arch pipe - existing (also avail. 51x31-100, 51x31-20)



Name: 54

Pipe - existing (also avail. 54-100, 54-20)



Name: 58X36

Arch pipe - existing (also avail. 58x36-100, 58x36-20)



Name: 60

Pipe - existing (also avail. 60-100, 60-20)



Name: 72

Pipe - existing (also avail. 72-100, 72-20)



Name: 88X54

Arch pipe - existing (also avail. 88x54-100, 88x54-20)



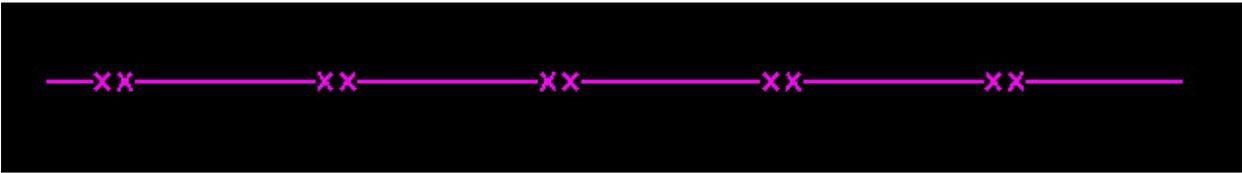
Name: COBD

County boundary



Name: EASMT

Right-of-way easement – proposed



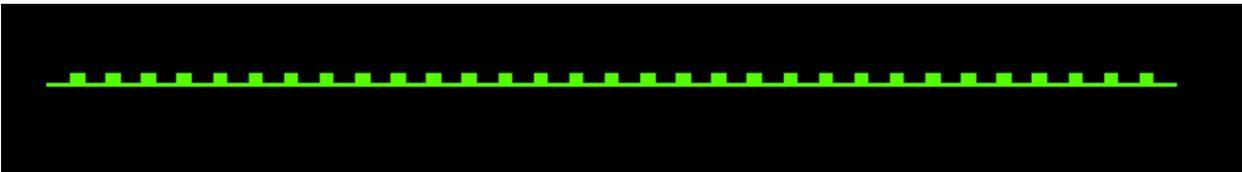
Name: FENCE

Fence – proposed



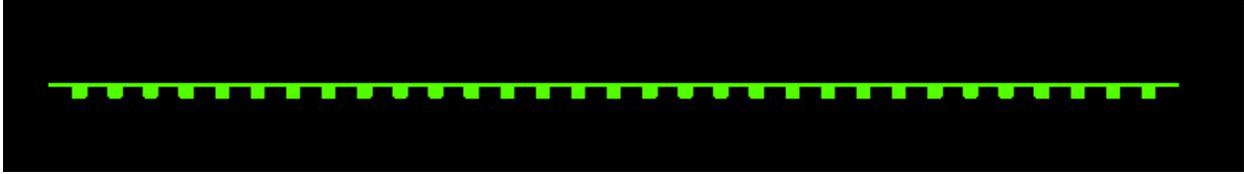
Name: GAS

Gas line – existing



Name: GRL

Guardrail (post left) – proposed



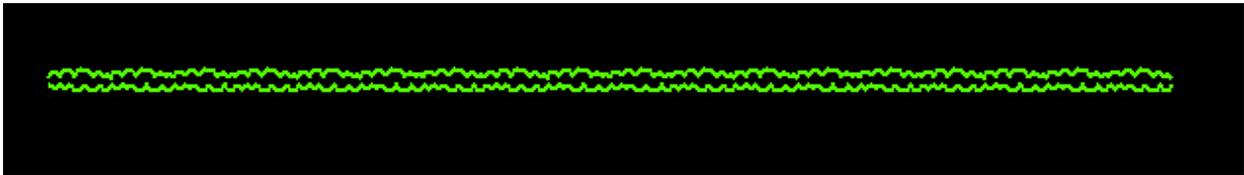
Name: GRR

Guardrail (post right) – proposed



Name: NOACC

No access right-of-way – proposed



Name: HEDGE

Hedge row – existing



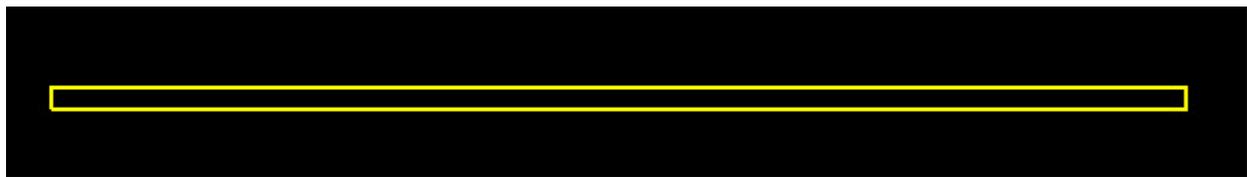
Name: XSPL

Existing structure mounted power line



Name: P18

Pipe – proposed



Name: P22X13

Arch pipe – proposed



Name: P24

Pipe – proposed



Name: P29X18

Arch pipe – proposed



Name: P30

Pipe – proposed



Name: P36

Pipe – proposed



Name: 42

Pipe – proposed



Name: P44X27

Pipe - proposed



Name: P48

Pipe - proposed



Name:

Arch pipe - proposed



Name: P54

Pipe - proposed



Name: P58X36

Pipe - proposed



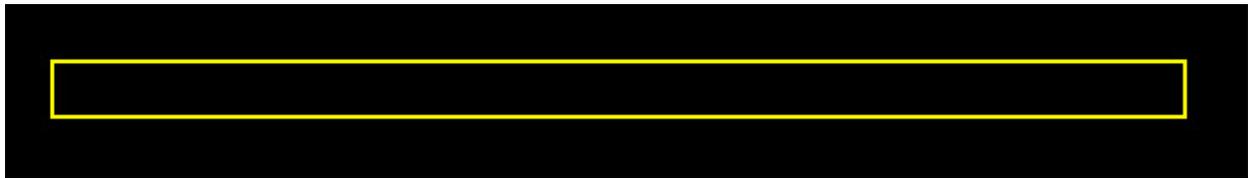
Name: P66

Pipe – proposed



Name: P72

Pipe - proposed



Name: P65X40

Arch pipe - proposed



Name: P73X45

Arch pipe - proposed



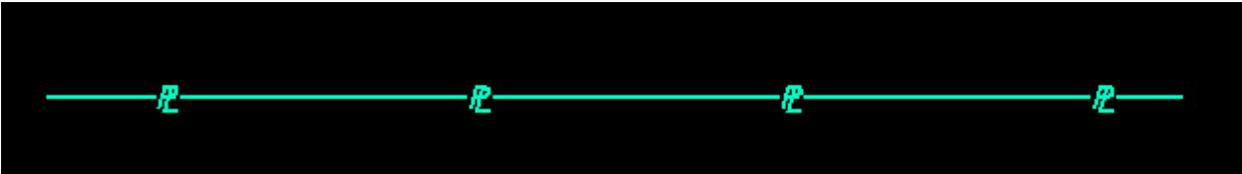
Name: P88X54

Arch pipe - proposed



Name: PCAST

Precast barrier - proposed



Name: PLN

Property line - existing



Name: LOTLINE

Lot line - existing



Name: PLNF

Property line with fence - existing



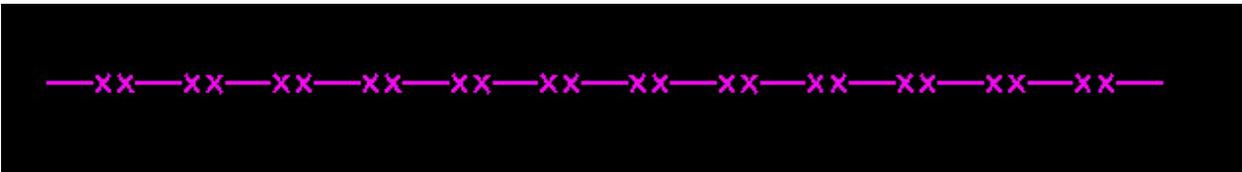
Name: PLNPAINT

Painted property line – prelim. Survey



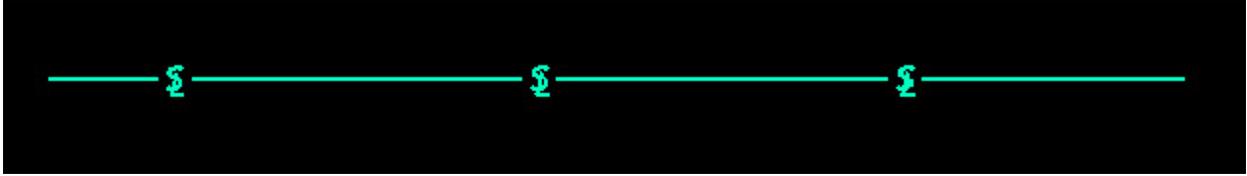
Name: RR

Railroad – existing Note: use (RRTK) instead Remains for older projects



Name: SFENCE

Short fence - proposed



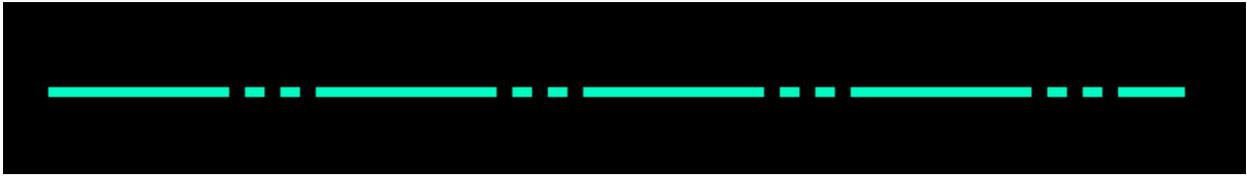
Name: SLN

Section line - existing



Name: SSTAKE

Slope stake - proposed (cut)



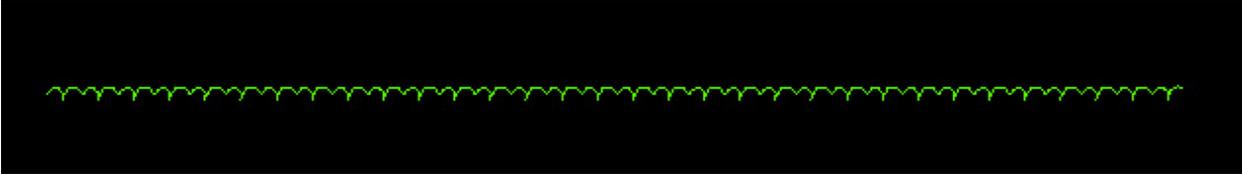
Name: STDB

State boundary - existing



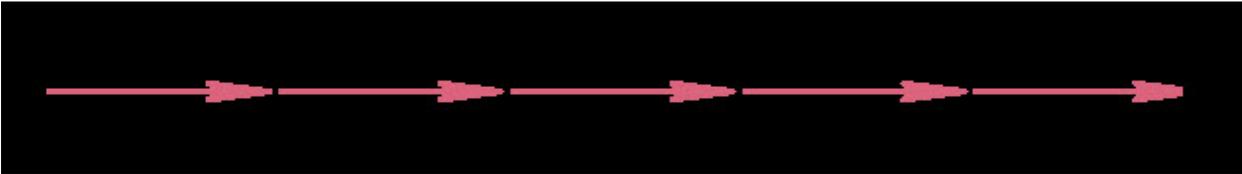
Name: STREAM

Stream, river, etc. edge line - existing



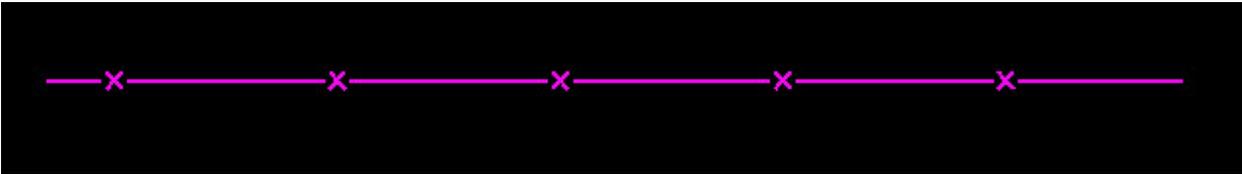
Name: TREELN

Tree line - existing



Name: UNDRN

Under drain line – proposed or existing



Name: XFENCE

Fence - existing



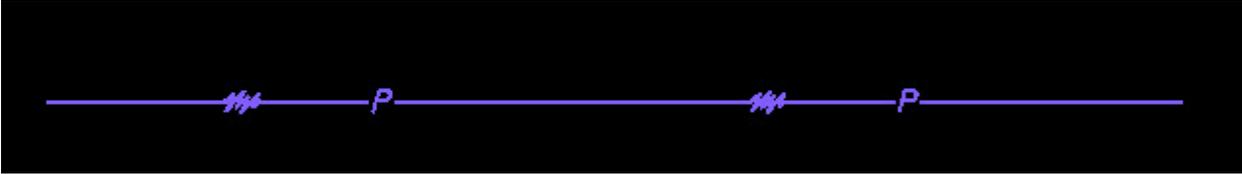
Name: XGRL

Guardrail (post left) - existing



Name: XGRR

Guardrail (post right - existing)



Name: XPWLN

Power line (above ground) – existing note: use (powl) instead, remains for older projects



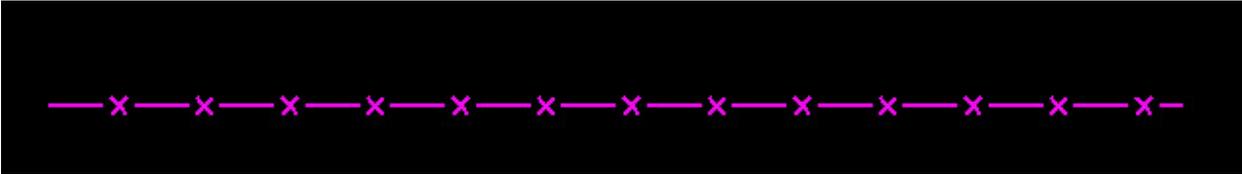
Name: XPCAST

Precast barrier – existing



Name: XROW

Right-of-way - existing



Name: XSFEN

Short fence - existing



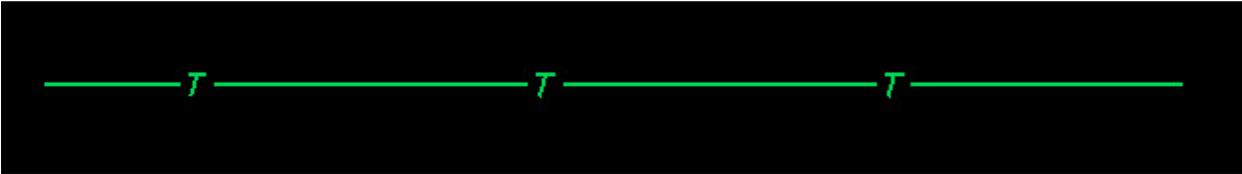
Name: XRWALL

Retaining wall – existing



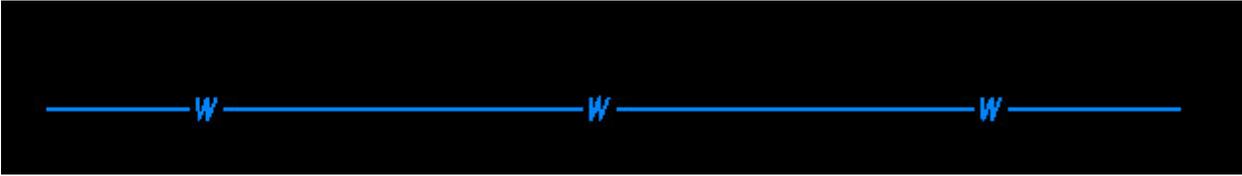
Name: XSS

Sanitary sewer line - existing



Name: XTEL

Telephone line - existing



Name: XWATER

Water line - existing



Name: XUGPL

Power line (underground) - existing



Name: SILT

Silt fence - proposed



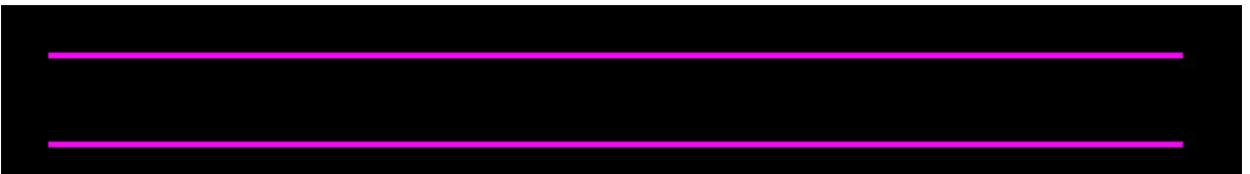
Name: 65X40

Arch pipe - existing



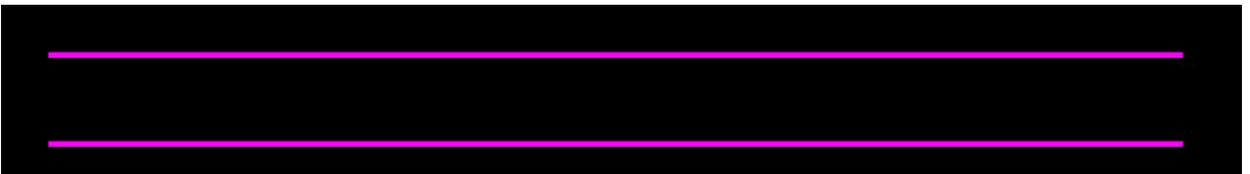
Name: 73X45

Arch pipe - existing



Name: CG1

Curb & gutter type 1



Name: CG2

Curb & gutter type 2



Name: CG3A

Curb & gutter type 3a



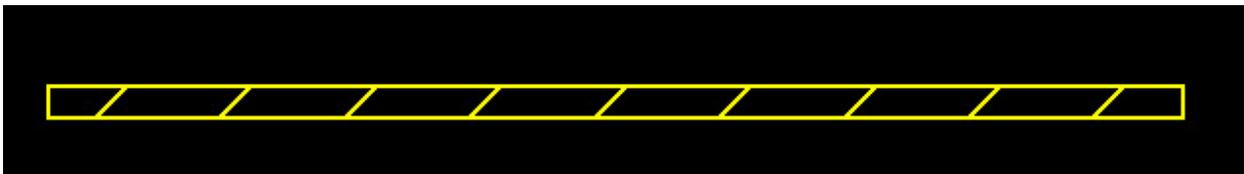
Name: CG3B

Curb & gutter type 3b



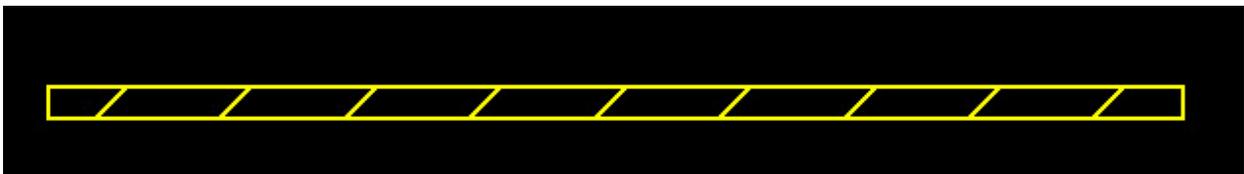
Name: CGH

Header curb



Name: P18A

Alt. pipe - proposed



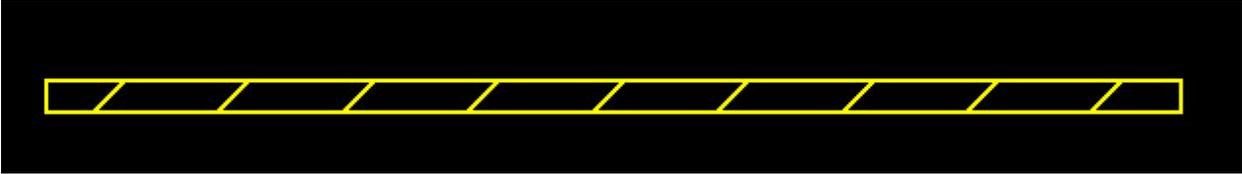
Name: P22X13A

Alt. arch pipe - proposed



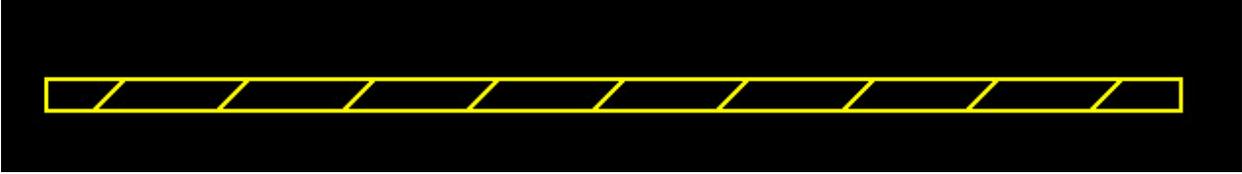
Name: P24A

Alt. pipe - proposed



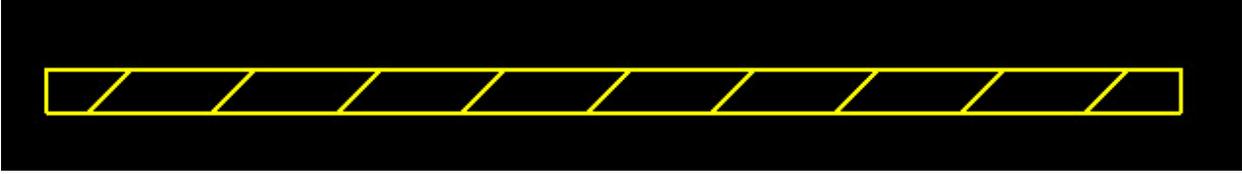
Name: P29X18A

Alt. arch pipe - proposed



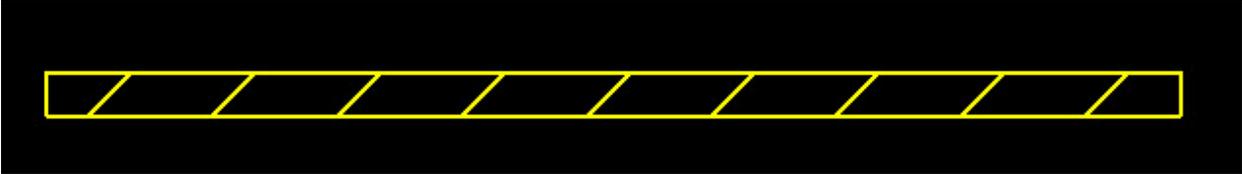
Name: P30A

Alt. pipe - proposed



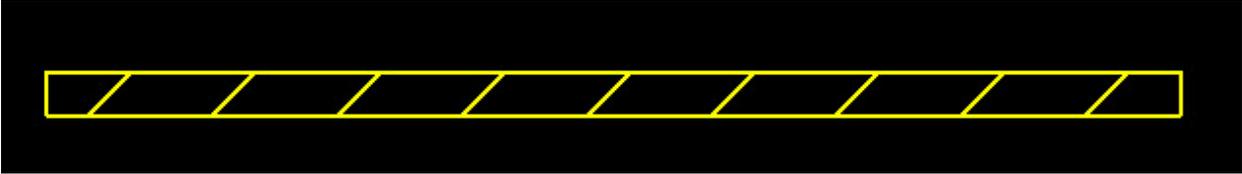
Name: P36A

Alt. pipe - proposed



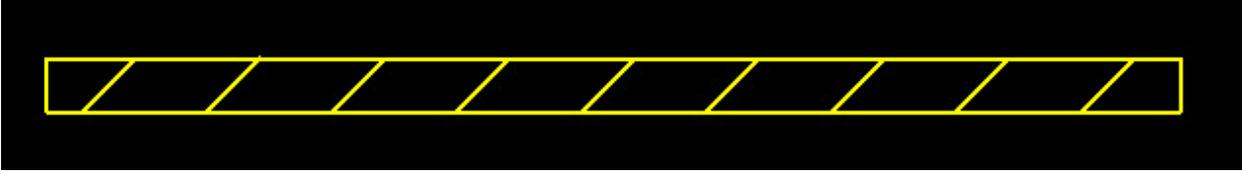
Name: 42A

Alt. pipe - proposed



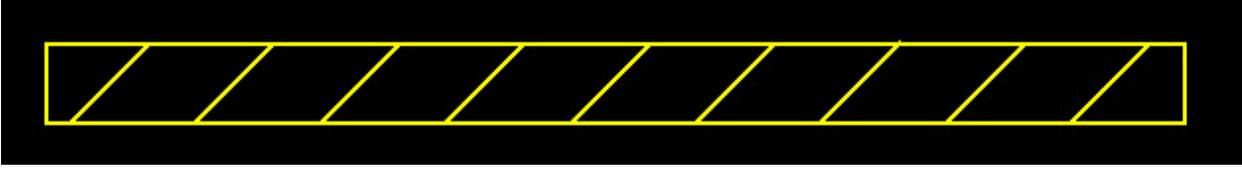
Name: P44X27A

Alt. arch pipe - proposed



Name: P51X31A

Alt. arch pipe - proposed



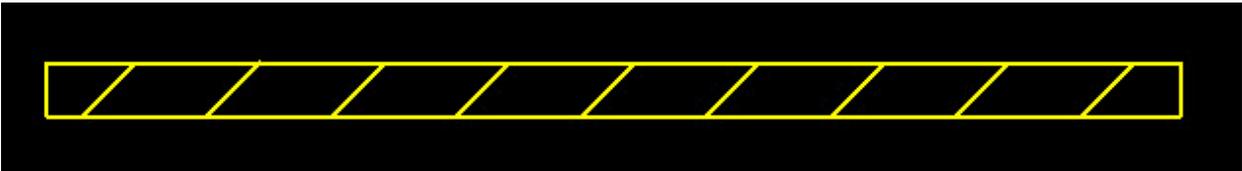
Name: P58X36A

Alt. arch pipe - proposed



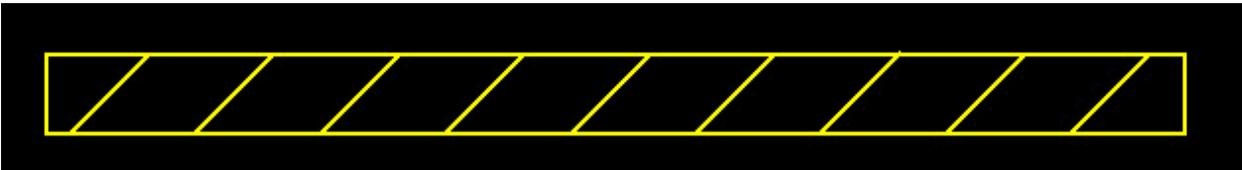
Name: P65X40A

Alt. arch pipe – proposed



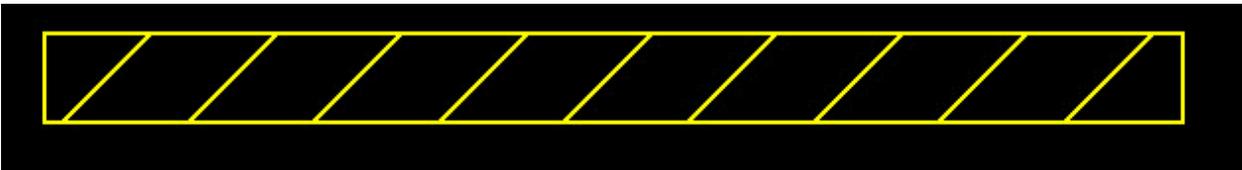
Name: P48A

Alt. pipe - proposed



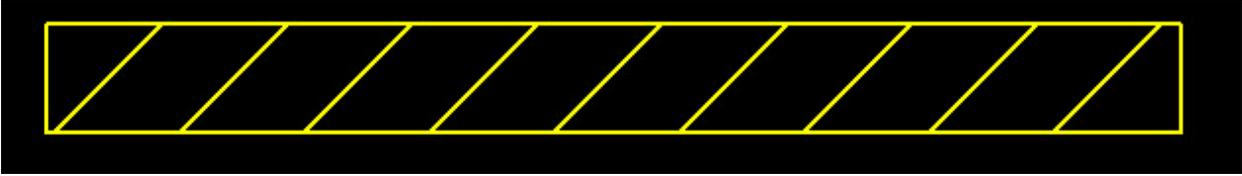
Name: P54A

Alt. pipe - proposed



Name: P60A

Alt. pipe – proposed



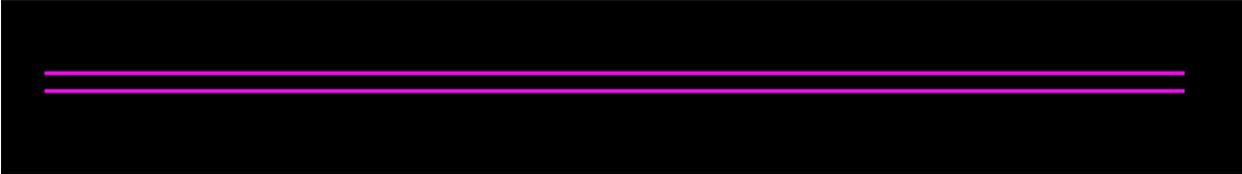
Name: P73X45A

Alt. arch pipe - proposed



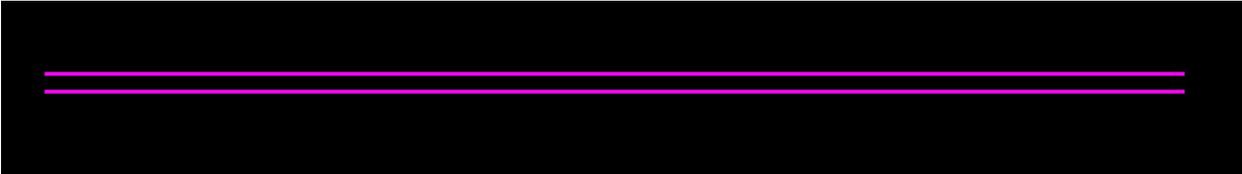
Name: BARRICADE

Barricade - proposed



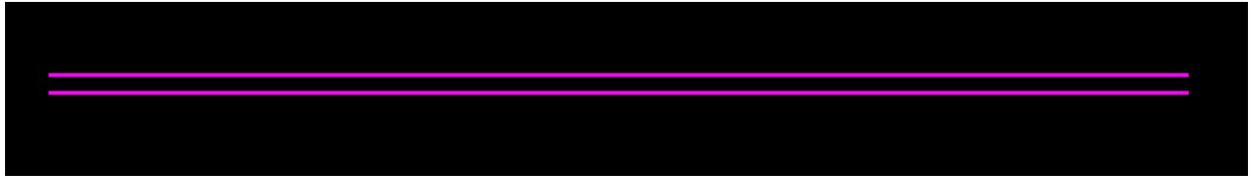
Name: CGHM

Curb & gutter - header (mod.)



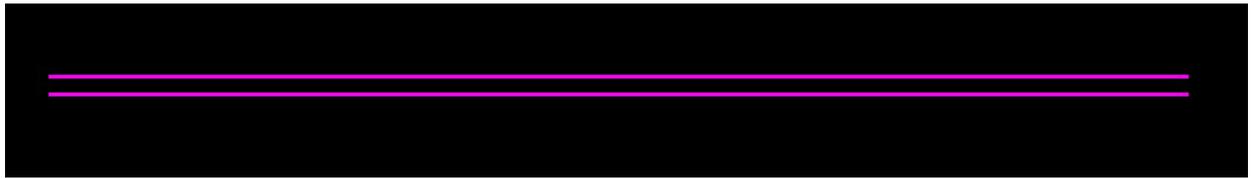
Name: CGB

Curb & gutter - bituminous



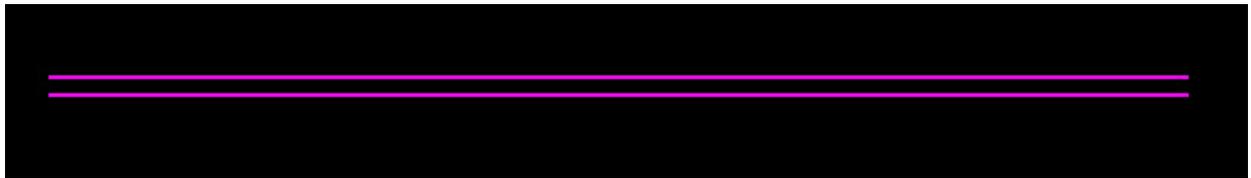
Name: CGD

Curb & gutter - doweled



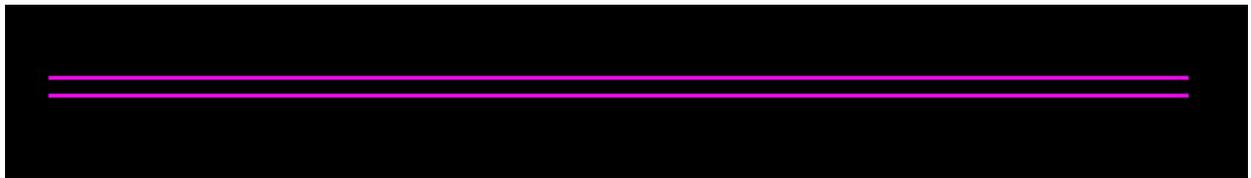
Name: CGDM

Curb & gutter - doweled (mod.)



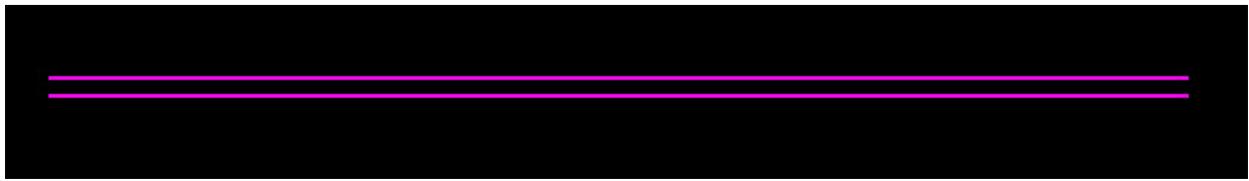
Name: CGI1

Curb & gutter - integral type 1



Name: CGI2

Curb & gutter – integral type 2



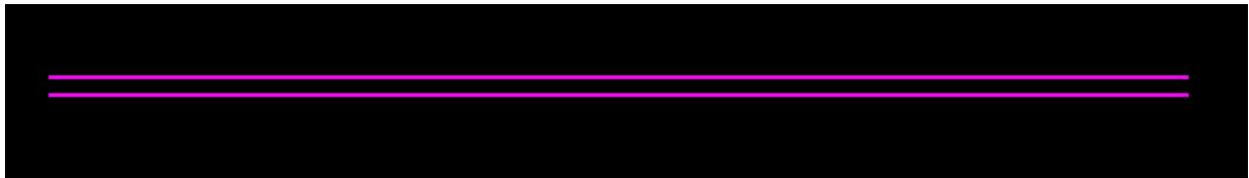
Name: CG2M

Curb & gutter - type 2 (mod.)



Name: CG3AM

Curb & gutter - type 3a (mod.)



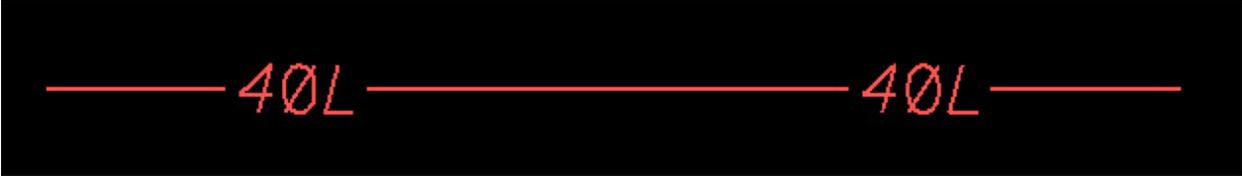
Name: CG3BM

Curb & gutter - type 3b (mod.)



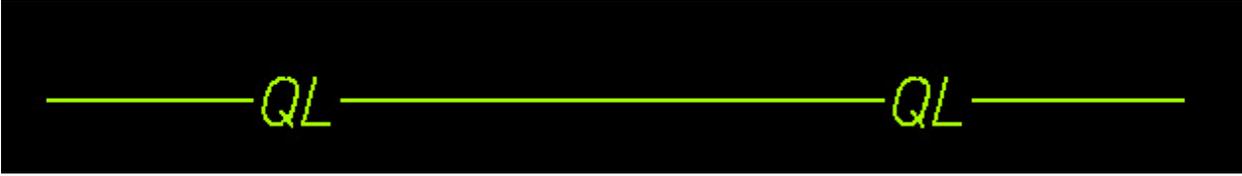
Name: DL

Deed line



Name: 40L

(Old) forty line



Name: QL

(Old) see qrl quarter line



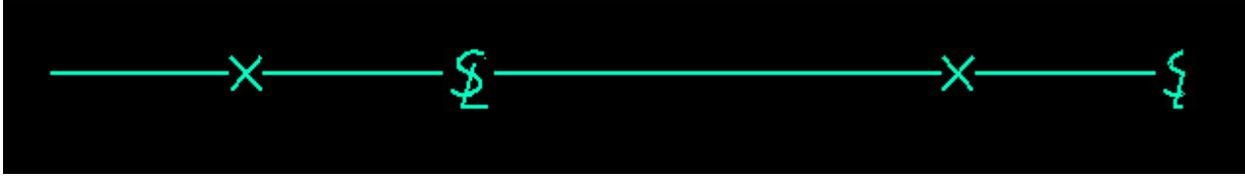
Name: RRTK

Railroad track



Name: POWR

Above ground power line



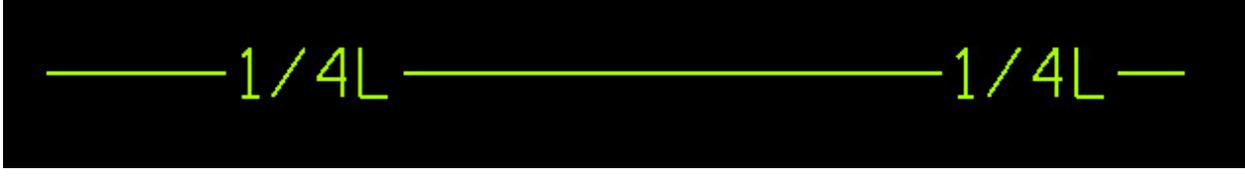
Name: SLNF

Section line w/ fence



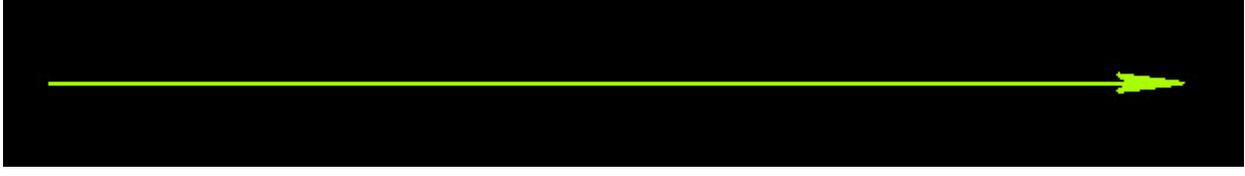
Name: CABLETV

Cable TV line



Name: QRL

Quarter line



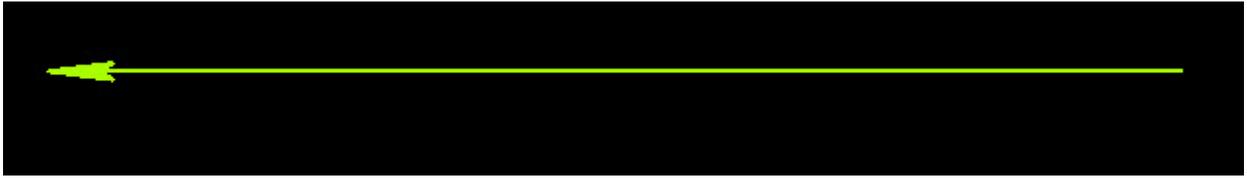
Name: LINEARROW

Line to arrow leader



Name: HYDRO

Hydraulic flow line



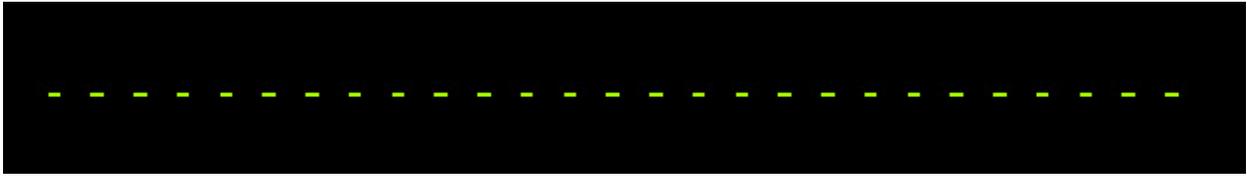
Name: ARROWLINE

Arrow to line leader



Name: SKIP

Exist. Skip stripe (10' stripe, 30' gap) (survey use only)



Name: SKIP2-6

Exist. Skip stripe (2' stripe, 6' gap) (survey use only)



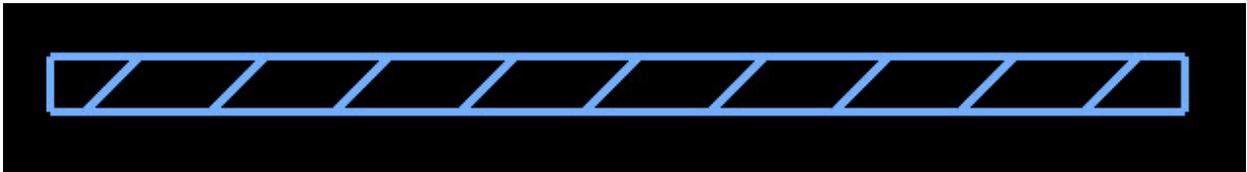
Name: SKIP2-12

Exist. Skip stripe (2' stripe, 12' gap) (survey use only)



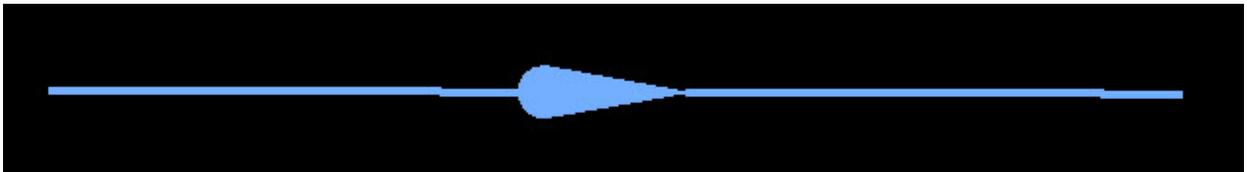
Name: 36X23

Arch pipe - existing



Name: P36X23A

Arch pipe - proposed



Name: HYFLOW

Water flow direction lines



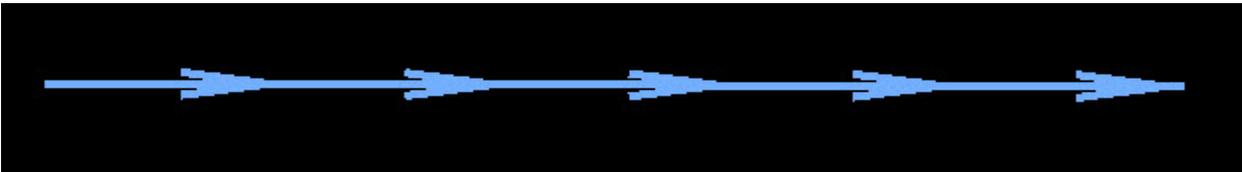
Name: P36X23

Arch pipe - proposed



Name: YIELDLINE

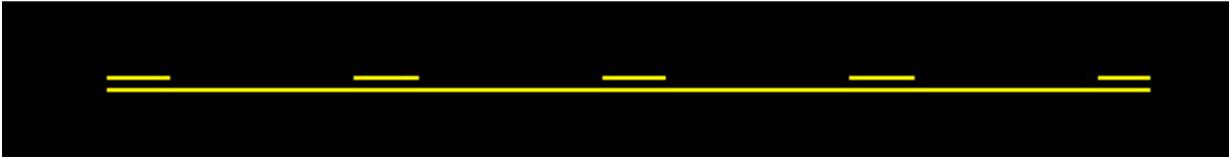
Yield line pave. marking



Name: WFLOW-20 & WFLOW-100

Water flow styles

Not used on plans at this time. See HYFLOW style.



Name: DBL-YELLOW-SOLID-SKIP-LT

Double yellow solid skip LT. (survey use only)



Name: DBL-YELLOW-SOLID-SKIP-RT

Double yellow solid skip RT. (survey use only)



Name: DBL-YELLOW-SOLID-SOLID

Double yellow solid on both sides (survey use only)